TOPS® Pro User Guide

(Version 6.50)

March 2012 Print Version

Total Optimization Packaging Software

TOPS® Software Corporation
275 W. Campbell Road, Suite 600
Richardson, Texas 75080 USA
(972) 739-8677 Telephone
(972) 739-9478 Fax

www.topseng.com
info@topseng.com
tech@topseng.com
sales@topseng.com
mvp@topseng.com

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TOPS® Software Corporation
275 W. Campbell Road, Suite 600
Richardson, Texas 75080 USA

Telephone:	(972) 739-8677
Facsimile:	(972) 739-9478
Information:	info@topseng.com
Technical Support:	tech@topseng.com
Sales:	sales@topseng.com
MVP	mvp@topseng.com
Web Site:	www.topseng.com

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About TOPS Pro

Congratulations on purchasing TOPS Pro. You're now the owner of the most advanced packaging software in the world. TOPS Pro is extremely powerful and has proven to save millions of dollars for thousands of companies due to the efficiencies you'll realize in your business. We're confident that TOPS Pro will provide the same benefit to your company, regardless of your product, package or volume.

We've engineered TOPS Pro to meet the needs of the packaging professional. The software allows you to conduct a comprehensive range of analyses based on your product, package requirements, equipment and operations. You'll be able to perform operations that were never before possible without a quality software system.

Over the years, we've maintained a steady effort to simplify our software so that you, the end user, are able to conduct your packaging analysis quickly and efficiently. Just in case you have a problem, we've written this *User Guide* to assist you with every possible issue or question you might have.

If this *User Guide* does not answer your questions, or if you experience problems while using the TOPS Pro software, please call TOPS Technical Support or your TOPS sales representative at (972) 739-8677 or email us at tech@topseng.com.

How the User Guide is Organized

This *User Guide* comes with your purchase of TOPS Pro software and its smaller modules, PackStak and LoadStak. You will find some functionalities described here will not be available in your PackStak or LoadStak programs including MixPro Pallet, MixPro Tray, CASY and some stages in the Package Design Sequence.

This *User Guide* is organized into 18 chapters and seven appendices, as follows:

Chapter 1, **Getting Started**, discusses system requirements necessary to run TOPS Pro and instructions on how to install the TOPS Pro software.

Chapter 2, **The Basics**, presents the basic features and functions of the TOPS Pro system, such as the Control Panel, performing a simple analysis, the Analysis View and printing an analysis.

Chapter 3, **Advanced Features**, walks you through some of the more complex exercises, such as performing analyses with both fixed and newly designed containers, shipcase consolidation and performing a knockdown analysis.

Chapter 4, **Publishing an Analysis**, explains how to convert an analysis to an HTML page and publish it to a web site or network location.

Chapter 5, **Package Pattern and Divider Editor**, explains how to reconfigure cartons inside shipper, boxes on a pallet, or pallet inside a vehicle by moving individual items to different positions. You can also remove or add items inside a shipper, on the pallet or inside vehicle. This chapter also shows you how to create a custom divider using a graphic editor.

Chapter 6, **MixPro Mixed Pallet Editor**, discusses how to design a pallet for display with any number of different size boxes. The MixPro Pallet system allows you to easily load and place all types of shipcases onto a pallet. Use MixPro Pallet to create mixed pallets for display.

Chapter 7, **MixPro Mixed Tray Editor**, discusses how to design a tray for display with any number of different size items. The MixPro Tray system allows you to easily load and place all types of items onto a tray. Use MixPro Tray to create mixed trays for display.

Chapter 8, **Create A Shape Yourself (CASY)**, explains how to design custom-shaped bottles, cans, shipcases and trays for more realistic displays.

Chapter 9, **Stacking Strength**, discusses how to calculate the stacking strength of your shipcases, how to analyze stacking strength results and the technical formulas TOPS Pro uses in its calculations.

Chapter 10, **Package Profile**, explains how to create a package profile, which contains a number of products that use the same packaging; for example, several brands of cereal that use the same type of cereal box.

Chapter 11, **Reports and Printing**, walks you through all of TOPS reports and the system's printing functions, including how to define print parameters, add text and graphics to a print preview, the Quick Print feature and the new Combined Report feature.

Chapter 12, **Designing Box Styles**, presents the basic box drawing styles used in the TOPS Pro system and provides guidelines for designing box drawing styles tailored to your own needs.

Chapter 13, **Designing Divider Styles**, presents the basic divider drawing styles used in the TOPS Pro system and provides guidelines for designing divider drawing styles tailored to your own needs.

Chapter 14, **TOPS Pro Config Program**, discusses the functions provided by the TOPS Configuration program, which is a separate program that allows you to customize TOPS Pro to meet your needs in a number of ways. For example, the TOPS Configuration program allows you to define a range of default settings – environment factors, box design factors, board combinations, paper, flutes, etc. – that TOPS Pro uses to perform everyday analyses.

Chapter 15, **Supervisor Functions**, explains how a supervisor can add, delete and rename users in the system; approve or deny an analysis; and set up an analysis or Quick Print template.

Chapter 16, **RFID Analysis**, gives a preview of the upcoming new feature, RFID Location Optimizer and explains how TOPS Pro can help determine placement of RFID tags for optimal readability on shipcases.

Chapter 17, **Eco Savings Report**, explains how to configure cost data and create ESRs to compare data on corrugated use/wastage and carbon emissions across different solutions.

Chapter 18, **Send to MS Office**, explains how to export TOPS analysis into MS Word and Excel. It also illustrates how to create custom TOPS templates for these MS Office tools using bookmarks and field names.

Appendix A, **Frequently Asked Questions**, outlines a comprehensive range of questions posed by TOPS Pro users.

Appendix B, **Dialog Boxes**, presents all the dialog boxes used in both the TOPS Pro system and the TOPS Configuration program, including the function of the dialog box, a screen shot of the dialog box, how to access the dialog box, and field descriptions and instructions.

Appendix C, **Menu Options**, outlines the eight menus that comprise the TOPS Pro menu bar – File, Edit, View, Definitions, Tools, Export, Supervisor and Help – and describes the options included in each menu.

Appendix D, **Pallet Patterns**, presents the 13 primary pallet patterns used in the TOPS Pro system.

Appendix E, **Box Styles**, presents the available box styles defined in the TOPS Pro database.

Appendix F, **Divider Styles**, presents the available divider styles defined in the TOPS Pro database.

Appendix G, **Tops Bookmarks**, provides a list of all bookmarks and corresponding TOPS images and statistics which you can include in any Word documents.

Appendix H, **Importing to TOPS**, provides the different format for importing shipcase and carton data into TOPS.

Appendix I, **Glossary**, provides definitions for a range of terms used in the TOPS Pro system and the packaging industry.

New Features in TOPS Pro 6.50

- **Enhanced Truck Functions:** TOPS Pro 6.5 will allow partial layer inside a vehicle in order to meet weight limitation set by the user. Unitloads exceeding the weight limit will be removed automatically. Users can also manually edit the load inside the truck.
- **Quick Strength:** With Quick strength, stacking strength results come in the form of ECT values given the safety factor, number of loads high and amount of product support.
- **Improved Knockdown to handle non-RSC Boxes:** The improved knockdown feature can now be used for boxes other than an RSC box by allowing the user to type in a formula for getting the knockdown dimensions of the box.
- **Custom Dividers:** Users have the ability to control the height and width as well as the alignment of the divider within a carton or shipper. The new defined divider can be saved to the database for future use.
- **Unit of Measure and Dimension Display:** New option to display both the inside and outside dimension as well as showing them in both English and metric values.
- **Incorporate MixTray and MixPro results into TOPS Analysis:** Ability to bring the mixed trays and mixed pallets created with MixPro into the TOPS design sequence and use them as shipcase or unitload.
- **Advanced Layer Parameters:** The flexibility to control over layers and layer accessories including defining new slipsheets, trays, pads, caps and more.
- **New Pallet Report with Wal-Mart Scores:** New shipcase and pallet summary reports with War-Mart Efficiency scores.
- **Add Product Dimensions and Weight for Primary Pack:** Users employing the Pallet report to generate unit load details can enter dimensions, volume, and weight for products going into the primary pack. This feature is used to calculate Wal-Mart efficiency values which will reflect in the Pallet report statistics.
- **Integration with Artios CAD:** The new integration allows users to launch TOPS directly from Artios CAD and bring pallet configuration from TOPS back to the CAD program.
- **Solution Windows Shown in Tabs:** Solution windows are now presented in a tabbed format, allowing the user to navigate through the solutions with a quick click of the mouse.
- **Octagonal Box Style and Inverted Bags and Bottles.**

- **Report with Packaging Instructions:** Package instructions, including the type and quantity of straps, corner posts, and/or shrink wrap used for shipcase and Unitload can be added to the analysis report and be displayed with the 3D graphics or at the bottom of the report.
- **Set Application Background:** Add something fun to your TOPS Pro software by selecting any JPEG graphics to be used as the wallpaper for the control panel.
- **Define Compression/Bulge for Unitloads:** Users can set these values as positive or negative percentage to represent compression and bugle for unitloads respectively.
- **Easier File Manipulation:** The Open/save dialog box has a convenient right click menu as well as supporting drag-and-drop function to move analyses among folders.
- **Auto File Recovery and Program Maintenance:** The Auto Recovery function helps prevent data loss in case of unexpected power outage by setting automatic backup. The Maintenance Control Feature lets users on a network know how long they have until a scheduled maintenance will occur. This will give users time to work on an analysis and save it before the programs shuts down.
- **New Report Views:** New views include Inverted Unitload 3D and Current View: More display options are now available for reports.
- **Opening and Saving Analyses in XML Format.**

Chronology of Features in TOPS Pro

This section outlines the various releases of the TOPS Pro software, along with the features included in each release.

Version 6.0 (Major Release)

- Eco Savings Report to compare the effects different case sizes and load solutions have on the environment, in terms of carbon emission, corrugated and packing material waste/usage.
- Tabbed Solution Views.
- Modify Pattern for Interpack/Shipcase Stage.
- Comparison Reports to include up to five solutions.
- Inverted Nesting for Tubs in both directions.
- New Packaging Options: edge protector or a pallet on top of a unitload.
- New Box Styles including display case, display case, tear out box, HSC with top cover and common footprint standard boxes for produce.
- New Pallet Types and Parameters including new pallets from Chep, Litco, OptiLedge and options to specify color and align offset for stringers.
- New C.A.S.Y. shape options including top and side handles; new C.A.S.Y. tray supports cover and mirror function.
- Expanded Unitload Label Option for size and placement.
- Enhanced Edit Options to add arrows or lines to reports.
- Analysis Archive Function.
- Import/Export Analyses in XML Format.

Version 5.60 (Major Release)

- MixPro Auto Load Generator to create optimal club store display pallets**.**
- New MixPro functions to support slip sheets, corner posts, set shipcase display face directions and more.
- Load shipcases directly into the void spaces to the side, top or end of the unitloads inside vehicles to maximize cube utilization.
- Add unitload labels and control their placements.
- Inverted nesting for blister packs, tubs and buckets.
- Supports blister packs, in straight or nested inverted arrangements.

- More standard shapes including stand-up pouches, custom trays and boxes with lid.
- Create reports with side-by-side comparison between any two solutions as well as between two analyses at any state of an analysis (shipcase, pallet load or container).
- Define new flute parameters in the TOPS Configuration program.
- Support slave pallet and pallets with false bottom or raised platform.
- New file interface with quick find and sort capabilities.
- Enhanced Reporting with up to 6 panels for more package illustrations and statistics.
- The database function is added to support Intermediate packs.
- Support shipcase costing in per box or per square area unit to give a quick glimpse of the total corrugated costs.
- Direct PDF Output.
- Automatically exports analysis data from TOPS to be used with other systems like SAP or other ERP systems.
- Creates details for each analysis with custom defined fields and enter tare weight for shipcases and pallets.
- Drag and Drop Analysis Import.

Version 5.02 (Major Release)

- Create New Template allows you to save the analysis as a template and add it to the Template Toolbar
- Publish Analysis to Web or to a local network
- Creates folders for organizing and storing analyses
- Shipcase Parameters allows you to choose All or Multiple shipcases from the database
- Unitload Parameters allows you to specify the maximum number of layers on a pallet
- Send to Word uses a Word template to convert an analysis directly to a Microsoft Word file
- Email Stacking Strength Board Combo List directly from TOPS
- New Print Preview includes Unitload Dual Plan preview of a unitload with the rotation of each layer
- Updated Windows Toolbar including Stacking Strength button and the All Stages Enhanced View button added

- Define Stacking Strength Factor for a Non-RSC Box
- New Divider Styles include 2-Way Air Cell and U Simple
- Supports Pop-Up Help Tips
- New flyBar for easy access to routine function buttons in Analysis View
- Optional arrows indicating pads and slipsheets on unitload
- More Print Parameters including additional notes for information such as Label Format, Test Weight and Package Quantity
- Define default thickness for a slipsheet; maximum length, width and height increments for Intermediate Pack Sizing or Shipcase Sizing in TOPS Pro Configuration program
- Save to Shipcase Database at the same time you save the analysis

Version 5.X (Major Release)

- One-click design sequence template in Control Panel
- Organized analysis into projects or folders
- Selectable shipcase list for database analysis
- Supported maximum number of layers for unitload
- Exported analysis to MS Word custom templates
- Directly email stacking strength board combo list
- New Dual Pane print option showed rotated layers for unitloads
- New CASY shapes (trigger top and rounded rectangles) and shape (match top, match bottom, match both, pinch top or pinch bottom)
- Right-click menu at Graphic View pane to access frequently used functions
- Supported stacking strength factor for non-RSC boxes
- New divider styles of U simple and 2-way air cell
- Floating toolbar for graphic screen to access common functions
- Optional quad view with all stages
- Enhanced graphics view with marker for pads and slipsheets
- Included additional information fields for print reports
- Additional default settings on thickness for slipsheets, maximum size for intermediate pack, maximum and minimum size for shipcase
- Saved analysis-generated shipcase to database
- Added bundle with straps as new shipcase style
- Traditional and Simplified Chinese language support
- XML Export

Release 2 (Major Release)

- Added MixPro Tray Design Editor
- Added ePAC™ Publisher
- New, realistic wrap-around box style
- Accounting for overlapping of bags
- Define columns for the stacking strength report
- Direct email from MixPro Pallet and MixPro Tray
- Thumbnail images of pallet patterns
- Interlocking of products in a shipcase
- Added PNG and WMF to available graphic file formats
- Display shrinkwrapped and strapped pallets
- Use multiple pallets in a calculation

Version 4.xx (Major Release)

- Automatic layer calculation for MixPro
- Automatic Knockdown Calculations based on RSC cartons
- Added MixPro Pallet Design Editor
- Analysis templates easier to define and use
- Custom shape generator for trays and extruded
- Direct email of reports using MAPI clients
- Improved supervisor access control features
- Layer adjustments above 14 layers
- One-click access to stage parameters via the Windows Toolbar
- Email support for Lotus Notes

Version 3.5x (Major Release)

- Packed case weight calculations now use RSC Board Area instead of Surface Area
- Program now pays attention to "max along" limits
- Changed simple and none printing STR adjustments
- Four-digit dates for year 2000 compliance
- Added support for additional bundling stage
- Packer now allowed to be a fixed size

- Now reports Pallet Dimensions in Unitload Parameters dialog box
- Bulk Product icon can now be turned off
- Added time stamp to printout
- Standardized graphics file output (BMP, JPEG)
- Added paste-on graphics to Box drawings
- Added (manual) pallet pattern editing capabilities
- "Show Contents" state now saved with the analysis
- Combined reports for KnockDown/Erected Boxes
- Added support for Robotic Palletizer
- Added five most recently used analyses to File menu

Chapter 1: Getting Started

Introduction

This chapter covers the following topics to get you up and running with the TOPS Pro system:

- System requirements/specifications necessary to run TOPS Pro
- Instructions on how to install stand-alone and network versions of TOPS Pro software
- Instructions on how to setup the TOPS license
- Contact information if you need assistance

System Requirements/Specifications

To install and run the TOPS Pro software, your system needs to meet the following requirements:

- **Platform:** All versions of Windows (95, 98, 2000, NT, XP, 2003, Vista, Windows7)
- **Network:** Any network is compatible. TOPS Pro is not network-protocol dependent; it only needs a file server
- **Processor Required:** Any processor capable of running the installed platform. A Pentium processor of 400 MHz or better is recommended
- **Hard Disk Space Required:** 100 MB
- **RAM Required:** 256MB minimum – 512MB or more recommended for "Save to Clipboard" function
- **Video Required:** 800 x 600 at 16-bit color or higher is recommended
- **Terminal/Citrix Server:** TOPS can be deployed on terminal or Citrix server

Network Information: TOPS Pro is installed from a client machine to the file server. After the install, all work is done on the client(s). TOPS Pro and DirectX usually do not take more than 100 MB of space on the file server, depending on the database size. DirectX is copied to the file server for install on client(s) that do not have a working copy of DirectX.

The TOPS Pro software uses 32-bit code. For import/export of data, TOPS Pro uses ASCII comma delimited text files compatible with most document management systems, spreadsheets, databases and mainframes, including Excel, Access, Paradox, AS400 and UNIX platforms.

Installing TOPS Pro

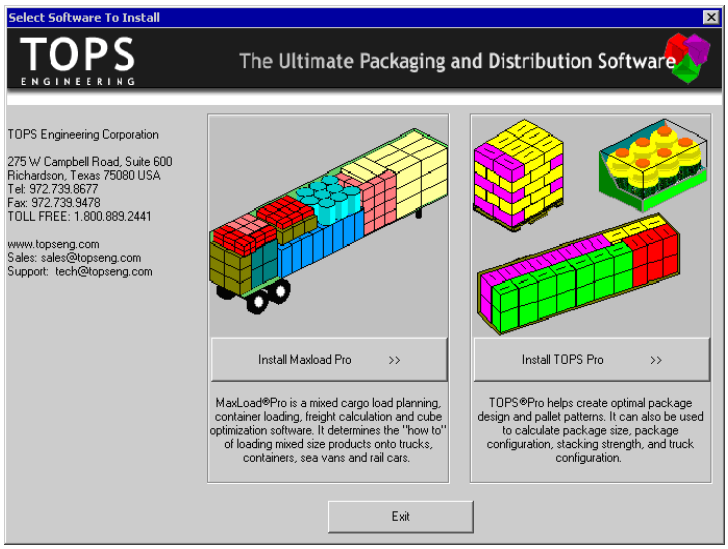
For the most updated procedures to install your TOPS Pro license, please refer to the Installation Instructions inside your software CD packet.

Before your begin installation, please make sure:

- If you are installing a network license, please start the process from the client machine.
- Make sure you have administrative rights (including read, write, modify and execute) to install to your computer and the network.
- You MUST contact TOPS via phone or email to complete the electronic license setup.

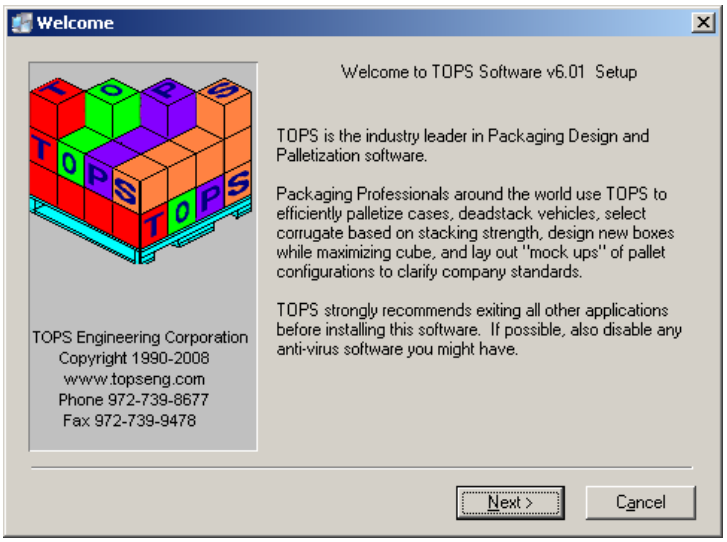
To start installation, follow these instructions:

1. Close all other programs.
2. Insert the installation CD into the CD-ROM drive. The TOPS Pro installation program launches automatically. Click on **Install TOP Pro**.

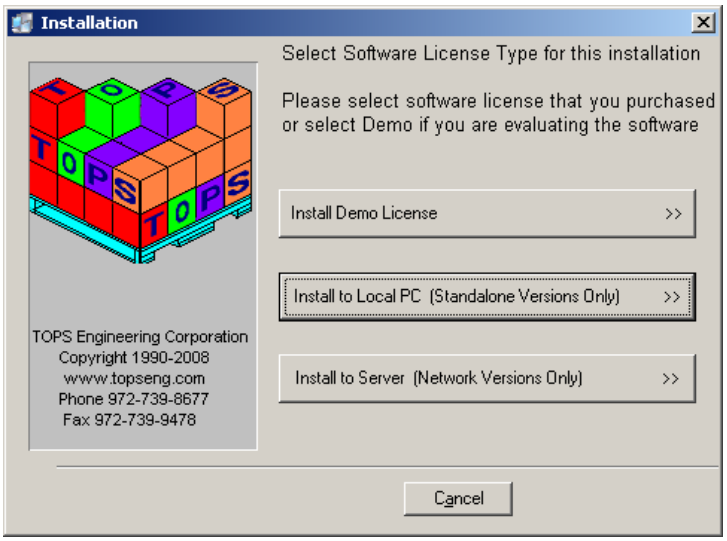


Note: If the installation does not automatically start, use the Start/Run D:\setup command, where D: is your CD-ROM drive.

3. Installation will start with the TOPS Pro software welcome screen and a reminder to close all Windows programs. Continue installation by clicking on the Next button.



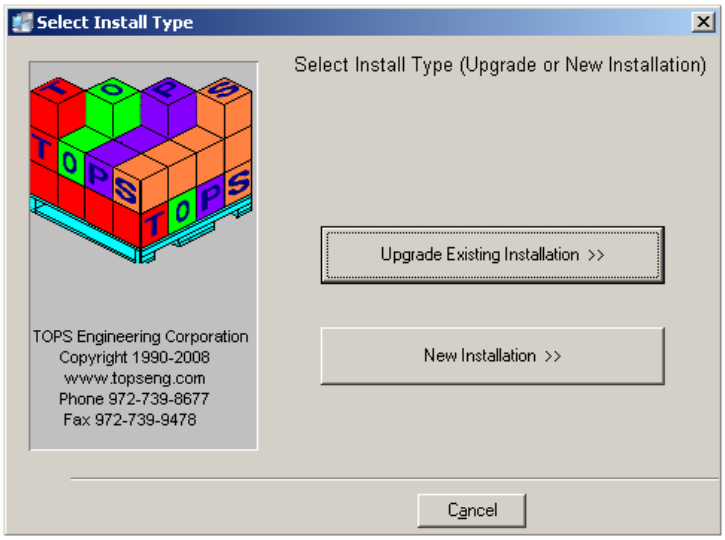
4. At the Installation dialog box as shown below, select:



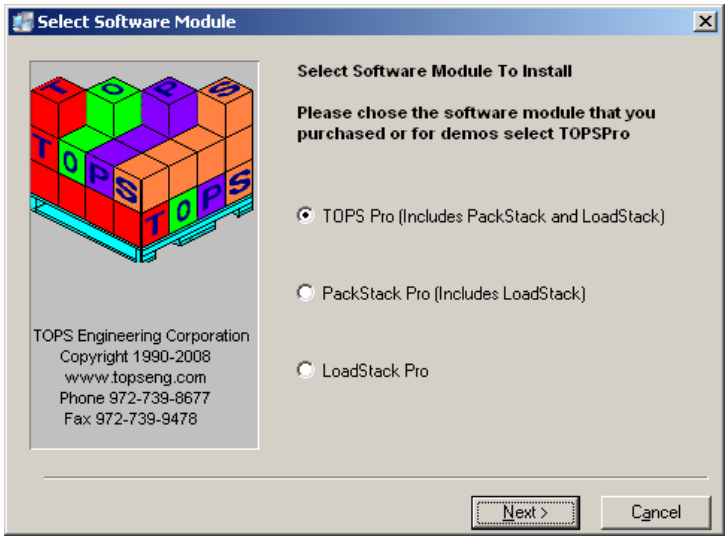
- **Install to Local PC (Standalone Version Only)** to install the stand-alone TOPS Pro license you purchased (as marked on the CD cover). There can only be one single install for each stand-alone license.
- **Install to Server (Network Version Only)** if your license is of network configuration (as indicated on the CD cover info). Note

that you should start installation from a client machine. If you are not, click the Cancel button and abort the setup process. Restart installation from a client machine that is connected to a server where TOPS is to be hosted.

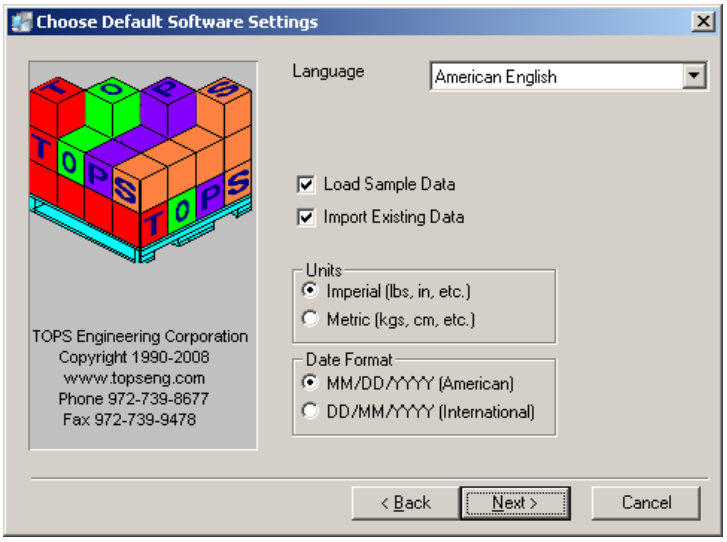
5. Specify if you are installing a new license or upgrading an earlier version of TOPS. If you are upgrade from an older version, you will be prompted whether export existing data to the upgraded version.



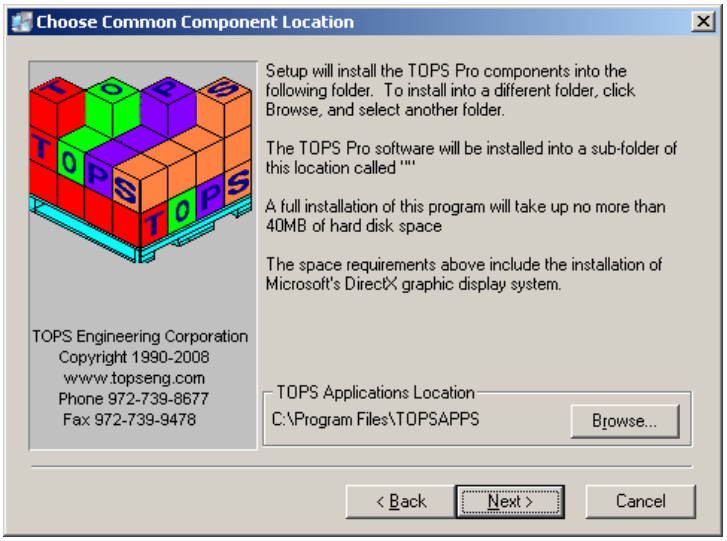
6. Based on the Purchase License Information on the CD cover, select the TOPS software module you've purchased for installation and click on Next button to continue.



7. At the "Choose Default Software Settings" screen as shown below, clik on the Next button to use the default selections. You can easily change the language and unit of measure later in the application.

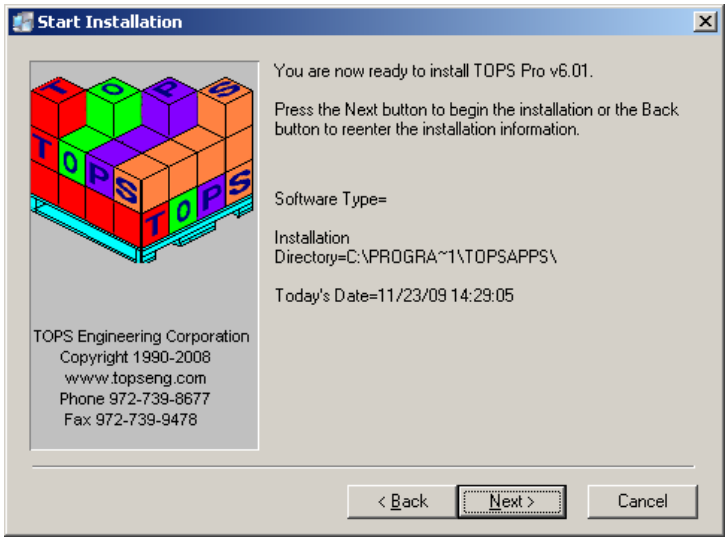


8. At the "Choose Common Component Location" screen as shown below, specify the folder where the software will be installed and click on the Next button.

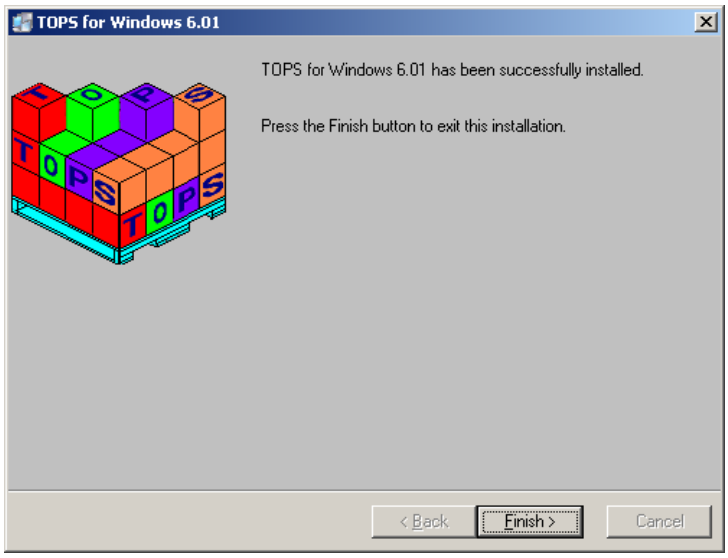


- **Stand-alone License:** Use the default folder of C:\Program Files\TOPSAPPS\ or click the Browse button to specify another folder on your computer. It is recommended to use the default folder so future upgrade will be more straight forward.
- **Network License:** Click the Browse button to select the mapped drive of the server from the client machine.
  Note: After installation and successful license setup, run NETSETUP or WAN_SETUP on each client machine to copy the necessary files to start TOPS Pro.

9. TOPS will confirm with the installation path. Click on Next to start installation.



10. From this point on, you will see a series of dialog boxes indicating the progress of installation. When the process is complete, you will see the screen with the message "TOPS for Windows has been successfully installed". At this time click Finish to return back to the Software Install Selection screen. Click on Exit to close the application.

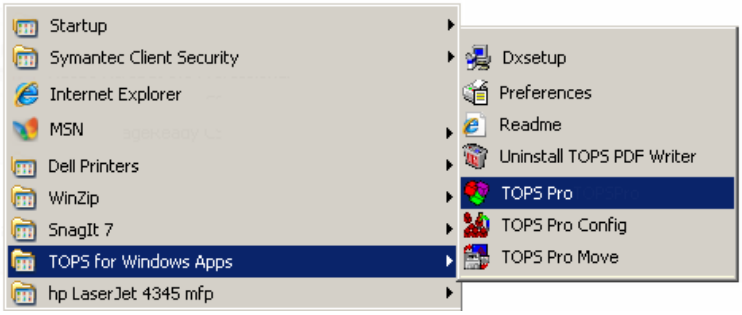


Note: If you are installing an upgrade, you will see a message whether to export existing data. Please refer to the section Upgrading TOPS Pro for more details.

Starting & Setting Up TOPS Pro

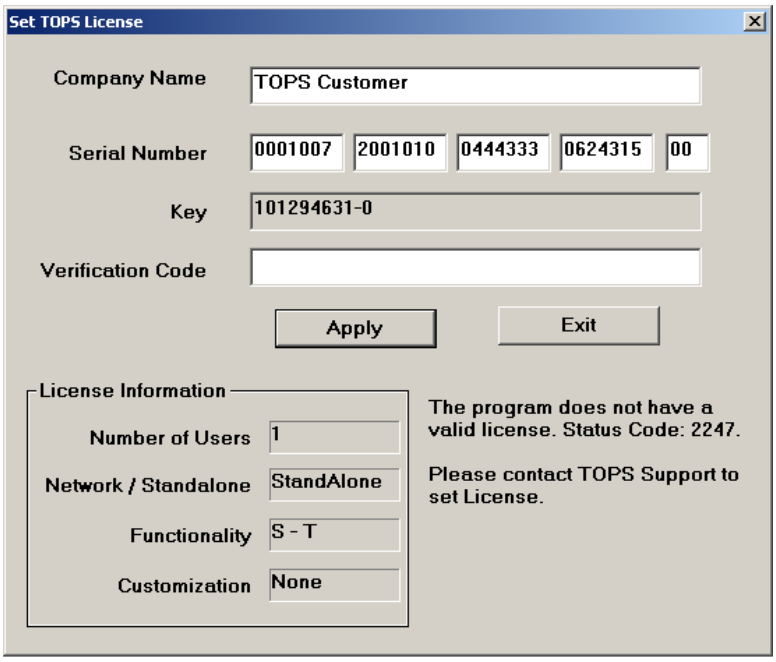
After successful installation of TOPS, there will be a shortcut added to your windows desktop. Click the desktop shortcut to access the Set TOPS License dialog box.

You can also start TOPS Pro via Windows Start menu. Go to the TOPS for Windows Apps and select TOPS Pro.



To setup the license, have the following information ready and call TOPS at 972-739-8677 and ask for "New License Setup":

- **Company Name:** The name you'd like to appear in all TOPS reports
- **Serial Number:** The serial number on the CD cover or the front face of your CD, NOT the serial number shown in this dialog box.
- The **Key** from the Set TOPS License dialog box.



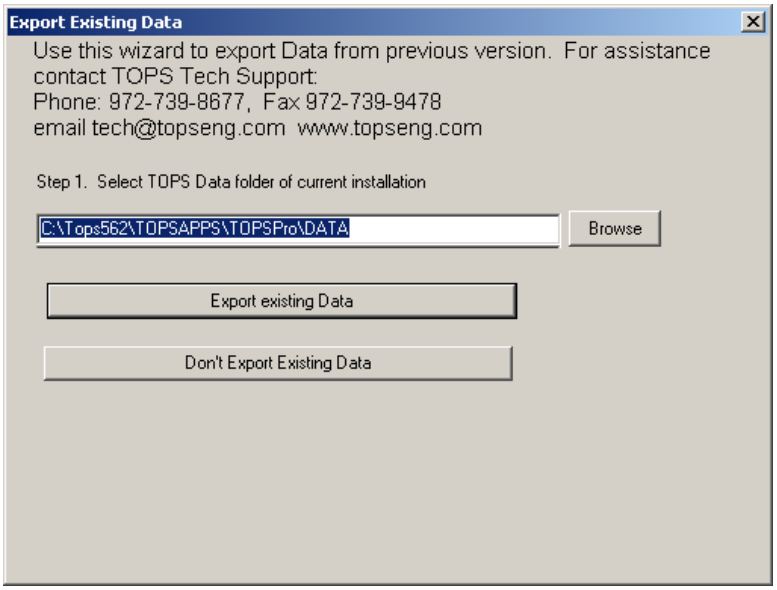
Enter the (1) Company Name, (2) Serial Number and (3) Verification Code EXACTLY as provided and click on the Apply button. If all information is entered correctly, you should see a message saying "License successfully set" and the License Information section will reflect the TOPS license module and format.

Congratulations! At this point, the installation is complete. Now you're ready to go to work with TOPS Pro.

To run TOPS Pro, go to Start | All Programs | TOPS for Windows Apps | TOPS Pro or click the TOPS Pro shortcut on the desktop.

Upgrading TOPS Pro

If you are upgrading an existing installation, please install it in the same folder as the earlier version. You will be asked whether to export existing data to the new version.



Click "Export Existing Data" to export data to the current version of TOPS. Else, click the "Don't Export Existing Data" button. You will then have to email the data folder to TOPS in order to convert the data to be compatible with the current version.

You might run into messages asking whether to replace existing records, click on the Skip or Replace button accordingly as desired. You can also check the "Apply to all" option so all duplicate records will be handled in the same manner.

For Network Setup

All users should have full read / write / modify / execute access to a level up from the TOPSAPPS directory on the network.

1. Make sure you have full administrative rights to the workstation you wish to set up TOPS Pro
2. Permanently map a network drive to the location on the server, where you installed TOPS Pro.
3. Browse across the mapped network drive to the TOPSAPPS directory.
4. Run the NETSETUP.EXE file for a LAN (Local Area Network) install and WAN_SETUP.EXE file for a WAN (Wide Area Network) install, respectively.

   Note: Wansetup copies over all EXE, DLL files, and as much of the software as possible to the WAN user's PC. This can be done to as many machines as needed; the license limits users' access by concurrency.

NETSETUP / WAN_SETUP will verify that there is a valid version of DirectX installed on the local PC, create a local TOPSPRO.ini file and place it in Windows or Win32 directory. It will then create the required shortcuts for the software and place those on the desktop and under Start | Programs | TOPS for Windows Apps Menu

Note: If during the installation an error message occurs, please make note of the error and continue with the installation until it is finished. Then, call the TOPS Technical support

TOPS Pro Program Group

The TOPS Pro program group includes a number of icons. The four primary programs are:

- **TOPS Pro Config:** Launches the utility program for TOPS Pro, which allows you to change global defaults, perform bulk exporting, and even define and adjust your own board grades, papers and flutes. We'll refer to this icon as the Config icon.

- **TOP Pro:** Launches the main program. We'll refer to this icon as the TOPS Pro icon.

- **TOPS Pro Move License Manager:** Allows you to move the authorization of the program between the key disk and the copy residing on your system. We'll refer to this icon as the Move icon.

  This icon also gives you easy access to the Reset function, in the event that you require a reset of your floppy license. You will also run this program to setup the electronic license of TOPS Pro, should your computer does not have a floppy drive.

- **TOPS Pro Viewer:** Available only in the network version of TOPS, the Viewer allows you to view solutions that have already been generated in the TOPS Pro system. This is a view/print-only feature and does not allow any changes made to the existing analyses.

Uninstall and Move TOPS Pro

The TOPS Pro software is designed with an authorization scheme that enforces the TOPS Pro licensing agreement – each stand-alone license or network license can only have one single installation.

Circumstances may arise when you need to reinstall the software. For instance, you are getting a new computer/hard disk or upgrading the version of Windows you're using. In such a case, please contact TOPS for assistance to move your TOPS license. Please note that you will have to delete/remove the old installation once the move has been completed.

Contact Information

If you need to contact TOPS Technical Support for any reason, use the information below:

TOPS Software Corporation
275 West Campbell Road, Suite 600
Richardson, Texas 75080 USA
Phone 972.739.8677
Fax 972.739.9478

Email for technical support: tech@topseng.com
Email for sales information: info@topseng.com

Web page: www.topseng.com

Chapter 2: The Basics

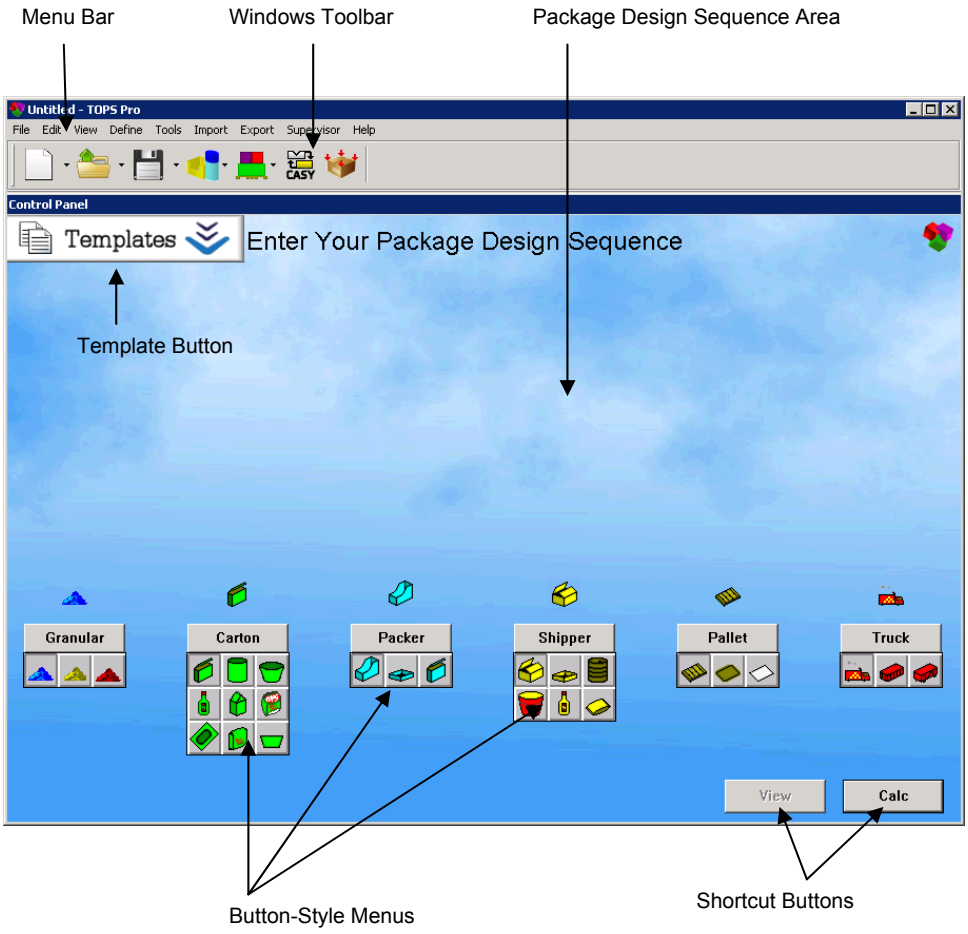
Introduction

This chapter walks you through the basic features and functions of the TOPS Pro System. It's important to understand and master the basics first, so we'll work through each of these stages one at a time. This chapter introduces the basic stages in the sequence they are normally used in the system, as follows:

- **Control Panel:** Introduces the primary panel in the system, which allows you to select the type of analysis you want to perform, the stages to be used in the analysis, and the dimensions of each stage.
- **Perform a Simple Analysis:** Walks you through the steps to perform a simple shipcase-to-pallet analysis.
- **Analysis View:** Displays the different solutions generated for your analysis. Allows you to select the solution that best meets your packing needs.
- **Layer Parameters:** Explains how to apply a number of different stages – rotations, pads, trays, slipsheets, caps, secondary patterns – to your unitload layers.
- **Print the Analysis:** Explains how to design the layout of the printout, including what type of information to include and how to present that information (different graphic views, text and numbers, etc.) and how to use your company logo in the reports
- **Copy an Image to the Clipboard:** Explains how to select an image in TOPS Pro and copy it to the Windows clipboard. Explains how to copy the image into Microsoft Word or Power Point and how to use the Paste Special feature.
- **Save the Analysis:** Explains how to save your analysis to the database.
- **Direct Email From TOPS Pro:** Allows you to email a standard printout directly to another person who may or may not have TOPS Pro.
- **Direct Export to PDF file:** Allows you to create TOPS analysis reports directly to a pdf file without using Adobe Acrobat or other third party PDF writer.

Control Panel

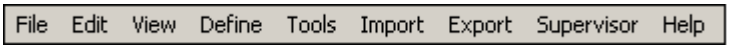
When you login to the system, the Control Panel appears, as pictured below. The Control Panel contains all the primary features of the system: Menu Bar, Windows Toolbar, Template Toolbar, Package Design Sequence Area, Button-Style Menus and Shortcut Buttons.



The Control Panel is the primary panel in the system. It is the working area from which you will select the type of analysis you want to perform, select the stages to be used in the analysis and define the dimensions of each stage.

Menu Bar

The Menu Bar, pictured below, provides a number of drop-down menus. These menus provide options that allow you to perform common tasks, many of which are duplicated on the Button Bar and Shortcut Buttons.



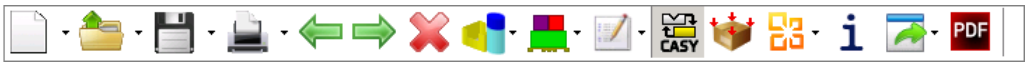
The list below gives a brief description of the eight menus on the Menu Bar:

- **File Menu:** Allows you to create new records, open existing records, save records and set up print parameters. You can also access this menu to publish and archive existing analyses.
- **Edit Menu:** Allows you to copy text and images to the Windows clipboard, as well as work with secondary pallet patterns.
- **View Menu:** Allows you to view graphic images in a number of formats: 3-D, front, side, split screen, quad screen and others.
- **Define Menu:** Allows you to define parameters for new products, cartons, shipcases, pallets, vehicles, etc. as well as access to the C.A.S.Y functions.
- **Tools Menu:** Allows you to revise your TOPS Pro configuration, the language used in TOPS Pro, stacking strength parameters, color selections, Eco Savings Reports (ESR) and MixPro functions.
- **Import Menu:** Allows you to import TOPS analyses.
- **Export Menu:** Allows you to export different types of graphic files (.bmp, .tiff, .jpeg), analyses, product reports, etc.
- **Supervisor Menu:** Allows you to perform supervisor functions such as login/logout tasks, access approval and denial, template setup, etc.
- **Help Menu:** Allows you to display Help information for all features and functions in the system.

Note: For detailed information about all the menus and menu options included on the Menu Bar, please refer to Appendix C, Menu Options.

Windows Toolbar

The Windows Toolbar, as pictured below, contains a number of icons that allow you to perform standard, routine functions. It also provides direct links to parameter dialog boxes for primary packages, intermediate packers, shipcase, unitloads and vehicles so you can modify those parameters without losing your place in the analysis.



The following table outlines the icons found in the Toolbar and its corresponding purpose.

Icon	Function
	New Analysis: Select from the menu to start a new analysis from scratch or start a new analysis via a predefined analysis template.
	Open Analysis: Select from the menu to open an analysis in standard format or in XML format. This will lead to the respective dialog box for further action.
	Save Analysis: Select from the menu to save the analysis as a new analysis, as a template or as an XML file.
	Print: Select from the menu whether to prints the current analysis, pallet report, package profile, container diagram, combined report or compare solutions.
	Previous: Takes you to the previous step in the Package Design Sequence for an analysis.
	Next: Takes you to the next step in the Package Design Sequence for an analysis. If there is no next step, this icon takes you back to the Package Design Sequence.
	Cancel to Package Design Sequence: Cancels out of the active analysis and takes you back to the Package Design Sequence area, where you can start over.
	Design CASY Shape or Tray: Select from the menu to open the CASY Primary Package Style or CASY Tray Style function editor.

Icon	Function
	MixPro / MixTray Editor: Select from the menu to open the MixPro Mixed Pallet Editor or the MixTray Mixed Tray Editor.
	Modify Parameters: Select from the menu to quickly access the parameter dialog box for the different design sequence: primary pack, interpack, shipcase, unitload or vehicle.
	Show CASY: Serves as a toggle switch to turn on or off the CASY graphics display.
	Stacking Strength: Opens the Stacking Strength dialog box.
	Send to Office: Select from the menu to send current analysis to Microsoft Word or Excel.
	Information: Click to export current analysis data to Artios CAD or open the Load Plan function to determine the load requirements for a specified quantity of primary product when the current package sequence is used.
	Export: Select from the menu the different export options. For graphics, export options include BMP, JPEG, PNG and PDF files. Users can also export analysis in text or XML format or export data to Artios CAD.
	Create PDF: Allows you to create PDF report for analysis, pallet report or package profile.

Template Toolbar

The Template Toolbar will be displayed upon clicking Template button.

The Toolbar, pictured below, gives you easy access to analysis templates set up in the system.

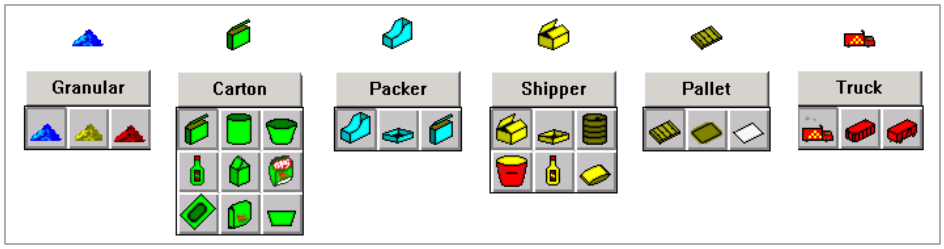
Notice the first button in the toolbar to the left. This template button shows four stages of an analysis: Can/Cylinder-Shipcase-Pallet-Vehicle.

If you click on this button, TOPS Pro automatically inserts the corresponding icons in the Package Design Sequence Area.

As you set up the stages that make up an analysis, TOPS Pro allows you to save the analysis as a template and add it to the Template Toolbar. For more information, please refer to the section "Perform a Simple Analysis."

Button-Style Menus

The Button-Style Menus, pictured below, allow you to set up a Package Design Sequence, in which you select the various stages to be used in an analysis.



There are six Button-Style Menus, each represents a stage of an analysis.

Each button-style menu contains a list of items that allows you to define the stages of an analysis with any combination of items you need. To select an item, click on the graphic representation of the item in the list, then click on the text button at the top of the list. As you select each stage, the corresponding icon will appear in the Package Design

Sequence Area of the Control Panel. To remove an icon from that area, simply click on the text button again.

Note: Be aware that there are a few duplications in the button-style menus that should be clarified.

- **Carton Icons:** There are two Carton icons. The Box Carton icon (green) displays the Carton Parameters dialog box. The Intermediate Pack Carton icon (blue) displays the Intermediate Pack Parameters dialog box.
- **Tray Icons:** There are two Tray icons. The Intermediate Pack Tray icon (blue) displays the Intermediate Pack Parameters dialog box. The Shipper Tray icon (yellow) displays the Shipcase Parameters dialog box.
- **Bag Icons:** There are two Bag icons. The Film Bag icon (green) and the Shipper Bag icon (yellow) both display the Bag Parameters dialog box. However, you'll use the first Film Bag icon to design a bag that contains a product. You'll use the Shipper Bag icon to put a bag onto a pallet.
- **Bottle Icons:** There are two Bottle icons. The Bottle icon (green) and the Shipper Bottle icon (yellow) both display the Bottle Parameters dialog box. However, you'll use the first Bottle icon to design a bottle that goes into a shipcase. You'll use the Shipper Bottle icon to design a bottle that goes onto a pallet.

Right Click Menu

The Right Click Menu, pictured below, allows you to set up a Package Design Sequence, as well as to replace the wall paper used for the background of TOPS Control Panel.

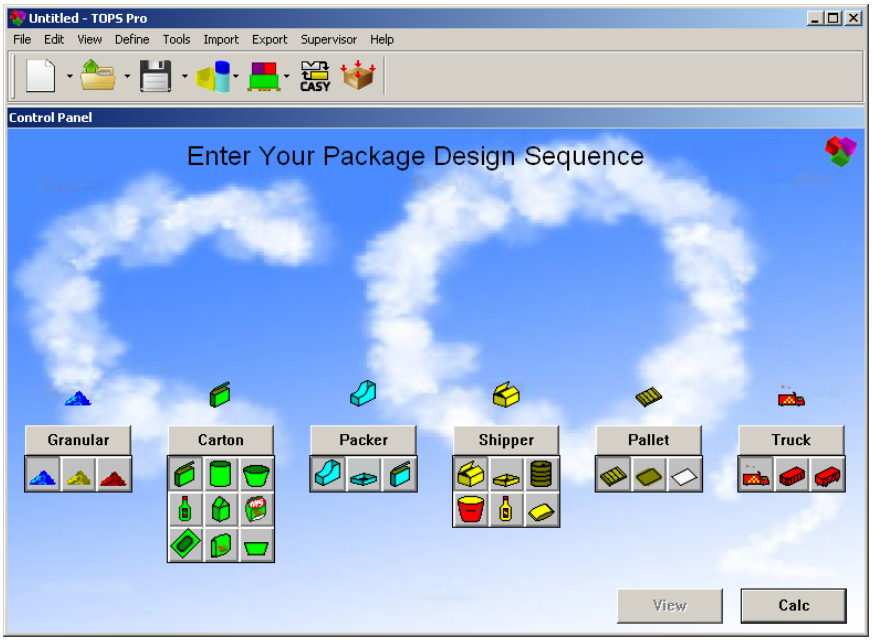
To access, place the mouse cursor at any blank area of the Control Panel and click the right mouse button.

Click the corresponding design step to be added to the Design Sequence; a check mark will indicate the presence of the step.

Set Background

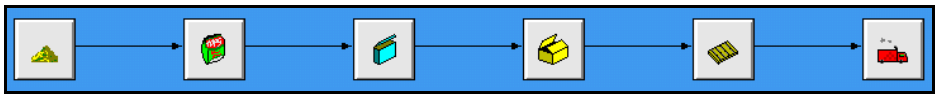
Click the Set Background option in the Right Click menu to open the Set Background Image dialog box, as pictured here.

- **Custom:** Click this radio button to use a new graphics for the Control Panel.
- **Graphic:** Click the Browse button to open a folder and specify the graphics image to be used.
- **Position:** Click Center to center the image on the Control Panel at its native resolution and Stretch to fill the entire Control Panel with the new graphic.



Package Design Sequence

The Package Design Sequence Area is the area on your screen in which you define a series of stages for an analysis. For example, let's say you selected six stages from the Button-Style Menus: bulk, bag, carton, shipper, pallet and truck. The corresponding icons will appear in the Package Design Sequence Area, as pictured below.



The icons you see in this figure are often referred to, respectively, as the Bulk Parameters icon, the Bag Parameters icon, the Carton Parameters icon, the Shipper Parameters icon, the Unitload Parameters icon and the Transit Vehicle Parameters icon.

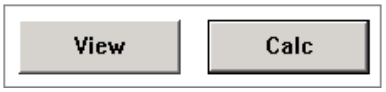
This represents a Package Design Sequence in which you'll find the best solution for this analysis: bulk product into a bag, into a carton, into a shipcase, onto a pallet and into a truck.

Next, when you click on any of these icons, a dialog box will appear and allow you to define the parameters of that particular stage in the sequence. For example, when you click on the Bottle icon, the Bottle Parameters dialog box appears, and you'll tell the system precisely how your bottles are designed in terms of dimensions, weight, shape, etc.

You can also click the Calc button on the lower right hand corner to start defining parameters for each stage.

Shortcut Buttons

The Shortcut Buttons, pictured below, allow you to view and calculate solutions for an analysis.



- **View Button:** Allows you to display and view the solution panels (Analysis View) for a selected analysis. This function becomes active only after an analysis has been completed.
- **Calc Button:** Allows you to calculate solutions for an analysis. After you've selected all the stages for the analysis and defined parameters for each stage, the Calc button tells the system to generate all possible solutions for the analysis, given the data you entered.

If you click on the Calc button and your analysis is incomplete – you forgot to enter a necessary detail – TOPS Pro automatically displays the appropriate dialog box and prompts you to enter the missing data. If you've simply made changes to the analysis, the system allows you to look over the changes you made before you continue.

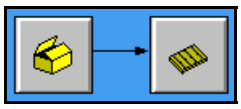
Perform a Simple Analysis

To follow through with the basics of the TOPS Pro software, this section walks you through a simple analysis and leads to the Analysis View, which is presented in the next section.

This analysis – shipcase onto a pallet – is very common and considered simple because it involves only two stages. We are stacking shipcases of dimension 17x13x11 (inch), weighing 10 pounds onto a pallet with no overhang.

Define the Package Design Sequence

To perform this analysis, start from the Control Panel and click on the Shipper and Pallet icons.

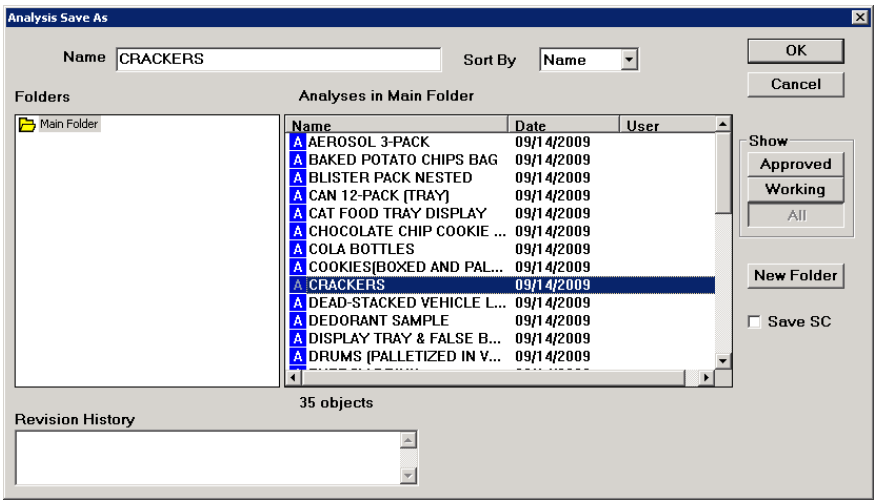


Save the Package Design Sequence as a Template

The shipcase-to-pallet sequence is a routine analysis that you'll perform frequently. TOPS Pro allows you to save this analysis as a template and add it to the Template Toolbar.

To save the Package Design Sequence as a template, follow these instructions:

1. Go to the Menu Bar and open the File Menu.
2. From the File Menu, click on the Save As Template option. The Analysis Save As dialog box, as pictured on the next page, appears.



3. In the Description field, enter the name of the new template (e.g., Shipcase -> Pallet) and click on OK.

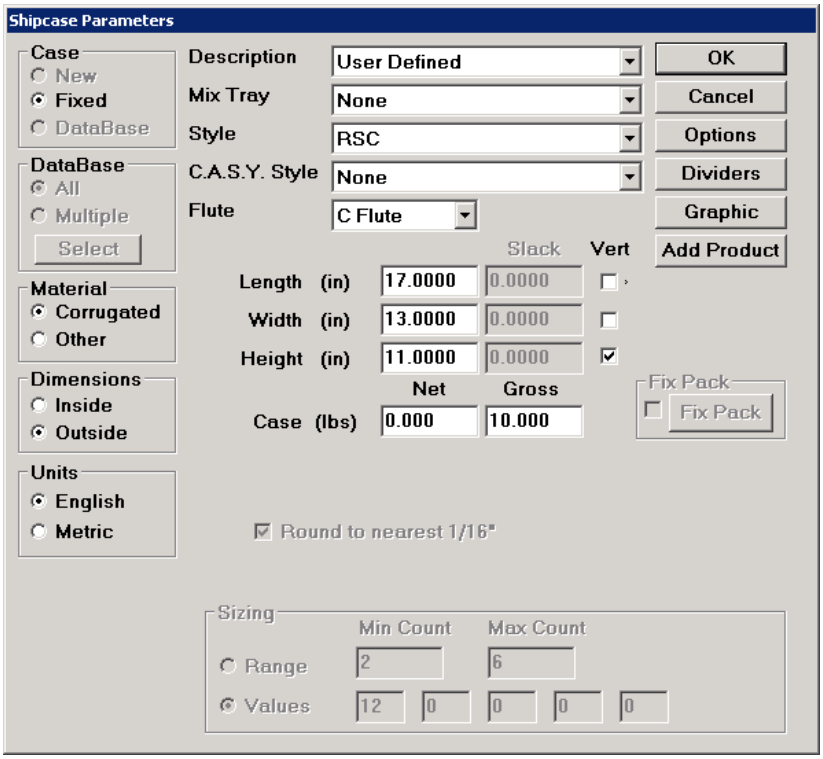
TOPS Pro saves the new template to the database and adds it to the Template Toolbar. The next time you want to perform this analysis, simply go to the Template Toolbar and click on the "Shipcase -> Pallet" template button to start the analysis.

Note: To display the Template Toolbar on the Control Panel, go to the Configuration dialog box and select the Display Template Buttons option.

Define Shipcase and Pallet Parameters

To define parameters for the shipcase and pallet, follow these steps:

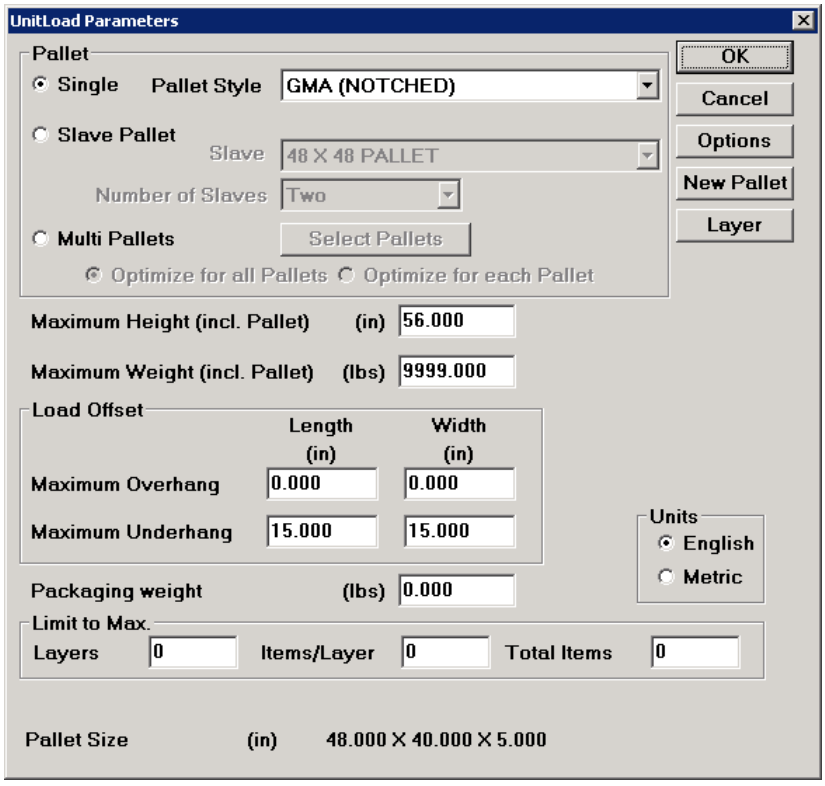
1. Click on the Shipper icon in the Package Design Sequence area.



2. Enter data to define your shipcase parameters as shown in the dialog and click on OK.

   TOPS stores your parameters to memory and closes the Shipcase Parameters dialog box.

3. Click on the Pallet icon in the Package Design Sequence area and the UnitLoad Parameters dialog box, as shown below, appears.



4. Change the Maximum Overhang to 0 for both Length and Width dimension and click on OK.

   TOPS stores your parameters to memory and closes the UnitLoad Parameters dialog box.

5. Click on the Calc button to generate solutions for the analysis.

TOPS Pro uses the defined parameters – shipcase and unitload – and generates all possible solutions for the analysis. When the calculation is complete, the Analysis View appears. The next section discusses the Analysis View in detail.

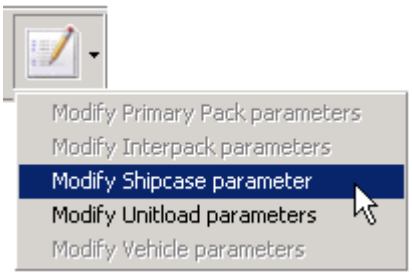
Revise Parameters for an Analysis (if necessary)

To revise any parameters for an analysis that has not yet been generated (you've not yet clicked on the Calc button), follow these instructions:

1. Click on the appropriate icon.
2. Use the dialog box to make the necessary changes.

To revise any parameters for an analysis that has already been generated, follow these instructions:

3. Click on the Modify icon in the Windows Toolbar and select the desired parameter to be modified. For example, to revise shipcase parameters, click on the Modify button and then select Modify Shipcase Parameters in the drop down list.

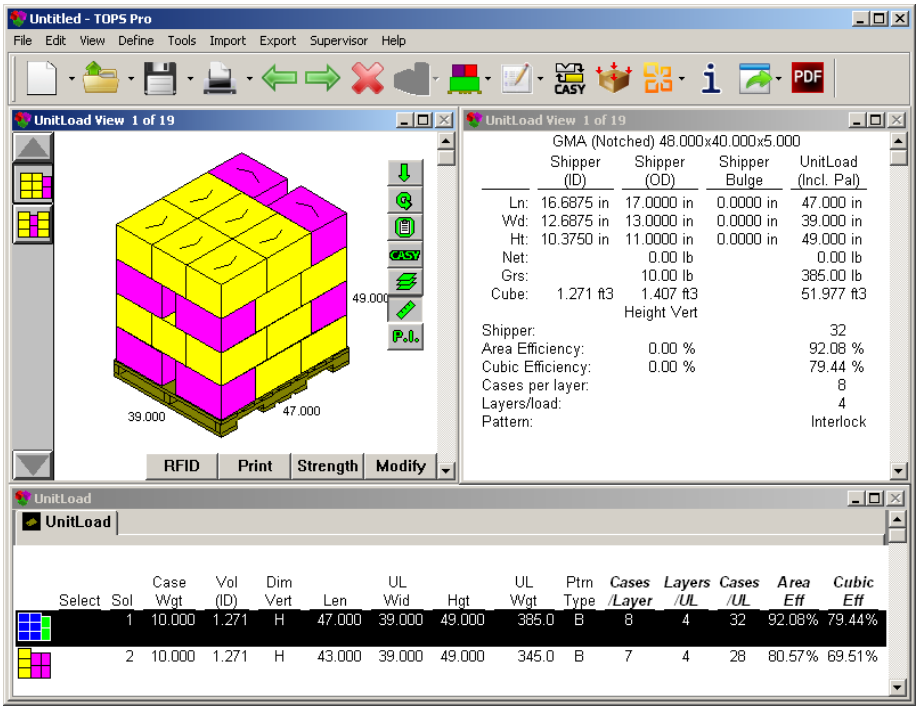


4. Enter the necessary changes in the Shipcase Parameters dialog box.
5. Click on the OK button.

TOPS Pro uses your changes to generate a new set of solutions.

Analysis View

When TOPS Pro generates solutions for an analysis, it displays the Analysis View, as pictured below. You'll use the Analysis View to study the different solutions and select the one that best meets your packing needs.



The Analysis View is normally divided into three panes, which work in conjunction with one another. Let's talk about these three panes one at a time.

- **Solution View Pane:** This pane, in the top left portion of the screen, displays a graphic of what the selected unitload solution looks like – i.e., how the shipcases have been loaded onto the pallet.

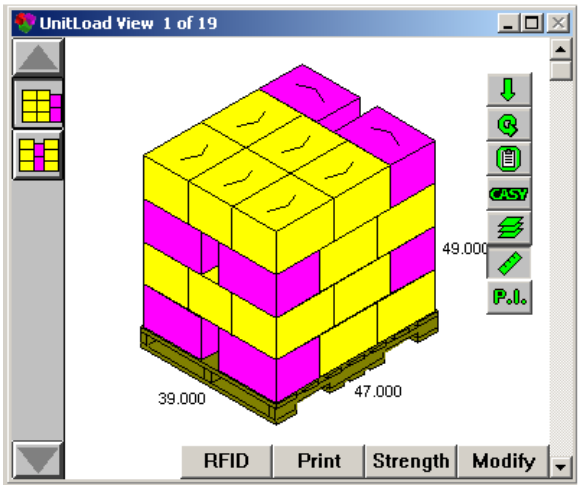
- **Statistics View Pane:** This pane, in the top, right portion of the screen, displays detailed statistics for the selected solution.

- **Solution List Pane:** This pane, at the bottom of the screen, displays a list of the best 50 (if there are 50) solutions generated for the analysis, along with a variety of basic information for each solution.

Solution View Pane

The Solution View pane displays a 3-D graphic of what the selected solution looks like; this pane is linked to the Solution List pane at the bottom. For example, if you select Solution 1 in the Solution List, the Solution View displays a graphic that corresponds to Solution 1. If you select Solution 5 in the Solution List, the Solution View displays a graphic for Solution 5, and so on.

In this analysis, the UnitLoad Solution View pane, pictured below, shows a graphic view for Solution 1.



Notice the following features on this pane:

- **Type of Solution:** The title bar of the pane reads "UnitLoad View 1 of 19." If this were a Carton solution, the title bar would read "Carton View ..."

- **Solutions Counter:** The title bar of the pane shows a counter (for example, 1 of 19). This tells you that this is the first of 19 solutions generated by the system.

- **Alternate Pallet Patterns:** For a given solution, there might be a number of alternate ways you can configure the unitload on the pallet. For each possible configuration, TOPS Pro displays a button on the left side of the pallet. In the figure on the previous page, two buttons correspond to two possible configurations for Solution 1. If there were six possible configurations, the pane would display six different buttons.

  If you click on a button, the pane redraws to show the selected configuration. If there were a large number of buttons, the scroll bar would allow you to access all the available buttons.

Note: Keep in mind that these buttons do not represent different solutions, but different configurations for a single solution.

- **Rotation Buttons:** For any solution, click on these buttons to rotate the 3-D graphic along the horizontal and vertical axes respectively.

- **Copy to Clipboard Button:** Click this button to copy the 3-D unitload graphics to the system clipboard. Once on the clipboard, the graphics can be pasted onto other applications like MS Word, Excel or more.

- **Show CASY On/Off Button:** Click this button to toggle on/off the CASY display on the 3-D unitload diagram. This button serves the same functions as the CASY button (CASY) on the Windows toolbar.

- **Layer Parameters Button:** Click this button to open the Layer Parameters dialog box where you can rotate and add different layer accessories to selected layers of the unitload.

- **Show Dims On/Off Button:** Click this button to toggle on/off the dimension display on the unitload diagram.

  If the dimensions shown here are not the dimensions you'd like to see, try turning on or off the UL Size as Pallet Size switch on the Configuration dialog box. For more information on the Configuration dialog box, please refer to Appendix B, Dialog Boxes.

- P.I. Package Instruction Button: Click this button to open the Package Instruction dialog box to add package instruction for the current stage of the package sequence.

- **Scroll Bar:** The scroll bar on the right side of the pane allows you to display each successive solution in the list.

  For example, if you click on the down button on the scroll bar, the pane displays the next solution in the list. If you click on the up button, the pane displays the previous solution in the list. If you scroll all the way down, the pane displays the final solution in the list; all the way up displays the first solution.

- **RFID Button:** Click this button to select from Sort by RFID or RFID function. The RFID function displays the RFID analysis screen which allows you to optimally place RFID tags on the face of the shipcase to provide maximum readability.

The Sort by RFID function will sort the solutions in the Solution List Pane in the order of RFID Blockage, which is added as the last column in the solution list. To remove the RFID Blockage data from the solution, select the **Sort by RFID** function again.

For more information on RFID, please refer to Chapter 16.

- **Print Button:** Allows users to print the current image or open the Quick Print dialog box, which allows you to define print parameters and print the graphic in the pane.

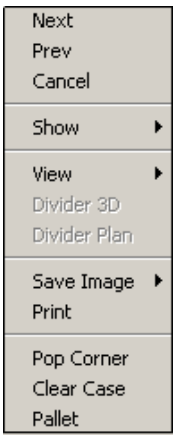
  Note: For more information on the Quick Print dialog box, please refer to Chapter 11, Printing, or Appendix B, Dialog Boxes.

- **Strength Button:** Allows users to select either QStrength or regular Stacking Strength analysis for the pallet load. For more information on stacking strength, please refer to Chapter 9, Stacking Strength.

- **Modify Button:** Displays the Pallet Pattern Editor, which allows you to add, remove and reposition shipcases on a pallet.

Solution View Menu

As you're working with an analysis, the Solution View features a menu with a number of useful functions. With the Solution View active, right-click inside the Solution View pane and a small menu appears, as pictured below on the right



The Solution View Menu provides the following options:

- **Next:** Displays the next stage of the analysis in Solution View.

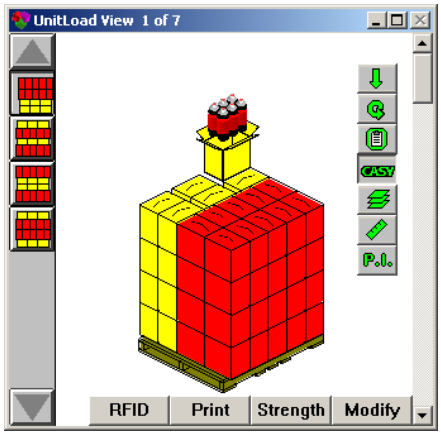
- **Previous:** Displays the previous stage of the analysis in Solution View.

- **Cancel:** Closes the Analysis View and returns you to the Control Panel.

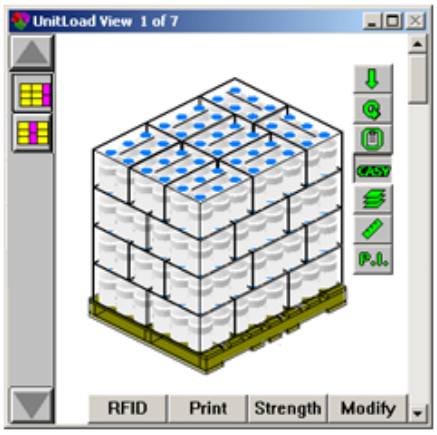
- **Show:** Leads to a submenu to select items to be displayed in the solutions: dimensions, contents, bitmaps, CASY style, shrinkwrapped, strapped and markers.

- **View:** Allows you to view the image in a variety of formats: 3-dimensional, plan, front, side, as text (statistics), single stack, pop top, double stack, assembly and exploded.

- **Divider 3D:** If the shipcase includes dividers, this option displays the image in 3-dimensional format, including the dividers.
- **Divider Plan:** If the shipcase includes dividers, this option displays the image in plan format, including the dividers.
- **Save Image:** Provides a number of options for saving the Solution view image – as a bitmap file, JPEG file, PDF file, etc.
- **Print:** Allows you to print the Solution View image.
- **Pop Corner:** For a unitload image, this option displays one corner of the load exposed so you can see the contents. A pop corner view of a unitload is pictured below.
- **Clear Case:** For a unitload image, this option displays the shipcases as clear cases so you can see the contents. A clear case view of a unitload is pictured below.



Pop-corner

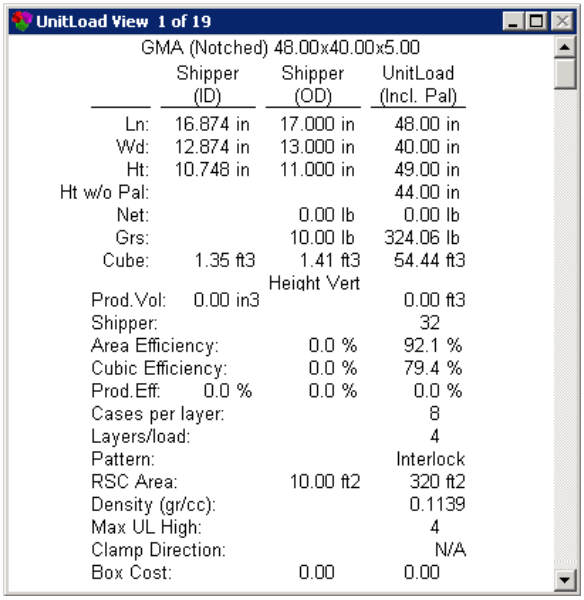


Clear Case

Statistics View Pane

The Statistics View pane displays detailed statistics for a selected solution; this pane is linked to the Solution List pane. For example, if you select Solution 1 in the Solution List, the Statistics View displays data for Solution 1. If you select Solution 5 in the Solution List, the Statistics View displays data for Solution 5, and so on.

In this analysis the UnitLoad View pane, pictured below, shows statistics for Solution 1. The Text View pane automatically sizes the information displayed to the window size. You can add and remove rows and columns of statistics by running the TOPS Pro Configuration program. For more information about changing the Statistics, please refer to Appendix B, Dialog Boxes, see section Configuration, Statistics Tab.



Notice the following features on this pane:

- **Type of Solution:** The title bar of the pane reads "UnitLoad View 1 of 19."
- **Solutions Counter:** The title bar of the pane shows a counter (for example, 1 of 19). This tells you that this is the first of 19 solutions generated by the system.
- **Detailed Statistics:** The pane presents detailed statistics for the selected solution – most of the same information you see in the List pane.
- **Scroll Bar:** The scroll bar on the right side of the pane allows you to move up and down the display area of the pane.

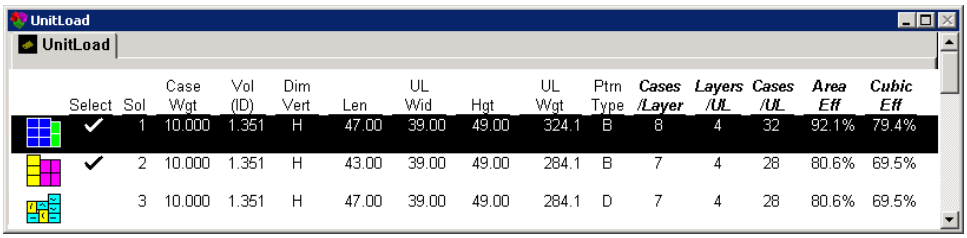
Solution List Pane

The Solution List pane displays a list of all solutions generated for the analysis. In the figure below, the Solution List pane includes 19 solutions for the analysis (only seven are visible). A scroll bar allows you to move up and down the list. For each solution, this pane displays different items of basic information, which appears in columns across the pane, depending on the type of analysis performed.

The ***bold italics*** column headings (on the right side of the pane) indicate the solutions can be sorted based on that data. Just click on the bold text to sort.

Important Note: In order to see all displayed columns of information in the Solution List pane, be sure to maximize the Analysis View. If you still can't see all columns, try increasing your video resolution.

Also, units of measurement (English or Metric) used in the Solution List pane are set up in Configuration.



	Select	Sol	Case Wgt	Vol (ID)	Dim Vert	Len	UL Wid	Hgt	UL Wgt	Ptrn Type	*Cases /Layer*	*Layers /UL*	*Cases /UL*	*Area Eff*	*Cubic Eff*
	✓	1	10.000	1.351	H	47.00	39.00	49.00	324.1	B	8	4	32	92.1%	79.4%
	✓	2	10.000	1.351	H	43.00	39.00	49.00	284.1	B	7	4	28	80.6%	69.5%
		3	10.000	1.351	H	47.00	39.00	49.00	284.1	D	7	4	28	80.6%	69.5%

Depending on the analysis performed, the Solution List pane displays some/all of the following items of information:

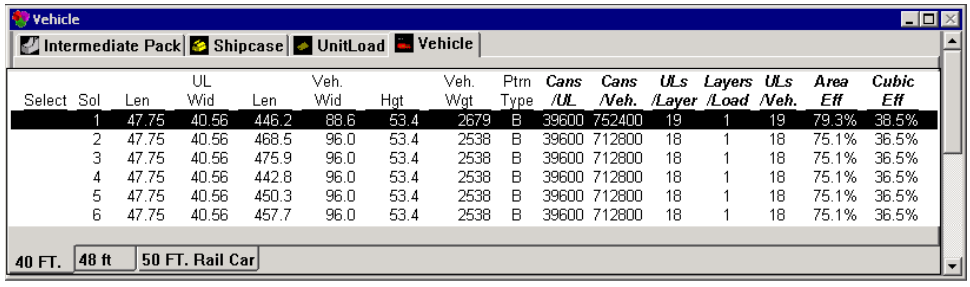
- **Select:** Highlight with a check mark if the solution has been selection for comparison.
- **Sol:** Identifies the solution (Solution 1, 2, 3, etc.).
- **Case Wgt:** The gross weight of the shipcase.
- **Vol (ID):** The volume of the shipcase, based on inside dimensions.
- **Slack (Len, Wid & Hgt):** The amount of unused space along the Length, Width and Height of the shipcase.
- **Ptrn Type:** The stacking pattern used to configure the shipcase.
- **Note:** For detailed information about pallet patterns, please refer to Appendix D, Pallet Patterns.

- **Cubic Eff (Shipcase):** The percentage of cubic area that is used. TOPS Pro calculates this value based on how much space is being used versus the space you're trying to fill in the shipcase..
- **Dim Vert:** The dimension – length, width or height – specified as the vertical dimension of the shipcase relative to the ground.
- **Unitload Width:** The width of the unitload.
- **Height:** The height of the unitload, including the pallet.
- **Unitload Weight:** The weight of the unitload, including the pallet.
- **Cases/Layer:** The number of shipcases configured in each layer of the unitload.
- **Layers/Unitload:** The number of layers of shipcases configured in the unitload.
- **Cases/Unitload:** The number of shipcases configured in the unitload.
- **Area Efficiency:** The percentage of the pallet area that is used in the configuration. TOPS Pro calculates this value based on how much pallet area is covered by shipcases.
- **Cubic Efficiency:** The percentage of cubic area that is used in the configuration. TOPS Pro calculates this value based on how much space is being used versus the space you are trying to fill.

The exact statistics listed depend on the stage of design sequence you are looking at.

Solution List - Tab View

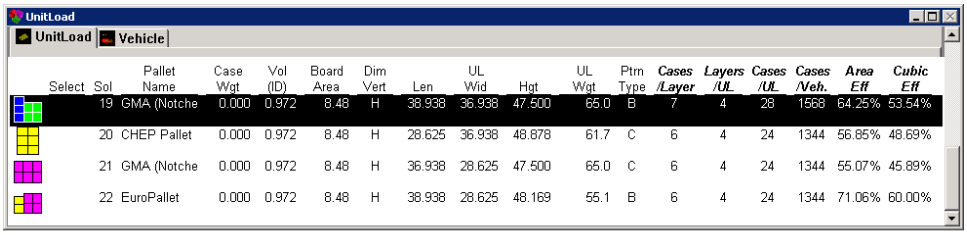
When there are multiple stages in the design sequence, the solutions at each stage will be displayed in tabs displayed at the top of the Solution List pane.



Clicking each tab in the Solution List will also bring the program focus to the corresponding graphics pane.

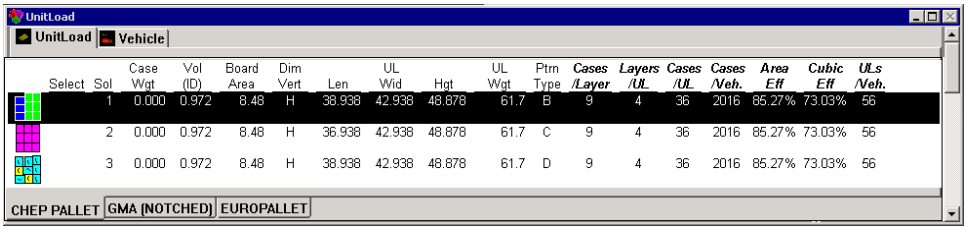
When multiple pallets or vehicles are selected for an analysis, the solutions will be grouped in tabs displayed at the bottom of the Solution List as shown earlier.

For multiple pallets, you have the choice of keeping all solutions in one big list under the UnitLoad tab or grouped them in tabs under the pallet type as pictured below.



Select	Sol	Pallet Name	Case Wgt	Vol (ID)	Board Area	Dim Vert	Len	UL Wid	Hgt	UL Wgt	Ptrn Type	Cases /Layer	Layers /UL	Cases /UL	Cases /Veh.	Area Eff	Cubic Eff
	19	GMA (Notche	0.000	0.972	8.48	H	38.938	36.938	47.500	65.0	B	7	4	28	1568	64.25%	53.54%
	20	CHEP Pallet	0.000	0.972	8.48	H	28.625	36.938	48.878	61.7	C	6	4	24	1344	56.85%	48.69%
	21	GMA (Notche	0.000	0.972	8.48	H	36.938	28.625	47.500	65.0	C	6	4	24	1344	55.07%	45.89%
	22	EuroPallet	0.000	0.972	8.48	H	38.938	28.625	48.169	55.1	B	6	4	24	1344	71.06%	60.00%

Solution list “Optimize for all Pallets”



Select	Sol	Case Wgt	Vol (ID)	Board Area	Dim Vert	Len	UL Wid	Hgt	UL Wgt	Ptrn Type	Cases /Layer	Layers /UL	Cases /UL	Cases /Veh.	Area Eff	Cubic Eff	ULs /Veh.
	1	0.000	0.972	8.48	H	38.938	42.938	48.878	61.7	B	9	4	36	2016	85.27%	73.03%	56
	2	0.000	0.972	8.48	H	36.938	42.938	48.878	61.7	C	9	4	36	2016	85.27%	73.03%	56
	3	0.000	0.972	8.48	H	38.938	42.938	48.878	61.7	D	9	4	36	2016	85.27%	73.03%	56

Solution list “Optimize for each Pallet”

UnitLoad Layer Parameters

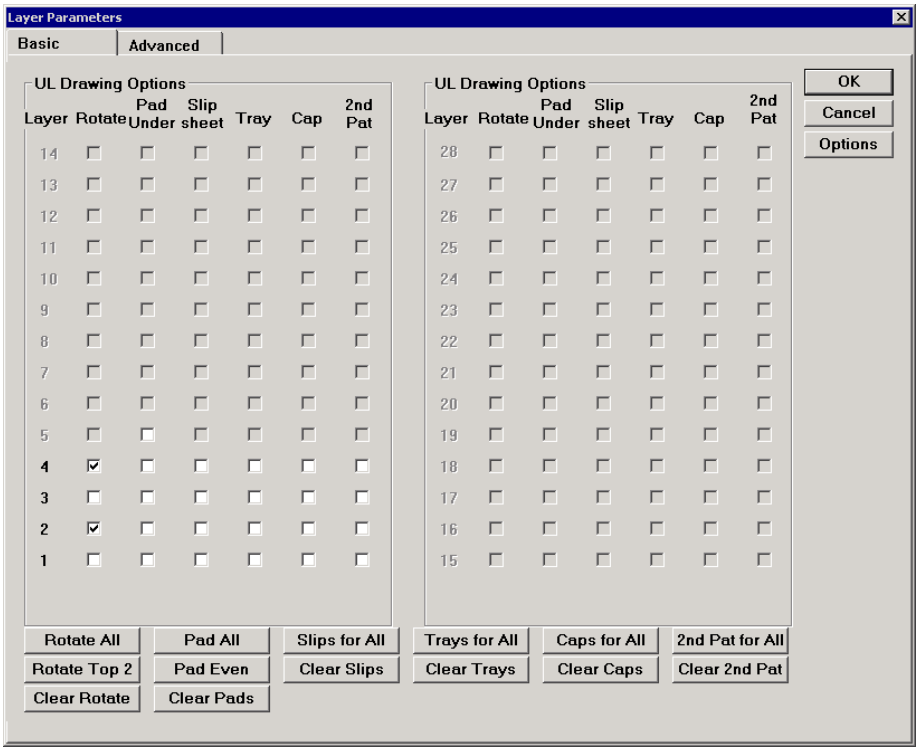
Once you've decided on a solution, you can work with the individual layers in the unitload. The Layer Parameters feature allows you to apply a number of different stages to your unitload layers, including the following:

- Rotate selected layers.
- Use the secondary pattern set up for selected layers.
- Add caps, pads, slipsheets and trays to selected layers.

This feature allows you to select whichever layers you want – one, multiple, all or none – then apply a function to those selected layers. You have the flexibility to define layer parameters any way you want.

To define layer parameters, open the Layer Parameters dialog box by clicking on the Layer Parameter button ( ) in the Unitload View pane or go to the menu bar, open the Edit menu and select Layer Parameters. The Layer Parameters dialog box appears, as pictured below.

The Basic tab contains check boxes and function buttons to allow you to easily apply different accessories to specific layers:



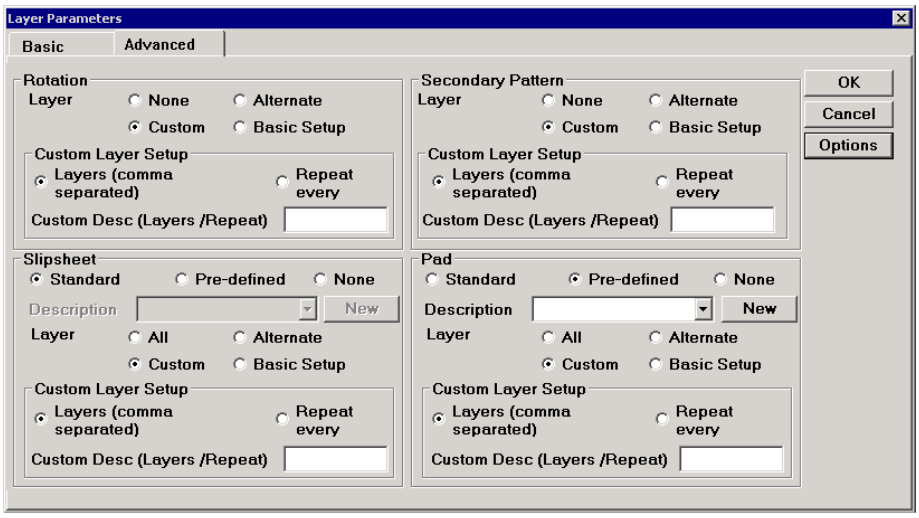
- **Unitload (UL) Drawing Options:** Allow you to select individual layers for which you want to perform a function – rotate, insert a pad, remove a slipsheet, etc.

- **Function Buttons:** Allow you to perform global functions on the unitload layers – Rotate All, Pad All, Clear Caps, Clear Second Pattern, etc. This is useful if you want to apply a function to a number of layers, not just one or two individual layers.

- **Options Button:** Allow you specify these options:

  - **Rotate:** Specify how layers will be rotated – Length flip, width flip, length and width flip or rotate 90 degrees.
  - **Spread:** Specify how the layers will be spread – pack tightly, spread to edge of layer or spread to pallet edge.
  - **Filler:** Specify how filler (if any) will be used with the layers – at middle or at end.

The Advanced tab provides more "advanced" way to specify accessories.



- **Layer:** Specify which layers the specific function or accessory will be applied: none, alternate, custom or basic.

- **Custom Layer Setup:** Select the layers to apply the function; enter 1,2,5,7,9 in the Custom Desc field to rotate layers 1, 2, 5, 7 and 9. You can also specify to apply the function for every x layers.
  Note: Use this custom function to specify layers beyond 28.

- **New:** You can also define new slipsheet, pad, tray or cap via this dialog box. Click on Pre-defined and then select an existing accessory or define a new one by clicking on the New button.

TOPS Pro stores the layer parameters to memory and returns you to the Analysis View. The Graphic View pane displays the unitload with your defined layer parameters.

Unitload Drawing Options

The Unitload Drawing Options portion of the dialog box is organized into seven columns, as follows:

Note: These options are adornments. They do not change the size of the unitload.

- **Layer:** Displays a column of layers that correspond to a unitload solution. Each layer represents a specific layer of cases in the unitload. If there are more than 28 layers in the unitload, click the Advanced tab and use the Custom Layer Setup to specify layers beyond 28.
- **Rotate:** Check the box to rotate a specific layer in the unitload.
- **Pad Under:** Check the box to insert a pad under a specific layer in the unitload.
- **Slipsheet:** Check the box to insert a slipsheet under a specific layer in the unitload.
- **Tray:** Check the box to insert a tray in the unitload.
- **Cap:** Check the box to insert a cap over a specific layer in the unitload.
- **2nd Pat:** Check the box to use a secondary pattern for a specific layer in the unitload.

Function Buttons

The Layer Parameters dialog box includes 14 function buttons, as follows:

- **Rotate All Button:** Rotates all layers in the unitload. When you click on this button, TOPS Pro automatically checks all the active boxes in the Rotate column.
- **Rotate Top 2 Button:** Rotates the top two layers in the unitload.
- **Clear Rotate Button:** Clears all the Rotate commands already set up for the unitload. When you click on this button, TOPS Pro automatically un-checks all the active boxes in the Rotate column.

- **Pad All Button:** Inserts pads between each layer in the unitload. When you click on this button, TOPS Pro automatically checks all the active boxes in the Pad Under column.

- **Pad Even Button:** Inserts pads under only the even-numbered layers in the unitload. When you click on this button, TOPS Pro automatically checks all the active boxes in the Pad Under column for even-numbered layers.

- **Clear Pads Button:** Clears all the Pad commands already set up for the unitload. When you click on this button, TOPS Pro automatically un-checks all the active boxes in the Pad Under column.

- **Slips for All Button:** Inserts slipsheets between each layer in the unitload. When you click on this button, TOPS Pro automatically checks all the active boxes in the Slipsheet column.

- **Clear Slips Button:** Clears all the Slipsheet commands already set up for the unitload. When you click on this button, TOPS Pro automatically un-checks all the active boxes in the Slipsheet column.

- **Trays for All Button:** Places every layer in the unitload on a tray. When you click on this button, TOPS Pro automatically checks all the active boxes in the Tray column.

- **Clear Trays Button:** Clears all the Tray commands already set up for the unitload. When you click on this button, TOPS Pro automatically un-checks all the active boxes in the Tray column.

- **Caps for All Button:** Places a cap on every layer in the unitload. When you click on this button, TOPS Pro automatically checks all the active boxes in the Cap column.

- **Clear Caps Button:** Clears all the Cap commands already set up for the unitload. When you click on this button, TOPS Pro automatically un-checks all the active boxes in the Cap column.

- **2nd Pat for All Button:** Replaces all the current layers in the unitload with the selected secondary pattern. When you click on this button, TOPS Pro automatically checks all the active boxes in the 2nd Pat column.

- **Clear 2nd Pat Button:** Clears all the Tray commands already set up for the unitload. When you click on this button, TOPS Pro automatically un-checks all the active boxes in the Tray column.

Filler

Filler serves primarily to fill empty space between layers, which prevents load shifting. The Filler function allows you to specify how filler will be used, as follows:

- **None:** No filler is inserted between layers.
- **Middle Filler:** Inserts filler in the middle of the layers.
- **End Filler:** Inserts filler at the ends of the layers.

Spread

The Spread function allows you to specify how the layers will be spread on the pallet, as follows.

- **Pack Tightly:** Shipcases in each layer are packed tightly toward the center, with minimum spread in between.
- **Spread to Layer Edge:** Shipcases in each layer are spread to the edge of the unitload. This option "squares up" the unitload.
- **Spread to Pallet Edge:** Shipcases in each layer are spread to the edge of the pallet.

Rotate

The Rotate function allows you to specify how the layers will be rotated, as follows:

- **Length Flip:** Flips the layer pattern along its length.
- **Width Flip:** Flips the layer pattern along its width.
- **Length and Width Flip:** Rotates the layer along both its length and width.
- **Rotate 90 Degrees:** Rotates the layer 90 degrees.

Print the Analysis

TOPS Pro provides a lot of flexibility in the way you design and print analysis output. After you've decided on a solution, you're ready to print a hard copy that shows the information that went into the analysis.

You'll design the layout of the printout, then decide what type of information will be included and how that information will be presented (different graphical views, text and numbers, etc.).

In this example, we'll design the output to have the following characteristics:

- The output will have a 3-Way Top page layout.
- The heading will read "Shipcase-to-Pallet Analysis."
- The three areas of the printout will show the UnitLoad 3D View, the UnitLoad Plan View and the UnitLoad Statistics.
- The bottom of the printout will show sample text.

Define Print Parameters

To print the output from an analysis, start from the Control Panel and follow these instructions:

1. Go to the Menu Bar and open the File menu.
2. Select Print Preview, then select Analysis.

Notice that the Print Parameters dialog box is organized into the following sections:

- **Page Layout: A**llows you to select one of eleven possible page layouts:
  - The **Full Page layout** allows you to select only one area of the analysis to print.
  - The **Horizontal Split and Vertical Split layouts** allow you to select two areas of the analysis to print.
  - The **3 Way Bottom, 3 Way Top, 3 Way Left** and **3 Way Right layouts** allow you to select three areas of the analysis to print.
  - The **Quad Split layout** allows you to select four areas of the analysis to print.
  - The **5 Way** and **5 Way Down layout** allows you to select five areas of the analysis to print.

- The **6 Way Fixed, 6 Way Scaled** and **6 Way Down layouts** has all six areas of the analysis to print.

❖ **Heading:** Allows you to enter the text of the heading that will appear at the top of the printout.

❖ **Areas 1 through 6:** Allow you to select the area(s) of the analysis from which you want to print information.

Note: Be aware that the number of areas available to select from depends on the page layout you selected. For example, if you selected the Horizontal Split layout, which contains two sections, you'll be able to select from only two areas.

❖ **Notes:** Allows you to enter the text of any notes that will appear at the bottom of the printout.

Tip: To force the text to wrap to the next line, type a left apostrophe (`) at the end of the line of text. In a normal word processor application, you'd use the Enter or Return key to do this.

❖ **Show Additional Notes:** Allows you to enter information about such as Label Format, Test Weight and Package Quantity.

❖ **Printer:** Allows you to select either Black and White (B+W) or Color printing.

❖ **Double Stack Unitload:** Allows you to print output as a double-stacked unitload.

❖ **Print Analysis Name:** Allows you to print the analysis name on the printout.

❖ **Show Graphics/C.A.S.Y.:** Allows you to show graphics or CASY design in the printout.

Note: If the analysis includes both graphics and a CASY design, the system will display the CASY design, not both.

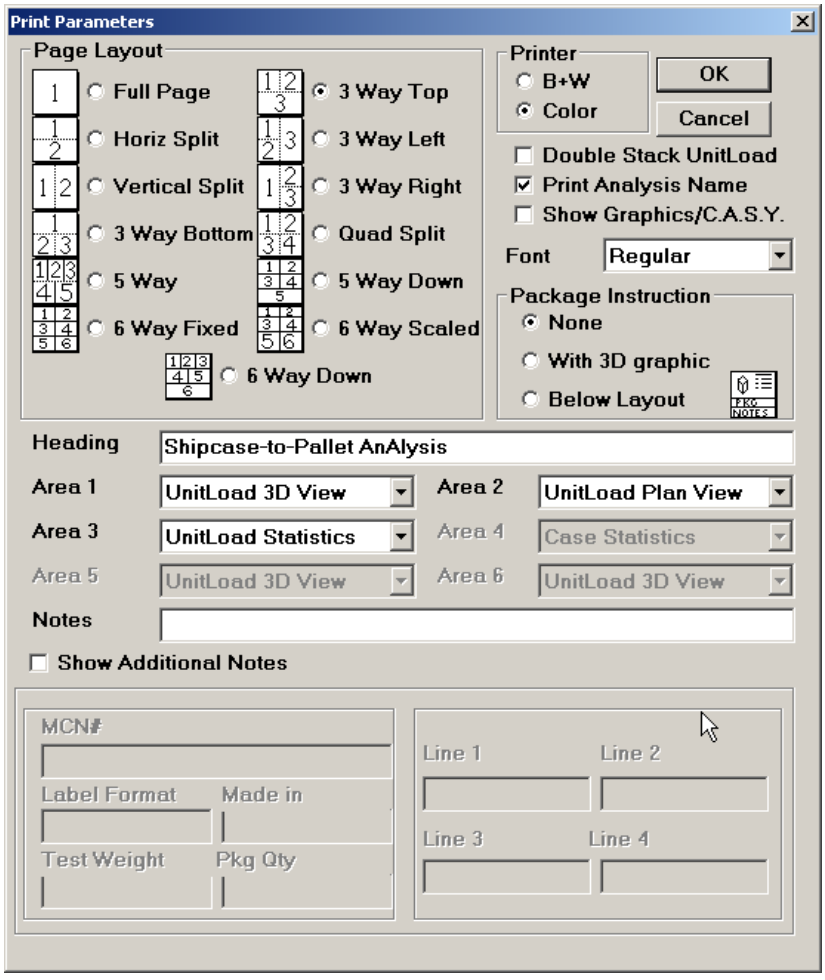
❖ **Font:** Here you can select the font on the preview screen. The text can be displayed in the following 3 sizes.

- Regular: Helvetica 10 pt
- Small: Helvetica 8 pt
- Very Small: Helvetica 6 pt

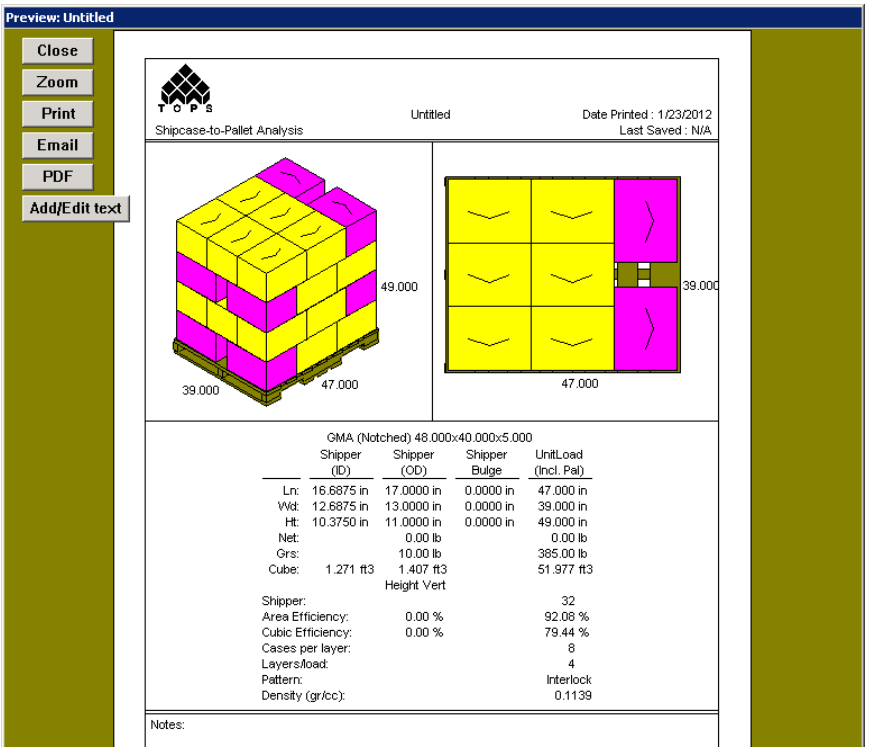
❖ **Package Instruction:** For any package instruction (e.g. corner post, plastic wrap) entered under the Edit > Package Instruction function, you can specify where in the report these instructions will appear.

- With 3D graphic – at the top right hand corner of the 3D unitload graphic.
- Below Layout – in a new packaging section after the graphics and statistics.

3. Enter and select the print parameters for the analysis as illustrated below. Use the Tab key to move from field to field.



4. After completing the print parameters, click on OK. The Print Preview panel appears, as pictured below.



Notice the following things about the Print Preview panel:

- The **heading** reads "Shipcase-to-Pallet Analysis" and includes today's date. The heading also includes a title, if you specified a title for the analysis.
- **Area 1** displays a graphic of the UnitLoad 3D View.
- **Area 2** displays a graphic of the UnitLoad Plan View.
- **Area 3** displays the UnitLoad Statistics.
- At the bottom of the printout, the **Notes** section will display any text you have entered.
- The **Close button** will close the preview and return you to the solution screen.
- The **Zoom button** allows you to magnify the panel and get a closer, more detailed look at the output.
- The **Print button** sends the output to the printer.

- The **Email button** allows you to email this report as a JPG attachment to another user.
- The **PDF button** allows you to export the current report to a PDF file in a specified location on your computer.
- The **Add/Edit text button** allows you to add text and line/arrows anywhere on the printout.

5. To print the output, click on the Print button.

Add Text, Lines or Images to Printed Output

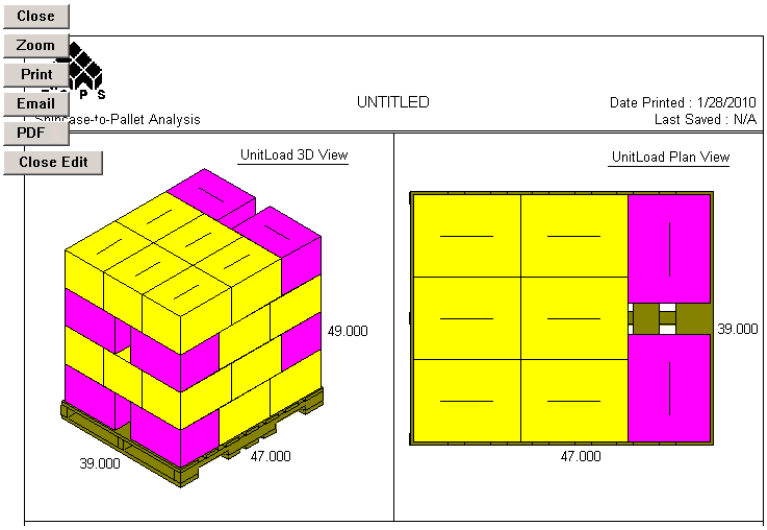
After you've designed and generated your analysis output, the system allows you to add text or graphic images to the output before you print it. This is a very easy process that allows you to customize and enhance the output's presentation.

To add text and images to the output, start from the Print Preview panel and follow these instructions:

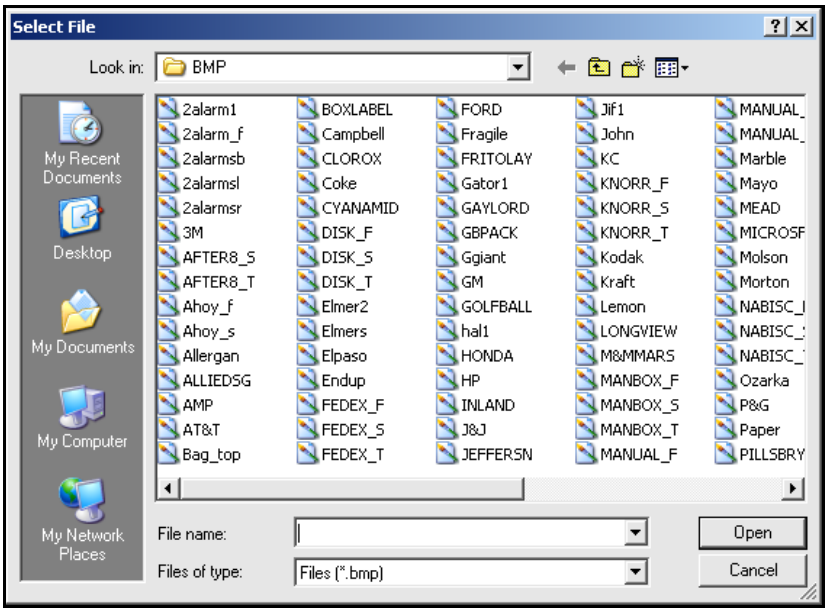
1. Click on the Add/Edit Text button. TOPS Pro magnifies the Print Preview panel.
2. Click on the area of the output where you want to enter text. TOPS Pro displays a four-cornered entry field ( ) with the cursor positioned inside the field. Notice that you can "drag" the entry field to any position on the screen by placing the mouse cursor near the field and the mouse cursor changes to a ( ).
3. Enter the text that you want to appear in the selected area.

   In this exercise, enter "UnitLoad 3D View" in Area 1 (top left) and "UnitLoad Plan View" in Area 2 (top right).
4. To add lines or arrows to the printout, right click the mouse button and highlight **Line** at the pop-up menu. Select "--------".

   When the pop-up menu closes, place the mouse at any location, click the left mouse button and drag the mouse to create a line on the screen. Move the line to under the text "UnitLoad 3D View". Repeat the same procedure to add a line under text "UnitLoad Plan View". The result will be similar to the screen below.



5. To add an image to the printout, go to the Menu Bar and open the Edit Menu. Select Paste Pict From File and then a file from the Select File dialog box as pictured below.



6. Select any sample graphics and click on Open to use. You can also browse to any location to use any graphics. The Print Preview panel redisplays with the selected bitmap file inserted into the output.

7. Drag the image to the area where you want it to appear and size it as desired by dragging any one of the four corner boxes ( ) around the graphics.

8. After completing the text and graphics, click on the Print button. TOPS Pro sends the analysis output to the printer.

9. Click on the Close button. TOPS Pro asks if you want to save your changes.

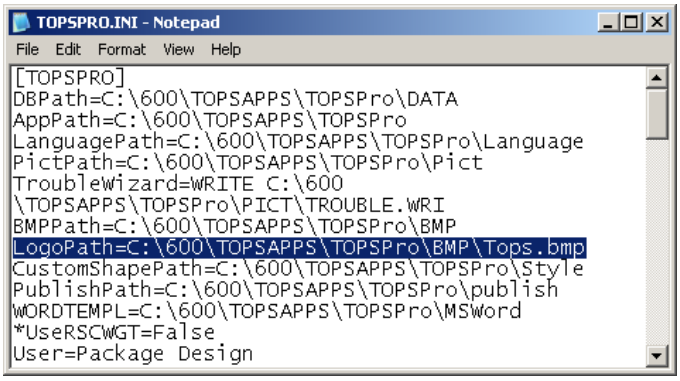
10. Click on Yes. TOPS Pro prompts you to enter a filename to be saved.

11. Enter the name of this file and click on OK.

12. TOPS Pro returns you to the Control Panel.

Change the Company Logo in Printed Output

The company logo used in printed outputs within TOPS is referenced in the TOPSPRO.INI file saved in the ...\TOPSAPPS\TOPSPRO\ folder. When opened with a text editor like Windows Notepad, you will see something similar to the screen below.



To use your company's logo, you can either:

1. Rename your company logo (if in BMP format) to tops.BMP as referenced above and make sure it is saved in the same ...\TOPSAPPS\TOPSPRO\BMP\ folder. This option does not require any change to the TOPSPRO.INI file.

2. Change the logo path to point to the folder where your company logo resides. For example, you can change the highlighted entry in the screen above to:

   `LogoPath=C:\Images\ComLogo.bmp`

   if your company logo is saved in the referenced folder.

Change the Printer Pen Width

The printer pen width refers to the thickness of the lines in a graphic or text when you print an analysis. The default for printer pen width is zero, which is a hairline width.

To change the printer pen width, follow these instructions:

1. From the menu bar, open the Tools menu.

2. Select Configuration and click on the Reports tab when the Configuration dialog box appears.

3. In the Printer Pen Width field, enter a value to specify the line thickness with which you want to print. If you're satisfied with the printer, click on OK.

TOPS Pro saves the updated configuration to the database and returns you to the previous screen.

Note: Printer pen width has no effect when CASY graphics are turned on.

Copy TOPS Graphics to Other Programs

For TOPS Pro users, it is common practice to copy graphic images from the system into other applications. This section addresses the following routines and features:

- Copy a single graphic
- Copy the entire Print Preview
- Copy a graphic to Microsoft Word
- Copy a graphic to Microsoft Power Point
- Paste Special

Copy a Single Graphic

To copy a single graphic to the clipboard, follow these instructions:

1. Click on a graphic to select it. The title bar of the selected window should be highlighted.

   Note: You may want to resize the window to the size of the desired image before copying. For better printing, make the image twice as large.

2. Go to the menu bar and open the Edit menu. To copy the graphic in color, select Copy to Clipboard Color. To copy the graphic in black and white, select Copy to Clipboard B+W. You can also use the right click menu and select Save Image, then select Clipboard or just click the copy to Clipboard button .

TOPS Pro copies the selected graphic to the clipboard, from which it can be pasted into any other Windows program.

Copy the Entire Print Preview

To copy the Print Preview to the clipboard, start from Print Preview mode and follow these instructions:

1. Click on the Zoom button and TOPS Pro redisplays the Print Preview in zoom mode.

   Note: If you don't zoom in, you'll capture an exact image of the zoom-out state, including the wide margins.

2. Go to the menu bar and open the Edit menu.

3. To copy the Print Preview in color, select Copy to Clipboard Color. To copy the Print Preview in black and white, select Copy to Clipboard B+W.

TOPS Pro copies the Print Preview to the clipboard.

Copy a Graphic to Microsoft Word

To copy a graphic to Microsoft Word, follow these instructions:

1. Copy a graphic to the clipboard as described in earlier sections.

2. Open the Microsoft Word application.

3. Paste the graphic in the Word document.

4. Depending on the version of Word you are using, you can go to the menu bar and open the Format menu or double click on the graphic to access the Format menu.

   Note: For detailed information about defining Picture parameters, please refer to your Microsoft Word documentation.

Copy a Graphic to Microsoft Power Point

To copy a graphic to Microsoft Power Point, follow these instructions:

1. Copy a graphic to the clipboard.

2. Open the Microsoft Power Point application.

3. Paste the graphic in the Power Point presentation.

4. Use the Power Point edit function to edit the graphic in the Power Point presentation.

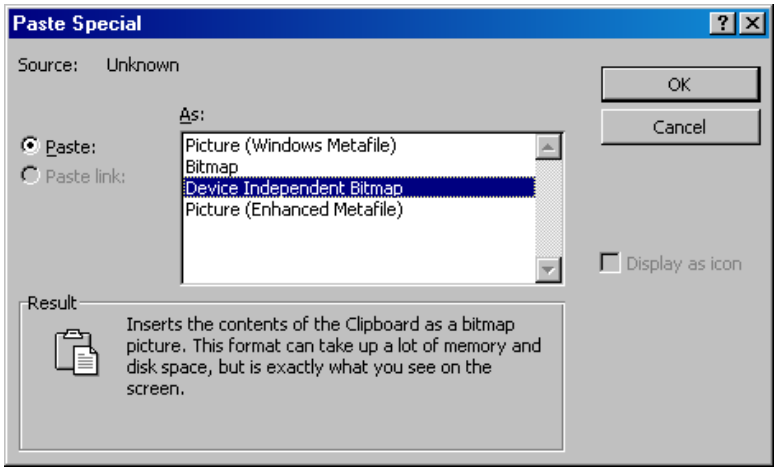
Note: For detailed information about the Power Point edit function, please refer to your Microsoft Power Point documentation.

Paste Special

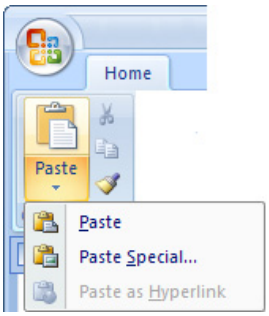
Paste Special is a Microsoft Word feature that allows you to define the format for a graphic pasted into a Word document. The formats available depend on the version of Word you have. The Paste Special dialog box below gives you four format options including Picture (Windows or Enhanced Metafile), Bitmap and Device Independent Bitmap.

To use the Paste Special feature, follow these instructions:

1. Copy a graphic to the clipboard as described in previous sections.
2. Open the Microsoft Word application.
3. Go to the Word menu bar and open the Edit menu.
4. Select Paste Special to open the Paste Special dialog box, as pictured below.



In Word 2007, access the Paste Special function under the Home tab. Click on Paste and then select Paste Special…



5. Select the format for your graphic.

   - The **Picture** format looks best when you're not resizing an image with lots of text. This format presents the image in the smallest file size and provides the most control for editing.

   - The **Bitmap** and **Device Independent Bitmap** formats present the image in the largest file size, but provides more accurate text and numbers when resizing an image smaller than the original.

   - The **Picture (Enhanced Metafile)** format will paste the graphics as a vector or line art file which enables you to resize to any dimension without losing quality.
     This is recommended for single graphics only and not for Print Preview reports.

   Note: For detailed information about the Paste Special feature, please refer to your Microsoft Word documentation.

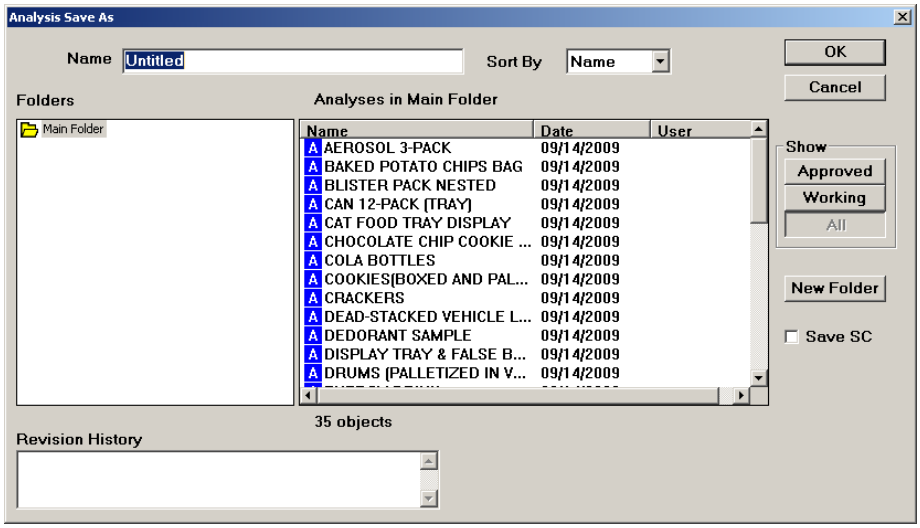
Save the Analysis

After you've completed the analysis and are satisfied that all parameters are as you want them, you're ready to save the analysis to the database.

Important Note: Be aware that this save function works differently from the normal save function in the Windows environment. TOPS Pro does not save an analysis as a file on your hard drive. Rather, it saves the analysis as a record to the database – an important difference to remember when you need to open or search for an analysis.

To save the analysis, follow these instructions:

1. Click on the Save icon which opens the Analysis Save As dialog box appears, as pictured below.



2. Enter the title for the analysis at the top field of the dialog box.

   Note: You can use any characters up to a maximum length of 31 characters. If you enter a name of an unapproved analysis that has already been used, TOPS Pro will prompt you to overwrite the duplicate name.

   If the duplicate analysis is being used at the time, the system will reject the name and prompt you to enter another one. There may be approved and unapproved (working) analyses with the same names.

3. The analysis will be saved in the specified title in the Main Folder as highlighted above.

The other functions of the Analysis Save As dialog box are described below:

- The **Sort** function will sort the analyses by Name, User or Date. Users will select the sort option in the drop down list box.

  Note: Analyses created with earlier versions of TOPS Pro will not have the user and date information.

- The **Folders** section provides a tree view of all existing folders. You can save the analysis into any of these folders; Main Folder is the default. The area to the right of the Folders section displays a list of analyses that have been saved to a selected folder.

- The **Show** option allows you to filter the analyses to be displayed based on their approval status, Approved, Working or All. Click the corresponding button to select the list.

- The **New Folder** button allows you to create a new folder and add it to the current database.
  To create a new folder, click on the New Folder button.

For more information about the Analysis Save As dialog box, please refer to Appendix B, Dialog Boxes.

Direct Email From TOPS Pro

TOPS Pro has an internal email feature that allows you to email an analysis and a Stacking Strength Board Combo List to another person who may or may not have TOPS Pro.

Email Analyses as Graphics Reports

This email function will attach a print preview report of the selected analysis as a JPEG graphics to your email client. This is the best way to share reports with everyone including those who do not own a copy of TOPS Pro.

To email a print preview report:

- Go to the File menu and select the Open option. At the Open Analysis dialog box, highlight the analysis report to be emailed and click on the Email button.
  Note: You can select multiple analyses by clicking the analysis name while holding down the [Shift] key on the keyboard.

- With the analysis open, go to the File menu and select Print Preview. Select Analysis and select print parameters as described in earlier sections. When preview opens, click on the Email button.

Email Analyses as Text Files

Analyses in text format can only be imported and viewed by another TOPS Pro user. To email an opened analysis as text:

- Go to the File menu and select the Email Analysis option
- Go to Help menu and select the Email Problem Definition option

The TXT file will be attached to a new message of your email client. TOPS users receiving these TXT files can open the analysis using the import function under the Import menu, Import TOPS Data option.

Email Stacking Strength Results

To email the Stacking Strength Board Combo List, start from the Stacking Strength Results Screen, go to the Tools menu and select the Email Stacking Strength option. The result will be attached as an .HTM file to a new message of your email program. Enter the recipient and email the message just like a regular email.

Direct Export to PDF

TOPS Pro has a built-in PDF writer which allows you to create PDF reports directly without the use of Acrobat or other third party PDF programs. Once you have created the analysis as described above, use one of these methods to create the PDF file:

- Go to the Export men and select the PDF option
- If you are in the Print Preview screen, go to the Export menu and select PDF option

The Get Export File Name dialog will appear, select the folder where the PDF file will be saved, enter the filename or use the default tops.pdf filename then click on Save to create the file.

Chapter 3: Advanced Features

Introduction

This chapter walks you through some of the more advanced, complex analyses that you'll use in your day-to-day packaging routines. The first four analyses take the form of four exercises, as outlined below:

- **Exercise #1: Fixed Carton-New Shipcase-Pallet**

  In this scenario, you have a fixed-size carton (6x2x4) that you use to package brown sugar. Your objective is to design a shipcase that allows you to put the maximum number of cartons onto a pallet.

- **Exercise #2: New Carton-New Shipcase-Pallet**

  In this scenario, you've decided you can improve on the solution that resulted from Exercise #1. If you revise the dimensions of the carton – change length, width and height 1/4 inch in either direction – TOPS Pro will have some flexibility to generate a broader range of solutions. Again, your objective is to design a shipcase that allows you to put the maximum number of cartons onto a pallet.

- **Exercise #3: Shipcase Consolidation**

  In this scenario, you want to find an existing shipcase that will allow you to load the most cartons of brown sugar on a pallet. Instead of designing a new shipcase, you'll search the TOPS Pro database to find the shipcase that best meets your needs. Again, your objective is to design a shipcase that allows you to put the maximum number of cartons onto a pallet.

- **Exercise #4: Knockdown Analysis:** A situation where a box has been collapsed flat. In a knockdown analysis, you'll usually take a bundle of collapsed boxes and load them onto a pallet.

This chapter also introduces the following TOPS Pro features:

- **Paste-On Graphics:** Allows you to dress up your cartons, shipcases, trays and other box-like containers with graphics, such as a corporate logo.

- **Export:** Allows you to select a graphic, product report, case, carton, analysis or pallet pattern, then export it to another applications outside the TOPS Pro system.

  You can also use the Export function to send pallet pattern information to a robotic palletizer.

- **Artios Integration:** Allows you to automatically import Length, Width, Height and Box Style information from the Artios CAD software into TOPS Pro and drop it into a template.

- **Quick Print Template System:** Allows you to print multiple pages of information in a single batch. This feature also allows you to design reusable report styles for standardized specifications.

- **Combined Report:** Combines information from two analyses or two solutions of the same analysis onto one printout. This feature is especially useful to include both the knocked-down and erected palletizations of a shipcase in a single report.

- **Control of Displayed Statistics:** Allows you to add or remove selected statistics from your printouts. In essence, this feature allows you to turn on and off any column of information the software can display in a statistics pane.

- **Shipcase Database Option:** Tells TOPS Pro to consider all shipcases in the database when it calculates solutions. The Multiple option allows you to select the shipcases to be used when TOPS Pro calculates solutions.

Exercise #1: Fixed Carton-New Shipcase-Pallet Analysis

In this scenario, you're packaging cartons of brown sugar into shipcases and onto a pallet. Your brown sugar carton is a fixed-size carton. The shipcases in your inventory don't very well meet your needs for this particular carton; there's too much wasted space and you don't load as many cartons onto the pallet as you'd like.

You need a new shipcase that packs the cartons more efficiently. Your objective is to design a new shipcase that packs as many brown sugar cartons as possible onto a pallet. You know the following facts going into the analysis:

- The carton is a fixed size with inside dimension of 6 inches long, 2 inches wide and 4 inches high.
- Your marketing people like a shipcase to have a quantity of 10, 12 or 24 cartons.
- Your shipping people use standard pallets and like to load pallets in a 1-block or 2-block pattern arrangement.

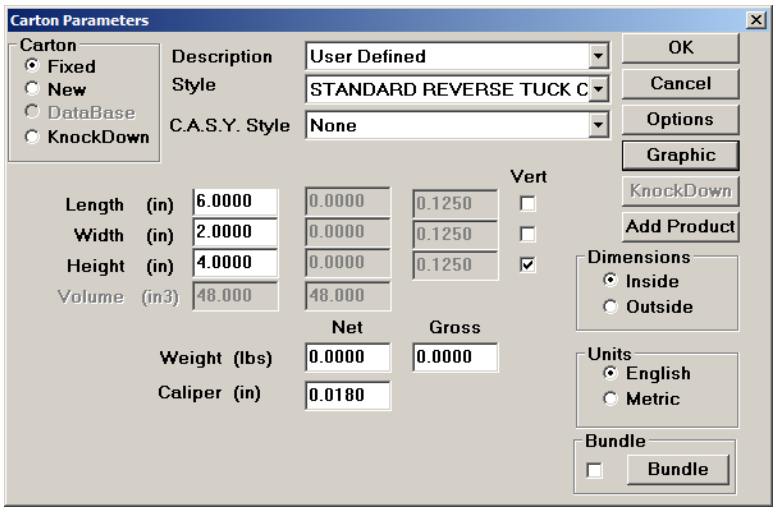
In this analysis, you'll work through these primary steps:

- On the Carton Parameters dialog box, you'll set up the fixed brown sugar carton.
- On the Shipcase Parameters dialog box, you'll set up the parameters TOPS Pro needs to design your new shipcase.
- On the UnitLoad Options dialog box, you'll set up the analysis to consider only 1-block and 2-block pallet patterns.

Start from the Control Panel and follow these instructions:

1. Set up a Carton-Shipper-Pallet packaging sequence. (Use the green carton icon.)

2. Click on the green Carton icon. The Carton Parameters dialog box will appear. Enter the dimension of the dimension of the carton as pictured below.



3. Click on OK. TOPS Pro stores your carton parameters to memory and returns you to the Control Panel.

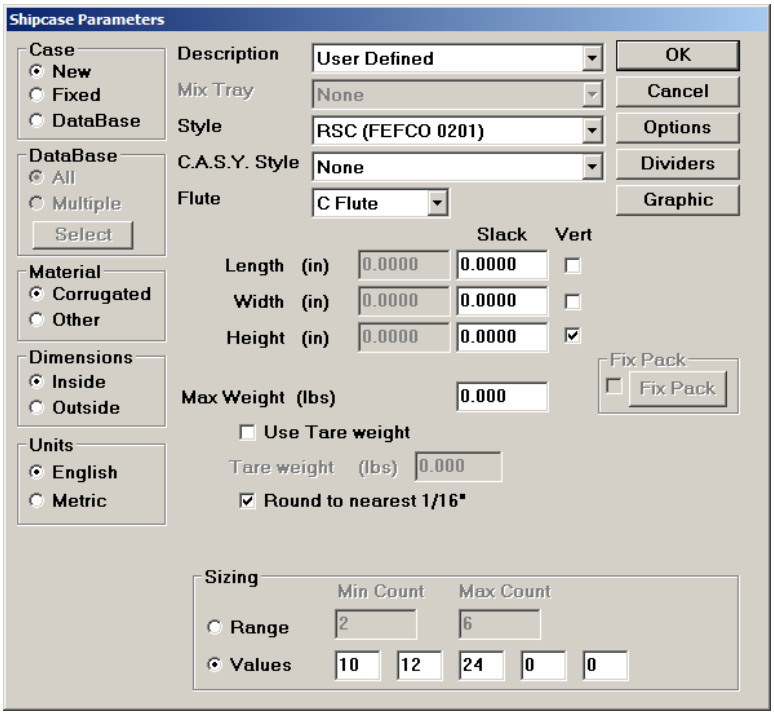
4. Click on the Shipper icon. The Shipcase Parameters dialog box appears. Set the following parameters as illustrated in the dialog box.

   - **Case:** Select New. You want TOPS Pro to design a new, optimum shipcase and note that the dimensions are grayed out.

   - **Dimensions:** Select Inside. You want TOPS Pro set up the shipcase using the inside dimensions.

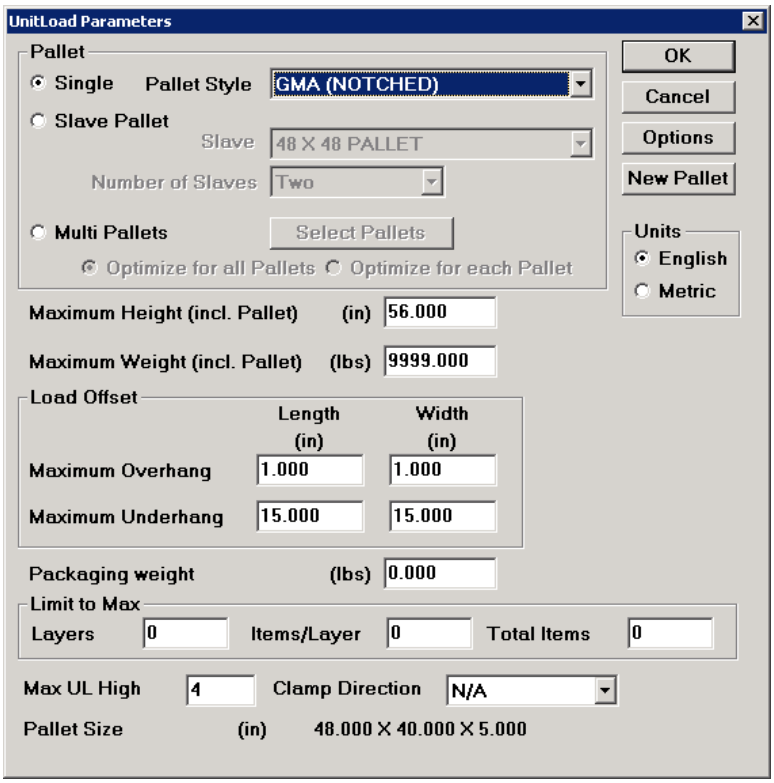
   - **Round to nearest 1/16":** Check the box to tell TOPS Pro to round its calculations to the nearest 1/16". This measure is the industry standard for packaging construction.

   - **Sizing:** Enter 10, 12 and 24 in the first three fields. This tells TOPS Pro to design shipcases that contain only 10, 12 or 24 of the fixed-size cartons.

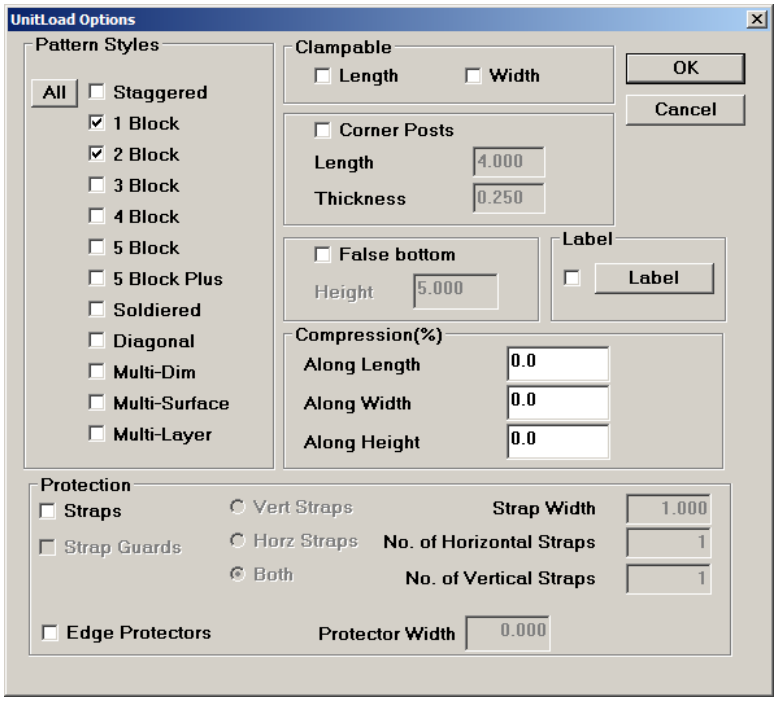


5. Click on OK. TOPS Pro stores your shipcase parameters to memory and returns you to the Control Panel.

6. Click on the Pallet icon, the UnitLoad Parameters dialog box appears.



7. Click on the Options button. The UnitLoad Options dialog box appears, as pictured below.



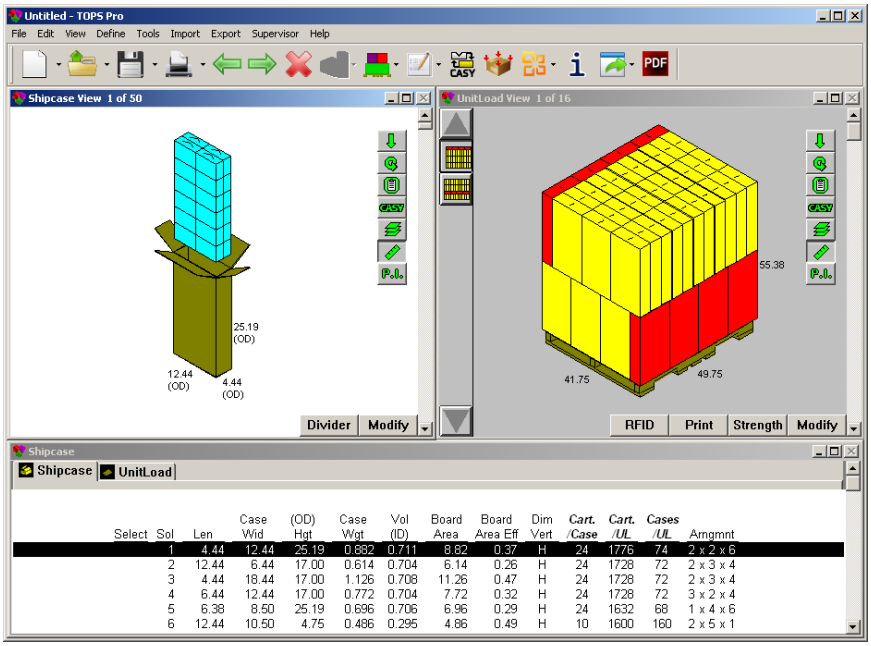
8. Because the shipping people like to load pallets in the 1-block and 2-block arrangements, select only 1-block and 2-block, and make sure any other Pattern Styles are not selected or checked.

9. Click on OK. TOPS Pro stores your selected pattern styles to memory and returns you to the UnitLoad Parameters dialog box.

10. Because your company uses a standard GMA Notched pallet, you don't need to change any parameters on the UnitLoad Parameters dialog box. Click on OK.

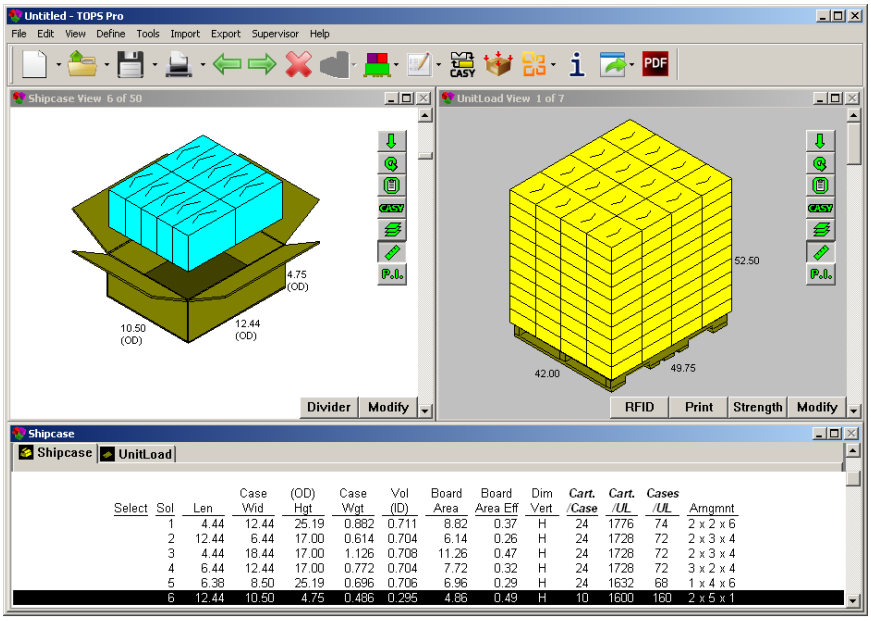
    TOPS Pro stores the default unitload parameters to memory and returns you to the Control Panel.

11. With all parameters defined, click on the Calc button. TOPS Pro calculates solutions for the given parameters and displays the Analysis View, as pictured here.



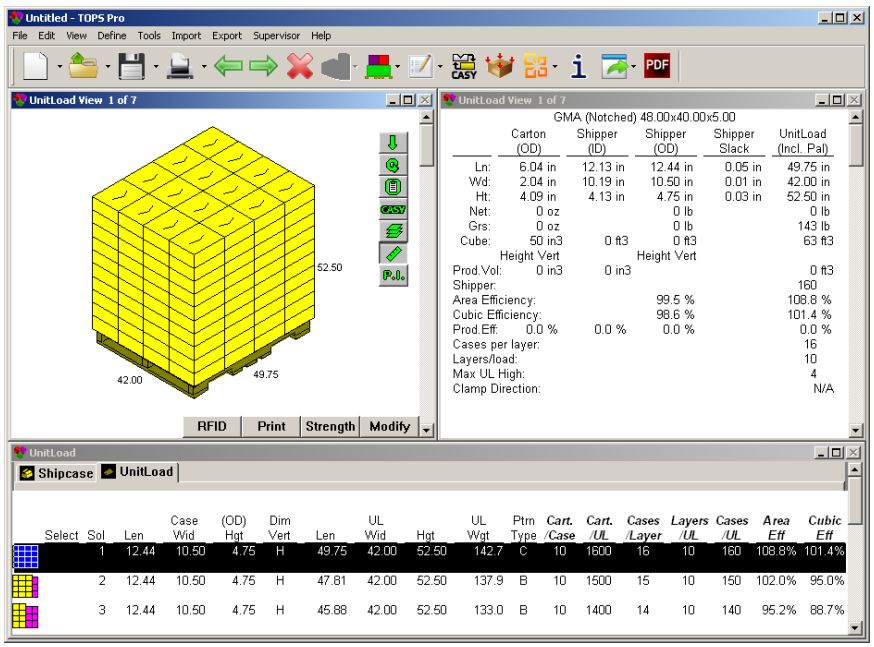
As you can see, TOPS Pro has generated 50 solutions – 50 different shipcases designed to hold either 10, 12 or 24 cartons. In the Solution List pane at the bottom, if you look at the Cart/UL (cartons per unitload) column, you'll see that the best solutions are listed first.

At this point, you can look at the various solutions and see how the unitload is arranged for each solution. In this exercise, we'll go with the sixth solution, which packs 10 cartons into a shipcase.



12. Click on the sixth solution in the list to select it. The Analysis View redisplays with graphics for the selected solution.

- Click on the Next button (➡) on the toolbar. The Analysis View redisplays with statistics for the selected solution, as pictured below.



Notice that the solutions are listed with the most Cartons/UL on top, totaling 1,600 cartons onto a unitload.

13. Click on the Next button (➡) on the toolbar. TOPS Pro returns you to the Control Panel.

14. Print and save your work.

Exercise #2: New Carton-New Shipcase-Pallet

In the previous exercise, you were working with a fixed-size carton and designed a new shipcase to pack as many cartons as possible onto a pallet, given a preferred pallet pattern. In this exercise, we believe we can fit more cartons onto a pallet if we revise the size of the carton. We'll enter a range of dimensions for the carton, which allows TOPS Pro to generate a broader range of solutions. We know the following facts going into the analysis:

- We'll design a new carton and tell TOPS Pro to account for a 1/4-inch range in each direction for each dimension. For example, the fixed carton had a length of 6 inches. In this exercise, we'll tell TOPS Pro to calculate a minimum length of 5.75 inches and a maximum length of 6.25 inches and a similar range for width and height. Also, you know that the volume of the carton, regardless of the specific dimensions, is 48 cubic inches.
- You've persuaded your marketing people that the optimal shipcase holds a quantity of 10 cartons.
- Your shipping people use standard pallets and like to load pallets in a 1-block or 2-block pattern arrangement.

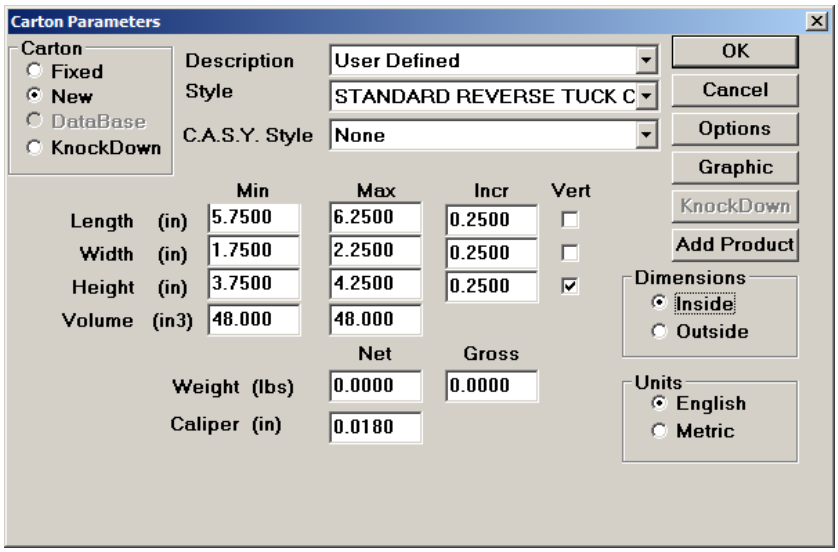
In this analysis, you'll work through these primary steps:

- On the Carton Parameters dialog box, you'll set up the new carton.
- On the Shipcase Parameters dialog box, you'll set up the parameters TOPS Pro needs to design your new shipcase to hold 10 cartons.
- On the UnitLoad Options dialog box, you'll set up the analysis to consider only 1-block and 2-block pallet patterns.

Start from the Control Panel and follow these instructions:

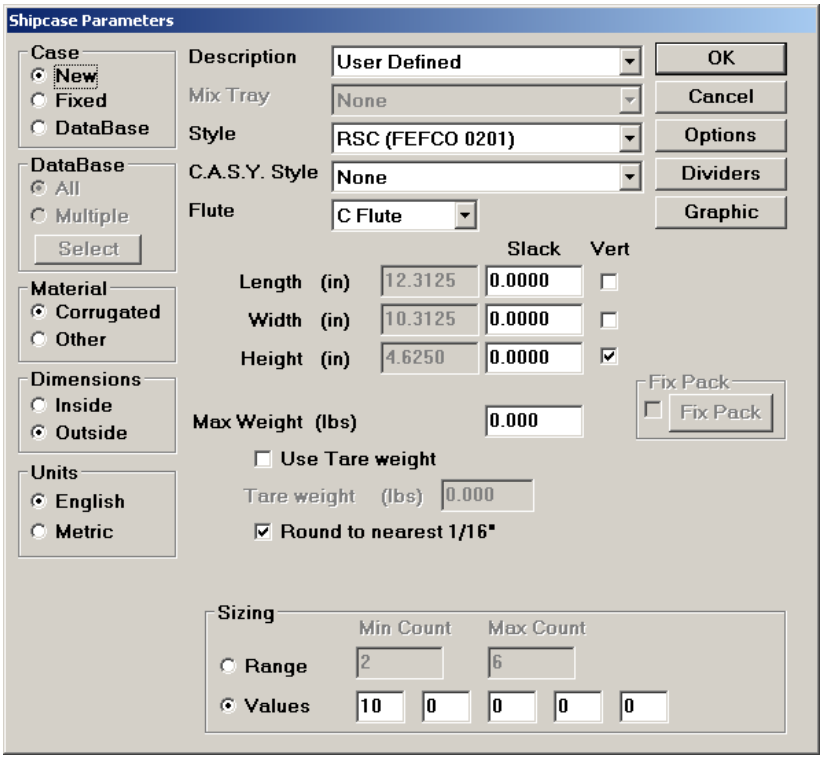
1. Set up a Carton-Shipper-Pallet packaging sequence. (Use the green Carton icon.) If the packaging sequence from the previous exercise is still there, you can use it.

2. Click on the Carton icon. The Carton Parameters dialog box appears. Enter the following parameters as illustrated: a dimension range for each of length, width and height at 0.25 inch increments and a fixed volume of 48 cubic inches.



3. Click on OK. TOPS Pro stores your carton parameters to memory and returns you to the Control Panel.

4. Click on the Shipper icon. At the Shipcase Parameters dialog box, select New Case, Inside Dimension and enter 10 as the only Value under Sizing as in the following illustration.



5. Click on OK. TOPS Pro stores your shipcase parameters to memory and returns you to the Control Panel.

6. Click on the Pallet icon. The UnitLoad Parameters dialog box appears.

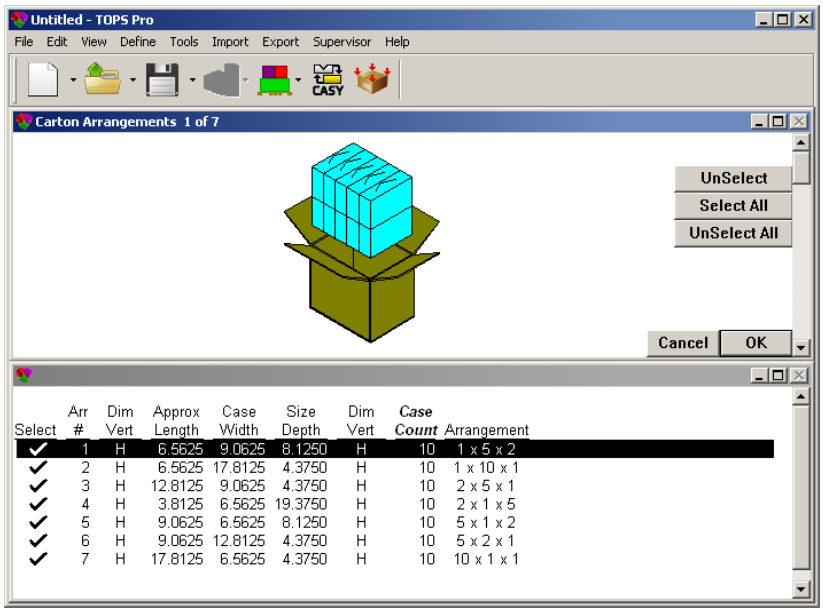
7. As in the previous exercise, click on the Options button and select only 1-block and 2-block arrangements.

8. Click on OK. TOPS Pro stores your selected pattern styles to memory and returns you to the UnitLoad Parameters dialog box.

9. Because your company uses a standard GMA Notched pallet, you don't need to change any parameters on the UnitLoad Parameters dialog box. Click on OK.

   TOPS Pro stores the default unitload parameters to memory and returns you to the Control Panel.

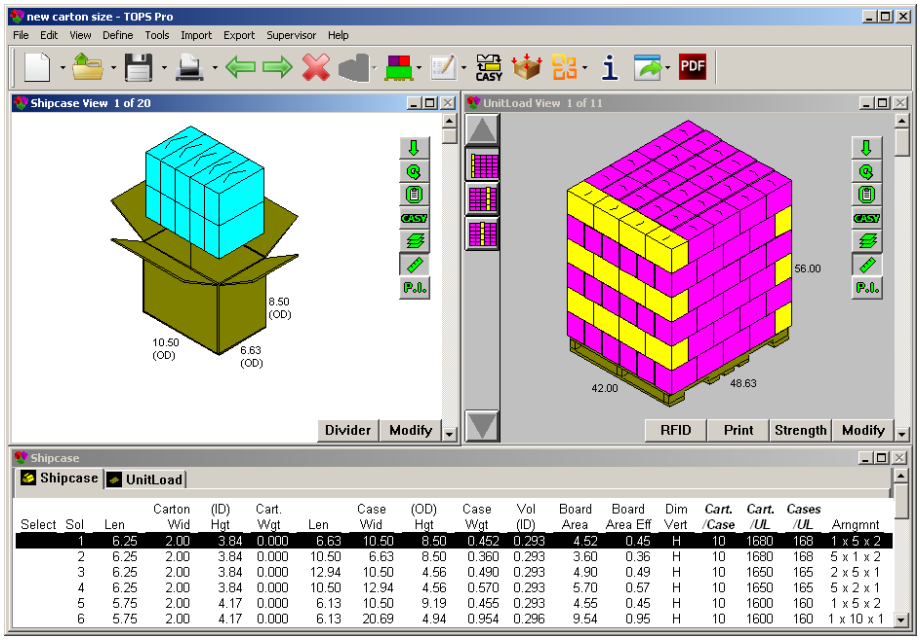
10. Click on the Calc button. TOPS Pro calculates solutions for the given parameters and displays the Analysis View, as pictured on the next page.



As you can see, this screen shows a list of carton solutions and their corresponding carton arrangements. At this point, you can look at the different carton arrangements and decide on one if you like. However, we'll select all the arrangements to give TOPS Pro more options to work with as the system generates solutions.

11. Click on the Select All button. TOPS Pro automatically checks all the carton arrangements as selected as indicated by the check marks added under the Select column.

12. Click on OK. The Analysis View redisplays, as pictured below.

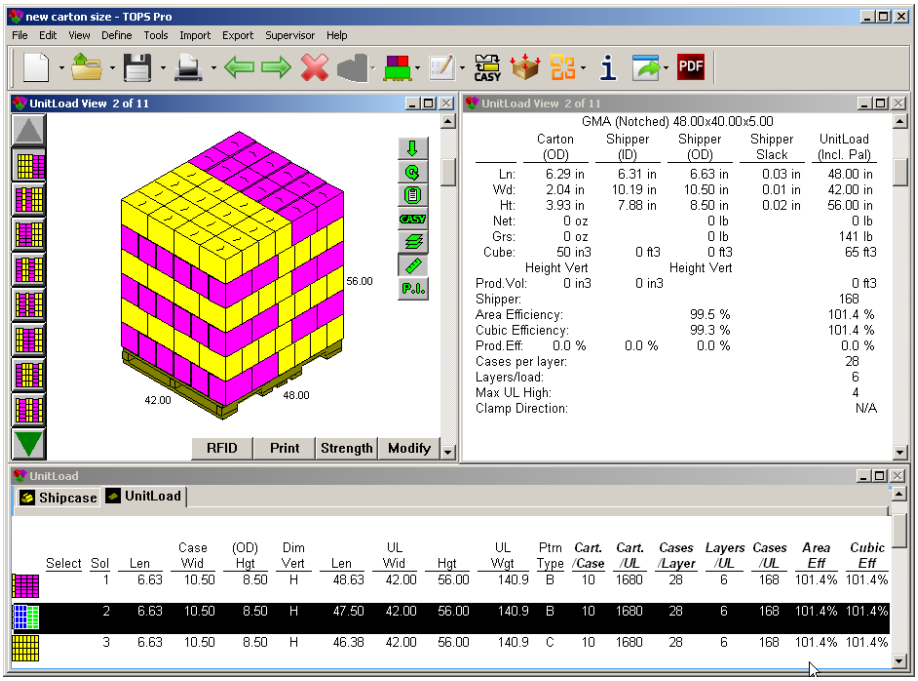


As you can see, TOPS Pro has generated 20 solutions – 20 different shipcases designed to hold 10 cartons, with the first four unitload solutions carrying more than 1,600 cartons already.
In the List Pane at the bottom, if you look at the Cart/UL (cartons per unitload) column, you'll see that the best solutions are listed first.

At this point, you can look at the various solutions and see how the cartons and unitload are arranged for each solution. In this exercise, we'll go with the first solution. This solution allows you to load 1,680 cartons per pallet, and the carton arrangement and pallet pattern are well-designed.

Remember that in the previous exercise, the analysis with the fixed carton gave us a maximum of 1,600 cartons per unitload. With this solution, by revising the dimensions of the carton, we can add another 80 cartons onto the pallet. This calls for changing the outside dimension of the fixed carton to 6.29 inch x 2.04 inch x 3.93 inch while keeping the same volume of 48 cubic inches.

13. Click on the Next button () on the toolbar. The Analysis View redisplays with the statistics.



At this point, you can look at the different solutions and see if there's a unitload arrangement that you like more than the others.

14. Select the solution you want to use for your new carton and shipcase.

15. Click on the Next button. TOPS Pro saves the solution parameters to memory and returns you to the Control Panel.

16. Print and save your work.

Exercise #3: Shipcase Consolidation Analysis (Database Function)

In this scenario, you need a shipcase to load your cartons of brown sugar, but you don't want to have to design a new shipcase. Time and cost issues make it necessary to go with a shipcase that's already set up in the database. Now your objective is to search the TOPS Pro database for an existing shipcase that will load the most cartons of brown sugar on a pallet.

You know the following facts going into the analysis:

- The carton is a fixed size – 6 inches long, 2 inches wide and 4 inches high.
- The quantity of cartons that will go into the shipcase is not an issue here.
- Your shipping people use standard pallets and like to load pallets in a 1-block or 2-block pattern arrangement.

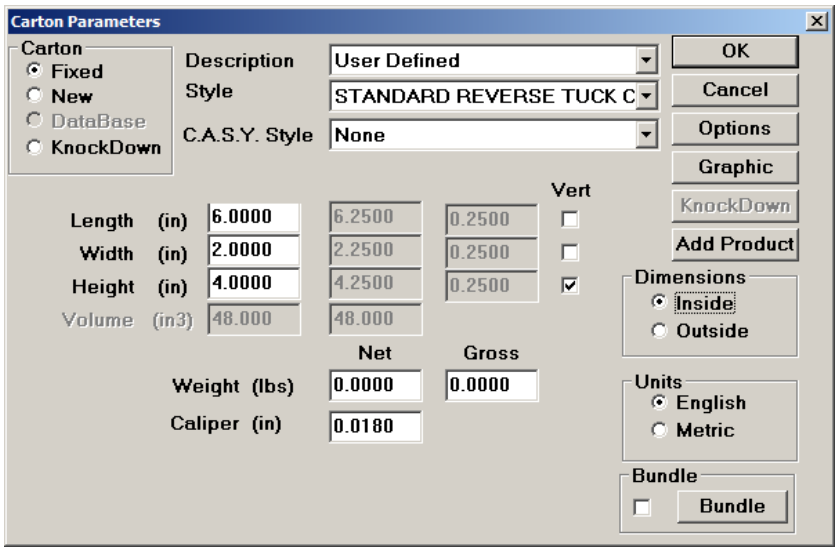
In this analysis, you'll work through these primary steps:

- On the Carton Parameters dialog box, you'll set up the fixed brown sugar carton.
- On the Shipcase Parameters dialog box, you'll set up the parameters TOPS Pro needs to search the database for the right shipcase.
- On the UnitLoad Options dialog box, you'll set up the analysis to consider only 1-block and 2-block pallet patterns.

Start from the Control Panel and follow these instructions:

1. Set up a Carton-Shipper-Pallet packaging sequence. (Use the green Carton icon.)

2. Click on the Carton icon. The Carton Parameters dialog box appears. Enter the fixed dimension of 6x2x4 inches for the carton as pictured below.



3. Click on OK. TOPS Pro stores your carton parameters to memory and returns you to the Control Panel.

4. Click on the Shipper icon. The Shipcase Parameters dialog box appears. Use these guidelines to enter shipcase parameters as illustrated on the following page.

   - **Case:** Select Database. You want TOPS Pro to search the database for the optimum shipcase.

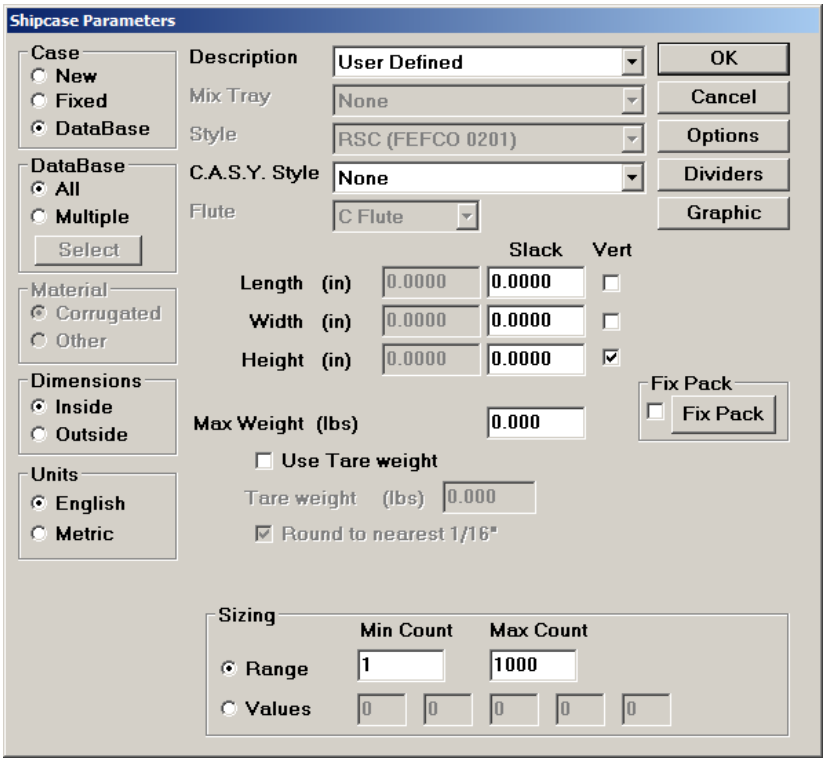
     TOPS Pro comes with some sample shipcases. To add your own, go to the Define menu and select Shipping Case. Refer to Appendix B for more details.

   - **DataBase:** Select All. You want TOPS Pro to go through all shipping cases in the database.

   - **Dimensions:** Select Inside. You want TOPS Pro set up the shipcase using the inside dimensions.

Note: In this exercise, you want TOPS Pro to search the complete range of shipcases in the database. Therefore, instead of entering specific sizing values, you'll enter a range. Because you want TOPS Pro to look at every shipcase in the database, we'll make the range a big one (1-1000).

- **Sizing:** Select Range and enter Min Count of 1 and Max Count of 1000.



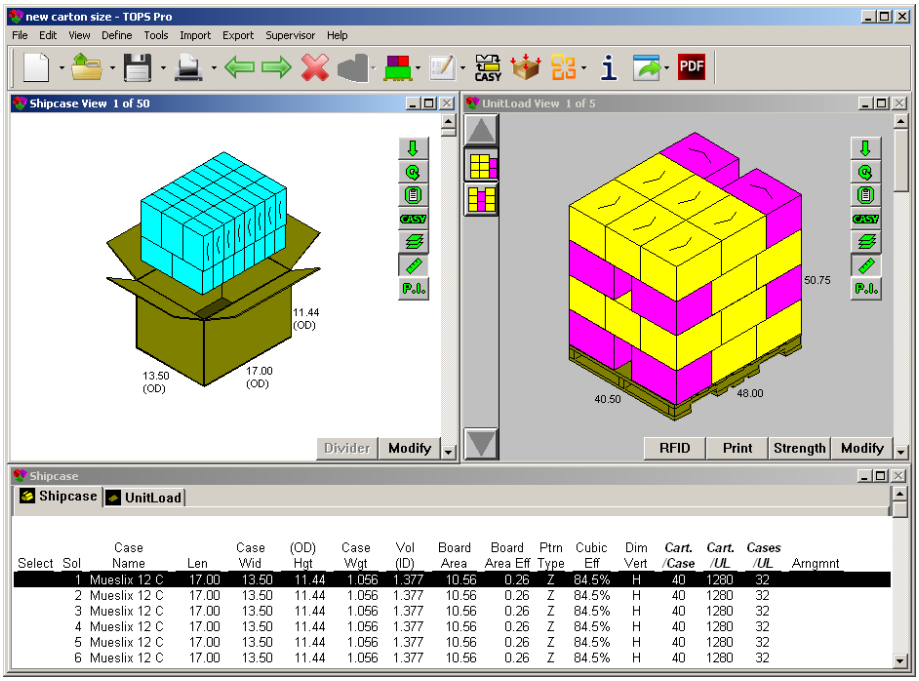
5. Click on OK. TOPS Pro stores your shipcase parameters to memory and returns you to the Control Panel.

6. Click on the Pallet icon. The UnitLoad Parameters dialog box appears. Click on the Options button to select only 1-Block and 2-Block pattern styles.

7. Click on OK. TOPS Pro stores your selected pattern styles to memory and returns you to the UnitLoad Parameters dialog box.

8. Because your company uses a standard GMA Notched pallet, you don't need to change any parameters on the UnitLoad Parameters dialog box. Click on OK and TOPS Pro stores the default unitload parameters to memory and returns you to the Control Panel.

9. Click on the Calc button. TOPS Pro calculates solutions for the given parameters and displays the Analysis View, as pictured here.



As you can see, TOPS Pro has generated 50 solutions – 50 different shipcase and arrangement that can accommodate your brown sugar cartons. In the List Pane at the bottom, if you look at the Cart/UL (cartons per unitload) column, you'll see that the best solutions are listed first.

10. At this point, you can work through the Analysis Views and look at the various criteria that go into your decision-making: carton arrangement, pallet pattern, underhang, overhang or cubic efficiency.

11. When you've decided on a solution, click on the Next button (➡) on the toolbar to view the statistics for the unitload.

12. Click on the Next button again, TOPS Pro stores the solution parameters to memory and returns you to the Control Panel.

13. Print and save your work.

Exercise #4: Knockdown Analysis

One frequently used analysis is the knockdown (KD) analysis, which refers to a situation where a box has been collapsed flat. In a knockdown analysis, you'll usually take a bundle of collapsed boxes and load them onto a pallet. The dimensions of the box have obviously changed.

TOPS Pro allows you to account for the knockdown by entering the dimensions of a box after it has been collapsed flat. You can also enter dimension of the erected box and TOPS Pro will calculate the dimension of the knockdown box for calculation. TOPS Pro allows you to find the optimal solution for loading bundles of collapsed boxes onto a pallet after one or more boxes have been collapsed.

Note: The Knockdown button, located on the Carton Parameters dialog box, will automatically calculate these dimensions for you.

Objective: Find the optimal solution for loading bundles of collapsed boxes onto a pallet after one or more boxes have been collapsed.

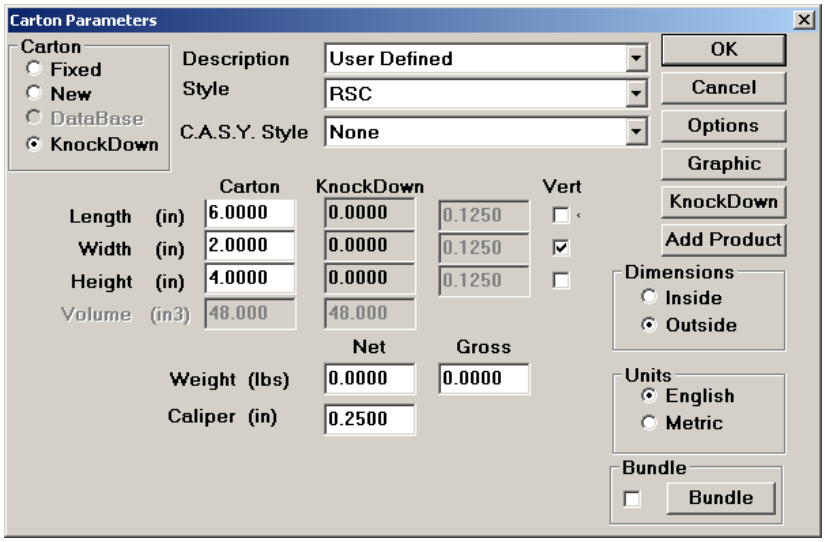
In this analysis, the various stages have these general characteristics:

- Each carton (box) measures 6 inches long, 2 inches wide and 4 inches high.
- Each bundle is configured as a shipcase that contains 20, 25 or 30 collapsed boxes.

To perform this analysis, start from the Control Panel and follow these instructions:

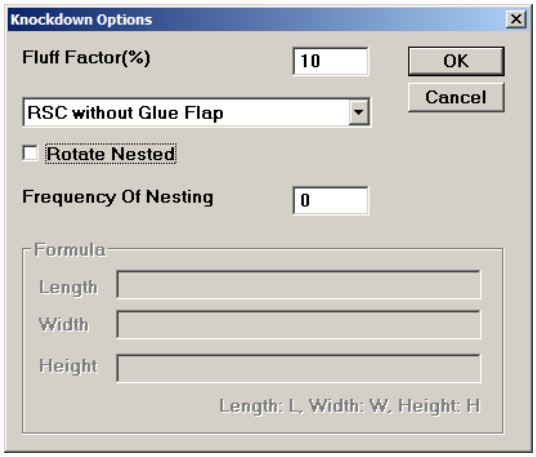
1. Set up a Carton-Shipper-Pallet packaging sequence. (Use the green Carton icon.)

2. Click on the Carton icon. The Carton Parameters dialog box appears. Select KnockDown under Carton and enter the dimension and caliper of the erected carton (6x2x4) as pictured below. Use the Tab key to move from field to field.

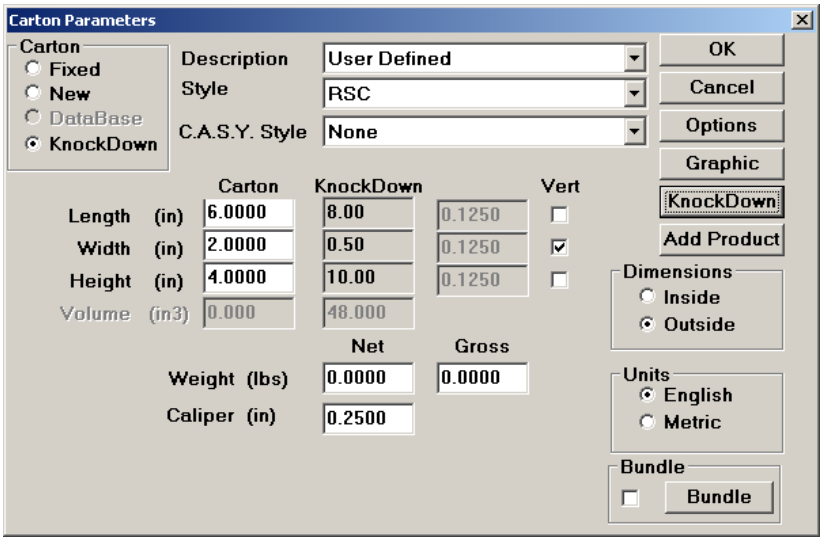


3. Place a check mark "✓" under for Width under Vert column, this allows the knock down flats to lay flat inside the shipper.

4. Click the KnockDown button to enter your Knockdown Options. For this example, leave the settings as is and click OK.

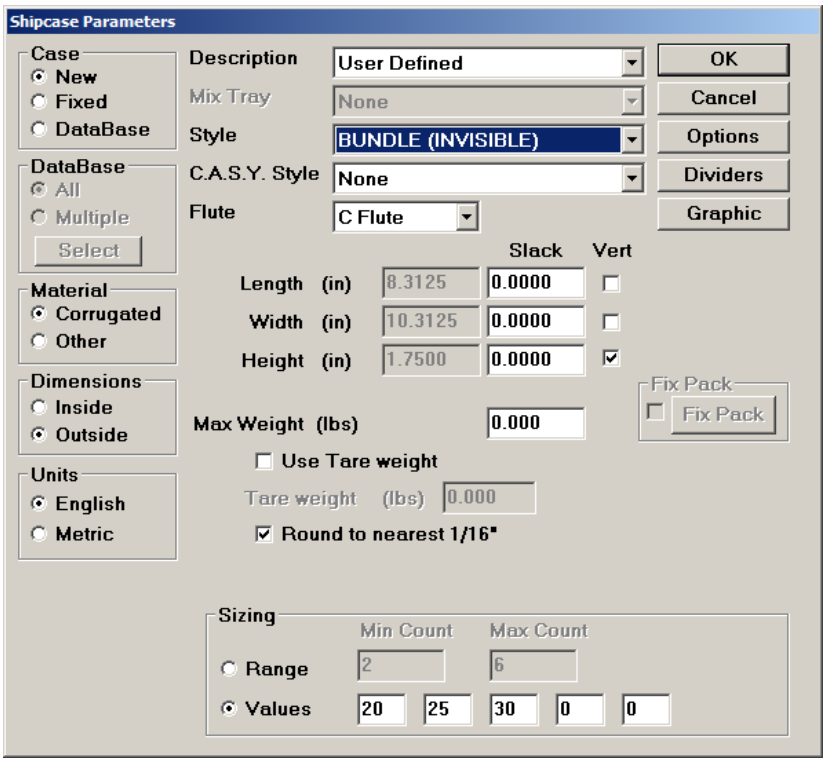


5. Upon returning to the Carton Parameters dialog box, the KnockDown column next to the Carton dimension will be populated with the knock down dimension of the carton.



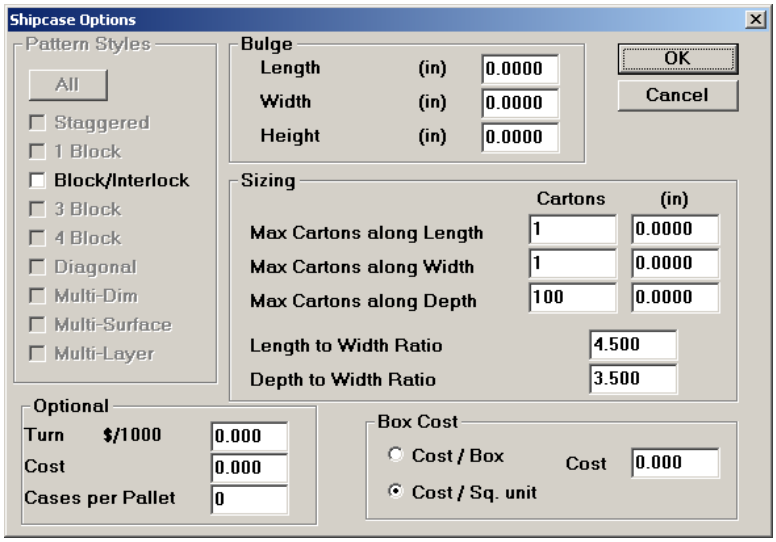
6. Click on OK to store your carton parameters to memory and redisplays the Control Panel.

7. Click on the Shipper icon to open the Shipcase Parameters dialog box. Specify the parameters described below as illustrated in the dialog box.



- **Case:** Use the default (New).
- **Style:** Select Bundle (Invisible).
- **Dimensions:** Use the default (Outside).
- **Vert:** Use the default (Height), this governs the orientation of the shipcase when loaded onto the pallet.
- **Sizing:** Select Values.
- **Values:** Enter 20, 25 and 30.

8. Click on the Options button to specify the sizing for the shipcase (represented in this example as a bundle of collapsed boxes). The Shipcase Options dialog box appears, as pictured next.



9. Use the following fields to define the sizing of the shipcase. This instructs TOPS Pro to stack the KD boxes as single bundle only but can be as many as 100 boxes high (depth).

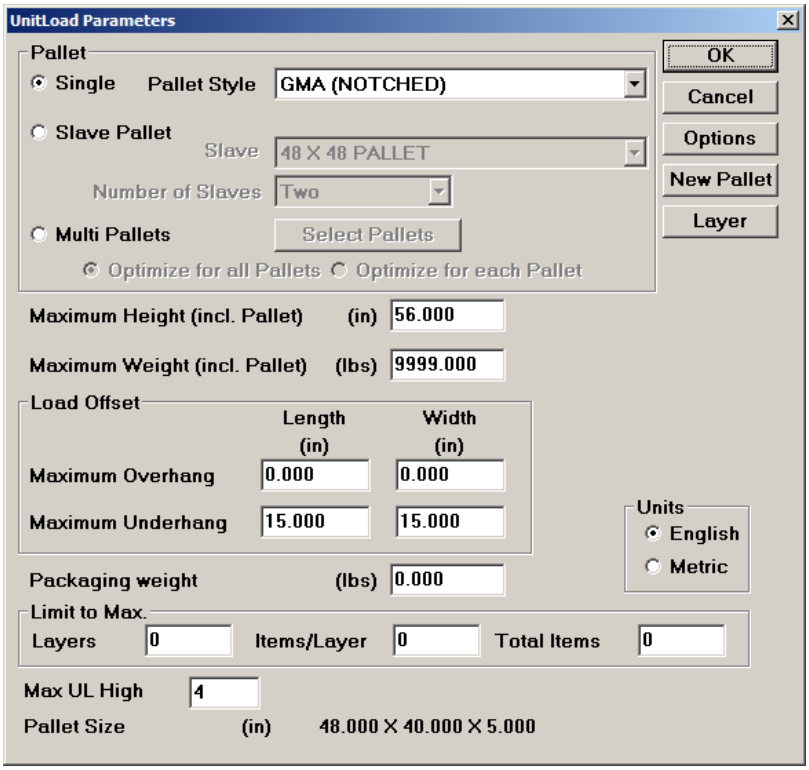
   - **Max Cartons along Length/Cartons:** Enter 1.
   - **Max Cartons along Width/Cartons:** Enter 1.
   - **Max Cartons along Height/Cartons:** Enter 100.

10. After completing the sizing parameters, click on OK. TOPS Pro stores your sizing parameters to memory and redisplays the Shipcase Parameters dialog box.

11. After completing the shipcase parameters, click on OK. TOPS Pro stores your shipcase parameters to memory and redisplays the Control Panel.

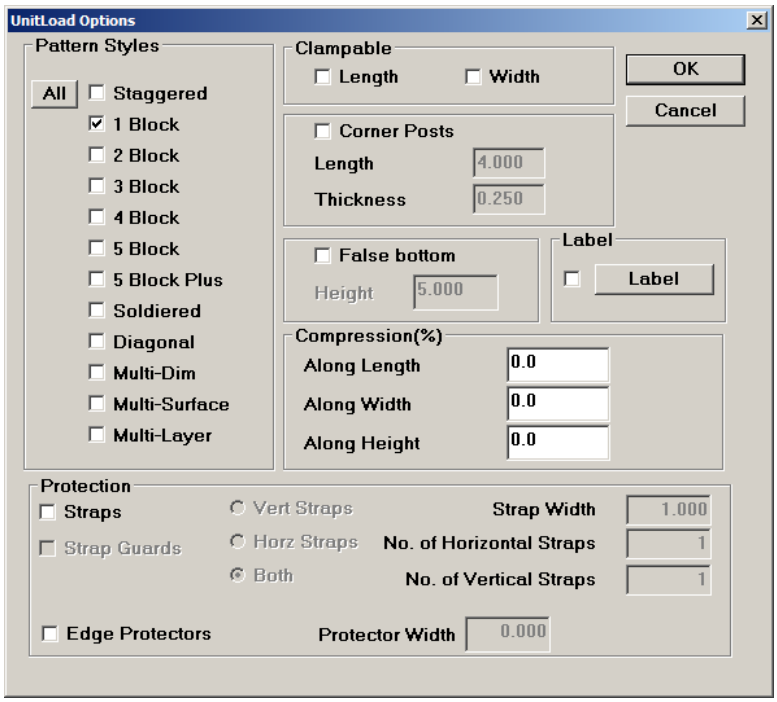
12. Click on the Pallet icon. The UnitLoad Parameters dialog box appears. We don't want any overhang so change those values to 0.

- **Maximum Overhang Length:** Enter 0
- **Maximum Overhang Width:** Enter 0.



13. At this point, let's say you want all the knockdowns oriented the same way on the pallet – a one-block pattern. (In a two-block pattern, the knockdowns are oriented in two ways, and so on.) Because you want to see only a one-block solution, you need to tell TOPS Pro to eliminate all other possibilities.

14. Click on the Options button. The UnitLoad Options dialog box appears, as pictured on the next page.



Notice a couple of things about the UnitLoad Options dialog box:

- The **Pattern Styles section** provides a list of all types of patterns you might want to see. To select a pattern style, you click on the box next to that style, and an "✓" marks that style as selected. To de-select a pattern style, click on the box again, and the box is cleared.

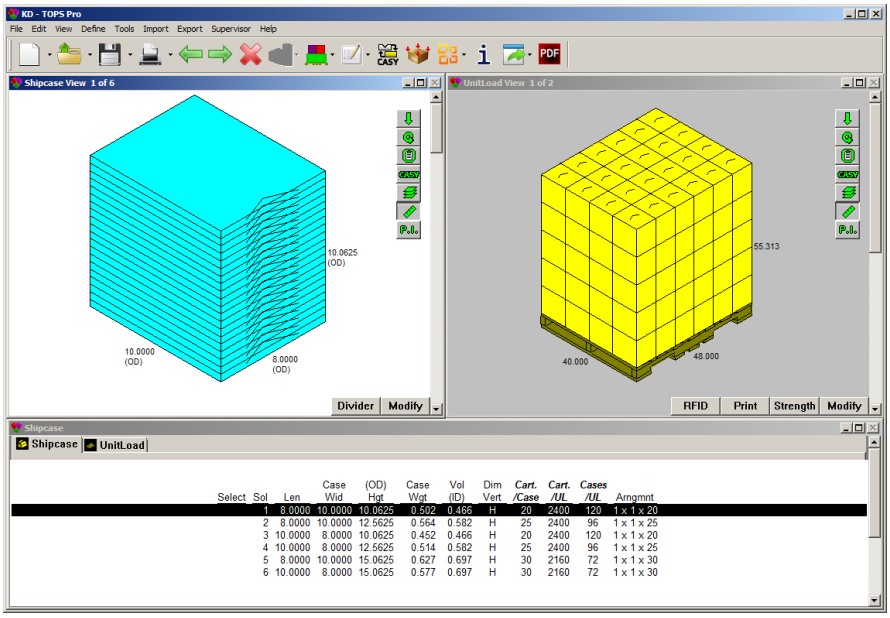
- When you select a pattern style, the **g.o.d. window** in the bottom, right corner of the screen displays a visual of what the selected pattern style looks like.

15. You want to see only a one-block pattern, so select 1 Block. If you see any options marked with a "✓" as selected, and be sure to de-select those options.

16. Click on OK. TOPS Pro stores your unitload options to memory and redisplays the UnitLoad Parameters dialog box.

17. After completing the unitload parameters, click on OK. TOPS Pro stores your unitload parameters to memory and redisplays the Control Panel.

18. Click on the Calc button. TOPS Pro uses the defined parameters – carton, shipcase and unitload – and generates all possible solutions for the analysis. TOPS Pro displays the Analysis View with three different panes, as picture here.



Let's look at these three panes one at a time:

- **Shipcase Solution View:** This pane, in the top, left portion of the screen, displays a graphic of what a selected shipcase solution looks like – i.e., how the collapsed boxes are bundled. If you select another solution from the Shipcase Solution List, this graphic will change accordingly.

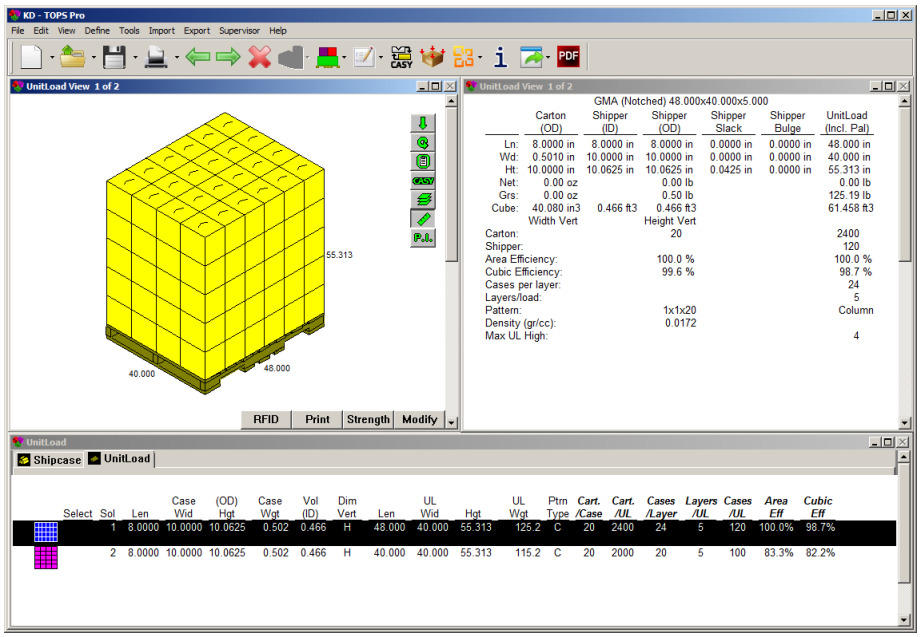
- **UnitLoad Solution View:** This pane, in the top, right portion of the screen, displays a graphic of the unitload that corresponds to the selected shipcase solution. It shows how the bundles are configured on the pallet. The UnitLoad Solution View is driven by the selected shipcase solution and changes in conjunction with the Shipcase Solution View.

  For example, if you select Solution 2 from the Shipcase Solution List, the Shipcase Solution View will redisplay to reflect the Solution 2 values. At the same time, the UnitLoad Solution View will redisplay to reflect Solution 2.

- **Shipcase Solution List:** This pane, at the bottom of the screen, displays a list of all shipcase solutions generated for the analysis. In this example, TOPS Pro has generated three shipcase solutions.

19. Select a shipcase solution.

20. Click on the Next button in the Toolbar. TOPS Pro redisplays the Analysis View with three new panes, as pictured on the next page.



Notice that TOPS Pro has proceeded to the next step in the analysis. We've completed the shipcase stage of the analysis; now we're ready to work with the unitload solutions, which will complete the analysis.

All three panes work in conjunction with one another. Let's briefly outline these three panes:

- **UnitLoad Solution View:** This pane displays a graphic of what a selected unitload solution looks like – i.e., how the knockdowns are loaded onto the pallet.
- **UnitLoad Statistics View:** This pane displays detailed statistics for a selected solution.
- **UnitLoad Solution List:** This pane displays a list of all the solutions generated for the analysis. For this analysis, TOPS Pro has generated two solutions for the given shipcase and unitload parameters.

For each solution, this pane displays 15 items of basic information – case weight, volume, vertical dimension, etc. – which appear in 15 columns across the pane.

21. Select a unitload solution.
22. Click on OK in the UnitLoad View pane. TOPS Pro redisplays the Control Panel.
23. Click on the Save button to save the analysis record.

Paste-On Graphics

The Paste-On Graphics feature allows you to dress up your cartons, shipcases, trays and other box-like containers with graphics, such as a corporate logo. This is a fairly limited feature that's accessed with a Graphics button on the following dialog boxes:

- Define Carton
- Define Shipping Case
- Intermediate Pack Paran
- Milk Carton Parameters
- ShipCase Parameters
- Can Parameters
- Drum Parameters
- Tub Parameters
- Bucket Parameters
- Bottle Parameters
- Bag Parameters

Before getting into the step-by-step instructions, be aware of these tips and guidelines regarding Paste-On Graphics:

- In order for the Paste-On Graphics feature to work, you must turn on the Show Graphics switch. To turn on Show Graphics, start from the Control Panel, open the View menu and select Show Graphics/C.A.S.Y.

- For speed purposes, before using a graphic, TOPS Pro shrinks the graphic to no larger than 64 pixels by 64 pixels. TOPS Pro then places the reduced graphic on the shipcase, carton, etc. Therefore, if you're designing graphics to be used in TOPS Pro, you'll get best results with graphics that are no bigger than 64 x 64 pixels.

- The Paste-On Graphics feature does not work for monochrome bitmaps. If you want to use a monochrome bitmap, open it in Microsoft Paintbrush and re-save it as a 16-color bitmap.

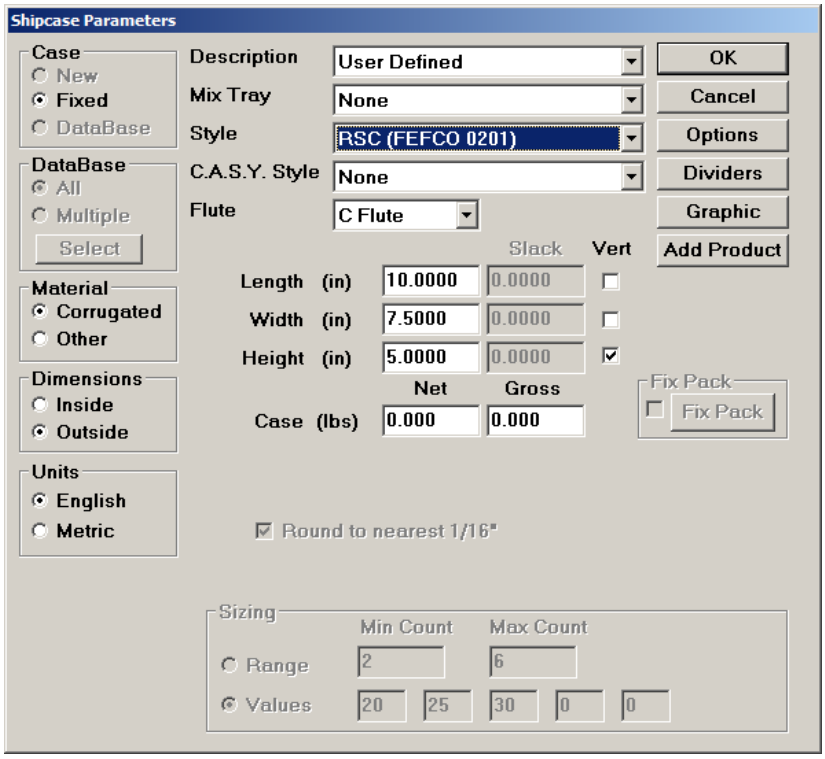
To demonstrate how the Paste-On Graphics feature works, we'll start by defining parameters for a shipcase, then add graphics to the front and side of the shipcase. Start from the Control Panel and follow these instructions:

1. From the Menu Bar, open the View menu and select Show Graphics/C.A.S.Y.

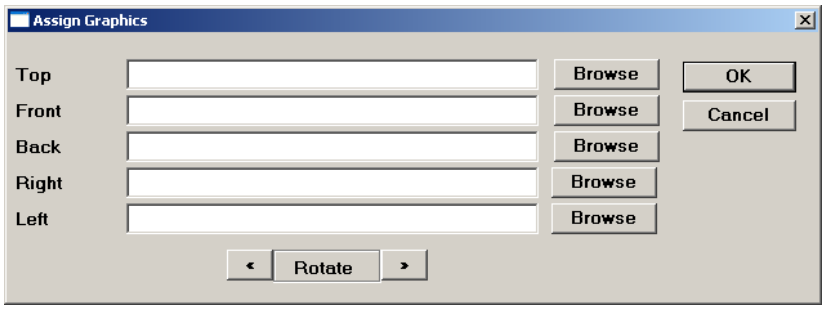
   Note: The Paste-On Graphics feature will not be available unless you first turn on the Show Graphics feature.

2. From the button-style menus, click on the Shipper icon. The Shipper icon appears.

3. Click on the Shipper icon on the design sequence. The Shipcase Parameters dialog box appears. Enter 10 x 7.5 x 5 for the shipcase.



4. Click on the Graphic button. The Assign Graphics dialog box appears, as pictured below.



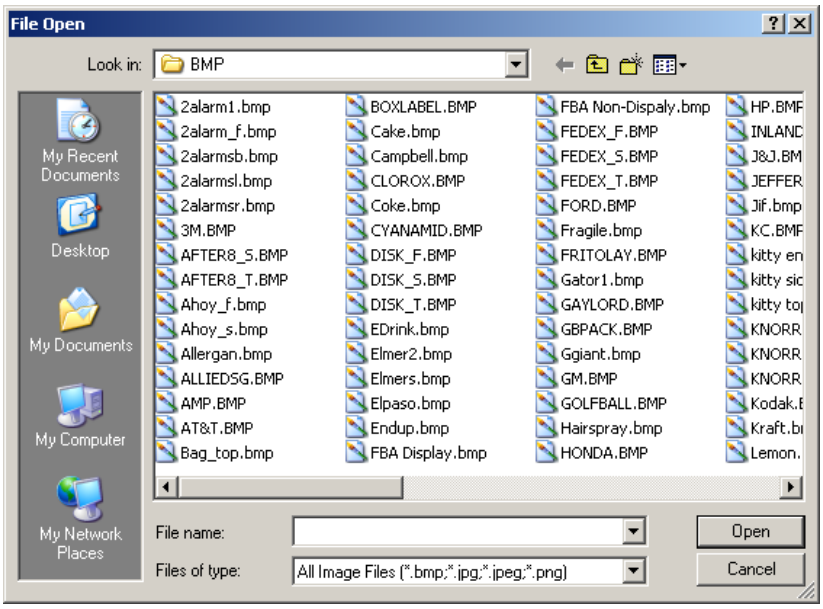
Notice three things about this dialog box:

- ❖ This dialog box works in conjunction with the **Graphic Online Display (g.o.d.) feature**, which appears in the bottom portion of the screen. As you assign graphics to the shipcase, the g.o.d. feature will redisplay to show the selected graphic pasted on the shipcase.

- ❖ The **Top, Front, Back, Right and Left fields** allow you to browse a list of graphic files and select a graphic for the top, front and side of the shipcase.

- ❖ The **Rotate buttons** allow you to turn the graphic on the shipcase face. The left Rotate button turns the graphic counter-clockwise by 90 degrees each time you press the button. Likewise, the right Rotate button turns the graphic clockwise by 90 degrees each time you press the button.

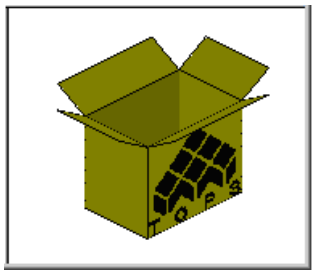
5. To paste a graphic on the front of the shipcase, go to the Front field and click on the Browse button. The File Open dialog box appears, as pictured below.



5. Scroll down the list of file names until you find the graphic you want.

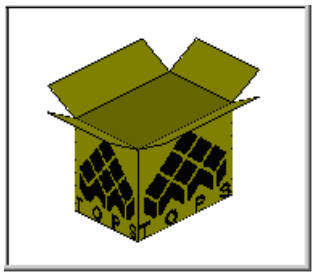
   Note: In the figure above, the list of files represents a few of the bitmaps that are shipped with the TOPS Pro software.

6. Select the graphic and click on OK. In this exercise, we'll select the tops.bmp file.
   The Graphic Online Display (g.o.d.) redisplays, as pictured below, with the selected graphic on the front of the shipcase.



Note: Whatever color is in the lower, right-hand corner of the bitmap is assumed to be the background color. All parts of the bitmap that match that color are displayed transparently as the color of the underlying box. If you don't want a transparent background, change the color of the lower, left-hand pixel to a color that is not currently used in the bitmap.

7. To paste a graphic on the right side of the shipcase, go to the Right field and click on the Browse button. The Get Graphics File Name dialog box appears.
8. Scroll down the list of file names until you find the graphic you want.
9. Select the graphic and click on OK. Again, we'll select the tops.bmp file. The Graphic Online Display (g.o.d.) redisplays, as pictured below, with the selected graphic on the front and side of the shipcase.



10. 11. To rotate the shipcase in the graphic display, use the right and left Rotate buttons. TOPS Pro rotates the shipcase in the g.o.d. feature by 90 degrees left (counter-clockwise) or right (clockwise).

Export

The Export feature allows you to select a graphic, product report, case, carton, analysis or robotic palletizer, then export it to another application outside the TOPS Pro system.

Export a Graphic

To export a graphic from the TOPS Pro system, follow these instructions:

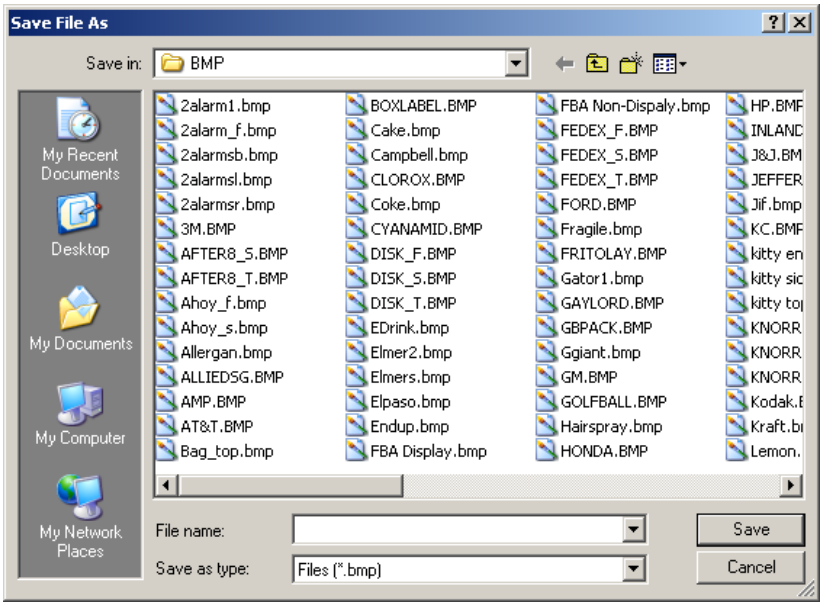
1. Select the graphic you want to export. To select a graphic window for export, click on that window to make it active.
2. From the Menu Bar, open the Export menu and select the format you want to use to export the graphic:

   - ❖ BMP (Color)
   - ❖ BMP (B+W)
   - ❖ EPS
   - ❖ TIFF
   - ❖ PCX
   - ❖ JPEG
   - ❖ HTML
   - ❖ PNG
   - ❖ PDF
   - ❖ WMF

   In this example, we'll select BMP (Color).

   Note: When you select a graphic for export, TOPS Pro creates a file that is the same size as the graphic you see on your screen. The color depth will match your current Windows display setting.

   The Save File As dialog box appears, as pictured here.



Notice that the Save File As dialog box displays a list of bitmap files. If you select a JPEG format, the dialog box will display a list of .jpeg files, and so on.

3. In the File Name field, enter the name of the file.
4. Select the drive and directory path to which you want to save the file.
5. If everything is correct, click on OK.

   TOPS Pro saves the graphic file to the selected drive and directory path.

Export a Product Report

The product report exports information to an ASCII comma delimited text file in a form suitable for import into Microsoft Access, Excel or other applications. The report includes information on every product attached to an approved package profile.

To export a product report from the TOPS Pro system, follow these instructions:

1. From the Menu Bar, open the Export menu and select Product Report.

   The Product Export dialog box appears, as pictured below. Notice that TOPS Pro has automatically inserted the directory path of the product file, along with "topsexport.csv" as the file name.

   Note: For more information on the Product Export dialog box, please refer to Appendix B, Dialog Boxes.

2. In the Export File Name field, replace " topsexport.csv " with the name of the product file.
3. If everything is correct, click on Export. TOPS Pro issues a message indicating that the export is complete.

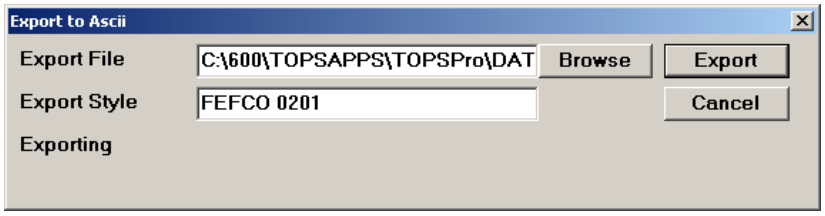
Export a Case

TOPS Pro allows you to export the shipcase in the current analysis from the TOPS Pro system to an ASCII comma delimited test file for use by third-party products, such as Design Axis' Package for DOS product.

To export a shipcase from the TOPS Pro system, follow these instructions:

1. From the Menu Bar, open the Export menu and select Case.

   The Export to ASCII dialog box appears, as pictured below. Notice that TOPS Pro has automatically inserted (1) the directory path of the product file, along with "tops.txt" as the file name, and (2) the shipcase style (RSC).



   Note: For more information on the Export to ASCII dialog box, please refer to Appendix B, Dialog Boxes.

2. In the Export File field, replace " tops.txt " with the name of the product file. As an option, you can use the Browse button to display the Get Export File Name dialog box and select the file to be exported.
3. In the Export Style field, enter another shipcase style, if necessary.
4. If everything is correct, click on Export. TOPS Pro issues a message indicating that the export is complete.

Export a Carton

TOPS Pro allows you to export the carton in the current analysis from the TOPS Pro system to an ASCII comma delimited test file for use by third-party products, such as Design Axis' Package for DOS product.

To export a carton from the TOPS Pro system, follow these instructions:

1. From the Menu Bar, open the Export menu and select Carton.

   System Response: The Export to ASCII dialog box appears, as pictured below. Notice that TOPS Pro has automatically inserted (1) the directory path of the product file, along with "tops.txt" as the file name, and (2) the carton style (Tuck).

   Note: For more information on the Export to ASCII dialog box, please refer to Appendix B, Dialog Boxes.

2. In the Export File field, replace " tops.txt " with the name of the product file. As an option, you can use the Browse button to display the Get Export File Name dialog box and select the file to be exported.
3. In the Export Style field, enter another carton style, if necessary.
4. If everything is correct, click on Export. TOPS Pro issues a message indicating that the export is complete.

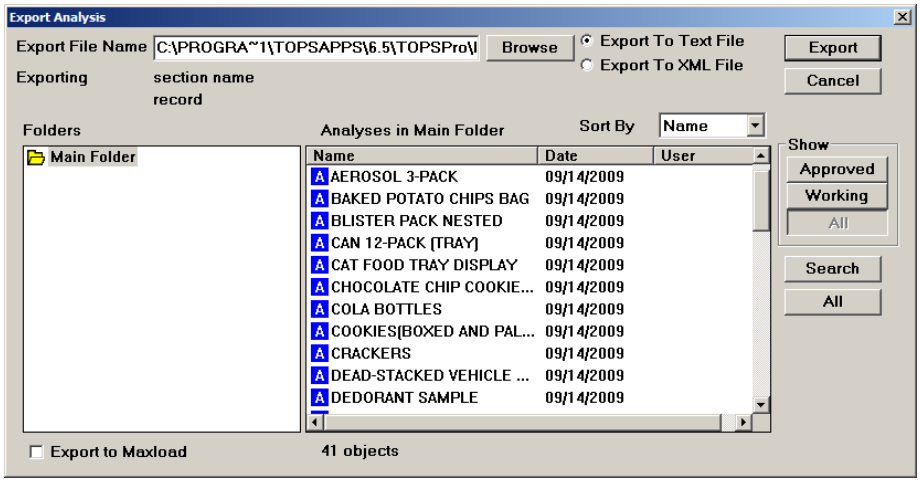
Export an Analysis

TOPS Pro allows you to export an analysis to an ASCII comma delimited text file or an XML file. You can use this file to transfer analyses to other copies of TOPS Pro (same release or higher) or to back up your work.

To export an analysis from the TOPS Pro system, follow these instructions:

1. From the Menu Bar, open the Export menu and select Analysis.

   The Export Analysis dialog box appears, as pictured below. Notice that TOPS Pro has automatically inserted the directory path of the product file, along with "tops.txt" as the file name.



2. In the Export File Name field, replace "tops_data.txt" with the name of the product file. As an option, you can use the Browse button to display the Get Export File Name dialog box and select the file to be exported.

3. To export all analysis files, click on the All button. All analyses, including both pending and approved ones, will be highlighted. **Note:** To select only specific analyses for export, press the [Ctrl] key on your keyboard while clicking the name of the analysis with the left mouse button.

4. If everything is correct, click on Export. TOPS Pro issues a message indicating that the export is complete.

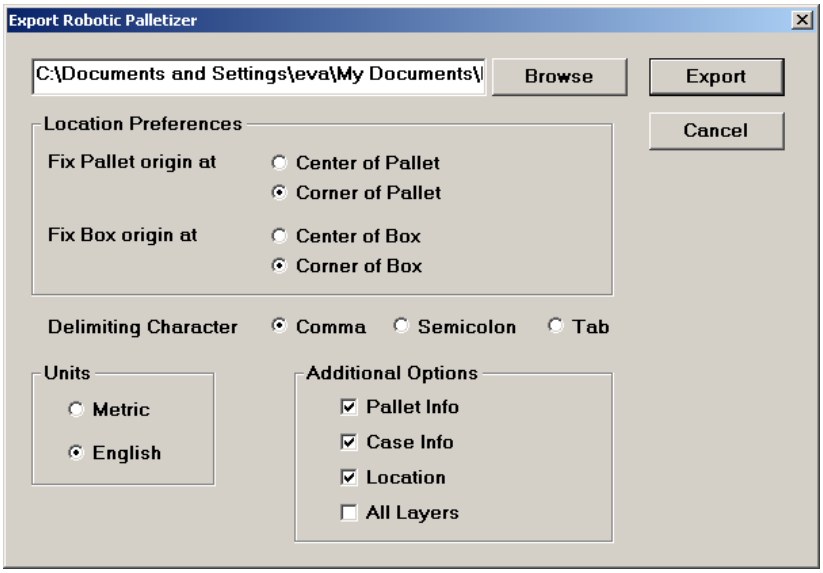
The Export Analysis dialog box allows you to search for a file to export. If you click on the Search button, the Analysis Search dialog box appears. For more information about this dialog box, please refer to Appendix B, Dialog Boxes.

Export to a Robotic Palletizer

TOPS Pro allows you to export the arrangement of a pallet pattern layer to an ASCII text file, which can be used by robotic palletizing machines to determine how to arrange a unitload.

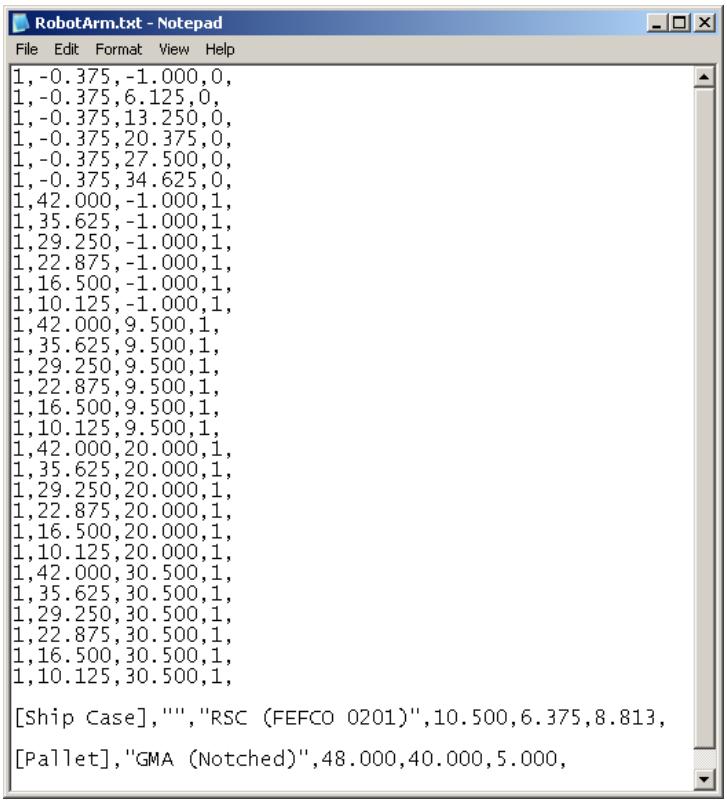
To export a robotic palletizer from the TOPS Pro system, follow these instructions:

1. Select the pallet pattern you want to export, which means you have to highlight a unitload solution.
   Note: You will not see any response if your current selection is on a shipcase solution.
2. From the Menu Bar, open the Export menu and select Robotic Palletizer. The Export Robotic Palletizer dialog box appears, as pictured below.



3. Click the Browse button to select drive and directory path for the exported file and specify the output filename to be used.
4. Select the co-ordinate preference for the pallet and shipcase.
5. Specify the delimiter to be used among comma, semicolon or tab to separate each field in the record.
6. Select the unit of measure.
7. Add pallet, shipcase and layer information to the output as desired.
8. Click on Export. TOPS Pro will create the text file as specified to the selected drive and directory path.

Below is an example of a text file output for a Robotic Palletizer including pallet and shipcase information for one layer (of 30 shipcases).



Artios Integration

The Artios CAD program can send Length, Width, Height and Box Style information to TOPS Pro to be automatically imported and dropped into a template for palletization. You can also use this feature to add information to the Shipcase and Carton databases. Please note that the graphics in Artios cannot be transferred into TOPS Pro.

To use TOPS with Artios CAD, please review the following section.

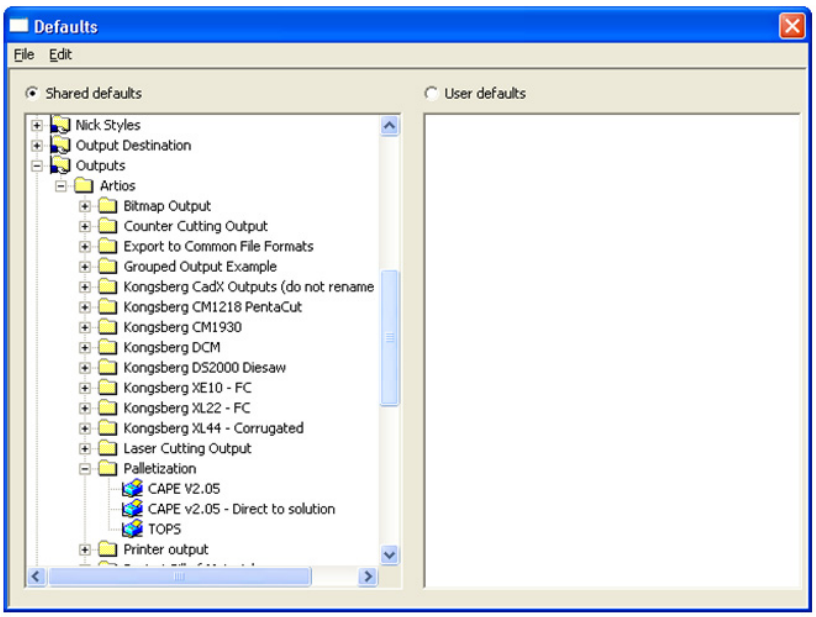
From Artios to TOPS: Box Data for Palletization

Setting Defaults in Artios CAD

To initiate the integration of TOPS Pro from Artios, the defaults should be set in Artios so that it points to the correct install of TOPS Pro. Below are the steps involved.

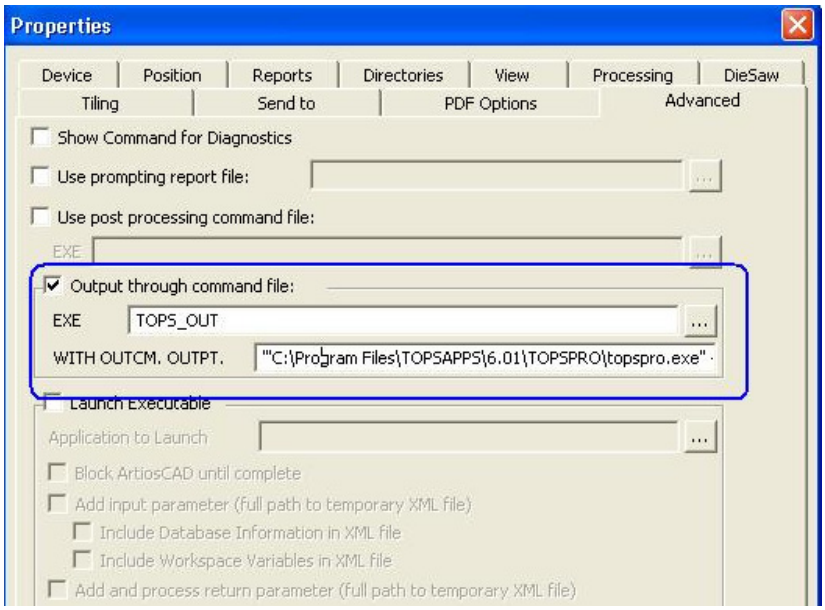
Note: The menus and screenshots might be slightly different from what is shown here with different versions of Artios

1. Choose Options menu in Artios and select Defaults under it. This should open up the default selection dialog.
2. Under Shared defaults, go to the section Outputs, select Artios, Palletization and then TOPS as shown below.

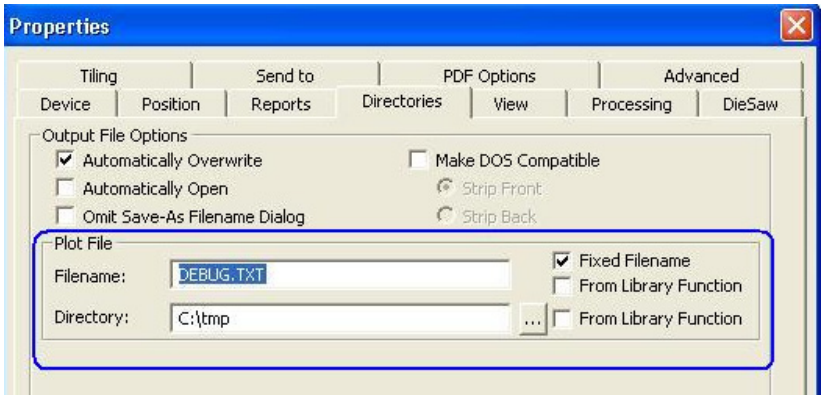


3. Double click on the TOPS icon to set the details.

4. At the Properties dialog box, click on the **Advanced tab**. The “WITH OUTCM.OUTPUT” field under Output through command file should have the current install of TOPS Pro with full path and INI information within single quotes.
   Example: '"C:\ProgramFiles\TOPSAPPS\6.01\TOPSPRO\topspro.exe" -ini=C:\PROGRA~1\TOPSAPPS\6.01\TOPSPRO\topspro.ini'



5. Select the Directories tab and make sure that the Plot File section has the option Fixed Filename checked. The Filename and Directory can have the default values.

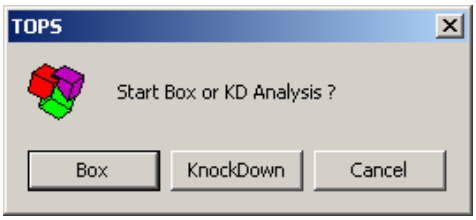


6. Click OK and save the defaults.

Launching TOPS Pro

1. From Artios CAD, select the Export to TOPS menu option. This will launch TOPS Pro.
2. Login TOPS Pro under any user name.
3. A message box appears asking if you would like pass the current carton design from Artios CAD into TOPS Pro as an erected box or as knockdown. Select Box for a shipper to pallet analysis or KnockDown for a knockdown carton analysis.

   The dimension will be imported accordingly based on this selection.



4. Next, a dialog will prompt for an Analysis name to use for the imported carton in an analysis, you may use any name here and hit Ok button.

5. At the Set Up Box Parameters dialog box, you can select the following options regarding the carton data from Artios CAD:

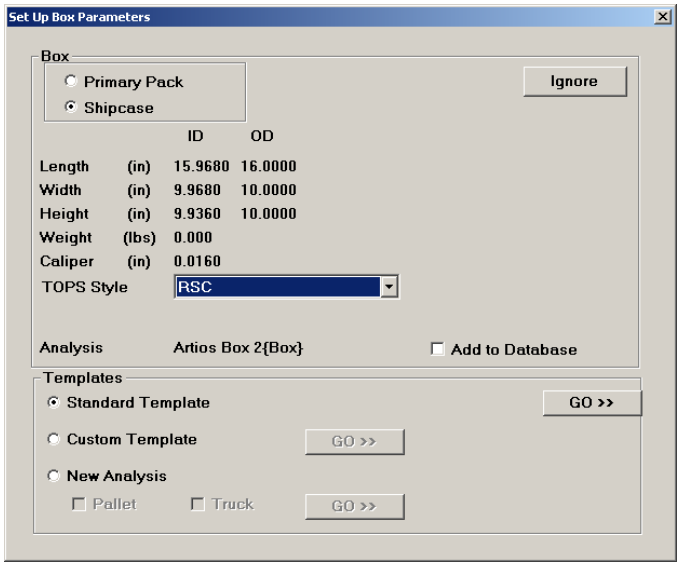
   - ❖ To import the carton as a Primary (green carton) or Shipcase (yellow shipper).
   - ❖ Specify the box style for the imported carton at the TOPS Style drop list. The style is normally preselected if it's included in the Artios output data.
   - ❖ Enable the "Add to Database" checkbox to add this carton to the database.
   - ❖ Specify a design template to use for the analysis using the existing carton.

Templates:

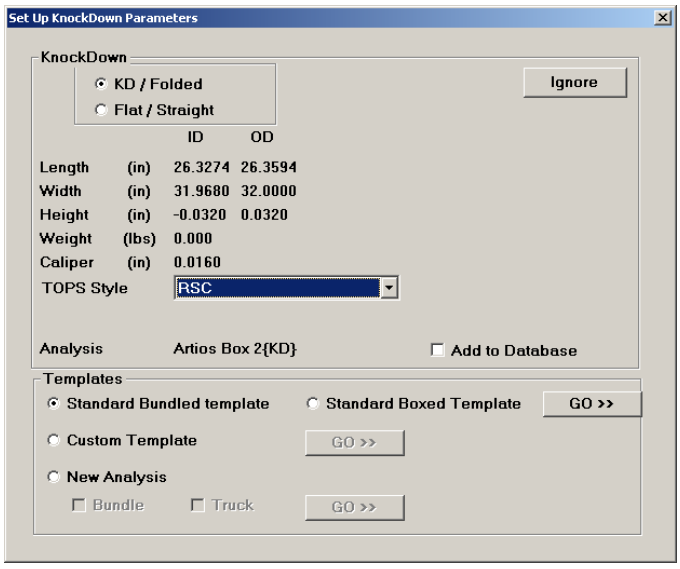
- ❖ Standard Bundled Templates – KnockDowns will be bundled
- ❖ Standard Bundled Templates – KnockDowns will be placed in shipcase
- ❖ Custom Template – Open "Open Analysis" dialog box to select a pre-defined analysis template
- ❖ New Analysis – placed KnockDown in Bundles, pallet and then into a truck

NOTE: The analysis is setup using a predefined template / default values. Contact TOPS Software if you would like to know how to change this template / default values.

Box Import:



KnockDown Import:

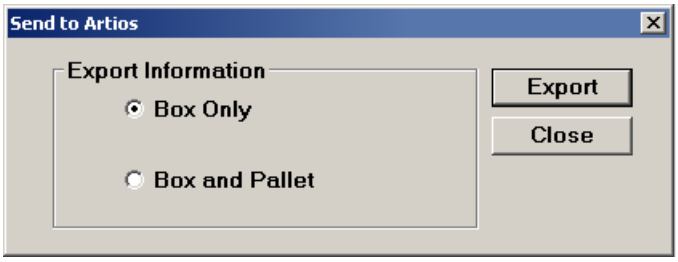


6. TOPS Pro will then perform an analysis using the Artios data.
7. Once the analysis is calculated you may then perform a KD (knock down) analysis for this box by clicking on the "KD" button on the tool bar.
8. Then TOPS will perform and KD analysis.
9. Use the "Combine Report" to get single page printout with both the KD and Box/erected analysis on it.

Note: To enable Artios import, you'll need to login to the TOPS Configuration program as a supervisor, go to the Global Configuration dialog box and turn on the Artios-Laserpoint IQ switch.

From TOPS to Artios: Box and Pallet information

To initiate the Artios box design from TOPS Pro, go to the Windows Toolbar and click on the Integration button (i) to open the Send to Artios dialog box.



Select the information (box data only or box and pallet data) to be exported to Artios and click on the Export button. This will launch Artios CAD with the box dimension already imported. If you select Box and Pallet to export, a 3D image of the unitload will also be available along with the box dimension.

Note: If the Integration button (i) opens the Load Plan dialog box instead, please open TOPSPRO.INI and change the section under `[Integration]` from `Type=LoadPlan` to `Type=XML`.

For further assistance, please contact TOPS technical support.

Quick Print Template System

TOPS Pro has a Quick Print feature that allows you to print multiple pages of information in a single batch. This feature also allows you to design reusable report styles for standardized specifications. The Quick Print feature is good if you need a standard printout that has four graphics on the first page and statistics on the second page. For more information, please refer to Chapter 11, Printing.

Combined Report

The Combined Report feature combines information from two analyses or up to five solutions of the same analysis onto one printout. This feature is particularly useful to include both the knocked-down and erected palletizations of a shipcase in a single report. For more information, please refer to Chapter 11, Printing.

Control of Displayed Statistics

This feature allows you to add or remove selected statistics from your printouts. For example, you can remove information regarding slack or RSC Area from the printed statistics. You could also specify whether to add Bulge information to the report. In essence, this feature allows you to turn on and off any column of information the software can display in a statistics pane. For more information, please refer to Configuration - Statistics Tab in Appendix B, Dialog Boxes.

Shipcase Database Option

As you work through analyses and create various types of shipcases, TOPS Pro allows you to save those shipcases to a shipcase database. Rather than enter shipcase parameters with each new analysis, this feature allows you to use shipcases already defined in the system.

Notice two things on the Shipcase Parameters dialog box:

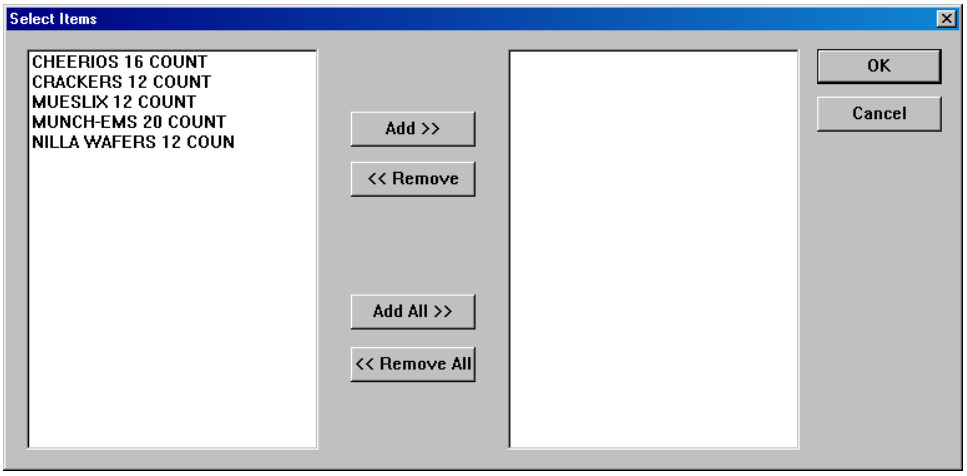
The **Case** feature includes a Database option, which activates the Database feature just below.

The **Database** feature tells TOPS Pro to automatically use shipcases already set up and stored in the shipcase database. The Database feature has two options:

- **All:** Tells TOPS Pro to consider all shipcases saved to the database when it calculates solutions.
- **Multiple:** Opens the Select Items dialog box and allows you to select specific shipcases to be used in calculating solutions.

To use the Multiple option, follow these instructions:

1. Click the Multiple button, the Select Items dialog box appears, as pictured below.



   Notice two things about this dialog box:

   - The window on the left shows a list of shipcases available to be used in the calculation.
   - The window on the right shows a list of shipcases that have been selected to be used in the calculation.

2. Select a shipcase to be used in the analysis.

3. Click on the Add button.

4. Repeat steps 2 and 3 for each shipcase to be used in the analysis.

   Note: To use all shipcases, click on the Add All button. To remove a shipcase from the right-hand window, select the shipcase and click on the Remove button.
   To remove all shipcases from the right-hand window, click on the Remove All button.

5. After selecting the shipcases, click on the OK button. TOPS Pro stores the selected shipcases to memory and redisplays the Shipcase Parameters dialog box.

Chapter 4: Publishing an Analysis

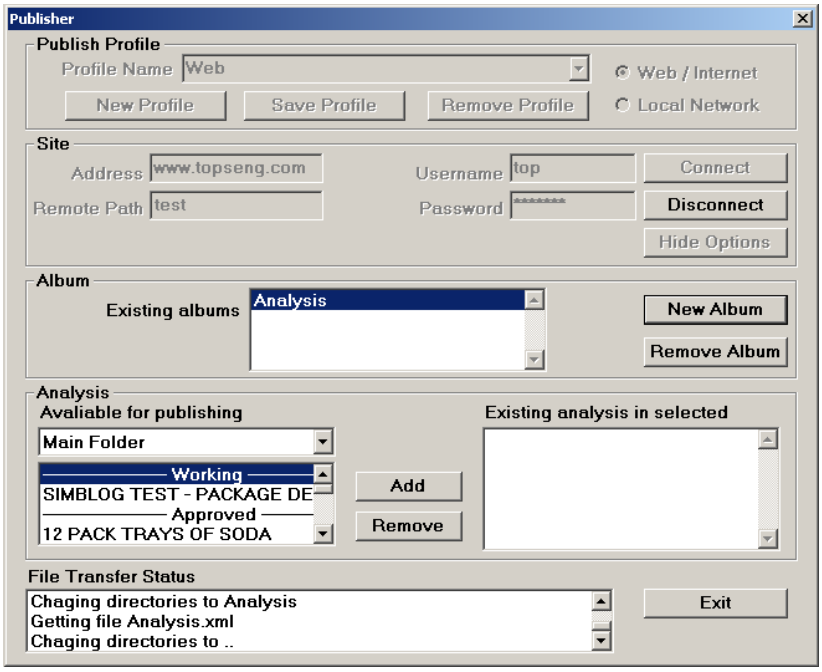
Introduction

TOPS Pro allows you to publish the results of an analysis to the Web or to a local network, thus allowing other people to view the analysis. With the Publish Analysis feature, analyses are collected into albums, which are created by the user to logically organize one or more analyses.

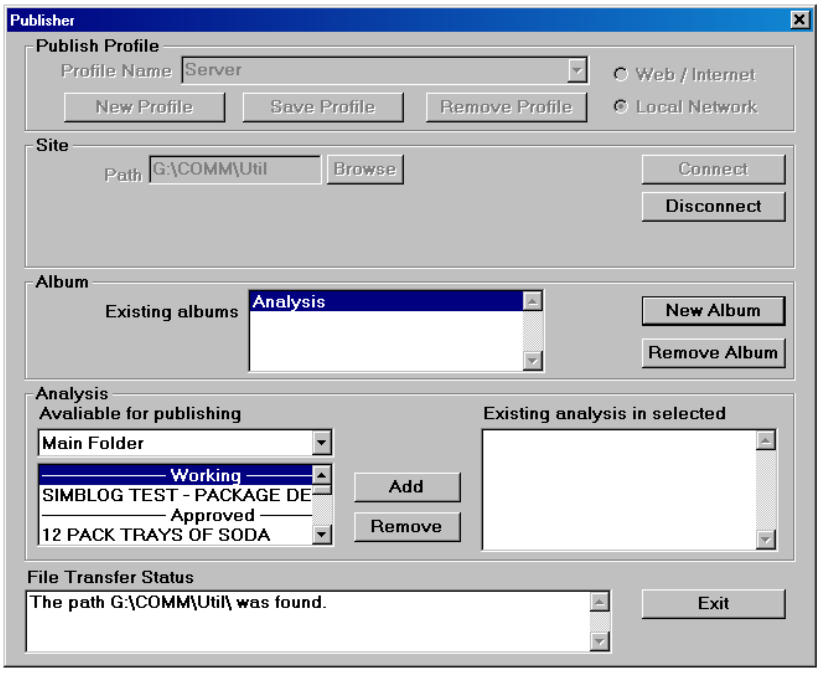
To publish an analysis to the Web or network, start from the Control Panel and follow these instructions:

1. Go to the Menu Bar and open the File Menu.
2. Select the Publish Analysis option then select either the To Web or To Network option.

   The Publisher dialog box appears in one of two forms, as pictured here.



Publisher to Web/Internet Option



Publisher to Local Network Option

The Publisher dialog box is organized into the following sections:

- **Publish Profile:** A profile contains information regarding the destination (web or local network) where analyses will be published. Creating a profile enables you to quickly recall the details of the published site.
  - **Profile Name:** Enter the name for a new profile (details of the profile will be entered under the Site section) or select an existing profile from the drop-down list.
  - **New Profile:** Click to create a new profile.
  - **Save Profile:** Click to save the Site information into the specified profile.
  - **Remove Profile:** Delete the selected profile from the database.
  - **Web/Internet or Local Network:** Specify whether the new profile is a web or local network location.

- **Site:** Specifies or displays the details of the publish location for the new or selected profile.

  With the Web/Internet option selected, the Site section prompts you for the followings:

  - **Address:** IP address or URL of the destination web site

- **Remote Path:** Name of the folder on the remote site where the analyses will be saved, if applicable
- **User Name and Password:** Authenticate your right to access the remote site

With the Local Network option selected, the Site section prompts you to enter a destination **Path**. Enter the directory path or click on the **Browse** button to specify a location on your local network.

Note: For specific Site information, please contact your IT Department.

- **Connect/Disconnect: Click to connect to or disconnect from the selected remote location.**

❖ **Album:** Published analyses are organized into albums. This section allows you to create a new album, select an existing album to which the selected analysis will be stored or remove an existing album.

❖ **Analysis:** Allows you to select and add one or more analyses to be published as part of an album.

❖ **File Transfer Status:** Displays a list of FTP transactions (when publishing a profile to the Web).

3. In the Profile Name field, use the drop-down list to select an existing profile that will be used to publish the analysis. In this case, previously saved Site information for the selected profile will be recalled.

   Note: To create a new profile, click on the New Profile button and enter the name of the new profile in the Profile Name field.

4. In the Site section, enter information for one of two options for a new profile: If you're publishing to the Web, enter the Address, Remote Path, User Name and Password. If you're publishing to a local network, browse for and select the path.

5. After entering Site information, click on the Connect button. TOPS Pro establishes a connection to the specified site, then populates the Album section with a list of existing albums stored on the site.

6. In the Album section, you can select an existing album from the drop-down list to add new analyses or to create a new album.

   To create a new album, click on the New Album button and enter the name at the pop-up dialog box.

7. In the Analysis section, go to the "Available for Publishing" list, select the analysis you want to publish, then click on the Add button. Repeat this step for each analysis you want to add to the album.

   To remove a selected analysis from the album, highlight the analysis in the "Existing Analysis is Selected" list and click on the Remove button.

   TOPS Pro retrieves images from the selected analysis, converts the images to XML and HTML files, and sends the files to the specified location in the profile.

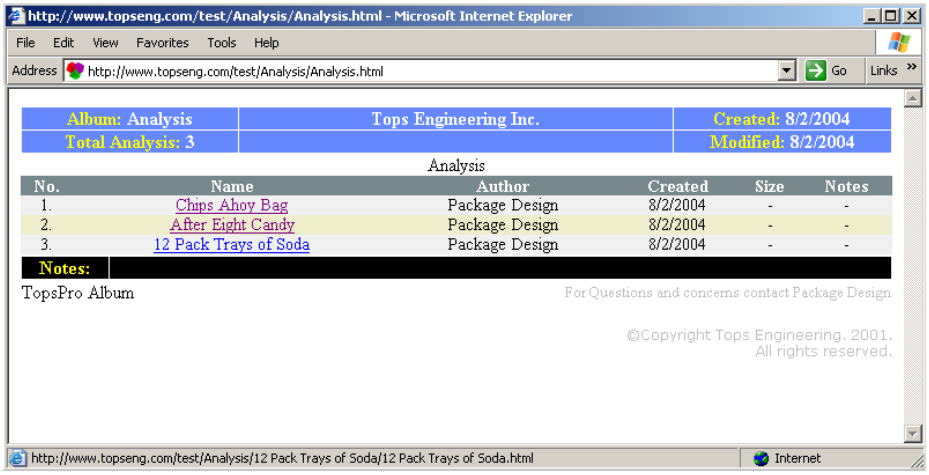
   Note: When publishing to the Web, TOPS Pro displays a log of FTP transactions in the File Transfer Status window. If there is an error publishing to the Web, this log provides information that might identify the problem.

Viewing the Published Analyses

To view the analyses published to the web, enter the following at the web browser address field - http://**URL/FolderName/AlbumName**.html where

- **URL** is the web address or IP address for the **site** as specified in the Site information section of the Publisher dialog box
- **FolderName** is the optional Remote Path specified under Site Information
- **AlbumName** is the name of the Album containing the analyses as specified under the Album section of the Pu**blisher dialog box**

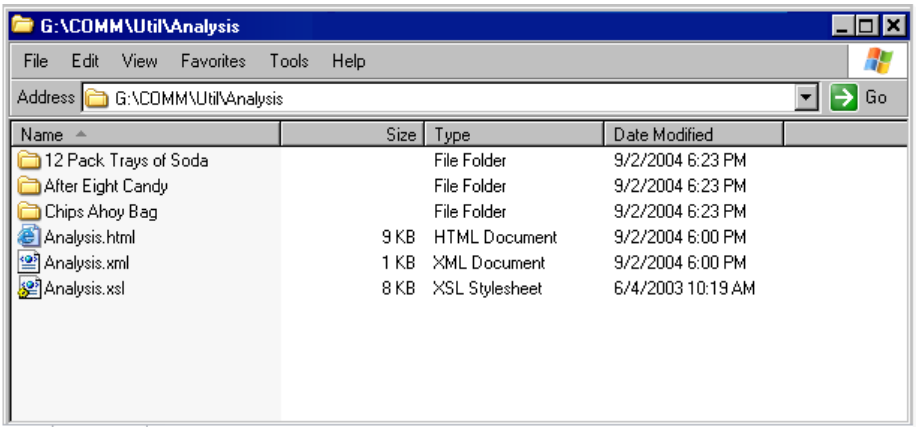
The browser will be updated to open the specified html file as illustrated on the next page. To view any analysis, just click on the Name to open the report.



Published Analysis list on the web

To view the analyses published to the local network, open the Windows Explorer and browse to the folder as specified in the Publish dialog box.

Tip: Create a shortcut to the Analysis.html file so you can access the published album with just one simple click.



Published Analysis list on the web

Chapter 5: Package Pattern and Divider Editor

Introduction

This chapter discusses the following editing functions in TOPS Pro:

- Pallet Pattern Editor
- Vehicle Load Editor
- Interactive Shipcase Sizing Editor
- Custom Divider Editor

The Pallet Pattern Editor allows you to reconfigure boxes on a pallet by moving individual boxes to different positions, removing boxes from the pallet and adding boxes to the pallet. The Editor allows you to manipulate the configuration in a way that cannot be accomplished with the standard dialog boxes and parameters.

Note: This feature allows you to edit pallet patterns. It works with one- to four-block patterns, diagonals and previously edited patterns. Because TOPS Pro allows you to edit columns of shipcases, not the whole pallet, any edits will be replicated for every layer.

The Vehicle Load Editor is similar to the Pallet Pattern Editor and allows you to re-layout the contents inside the transit vehicle.

The Interactive Shipcase Sizing Editor allows you to reconfigure the arrangement inside an intermediate pack or shipcase by removing or adding items inside the box. If the new arrangement calls for a bigger shipcase, its Auto Size function will automatically adjust the shipcase size to accommodate the additional items.

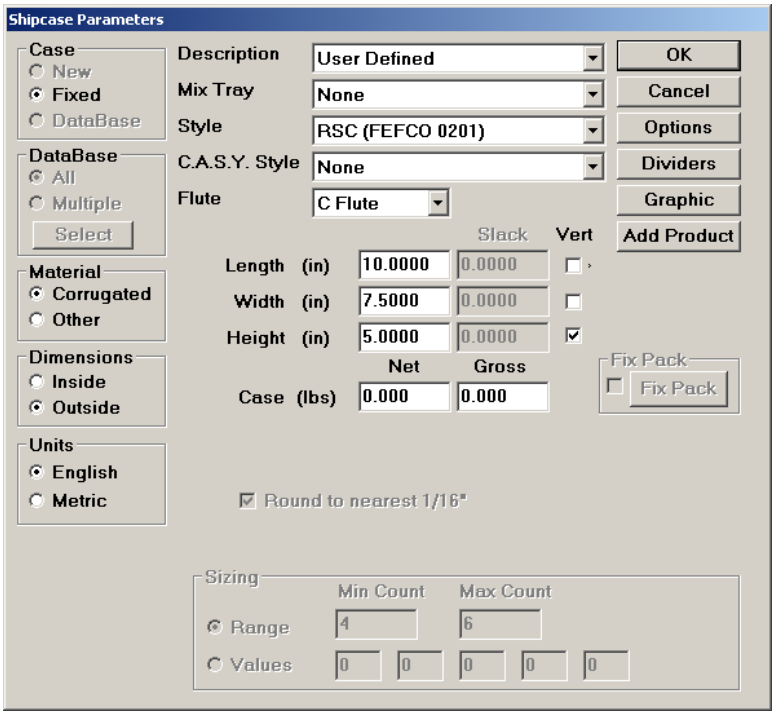
The new Divider Editor provides a graphical interface where you can easily create custom divider for any interpack or shipcase.

Using the Pallet Pattern Editor

The Pallet Pattern Editor has a number of useful features, which we'll discuss one at a time. First, let's perform a simple analysis that will result in a standard shipcases-on-a-pallet configuration. Follow these instructions:

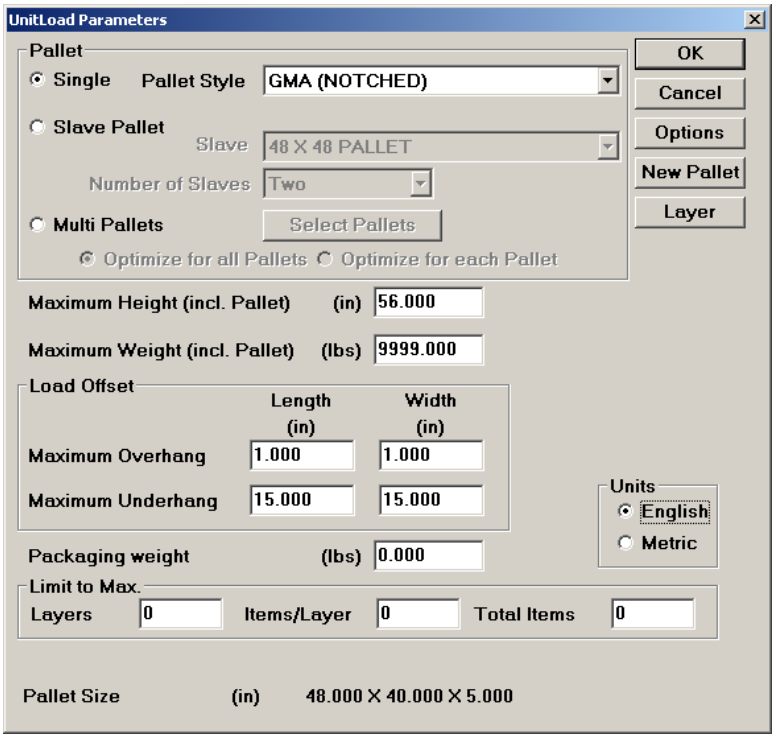
1. Define the Package Design Sequence by clicking on the Shipper and Pallet icons. The Shipper and Pallet icons appear in the Package Design Sequence area of the Control Panel.

2. Click on the Shipper icon to open the Shipcase Parameters dialog box. Enter the dimension of the shipcase as pictured below.



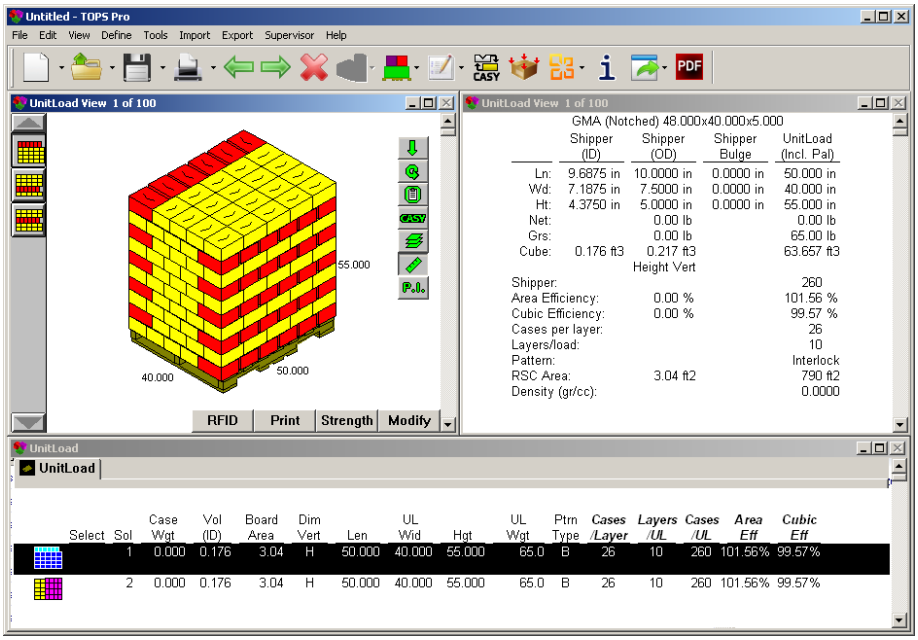
3. After entering shipcase parameters, click on OK. TOPS Pro stores your parameters to memory and closes the dialog box.

4. Click on the Pallet icon to open the UnitLoad Parameters dialog box. Use the default setting as pictured below and click on OK.



5. Click on the Calc button to generate solutions for the analysis.

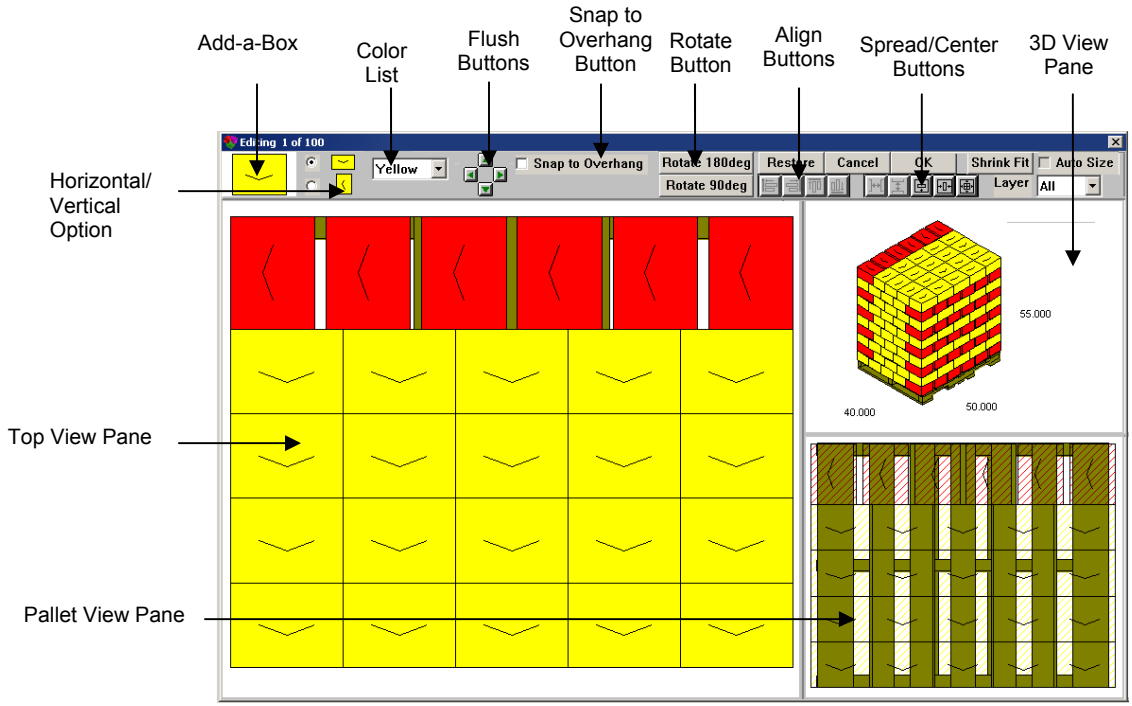
   TOPS Pro uses the defined parameters and generates all possible solutions for the analysis. When the calculation is complete, the Analysis View appears with three panes, as pictured below.



Notice that each of the UnitLoad View panes has a Modify button,

which displays the Editing Screen and allows you to make changes to the pallet configuration.

6. Click on the Modify button and the editing screen appears.



Notice the following elements on the screen:

- **Add-a-Box Feature:** Allows you to add an individual box to the pallet. This feature works in conjunction with the horizontal/vertical option.
- **Horizontal/Vertical Option:** When you add a box to the pallet, these buttons allow you to position the box horizontally or vertically.
- **Flush Up/Down/Left/Right Buttons:** Allow you to select a box and position it flush – in the direction you choose – against the nearest box. This feature also allows you to use two directions; for example, you can position a box flush down and to the right simultaneously.
- **Color Drop-Down List:** Allows you to select a box or multiple boxes and paint them a different color.
- **Rotate Buttons:** Rotates the highlighted shipcase 90 or 180 degrees.

- **Restore Button:** Erases any edits you've made and restores the Editing Screen with the original parameters.
- **Cancel Button:** Erases any edits you've made, closes the Editing Screen and returns you to the Analysis View.
- **OK Button:** Saves any edits you've made, closes the Editing Screen and returns you to the Analysis View.
- **Shrink Fit Button / Auto Size Button:** Not applicable.
- **Snap to Overhang Button:** Check this box to make sure the cartons will align with the allowable overhang setup in the Unitload Parameters dialog box. This function requires the Flush Buttons to be enabled also.
- **Align Left Button:** Allows you to select multiple boxes, select one as the anchor box and align the boxes with the anchor box in the direction you choose. The first box you select will serve as the anchor box.
- **Align Right Button:** Allows you to select multiple boxes, select one as the anchor box and align the boxes with the anchor box in the direction you choose. The first box you select will serve as the anchor box.
- **Align Up Button:** Allows you to select multiple boxes, select one as the anchor box and align the boxes with the anchor box in the direction you choose. The first box you select will serve as the anchor box.
- **Align Down Button:** Allows you to select multiple boxes, select one as the anchor box and align the boxes with the anchor box in the direction you choose. The first box you select will serve as the anchor box.
- **Spread Horizontal Button:** Allows you to select multiple boxes and spread them horizontally on the pallet, with equal spacing between the selected boxes.
- **Spread Vertical Button:** Allows you to select multiple boxes and spread them vertically on the pallet, with equal spacing between the selected boxes.
- **Center Horizontal Button:** Allows you to center all the boxes horizontally on the pallet.

- **Center Vertical Button:** Allows you to center all the boxes vertically on the pallet.

- **Center All Button:** Allows you to center all the boxes in the middle of the pallet.

- **Layer Button**: Specify which layer the modifications will be applied to. Select from the drop list to change individual layer or to all layers. To modify only layers 3 and 4 out of 8 layers, select from the drop list Layer 3, make the changes; then select Layer 4 and make any change desired.

- **Top View Pane:** Displays the pallet and boxes from directly above. This pane allows you to manipulate the pallet configuration by working with individual boxes. Using your mouse, you'll add, remove or reposition a box; align boxes; spread boxes; and center boxes from this pane.

- **3-D View Pane:** Displays the pallet and boxes from a different angle, and gives you a graphic illustration of what the whole configuration looks like as you make changes in the Top View pane.

  You can rotate the 3D graphics for a different view by pressing the arrow buttons while holding down the [Shift] key.

- **Pallet View Pane:** Displays the boxes transparently so you can see how they're positioned on the deck boards of the pallet. This feature allows you to line up the boxes precisely as you want in relation to the deck boards of the pallet.

To demonstrate how to use these editing features to manipulate your pallet configuration, we'll walk through three basic routines:

- Move boxes on the pattern.
- Remove boxes from the pattern.
- Add new boxes to the pattern.

Move Boxes on the Pattern

To move boxes on the pattern, you'll use these editing features:

- Select multiple boxes
- Rubber-banding
- Align Left/Right/Up/Down buttons
- Spread Horizontal/Vertical buttons
- Center Horizontal/Vertical buttons
- Flush Up/Down/Left/Right buttons

Select Multiple Boxes

To select multiple boxes to be moved, follow these instructions:

1. Left-click on the first box. (TOPS Pro highlights the box.)
2. Press the Shift key, hold it down and, one at a time, and click on the other boxes you want to move. (TOPS Pro highlights all the selected boxes.)
3. Move the boxes as necessary.

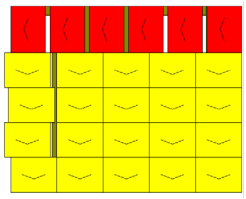
Rubber-Banding

You can also select multiple boxes for moving by using the rubber-banding feature. To select boxes with the rubber-banding method, follow these instructions:

1. Left-click on the white area outside the unitload.
2. Drag the mouse to form a "rubberband box" on the pane. Enlarge the box to include all the boxes on the pallet you want to move.
3. Let go of the left mouse button.
4. All boxes that are completely inside the "rubberband box" will be highlighted (selected). Any boxes that are only partially inside the "rubberband box" will not be highlighted.
5. Move the boxes as necessary.

Align Left/Right/Up/Down Buttons

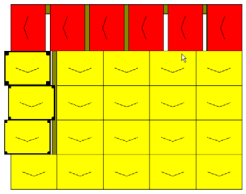
The Align Left/Right/Up/Down feature allows you to select multiple boxes, select one as the anchor box and align the boxes with the anchor box in the direction you choose.



In the figure on the right, you'll see that three boxes on the left side of the pattern are positioned just off the pallet. Suppose we want to position these three boxes just off the pallet, but we want the three to align together with the bottom-most box (the anchor).

In this case, we'll use the Align Left button to align the three boxes to the left relative to the bottom-most box. Follow these instructions:

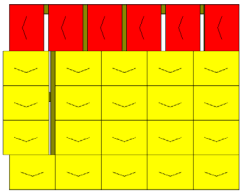
1. Left-click on the first box, then press the Shift key and click on the other two boxes that are out of line. Be sure to click on the bottom-most box first. (Don't release the Shift key until all three boxes are selected.)

   After you've selected the three boxes, the Top View pane will look like the one on the right.

2. Click on the Align Left button .

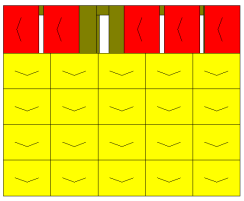
   TOPS Pro aligns the three selected boxes, with the bottom-most box as the anchor – the one you clicked on first – as pictured on the right.

   Note that when you aligned the boxes to the left, the 3-D View and Pallet View panes redisplay to reflect the boxes' new position on the pallet.

   Note: The Align Right, Align Up and Align Down buttons work according to the same principles.

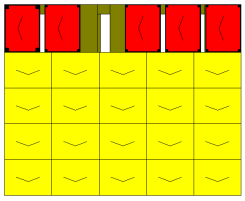
Spread Horizontal/Vertical Buttons



The Spread Horizontal feature allows you to select multiple boxes and spread them horizontally on the pallet, with equal spacing between the selected boxes.

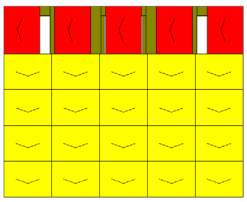
In the figure on the right, you'll see that one of the boxes has been removed from the top row on the pallet.

In this exercise, we want to space the five boxes on the top row horizontally, so that there's equal spacing between those five boxes. Follow these instructions:



1. Press the Shift key and click on the five boxes on the top row of the pallet. (In this case, it doesn't matter which box you select first.)

   After you've selected the five boxes, the Top View pane will look like the one on the right.



2. Click on the Spread Horizontal button .

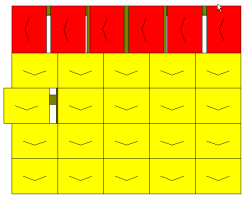
   TOPS Pro spreads the five selected boxes horizontally, creating equal space between them, as pictured on the right.

   Note that when you spread the selected boxes horizontally, the 3-D View and Pallet View panes redisplay to reflect the boxes' new position on the pallet.

   Note: The Spread Vertical button works according to the same principles.

Center Horizontal/Vertical Buttons

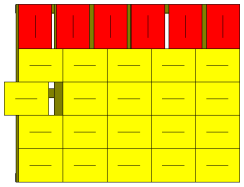
The Center Horizontal feature allows you to center all the boxes horizontally on the pallet. In the figure on the right, you'll see that one box on the left side is positioned a few inches off the pallet; consequently, the boxes are not centered on the pallet.



In this exercise, we'll center all the boxes on the pallet horizontally. Follow this instruction:

1. Click on the Center Horizontal button .

   TOPS Pro automatically centers all the boxes horizontally on the pallet, as pictured on the right.



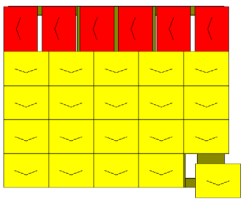
   Note that when you center the selected boxes horizontally, the 3-D View and Pallet View panes redisplay to reflect the boxes' new position on the pallet.

   Note: The Center Vertical button works according to the same principles.

Flush Up/Down/Left/Right Buttons

The Flush Up/Down/Left/Right buttons allow you to select a box and position it flush – in the direction you choose – against the nearest box. This feature also allows you to use two directions; for example, you can position a box flush down and to the right simultaneously.

In the figure on the right, you see that one box is positioned out of line, separated from the other boxes on the pallet.

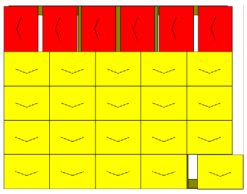


You'll use the Flush directional arrows to move the box back into position. In this exercise, we'll use the Up and Left arrows separately, then together. Follow these instructions:

1. Click on the box to select it.

2. Click on the Flush Up arrow.

   Note: When you click on this arrow, it will depress and show a red outline.



3. Drag the box slightly in any direction, then let go. TOPS Pro snaps the box flush up against the nearest box, as pictured on the right.

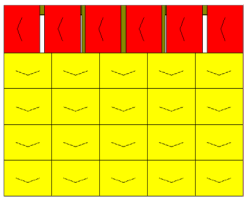
   Note that when you moved the box flush up, the 3-D View and Pallet View panes redisplay to reflect the box's new position on the pallet.

Now you want to move the box flush left.

1. Click on the box to select it.

2. Click on the Flush Left arrow.

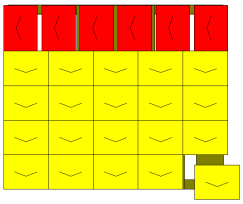
   Note: When you click on this arrow, it will depress and show a red outline.



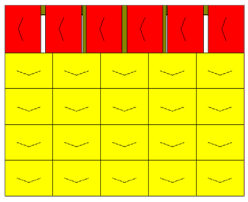
3. Drag the box slightly in any direction, then let go. TOPS Pro snaps the box flush left against the nearest box, as pictured on the right.

   Again, note that when you moved the box flush left, the 3-D View and Pallet View panes redisplay to reflect the box's new position on the pallet.

   This feature allows you to move a box in two directions at once with only one movement. Again, we'll start with the box moved out of line, as pictured on the right.



To move the box flush up and left simultaneously, follow these instructions:



1. Click on the box to select it.
2. Click on the Flush Up and Flush Left arrows.

   Note: When you click on these arrows, they will depress and show a red outline.

3. Drag the box slightly in any direction, then let go. TOPS Pro snaps the box flush up and left against the nearest box, as pictured above.

   Again, note that when you moved the box flush up and left, the 3-D View and Pallet View panes redisplay to reflect the box's new position on the pallet.

Remove Boxes from the Pattern

Removing boxes from the pattern is easy. Using your mouse, follow these two simple instructions:

1. Click on the box you want to remove.
2. Drag the box off the pallet pane; that is, anywhere outside the area that bounds the Top View Pane. TOPS Pro removes the box from the pallet, leaving an empty space where the box used to be.

Add New Boxes to the Pattern

To add new boxes to the pallet, you'll use these editing features:

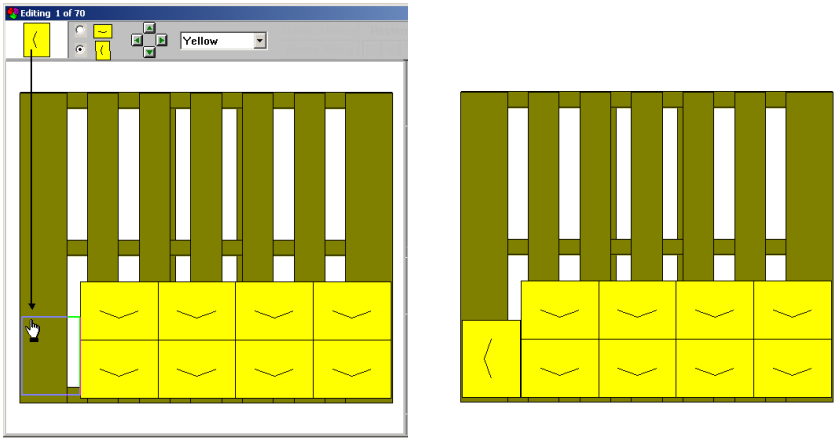
- Add-a-Box
- Horizontal/Vertical option
- Flush Up/Down/Left/Right buttons

Add a Box Using the Horizontal/Vertical Option

The Add-a-Box feature allows you to add an individual box to the pallet. This feature works in conjunction with the horizontal/ vertical option. But first, before you can add a box to the pallet, there must be ample empty space on the pallet. After you've removed one or more boxes on the pallet, follow these instructions:

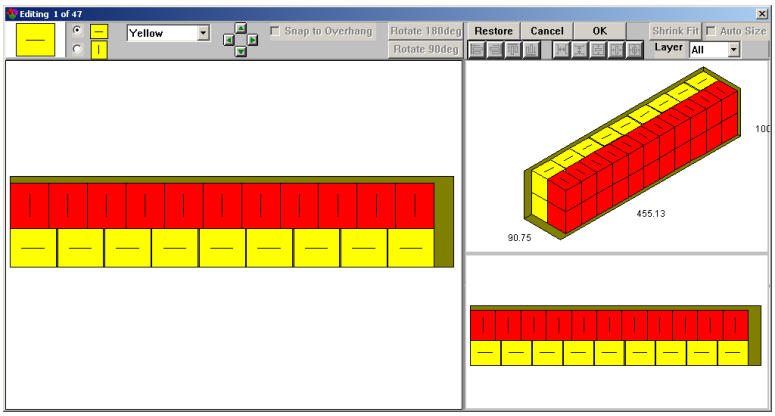
1. Click on the box in the corner of the screen.
2. Select either the horizontal or vertical option, depending on how you want the box to lie on the pallet by clicking on the radio button.
3. Drag the box from the Add-a Box window to an empty space in the Top View Pane.

   TOPS Pro adds the box to the pallet and positions the box horizontally or vertically, based on your input when you release the mouse button as pictured below.



Using the Vehicle Pattern Editor

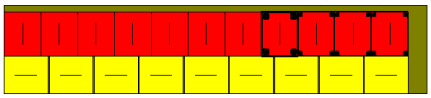
The Vehicle Pattern Editor works exactly the same way as the Pallet Pattern Editor. To access the editor, click the Modify button in the Vehicle View pane.



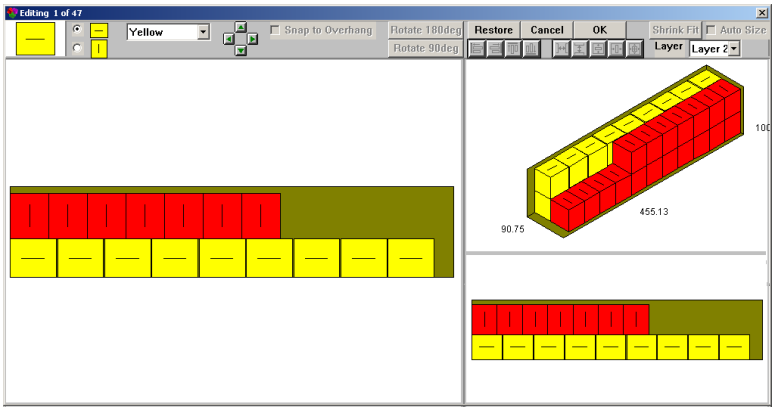
In the example, we will change the orientation of some pallets on the top layer inside the vehicle. For other details, please refer to the previous section for more instructions.

1. In the Editing screen, select Layer 2 from Layer option at the top right hand corner. This will only apply modifications to the top layer inside the vehicle.

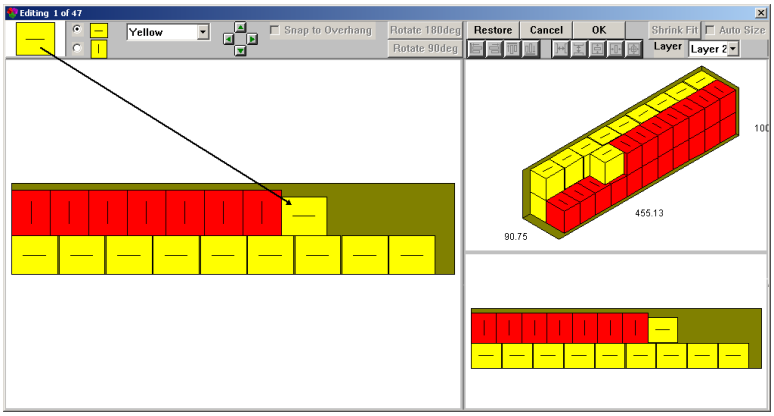
2. Select the four pallets on the right inside the vehicle as shown below. You can use the rubber banding method or the standard mouse click while holding down the [Shift] button as described on page 5-7.



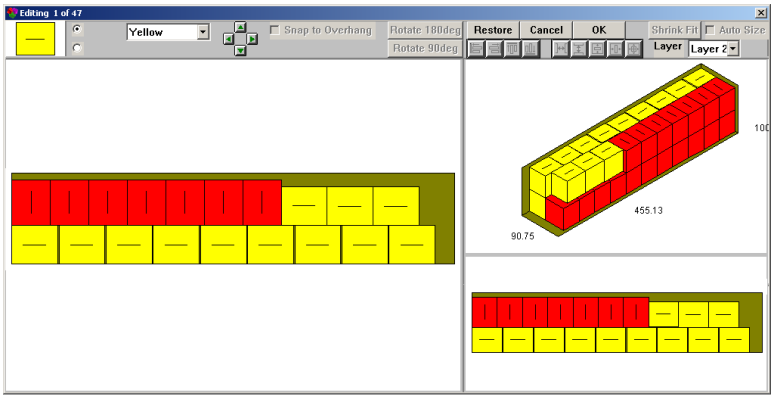
3. With the pallets highlighted, drag them outside the top view pane to remove them from the vehicle.



4. Go to the Add-A-Box section and drag the pallet inside the vehicle. You can enable the flush button to make sure the pallets are aligned.



5. Repeat step 4 to bring more pallets inside the vehicle.



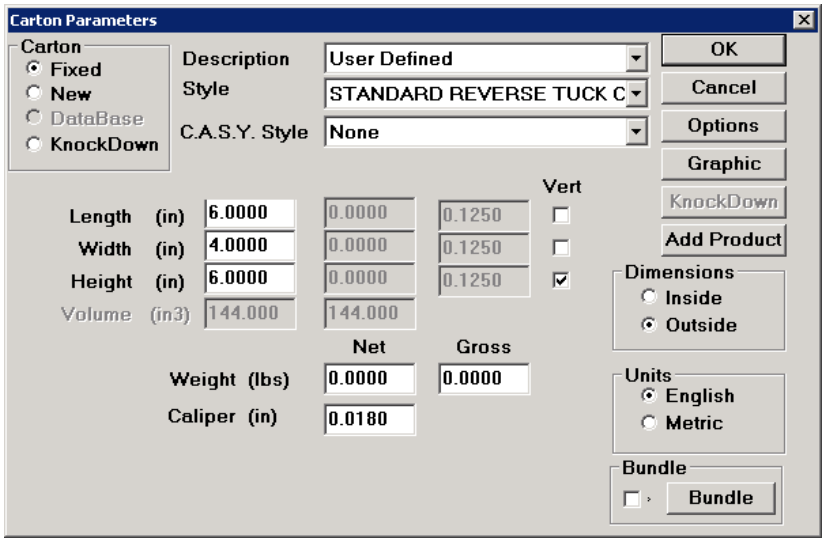
6. To accept the modifications, click on the OK button.

Using the Interactive Shipcase Sizing Editor

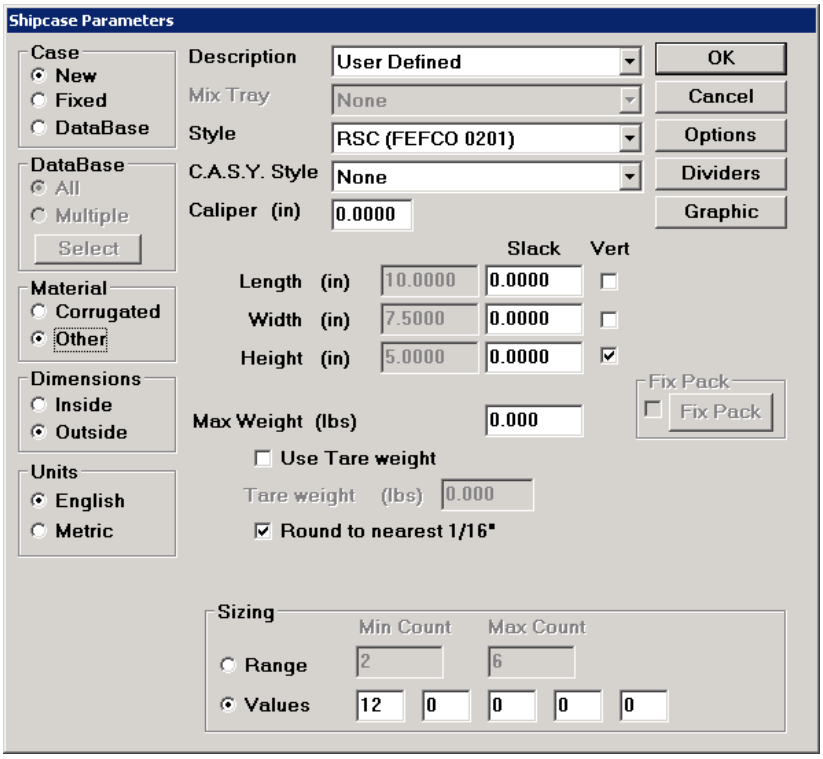
The Interactive Shipcase Sizing Editor allows you to reconfigure the arrangement inside an intermediate pack or shipcase by removing or adding items inside the box. If the new arrangement calls for a bigger shipcase, its Auto Size function will automatically adjust the shipcase size to accommodate the additional items.

To illustrate its function, let's perform a simple analysis that places cartons inside a shipcase. Follow these instructions:

1. Define the Package Design Sequence by clicking on the Carton (green) and Shipper icons. The Carton and Shipper icons appear in the Package Design Sequence area of the Control Panel.
2. Click on the Carton icon to open the Carton Parameters dialog box. Enter the dimension of the shipcase as pictured below.

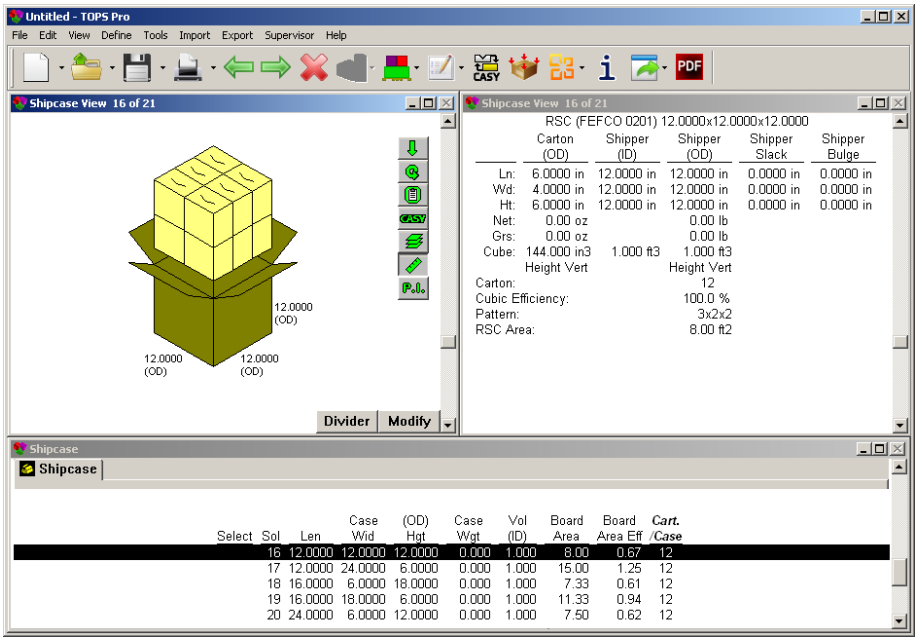


3. After entering carton parameters, click on OK. TOPS Pro stores your parameters to memory and closes the dialog box.
4. Click on the Shipcase icon to open the Shipcase Parameters dialog box. Specify a New case and use a Sizing Value of 12 as pictured on the next page and click on OK.



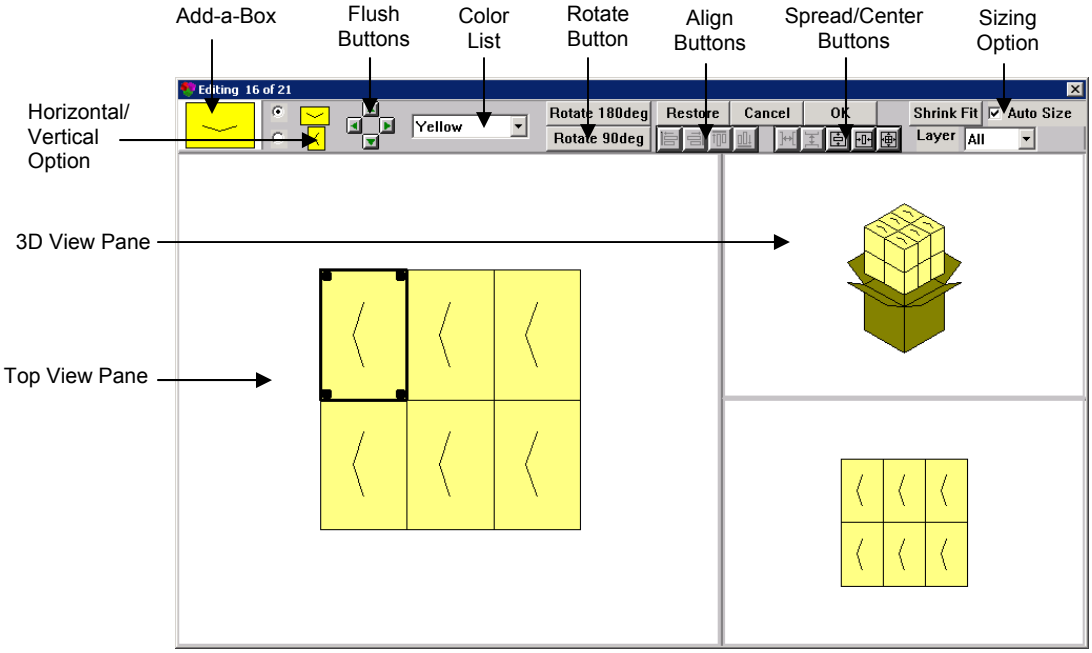
5. Click on the Calc button to generate solutions for the analysis.

   TOPS Pro uses the defined parameters and generates all possible solutions for the analysis. When the calculation is complete, the Analysis View appears with three panes, as pictured below.



Notice that each of the Shipcase View panes has a Modify button, which displays the Editing Screen and allows you to make changes to the shipcase configuration.

6. Scroll down to solution referenced and click on the Modify button to open the Editing screen.



Note that the screen is very similar to the Pallet Pattern Editor as described on page 5-3 except for the Sizing Option.

- **Auto Size:** When checked, this allows TOPS Pro to automatically resize the shipcase to accommodate any changes made by moving, adding or removing items.

- **Shrink Fit:** Allows the shipcase to shrink so all items will fit tightly inside the shipcase.

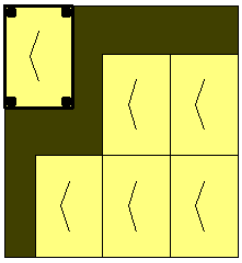
Please refer to page 5-4 and 5-5 for descriptions for the rest of the elements on the Editor screen.

To demonstrate how to use the auto sizing and other features, we'll walk through these basic routines. For selection, alignment and spread/center functions, please refer to the similar section on Pallet Pattern Editor.

- Move cartons inside the shipcase
- Add new cartons the shipcase
- Rotate cartons inside the shipcase

Move Cartons Inside the Shipcase

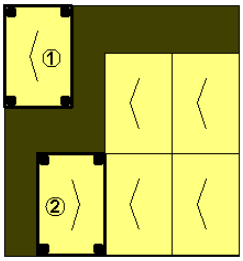
To move a carton in the shipcase, follow these instructions:



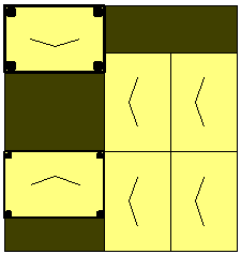
1. Make sure the Auto Size option is checked.
2. Left-click on the carton you want to move. (TOPS Pro highlights the carton with a darker outside.)
3. While holding down the left mouse button, move the carton to a new location as pictured on the right.
4. Release the mouse button when done.
5. Note that the shipcase is resized as well as the 3D View Pane being updated automatically with the new carton arrangement.

Rotate the Cartons

We will rotate the two cartons on the left 90 degrees and add a new carton. To select the two cartons to be rotated, follow these instructions:

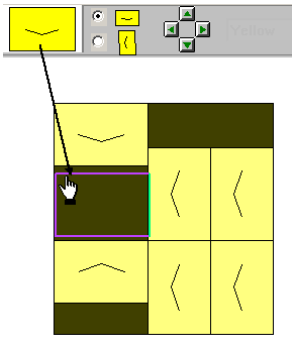


1. Left-click on the first carton marked (1) on as pictured on the right.
2. Press and hold the Shift key, now click on the carton marked (2).
3. With both cartons highlighted, click Rotate90deg button.
4. Note the two cartons are now rotated 90 degrees.



Add a New Carton

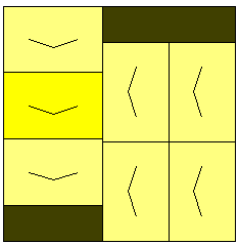
We will now add a new carton to the shipcase so there will be 7 cartons per layer inside the shipcase. Follow these instructions:



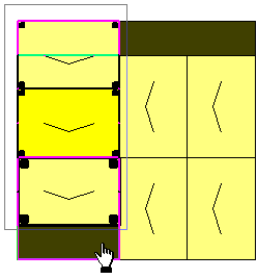
1. Click on the Add-a-Box icon in the corner of the Editor screen.
2. Select the horizontal option.
3. Drag the box from the Add-a Box window to the empty space between the two cartons as pictured on the right.
4. Note that a new carton will be added when you release the mouse button.

Resize the Shipcase

We will resize the shipcase so all cartons will be centered. Follow these instructions:

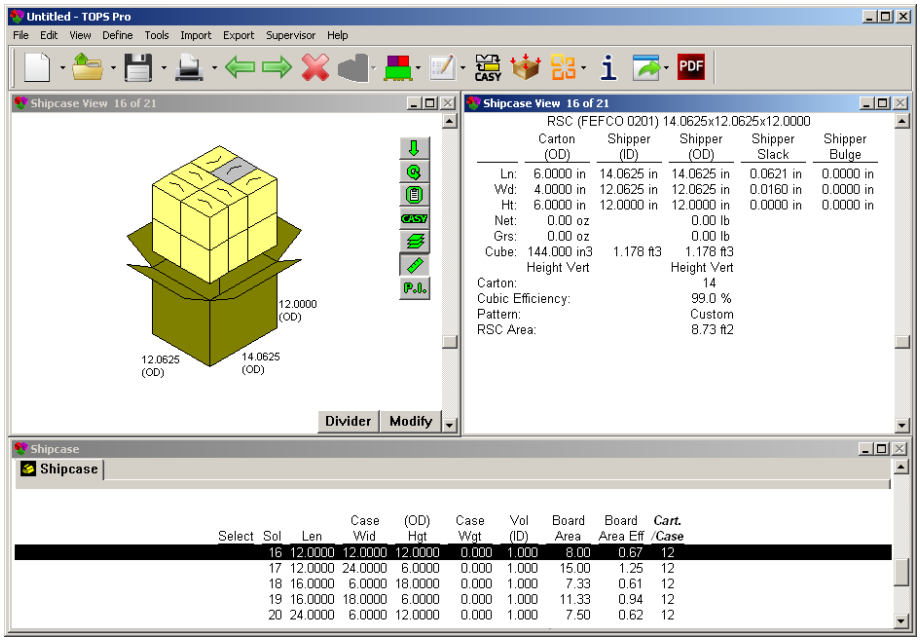


1. Click the Center All items button to bring all cartons to the center as pictured on the right. Note that all cartons are now cluttered in the middle but not using the space efficiently.
2. Enable the Flush Bottom button by clicking on the down arrow .



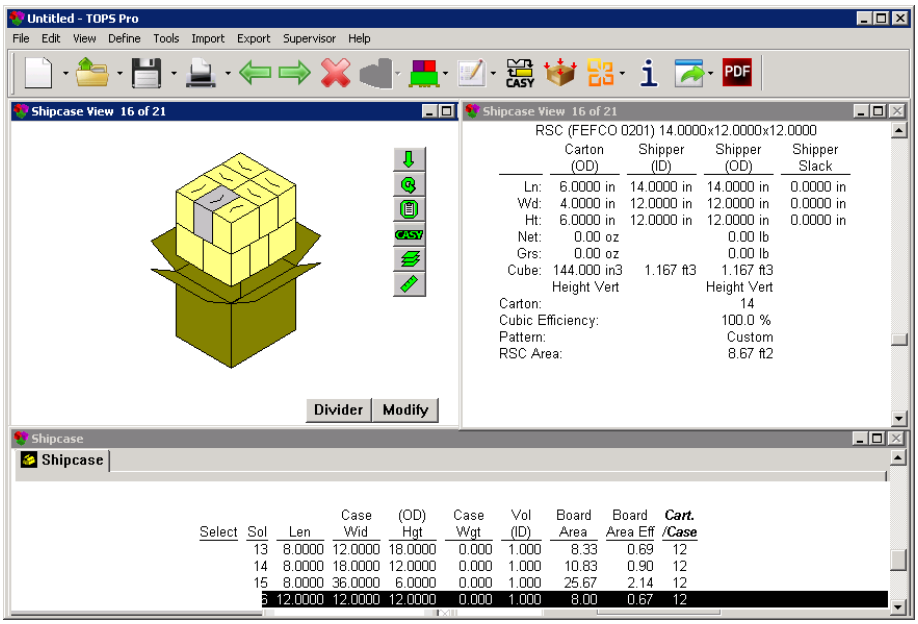
3. Use the rubber banding method (page 5-6) to select all three cartons on the left.
4. With all three cartons selected, drag and drop the group towards the lower part of the shipcase as pictured on the right.
5. When the mouse button is released, all cartons are now repacked tightly inside the shipcase.
6. To use this new shipcase arrangement, click on the OK button.

   Click Yes on the message "Box size was changed, continue?" to accept the change and return to the Analysis View.



7. To rotate the layers inside the shipcase, go to the Edit menu, select Layer Parameters and check the layer you'd like to rotate.

8. Click on OK to return to the Analysis View which now shows rotated top layer inside the shipcase.



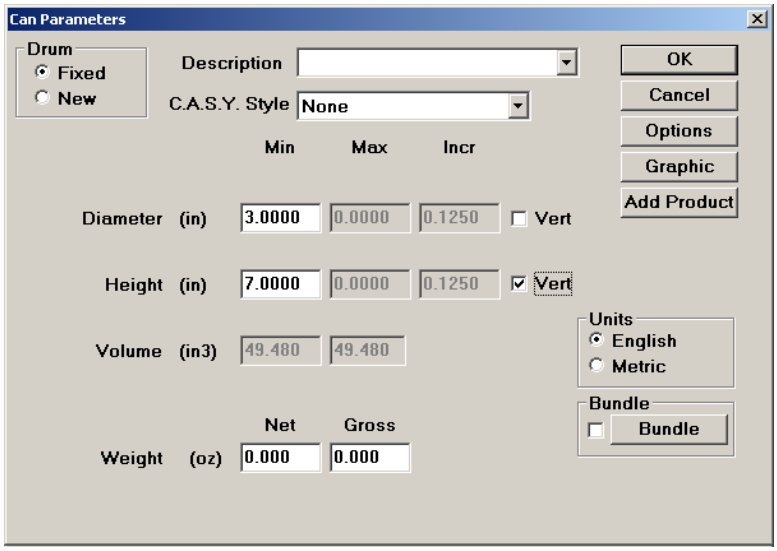
9. The Shipcase Sizing Editor is also available at the Intermediate Package level and for different primary package types like cans, mike cartons, etc.

Defining Custom Dividers

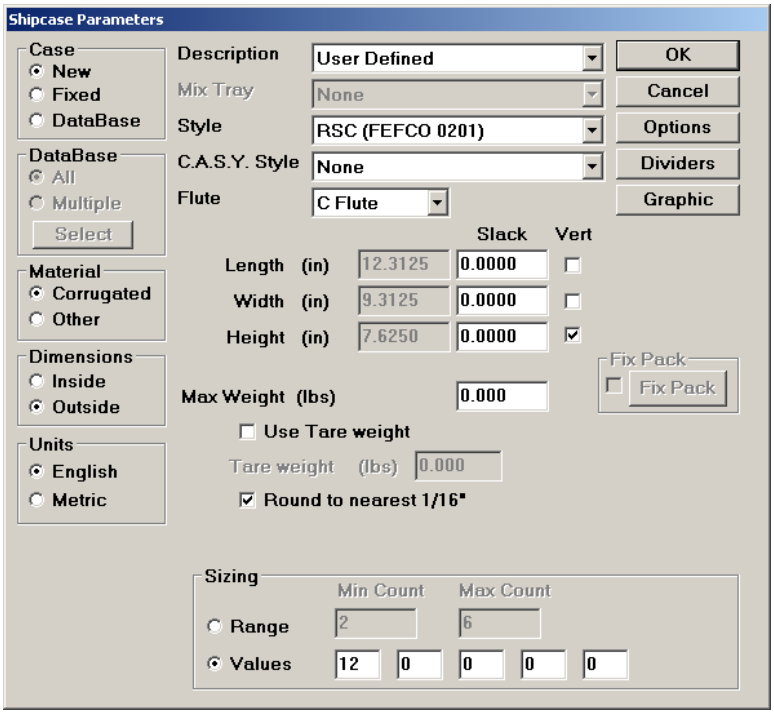
Custom Divider can be easily defined inside TOPS Pro using the graphical divider editor. Users have the ability to control the size, including the height, width and alignment of each partition within a carton or shipper. After the divider has been defined, it can be saved to the database and can be used again in future analyses.

To define custom dividers, follow these instructions:

1. Define the Package Design Sequence by clicking on the Can/Cylinder (green) and Shipper (yellow) icons. The Can and Shipper icons appear in the Package Design Sequence area of the Control Panel.
2. Click on the Can icon to open the Can Parameters dialog box. Enter the dimension of the shipcase as pictured below.

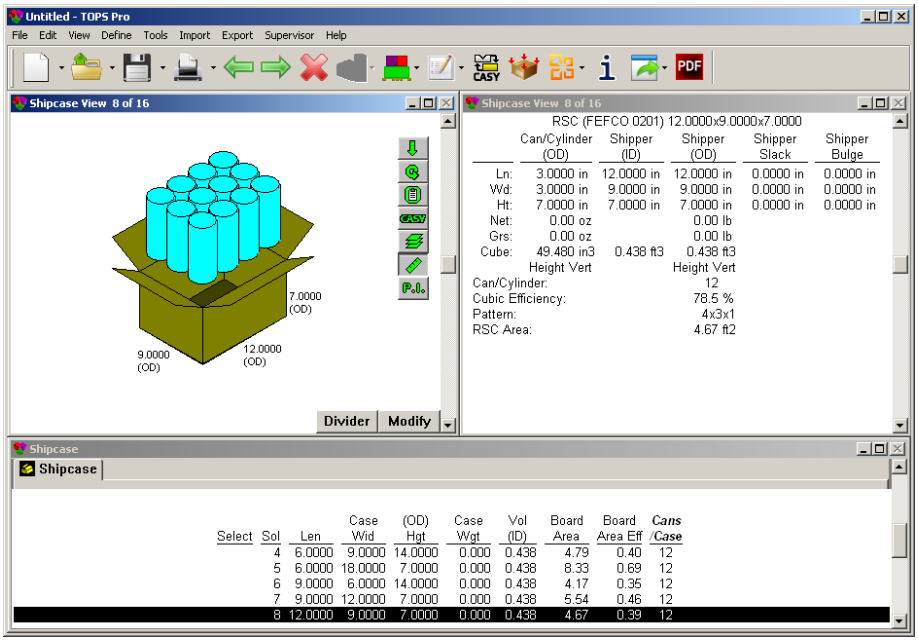


3. After entering shipcase parameters, click on OK. TOPS Pro stores your parameters to memory and closes the dialog box.
4. Click on the Shipper icon to open the Shipcase Parameters dialog box. We will place 12 cans inside a new shipcase as pictured below and click on OK.



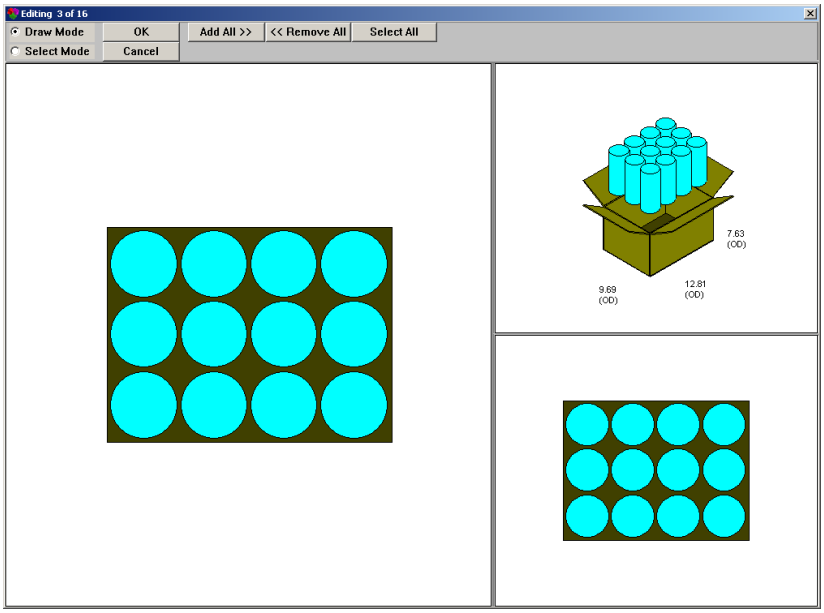
5. Click on the Calc button to generate solutions for the analysis.

   TOPS Pro uses the defined parameters and generates all possible solutions for the analysis. When the calculation is complete, the Analysis View appears with three panes, as pictured below.



6. Click on the Divider button to access the divider editing screen.

7. You will be prompted whether to have “Divider in the edger?” In this example, we are not using divider along the edges and click on NO to proceed to the divider editor as shown here.



Notice the following elements on the screen:

- **Draw/Select Mode:** Click to select which edit mode will be used. Select Mode allows you to highlight (in red) different partitions of the divider upon the mouse click, followed by action items via the right click menu.
  When in Draw Mode, each mouse click will add or remove the selected divider partition. You can access the right click menu to change the size and alignment of the selected cell partition.

- **Add All/Remove All/Select All Button**: These buttons provide the functions exactly as described.

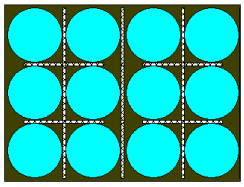
- **OK Button:** Click this button to open the Define Dividers dialog box to save the custom divider into TOPS database for future use.

- **Cancel Button**: To cancel any changes and return back to the Solution View of the analysis.

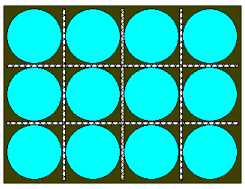
- **3-D View Pane:** Displays the pop top view of the shipcase. You can rotate the 3D graphics for a different view by pressing the arrow buttons while holding down the [Shift] key.

- **Top View Pane:** Displays the shipcase and its contents from directly above.

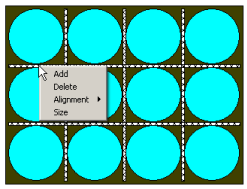
8. We will create a custom divider for the 12 cans as illustrated on the right. The divider will have the same height as the shipcase except the central single partition between the 2 six-pack will be 80% the height of the shipcase.



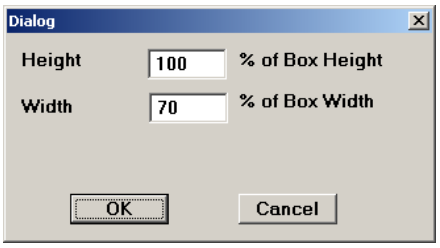
9. To start, click on the Add All button to place partitions around every divider cell.

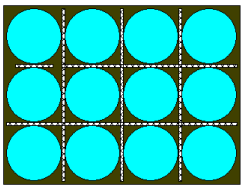


10. Place the mouse at the location of the cursor as shown on the right and click the right mouse button. At the pop-up dialog box, select **Size**.

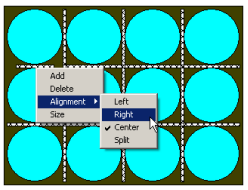


11. The following dialog box will open. Change the Width to 70% of Box Width as shown below.



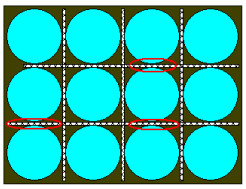


12. The partition now is only 70% of the width of the cell.

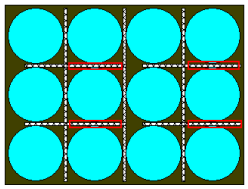


13. With the mouse cursor placed on the same partition (now smaller), click the right mouse button and select Alignment, then click on Right.

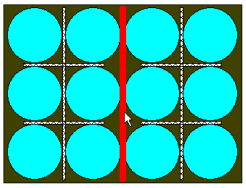
14. Repeat steps 10 through 13 on the three partitions circled on the right.



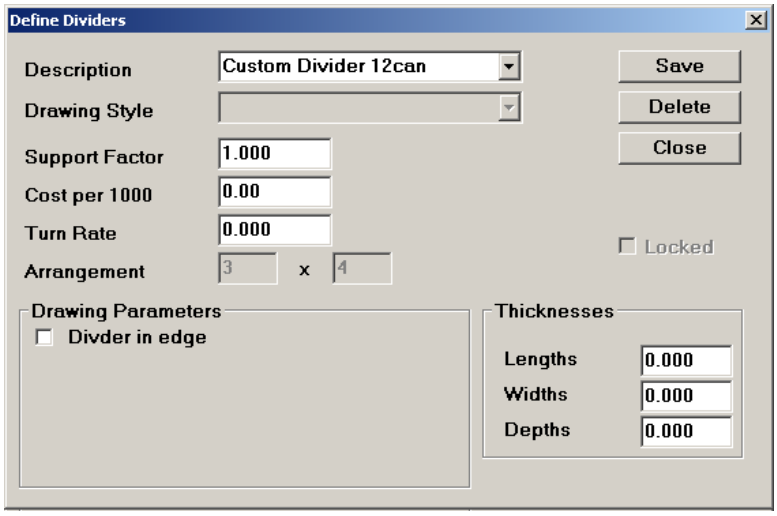
15. We will now repeat steps 10 through 14 to bring the other four partitions to 70% of cell width and align left to create the 2 dividers for the 6 cans on each side.



16. To set the height for the center divider, change to Select Mode (in order to select across partitions) and then click the center divider.
The partition will highlight in red. Click the right mouse button, select **Size** and enter 80% of Box Height at the dialog box.

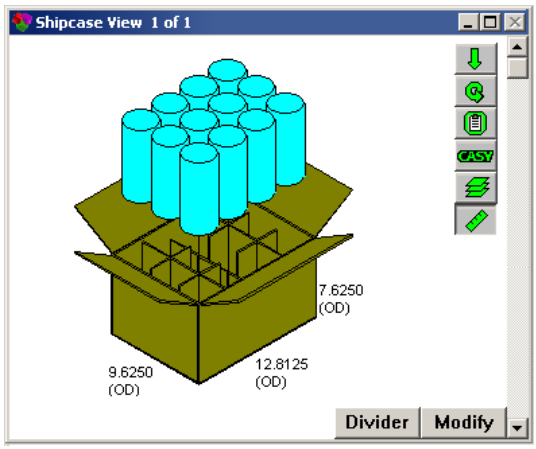


17. To save the new divider, click on the OK button to open the Define Dividers dialog box as shown.



18. Enter a name for this new divider in the Description field so it can be used in the future, click on the Save button.

19. Click the Close button to exit the divider editor and return to the Solution View which shows the new divider inside the shipcase.



Note: This custom divider is for product arrangement of 4x3 only. If you apply this divider to a shipcase with other than a possible 4x3 arrangement, you will receive an error message as followed.

Chapter 6: MixPro Mixed Pallet Editor

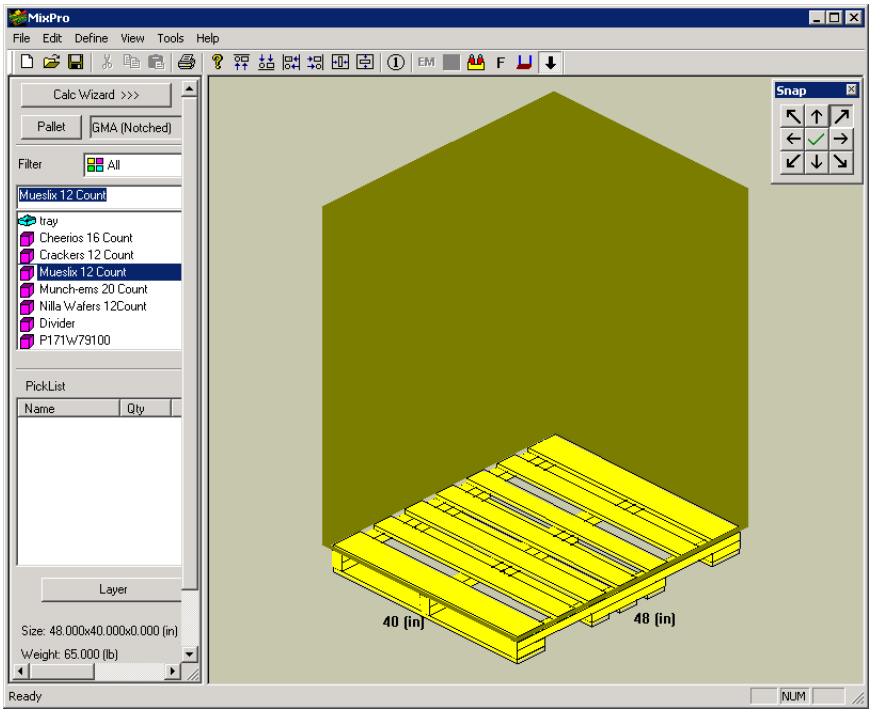
Introduction

This chapter discusses MixPro Pallet Editor, a TOPS Pro module that allows you to design a mixed-product pallet for display with different size boxes. These mixed pallet are extremely common in warehouse stores.

For example, the mixed pallet load can include several shipcases of snack foods – chocolate bars, peanut bars and corn chips, all of which have different shipcase dimensions. The MixPro Pallet system allows you to easily load and place all types of shipcases onto a pallet.

MixPro Pallet Editor

To access the MixPro Pallet module, go to the Toolbar and click on the MixPro Pallet Editor icon and select MixPro Mixed Pallet Editor. You can also open the MixPro Pallet Editor by going to the Tools Menu and then select MixPro.



Notice the following features on the MixPro Pallet Editor:

- **Calc Wizard:** Clicks the button to open MixPro auto load generator, an automatic calculation engine to place mixed size shipcases onto a pallet.
- **Pallet Button:** Allows you to select a pallet from the database for loading shipcases.
- **Filter Button:** Allows you to filter the types of shipcase to be displayed in the Shipcase List. Select "All" to display all available cases and trays supported by MixPro.
- **Shipcase List:** Displays a list of shipcases that you can add to the pick list for loading onto the pallet.
- **Pick List:** Displays a list of shipcases you've selected from the shipcase list. These shipcases can be loaded onto the pallet. The pick list also tracks the following information for each type of shipcase: number of cases, length, width and height.
- **Layer Button:** Allows you to add layers of shipcases onto the mixed pallet, provided space is available to add the layers.
- **Pallet Display Window:** Displays an image of the pallet and allows you to drag shipcases onto the pallet.
- **Snap Toolbar:** Allows you to move the unitload flush to any corner or side of the pallet.

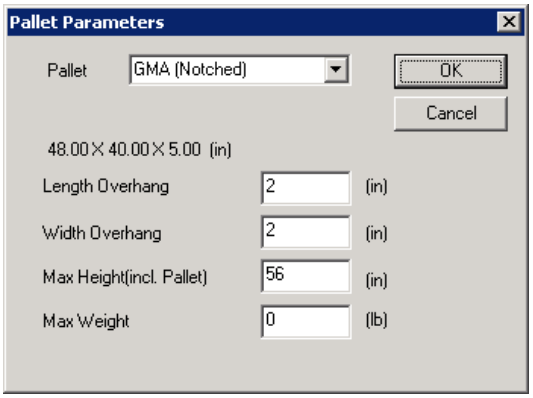
Create a Mixed Pallet Manually

In this exercise, we'll manually create a mixed pallet load that consists of the following:

- 15 cases of chocolate bars
- 32 cases of peanut bars
- 30 cases of corn chips

To load this mixed pallet, follow these instructions:

1. Click on the Pallet button. The Pallet Parameters dialog box appears.
2. Use the default pallet but change the overhang and load height as pictured below.



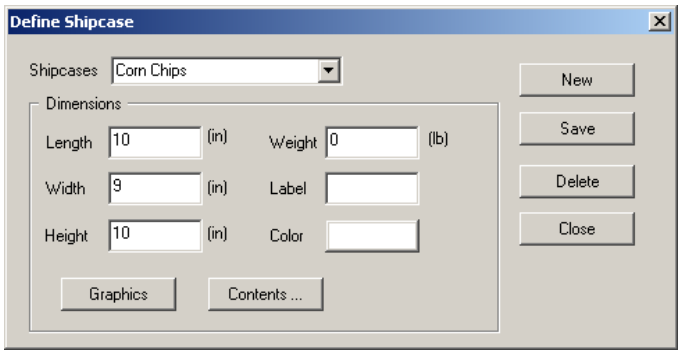
3. Look at the shipcase list and decide which items you want to load onto the pallet. In this exercise, we want the mixed pallet load to include chocolate bars, peanut bars and corn chips.

   Notice that the initial shipcase list does not include any of these items. In this case, MixPro allows you to create new shipcases for these items.

4. To create a new shipcase, click Define on the Menu bar and select Shipping Case. The Define Shipcase dialog box appears.
5. Enter the shipcase name, dimension, color and label (if desired) as pictured here for Chocolate Bars and click on Save when done. The new shipcase information will be saved.

6. Click on New to define a new shipcase for Peanut Bars. Click on Save when all parameters are entered.

7. Click on New to define a new shipcase for Corn Chips. Click on Save when all parameters are entered.



Note: You can paste a graphic image onto a shipcase. To use paste-on graphics, click on the Graphic button. Further, you can add CASY trays to the shipcase. To add trays, click on the Contents button.

Note: The Contents button is only available for newly defined shipcase and will be available upon clicking on the New button in the Define Shipcase dialog box.

The MixPro Pallet Editor redisplays with the name of the new shipcase included in the shipcase list. When you've created these three new

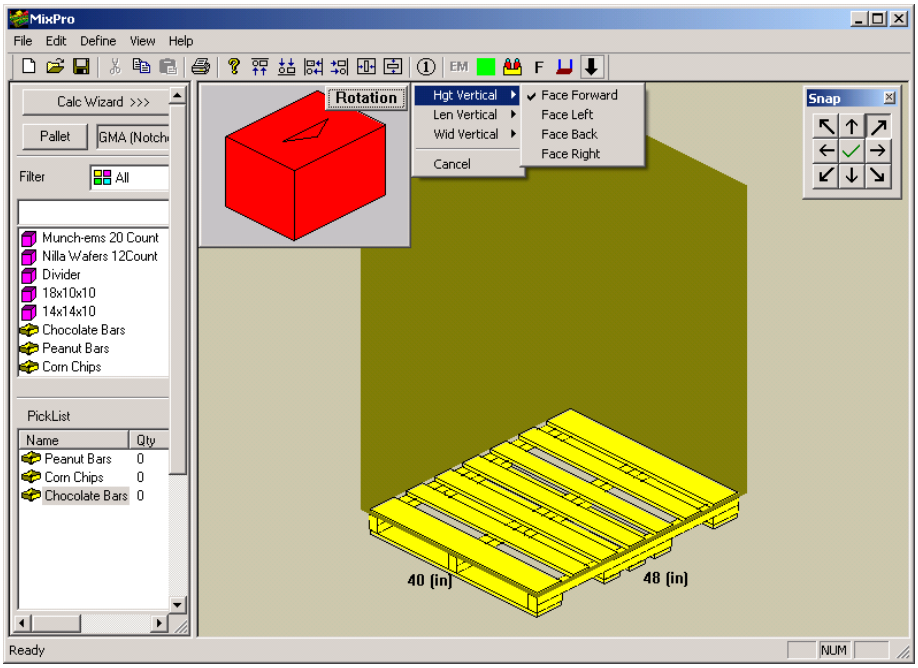
shipcases, the shipcase list will include chocolate bars, peanut bars and corn chips.

8. In order to load an item onto the pallet, you have to move it from the shipcase list to the pick list. To move an item to the pick list, double click the shipcase from the shipcase list. The system inserts the selected item into the pick list.

   Repeat this step for each item you want to select to the pick list. In this exercise, we're loading three items – chocolate bars, peanut bars and corn chips.

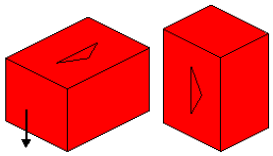
9. From the pick list, select an item to be loaded onto the pallet. In this exercise, we'll select the chocolate bars first.

   A graphic of the selected shipcase appears in the g.o.d. (graphic online display) window, located in upper left corner of the data display window, as pictured below.

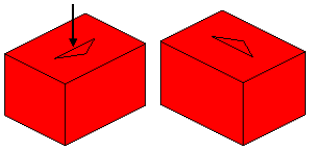


You can change the orientation of the case by clicking on the Rotation button. Select the dimension to be loaded vertically and then the face direction. The current orientation is highlighted with a (√) mark.

Note: You can also change the case orientation by clicking on different faces. For example, position it on its side or on its end – click on the face of the shipcase you want to face the floor. Click on the top of the case to rotate 90 degrees.



Click on the face with the arrow



Click on the top face to rotate shipcase 90 degrees

Note: To remove/hide the selected shipcase in the g.o.d. window, click the [Esc] key on the keyboard.

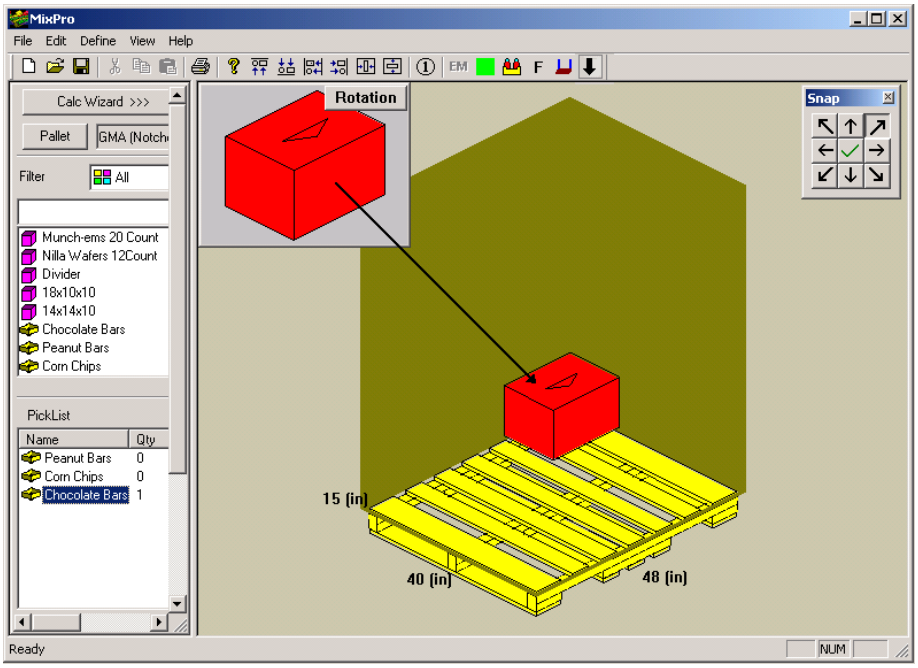
10. To load the item onto the pallet, click on the image of the shipcase and drag it onto the pallet.

    The system copies an image of the shipcase to the pallet area, as pictured here.

    In the figure above, the shipcase automatically flushes against the top left corner of the pallet because of the default Snap feature.

    Note: If needed, click on the green √ which turns to a red X, to disable the Snap feature. In this way, you can place the shipcase anywhere on the pallet, without being aligned to any side or corner of the pallet.

11. Continue to load cases until you've loaded 15 cases of chocolate bars to the pallet, forming a wall along the backside of the pallet. Your unitload will look similar to the one pictured on the next page.

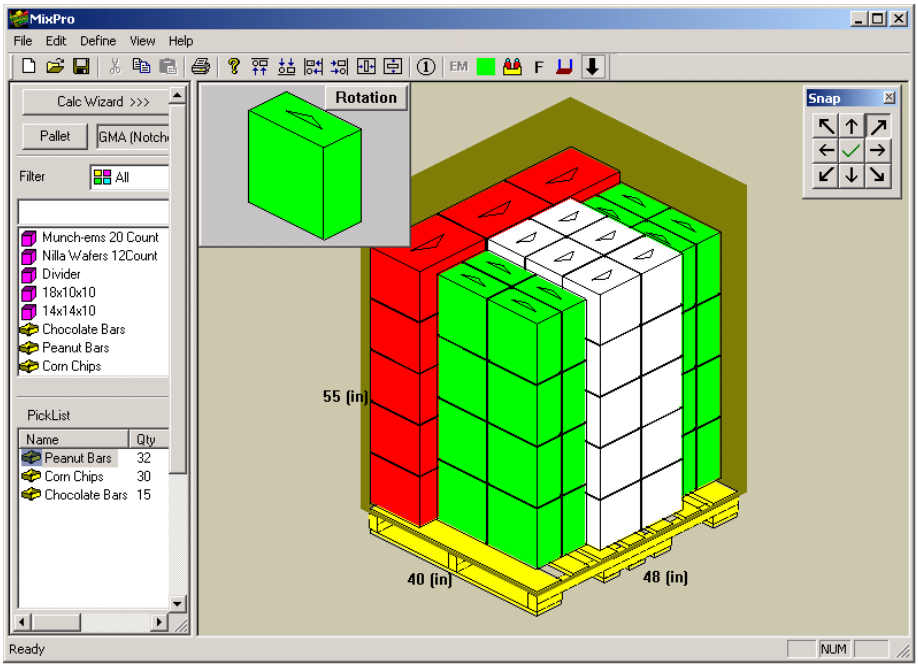


12. To begin adding the next item onto the pallet (the peanut bars), select it from the pick list. The case pictured in the g.o.d. window changes to the newly selected case.

    Complete the mixed pallet load until the unitload contains the following items:

    - ❖ 15 cases of chocolate bars
    - ❖ 32 cases of peanut bars
    - ❖ 30 cases of corn chips

    When you've finished loading the three different shipcases, the unitload will look similar to the unitload pictured on the next page.



13. Now that all the shipcases are loaded onto the pallet, you can now align the unitload on the pallet as you like – to the top, bottom, left, right, etc. You can also display the labels on the various shipcases.

    Note: The MixPro alignment feature works a little differently than in TOPS Pro. In MixPro, the alignment moves the entire load; you cannot select individual cases to align.

    Notice the following buttons in the MixPro Pallet Editor Screen button bar:

    - **Align Top:** Aligns the load to the top edge of the pallet.
    - **Align Bottom:** Aligns the load to the bottom edge of the pallet.
    - **Align Left:** Aligns the load to the left edge of the pallet.
    - **Align Right:** Aligns the load to the right edge of the pallet.
    - **Align Vertical:** Compacts the spacing to align the load in the center of the pallet vertically.
    - **Align Horizontal:** Compacts the spacing to align the load in the center of the pallet horizontally.

- **Label:** Displays the labels on the shipcases. This is an on/off toggle feature.
- **Edit Texture:** Adds graphics to the different faces of the shipcase.
- **Show Contents:** Clicks to show contents of any CASY trays.
- **Show Front Face:** Clicks to show the display face of the shipcases.
- **Add Corner Posts:** Adds corner posts to the unitload. You will define the width and thickness of the corner posts in the pop up dialog box.
- **Snap Tool:** Clicks to enable or disable the Snap buttons for the MixPro Pallet editor.

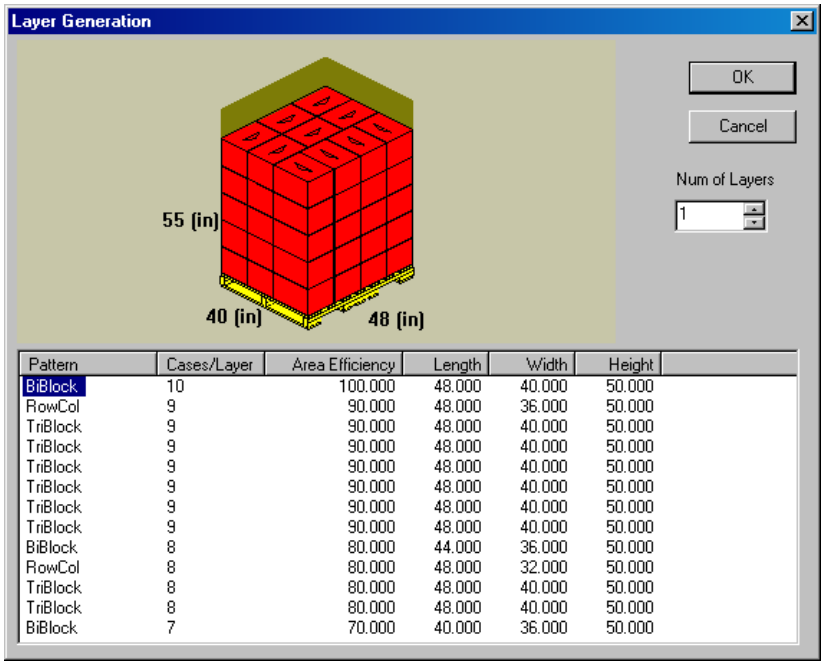
14. When your load is aligned the way you want it, you're ready to work with the Print Preview feature, tailor the report and then print it.
15. Before closing MixPro, be sure to give this mixed pallet a name and save the file.

Create a Mixed Pallet Using Layers

MixPro allows you to configure layers of shipcases on a pallet. To work with layer configurations, start from the MixPro Pallet Editor and follow these instructions.

1. Add your item to the PickList. In this example, we will start again with Chocolate Bars by double clicking the item in the shipcase list.

2. With the Chocolate Bars shipcase displayed in the g.o.d. window, click on the Layers button. The Layer Generation Screen appears, as pictured on the next page.



Pattern	Cases/Layer	Area Efficiency	Length	Width	Height
BiBlock	10	100.000	48.000	40.000	50.000
RowCol	9	90.000	48.000	36.000	50.000
TriBlock	9	90.000	48.000	40.000	50.000
TriBlock	9	90.000	48.000	40.000	50.000
TriBlock	9	90.000	48.000	40.000	50.000
TriBlock	9	90.000	48.000	40.000	50.000
TriBlock	9	90.000	48.000	40.000	50.000
TriBlock	9	90.000	48.000	40.000	50.000
BiBlock	8	80.000	44.000	36.000	50.000
RowCol	8	80.000	48.000	32.000	50.000
TriBlock	8	80.000	48.000	40.000	50.000
TriBlock	8	80.000	48.000	40.000	50.000
BiBlock	7	70.000	40.000	36.000	50.000

Notice the following about the Layer Generation Screen:

- A **list of layer configurations** is displayed in the lower portion of the screen. For each configuration, the screen displays pattern type, count (number of cases in a layer), area percentage, length, width and height.

- The **layer configuration display** shows an illustration of the selected configuration in the upper portion of the screen. This display also provides dimensions for length, width and height.

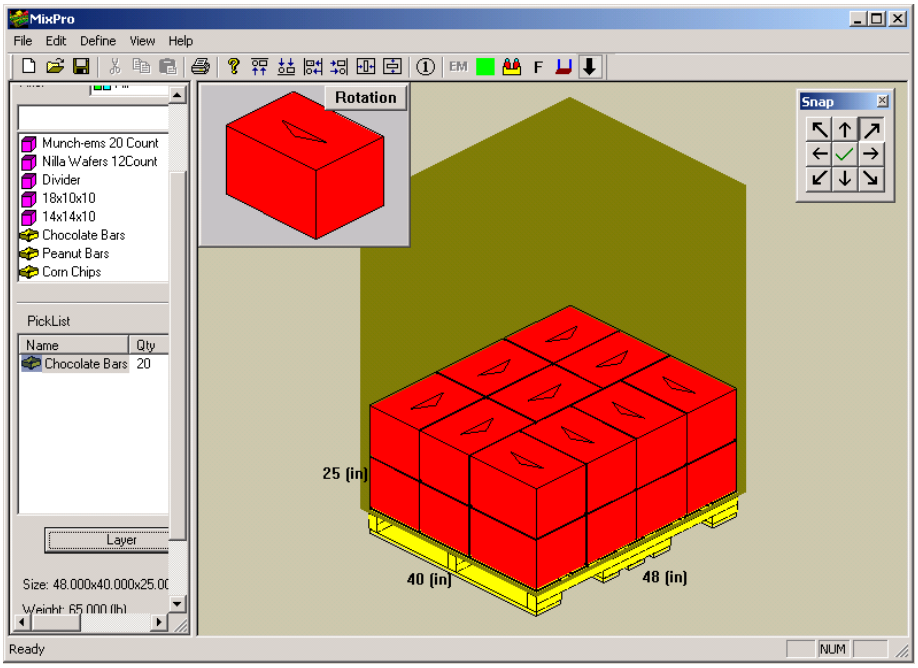
- The **Number of Layer box** allows you to specify the number of layers in the configuration.

Note: TOPS will limit the number of layers for each item based on the remaining space available on the pallet.

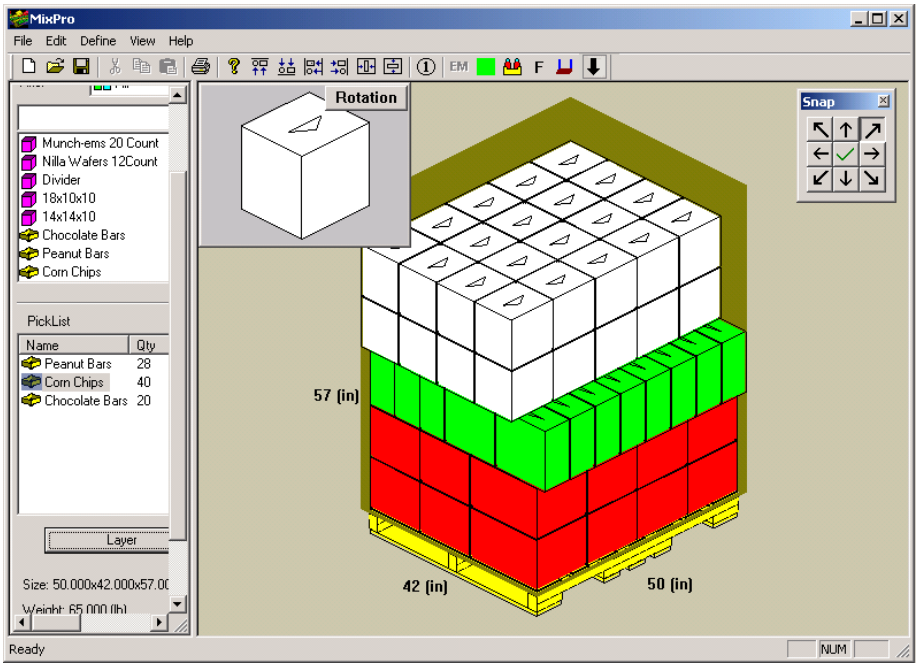
3. Select the layer configuration you want for the mixed pallet load. Here we will select the first BiBlock configuration as illustrated above.

4. Select the number of layers in the configuration to two (2).

5. Click on OK. The mixed pallet with two layers of chocolate bars will be displayed, as shown on the next page.



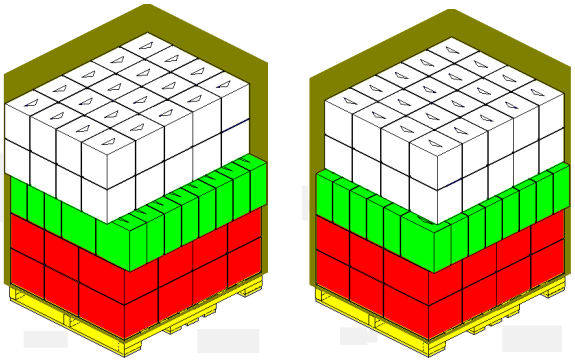
6. Repeat steps 1-5 to add one layer of Peanut Bars and two layers of Corn chips to the pallet, with the final results as shown below.



Layer Manipulations

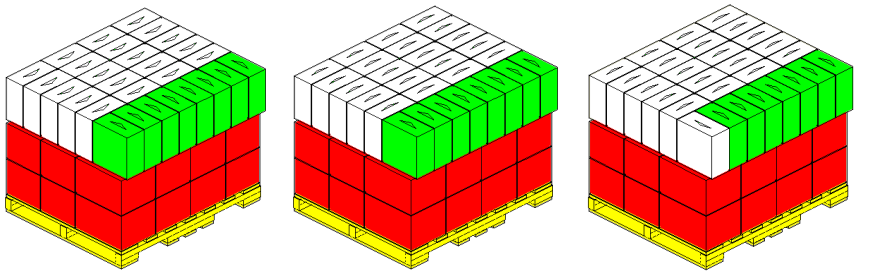
By right clicking the mouse while pointing to the different layers within the mixed pallet, you will see a menu with these functions:

- **Properties:** Provide statistics (shipcase name, length, width, height and weight) on the layer of item you are pointing to.
- **Rotate 90 degrees:** Where space permits, turn the referenced block 90 degrees as illustrated by the top two layers of the pallet below.



- **Rotate 180 degrees:** Turn the referenced block 180 degrees as illustrated on the top five rows of top layer below.

Note: Use this function to turn the front face of the shipcase to the outside of the mixed pallet to create pallet for display in club stores.



Original top layer

Five rows turned 180 degrees

Last column broken apart with front shipcase turned 180 degrees

- **Break:** Break the placement of shipcases into individual shipcases. In the top layer of the illustration above, the top five rows are considered one placement and the last column another. We will break apart the last column placement and turn the front shipcase 180 degrees, with the result illustrated above.
- **Add Slipsheet:** Add a slip sheet on top of the up-most shipcase layer of the pallet.

MixPro Auto Load Generator

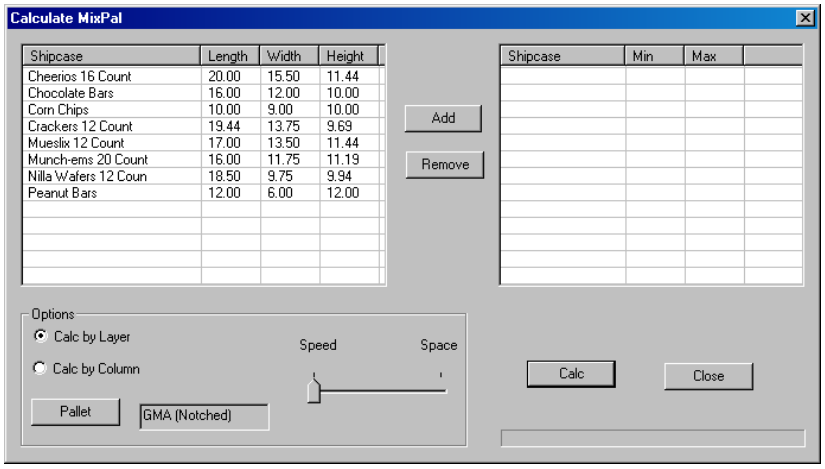
Mixpro auto load generator is an automatic calculation engine to place mixed size shipcases onto a pallet which is optimized for aisle display in club stores. Users can specify arrangement preference in layer or column.

To use the Auto Load Generator, follow these steps:

1. At the menu, select Tools | Mixpro.

2. At the Mixpro screen, click on the **Calc Wizard** button to open the auto load generator.

3. The Calculate MixPal dialog, similar to the one shown below, will open. The shipcase list on the left lists all pre-defined shipcases in your database.



4. To add shipcases to the load generator, highlight the items on the list and click the Add button or simply double-click on the shipcase name.

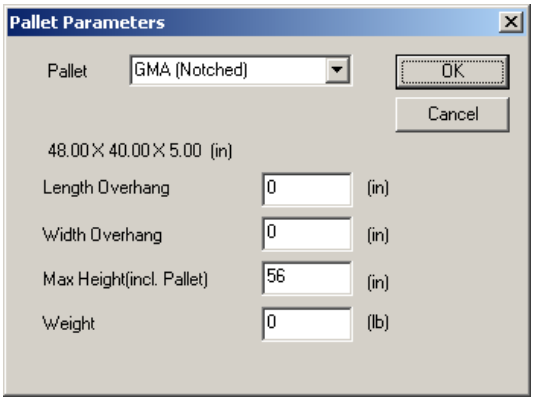
   Note: Shipcases added to the list on the right will have a minimum quantity of 1 and maximum quantity of 99. To adjust these quantities, click on the number and type in a new value.

5. Specify the calculation option by clicking on either:

   - **Calc by layer:** Generate the mixed load by optimizing by layer
   - **Calc by column:** Generate the mixed load by optimizing by column

6. Specify the pallet to be used for the mixed load by clicking on the Pallet button.

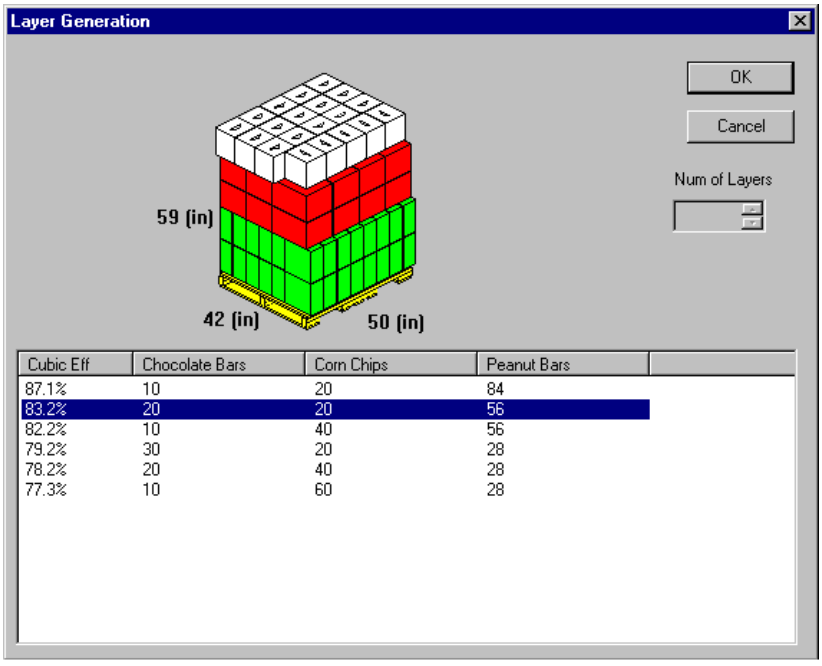
7. At the Pallet Parameters dialog as shown below, specify any allowable overhangs and height restrictions. Click OK to close the dialog.



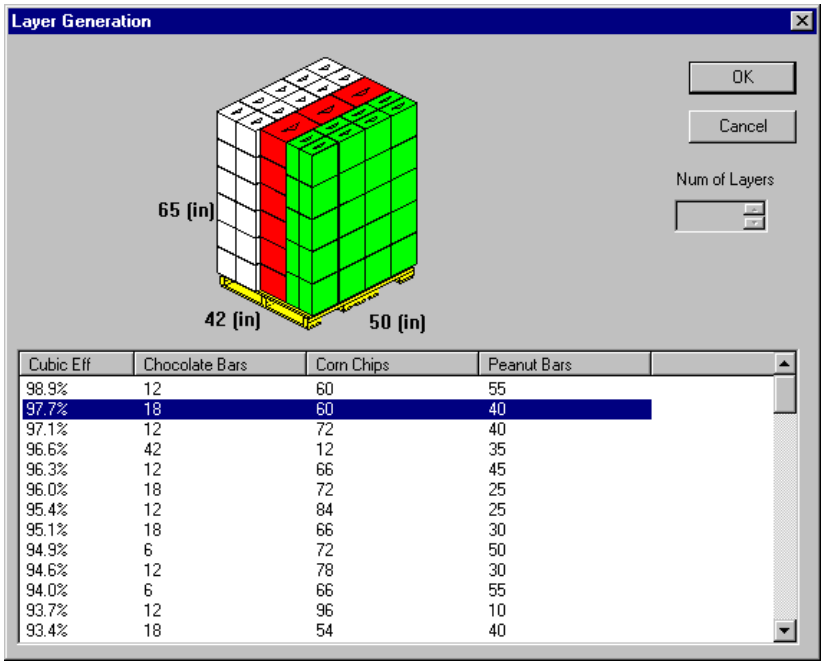
8. Set the **Speed-Space** slide bar to a desired setting or keep it at the default value. This controls if MixPro optimizes calculation for speed or for space efficiency.

9. When ready, click on the **Calc** button.

10. MixPro will return a mixed pallet optimized by layer or column as specified by the users.

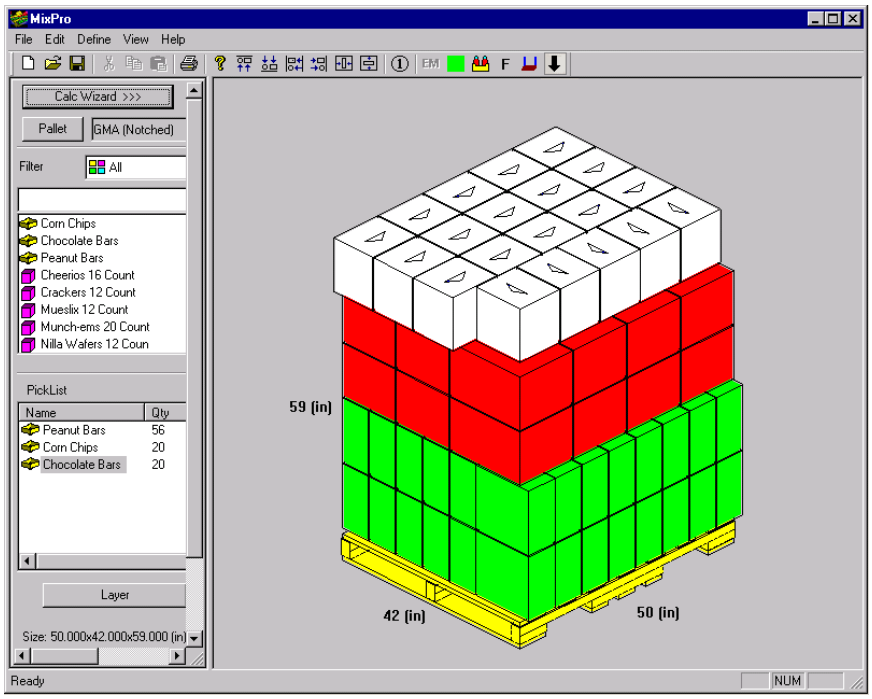


Mixed pallet optimized by layer



Mixed pallet optimized by column

11. You can scroll through the different solutions and pick the pattern that works best for you. Click OK and the selected mixed pallet will be displayed in the MixPro dialog as shown below.



Once in the MixPro Pallet Editor, you can perform functions on each layer and/or shipcase as described on page 6-12.

Direct Email From MixPro Pallet

MixPro Pallet has an internal email feature that allows you to email a standard printout directly to another person who may or may not have TOPS Pro. When you email a report or analysis to someone, TOPS Pro automatically attaches the appropriate reports as JPEG files to a new email message using your default email application. To use the direct email feature, follow these instructions:

1. Work through the analysis to create the mixed pallet.

2. At the Menu Bar, go to the File Menu and select Print Preview.

3. You have a choice of the following report types:

   - **Load:** Picture of mixed pallet with unitload and pallet dimensions as well as contents of the load.
   - **Load (front/back):** Similar to the Load report but with the additional view of the back side of the unitload.
   - **By placement:** Report giving step by step illustrations on how the mixed pallet is created with each placement of shipcases.
   - **By Layer:** Report with step by step illustrations on how the mixed pallet is created by layer placement.
   - **By Edge:** Report with step by step illustrations on how the mixed pallet is created from the side of the pallet.

4. At the report preview screen, click on the Email button.

   The system launches your default email application and prompts you to enter an address for the recipient, subject, etc., as you would for any normal email message. TOPS Pro attaches the appropriate analysis files to the email message, then sends the message to the recipient.

5. On the receiving end, the recipient must select all the attached files and save them to a common folder. From there, the recipient can view the report or analysis through most any Web browser or Microsoft Word.

Tips for Working with Cases on a Pallet

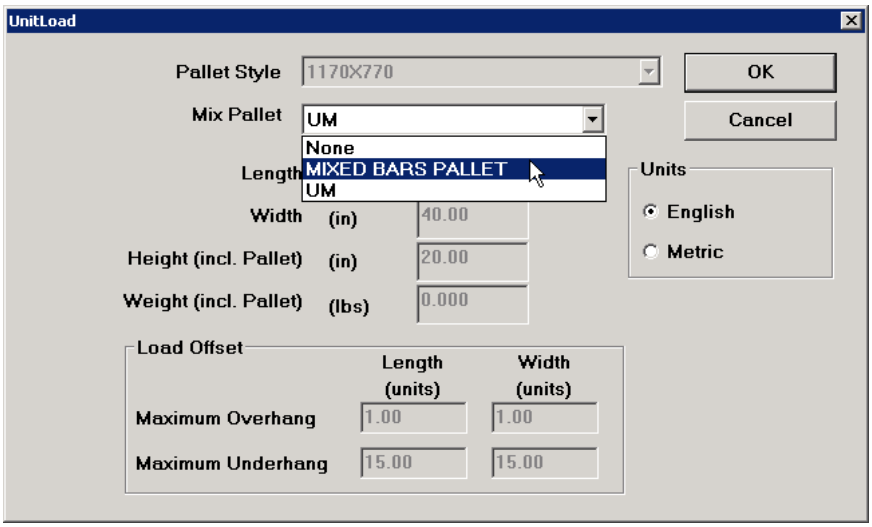
- To add a second case to the pallet, hold down the Shift key and click on the first shipcase. To place the second case on top of the first case, Shift and click on top of the first case. To place the second case to the side of the first case, Shift and click on the side of the first case.
- If you've loaded a column, row or layer of cases on the pallet, you can add another column, row or layer with one click. For example, to add a layer of cases, hold down the Shift key and click on the top of the first layer. The system adds another layer on top of the first layer. To remove a layer of cases, hold down the Alt and Shift keys simultaneously and click on the layer.
- To remove (or delete) one or more cases from the pallet, click on the case(s) and drag it off the backside of the pallet (to the left). The case(s) completely disappear from the display.

  To temporarily remove one or more cases from the pallet – you want to load it back later – click on the case(s) and drag it off the frontside of the pallet (to the right). The case(s) remain in view on the display.
- Use the Layer button to have MixPro calculate optional patterns for the selected shipcase.

Loading MixPro Pallets into Trucks

Users can now load the mixed pallets created with MixPro Pallet Editor into any transit vehicles in the Design Sequence.

When you click on the pallet icon to define Unitload parameters, you will open the UnitLoad dialog box as shown here.



Click the drop down button for the Mix Pallet option to select any MixPro Pallets previously defined and place them inside trucks or containers.

Chapter 7: MixPro Mixed Tray Editor

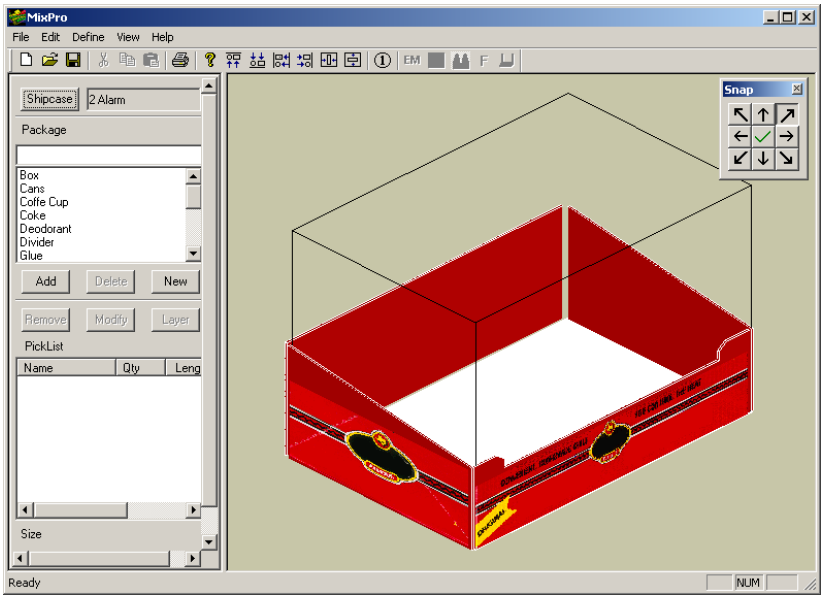
Introduction

This chapter discusses MixPro Tray, a TOPS Pro module that allows you to design a mixed-product tray for display with different size packages in the tray. For example, suppose you're loading trays to be displayed in a grocery store, where the tray will be displayed directly on a busy aisle.

This mixed tray includes several different items of nutrition supplements – cans of protein powder, bottles of Gatorade and energy bars, all of which have different product dimensions. MixPro Tray allows you to easily load and place all types of packages into a tray. These trays can then be saved and used in MixPro Pallet to create a mixed pallet for display.

MixPro Tray Editor

To access the MixPro Tray module, go to the Toolbar and click on the MixPro Pallet icon, select MixTray Mixed Tray Editor from the drop list. You can also access the MixPro Tray Editor via the Tools > MixedTray Menu in the tool bar.



Notice the following features on the MixPro Tray Editor:

- **Shipcase Button:** Allows you to select a tray template.
- **Package List:** Displays a list of packages (or objects) that you can add to the pick list for loading into the tray.
- **Add Button:** Moves a selected item from the package list to the pick list.
- **Delete Button:** Deletes a selected item from the package list.
- **New Button:** Opens the Define Package Info dialog box and allows you to create a new package/object. Use this function if the package list does not include the package you need.
- **Remove Button**: Removes a selected package from the pick list.
- **Modify Button:** Opens the Define Package Info dialog box, which allows you to modify a newly created package/object.

  Note: The Modify function applies only to packages created in MixPro Tray. You cannot modify packages created in TOPS Pro. Also, you cannot modify a package that's already placed into the tray.

- **Pick List:** Displays a list of packages you've selected from the package list. These packages can be loaded into the tray. The pick list also tracks the following information for each type of package: number of packages, length, width and height.
- **Tray Display Window:** Displays an image of the tray and allows you to drag packages into the tray.
- **Snap Toolbar:** Allows you to move the assortment of packages flush to any corner or side of the tray.

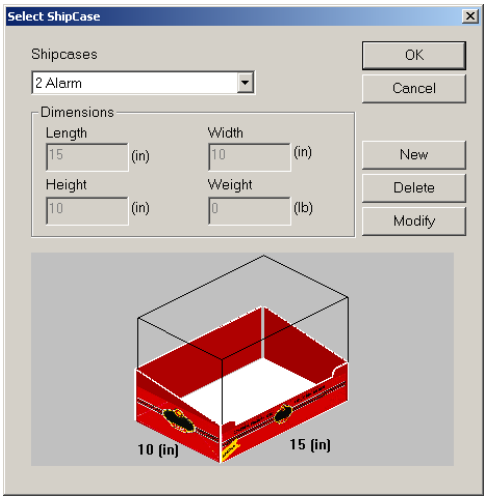
In this exercise, we'll create a mixed tray that consists of the followings:

- 6 Bottled Water
- 6 Bottled Soda

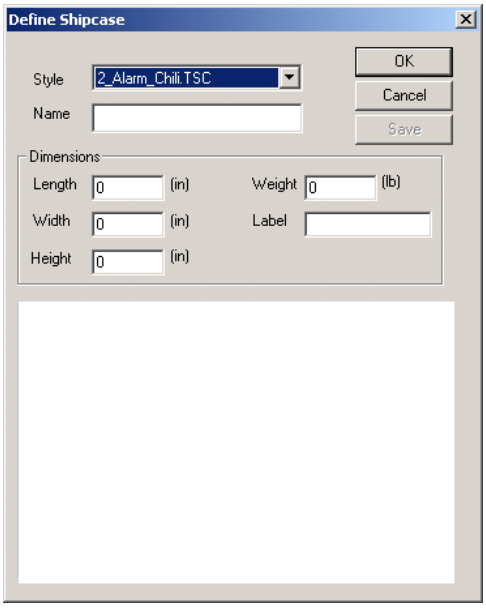
The first step in this process is to create a new tray designed to hold these products. We'll design the tray based on a template designed in CASY. From the MixPro Tray Editor, follow these instructions:

Create a New Shipcase/Tray

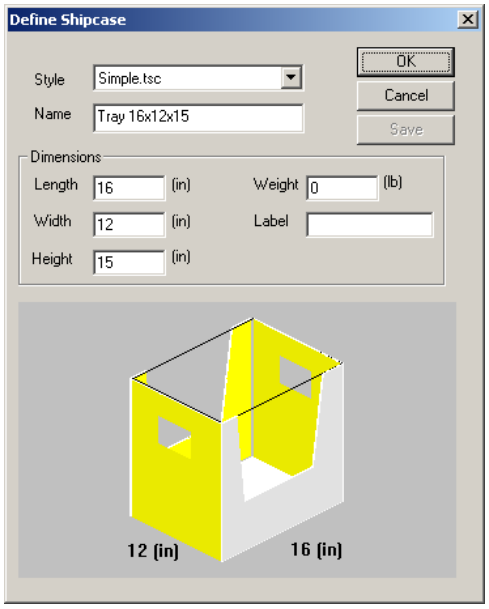
1. Click on the Shipcase button. The Select ShipCase dialog box appears, as pictured below. It displays the first shipcase style on the list as the default.



2. From the Select Shipcase dialog box, click on the New button and the Define Shipcase dialog box appears, as pictured below.



3. To define a new shipcase, enter the dimensions as displayed in the picture below.

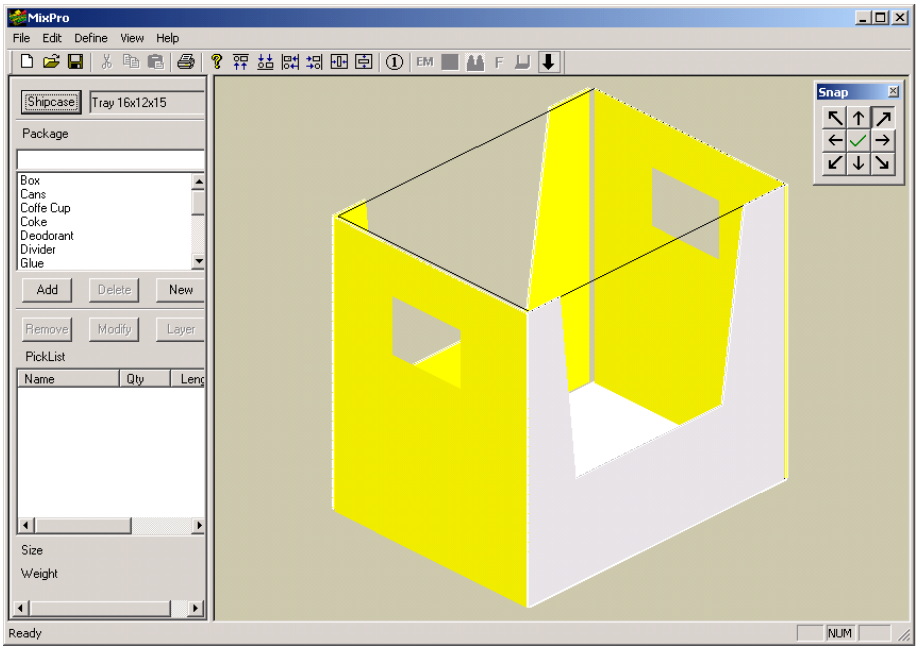


Note: The style Simple.tsc is created using the CASY Tray function covered in Chapter 8. You can select any style found in the drop list for this exercise but keep the dimension at 16x12x15.

4. After completing the new shipcase parameters, click on OK. The Define Shipcase dialog box closes. The Select Shipcase dialog box re-appears with the parameters for the new tray.

5. From the Select Shipcase dialog box, click on OK.

   MixPro saves the new tray to the database. (MixPro saves the tray as a shipcase.) The MixPro Tray Editor re-appears, as pictured below, with the new tray name (Tray 16x12x15) displayed next to the Shipcase button.



6. Look at the package list and decide which items you want to place into the tray. To select an existing package from the list, double click on the package name or highlight the name and then click on Add button. The package will be added to the PickList.

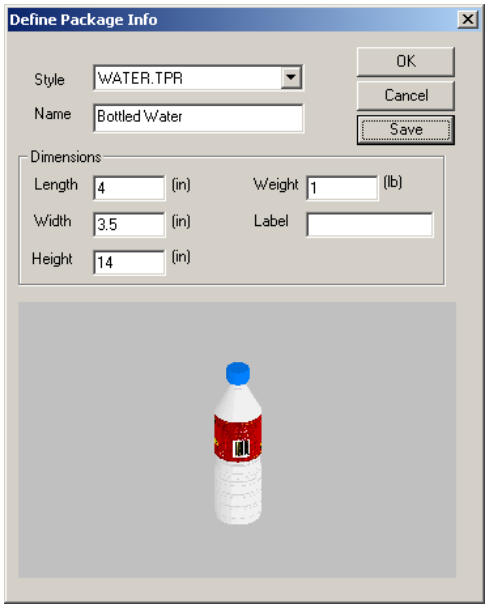
   In this exercise, we want the mixed tray to include some bottled drinks which are not on the package list. In this case, MixPro allows you to create new packages for these items, just like what we did earlier with the shipcase.

Create A New Package

From the MixPro Tray Editor as pictured above, click on the New button. The Define Package Info dialog box appears, as pictured on the next page.

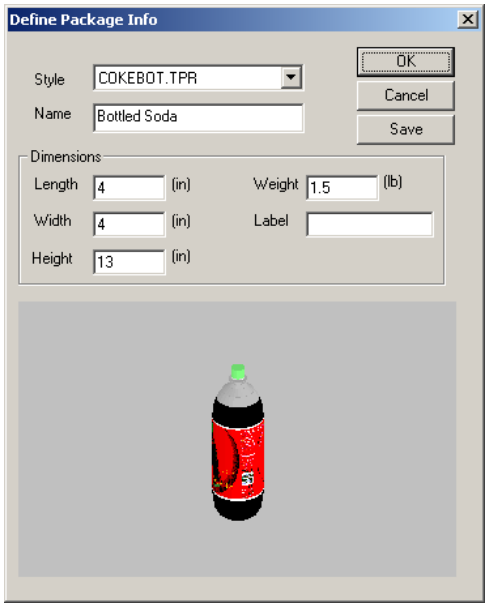
In the Define Package Info dialog, you will select a package Style from the drop list (these styles are created using the C.A.S.Y. Primary Package described in Chapter 8) to be applied to this new package, provide a name and dimensions.

7. Use the following fields to define Bottled Water. If you want, you can also define a label for each package.



8. After completing the package dimensions, click on Save. MixPro saves the new package to the database and refreshed the dialog for a second package input.

9. Create a second package named Bottled Soda as pictured below:

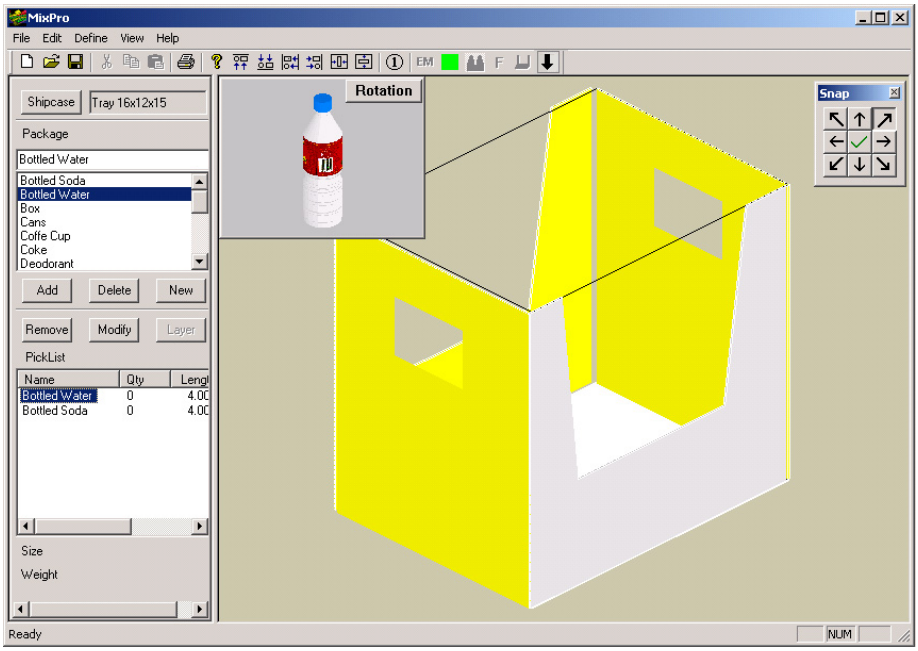


10. After completing the package dimensions, click on OK to save and leave the Define Package Info dialog. MixPro saves the new package to the database and the MixPro Tray Editor reappears.

Add Packages to the Shipcase/Tray

11. In order to place a package into the tray, you have to move it from the package list to the PickList. To add Bottle Water and Bottle Soda to the list, highlight the selection in the package list and click on the Add button or double click on the package.

12. The system inserts the selected items into the pick list. A graphic of the selected package appears in the g.o.d. (graphic online display) window, located in upper left corner of the data display window, as pictured below.

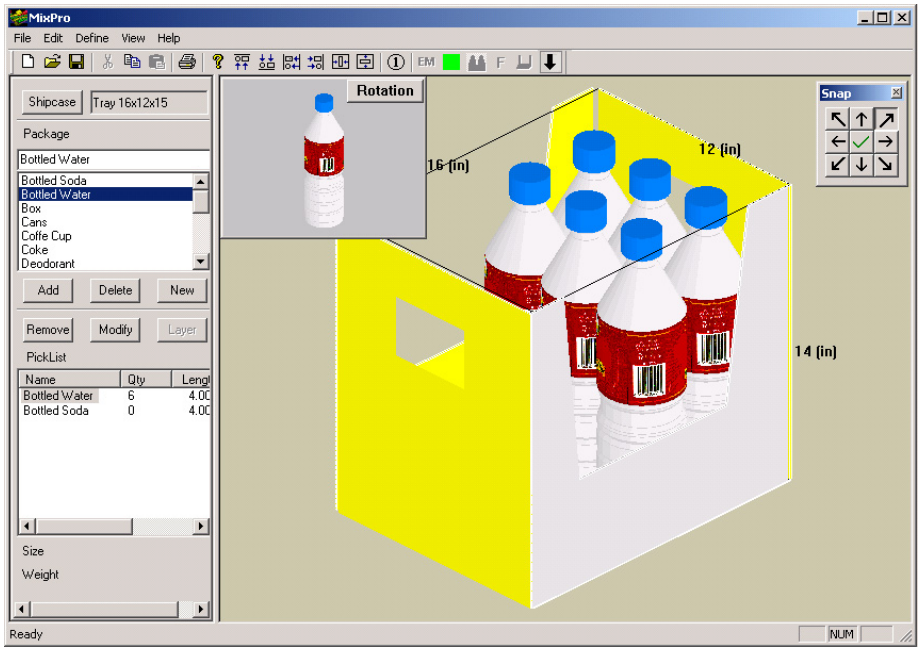


Note: To change the orientation of the package, for example, position it on its side or on its end, click on the rotation button and select the new orientation from the pop-up menu.

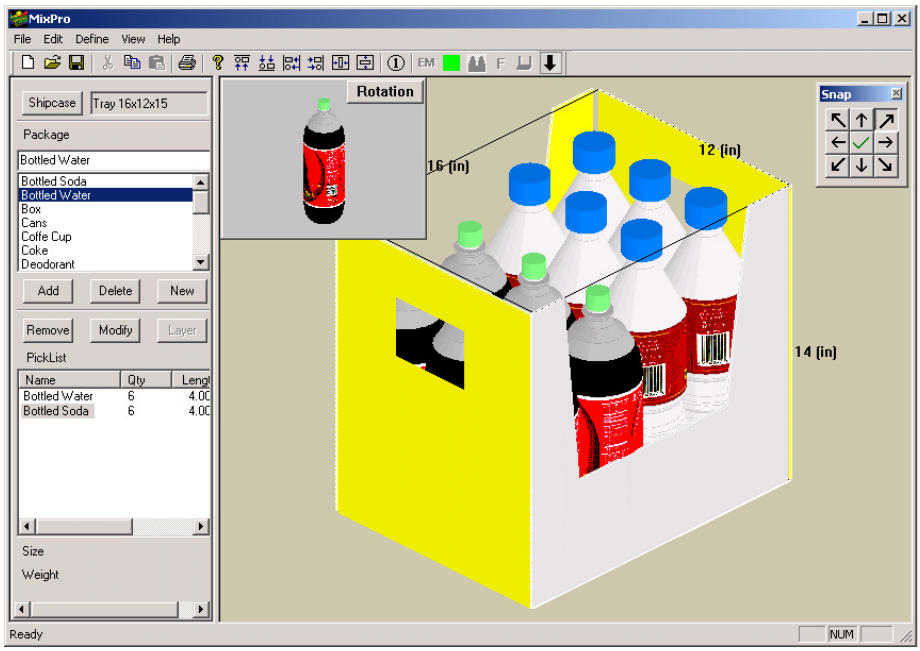
13. To load the item into the tray, click on the image of the item and drag it into the tray. The system copies an image of the item to the tray area.

    Repeat this step until the tray contains six Bottle Water. When you've done this, the screen will look similar to the one pictured on the next page. Note that the quantity is now 6 for Bottled Water in the PickList.

    Note: For tips on placing packages into a tray, use the guidelines outlined at the end of this chapter.

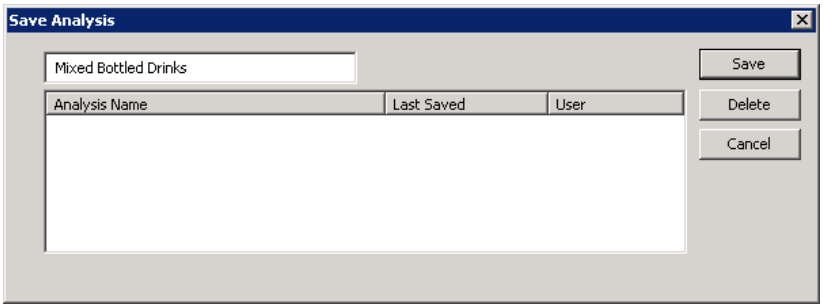


14. Repeat the previous steps to place 6 Bottled Soda into the tray. When you're done, your tray will look similar to the tray pictured below.



Save the Mixed Tray

15. If this tray is the way you want it, open the File menu and select the Save As option. The Save As dialog box appears, as pictured below.



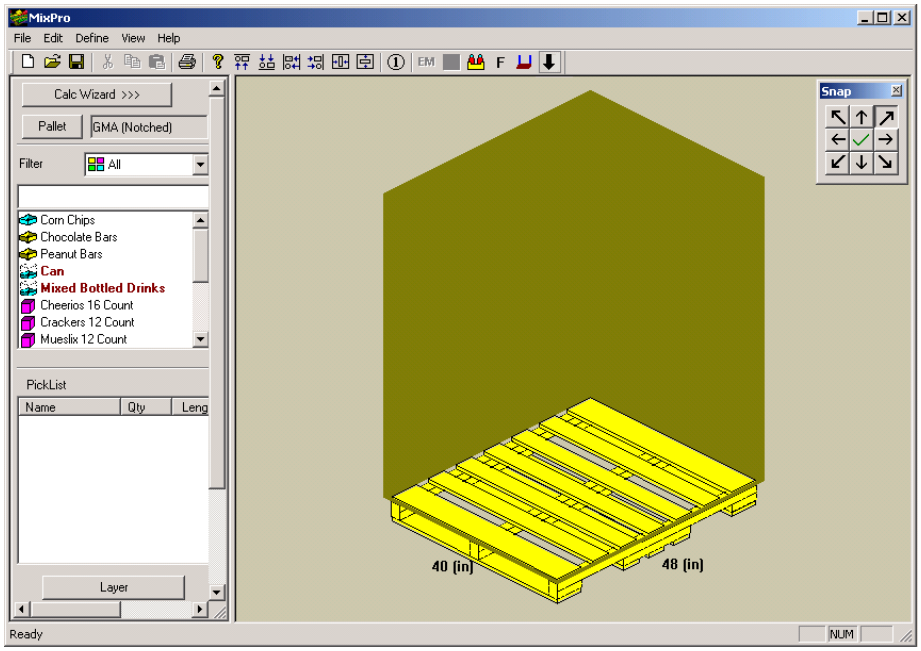
16. Select a location where the file will be saved. The default folder is under \TOPSAPPS\TOPSPRO\STYLE\. In the File name field, enter the name of the mixed tray (Mixed Bottled Drinks).
17. Click on the Save button. MixPro saves the tray to the database.
18. Exit MixPro Tray. The Control Panel appears.

    The mixed tray created can now be used in the MixPro Pallet to create a display pallet.

Use the Mixed Tray in Mixed Pallet

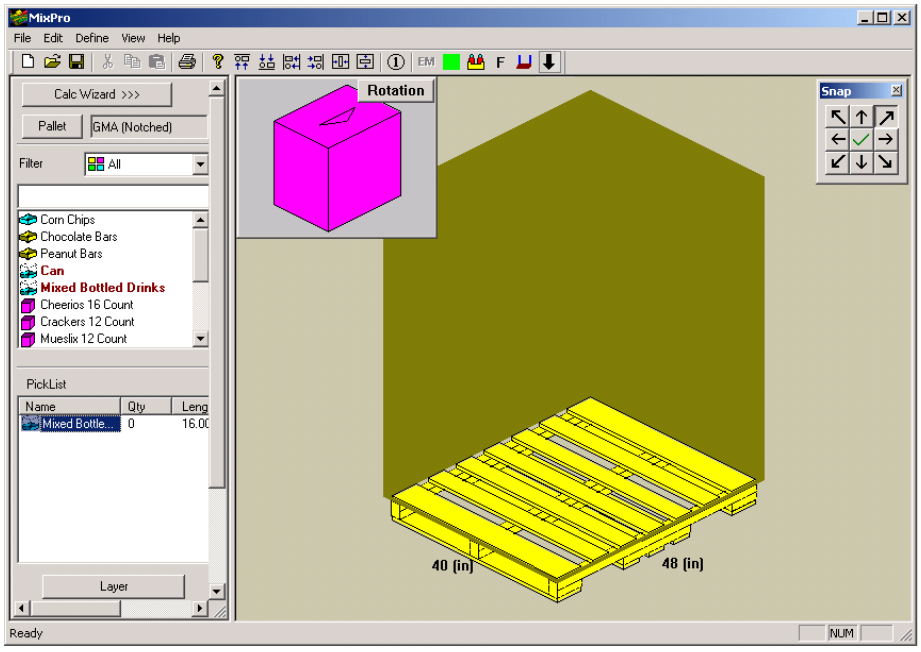
19. From the Toolbar at the top of the Control Panel, click on the MixPro Mixed Pallet Editor icon and select MixPro Mixed Pallet Editor.

    Note that the new Mixed Bottled Drinks tray is already added to the list in addition to the Chocolate Bars, Peanut Bars and Corn Chips we defined earlier. Note also the different icons next to the name of the shipcase.



20. To add the mixed tray (shipcase) to the pallet, select the Mixed Bottled Drinks shipcase and click on the Add button or double click on the package name.

    MixPro adds the tray (shipcase) to the PickList and displays a graphic of the tray (shipcase), as pictured below.

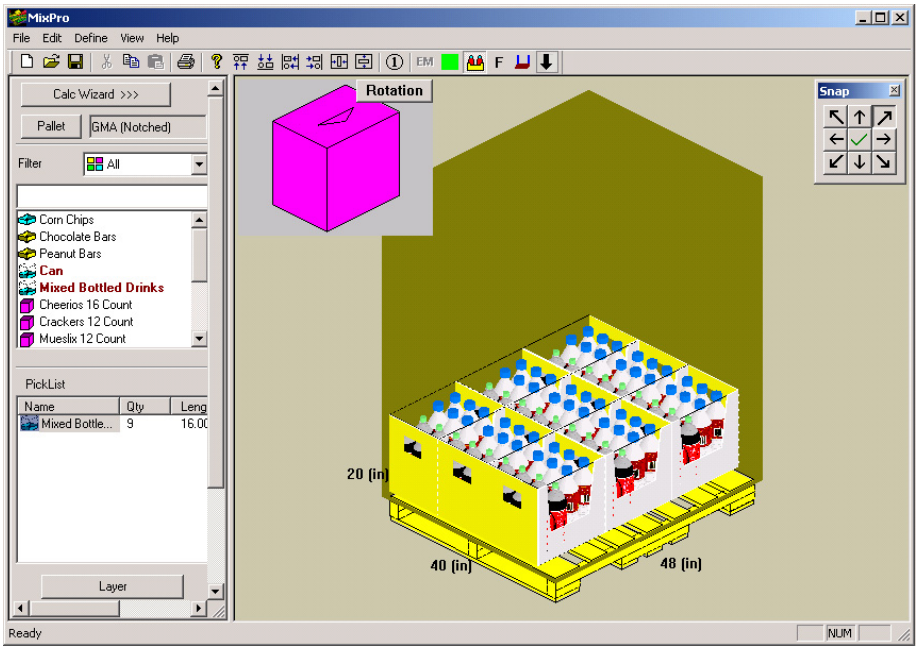


21. Drag and drop the shipcases onto the pallet until the unitload is complete.

    Note: For instructions on how to load shipcases onto a pallet, please refer to Chapter 6, MixPro Pallet.

22. To display the contents of the shipcases, go to the Toolbar at the top of the MixPro Pallet Editor and click on the Show Contents icon .

    The MixPro Pallet Editor re-appears to show the contents of the package, as pictured below.



Direct Email From MixPro Tray

MixPro Tray has an internal email feature that allows you to email a standard printout directly to another person who may or may not have TOPS Pro. When you email a report or analysis to someone, TOPS Pro automatically attaches the appropriate files to a new email message using your default email application. To use the direct email feature, follow these instructions:

1. Work through the analysis to complete the Mixed Pallet as desired.
2. Go to the File menu and select Load or other reports.
3. Select if you'd like the report to be in color, black and white or just color outline. Click on OK.
4. When the report appears, click on the Email button.

   The system launches your default email application and prompts you to enter an address for the recipient, subject, etc., as you would for any normal email message. TOPS Pro attaches the appropriate analysis files to the email message, then sends the message to the recipient.

5. On the receiving end, the recipient must select all the attached files and save them to a common folder. From there, the recipient can view the report or analysis through most any Web browser or Microsoft Word.

Tips for Working with Packages on a Tray

- To add a second package to the tray, hold down the Shift key and click on the first package. To place the second package on top of the first, Shift and click on top of the first package. To place the second package to the side of the first, Shift and click on the side of the first package.

- If you've loaded a column, row or layer of packages on the tray, you can add another column, row or layer with one click. For example, to add a layer of packages, hold down the Shift key and click on the top of the first layer. The system adds another layer on top of the first layer. To remove a layer of packages, hold down the Alt and Shift keys simultaneously and click on the layer.

- To remove (or delete) one or more packages from the tray, click on the package(s) and drag it off the backside of the tray (to the left). The package(s) completely disappear from the display.

  To temporarily remove one or more packages from the tray – you want to load it back later – click on the package(s) and drag it off the frontside of the tray (to the right). The package(s) remain in view on the display.

- Right-click to display a small menu that allows you to position a package on the tray in a number of directions. The first menu provides the following functions:

  - Hgt Vertical
  - Len Vertical
  - Wid Vertical

  For the height, length and width vertical functions, you have four additional functions:

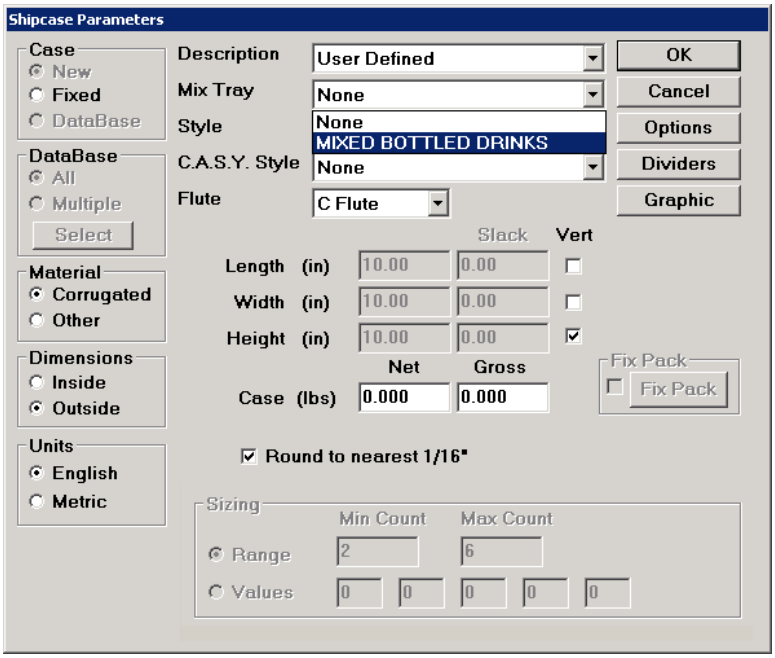
  - Face Forward
  - Face Left
  - Face Back
  - Face Right

  Using these guidelines, continue to load packages until you've loaded as many spray bottles as you want into the tray.

Using MixPro Tray in the Design Sequence

Users can now incorporate any MixTray into a Design Sequence which starts with the yellow Shipcase stage.

When you click the yellow icon to define shipcase parameters, you will see the Mix Tray option in the dialog box. Clip the drop down button to specify any Mix Tray previously defined and place them onto pallets as in the MixPro Mixed Pallet Editor described earlier.



Chapter 8: Create A Shape Yourself (CASY)

Introduction

This chapter discusses the Create A Shape Yourself (CASY) system, which allows you to design custom-shaped bottles, cans, shipcases, trays, etc. not included in the standard TOPS Pro database. This chapter discusses the CASY system in two sections: CASY Primary Style and CASY Tray Style.

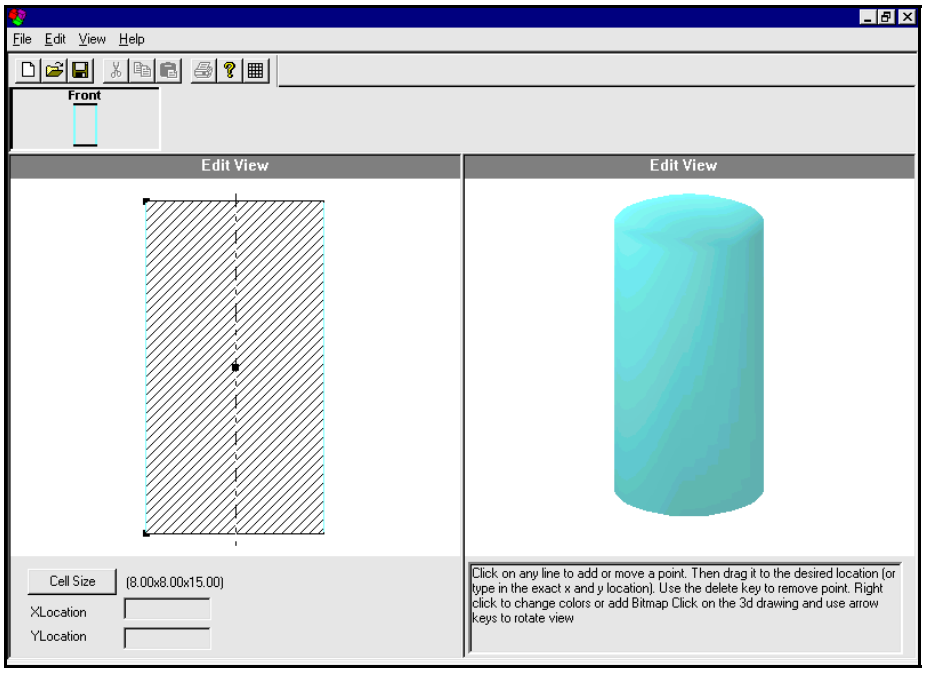
CASY Primary Package

The Create A Shape Yourself (CASY) system allows you to design a primary package (bottle, can, cup, etc.) that has a custom, non-standard shape. You can use the CASY system to create a more realistic model of your product.

Note: The CASY system is designed for display purposes only. You won't use CASY to define dimensions for a new bottle, can, cup, etc. The CASY system simply allows you to create a unique shape for a cylinder and see how it looks when packaged on a tray or shipper, etc.

After you've designed a cylinder with CASY, you can give that unit a name and save it to the database. As you work with an analysis in TOPS Pro – for example, a tray of soda cans – all your CASY-designed units are available in a drop-down list. If you want to see your tray packaged with the custom-shaped cans, you can select the CASY-designed can from the list.

To design a custom-shaped cylinder, click the CASY tool icon and select CASY Primary Style. You'll work with the CASY Primary Package Screen, as pictured on the next page.



Notice that the CASY Primary Package Screen is divided into two primary sections:

- **Edit View Work Area:** This section, on the left side of the screen, allows you to start with a generic cylinder and create a distinctly shaped unit (bottle, can, cup, etc.).

- **Edit View Display Area:** This section, on the right side of the screen, displays the unit in adjustable 3-D as you manipulate its shape in the Edit View Work Area.

In the Edit View Work area, notice the following features:

- **Work Unit:** This cylinder-shaped unit allows you to mark off sections in the unit. (By default, the unit displays as a cylinder. You can change its shape to an oval, rectangle or some other transitioned shape.) For each section, you'll drag the marker toward or away from the center axis and thus begin to define the shape of the unit. You'll use this click and drag technique to define all the various sections of the work unit.

- **Center Axis:** A dotted vertical line that runs from top to bottom through the center of the work unit. The center axis allows you to offset a selected section of the work unit.

- **Cell Size:** Defines the relative dimension, not the actual size, of the new shape being created. When this CASY shape is applied to a new package later on, it will be scaled to the exact size as defined by the user.

- **XLocation:** For a selected point on the left edge of the work unit, this represents the relative distance to the center axis.

- **YLocation:** For a selected point on the left edge of the work unit, this represents the relative distance to the bottom edge of the work unit.

Note: The X and YLocation measures are relative measures. They don't represent inches, millimeters, etc. Rather, they represent relative distances between two points, the total of which is set on the right side of the screen (length, width and height).

In the Edit View Display Area, notice the following features:

- **Display Unit:** This image evolves into a specific shape as you define the work unit. The CASY system allows you to rotate the display unit backward, forward, left and right to view it from a number of angles.

- **Length:** The relative length of the display unit.

- **Width:** The relative width of the display unit.

- **Height:** The relative height of the display unit.

Note: The Length, Width and Height measures are relative measures. They don't represent inches, millimeters, etc. Rather, they represent relative length, width and height of the work unit – the hypothetical space you're using to build this cylinder.

Suppose you want to design a custom oil can that's comprised of four sections: a spout at the top of the can, the neck of the can, the body of the can and a wide base at the bottom of the can. In addition, the spout will be positioned off-center, to one side of the can. To design this oil can, start from the CASY Primary Package Screen and follow these instructions:

1. In the work area, select the points on the left edge of the work unit by clicking on the edge. This marks the four sections of the oil can.

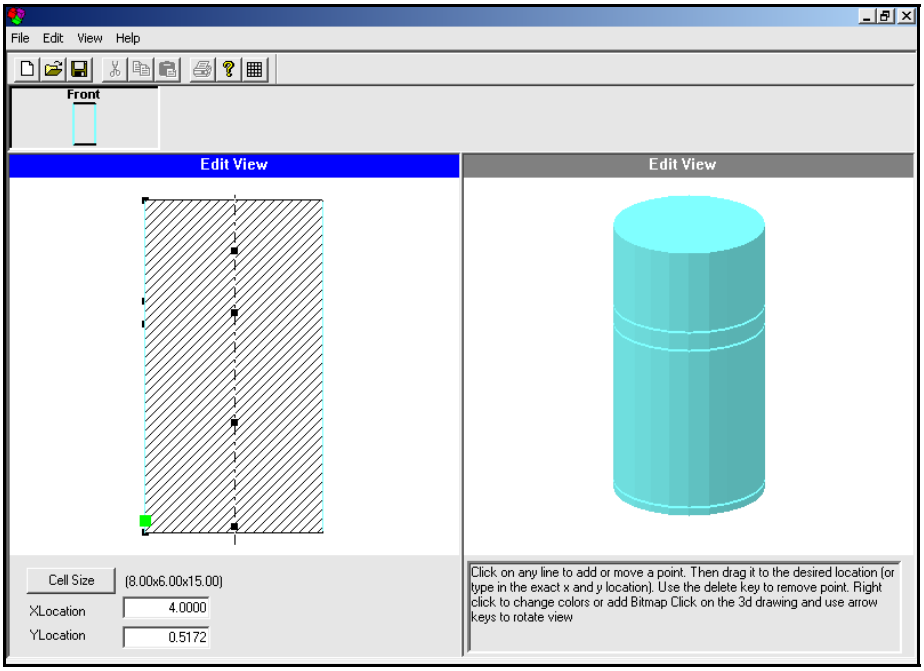
    - The section from the first marker (top left corner of the work unit) to the second marker will represent the spout of the oil can.

    - The section from the second marker to the third marker will represent the neck of the oil can.

    - The section from the third marker to the fourth marker will represent the body of the oil can.

❖ The section from the fourth marker to the fifth marker (bottom left corner of the work unit) will represent the base of the oil can.

When you've marked off the four sections, the work unit will look similar to the one pictured below.



Notice that the display unit shows four clearly defined sections. Also, notice that if you select one of the markers on the left edge of the work unit, the x- and y-Locations change accordingly to show you the relative distance of that point from the center and bottom axes.

2. First, we'll design the spout section of the oil can. Click on the first marker, positioned on the top left corner of the work unit.

Note: Notice that the arrow converts to a crosshair symbol (+). When the crosshair symbol appears, you can drag that marker to another position on the work unit.

Drag the marker straight across the top edge of the unit to a position near the center axis. In this exercise, we'll drag the first marker to an x-Location of 0.4818; or type in this value for the x-Location. This marks the top of the spout section. This marker is flush to the top of the image, so the y-Location is 15.0.

Next, click on the second marker, which marks the bottom of the spout section, and drag it straight across to a position near the center axis. In this exercise, we'll make the bottom of the spout slightly wider than

the top of the spout; the x-Location will be 0.9315; or type in this value for the x-Location. The y-Location is 10.2141.

3. Next, we'll design the neck section of the oil can. The second marker, which marks the bottom of the spout section, also marks the top part of the neck section. The position of this marker will not change.

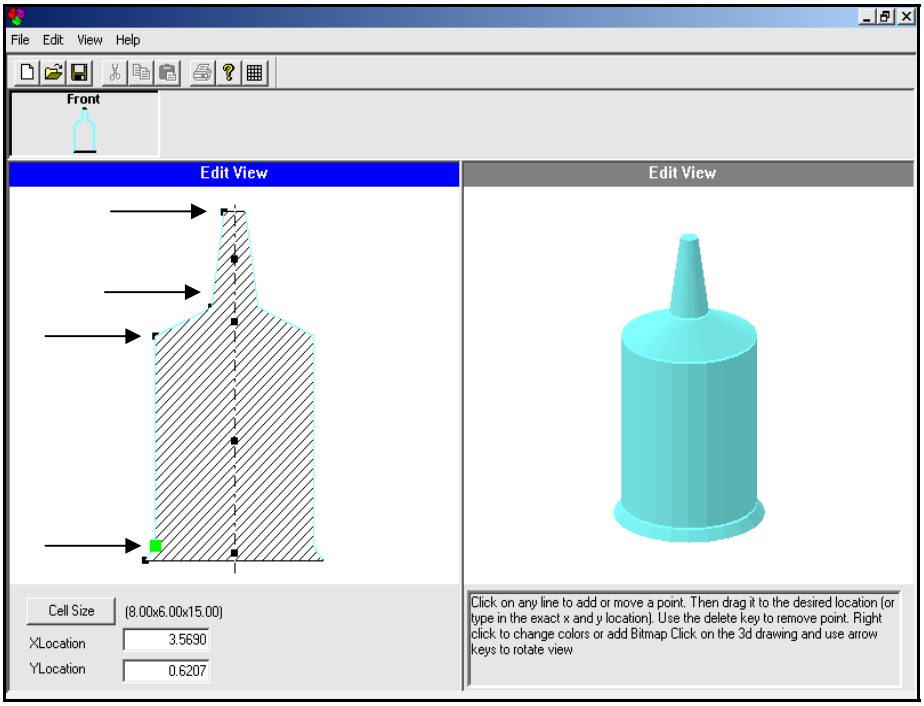
   Click on the third marker, which marks the bottom of the neck section, and drag it slightly to the right. In this exercise, we'll drag this marker to an x-Location of 3.6296. The y-Location is 8.2227.

4. Next, we'll design the body section of the oil can. The third marker, which marks the bottom of the neck section, also marks the top part of the body section. The position of this marker will not change.

   Click on the fourth marker, which represents the bottom of the body section, and drag it slightly to the right, even with the third marker – an x-Location of 3.5690. (There should be a perfectly straight, vertical line from the third marker to the fourth marker.) The y-Location is 0.5172.

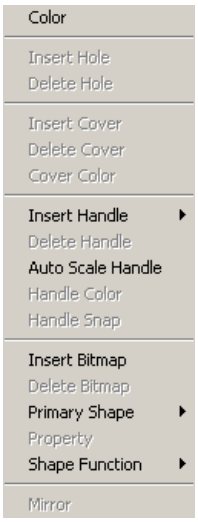
   The bottom section of the unit, the base section of the oil can, is already set; it's defined by the fourth and fifth markers. (The fifth marker sits on the bottom left corner).

   When you've defined the five sections of the oil can, the work unit should look similar to the one pictured below.



5. Next, we'll fine-tune the shapes of each section of the oil can. The CASY system allows you to assign a specific shape – round, oval or rectangular – to an individual section. In this exercise, we'll go with the default shape (Round) for each section of the oil can.

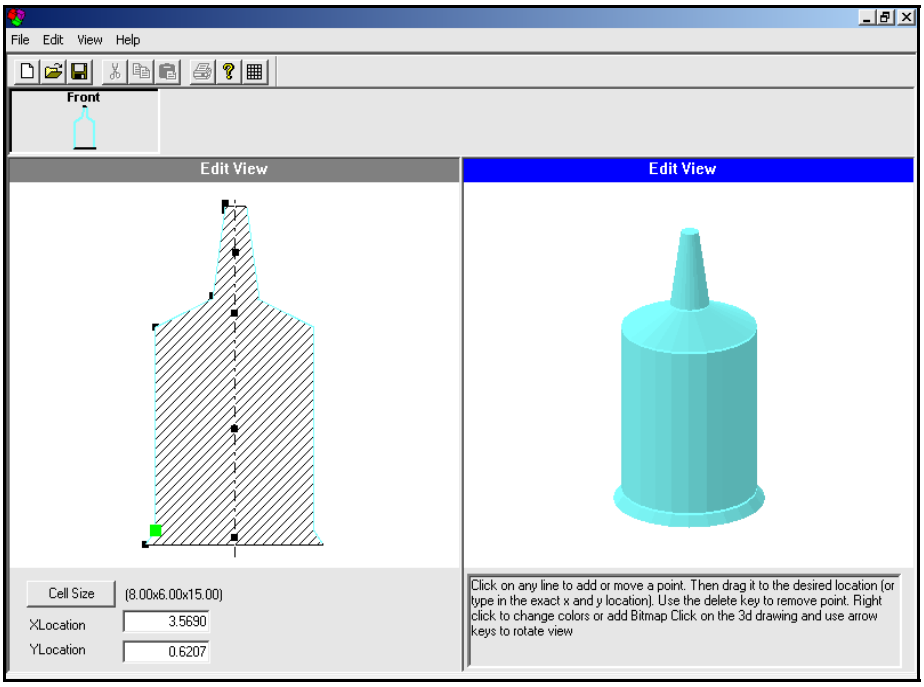
   To assign a shape to the spout section, right-click on that section in the work unit. A small menu appears, as pictured on the right.



   Select the Primary Shape option. A submenu appears, as pictured below.

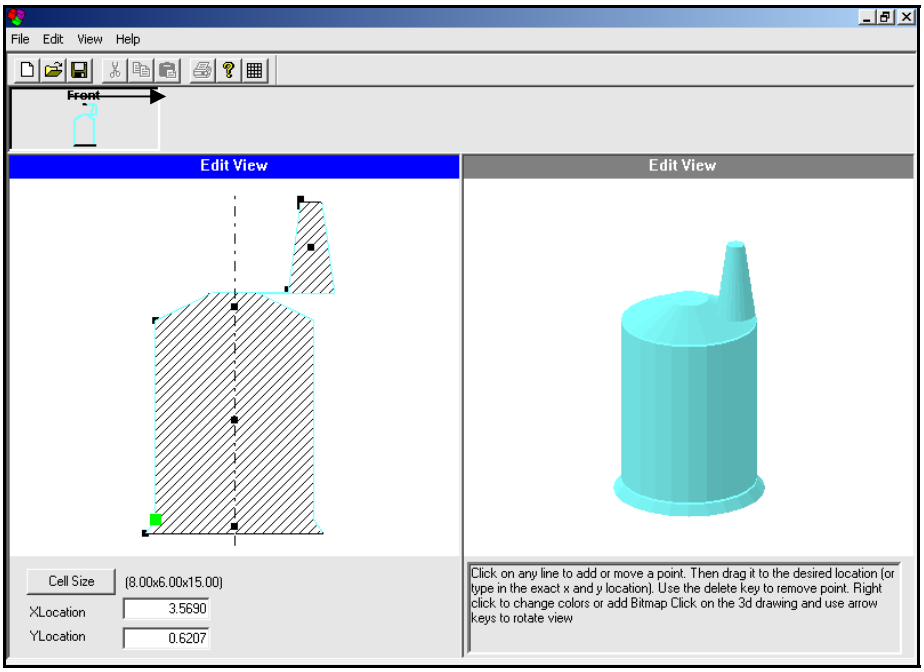
   Select the Round option.

   Repeat these steps for each section of the oil can. When you've assigned the appropriate shapes to the four sections of the oil can, the can should look like the one pictured below.



6. Next, we'll position the spout off-center, flush to the right side of the oil can. In the above figure, notice that each section of the work unit has a marker that sits on the center axis line.

   To move a section off-center, click on the center marker for that section and drag it off-center. In this exercise, we'll click on the center marker for the spout section and drag it to the right, as pictured below.

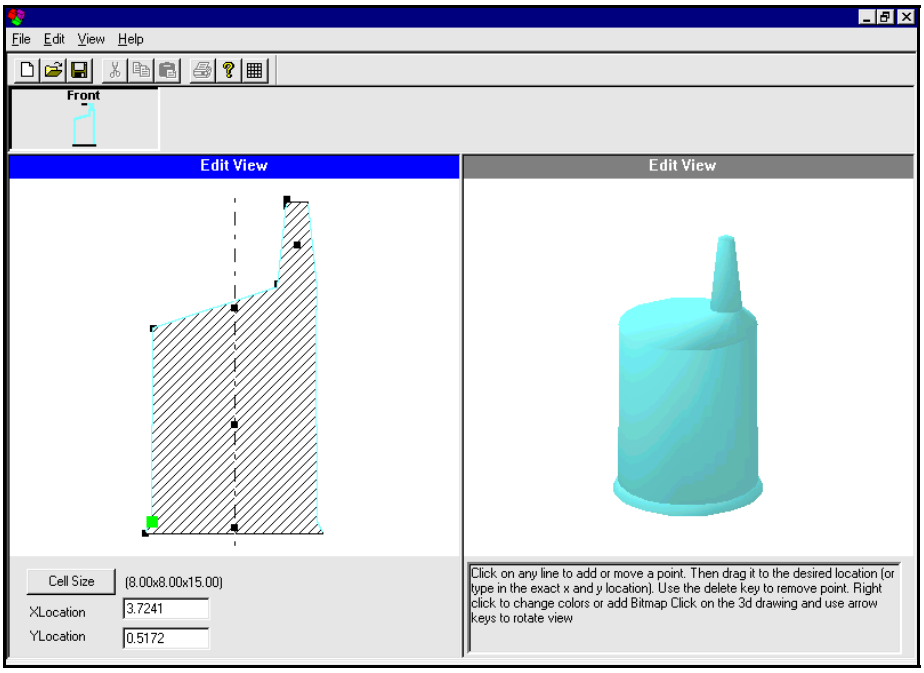


7. Notice that in previous figure, there's a disjointed space where the spout section meets the neck section of the can; it needs a smoother transition. CASY provides a feature that allows you to smoothly transition from one section to another when one section is off-center.

   Right-click in the neck (second) section on the work unit and the small menu appears.

   Select the Primary Shape option. At the submenu which appears, select the TransTop option.

   The work unit redisplays with the spout and neck sections of the can joined seamlessly together, as pictured on the next page.



Note: The TransTop option transitions the top of the selected section to conform to the bottom of the adjoining section. Likewise, the TransBottom option transitions the bottom of a section to conform to the top of the adjoining section. The TransTop and TransBottom options are active only when you're working with an off-center section.

CASY provides two other transition features that you should be aware of. The TransRect option gives the selected section a round bottom that transitions to a rectangular top. Likewise, the TransRound option gives the selected section a rectangular bottom that transitions to a round top.

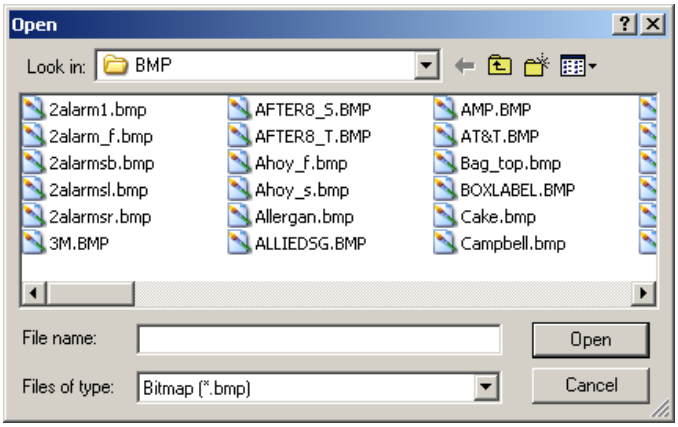
8. Next, we'll assign colors to the five sections of the oil can. In this exercise, we'll make the spout gray, the neck and body sections red, and the base black.

Right-click in the spout section of the work unit, the small menu appears. Select the Color option. A color palette appears, as pictured on the right, and prompts you to select a color.

Select gray and click on OK. The color palette closes and the display unit on the screen redisplays with the spout colored gray. Repeat these steps and assign a color to each section of the work unit.

9. CASY also allows you to select and insert a bitmap onto individual sections of the primary package. To insert a bitmap onto a section, right-click on that section.

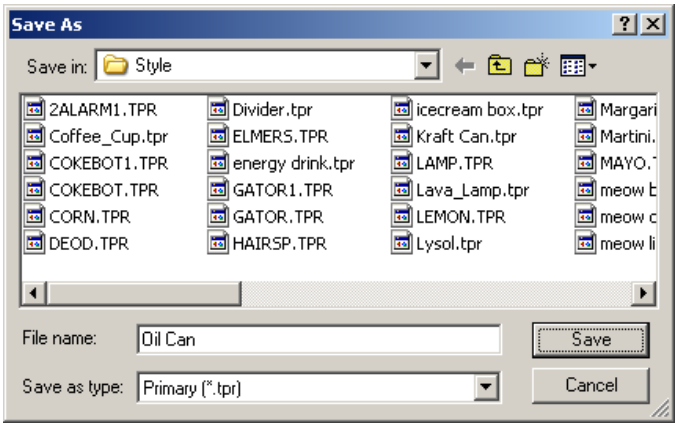
   The small menu appears, select the Insert Bitmap option. A dialog box appears with a list of bitmap files, as pictured below.



   Select the bitmap file you want to insert and click on the Open button.

   The system inserts the bitmap onto the selected section of the oil can. You can resize the bitmap as you like and drag it any position on the selected section.

10. When you're satisfied with all the elements of the custom-shaped primary package, save the new shape by going to the File menu and select Save As.

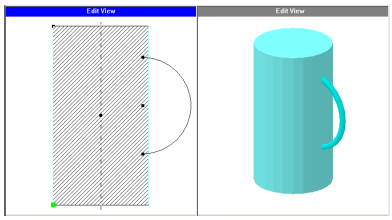


The new shape will now be available in the C.A.S.Y. Style drop list of primary packages. Note that this is a shape function only, the actual look of the can depends on the dimension of the primary package as defined in the Parameters dialog box. Make sure also the Show CASY function is enabled in order to view the applied shape.

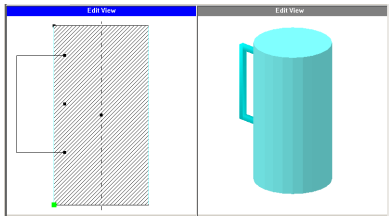
Other Primary Package Shape Functions

In addition to applying bitmapped graphics, color and primary shape functions, the C.A.S.Y. functions also include the following:

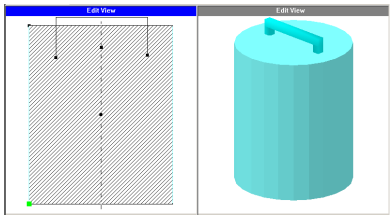
- **Handle:** Select from Round or Rectangular handle as well as locations of left, right or vertical as pictured below.



Horizontal Right (mug)

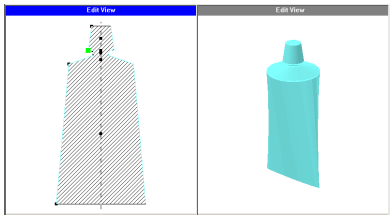


Rectangular Left (pitcher)

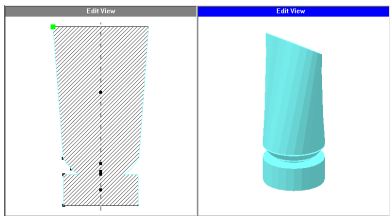


Rectangular Vertical (canister)

- **Shape Function:** Select from pinch top, pinch bottom.



Pinch bottom (toothpaste)



Pinch top (lotion)

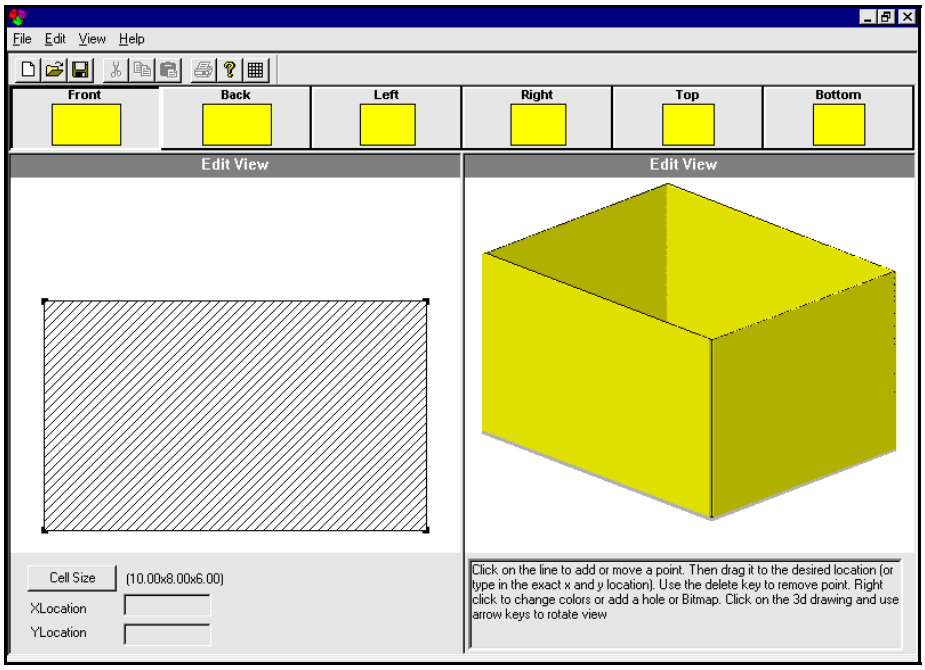
CASY Shipcase/Tray

The Create A Shape Yourself (CASY) system allows you to design and build a shipcase or tray that has a custom, non-standard shape. You can use CASY Shipcase/Tray to create more realistic trays and boxes.

Note: The CASY system is designed for display purposes only. You won't use CASY to define the dimensions of a shipcase or tray. The CASY system simply allows you to create a unique shape for a shipcase or tray and see how it looks when loaded onto a pallet, etc.

After you've designed a shipcase or tray with CASY, you can give that unit a name and save it to the database. As you work with an analysis in TOPS Pro – for example, a tray of soda cans – all your CASY-designed units are available in a drop-down list. If you want to see a pallet loaded with the custom-shaped shipcases, you can select the CASY-designed shipcase from the list.

To design a custom-shaped shipcase or tray, you'll work with the CASY Shipcase/Tray Screen, as pictured below.



Notice that the CASY Shipcase/Tray Screen is divided into two primary sections:

- **Edit View Work Area:** This section, on the left side of the screen, allows you to start with a generic box and create a distinctly shaped unit (shipcase or tray).

- **Edit View Display Area:** This section, on the right side of the screen, displays the unit as you manipulate its shape in the Edit View Work Area.

In the Edit View Work area, notice the following features:

- **Work Unit:** This box-shaped unit allows you to click on any point on the top edge of the unit, drag it downward and form openings that give the unit its shape.
- **Cell Size:** Defines the relative dimension, not the actual size, of the new shipcase or tray being created. When this CASY shape is applied to a new shipper later on, it will be scaled to the exact size as defined by the user.
- **XLocation:** For a selected point on the top edge of the work unit, this represents the relative distance to the right edge or the unit.
- **YLocation:** For a selected point on the top edge of the work unit, this represents the relative distance to the bottom edge of the work unit.

Note: The X and YLocation measures are relative measures. They don't represent inches, millimeters, etc. Rather, they represent relative distances between two points.

In the Edit View Display Area, notice the following features:

- **Display Unit:** This image evolves into a specific shape as you define the shape with the work unit. The CASY system allows you to rotate the display unit backward, forward, left and right to view it from a number of angles.
- **Length:** The relative length of the display unit.
- **Width:** The relative width of the display unit.
- **Height:** The relative height of the display unit.

Note: The Length, Width and Height measures are relative measures. They don't represent inches, millimeters, etc. Rather, they represent relative length, width and height of the work unit – the hypothetical space you're using to build this shape.

Also, notice the six large icons at the top of the screen, just below the button bar. The **Front, Back, Left** and **Right icons** allow you to work with the corresponding areas of the work unit. For example, you can choose to work with the front side of the tray, back side, left side or right side.

Note: The Top and Bottom icons are not currently active.

In this exercise, we'll design a shipcase for bleach bottles. We want the bleach brand label to be clearly visible as the bottles sit in the case, so we'll design the case with a large display window in the front and back sides. Also, the shipcase needs handles (holes) in the left and right sides of the case.

To design a shipcase that meets these specifications, follow these instructions:

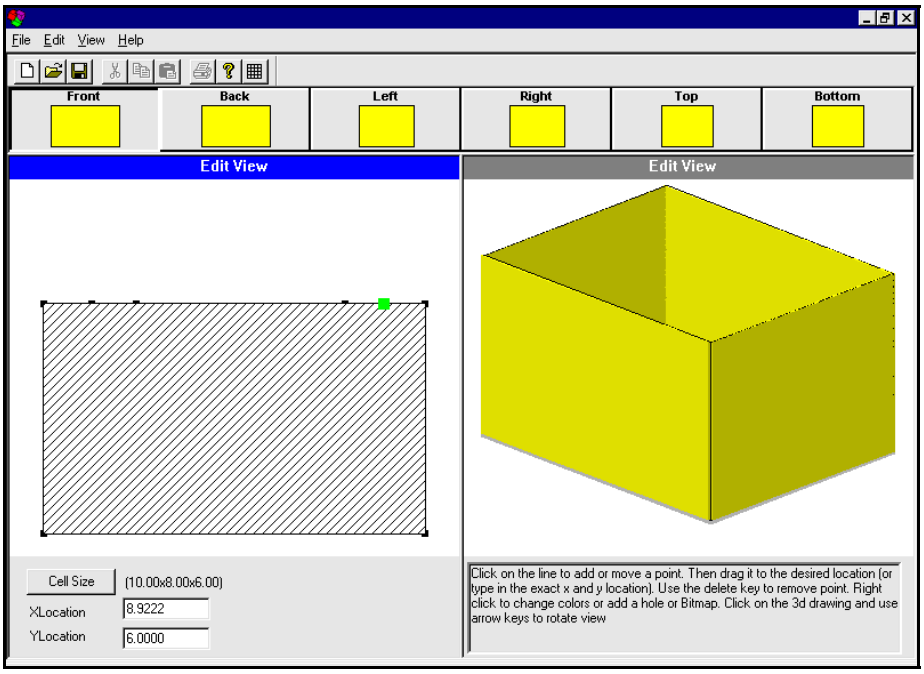
1. When the CASY Shipcase/Tray Screen opens, the front side of the unit is active by default, so we'll work with that side first. The front needs six markers along its top edge, which we'll use to design the display window. The top left and top right corners serve as two of the markers.

   Click on the top edge of the shipcase to insert the other four markers. Position these four markers as follows:

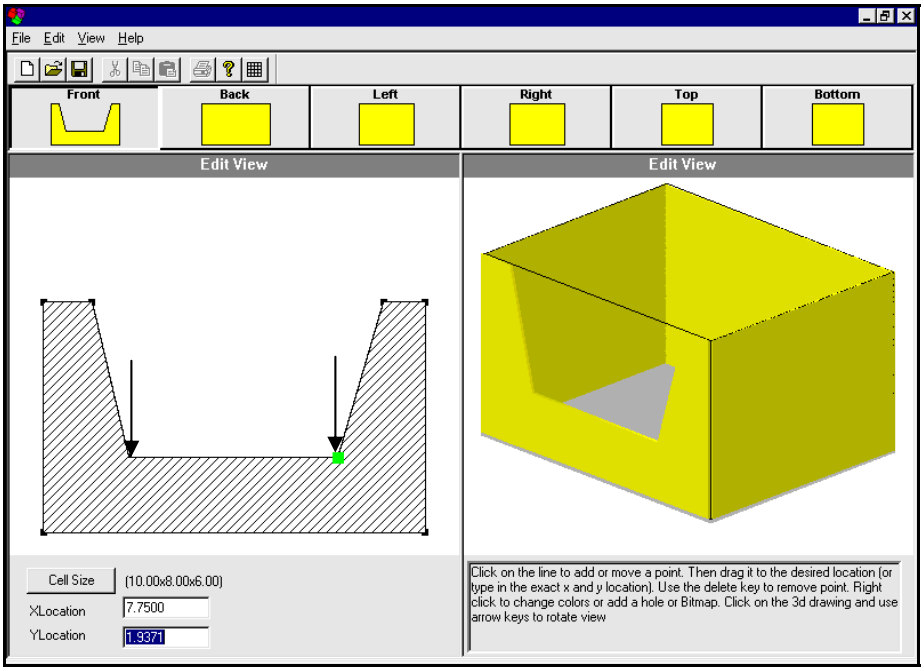
   - Marker 2: XLocation = 1.0538
   - Marker 3: XLocation = 2.2094
   - Marker 4: XLocation = 7.7500
   - Marker 5: XLocation = 8.9222

   Note: These markers are for relative positioning only and there is no need to be exact.

   The work unit, with six markers across the top edge, should look like the one pictured below.

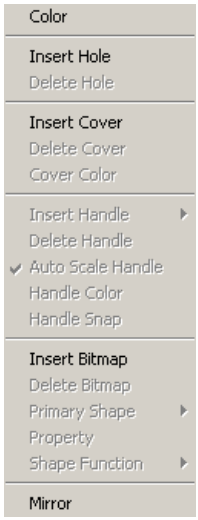


2. For markers 3 and 4, drag the markers downward to a YLocation of 1.9371. When you've moved these markers into the right positions, the work unit should look like the one pictured below.



3. Now that the display window on the front side of the shipcase is complete.

4. To create a similar cut out on the back side, right-click inside the work unit. A small menu appears, as pictured on the right.

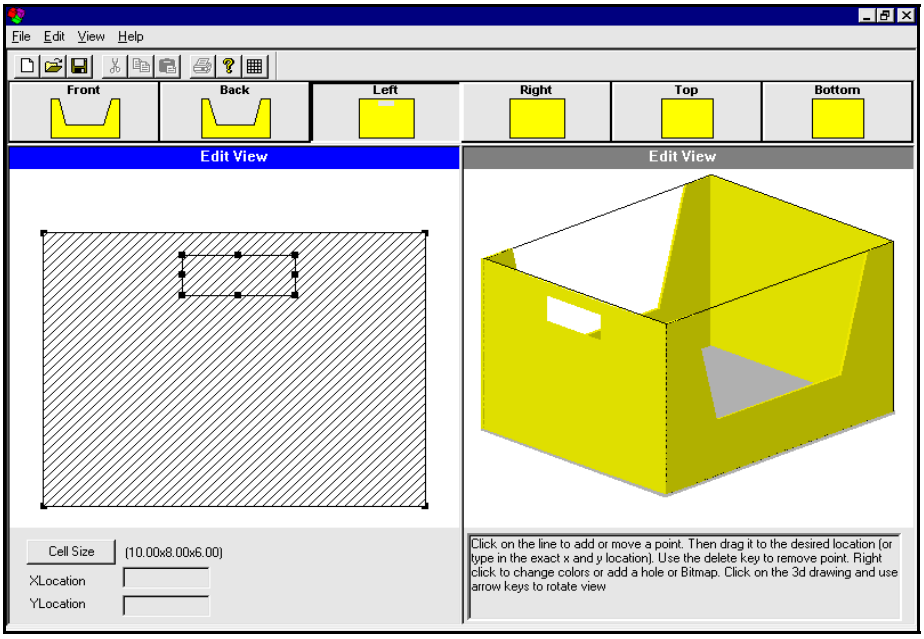


5. Select Mirror to duplicate the same cut out on the back side of the box.

6. On the left and right sides of the case, we want to create holes to serve as handles for the shipcase. To create a hole in the left side of the shipcase, click on the Left icon on the Toolbar. The CASY Shipcase/Tray Screen redisplays with work unit representing the left side of the case.

7. Right-click inside the work unit and select the Insert Hole option. The system inserts a box, which represents the hole, on the face of the work unit. This box has markers that allow you to expand the box to the right, left, up and down. You can also drag the box to any position on the work unit you want.

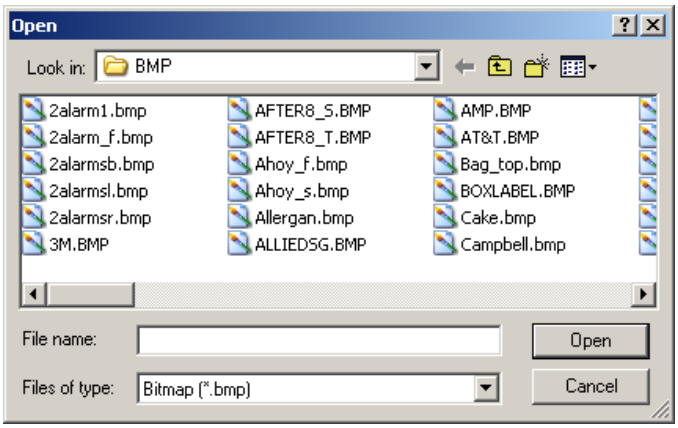
Resize the box (hole) to the appropriate size and move it near the top edge of the work unit. The left side of the shipcase should look similar to the one pictured below.



8. Now that the hole on the left side of the shipcase is complete, repeat the same process to design a hole for the right side or use the Mirror function to make sure the hole is created at the identical location on the opposite side.

9. CASY allows you to select and insert a bitmap onto any side of the shipcase. To insert a bitmap, select a side (front, back, left or right) to make it active.

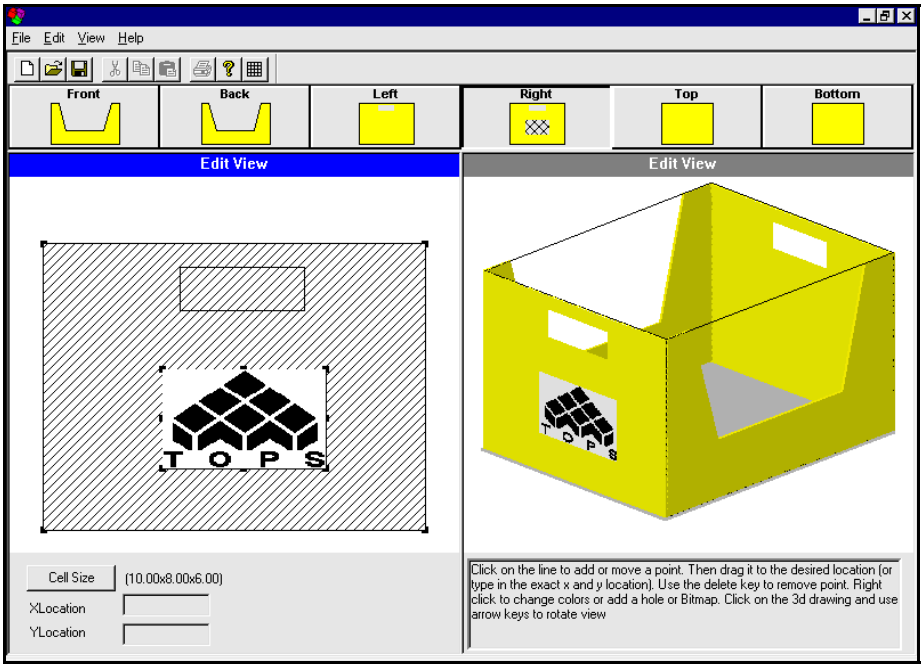
   Right-click inside the work unit and select the Insert Bitmap option. A dialog box appears with a list of bitmap files, as pictured below.



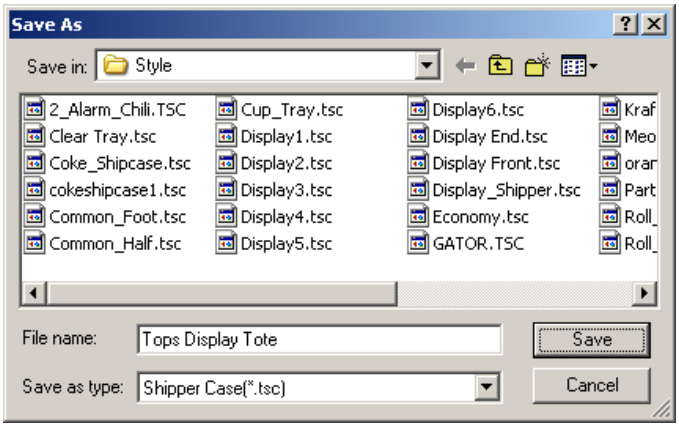
   Select the bitmap file you want to insert and click on the Open button.

The system inserts the selected bitmap onto the active side of the shipcase. You can resize the bitmap as you like and drag it to any position on the active side.

In this exercise, we'll insert a TOPS bitmap on the left and right sides of the shipcase. After all the design elements are complete, the shipcase should look similar to the one pictured below.



10. To save this new shipcase/tray, go to the File menu and select Save As. A dialog appears, enter a name for the tray, for example, Tops Display Tote as pictured below and click on Save.



TOPS will save this new tray in the database. To use this tray as a shipcase, select "Tops Display Tote" in the drop list from the C.A.S.Y. Style field. Make sure the Show CASY function is enabled.

Chapter 9: Stacking Strength

Introduction

As a packaging professional, you'll routinely need to calculate the stacking strength of your shipping cases. The TOPS Pro software uses the McKee formula to calculate the stacking strength of a regular slotted container (RSC). This chapter covers the stacking strength function, including the following topics:

- The McKee formula
- Edge crush test (ECT)
- Ring crush test (RCT)
- Calculate stacking strength
- Stacking strength results
- Email board combo list
- Configuration default settings

The McKee Formula

The McKee formula uses two laboratory tests performed on board components – the edge crush test (ECT) and/or the ring crush test (RCT) – to derive a box compression strength value. TOPS Pro adjusts this compression strength value (lab compression) with a variety of environmental and structural factors to calculate a box performance value.

Important Note

Even though the McKee formula is a generally accepted design formula, the packaging engineer is ultimately responsible to evaluate the degree to which this formula might apply and perform the physical tests to assure safety.

The McKee formula is defined as follows:

$(FC) \times (ECT) \times (BP)^{.4924} \times (Caliper)^{.5076}$

Lab Compression = $[(FC) \times (ECT) \times (BP)^{.4924} \times (Caliper)^{.5076}]$ × (Shape Factor) × (Length-to-Width Ratio Factor) × (Horizontal Flute Factor) × (Printing Factor)

Box Performance = (Lab Compression) × (Flap Gap Factor) × (Humidity Factor) × (Storage Time Factor) × (Pallet Spacing Factor) × (Interlock Factor) × (Overhang Factor) + (Product Support)

The abbreviated components in the formula are outlined below:

- **FC** = Flute Constant (5.87)
- **ECT** = Edge Crush Test
- **BP** = Box Perimeter
- **Overhang Factor** = 1 – [minimum of (square root of overhang) x 32.25 ÷ 100, 1]

Note: The next three values – Horizontal Flute Factor, Shape Factor and Printing Factor – are defined and adjusted in the TOPS Configuration program. For more information, please refer to Chapter 14, Configuration.

- **Horizontal Flute Factor (HFF)** = 1, unless non-vertical flute is selected. If non-vertical flute is selected, TOPS Pro looks at HFF for the specific board grade. However, there is no generally accepted industry standard for how much a non-vertical flute's compression will degrade. TOPS Pro currently ships with a HFF of 0.9 for a 10 percent reduction.

  Note: To adjust HFF, open the Definitions menu and select Board Combinations.

- **Shape Factor** = Table lookup based on the proportions of the box – relative to box depth – and dimension vertical. To adjust the shape factor, open the Definitions menu and select Box Design Factors.
- **Printing Factor** = Table lookup based on printing type and quantity. To adjust the printing factor, open the Definitions menu and select Box Design Factors.
- **Product Support =** Additional support to the overall stacking strength provided by the products inside the shipcase.

For all other factors, TOPS Pro looks up the value in the table of environmental factors, in the Configuration program. Other factors, which the McKee formula does not account for, include rough handling, transportation conditions, workers sitting on the box, die cuts, adhesive additives, etc.

Edge Crush Test

Box compression strength is a matter of structural mechanics. Engineering formulas have been developed using various relationships to predict compression strength. The general formula used here predicts Box Compression Test (BCT) value as related to Edge Crush Test (ECT), Flexural Rigidity and box perimeter.

Edge Crush Test, also known as Short Column Test, is measured as the pounds of force per inch needed to crush a portion of the sidewall of combined corrugated board. Although not the sole criterion for box performance, ECT values are an excellent indicator of Box Compression Test values and box performance in most of today's applications.

Ring Crush Test

The Ring Crush Test (RCT) measures paper strength – specifically stiffness. RCT has been widely used and has a history of more than 20 years of data correlated to combined board strength (ECT).

In the RCT, a strip of paper is placed into a jig that curls it into a short, tubular ring. Pressure is then applied perpendicular to the exposed edge. Ring Crush is measured as the pounds of force required to crush this specimen. This value has a direct relationship to predicting Edge Crush values of the combined board and, ultimately, box compression strength.

Due to industry-wide improvements in the paper-making process, industry average RCT values have gradually increased for a given Basis Weight over the years. However, across the industry, there is substantial variation in Ring Crush for a given Basis Weight – from different paper mills, even from different paper machines within the same mill.

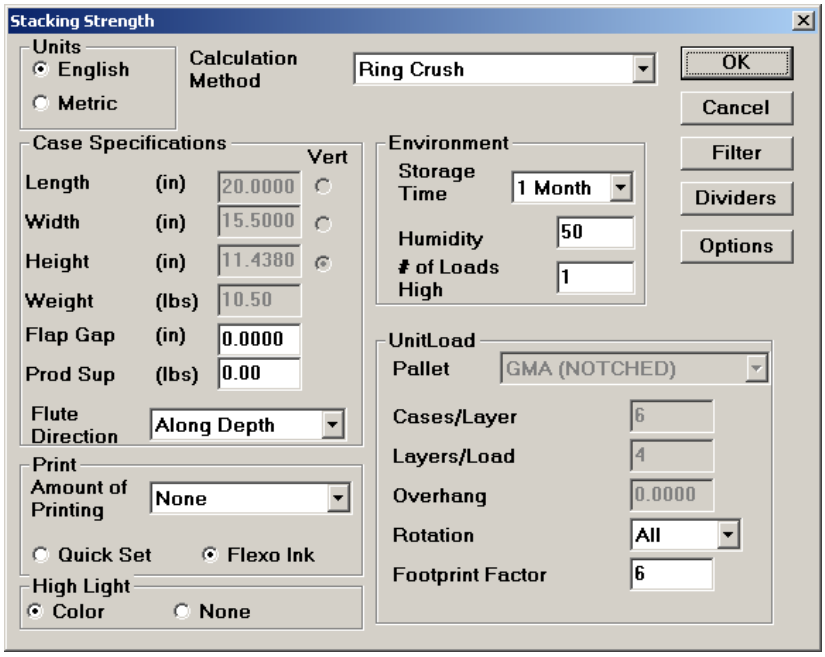
"High Ring Crush" or "High Performance" linerboard and medium are well above the industry average, at the upper end of the industry variability range for a given Basis Weight. Generally, these papers are more tightly pressed – thinner/denser/less porous – than those at the average or lower end of the range, which gives paper greater strength per pound.

Calculate Stacking Strength

In this exercise, you'll perform a shipcase-to-pallet analysis first, then calculate the stacking strength. To calculate stacking strength, start from the Control Panel and follow these instructions:

1. Perform a shipcase-to-pallet analysis and calculate solutions.
2. At the Analysis View, click on the Strength button on one of the panels. As an option, you can open the Tools menu and select Stacking Strength.

   The Stacking Strength dialog box appears, as pictured below.



Notice that the dialog box is complete with pre-defined shipcase and pallet parameters, which are grayed out (you can't change them).

3. At this point, you'll need to make decisions regarding the following parameters:

   Note: Some of these parameters are pulled from the Environment Factors dialog box in the TOPS Configuration program. This dialog box is pictured on page 9.7 for easy reference.

   - **Storage Time:** Select the target storage time for the unitloads – the period of time you expect the unitloads to be stored in a warehouse; for example, three months.

   - **Humidity:** Enter the humidity percentage that exists in the warehouse. The default is 50 percent; a typical humidity factor is 85 percent.

   - **# of Loads High:** Enter the target number of pallets high the unitload can be stacked in the warehouse.

   - **Rotation:** Select the rotation to be used for the unitloads. Use these guidelines:

     If the unitloads are columnar (non-interlocked), select None. This rotation yields no degradation in stacking strength.

     If the unitloads are fully interlocked, select All. This rotation yields a 30 percent degradation in stacking strength.

     If the unitloads are partially interlocked – for example, only the top two layers – select Some. This rotation yields a 15 percent degradation in stacking strength.

   - **Footprint Factor:** If you have multiple unitloads and not all shipcases help support the unitload above, specify how many shipcases do help support. Lowering this number reduces the number of bottom-most cases that help support the above unitload.

   - **Amount of Printing:** Select the amount of printing on the shipcases – usually Simple.

   - **Type of Printing:** Select the type of printing on the shipcases – usually Flexo.

   - **High Light:** Select either Color or None to specify whether you want the next screen and printouts to appear in color. If you only want to print, select None.

     Note: This has no bearing on stacking strength.

- **Calculation Method:** Select the method used to calculate stacking strength. Use these guidelines:

  The **Ring Crush method** looks up the ring crush values of the board combination's liners and mediums, then calculates the edge crush test (ECT) value from those values.

  The **Edge Crush method** uses the exact ECT value typed in for each board combination.

  The **Kellicut method** is an internationally recognized way to calculate stacking strength.

- **Dividers:** The Dividers button displays the Dividers dialog box, which displays information entered from the ShipCase Parameters dialog box. Use the Dividers dialog box to change the dividers parameters.

  Dividers provide a significant increase in stacking strength of your shipcases. For example, a 12-cell divider – if it's made of the same cardboard as the shipcase –increases stacking strength by 108 percent.

- **Options:** The Options button displays the Stacking Strength Options dialog box, which allows you to specify which columns of information will appear on the Stacking Strength Results report by selecting from a listing of board grades.

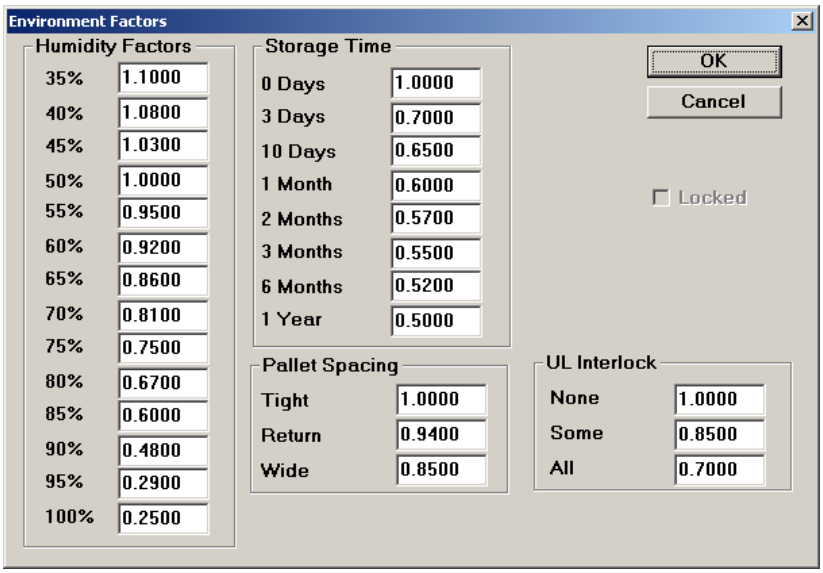
  For detailed information about the Stacking Strength Options dialog box, please refer to Appendix B, Dialog Boxes.

4. After completing the stacking strength parameters, click on OK. The Stacking Strength Results Screen appears, as pictured on page 9.8.
5. If you want to print the list of stacking strength options, open the File menu, select Print, then select Stack Strength List. TOPS Pro sends the list of stacking strength options to the printer.
6. If you want to print all the board combinations in the software, open the File menu, select Print Database, then select Stacking Strength. TOPS Pro sends the list of board combinations to the printer.

Environment Factors Dialog Box

The Environment Factors dialog box, pictured below, allows you to assign numeric safety factors to a range of environmental factors. TOPS Pro uses environmental factors to calculate stacking strength.

Note: The Environment Factors dialog box is accessed from the TOPS Pro Configuration program.

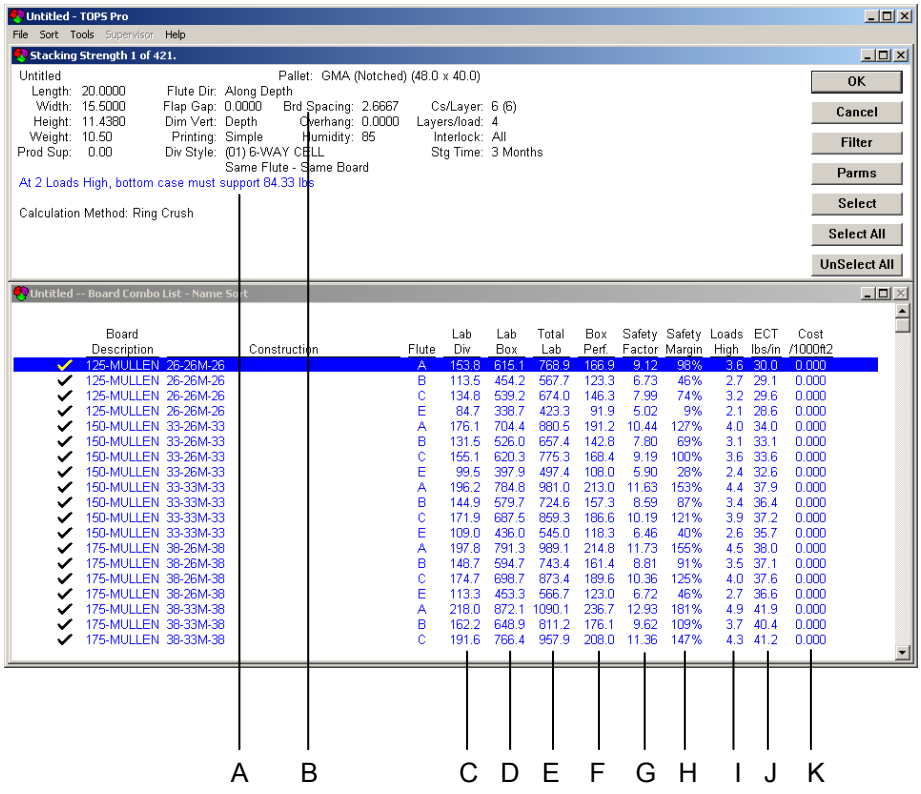


For detailed information about the Environment Factors dialog box, please refer to Appendix B, Dialog Boxes.

Stacking Strength Results

Once you've calculated a stacking strength analysis, TOPS Pro displays the Stacking Strength Results Screen, as pictured below. This screen is divided into two panes:

- **Stacking Strength Statistics Pane:** This information includes any added data related to the stacking strength option and your package design.
- **Stacking Strength List Pane:** This pane, the lower section of the screen, displays a number of columns that represent the board grades selected from the Stacking Strength Options dialog box. The default set of columns is represented in the figure below.



The Stacking Strength Results Screen provides the following stacking strength information:

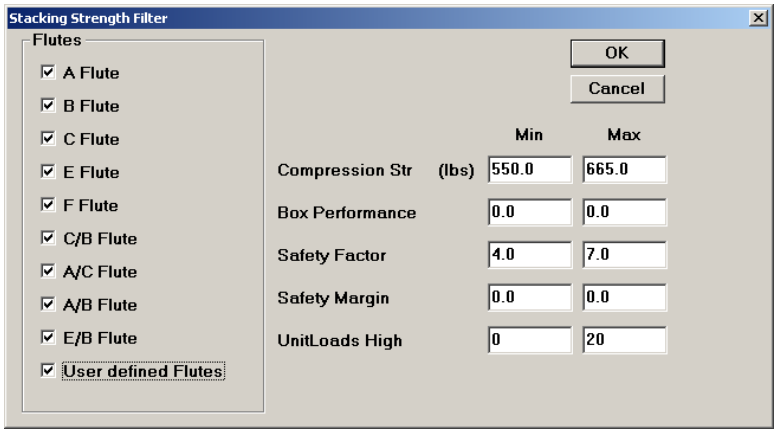
- **(A) At 2 Loads High, bottom case must support 84.33 lbs:** Amount of weight that must be supported by a box on the bottom layer of the bottom pallet.
- **(B) Board Spacing:** Also known as pallet spacing. Use these guidelines:
  - If this value is less than 0.1 inch, you have tight pallet spacing.
  - If this value is greater than 0.1 inch and less than 3 inches, you have normal pallet spacing.
  - If this value is greater than or equal to 3 inches, you have wide pallet spacing.

  Note: The stacking strength factors associated with pallet spacing are defined on the Environment Factors dialog box, pictured on page 9.7.
- **(C) Lab Div:** Lab Compression of the divider. This column appears only if you've specified a divider. To define new dividers, open the Definitions menu and select Dividers. Each divider has a support factor that determines the amount of additional support added by the divider. (A support factor of one (1) = no change.)
- **(D) Lab Box:** Lab Compression of the box without the divider. This column appears only if you've specified a divider.
- **(E) Total Lab:** Total Lab Compression. If you've defined a divider, this value is the sum of the divider compression and box lab compression; i.e., Total Lab Compression = Lab Compression of the divider + Lab Compression of the box without the divider.
- **(F) Box Perf:** Box Performance. The resulting compression strength, which takes into account the environmental conditions you've specified.
- **(G) Safety Factor:** Total Lab divided by the weight that must be supported by the bottom case.
- **(H) Safety Margin:** The percentage that the box performance exceeds the weight that must be supported by the bottom case; i.e., $G = (F - A) \div A$. Boards with Safety Margins that are greater than zero are highlighted in blue.

- **(I) Loads High:** How many unit loads it takes to reach the limit (box performance) of a bottom-most case.
- **(J) ECT lbs/in:** The ECT of the board. If the calculation method is Edge Crush, this value is the empirical value entered for each board in the TOPS Configuration program. If the calculation is Ring Crush, TOPS will calculate the ECT from the Ring Crush Factor (RCF) of each board's papers.
- **(K) Cost/1000ft^2:** The cost per 1000 square feet as entered into the board grade database.

Now that you've calculated stacking strength options for your analysis, you're ready to narrow down the list of options and select the one that best meets your needs. Follow these instructions:

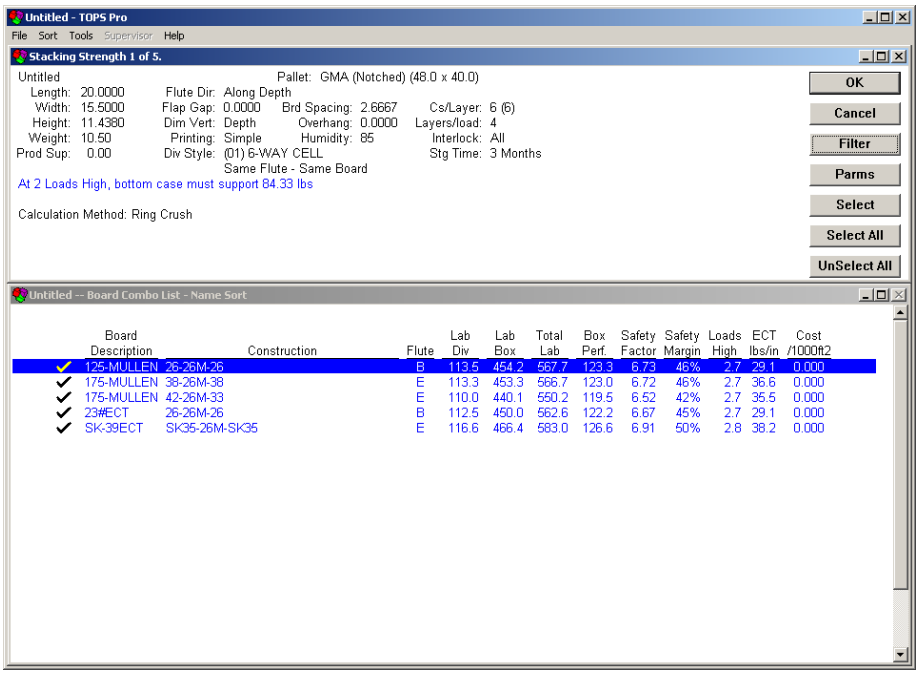
1. Analyze the list of options and decide how you want to narrow the list. For example, you might want to narrow the list to show all options that have a safety factor of 4-7 and a compression strength of 550-665.
2. Click on the Filter button. The Stacking Strength Filter dialog box appears. Enter the limiting values for Compression Strength and Safety Factor as pictured below.



Note: Compression is the recommended filter method because it's the most fine-tuned. For more information about the Safety Strength Filter dialog box, please refer to Appendix B, Dialog Boxes.

3. After completing the filter criteria, click on OK.

   TOPS Pro identifies all options that match your filter criteria, then redisplays the Stacking Strength Results Screen, as pictured below. The options that match your criteria are displayed in blue; the options that do not match are displayed in black.



Notice that TOPS Pro has filtered the list of solutions from 421 down to five.

4. To sort the options by a specific criteria, open the Sort menu and select a sort option: Name, Lab Compression, ECT, Cost or Reverse Order.

   TOPS Pro redisplays the Stacking Strength Results Screen with the options sorted according to the selected sort option.

5. After you've selected a solution, print the output.

   Note: At this time, there is no way to limit the number of columns printed or displayed.

Stacking Strength Results – Menu Options

The Stacking Strength Results Screen features a menu bar with the following menus:

- File Menu
- Sort Menu
- Tools Menu
- Supervisor Menu
- Help Menu

The File, Supervisor and Help menus are identical to the File, Supervisor and Help menus that appear on the Control Panel's menu bar. For more information on these menus, please refer to Appendix C, Menu Options.

Sort Menu

The Sort menu provides the following options:

- Name
- Lab Compression
- ECT
- Cost
- Reverse Order

The Sort menu allows you to sort stacking strength results by name, lab compression, ECT, cost and reverse order.

To use the Sort function, start from the Stacking Strength Results Screen and select a Sort option (for example, ECT). The Stacking Strength List Pane redisplays with the stacking strength results sorted based on the selected option.

Tools Menu

The Tools menu provides the following options:

- ❖ Email Stacking Strength
- ❖ Select As Primary Boardgrade

Note: The Select As Primary Boardgrade option is not currently active.

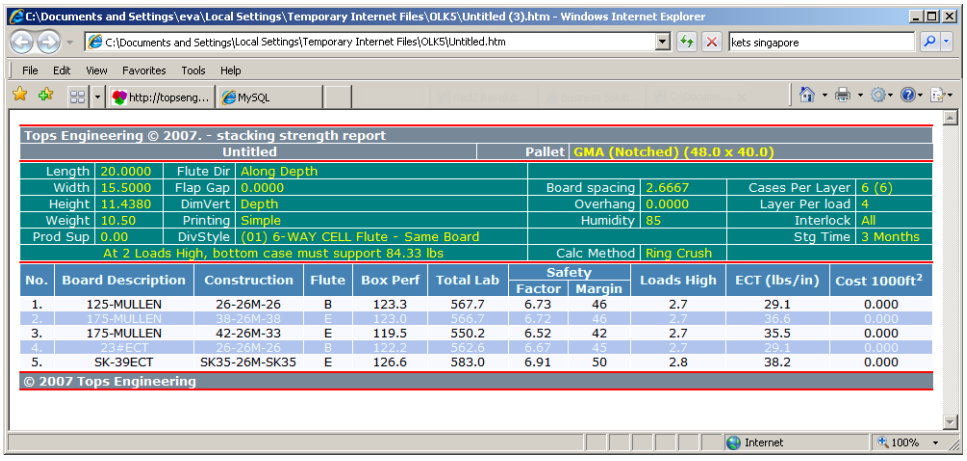
The Email Stacking Strength option allows you to email the Stacking Strength Board Combo List to other users. This function is discussed in the next section.

Email Stacking Strength Combo Board List

After you've calculated stacking strength results, TOPS Pro allows you to email the Stacking Strength Board Combo List to other users. To use this feature, start from the Stacking Strength Results Screen and follow these instructions:

1. Go to the Windows Toolbar and open the Tools Menu.

2. Select the Email Stacking Strength option. TOPS Pro automatically launches your email application, converts the Stacking Strength Board Combo List to an HTML file as pictured below and attaches it to the email.



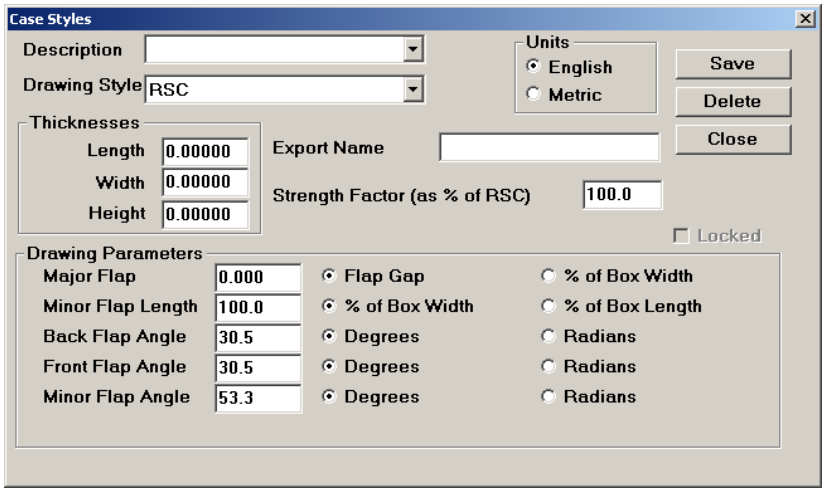
3. Send the email to the appropriate users. TOPS Pro closes the email application and returns you to the Stacking Strength Results Screen.

Define Stacking Strength Factor for a Non-RSC Box

When defining parameters for a new, non-RSC box, TOPS Pro includes a feature that defines stacking strength in relation to an RSC box. For example, you can define stacking strength for the non-RSC box as 80 percent or 120 percent of the stacking strength of an RSC box. To use this feature, follow these instructions:

1. Go to the Menu Bar and open the Define Menu.

2. From the Define Menu, select the Box Styles option. The Case Styles dialog box appears, as pictured below.



3. In the Strength Factor field, enter a stacking strength factor as a percentage. For example, if stacking strength for this box is 90 percent compared to that of an RSC box, enter 90.00.

4. Complete the remaining fields to define the new box.

5. After defining the new box parameters, click on the OK button.

   TOPS Pro saves the new box, including stacking strength factor, to the database.

Configuration Default Settings

The TOPS Configuration program allows you to define defaults for the various stacking strength variables used in the system, including the following:

- **Board Combinations:** Adjusts board grades, including changing, deleting or marking them unavailable. Use this option to adjust a board's ECT or cost per 1,000 square feet.
- **Flutes:** Adjusts base flutes, such as the default thickness or flute constant.
- **Environmental Factors:** Adjusts humidity, storage time, interlock and pallet spacing lookup values.
- **Paper:** Adjusts paper ring crush values.
- **Dividers:** Adjusts divider definitions, which reside in the primary TOPSWIN program.

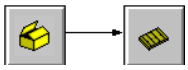
For more information about defining stacking strength default values, please refer to Chapter 14, Configuration.

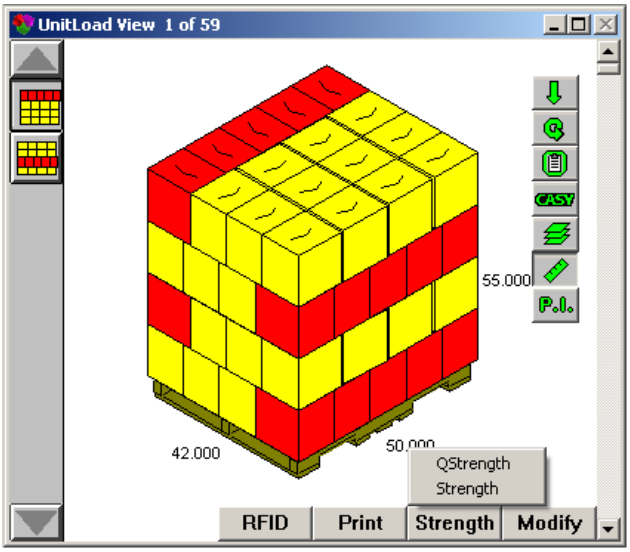
QStrength: Quick Strength Reports

The QStrength function allows users to determine the ECT value and minimal strength requirements for a shipcase's board combination, without needing to know the actual papers or board combination possibilities.

TOPS will calculate the weight to be supported and users can provide their desired Safety Factor range. Based on this information, TOPS can now provide the minimal requirements for the shipcase in total pounds that must be supported, and a range of acceptable ECT values. With this information, a corrugate provider can then look at what board combinations in their stock meet these requirements.

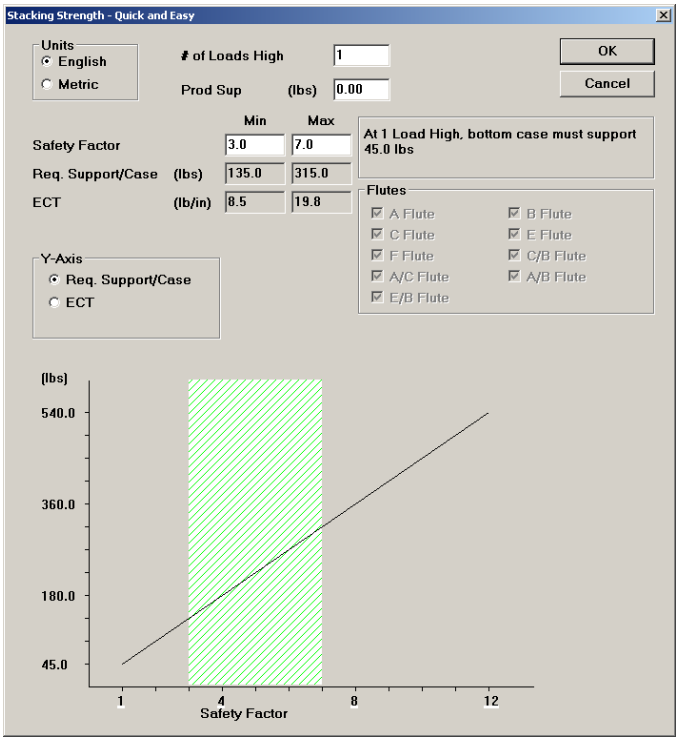
To access the QStrength report, please follow these steps:

1. Create a design sequence of 
2. Enter the dimension of the shipcase at the Shipcase Parameters dialog box and make sure it has a defined gross weight.
3. Select the pallet to be used in the Unitload Parameters dialog box and specify any height and overhang requirements.
4. Click Calc to view the solutions.

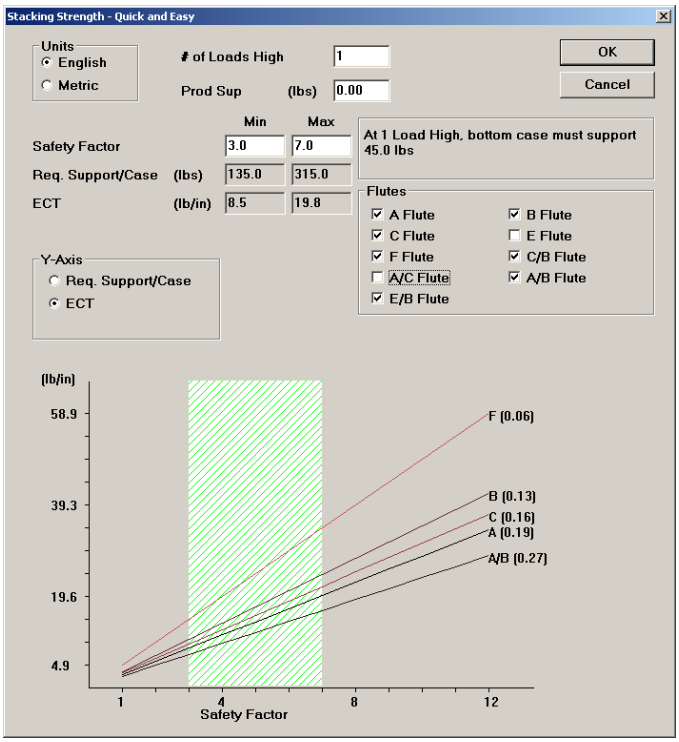


5. In the UnitLoad view, click on the Strength button and select QStrength.

QStrength Report



QStrength report showing required support / shipcase



QStrength report showing ECT value for each board

- **# of Loads High:** Enter the target number of pallets high the unitload can be stacked in the warehouse.
- **Prod Sup:** Additional support to the overall stacking strength provided by the products inside the shipcase. If present, the required support from each shipcase will be less.
- **Safety Factor:** Enter the desired range for safety factor. This is the Total Lab divided by the weight that must be supported by the bottom case.
- **Req. Support/Case:** Based on the safety factor range provided, these fields show the minimal weights the shipcase must be able to support.
- **ECT:** Based on the safety factor range provided, these fields show the minimal ECT values that will be required from the corrugate provider's board combinations.
- **Y-Axis:** The graph can be toggled to report required pounds per shipcase, or required ECT value per shipcase.

For more information about defining stacking strength default values, please refer to Chapter 14, Configuration.

Chapter 10: Package Profile

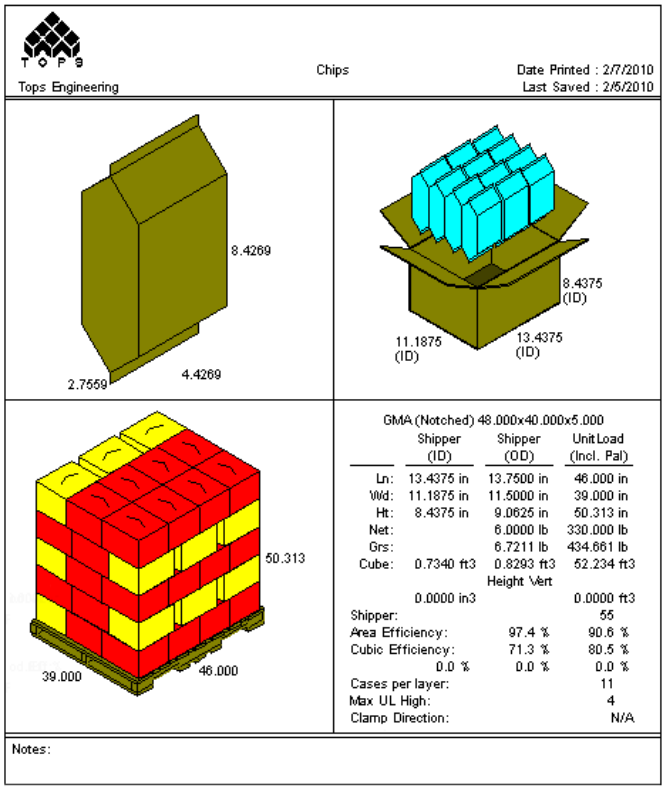
Introduction

This chapter discusses the package profile, which allows you to create a profile for a complete package analysis, sometimes called a cube specification. The package profile is designed for situations where many products use the same packaging. For example, if you package cereal, you can use the same box for several different brands of cereal.

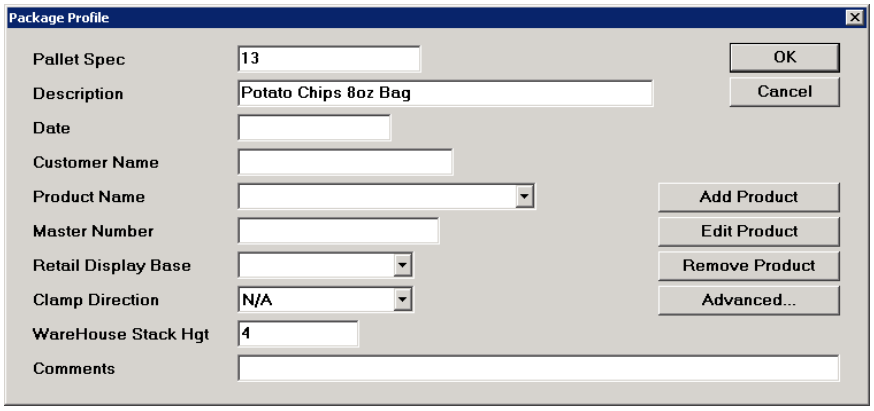
Create a Package Profile

In this example, we will create a packaging solution for 8 oz bags of potato chips. The same package information will be used for 3 different variations: original, cheddar cheese and BBQ flavor. To create a package profile, follow these instructions:

1. Complete an 8 oz chip package analysis and save it to the database.



2. Open the File menu and select Package Profile. The Package Profile dialog box appears. Create a new Package Profile called Potato Chips 8oz Bag as pictured below.



The Package Profile dialog box allows you to add individual products to the package profile. Each product will appear on the profile by name, UPC, product code, declared weight and calculated gross unitload weight.

- **Pallet Spec:** Enter the specification number for the pallet style. By default, TOPS Pro suggests a unique spec ID.
- **Description:** Enter a description of the package profile being created.
- **Date:** Enter the current date to specify when the package profile was created.
- **Customer Name:** Enter the name for the customer if desired.
- **Product Name:** Select a product name associated with the package profile or type in the first few letters of the product.

  Note: The drop-down list displays products that have been added to this profile. You'll use this field to edit or delete a product.
- **Master Number:** Enter the master number associated with the package profile.

  Note: You can use this field for any numeric value. To rename the field, use the Text Modification dialog box. For more information, please refer to Appendix B, Dialog Boxes.
- **Retail Display Base:** This is a reserved key.
- **Clamp Direction:** Select the clamp direction associated with the package profile, if applicable.

Note: The printout will show clampability arrows on the unitload according to your input here. Unlike the clampable option on the UnitLoad Options dialog box, the clamp direction does not affect the calculations.

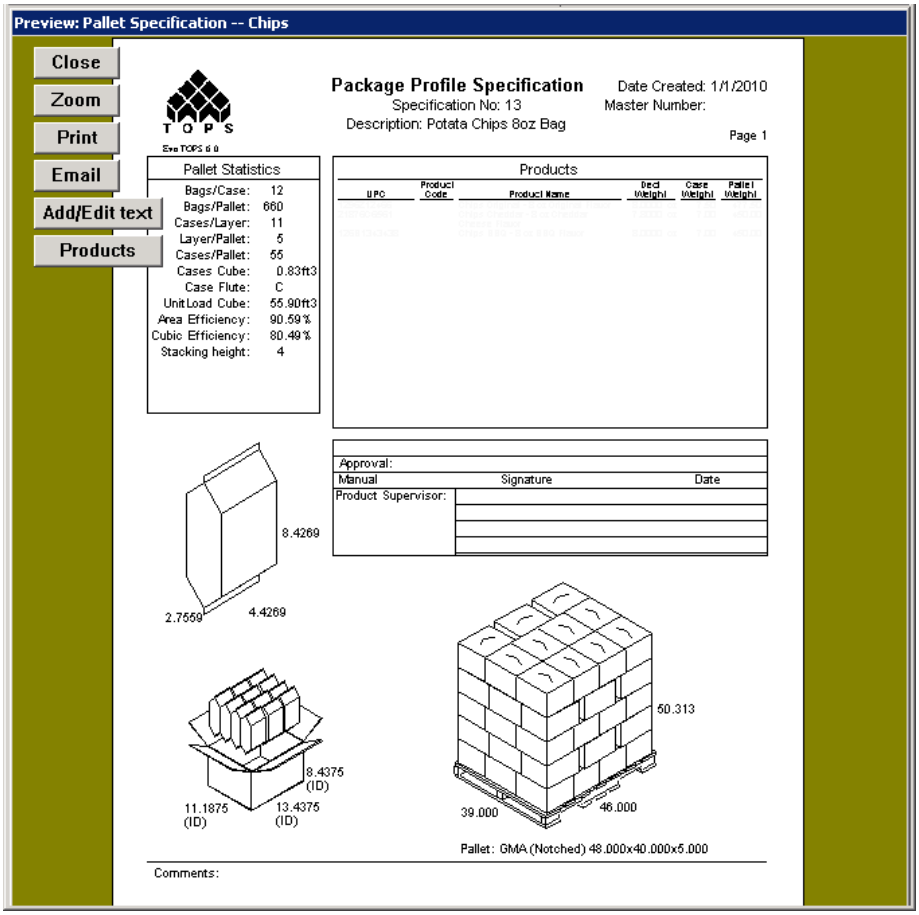
- **Warehouse Stack Hgt:** Enter the maximum stacking height for your warehouse.

  Note: Like the Master Number field, you can use this field for any numeric value by renaming it via the Tools/Language function.

- **Comments:** Enter the text of any comments that are relevant to the package profile.

3. After completing the package profile parameters, click on OK and TOPS Pro returns you to the Control Panel.

4. Open the File menu, select Print Preview, then Package Profile. The Package Profile Specification Screen appears, as pictured below.



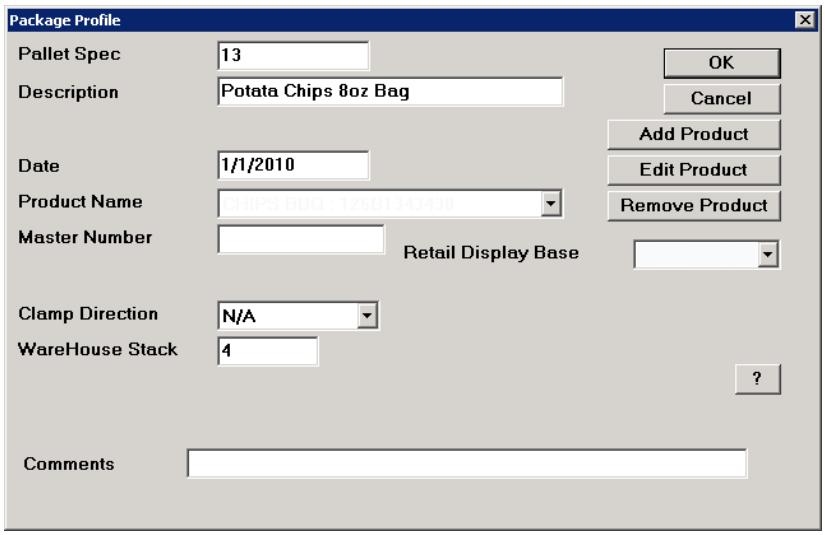
5. Click on the Zoom button. TOPS Pro magnifies the Package Profile Specification Screen in Zoom mode.

6. Study the screen to make sure everything is as you want it. Make annotations and add graphics as necessary.
7. After completing any annotations or graphics, click on the Close button. TOPS Pro takes you out of the Print Preview mode and back to the preceding screen.
8. Save your work to the database.

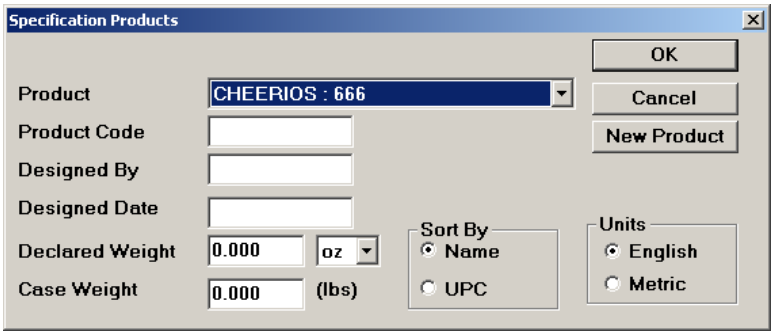
Add a Product to the Package Profile

To add a product to the package profile, start from the Package Profile dialog box and follow these instructions:

1. Go to the File menu and select Package Profile.
2. The Package Profile dialog with the description Potato Chips created earlier appears.



3. Click on the Add Product button. The Specification Products dialog box appears, as pictured on the next page.

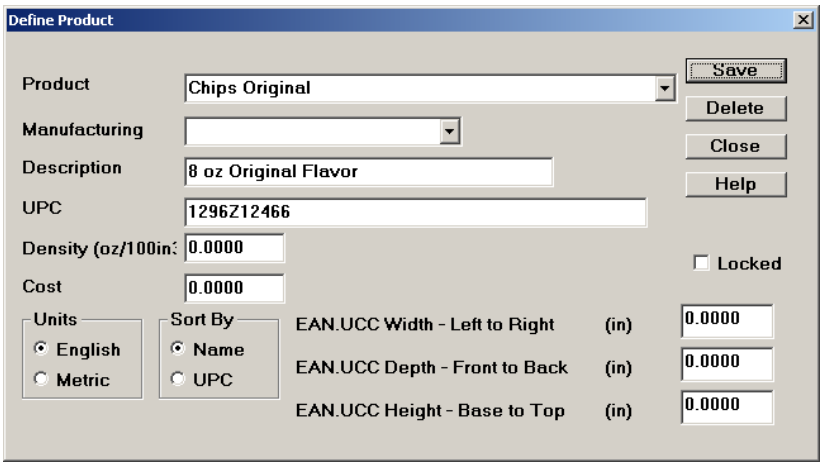


The Specification Products dialog box allows you to (1) add a product to the package profile or (2) define parameters for a new product to be added to the Product Name drop-down list.

Note: For detailed information about the Specification Products dialog box, please refer to Appendix B, Dialog Boxes.

4. If the product you want to add is not on the list, you can add it to the database by clicking on the New Product button. The Define Product dialog box appears.

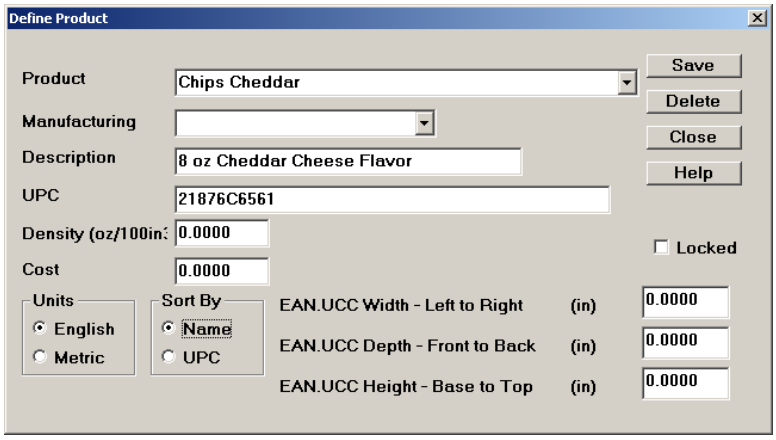
5. Add a new Product Chips Original as pictured below.

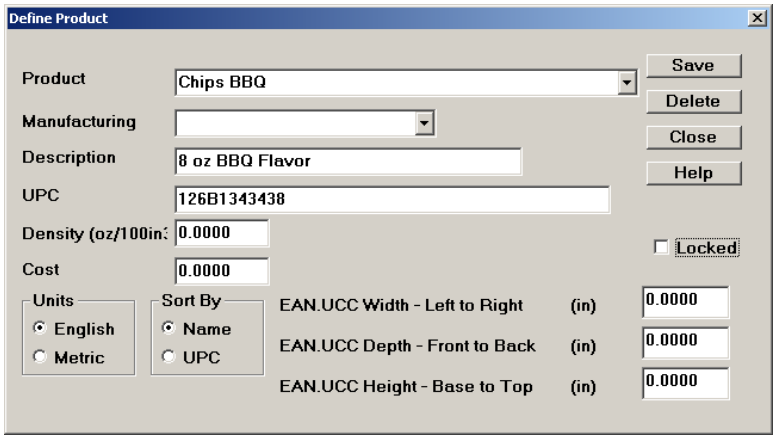


Note: For detailed information about the Define Product dialog box, please refer to Appendix B, Dialog Boxes.

6. After completing the Define Product dialog box, click on Save. TOPS Pro saves your new product parameters to the database.

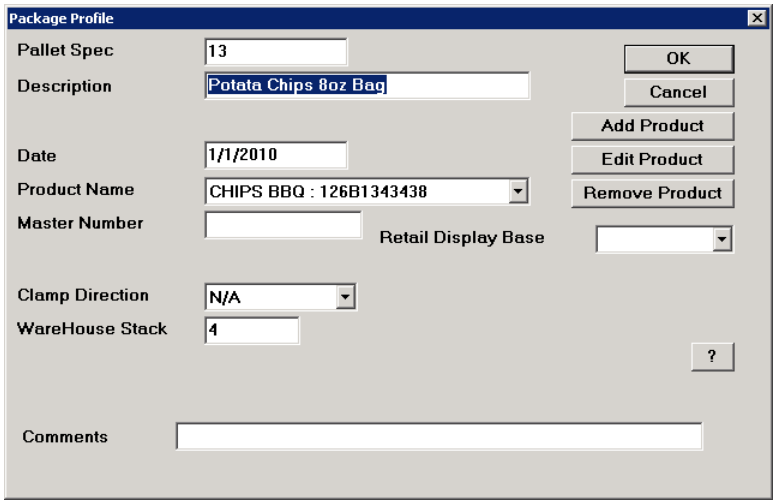
7. Add Chips Cheddar and Chips BBQ in the Define Product dialog box as pictured on the next page and click on Save to save the new products to the database.



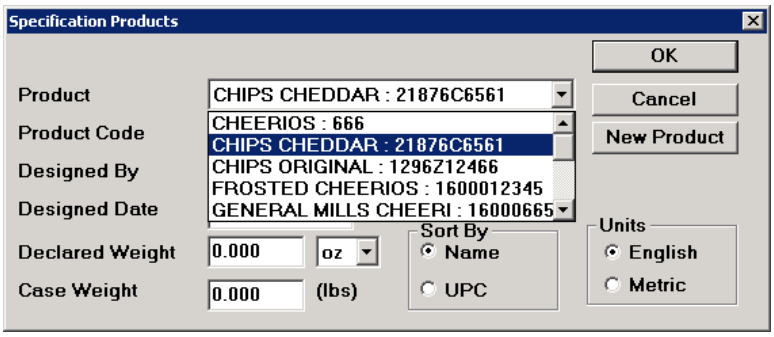


8. After defining all new products, click on Close to return to the Specification Products dialog box.

9. The last product added, Chips BBQ will appear in the Specifications Products dialog, click on OK to add this to the Package Profile as pictured below.

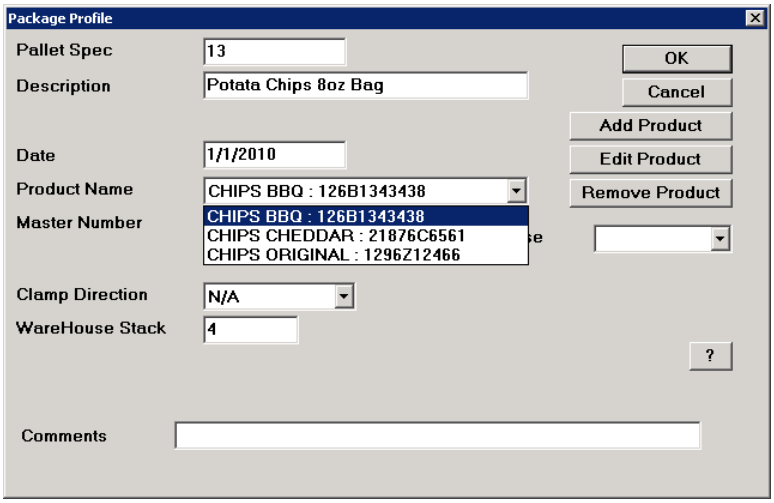


10. To add the other two chips to the Package Profile, click on the Add Product button to open the Specification Products dialog box. Click the drop-down list to select Chips Cheddar as pictured below and click on OK to add the product to the profile.



11. Repeat step 9 to add Chips Original to the profile.

12. When you are back at the Package Profile, click on the Product Name as pictured below and you'll see all three chip variations are added to the profile.

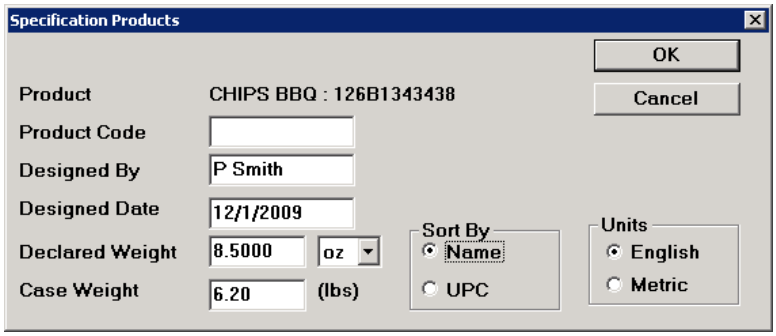


13. Click OK to close the Package Profile dialog box. TOPS Pro saves the new package profile to the database.

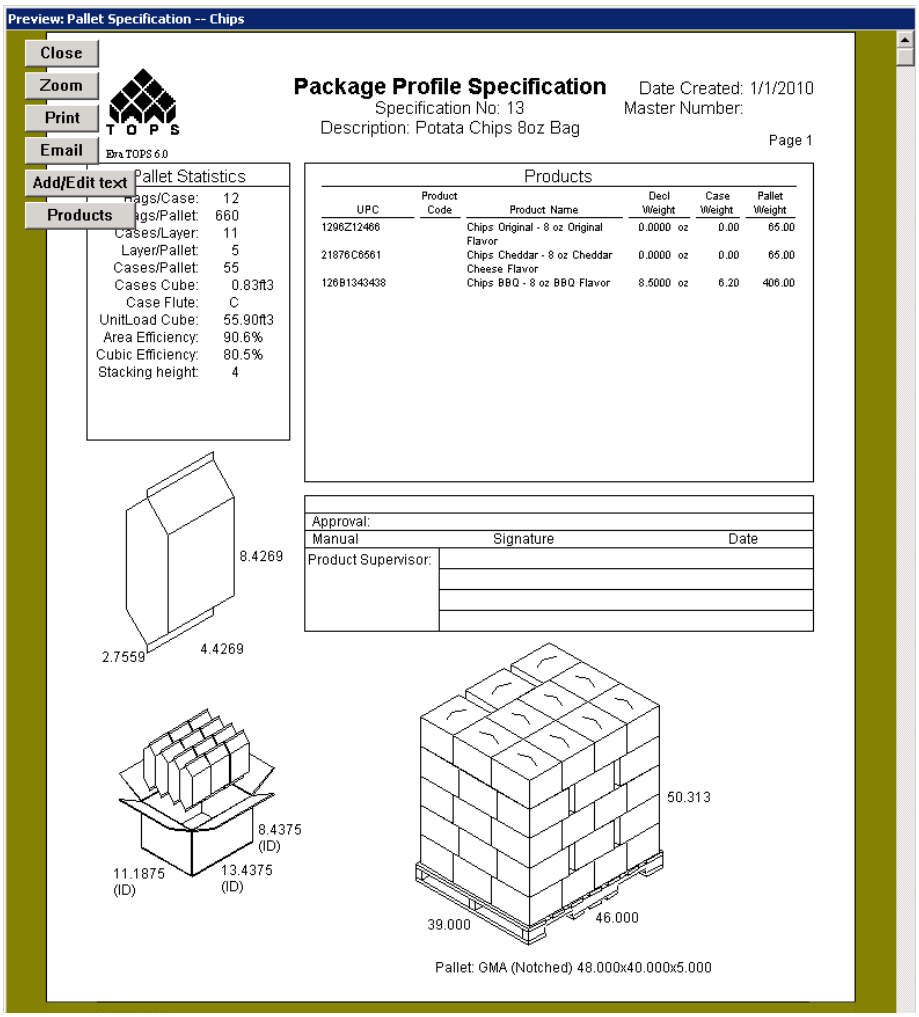
Edit a Product in the Package Profile

This feature allows you to select and edit a product in the package profile. To edit a product, start from the Package Profile dialog box and follow these instructions:

1. The current Package Profile “Potato Chips 8oz Bad” will be opened with 3 chips variations already added.
2. To edit Chip BBQ, select it under the Product Name drop-down list and click on the Edit button.
3. Enter more details or make necessary changes for the Chips BBQ as pictured below and click on OK to save.



4. TOPS Pro saves your changes to the database and redisplays the Package Profile dialog box. Click OK to close the Package Profile dialog box.
5. Go to the Print menu and select Print Preview and then Package Profile.
6. The new report will now include the 3 chip variations together with the declared and case weights for Chip BBQ updated as pictured on the next page.



Remove a Product from the Package Profile

This feature allows you to select and remove a product from the pallet specification in the package profile. To remove a product, start from the Package Profile dialog box and follow these instructions:

1. Use the Product Name drop-down list to select the product you want to remove.
2. Click on the Remove Product button. TOPS Pro asks this question: "Remove product "XXX" from Pallet Specification?"
3. To remove the product from the package profile, click on OK. TOPS Pro removes the product from the package profile and updates the database.

Chapter 11: Reports and Printing

Introduction

TOPS Pro provides a lot of flexibility in the way you design and print analysis output. When you've completed an analysis and decided on a solution, TOPS Pro allows you to print a hard copy of the information that went into the analysis. For a package profile and pallet report, TOPS Pro allows you to print a pre-defined report.

You can use the Print function under the File menu to send the report directly to the printer. It is recommended to use the Print Preview function under the File menu to design the layout and preview the output before sending it to the printer or other formats like JJEG or PDF.

This chapter walks you through the following print features and functions:

- Print Preview for an analysis, including how to define print parameters
- Print Preview for a package profile
- Add text to Print Preview
- Add a graphic image to Print Preview
- Edit a graphic image in Print Preview
- The Quick Print feature
- The Pallet Report feature
- The Combined Report feature
- Printer width

Print Preview – Analysis

After you've selected a solution for an analysis, you're ready to print the output of that analysis. This section explains how to design the layout of the printout, then define the type of information to be included and how present that information (different graphical views, text and numbers, etc.).

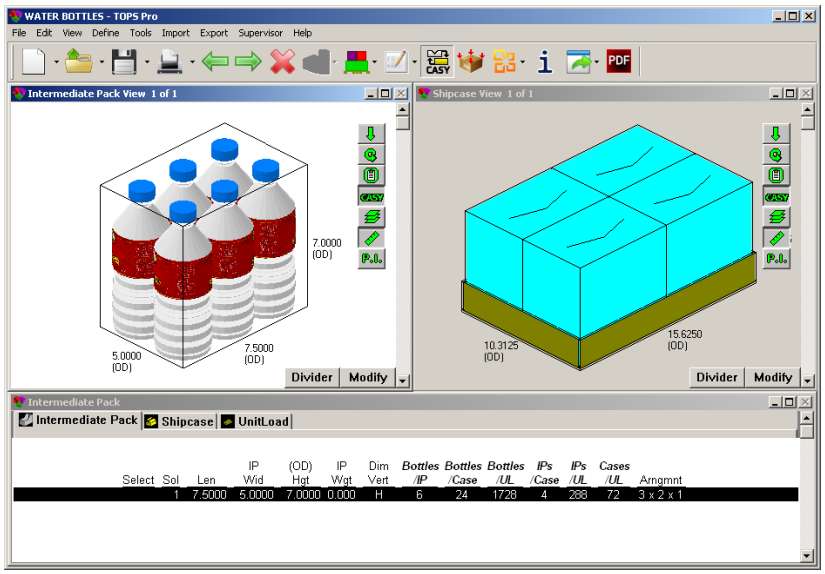
In this example, we'll open an existing sample analysis from the TOPS Pro software and design the printed output to have the following characteristics:

- The output will have a 5-Way Down page layout.
- The heading will read "Print Example".

- ❖ The five areas of the printout will show graphics of the primary package, intermediate package 3D view, shipcase 3D view, unitload 3D view plus the statistics for the unitload.
- ❖ The bottom of the printout will show text “Shrink-wrapped 6-pack bottle water”.

To start, follow these steps:

1. Go to the Menu Bar and open the File menu, select Open and highlight “Water Bottles” at the bottom of the Analyses in Main Folder and click on Open.
2. The analysis with a previously saved solution will be opened and displayed in the analysis view as pictured below.



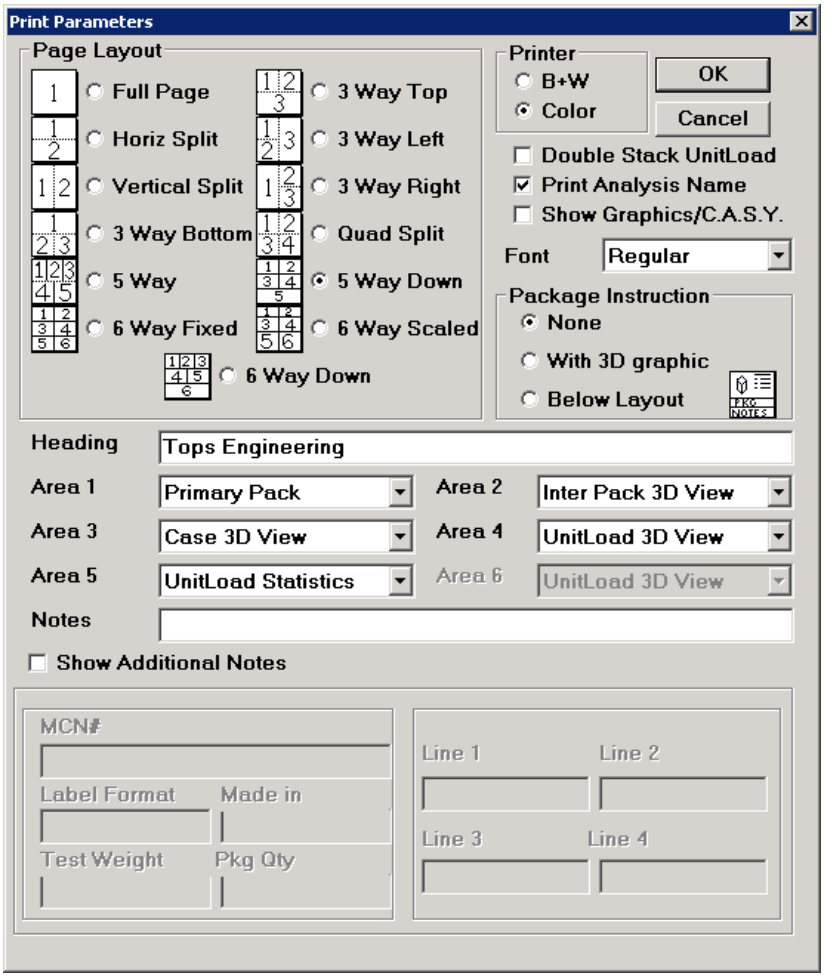
Note: If your screen layout is different from what is displayed here, please change it by going to the toolbar, select View Menu and then Split screen.

3. To preview a report, go to the File menu, select Print Preview, then select Analysis. The Print Parameters dialog box appears.

Define Print Parameters

The Print Parameters dialog allows you to design the layout of the output, what type of information will be included, etc.

Enter the print parameters as described earlier and click on OK to generate the preview of the color report as pictured on page 11-5.



The Print Parameters dialog box is organized into the following sections:

- **Page Layout: A**llows you to select one of 13 possible page layouts as illustrated.
- **Heading:** Allows you to enter the text of the heading that will appear at the top of the printout.
- **Areas 1 through 6:** Allow you to select what graphics or statistics to go to each of these areas in the report. The graphic views and data available from the drop list depend on your current design sequence.

Note: Be aware that the number of areas available to select from depends on the page layout you selected. For example, if you selected the Horizontal Split layout, which contains two sections, you'll be able to select from only two areas.

- **Notes:** Allows you to enter the text of any notes that will appear at the bottom of the printout.

  Tip: To force the text to wrap to the next line, type a left apostrophe (`) at the end of the line of text. In a normal word processor application, you'd use the Enter or Return key to do this.

- **Show Additional Notes:** Allows you to enter information about such as Label Format, Test Weight and Package Quantity.

- **Printer:** Allows you to select either Black and White (B+W) or Color printing.

- **Double Stack Unitload:** Allows you to print output as a double-stacked unitload.

- **Print Analysis Name:** Allows you to print the analysis name on the printout. This will appear at the top center of the report.

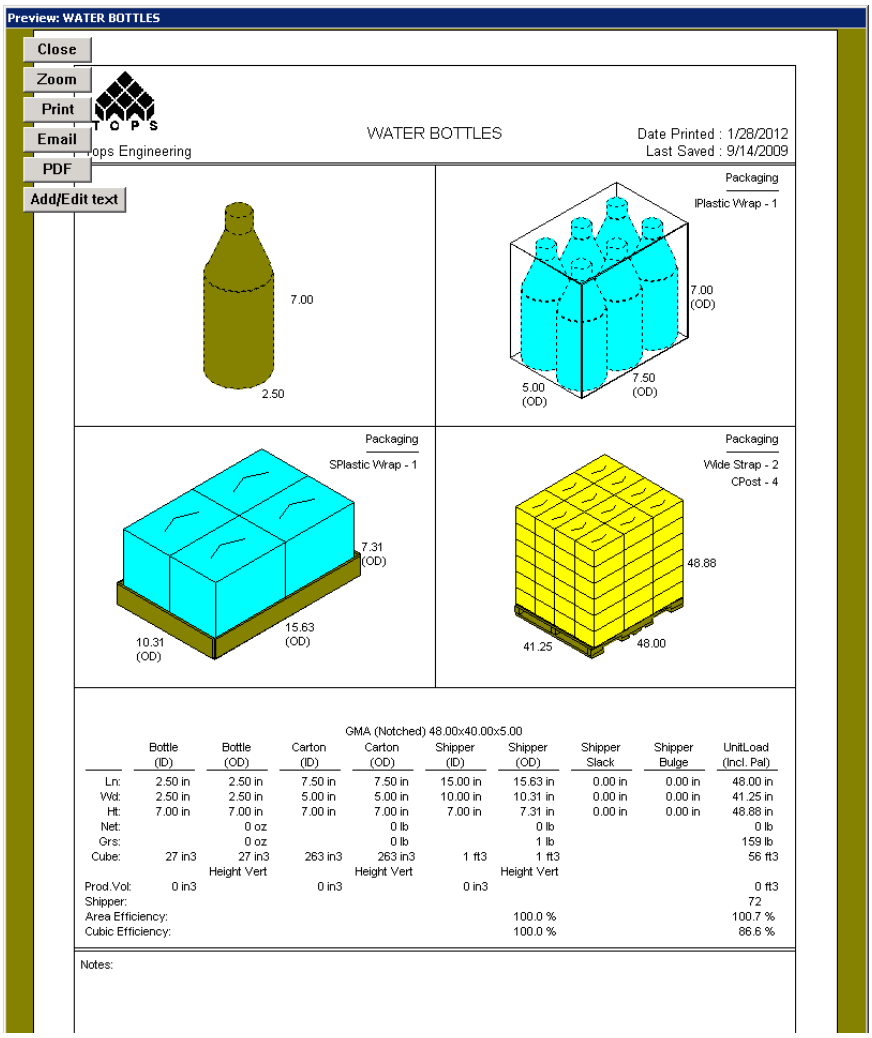
- **Show Graphics/C.A.S.Y.:** Allows you to show graphics or CASY design in the printout.

  Note: If the analysis includes both graphics and a CASY design, the system will display the CASY design, not both.

- **Font:** Here you can select the font on the preview screen. The text can be displayed in the following 3 sizes.

  - Regular: Helvetica 10 pt.
  - Small: Helvetica 8 pt.
  - Very Small: Helvetica 6 pt.

- **Package Instruction:** Here you can select whether to include previously defined package instruction in the printout for each stage of the design sequence. When included, specify whether to show them with the 3D graphics or in the packaging section after the different print areas.



Notice the following things about the Print Preview panel:

- This zoom-out state is a rough approximation of the actual printout. For a more accurate view, zoom in.
- The **analysis name** appears in the top, center of the printout and reads "Water Bottles."
- The **heading** appears in the top, left of the printout and reads "Print Example".
- The **date** appears in the top, right of the printout. TOPS Pro automatically inserts both the date printed and the date modified.

  Note: At this time, there is no way to exclude the date, user name or page number from the printout.
- **Area 1** displays a graphic of the Primary Pack

- **Area 2** displays a graphic of the Intermediate Pack 3D View together with the package instruction.
- **Area 3** displays a graphic of the Case 3D view and package instruction.
- **Area 4** displays a graphic of the UnitLoad 3D view and package instruction.
- **Area 5** displays statistics of the Unitload.
- The **Close button** allows you to return to the analysis view.
- The **Zoom button** allows you to magnify the panel and get a closer, more detailed look at the output. Zoom also allows you to annotate your printout.
- The **Print button** sends the output to the selected printer.
- The **Email button** opens your mail application and attaches a standard printout as a (.jpg) to be emailed directly to another person.

  Note: For more information, please refer to Chapter 2, The Basics.
- The **PDF button** allows you to save the current report into a PDF file.
- The **Add/Edit text button** allows you add/edit annotation and/or simple lines and arrows to the output.

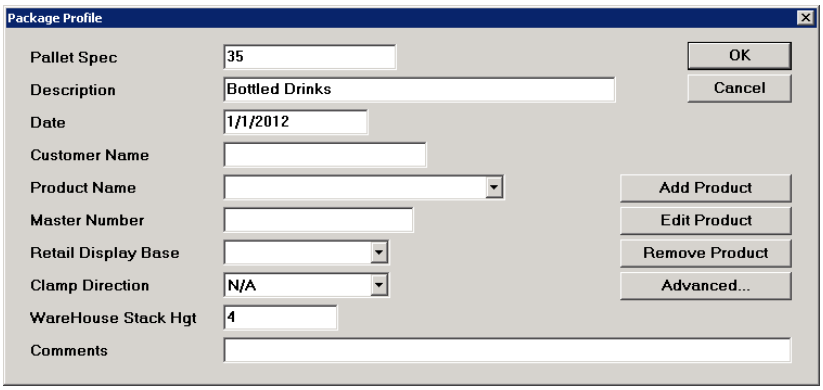
Note: To change the logo in the report, please refer to page 2-37.

Print Preview – Package Profile

For a package profile, TOPS Pro allows you to print a pre-defined report. To display the Print Preview for a package profile, start from the Control Panel and follow these instructions:

1. Go to the Menu Bar and open the File menu.

2. Select Print Preview, then select Package Profile. The Package Profile dialog box appears, as pictured below.



   We are using the Water Bottles analysis in the previous example to create a package profile.

3. Use the following fields to enter package profile parameters. Use the Tab key to move from field to field. For the purpose of this example, we'll enter the following parameters:

   - **Pallet Spec:** Enter the specification number for the pallet style. By default, TOPS Pro suggests a unique spec ID.

   - **Description:** Enter a description of the package profile being created.

   - **Date:** Enter the current date to specify when the package profile was created.

   - **Customer Name:** Enter a customer name for this product package profile if desired.

   - **Product Name:** Use the drop-down list to select a product name associated with the package profile or type in the first few letters of the product.

     Note: The drop-down list displays products that have been added to this profile. You'll use this field to edit or delete a product.

- **Master Number:** Enter the master number associated with the package profile.

  Note: You can use this field for any numeric value. To rename the field, use the Text Modification dialog box. Please refer to Appendix B, Dialog Boxes.

- **Retail Display Base:** Not implemented.

- **Clamp Direction:** Use the drop-down list to select the clamp direction associated with the package profile.

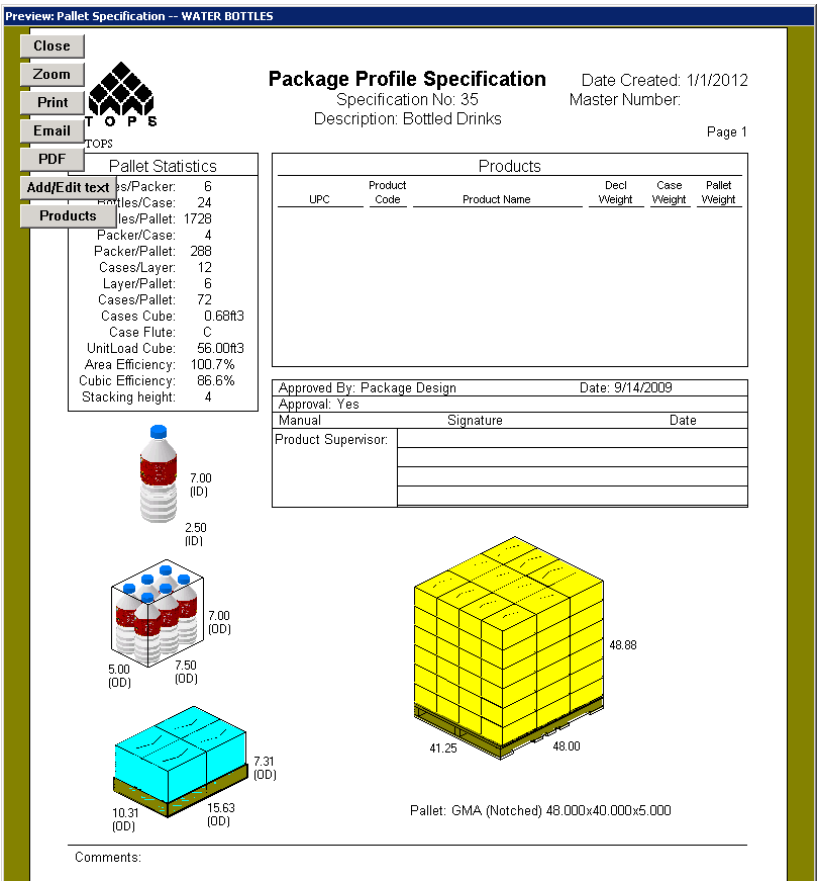
  Note: The printout will show clampability arrows on the unitload according to your input here. Unlike the clampable option on the UnitLoad Options dialog box, the clamp direction does not affect the calculations.

- **Warehouse Stack Hgt:** Enter the maximum stacking height for your warehouse.

  Note: Like the Master Number field, you can use this field for any numeric value.

- **Comments:** Enter the text of any comments that are relevant to the package profile.

4. After completing the package profile parameters, click on OK. The Print Preview panel appears, as pictured below.



Notice the following things about the Print Preview panel:

- The **pallet specification number, description, date created** and **master number** appear in the top of the printout. These items match the information you entered on the Package Profile dialog box.
- A series of **pallet statistics** appears in the top, left of the printout.
- The **Products section** displays a variety of information about the products included in the package profile.
- A number of **graphic views** appear in the bottom and left portions of the panel.
- The **Comments area** displays any comments you entered on the Package Profile dialog box.
- The **Zoom button** allows you to magnify the panel and get a closer, more detailed look at the output.
- The **Print button** sends the output to the printer.

- ❖ The **Email button** saves the report as a JPEG and attaches it to your email client.
- ❖ The **PDF button** allows you to save the report to a PDF file in a specified directory.
- ❖ The **Add/Edit text button** allows you add/edit annotation and/or simple lines and arrows to the output.

5. To print the output, click on the Print button. The system sends the print preview output to the printer.

Annotate a Printout with Text

After you've designed and generated your analysis output or the package profile, the system allows you to annotate a printout with text before you print it. This allows you to customize and enhance the output's presentation.

To add text to the analysis output, start from the Print Preview panel and follow these instructions:

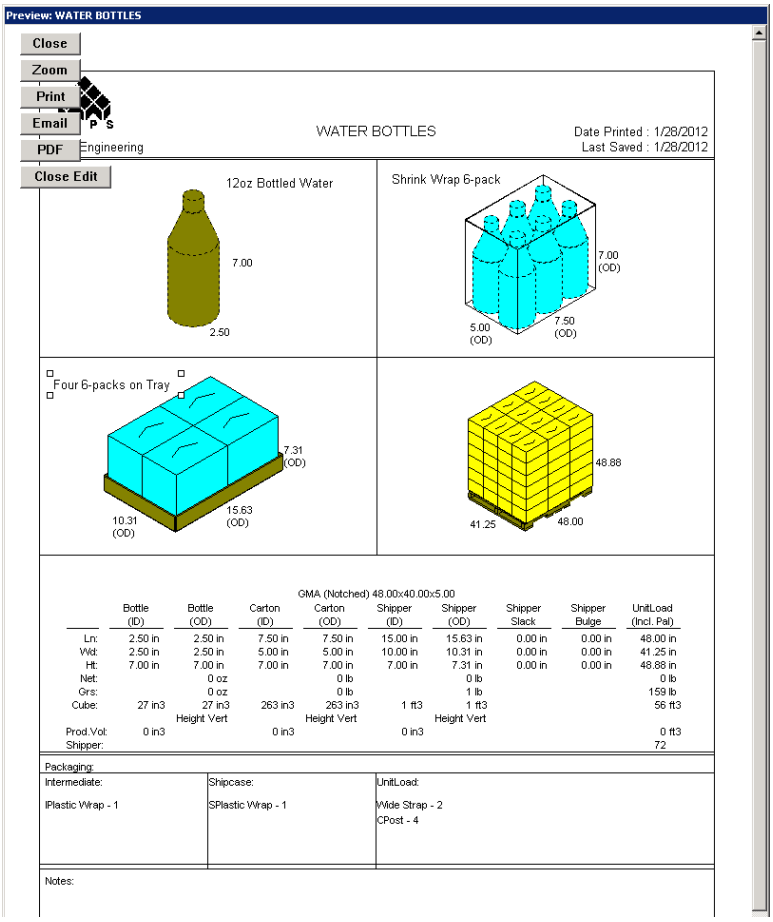
1. Click on the Add/Edit text button. The system magnifies the Print Preview panel.

2. Click on the area of the output where you want to enter text. The system displays a four-cornered entry field (▫ ▫) with the cursor positioned inside the field. Notice that you can "drag" the entry field to any position on the screen.

   Note: To make copies, hold down the Control key (Ctrl) while dragging.

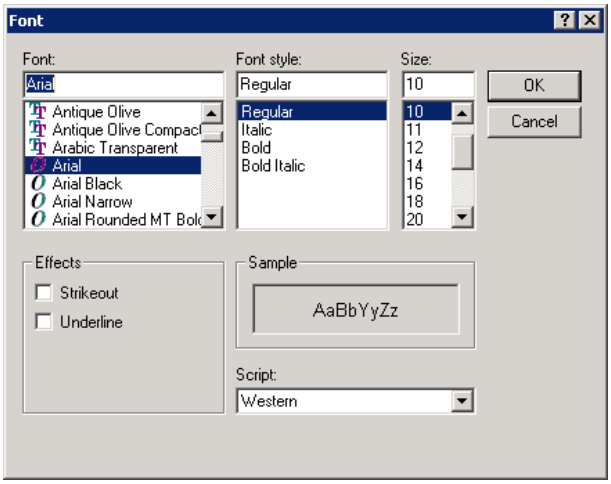
3. Enter the text that you want to appear in the selected area. In this exercise (with the Water Bottles analysis), enter text as follows:

   - ❖ In Area 1 (primary pack), click above the graphic and enter this text: "12oz Bottled Water."
   - ❖ In Area 2 (top right), click above the graphic and enter this text: "Shrink Warp 6-pack".
   - ❖ In Area 3 (bottom right), click above the graphic and enter this text: "Four 6-packs on Tray".



Note: In this print Preview, the package instructions are included in a section below the layout.

4. To change the font and/or font size, highlight the text, open the Text menu on the menu bar and select Font. The Font dialog box appears, as pictured below.



5. Use the Font dialog box to select the font, font style and/or size and click on OK. TOPS Pro returns you to the Print Preview panel.

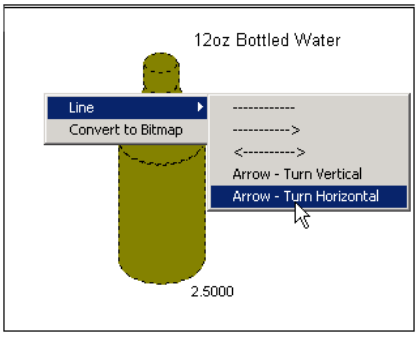
   If no text has been selected, this new font will apply to all new texts to be added.

6. Drag the text fields so they're positioned where you want them.
7. After adding the text, click on the Print button. The system sends the analysis output to the printer.

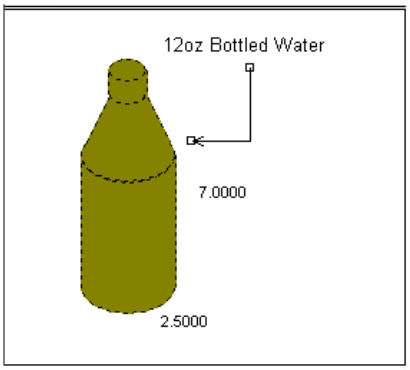
Insert Arrows or Lines on a Printout

To add lines or arrows on the printout, use the right-click menu while in the Edit screen. Follow these steps to add arrows pointing the annotated texts added to the graphics in each area.

1. Click the right mouse button while in the zoom in or edit mode.
2. A small menu pops up, select Line and then Arrow – Turn Horizontal as pictured below.



3. Bring the mouse cursor starting from the annotated text towards the bottle as shown below.

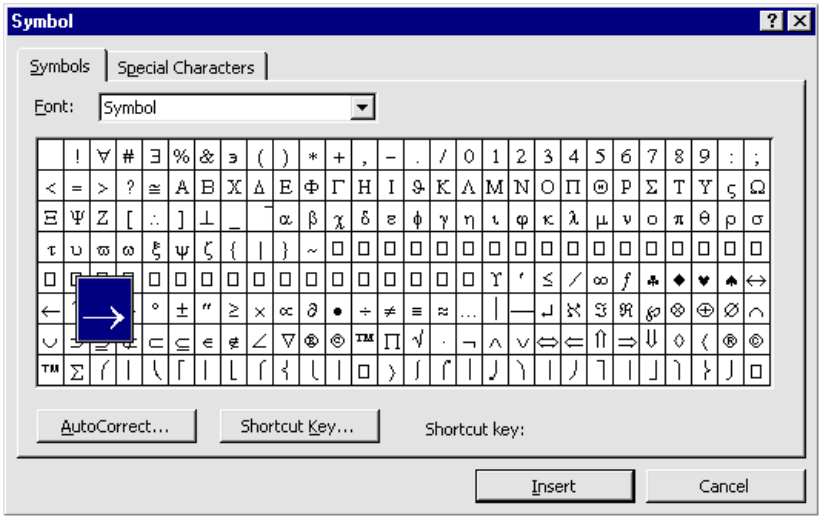


4. Release the mouse button to add the turned arrow.

Use the same method to insert straight arrows or lines in the printout.

Another way to add small arrows is to use a symbol font. This involves using the Alt key and the numeric keypad to insert keystrokes that are not usually available. This method offers an advantage over using bitmaps – these arrows have transparent backgrounds and won't obliterate the area on the printout where they're placed.

Most fonts have more symbols than the normal 26 letters, 10 numbers and punctuation symbols. A font often includes arrows, trademark symbols, accented characters, etc. In Microsoft Word, if you open the Insert menu and select Symbol, the Symbol dialog box appears, as pictured below. You can also use the Windows Character Map feature, located in the Accessories folder.



If you highlight a symbol – such as the right arrow (→) – a number appears on the status bar; for example, 174. This number represents the ASCII code for the selected symbol and the selected font.

The following steps allow you to insert these characters into most programs, even if they don't have an Insert Symbol feature. To insert characters into a TOPS Pro printout, follow these instructions:

1. Go to the Print Preview Screen and zoom in.

2. Click on the screen to insert text.

3. Make sure the keyboard's Num Lock light is on.

4. Open the Text menu and select Font to display the Font dialog box.

5. Select the font you want to use.

Note: To insert arrows onto the printout, use the Symbol or Wingdings font. To simply bold or italicize the text, use the active font should be sufficient.

6. Hold down the Alt key on your keyboard.

7. While holding down the Alt key, type the ASCII number for the symbol you want to insert with a zero (0) in front; for example, type 0172. Use the table below as a guide.

8. Release the Alt key. TOPS Pro inserts the selected symbol onto the printout. You may need to adjust the font size to make it more legible.

Common ASCII Codes for Symbols

Symbol Font				Wingdings Font					
0171	↔	0219	⇔	0223	←	0231	🡐	0239	⇦
0172	←	0220	⇐	0224	→	0232	🡒	0240	⇨
0173	↑	0221	⇑	0225	↑	0233	🡑	0241	⇧
0174	→	0222	⇒	0226	↓	0234	🡓	0242	⇩
0175	↓	0223	⇓	0227	↖	0235	🡔	0245	⇖
1076	°	0226	®	0228	↗	0236	🡕	0246	⇗
		0227	©	0229	↙	0237	🡗	0247	⇙
		0228	™	0230	↘	0238	🡖	0248	⇘

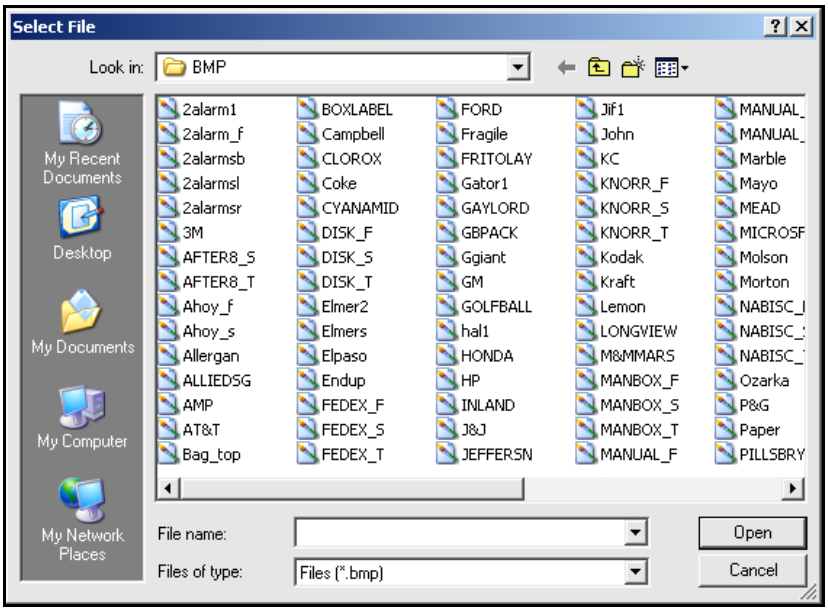
Annotate a Printout with Graphics

After you've designed and generated your analysis output, the system allows you to add text to the output before you print it. This allows you to customize and enhance the output's presentation.

To add a graphic image to the output, start from the Print Preview panel and follow these instructions:

1. Go to the Menu Bar and open the Edit Menu.

2. Select Paste Pict From File. The Select File dialog box appears, as pictured below.



   Notice that this dialog box displays a list of bitmap files.

3. Select the tops.bmp file and click on OK. The Print Preview panel redisplays with the selected TOPS Pro bitmap file inserted into the output.

4. Drag the image to the area where you want it to appear.

5. Open the Edit menu and select Paste.

6. System Response: Windows copies the image from the clipboard and pastes it to the output.

7. After adding the graphic, click on the Print button. The system sends the analysis output to the printer.

Tips for Working with Graphics

When you're using graphics to annotate a printout, keep these tips in mind:

- Graphics are resizable. To resize a graphic image, press the Control key and use the corner tabs to drag and resize the graphic. The Control key allows you to resize the graphic – wider, thinner, shorter, taller – without distorting the image proportions.
- To make copies of a graphic image, hold down the Ctrl key and move the image from one point to another.
- To restore a graphic image to its original size, follow these instructions:

    1. Click on the image.
    2. Open the Picture menu and select Restore Size.

- To edit bitmap images, follow these instructions:

    1. Double-click on the image. The Windows Paintbrush application opens with the selected image ready to be edited.
    2. Use Paintbrush to make any necessary edits to the graphic image.
    3. Save your work in Paintbrush and close the Paintbrush application. TOPS Pro returns you to the Print Preview panel in Zoom mode. The edited graphic has been inserted in its original area of the panel. The graphic has a tab on each corner that allows you to resize the image, if necessary.
    4. Open the Edit menu and select Refresh.
    5. If the edited graphic is correct, click on the Print button.

Edit a Graphic Image in Print Preview

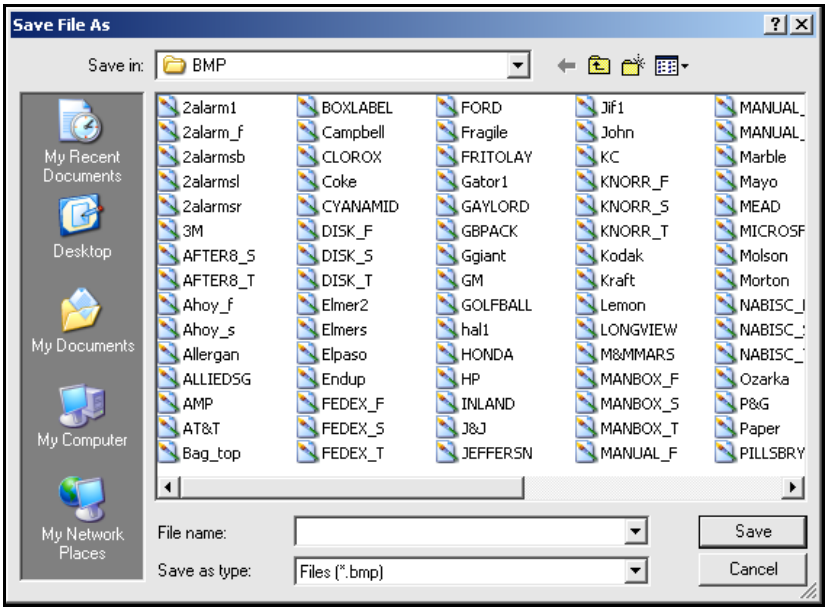
You might decide to edit the graphic image in the print area before you print the output. To edit a graphic image in Print Preview, start from the Print Preview panel and follow these instructions:

1. Click on the Zoom button.

2. Right-click on the graphic image in the print area you want to edit. Select Convert to Bitmap in the pop-up dialog box.

3. Click on Yes to confirm converting the graphic in the selected print area (pane) to a bitmap.

4. The Save File As dialog box appears, as pictured below, and prompts you to enter a file name for the graphic.



5. Enter a file name for the graphic and click on OK.

6. Edit and resize the graphic image using the instructions outlined on page 11-15 in the previous section, Tips for Working with Graphics. Save the image when editing is done.

7. When you re-open the Print Preview for the analysis, the edited graphic will appear.

8. It this is the way you want it, click on the Print button to send the report to the selected printer.

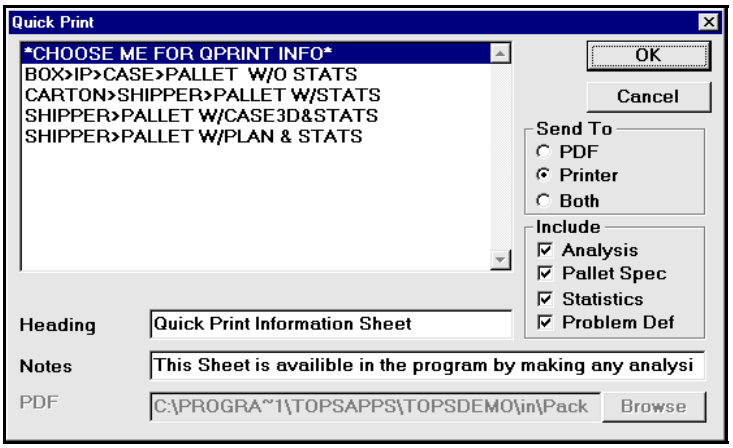
Quick Print

The Quick Print feature allows you to create and use a standardized printing template and print output for an analysis, based on the selected template. This feature allows you to print output for an analysis without manually defining parameters on the Print Parameters dialog box.

To print output using the Quick Print feature, start from the Analysis View and follow these instructions:

1. Go to the UnitLoad View and make sure it is the currently active pane with a highlighted title bar.

2. Click on the Print button and select QPrint. The Quick Print dialog box appears, as pictured below.



3. Select the template you want to use to print the analysis.

   Note: The window contains a list of standardized printing templates. Each template has a standard print output coded for it. This feature allows you to print output for an analysis without manually defining parameters on the Print Parameters dialog box. For information about creating Quick Print templates, please refer to Chapter 15, Supervisor Functions.

4. Use the following fields to enter Quick Print parameters. Use the Tab key to move from field to field.

   - **Send To:** Select an option – PDF, Printer or Both – to specify a print destination.

- **Include:** Select one or more options – Analysis, Pallet Spec, Statistics, Problem Def – to specify what will be included in the printout.
- **Heading:** Enter the text of the heading that will appear at the top of the printout.
- **Notes:** Enter the text of any notes that will appear at the bottom of the printout.
- **PDF:** If you select PDF or Both in the Send To field, use the Browse button to select a PDF file to print to.

  Note: This option is integrated with and requires the Adobe Acrobat software product. Without Acrobat, the PDF option will not work.

5. After completing the Quick Print parameters, click on OK.

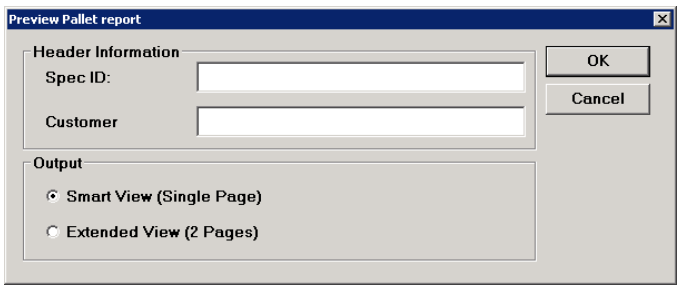
On how to create a Quick Print template, please refer to Chapter 15, Supervisor Functions.

Pallet Report

The Pallet Report has a predefined format and provides summary and efficiency data on the shipcase and pallet level of the analysis. In the Extended View, it includes the Wal-Mart efficiency factors for selling unit and pallet unit cube utilization.

To generate a Pallet Report, follow these steps.

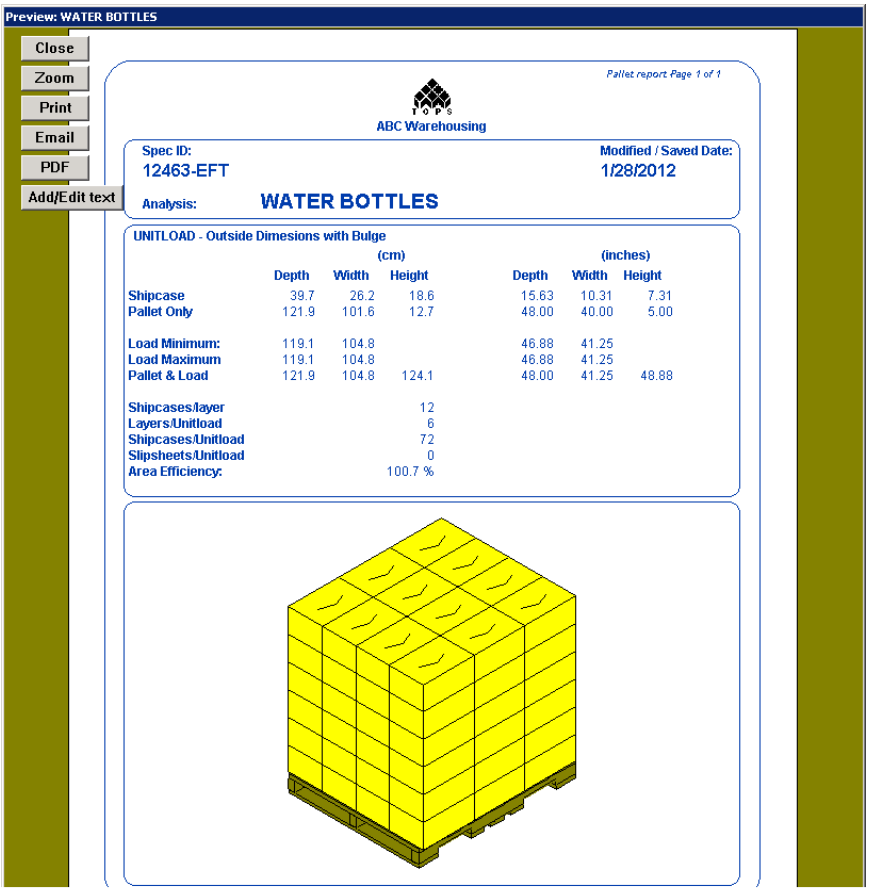
1. With the analysis open, go to the File menu on the menu bar
2. Select Print Preview and then Pallet Report. The following dialog box will open.



- **Spec ID:** Enter a code to identify the specification, if desired.
- **Customer:** Enter the customer name for the product, if applicable. This will be placed as the title for the report.
- **Output:** Select between Smart View and Extended View for the report.

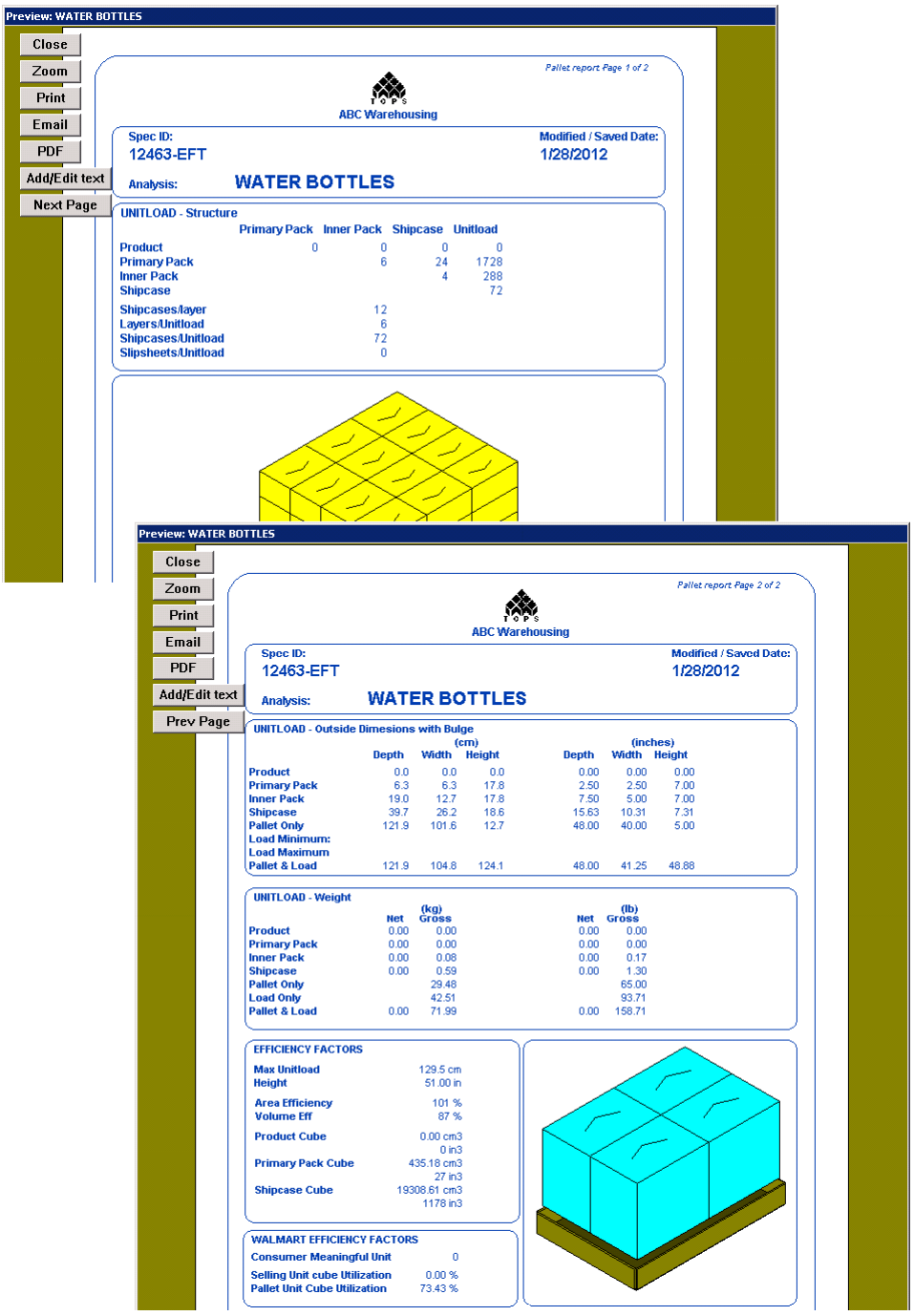
Pallet Report - Smart View

The Smart View is a single page report providing summary data on the shipcase and pallet in both English and metric unit plus a 3D illustration of the pallet load.



Pallet Report - Enhanced View

The Enhanced View provides a more comprehensive summary of the data together with efficiency data regarding shipcase and pallet utilization.



Combined Report: Compare Solution

The combined report function for solutions allows you to select up to five (5) solutions within the same stage of the analysis and place them side-by-side for comparison.

Using the same analysis Water Bottles as our example, we will create two combined reports, one at the shipcase stage and one at the unitload stage.

1. Go to the File menu, select Open option.

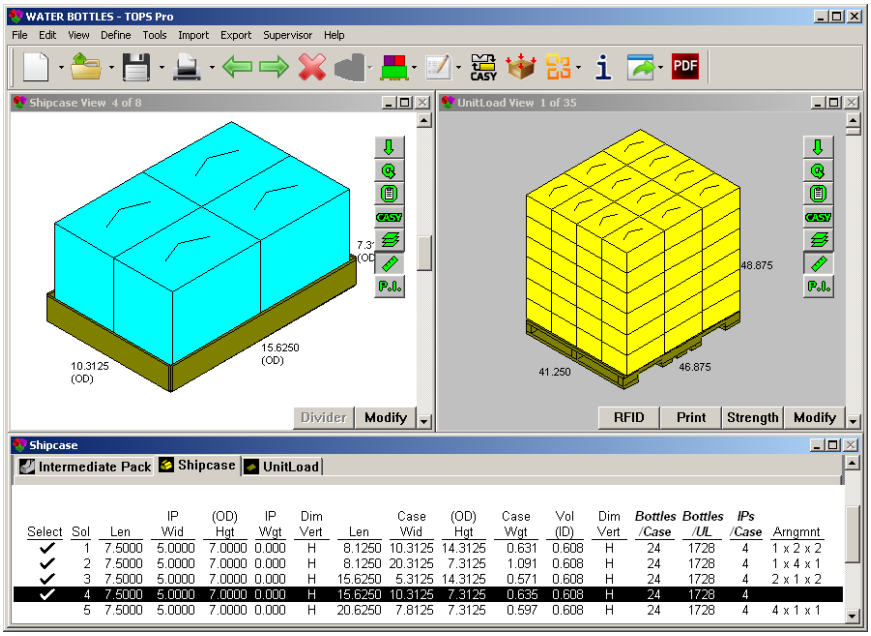
2. Highlight Water Bottles at the bottom of the Approved list and click on OK to open.

3. Click on the Cancel ( ) button on the tool bar to go access the Control Panel.

4. Click on Calc button to re-generate the solutions for the analysis.

5. Select the 6-pack (3x2x1) solution for the intermediate package and click on the Next ( ) button on the tool bar to go to the shipcase stage of the analysis. There are four shipcase solutions.

6. We will select all four solutions to create a combined report. To select, double click on each analysis in the Solution List Pane until a check mark appears against each solution under the Select column on the far left as shown on the next page.

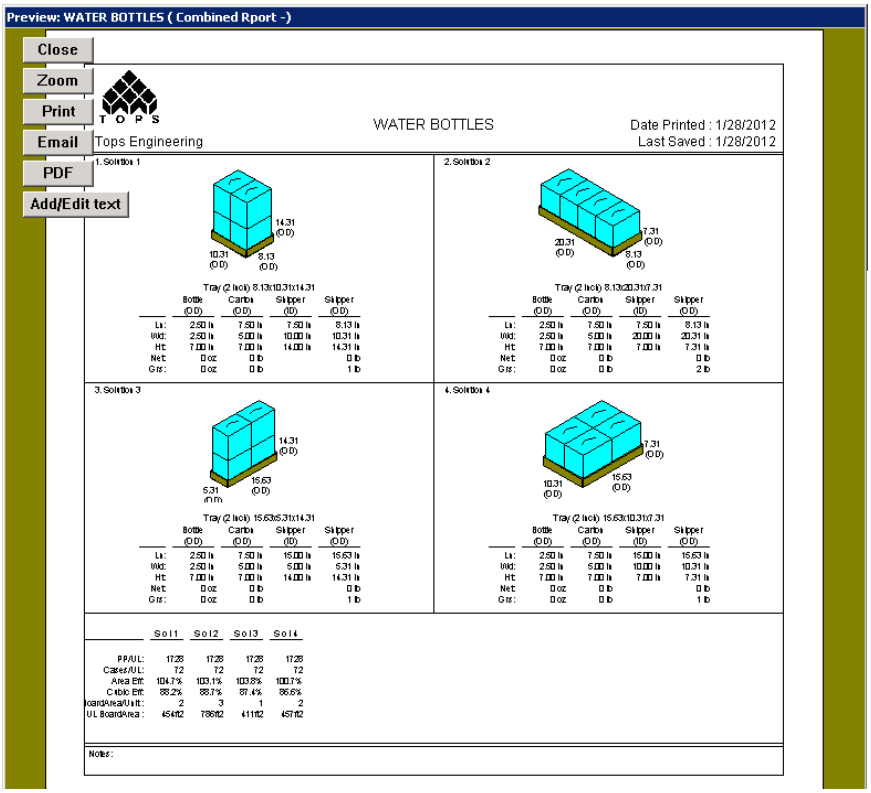


Select	Sol	Len	IP Wid	(OD) Hgt	IP Wgt	Dim Vert	Len	Case Wid	(OD) Hgt	Case Wgt	Vol (ID)	Dim Vert	Bottles /Case	Bottles /UL	IPs /Case	Arngmnt
✓	1	7.5000	5.0000	7.0000	0.000	H	8.1250	10.3125	14.3125	0.631	0.608	H	24	1728	4	1 x 2 x 2
✓	2	7.5000	5.0000	7.0000	0.000	H	8.1250	20.3125	7.3125	1.091	0.608	H	24	1728	4	1 x 4 x 1
✓	3	7.5000	5.0000	7.0000	0.000	H	15.6250	5.3125	14.3125	0.571	0.608	H	24	1728	4	2 x 1 x 2
✓	4	7.5000	5.0000	7.0000	0.000	H	15.6250	10.3125	7.3125	0.635	0.608	H	24	1728	4	
	5	7.5000	5.0000	7.0000	0.000	H	20.6250	7.8125	7.3125	0.597	0.608	H	24	1728	4	4 x 1 x 1

7. With the four solutions selected, go to the File menu, select Print Preview, then Compare Solutions.

8. The combined report, showing all four shipcase solutions, together with the comparison statistics for the shipcase, will be generated as shown on the next page.

   Note: You can also create the same report using the right click menu. With the mouse in the solution list pane as shown above, click the right mouse button to access a pop-up menu, then select Preview Multiple Solution.

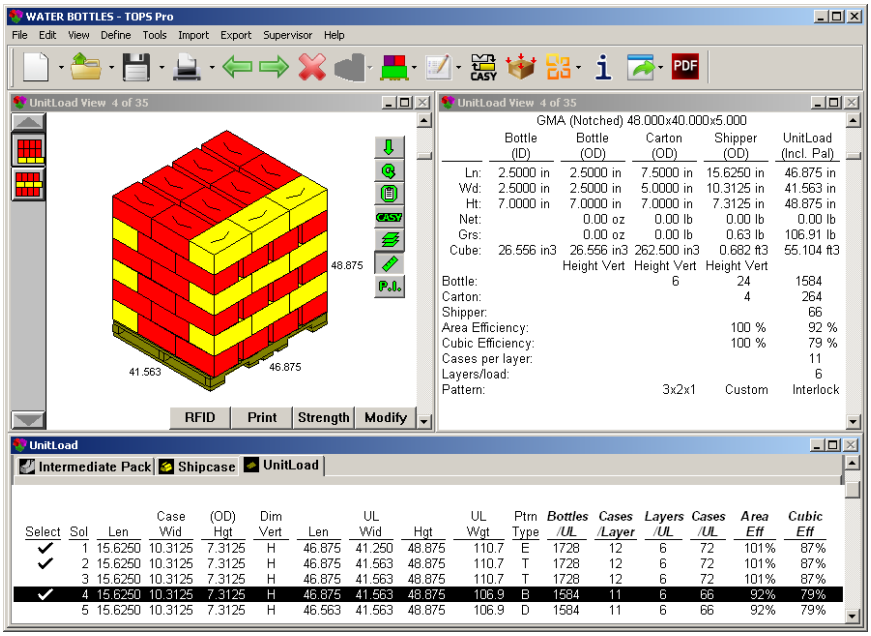


9. At the Print Preview screen, you can print, email or edit as desired.

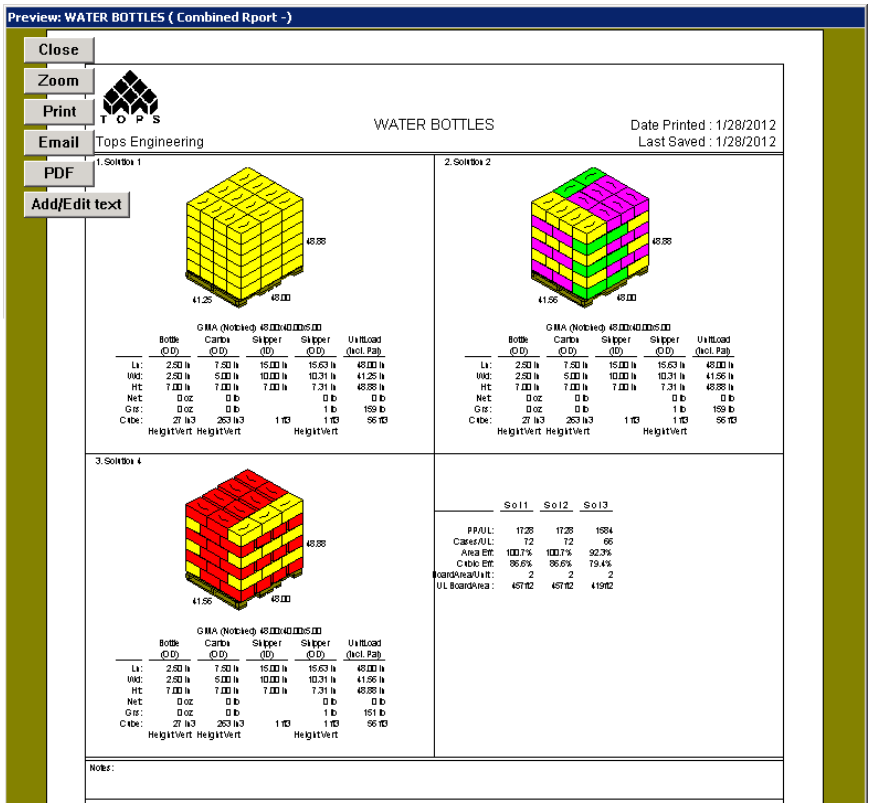
10. Click Close to return to the analysis view.

11. Let's select shipcase solution 4 and click the Next (⇨) button to move on to the unitload analysis.

12. At the unitload view screen, double click solutions 1, 2 and 4 as shown on the next page.



13. To create the combined report, go to the File menu, select print Preview, then Compare Solutions or use the right click menu as described in Step 8 to create the combined report pictured below.



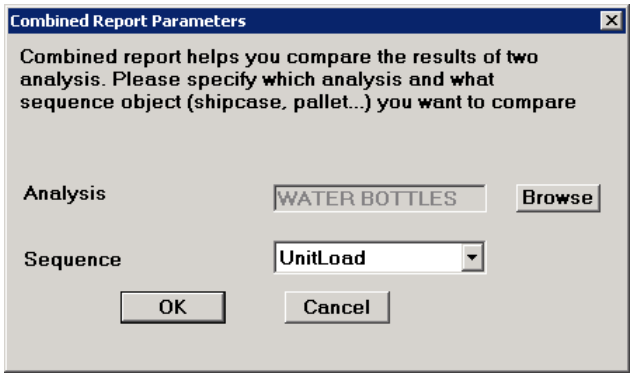
Combined Report: Compare Analysis

The combined report function places any two analyses side-by-side for comparison. Users can specify which sequence of the analysis (intermediate pack, shipcase or unitload) to appear in the report. To create a combined report to compare across analyses, follow these instructions.

1. Go to the File menu, select Open the first analysis. In this example, highlight Water Bottles analysis from the list.

2. Go to File menu again, select Print Preview, then Combined Report.

3. The Combined Report Parameters dialog box, as pictured on the next page, will open.

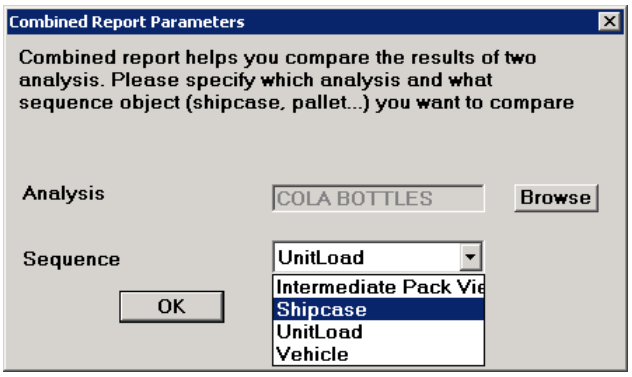


   - ❖ **Analysis:** Click the Browse button to select a second analysis to compare.

   - ❖ **Sequence:** Select from the drop down list box the sequence to appear in the report.

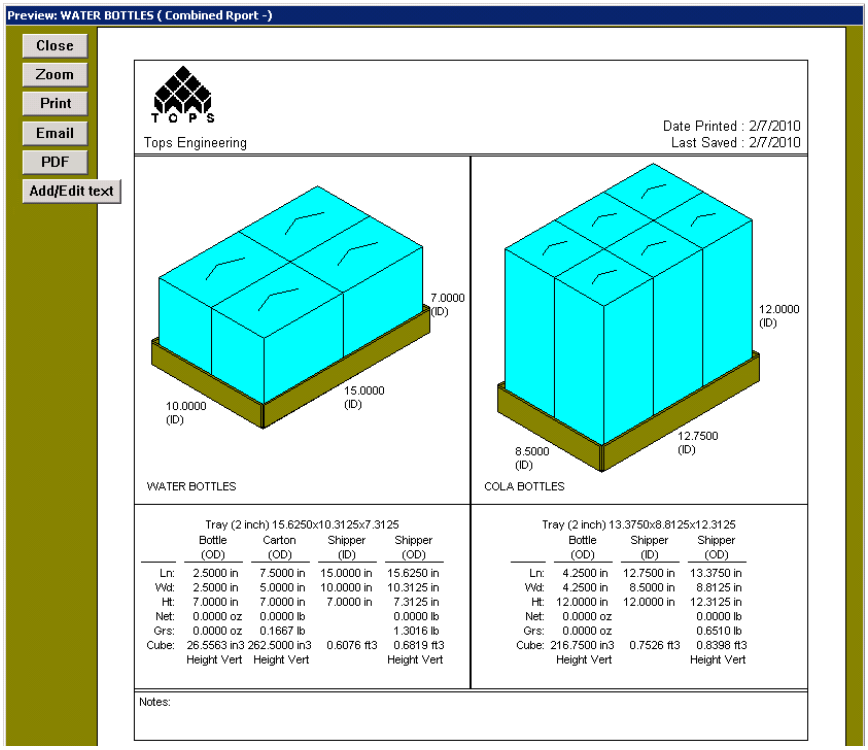
4. Click the Browse button to select a second analysis for comparison. Here, select the Cola Bottles analysis from the list.

5. For the sequence for comparison, click on the drop-down list to select Shipcase.



6. Click on OK and the combined report will appear in the preview screen as pictured on the next page.

7. You can choose to edit, zoom, print or email from the comparison report preview.



Combined Report for Knocked-Down and Erected Boxes

Users can use the combined report to include both knocked-down and erected palletizations of a shipcase.

To use the Combined Report feature for this purpose, both analyses must have the same name – with one exception. At the end of the erected analyses name, put "{Box}" and at the end of the knocked-down analyses name, put "{KD}"; for example, Sample{Box} and Sample{KD}.

Note: If the analysis has been saved with one of those two tags in the name, a button ( ) appears on the Windows Tool bar to facilitate switching between the two analyses. (Note that this feature is not available to Loadstack licensees.)

To access this special Combined Report feature, follow these instructions:

1. Correctly name the analyses, using the guidelines above.

2. Use one of two options:

   - Open the File menu, select Print, then select Combined Report.
   - Open the File menu, select Print Preview, then select Combined Report.

   The Combined Report Print Preview panel appears.

3. Annotate or add graphics as necessary.

4. After completing the annotations or graphics, click on Print. TOPS Pro sends the Combined Report to the printer.

If you need assistance, contact TOPS Technical Support.

Printer Width

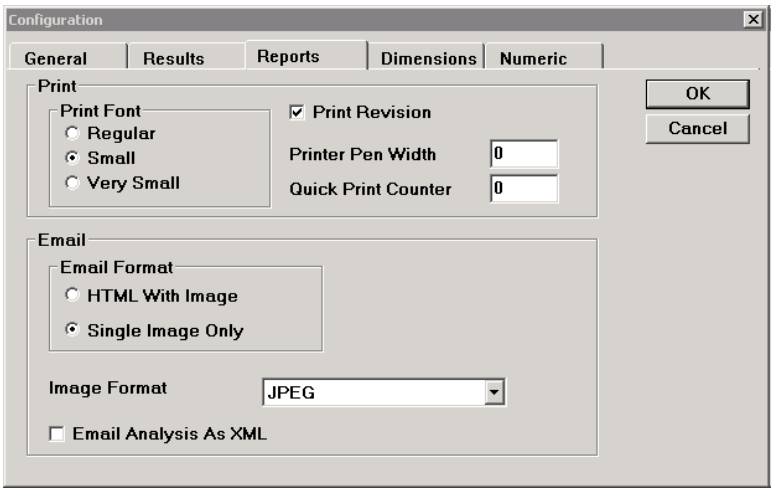
The printer width refers to the thickness of the lines in a graphic or text when you print an analysis. The default for printer width is zero, which is a hairline width. You might want to make the printed lines thicker; for example, to improve fax documents. If so, TOPS Pro allows you to change the printer width in Configuration.

Note: If the Show Graphics feature is turned on, the printer width will have no effect.

To change the printer width, follow these instructions:

1. From the Menu Bar, open the Tools menu.

2. Select Configuration and go to the Reports tab.



3. In the Printer Pen Width field, enter a value to specify the line thickness with which you want to print. A line thickness of 4-7 is usually a good width.

4. If you're satisfied with the printer width, click on OK. The system saves the updated configuration to the database and returns you to the previous screen.

Chapter 12: Designing Box Styles

Introduction

TOPS Pro contains a number of pre-defined box styles in its database, but also allows you to design box styles to meet your unique needs. When you design a box style, you'll use one of the following basic box drawing styles:

- Common Footprint Standard
- Display Case
- Display Tray
- HSC
- HSC with Top
- RSC
- Shrinkwrap
- Shroud
- Solid
- Strap Bundle
- Tear Out
- Tray
- Tray/HSC
- Tuck
- Wrap Around

These basic box drawing styles are your starting point. Every box style in TOPS Pro is drawn as a variation of one of these nine box drawing types. However, note that thicknesses and export name are common to all box drawing styles. You'll design a new box style primarily by revising the thicknesses built into the box style. This chapter provides guidelines for working with the nine basic box drawing styles.

General Guidelines

As you design box drawing styles in TOPS Pro, use the following guidelines:

❖ **Understand the assumed caliper of flutes.**

TOPS Pro calculates the allowance between inside dimensions (ID) and outside dimensions (OD) as the number of thicknesses of board times the caliper of the board.

The various flutes shipped with TOPS Pro and their corresponding calipers are listed in the table to the right. So, for a standard RSC there would be two thicknesses added along the length and width of a case, and four thicknesses added to the height of the case.

Shipped Flute Calipers

Flute	Caliper
A	0.18750
B	0.12500
C	0.15625
E	0.06300
F	0.06300
C/B	0.26700
A/C	0.26700
A/B	0.26700
E/B	0.00000

Assuming the case was constructed of C-flute material, this would result in an ID-to-OD adjustment of 5/16” (2 × 5/32”) along the length and width, and 5/8” (4 × 5/32") added to the height.

Note: If your company assumes that the ID/OD allowance for a C-flute RSC is 3/8”, 3/8” and 3/4" instead of 5/16”, 5/16” and 5/8”, then you will most likely want to adjust the default caliper of C-flute from 5/32” to 3/16”.

To do so, enter the TOPS Pro Configuration program, open the Define menu and select Flutes. On the Define Flute dialog box, change the thickness field to 3/16”. All newly created work will use 3/16" for the caliper of the C-flute.

❖ **Calculate thicknesses for a standard box style.**

For box styles that use only one type of material (a standard container), count the number of thicknesses in each direction – length, width and height. You'll enter the number of thicknesses for each direction on the Define Case Styles dialog box. TOPS Pro will calculate the inside/outside thickness adjustment as the number of thicknesses × the caliper of the material.

❖ **Calculate thicknesses for a non-standard container**

For a non-standard container (one that mixes materials), you'll have to make some adjustments. For example, a telescoping box style with mixed material – a C-flute bottom and a B-flute top. The thicknesses in this box style are non-standard, with different calipers for the top and bottom box material. In this case, calculate the thicknesses as follows:

1. Measure the inside/outside dimensions of the box.

2. Calculate the difference between the inside/outside dimensions for all three directions – length, width and height.

3. Divide each direction by the thickness of the flute you plan to use for this box. (TOPS recommends the B-flute in that it is a nice round 1/8th of an inch thick.)

4. The resulting value, including decimals, is the number of thicknesses along the length, width and height for the box drawing style.

If you need assistance with this process, please contact TOPS Technical Support.

❖ **Calculate thicknesses for a non-corrugated material.**

Suppose you're designing a milk crate, which in this example has an open top and wall made of one-inch thick plastic. The difference between inside and outside dimensions is two inches along length and width, and one inch along the height. Assume you'll use a B-flute when you use this box style. Calculate how many B-flutes will be big enough to account for the walls of the milk crate. Therefore, you'll design the box with 16 thicknesses along the length and width and eight thicknesses along the height.

❖ **Select a drawing style.**

As you design a box drawing style, the g.o.d. feature draws the box as you design it. You want the picture to be as accurate as possible to your finished product. On the Define Case Styles dialog box, go through the drawing styles and find the existing box style that best matches your needs.

Once you've selected the box style that comes closest to being drawn the way you would like, examine its box drawing style and parameters and use them as a base for creating your new style. When designing a new box style, TOPS recommends that you give it a new description, different than those shipped by TOPS. That way, when you upgrade, it will be possible to determine whether TOPS changed its data or you did.

Note: TOPS has provided Appendix E, Box Styles, to assist you in selecting a drawing style. You may also print the current database of box styles through the File menu, selecting Print Databases, then Box Styles. TOPS Pro will print all the box drawing styles in the database.

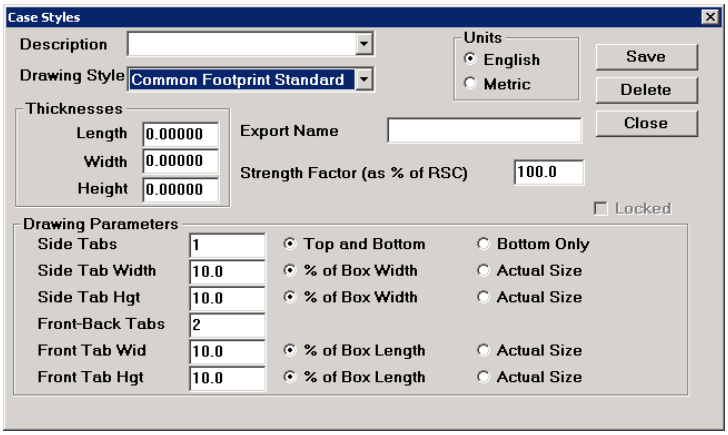
Box Style Drawing Parameters

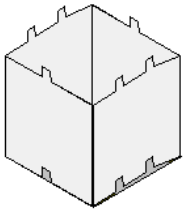
In the following sections, the parameters to illustrate each box style will be explained. However, only the drawing parameters will be described; these common parameters at the top half of each dialog box will not be repeated for each style:

- **Description:** Enter the name for the box style.
- **Drawing Style:** Select the box style from the drop list used to illustrate the new box style created.
- **Thicknesses Length/Width/Height:** These are self-explanatory and you should enter the thicknesses along the length, width and height of the box.
- **Export Name:** Enter the export name for the new box style. (This is optional.)
- **Strength Factor (as % of RSC):** Enter the stacking strength of the box, as a percentage, in relation to an RSC box.

Note: The parameters in the following sections are drawing parameters only; they are not used in to construct the box style.

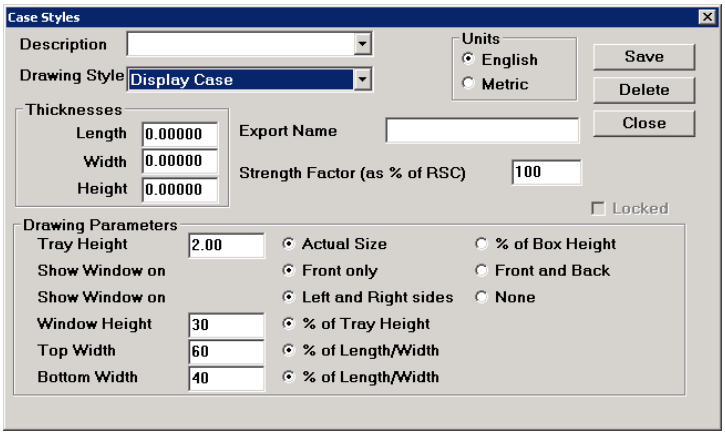
Common Footprint Standard

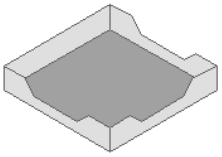




- **Side Tabs:** Select whether these tabs appear on the top and/or bottom side, then enter the number of tabs on the side of the box.
- **Side Tab Width and Height:** Select either Actual Size or % of Box Width, then enter the width and height of the tab.
- **Front-Back Tabs:** Enter the number of tabs on the front and back sides of the box.
- **Front-Back Tab Width and Height:** Select either Actual Size or % of Box Length, then enter the width and height of the tab.

Display Case

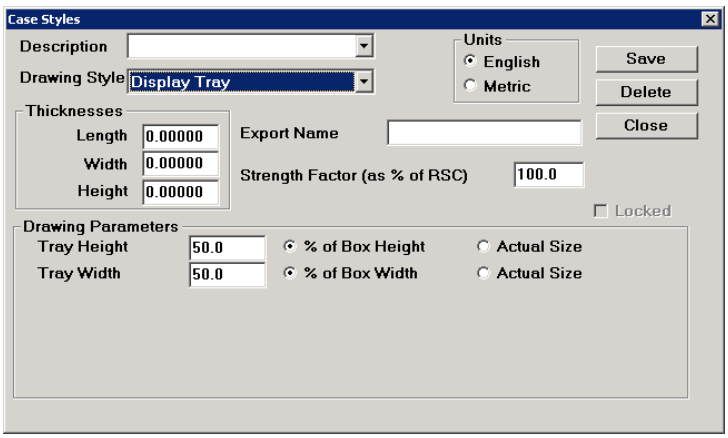


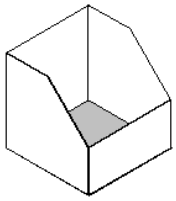


- **Tray Height:** Select either Actual Size or % of Box Height, then enter a value to define the size of the tray height.
- **Window:** Select Front only, Front and Back, Left and Right sides or None to define which sides will be lowered for display purposes.
- **Window Height:** Defines what portion of the sides will be lowered.

- **Top Width:** Defines what the top width of the side.
- **Bottom Width:** Defines the bottom width of the side.

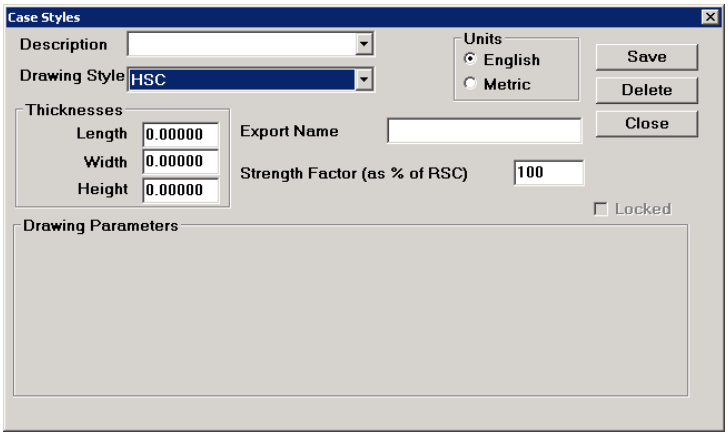
Display Tray

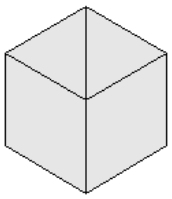




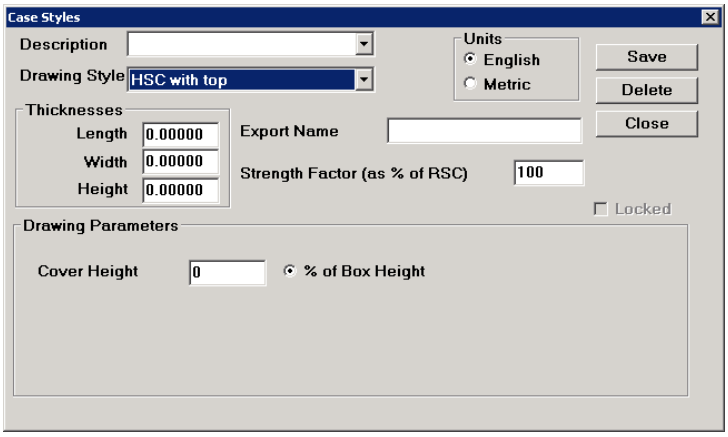
- **Tray Height:** Select either Actual Size or % of Box Height, then enter a value to define the size of the tray height.
- **Tray Width:** Select either Actual Size or % of Box Height, then enter a value to define the width of the tray.

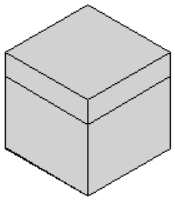
HSC





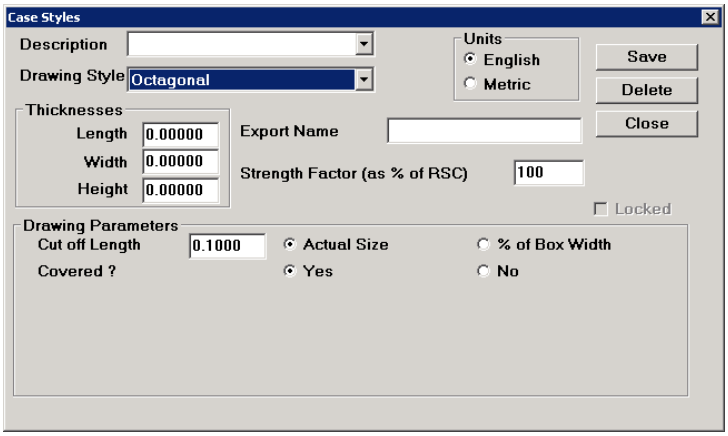
HSC with Top

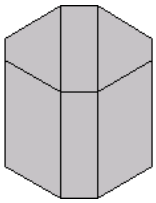




❖ **Cover Height:** Enter the height of the cover as an overall percentage of the box.

Octagonal

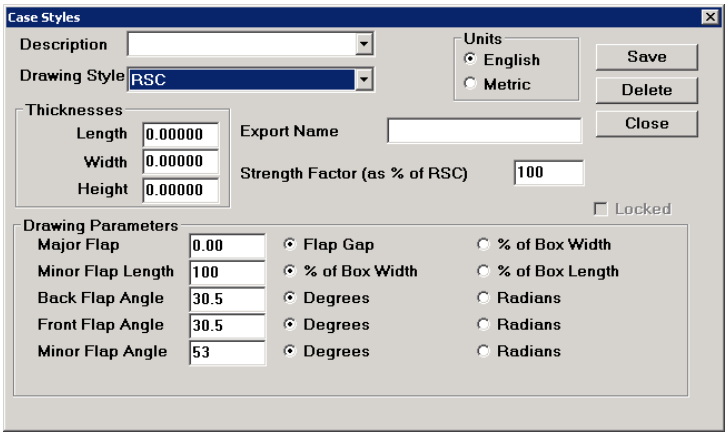


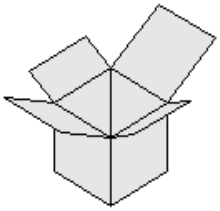


❖ **Cuff off Length:** Enter the length for the cut off (measured from the corner of a rectangular box) to make the octagonal box. Specify if the cut off length is in actual size (inches if in English and mm if in Metric) or as a percentage of the box width. For the latter option, it should be less than 50%.

❖ **Covered:** Specify whether the box has a cover or not by clicking the corresponding radio button.

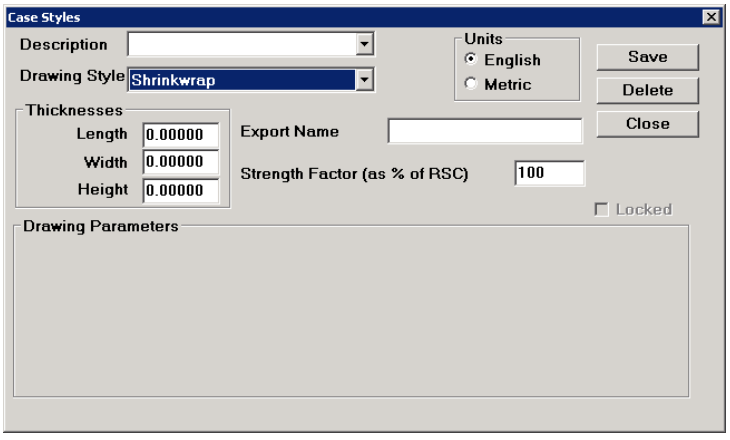
RSC

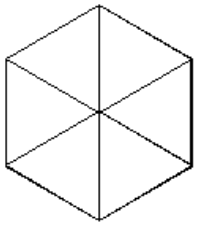




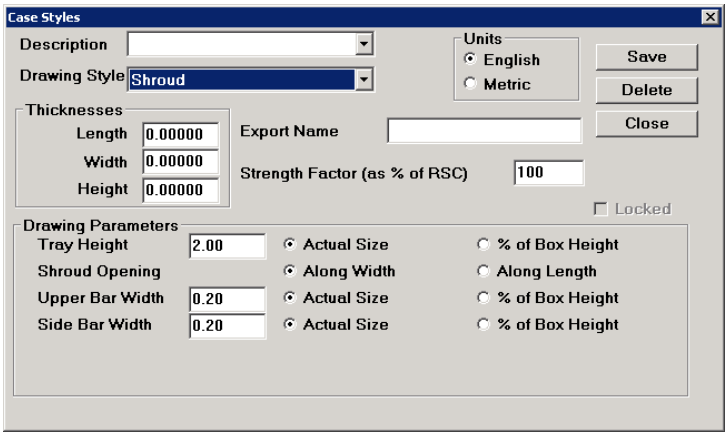
- **Major Flap:** Select either % of Box Width or % of Box Length, then enter a value to define the size of the major flap.
- **Minor Flap:** Select either Flap Gap or % of Box Width, then enter a value to define the size of the minor flap.
- **Back Flap Angle:** Select either Degrees or Radians, then enter a value to define the back flap angle.
- **Front Flap Angle:** Select either Degrees or Radians, then enter a value to define the front flap angle.
- **Minor Flap Angle:** Select either Degrees or Radians, then enter a value to define the minor flap angle.

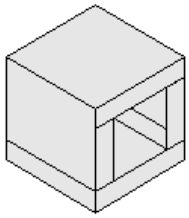
Shrinkwrap





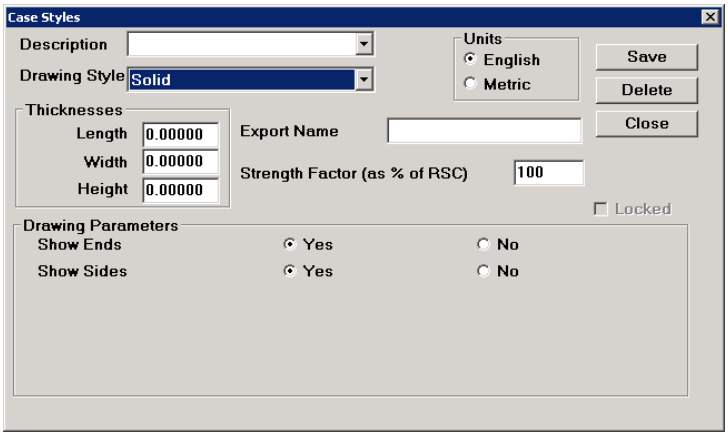
Shroud

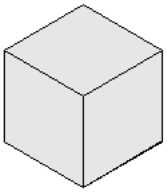




- **Tray Height:** Select either Actual Size or % of Box Height, then enter a value to define the size of the tray height.
- **Shroud Opening:** Select either Along Width or Along Length to specify where the shroud opening will appear.
- **Upper Bar Width:** Select either Actual Size or % of Box Height, then enter a value to define the size of the upper bar width.
- **Side Bar Width:** Select either Actual Size or % of Box Height, then enter a value to define the size of the side bar width.

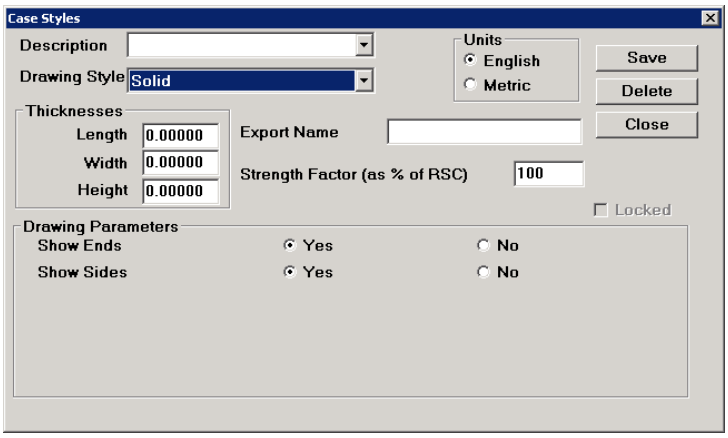
Solid

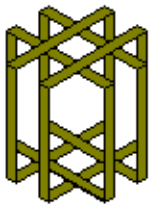




- **Shows Ends:** Select Yes to display the ends of the box..
- **Show Sides:** Select Yes to display the sides of the box.

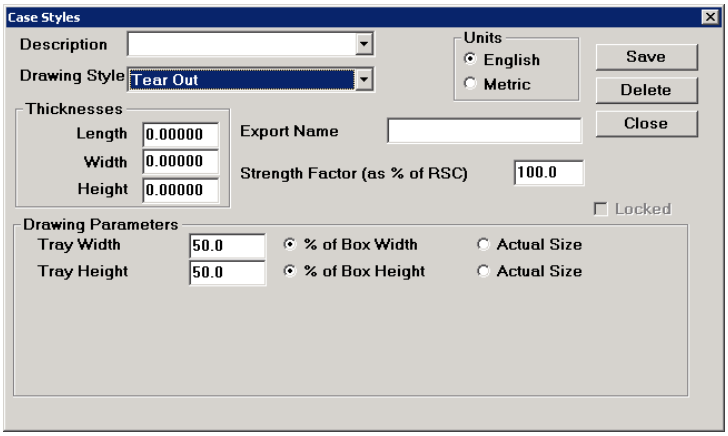
Strap Bundle

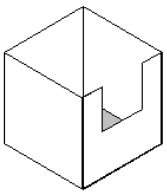




- **Length Straps:** Enter a value to define number of straps along the length of the box.
- **Width Straps:** Enter a value to define the number of straps along the width of the box.
- **Strap Width:** Enter a value to define the width of the straps.

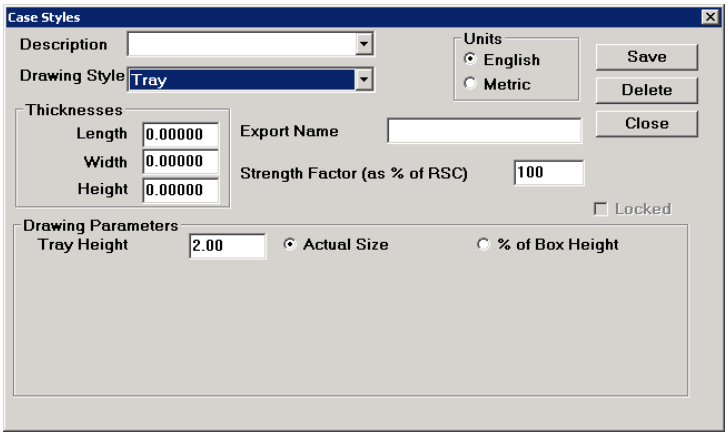
Tear Out

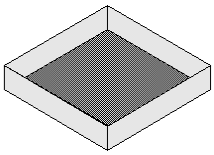




- **Tray Width:** Select either Actual Size or % of Box Height, then enter a value to width of the tear-out portion of the tray.
- **Tray Height:** Select either Actual Size or % of Box Height, then enter a value to define the height of the tear-out portion of the tray.

Tray



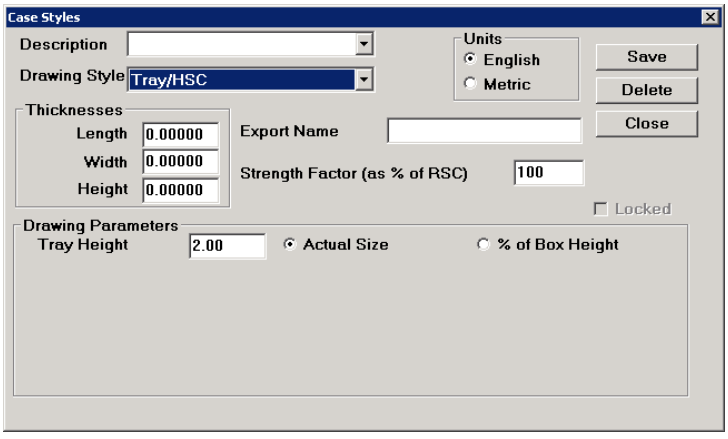


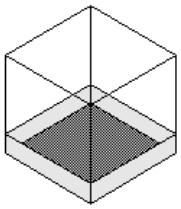
❖ **Tray Height:** Select either Actual Size or % of Box Height, then enter a value to define the size of the tray height.

Note: When filling trays designed with this box drawing style, TOPS Pro will automatically size the height of the tray to match the height of the product within the tray, plus the thicknesses along the tray height.

Also, if the resulting height of the tray being designed is smaller than the specified height of the tray walls, TOPS Pro will reduce the drawn height of the walls. That is, if you put a two-inch-high product into a three-inch-height tray, the walls will be only two inches high – actually two inches plus the number of thicknesses of the material at the chosen caliper.

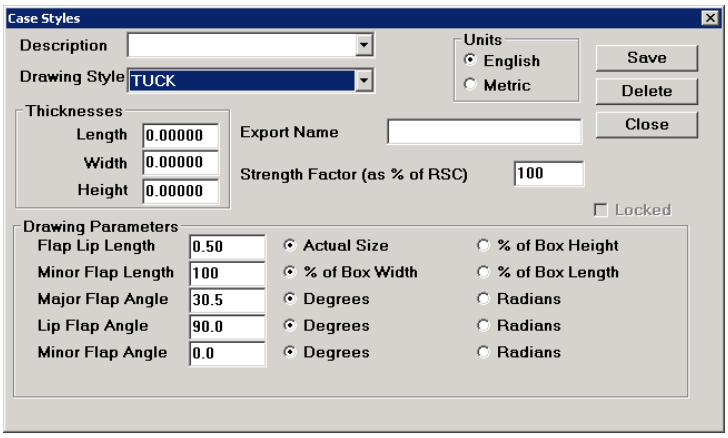
Tray/HSC

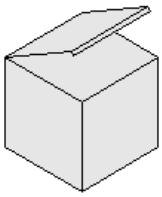




❖ **Tray Height:** Select either Actual Size or % of Box Height, then enter a value to define the size of the tray height.

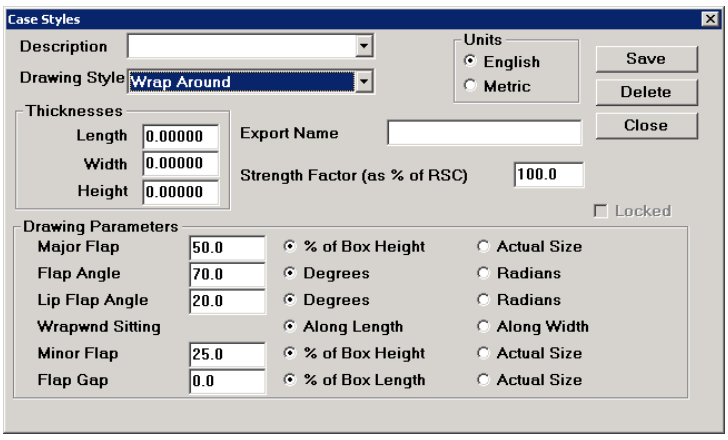
Tuck

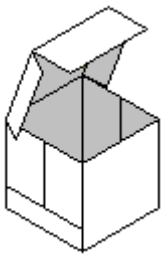




- **Flap Lip Length:** Select either Actual Size or % of Box Height, then enter a value to define the size of the flap lip length.
- **Minor Flap:** Select either % of Box Width or % of Box Length, then enter a value to define the size of the minor flap.
- **Major Flap Angle:** Select either Degrees or Radians, then enter a value to define the major flap angle.
- **Lip Flap Angle:** Select either Degrees or Radians, then enter a value to define the lip flap angle.
- **Minor Flap Angle:** Select either Degrees or Radians, then enter a value to define the minor flap angle.

Wrap Around





- **Major Flap Length:** Select either Actual Size or % of Box Height, then enter a value to define the size of the major (front) flap lip length.

- **Flap Angle:** Select either Degrees or Radians, then enter a value to define the major flap angle.
- **Lip Flap Angle:** Select either Degrees or Radians, then enter a value to define the lip flap angle.
- **Wrapwnd Sitting:** Select either Along Length or Along Width to specify the wraparound sitting.
- **Minor Flap Length:** Select either Actual Size or % of Box Height, then enter a value to define the size of the minor (side) flap lip length.
- **Flap Gap:** Select either Actual Size or % of Box Height, then enter a value to define the space between the side flaps.

Chapter 13: Designing Divider Styles

Introduction

TOPS Pro contains a number of pre-defined divider styles in its database, but also allows you to design divider styles to meet your unique needs. When you design a divider style, you'll use one of seven basic divider drawing styles:

- 2-Way Divider
- 2-Way Air Cell
- Z Partition
- U Partition
- U Simple
- Zig Zag
- Other Partitions
- U Over
- Custom

These basic divider drawing styles are your starting point. Every type of divider designed in TOPS Pro is a variation of one of these six divider drawing types. This chapter provides guidelines for working with the six basic divider drawing styles.

General Guidelines

As you design divider drawing styles in TOPS Pro, use the following guidelines:

- **Define number of thicknesses.**

  On the Define Dividers dialog box, if you leave thicknesses zero (0), TOPS Pro will automatically calculate the number of thicknesses along the length and width.

- **Define an arrangement.**

  On the Define Dividers dialog box, if you leave the arrangement zero × zero, TOPS Pro will autosize the divider to fit the quantity of items that go into the divider, if possible. If you're calculating stacking strength, be sure to always enter a specific value for the arrangement; this is because stacking strength usually varies on arrangement. If you're not calculating stacking strength, it's OK to leave the arrangement zero × zero.

- **Select a drawing style.**

  As you design a divider drawing style, the g.o.d. feature draws the divider as you design it. You want the picture to be as accurate as possible to your finished product. On the Define Dividers dialog box, go through the drawing styles and find the divider that best matches your needs.

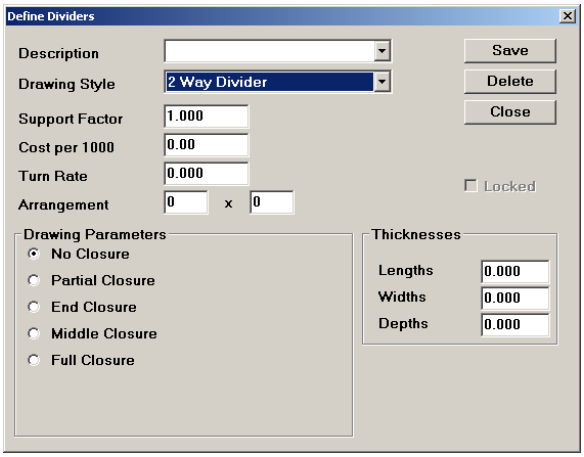
  Note: For easy reference, please refer to Appendix F, Divider Styles. As an option, go to the Menu Bar, open the File menu, select Print Databases, then select Dividers. TOPS Pro will print all the divider drawing styles in the database.

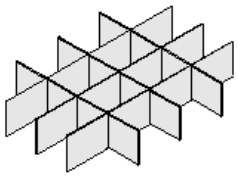
  Check the drawing parameters and revise them as necessary to meet your needs. When you've designed a new divider, give it a description and save it to the database.

  Be aware that the drawn dividers in TOPS Pro are limited to the simplest row/column patterns, with all items in the arrangement oriented the same way.

2-Way Divider

The 2-Way Divider drawing style, pictured below, is designed with the parameters displayed in the Define Dividers dialog box.



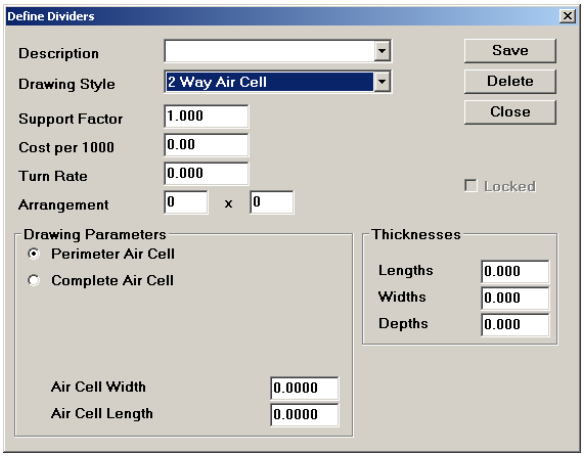


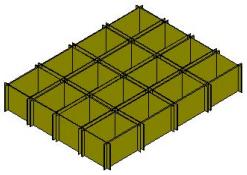
To use the 2-Way divider, work with the following parameters:

- **Support:** Enter the support factor provided by the divider.
- **Cost per 1000:** Enter the cost per 1000 units of the divider.
- **Turn Rate:** Enter the turn rate for the divider.
- **Arrangement:** Enter the arrangement of primary containers within the divider. For example, if the divider will accommodate three rows of 10 containers, enter 3 and 10.
- **Drawing Parameters:** Select a type of closure – No, Partial, End, Middle or Full – to specify how TOPS Pro will draw the divider.
- **Thicknesses Lengths/Widths/Depths:** Enter the number of thicknesses along the length, width and depth of the divider.

2-Way Air Cell

The 2-Way Air Cell drawing style, pictured below, is designed with the parameters displayed in the Define Dividers dialog box.



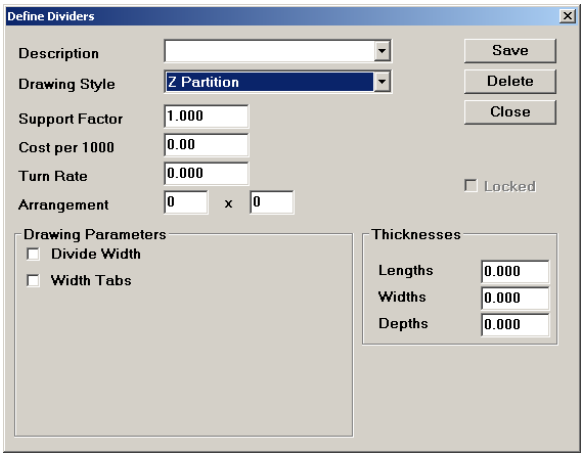


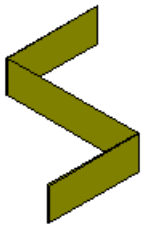
To use the 2-Way Air Cell, work with the following parameters:

- **Support:** Enter the support factor provided by the divider.
- **Cost per 1000:** Enter the cost per 1000 units of the divider.
- **Turn Rate:** Enter the turn rate for the divider.
- **Arrangement:** Enter the arrangement of primary containers within the divider. For example, if the divider will accommodate three rows of 10 containers, enter 3 and 10.
- **Drawing Parameters:** Select an option – Perimeter Air Cell or Complete Air Cell – to specify how TOPS Pro will draw the divider.
- **Air Cell Width:** Enter the width of the air cell.
- **Air Cell Length:** Enter the length of the air cell.
- **Thicknesses Lengths/Widths/Depths:** Enter the number of thicknesses along the length, width and depth of the divider.

Z Partition

The Z Partition drawing style, pictured below, is designed with the parameters displayed in the Define Dividers dialog box.



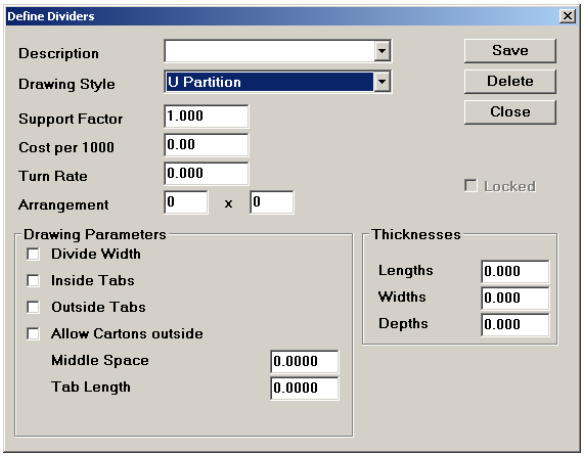


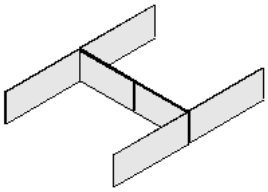
To use the Z Partition divider, work with the following parameters:

- **Support:** Enter the support factor provided by the divider.
- **Cost per 1000:** Enter the cost per 1000 units of the divider.
- **Turn Rate:** Enter the turn rate for the divider.
- **Arrangement:** Enter the arrangement of primary containers within the divider. For example, if the divider will accommodate three rows of 10 containers, enter 3 and 10.
- **Divide Width:** Check the box to divide the divider along the width.
- **Width Tabs:** Check the box to add tabs to the width of the divider.
- **Thicknesses Lengths/Widths/Depths:** Enter the number of thicknesses along the length, width and depth of the divider.

U Partition

The U Partition drawing style, pictured below, is designed with the parameters displayed in the Define Dividers dialog box.



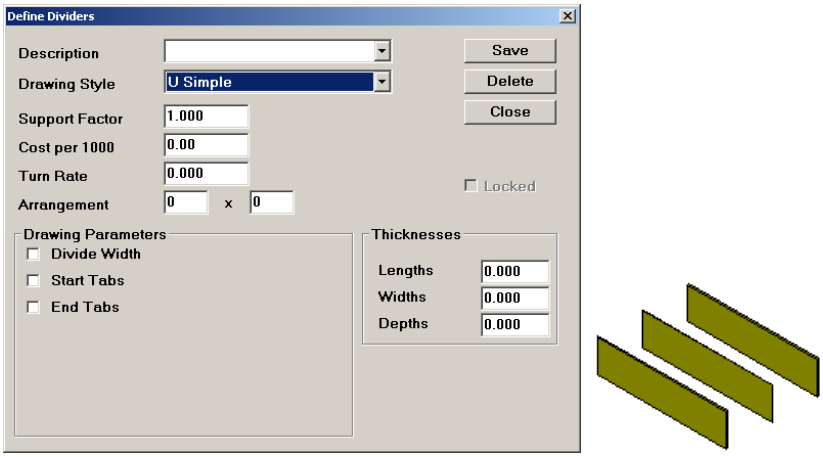


To use the U Partition divider, work with the following parameters:

- **Support:** Enter the support factor provided by the divider.
- **Cost per 1000:** Enter the cost per 1000 units of the divider.
- **Turn Rate:** Enter the turn rate for the divider.
- **Arrangement:** Enter the arrangement of primary containers within the divider. For example, if the divider will accommodate three rows of 10 containers, enter 3 and 10.
- **Divide Width:** Check the box to divide the divider along the width.
- **Inside/Outside Tabs:** Check the box to add tabs to the inside/outside of the divider.
- **Allow Cartons Outside:** Check the box to allow cartons on the outside of the divider.
- **Middle Space:** Enter the middle space of the divider in inches.
- **Tab Length:** Enter the length of the tabs in inches.
- **Thicknesses Lengths/Widths/Depths:** Enter the number of thicknesses along the length, width and depth of the divider.

U Simple

The U Simple drawing style, pictured below, is designed with the parameters displayed in the Define Dividers dialog box.

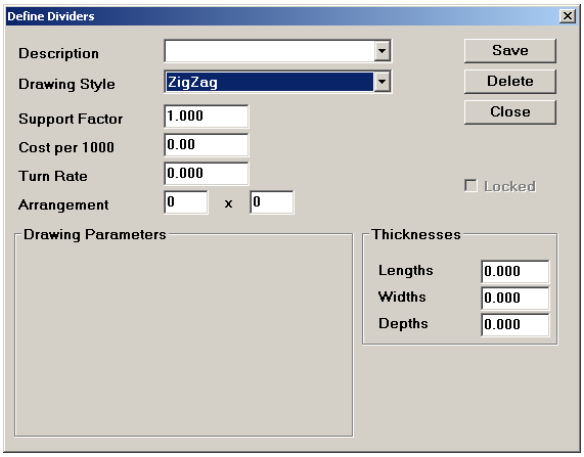


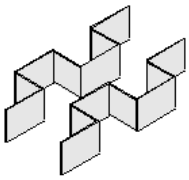
To use the U Simple, work with the following parameters:

- **Support:** Enter the support factor provided by the divider.
- **Cost per 1000:** Enter the cost per 1000 units of the divider.
- **Turn Rate:** Enter the turn rate for the divider.
- **Arrangement:** Enter the arrangement of primary containers within the divider. For example, if the divider will accommodate three rows of 10 containers, enter 3 and 10.
- **Divide Width:** Select this option to draw the divider across the width of the shipcase. (As the default, TOPS Pro draws the divider across the length.)
- **Start Tabs:** Select this option to draw the divider with a tab at the starting point of the divider.
- **End Tabs:** Select this option to draw the divider with a tab at the ending point of the divider.
- **Thicknesses Lengths/Widths/Depths:** Enter the number of thicknesses along the length, width and depth of the divider.

Zig Zag

The Zig Zag drawing style, pictured below, is designed with the parameters displayed in the Define Dividers dialog box.





To use the Zig Zag divider, work with the following parameters:

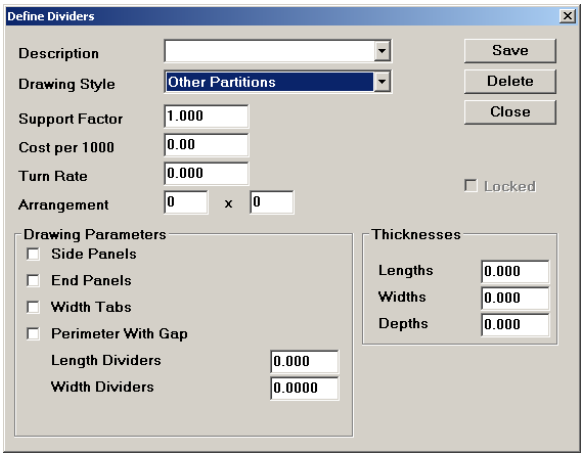
- **Support:** Enter the support factor provided by the divider.
- **Cost per 1000:** Enter the cost per 1000 units of the divider.
- **Turn Rate:** Enter the turn rate for the divider.
- **Arrangement:** Enter the arrangement of primary containers within the divider.

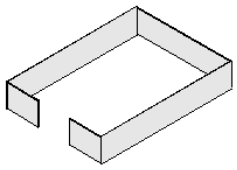
  For example, if the divider will accommodate three rows of 10 containers, enter 3 and 10.

- **Thicknesses Lengths/Widths/Depths:** Enter the number of thicknesses along the length, width and depth of the divider.

Other Partitions

The Other Partitions drawing style, pictured below, is designed with the parameters displayed in the Define Dividers dialog box.



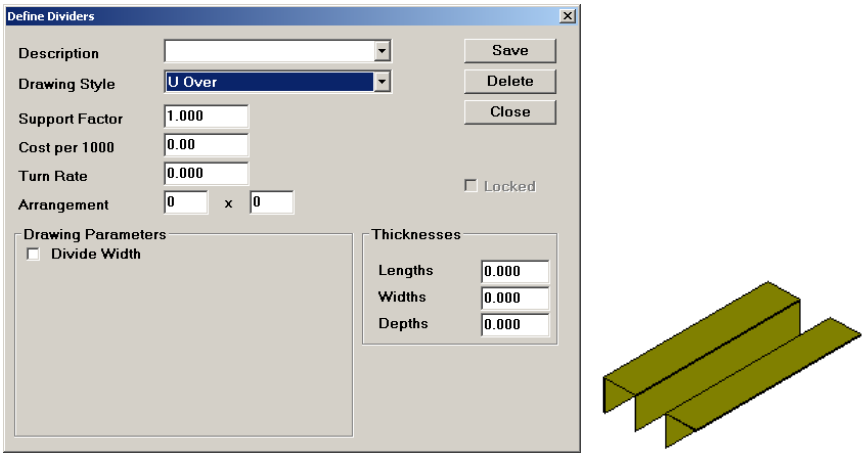


To use the Other Partitions divider, work with the following parameters:

- **Support:** Enter the support factor provided by the divider.
- **Cost per 1000:** Enter the cost per 1000 units of the divider.
- **Turn Rate:** Enter the turn rate for the divider.
- **Arrangement:** Enter the arrangement of primary containers within the divider. For example, if the divider will accommodate three rows of 10 containers, enter 3 and 10.
- **Side/End Panels:** Check the box to draw the divider with side or end panels.
- **Width Tabs:** Check the box to draw the divider with width tabs.
- **Perimeter With Gap:** Check the box to draw the divider perimeter with a gap.
- **Length/Width Dividers:** Enter the length and width dividers in inches.
- **Tab Length:** Enter the length of the tabs in inches.
- **Thicknesses Lengths/Widths/Depths:** Enter the number of thicknesses along the length, width and depth of the divider.

U Over

The U Over drawing style, pictured below, is designed with the parameters displayed in the Define Dividers dialog box.

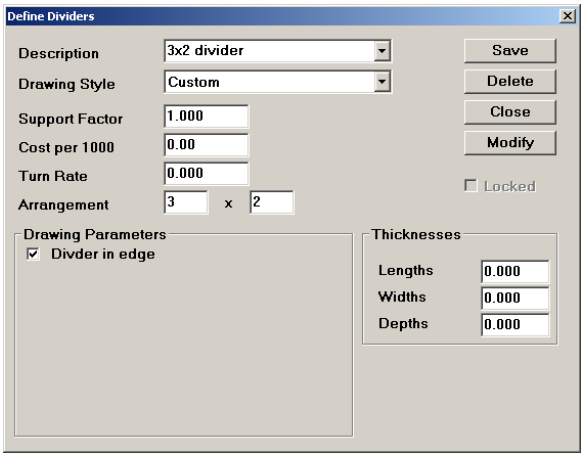


To use the U Over divider, work with the following parameters:

- **Support:** Enter the support factor provided by the divider.
- **Cost per 1000:** Enter the cost per 1000 units of the divider.
- **Turn Rate:** Enter the turn rate for the divider.
- **Arrangement:** Enter the arrangement of primary containers within the divider. For example, if the divider will accommodate three rows of 10 containers, enter 3 and 10.
- **Divide Width:** Select this option to draw the divider across the width of the shipcase. (As the default, TOPS Pro draws the divider across the length.)
- **Thicknesses Lengths/Widths/Depths:** Enter the number of thicknesses along the length, width and depth of the divider.

Custom

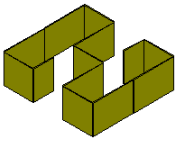
This option allows you to define or modify a custom divider via a graphical editor.



To use the Custom divider, work with the following parameters and then click on the Modify button:

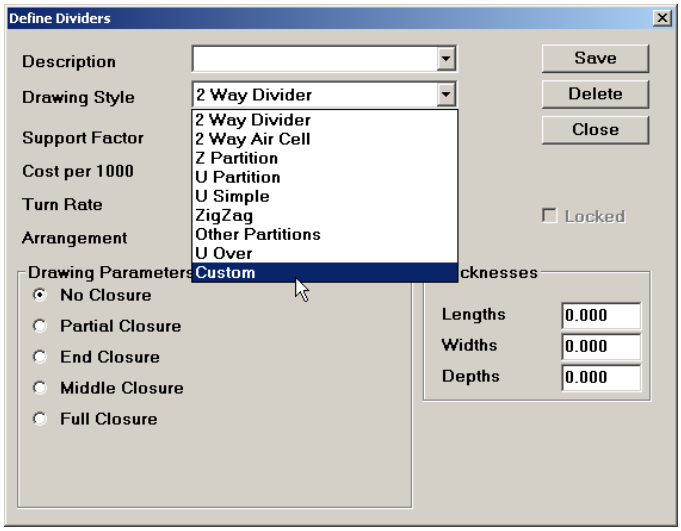
- **Description:** Enter a name to be used for the new custom divider.
- **Support:** Enter the support factor provided by the divider.
- **Cost per 1000:** Enter the cost per 1000 units of the divider.
- **Turn Rate:** Enter the turn rate for the divider.
- **Arrangement:** Enter the arrangement of primary containers within the divider. For example, if the divider will accommodate three rows of 2 containers, enter 3 and 2.
- **Divider in edge:** Check this box if the divider partitions are to be used along the edge of the shipcase. You can always remove them in the graphical editor.
- **Thicknesses Lengths/Widths/Depths:** Enter the number of thicknesses along the length, width and depth of the divider.
- **Delete Button:** Delete the current divider. You will be prompted for a confirmation to permanently remove the divider from the database. Click Delete to confirm.
- **Modify Button:** Click to open the divider custom design screen as described in the next section.

Create a Custom Divider

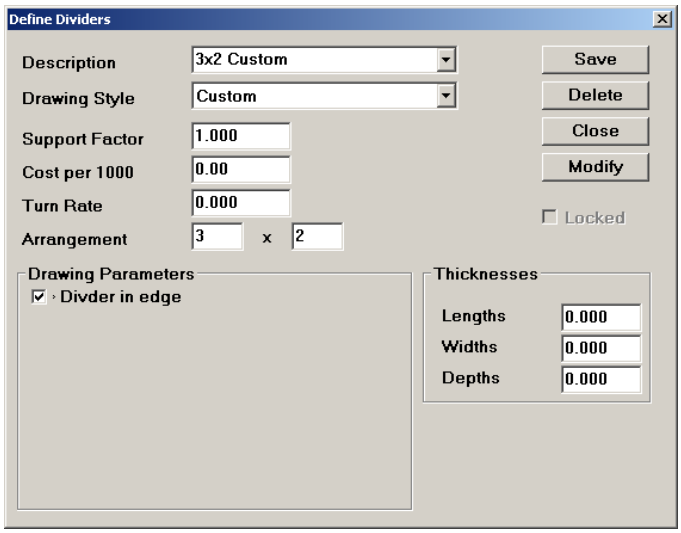


Follow these steps to create a custom 3x2 divider as shown here:

1. Go to the Define menu and select Dividers.
2. Select Custom from the Drawing Style list box

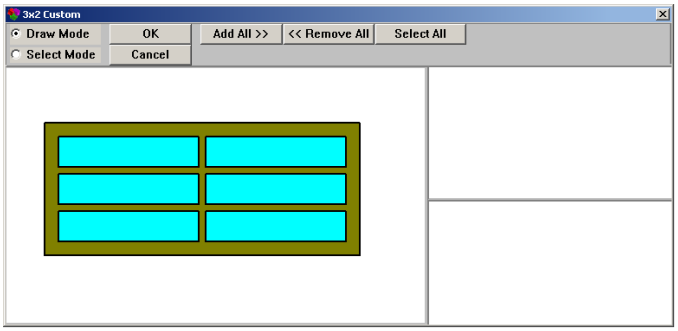


3. Enter the name of the divider "3x2 Custom" in the Description field; arrangement of 3x2 and check the box to enable Divider in edge.



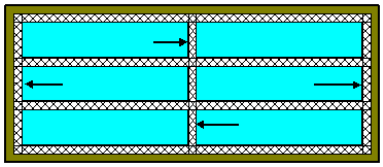
4. Click on the Modify button. You will be prompted whether to save the changes, click on Yes to continue.
5. Click on OK on to confirm going to custom design.

6. This will open the divider editor as illustrated below.

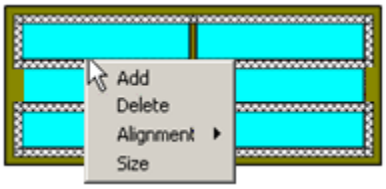


7. Enable Draw Mode and click on the Add All>> button to add all possible partitions around and between the cells.

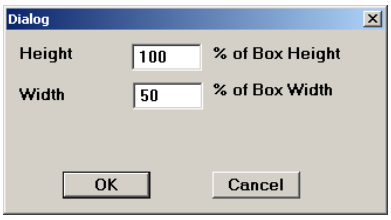
8. Click on the four highlighted sections (by arrows) shown on the right to remove those partitions.

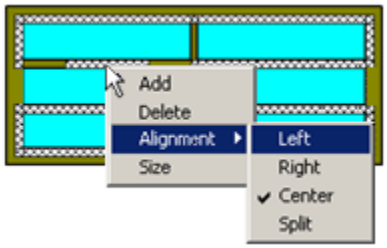


9. With the mouse cursor placed on the section indicated by the arrow, click the right mouse button to access the edit menu as shown here.

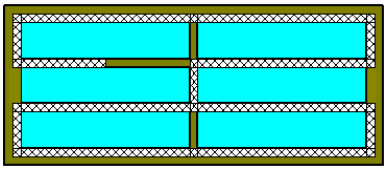


10. Select Size and then enter 50% of Box Width as shown below to change the size of that cell partition.

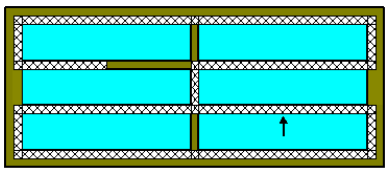




11. With the mouse cursor at newly sized partition, access the right click menu, select Alignment and then Left.

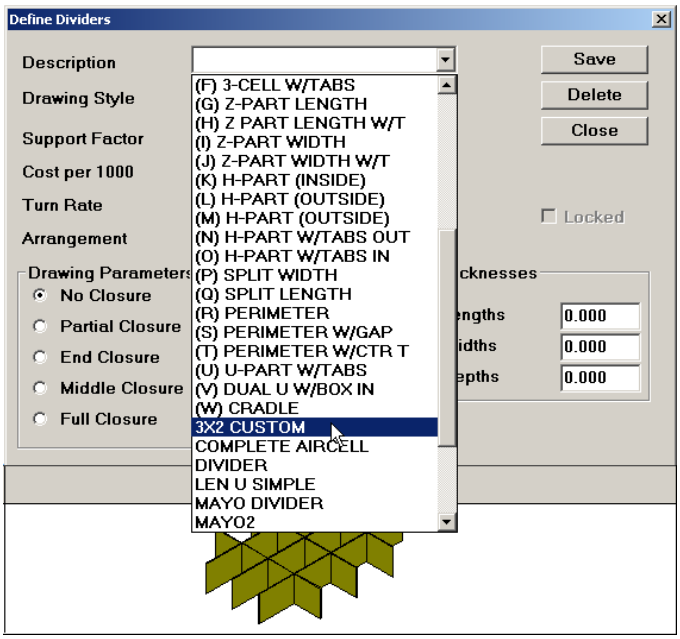


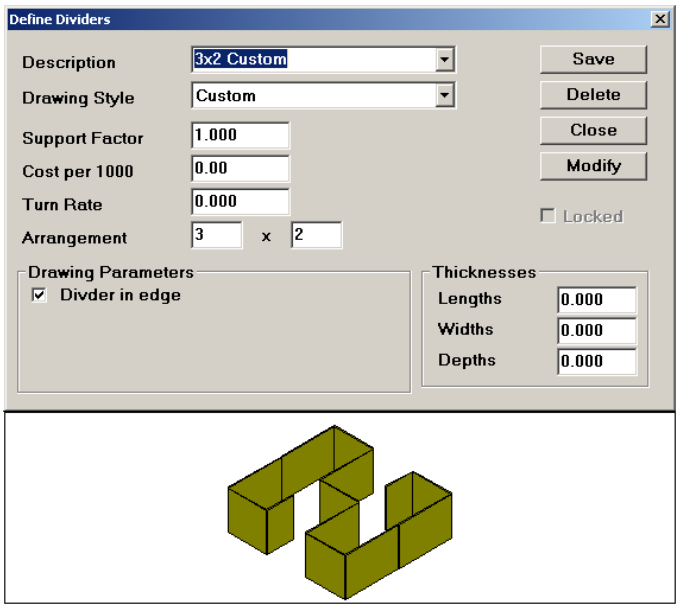
12. Repeat step 9 through 11 to bring the highlighted partition to 50% box width and then aligning right to get to the final divider.



13. Click on OK and you will exit the Define Divider function.

14. To view the newly created divider, go to Define Menu and select Dividers. Click the drop list for Description and scroll down to “3x2 Custom”





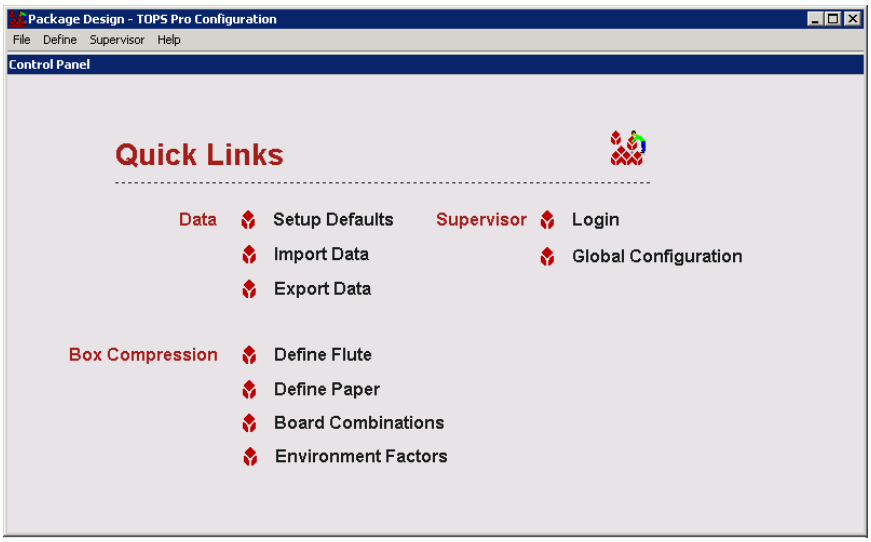
Note: This divider is only applicable to shipcase containing multiple of 6 items.

Chapter 14: TOPS Pro Config Program

Introduction

The TOPS Pro Config program discussed in this chapter is separate from the TOPS Pro program. To access the TOPS Pro Configuration program, go to the TOPS Pro Applications group and double-click on the TOPS Pro Config icon .

After the login, you will see the Control Panel of the Configuration program as pictured below.



This chapter outlines the three menus (File, Define and Supervisor) that comprise the Menu Bar in the TOPS Pro Configuration program, along with a brief description of the options available with each menu. These options are also available via the direct links from the Control Panel as pictured above.

Note: Much of the Configuration functionality is covered in detail in other parts of this manual. Rather than duplicate a lot of information, this chapter briefly describes the features and functions of the Configuration program and refers you to other places in the manual for more detailed information.

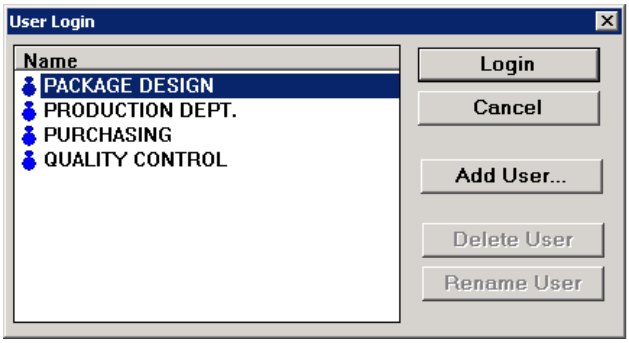
File Menu

The File menu provides the following options:

- User Login
- User List
- Import (Import Data quick link)
- Export (Export Data quick link)
- Exit

User Login

The User Login option displays the User Login dialog box and allows you to login to the system.



- **Add User:** Click to add new user to the user list. Type in a new name at the pop up New User dialog box and click OK to add.
- **Delete User:** Available only when logged in as Supervisor. Highlight a name in the User list and click the Delete User button.
  You will be prompted to confirm the deletion as this will also delete all analyses owned by this user. Click Yes to delete the analyses, No to keep the analyses but delete the user and Cancel to exit without making any change or deleting the user.
- **Rename User:** Available only when logged in as Supervisor.
  Highlight a name in the User list and click the Rename User button.
  Type in a new user name in the pop up dialog to replace the existing name.
  You will be prompted whether to rename analyses associated with the existing user to the new user, click on Yes to do so, No to keep analyses under the existing user name or click Cancel to exit without renaming either user or analyses.

For more information about the User Login dialog box, please refer to Appendix B, Dialog Boxes.

User List

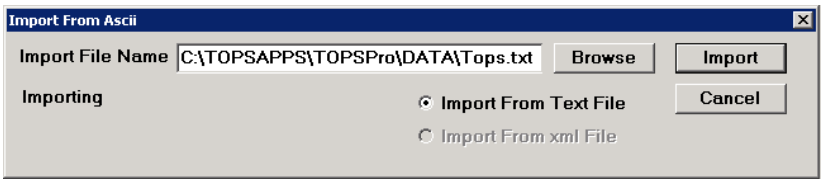
The User List option displays the User List dialog box, which displays the users currently logged onto the system. This feature is critical for network users who have a limited number of TOPS Pro software licenses. For example, if you have two licenses and two users are logged on, then a third user will not be able to logon until one of the current users logs off.

You may find it necessary to logout someone if he or she logged onto TOPS Pro Configuration, then did not exit the system normally (e.g., in the event of a crash or power failure). If you're unable to enter TOPS Pro Configuration to logout a missing user, you can always login as that user, replace that user, then exit.

For more information about the User List dialog box, please refer to Appendix B, Dialog Boxes.

Import

The Import option displays the Import from ASCII dialog box, which allows you to import an ASCII comma delimited text file into the TOPS Pro System. You can use this function to import shipcases and other containers into the TOPS Pro System.

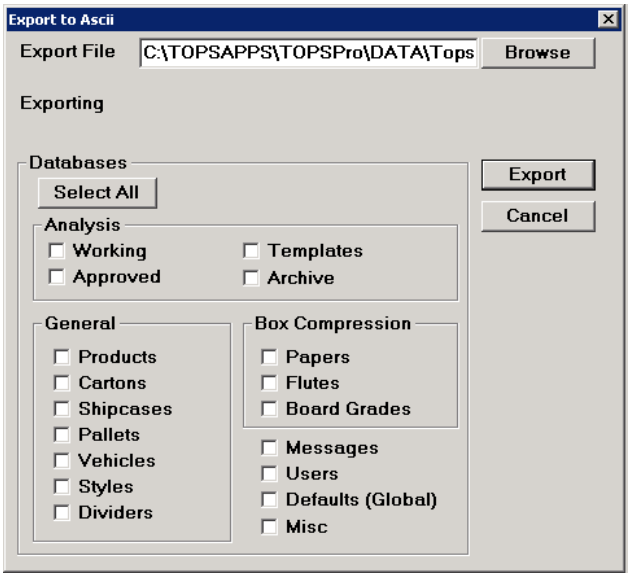


- **Browse Button:** Click to specify the location of the ASCII text file to be imported.
- **Import Button:** Click the start the import action.

For more information about the Import from ASCII dialog box, please refer to Appendix B, Dialog Boxes.

Export

The Export function opens the Export to ASCII dialog box, which allows you to export selected data from the TOPS Pro Configuration program to an ASCII comma delimited text file for use by other applications.



- **Browse Button:** Click this button to specify the location of the ASCII text file to be exported and saved.
- **Selected All Button:** Click this button to export all data within the TOPS Pro and Configuration programs. Upon clicking this button, all check boxes except for Messages and Defaults (Global) will be enabled with a "✓" mark.
- **Analysis/General/Box Compression/Messages:** To export selected data, place "✓" mark against the desired items by clicking the corresponding boxes.
- **Export Button:** Click this button when ready to export the selected data.

For additional information about the Export to ASCII dialog box, please refer to Appendix B, Dialog Boxes.

Exit

The Exit option closes the TOPS Pro Configuration program.

Define Menu

The Define menu provides the following options:

- Configuration
- Language
- Defaults
- Environment Factors (Environment Factors quick link)
- Box Design Factors
- Board Combinations (Board Combinations quick link)
- Paper (Define Paper quick link)
- Flutes (Define Flute quick link)

Configuration

The Configuration option displays the Configuration dialog box, which allows you to define the configuration of your TOPS Pro software by selecting and de-selecting a range of options.

The configuration settings are organized under different tabs:

- **General Tab:** To configure the graphic display settings for different elements in TOPS Pro.
- **Results Tab:** To setup optional settings for the analysis folder path, auto recovery and data archive.
- **Reports Tab:** To control font size and pen settings on report as well as default report image formats.
- **Dimensions Tab:** To specify if inside and/or outside dimension will be displayed in reports and their unit of measure.
- **Numeric Tab:** Specify if and when to use fractions and to control the number of decimal places to be used for different data types.
- **Statistics Tab:** Available only when logged in Supervisor, you can select under this tab the rows and columns of data to appear in the statistics section of the program and report.
- **Global Tab:** Available only when logged in Supervisor, this tab allows you to control how TOPS Pro will run and will apply to all users of the program.

For more information, please refer to Appendix B, Dialog Boxes.

Language

The Language option displays a second menu, which allows you to select the language to be used with the TOPS Pro software. It also has an Edit option, which displays the Text Modification dialog box, allowing you to perform language editing on selected words. For more information about the Modification, please refer to Appendix B, Dialog Boxes.

Defaults

The Defaults option displays the Defaults dialog box, which displays in different variations and allows you to enter default values for the following:

- Button Menu Styles
- Product
- Primary Package
- Intermediate Pack View
- Shipcase
- Pallet
- Vehicle
- Carton/Bag Sizing
- Intermediate Sizing
- Shipcase sizing
- Unitload sizing
- Vehicle load sizing
- Stack Strength
- Print
- Shipcase Patterns
- UL Patterns
- TV Patterns
- Pallet Spec

For more information about the various Default dialog boxes, please refer to Appendix B, Dialog Boxes.

Environment Factors

The Environment Factors option displays the Environment Factors dialog box, which allows you to assign numeric safety factors to a range of environmental factors including humidity, storage time, pallet spacing and whether the unitloads use interlocking patterns.

For more information about the Environment Factors dialog box, please refer to Appendix B, Dialog Boxes.

Box Design Factors

The Box Design Factors option displays the Box Design Factors dialog box, which allows you to enter default values for box design factors such as length-to-width ratio, shape factors, printing factors and flap gap factors.

For more information about the Box Design Factors dialog box, please refer to Appendix B, Dialog Boxes.

Board Combinations

The Board Combinations option displays the Board Combinations dialog box, which allows you to define default board grades, as well as to change, delete or mark them unavailable. Use this option to define a board's ECT or cost per 1,000 square feet.

For more information about the Board Combinations dialog box, please refer to Appendix B, Dialog Boxes.

Paper

The Paper option displays the Define Paper dialog box, which allows you to define default parameters for different types of paper including RCF, weight, cost and type.

For more information about the Define Paper dialog box, please refer to Appendix B, Dialog Boxes.

Flutes

The Flutes option displays the Define Flute dialog box, which allows you to enter default parameters for different types of flutes including allowance for scoring and specifics like flute constant, paper thickness, weight, etc.

For more information about the Define Flute dialog box, please refer to Appendix B, Dialog Boxes.

Supervisor Menu

The Supervisor menu provides the following options:

- Login/Logout (Login quick link)
- Global Configuration (Global Configuration quick link)
- Maintenance Control
- Check and Fix Database

Login/Logout

The Login/Logout option displays the Supervisor Login dialog box, which allows you to login to the system as a supervisor. This is required in order to perform the following tasks:

- Approve analyses
- Rename and delete users
- Change Supervisor login password
- Change statistics settings
- See all users' work
- Log off other users
- Change Quick Print templates

For more information about the Supervisor Login dialog box, please refer to Chapter 15, Supervisor Functions, or Appendix B, Dialog Boxes.

Global Configuration

The Global Configuration option displays the Global Configuration dialog box, which allows the Supervisor to define a global configuration for your TOPS Pro software.

The configuration settings are organized under different tabs:

- **General Tab:** To configure the graphic display settings for different elements in TOPS Pro.
- **Results Tab:** To setup optional settings for the analysis folder path, auto recovery and data archive.
- **Reports Tab:** To control font size and pen settings on report as well as default report image formats.
- **Dimensions Tab:** To specify if inside and/or outside dimension will be displayed in reports and their unit of measure.

- **Numeric Tab:** Specify if and when to use fractions and to control the number of decimal places to be used for different data types.
- **Statistics Tab:** Visible to the Supervisor only, this tab allows the supervisor to specify what data will be included in the statistics section of the analysis report.
- **Global Tab:** Visible to the Supervisor only, this tab allows the supervisor to setup specifics on user accounts, database control and availability of certain functionalities.

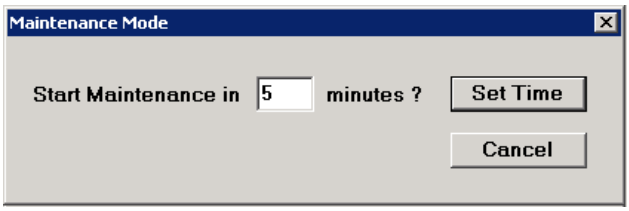
For more information about the Global Configuration dialog box, please refer to Appendix B, Dialog Boxes.

Maintenance Control

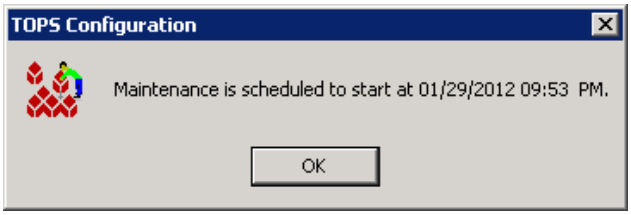
The Maintenance Control option allows the supervisor to notify network users when TOPS will be shut down for maintenance or upgrade. It gives users time to work on an analysis and save it before the program shuts down.

Follow these steps to use software Maintenance Control:

1. Click the Login Quick Link and login as Supervisor.
2. Go to the Supervisor menu and select Maintenance Control. This opens the Maintenance Mode dialog box as shown below.

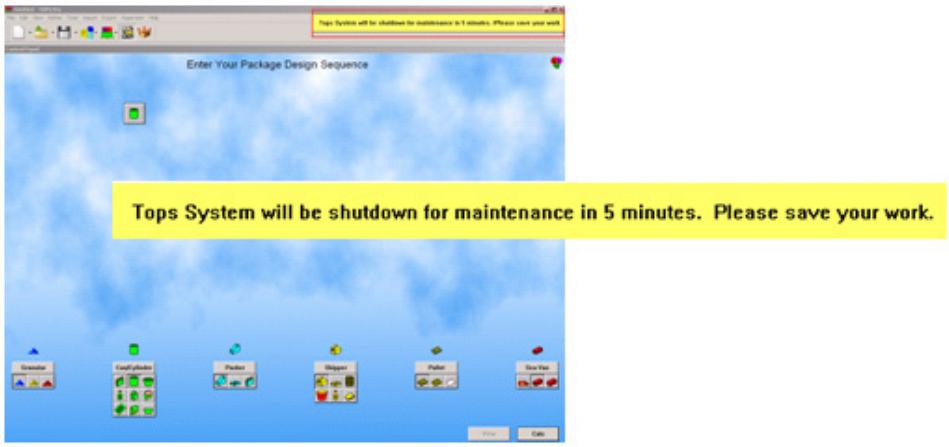


3. Enter the time in minutes to schedule maintenance to start and click the Set Time button. You will see a message confirming the start time for maintenance.



4. Click on OK to confirm.

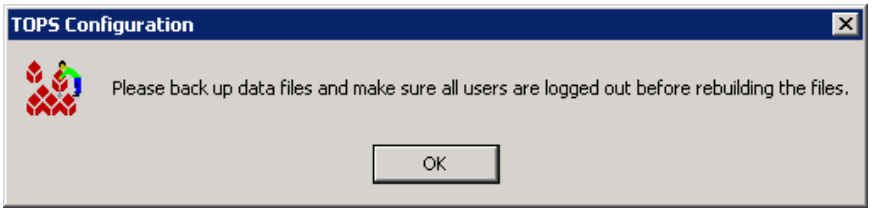
A warning will appear on the upper right side of the program, notifying users that they only have 5 minutes left before the program closes and maintenance begins.

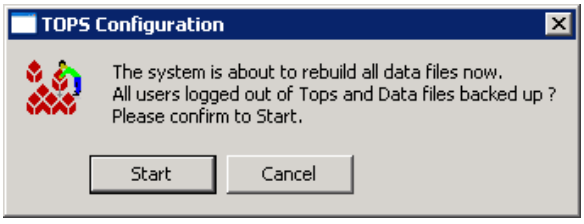


While on Maintenance, users will not be able to access the program. However, when maintenance is done, the supervisor can allow users on a network to get back into the program by following the steps above and clicking on Done Maintenance.

Check and Fix Database

The Check and Fix Database option enables the supervisor to check and rebuild the TOPS Pro database in the event of file corruption. This function requires all users to be logged out of the system.





After all users are logged out of TOPS, click on the Start button to start the process.

For more information, please refer to Appendix B, Dialog Boxes.

Chapter 15: Supervisor Functions

Introduction

This chapter discusses the functions available to a supervisor or under the Supervisor menu in the TOPS Pro System. They include the following:

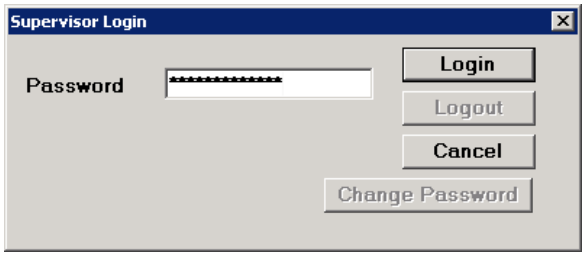
- Login/logout as a supervisor
- Change your password
- Add a user to the system
- Delete a user from the system
- Rename a user in the system
- Approve or deny an analysis
- Open and transfer other users' analyses
- Set up an analysis template
- Set up a Quick Print template
- Define global configuration settings
- Set up the way statistics are displayed in the system
- Set License

Login/Logout

Before you can perform any of the supervisor functions in either TOPS Pro or the TOPS Configuration program, you have to login as a supervisor. Start from the Menu Bar and follow these instructions:

1. Open the Supervisor menu.

2. Select Login/Logout. The Supervisor Login dialog box appears, as pictured below.

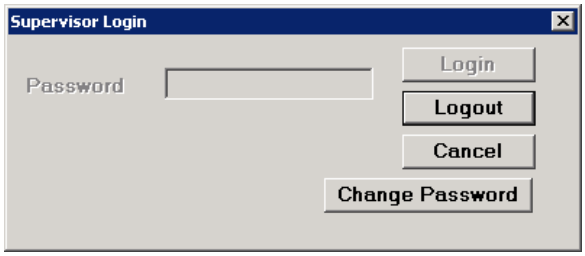


3. Enter the supervisor password.

   Note: The default password is "tops software". Note the space between "tops" and "software".

4. Click on the Login button. TOPS Pro logs you into the system as a supervisor. Once logged in, you should see the TOPS Pro title bar changes to “Untitled/or analysis name – TOPS Pro (Supervisor)”.

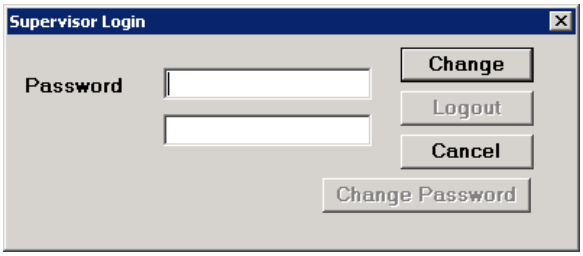
5. To logout of the system once you have logged in, go back to the Login/Logout function under the Supervisor menu, click on the Logout button and TOPS Pro will log you out of the Configuration program.



Change Password

Once you're logged in as a supervisor, you can change the login password if you want. To change the password, start from the Supervisor Login dialog box and follow these instructions:

1. Click on the Change Password button. The Supervisor Login dialog box redisplays, as pictured below.



2. Enter the old password in the first Password field.

3. Enter the new password in the second Password field.

4. Click on the Change button. The Confirm Password dialog box appears, as pictured below.

5. Enter the new password in the Password field.

6. Click on OK and TOPS Pro changes the password and issues a message to this effect.

Logoff a User

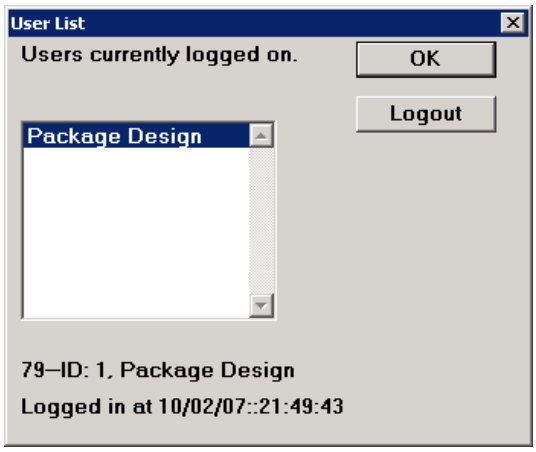
This function allows you to logoff a user from the system, which is critical for a network license whose number of simultaneous users is controlled by the number of licenses/seats purchased. For example, if you have a two-user network license and two users are already logged on, then a third user will not be able to logon until one of the current users logs off.

You may find it necessary to logoff someone if he or she logged onto TOPS Pro, then did not exit the system normally (e.g., in the event of a crash or power failure). Use these guidelines:

- If you're unable to enter TOPS Pro to logoff a missing user, you can always login as that user, replace that user, then exit.
- If password access is enabled, the supervisor password grants access to users.
- You can also logoff users from the TOPS Configuration program.

To logoff a user from the system, start from the Menu Bar and follow these instructions:

1. Use one of two options:
   - In the TOPS Pro system, open the Tools menu.
   - In the TOPS Configuration program, open the File menu.
2. Select User List. The User List dialog box appears, as pictured below.



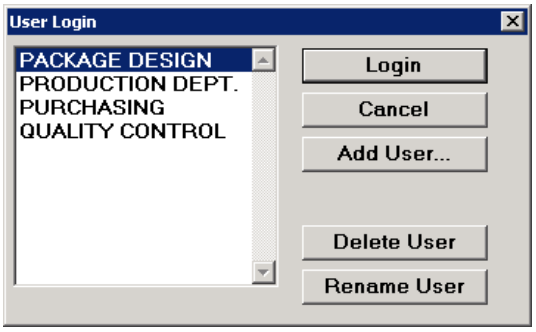
   The User List dialog box displays all users currently logged onto the system. The list above contains one user, but there can be as many users as there are purchased TOPS Pro software licenses.
3. Select the user you want to log out of the system.

4. Click on the Logout button. TOPS Pro asks if you're sure you want to log the user out of the system.
5. Click on the Logout button. The User List dialog box redisplays with an updated list of users logged onto the system. The user you just logged out is deleted from the list.

Add a User to the System

To add a user to the system, you have to Login as Supervisor. Start from the Menu Bar and follow these instructions:

1. Open the File menu.
2. Select User Login. The User Login dialog box appears, as pictured below.



3. Click on the Add User button. The New User dialog box appears, as pictured below.

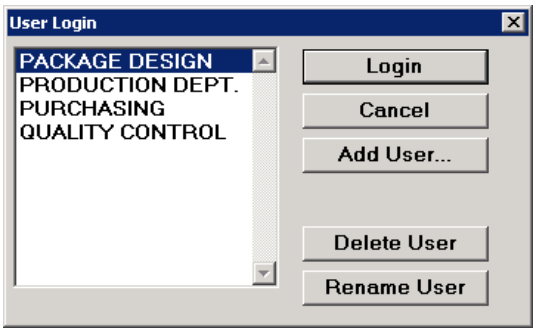
4. Enter the name of the user you want to add to the system.
5. Click on OK. The User Login dialog box redisplays with the new user added to the user list.

Note: At this time, there is no way to prevent any user from adding a user to the system.

Delete a User from the System

To delete a user from the system, start from the Menu Bar and follow these instructions:

1. Open the File menu.
2. Select User Login. The User Login dialog box appears, as pictured below.

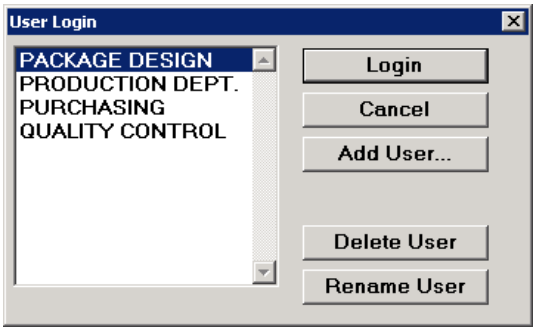


3. Highlight the user to be deleted and click on the Delete User button.
4. You will be prompted to confirm the deletion as this will also delete all analyses owned by this user. Click Yes to delete the analyses, No to keep the analyses but delete the user and Cancel to exit without making any change or deleting the user.

Rename a User in the System

To rename a user in the system, start from the Menu Bar and follow these instructions:

1. Open the File menu.
2. Select User Login. The User Login dialog box appears.



3. Highlight the user to be renamed and click on the Rename User button. The New User dialog box appears, as pictured below.

4. Enter the new (edited) name of the user you want to rename in the system.
5. You will be prompted whether to rename all analyses associated with this existing user to the new user, click on Yes to do so, No to keep analyses under the existing user name or click Cancel to exit without renaming either user or analyses.

Approve an Analysis

When a user performs an analysis and saves it to the database, he or she will request approval for that analysis with the Request Approval option on the File menu. TOPS Pro takes that request for approval and places it in a queue of analyses waiting to be approved or denied by a supervisor.

Note: You might be able to approve your own analysis. This depends on the global setting "User Approval" in the TOPS Pro Config program. If this option is checked, you can approve your own work; otherwise, you will need to submit them to the Supervisor for approval.

To approve an analysis, start from the Menu Bar and follow these instructions:

1. Open the Supervisor menu.
2. Select Open Request. The Open Request for Approval dialog box appears, as pictured below.

3. Select an analysis you want to examine for approval or denial.

4. Click on OK. TOPS Pro opens the selected analysis in the Analysis View.
5. Examine the analysis to decide if you want to approve or deny it.
6. To approve the analysis, open the Supervisor menu.
7. Select Approve. TOPS Pro asks if you want to approve the selected analysis.
8. Click on OK. TOPS Pro moves the analysis from the Request Approval queue and into the Approved portion of the database.

Note: If you look at the Open Analysis dialog box, you'll see the selected analysis listed in the Approved section of the analysis list.

Deny Approval of an Analysis

When a user performs an analysis and saves it to the database, he or she will request approval for that analysis with the Request Approval option on the File menu. TOPS Pro takes that request for approval and places it in a queue of analyses waiting to be approved or denied by a supervisor.

To deny approval of an analysis, start from the Menu Bar and follow these instructions:

1. Open the Supervisor menu.
2. Select Open Request. The Open Request for Approval dialog box appears, as pictured below.

3. Select an analysis you want to examine for approval or denial.
4. Click on OK. TOPS Pro opens the selected analysis in the Analysis View.
5. Examine the analysis to decide if you want to approve or deny it.
6. To deny approval of the analysis, open the Supervisor menu.

7. Select Deny Approval. TOPS Pro asks if you want to deny approval of the selected analysis.
8. Click on OK. TOPS Pro removes the analysis from the Request Approval queue.

Open and Transfer Other Users' Analyses

When you login as a supervisor, TOPS Pro allows you to open and view all analyses for all users. TOPS Pro also allows you to transfer an analysis from one user to another. To transfer an analysis, follow these instructions:

1. Login as a supervisor.
2. Login as the user to which you want to transfer the analysis. For example, if you want to transfer an analysis from Package Design to Purchasing, login as Purchasing.
3. Open the analysis you want to transfer.
4. Open the File menu and select Save As. The Analysis Save As dialog box appears.
5. Click on OK. TOPS Pro saves the analysis to the database and in the process transfers the analysis from the previous user to the current user.

Set Up an Analysis Template

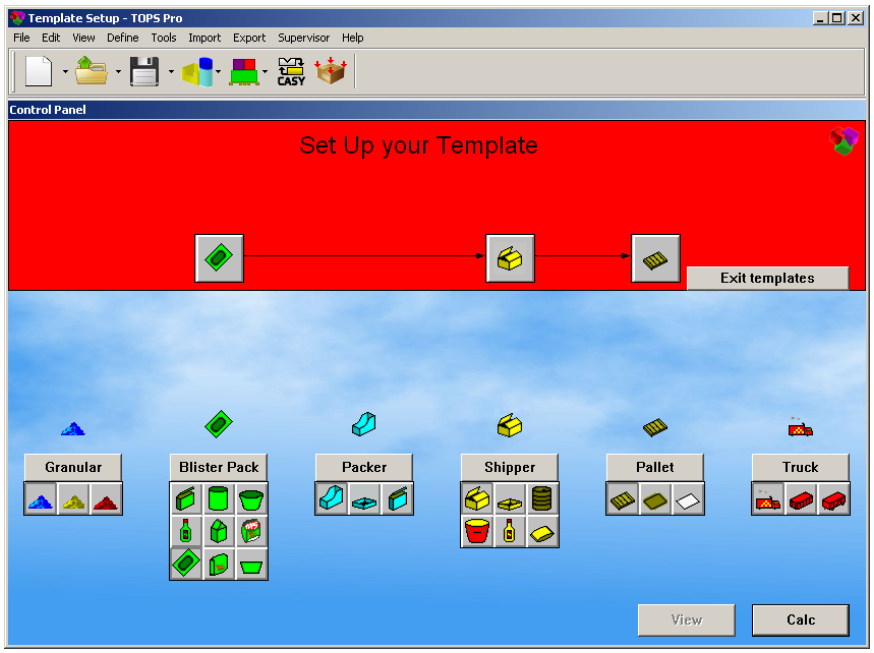
TOPS Pro allows you to setup templates for analyses that you frequently perform and save them to the template toolbar to the left of the Control Panel. When you click on a template button, TOPS Pro will automatically insert the corresponding icons in the package design sequence and open the parameters dialog box for data entry.

To set up an analysis template, start from the Menu Bar:

1. Select Template Setup from the Supervisor menu. The top portion of the Control Panel will have a red background. You are now in "edit template" mode, which allows you to open, save and change templates.

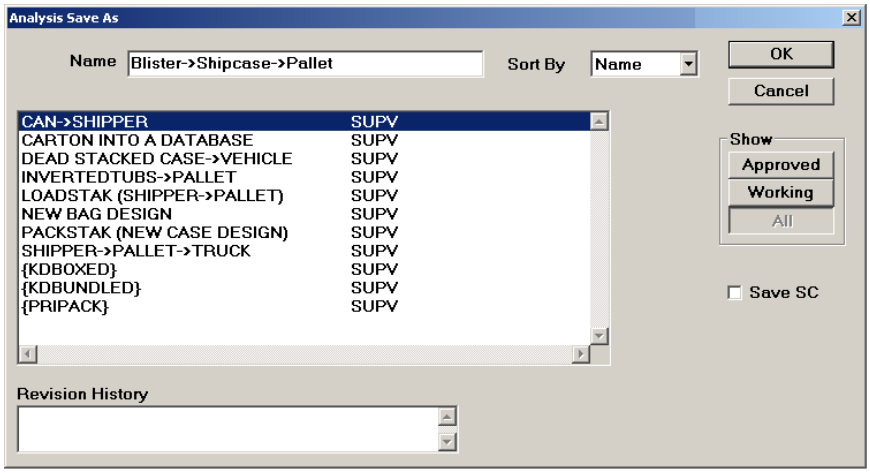
2. Click on the button style menus to create the design sequence for an analysis. There is no need to define the parameters at this time, you only need to specify the stages to be included.

   In this example, we are creating a template for to package blister packs into shipcase and then onto pallets.



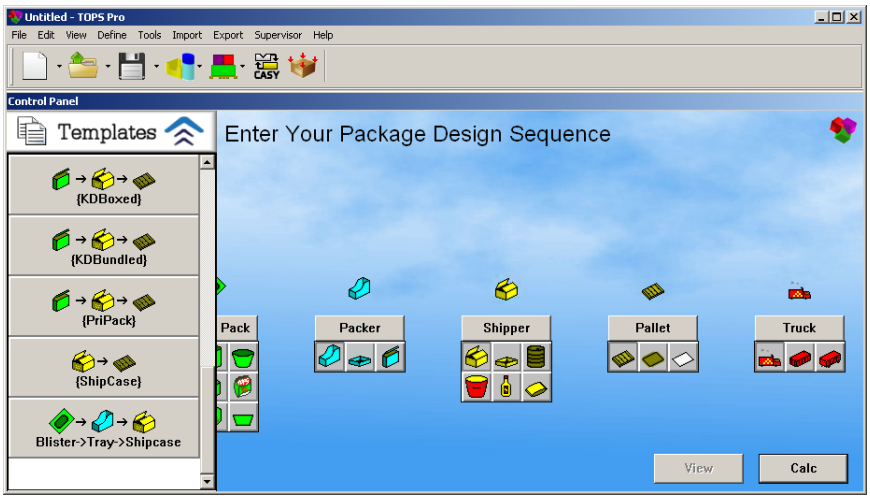
3. To save the design sequence as a template, go the File menu and select Save As Template.

4. Enter the name for the template in the Name field and click on OK to return to the Control Panel.



5. At the Control Panel. click on the “Exit templates” button.

The new sequence will now be available in the Template Toolbar.



Delete an Analysis Template

To delete an existing template, you will need to login as Supervisor.

1. Go to the Supervisor menu, select Login/Logout.
2. Enter password “tops software” and click on the Login button.
3. Go to File menu and select New via Template. The Open Analysis dialog box opens.
4. Highlight the template to be removed and click on the Delete button.

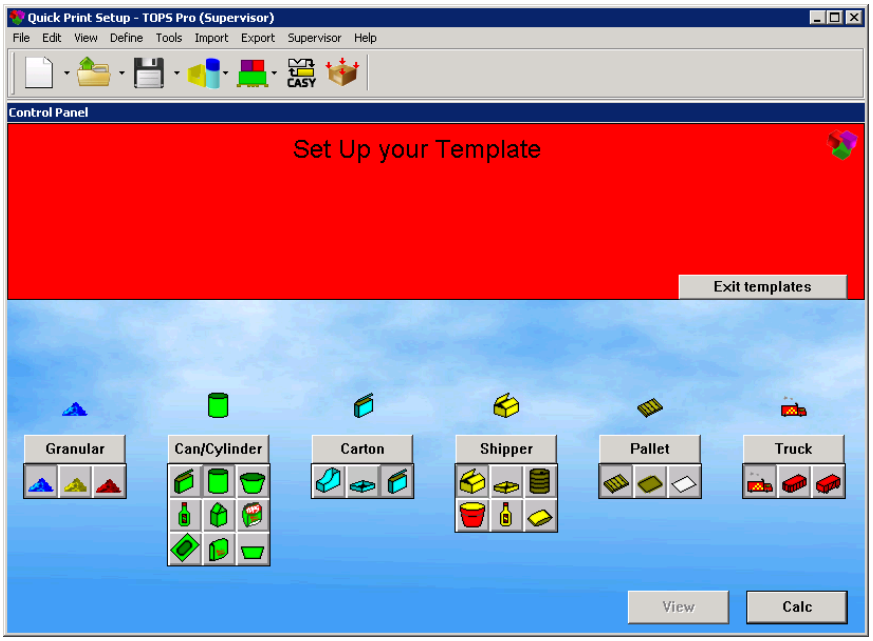
Set Up a Quick Print Template

As you work with TOPS Pro day-to-day, you'll find that you perform and print some analyses on a frequent basis. TOPS Pro allows you to setup a Quick Print template for these routine printouts. Instead of manually setting up print parameters, Quick Print builds the printout automatically.

Note: TOPS can customize each of these templates for you, or you can create your own templates from scratch. For more information on how to access the Quick Print templates, please refer to Chapter 11, Printing.

To set up a Quick Print template, start from the Menu Bar:

1. Select QPrint Template from the Supervisor menu. The top portion of the Control Panel will have a red background. You are now in "edit template" mode, which allows you to open, save and change templates.

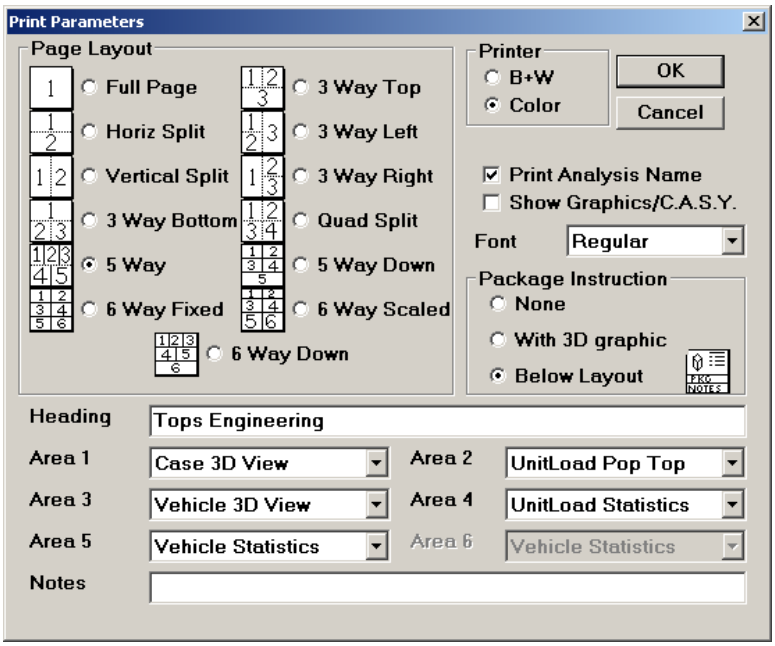


2. Click on the button style menus to create the design sequence for an analysis. There is no need to define the parameters at this time, you only need to specify the stages to be included.

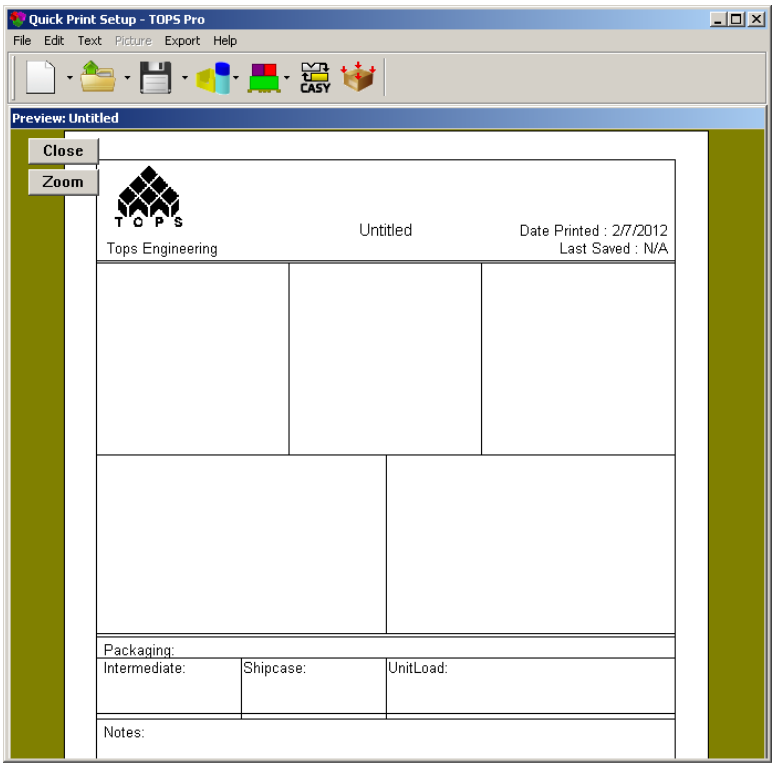
3. When done with the analysis, open the File menu.

4. Select Print Preview, then select Analysis. The Print Parameters dialog box appears.

5. Use the Print Parameters dialog box to set up report template. Please refer to Chapter 11 on how to setup the report.

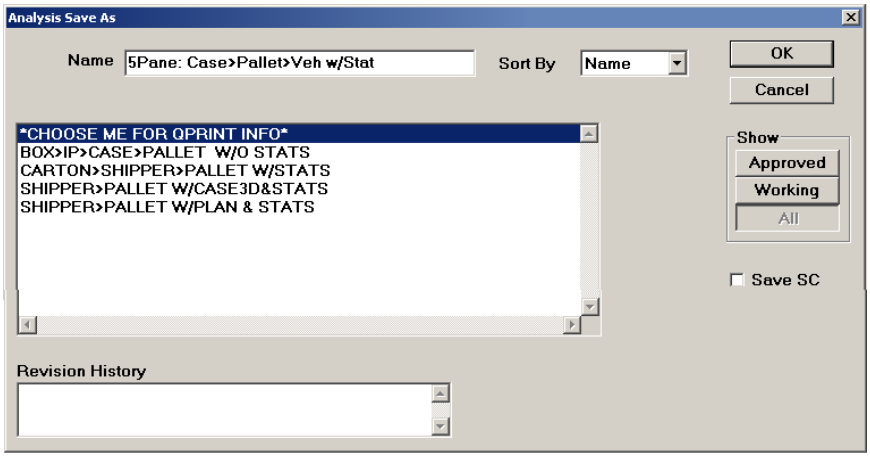


6. Click on OK. The Print Preview Screen appears.



7. Use the Print Preview Screen to add any annotations or graphics, if desired.

8. Save the Quick Print template by going to the File menu and select Save As. This opens the Analysis Save As dialog box as shown below.



9. Enter a name for the Quick Print template in the Name field and click on OK to save.

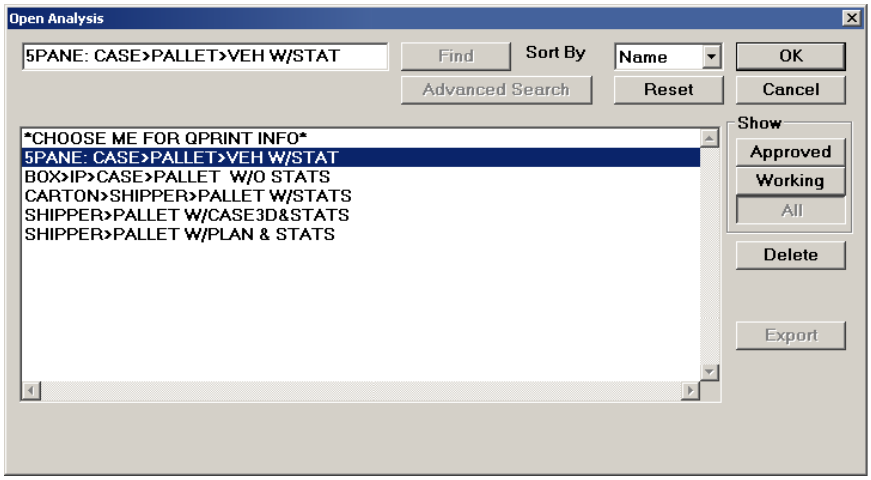
10. Click on Close button in the Preview screen to return to the Control Panel.

11. At the Control Panel. click on the “Exit templates” button.
12. Clock on Yes when prompted to save changes. The Control Panel redisplays in its normal colors.

Delete a Quick Print Template

To delete an existing Quick Print template, you will need to login as Supervisor.

1. Go to the Supervisor menu, select Login/Logout.
2. Enter password “tops software” and click on the Login button.
3. Go to the Supervisor menu, select QPrint Template.
4. Go to File menu and select Open. The Open Analysis dialog box opens and is as shown next.
5. Highlight the QPrint template to be removed and click on the Delete button.



6. Click on the Delete button at the confirmation dialog box.
7. Click on OK to exit.

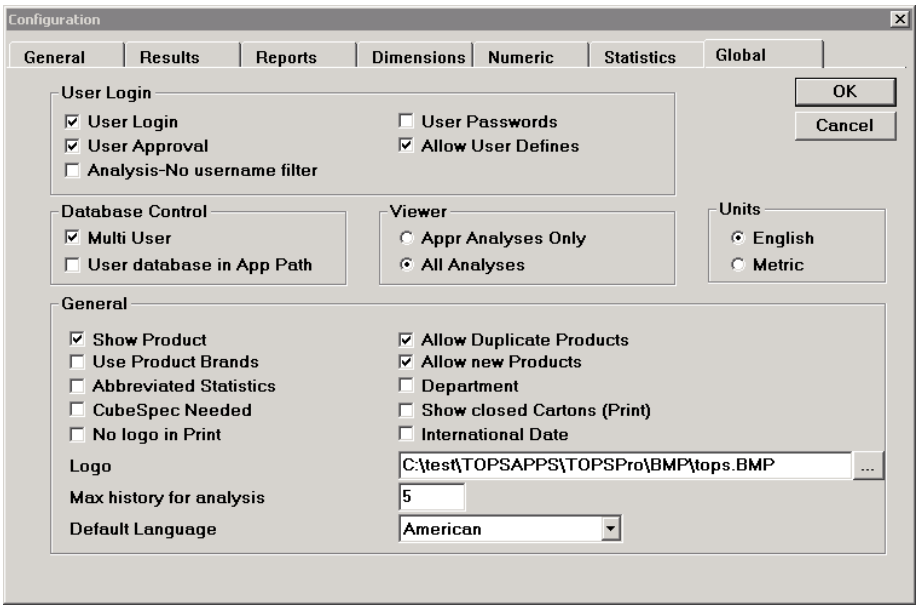
Global Configuration

In the TOPS Configuration program, a supervisor can select and de-select a number of configuration options that are not available in the TOPS Pro for Windows program or to anyone other than a supervisor. This function allows you to define a global configuration for your TOPS Pro system.

To define a global configuration, start from the TOPS Pro Configuration program and follow these instructions:

1. Click the Login Quick Link or open the Supervisor menu and select Login/Logout.
2. Type in the Supervisor password ("tops software") and click the Login button.
3. Click the Configuration quick link or go to the Supervisor menu and select Configuration.

When the Configuration dialog box appears, click on the Global tab on the far right, as pictured below.



❖ **Global Tab:** This tab displays configuration settings that affect how the TOPS Pro software runs – for example, whether or not to allow users to approve their own analyses, to allow duplicate products in a Package Profile or use a logo in reports, etc.

These parameters affect all existing and/or new users. Be aware that if you change these parameters, in order for the changes to "stick," all

users in TOPS Pro and TOPS Configuration must exit the respective systems.

For detailed information about the Global Configuration dialog box, please refer to Appendix B, Dialog Boxes.

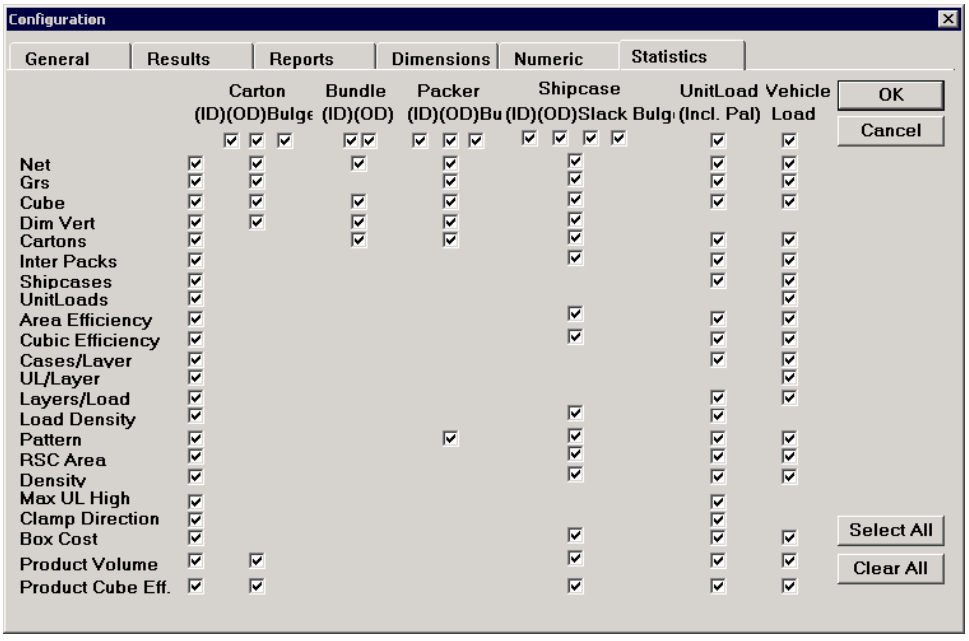
Set Up Statistics

TOPS Pro allows a supervisor to set up rows and columns of statistics that will display in the various Statistics View panes. This allows you to eliminate unnecessary data from your reports.

You can perform this function in either the TOPS Pro and TOPS Configuration program. The statistics setup affects all users. Be aware that when you set up or change statistics parameters, in order for the setup or changes to "stick," all users in TOPS Pro and TOPS Configuration must exit the respective systems.

To set up statistics, follow these instructions:

1. Login as a supervisor.
2. Use these guidelines to open the Statistics dialog box:
   - ❖ In the TOPS Pro system, open the Tools menu and select Configuration and click on the Statistics tab.
   - ❖ In the TOPS Configuration program, open the Supervisor menu, select Configuration and click on the Statistics tab.



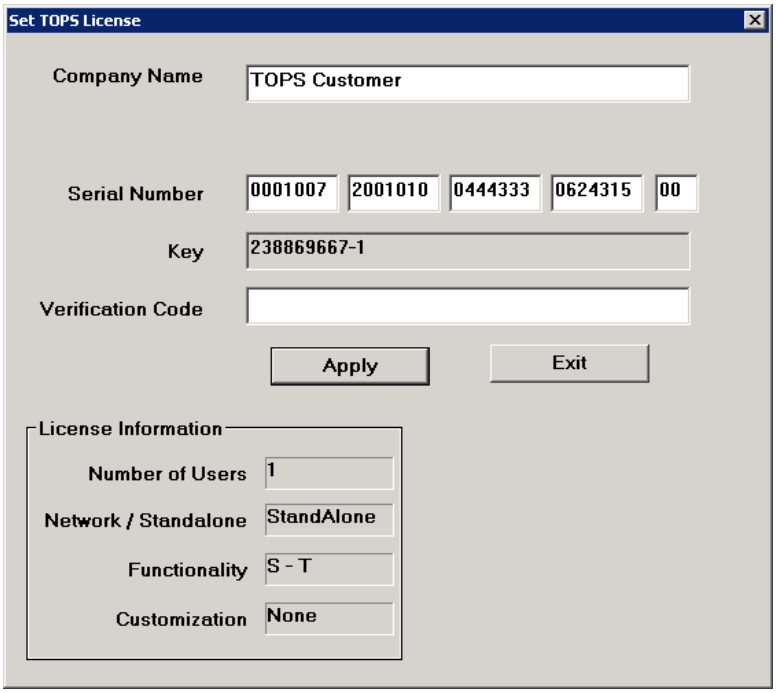
3. Set up rows and columns of statistics to construct the various Statistics View panes as you want.

4. Click on OK. TOPS Pro saves your statistics setup to the database.

For detailed information about the Statistics Setup dialog box, please refer to Appendix B, Dialog Boxes.

Set License

This supervisor function allows you to reset the license on your TOPS Pro software. You will only use this function upon instruction from TOPS technical support team. It provides easy access to the licensing screen should you have upgraded your network license or want to change the licensee information.



This dialog box is the same as the one you see upon initial installation and setup of the TOPS program.

- **Company Name:** Enter the registered licensee name. Make sure to enter the name EXACTLY as provided to you. If you receive a checksum error when you setup the license, this means the Company Name you entered does not match the one provided to you.

- **Serial Number:** Enter the serial number provided to you by TOPS. The first 7-digit will be your short form serial number as marked on the face of you TOPS software CD or plastic CD case.

- **Key:** Provide this number to TOPS when you contact us to setup the license.
- **Verification Code:** This will be provided to you when you contact us to setup the license.
- **Apply button:** After all the information has been entered, click this button to complete license setup. You will see a message "Successfully Set License" if all data are entered correctly. Check the License Information section at this time to verify your license configuration: stand-alone versus network and the number of users if yours is a network license.

Chapter 16: RFID Analysis

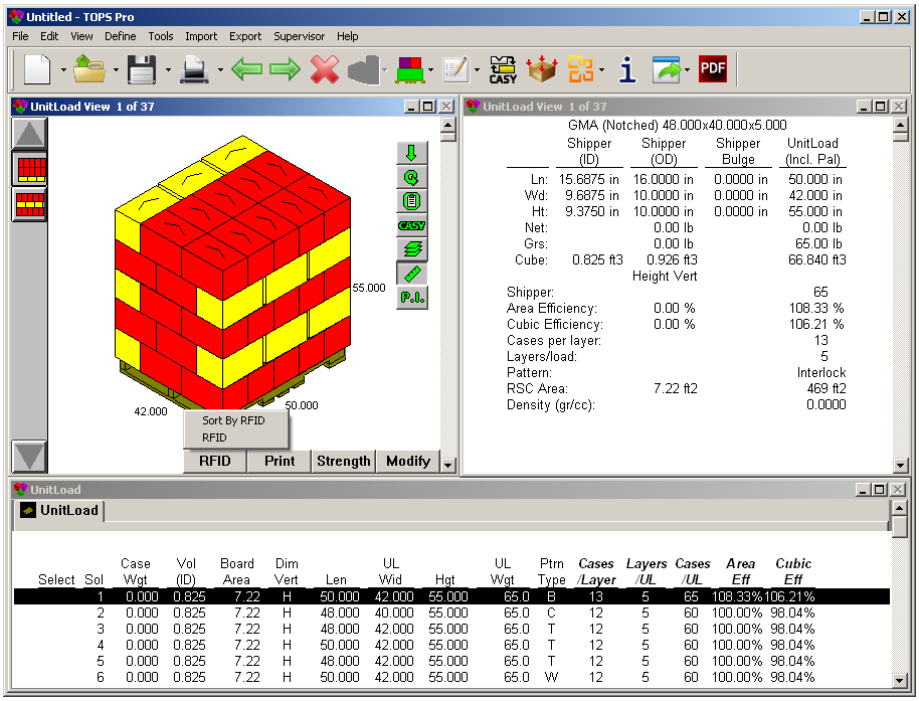
Introduction

This chapter introduces the basic functions of the RFID location optimizer in TOPS Pro. The RFID optimizer allows users to optimize pallet patterns for maximum RFID readability.

To use RFID optimizer, first create a Shipcase → Pallet analysis as described in earlier chapters of the User Guide. In this example, we'll use the following shipcase and pallet parameters:

- **Shipcase Length (in):** Enter 16
- **Shipcase Width (in):** Enter 10
- **Shipcase Height:** Enter 10
- **Pallet:** Use the default GMA (Notched) with the default settings

You will get the solutions as pictured below.



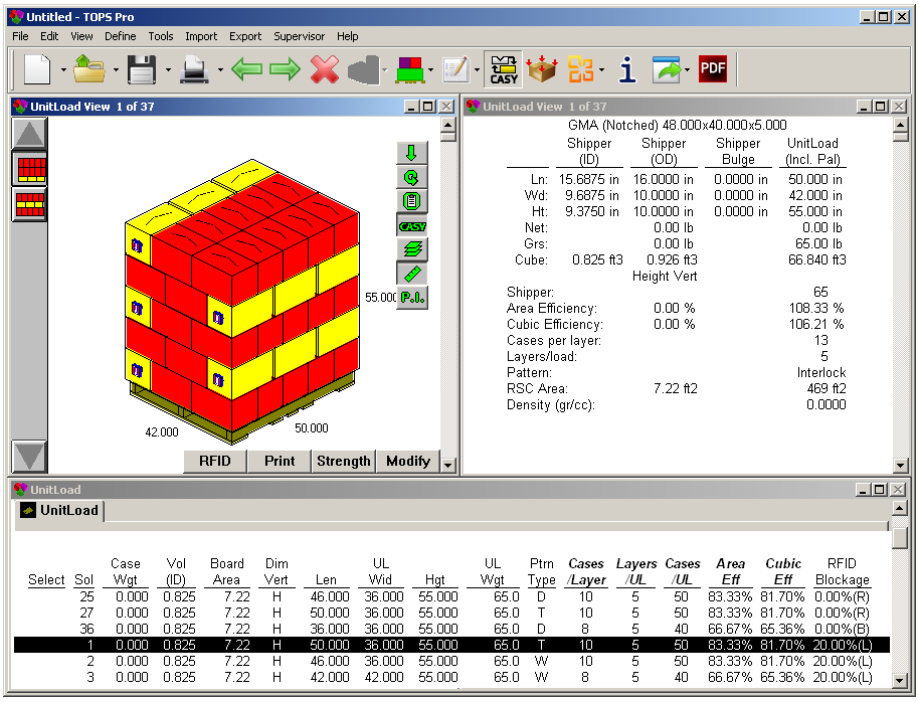
Note that the thumbnails for Unitload list (under Tools, Configuration, General tab) is disabled to show more solutions on the screen.

Click on the RFID button to access these two functions.

- **Sort by RFID:** Sorts the unitload solutions according to the amount of RF blockage, from the least to the greatest.
- **RFID:** Takes the current pallet pattern and displays it in the RFID Dialog Box. Here you can select various options regarding the location and placement of the RFID tags on the shipcases. You also have the option to rotate shipcases within the pallet pattern to maximize RF readability.

Sort by RFID

To obtain the best pattern for RFID tag placement (on shipcases), click on the "Sort by RFID" button, you will see the solution as pictured below.

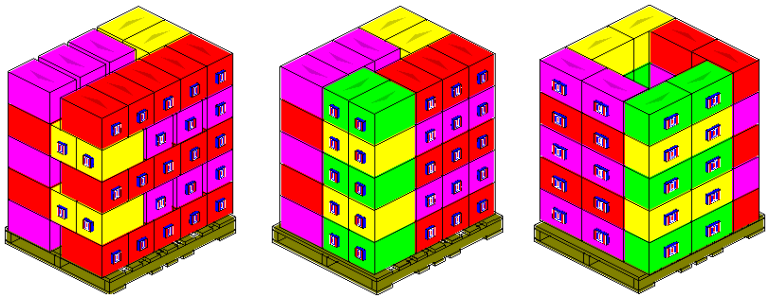


This will add an extra (last) column of statistics to the UnitLoad List pane with heading **RFID Blockage**. The unitload solutions are sorted such that patterns with the least RFID blockage will appear on the top of the list.

The letter in brackets to the right of the RFID factor represents the shipcase face on which the tag is located. This will be the face where the tag will have maximum readability. The percentage (%) represents the maximum amount of blockage that a shipcase in the current pattern would have using the default values.

(F) – Front (L) – Left (T) – Top
(B) – Back (R) – Right (BT) – Bottom

The top 3 solutions will appear as below:



Sol	Case Wgt	Vol (ID)	Board Area	Dim Vert	Len	UL Wid	Hgt	UL Wgt	Ptrn Type	Cases /Layer	Layers /UL	Cases /UL	Area Eff	Cubic Eff	RFID Factor
25	0.000	0.825	7.22	H	50.00	36.00	55.00	65.0	T	10	5	50	83.33%	81.70%	0.00%(L)
27	0.000	0.825	7.22	H	46.00	36.00	55.00	65.0	W	10	5	50	83.33%	81.70%	0.00%(L)
36	0.000	0.825	7.22	H	42.00	42.00	55.00	65.0	W	8	5	40	66.67%	65.36%	0.00%(F)

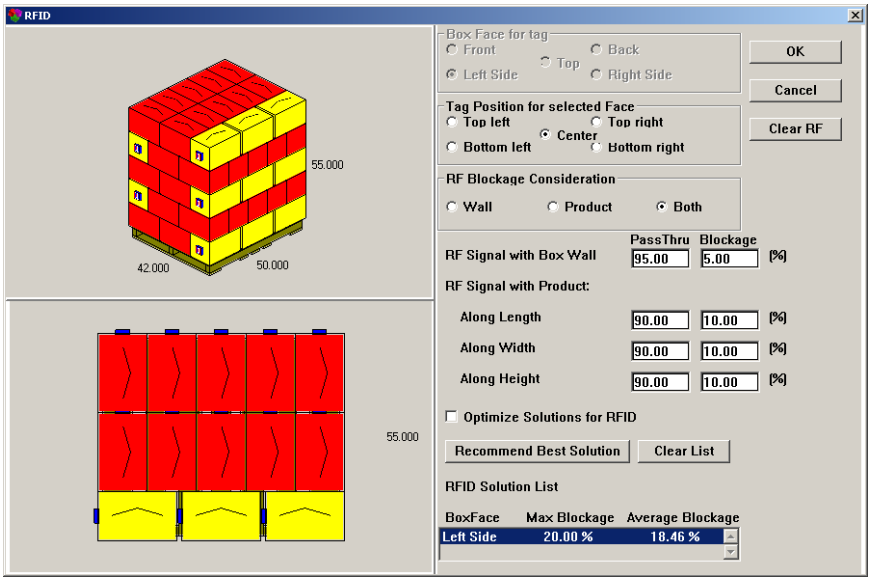
Notice that the 3 solutions all have a RFID factor of 0%, meaning that none of the RFID tags on the shipcases are obstructed from the scanner. To get back to your original sort order, click on the “Sort by Eff” (Efficiency) button in the unitload view pane.

RFID Analysis

The RFID button leads to the functionality which optimizes placement of RFID tags for an existing pallet pattern.

To illustrate this function, we use the first unitload solution in the current analysis. To do so, make sure you highlight the first solution and click the RFID button in the unitload view pane. The RFID Dialog Box, as shown below, opens.

Note: The small dark rectangles in the Unitload Plan View at the bottom represent the RFID tags.



The following list gives a brief overview of the different options in RFID:

- **Box Face for tag:** Click the radio button to specify the shipcase face where the tag will be placed.
- **Tag Position for selected Face:** Click the selection as to where on the selected shipcase face the tag will be placed.
- **RF Blockage Consideration:** Click the selection to specify the blockage factor which TOPS Pro should consider when placing RFID tags: product, the box or both.
- **RF Signal with Box Wall:** Enter an estimate in percentage (%) the amount of RF pass through or blockage imposed by the walls of the shipcase.

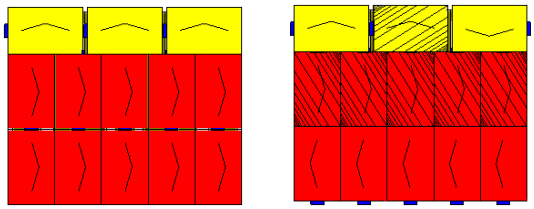
  Note: You will need to enter only one of the two values, the other percentage will be populated automatically based on a total of 100%.

- **RF Signal with Product:** Enter an estimate in percentage (%) the amount of RF blockage imposed by the contents inside the shipcase along the Length, Width and Height of the shipcase.

  Note: You will need to enter only one of the two numbers for each line, the other percentage will be populated automatically based on a total of 100%.

- **Optimize Solutions for RFID:** If checked, this option enables rotation of shipcases on the current pallet pattern by 180 degrees to obtain the most visibility to the RFID tags.

  The illustrations below show how optimizing the solution by rotating the shipcase at the top by180 degrees cuts average RF blockage from 18.46% to 9.23% for the current example.



  Note: The shaded shipcases are the ones with maximum RF blockage.

- **Recommend Best Solution/Recalc Recommendations:** Click this button to have TOPS Pro start RFID tag optimization based on the options selected above for the current pallet pattern. The results are displayed in the RFID Solution List.

  If you have changed any parameters, click this button again (now labeled as Recalc Recommendations) to recalculate the solutions.

- **RFID Solution List:** Displays the list of RFID tag placement solutions, sorted by the amount of RF blockage.

  In the RDIF Solution List below, it lists the maximum and average blockage when the tags are placed on the left, right, front, and top face of the shipcase respectively. You can click on each solution to have the 3D and plan views of the unitload.

RFID Solution List

BoxFace	Max Blockage	Average Blockage
Left Side	20.00 %	9.23 %
Right Side	20.00 %	9.23 %
Front Face	40.00 %	12.31 %
Back Face	40.00 %	12.31 %
Top Face	80.00 %	80.00 %

Chapter 17: Eco Savings Report

Introduction

The Eco Savings Report allows you to compare up to 5 solutions the effects different package size, case size and pallet and vehicle loads have on the environment in terms of carbon emission and corrugated and packing material wastage or usage.

To begin, first create the analysis and enter the package dimensions and sizing that you'd like to evaluate, then setup the cost parameters for the analysis. Once these are setup, you can compare the eco savings data among various solutions in different stages.

Please follow these instructions to go through an example.

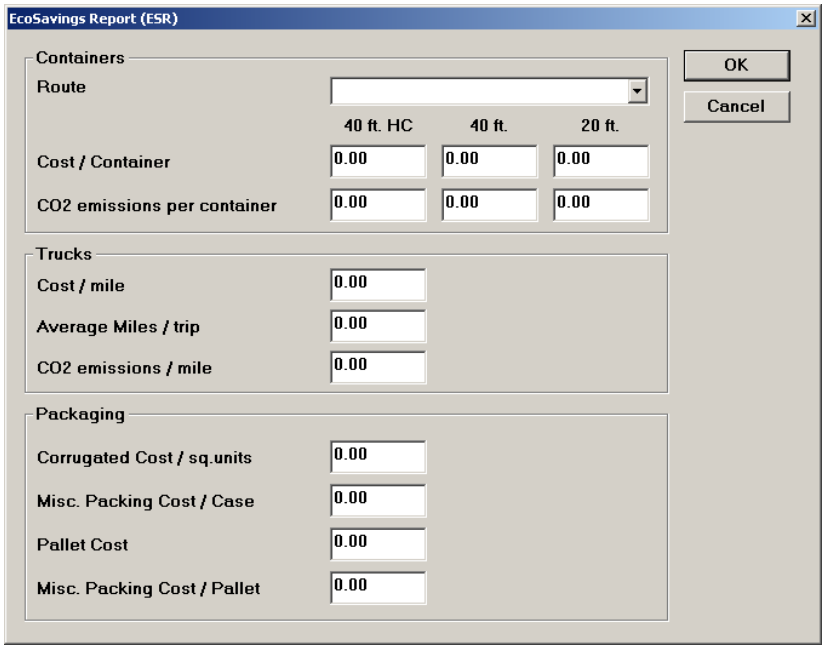
Create the Analysis

1. Go to the File menu, select Open.
2. At the Open Analysis dialog box, highlight Cookies(Boxed and Palletized) and click on OK to open.

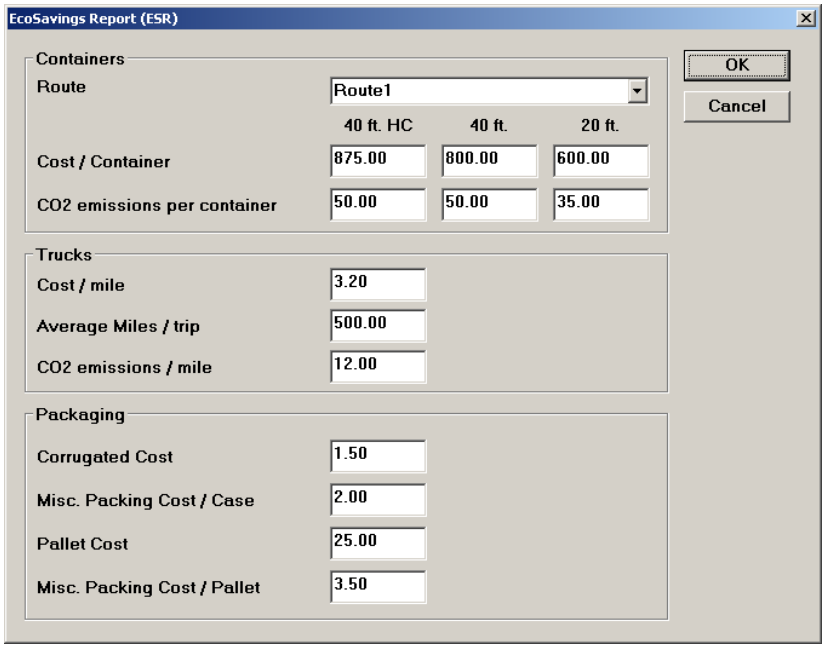
   TOPS will open the analysis with the previously saved solution.
3. Click on the Cancel button ( ) in the Tool Bar to go back to the Control Panel.
4. Click on the Calc button to re-generate all solutions.

Set up Cost Factors

5. Go to the Tools menu, then ESR and select ESR Configuration. You will see the Eco Savings Report (ESR) dialog box as pictured below.



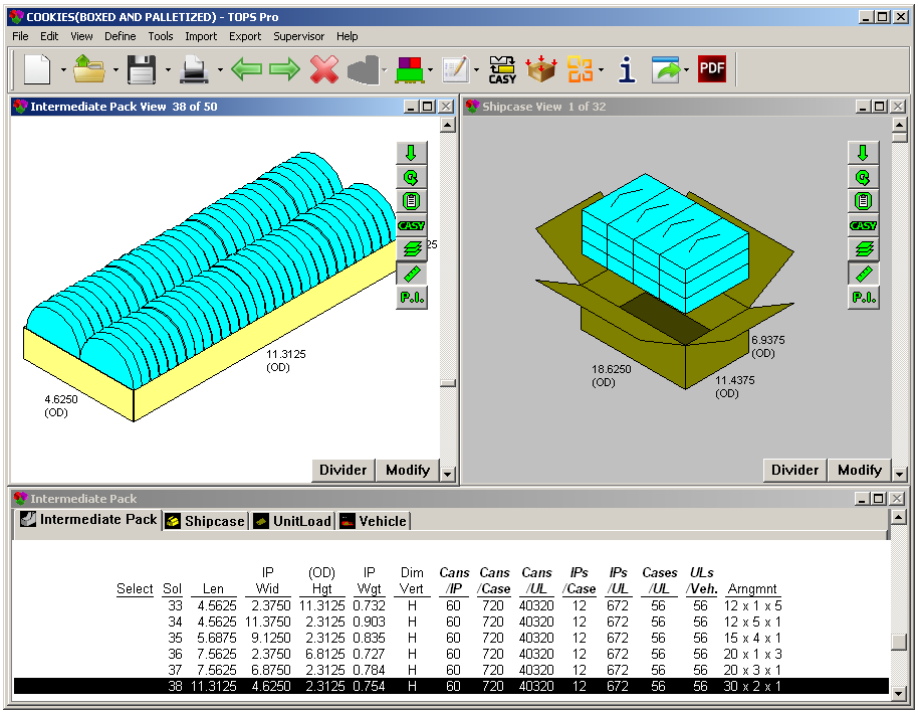
6. Let's set up a route called Route1 and input the data as pictured below.



7. When done, click on OK to save the parameters into the TOPS database.

Select the Solutions

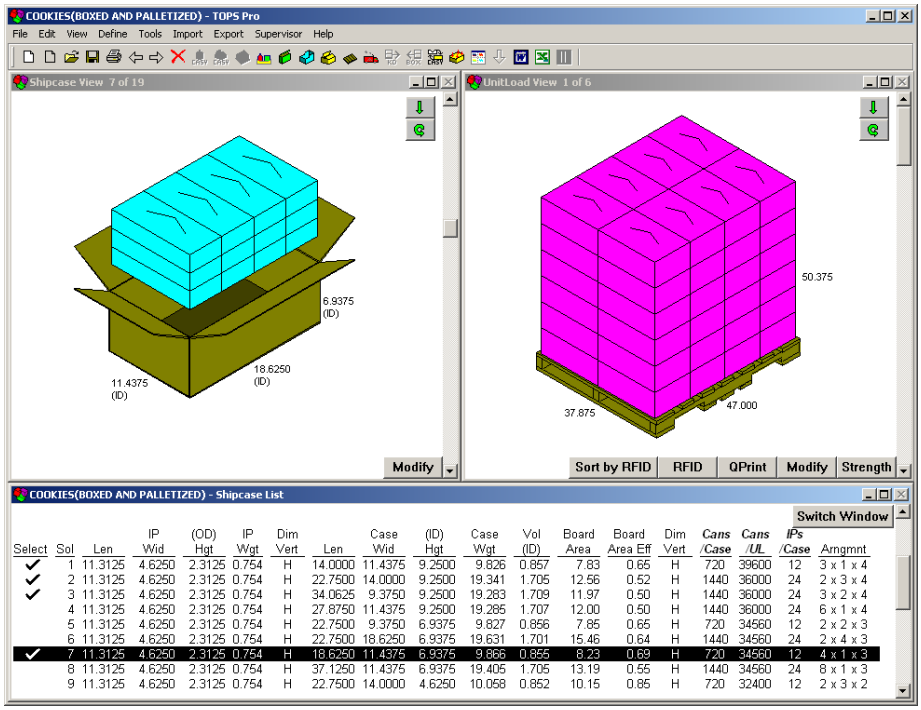
8. Select the Intermediate pack solution as pictured below and proceed to the shipcase stage by clicking on the Next button (➡) on the Tool Bar.



9. At the Shipcase Solution View, we'll create the Eco Savings Report by comparing the first, second, third and seventh shipcase solution.

10. Select the shipcase solution by double clicking the solution, a check mark appears under the Select column in the solution view once the solution is selected.

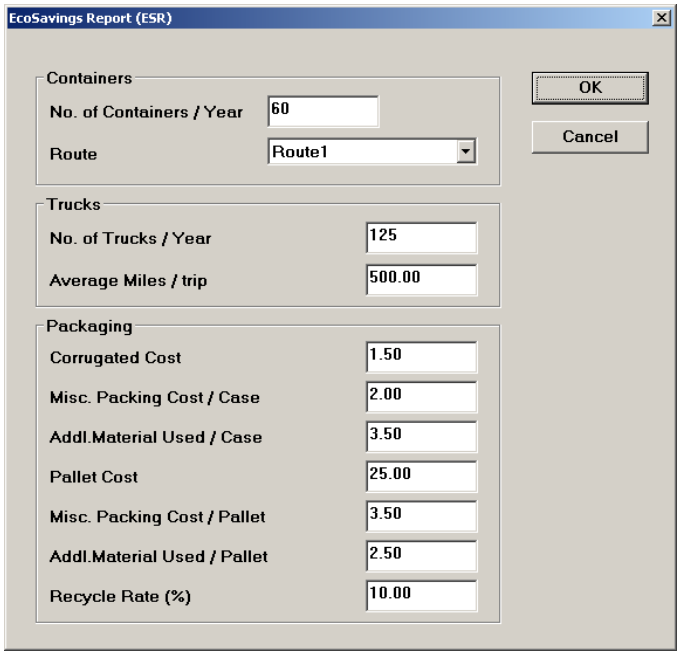
11. Continue step 10 until all 4 solutions are selected as pictured below.



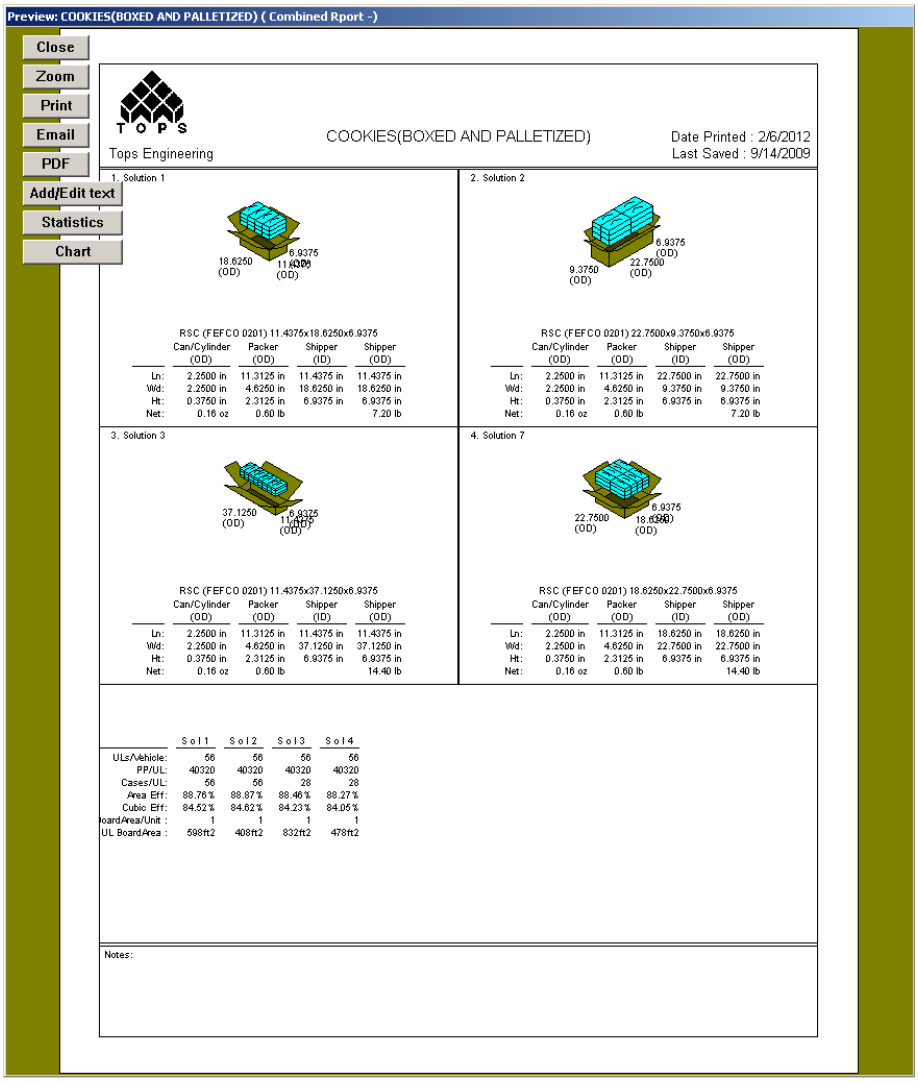
Select	Sol	Len	IP Wid	(OD) Hgt	IP Wgt	Dim Vert	Len	Case Wid	(ID) Hgt	Case Wgt	Vol (ID)	Board Area	Board Area Eff	Dim Vert	Cans /Case	Cans /UL	IPs /Case	Arngmnt
✓	1	11.3125	4.6250	2.3125	0.754	H	14.0000	11.4375	9.2500	9.826	0.857	7.83	0.65	H	720	39600	12	3 x 1 x 4
✓	2	11.3125	4.6250	2.3125	0.754	H	22.7500	14.0000	9.2500	19.341	1.705	12.56	0.52	H	1440	36000	24	2 x 3 x 4
✓	3	11.3125	4.6250	2.3125	0.754	H	34.0625	9.3750	9.2500	19.283	1.709	11.97	0.50	H	1440	36000	24	3 x 2 x 4
	4	11.3125	4.6250	2.3125	0.754	H	27.8750	11.4375	9.2500	19.285	1.707	12.00	0.50	H	1440	36000	24	6 x 1 x 4
	5	11.3125	4.6250	2.3125	0.754	H	22.7500	9.3750	6.9375	9.827	0.856	7.85	0.65	H	720	34560	12	2 x 2 x 3
	6	11.3125	4.6250	2.3125	0.754	H	22.7500	18.6250	6.9375	19.631	1.701	15.46	0.64	H	1440	34560	24	2 x 4 x 3
✓	7	11.3125	4.6250	2.3125	0.754	H	18.6250	11.4375	6.9375	9.866	0.855	8.23	0.69	H	720	34560	12	4 x 1 x 3
	8	11.3125	4.6250	2.3125	0.754	H	37.1250	11.4375	6.9375	19.405	1.705	13.19	0.55	H	1440	34560	24	8 x 1 x 3
	9	11.3125	4.6250	2.3125	0.754	H	22.7500	14.0000	4.6250	10.058	0.852	10.15	0.85	H	720	32400	12	2 x 3 x 2

12. Go to the Tools menu, select ESR and then ESR for Analysis.

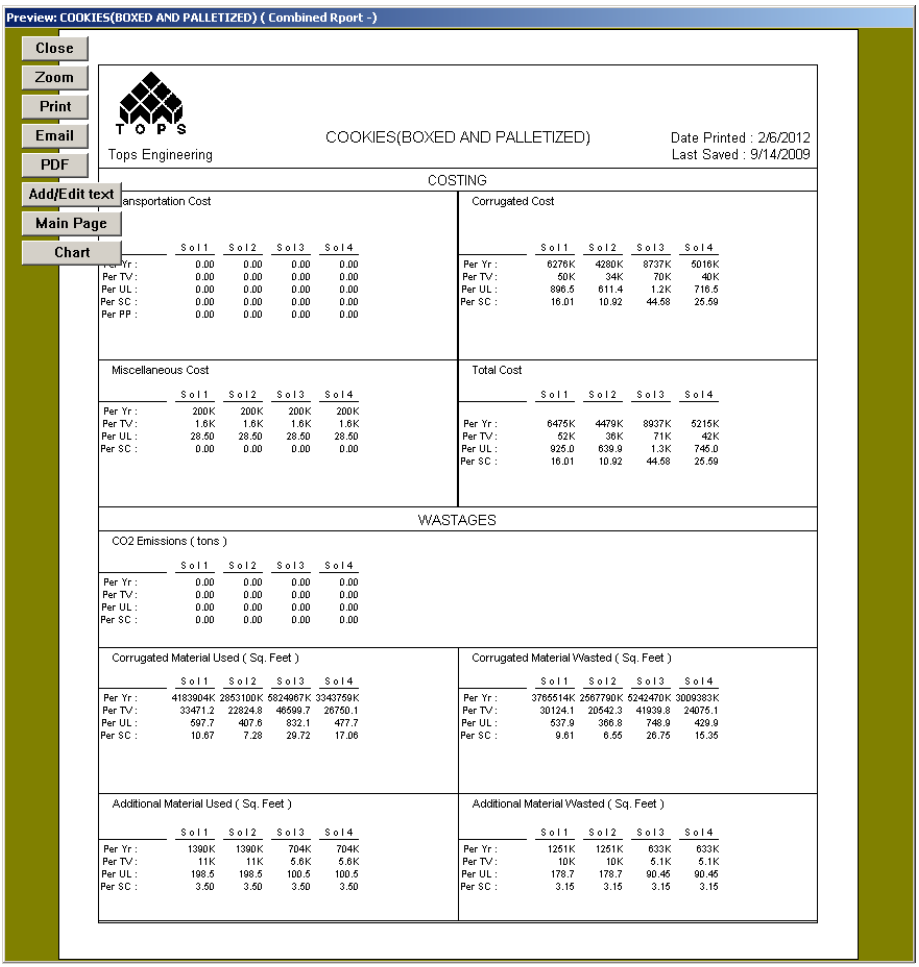
13. A pop-up dialog box appears to prompt for additional parameters. Select Route1 from the Route field and enter other relevant information as pictured below.



14. Click on OK to view the report for the four selected solutions as pictured below.



15. To view the ESR statistics, click on the Statistics button.



16. To compare the Unitload and/or Transit Vehicle stages, click on Close to return to the solution view.

17. Use the Next button (➡) to proceed to the Unitload stage.

18. Repeat steps 10 through 15 to select multiple solutions and generate the reports as described.

Note that the ESR provides the following comparison data:

Costing	Wastages
Transportation Cost	CO2 Emissions
Corrugated Cost	Corrugated Material Used
Miscellaneous Cost	Corrugated Material Wasted
Total Cost	Additional Material Used
	Additional Material Wasted

Chapter 18: Send to MS Office

Introduction

The Send to MS function under the Export menu allows you to export the current analysis to a MS Word or MS Excel file with a pre-defined template. This chapter will discuss the following:

- Export an analysis to a predefined Word template from TOPS
- Export an analysis to a predefined Excel template from TOPS
- Create a new Word template for use with TOPS data
- Create a new Excel template for use with TOPS data

MS Office Templates

TOPS Pro comes with Word and Excel templates pre-formatted to display graphics and statistics from a TOPS analysis. These templates contain special bookmarks (for Word) and field names (for Excel) to refer different data from the analysis. Please refer to Appendix G for a list of bookmarks and field names used for Word and Excel respectively.

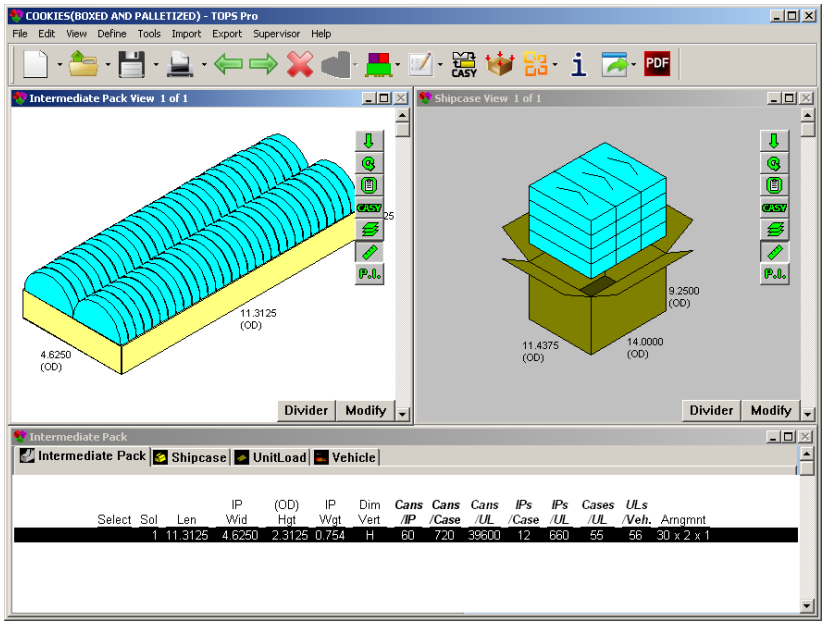
The MS Office templates for TOPS are saved in the \TOPSAPPS\TOPSPro\msword\ folder and can be easily modified to display data in the desired format. You can also design new templates from an existing document and apply relevant bookmarks or field names at the corresponding locations.

For any newly created templates, they have to be saved in the same folder as referenced above in order for TOPS to display them as available selection in the Select template to export dialog box.

Export to MS Word

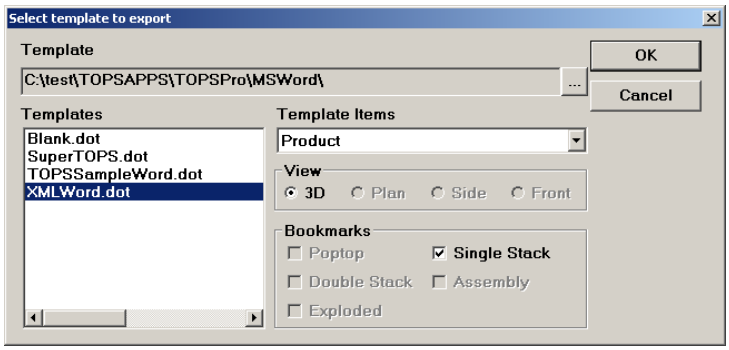
In this example, we will use sample analysis Cookies(Boxed and Palletized) to illustrate the send to MS Office function.

1. Go to the File menu and select Open.
2. At the Open Analysis dialog box, select Cookies(Boxed and Palletized) under the Approved section of list in the Main Folder and click on OK.
3. The saved analysis will be opened as pictured below.



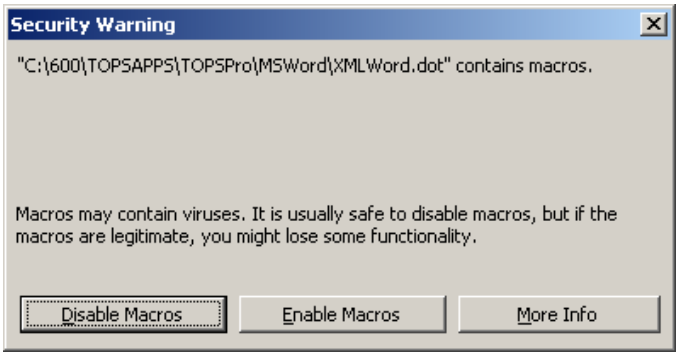
Note: If your screen layout looks different from the one above, go to the View menu and select "Split Screen".

4. Go to the Export menu and select Send to MS Office or click on the icon on the tool bar and select Send to Word. This opens the Select template to export dialog box as pictured below.

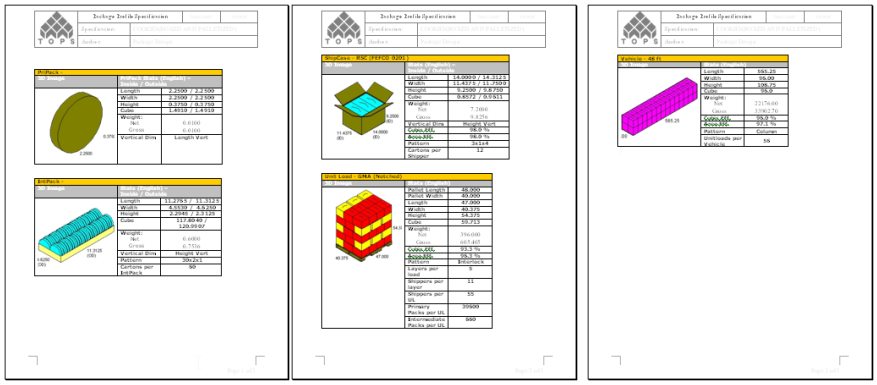


5. Highlight XMLWord.dot and click on OK.
6. TOPS will instruct your system to open MS Word.

   Note: You might see a security warning as shown below depending on the security setting in your MS Word.



7. Click on Enable Macros if you see the above message to proceed with data export from TOPS to Word.
8. MS Word will start placing different data at assigned locations and when done, you'll see a three page document as pictured below.



9. Save the document as desired using Word's File, Saved as function.

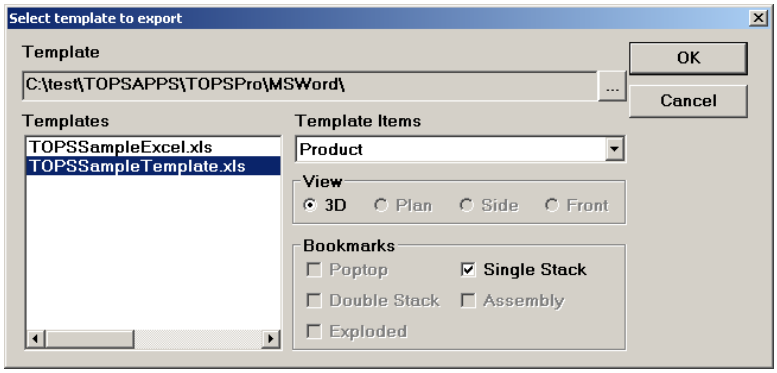
Note: To enable Macros in MS Word 2007, please follow these steps:

1. Click the Microsoft Office Button , and then click on Word Options.
2. Click Trust Center, click Trust Center Settings, and then click Macro Settings.
3. Click Enable all macros.

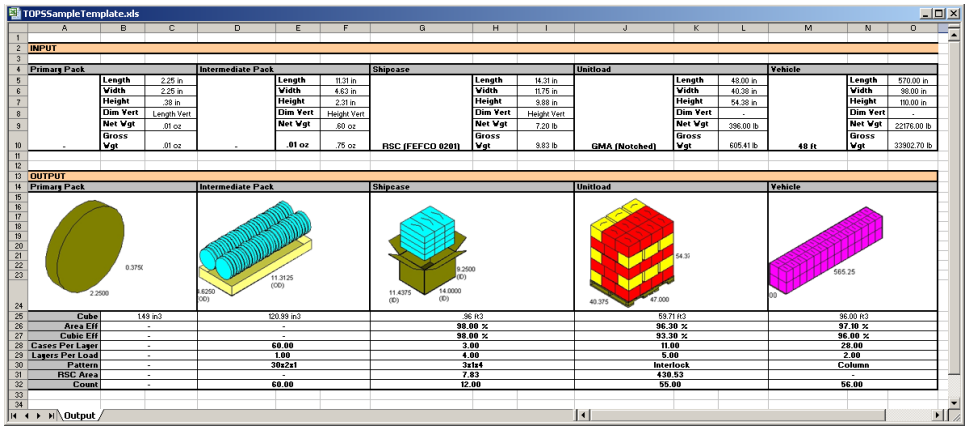
Export to MS Excel

In this example, we will again, use sample analysis Cookies(Boxed and Palletized) to illustrate the send to MS Office function.

1. Go to the File menu and select Open.
2. At the Open Analysis dialog box, select Cookies(Boxed and Palletized) in the Main Folder and click on OK.
3. The saved analysis will be opened.
4. Go to the Export menu and select Send to MS Office or click on the icon on the tool bar and select Send to Excel. This opens the Select template to export dialog box as pictured below.



5. Highlight TOPSSampleTemplate.xls and click on OK.
6. TOPS will instruct your system to open MS Excel.
7. MS Excel will start placing different data at assigned locations and when done, you'll see a worksheet with the following layout.



8. Save the document as desired using Excel's File, Saved as function.

Create a Custom Word Template

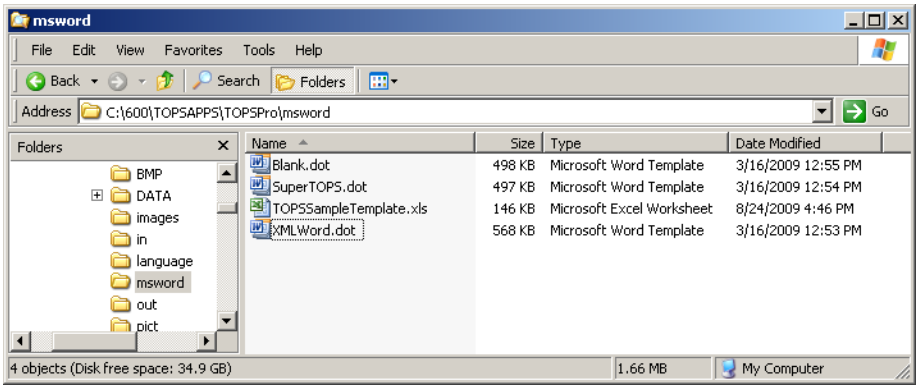
To create a custom Word template for TOPS Pro, these are the steps you should follow:

- ❖ Copy an existing Word template from TOPS system
- ❖ Format the document to the report format as desired
- ❖ Place data and graphic using TOPS bookmarks in corresponding locations
- ❖ Save the document as a Word template in \TOPSAPPS\TOPSPro\msword folder

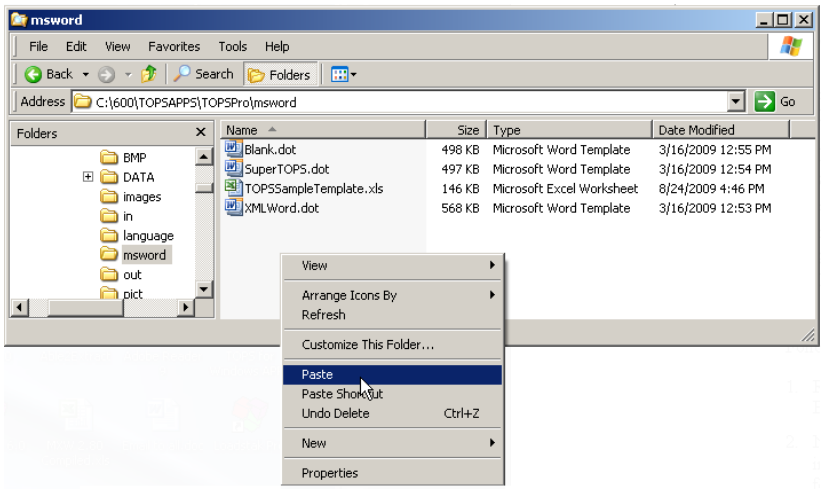
Followed are the instructions in more detail:

Copy Blank.dot to MyTemplate.dot

1. Right click on the My Computer icon on your desktop and select Explore on the pop-up menu.
2. Navigate to the folder where document templates for TOPS Pro were installed (normally \PROGRAM FILES\TOPSAPPS\TOPSPRO\msword\ folder) as pictured below.



3. Right click on the document Blank.dot and select Copy at the pop-up dialog box.
4. With the mouse button anywhere in the folder list, right click the mouse button and select Copy at the pop-up dialog box as pictured below.



5. A new file call Copy of Blank.dot will be created.
6. Right click on the new file Copy of Blank.dot and select rename at the pop-up dialog box.
7. When the filename is highlighted, edit the text to “MyTemplate.dot” and press Enter on the keyboard.

We have just created a new blank template file named MyTemplate.dot in the \TOPSAPPS\TOPSPro\msword\ folder.

Format the Template

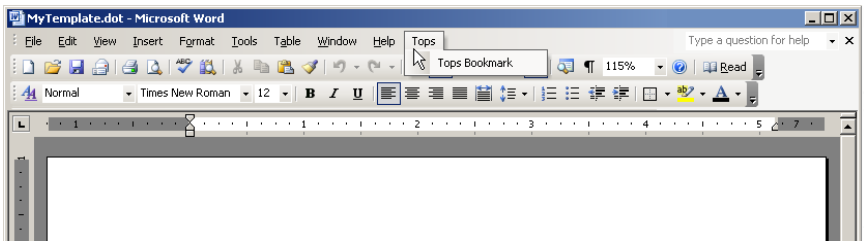
In this illustration, we are using Word 2003. If you are using other versions of Word, please use the corresponding commands.

1. Right click the file MyTemplate.dot and select Open in the pop-up menu to open it in Word.

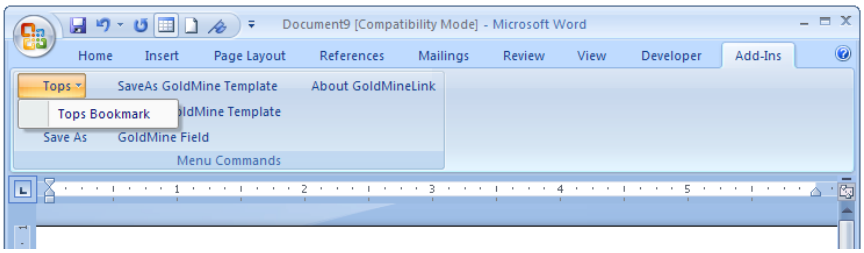
   Note: Make sure that you open the dot file as instructed or directly from within Word. **Double clicking a dot file would only create a new document file based on the dot file but not opening the dot file.**

2. Click on Enable Macros to use macros created for the template file. You will see a new blank document opened in Word.

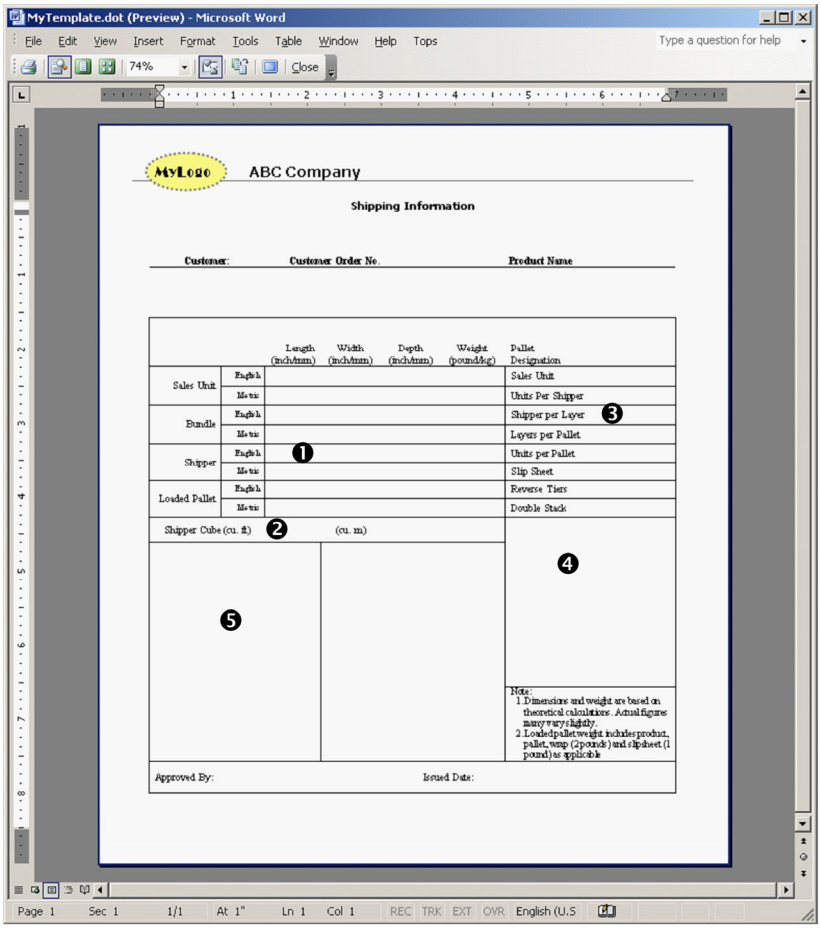
   Note that there is a new menu item “Tops” in the Menu Bar and when clicked on gives the option Tops Bookmark as pictured on the next page.



Note: In Word 2007, you will find "Tops" option under the "Add-Ins" menu. Click on the drop down arrow next to "Tops" to view the defined bookmarks.



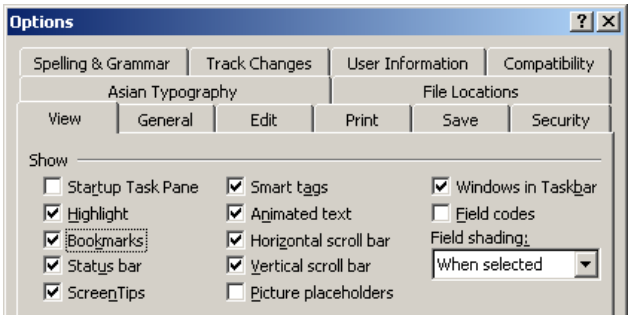
3. Format the new Word report as needed. In the sample report below, the different areas contain statistics and images from TOPS as pictured below.



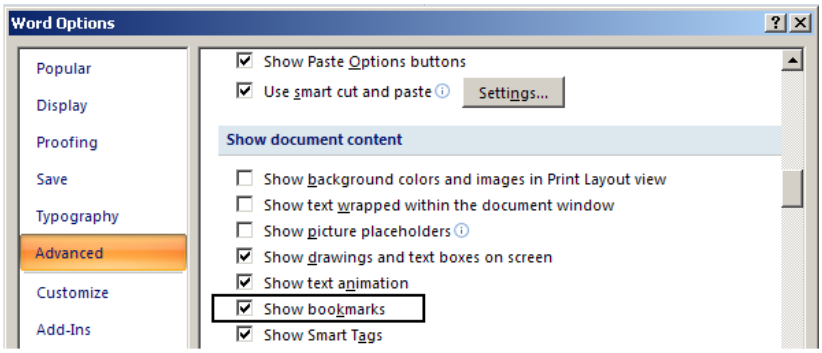
Add Tops Bookmarks

To add the graphics and statistics in the marked area, we will use the Tops Bookmarks saved in this word template file. A list of Tops bookmarks is available in Appendix G.

Before adding the bookmarks, please make sure bookmarks (I) are visible within Word. Go to Word's Tools menu and select Options…, make sure the Bookmarks check box under the View tab is checked as pictured below. Click on OK to save the setting.



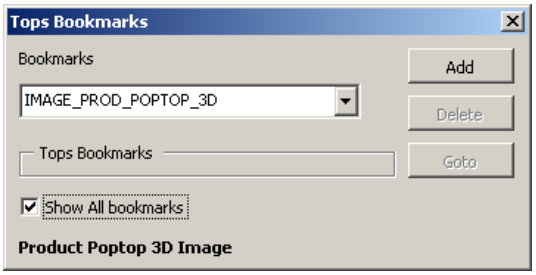
In World 2007, click the Microsoft Office button and then click on Word Options. Click Advanced and then scroll down to the Show document content section and check "Show Bookmarks".



In this example, we will add the following bookmarks in the highlighted areas of the report as shown on the previous page:

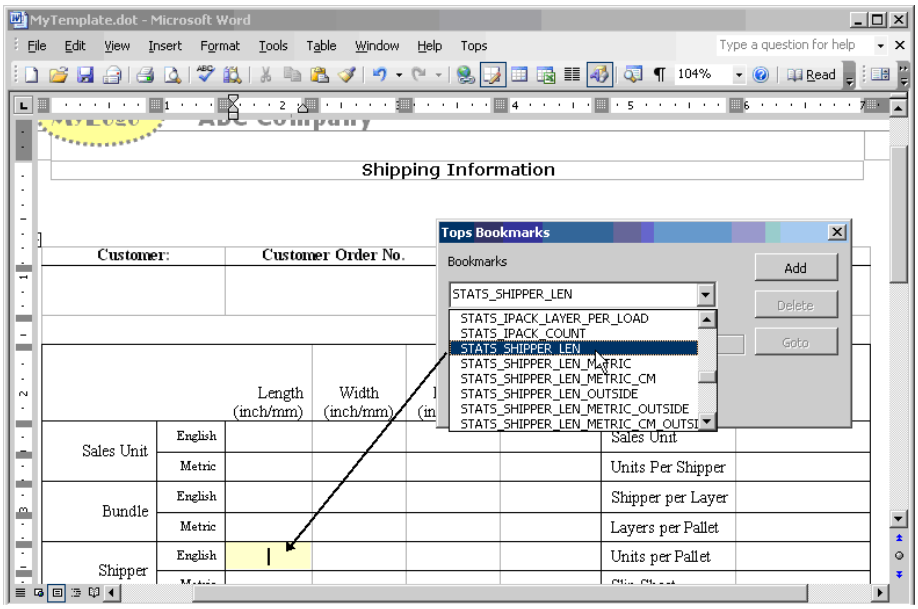
- Area 1: Shipcase length in inches (STATS_SHIPPER_LEN)
- Area 2: Shipcase cube in cubic inches (STATS_SHIPPER_CUBE)
- Area 3: Number of shipcase per layer (STATS_UL_PER_LAYER)
- Area 4: Unitload 3D view (IMAGE_UL_SINGLE_STACK_3D)
- Area 5: Intermediate Pack 3D view (IMAGE_IP_SINGLE_STACK_3D)

1. To insert Shipcase length in inches, click in the area marked ❶, go to Tops menu and click on Tops Bookmarks. The Tops Bookmarks dialog box, as pictured below, appears.



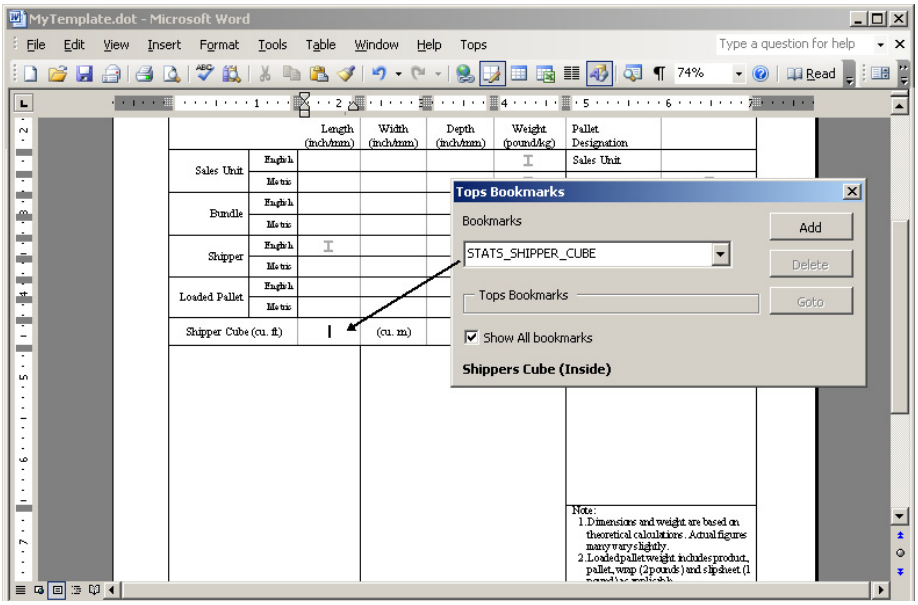
Note that you can also check the Show All bookmarks option in this dialog box to show added bookmarks in the document.

2. Click on the drop-down list, scroll though the list and highlight STAT_SHIPPER_LEN; click on the Add button as pictured below.

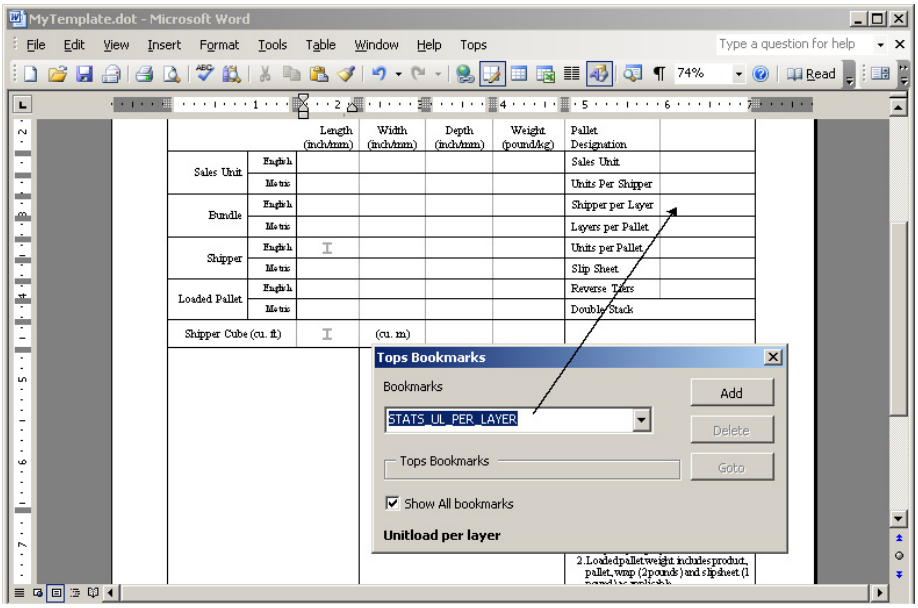


3. The text cursor (|) now changes to a bookmark indicator (I) in the highlighted above.

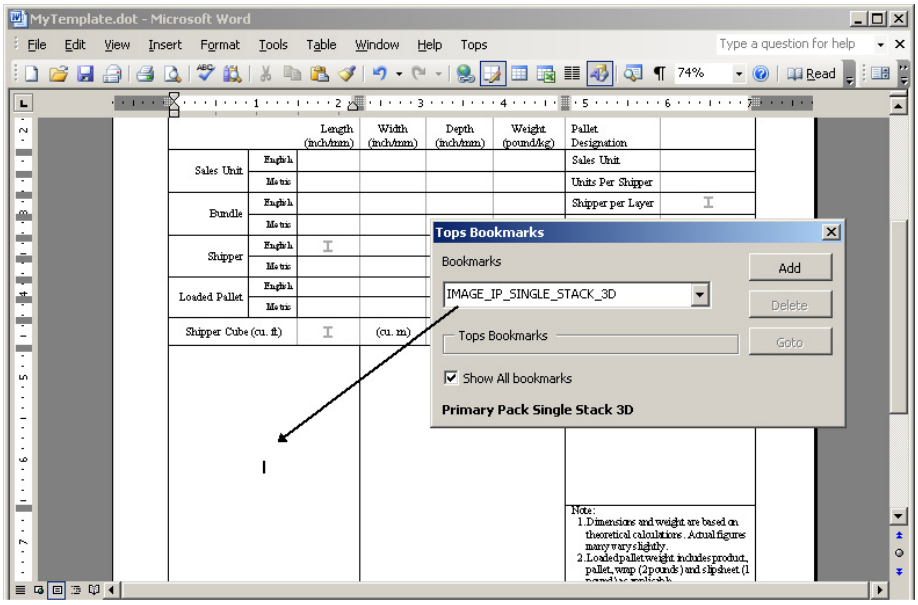
4. Now select bookmark STATS_SHIPPER_CUBE from the list, click on the Shipper Cube field, area ❷ and click on the Add button in the TOPS Bookmarks dialog to add the bookmark.



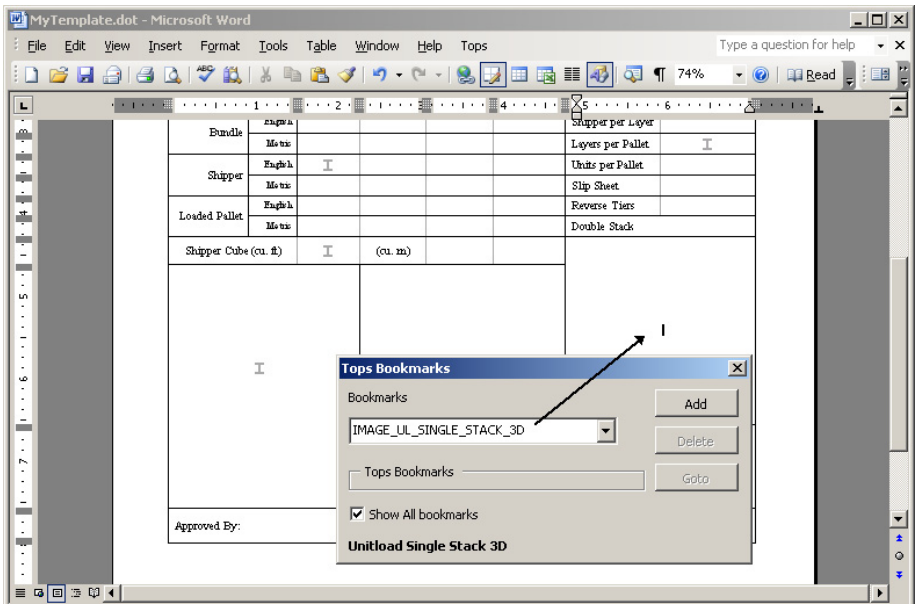
5. To add shipper per unitload layer, select STATS_UL_PER_LAYER from the list, click on the area as pictured below and click on the Add button in the TOPS Bookmarks dialog to add the bookmark.



6. To add the intermediate pack 3D graphic, select IMAGE_IP_SINGLE_STACK_3D from the list, click on the area as pictured below and click on the Add button in the TOPS Bookmarks dialog to add the bookmark.



7. To add the unitload 3D graphic, select IMAGE_UL_SINGLE_STACK_3D from the list, click on the area as pictured below and click on the Add button in the TOPS Bookmarks dialog to add the bookmark.



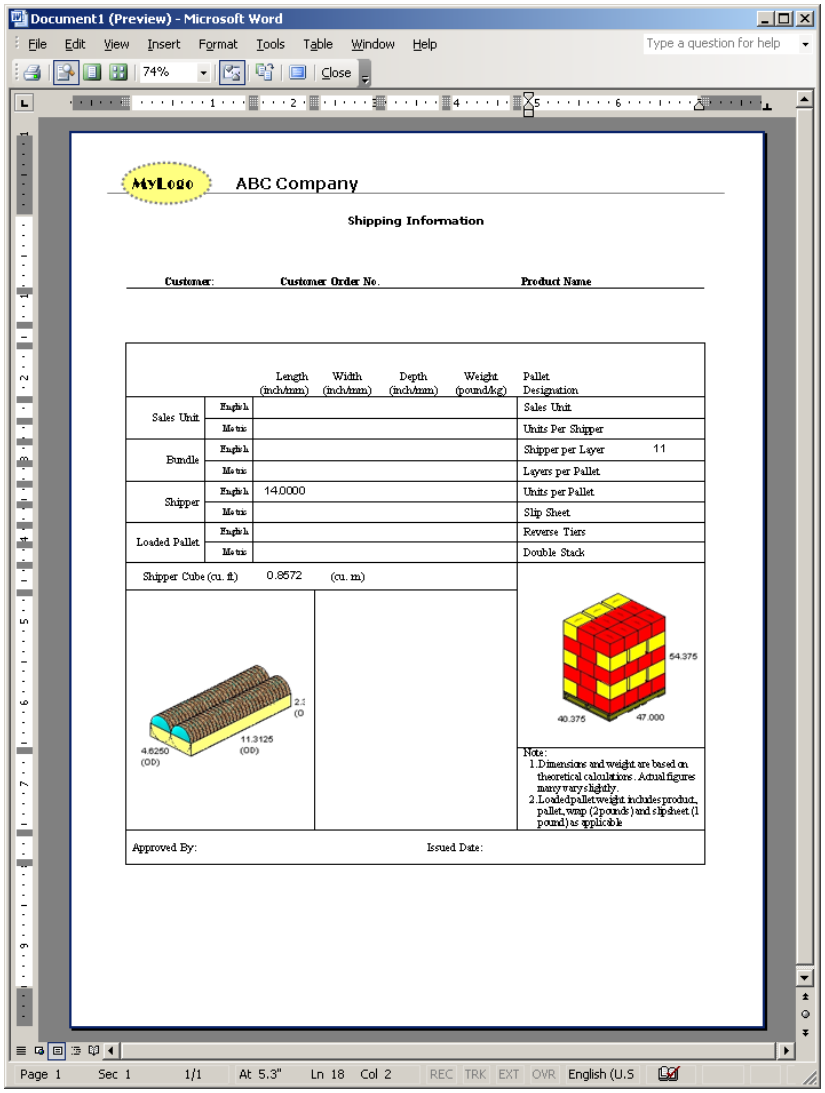
8. After all 5 bookmarks have been added, go to Word's File menu and select Save to save the changes to the MyTemplate.dot file. Exit MS Word. This template is now ready for use in TOPS.

9. Now go back to TOPS Pro, with the current analysis Cookies(Boxed and Palletized) still open, go to the Export menu and select Export to

MS Office. You should now see the MyTemplate.dot under the list of available Templates.

10. Highlight MyTemplate.dot and click on OK.
11. MS Word will open with the Security Warning message. Click on Enable Macros and a new document using the selected template will be open as pictured on the next page.

    Note the five areas we have bookmarked are now populated with the corresponding data and graphics.



Tips on Using Bookmarks in MS Word

1. The TOPS menu on Word's menu bar is only available when you open the template file in the \TOPSAPPS\TOPSPro\msword\ but not a word document based on the TOPS template file.
2. If you want to review an assigned bookmark in a Word template, go to Tops menu and open Tops Bookmarks. Place the text cursor next to the bookmark, the Tops Bookmarks dialog box will display the name of the bookmark.
3. To delete an assigned bookmark, follow tip #2 above and then click on the Delete button. The bookmark cursor (I) will be removed.
4. The state of the Add, Delete and Goto buttons – active or being grayed out – gives you the hint if the selected bookmark has been assigned in the template.

    - ❖ When the Add button is active - the selection has not been bookmarked
    - ❖ When the Add button is inactive (gray out), the selected bookmark exists in the current document. Click on the Goto button to bring the text cursor to the selected bookmark, then click on the Delete button should you want to remove the bookmark.

Create a Custom Excel Template

In MS Excel, TOPS data, including both images and statistics, are placed into designated cells defined by **Range Names**. These names are similar to bookmarks in MS Word and given cell references for placement of different data.

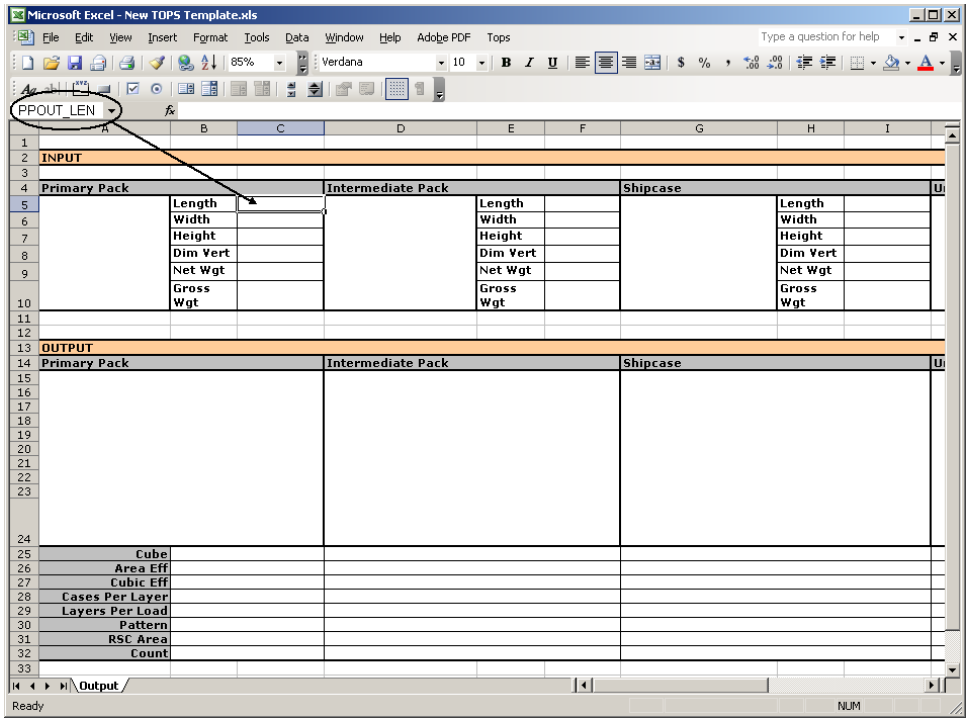
The TOPSSampleTemplate.xls provided with TOPS contains defined names for most statistics and most 3D images from different stages of a TOPS analysis. The easiest way is to adapt this template and redefine the cell reference for data placement.

Please follow these instructions to create a custom Excel template.

- Save a copy of the TOPSSampleTemplate.xls to a new file and make sure it is saved in the \TOPSAPPS\TOPSPRO\msword\ folder
- Change the layout of the worksheet as desired
- Change the cell reference of the Range Names

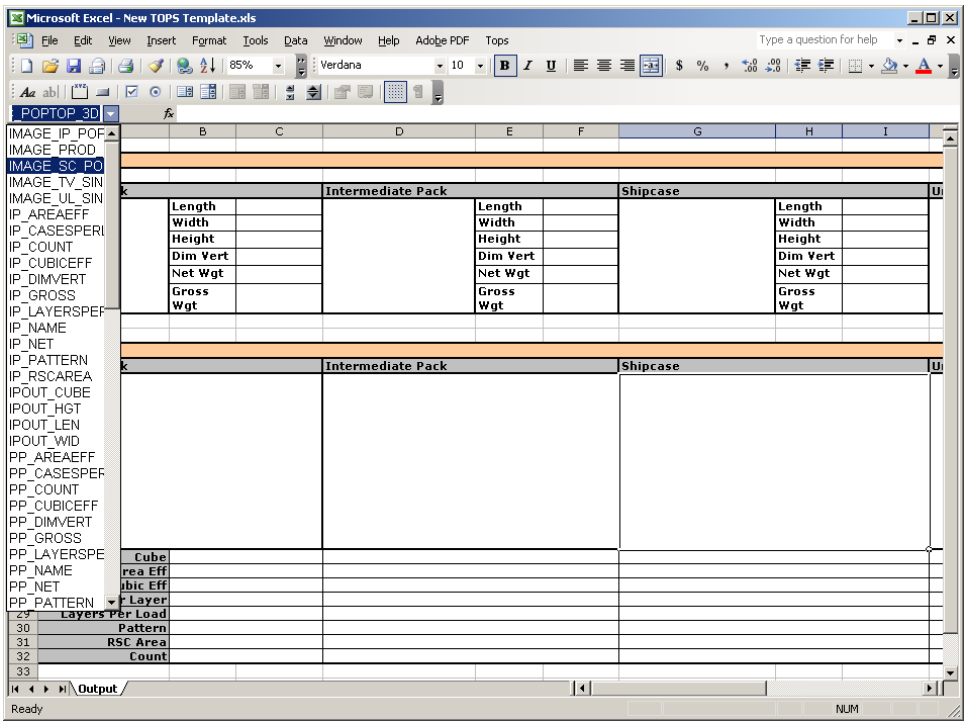
Create & Format a New Worksheet in Excel Template

1. Open Excel, browse to the folder \TOPSAPPS\TOPSPRO\msowrd\ and open TOPSSampleTemplate.xls as pictured below.



The circled area is called is the Name Box and displays any name defined for the active cell (C5 in this example on the previous page).

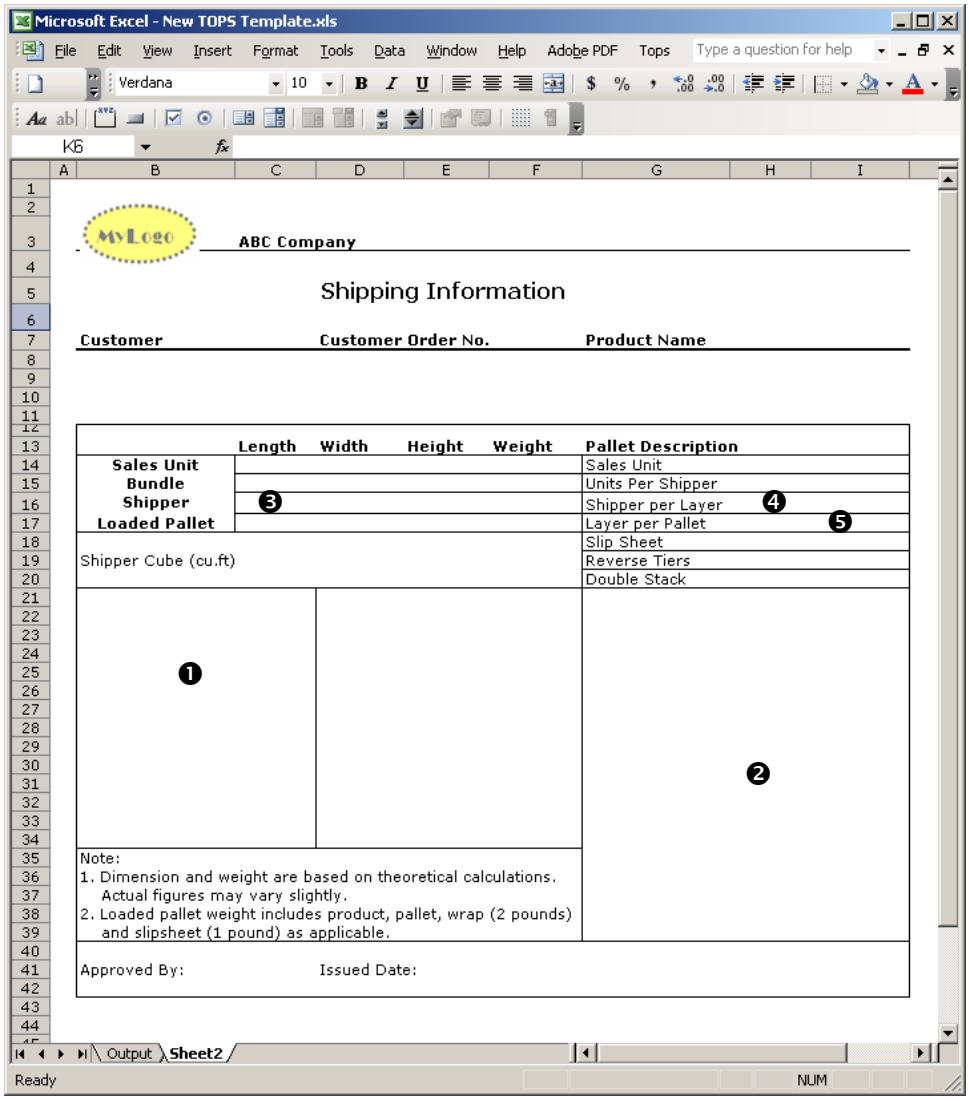
If you click the drop down triangle next to the Name Box, you will see a list of names defined in the current workbook. When you click on any of these names, Excel will go to the cell or cell range where the name is referenced. For example, the name IMAGE_SC_POPTOP_3D refers to the cell G15 which has been merged to two columns on its right and nine rows beneath it.



2. Go to File menu, select Save As and enter “New TOPS Template.xls” in the File name field and click on the Save Button to save the sample template under the new name.

3. Now insert a new worksheet in current workbook by going to the Insert menu and then select Worksheet. A new worksheet called Sheet2 will be added.

4. Go to Sheet2 and create the report layout as desired. An example similar to the one created in MS Word example is pictured on the next page.



Assign New Cell References

In this illustration, we are using Excel 2003. If you are using another version of Word, please use the corresponding commands. There are two ways to assign new cell reference to defined names:

- Go to the Insert menu, select Name and then Define. Change the cell reference to the new worksheet and new cell.
- Drag and drop existing cell content from the existing worksheet (Output) to the new worksheet (Sheet2).

  Note: The source and target cell need to be of the same dimension.
  Note: To drag across worksheet, bring the mouse cursor to the

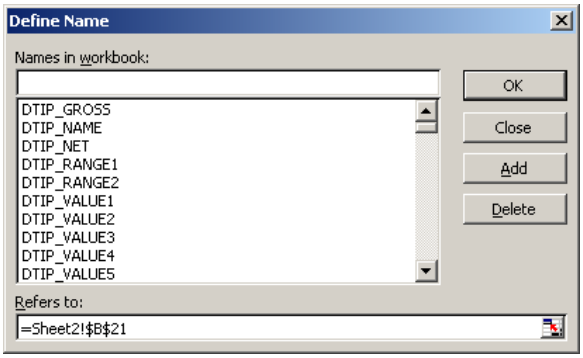
worksheet tabs and press the [Alt] key to highlight the new worksheet, release the [Alt] key when you are in the new worksheet. You will need to keep the left mouse button pressed all this time with the cell content until you reach the destination cell in the new worksheet.

Note: When using the drag-and-drop method, any cell formatting will also be brought over to the new cell.

We will illustrate the first method of changing cell reference using the menu function. In this example, we will add the following in the highlighted areas of the report as shown on the previous page:

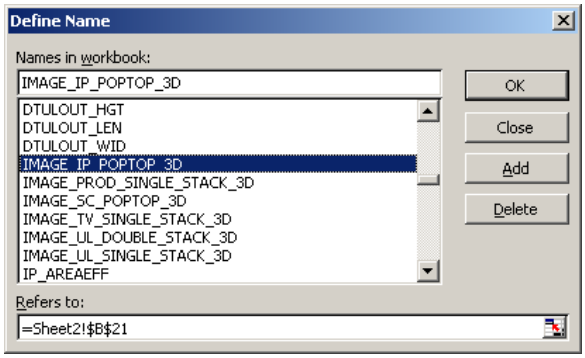
- Area 1 (cell B21): Intermediate Pack pop top 3D view (IMAGE_IP_POPTOP_3D)
- Area 2 (cell G21): Unitload 3D view (IMAGE_UL_SINGLE_STACK_3D)
- Area 3 (cell C16): Shipcase outside length dimension (SCOUT_LEN)
- Area 4 (cell H16): Number of shipcase per layer (UL_CASESPERLAYER)
- Area 5 (cell H17): Number of shipcase layer per pallet (UL_LAYERSPERLOAD)

1. Go to Insert menu, select Name and then Define, the Define Name dialog box appears as pictured below.

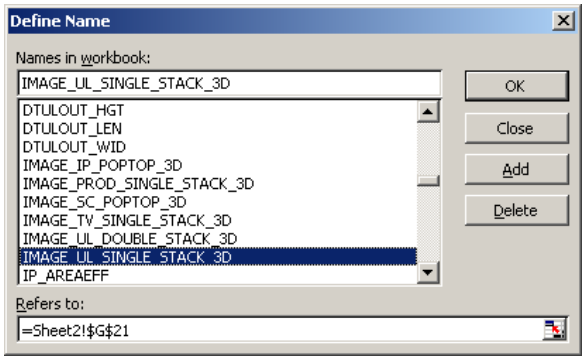


2. Scroll down the list until you see IMAGE_IP_POPTOP_3D. The Refers to: field shows "=Output!$D$15" – the cell reference in the existing sample worksheet.

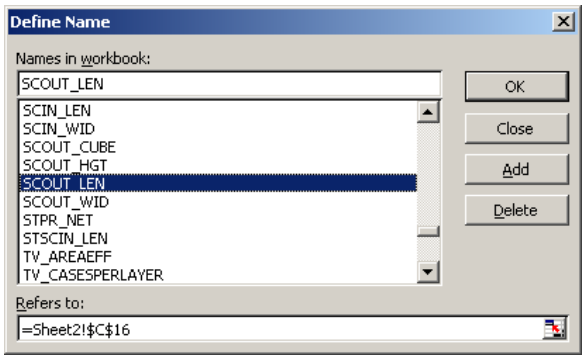
3. With the name highlighted, change the reference field to "=Sheet2!$B$21" as pictured on the next page and click on the Add button.



4. Next, highlight IMAGE_UL_SINGLE_STACK_3D and change the reference to "=Sheet2!$G$21" and click on the Add button.

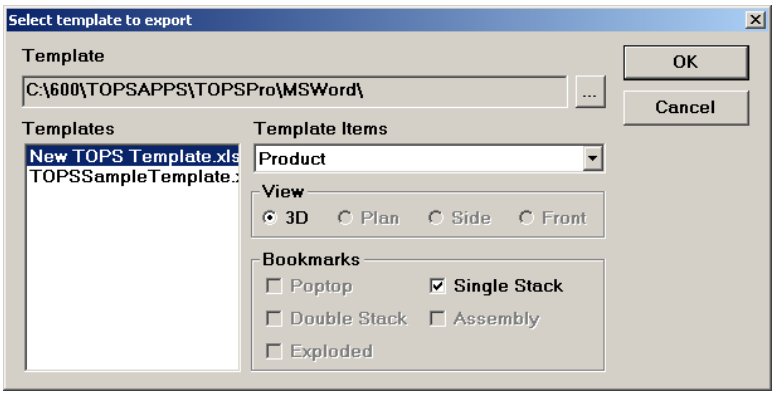


5. To assign new reference to shipcase length, select SCOUT_LEN from the list and change the cell reference to "=Sheet2!$C$16" and click on the Add button.



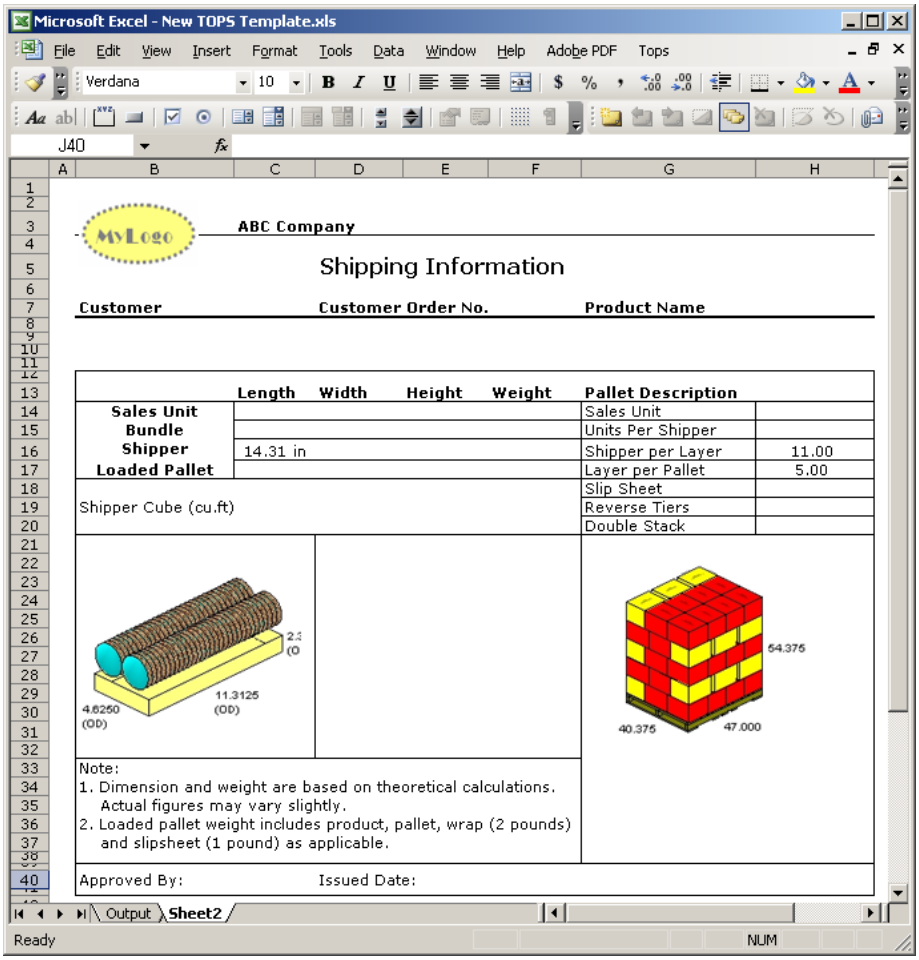
6. Repeat the step and assign UL_CASESPERLAYER to cell Sheet2!$H$16 and UL_LAYERSPERLOAD to cell Sheet2!$H$17 respectively.
7. Click Ok to close the Define Name dialog box.
8. Save the workbook and exit MS Excel.
9. Now, go back to TOPS Pro and open analysis "Cookies (Boxed and Palletized).

10. Click on the icon on the tool bar and select Send to Excel to open the Select template to export dialog as pictured below.



11. Select New TOPS Template.xls and click on the OK button.

12. MS Excel will open displaying the contents of the Output worksheet in the workbook. Click on the Sheet2 tab to view the new populated report as pictured below.



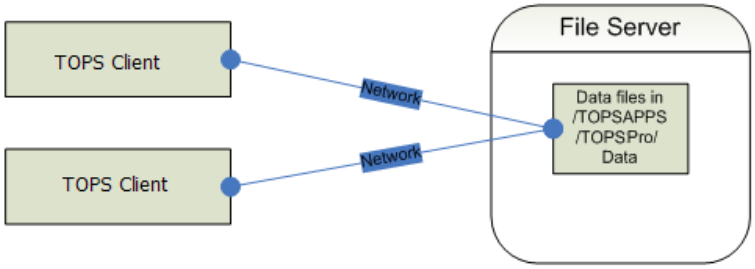
Tips on Using TOPS Templates in MS Excel

1. Make sure the Excel template is saved in the \TOPSAPPS\TOPSPro\msword\ folder in order to appear in the template list in TOPS Pro.
2. You can hide the Output worksheet from the workbook so it will show your report on Sheet2 right away. To do so, click the tab "Output" to make it active, then go to Format menu, select Sheet and then Hide.
3. The Name Box shows all Names used in the current workbook. To view all available defined names, including those with no reference, you'll need to go to the Inset menu, select Name and then Define.
4. Do not delete any Defined Names in the workbook.
5. If you need images that are not currently defined, please contact TOPS technical support.

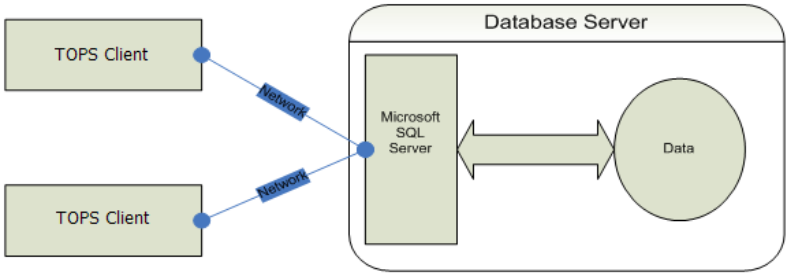
Chapter 19: TOPS Enterprise Version (Pre-Release)

Introduction

In the standard version of TOPS Pro, all data and analyses are saved in a ctree database and the program accesses the data files saved in "DATA" folder. If the "DATA" folder resides on a network drive, each user needs to have "WRITE" permission to all data files. In addition, each instance of TOPS requires a separate connection to the network server and handles its own data exchange with the database.



TOPS Enterprise version uses Microsoft **SQL** Server database to manage data. Users have no direct access to files on the server as MS SQL Database Server handles all the data exchange between TOPS clients and database.



TOPS Enterprise version can be installed over an existing standard installation of TOPS Pro or as a new installation. If you are upgrading from the standard version, you will receive:

- The new executable to overwrite the existing TOPS program.
- Scripts to help you create the database on MS SQL server or Oracle database.
- Detailed instructions to import data from existing TOPS database, if applicable.

Benefits

- **Optimized Database**
  For companies with lots of analyses, the database engine used by the standard TOPS version might result in data fragmentation overtime. The data files keep growing and the performance of software might get slow. The Enterprise version uses SQL Database Server which is optimized for large amount of data with its built-in file management function.

- **Better Performance**
  The SQL Server manages all connections between TOPS clients and the central database instead of having each TOPS user making a separate connection. The multiple connections coordinated by SQL can share resources and boost performance.

- **Data Security**
  Regular TOPS requires each user has an account on the file server and each account must have write privilege to the data folder. The Enterprise SQL version uses the authorization mechanism of MS SQL Server. Clients do not have direct access to any file on the server.

- **Ease of Maintenance**
  TOPS provides scripts to take advantage of the built-in functionality of MS SQL Server for periodically cleaning up old manifest data. MS SQL Server also has powerful tools to easily backup or duplicate database.

- **Expandability and Flexibility**
  With minor changes, SQL version of TOPS can support other popular databases like Oracle or IMB DB2.

Who can Benefit from TOPS Pro Enterprise Version

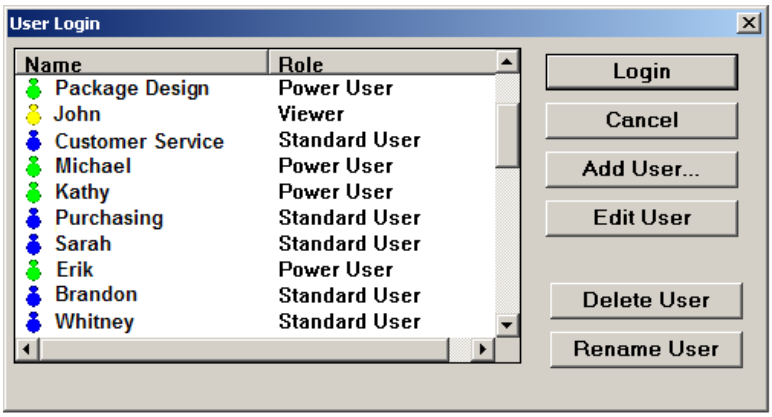
TOPS Pro Enterprise version is designed for customers with at least five users working collaboratively for enterprise wide packaging and palletization solutions.

Companies with thousands of existing analyses will also benefit from the Enterprise version which offers an interface table to SQL and allows for easy data export to other subsystems.

Additional Functionalities

- **Secured Single Sign-on** – Users can log into TOPS Pro using their Windows login name, eliminating a separate login when accessing TOPS Pro. This is a global setting that can be enabled via TOPS Configuration settings, accessed by system supervisor only.

- **Secured User Roles** – TOPS Program supervisor can assign users with different user roles for different access rights to TOPS:



Viewer – Access to TOPS Viewer program only; this ensures selected uses can only open and view existing analyses but not making any modifications.

Standard User – This group of users will be granted rights to create analyses but with no authority to change configuration settings, import/export, or define products.

Power User – These users can access all functionalities except for global configurations.

Supervisor – Supervisor has full access to all functions of TOPS.

- **License Manager** – TOP Enterprise version comes with a License Manager which enables users to detach one license from the work group and place it temporarily onto a separate machine. If the detached license is not put back to the network within 30 days, it will expire automatically and the number of seats on the network will revert back to its original count.

- **Enhanced Analysis Management –** For better work collaboration, users can use the Check In/Check Out function to control work flow of analyses. A revision history is also available for each analysis to provide a timeline of changes made.

- **Shipcase Search** – This new function allows users to search through existing analyses any shipcase bearing similar dimensions to the one being used in the current analysis. Users can specify the amount of deviation from current shipcase for TOPS to search through the database or archived analyses.

System Requirements

TOPS Enterprise version supports Microsoft SQL server 2000 and above, Oracle server 9i and above.

- Client Hardware Requirements
  - Processor: Pentium III 450 MHZ or better
  - RAM: 512 MB or more
  - Hard Disk Space: 50 MB
  - Video Card: 640x480, 256-color, 800x600, 16-bit color or higher recommended
- Client Software Requirements
  - Operating System: Windows NT/2000/XP/Vista/Windows 7
  - DirectX: 6.0 or above
  - OLE DB Provider: No additional component required for MS SQL Server. Oracle client full installation is required to setup the Oracle OLEDB provider if the database server is Oracle.
  - Database component: MDAC 2.8 or above. This is already built into Windows XP, Vista and Windows7. It only needs to be installed for earlier version of Windows.

Note: TOPS Pro does NOT require Microsoft .Net platform. However, it can work on any PC with Microsoft .Net platform.

If you need more information, please contact your MVP Account Manager or our sales team.

Appendix A: Frequently Asked Questions

Introduction

As you read through the questions and answers in this appendix, be aware of the following guidelines:

- In the text, references to "A:" assume that "A:" is your floppy drive. References to "C:" and "C:\TOPSPRO" assume that C:\TOPSPRO is your installation directory. Adjust the instructions as necessary for your specific situation.
- Depth is the same as Height.
- For best results, run TOPS Pro in full-screen mode. (On many screens, the information displayed depends on the amount of room available.)

Q1: What special steps should I take to move the TOPS Pro software to a different machine?

If you are still using a floppy license key, moving the software to a new machine requires uninstalling the authorization back onto the floppy. Follow these instructions:

Place the floppy diskette in floppy drive

From the Start | Programs, open the TOPS for Windows Apps group.

Run the TOPS Pro Move program (or winmove.exe file in the TOPSAPPS/TOPSPRO/ folder).

Select “Uninstall license to Floppy.”

Adjust the source and destination directories as needed, then select OK

Once the authorization has been moved back onto the floppy, you may re-install the software as if it were freshly shipped from TOPS. To maintain your old data, copy the subdirectories from under the old TOPS Pro installation over to the new TOPS Pro installation.

Note: This does not apply to upgrades which should use the import/export functionality, as the data will be formatted differently.

For electronic license, you will need to contact TOPS to move license.

Q2: When I try to run TOPS Pro, I get an error message that says, "Maximum of 1 user(s) already logged in." But I know that no one else is using the program. What's going on?

This message most often occurs when someone has logged into TOPS Pro and crashed out of the program instead of exiting normally. TOPS Pro thinks the user is still logged in. If someone attempts to login as the same person, TOPS Pro will warn them with the message, "User already logged in. Replace?" Answer Yes to log that person off the system and allow the new user to login.

If you login as someone other than the user who crashed out, TOPS Pro issues the message, "Maximum of N users already logged in." The "N" value is normally one (1) unless you've purchased additional user licenses. You can get around this message with one of two options

- Login as the same person that crashed, then log him or her out
- Login as supervisor in the TOPS Pro Config program, open the File Menu and Select User List to Logout any extra user (s)

Q3: What does selecting the various pattern styles do? You know, the ones displayed after you press the Options button in the Shipcase Parameters dialog box (also the Unitload Parameters and Transit Vehicle Parameters dialog boxes).

The pattern style checkboxes determine what arrangements TOPS Pro will attempt to use when placing your carton/shipcase/ pallet into its respective shipcase/pallet/vehicle.

Depending on your situation, you may choose to check additional patterns to attempt to get a tighter load. You may uncheck some patterns because you want simpler patterns; e.g., perhaps your stacking machine can handle only simple 1-block patterns.

Q4: I can't find yesterday's work. What happened to it?

You've probably logged in with a user name other than one you used when you saved the analyses. Each user's analyses are only visible to him or her and to someone logged in as Supervisor. If you login in as Supervisor, open the File menu and select Open, you can see everyone's work with their name after it. For more information, please refer to Login/Logout as a Supervisor.

Q5: How do I tell what version of TOPS Pro I have?

In either TOPS Pro or the TOPS Configuration program, open the Help menu and select About. A dialog box appears with version information and the name of the company who purchased the copy. Complete version information includes the date, which appears to the left of the OK button on the dialog box.

Q6: Can I have the program print fractions instead of decimals?

To use fractional output, follow these instructions:

Open the Tools Menu and select Configuration.

Click on the Fractions button.

Use the checkboxes to adjust the points at which you would like the program to operate in fractional mode.

All fractions will be to the nearest 1/2, 1/4, 1/8, 1/16, 1/32 and 1/64. Note that this will only change the output and display of a value. The numbers that are stored and manipulated are the actual decimal values – not their "nearest fractional" equivalents.

Hint: Even when not in fractional mode, the program will accept fractional input and convert the value to its exact decimal equivalent, just as if you had typed in the decimal value in the first place.

Simply hit the spacebar – or the decimal point – and type the fraction after the whole-number portion of the number. That is, the value 4 1/8 and 4.1/8 becomes 4.125 after leaving the field. However, values imported from external sources must be in decimal form for TOPS Pro to recognize them.

Q7: Assuming I want my outputs in decimal format, how do I change the number of decimals for my results?

Follow these instructions:

Open the Tools Menu and Select Configuration.

Click on the Numeric tab.

Under the Decimals section, change the appropriate numbers.

Note: Adjustments to these values only change the output and display of the numbers. The numbers stored and manipulated are their actual decimal values – not the "rounded" display equivalents.

Q8: How do I change the default printing arrangements in my analysis reports?

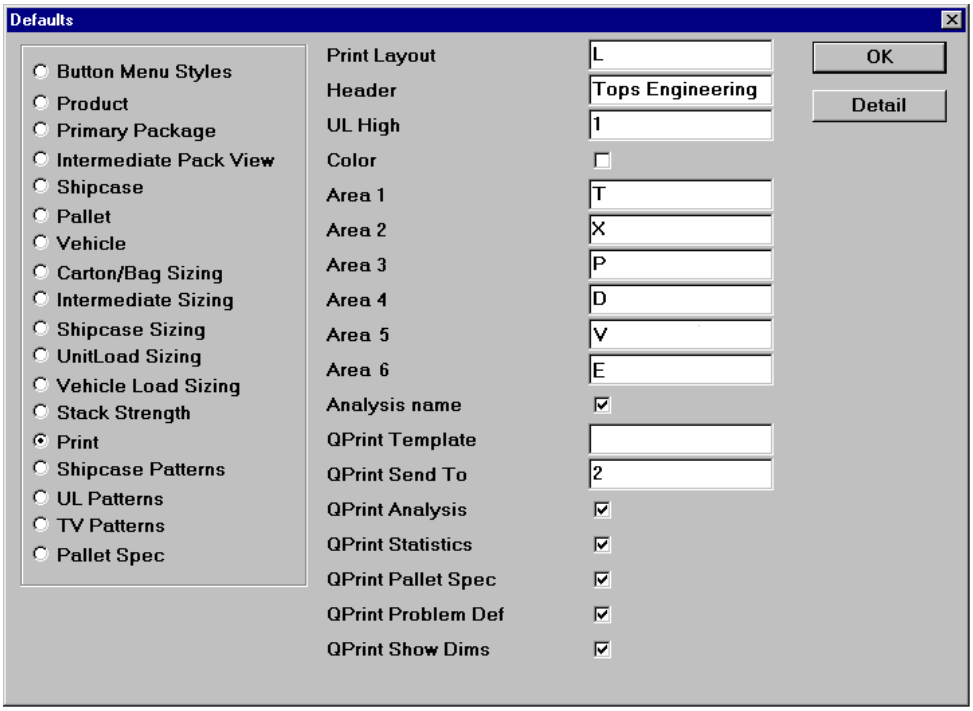
The default print arrangement is defined in TOPS Configuration program. To change the defaults, follow these steps:

Run TOPS Pro Configuration program and Login as Supervisor.

Click on Setup Defaults quick link under the Data section or go to the Define menu and select Defaults.

Click on the radio button for Print.

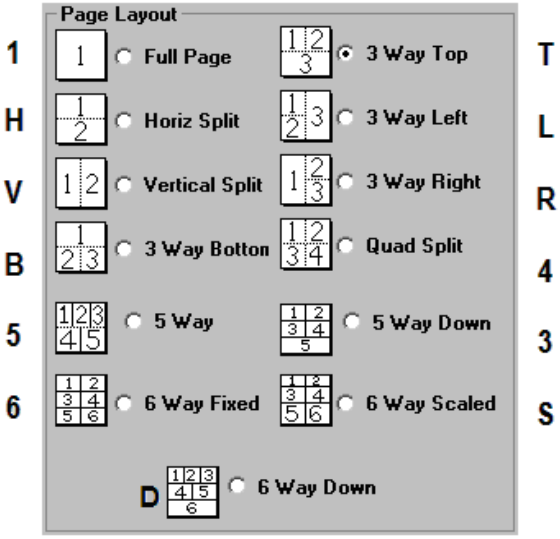
TOPS Pro displays the default printing arrangement as shown below. You can assign different default graphics or statistics in each of the 6 print areas using the single-letter abbreviations illustrated on the following page.



Note: The letters are case sensitive.

Note: Use uppercase "N" (none) in an Area field to get an empty pane.

Codes for Print Layout:



Codes for Area 1 – 6:

	Primary Pack	Bundle Pack	Intermediate Pack Case	Case	Unitload	Vehicle
3D	**x**	**b**	**i**	**D**	**3**	**V**
Plan		**j**	**p**	**A**	**T**	**L**
Dual Plan					**U**	
Pop Top					**P**	
Side		**g**	**s**	**G**	**S**	**I**
Front		**e**	**f**	**B**	**F**	**R**
Statistics			**t**	**C**	**X**	**E**
No View	**N**					

Q9: How do I change the graphical online drawing (g.o.d) window images?

The (g.o.d.) system's static pictures are stored as bitmaps in the Pict directory, which is located off of your TOPS Pro directory. You can use the Windows Paintbrush to change, edit or replace the pictures.

Q10: Ich bin Berliner; I am a Berliner. Ich sprache ein kleinste Englisch; I speak a little English. Was kannst du auf mir tunnen? What can you do for me?

The TOPS Pro software comes in several languages, including English, Japanese, Spanish, Finnish, French, Portuguese, Chinese and German. In addition, each language is fully configurable, so if you don't like the way we said it, you can say it yourself.

The Text Modification dialog box allows you to perform language editing. Use these guidelines:

- To choose a language, open the Tools menu and select Language
- To change individual strings, open the Tools menu, select Language, then select Edit

Q11: The lines on TOPS Pro's reports are too fine. When I fax the reports, the lines are so narrow they almost disappear and have gaps. How do I fix this?

Follow these instructions:

Open the Tools menu and select Configuration.

Go to the Reports tab and make Printer Pen Width non-zero; larger numbers indicate thicker lines.

This only affects printed output. The Print Preview and other on-screen drawings will still appear with normal (one-dot width) lines.

Q12: How do I change the colors of the cartons, shipcases, etc.? When I print in color, some colors are so dark they print nearly black.

To select color, open the Tools menu and select Color Selection. Color changes are specific to each user name, not each analysis.

Q13: What is "pitch?"

Ever tried to stack cups? Some cups will stack very closely together; others will barely fit into one another. Pitch is the distance by which a cup sticks out from the cup underneath it. The more it sticks out, the greater the pitch. A pitch of zero assumes that the tubs/buckets are not nested at all.

Q14: I use dividers and box styles different than the ones that come with the program. How can I make my own?

You can define your own box styles, dividers and pallets from the Define menu options. Also, in the TOPS Configuration program, the Define menu provides a wider range of things you can define, such as papers, board combinations, flutes and environmental factors. Any and all data that can influence your single-box compression and stacking strength results is fully configurable.

For more information, please refer to Chapter 12, Designing Box Styles, Chapter 13, Designing Divider Styles and Chapter 5, Package Pattern and Divider Editor.

Q15: What is Secondary Pallet Pattern and how do I use it?

The "secondary pattern" is used to create mixed-layer pallet patterns. These are alternating layer pallet patterns in which some of the layers may be "borrowed" from other pallet patterns. To use this feature, follow these instructions:

Find a non-multi-dimensional pallet pattern to use as a secondary pattern.

Open the Edit menu and select Select as Secondary Pattern.

Now view another solution from the solution list.

Open the Edit menu, select Layer Parameters, then select which layer(s) you want to use the Secondary Pattern.

As you scroll through the other patterns, you'll see a mixture of pallet layers. Note that the statistics will not be accurate for alternating layer unitloads, but will reflect the original unitload before mixing the layers.

Q16: I'm trying to remove all the TOPS Pro files after uninstalling. What do I need to delete?

Other than the files in the TOPS Pro directory and its subdirectories, TOPS Pro makes the following adjustments to your system:

- It creates a TOPSPRO.INI file in the local Windows directory
- It creates the icons/shortcuts used to start the program

Q17: How is RSC board area calculated?

(2L + 2W) (W + H)

Q18: How does the program estimate the weight of my box?

TOPS Pro estimates the weight of a newly designed carton/case or a packed carton/case as follows:

- For Cartons: {((Length*Width*2) + (Length*Height*2)) + (Width*Height*2))/144} * {(Caliper/.024*100)/1000}
- For Shippers or Intermediate Packs: {((Length*Width*2) + (Length*Height*2)) + (Width*Height*2))/144} * {(Caliper/.018*100)/1000}
- For Corrugated cases: {((Length*Width*2) + (Length*Height*2)) + (Width*Height*2))/144} * {(LBSper1000ft2) / 1000}

Q19: What are the TOPS Pro Command Line Parameters?

The following command line parameters work with TOPSPRO.EXE, CONFIG.EXE and VIEWER.EXE.

- **-DBPath="C:\APPS\TOPSPRO\DATA":** Overrides any entries in the INI file.
- **-ini="C:\WINDOWS\TOPSPRO.INI":** Use the specified INI file instead of the default TOPS.INI in the Windows Directory. Avoid sharing INI files.
- **-u "User Name":** Automatically login under the name "User Name."
- **-a "Analysis Name":** Bring up the specified analysis. Approved analyses are opened first (if there is one).
- **-print:** Auto-print and exit. Used with –a.
- **-printcs:** Auto-print package profile and exit. Used with –a.
- **-viewcs:** Auto-view package profile. Used with -a.

Q20: How do I calculate Stacking Strength?

TOPS Pro uses the McKee Formula to calculate stacking strength. First, create your analysis in TOPS Pro, then calculate it. Make sure to have the weight entered in for shipcase. Next, go to the Tools/Stacking Strength menu. From there, enter your factors into the screen, then click OK to view the stacking strength results.

Q21: How do I insert pads between layers, or add caps to a pallet pattern?

After you have calculated a pallet pattern, click on the Unitload window to highlight it. Next, go to the Edit/Layer Parameters menu. Here add what you like to your layers or pallet patterns. You can also click the button in the unitload view window to quickly access the Layer Parameters menu.

Q22: How do I use the modify feature to create alternate pallet patterns?

Before you use the Modify feature, we suggest you turn off the Layer Rotation feature. Follow these instructions:

From the Edit menu, select Layer Parameters.

In the Layer Parameters dialog box, look at the Rotate column and delete any check marks you see. (Once your pallet pattern is column-stacked it will be much easier to deal with.)

Click on OK to close the Layer Parameters dialog box.

For detailed instructions on how to modify a pallet pattern, please refer to Chapter 5, Package Pattern and Divider Editor.

Q23: How do I specify what dimension (inside versus outside) and unit of measure to display on Cartons, Intermediate Packs, and Shipcases?

Open the Tools menu and select Configuration.

Go to the Dimensions tab.

Check the radio buttons that correspond with which inside dimensions you would like to see. (Carton, IP, or Cases).

Q24: How do I create PDF documents from TOPS Pro?

Direct PDF outputs are available from TOPS Pro version 5.60 and later. PDF outputs are only available for reports, but not individual images in the solution views. To use this, follow these instructions:

Highlight the graphics in the solution view you want to export.

Go to the Export menu and select PDF. You can also use the right click menu, select Save Image and then PDF.

At the Get Export File Name dialog box, select the directory path and enter the name for the PDF output file.

The analysis report, in the predefined print preview format will be created.

You can also access the Get Export File Name dialog box from the Print Preview screen. Just go to Export menu and select PDF or click on the PDF button directly.

The new PDF button (

) on the Windows toolbar allows you to create analysis report, pallet report or package profile. Just click on the button and select the report type.

Q25: How do I print a list of shipcases or pallets I have saved in TOPS Pro?

You can print databases from TOPS Pro. Go to the File/Print Databases menu and select Shipcases, Pallets or other databases, such as Cartons, Products, Vehicles, etc.

Q26: How do I login as Supervisor?

In TOPS Pro, the Supervisor user has the rights to delete users, see all analysis files and other handy things. To login as a Supervisor, follow these instructions:

Login as any user.

Open the Supervisor menu and select the Login\Logout option.

Enter the supervisor's password. (The default Supervisor password is "tops software".)

Q27: How do I change the defaults in TOPS Pro?

All defaults in TOPS Pro are set in the TOPS Pro Configuration program. Here you can change just about anything from the default pallet overhang to how your printouts look. Follow these instructions:

Login to TOPS Pro Configuration program as Supervisor.

Open the Define menu and select an option.

Q28: How do I replace the default TOPS logo with my company logo?

Follow these instructions:

Open the TOPSPRO.INI file from your Windows folder.

Look for the line that reads "Logopath."

Change the path to point to the location of your BMP file (e.g., C:\temp\tops.bmp).

Q29: How do I turn on user passwords?

Follow these instructions:

Login to TOPS Pro Configuration as the Supervisor.

Open the Supervisor menu and select Global Configuration.

Go to the Global tab and place a check mark against the User Passwords option.

Q30: Is there any way to change the arrow shape that shows the shipper flaps to a simple straight line?

The direction where the arrow is pointing indicates the front of the carton or shipcase. To disable this function, go to the Tools Menu and select Configuration. Under the General tab, remove the "✓" next to "Show Face Direction". This will turn off the face direction arrow and put it back as a flap line indicator.

Q31: Why can I only view part of the graphics in the solution screen?

This might happen in Vista and it can usually be corrected by lowering your color settings from 32 bit to 16 bit. In order to make this change, right click anywhere on the desktop. When the option menu appears choose 'Personalize'. This will bring up a new box and you should see 'Display Settings' within there. You should be able to make this change inside the 'Display Settings' area.

Q32: Why do I keep getting an error saying please enter valid characters or N8068NF?

Often times the Description of trucks or shippers that were imported into your new version of TOPS Pro contain invalid characters, sometimes from previous versions of TOPS. One common example is the (ft') sign.

In the Vehicle Parameters dialog box select "New Veh.".

In the Define Vehicle dialog box select the vehicle you are going to use from the Description field.

Remove the (ft') sign from the description and click on Save.

Now if you choose, you can go back to the description box and select the vehicle with an invalid description and delete it.

Q33: I try to get 224 cases per pallet with 7 layers and 32 per layer. I made that clear in my pallet selection but it doesn't work, why is that?

It's caused by some of the patterns currently selected. Open the UnitLoad Option dialog by clicking the Options button in the UnitLoad Parameters dialog box, unselect 'Soldiered' and all of the 'Multi-*' pattern styles.

Q34: I want to use the Unitload View in TOPS as part of a Corel drawing but the BMP or JPEG file I exported is of low resolution and the lines are jagged. Is there a way to get a better image?

For bitmap files like BMP and JPEG, the image size is dictated by how big the window is when you save the file. Try maximize the unit load view when you issue the save command. Another way to get a better image is to save the image as a line drawing. That means you will need to save the image as a WMF file. To do so, right click while under unitload view, select Save Image and then WMF file.

Q35: How does TOPS calculate Area and Cubic efficiency for unitloads?

For area efficiency = L(OD)*W(OD)* (no. of shippers per layer) / L*W of pallet)

Cubic efficiency = L(OD)*W(OD)*H(OD)*Qty on unitload / L*W*loadable height of unitload (this is the max allowable height - pallet height)

Q36: How does TOPS calculate Area and Cubic efficiency for shipcase?

Area efficiency = area using outside*qty / inside dimension of shipcase

Cubic efficiency = volume using OD*qty / vol of shipcase using ID

Appendix B: Dialog Boxes

Introduction

This appendix presents the primary dialog boxes (in alphabetical order) used in the TOPS Pro System and its Configuration program. This chapter provides a quick and easy way to locate information on individual dialog box and its associated functions during the course of using TOPS Pro software.

For each dialog box, this appendix provides the following information:

- The function of the dialog box
- A graphic image of the dialog box
- Instructions on how to access the dialog box
- Descriptions of major fields on the dialog box (repetitive and obvious fields will not be described)
- Any special features included on the dialog box

In addition, this appendix addresses features that are common to many of the dialog boxes, such as the Graphic Online Display (g.o.d.) feature and routine function buttons.

Common Features

TOPS Pro includes some features that are common to many dialog boxes. Rather than discuss these features with each dialog box, we'll introduce them here. This section presents three common features that you'll use with many dialog boxes:

- Graphic Online Display (g.o.d.) feature
- Bulge factor, both positive and negative
- Function buttons – OK, Cancel, Save and Delete

Graphic Online Display (g.o.d.) Feature

Many dialog boxes allow you to define parameters for the various items in an analysis. For example, you'll use the ShipCase Parameters dialog box to define shipcase parameters. When you first display this dialog box, TOPS Pro displays a graphic illustration of a shipcase in the bottom, right

hand corner of the screen. This illustration is termed the Graphic Online Display, or g.o.d. feature.

As you define the length, width and height dimensions for the shipcase, the g.o.d. feature redisplays to reflect those dimensions. For example, if you increase the length, TOPS Pro redraws the shipcase to increase the length precisely, based on your input. The g.o.d. feature allows you to see exactly what your shipcase looks like as you define it. If you make a mistake, you'll be able to see it and correct it before you calculate the analysis.

Note: To see your changes take effect, you might need to refresh the display by pressing the Tab key, then the Shift and Tab keys simultaneously.

Bulge Factor

A number of dialog boxes allow you to account for the bulge factor as you define parameters for an item – bottle, can, shipcase, etc. What is bulge? Bulge is space inside a container that can be measured as positive or negative.

If a container expands when you fill it with product, the result is a positive bulge. If a container is compressed when it's packed, the result is a negative bulge. The bulge factor allows you to shift the amount of space a container takes up without changing its reported size. Let's consider two examples.

Positive Bulge

A gallon bottle of bleach may have a designed diameter of seven inches. However, once the liquid is poured into the bottle, the bottle may expand (bulge) another quarter-inch. By adding a bulge of 0.25 inches along the diameter of the bottle, TOPS Pro will design the bottle as if it has a diameter of 7.25 inches, but will report its size as a seven-inch bottle.

Negative Bulge

Suppose you're packing rolls of paper towels into a bundle; each roll has a diameter of six inches. However, once the rolls are packed they might compress up to an inch, resulting in a negative bulge of one inch. TOPS Pro will report the rolls as having a six-inch diameter, but in fact the rolls will take up only five inches in the bundle.

Printing Bulge Data

TOPS Pro does not usually report bulge data. If you want the system to report bulge data, follow these instructions:

1. From the Menu Bar, open the Supervisor menu, select Login/Logout and login as a supervisor.
2. Open the Tools menu and select Configuration.
3. Click on the Statistics button.
4. Check the Bulge box under the appropriate column to print bulge data.

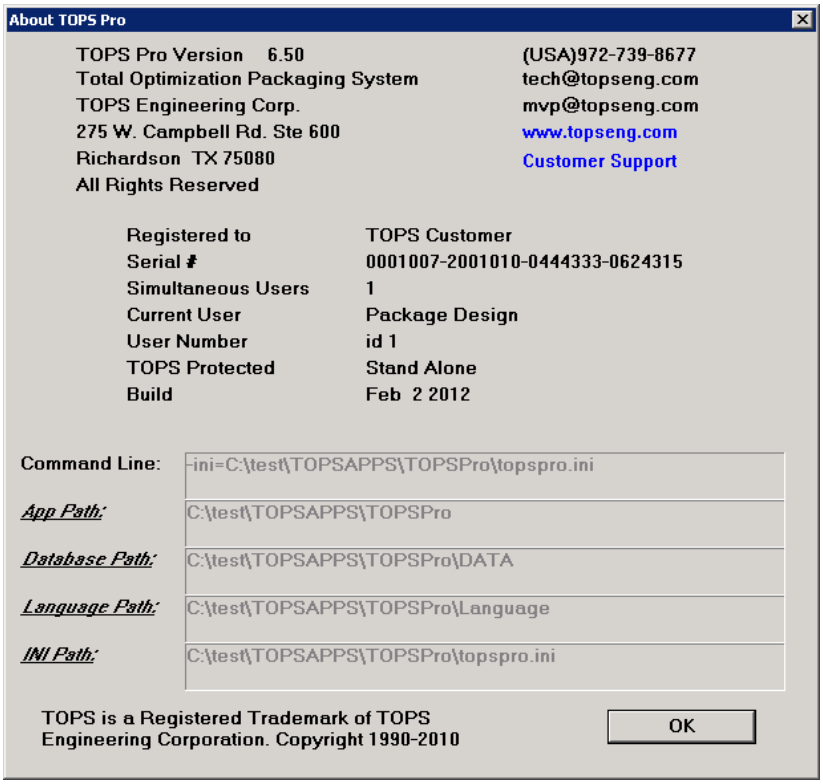
Common Buttons and Functions

Many dialog boxes feature routine function buttons that are common throughout the system. Some of these common buttons are listed below:

- **OK Button:** Stores your entries and edits to memory, closes the active dialog box and takes you back to the previous dialog box or screen.
- **Cancel Button:** Closes the active dialog box and takes you back to the previous dialog box or screen.
- **Save Button:** Saves your entries and edits to the database.
- **Delete Button:** Erases all your entries and edits and restores the previous parameters.
- **Units Function:** To specify the unit of measure in English or Metric. You can use the Global Configuration to set the unit of measure globally within TOPS or specify the unit in each screen.
- **Dimensions (Length, Width, Height and Weight):** These are self-explanatory and will not be included for explanation under each dialog box.
- **Dimensions:** Select either Inside or Outside to specify how the carton dimensions are measured.
- **Graphic Button:** Displays the Assign Graphics dialog box, which allows you to select and displa**y a graphic ima**ge on the carton.
- **Add Products Button:** Displays the Primary Pack Products dialog box, which allows you to specify the product parameters and quantity of product being place into a primary pack.

About TOPS Pro

Function: This dialog box provides you with information about your TOPS Pro software and how to contact TOPS for support and assistance.



To access, from the Help menu, select About.

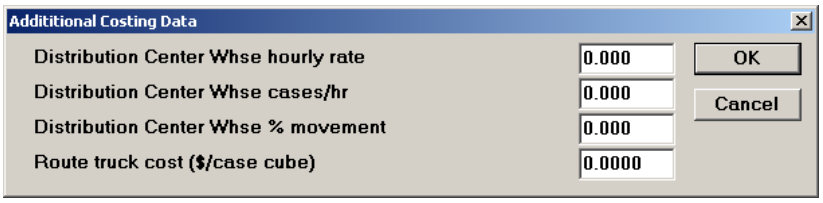
You will find the following information useful when calling in for support:

- **TOPS Pro Version:** The version of TOPS Pro software you are currently running.
- **Registered to:** The official licensee of the TOPS Pro software.
- **Serial Number:** The serial number of your TOPS software. When calling in for support, we only need the first 7 digits of this serial number.
- **Simultaneous Users:** The number of concurrent users available for your TOPS Pro software. This number will be 1 for stand-alone license and varies for Network license depending on the number of seats you have purchased.
- **Current User:** The login name of the current user.

- **TOPS Protected:** This shows whether the license is a stand-alone or network license.
- **Command Line:** Display any command line instructions when you launch TOPS. The most common command line instruction is to tell TOPS the location of your TOPSPRO.INI file where TOPS basic setup information is saved.
- **App Path:** Display where your TOPS Pro software was installed.
- **Database Path:** Display where your TOPS data folder is located.
- **Language Path:** Display where the language files of your TOPS program are located.
- **INI Path:** Display where your TOPSPRO.INI file is located.

Additional Costing Data

Function: This dialog box allows you to enter additional costing data related to a number of items. Additional Costing Data applies to bags only.



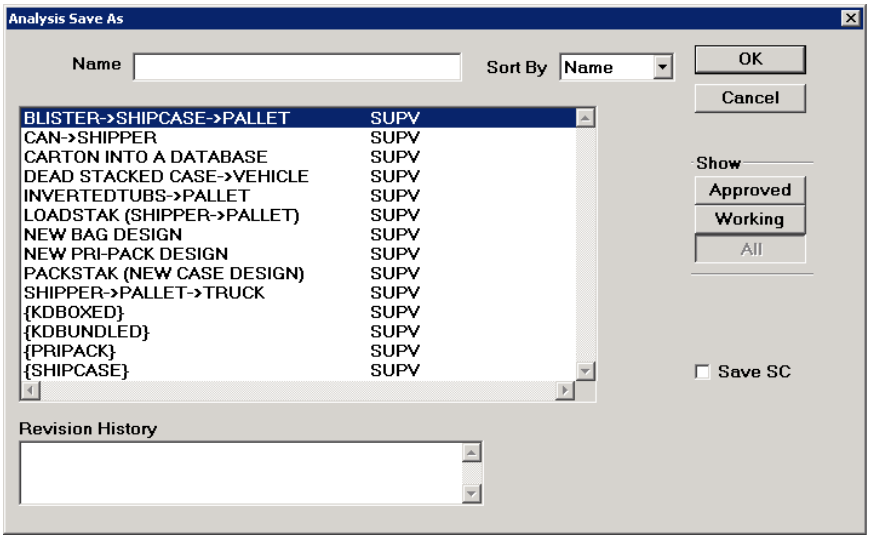
To access, from the Define menu, select Bag Costing. At the Costing Data dialog box, click on the More button.

Field Descriptions and Instructions

- **Distribution Center Whse hourly rate:** Enter the hourly expenses accrued by your distribution center.
- **Distribution Center Whse cases/hr:** Enter the number of cases per hour that your distribution center currently handles.
- **Distribution Center Whse % movement:** Enter the percentage of cases in your distribution center that are moved per hour.
- **Route truck cost ($/case cube):** Enter the transportation costs per case associated with your delivery trucks.

Analysis Save As (Template)

Function: This dialog box allows you to save the design sequence of the current analysis as a template for future use.



To access, go to the Menu Bar, open the File menu and select Save as Template.

Field Descriptions and Instructions

- **Name:** Enter the name of the template for the design sequence.
- **Sort By:** This function will sort the existing templates in the list by Name, User or Date. Users will select the sort option in the drop down list box.
- **Show**: The option is not applicable to templates.
- **Revision History:** Enter any notes related to revisions to the analysis.

  Note: When you perform a Print Preview for the analysis, TOPS Pro attaches the revision history notes to the bottom of the screen – if the Print Revision option is activated on the Configuration Screen.

  The Print Preview will display up to five lines of revision history text. After the revision history exceeds five lines, adding more text will delete your oldest revision history entry.
- **Save SC:** The option is not applicable to templates.

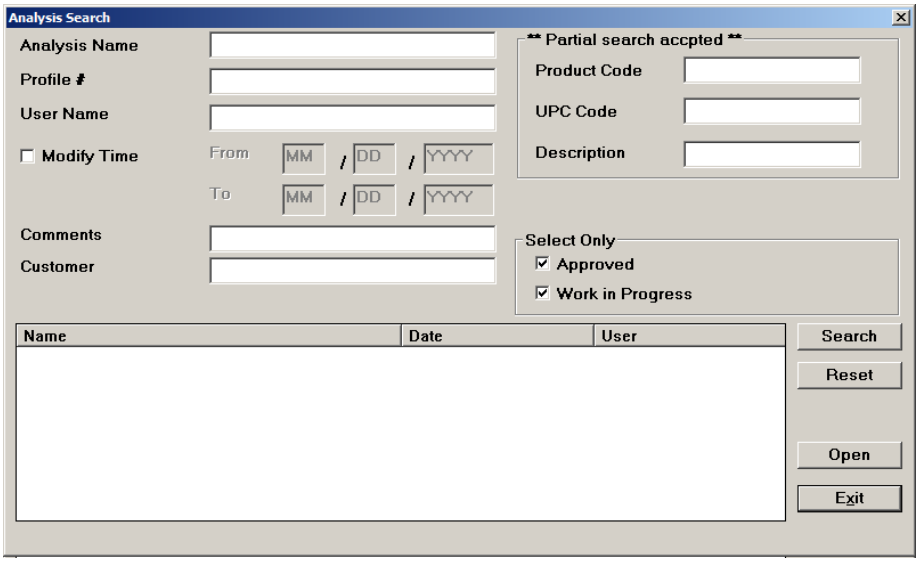
Analysis Search

Function: This dialog box allows you to search for a specific analysis record when the list of analysis names is too large; when you can't remember the exact name of the analysis; when you're trying to find an analysis that has certain products attached through its packaging profile.

The search function works in conjunction with the Open and Export Analysis dialog box; it limits the display of analyses on that dialog box to only those analyses that match your search criteria. TOPS Pro performs a case-insensitive search for partial matches within a field.

For example, if you enter "bag" in the Analysis Name field, TOPS Pro might find analyses with the names, "**Bag**>Truck," "New **Bag**gage" and "**Bag**s." If you enter "48 CNT" in the Description field, TOPS Pro might find analyses with packaging profiles that have "48 CNT" somewhere in their Description fields; for example, "Cereal, **48 cnt**" or "**48 cnt** - Hammers." If you enter search criteria in more than one field, TOPS Pro searches for only those analyses that match **all** your criteria.

Note: On the Open Analysis dialog box, the Reset button "resets" the search to everything.



Use one of these two options to access the dialog box:

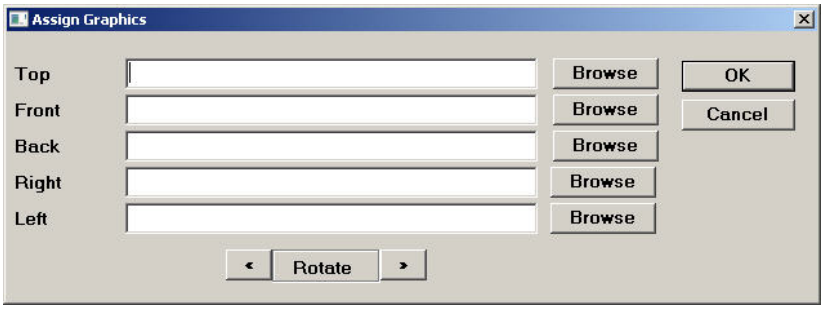
1. From the Menu Bar, go to Export Menu, select Analysis to open the Export Analysis dialog box, click on the Search button.
2. From the Menu Bar, open the File menu and select Open. From the Open Analysis dialog box, click on the Advanced Search button.

Field Descriptions and Instructions

- **Analysis Name:** Enter the name, or the first few letters, of the analysis.
- **Profile #:** Enter the profile number used in the packaging profile for the analysis, if any.
- **User Name:** Enter the name of user whose analyses you need to search.
- **Modify Time:** Enter a date range here to search within a specific time frame for when an analysis was created or last modified.
- **Comments:** Enter comment details used in the packaging profile for the analysis.
- **Customer:** Enter the Customer name used in the package profile for the analysis.
- **Product Code:** Enter the product code for a product attached to the packaging profile for the analysis.
- **UPC Code:** Enter the UPC code for a product attached to the packaging profile for the analysis.
- **Description:** Enter the description used in the packaging profile for the analysis.
- **Approved:** Uncheck the box to hide the approved indicator.
- **Work in Progress:** Uncheck the box to hide the unapproved indicator.

Assign Graphics

Function: This dialog box allows you to select a graphic image to be displayed on a carton. **Note:** To display graphics on unitload cases, the Show Graphics option – located on the View menu – must be turned on.



When available, for example, from the following dialog boxes, click on the Graphic button to open the dialog box:

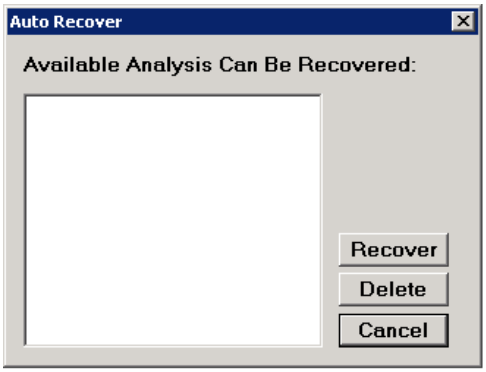
- Define Carton
- Define Shipping Case
- Intermediate Pack Parameters
- Mike Carton Parameters
- Shipcase Parameters
- Define Shipcase dialog box in MixPro

Field Descriptions and Instructions

- **Top:** Click on the Browse button to select a graphic image (bitmap file) that will appear on the top of the item (carton, shipcase, etc.).
- **Front:** Click on the Browse button to select a graphic image (bitmap file) that will appear on the front of the item (carton, shipcase, etc.).
- **Back:** Click on the Browse button to select a graphic image (bitmap file) that will appear on the back of the item (carton, shipcase, etc.).
- **Right / Left Side:** Click on the Browse button to select a graphic image (bitmap file) that will appear on the side of the item (carton, shipcase, etc.).
- **Rotate Buttons:** These buttons correspond to the graphic image displayed in the g.o.d. feature at the bottom, right corner of the screen. Click on the left Rotate button to rotate the graphic counter-clockwise by 90 degrees. Click on the right Rotate button to rotate the graphic clockwise by 90 degrees.

Auto Recover

Function: This dialog box allows you to recover any analyses have not been previously saved before you exit TOPS.



To access, go to the Tools Menu and select Recover Analyses.

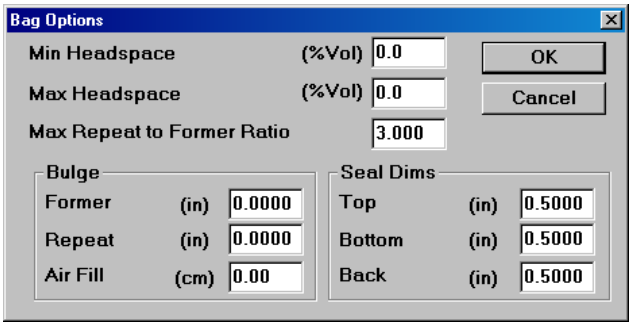
Field Descriptions and Instructions

- **File List:** When available, you will see a list of analyses not previously saved. This may be the result of program crash or power outage.
- **Recover:** Click on this button to recover the highlighted analysis in TOPS. You can then resume and save your work.
- Delete: Click on this button to delete the highlighted analysis.

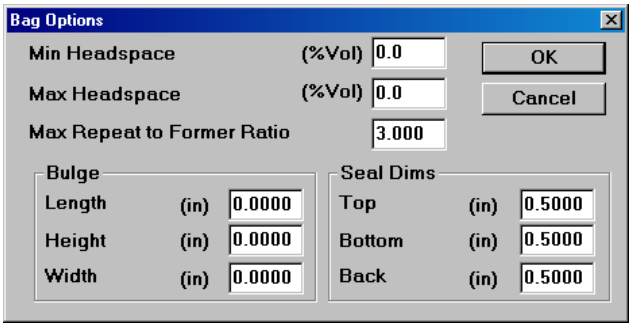
Bag Options

Function: This dialog box allows you to define additional parameters for a bag, including minimum/maximum headspace, a maximum repeat to former value, bulge and seal dimensions.

Note: This dialog box displays a different set of fields – as pictured below – depending on whether you selected Former-Repeat-Air Fill or Length-Width-Height in the Based On field on the Bag Parameters dialog box.



Bag Options Dialog Box for bags based on Former-Repeater-Air Fill



Bag Options Dialog Box for bags based on Length-Height-Width

Headspace

Headspace applies only when you're putting bulk product into a bag. Minimum and maximum headspace refers to the volume of air needed inside the bag prior to sealing. For example, when you fill a bag with potato chips, you'll want to add headspace to the bag to prevent the chips from being crushed or broken. The headspace dimension will give the bag additional "wasted" space above the contents of the bag.

To access the Bag Options dialog box, click the Options button from the Bag Parameters dialog box.

Field Descriptions and Instructions

The following three fields – **Min Headspace**, **Max Headspace** and **Max Repeat to Former Ratio** – are used only to design a new bag. These fields do not display for a fixed bag.

- **Min Headspace:** Enter a percentage of the bag's volume to specify the minimum headspace allowed in the bag.
- **Max Headspace):** Enter a percentage of the bag's volume to specify the maximum headspace allowed in the bag.
- **Max Repeat to Former Ratio:** This value forces the repeat dimension of the bag to be less than X times the former dimension of the bag, where X is the value you'll enter in this field.
- **Note:** This feature weeds out bag designs that are extremely elongated. If your bag is naturally very long, you might need to increase this value.
- **Bulge:** Enter the different distances for a flattened bag in inches or millimeters, depending on the bag specifications:

  When bag parameters are based on FxRxA, enter the **Bulge Former,** the distance across a flattened bag, **Bulge Repeat,** the distance between cuts of a flattened bag and **Bulge Air Fill,** the thickness of the filled bag respectively.

  When bag parameters are based on LxWxH, enter **Bulge Length, Bulge Width** and **Bulge Height** of a flattened bag respectively.
- **Seal Dims:** Enter the top, bottom and back of the seal respectively.

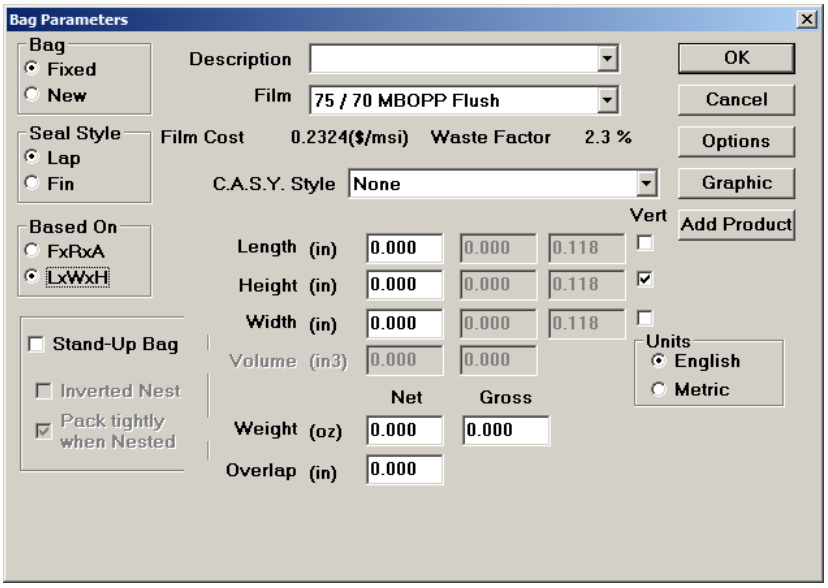
Bag Parameters

Function: This dialog box allows you to define parameters for different types of bags. For example, the Former-Repeat-Air Fill feature allows you to design a potato chip bag. The Length-Width-Height feature allows you to design a candy bar bag. A bag may contain only bulk product. Further, a bag must always be inserted into another container; the bag element cannot be the last stage of an analysis.

Note: The Bag Parameters dialog box displays in a variety of ways, each with a slightly different set of fields, depending on a few variables:

- If you select the green Film Bag icon from the Primary Pack Button-Style Menu, the Film type and Film Cost fields will be active in the Bag Parameters dialog box.
- If you select the yellow Bag icon from the Shipcase Button-Style Menu, the Bag Parameters dialog box does not provide the film-related fields.
- If you enter bag parameters based on Former-Repeat-Air fill (F×R×A), the dialog box displays fields for Former, Repeat and Air Fill.
- If you enter bag parameters based on Length-Width-Height (L×W×H), the dialog box displays fields for Length, Width and Height.

The Bag Parameters dialog box below shows all options being active:



Primary Pack vs. Shipcase Bag Parameters

Both the Primary Pack and Shipcase elements of an analysis include a Bag Parameters icon. Be aware of one important difference: If you need to design a new bag, use the Carton/Film Bag parameters. The Shipcase/Bag element will not accept bulk product and allows you to work with fixed bags only; the Shipcase/Bag element will not allow you to design a new bag. Also, both the Primary Pack bag and the Shipcase bag can be loaded onto a pallet.

Bags Shaped Like Cartons

If your bag has a rectangular shape – like a carton – use the Primary Pack parameters to design the bag. For example, the best way to design a dog food bag is to use the Milk Carton parameters. For a flour bag, use a Primary Pack with the bag_top.bmp graphic pasted on top.

Note: TOPS Pro uses the shapes you see for aesthetic purposes only. If you are using Milk Carton or Bag shapes, there are no inside/outside dimensions. If you decide to use a Carton, the dialog box does allow for inside/outside dimensions.

To access, use one of two options from the Control Panel:

Click on the Film Bag icon or click on the Bag icon .

Field Descriptions and Instructions

- **Bag:** Select either Fixed or New to specify the type of bag you want to use in your analysis.

  A **fixed analysis** requires you to enter the dimensions of a fixed bag.

  A **new analysis** will create a new bag based on other information you enter on the screen. The new analysis will require you to enter minimum, maximum and incremental dimensions for the bag.

- **Seal Style:** Select either Lap or Fin to specify how the bag will be sealed.

- **Based On:** Select either FxRxA or LxWxH to specify whether the bag if defined by Former-Repeat-Air Fill or Length-Width-Height.

  For example, FxRxA defines a potato chip bag. LxWxH defines a candy bar bag.

- **Description:** Select from the drop-down list the film bags to be used if previously defined in the database.
- **Film:** Select the film style to be used for the bag.

  Note: TOPS Pro assumes film thickness to be inconsequential. Also, the drop-down list contains film types that are already set up in the database. If the film type you want is not on the list, you can add it to the database using the Define Film dialog box. For more information, please refer to page B-96.

- **Stand-Up Bag:** Click this box to enable the stand-up bag option.
- **Inverted Nest:** Click this box to enable inverted nesting.
- **Pack Tightly when Nested:** Click this box to enable the pack tightly option when using enabling the Inverted Nest option.
- **Film Cost:** Displays the film cost and waste factor for the selected film.
- **C.A.S.Y. Style:** Select a CASY style to display for the bag.

  The following three fields – **Former**, **Repeat** and **Air Fill** – display only if you select Based On FxRxA. Also, if you selected New Bag, you'll need to enter **Minimum**, **Maximum** and **Incremental** dimensions for these three fields.

- **Former:** The distance across a flattened bag.
- **Repeat:** The distance between cuts of a flattened bag.
- **Air Fill:** The thickness of the filled bag.

  Note: If you need to convert the air fill value to inches, select LxWxH in the Based On field, enter air fill in inches, then switch Based On back to FxRxA.

The following three fields – **Length**, **Width** and **Height** – display only if you select LxWxH in the Based On field. Also, if you selected New Bag, you'll need to enter **Minimum**, **Maximum** and **Incremental** dimensions for these three fields.

- **Length:** The length of the bag.
- **Height:** The height of the bag which does not include end seams.
- **Width:** The width of the bag.
- **Volume:** Enter the actual volume of the bag in inches cubed or liters, depending on your Units.

Note: If you selected New Bag, enter two volume dimensions – **Minimum** and **Maximum** – and adjust the bag's volume to eliminate any undesired dimensions.

If you selected Fixed Bag, TOPS Pro will automatically calculate the volume of the bag.

- **Net Weight:** The net weight of the bag.

  Note: This value allows you to work with product and headspace related to the bag.

- **Overlap:** The amount of overlapping seal at the end of the bag.
- **Add Product:** Opens the Primary Pack Products dialog box to specify the products going into the primary pack. The data will be used to calculate Wal-Mart efficiency values in the Pallet report statistics.
- **Vert:** Check a box beside one of three fields – Former, Repeat or Air Fill – to specify the vertical dimension of the bag **relative to the ground**.

  Note: If you check Repeat Vertical, then TOPS Pro will design the bag on end. If you check Air Fill Vertical, then TOPS Pro will design the bag lying down.

The following two **Volume** fields display only for a bulk product-into-bag analysis.

- **Volume based on size:** Displays the volume of the bag based on size. TOPS Pro automatically calculates this value.
- **Volume based on weight:** Displays the volume of the bag based on weight. TOPS Pro automatically calculates this value.
- **Options Button:** Displays the Bag Options dialog box, which allows you to enter additional dimensions for a bag.

Blister Pack Options

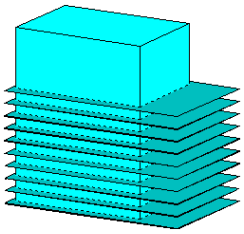
Function: This dialog box allows you to define the height of bulge for a blister pack.

To access, open the Blister Pack Parameters dialog box and click on the Options button.

Field Descriptions and Instructions

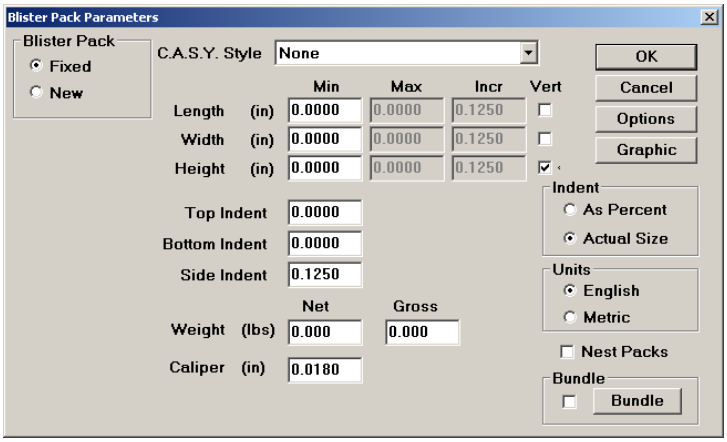
❖ **Height:** Enter the height of bulge for the blister pack.

You can also use this parameter to nest blister shells together for packing. To do so, enter a negative number and make sure the absolute value is smaller than the height of the blister pack.



Blister Pack Parameters

Function: This dialog box allows you to define parameters for blister packs.

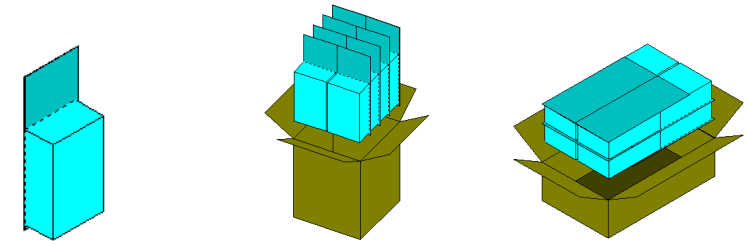


To access, click on the Blister Pack icon to open the Blister Pack Parameters dialog box.

Field Descriptions and Instructions

- **Blister Pack**: Select Fixed to enter fixed dimensions or select New to enter a range of blister pack dimension for TOPS to evaluate,
- **C.A.S.Y. Style:** Selects a CASY style to display for the blister pack.
- **Length:** The length of the blister package including the backing cardboard.
- **Width:** The width of the blister package including the backing cardboard.
- **Height:** The height of the of the blister package including the backing cardboard.
- **Top Indent:** The position of the blister from the top edge of the package.
- **Bottom Indent:** Thee position of the blister from the bottom edge of the package.
- **Side Indent:** The position of the blister from each side of the package.

- **Vert**: Checks a box beside one of three fields – Length, Width or Height – to specify the vertical dimension of the blister pack **relative to the ground**.
- **Indent**: Selects whether the blister indent is expressed as a percentage of the overall package size or in actual dimension.
- **Nest Packs:** Check this box to nest inverted blister packs in the carton/shipcase. The pictures below illustrate the blister pack, blister packs in shipcase and nested blister packs in shipcase.

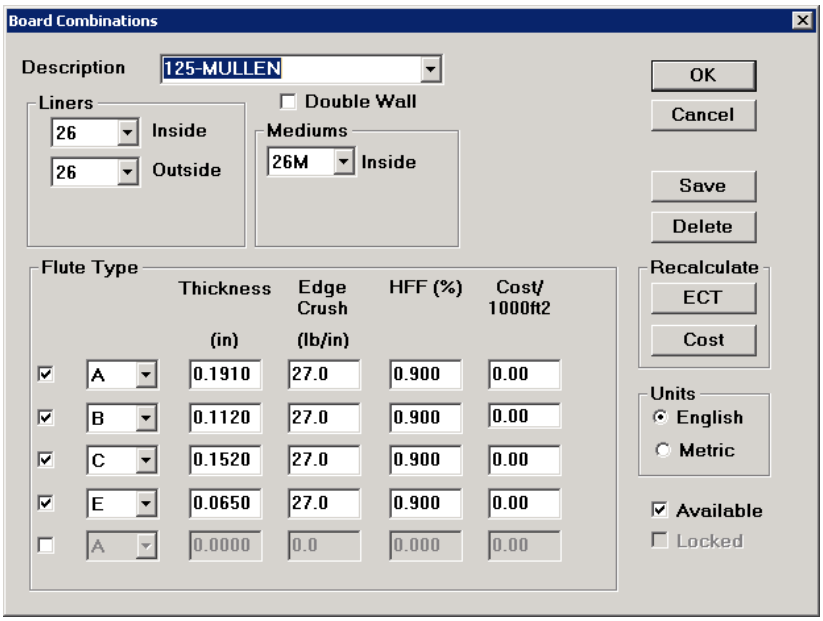


Single blister Blister packs without nesting Nested blister packs

- **Bundle Button**: Opens the Bundle Parameters window. For more information on this function, see Bundle Parameters dialog box. When this option is checked, the bundle function will be used.

Board Combinations

Function: This dialog box allows you to define default board grades, as well as change, delete or mark them unavailable. Use this option to define a board's ECT or cost per 1,000 square feet.



To access the dialog box, open the TOPS Configuration program. From the Menu Bar, open the Define menu and select Board Combinations or click the Board Combination quick link in the Control Panel.

Field Descriptions and Instructions

- **Description:** Select a type of board.

  Note: When naming a new board combination, do not include the papers in the board name. TOPS Pro will automatically add the papers to the board name.

- **Double Wall:** Check the box to specify a double-wall board.

  Note: For the next two fields – **Inside** and **Outside Liners** – you must use the drop-down list to select a value, even if the correct value is already displayed in the field. TOPS Pro will not calculate the Edge Crush values unless you select these fields.

Also, for the next three fields – **Inside** and **Outside Liners** and **Inside Mediums** – you can add or change papers using the Define Paper dialog box.

- **Inside Liners:** Select an inside paper liner for the board.
- **Outside Liners:** Select an outside liner for the board.
- **Inside Mediums:** Select an inside corrugated paper/medium for the board.
- **Flute Type:** Select one or more flute types.

  Note: If you don't see the flute type you want, contact TOPS Technical Support.

- **Thickness:** Enter the thickness of the flute in inches or millimeters, depending on the Units selected.
- **Edge Crush:** Enter the edge crush test value for the flute in pounds per inch or kilograms per millimeter, depending on the Units selected.

  Note: If you want TOPS Pro to calculate the ECT value, click on the Recalculate button.

- **HFF:** Enter the horizontal flute factor as a percentage.
- **Cost/1000ft2:** Enter the flute cost per 1,000 square feet or square meters, depending on the Units selected.
- **Available:** Check the box to indicate that this board type is available.

  Note: If you leave this field unchecked, the board combination will remain in the database, but will not appear in any reports.

- **Locked:** Indicates that only a supervisor can enter or change parameters on this dialog box.

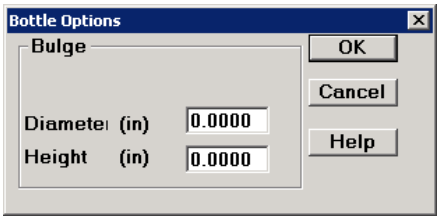
For the following, TOPS Pro calculates values based on the component papers. Please refer to Chapter 9, Stacking Strength.

- **ECT Button:** Recalculates the edge crush test value for the board.
- **Cost:** Recalculates the cost per 1,000 square feet of the board.

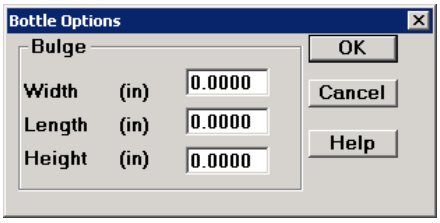
Bottle Options

Function: This dialog box allows you to enter bulge dimensions for a bottle.

Note: This dialog box displays a different set of fields – as pictured below – depending on whether you selected Round, Oval or Rectangular in the Body Shape field on the Bottle Parameters dialog box.



Bottle Options Dialog Box/Round Body Shape



Bottle Options Dialog Box/Oval or Rectangular Body Shape

To access the Bottle Options dialog box, click the Options button from the Bottle Parameters dialog box.

Field Descriptions and Instructions

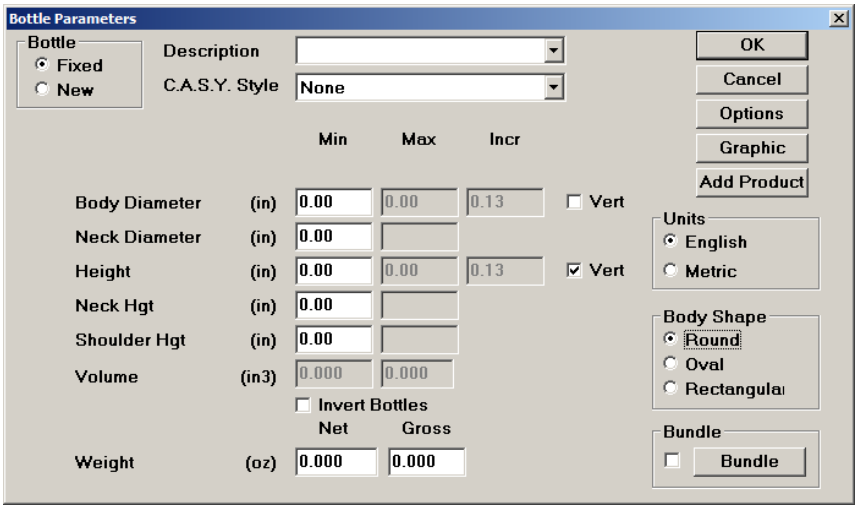
- **Diameter:** For round bottles, enter the bulge diameter for the bottle.
- **Width:** The bulge width for rectangular bottles.
- **Length:** The bulge length for rectangular bottles.
- **Height:** The bulge height for round or rectangular bottles.

Note: TOPS Pro does not usually report bulge data. For information about how to report bulge data, please refer to page B-2.

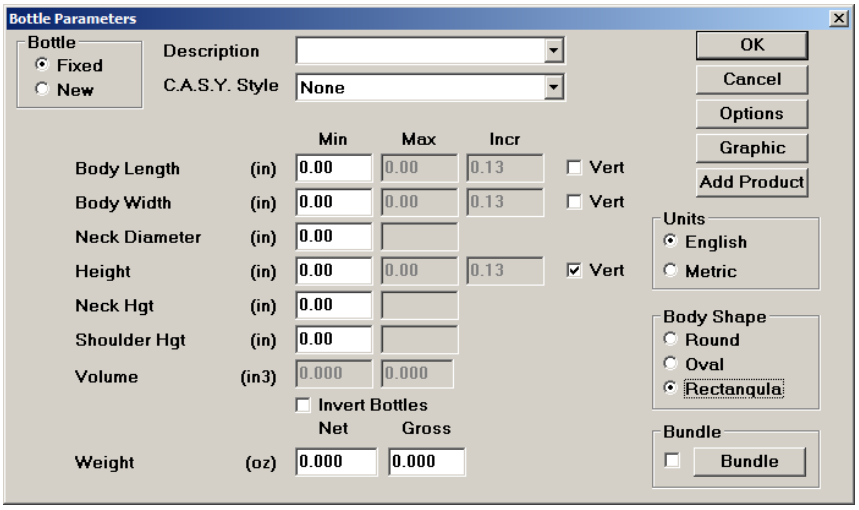
Bottle Parameters

Function: This dialog box allows you to define parameters for different types of bottles – perfume bottles, shampoo bottles, etc. You can also use bottle parameters to design shapes for toilet tissue and paper towel rolls.

Note: If your analysis includes a bottle, the bottle element must be the first stage of the analysis. Further, the bottle element cannot be the last stage of the analysis.



Bottle Parameters Dialog Box/Round Body Shape



Bottle Parameters Dialog Box/Oval or Rectangular Body Shape

To access the Bottle Parameters dialog box, click on the Bottle Parameters icon at the Control Panel.

Field Descriptions and Instructions

- **Description:** Select a predefined bottle from the drop list, if available.
- **C.A.S.Y. Style:** Select a CASY style to display for the bottle.
- **Body Diameter:** Enter the body diameter for round bottles.
- **Body Length:** Enter the body length for oval or rectangular bottles.
- **Body Width:** Enter the body width of the bottle.
- **Neck Diameter:** Enter the neck diameter of the bottle (top rim).

  Note: For a round bottle, the neck diameter should be less than the body diameter. For an oval or rectangular bottle, the neck diameter should be less than the smaller of length or width. This value must be greater than zero, but it can be very small (for example, .001).

- **Height:** Enter the height of the bottle – including body, shoulder and neck.
- **Neck Hgt:** Enter the neck height of the bottle.

  Note: The neck height is the distance from the top of the bottle to the top of the shoulder. Neck height must be greater than zero. This value must be greater than zero, but it can be very small (for example, .001).

- **Shoulder Hgt:** Enter the shoulder height of the bottle.

  Note: The shoulder height is the distance between the neck and the base of the bottle, and represents the transition point of the bottle. This value must be greater than zero, but it can be very small (for example, .001).

- **Vert:** Check a box beside one of four fields – Body Diameter, Body Length, Body Width or Height – to specify the vertical dimension of the bottle **relative to the ground**.

  Note: This field allows you to change the vertical position of the bottles as they're placed into a tray, shipper, pallet or truck. Further, at this time TOPS Pro does not allow you to indicate which direction a bottle will be "pointed;" that is, which end is pointed up or to the left or right.

- **Net Weight:** Enter the net weight of the bottle.
- **Gross Weight:** Enter the gross weight of the bottle.
- **Body Shape:** Select either Round, Oval or Rectangular to specify the body shape of the bottle.

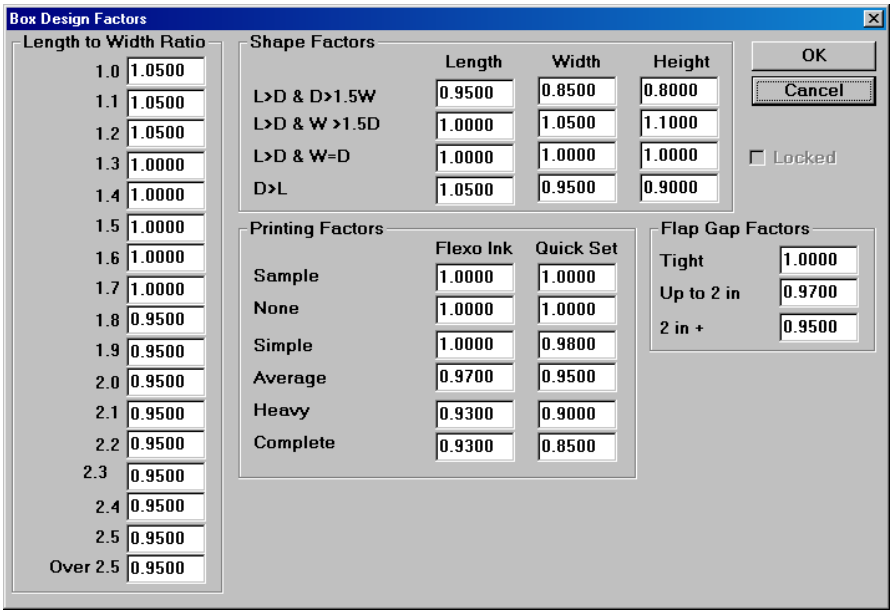
Note: Oval bottles are packed as if they were rectangular; i.e., they're not staggered.

- **Options Button:** Displays the Bottle Options dialog box, which allows you to enter bulge dimensions for a bottle.
- **Bundle Button**: Opens the Bundle Parameters window. For more information on this function, see Bundle Parms dialog box. When this option is checked, bundle function is enabled.

Box Design Factors

Function: This dialog box allows you to change the default stacking strength values for box design factors such as length-to-width ratio, shape factors, printing factors and flap gap factors.

Note: For detailed information about box design factors as they relate to stacking strength, please refer to Chapter 9, Stacking Strength.



To access, open TOPS Configuration program. From the Menu Bar, open the Define menu and select Box Design Factors.

Field Descriptions and Instructions

- **Length to Width Ratio:** Displays a list of length-to-width ratios ranging from 1.0 to over 2.5. For each length-to-width ratio, enter the safety factor value.
- **Shape Factors:** Enter the shape factor when length/width/ height is the vertical dimension for the following shape scenarios:
  - L > D and D > 1.5W
  - L > D and W > 1.5D
  - L > D and W = D
  - D > L

- **Printing Factors:** Enter the printing factor when Flexo/Quick printing is used for the following box printing scenarios:
  - Sample
  - None
  - Simple
  - Average
  - Heavy
  - Complete

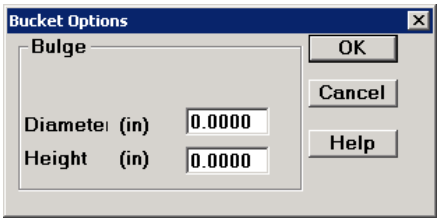
- **Tight:** Enter the flap gap factor if the flaps are tight when closed.
- **Up to 2 in:** Enter the flap gap factor if the flaps leave a space of up to two inches when closed.
- **2 in +:** Enter the flap gap factor if the flaps leave a space of more than two inches when closed.
- **Locked:** Indicates that only a supervisor can enter or change parameters on this dialog box.

Note: A value of one (1) in these fields means that this scenario will have no effect on the stacking strength calculation. Any number multiplied by one (1) equals that number, so there is no change to the result. A value of less than one (1) has a negative effect on the result; a value greater than one (1) has a positive effect.

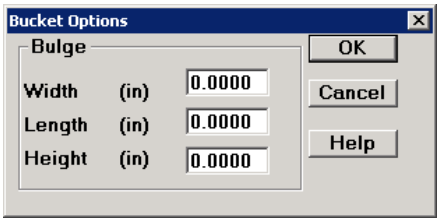
Bucket Options

Function: This dialog box allows you to enter bulge dimensions for a bucket.

Note: This dialog box displays a different set of fields – as pictured below – depending on whether you selected Round or Rectangular in the Body Shape field on the Bucket Parameters dialog box.



Bucket Options Dialog Box/Round Body Shape



Bucket Options Dialog Box/Rectangular Body Shape

To access Bucket Options dialog box, click the Options button from the Bucket Parameters dialog box.

Field Descriptions and Instructions

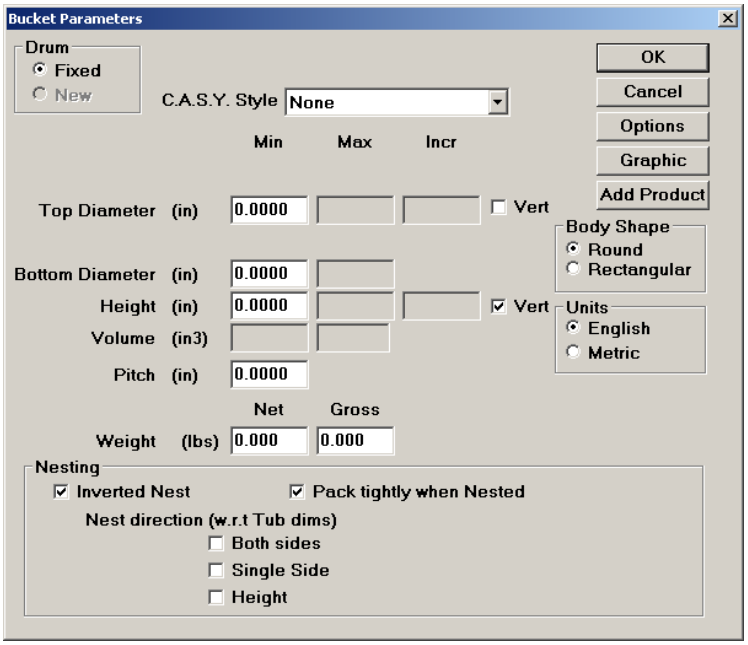
- **Diameter:** Enter the bulge diameter for round buckets.
- **Width:** Enter the bulge width for rectangular buckets.
- **Length:** Enter the bulge length for rectangular buckets.
- **Height:** Enter the bulge height for round or rectangular buckets.

Bucket Parameters

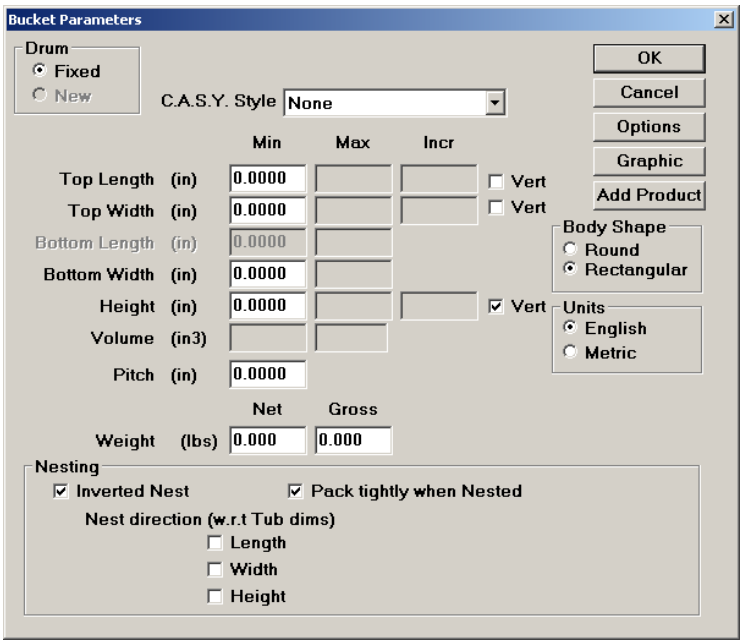
Function: This dialog box allows you to define parameters for different types of round or rectangular buckets. With the round bucket parameters, you can design hub caps, plates, flower pots, etc. With the rectangular bucket parameters, you can design trays, cookie sheets, etc.

Note: When you use a bucket in an analysis, TOPS Pro will not allow you to place any items inside the bucket. Further, the bucket itself can be placed only on a pallet or in a vehicle. If you're thinking of placing a bucket inside a shipper, use a tub instead. (The tub comes from the Primary Pack (green) Button-Style Menu.)

Also, this dialog box displays a different set of fields – as displayed below and on the next page – depending on whether you select Round or Rectangular in the Body Shape field.



Bucket Parameters Dialog Box/Round Body Shape



Bucket Parameters Dialog Box/Rectangular Body Shape

From the Control Panel, click on the Bucket Parameters icon to access the Bucket Parameters dialog box.

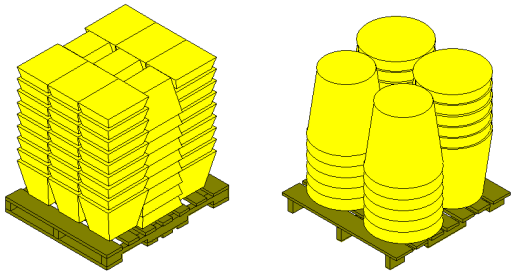
Field Descriptions and Instructions

- **C.A.S.Y. Style:** Select a CASY style to display for the bucket.
- **Top Diameter:** Enter the top diameter or rim for round buckets.
- **Bottom Diameter:** Enter the bottom diameter for round buckets.
- **Top Length:** Enter the top length for rectangular buckets.
- **Top Width:** Enter the top width for rectangular buckets.
- **Bottom Length:** Displays the bottom length for rectangular buckets. TOPS Pro automatically calculates this value based on the proportions of top to bottom width.
- **Bottom Width:** Enter the bottom width for rectangular buckets
- **Height:** Enter the height for round or rectangular buckets.
- **Pitch:** Enter the distance between stacked buckets.

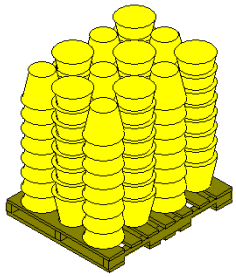
  Note: Pitch allows you to define the dimensions of the buckets so they can be stacked inside one another. This value represents the distance between the rims of the nested buckets; that is, how far one

bucket protrudes from the one it's placed into. If you leave pitch at zero, TOPS Pro assumes that the buckets don't nest inside one another.

- **Inverted Nest:** Check the box to load nested buckets in inverted **rows** as the illustrations below:



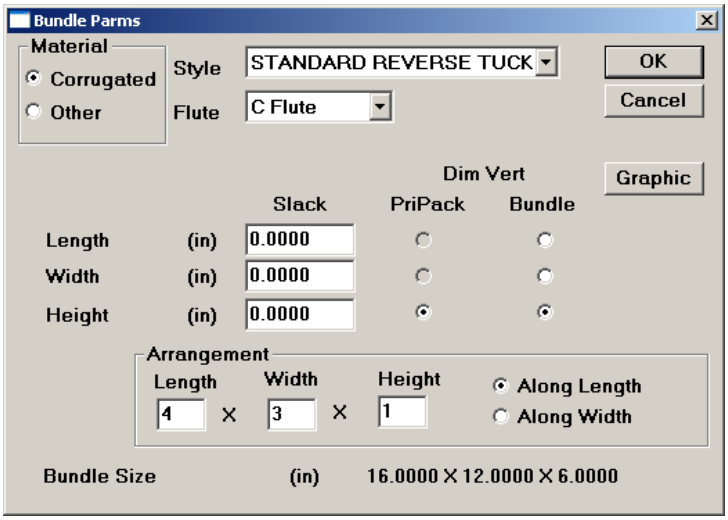
- **Pack tightly when Nested:** This option can tightly pack flower pots, plumbing parts, water glasses and more by removing any space between the objects.
- **Nest direction (w.r.t Tub dims):** This allows you to choose the different variations of nesting within the shipcase. Check available nested directions from **Both Sides, Single Side** and/or **Height**. The picture below shows nesting in both directions.



- **Vert:** Check a box beside one of four fields – Top Length, Top Width, Top Diameter or Height – to specify the vertical dimension of the bucket **relative to the ground**.
- **Weight:** Enter the weight of the bucket.
- **Body Shape:** Select either Round or Rectangular to specify the body shape of the bucket.
- **Options Button:** Displays the Bucket Options dialog box, which allows you to enter bulge parameters for a bucket.

Bundle Parameters

Function: This dialog box allows you to enter parameters for bundling primary packs.



To access, click on the Bundle button from any primary pack parameter dialog box:

Field Descriptions and Instructions

- **Material:** Select either Corrugated or Other to specify the material used to make the bundle.

  Note: The type of material is important to determine stacking strength and board thickness.

- **Style:** Select a pre-defined style or type in the first few letters of the style.

- **Flute/Caliper:** Select the flute size or caliper for corrugated or other material used for casing the bundle.

The following three fields – **Slack Length**, **Slack Width** and **Slack Height** – refer to the extra (wasted) space you intend to include in the bundle configuration. For example, you might figure in two inches of slack space at the top (height) to more easily insert items into the bundle.

- **Slack Length:** Enter the extra space intended for the length of the bundle.

- **Slack Width:** Enter the extra space intended for the width of the bundle.

- **Slack Height:** Enter the extra space intended for the height of the bundle.
- **Dim Vert:** Select either PriPack or Bundle beside one of three fields – Length, Width or Height – to specify the vertical dimension of the bundle **relative to the ground**.

  Note: If you use height as the vertical dimension, you can select both PriPack and Bundle.

  In packaging, height (depth) is normally the distance through the flaps. Length is the greater of the two remaining dimensions.

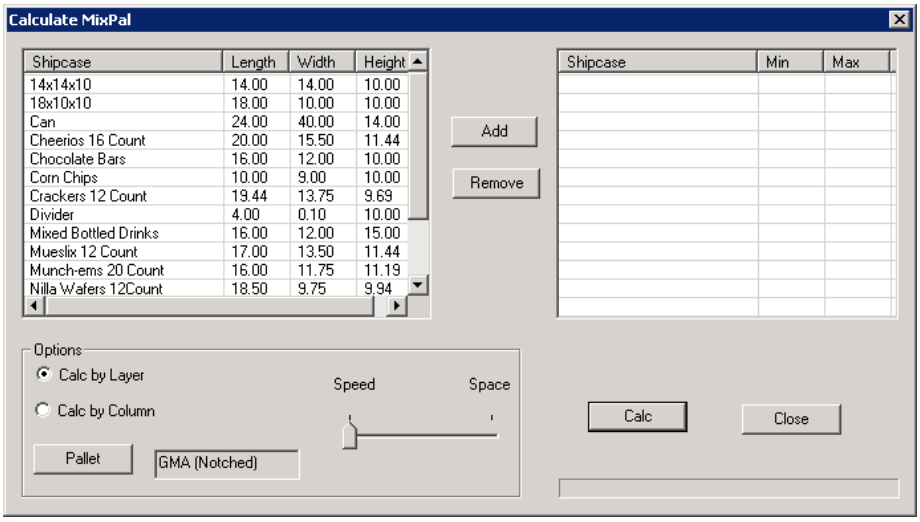
The following four fields – **Length, Width, Height** and **Along Length/Width** – allow you to define the bundle arrangement.

- **Length:** Enter the number of primary packs to be arranged along the length of the bundle.
- **Width:** Enter the number of primary packs to be arranged along the width of the bundle.
- **Height:** Enter the number of primary packs to be arranged along the height of the bundle.
- **Along Length/Width:** Specify whether the bundle will be arranged along its length or width.
- **Bundle Size:** Displays the overall dimensions of the bundle based on the specified arrangement.
- **Graphic Button:** Displays the Assign Graphics dialog box, which allows you to select and display a graphic image on the bundle.

Calculate MixPal

Function: This dialog box allows you to use Mixpro to automatically generate mix pallet for display based on layer or column optimization.

To access, click on the MixPro icon in the tool bar and select MixPro Mixed Pallet Editor. When the MixPro program opens, click on the Calc Wizard button.



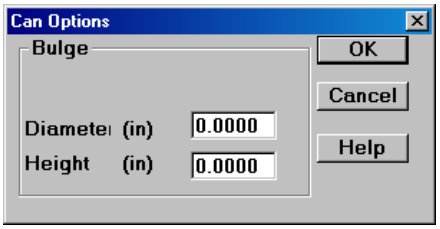
- **Add Button:** Click to add the highlighted shipcase from the left side to the load list on the right hand side.

  Note: Shipcases added to the load list on the right will have a minimum quantity of 1 and maximum quantity of 99. To adjust these quantities, click on the quantity value and type in a new number.
- **Remove Button:** Click to remove highlighted shipcase from the load list on the right back to the left side. This will remove the shipcase from being placed on the mix pallet.
- **Calc by Layer:** Select this option to generate the mixed load by optimizing layer.
- Calc by Column: Select this option to optimize the mixed load by column.
- Pallet Button: Click to open the Pallet Parameters dialog box where you can select a pallet to be used for this mixed pallet. Enter also any allowable overhangs, weight and height limit for the pallet load to be created.

- **Speed-Space Optimization:** This controls how optimized the mixed pallet will be created using the selected shipcases. Set this to speed on the left as the mixed pallet load is normally quite straight forward.
- **Calc:** Click to start the calculation.

Can Options

Function: This dialog box allows you to enter bulge dimensions for a can (cylinder).



From the Can Parameters dialog box, click on the Options button to access the Can Options dialog box.

Field Descriptions and Instructions

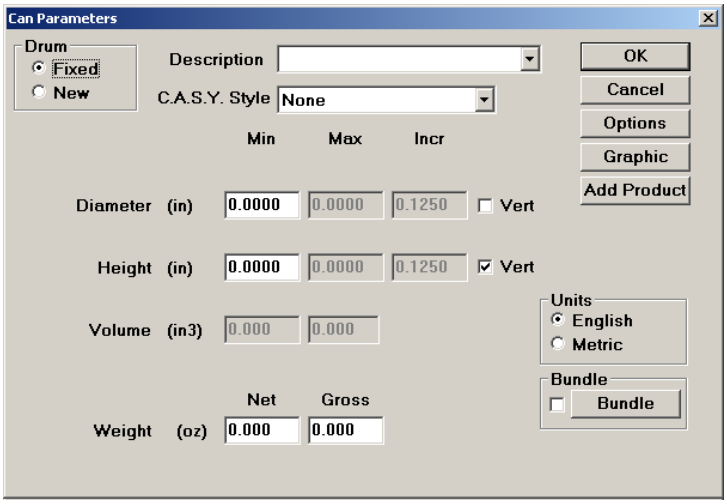
- **Diameter:** Enter the bulge diameter for the can.
- **Height:** Enter the bulge height for the can.

Can Parameters

Function: This dialog box allows you to define parameters for different types of cans – soup cans, cookie cans, etc. You'll also use Can Parameters to define round tubs and round bottles, canisters or drums.

Note: If your analysis includes a can, the can element must be the first stage of the analysis. Further, the can element cannot be the last stage of the analysis.

Note: TOPS Pro does not currently stagger cylinders while on their side, although this functionality may be added in the future.



Designing Soda Cans

Be aware that if you're designing a soda can, it may be better to use bottle parameters because a soda can has a neck, shoulder and body, just like a bottle.

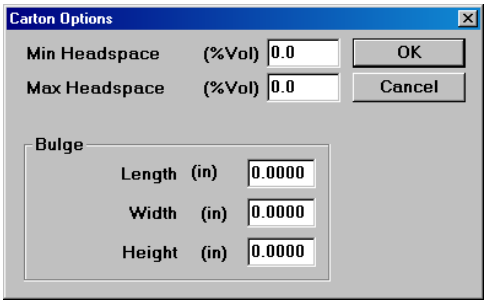
From the Control Panel, click on the Can Parameters icon to access the Can Parameters dialog box.

Field Descriptions and Instructions

- **Description:** Select from the drop list a predefined can, if available.
- **C.A.S.Y. Style:** Select a CASY style to display for the can.
- **Diameter:** Enter the diameter of the can.
- **Note:** This dimension is used for a can that has a uniform diameter from top to bottom. If your can has different diameter measurements at the top and bottom, use the Tub or Bucket in your analysis.
- **Height:** Enter the height of the can.
- **Vert:** Check a box beside one of two fields – Diameter or Height – to specify the vertical dimension of the can **relative to the ground**.
- **Net Weight:** Enter the net weight of the can.
- **Gross Weight:** Enter the gross weight of the can.
- **Options Button:** Displays the Can Options dialog box, which allows you to enter bulge dimensions for a can.
- **Bundle Button**: Opens the Bundle Parameters window. For more information on this function, see Bundle Parms dialog box. When this option is checked, bundle function is enabled.

Carton Options

Function: This dialog box allows you to enter additional dimensions for a carton, such as headspace and bulge.



From the Carton Parameters dialog box, click on the Options button to access the Carton Options dialog box.

Headspace

When you create a new carton designed to contain a bulk product, such as cereal, you'll need to allow for headspace at the top of the carton. Minimum and maximum headspace refers to the volume of air needed inside the carton prior to sealing.

For example, when you fill a carton with cereal, you'll want to add headspace to the carton to prevent the cereal from being crushed or broken. The headspace dimension will give the carton additional "wasted" space above the contents of the carton.

From the Carton Parameters dialog box, click on the Options button to access the Carton Options dialog Box.

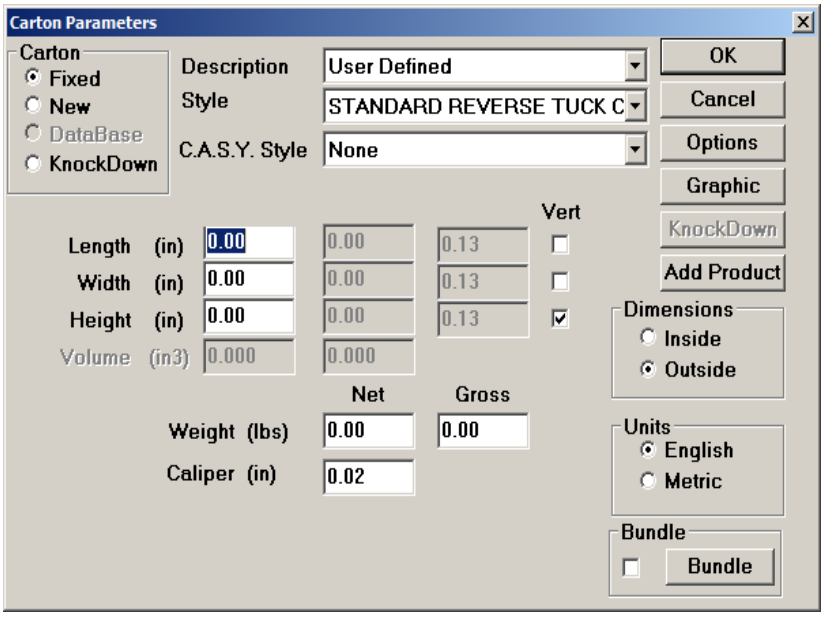
Field Descriptions and Instructions

The following two fields, **Min Headspace** and **Max Headspace,** display only if you selected New Carton on the Carton Parameters dialog box.

- **Min Headspace:** Enter a percentage of the carton's volume to specify the minimum headspace allowed in the carton.
- **Max Headspace:** Enter a percentage of the carton's volume to specify the maximum headspace allowed in the carton.
- **Bulge Length, Width and Height:** The amount of bulge allowed in the carton's length, width and height dimensions.

Carton Parameters

Function: This dialog box allows you to define parameters for different types of cartons.



From the Control Panel, click on the Carton Parameters icon to access the Carton Parameters dialog box.

Field Definitions and Instructions

❖ **Carton:** Select Fixed, New or KnockDown to specify the type of carton you want to use in your analysis.

A **fixed analysis** requires you to enter the dimensions of an existing carton. A **new analysis** will create a new carton based on other information you enter on the screen. A **KnockDown** will create a flats based on the dimension of an erected carton.

❖ **Description:** Select a pre-defined carton from the drop-down list for a Fixed Carton analysis only.

Note: The drop-down list contains carton types that are already set up in the database. If the carton type you want is not on the list, you can add it to the database using the Define Carton dialog box.

Note: If you select a pre-defined carton, TOPS Pro will automatically insert dimensions in the Length, Width and Height fields, as well as

any pre-defined graphics. If you select User Defined, you'll need to manually enter dimensions in the Length, Width and Height fields

- **Style:** Select the style of the carton.
- **C.A.S.Y. Style:** Select a CASY style to display for the carton.

For the following three fields – **Length**, **Width** and **Height** – if you selected New Carton, you'll need to enter **Minimum**, **Maximum** and **Incremental** dimensions.

- **Length:** The length of the carton.
- **Width:** The width of the carton.
- **Height:** The height of the carton.

For the following **Volume** field, if you selected New Carton, the system will prompt you to enter **Minimum** and **Maximum** volume dimensions.

- **Volume:** The volume of the carton (volume of inside of box).

  Note: This field allows you to adjust the carton's volume to eliminate any undesired dimensions. If you selected Fixed Carton, TOPS Pro will automatically calculate the volume of the carton.

- **Vert:** Check a box beside one of three fields – Length, Width or Height – to specify the vertical dimension of the carton **relative to the ground**.
- **Net Weight:** Enter the net weight of the carton.
- **Gross Weight:** Enter the gross weight of the carton. Gross weight must be greater than or equal to net weight.
- **Caliper:** Enter the caliper of the carton. This is the thickness of the cardboard used for the carton.

  Note: The caliper is used to calculate the inside vs. outside dimensions of the carton.

The following two **Volume** fields display only for a bulk product into a new carton analysis.

- **Volume based on size:** Displays the volume of the carton based on size. TOPS Pro automatically calculates this value.
- **Volume based on weight:** Displays the volume of the carton based on weight. TOPS Pro automatically calculates this value.

- **Options Button:** Displays the Carton Options dialog box, which allows you to enter additional parameters for a carton, such as minimum/maximum headspace and bulge dimensions.

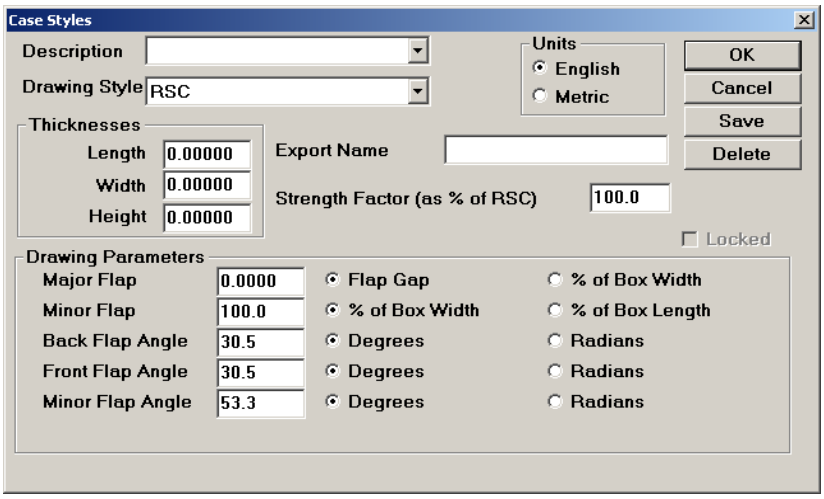
- **Knockdown Button:** Available when KnockDown carton is selected, click this button to automatically calculates the length, width and height parameters of an erected RSC box or folded carton to its knockdown dimensions as explained below:

	Erected Box	**Knock Down**
Length (L)	14 in	= L+W = 24 in
Width (W)	10 in	=2*C = 0.1 in
Height (H)	8 in	= W+H = 18 in
Caliper (C)	0.05 in	

- **Bundle Button**: Opens the Bundle Parameters window. For more information on this function, see Bundle Parms dialog box. When this option is checked, bundle function is enabled.

Case Styles

Function: This dialog box allows you to define parameters for a new case (one that's not already defined in the system). This dialog box also allows you to change parameters for an existing case.



To access the Case Styles dialog box, open the Define Menu from the Menu Bar and select Box Styles.

Field Descriptions and Instructions

- **Description:** For a new case, type in a description. For an existing case, select a pre-defined case or type in the first few letters of the case.

  Note: If you select a pre-defined case, TOPS Pro will automatically insert values in the various dimension fields. If you select User Defined in the Shipcase Parameters dialog box, you'll need to manually enter dimensions.

- **Drawing Style:** Select a pre-defined drawing style as illustrated by the g.o.d. image.

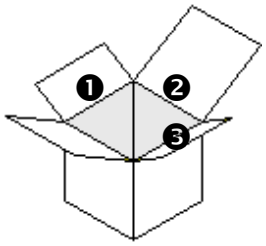
- **Thicknesses - Length:** Enter the number of thicknesses along the length of the case. This corresponds to the number of times you'll encounter any wall of the box along the length direction. This is normally two for length.

- **Thicknesses - Width:** Enter the number of thicknesses along the width of the case. This corresponds to the number of times you'll encounter any wall of the box along the width. This is normally two for width

- **Thicknesses - Depth:** Enter the number of thicknesses along the depth of the case. This corresponds to the number of times you'll encounter any wall of the box along the height. This is normally four.
- **Export Name:** Enter the export name for the case.
- **Strength Factor (as % of RSC):** In the TOPS system, stacking strength is only available to RSC boxes. This Strength Factor is used to provide strength analysis for non-RSC boxes and is expressed as a percentage when compared to that of an RSC box. For example, if stacking strength for this box is 90 percent when compared to that of an RSC box, enter 90.00.
- **Locked:** Check the box to indicate that only a supervisor can enter or change parameters on this dialog box.

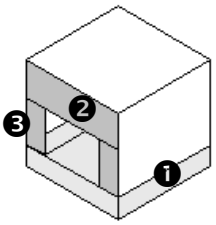
The available drawing parameters vary according to the drawing style selected and are listed as below.

For RSC Boxes



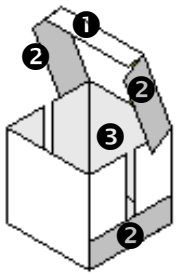
- **Major Flap:** This is the distance between the two major flaps ❶ when the box is closed. Select either Flap Gap or % of Box Width, then enter a value to define the size of the major flap. Use a value of 0.0 as Flap Gap or 50% Box Width to ensure the major flaps meet halfway and close the box completely
- **Minor Flap ❷:** Select either % of Box Width or % of Box Length, then enter a value to define the size of the minor flap. The illustration (above right) represents a 100% box width.
- **Back Flap Angle:** Use this to define how far back the back flap ❶ will be illustrated within TOPS. Select either Degrees or Radians, then enter a value to define the back flap angle.
- **Front Flap Angle:** Use this to define the front flap ❸ angle. Select either Degrees or Radians, then enter a value.
- **Minor Flap Angle:** Select either Degrees or Radians, then enter a value to define the front flap angle to illustrate the drawing of the two minor flaps ❷.

For Shrouded Box, Trays



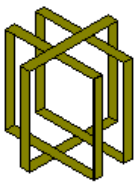
- **Tray Height ❶:** Select either in Actual Size or as a % of Box Height, this is bottom portion of the shrouded box and is obvious for trays.
- **Shroud Opening:** Select if the opening is along the width of length of the box.
- **Upper Bar Width ❷:** Select either in Actual Size or as a % of Box Height, enter a value to represent the top shrouded portion for the box.
- **Side Bar Width ❸:** Select either in Actual Size or as a % of Box Height, enter a value to represent the two side bars for the box.

For Wrap Around Boxes



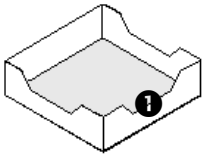
- **Major Flap ❶:** Select either in Actual Size or as a % of Box Height, enter a value to represent the size of the major flap as pictured to the right.
- **Flap Angle:** Use this to define how far up the cover will be illustrated for this box type. Select either Degrees or Radians, then enter a value.
- **Lip Flap Angle:** Use this to define the angle the three lip flaps of the cover. Select either Degrees or Radians, then enter a value.
- **Wrapwnd Sitting:** Select to illustrate the box opening along the length of width of the box.
- **Minor Flap:** Select either in Actual Size or as a % of Box Height, enter a value to represent the size of the three minor flaps.
- **Flap Gap:** Select either in Actual Size or as a % of Box Height, enter a value to represent any space ❸ between the material which make up the side wall.

For Strapped Bundle



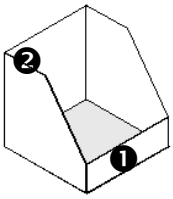
- **Length Straps:** The number of straps along the length of the bundle, 2 in this example.
- **Width Straps:** The number of straps along the Width of the bundle, only 1 in this example.
- **Strap Width:** The width of the straps.

For lay Case



- **Show Window on:** Select either to show a window only at the front ❶ or at both front and back.
- **Show Window on:** Select either to show windows on both left and right sides as pictured here or none at all.
- **Window Height:** Enter a value to represent the size of all windows as a % of the tray Height
- **Top Width**: Enter a value to represent the top width of all windows as a % of the tray Length/width.
- **Bottom Width:** Enter a value to represent the bottom width of all windows as a % of the tray Length/width.

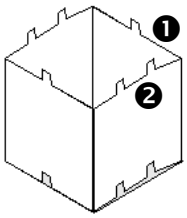
For Display Tray/ Tear Out



Tray Height: Select either as a % of Box Height or in Actual Size, enter a value for the height of the tray ❶.

Tray Width: Select either as a % of Box Height or in Actual Size, enter a value for the width of the tray ❷.

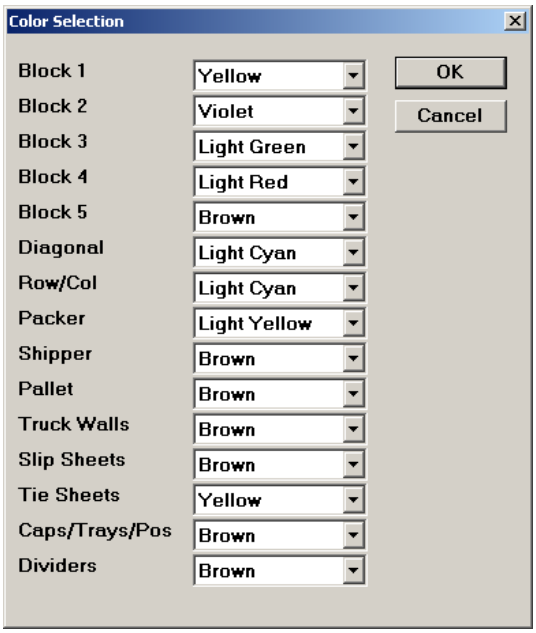
For Common Footprint Standard



- **Side Tabs:** Enter the number of side tabs ❶ and select if they are for both Top and Bottom or just Bottom Only.
- **Side Tab Width:** Enter the size of the side tab as a % of Box Width of Actual Size.
- **Side Tab Height:** Enter the height of the side tab as a % of Box Width of Actual Size.
- **Front-Back Tabs:** Enter the number of front and back tabs ❷ to be used for the box.
- **Front Tab Width:** Enter the size of the side tab as a % of Box Width of Actual Size.
- **Front Tab Height:** Enter the height of the side tab as a % of Box Width of Actual Size.

Color Selection

Function: This dialog box allows you to select a color for a number of images in the system – blocks, packers, shippers, etc. Color Selection is most often used to select lighter colors for printing in color.



From the Menu Bar, open the Tools menu and select Color Selection to access the dialog box.

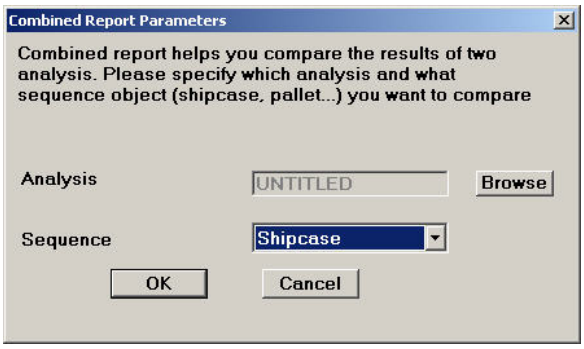
Field Descriptions and Instructions

The dialog box displays a number of images in the system – blocks, packers, shippers, etc. To select a color for a particular image, use the drop-down list next to the image to select a specific color or type in the first few letters of the color.

Note: Color selections are specific to the user, not to the analysis.

Combined Report Parameters

Function: The combined report function places two analyses side-by-side. Users can specify which sequence of the analysis (intermediate pack, shipcase or unitload) to appear in the report.



To access, go to the File menu, select Print or Print Preview, and then Combined Report.

Field Descriptions and Instructions

- **Analysis**: Click the Browse button to select a second analysis to compare to the currently opened analysis.
- **Sequence**: Select from the drop-down list the sequence with the analysis to appear in the report

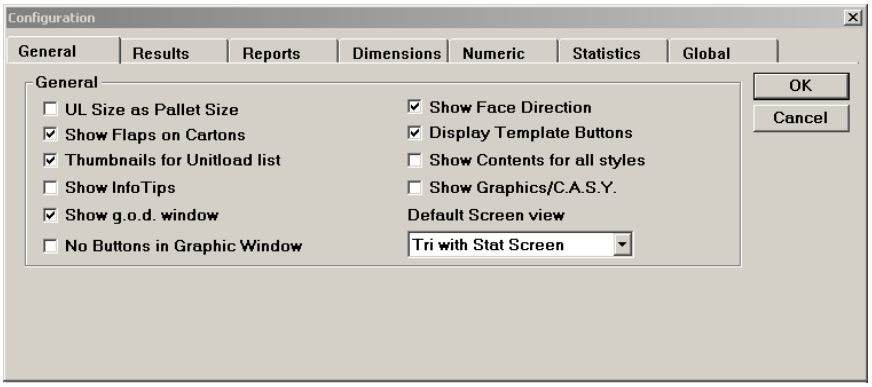
Configuration

Function: This dialog box allows you to define the configuration of your TOPS Pro system by selecting and de-selecting a range of options.

From the Menu Bar, open the Tools menu and select Configuration.

Note: The Statistics and Global tabs are only available when you run TOPS Pro Config program and login as Supervisor.

General Tab



- **UL Size as Pallet Size:** Use these guidelines:

  Leave the box unchecked if you'd like TOPS Pro to report the actual size of the unitload, that is, the actual dimensions of the stack shipcases.

  If you check the box, TOPS Pro reports the size of the unitload versus pallet, whichever is larger.

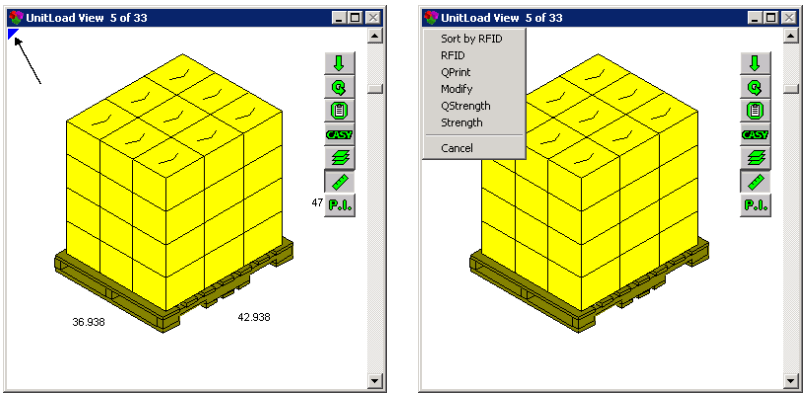
  For example, if you have a load that does not overhang the pallet and you are interested in the dimensions of the stacked shipcases, you can uncheck this option. Otherwise, the length and width listed on the unitload will reflect the pallet dimensions.

- **Show Flaps on Cartons:** Check the box to display the flaps on cartons. (Some users may wish to hide the flaps in the display.)
- **Thumbnails for Unitload list:** Check the box to display thumbnail images of pallet patterns on a Unitload List. (The default is to show thumbnails for unitload list.)
- **Show Info Tips:** Check the box to activate popup information tips in the system.

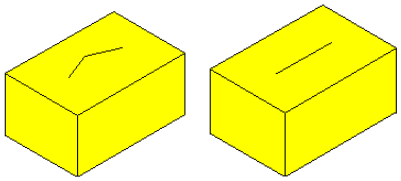
❖ **Show g.o.d. window:** Check the box to display the g.o.d. window for the various parameter dialog boxes. It is recommended to enable this option so you can easily see what each parameter is referring to.

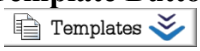
No Buttons on Graphic Window: Check the box to hide the buttons (e.g. Divider, Modify, Print, Strength, etc) at the bottom of each graphics pane. When the buttons are hidden, their functions can be accessed via a short cut menu located at the top left hand corner of each graphic pane.

To access, highlight the graphic pane (now with a blue title bar) and bring the mouse cursor to the triangle at the top left hand corner to bring down the short cut menu.



❖ **Show Face Direction:** Check the box to display the hash mark (a large open V) to indicate the display face of a shipcase. (The default is to show the face direction as shown on the left carton.)



❖ **Display Template Buttons:** Check the box to display the Template Toolbar (

) on the left side of the Control Panel. Click this toolbar to expand and view the available templates.

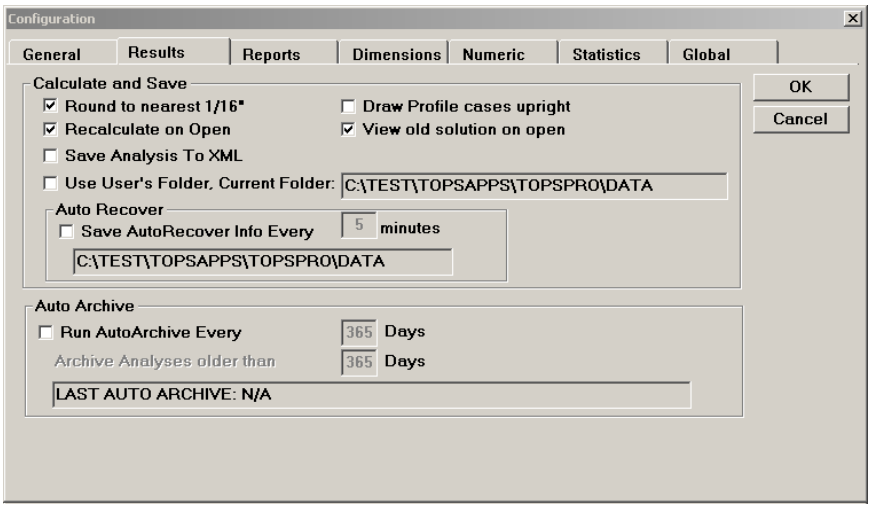
❖ **Show Contents for all styles:** Check the box to enable the ability to display the contents of all styles of containers. When enabled, you still need to issue the command of Show Contents under the View menu or the right click pop-up menu.

Note: Normally, TOPS Pro will let you show the contents of trays and shrinkwrap containers because they don't have flaps that protrude.

With this feature turned on, you can try it for any style of container, even those for which it might not look good.

- **Show Graphics/C.A.S.Y.:** Check the box to display paste-on graphics on the front, back or top of your shipcases, or to display a CASY style designed for a container. For a faster display, leave this feature turned off.
- **Default Screen View:** Use this dropdown selector to specify the default screen view among split screen, tri-screen, tri-screen with statistics, quad-screen or hex screen. The actual screen views available will depend on the number of stages in the design sequence. For example, the hex screen will not be available for shipcase to pallet analysis (2-stage).

Results Tab



- **Round to nearest 1/16":** Check the box to round solutions to the nearest 1/16 of an inch when TOPS Pro calculates an analysis.
- **Recalculate on Open:** Check the box to recalculate a solution when you open that solution record answer – if there is no viewed answer.
- **Save Analysis to XML:** When checked, this option allows you to also save TOPS analyses in XML format in the …\DATA\xml\ folder. This is similar to the Save As XML command under the File menu except that this option will automatically save all analyses as XML.
- **Draw Profile cases upright:** Check the box to draw cases in an upright position on the packaging profile.
- **View old solution on Open:** Check the box to view an old solution when you open that solution record – if a solution record exists.

- **Use User's Folder, Current Folder:** This option, when checked, allows you to save your analyses to a folder named \TopsData\ under your local document (My Documents) folder.

  If left unchecked, analyses will be saved in the default data folder where the TOPS installation has been installed, that is, ...\TOPSAPPS\TOPSPro\DATA\.

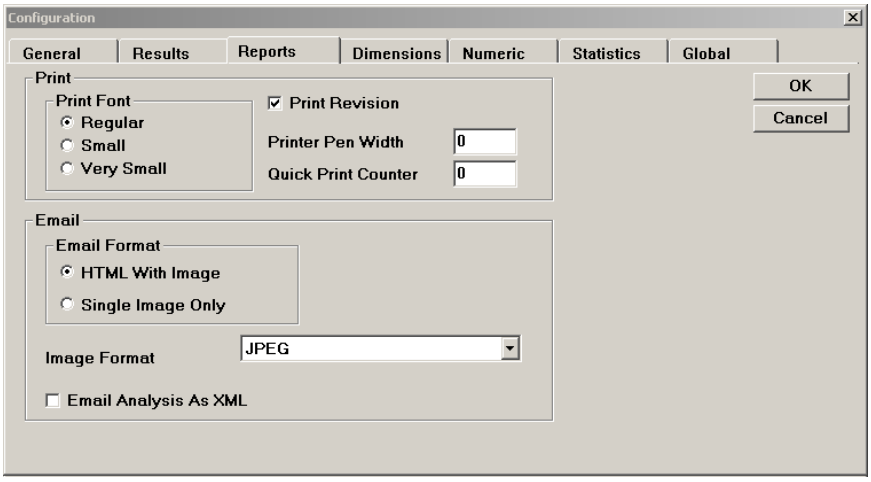
- **Save AutoRecover Info Every ( ) Seconds:** This setting turns on the AutoRecover feature so a user's work is saved automatically. This ensures work is not lost if there is a power outage or system crash. When enabled, enter the time lapse between each automatic save.

- **Run AutoArchive Every ( ) Days:** Allows you to archive infrequently used analyses and remove them from the active file list after a predetermined amount of time.

  Enter the frequency in number of days to run auto archive and specify what analyses to archive by their creation date.

  Note: Archived analyses can be restored any time and posted back to the main folder for review. To restore archived analyses, go to the File menu and then select Open Archive. At the dialog box, highlight the analyses to be restored and click on the Restore button. You can then specify the location where the analysis will be restored to.

Reports Tab



- **Print Font:** Used to specify the size of the Print Front.

- **Print Revision:** Check the box to print any revision history entered for an analysis.

  Note: The Analysis Save As dialog box has a field labeled "Revision

History" that allows you to enter revision notes for the analysis. When you perform a Print Preview for the analysis, the revision history notes are attached to the bottom of the screen – if the Print Revision option is activated.

- **Printer Pen Width:** Enter the output of the printer's line width. If you want your printouts to have a darker, thicker line, increase the pen width. A printer pen width of 4 to 7 is good.

  Note: If the Show Graphics function is turned on, TOPS Pro ignores printer pen width. To use the printer pen width function, be sure to turn off the Show Graphics function on the View menu.

- **Quick Print Count:** Enter the beginning number of a Quick Print counter sequence.

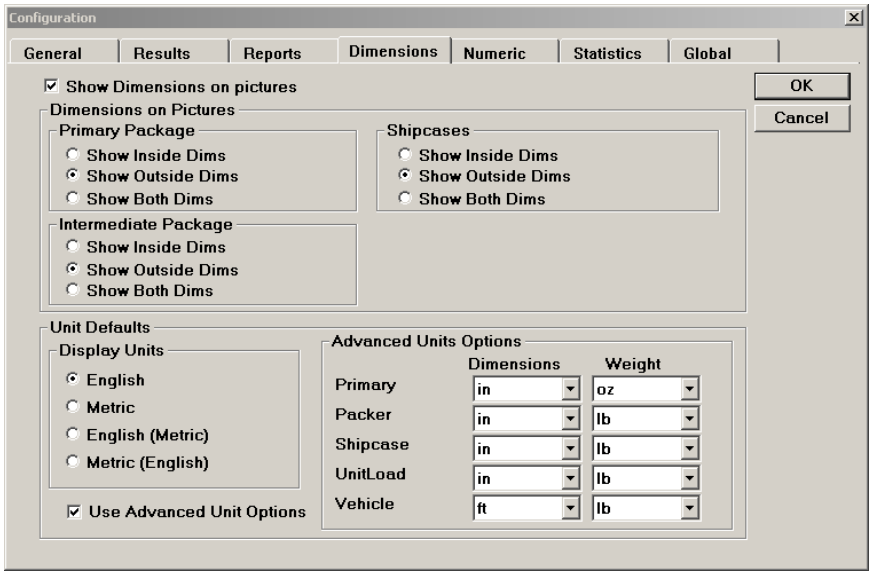
  Note: TOPS Pro tracks the number of times you've created PDF files and increments the counter by one each time a new file is created

- **Email Format:** Allows you to specify whether the email format will be HTML With Image or Single Image Only

- **Image Format:** This setting will determine the default image format (JPEG or PNG)

- **Email Analysis As XML:** determines whether to email analysis in XML format instead of TXT

Dimensions Tab



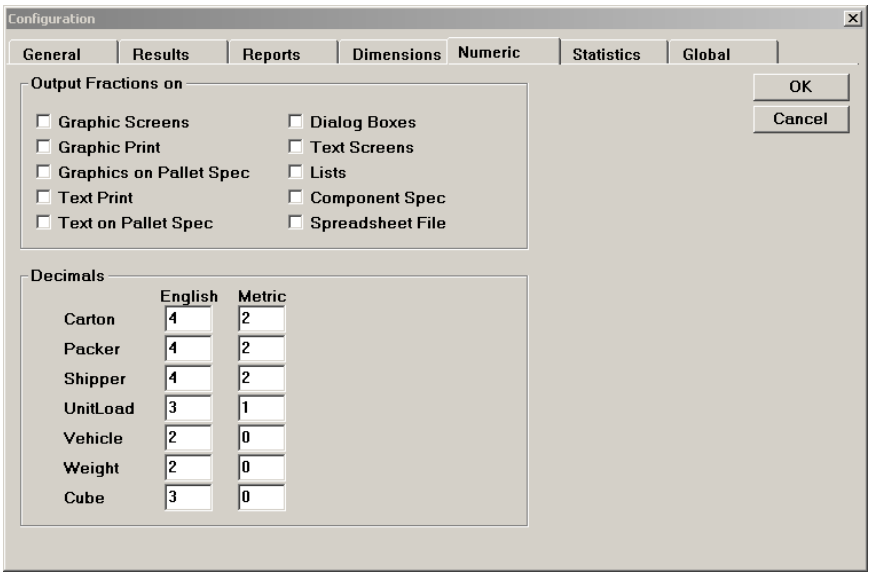
- **Show Dimensions on pictures:** Check the box to display the dimensions on the graphic images associated with an analysis.

  When enabled, specify whether to display inside, outside or both inside and outside dimensions on the graphics. Click the corresponding radio buttons for each stage of the analysis including primary package, intermediate package and shipcases.

- **Unit Defaults:** The **Display Units** controls what units of measure to display. Click the radio button to select among English, Metric, English with Metric in parenthesis or Metric with English in parenthesis.

- **Use Advanced unit Options:** Click this option to enable Advanced Unit Options. This will allow you to specify independent unit settings for Primary, Packer, Shipcase, UnitLoad and Vehicle.

Numeric Tab



- **Output Fractions on:** Allows the user to enable the output of fractions. Place check mark (✓) against items accepting fraction outputs.

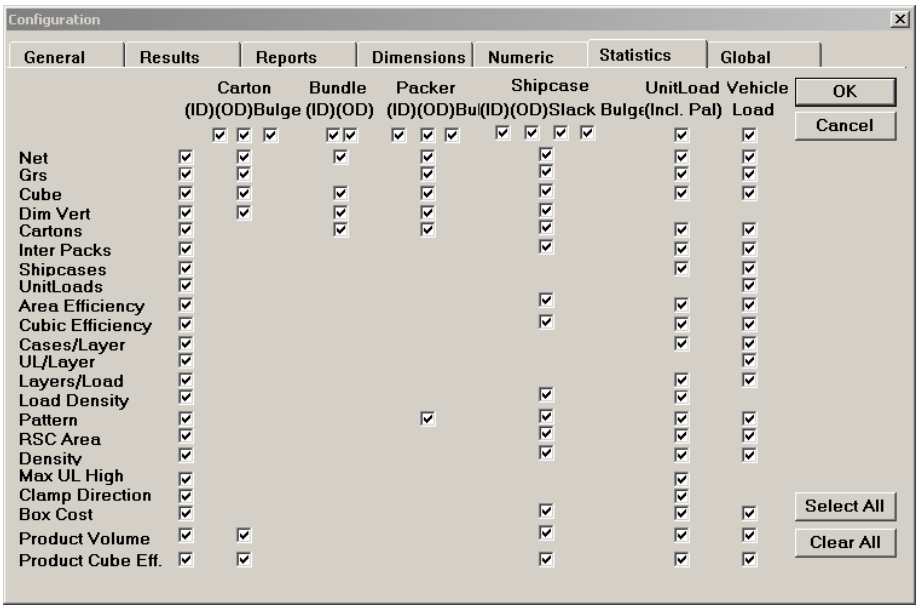
- **Decimals:** Allows you to specify the number of decimals places a value will be rounded to when displayed or printed for a particular item, in both English and Metric units.

  For example, if you enter 4 for a carton, TOPS Pro will display the solution as .1234. If you enter 2, TOPS Pro will display the solution as .12. These settings change the way numbers are displayed – not the actual values.

Statistics Tab

Function: The Statistics tab allows you to set up rows and columns of statistics that will display in the various Statistics View panes. This allows you to eliminate unnecessary data from your reports. To include the data in the statistics, make sure the corresponding boxes are checked.

Note: The Statistics tab in the Configuration dialog box is only available in the TOPS Pro Config program after you login as the Supervisor.



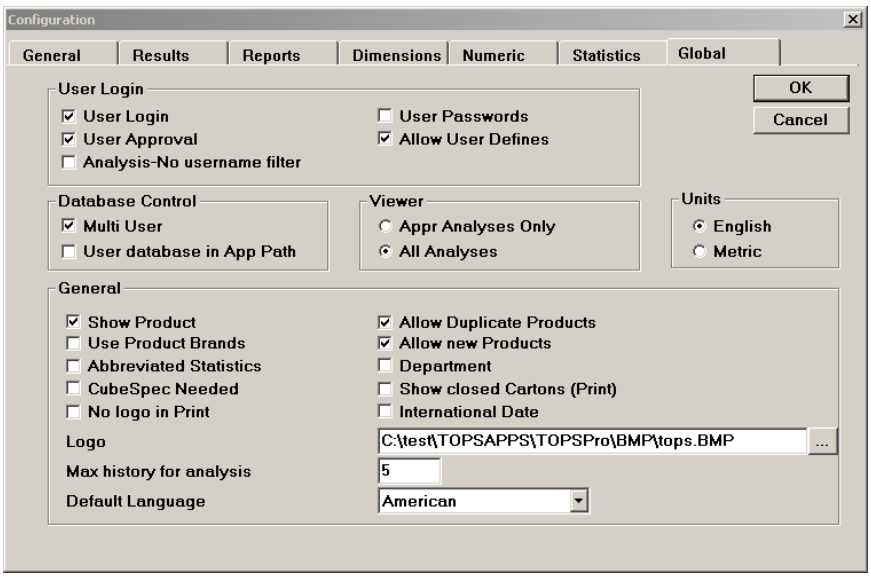
- There's a list of items on the left side of the dialog box – Net, Grs, Cube, Dim Vert, etc.
- There are a number of items that make up six columns across the top of the dialog box – Carton, Bundle, Packer, Shipcase, UnitLoad and Vehicle Load.
- Under the Carton, Bundle, Packer and Shipcase columns are a number of sub-columns – ID, OD and/or Bulge, Slack sub-columns.
- Each report item in the list on the left has one or more statistics switches attached to it, which are represented by the checkboxes. For example, the Dim Vert item has four statistics switches: Carton OD, Bundle OD, Packer OD and Shipcase OD.
- To turn on the statistics switches for an item, check the box for that item. TOPS Pro automatically turns on the switches for the statistics attached to that item. For example, if you check the box for the Dim Vert item, TOPS Pro automatically turns on the three statistics switches attached to it. Likewise, you can turn on the switches attached to the items at the top of the dialog box.

If the statistics setup is the way you want it, click on OK. TOPS Pro saves the setup and returns you to the Configuration dialog box.

Global Tab

Note: The Global tab in the Configuration dialog box is only available in the TOPS Pro Config program after you login as the Supervisor.

The settings in the Global tab affect how the TOPS Pro software runs. For example, whether or not to allow users to approve their own analyses, etc. These parameters affect all existing and/or new users. Be aware that if you change these settings, in order for the changes to "stick", all users in TOPS Pro and TOPS Config programs must exit the respective systems.



- **(User Login) User Login:** Check the box to display the User Login dialog box at the start of the program.

  Important: TOPS strongly recommends that this option be turned on!

- **(User Login) User Passwords:** Check the box to turn on a password setting for all users.

- **(User Login) User Approval:** Check the box to allow users to approve their own analyses, as opposed to requiring supervisor approval.

  Note: For more information about the approval process, please refer to Chapter 15, Supervisor Functions.

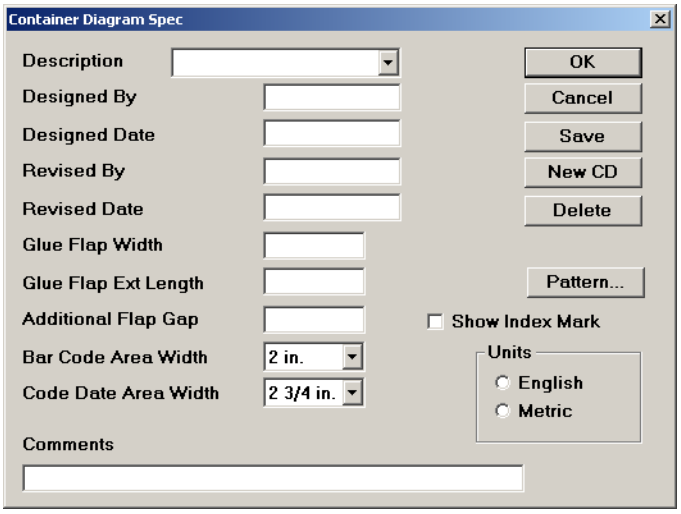
  Checking this box allows users to change or add items to the product database in the Define Menu. When this box is unchecked, only a supervisor can make changes.

- **(User Login) Allow User Defines:** Check the box to limit the changes to the Define dialog boxes; reverts to supervisor only.
- **(User Login) Analysis-no username filter:** Check the box to disable the use of username to filter analyses in the database.
- **(Database Control) Multi User:** Check the box to turn on record locking for the databases. This option is automatically turned on for networks.
- **(Database Control) User database in App Path:** Check the box to save all data to the directory path where the TOPS system has been installed.
- **(Viewer) Appr Analyses Only**: Check this option to show only approved analyses when running the TOPS Pro Viewer program (available in TOPS network version only).
- **(Viewer) All Analyses**: Check this option to show all analyses, including both approved and working ones when running the TOPS Pro Viewer program (available in TOPS network version only).
- **(General) Show Product:** Check the box to display the Product Button-Style Menu, which includes the Granular, Bulk and Powder icons. Leaving this option turned off saves space on the Control Panel.
- **(General) Allow Duplicate Products:** Check the box to allow products with the same product code in a single Package Profile.
- **(General) Use Product Brands:** Check the box to use product brands or duplicate Divisions.
- **(General) Allow New Products:** Check the box to allow the user to add products or change a package profile after it has been approved, without requiring new approval.
- **(General) Abbreviated Statistics:** Check the box to shorten statistics for vehicle solutions and to exclude some rows of statistics.
- **(General) Department:** Check the box to show department in reports
- **(General) CubeSpec Needed:** Check the box to specify that a package profile is required before you can request approval of an analysis.
- **(General) Show closed Cartons (Print):** Check the box to not illustrate carton flaps in Print reports for primary packs and shipcase.
- **(General) No Logo in Print:** Check the box to remove logos in TOPS reports.

- **(General) International Date:** Check the box to display dates in the in**ternational (DD/M**M/YY) format, rather than the American (MM/DD/YY) format.
- **(General) Logo:** Enter the location of the image file to be used as logo in reports.
- **(General) Max history for analysis:** Enter the maximum number of modification history to be tracked for the analyses.
- **(General) Default Language:** Select the default language used in TOPS Pro Viewer for users not logging into the system.

Container Diagram Spec

Function: This dialog box allows you to enter or update specifications for a specific container diagram.



Note: To create a container diagram, you must first complete a package analysis and save it to the database. Then go to the Menu Bar, open the File menu, select Print Preview, then select Package Profile. After the Print Preview displays, click the Close button. At this time, go to the Menu Bar, open the File menu and select Container Diagram.

Field Descriptions and Instructions

- **Description:** Select a description of the container diagram or type in the first few letters of the description.
- **Designed By:** Enter the name of the person who designed the container diagram. This information will be printed on reports.
- **Designed Date:** Enter the date the container diagram was designed. This information will be printed on reports.
- **Revised By:** Enter the name of the person who revised the container diagram. This information will be printed on reports.
- **Revised Date:** Enter the date the container diagram was revised. This information will be printed on reports.
- **Glue Flap Width:** Enter the width of the glue flap in inches or millimeters, depending on the Units selected.

  Note: The glue flap is used to glue the end panels of a shipping case together.

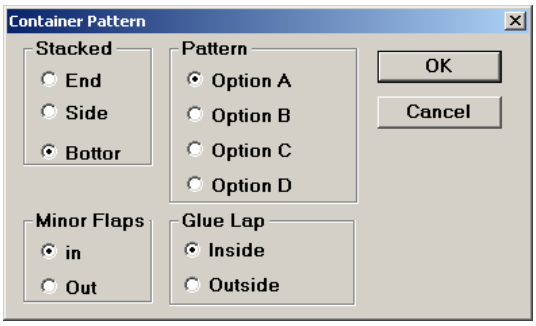
- **Glue Flap Ext Length:** Enter the extended length of the outside box flaps in inches or millimeters, depending on the Units selected.
- **Additional Flap Gap:** Enter the gap between the outside box flaps in inches or millimeters, depending on the Units selected.

  Note: Remember that this value affects stacking strength. Consider this before you change the value.

- **Bar Code Area Width:** Select the width of the bar code.
- **Code Date Area Width:** Select the width of the code date area.
- **Comments:** Enter any comments that are relevant to the container diagram.
- **Show Index Mark:** Check the box to show an index mark for location of the UPC code on the container diagram.
- **Units:** Select either English or Metric to specify how the container units will be measured.
- **New CD Button:** Allows you to create a new, blank container diagram.
- **Pattern Button:** Displays the Container Pattern dialog box, which allows you to define the pattern for a container.

Container Pattern

Function: This dialog box allows you to define a container pattern, including how the container is stacked, location of minor flaps, glue lap and pattern options.



From the Container Diagram Spec dialog box, click on the Pattern button to access the Container Pattern dialog box.

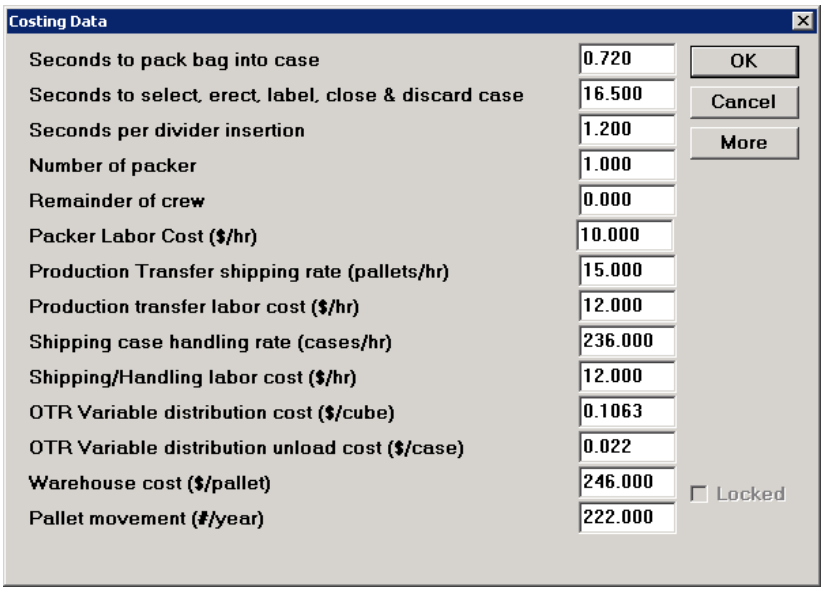
Field Descriptions and Instructions

- **Stacked:** Select End, Side or Bottom to specify how the container will be stacked.
- **Pattern:** Select an option to specify the container pattern.
- **Minor Flaps:** Select either In or Out to specify how the minor flaps will be positioned.
- **Glue Lap:** Select either Inside or Outside to specify where the glue lap will be positioned.

Costing Data

Function: This dialog box allows you to enter costing data related to a number of bag-related items.

Note: Costing Data applies only to an analysis that loads bags into an intermediate packer or shipcase, then onto a pallet.



To access, from the Menu Bar, open the Define Menu and select Bag Costing.

Field Descriptions and Instructions

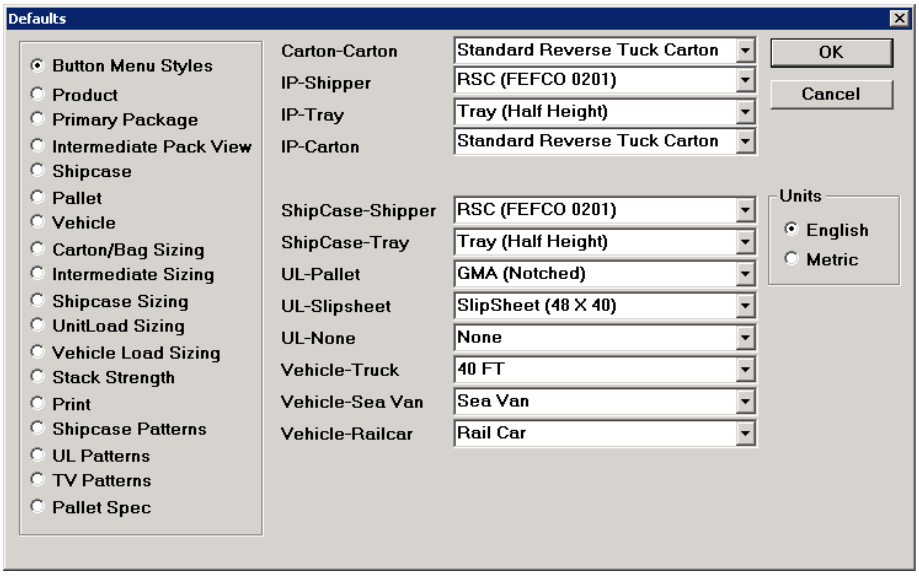
- **Seconds to pack bag into case:** Enter the number of seconds in takes to pack a bag into a shipcase.
- **Seconds to select, erect, label, close & discard case:** Enter the number of seconds in takes to select, erect, label, close and discard the shipcase.
- **Seconds per divider insertion:** Enter the number of seconds it takes to insert a divider into the shipcase.
- **Number of packer:** Enter the number of people who are working as packers.
- **Remainder of crew:** Enter the number of people who comprise the remainder of the crew.

- **Packer Labor Cost ($/hr):** Enter the packer labor cost in dollars per hour.
- **Production Transfer shipping rate (pallets/hr):** Enter the production transfer shipping rate in number of pallets per hour.
- **Production transfer labor cost ($/hr):** Enter the production transfer labor cost in dollars per hour.
- **Shipping case handling rate (cases/hr):** Enter the shipcase handling rate in number of cases per hour.
- **Shipping/Handling labor cost ($/hr):** Enter the shipping and handling labor cost in dollars per hour.
- **OTR Variable distribution cost ($/cube):** Enter the OTR variable distribution cost in dollars per cube.
- **OTR Variable distribution unload cost ($/case):** Enter the OTR variable distribution unload cost in dollars per case.
- **Warehouse cost ($/pallet):** Enter the warehouse cost in dollars per pallet.
- **Pallet movement (#/year):** Enter the number of pallets that are moved in a year.
- **Locked:** Check the box to indicate that only a supervisor can enter or change parameters on this dialog box.
- **More Button:** Displays the Additional Costing Data dialog box, which allows you to enter more costing data.

Defaults (Button Menu Styles)

Function: This dialog box allows you to enter default items and values for a number of button style menus.

To access, open TOPS Configuration program. From the Menu Bar, open the Define Menu and select Defaults or click on the Setup Defaults quick link in the Control Panel. On the Defaults dialog box, select Button Menu Styles.



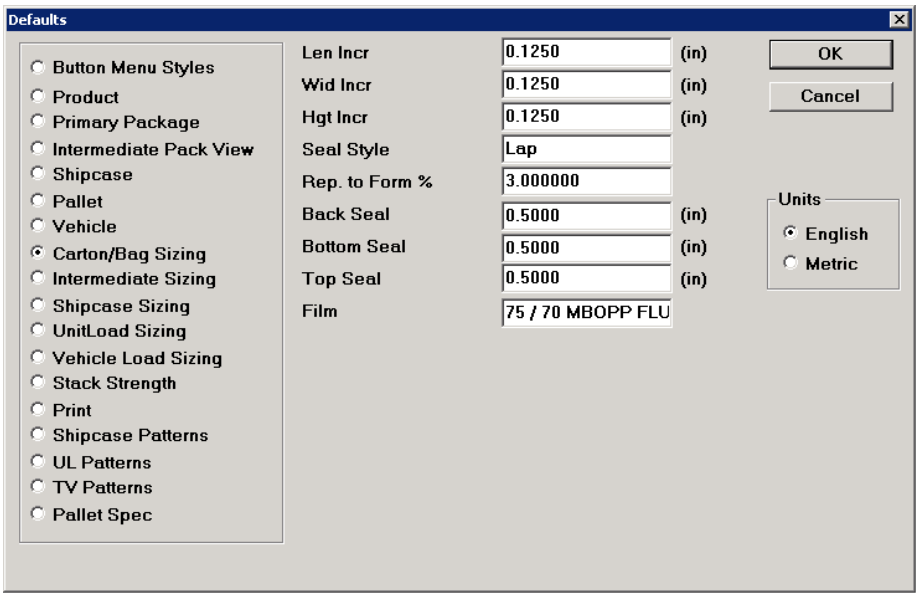
Field Descriptions and Instructions

- **Carton-Carton:** Select from the drop-down list the default carton style for your primary (green) Carton icon.
- **IP-Shipper:** Select from the drop-down list the default intermediate pack shipper for your primary (blue) Packer icon.
- **IP-Tray:** Select from the drop-down list the default intermediate pack tray for your primary (blue) Tray icon.
- **IP-Carton:** Select from the drop-down list the default intermediate pack carton for your primary (blue) Carton icon.
- **ShipCase-Shipper:** Select from the drop-down list the default shipcase style for your shipcase (yellow) icon.
- **ShipCase-Tray:** Select from the drop-down list the default shipcase tray style for your shipcase (yellow) Tray icon.

- **UL-Pallet:** Select from the drop-down list the default pallet used for the unitload.
- **UL-Slipsheet:** Select from the drop-down list the default unitload slipsheet.
- **UL-None:** Select from the drop-down list the default none-type pallet.
- **Vehicle-Truck:** Select from the drop-down list the default truck.
- **Vehicle Sea Van:** Select from the drop-down list the default sea van.
- **Vehicle-Railcar:** Select from the drop-down list the default railcar.

Defaults (Carton/Bag Sizing)

Function: This dialog box specifies the default items and values for a number of sizing parameters for the green carton/bag containers in the Primary Pack Button-Style Menu, located on the TOPS Pro Control Panel.



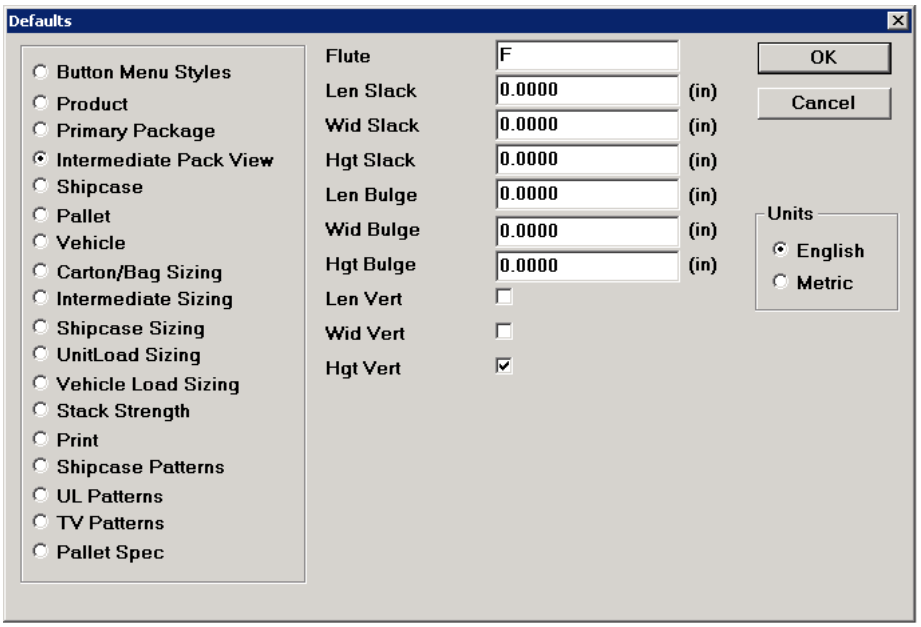
To access, open TOPS Configuration program. From the Menu Bar, open the Define Menu, select Defaults and then Carton/Bag Sizing.

Field Descriptions and Instructions

- **Len Incr, Wid Incr, Hgt Incr:** Enter the default increment for length, width and height for new packages respectively.
- **Seal Style:** Enter the default seal style. Enter Lap or Fin in the field.
- **Rep. to Form %:** Enter the default repeat to former ratio. This value forces the repeat dimension of the bag to be less than X times the former dimension of the bag, where X is the value you'll enter in this field.
- **Back Seal:** Enter the default back seal size.
- **Bottom Seal:** Enter the default bottom seal size.
- **Top Seal:** Enter the default top seal size
- **Film:** Enter the default film. Make sure to type in the file type exactly as they appear in the Film database.

Defaults (Intermediate Pack View)

Function: This dialog box allows you to enter default items and values for a number of parameters for the blue containers in the Intermediate Pack Button-Style Menu, located on the TOPS Pro Control Panel.



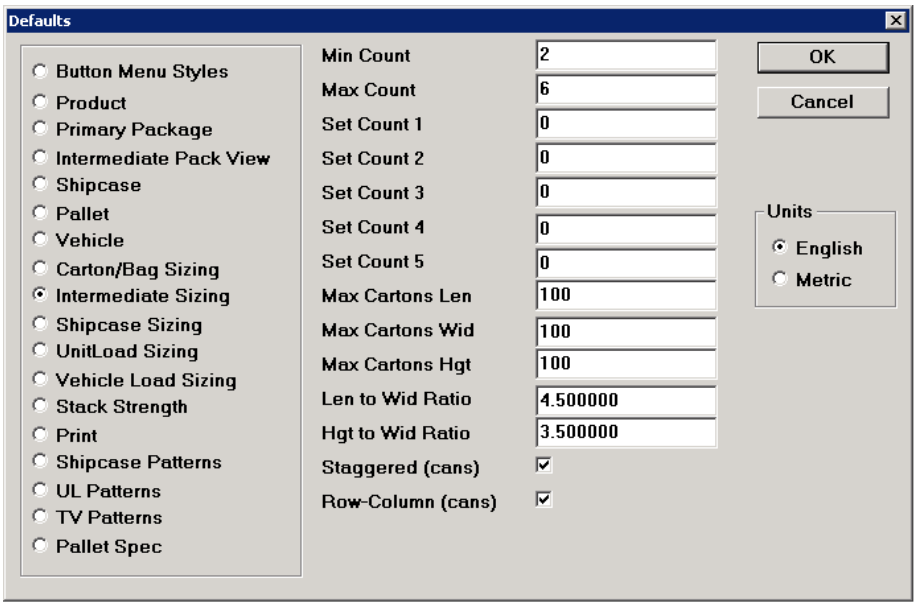
To access, open TOPS Configuration program. From the Menu Bar, open the Define Menu, select Defaults and then Intermediate Pack View.

Field Descriptions and Instructions

- **Flute:** Enter the default flute.
- **Len Slack, Wid Slack, Hgt Slack:** Enter the default slacks for length, width and height respectively.
- **Len Slack, Wid Slack, Hgt Bulge:** Enter the default bulge for length, width and height respectively.
- **Len Vert:** Check the box to specify to use length vertical as a default.
- **Wid Vert:** Check the box to specify to use width vertical as a default.
- **Hgt Vert:** Check the box to specify to use height vertical as a default.

Defaults (Intermediate Sizing)

Function: This dialog box allows you to enter default values for the sizing parameters for the blue containers in the Intermediate Pack Button-Style Menu, located on the TOPS Pro Control Panel.



To access, open TOPS Configuration program. Click on Setup Defaults in the Control Panel and then select Intermediate Sizing.

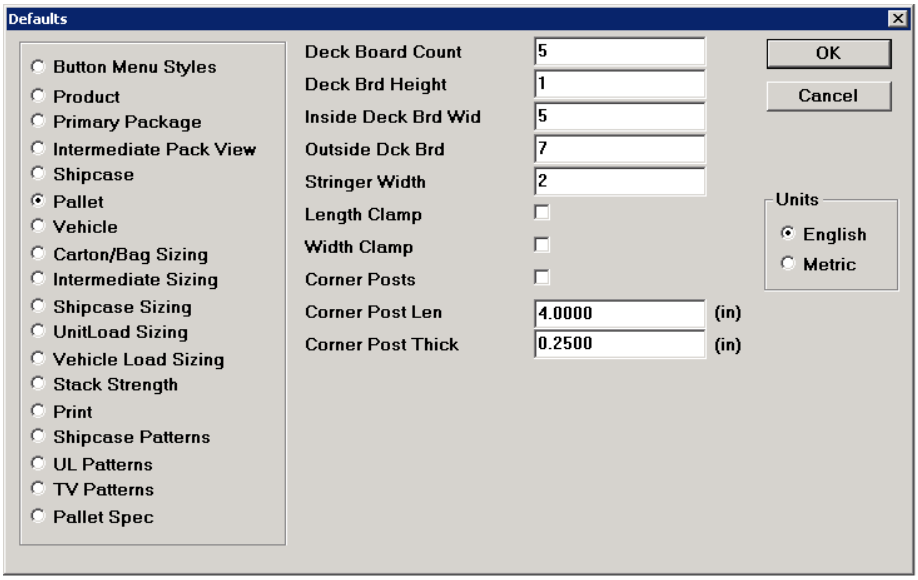
Field Descriptions and Instructions

- **Min Count, Max Count:** Enter the default minimum and maximum values respectively for the Sizing: Range option.
- **Set Count 1 through 5:** Enter the five default values for the Sizing: Values option.
- **Max Cartons Len:** Enter the default for the maximum cartons along the length of the intermediate packer for the Sizing option.
- **Max Cartons Wid:** Enter the default for maximum cartons along the width of the intermediate packer for the Sizing option.
- **Max Cartons Hgt:** Enter the default for maximum cartons along the height of the intermediate packer for the Sizing option.
- **Len to Wid Ratio:** Enter the default length-to-width ratio used for the Sizing option.

- **Hgt to Wid Ratio:** Enter the default height-to-width ratio used for the Sizing option.
- **Staggered (cans):** Check the box to include staggered arrangements for cans as default Pattern Styles.
- **Row-Column (cans):** Check the box to include row-column arrangements for cans as default Pattern Styles.

Defaults (Pallet)

Function: This dialog box allows you to enter default values for new pallet definition and setup default unitload optional values.



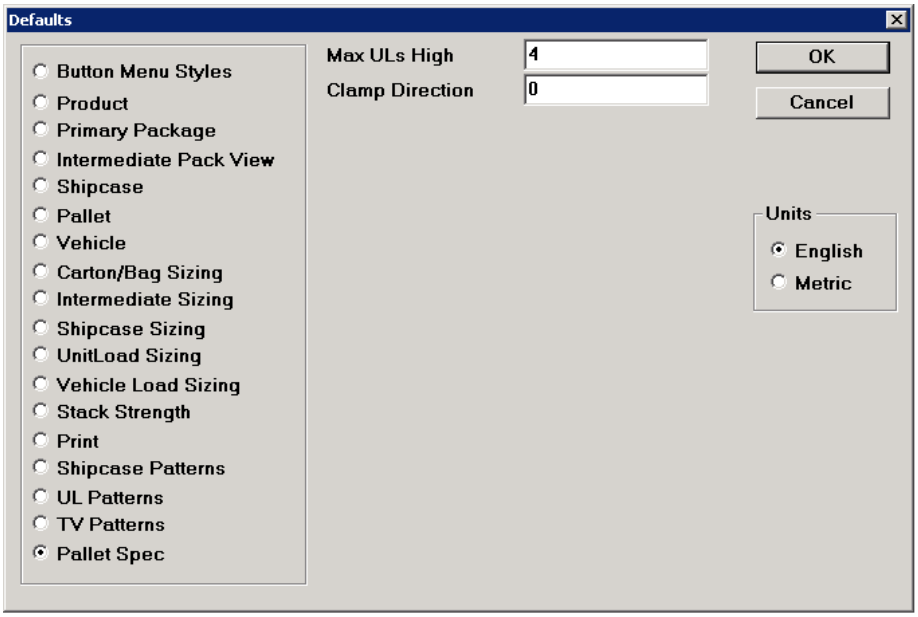
To access, open TOPS Configuration program, click on Setup Defaults and then select Pallet.

Field Descriptions and Instructions

- **Deck Board Count:** The default deck board count for new pallets.
- **Deck Board Height:** The default deck board height for new pallets.
- **Inside Deck Brd Wid:** The default width for inside deck boards.
- **Outside Dck Brd Wid:** The width for outside deck boards.
- **Stringer Width:** The default stringer width for new pallets.
- **Length Clamp:** Check the box to use Length clampable as default.
- **Width Clamp:** Check the box to use Width clampable as default.
- **Corner Posts:** Check the box to use corner posts as an default option
- **Corner Post Len:** The default value for corner post length.
- **Corner Post Thick:** The default value for corner post thickness as unitload option.

Defaults (Pallet Spec)

Function: This dialog box allows you to enter default values for a number of pallet parameters.



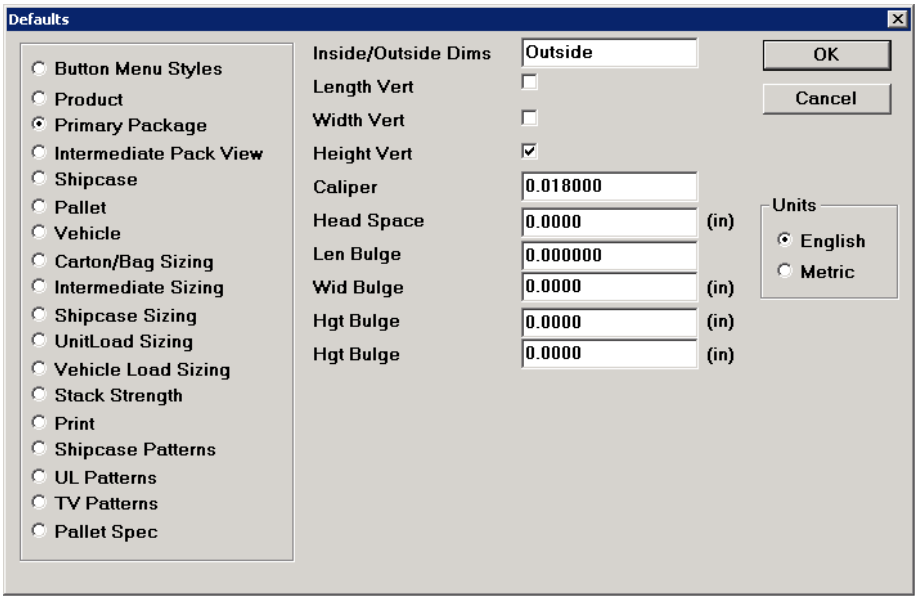
To access, open TOPS Configuration program. From the Menu Bar, open the Define Menu and select Defaults. On the Defaults dialog box, select Pallet Spec.

Field Descriptions and Instructions

- **Max UL High:** Enter the default maximum unitloads that can be stacked on the pallet.
- **Clamp Direction:** Enter the default clamp direction among from N/A, non-clampable, Length, Width or both.

Defaults (Primary Package)

Function: This dialog box allows you to enter default values for a number of parameters for the green containers in the Primary Package.



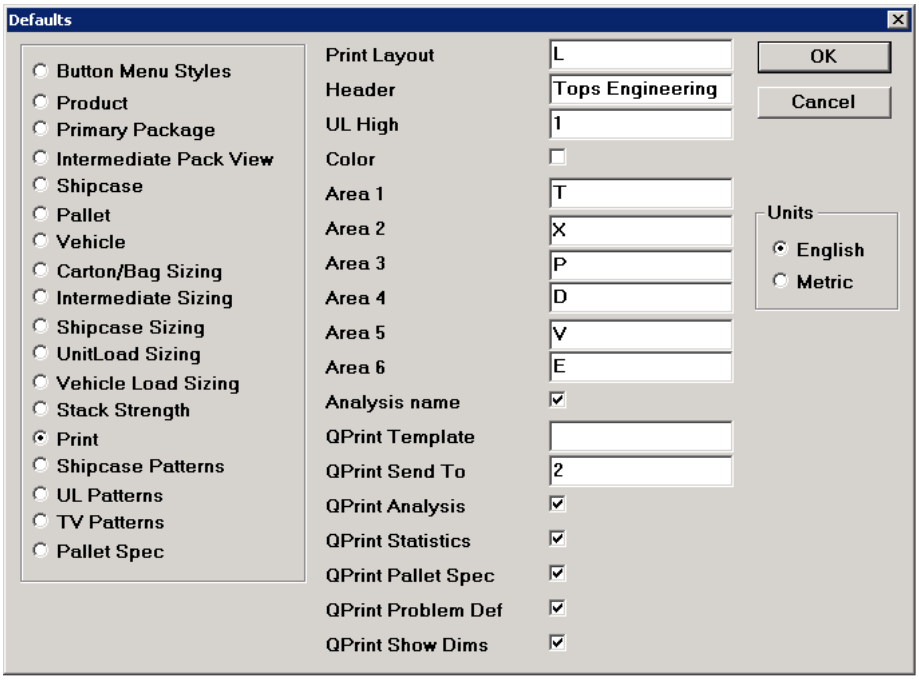
To access, open TOPS Configuration program. From the Menu Bar, open the Define Menu and select Defaults. On the Defaults dialog box, select Primary Package.

Field Descriptions and Instructions

- **Inside/Outside Dims:** Enter either Inside or Outside to use as the default dimensions.
- **Len Vert:** Check the box to include length vertical as the default.
- **Wid Vert:** Check the box to include width vertical as the default.
- **Hgt Vert:** Check the box to include height vertical as the default.
- **Caliper:** Enter the default caliper for the primary pack.
- **Head Space:** Enter the default head space for the primary pack.
- **Length Bulge, Width Bulge, Height Bulge:** Enter the default values for bulge along the length, width and height dimensions for the primary pack respectively.

Defaults (Print)

Function: This dialog box allows you to enter default values for a number of print parameters.



To access, open TOPS Configuration program. From the Menu Bar, open the Define Menu and select Defaults. On the Defaults dialog box, select Print.

Field Descriptions and Instructions

- **Print Layout:** Enter the code for the corresponding default print layout as provided below.

Full Page = 1	Horiz Split = H	Vertical Split = V
3 Way Top = T	3 Way Left = L	3 Way Right = R
3 Way Bottom = B	Quad Split = 4	
5 Way = 5	5 Way Down = 3	
6 Way Fixed = 6	6 Way Scaled = S	6 Way Down = D

- **Header:** Enter the default header for print output. This is the place where you will put your company name to appear on all printouts.
- **UL High:** Enter the number of unitloads that will be stacked on top of one another.
- **Color:** Check the box to specify color printing as the default.

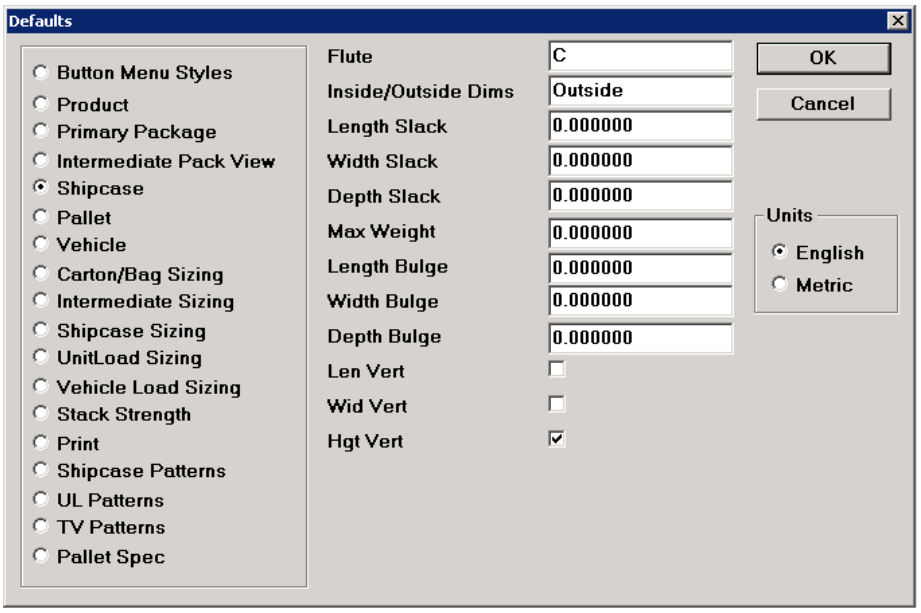
- **Area 1, 2, 3, 4, 5 and 6:** Using the following table as reference, enter a code for each Area to represent the information, image or data, to be printed in each area.

	Primary Pack	Bundle Pack	Intermediate Pack	Case	Unitload	Vehicle
3D	x	b	i	D	3	V
Plan		j	p	A	T	L
Dual Plan					U	
Pop Top					P	
Side		g	s	G	S	I
Front		e	f	B	F	R
Statistics			t	C	X	E
No View	N					

- **Analysis Name:** Check the box to print the analysis name by default.
- **QPrint Template:** Enter the default Quick Print template.
- **QPrint Send To:** Enter the default printing destination, select from PDF, Print or Both.
- **QPrint Analysis:** Check the box to include the analysis in a Quick Print report by default.
- **QPrint Statistics:** Check the box to include statistics in a Quick Print report by default.
- **QPrint Pallet Spec:** Check the box to include pallet specifications in a Quick Print report by default.
- **QPrint Problem Def:** Check the box to include the problem definition in a Quick Print report by default.
- **QPrint Show Dims:** Check the box to show dimensions in a Quick Print report by default.

Defaults (Shipcase)

Function: This dialog box allows you to enter default values for a number of parameters for the yellow containers in the Shipcase Button-Style Menu, located on the TOPS Pro Control Panel.



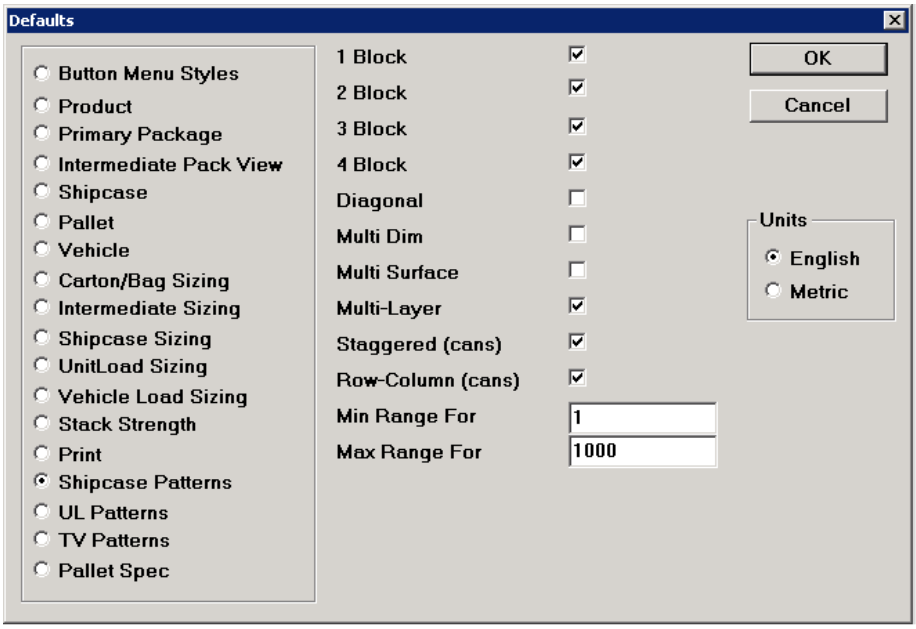
To access, open TOPS Configuration program, click on Setup Defaults and the select Shipcase.

Field Descriptions and Instructions

- **Flute:** Enter the default flute.
- **Inside/Outside Dims:** Enter to use Inside or Outside as the default dimensions.
- **Length Slack, Width Slack, Depth Slack:** Enter the default slack values to be used for length, width and depth respectively.
- **Max Weight:** Enter the default maximum weight.
- **Length Bulge, Width Bulge, Depth Bulge:** Enter the default values for bulge along the length, width and depth dimensions respectively.
- **Len Vert:** Check the box to include length vertical as a default.
- **Wid Vert:** Check the box to include width vertical as a default.
- **Hgt Vert:** Check the box to include height vertical as a default.

Defaults (Shipcase Patterns)

Function: This dialog box allows you to enter default values for a number of shipcase parameters.



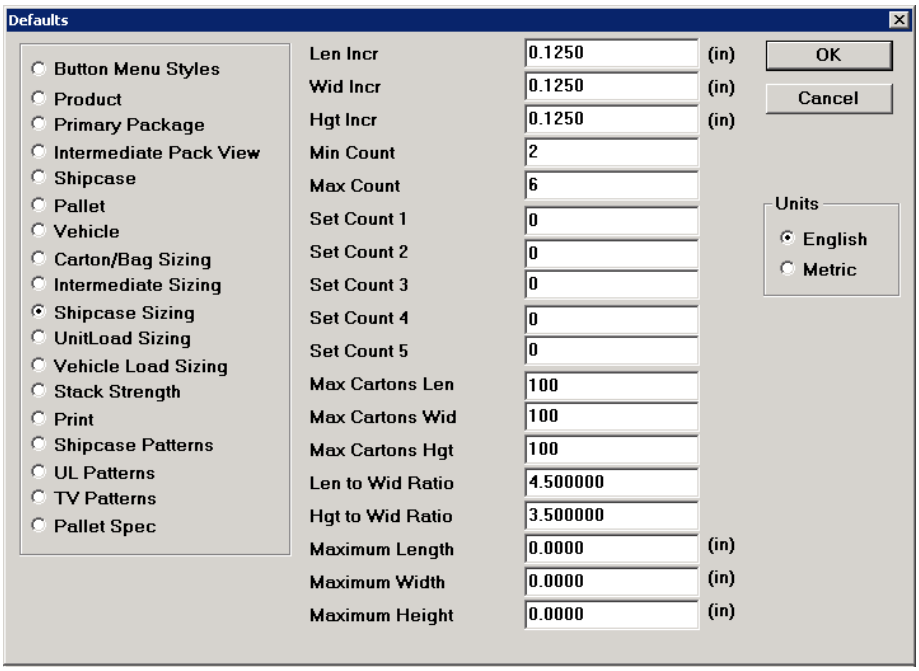
To access, open TOPS Configuration program, click on Setup Defaults and the select Shipcase Patterns.

Field Descriptions and Instructions

- **1 Block, 2 Block, 3 Block, 4 Block:** Check the corresponding box(es) to include the block pattern(s) as default patterns for shipcase.
- **Diagonal, Multi Dim, Multi Surface, Multi-Layer:** Check the corresponding box(es) to include these special pattern(s) as default.
- **Staggered (cans):** Check the box to include staggered patterns for cans as the default.
- **Row-Column (cans):** Check the box to specify a row-column pattern for cans as the default.
- **Min Range For Fixed:** Enter the default minimum range.
- **Max Range For Fixed:** Enter the default maximum range.

Defaults (Shipcase Sizing)

Function: This dialog box allows you to enter default values for a number of sizing parameters for the yellow containers in the Shipcase Button-Style Menu, located on the TOPS Pro Control Panel.



To access, open TOPS Configuration program, click on Setup Defaults and the select Shipcase Sizing.

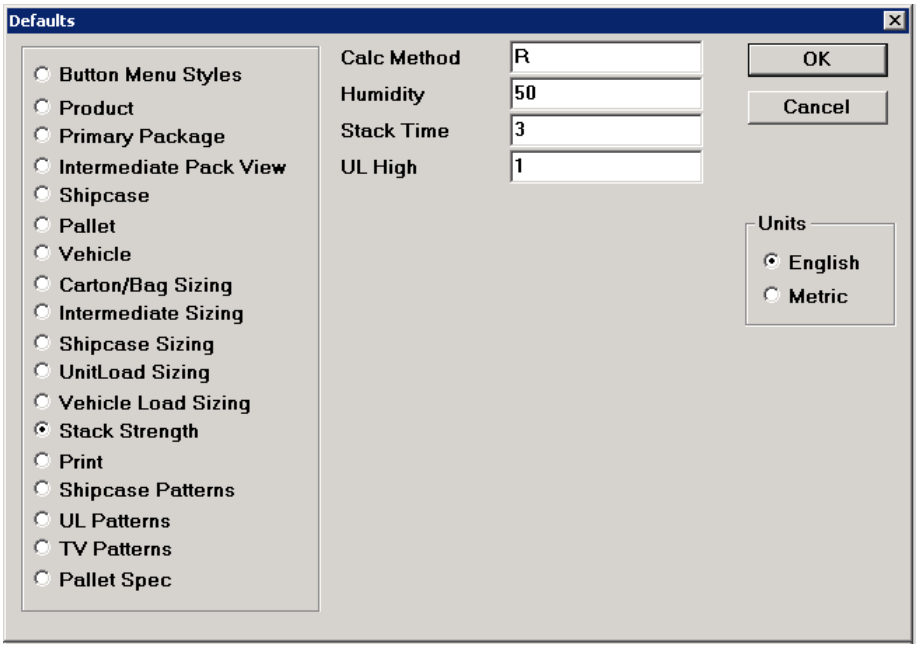
Field Descriptions and Instructions

- **Len Incr, Wid Incr, Hgt Incr:** Enter the default increment for length, width and height for new shipcases respectively.
- **Min Count, Max Count:** Enter the default minimum and maximum values respectively for the Sizing: Range option.
- **Set Count 1 through 5:** Enter the five default values for the Sizing: Values option.
- **Max Cartons Len:** Enter the default for the maximum items along the length of the shipcase for the Sizing option.
- **Max Cartons Wid:** Enter the default for maximum items along the width of the shipcase for the Sizing option.
- **Max Cartons Hgt:** Enter the default for maximum items along the height of the shipcase for the Sizing option.

- **Len to Wid Ratio:** Enter the default length-to-width ratio used for the Sizing option.
- **Hgt to Wid Ratio:** Enter the default height-to-width ratio used for the Sizing option.
- **Note:** In TOPS Pro, the Length and Width to Height ratios yield boxes that are closer to a cubic-type shape.
- **Maximum Length:** Enter the default maximum length for the shipcase.
- **Maximum Width:** Enter the default maximum width for the shipcase.
- **Maximum Height:** Enter the default maximum height for the shipcase

Defaults (Stack Strength)

Function: This dialog box allows you to enter default values for a number of stacking strength parameters.



To access, open TOPS Configuration program, click on Setup Defaults and the select Stack Strength.

Field Descriptions and Instructions

- **Calc Method:** Enter the default method for calculating stacking strength – R (Ring Crush), E (Edge Crush) or K (Kellicut).
- **Humidity:** Enter the default humidity percentage used for stack strength analysis.
- **Stack Time:** Enter the index number for stack or storage time as defined below:

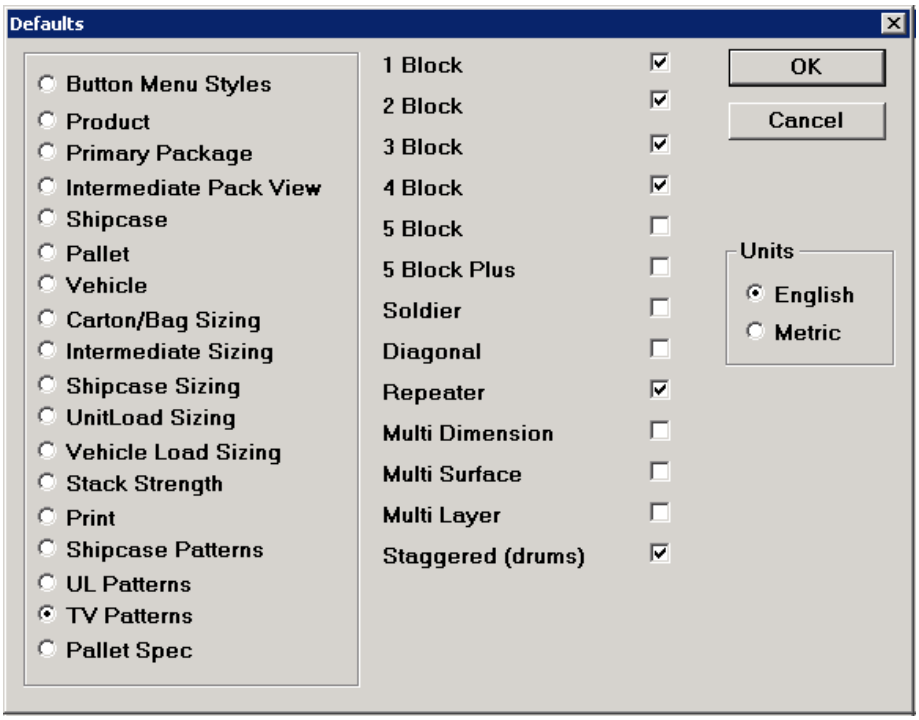
0 = 0 day	4 = 2 months
1 = 3 days	5 = 3 month
2 = 10 days	6 = 6 months
3 = 1 month	7 = 1 year

- **UL High:** Enter the default number of unitloads to be stacked.

Defaults (Transit Vehicle Patterns)

Function: This dialog box allows you to enter default values for a number of transit vehicle parameters.

Note: For detailed information about pallet patterns, please refer to Appendix E, Pallet Patterns.



To access, open TOPS Configuration program, click on Setup Defaults and the select TV (Transit Vehicle) Patterns.

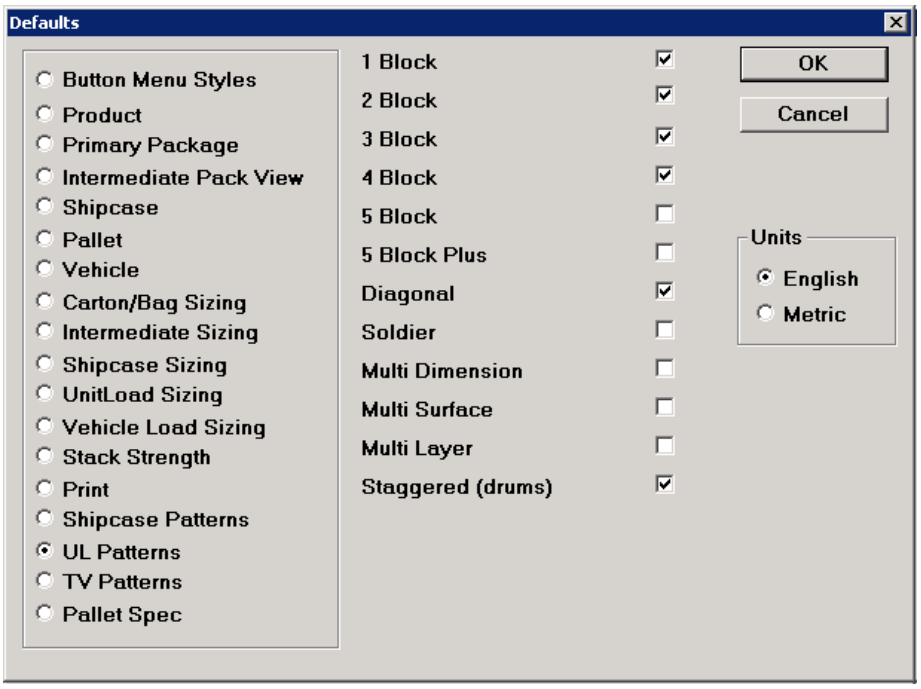
Field Descriptions and Instructions

- **1 Block, 2 Block, 3 Block, 4 Block, 5 Block, 5 Block Plus:** Check the corresponding box(es) to include the block pattern(s) as default patterns for shipcases or unitloads when they are loaded inside transit vehicles.
- **Solder, Diagonal, Repeater, Multi Dimension, Multi Surface, Multi Layer:** Check the corresponding box(es) to include these special pattern(s) as default patterns for shipcases or unitloads when they are loaded inside transit vehicles.
- **Staggered (drums):** Check the box to include staggered patterns as default when loading drums inside transit vehicles.

Defaults (UnitLoad Patterns)

Function: This dialog box allows you to enter default values for a number of unitload pattern parameters.

Note: For detailed information about pallet patterns, please refer to Appendix D, Pallet Patterns.



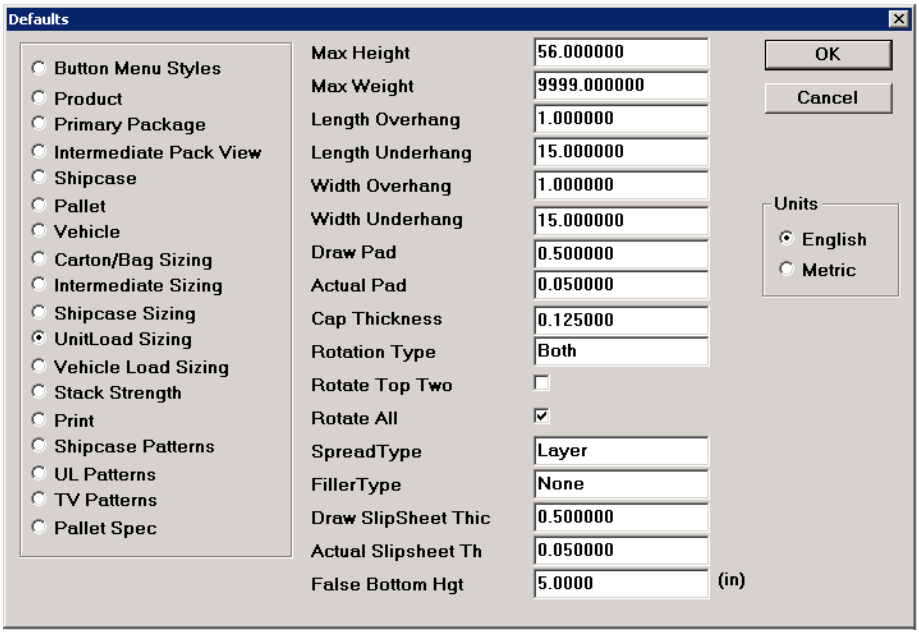
To access, open TOPS Configuration program, click on Setup Defaults and the select UL (UnitLoad) Patterns.

Field Descriptions and Instructions

- **1 Block, 2 Block, 3 Block, 4 Block, 5 Block, 5 Block Plus:** Check the corresponding box(es) to include the block pattern(s) as default patterns for shipcases when they are loaded on pallets.
- **Diagonal, Soldier, Multi Dimension, Multi Surface, Multi Layer:** Check the corresponding box(es) to include these special pattern(s) as default patterns for shipcases when they are loaded on pallets.
- **Staggered (drums):** Check the box to include staggered patterns as default when loading drums on pallets.

Defaults (UnitLoad Sizing)

Function: This dialog box allows you to enter default values for a number of sizing parameters for the brown unitloads in the Unitload Button-Style Menu, located on the TOPS Pro Control Panel. This feature relates to how your items can be placed on a pallet.

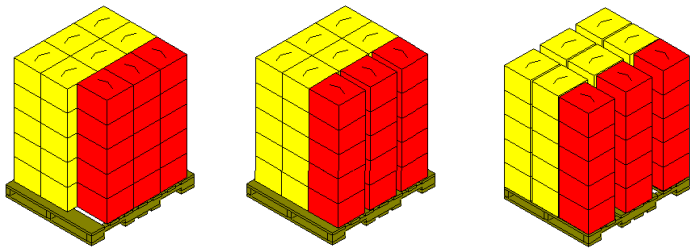


To access, open TOPS Configuration program, click on Setup Defaults and the select UnitLoad Sizing.

Field Descriptions and Instructions

- **Max Height:** Enter the default maximum height for the unitload, note that this value also includes the height of the selected pallet.
- **Max Weight:** Enter the default maximum weight for the unitload which also includes the weight of the pallet itself.
- **Length Overhang:** Enter the default maximum length overhang for unitload parameters.
- **Length Underhang:** Enter the default length underhang for the unitload. It is recommended to use 15 as the default value and not be changed for calculation.
- **Width Overhang:** Enter the default maximum width overhang for unitload parameters.

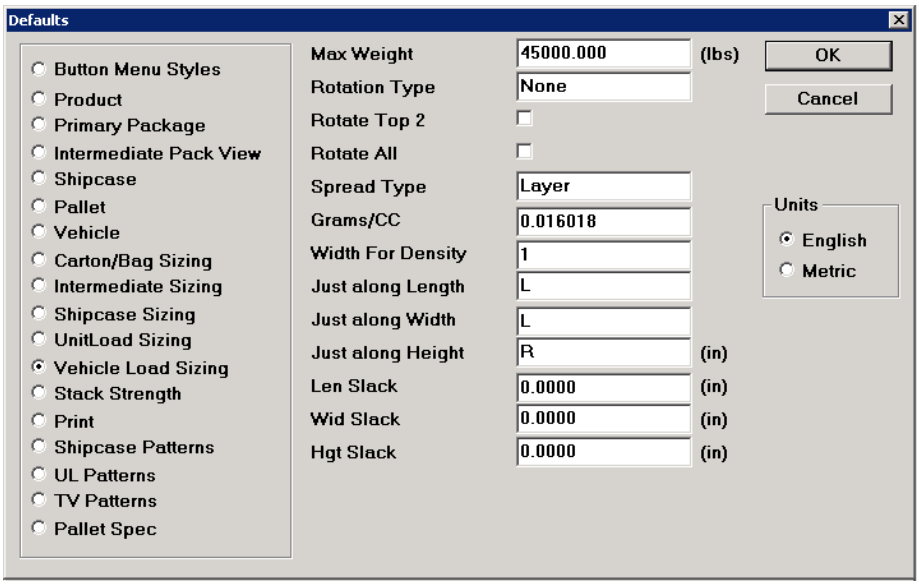
- **Width Underhang:** Enter the default width underhang. It is recommended to use 15 as the default value and not be changed for calculation.
- **Draw Pad:** Enter the default value for pad thickness when depicting pads on a unitload.
- **Actual Pad:** Enter the default value for the actual pad thickness used for unitloads.
- **Cap Thickness:** Enter the default value for cap thickness used for unitloads.
- **Rotation Type:** The default rotation type for unitload layer parameters, enter Length, Width, Both or 90 Degrees for length flip, width flip, length and width flip and rotate 90 degrees respectively.
- **Rotate Top Two:** Check the box to rotate the top two unitload layers as a default unitload layer parameter.
- **Rotate All:** Check the box to rotate all unitload layers as a default unitload layer parameter.
- **Spread Type:** The default spread type for unitload layer parameter, enter Pack, Layer or Pallet for pack tightly, spread to layer edge or spread to pallet respectively as pictured below.



- **Filler Type:** The default filler type for unitload layer parameter, enter None, Middle or End for no filler, middle filler or end filler respectively.
- **Draw SlipSheet Thickness:** Enter the default value for slipsheet thickness when depicting pads on a unitload. The default thickness for slipsheet illustrated for unitload.
- **Actual SlipSheet Thickness:** Enter the default value for the actual slipsheet thickness used for unitloads.

Defaults (Vehicle Load Sizing)

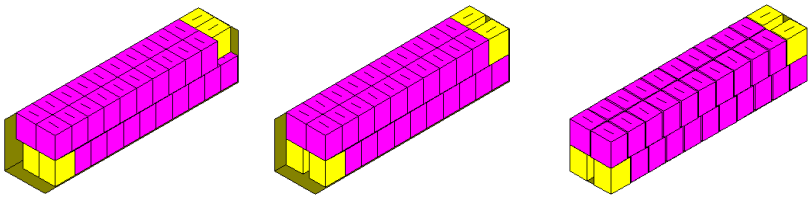
Function: This dialog box allows you to enter default values for a number of sizing parameters for the red vehicle loads in the Vehicle Button-Style Menu, located on the TOPS Pro Control Panel.



To access, open TOPS Configuration program, click on Setup Defaults and the select Vehicle Load Sizing.

Field Descriptions and Instructions

- **Max Weight:** Enter the default maximum weight for vehicle load.
- **Rotation Type:** Enter the default rotation type for the vehicle layer parms dialog box. Use value from None, Length, Width and both for no rotation, length flip, width flip and length and width flip respectively.
- **Rotate Top 2:** Check the box to rotate the top two layers by default for vehicle loads.
- **Rotate All:** Check the box to rotate all layers by default for vehicle loads.
- **Spread Type:** The default spread type for vehicle layer parameter, enter Pack, Layer or Pallet for pack tightly, spread to layer edge or spread to pallet (vehicle) with rotation respectively as pictured on the next page.



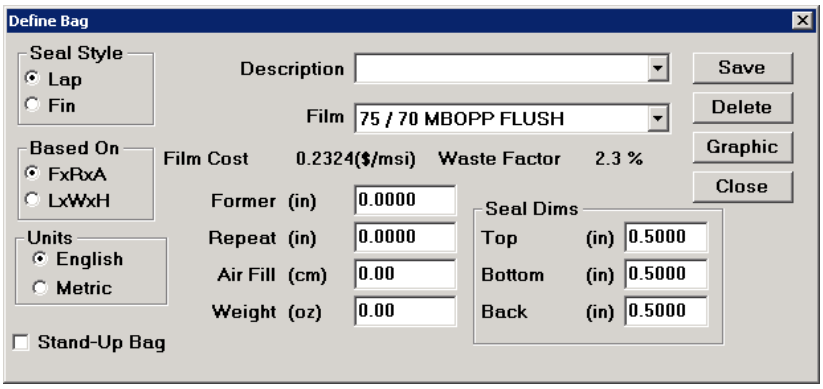
- **Grams/CC:** Enter the default grams per cubic centimeter. This value is a conversion factor for calculating density.
- **Width For Density:** Enter the direction used for the width when calculating density. Use these guidelines:

  0 = Length
  1 = Width
  2 = Height

- **Just along Length:** Enter L, R or C (for Left, Right and Center) as the default alignment direction for unitloads along the length of the vehicle.
- **Just along Width:** Enter L, R or C (for Left, Right and Center) as the default alignment direction for unitloads along the width of the vehicle.
- **Just along Height:** Enter L, R or C (for Left, Right and Center) as the default alignment direction for unitloads along the height of the vehicle.
- **Len Slack, Wid Slack, Hgt Slack:** Enter the default slack values to be used for length, width and height respectively.

Define Bag

Function: This dialog box allows you to define parameters for different types of bags. For example, the Former-Repeat-Air Fill feature allows you to design a potato chip bag. The Length-Width-Height feature allows you to design a candy bar bag. A bag may contain only bulk product. Further, a bag must always be inserted into another container; the bag element cannot be the last stage of an analysis.



From the Menu Bar, open the Define Menu and select Film Bag.

- **Seal Style:** Select either Lap or Fin to specify how the bag will be sealed.
- **Based On:** Select either FxRxA or LxWxH to specify whether the bag if defined by Former-Repeat-Air Fill or Length-Width-Height.
- **Stand-Up Bag:** Select this box to make the bag flat on the bottom.
- **Description:** Select a pre-defined carton or type in the first few letters of the carton for modification or enter a new name to define a new bag for use in TOPS Pro.
- **Film:** Select the film style to be used for the bag.

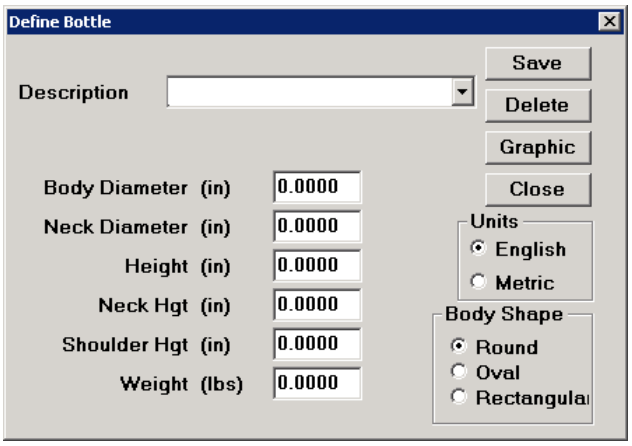
  Note: TOPS Pro assumes film thickness to be inconsequential. Also, the drop-down list contains film types that are already set up in the database. If the film type you want is not on the list, you can add it to the database using the Define Film dialog box.

- **Film Cost:** Displays the film cost and waste factor for the selected film. The film cost is defined under the Define, film dialog box.
- **Former:** Enter the distance across a flattened FxRxA type bag.
- **Repeat:** Enter the distance between cuts of a flattened FxRxA type bag.

- **Air Fill:** Enter the thickness of a filled FxRxA type bag.
- **Length:** Enter the distance across a flattened LxWxH type bag.
- **Height:** Enter the distance between cuts of a flattened LxWxH type bag.
- **Width:** Enter the thickness of a filled LxWxH type bag.
- **Weight:** Enter the Weight of the bag
- **Seal Dims:** Enter the dimensions of the top, bottom and back seal of the bag.

Define Bottle

Function: This dialog box allows you to define parameters for different types of bottles – perfume bottles, shampoo bottles, etc. You can also use bottle parameters to design shapes for toilet tissue and paper towel rolls.



From the Menu Bar, open the Define Menu and select Bottle.

- **Description:** Select a predefined bottle from the drop down list for modification or type in a new name to define an new bottle for future use.
- **Body Length:** For rectangular or oval bottles, enter the total length of the bottle body.
- **Body Width:** For rectangular or oval bottles, enter the body width of the bottle.
- **Body Diameter:** For round bottles, enter the diameter of the widest part of the bottle.
- **Neck Diameter:** Enter the neck diameter of the bottle.

  Note: For a round bottle, the neck diameter should be less than the body diameter. For an oval or rectangular bottle, the neck diameter should be less than the smaller of length or width. This value must be greater than zero, but it can be very small (ie, .001)
- **Height:** Enter the total height of the bottle – including body, shoulder and neck.
- **Neck Hgt:** Enter the height of the portion of the bottle.
- **Note**: The neck height is the distance from the top of the bottle to the top of the shoulder. Neck height must be greater than zero. This value must be greater than zero, but it can be very small (ie, .001)

- **Shoulder Hgt:** Enter the shoulder height of the bottle.

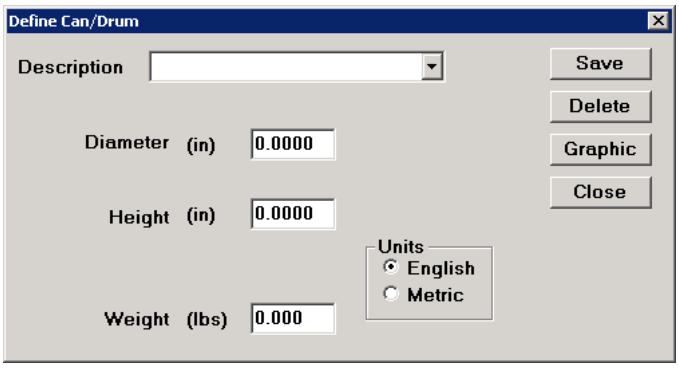
  Note: The shoulder height is the distance between the neck and the base of the bottle, and represents the transition point of the bottle. This value must be greater than zero, but it can be very small (ie, .001)

- **Weight:** Enter the net weight of the bottle.

- **Body Shape:** Select either Round, Oval or Rectangular to specify the body shape of the bottle.

Define Can / Drum

Function: This dialog box allows you to define parameters for different types of cans – soup cans, cookie cans, etc. You'll also use Can Parameters to define round tubs and round bottles, canisters or drums.



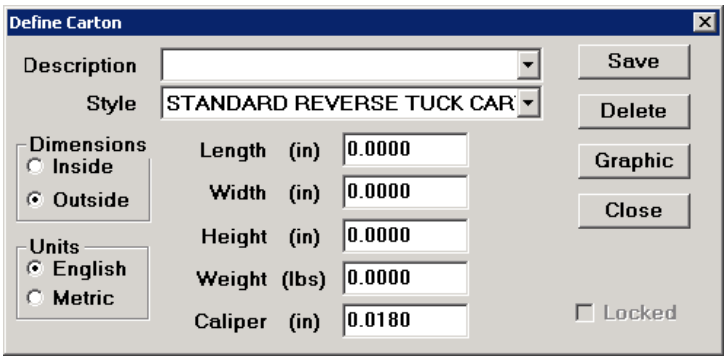
From the Menu Bar, open the Define Menu and select Can.

- **Description**: Select from the drop list a predefined can for modification or type in a new name to define a new can/drum for future use.
- **Diameter**: Enter the diameter of the can or any cylindrical pack.

  Note: This dimension is used for a can that has a uniform diameter from top to bottom. If your can has different diameter measurements at the top and bottom, use the Tub or Bucket in your analysis.
- **Height:** Enter the height of the can.
- **Weight:** Enter the net weight of the can.

Define Carton

Function: This dialog box allows you to define parameters for a new carton (one that's not already defined in the system). This dialog box also allows you to change parameters for an existing carton.



From the Menu Bar, open the Define Menu and select Carton.

Field Descriptions and Instructions

- **Description:** For a new carton, type in a new name in the description field. For an existing carton, select a pre-defined carton from the drop list for review or modification.

  Note: If you select a pre-defined carton, TOPS Pro will automatically insert dimensions in the Length, Width and Height fields, as well as any pre-defined graphics. If you select User Defined in the Carton Parameters dialog box, you'll need to manually enter dimensions in the Length, Width and Height fields.

- **Style:** Select the style of the carton.

- **Length, Width, Height, Weight:** Enter the length, width, height and weight of the new carton.

- **Caliper:** Enter the caliper of the carton. The caliper is used to calculate the inside vs. outside dimensions of the carton.

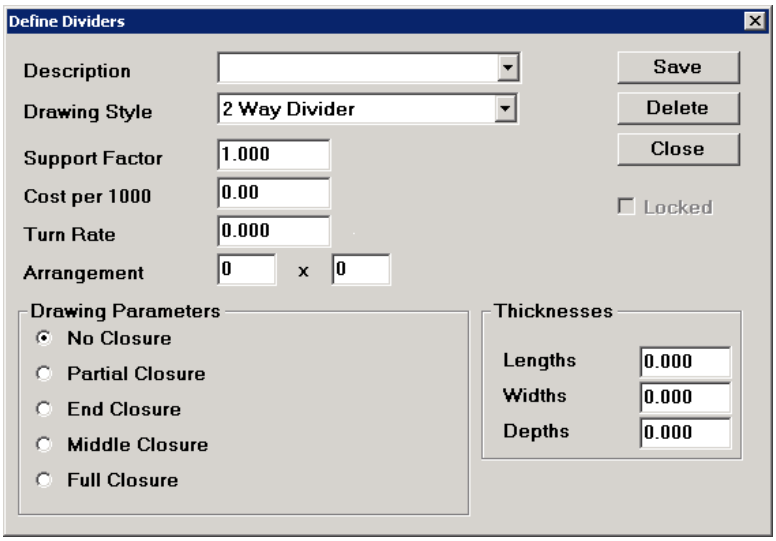
- **Dimensions:** Select either Inside or Outside to specify how the carton dimensions are measured.

- **Locked:** Check the box to indicate that only a supervisor can enter or change parameters on this dialog box.

- **Graphic Button:** Displays the Assign Graphics dialog box, which allows you to select and display a graphic image on the carton.

Define Dividers

Function: This dialog box allows you to define parameters for a new divider (one that's not already defined in the system). This dialog box also allows you to change parameters for existing dividers.



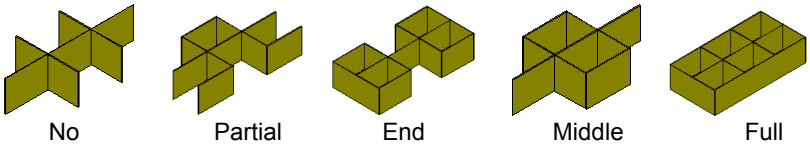
From the Menu Bar, open the Define Menu and select Dividers.

Field Descriptions and Instructions

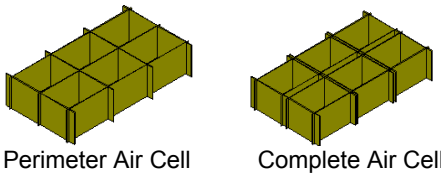
- **Description:** For a new divider, type in a description and define the corresponding parameters. For an existing divider, select a pre-defined divider from the drop-list or type in the first few letters of the divider.
- **Drawing Style:** Select a pre-defined drawing style or type in the first few letters of the drawing style. Available styles are depicted in Appendix F of this guide.
- **Support Factor:** Enter the support factor provided by the divider.
- **Cost per 1000:** Enter the cost per 1000 units of the divider. This field is used only for film bag calculations.
- **Turn Rate:** Enter the turn rate for the divider. This field is used only for film bag calculations.
- **Arrangement:** Enter the arrangement of primary containers within the divider. For example, if the divider will accommodate three rows of 10 containers, enter 3 and 10.

❖ **Drawing Parameters:** Depending on the drawing style, check the box(es) to include the type(s) of closure to be built into the divider.

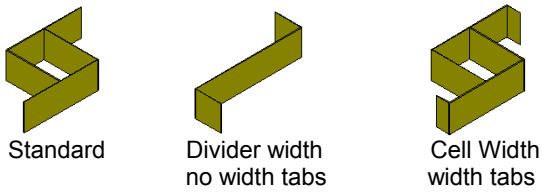
2-Way Divider Closure Types (example 3x2):



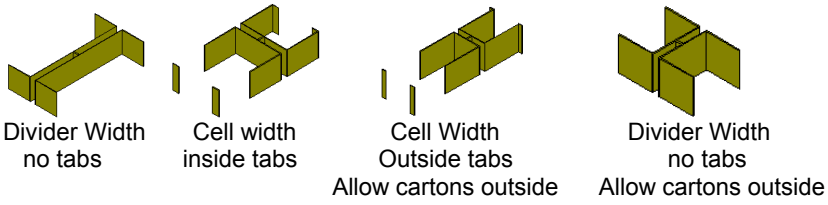
2-Way Air Cell (example 3x2 with Air Cell Width = 0.75 and Air Cell Length = 0.25)



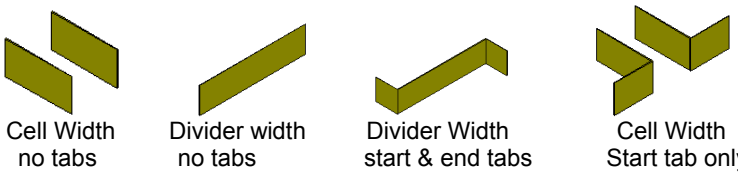
Z Partition (example 3x2)



U Partition (example 3x2 with Middle Space = 0.75 and Tab Length = 0.5)



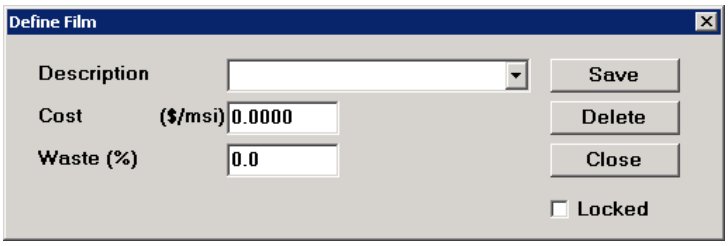
U Simple (example 3x2)



- **Locked:** Check the box to indicate that only a supervisor can enter or change parameters on this dialog box.
- **Thicknesses Lengths:** Enter the number of thicknesses along the length of the divider.
- **Thicknesses Widths:** Enter the number of thicknesses along the width of the divider.
- **Thicknesses Depths:** Enter the number of thicknesses along the depth of the divider.

Define Film

Function: This dialog box allows you to define parameters for a new film (one that's not already defined in the system). This dialog box also allows you to change parameters for existing film.



To access, open the Define Menu and select Film from the Menu Bar.

Field Descriptions and Instructions

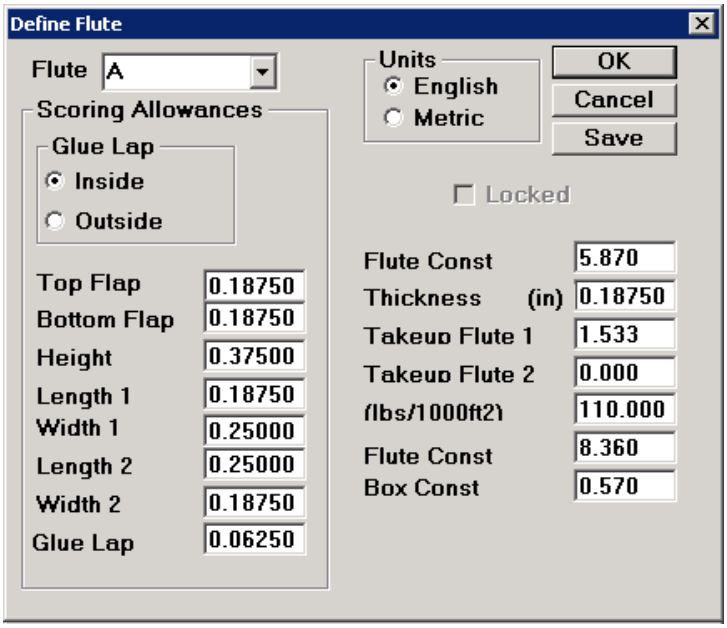
- **Description:** For a new film, type in a description. For an existing film, select a pre-defined film from the drop list or type in the first few letters of the film.

  Note: If you select a pre-defined film, TOPS Pro will automatically insert values in the various dimension fields. If you select User Defined, you'll need to manually enter dimensions.

- **Cost ($/msi):** Enter the cost per million square inches of the film.
- **Waste (%):** Enter the percentage of waste incurred for the film.
- **Locked:** Check the box to indicate that only a supervisor can enter or change parameters on this dialog box.

Define Flute

Function: This dialog box allows you to enter default parameters for different types of flutes.



To access the Define Flutes dialog box, open TOPS Configuration program. From the Menu Bar, open the Define Menu and select Flutes or click on the Define Flute quick link.

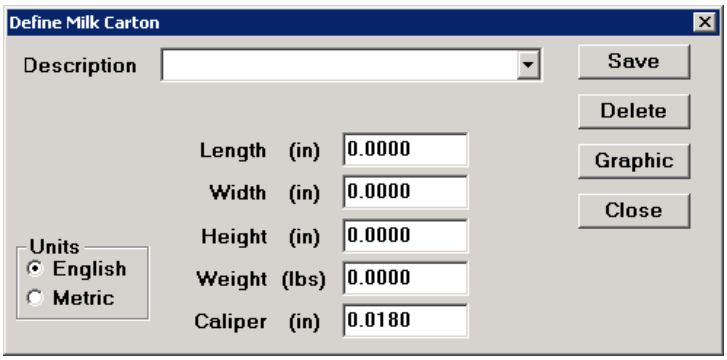
Field Descriptions and Instructions

- **Flute:** Select a type of flute or enter a new flute type for definition.
- **Glue Lap:** Select either Inside or Outside to specify the position of the glue lap.
- **Top Flap:** Enter the thickness of the top flap in inches or millimeters, depending on the Units selected.
- **Bottom Flap:** Enter the thickness of the bottom flap in inches or millimeters, depending on the Units selected.
- **Height:** Enter the height of the flute in inches or millimeters, depending on the Units selected.
- **Length 1:** Enter the first length in inches or millimeters, depending on the Units selected.
- **Width 1:** Enter the first width in inches or millimeters, depending on the Units selected.

- **Length 2:** Enter the second length in inches or millimeters, depending on the Units selected.
- **Width 2:** Enter the second width in inches or millimeters, depending on the Units selected.
- **Glue Lap:** Enter the thickness of the glue lap in inches or millimeters, depending on the Units selected.
- **Units:** Select either English or Metric to specify how the product units are measured.
- **Locked:** Indicates if only a supervisor can enter or change parameters on this dialog box.
- **Flute Const:** Enter the flute constant in inches or millimeters, depending on the Units selected.
- **Thickness:** Enter the flute thickness in inches or millimeters, depending on the Units selected.
- **Takeup Flute 1:** Enter the takeup flute 1 value in inches or millimeters, depending on the Units selected; used for stacking strength calculations.
- **Takeup Flute 2:** Enter the takeup flute 2 value in inches or millimeters, depending on the Units selected; used for stacking strength calculations.
- **(lbs/1000ft2)/(gr/m2):** Enter the pounds per 1,000 square feet or grams per square meter, depending on the Units selected.
- **Flute Const (Kellicut):** This field is reserved for Japanese customers.
- **Box Const (Kellicut):** This field is reserved for Japanese customers.

Define Milk Carton

Function: This dialog box allows you to define parameters for different types of milk cartons, as well as containers such as dog food bag and cookie bags.

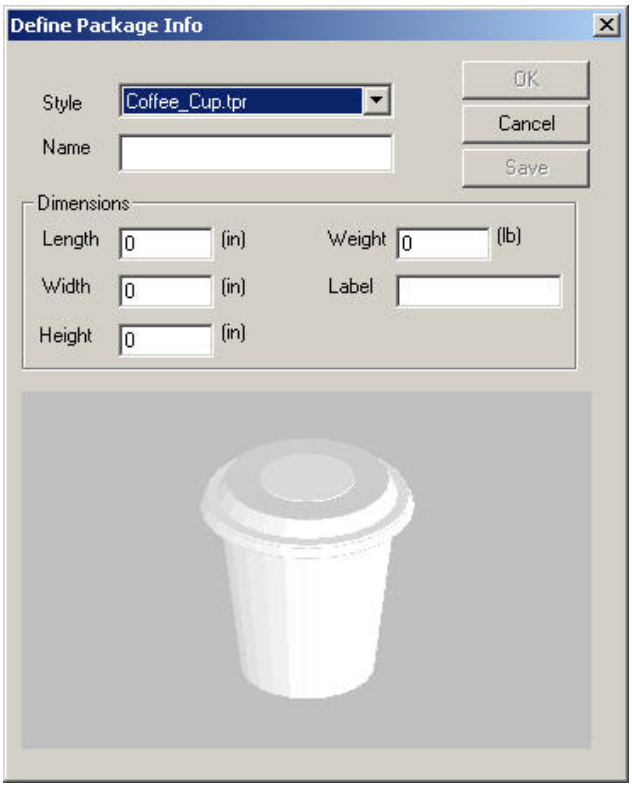


From the Menu Bar, open the Define Menu and select Milk Carton.

- **Description:** For a new milk carton, type in a description. For an existing milk carton, select a pre-defined item from the drop down or type in the first few letters of the film.
- **Length:** Enter the length of the milk carton.
- **Width:** Enter the width of the milk carton.
- **Height:** Enter the height of the milk carton.
- **Weight:** Enter the weight of the milk carton.
- **Caliper:** Enter the caliper of the milk carton.

Define Package Info (MixPro)

Function: This dialog box allows you to create products which can later be used inside mixed trays for presentation purposes and also for light applications involving multiple shipcase sizes.

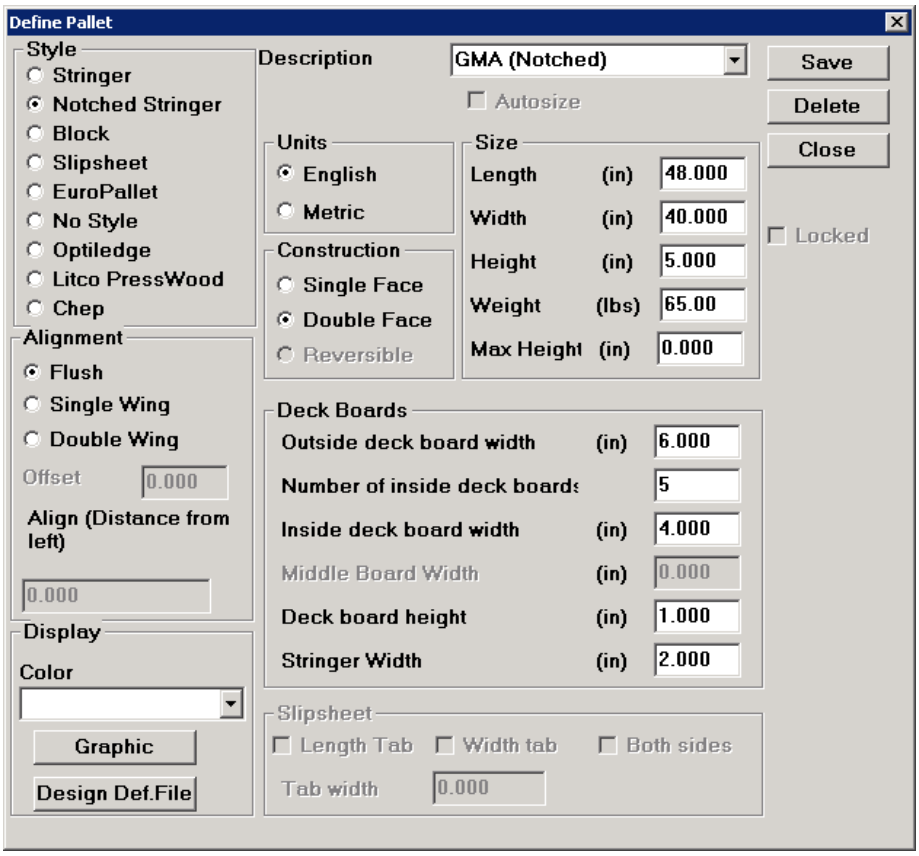


Select MixTray Mixed Tray Editor from the MixPro Tool button
When in MixPro, go to the Define Menu and select Package.

- **Style:** Select the CASY shape you would like to use in creating your product from the drop list.
- **Name:** Enter the name of your new product to be used to create the mix tray.
- **Length, Width, Height, Weight:** Enter the length, width, height and weight of the new product to be used to create the mix tray.
- **Label:** Enter a label that you would like for your product. This label will appear across the products when the option is turned on by clicking the button on the tool bar.

Define Pallet

Function: This dialog box allows you to define parameters for a new a pallet (one that's not already defined in the system). This dialog box also allows you to change parameters for an existing pallet.



To access, use one of two options:

- From the Menu Bar, open the Define Menu and select Pallet.
- From the UnitLoad Parameters dialog box, click on the New Pallet button.

Field Descriptions and Instructions

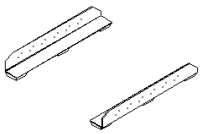
- **Description:** For a new pallet, type in the name of the new pallet. For an existing pallet, select a pre-defined pallet from the drop list or type in the first few letters of the pallet.

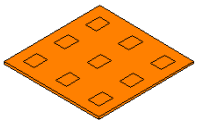
  Note: When you select a pre-defined pallet, TOPS Pro will automatically insert values in the various dimension fields.

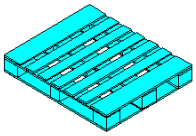
- **Style:** Select the style of pallet you want to define.

The Stringer, Notched Stringer, Block and EuroPallet styles are common. The Slipsheet option allows you to define a slipsheet. Select No Style option to create a loading footprint without labeling it as one of the existing pallet styles, or to perform an analysis without showing the pallet.

Followed are the newer pallet styles supported by TOPS Pro.


OptiLedge


Litco Presswood pallet


Chep Pallet

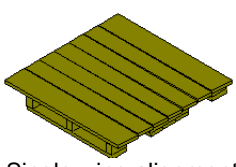
Remember: TOPS Pro needs an area of space to use in order to palletize, even if you don't need to use a pallet.

- **Construction:** Select Single Face, Double Face or Reversible to specify how the pallet will be constructed.
  - A **single face** construction has deck boards on one side.
  - A **double face** construction has deck boards on both sides.
  - A **reversible** construction is a pallet that is identical on both sides.
- **Autosize:** Available for slipsheets only, check the box to tell TOPS Pro to automatically size the slipsheet to the size of the unitload.
- **Length, Width, Height:** Enter the length, width and height of the pallet.
- **Weight:** Enter the weight of the pallet.
- **Max Height:** Enter the maximum height of the unitload when this pallet is used for calculation. Use a value of 0.00 if no height limit is desired.

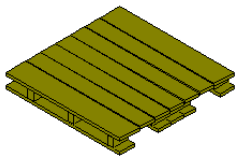
The following **Alignment** fields display only if you select Stringer, Notched Stringer, Block, EuroPallet, Optiledge, Litco or Chep in the Style field.

- **Alignment:** Select from Flush, Single Wing or Double Wing to specify how the stringer will be positioned in relation to the deck boards of the pallet.
  - A **flush alignment** positions the stringer flush to the outside edges of the deck boards.
  - A **single wing alignment** allows you to offset the stringers on a pallet. For double-faced pallets, single wing has offset deck boards on the top, but flush deck boards on the bottom of the pallet as pictured below (with alignment offset of 5 inches and Align 3

inches from the left).



Single wing alignment



Double wing alignment

- A **double wing alignment** allows you to offset the stringers on a double-faced pallet. Double wing has both the top and bottom deck boards offset from the stringers.

❖ **Alignment Offset:** Enter the distance the stringers will be offset from the edge of the pallet. The above pallets has alignment offset of 5 inches and Align distance (see below) of 3 inches.

❖ **Align (Distance from left):** Enter the distance for the alignment offset from the left side of the pallet.

The following **Deck Boards** fields will not display if you selected Slipsheet or No Style in the Style field.

❖ **Outside deck board width:** Enter the width of the two outside deck boards for the pallet.

❖ **Number of inside deck boards:** Enter the number of inside deck boards for the pallet.

❖ **Inside deck board width:** Enter the width of inside deck boards.

❖ **Middle Board Width:** Enter the width of the middle deck board.

❖ **Deck board height:** Enter the height of the deck boards.

❖ **Stringer width:** Enter the width of the stringers.

❖ The following **Slipsheet** fields display only if you select Slipsheet in the Style field.

❖ **Slipsheet Length Tab:** Click on the box to add a tab to the length of the slipsheet.

❖ **Slipsheet Width Tab:** Click on the box to add a tab to the width of the slipsheet.

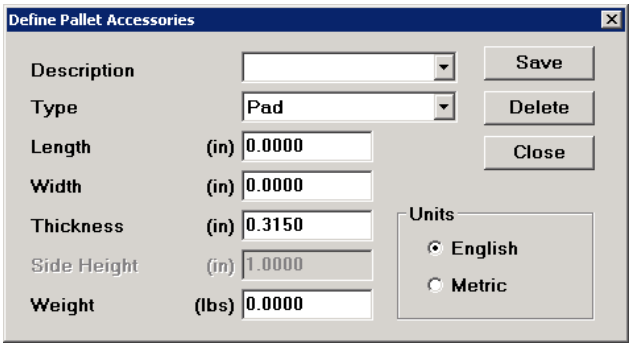
❖ **Slipsheet Both Sides:** Click on the box to add a tab to both sides of the slipsheet.

❖ **Slipsheet Tab Width:** Enter the width of the tab in inches or millimeters, depending on the Units selected.

- **Locked:** Check the box to indicate that only a supervisor can enter or change parameters on this dialog box.
- **Display:** This box allows some visual elements to be added to your pallet.
  - **Color:** Select the color you would like to use for your pallet from the drop list.
  - **Graphic:** Select the graphic you would like added to the top of the pallet.
  - **Design Def. File**: For future use only, this provides an easy way to import special pallets.

Define Pallet Accessories

Function: This dialog box allows you to define custom pad, slipsheet, tray or cap.



To access, use one of two options:

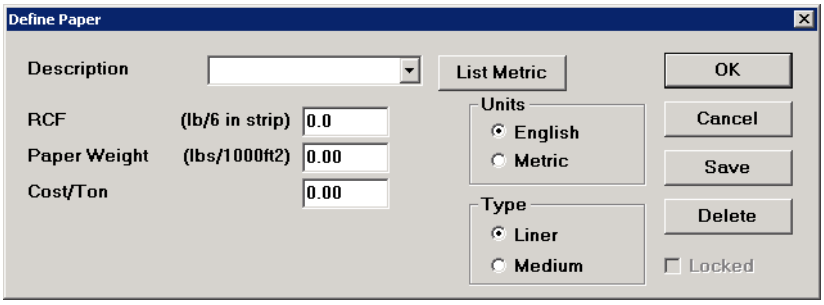
- From the Define Menu, select Pallet Accessories.
- From the UnitLoad Layer Parameters dialog box, go to the Advanced tab. Select Pre-defined for the selected accessory (for example, slipsheet) and then click on the New button.

Field Descriptions and Instructions

- **Description:** For a new pallet, type in the name of the new pallet. For an existing pallet, select a pre-defined pallet from the drop list or type in the first few letters of the pallet.
- **Type:** Select from among the drop list (slipsheet, pad, tray and cap), the type of pallet accessory to be defined.
- **Length, Width, Thickness, Weight:** Enter the corresponding physical dimensions for the accessories.
- **Side Height:** Available for tray and cap only, this represents height of the accessory that will cover part of the unitload.
- **Save:** Click to save the newly defined accessory to the TOPS database.
- **Delete:** Click to remove the selected accessory from the TOPS database.

Define Paper

Function: This dialog box allows you to define default parameters for different types of paper, or board combination components.



To access, open TOPS Configuration program. From the Menu Bar, open the Define Menu and select Paper or click on the Define Paper quick link.

Field Descriptions and Instructions

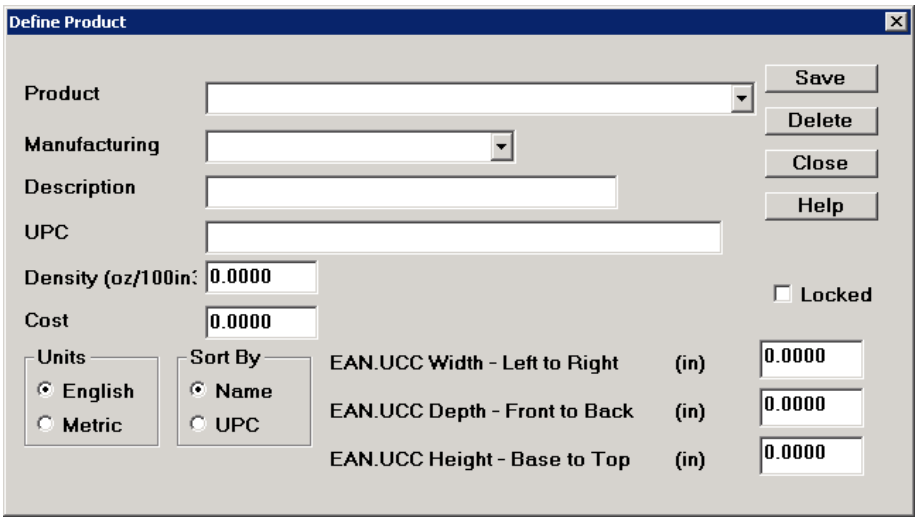
- **Description:** Select a type of paper from the drop list for review or modification or enter a name for the new paper.
- **RCF (lb/6 in strip)/(N/m):** Enter the ring crush factor in pounds per six in strip or Newtons per meter, depending on the Units selected.

  Note: For more information about the ring crush factor, please refer to Chapter 9, Stacking Strength.

- **Paper Weight (lbs/1000ft2)/(gr/m2):** Enter the paper weight in pounds per 1,000 square feet or grams per square meter, depending on the Units selected.
- **Cost/Ton:** Enter the cost of the paper per ton.
- **Type:** Select either Liner or Medium to specify the type of paper.
- **Locked:** Indicates if only a supervisor can enter or change parameters on this dialog box.
- **List Metric:** This button toggles the description drop down between papers created in Metric units and papers created in English units.

Define Product

Function: This dialog box allows you to define parameters for a new product (a product that's not already defined in the system). You can also use this dialog box to change parameters for an existing product.



To access, use one of two options:

- From the Menu Bar, open the Define Menu and select Product.
- From the File menu, go to Package Profile. Select Add Products and from the Specification Products dialog box, click on the New Product button.

Field Definitions and Instructions

Note: The following three fields – **Product, Manufacturing, Description** and **UPC Code** – are used only in the Packaging Profile function.

- **Product:** To define a new product, enter the name of the new product. To change parameters for an existing product, select a product or type in the first few letters of the product.
- **Manufacturing:** Select from the drop list a manufacturing option for the product.
- **Description:** Enter a description of the product.
- **UPC Code:** Enter the Universal Product Code for the product.
- **Density (oz/100 in^3 or g/l):** Enter the density of the product in ounces per 100 inches cubed or in grams per liter, depending on the Units selected.

Note: If your analysis includes a product, TOPS Pro considers the density of the product when it generates solutions. If your analysis does not include a product, TOPS Pro generates solutions based on air volume.

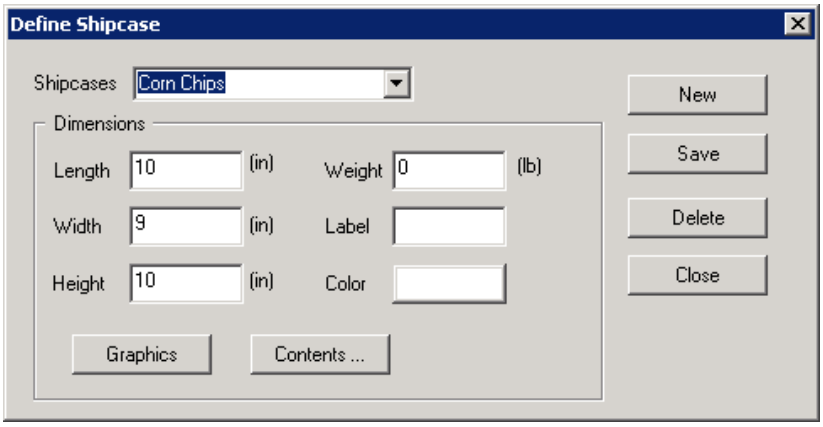
- **Cost:** Enter the cost of the product.

  Note: This field is used only for a bag analysis.

- **Sort By:** Displays either Name or UPC to specify how the product is sorted.
- **Locked:** Check the box to indicate that only a supervisor can enter or change parameters on this dialog box.
- **EAN.UCC Width – Left to Right:** Enter the width from left to right.
- **EAN.UCC Depth – Front to Back:** Enter the depth from front to back.
- **EAN.UCC Height – Base to Top:** Enter the height from base to top.

Define Shipcase

Function: This dialog box allows you to define a new shipcase to be used in a mixed-pallet solution.



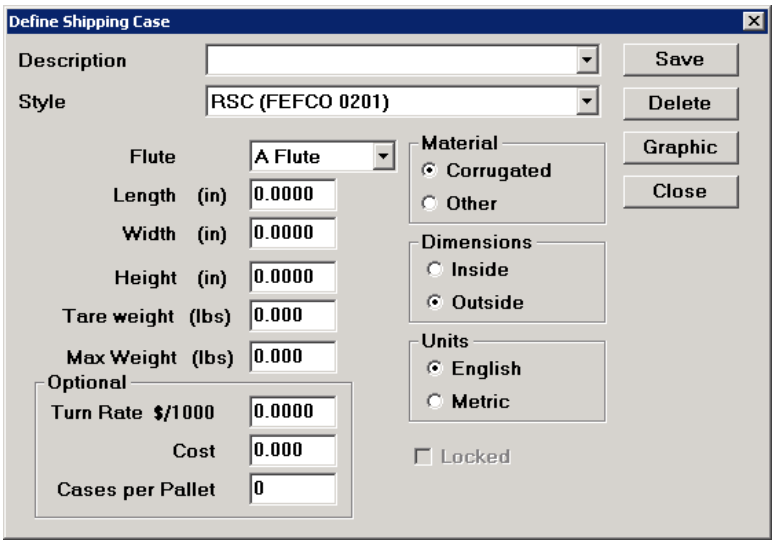
To access, from the MixPro Pallet module, select Define from the Menu Bar and click Shipcase.

Field Descriptions and Instructions

- **Shipcase:** Enter the name of the new shipcase or select from the drop list an existing shipcase to review or modify.
- **Length, Width, Height, Weight:** Enter the length, width, height and weight of the shipcase.
- **Label:** Enter a label for the shipcase. The label will appear across the shipcase when the Show Labels function is turned on by clicking the ① button.
- **Color:** Select a display color for the shipcase.
- **Graphics Button:** Displays the Assign Graphics dialog box, which allows you to select and display a graphic image on the shipcase.
- **Contents Button:** Displays the Add Contents dialog box, which allows you to add contents and its arrangement to a new shipcase. You can also specify to use a CASY tray style and apply a CASY shape to the contents.

Define Shipping Case

Function: This dialog box allows you to define parameters for a new shipcase (one that's not already defined in the system). This dialog box also allows you to change parameters for an existing shipcase.



To access, from the Menu Bar, open the Define Menu and select Shipping Case.

Field Descriptions and Instructions

- **Description:** For a new shipcase, type a description. For an existing shipcase, select a pre-defined shipcase from the drop list or type in the first few letters of the shipcase.

  Note: If you select a pre-defined shipcase, TOPS Pro will automatically insert values in the various dimension fields. If you select User Defined, you'll need to manually enter dimensions.

- **Style:** Select a pre-defined style or type in the first few letters of the style.

- **Flute:** Select the flute size for the shipcase from the drop list. This field displays only if you select Corrugated Material.

- **Caliper:** Enter the caliper of the shipcase. The caliper is used to calculate the inside vs. outside dimensions of the shipcase. This field displays only if you select Other Material.

- **Length, Width, Height:** Enter the length, width and height of the shipcase.

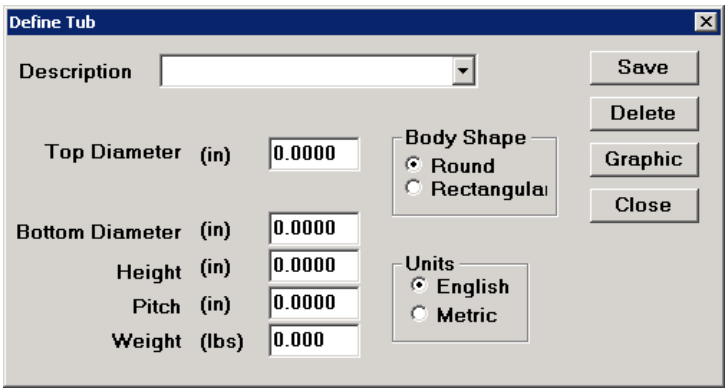
- **Tare Weight:** Enter the tare weight of the shipcase.
- **Max Weight:** Enter the maximum weight of the shipcase and its contents.
- **Optional Turn $/1000:** Enter the turn rate per 1000 units.
- **Optional Cost:** Enter the cost per shipcase.
- **Optional Cases per Pallet:** Enter the number of shipcases per pallet.
- **Material:** Select either Corrugated or Other to specify the material used to make the shipcase.

  Note: The type of material is important to determine stacking strength and board thickness.

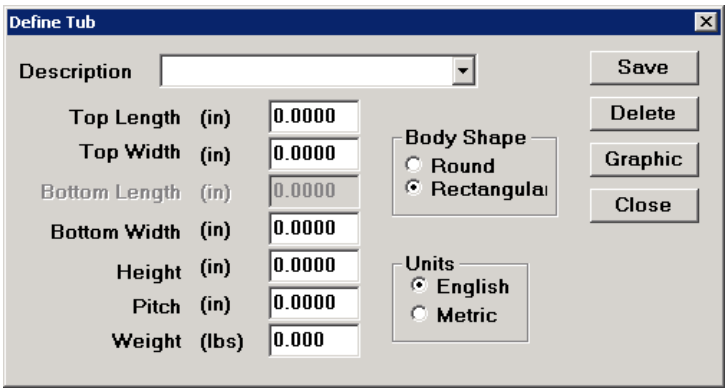
- **Dimensions:** Select either Inside or Outside to specify how the shipcase dimensions are measured.
- **Locked:** Check the box to indicate that only a supervisor can enter or change parameters on this dialog box.
- **Graphic Button:** Displays the Assign Graphics dialog box, which allows you to select and display a graphic image on the shipcase.

Define Tub

Function: This dialog box allows you to define parameters for a new tub. (one that's not already defined in the system). This dialog box also allows you to change parameters for an existing tub.



Tub Options for Round Body Shape



Tub Options for Rectangular Body Shape

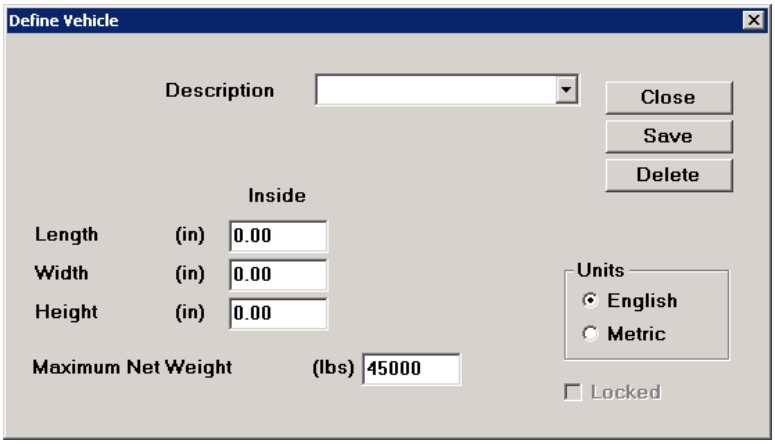
- **Description:** Select from the drop list a predefined description for the tub for review or modification or enter a name to define a new tub.
- **Top Length, Top Width:** For rectangular tub, enter the top length and width of the tub.
- **Bottom Length:** Displays the bottom length of the rectangular tub. TOPS Pro automatically calculates this value based on the proportions of top to bottom width.
- **Bottom Width:** Enter the bottom width of the rectangular tub.
- **Top Diameter, Bottom Diameter:** For round tub, enter the top and bottom diameter of the tub

- **Height:** Enter the height of the tub.
- **Pitch:** Enter the pitch of the tub for nesting.

  Note: Pitch allows you to define the dimensions of the tubs so they can be stacked inside one another. This value represents the distance between the rims of the nested tubs; that is, how far one tub protrudes from the one it's placed into. If you leave pitch at zero, TOPS Pro assumes that the tubs don't nest inside one another.
- **Weight:** Enter the net weight of the tub in pounds or kilograms, depending on the Units selected.
- **Body Shape:** Select either Round or Rectangular to specify the body shape of the tub.

Define Vehicle

Function: This dialog box allows you to define a new vehicle and save it to the database.



To access, use one of two options:

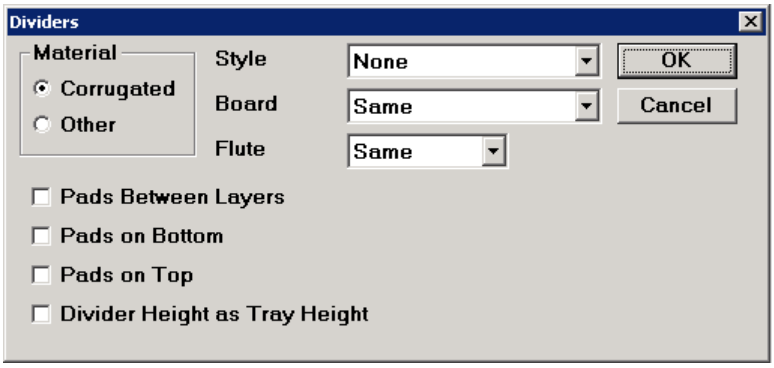
- From the Vehicle Parameters dialog box, click on the New Vehicle button.
- From the Menu Bar, open the Define menu and select Vehicle.

Field Descriptions and Instructions

- **Description:** Select a pre-defined vehicle or type in the first few letters of the vehicle. If you're defining a new vehicle, type in the name of the new vehicle.
- **Note:** When you select a pre-defined vehicle, TOPS Pro will automatically insert values in the Inside Length, Inside Width, Inside Height and Maximum Net Weight fields.
- **Inside Length, Inside With, Inside Height:** Displays or enter the inside length, width and height of the vehicle. These define the actual loadable space of the vehicle.
- **Maximum Net Weight:** Displays the maximum net weight of the vehicle.
- **Locked:** Indicates that only a supervisor can enter or change the parameters on this dialog box.

Dividers

Function: This dialog box allows you to define parameters for the dividers that go into an intermediate packer or shipcase.



To access, use one of two options:

- From the Intermediate Pack Parameters dialog box, click on the Dividers button.
- From the Shipcase Parameters dialog box, click on the Dividers button.

Field Descriptions and Instructions

- **Material:** Select either Corrugated or Other to specify the material used to make the divider.

  Note: The type of material is important to determine stacking strength and board thickness. TOPS Pro uses the next three fields – **Style, Board** and **Flute** – to calculate stacking strength and determine board thickness.

- **Style:** Select the style of divider you want to use.

  Warning: Most dividers set up in TOPS Pro are designed with a specific cell count and arrangement in mind. For example, the U-Part w/ Tabs divider will work only for a 3x1 arrangement.

  Note: The drop-down list contains divider types that are already set up in the database. If the divider type you want is not on the list, you can add it to the database using the Define Dividers dialog box. For more information, please refer to page B-93.

- **Board:** Select the type of board used to make the divider.

  Note: The drop-down list contains board types that are already set up in the database. If the board type you want is not on the list, you can

add it to the database using the Board Combinations dialog box. For more information, please refer to page B-18.

- **Flute:** Select the flute size for the divider.

  Note: This field displays only if you select Corrugated Material.

  Note: The drop-down list contains flute types that are already set up in the database. If the flute type you want is not on the list, you can add it to the database using the Define Flute dialog box. For more information, please refer to page B-97.

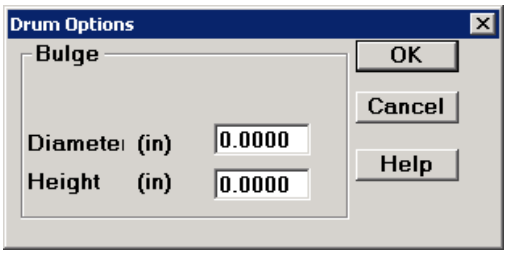
- **Caliper:** Enter the caliper of the divider in inches or millimeters, depending on the Units selected on the Intermediate Pack or Shipcase Parameters dialog box.

  Note: The caliper is used to calculate the thickness dimensions of the divider. This field displays only if you select Other Material.

- **Pads Between Layers:** Check the box to place pads between layers within the packer or shipcase.
- **Pads on Bottom:** Check the box to place pads on the bottom of your primary packages in the packer or shipcase.
- **Pads on Top:** Check the box to place pads on top of the primary packages in the packer or shipcase.
- **Divider Height as Tray Height:** Check the box to specify that the selected divider will be the same height as the tray it is placed into.

Drum Options

Function: This dialog box allows you to enter bulge dimensions for a drum. For example, a plastic liquid bottle, such as a water cooler, has a bulge factor.



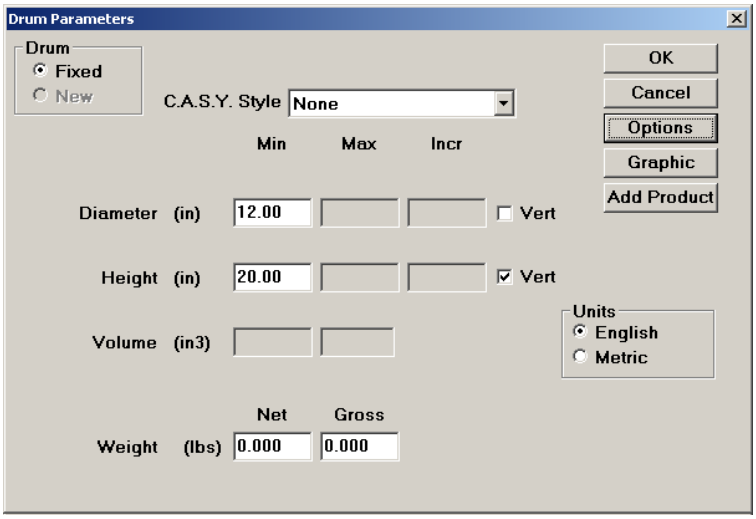
To access, from the Drum Parameters dialog box, click on the Options button.

Field Descriptions and Instructions

- **Bulge Diameter:** Enter the amount of bulge allowed in the drum's diameter in inches or millimeters, depending on the Units selected on the Drum Parameters dialog box.
- **Bulge Height:** Enter the amount of bulge allowed in the drum's height in inches or millimeters, depending on the Units selected on the Drum Parameters dialog box.

Drum Parameters

Function: This dialog box allows you to define parameters for different types of drums.



To access, click on the Drum Parameters icon at the Control Panel,

Field Descriptions and Instructions

- **C.A.S.Y. Style:** Select a CASY style to be displayed for the drum.
- **Diameter:** Enter the diameter of the drum.
- **Height:** Enter the height of the drum.
- **Volume:** Display the volume for the drum, when applicable.
- **Vert:** Check a box beside one or both of two fields – Diameter or Height – to specify the vertical dimension of the drum **relative to the ground**.
- **Weight:** Enter the net and gross weight of the drum.
- **Options Button:** Displays the Drum Options dialog box, which allows you to enter bulge dimensions for a drum.

Easy Import

Function: This dialog box allows you to access a simpler import function to pass data in a text file (like Excel CSV) into TOPS Pro for calculation. A total of 32 fields can be imported and include:

Col	Data	Notes
A	Analysis Name	maximum 31 characters
B	Analysis Type (starting stage of analysis)	PP: primary pack, SC: shipcase, UL: unitload
C	Unit of measure for distance	DIST_IN: inch, DIST_FT: Feet, DIST_MM: mm, DIST_CM: cm DIST_M: meter if blank: DIST_IN is assumed
D	Unit of measure for weight	DIST_LB: pound, DIST_OZ: oz DIST_KG: Kg, DIST_GR: Gram if blank: DIST_LB is assumed
E	Primary pack, if present	Y, N
F	Primary pack type	C: Carton, N: Can/Cylinder
G	Primary pack length	
H	Primary pack width	
I	Primary pack height	
J	Primary pack net weight	
K	Primary pack gross weight	
L	Intermediate pack, if present	Y, N
M	Intermediate pack style	
N	Intermediate pack flute	
O	Intermediate pack maximum count	
P	Intermediate pack minimum count	
Q	Shipcase, if present	Y,N
R	Shipcase type	C: Carton, N: Can/Cylinder
S	Shipcase style	
T	Shipcase length	
U	Shipcase width	
V	Shipcase height	
W	Shipcase flute	
X	Shipcase maximum count	
Y	Shipcase minimum count	
Z	Unitload, if present	Y, N
AA	Unitload pallet	
AB	Unitload maximum height	
AC	Unitload maximum weight	
AD	Vehicle, if present	Y, N
AE	Vehicle name	
AF	Vehicle maximum weight	

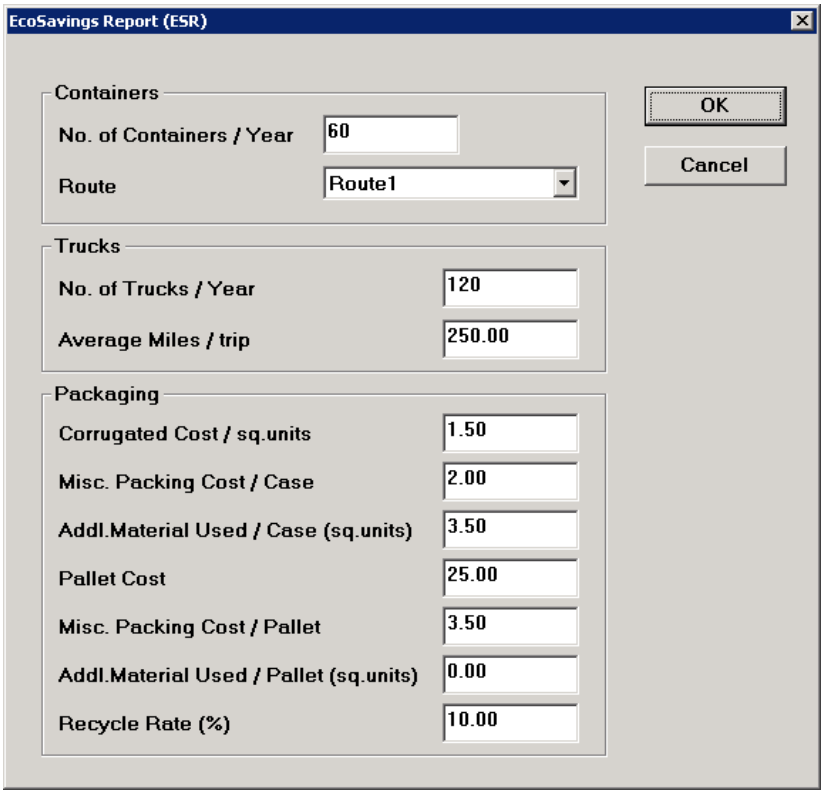
To access, from the Menu Bar, open the Import menu and select Easy Import.

Field Descriptions and Instructions

- **Import File:** Click on the Browse button to select the file you want to import into TOPS Pro.
- **Import Button:** Imports a selected file into the TOPS Pro system.

EcoSavings Report (ESR) - Analysis

Function: This dialog box allows you to define the cost and usage information in order to create reports to compare the effects different case sizes and load solutions have on the environment in terms of carbon emission and corrugated and packaging material wastage.



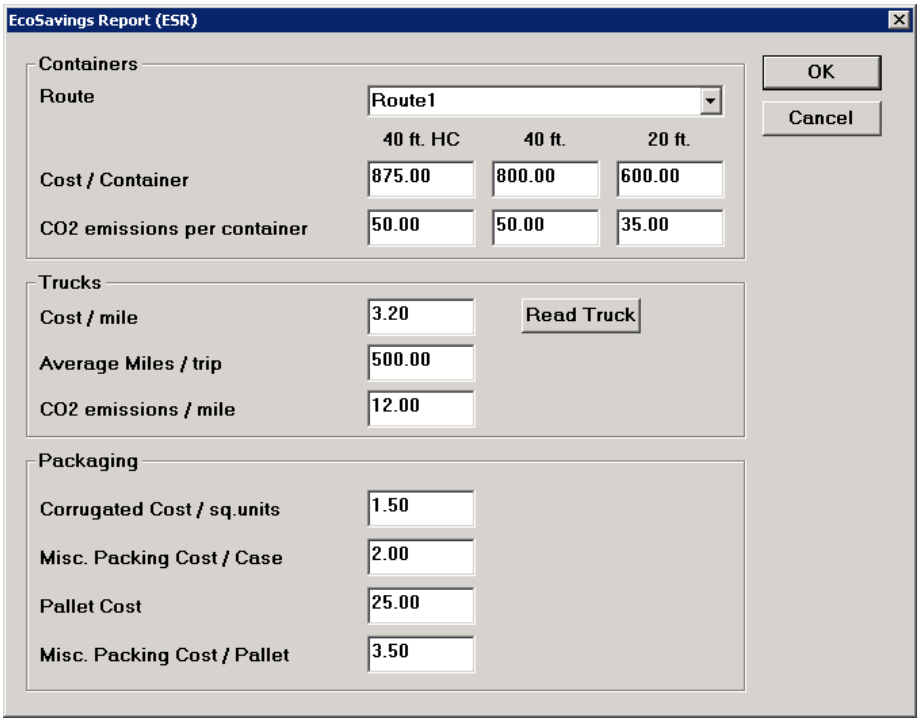
To access, first select two solutions for the current analysis, then go to the Tools menu, select ESR and then ESR for analysis.

- **No. of Containers/Year:** Enter the number of containers used per year for the current analysis.
- **Route:** Select from the drop list the route and its associated costs defined in the ESR Configuration dialog box (see next section).
- **No. of Trucks/Year:** Enter the number of trucks used per year for the current analysis.
- **Average Miles/Trip:** Enter the number of miles drive per trip for the current analysis.
- **Corrugated Cost/sq. units:** Enter the average corrugated cost per square unit for the materials used for this analysis.

- **Misc. Packaging Cost/Case:** Enter the costs for any miscellaneous packaging materials used per shipcase.
- **Addl. Material Used/Case (sq. units):** Enter the costs for any additional materials used per shipcase in square units.
- **Pallet Cost:** Enter the pallet cost for the analysis.
- **Misc. Packaging Cost/Pallet:** Enter any miscellaneous packaging cost used per pallet.
- **Addl. Material Used/Pallet (sq. units):** Enter the cost for any additional material used in square unit per pallet.
- **Recycle Rate:** Enter the recycle rate for all packaging materials used in the analysis.

EcoSavings Report (ESR) - Configuration

Function: This dialog box allows you to define the different cost factors associated with packaging and vehicle usage to be used in the Eco Savings Reports.



To access, create the required analysis, go to the Tools menu, select ESR and then ESR for analysis.

- **Route:** Enter a name for the route and its different associated costs.
- **Cost/Container:** Enter the costs for the commonly used 40ft hi-cube, 40ft and 20ft containers respectively.
- **CO2 emissions per container:** Enter the volume of carbon emissions per each of the 40ft hi-cube, 40ft and 20ft containers.
- **Cost/mile:** Enter the cost per mile for the route currently defined.
- **Average Miles/trip:** Enter the average mileage for the current route.
- **CO2 emissions/mile:** Enter the volume of carbon emissions per mile driven for this route.

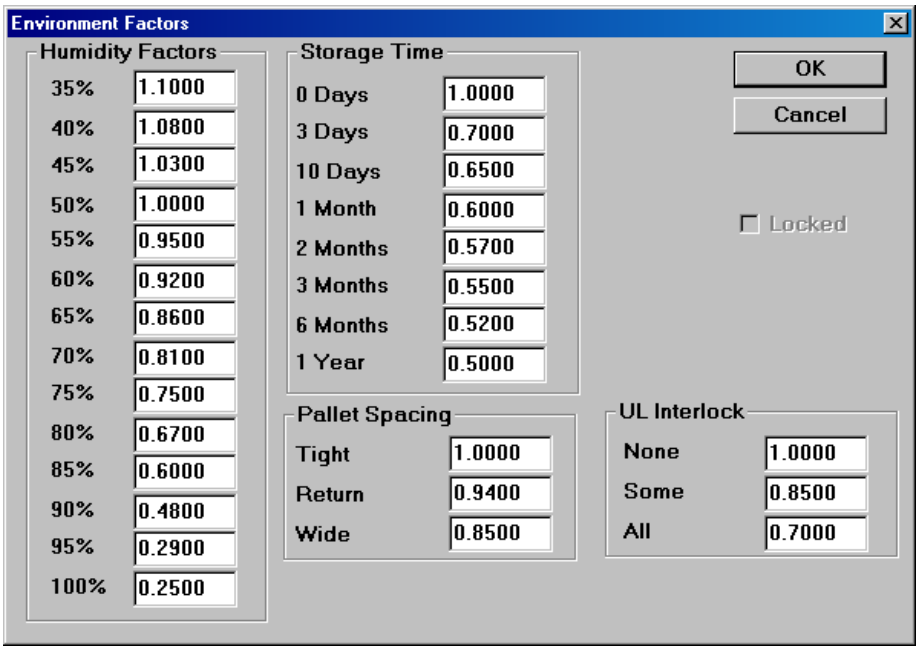
Corrugated Cost/sq. units: Enter the corrugated cost used per square unit for the current route.

- **Misc. Packaging Cost/Case:** Enter the miscellaneous packaging cost per case used for the current route.
- **Pallet Cost:** Enter the pallet cost associated with the current route.
- **Misc. Packaging Cost/Pallet:** Enter the miscellaneous packaging cost per pallet used for the current route.

Environment Factors

Function: This dialog box allows you to assign numeric safety factors to a range of environmental factors.

Note: For detailed information about how TOPS Pro uses environmental factors, please refer to Chapter 9, Stacking Strength.



To access, open TOPS Configuration program. From the Menu Bar, open the Define Menu and select Environment Factors or click on the Environment Factors quick link in the Control Panel.

Field Descriptions and Instructions

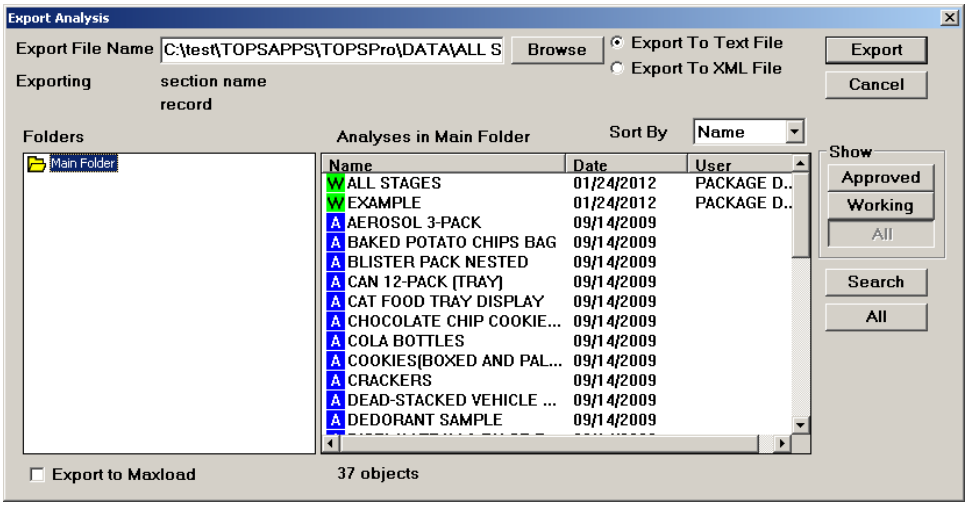
- **Humidity Factors:** Enter a numeric safety factor for each level of humidity.
- **Storage Time:** Enter a numeric safety factor for each period of storage time. For example, after three days stacking strength is reduced by another 30 percent.
- **Pallet Spacing:** Enter a numeric safety factor for each type of pallet spacing.
- **UL Interlock (None):** Enter a numeric safety factor when the unitload interlock is None; i.e., all edges are lined up.

- **UL Interlock (Some):** Enter a numeric safety factor when the unitload interlock is Some; i.e., maybe the top two layers are lined up.
- **UL Interlock (All):** Enter a numeric safety factor when the unitload interlock is All; i.e., every other layer is lined up.
- **Locked:** Indicates if only a supervisor can enter or change parameters on this dialog box.

Export Analysis

Function: This dialog box allows you to export an analysis to an ASCII comma delimited text file. You can use this file to transfer analyses to other copies of TOPS Pro (same release or higher) or to back up your work to a floppy disk.

Note: Exporting an analysis from this dialog box creates a file that can **only** be used by another copy of TOPS Pro.



To access, open the Export menu and select Analysis from the Menu Bar.

Field Descriptions and Instructions

- **Export File Name:** Display the name of the export file. Click on the Browse button to specify the location and filename to hold the data for the exported analysis.
- **Export to Text File:** The analysis will be saved as a txt file in the specified folder.
- **Export to XML File:** The analysis will be saved as an XML file in the specified folder.
- **Sort By:** Select from the drop list either by Name, User or Date, the sort order for the list of analyses.
- **Exporting:** Displays the status of the export.
- **Folders:** Displays a tree view of existing folders and corresponding list of analyses available to be exported. To select an analysis, scroll down the list and highlight the analysis you want to export.

Note: You can select multiple analyses by using the Shift and Control keys.

- **Export Button:** Exports a selected file from the TOPS Pro system to begin the export function.
- **Show Option:** Click one of these buttons: Approval, Working or All, to filter the analyses to be displayed in the folder list.
- **Search Button:** Displays the Analysis Search dialog box, which allows you to search for a file by entering search criteria.

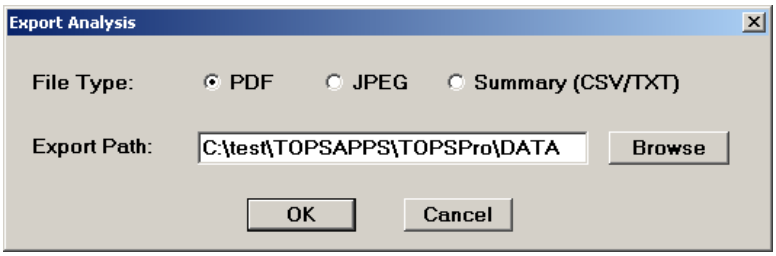
  For more information on the Analysis Search dialog box, please refer to page B-8.

- **All Button:** Exports all the files listed to another application.
- **Export to MaxLoad:** Check this option to export the analysis (usually pallet configuration) to MaxLoad Pro Load Planning and Optimization software.

Export Analysis (2)

Function: This dialog box allows you to specify the export format and the destination for the highlighted analyses to be exported.

Note: The File Type of CSV/TXT can **only** be used by another copy of TOPS Pro.



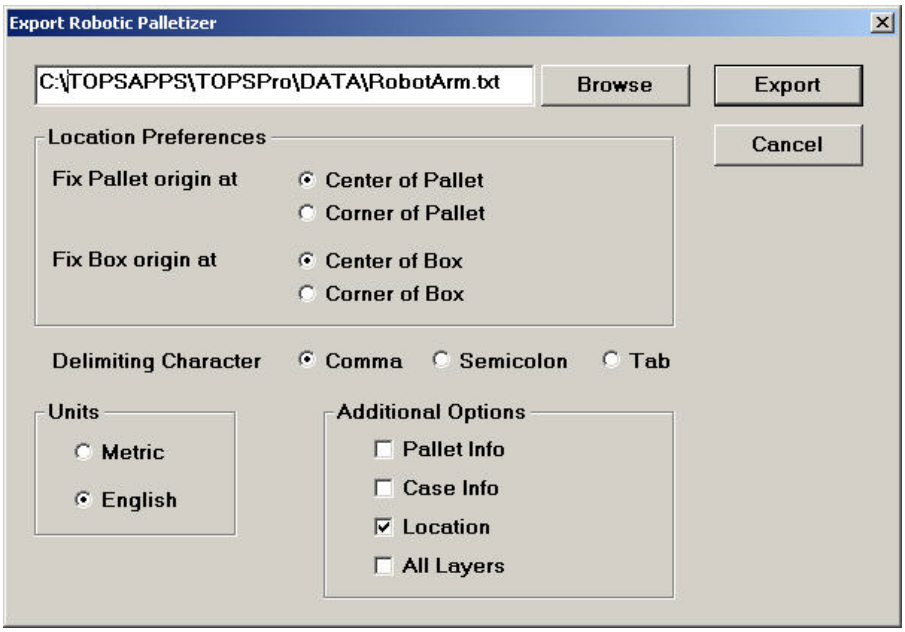
To access, open the File menu and select Open. Highlight one or more analyses from the list and then click the Export button.

Field Descriptions and Instructions

- **File Type:** Click the corresponding radio button for the format to be used for the selected analyses.
- **Export Path:** Specify the location for the exported analyses. Click on the Browse button to specify the location, the export file will carry the root name of the analysis.

Export Robotic Palletizer

Function: This dialog box allows you to export the arrangement of a pallet pattern layer to an ASCII text file, which can be used by robotic palletizing machines to determine how to arrange a unitload.



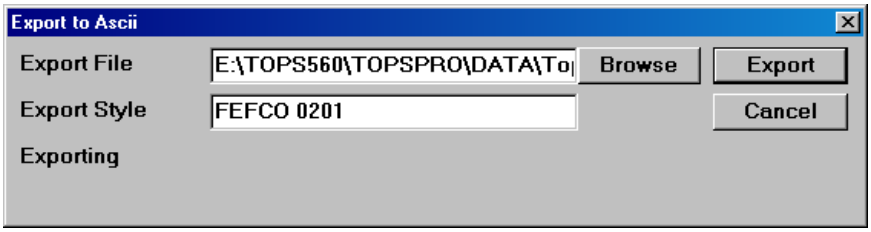
To access, open the Export menu and select Robotic Palletizer.

- **Browse:** Click on the Browse button to specify the location and filename to hold the exported pallet data. The output will be a text file with default name RobotArm.txt.
- **Fix Pallet origin at:** Select either to use the center or corner of the pallet as the pallet origin point.
- **Fix Box origin at:** Select either to use the center or corner of shipcase as the box origin point.
- **Delimiting Character:** Select the delimiter character for the output text file among comma, semicolon or tab. Comma is the most common delimiting character and is recommended for use.
- **Additional Options:** Check the box(es) to output additional data to the text file including pallet information, shipcase information whether to export data for all layers.

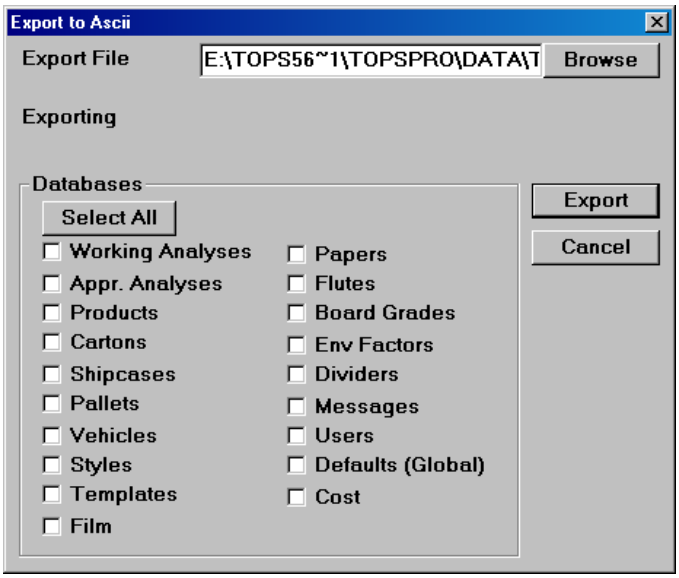
Export to ASCII

Function: There are actually two Export to ASCII dialog boxes, as pictured below. The first is used in the TOPS Pro program. The second is used in the TOPS Configuration program. There's one difference: Export to ASCII in the Configuration program allows you to export the entire databases.

Note: This export function is only useful for transferring saved data to other copies of TOPS Pro. The design axis export is a separate export and a separate menu item.



Export to ASCII Dialog Box in TOPS Pro Program



Export to ASCII Dialog Box in Configuration Program

To access the Export to ASCII dialog box, use one of two options:

- In the TOPS Pro program: From the Menu Bar, open the Export menu and select Case or Carton.
- In the TOPS Configuration program: From the Menu Bar, open the File menu and select Export.

Field Descriptions and Instructions

- **Export File:** Click on the Browse button to select the file you want to export.
- **Export Style:** Enter the export style name.
- **Exporting:** Displays the status of the export.
- **Databases:** Select the databases you want to export. To export all databases, click on the Select All button.

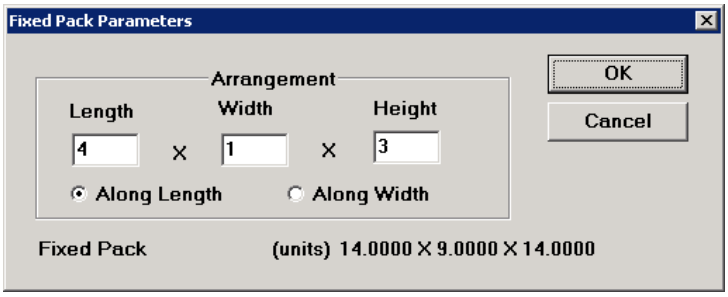
  Note: This field is available only in the Configuration program.

- **Export Button:** Exports the current data from the TOPS Pro system to an ASCII comma delimited text file.

Fixed Pack Parameters

Function: When you are using a fixed size shipcase with fixed configuration, you can use this dialog to specify the exact product arrangement inside the shipcase.

TOPS will arrange the products inside the fixed shipcase as instructed despite insufficient volume, indicated by the cubic efficiency of over 100%.

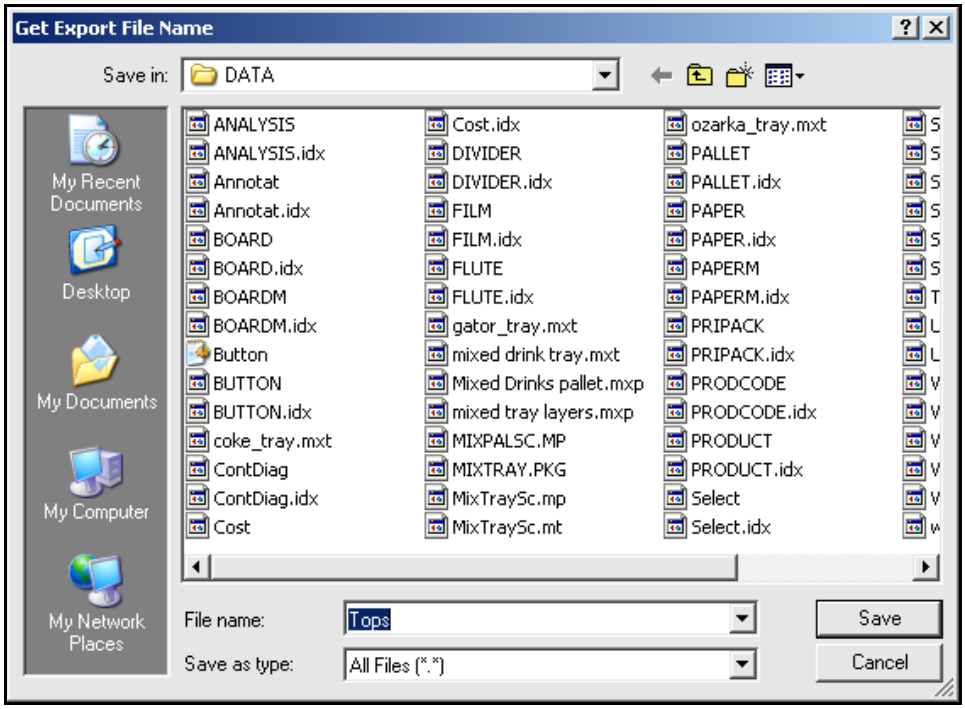


To access this dialog, go to the Shipcase Parameters dialog box. Make sure you are using 'Fixed' case, check the Fix Pack option, then click the Fix Pack button to open the dialog box.

- **Arrangement:** Enter the arrangement of products inside the shipcase along the length, width and height dimension.
- **Along Length:** Click to select the Along Length option.
- **Along Width:** Click to select the Along Width option.

Get Export File Name

Function: This dialog box allows you to browse for a file to be exported from the TOPS Pro system or select a location for a new export file to be created.



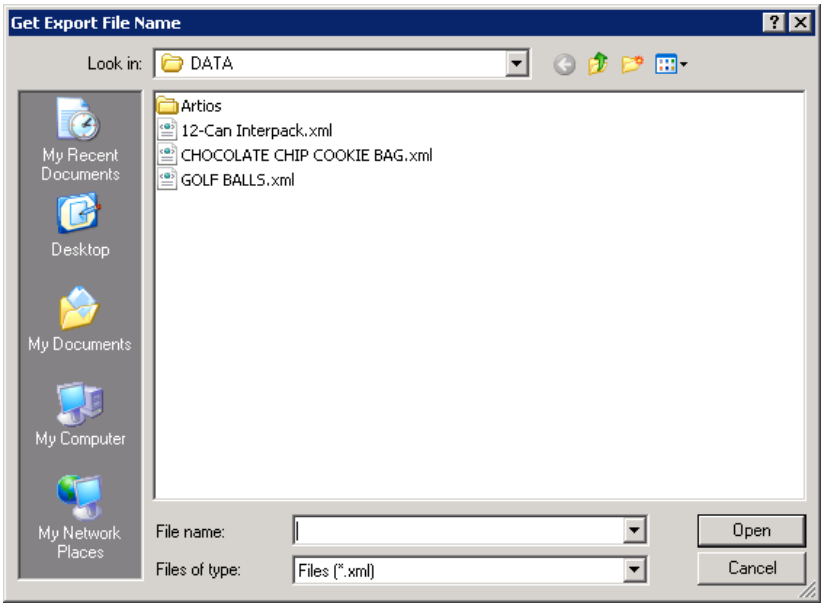
This dialog box is available when you click the Browse button from the Export to ASCII dialog box.

Field Descriptions and Instructions

- **File Name:** Enter the name of the file or click the file from the list.
- **File List:** Scroll down the list to select the name of an existing file.
- **Save File As Type:** Select the type of file.
- **Directory Path Window:** Displays the current directory path. Click on the various folders to find the path to which you want to save the file.
- **Drives:** Displays the current drive. Select the drive to which you want to save the file.

Get Export File Name (Open XML)

Function: Use this command to open analyses saved previously in XML format.



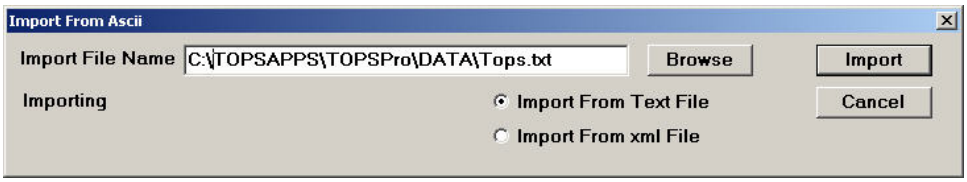
To access, go to the File Menu and select Open XML.

Field Descriptions and Instructions

- **Look in:** Displays the current directory path or folder. The default folder is the \Data\ folder where all XML files are saved. Use the Windows navigation to specify another folder if needed.
- **File Name:** Enter the name of the file or click the file from the list.
- **File List:** Scroll down the list to select the name of an existing file.
- **Files of Type:** This will be XML files only.

Import From ASCII

Function: This dialog box allows you to import an ASCII comma delimited text file into the TOPS Pro system. You can use this function to import shipcases into TOPS Pro. The functionality is identical to that of the Import option on the File menu in the Configuration program.



To access, from the Menu Bar, open the Import menu and select Import TOPS Data.

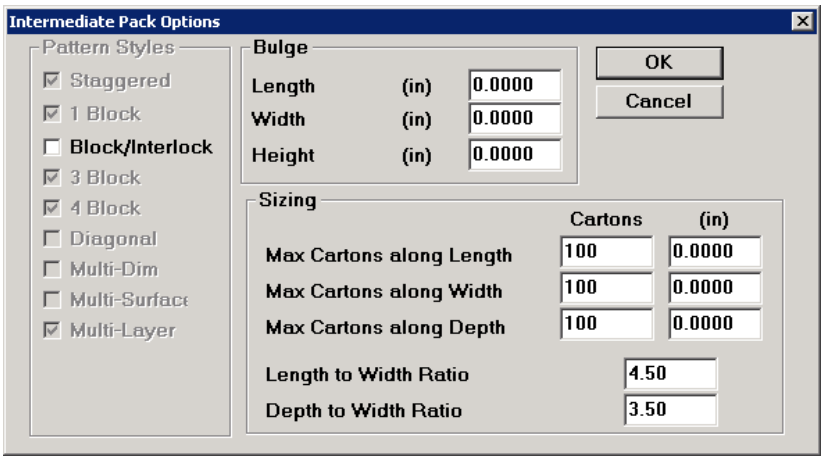
Field Descriptions and Instructions

- **Import File Name:** Click on the Browse button to select the file you want to import into TOPS Pro.
- **Importing:** Displays the status of the import.
- **Import From Text File:** Import a text file from the specified location.
- **Import From xml File:** Import an XML file from the specified location.
- **Import Button:** Imports a selected file into the TOPS Pro system.

Intermediate Pack Options

Function: This dialog box allows you to enter bulge and sizing parameters for a packer.

Note: This dialog box is used for packers, trays, cartons and shrinkwrap.



Sizing

The Intermediate Pack Options dialog box allows you to fine-tune the size dimensions of the packer. It limits the scope of the analysis solution by limiting the maximum dimensions and ratios.

For example, if you specify a maximum of four cartons along the length, width and depth of the packer, TOPS Pro will generate a solution with no more than four cartons along the length, four cartons along the width and four cartons along the depth of the packer – a maximum of 64 cartons. The maximum is 64 cartons, but TOPS Pro will also generate other solutions with less than 64 cartons.

To access this dialog box, from the Intermediate Pack Parameters dialog box, click on the Options button.

Field Descriptions and Instructions

- **Pattern Style:** Select pattern styles preferred for the packer by checking the corresponding boxes. Note that this field is only available when using a fixed size intermediate pack.
- **Bulge Length, Bulge Width, Bulge Height:** Enter the amount of bulge allowed in the packer's length, width and height respectively.

- **Max Cartons along Length/Width/Depth (Cartons):** Enter the maximum number of cartons allowed along the length, width and

- **Max Cartons along Length/Width/Depth (in/mm):** Enter the maximum dimension along the length, width and height of the packer respectively.

- **Length to Width Ratio:** Enter the length to width ratio of the packer.

  Note: Length-to-width ratio limits the answer to proportions no worse than this value. For example, in the dialog box on the previous page, the length-to-width ratio is 4.5. This means that the length of the packer is less than 4.5 times its width when TOPS Pro generates a **new** size packer for you.

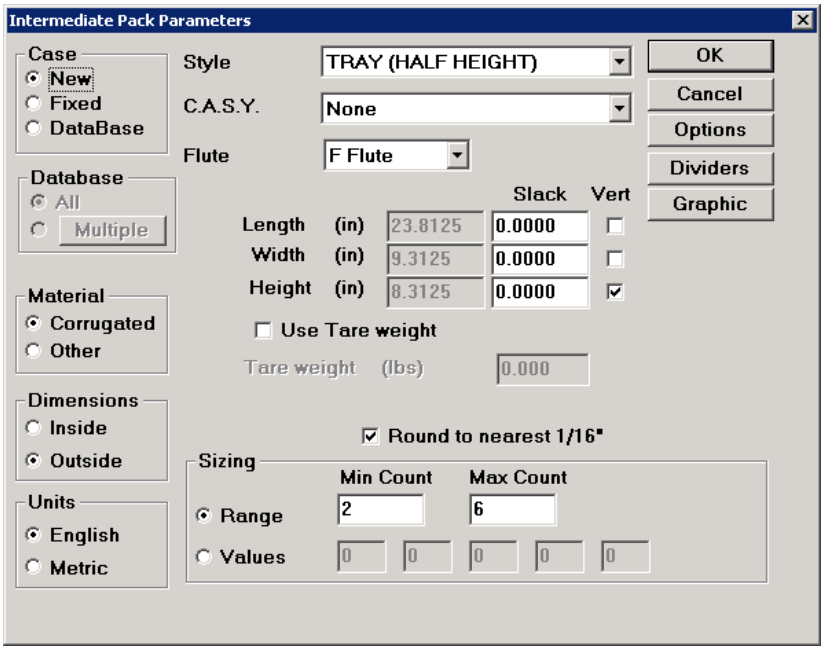
- **Depth to Width Ratio:** Enter the depth to width ratio of the packer.

  Note: Depth-to-width ratio limits the answer to proportions no worse than this value. For example, in the dialog box on the previous page, the length-to-width ratio is 3.5. This means that the depth of the packer is less than 4.5 times its width.

Intermediate Pack Parameters

Function: This dialog box allows you to define parameters for different types of intermediate packers.

Note: This dialog box is used for packers, trays, cartons and shrinkwrap. The Packer, Tray, Carton and Shrinkwrap Parameters icons each display this dialog box. The only difference is the options contained in the Style drop-down list.



To access the dialog box, click on one of the blue intermediate pack icons in the Control Panel, , , .

Note: Be aware that the dialog box linked to a specific icon is determined in the Configuration setup.

Field Descriptions and Instructions

- **Case:** Select Fixed, New or Database to specify the type of packer you want to use in your analysis.

  A **fixed analysis** requires you to enter the dimensions of a fixed packer.

  A **new analysis** will create a new packer based on other information you enter on the screen.

A **Database analysis** allows you to select the packers from the existing shipcase database.

- Database: If database analysis is selected, click to specify whether to use all available shipcases in the database or to make selections from the database.
- **Material:** Select either Corrugated or Other to specify the material used to make the packer. Note that the type of material is important to determine stacking strength and board thickness.
- **Dimensions:** Select either Inside or Outside to specify how the packer dimensions are measured.

  Note: TOPS Pro uses this option to round to the nearest 16th. If you select Inside, TOPS Pro will calculate the inside dimensions by rounding up, then calculate the outside dimensions entered from that value. If you select Outside, TOPS Pro will calculate the outside dimensions by rounding up, then calculate the inside dimensions entered from that value.

- **Style:** Select the style of packer you want to use.

  Note: TOPS Pro uses the selected style, along with the caliper of the material to calculate the difference between inside dimensions and outside dimensions.

  Note: The drop-down list contains packer types that are already set up in the database. If the packer type you want is not on the list, you can add it to the database using the Define Carton dialog box.

- **C.A.S.Y. Style:** Select a CASY style to display for the packer.
- **Flute:** Select the flute size you want to use if corrugated material is used..

  Note: The drop-down list contains flute types that are already set up in the database. If the flute type you want is not on the list, you can add it to the database using the Define Flute dialog box.

  Note: This field displays only if you select Corrugated Material. TOPS Pro uses the following default calipers for the various flute styles in inches:

A	=	0.1875	(3/16-inch)
A/B	=	0.267	(17/64-inch)
A/C	=	0.267	(17/64-inch)
B	=	0.125	(1/8-inch)
C	=	0.15625	(5/32-inch)

C/B	=	0.267	(17/64-inch)
E	=	0.063	(1/16-inch)
F	=	0.063	(1/16-inch)

Warning: If you work with double-wall flutes on a regular basis, you'll need to adjust those flutes for the proper caliper.

- **Caliper (in/mm):** Enter the caliper of the packer if Other Material is used. The caliper is used to calculate the inside vs. outside dimensions of the packer.

The following three fields – **Slack Length**, **Slack Width** and **Slack Height** – refer to the extra (wasted) space you intend to include in the packer configuration. For example, you might figure in two inches of slack space at the top (height) to more easily insert items into the packer.

- **Slack Length, Slack Width, Slack Height:** Enter the extra space intended for the length, width and height of the packer respectively.
- **Vert:** Check a box beside one of three fields – Length, Width or Height – to specify the vertical dimension of the packer **relative to the ground**.

  Note: In packaging, height (depth) is normally the distance through the flaps. Length is the greater of the two remaining dimensions.

- **Round to nearest 1/16":** Check the box to force TOPS Pro to round the resulting intermediate packer dimensions up to the nearest 1/16".
- **Sizing:** Select either Range or Values to specify whether you want the packer to hold a range of items or a set number of items.

  For example, if you want to design the packer to hold anywhere from two to six cans, select Range. If you want to design the packer to hold exactly six cans, select Values.

The following two fields – **Min Count** and **Max Count** – display only if you select Range in the Sizing Options field.

- **Min Count:** Enter the minimum number of items you want the packer to hold.
- **Max Count:** Enter the maximum number of items you want the packer to hold.

  TOPS Pro uses the minimum and maximum count values to generate a number of solutions. For example, if you enter two (2) as the minimum count and five (5) as the maximum count, TOPS Pro will generate solutions for two-, three-, four- and five-count sizes.

- **Values:** Enter the set number of items for which you want TOPS Pro to generate solutions.

  For example, if you want TOPS Pro to generate solutions for a set 10-count and a set 15-count, enter 10 and 15 in the first two Set Values fields. Leave zeros in the remaining fields.

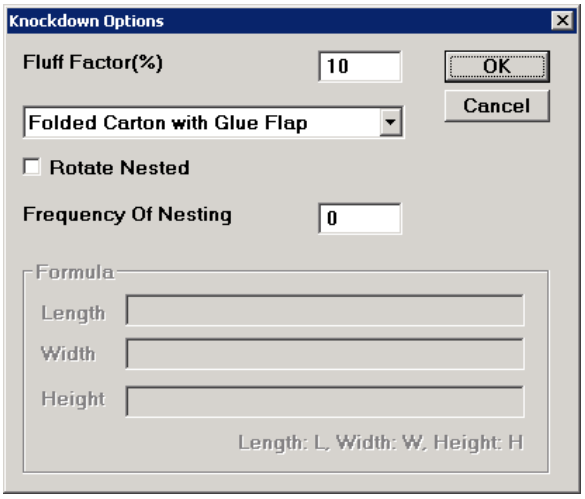
- **Options Button:** Displays the Intermediate Pack Options dialog box, which allows you to enter additional parameters for a packer, such as bulge and sizing dimensions.

- **Dividers Button:** Displays the Dividers dialog box, which allows you to define parameters for the dividers inside the packer.

- **Graphic Button:** Displays the Assign Graphics dialog box, which allows you to select and display a graphic image on the packer.

Knockdown Options

Function: This dialog box allows you to specify additional options when creating knockdown analysis.



To access, select KnockDown Carton in the Carton Parameters dialog box, then click on the Knockdown button.

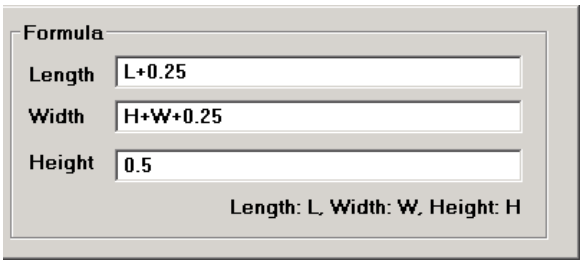
- **Fluff Factor:** Enter a percentage to account for the additional thickness of the knockdown box caused by air in between the corrugated layers.

  Type: Select the knockdown types from the drop list or specify a custom formula to calculate the dimension of the knockdown flats. Existing options include RSC with/without Glue Flap or Folded Carton with/without Glue Flap.

- **Rotate Nested:** Checked this option to allow rotation while nested.

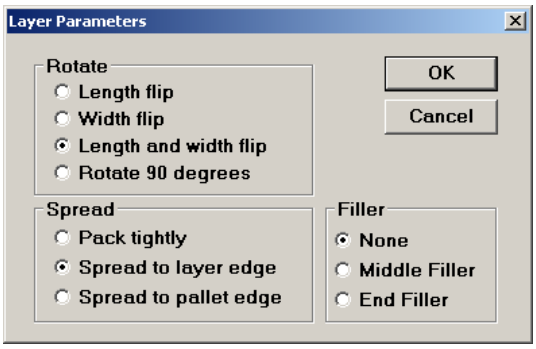
- **Frequency of Nesting:** Enter a number to represent how often the knockdowns will be nested. For example, "5" means nesting will occur after every five cartons.

- **Formula:** For custom knockdown, enter the formulae for its different dimensions. An example is provided below.



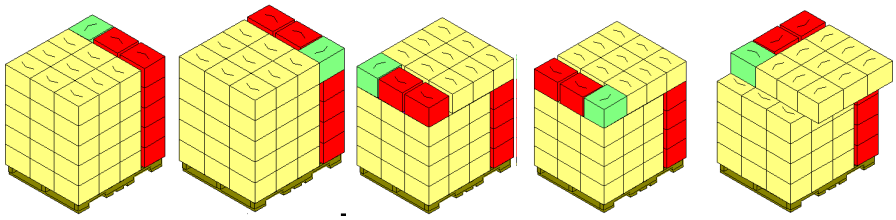
Layer Parameters (Options)

Function: This dialog box allows you to specify the options for the direction of rotation, and how spread and filler will be used for each layer in the unitload.



To access, click the Options button from either Basic or Advanced tab of the Layer Parameters dialog box.

- **Rotate:** Select an option to specify how the Rotate command will be executed. The options available are "Length Flip", "Width Flip", "Length and Width Flip" and "Rotate 90 degrees".



Note: The Rotate function is most often adjusted when you're rotating patterns that are symmetrical, such as some pinwheel patterns. In that case, try only width or length flip – not both.

- **Filler:** Select among the options of "None", "Middle Filler" or "End Filler" on how filler will be used with column-stacked layers.

- **Spread:** Select an option to specify how the layers will be spread on the pallet from "Pack Tightly", "Spread to Layer Edge" or "Spread to Pallet Edge".

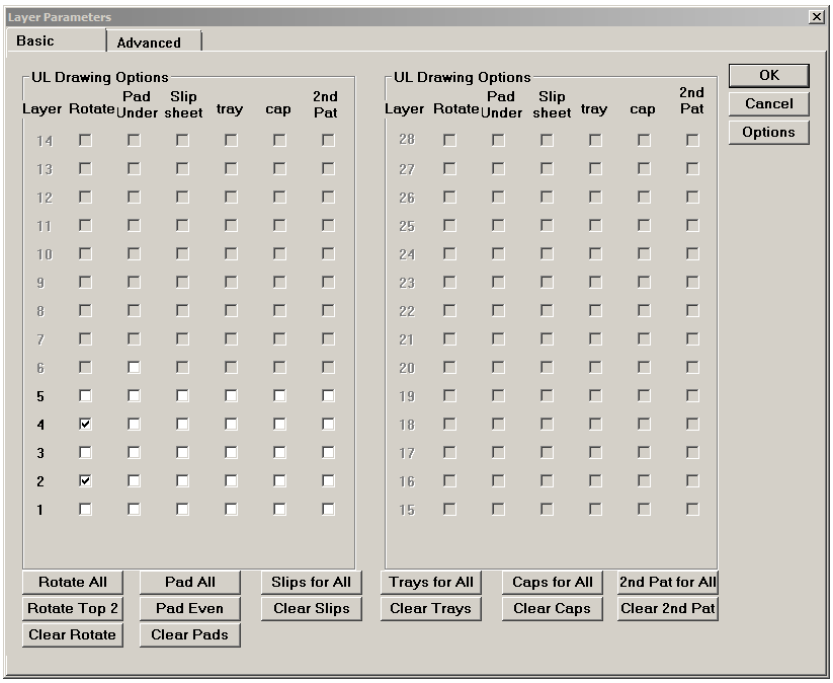
Layer Parameters

Function: This dialog box allows you to define advanced layer parameters in a unitload, shipcase or vehicle, including rotation, pads, slipsheets, trays, caps, secondary patterns, filler and spread.

You can use this advanced tab to add and specify accessories to layers beyond 28.

Basic Tab (Unitload)

Function: This dialog box allows you to define parameters for the layers in a unitload, shipcase or vehicle, including rotation, pads, slipsheets, trays, caps, secondary patterns, filler and spread.



Note: The Basic tab currently accommodates only 28 layers. If you need to work with more than 28 layers, use the functions under the Advanced tab.

To access, from the Analysis View, highlight the pallet drawing. Then go to the Menu Bar, open the Edit menu and select Layer Parameters. You can also access this menu quickly by clicking on the layer parameters button ( ) in the Unitload View pane.

- **Layer:** Displays a column of layers that correspond to a unitload solution. Each layer represents a specific layer of cases in the

unitload. For example, Layer 1 represents the first layer, Layer 2 represents the second layer and so on.

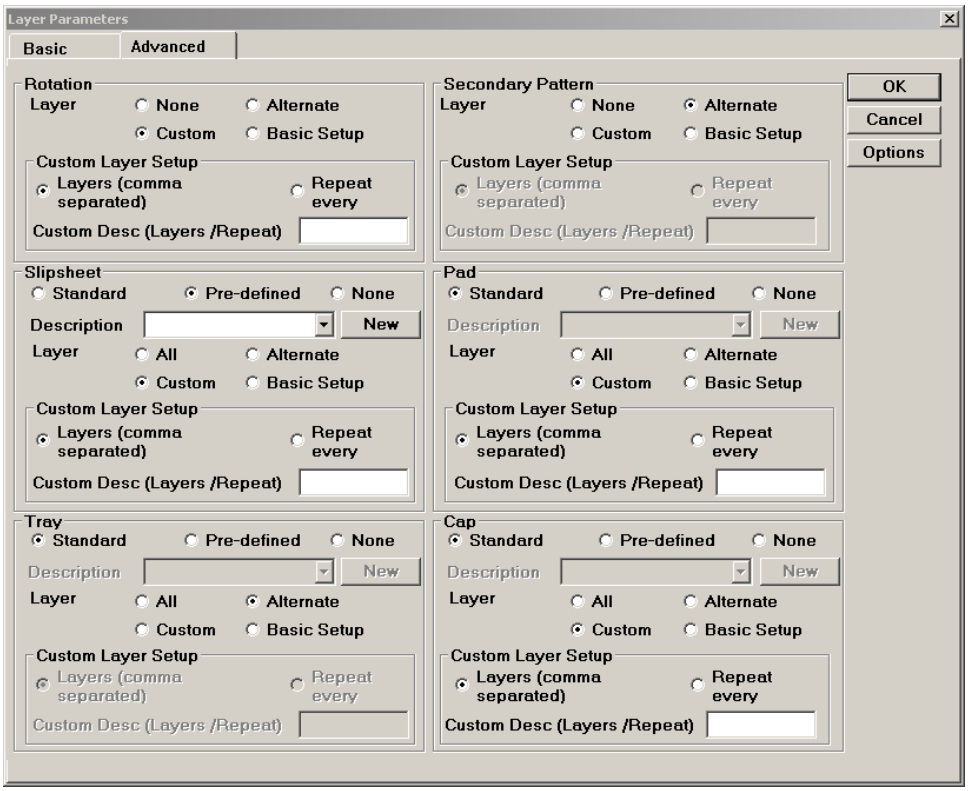
- **Rotate:** Check the box to rotate a specific layer in the unitload.
- **Pad Under:** Check the box to insert a pad under a specific layer in the unitload.
- **Slipsheet:** Check the box to insert a slipsheet under a specific layer in the unitload.
- **Tray:** Check the box to insert a tray under a specific layer in the unitload.
- **Cap:** Check the box to insert a cap over a specific layer in the unitload.
- **2nd Pat:** Check the box to use a secondary pattern for a specific layer in the unitload.
- **Function Buttons:** Use these buttons to perform various functions on the unitload layers:
  - The **Rotate All button** rotates every other layer in the unitload. When you click on this button, TOPS Pro automatically checks all the active boxes in the Rotate column.
  - The **Rotate Top 2 button** rotates the top two layers in the unitload.
  - The **Clear Rotate button** clears all the Rotate commands already set up for the unitload. When you click on this button, TOPS Pro automatically un-checks all the active boxes in the Rotate column.
  - The **Pad All button** inserts pads between each layer in the unitload. When you click on this button, TOPS Pro automatically checks all the active boxes in the Pad Under column.
  - The **Pad Even button** inserts pads under only the even-numbered layers in the unitload. When you click on this button, TOPS Pro automatically checks all the active boxes in the Pad Under column for even-numbered layers.
  - The **Clear Pads button** clears all the Pad commands already set up for the unitload. When you click on this button, TOPS Pro automatically un-checks all the active boxes in the Pad Under column.
  - The **Slips for All button** inserts slipsheets between each layer in the unitload. When you click on this button, TOPS Pro automatically checks all the active boxes in the Slipsheet column.

- The **Clear Slips button** clears all the Slipsheet commands already set up for the unitload. When you click on this button, TOPS Pro automatically un-checks all the active boxes in the Slipsheet column.
- The **Trays for All button** places every layer in the unitload on a tray. When you click on this button, TOPS Pro automatically checks all the active boxes in the Tray column.
- The **Clear Trays button** clears all the Tray commands already set up for the unitload. When you click on this button, TOPS Pro automatically un-checks all the active boxes in the Tray column.
- The **Caps for All button** places a cap on every layer in the unitload. When you click on this button, TOPS Pro automatically checks all the active boxes in the Cap column.
- The **Clear Caps button** clears all the Cap commands already set up for the unitload. When you click on this button, TOPS Pro automatically un-checks all the active boxes in the Cap column.
- The **2nd Pat for All button** replaces all the current layers in the unitload with the selected secondary pattern. When you click on this button, TOPS Pro automatically checks all the active boxes in the 2nd Pat column.
- The **Clear 2nd Pat button** clears all the Tray commands already set up for the unitload. When you click on this button, TOPS Pro automatically un-checks all the active boxes in the Tray column.

Note: For stages other than unitload, the layer parameters will have rotation option available but not the other pallet accessories.

Advanced Tab (Unitload)

To access, from the Analysis View, highlight the pallet drawing. Then go to the Menu Bar, open the Edit menu and select Layer Parameters. You can also access this menu quickly by clicking on the layer parameters button ( ) in the Unitload View pane.



The advanced layer parameters can be set of the following two functions: **Rotation** and **Secondary pattern**:

- **None**: Click on this radio button to not apply the current any rotation or secondary pattern to the unitload.
- **Alternate**: Click this radio button to apply the current layer function to every other layer of the unitload.
- **Basic Setup**: Click this radio button to use the settings from the Basic tab.
- **Custom**: Click this radio button to select custom setup for the current layer function by enabling the Customer Layer Setup section:
  - **Custom Layer Setup (Layers, comma separated):** Select to manually specify which layers will have the pallet function.
  - **Custom Layer Setup (Repeat every):** Select to apply pallet function to specific layers. Entering a '3' for example, in the Custom Desc field will apply the function every three layers for the entire unitload.
  - **Custom Desc (Layers/Repeat):** Enter the layer number to apply the current function for the Custom Layer Setup. For example,

enter ‘1,3,4-7,10-14,30’ to apply pallet accessory to layers 1, 3, 4 thru 7, 10 thru 14 and 30 for the comma separated layer definition.

The following accessories, **Slipsheet**, **Tray**, **Pad** and **Cap**, can be set with the following options:

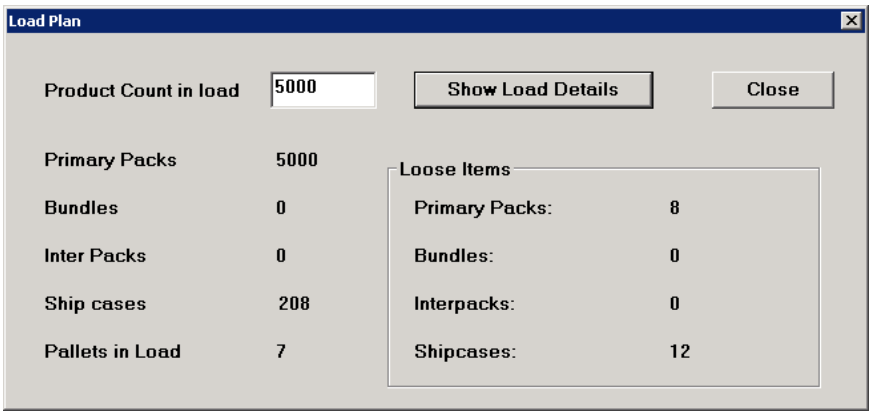
- **Standard**: Radio button used to select the standard item defaults from the Basic tab.
- **None**: Click on this radio button to not apply the current accessory to the unitload.
- **Pre-Defined**: Radio button used to select the Pre-defined item. When selected, users can select an existing item from the drop list or define an item by clicking on the New button.
  - **Description**: A pull down menu which allows you to select the Pre-defined items that are stored in the database.
  - **New**: Click this button to define new pallet accessories.
  - **Layer (All)**: Click this radio button to apply the pre-defined accessory to all layers.
  - **Layer (Alternate)**: Click this radio button to apply the pre-defined accessory to every other layer of the unitload.
  - **Layer (Basic Setup)**: This radio button will ignore the settings on the Advanced tab and use the settings from the Basic tab.
  - **Layer (Custom)**: Select this button to enable the Custom Layer Setup area.
  - **Custom Layer Setup (Layers, comma separated):** Select this option to manually specify which layers will have the pallet accessory.

    Custom Layer Setup (Repeat every): Select this option to specify which layers are to have the pallet accessory. Entering a ‘3’ for example, in the **Custom Desc** field will add the accessory between every three layers for the entire unitload.

    Custom Desc (Layers/Repeat): Enter the layer number to apply the current pallet accessory for the Custom Layer Setup. For example, enter ‘1,3,4-7,10-14,30’ to apply pallet accessory to layers 1, 3, 4 thru 7, 10 thru 14 and 30 for the comma separated layer definition.

Load Plan

Function: This dialog box provides quick summary data on the number of shipcase or pallet needed to ship a given quantity of products based on the currently selected solution in the analysis.



To access this function, click on the Interface tool button i on the toolbar.

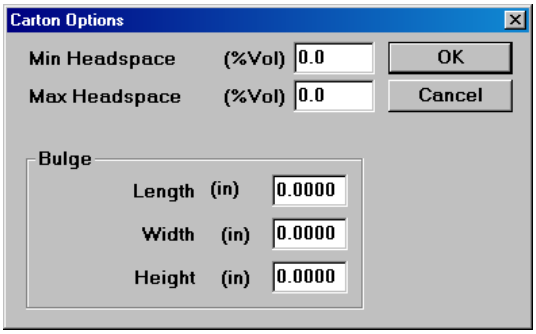
Field Descriptions and Instructions

- **Product Count in Load:** Enter the quantity of product to be shipped.
- **Show Load Details button:** Click this button to see the number of bundles, inter packs, shipcases or pallets (if used in the analysis) needed to ship the specified quantity of products.

Note: Depending on the setting in the TOPSPRO.INI file, the tool button i might open Send to Artios dialog box. To switch it back to the Load Plan function, open TOPSPRO.INI, change the line under [Integration] from "Type=XML" to "Type=LoadPlan".

Milk Carton Options

Function: This dialog box allows you to enter additional dimensions for a milk carton, such as headspace and bulge. When you create a new carton designed to contain a bulk product, such as milk, you'll need to allow for headspace at the top of the carton.



Headspace

Minimum and maximum headspace refers to the volume of air needed inside the carton prior to sealing. This feature is used only when the carton is designed for a bulk product, such as milk.

For example, when you fill a carton with milk, you'll want to add headspace to the carton to prevent the milk from spilling out when the carton is opened. The headspace dimension will give the milk carton additional "wasted" space above the contents of the milk carton.

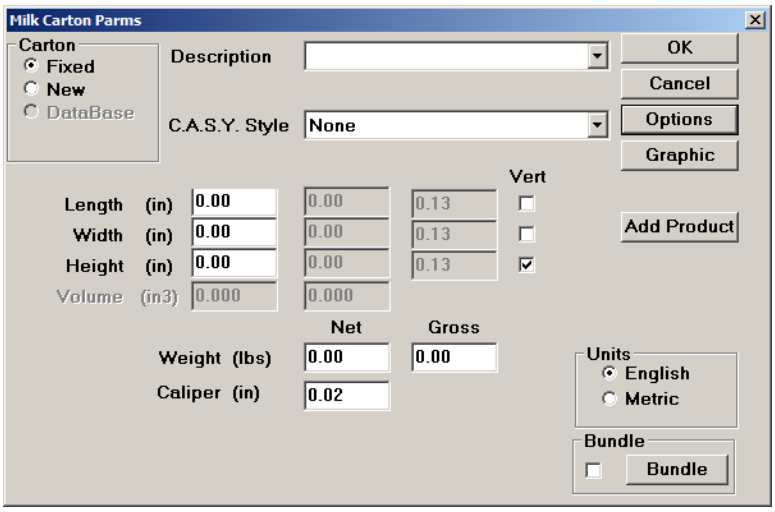
To access the dialog box, from the Milk Carton Parameters dialog box, click on the Options button.

Field Descriptions and Instructions

- **Min Headspace:** Enter a percentage of the milk carton's volume to specify the minimum headspace allowed in the milk carton.
- **Max Headspace:** Enter a percentage of the milk carton's volume to specify the maximum headspace allowed in the milk carton.
- **Bulge Length, Bulge Width, Bulge Height:** Enter the amount of bulge allowed in the milk carton's length, width and height.

Milk Carton Parameters

Function: This dialog box allows you to define parameters for different types of milk cartons, as well as containers such as dog food bag and cookie bags.



To access, click on the Milk Carton Parameters icon from the Control Panel.

Field Definitions and Instructions

- **Carton:** Select either Fixed, New or Database to specify the type of carton you want to use in your analysis.

  A **fixed analysis** requires you to enter the dimensions of a fixed milk carton.

  A **new analysis** will create a new milk carton based on other information you enter on the screen.

  Note: The **database** option is currently in development and not yet available.

- **Description:** Select from the drop list an optional description for the milk carton.

- **C.A.S.Y. Style:** Select a CASY style to display for the milk carton.

For the following three fields – **Length**, **Width** and **Height** – if you selected New Carton, you'll need to enter **Minimum**, **Maximum** and **Incremental** dimensions.

- **Length, Width, Height:** Enter the length, width and height of the milk carton.

For the following Volume field, if you selected New Carton, the system will prompt you to enter **Minimum** and **Maximum** volume dimensions.

- **Volume:** Enter the volume of the milk carton. This field allows you to adjust the milk carton's volume to eliminate any undesired dimensions. If you selected Fixed Carton, TOPS Pro will automatically calculate the volume of the milk carton.
- **Vert:** Check a box beside one of three fields – Length, Width or Height – to specify the vertical dimension of the milk carton **relative to the ground**.
- **Net Weight, Gross Weight:** Enter the net and gross weight of the milk carton.
- **Caliper:** Enter the caliper of the milk carton. The caliper is used to calculate the inside vs. outside dimensions of the milk carton.
- **Product Volume:** Displays how much space the product takes up inside the shipcase.

The following two **Volume** fields display only for a bulk product-into-milk carton analysis.

- **Volume based on size:** Displays the volume of the milk carton based on size. TOPS Pro automatically calculates this value.
- **Volume based on weight:** Displays the volume of the milk carton based on weight. TOPS Pro automatically calculates this value.
- **Options Button:** Displays the Milk Carton Options dialog box, which allows you to enter additional parameters for a milk carton, such as minimum/maximum headspace and bulge dimensions.
- **Graphic Button:** Displays the Assign Graphics dialog box, which allows you to select and display a graphic image on the milk carton.
- **Add Product Button:** Displays the Primary Pack Products dialog box, which allows you to specify the quantity and weight of the product going into the carton. This information is used to calculate Wal-Mart scores and the details will be displayed on the pallet report.

New User

Function: This dialog box allows you to add a new user to the system for login purposes.

From the User Login dialog box, click on the Add User button.

Field Descriptions and Instructions

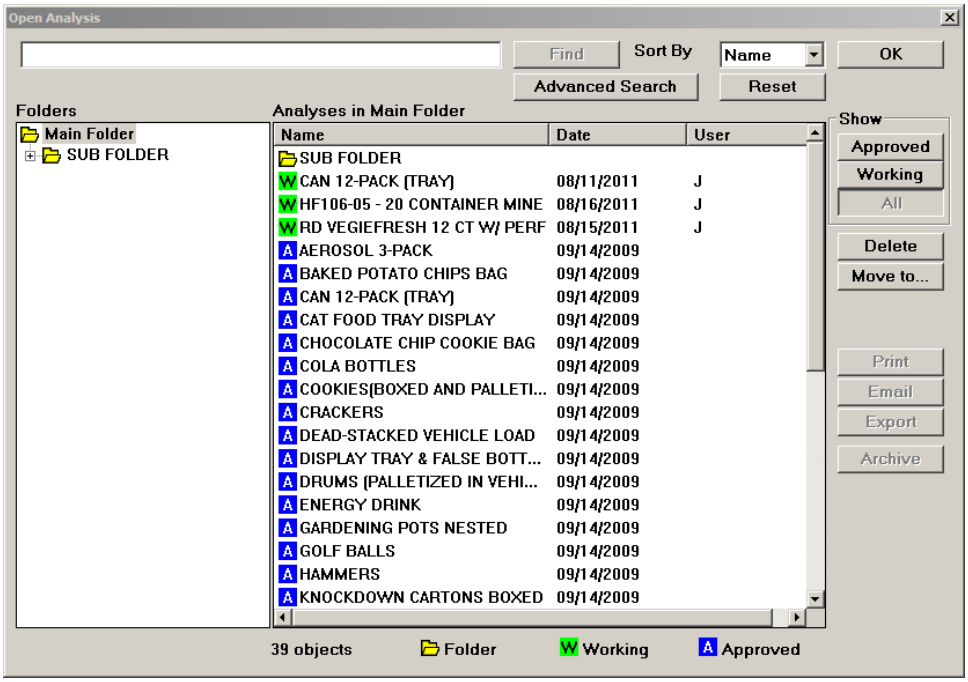
- **User Name:** Enter the name of the user you want to add to the system.

Note: At this time, there is no way to limit who may add users. Work performed under a specific user's name is only seen by that specific user. To see all analyses login as a supervisor.

Open Analysis

Function: This dialog box allows you to open or delete an existing analysis.

Note: There is no easy way to copy analyses from one user to another. If necessary, you can login as a supervisor, open another user's work, then re-save the analysis under your current login name. You can also use the user login re-name feature to move all analyses from one user to another.



From the Menu Bar, open the File menu and select Open.

Field Descriptions and Instructions

- **Find:** The Find button works with the input text box to its left. Enter a text string in the text box and click the Find button. If TOPS find any analysis with part of its name matches the text string, it will be displayed in the Search results. If no match is found, the result list is empty; you can click on the Approved, Working or All button to show existing analyses.

- **Sort By:** Select from the drop list to sort the analyses by Name, User or Date.

  Note: Analyses created with earlier versions of TOPS Pro will not have the user and date information.

- **Folders:** Display the tree view of folder structure within the TOPS analysis record database. Click the name of the folders with a (+) sign to their left to expand the hierarchy.

- **Analysis List window:** This window displays a list of all analyses that have been saved to a selected folder. Notice that the Analysis List window is organized into sections: Folders (), Working (W) and Approved (A).

  When you save an analysis, TOPS Pro includes the analysis name, the user creating the analysis and the creation date (as Working). Note that you will only see analyses created by the login user (you) and those that have been approved, unless you login as a supervisor which enables you to view all analyses.

  Select the analysis by scrolling through the list or type the first few characters of the analysis name to quickly locate the analysis. If you scroll down the analysis list, you'll see a separate section of analyses titled "Approved." All users can open and view these files, but only a supervisor can make changes to approved files. Likewise, an analysis can be approved and placed in the Approved section only if a supervisor approves it. This is a function of the User Approval switch in the Configuration program.

  Note: With your mouse cursor placed inside this area, you can click the right mouse button to access a quick menu to access some file operations.

- **Show:** Allow you to filter the Search Results based on status of the analyses: Approved, Working or All. Click the corresponding button to select the list.

- **Delete Button:** Allow you to delete a selected analysis. You will receive a message to confirm removal of the analysis.

- **Move to…Button:** Allow you to move the highlighted analyses to another folder under the Main Folder. To select multiple analyses, press down the [Ctrl] button while clicking the name of the analysis with the mouse button. You will be prompted to confirm the move.

  Note: You can also drag selected analysis and drop it to a different folder instead of using the Move button.

- **Advanced Search Button:** Display the Analysis Search dialog box, which allows you to search for a specific analysis record when the list of analysis names is too large; when you can't remember the exact name of the analysis; **when** you're trying to find an analysis that has certain products attached through its packaging profile.

- **Reset Button: Relocate**s the cursor to the top of the analysis list and reverts the selected folder back to the Main Folder.
- **Print Button:** Print a report of the highlighted analysis. This function will support multiple reports if more than one analysis has been selected.
- **Email Button:** Create JPEG images of the selected analysis reports and add them as attachments to your email client.
- **Export Button:** Export the selected analyses in the specified format (PDF, JPEG or CSV/TXT) in the folder of your choice. The CSV output will export over 45 statistics to a comma delimited file which can be opened directly in MS Excel.

Note: To select multiple reports, click the analysis name while holding down the [Ctrl] key. To select a range of analysis, click the first and last analysis name while holding down the [Shift] key.

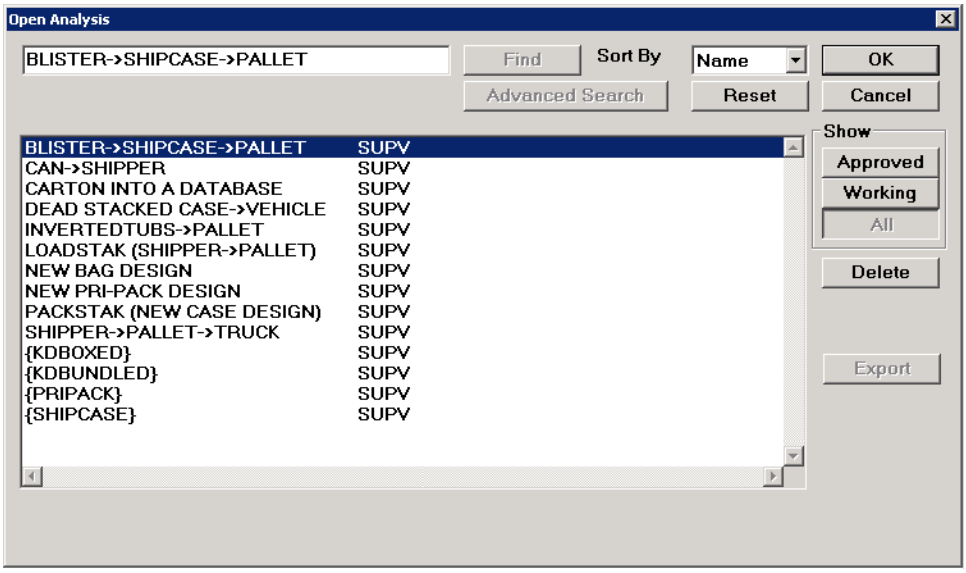
With TOPS Pro, it is not necessary to have Acrobat writer or other third party PDF writer installed in your system to create the PDF file. However, you will still need Acrobat Reader to open an PDF file.

- **Archive:** Allow you to archive infrequently used analyses and remove them from the active file list.

  Note: Archived analyses can be restored any time and posted back to the Main Folder for review. To restore archived analyses, please refer to the next section.

Open Analysis (New via Template)

Function: This dialog box allows you to create a new analysis by opening a pre-defined template of design sequence.



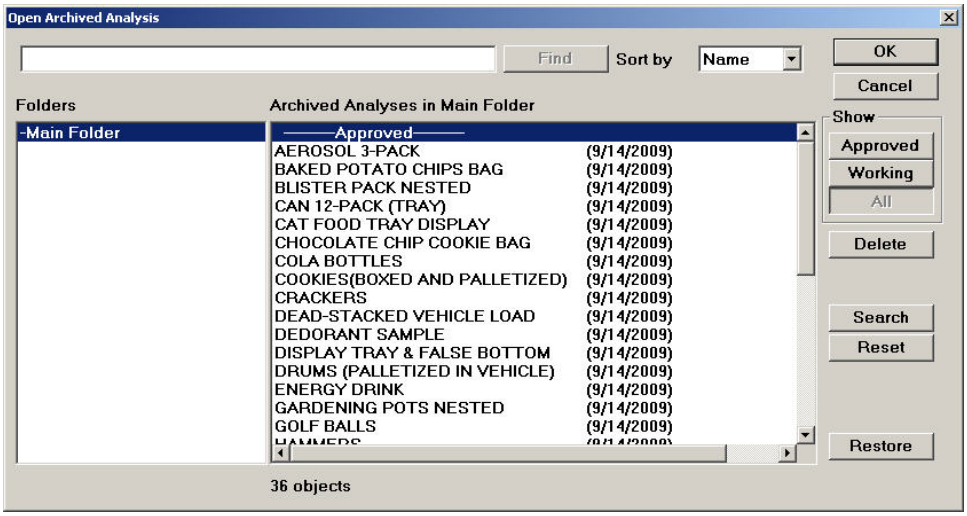
To access, open the File menu and select New via Template.

Field Descriptions and Instructions

- **Find:** The Find button works with the input text box to its left. Enter a text string in the text box and click the Find button. If TOPS find any analysis with part of its name matches the text string, it will be displayed in the Search results. If no match is found, the result list is empty.
- **Sort By:** Select from the drop list to sort the analyses by Name, User or Date.
- **Show:** Though available, this function is not applicable to templates.
- **Delete Button:** When logged in as Supervisor, this allows you to delete the selected pre-defined template. You will receive a message to confirm removal of the analysis.
- **Reset Button:** Redisplay the list of pre-defined templates after the search results.

Open Archived Analysis

Function: This dialog box allows you to restore any archived analyses and move them back to the Main Folder for review.



From the Menu Bar, open the File menu and select Open Archive.

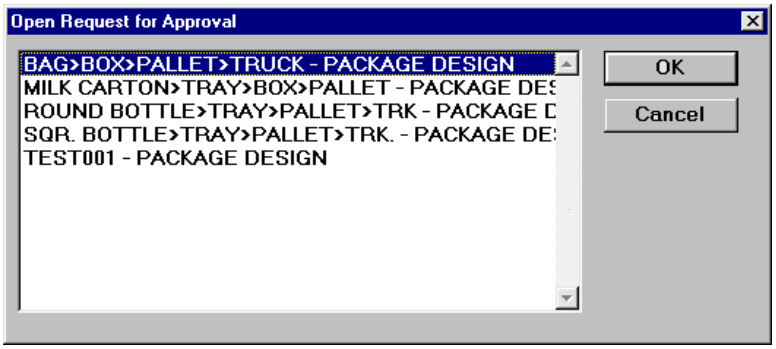
Field Descriptions and Instructions

- **Find:** The Find button works with the input text box to its left. Enter a text string in the text box and click the Find button. If TOPS find any archived analysis with part of its name matches the text string, it will be displayed in the Search results. If no match is found, the result list is empty; you can click on the Approved, Working or All button to show existing archived analyses.
- **Sort By:** Select from the drop list to sort the analyses by Name, User or Date.
- **Folders:** Display the tree view of folder structure within the TOPS analysis record database. Click the name of the folders with a (+) sign to their left to expand the hierarchy.
- **Archived Analyses:** Display the list of archived analyses in the selected folder.
- **Show:** Allow you to filter the Search Results based on status of the archived analyses: Approved, Working or All. Click the corresponding button to select the list.
- **Delete:** Allow you to delete a selected analysis. You will receive a message to confirm removal of the analysis.

- **Search:** Display the Analysis Search dialog box, which allows you to search for a specific analysis record when the list of analysis names is too large; when you can't remember the exact name of the analysis; when you're trying to find an analysis that has certain products attached through its packaging profile.
- **Reset:** Move the cursor to the top of the analysis list, which allows you to continue your search from the top of the list.
- **Restore:** Click to restore the selected archived analyses and place them back to the active file list in the Main Folder.

Open Request for Approval

Function: This dialog box displays a list of analyses that are waiting in the queue to be either approved or denied by a supervisor.



To access: First, login as a supervisor. Next, start from the Menu Bar, open the Supervisor menu and select Open Request.

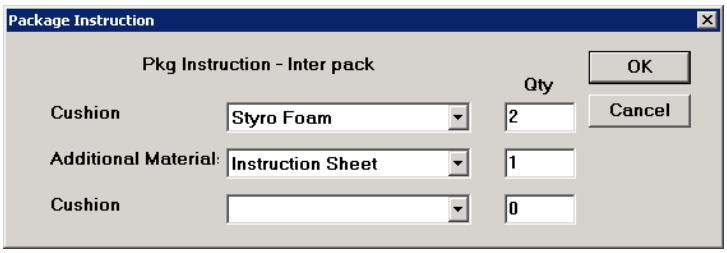
Field Descriptions and Instructions

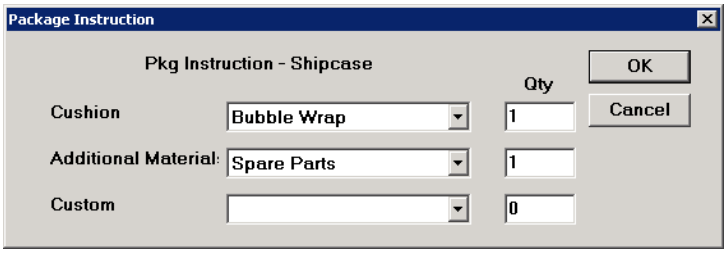
- **Analysis List:** Displays a list of analyses that are waiting in the queue to be either approved or denied by a supervisor.
- Click on OK to open the request for approval or denial.

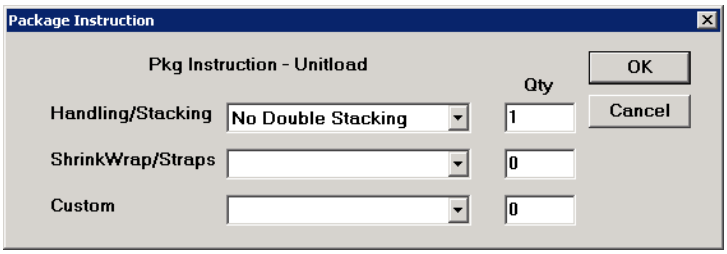
For detailed information on the approval/denial process, please refer to Chapter 15, Supervisor Functions.

Package Instruction

Function: This dialog box allows you to add notes to the report with regards to packaging instructions for intermediate pack, shipcase or unitload.







To access: First, you must complete a package analysis and at the solution view, click on the Package Instruction icon (P.I.) at each stage to open the dialog box. You can also access the dialog box by going to the Edit Menu and select Package Instruction, just make sure the corresponding stage has been highlighted.

Field Descriptions and Instructions

- **Cushion:** Select any cushioning or protective material for the primary or inter packs and make sure to specify the quantity of at least '1' for the information to appear in the report.
- **Additional Material:** Specify any additional materials to be added to the carton or shipcase.

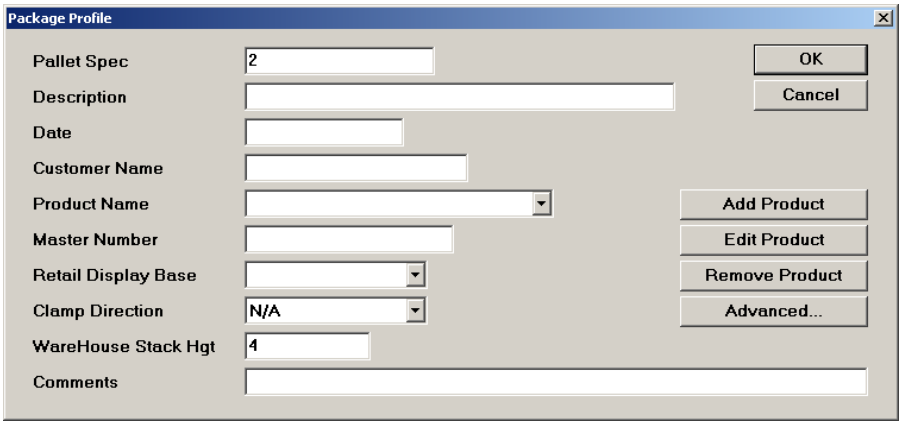
- **Handling/Stacking:** For unitloads, add any additional notes to the report regarding handling. Make sure to specify the quantity of 1 for the instruction to appear in the analysis report.
- **ShrinkWrap/Straps:** Instead of graphically showing the straps or shrinkwrap on the unitload, you can use text instructions in the report and display them with the 3D graphics or in the Packaging section towards the bottom of the report.
- **Custom:** Add any custom notes as desired.

Note: The Field Descriptions described above and their available options are customized via INI files saved in the TOPSPro folder. If you need to adjust these data or have any questions, please contact TOPS technical support team.

Package Profile

Function: This dialog box allows you to create a package profile for a complete package analysis, sometimes called a cube specification. The package profile is designed for situations where many products use the same packaging. For example, if you package cereal, you can use the same box for several different brands of cereal.

You'll use the Package Profile dialog box to add each individual product to the package profile. Each product will appear on the profile differentiated by name, UPC, product code, declared weight and a calculated gross unitload weight.



To access: First, you must complete a package analysis and save it to the database. Then go to the Menu Bar, open the File menu and select Package Profile.

Field Descriptions and Instructions

- **Pallet Spec:** Enter the specification number for the pallet style. By default, TOPS Pro suggests a unique spec ID.
- **Description:** Enter a description of the package profile being created.
- **Date:** Enter the current date to specify when the package profile was created.
- **Product Name:** Select a product name associated with the package profile or type in the first few letters of the product.

  Note: The drop-down list displays products that have been added to this profile. You'll use this field to edit or delete a product.

- **Master Number:** Enter the master number associated with the package profile.

Note: You can use this field for any numeric value. To rename the field, use the Text Modification dialog box. For more information, please refer to page B-178.

- **Retail Display Base:** This is a reserved key.
- **Clamp Direction:** Select the clamp direction associated with the package profile.

  Note: The printout will show clampability arrows on the unitload according to your input here. Unlike the clampable option on the UnitLoad Options dialog box, the clamp direction does not affect the calculations.

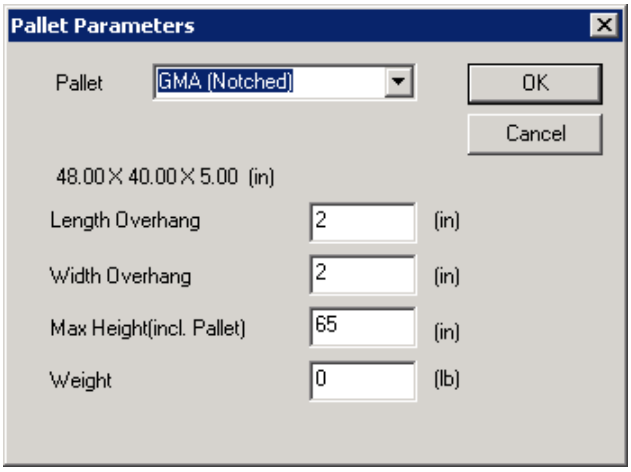
- **WareHouse Stack:** Enter the maximum stacking height for your warehouse.

  Note: Like the Master Number field, you can use this field for any numeric value by renaming it via the Edit/Language function.

- **Comments:** Enter the text of any comments that are relevant to the package profile.
- **Add Product Button:** Displays the Specification Products dialog box, which allows you to define parameters for a new product to be added to the Product Name drop-down list.
- **Edit Product Button:** Allows you to select and delete a product from the product list in the package profile.
- **Remove Product Button:** Allows you to select and remove a product from the pallet specification in the package profile.
- **Advanced:** This is a customized feature for additional profile information.

Pallet Parameters (MixPro)

Function: This dialog box allows you to select the pallet parameters used in calculating a solution in your MixPro application. The pallet specifications are predefined inside TOPS and can be adjusted through TOPS as well.

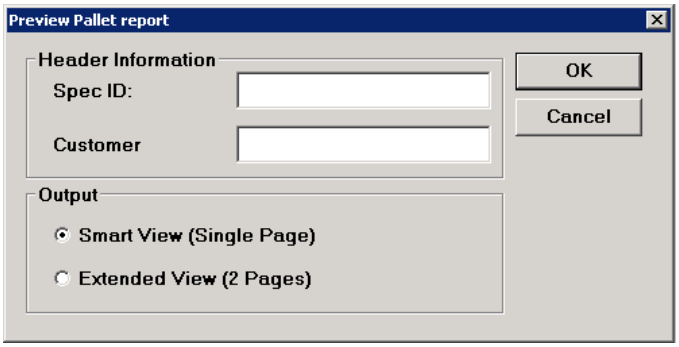


To access, click on the MixPro Tool Button and select MixPro Mixed Pallet Editor to access MixPro Pallet module, then click on the Pallet button to open the Pallet Parameters dialog box.

- **Pallet:** Select the pallet to be used in your calculation from the drop list.
- **Length Overhang:** Enter the amount of overhang allowed along the length of the selected pallet.
- **Width Overhang:** Enter the amount of overhang allowed along the width of the selected pallet.
- **Max Height (incl. Pallet):** Enter the maximum height of the pallet load, including height of the selected pallet for your MixPro solution.
- **Weight**: Select the maximum weight for your solution.

Preview Pallet report

Function: This dialog box allows you to select the type of pallet report to preview before the action to print or export.



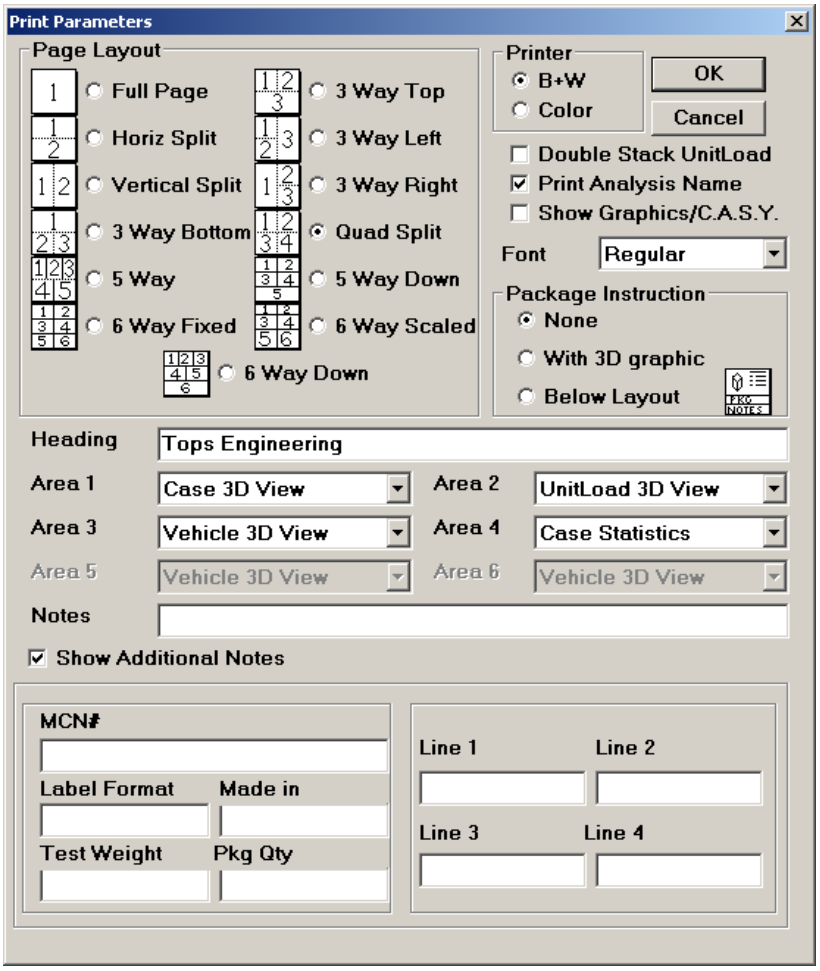
To access, open the File menu, go to Print Preview and select Pallet Report.

Field Descriptions and Instructions

- **Spec ID:** Enter this optional data in the header section of the pallet report.
- **Customer:** This field allows you to enter your customer's name for this particular pallet report.
- **Output:** Click the radio button to select to type of Pallet Report to be created.
  - The **Smart View** is a single page report providing shipcase and unitload data with a graphical illustration of the unitload.
  - The **Extended View** is a two page report providing additional data on efficiency data for area and cube usage as well as Wal-Mart specific efficiency data.

Print Parameters

Function: This dialog box allows you to design the layout of your printed output of an analysis, then decide what type of information will be included and how that information will be presented (different graphical views, text and numbers, etc.).



To access, open the File menu and use one of three options from the Menu Bar:

- Select Print, then select Analysis.
- Select Page Setup.
- Select Print Preview, then select Analysis.

Field Descriptions and Instructions

- **Page Layout:** Select one of these possible page layouts. The value in parenthesis is the code for the corresponding layout in print setup.
  - The **Full Page layout (1)** allows you to select only one area of the analysis to print.
  - The **Horizontal Split (H)** and **Vertical Split (V) layouts** allow you to select two areas of the analysis to print.
  - The **3 Way Bottom (B), 3 Way Top (T), 3 Way Left (L)** and **3 Way Right (R) layouts** allow you to select three areas of the analysis to print.
  - The **Quad Split (4) layout** allows you to select four areas of the analysis to print.
  - The **5 Way (5)** and **5 Way Down (3) layouts** allow you to select five areas of the analysis to print.
  - The **6 Way Fixed (6), 6 Way Scaled (S)** and **6 Way Down (D) layouts** allow you to select six areas of the analysis to print.

  Note: The Print Preview function allows you to view and annotate the various layouts before printing.

- **Heading:** Enter the text of the heading that you want to appear at the top-center of the printout.

  Note: If you leave the Heading field blank, TOPS Pro will center the analysis name at the top of the printout. If you want the heading space to be blank and keep the analysis name on the left, enter a space in the Heading field.

- **Areas 1, 2, 3, 4, 5 and 6:** Select the area(s) of the analysis from which you want to print information.

  Note: Be aware that the number of areas available to select from depends on the page layout you selected. For example, if you selected the Horizontal Split layout, which contains two sections, you'll be able to select from only two areas.

  Notes: Enter the text of any notes that you want to appear at the bottom of the printout.

  Note: If you enter more notes than will fit on one line of the printout, the notes text will wrap to the next line. To force the notes text down a line, enter the left apostrophe character (`) at the end of the line.

- **Printer:** Select either B+W or Color to specify whether the output will be printed in black and white or in color.

  Note: Black-and-white printing is basically a line drawing. Color printing on a non-color printer is a 3-D shaded halftone. You can change colors by using the Color Selection dialog box.

- **Double Stack UnitLoad:** Check the box to print output as a double-stacked unitload. This option applies to the UL 3D View, UL Side View, UL Plan View and UL Front View areas.

- **Print Analysis Name:** Check the box to print the analysis name on the printout.

- **Show Graphics/C.A.S.Y.:** Check the box to show graphics/CASY design in the printout.

  Note: This switch will reflect the Show Graphics status prior to entering this dialog box. This switch will normally be checked if you're using the paste-on graphics feature. If the analysis includes both graphics and a CASY design, the system will display the CASY design, not both.

- **Font:** Select from the drop list among Regular, Small and Very Small for the font size to be used in the reports.

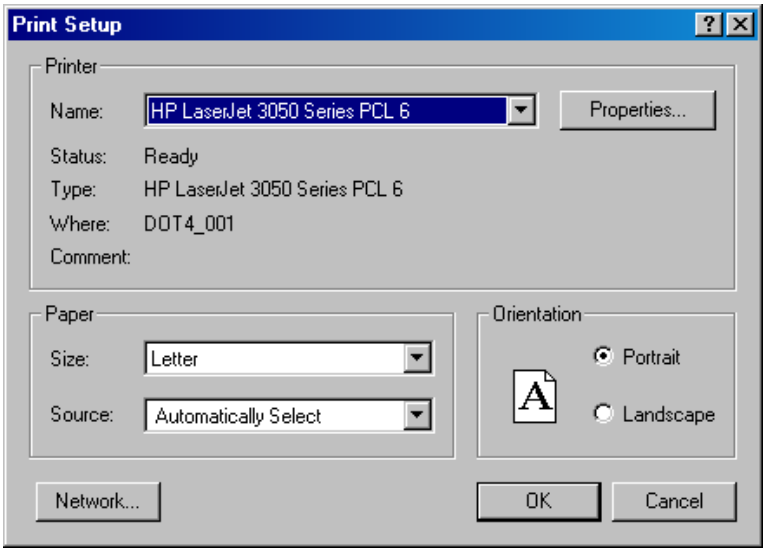
- **Package Instruction:** Users can add additional recurring notes regarding straps, corner posts or shrinkwrap, to Carton, Shipcase or Pallet solutions. Users can specify whether to add these notes in the 3D graphics portion or at the bottom part of the report.

  To add package instructions, go to Edit and select Package Instruction or click on the ( ) button at each of the graphic solution view.

- **Show Additional Notes:** Check this box to enable additional notes to the print report as specified. The additional notes information will appear right after the page layout and before the Notes section.

Print Setup

Function: This dialog box allows you to set up parameters for your printer.



From the Menu Bar, open the File menu and select Printer Setup to access the dialog box.

Field Descriptions and Instructions

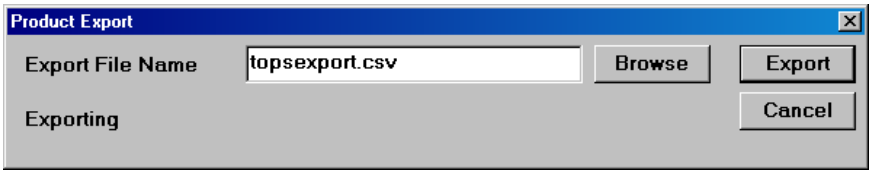
For information about the Print Setup dialog box, please refer to your Microsoft documentation.

Product Export

Function: This dialog box allows you to export a product report or analysis summary via the Export Menu. This report exports information to an ASCII comma delimited text file in a form suitable for import into Microsoft Access or Excel.

For Product Report, the export file includes information on every product attached to an approved package profile.

For analysis summary, the export file includes all analyses within the TOPS Pro database, including both working and approved analyses. Data being exported include analysis name, approval status, dimensions and weight of all primary packs, intermediate packs, shipcases, unitloads and pallet information.



To access: From the Menu Bar, open the Export menu and select Product Report or Analysis Summary.

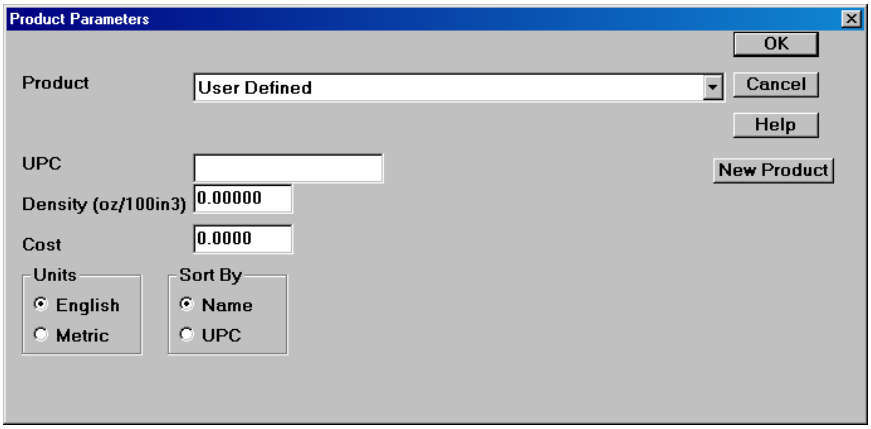
Note: To print a Product Report, open the File menu, select Print Databases, then select Product Report.

Field Descriptions and Instructions

- **Export File Name:** Displays the name of the file to be exported. This should bear a .csv or .txt extension in order to be readily imported into MS Excel or Access.
- **Browse:** Clicks to specify the location and name of the exported file.
- **Exporting:** Displays the status of the export.
- **Export Button**: Exports a selected file to the export destination.

Product Parameters

Function: This dialog box allows you to define parameters for a bulk product. You'll use Product Parameters in a New Carton analysis or to add products to a package profile.



To access: From the Control Panel, click on the Granular icon (blue) , Bulk icon (yellow) , or the Powder icon (red)

Field Definitions and Instructions

- **Product:** Select a product.

  Note: The drop-down list contains products that are already set up in the database. If a product is not on the list, you can add it to the database using the Define Product dialog box.

- **UPC Code:** Displays the Universal Product Code for the product.

  Note: This field is used only by the package profile. When you add a UPC code to a package profile, all UPC codes must be unique within the analysis.

- **Density:** Enter the density of the product in ounces per 100 inches cubed or in grams per liter, depending on the Units selected.

  Note: This field is used only for a bulk product analysis. In this case, TOPS Pro considers the density of the product when it generates solutions. If the analysis does not include a bulk product, TOPS Pro generates solutions based on air volume.

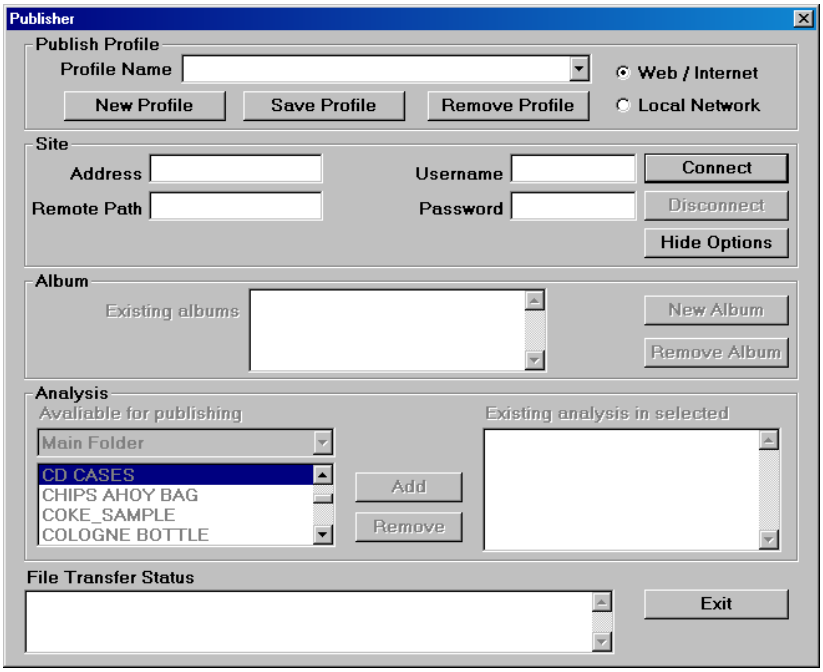
- **Cost:** Displays the cost of the product.

Note: This field is used only for a bag analysis that includes bulk product.

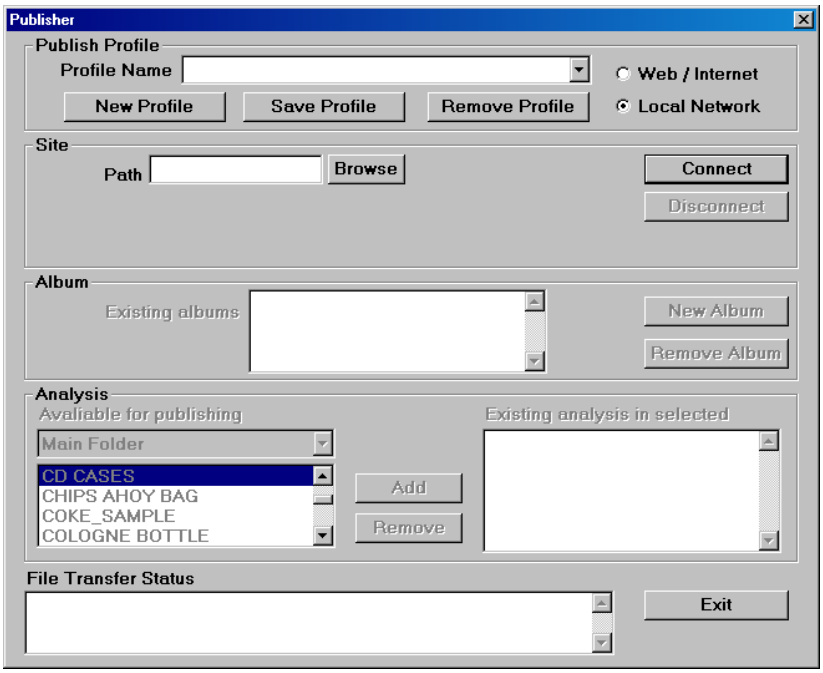
- **Sort By:** Displays either Name or UPC to specify how the product is sorted.
- **Units:** Displays either English or Metric to specify how the product units are measured.
- **New Product Button:** Displays the Define Product dialog box, which allows you to enter parameters for a new product (a product not already defined in the system).

Publisher

Function: This dialog box allows you to convert an analysis to HTML format and publish it to the Internet or to a network location.



Publisher To Web Option



Publisher To Network Option

Note: This dialog box displays a different set of fields – as pictured on the previous page – depending on whether you selected To Web or To Network from the File menu.

To access: From the Analysis View pane, open the File menu and select Publish Analysis, then select either To Web or To Network.

Field Definitions and Instructions

- **Publish Profile:** A profile containing the settings of a specific site you'd like to publish the analyses to. This section allows you to create a new profile or select an existing profile for a site, as well as specify whether the profile is based on the Web or a local network. Setting up a profile allows you to quickly recall the site settings when you are ready to publish analyses for sharing.
- **Site:** Allows you to specify the detail configuration of the location saved under the profile name. If you select an existing profile, this section will display the previously saved settings for the profile.

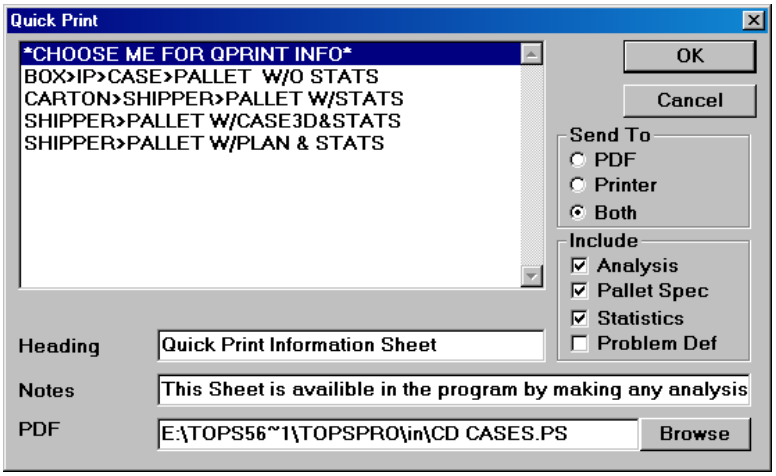
  With the Web/Internet option selected, the Site section prompts you to enter information for **Address, Remote Path, User Name** and **Password**.

  With the Local Network option selected, the Site section prompts you to enter a **destination path**.
- **Album:** Allows you to create a new album or select an existing album to which the selected analysis will be stored.
- **Analysis:** Allows you to select and add one or more analyses to be published as part of the profile.
- **File Transfer Status:** Displays a list of FTP transactions (when publishing a profile to the Web).

For more information on how to use the publishing function in TOPS Pro, please refer to Chapter 4, Publishing an Analysis.

Quick Print

Function: This dialog box allows you to select a standardized printing template and print output for an analysis, based on the selected template. This feature allows you to print output for an analysis without manually defining parameters on the Print Parameters dialog box.



To access: From a View panel (Graphic or Text), click on the Print button and then select QPrint in the pop-up menu.

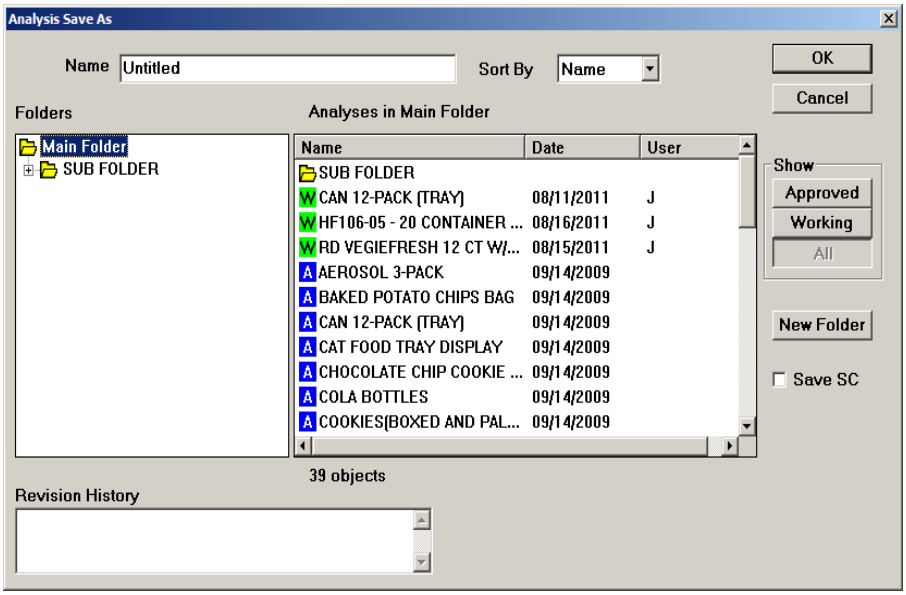
Field Descriptions and Instructions

- **Analysis List:** Select the analysis you want to print.
- **Heading:** Enter the text of the heading.
- **Notes:** Enter the text of any notes that will appear on the printout.
- **PDF:** Use the Browse button to select a PDF file to print to.
- **Send To:** Select an option – PDF, Print or Both – to specify where the analysis will be sent.
- **Include:** Select one or more options to specify what will be included in the printout.

Save As

Function: This dialog box allows you to save an analysis record to the database and place it in a selected folder.

Note: Be aware that this function does not save an analysis as a file on your hard drive. Rather, it saves the analysis as a record to the TOPS Pro database – an important difference to remember when you need to open or search for an analysis.



To access, go to the Menu Bar, open the File menu and select Save or Save As.

Field Descriptions and Instructions

- **Name:** Enter the name of the analysis.

  Note: You can use any characters and **a max**imum length of 31 characters. If you enter a name of an unapproved analysis that has already been used, TOPS Pro will prompt you to overwrite the duplicate name.

  If the duplicate analysis is being used at the time, the system will reject the name and prompt you to enter another one. There may be approved and unapproved (working) analyses with the same names.

- **Sort By:** This function will sort the analyses by Name, User or Date. Users will select the sort option in the drop down list box.

Note: Analyses created with earlier versions of TOPS Pro will not have the user and date information.

- **Folders:** Displays a tree view of all existing folders. You can save the analysis into any of these folders; Main Folder is the default. The window below the Folder field displays a list of folders and analyses that have been saved to a selected folder.

- **Analyses in Main Folder:** Displays a list analysis names that have been created by the user under the current folder. The top portion of the list displays all sub-folders, followed by analyses that have not yet been approved (**W**orking). The bottom portion of the list displays analyses that have been approved (**A**pproved), if there are any.

  Note: If the user is logged in as a supervisor, he or she will be able to see **all** the users' analyses, along with the user associated with each analysis. If the user is logged off, then only the analysis name will display (no user name).

  For more information, please refer to Chapter 15, Supervisor Functions.

- **Show**: The Show option allows you to filter the analyses to be displayed based on their approval status, Approved, Working or All. Click the corresponding button to select the list.

- **New Folder**: The New Folder button allows you to create a new folder and add it to the current database.

- **Revision History:** Enter any notes related to revisions to the analysis.

  Note: When you perform a Print Preview for the analysis, TOPS Pro attaches the revision history notes to the bottom of the screen – if the Print Revision option is activated on the Configuration Screen.

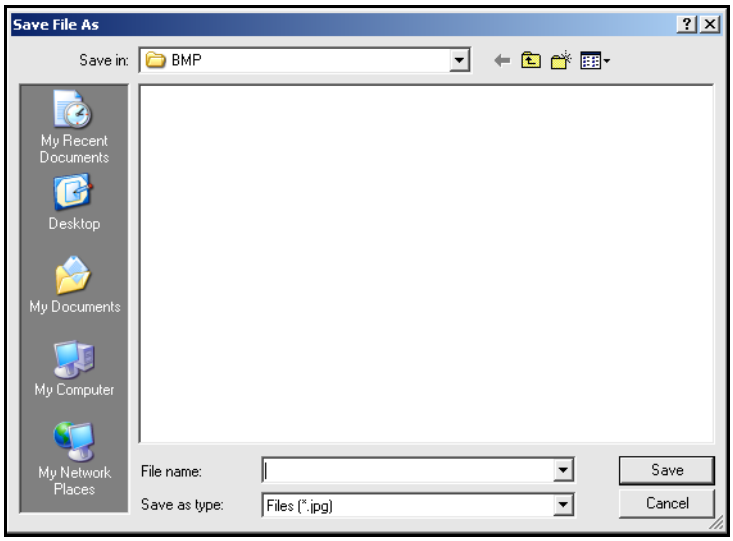
  The Print Preview will display up to five lines of revision history text. After the revision history exceeds five lines, adding more text will delete your oldest revision history entry.

- **Save SC:** Allows you to save a new shipcase directly to the Shipcase database at the same time you save the analysis. .

Save File As

Function: This dialog box allows you to save a graphic file to a designated directory. This can be accessed by right clicking a solution image or by clicking the image, then going to Export, and selecting the image type to be exported.

The same dialog box also opens to allow you to save an analysis as an XML file via the Save As XML option under the File Menu.



This dialog is available upon opening the Export menu and selecting one of the graphic formats from the Menu Bar.

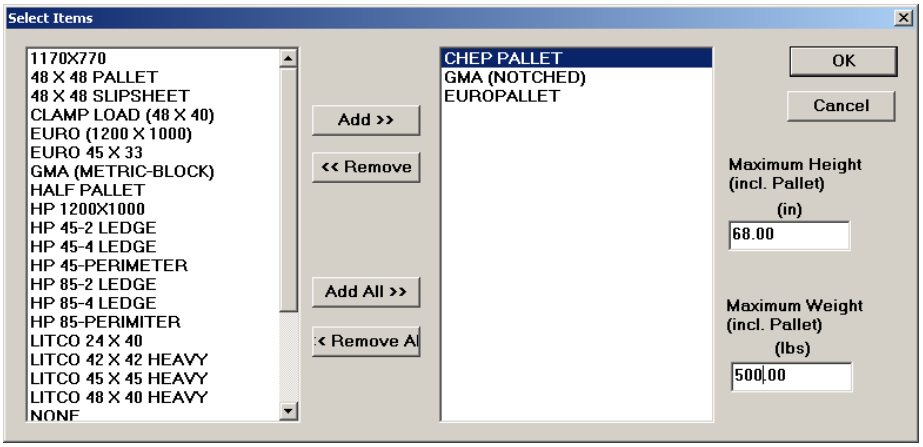
- BMP (Color)
- BMP (B+W)
- EPS
- TIFF
- PCX
- JPEG
- PNG
- PDF
- WMF

Field Descriptions and Instructions

- **Save in:** Displays the current directory path of \BMP\ for graphics files and \DATA\ for XML files. Click on the various folders to find the path to which you want to save the file.
- **File Name:** Enter the name of the graphic file. Changing the file extension (.bmp, .jpg, etc.) does not change the file type.
- **File List:** Scroll down the list to select the name of an existing graphic file.
- **Save File As Type:** Use the default file type listed for the corresponding file.

Select Items

Function: This dialog box allows you to select multiple pallet styles to be used in a calculation.



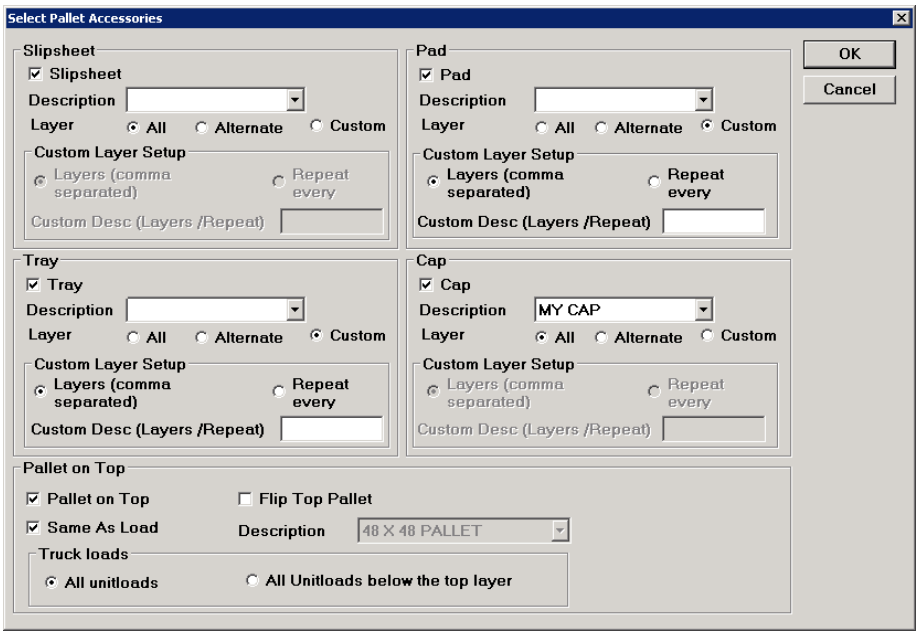
To access: From the UnitLoad Parameters dialog box, select the Multi Pallets option and click on the Select Pallets button.

Field Descriptions and Instructions

- **Available Pallet List (left):** Display all available pallets in the TOPS Pro database.
- **Selected Pallet List (right):** Display the list of pallets added to be used for calculation in the current analysis.
- **Add Button:** Press to add the highlighted pallet in the available list to the selected pallet list.
- **Remove Button:** Press to remove the highlighted pallet from the selected list and move it back to the available list.
- **Add All:** Press to select all available pallets in the database and add them to the selected list.
- **Remove All:** Press to remove all selected pallets from the selected list.
- **Maximum Height (Incl. Pallet):** Allow the user to specify the height of each individual pallet in the Multi Pallet configuration.
- **Maximum Weight (Incl. Pallet):** Allow the user to specify the weight of each individual pallet in the Multi Pallet configuration.

Select Pallet Accessories

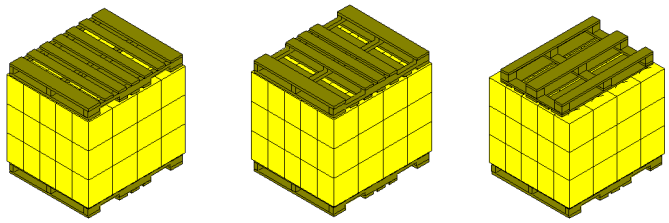
Function: This dialog box allows you to add different pallet accessories to the unitload including slipsheets, pads, trays, caps and to add a pallet on top of the unitload.



To access, click on the Layer button in the UnitLoad Parameters dialog box.

- **Slipsheet, Pad, Tray and Cap:** Check the corresponding radio button to add selected accessory to all, alternate or custom layers of the unitload.
- **Custom Layer Setup**: When custom accessory is used, use the following option to specify custom setup:
  - **Custom Layer Setup (Layers, comma separated):** Select to manually specify which layers will have the pallet function.
  - **Custom Layer Setup (Repeat every):** Select to apply pallet function to specific layers. Entering a '3' for example, in the Custom Desc field will apply the function every three layers for the entire unitload.
  - **Custom Desc (Layers/Repeat):** Enter the layer number to apply the current function for the Custom Layer Setup. For example, enter '1,3,4-7,10-14,30' to apply pallet accessory to layers 1, 3, 4 thru 7, 10 thru 14 and 30 for the comma separated layer definition.

- **Pallet on Top**: Check this option to add a pallet on top of the unitload.
  - **Same as Load**: Check this option to use the same type of pallet as the unitload.
  - **Description**: When the Same as Load option is unchecked, select from the list box a new pallet type to place on top of the unitload.
  - **Flip Top Pallet**: Check this option if you are flipping the pallet over when placed on top of the unitload.

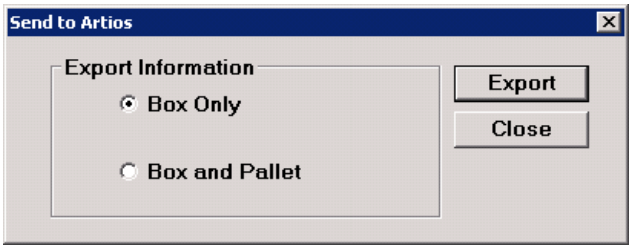


Unitload with pallet on top | Unitload with top pallet flipped | Unitload with flipped Euro pallet on top

- **Truck Loads**: Specify whether to apply 'pallet on top' to all unitloads inside the vehicle or just to the bottom layers.

Send to Artios

Function: This dialog box allows you to export the current analysis to ArtiosCAD.



To access this function, use one of the following methods:

- Go to the Export Menu and select Send to Esko Artios.
- Click on the Interface tool button on the toolbar.

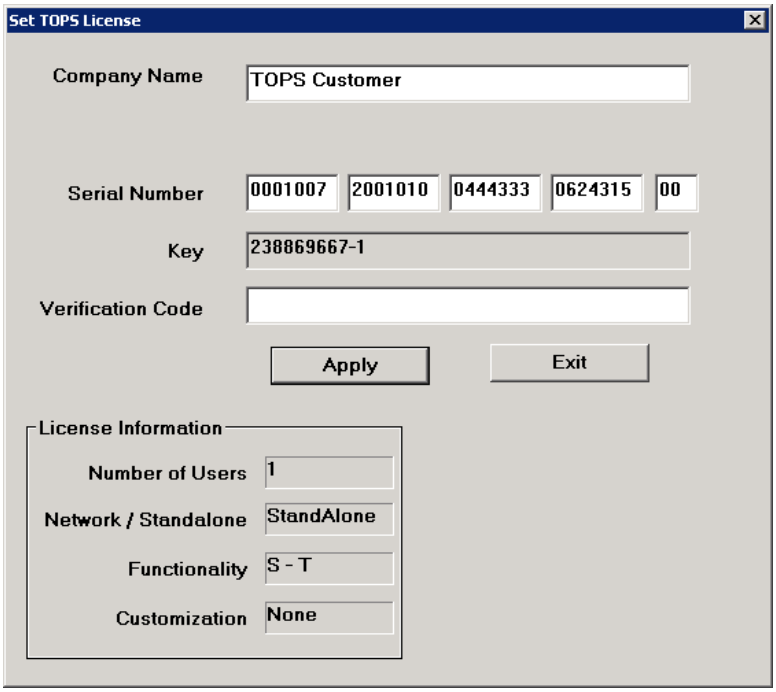
Field Descriptions and Instructions

- **Export Information:** Click the corresponding radio button to specify the type of data to be exported from the current analysis.

Note: Depending on the setting in the TOPSPRO.ini file, the tool button might open the Load Plan dialog box which provides quick summary data on the number of shipcase or pallet needed to ship a given quantity of products.

Set TOPS License

Function: This dialog box allows you setup your purchased TOPS Pro license.



To access: After logging in as Supervisor (password is "tops software"), go to Supervisor Menu and go to Set License.

This dialog box will also be opened automatically after you have successfully installed TOPS and run the program for the first time.

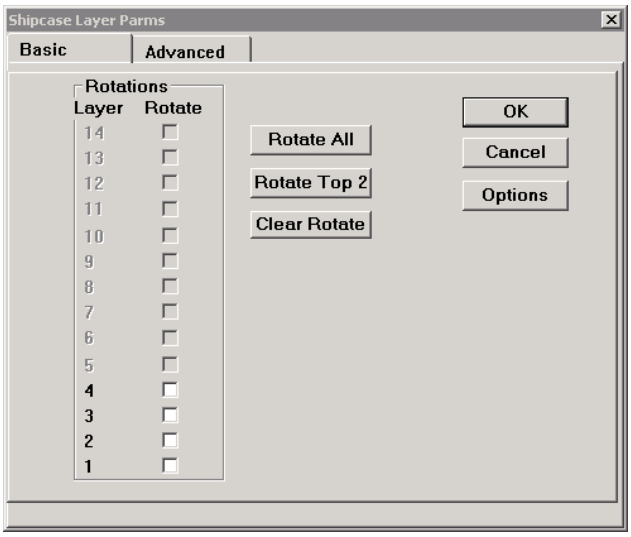
Note: Your license is not set until you enter the Verification Code furnished to you from TOPS. Until then, the License Information area will not reflect the license configuration you actually purchased.

- **Company Name:** Enter the registered licensee name. Make sure to enter the name EXACTLY as provided to you. If you receive a checksum error when you setup the license, this means the Company Name you entered does not match the one provided to you.
- **Serial Number:** Enter the serial number provided to you by TOPS. The first 7-digit will be your short form serial number as marked on the face of you TOPS software CD or plastic CD case.
- **Key:** Provide this number to TOPS when you contact us to setup the license.

- **Verification Code:** This will be provided to you when you contact us to setup the license.
- **Apply button:** After all the information has been entered, click this button to complete license setup. You will see a message "Successfully Set License" if all data are entered correctly. Check the License Information section at this time to verify your license configuration: stand-alone versus network and the number of users if yours is a network license.

Shipcase Layer Parameters

Function: This dialog box allows you to define layer parameters in a shipcase, including rotation. You can use this dialog box to interlock and pinwheel products into a shipcase.



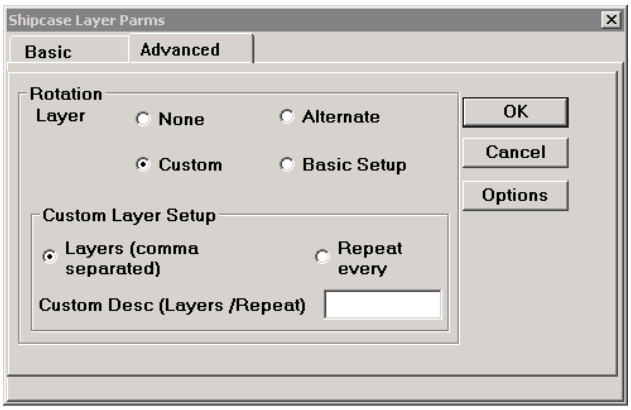
To access: From the Analysis View, highlight the shipcase drawing. Then go to the Menu Bar, open the Edit menu and select Layer Parameters. You can also click on the layer parameters button ( ) in the shipcase solution view pane.

Basic Tab

- **Layer:** Display a column of layers that correspond to a shipcase solution. Each layer represents a specific layer of primary packs inside a shipcase. For example, Layer 1 represents the first layer, Layer 2 represents the second layer and so on.
- **Rotate:** Check the box to rotate a specific layer inside the shipcase
- **Rotate All Button:** Rotate every other layer in the shipcase. When you click on this button, TOPS automatically checks all the active boxes in the Rotate column.
- **Rotate Top 2 Button:** Rotate the top two layers inside the shipcase.
- **Clear Rotate Button:** Clear all the Rotate commands already set up for the shipcase. When you click on this button, TOPS automatically un-checks all the active boxes in the Rotate column.
- **Options Button:** Open the Layer Parameters dialog box to specify how the Rotate command will be executed.

Note: The Rotate function is most often adjusted when you're rotating patterns that are symmetrical, such as some pinwheel patterns. In that case, try only width or length flip – not both.

Advanced Tab



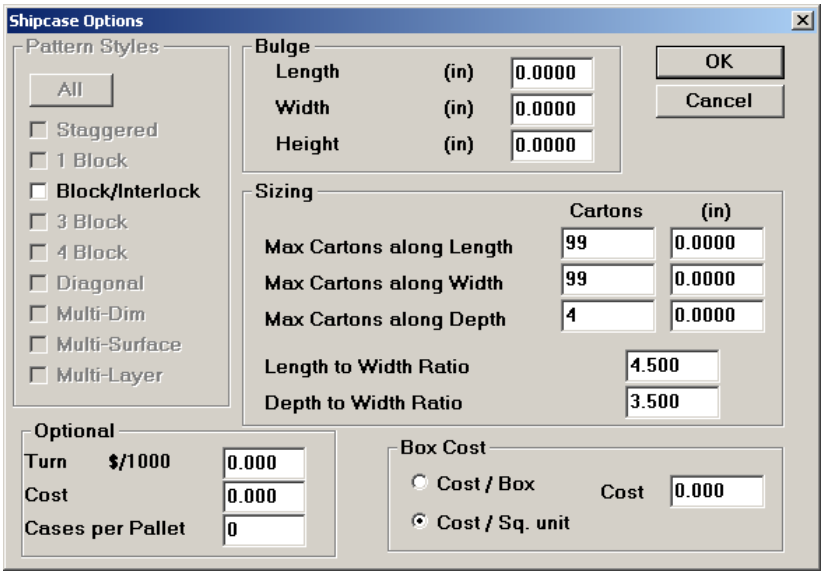
The Advanced tab provides advanced rotation function.

- **None**: Click on this radio button to not apply any rotation.
- **Alternate**: Click this radio button to rotate to every other layer of the unitload.
- **Basic Setup**: Click this radio button to use the settings from the Basic tab.
- **Custom**: Click this radio button to select custom rotation by enabling the Customer Layer Setup section:
  - **Custom Layer Setup (Layers, comma separated):** Select to manually specify which layers will have the rotation inside the shipcase.
  - **Custom Layer Setup (Repeat every):** Select to apply rotation to specific layers. Entering a '3' for example, in the Custom Desc field will rotate the primary packs every three layers inside the shipcase.
  - **Custom Desc (Layers/Repeat):** Enter the layer number to apply layer rotation. For example, enter '1,3,4-7' to rotate layers 1, 3, 4 thru 7 only (for the comma separated layer definition).

Shipcase Options

Function: This dialog box allows you to enter bulge and sizing parameters for a shipcase.

Note: This dialog box is used for shipcases and trays.



Sizing

The Shipcase Options dialog box allows you to fine-tune the size dimensions of the shipcase. It limits the scope of the analysis solution by limiting the maximum dimensions and ratios.

For example, if you specify a maximum of four cartons along the length, width and depth of the shipcase, TOPS Pro will generate a solution with no more than four cartons along the length, four cartons along the width and four cartons along the depth of the shipcase – a maximum of 64 cartons. The maximum is 64 cartons, but TOPS Pro will also generate other solutions with less than 64 cartons.

To access: From the Shipcase Parameters dialog box, click on the Options button.

Field Descriptions and Instructions

The following field – **Pattern Styles** – displays only if you selected Fixed Case on the Shipcase Parameters dialog box.

- **Pattern Styles:** Select one, multiple or all pattern styles for which you want TOPS Pro to generate solutions.

  Note: If you selected Fixed or Database as the Case option on the Shipcase Parameters dialog box, the Pattern Styles options will be available. If you selected New as the Case option, the Pattern Styles options will be grayed out and unavailable.

- Bulge Length, Bulge Width, Bulge Height: Enter the amount of bulge allowed in the shipcase's length, width and height dimension respectively.

The following **Sizing** fields display only if you selected New Case on the Shipcase Parameters dialog box.

- **Max Cartons along Length/Width/Height:** Enter the maximum number of cartons allowed along the length, width and height of the shipcase respectively.
- **Max Cartons (in dimension) along Length/Width/Height:** Enter the maximum dimension in inches or millimeter along the length, width and height of the shipcase.
- **Length to Width Ratio:** Enter the length to width ratio of the shipcase.
- **Depth to Width Ratio:** Enter the depth to width ratio of the shipcase.
- **Optional:** The following three fields apply to bag costing situations.
  - Turn $/1000: Enter the turn rate per pallet.
  - Cost: Enter the cost per pallet.
  - Cases per Pallet: Enter the number of cases per pallet.

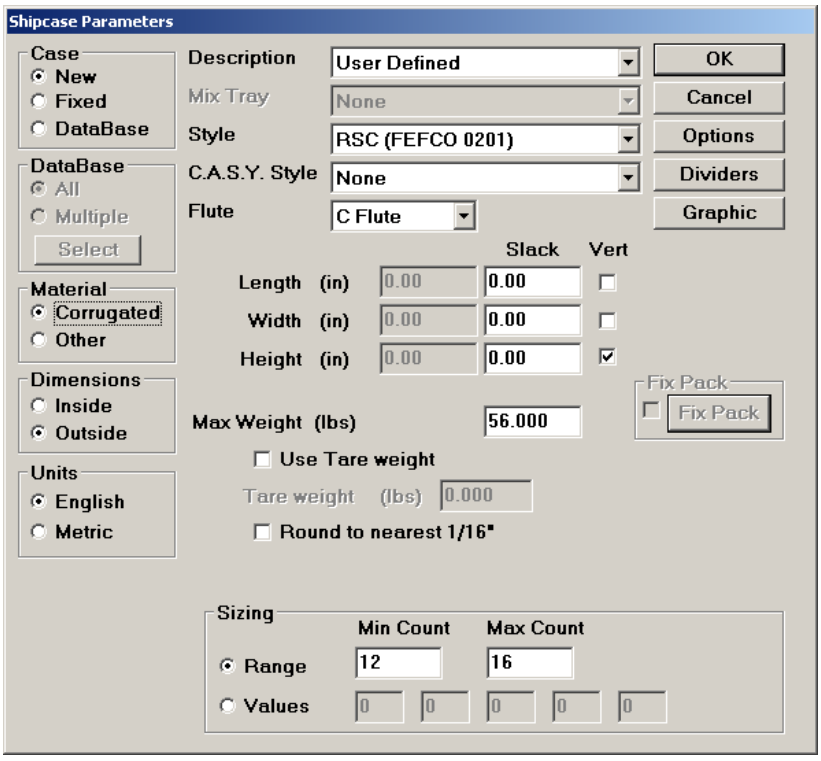
- **Box Cost:** Check the option to be used to calculate box cost and enter the corresponding cost of box (per box or per square unit).

  Note: If you do not see Box Cost in the statistics, please go to the Supervisor menu, select Login/Logout. Type in the Supervisor password (tops software) and click Login. Now go to Tools menu and select Configuration. Click the Statistics button and make sure Box Cost is checked under Shipcase.

Shipcase Parameters

Function: This dialog box allows you to define parameters for a shipcase.

Note: This dialog box is used for shipcases and trays. The Shipper and Tray Parameters icons both display this dialog box. The only difference is the options contained in the Style drop-down list.



To access: From the Control Panel, Click on the yellow Shipper Parameters icon or the yellow Tray Parameters icon ,

Note: Be aware that the dialog box linked to a specific icon is determined in TOPS Configuration setup.

Field Descriptions and Instructions

- **Case:** Select either New, Fixed or Database to specify the type of shipcase you want to use in your analysis.
  - A new analysis will create a new shipcase based on other information you enter on the screen.
  - A fixed analysis requires you to enter the dimensions of a fixed shipcase.
  - A database analysis goes through the shipcases defined and stored in the database.
    Note: At this time, there is no way to define or specify different databases of shipcases.

- **Database:** Select an option to specify whether TOPS Pro will use all shipcases or a selected number of shipcases. The Database feature has two options:
  - All: Tells TOPS Pro to consider all shipcases saved to the database when it calculates solutions.
  - Multiple: Opens the Select Items dialog box and allows you to select specific shipcases to be used in calculating solutions.

- **Material:** Select either Corrugated or Other to specify the material used to make the shipcase.

  Note: The type of material is important to determine stacking strength and board thickness.

- **Dimensions:** Select either Inside or Outside to specify how the shipcase dimensions are measured.

  Note: TOPS Pro uses this option to round to the nearest 16th. If you select Inside, TOPS Pro will calculate the inside dimensions by rounding up, then calculate the outside dimensions entered from that value. If you select Outside, TOPS Pro will calculate the outside dimensions by rounding up, then calculate the inside dimensions entered from that value.

- **Description:** This is an optional field, you can select a pre-defined shipcase or type in the first few letters of the shipcase.

  Note: The drop-down list contains shipcase types that are already set up in the database. If the shipcase type you want is not on the list, you can add it to the database.

  Note: If you select a pre-defined shipcase, TOPS Pro automatically inserts dimensions in the Length, Width and Height fields, as well as any pre-defined graphics, using the parameters set up on the Define

Shipping Case dialog box. If you select User Defined, you'll need to manually enter dimensions in the Length, Width and Height fields.

- **Style:** Select the style of the shipcase you want to use.

  Note: TOPS Pro uses the selected style, along with the caliper of the material to calculate the difference between inside dimensions and outside dimensions. For information about defining shipcase styles, please refer to the Case Styles dialog box on page B-54.

- **C.A.S.Y. Style:** Select a CASY style to display for the shipcase.

- **Flute:** Select the flute size for the shipcase.

  Note: The drop-down list contains flute types that are already set up in the database. If the flute type you want is not on the list, you can add it to the database using the Define Flute dialog box.

  Note: This field displays only if you select Corrugated Material. TOPS Pro uses the following default calipers for the various flute styles:

A	=	0.1875	(3/16-inch)
A/B	=	0.267	(17/64-inch)
A/C	=	0.267	(17/64-inch)
B	=	0.125	(1/8-inch)
C	=	0.15625	(5/32-inch)
C/B	=	0.267	(17/64-inch)
E	=	0.063	(1/16-inch)
F	=	0.063	(1/16-inch)

  Warning: If you work with double-wall flutes on a regular basis, you'll need to adjust those flutes for the proper caliper.

- **Caliper:** Enter the caliper of the shipcase. The caliper is used to calculate the inside vs. outside dimensions of the shipcase. This field displays only if you select Other Material.

- **Length, Width, Height:** Enter the length, width and height of the shipcase. These fields are active only if you are using a Fixed shipcase.

- **Slack Length, Slack Width, Slack Height:** Enter the extra space intended for the length, width and height of the shipcase. Slacks refer to the extra (wasted) space you intend to include in the shipcase configuration. For example, you might figure in two inches of slack space at the top (height) to more easily insert items into the shipcase.

- **Vert:** Check a box beside one of three fields – Length, Width or Height – to specify the vertical dimension of the shipcase **relative to the ground**.

  Note: In packaging, height (depth) is normally the distance through the flaps. Length is the greater of the two remaining dimensions.

- **Fixed Pack:** If you know how many items can fit into a "fixed" size shipcase, you can define the arrangement, regardless of actual dimensions, of the items being loaded, and TOPS will adjust the size of the product to fit into the shipcase for the given arrangement. The printout for the statistics will show the size as defined by the user. If there is any difference in the size, it will be represented in the Bulge stats.

- **Max** Weight**:** Enter the maximum weight of the shipcase.

- **Use Tare weight:** Check the box to provide the tare weight of the shipcase for calculation. If the tare weight option is not checked, TOPS will estimate the weight of the shipcase based on box style, box dimension and flute.

- **Round to nearest 1/16":** Check the box to force TOPS Pro to round the slack dimensions to the nearest 1/16".

- **Sizing:** Select either Range or Values to specify whether you want the shipcase to hold a range of items or a set number of items.

  For example, if you want to design the shipcase to hold anywhere from two to six cartons, select Range. If you want to design the shipcase to hold exactly six cartons, select Values.

  Note: Specify the number of units from the previous stage in the analysis to place within this shipcase. For example, if your analysis bundles cartons into intermediate packers, then you need to specify the number of bundles – not the number of cartons – that will go into the shipcase.

  Also, when you put boxes into a fixed-size shipcase, you should normally leave the Range value wide open (1-1000). If TOPS Pro puts too many boxes into a shipcase, use slack to reduce the amount of usable space in the box.

- **Min Count:** Enter the minimum number of items you want the shipcase to hold.

  Note: This field displays only if you select Range.

- **Max Count:** Enter the maximum number of items you want the shipcase to hold.

  Note: This field displays only if you select Range.

  TOPS Pro uses the minimum and maximum count values to generate a number of solutions. For example, if you enter two (2) as the minimum count and five (5) as the maximum count, TOPS Pro will generate solutions for two-, three-, four- and five-count sizes.

- **Values:** Enter the set number of items for which you want TOPS Pro to generate solutions.

  For example, if you want TOPS Pro to generate solutions for a set 10-count and a set 15-count, enter 10 and 15 in the first two Values fields.

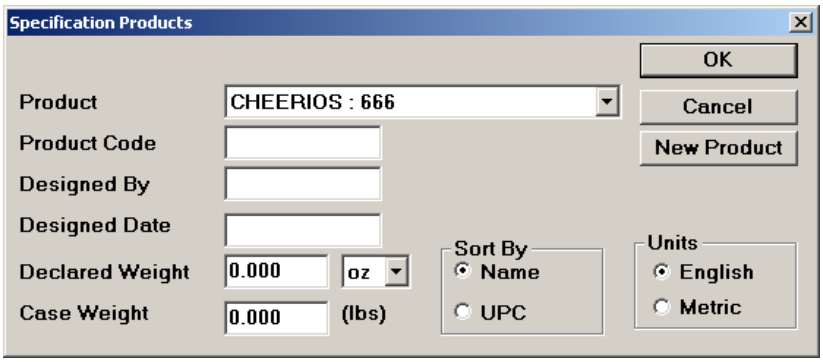
- **Options Button:** Displays the ShipCase Options dialog box, which allows you to enter additional parameters for a shipcase, such as minimum/maximum headspace and bulge dimensions.

- **Dividers Button:** Displays the Dividers dialog box, which allows you to define parameters for the dividers inside the shipcase.

- **Graphic Button:** Displays the Assign Graphics dialog box, which allows you to select and display a graphic image on the shipcase.

Specification Products

Function: This dialog box allows you to define parameters for a new product to be added to the Product Name drop-down list on the Package Profile dialog box.



To access: From the Package Profile dialog box, click on the Add Product button.

Field Descriptions and Instructions

- Product: Select the product you want to add to the product list on the Package Profile dialog box, or type in the first few letters of the product.

  Note: The drop-down list contains products that are already set up in the database. If the product you want is not on the list, you can add it to the database using the New Product button or the Define Product dialog box.

- **Product Code:** Enter the product code associated with the product.
- **Designed By:** Enter the name of the person who designed the product.

  Note: This field is currently not displayed on the package profile.

- **Designed Date:** Enter the date the product was designed.

  Note: This field is currently not displayed on the package profile.

- **Declared Weight:** Enter the weight of the product and select the unit of measurement (ounces, pounds, millimeters, etc.).

  Note: This value appears on the printout only.

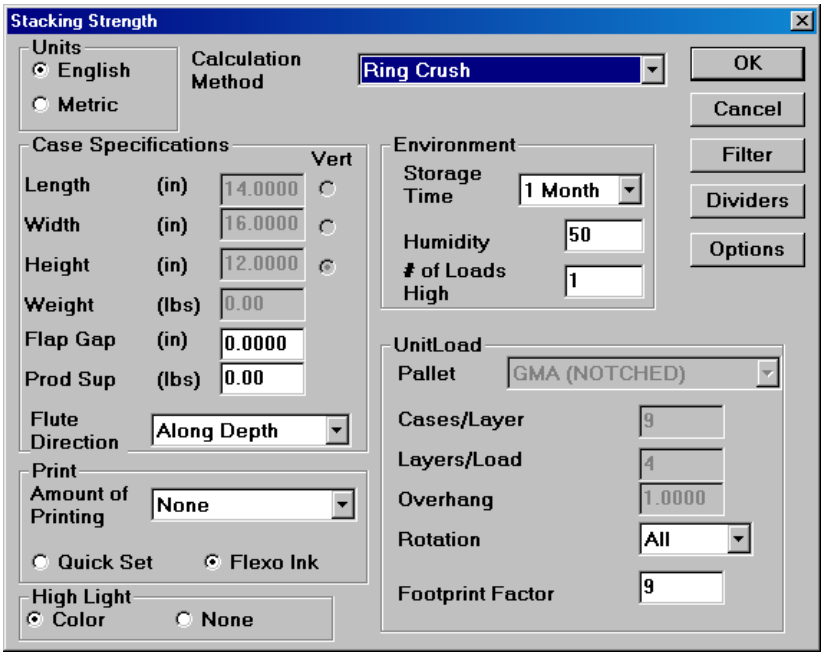
- **Case Weight:** Enter the case weight of the product in pounds or kilograms, depending on the Units selected.

Note: When the case weight is multiplied by the number of cases and added to the pallet weight, the value will be equal to the reported unitload weight for that product.

- **Sort By:** Select either Name or UPC to specify how the product list will be sorted.
- **New Product Button:** Displays the Define Product dialog box, which allows you to define parameters for a new product (a product that's not already defined in the system).

Stacking Strength

Function: This dialog box allows you to perform a stacking strength test on a package analysis.



You can access the Stacking Strength dialog box via one of these menus:

- From the Menu Bar, open the Tools menu and select Stacking Strength.
- From the toolbar, click on the Stacking Strength tool button
- From the UnitLoad Analysis view window, click the Strength button and then select Strength.

Field Descriptions and Instructions

- **Calculation Method:** Select a method of calculation, either Ring Crush, Edge Crush or Kellicut (for Japanese use mainly).
- **Length, Width, Height:** Enter the length, width and height of the case respectively. If you already have an analysis opened which consists of a unitload solution, these dimensions will be populated with those of the current shipcase.
- **Weight:** Enter the weight of the case in pounds or kilograms, depending on the Units selected.
- **Flap Gap:** Enter the flap gap of the case in inches or millimeters, depending on the Units selected.

- **Prod Sup:** Enter the product support of the case in pounds or kilograms, depending on the Units selected.
- **Flute Direction:** Select the direction the flute runs in relation to the case.
- **Amount of Printing:** Select the amount of printing to be performed on the case.

  Note: Be aware that heavy printing does reduce the stacking strength of most corrugated materials.

- **Type of Printing:** Select either Quick Set or Flexo Ink to specify the type of printing to be performed on the case.
- **High Light:** Select either Color or None to specify whether the case will be colored.
- **Storage Time:** Select the amount of time the cases are stored before stacking.
- **Humidity:** Enter a percentage to specify the amount of humidity in the cases' storage environment.
- **# of Loads High:** Enter the number of loads high the cases are stored.
- **Pallet:** Select the type of pallet on which the cases will be stacked.

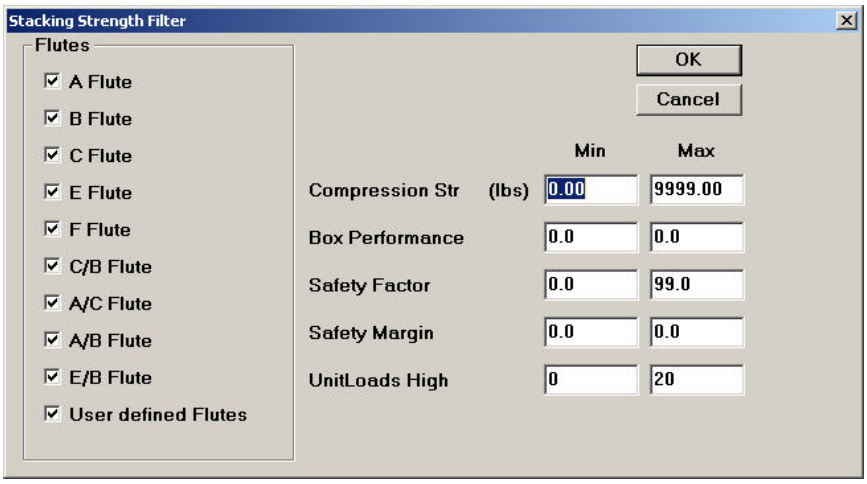
  Note: The drop-down list contains pallet types that are already set up in the database. If the pallet type you want is not on the list, you can add it to the database using the Define Pallet dialog box.

- **Cases/Layer:** Enter the number of cases to a layer.
- **Layers/Load:** Enter the number of layers to a load.
- **Overhang:** Enter the amount of overhang for the unitload in inches or millimeters, depending on the Units selected.
- **Rotation:** Select the how the unitload is rotated.
- **Footprint Factor:** If you have multiple unitloads and not all shipcases help support the unitload above, specify how many shipcases do help support. Lowering this number reduces the number of bottom-most cases that help support the above unitload.
- **Filter Button:** Displays the Stacking Strength Filter dialog box, which allows you to select a number of flute sizes and define minimum and maximum values for compression strength, safety factor and unitloads high.

- **Dividers Button:** Displays the Dividers dialog box, which allows you to define parameters for the dividers inside the packer.
- **Options Button:** Displays the Stacking Strength Options dialog box, which allows you to select which columns of information will appear on the Stacking Strength Results report by selecting from a listing of board grades.

Stacking Strength Filter

Function: This dialog box allows you to select a number of flute sizes and define minimum and maximum values for compression strength, safety factor and unitloads high.



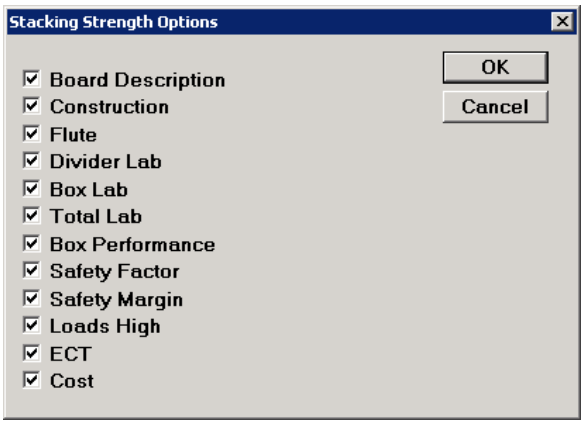
From the Stacking Strength dialog box, click on the Filter button.

Field Descriptions and Instructions

- **Flutes:** Check against the box to select the flute sizes to be included in the stack analysis.
- **Min, Max Compression Str:** Enter the minimum and maximum compression strength range to filter the solutions.
- **Min, Max Box Performance:** Enter the minimum and maximum values for box performance to be filtered.
- **Min, Max Safety Factor:** Enter the minimum and maximum safety factor range to filter stacking results.
- **Min, Max Safety Margin:** Enter the minimum and maximum safety margin range to filter stacking results.
- **Min, Max Unit Loads High:** Enter the minimum and maximum number of unitloads stacked on top of one another to be filtered.

Stacking Strength Options

Function: This dialog box allows you to select the board grades that will be included in the Stacking Strength Results report. Each board grade will be represented by a column of data on the report.



From the Stacking Strength dialog box, click on the Options button.

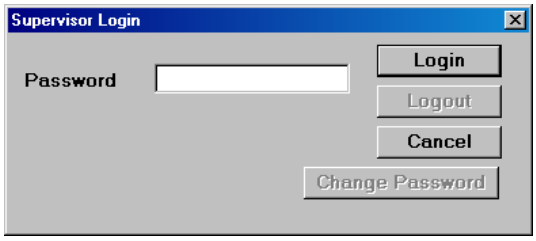
Field Descriptions and Instructions

- This dialog box displays a list of board grades. Use the checkboxes to select the board grades that will be included in the Stacking Strength Results report.

Supervisor Login

Function: This dialog box allows you to login to the system as a supervisor, which is required in order to perform the following tasks:

- Approve analyses
- Rename and delete users
- Change statistics settings
- See all users' work
- Log off other users
- Change button templates
- Change Quick Print templates



To access: From the Menu Bar, open the Supervisor menu and select Login/Logout.

Field Descriptions and Instructions

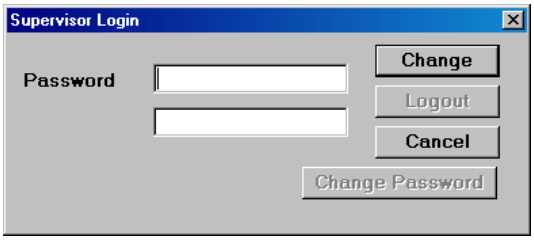
- **Password:** Enter a valid password.

  Note: The default password is "tops software." Note the space between "tops" and "software."

- **Login:** Click to login as supervisor after you've entered a password. After you've successfully logged in, you will see "Analysis name – TOPR Pro (Supervisor)" on the application title bar.

- **Logout:** Click to logout as supervisor.

- **Change Password:** Allows you to change your password. When you click on this button, the Supervisor Login dialog box redisplays, as pictured below.



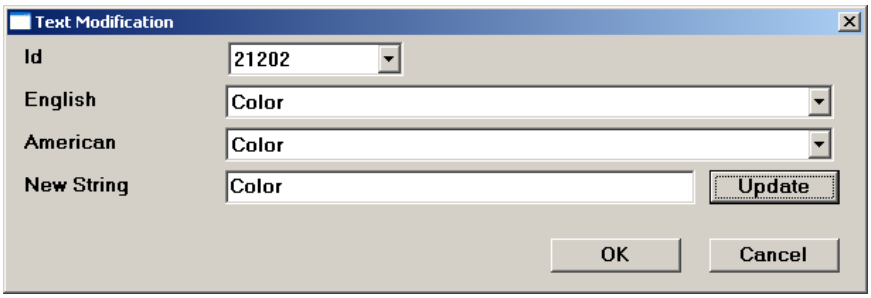
Notice that the redisplayed dialog box has two password fields. To change passwords, follow these instructions:

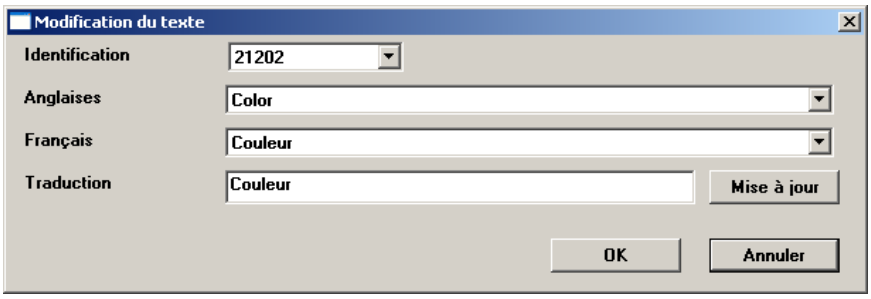
1. Enter the current password in the first field.
2. Enter the new password in the second field.
3. Click on the Change button.

TOPS Pro changes your supervisor password and saves it to the database.

Text Modification

Function: This dialog box allows you to perform language editing. You can replace any existing text string used within TOPS Pro with a new term which might provide a better description.





To access: From the Menu Bar, go to the Tools menu, select Language and then select Edit.

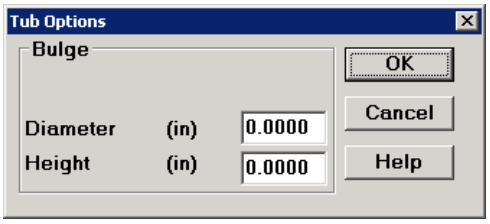
Field Descriptions and Instructions

- **ID:** Display the unique identifier for each string. This is mainly for reference only and will not be used by the user.
- **English:** Select a word in the English language. The terms are arranged in alphabetical order. You can also type in the first few characters of the term to quickly locate it in the list.
- **American (or Current Language):** Select a word in the current language or display the corresponding translation for the current English term.
- **New String:** Enter the new text to replace the existing term in the current selected language.
- **Update Button:** Click to update the current change to the database.

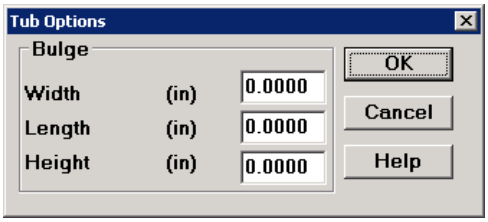
Tub Options

Function: This dialog box allows you to enter bulge dimensions for a tub.

Note: This dialog box displays a different set of fields – as pictured below – depending on whether you selected Round or Rectangular in the Body Shape field on the Tub Parameters dialog box.



Tub Options for Round Body Shape



Tub Options for Rectangular Body Shape

To Access: From the Tub Parameters dialog box, click on the Options button.

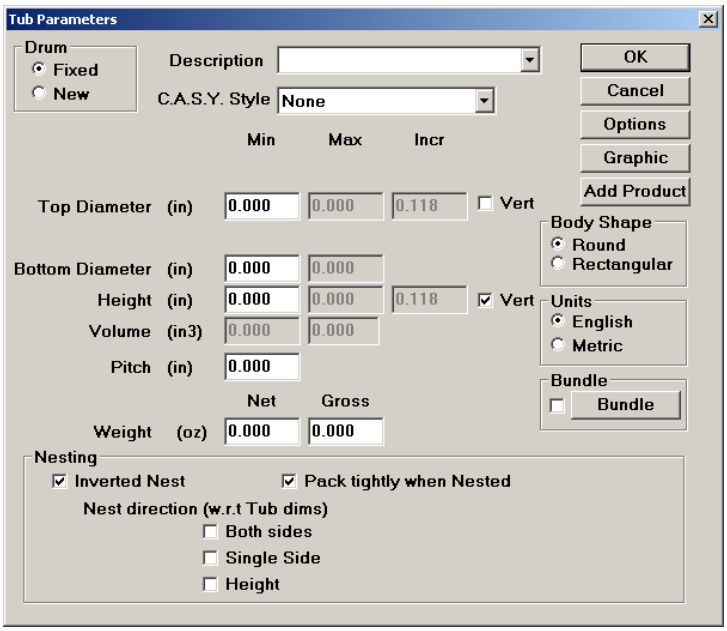
Field Descriptions and Instructions

The following field – **Diameter** – displays only if you selected a Round Body Shape on the Tub Parameters dialog box.

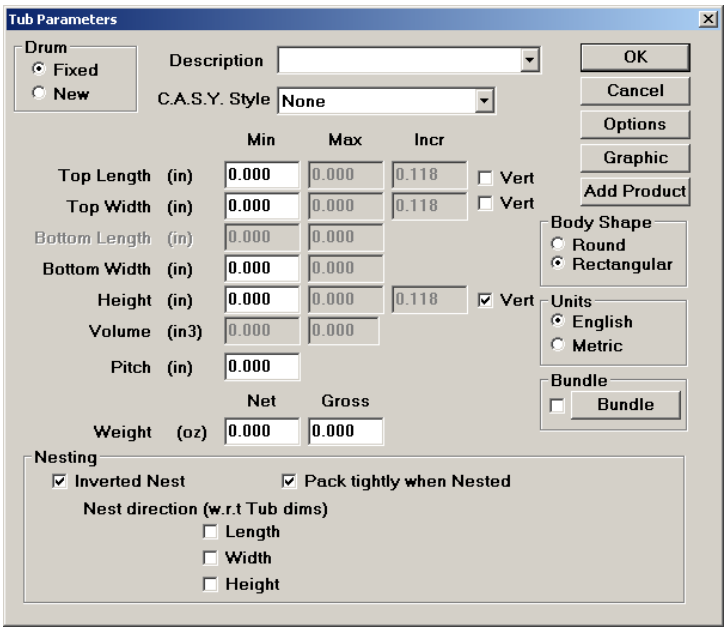
- **Diameter:** Enter the bulge diameter for round tubs.
- **Width, Length:** Enter the bulge width and length for rectangular tubs.
- **Height:** Enter the bulge height for round or rectangular tubs.

Tub Parameters

Function: This dialog box allows you to define parameters for different types of tubs. The dimensions to define the tubs vary with the body shape selected.



Tub Parameters for Round Body Shape



Tub Parameters for Rectangular Body Shape

To access: From the Control Panel, click on the Tub Parameters icon

Field Descriptions and Instructions

- **Fixed/New:** This option allows users to use known dimensions as Fixed, or New, if they want to define ranges, for minimum and maximum sizes per dimension. If New is selected, the increment field is for the unit of incrimination, per solution tried. If for example if you specify 10mm, the software solutions for that dimension would always be some factor of 10mm.
- **Description:** This is an optional field. If used, select from the drop list a predefined description for the tub.
- **C.A.S.Y. Style:** Select a CASY style to display for the tub.

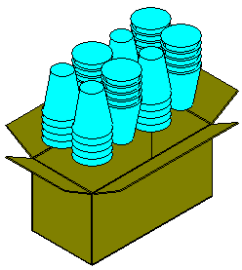
The following two fields – **Top Diameter** and **Bottom Diameter** – display only if you select a Round Body Shape.

- **Top Diameter, Bottom Diameter:** For round tubs, enter the top diameter or rim and bottom diameter of the tub.
- **Top Length, Top Width:** For rectangular tubs, enter the top length and width of the tub.
- **Bottom Length:** Displays the bottom length of rectangular tubs. TOPS Pro automatically calculates this value based on the proportions of top to bottom width.
- **Bottom Width:** Enter the bottom width of the rectangular tub.
- **Height:** Enter the height of the tub, round or rectangular.
- **Pitch:** Enter the value to represent the distance between stacked tubs.

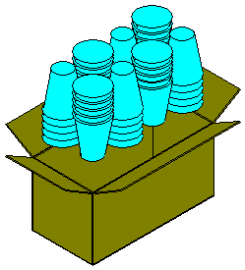
  Note: Pitch allows you to define the dimensions of the tubs so they can be stacked inside one another. This value represents the distance between the rims of the nested tubs; that is, how far one tub protrudes from the one it's placed into. If you leave pitch at zero, TOPS Pro assumes that the tubs don't nest inside one another.

- **Vert:** Check a box beside one of four fields – Top Length, Top Width, Top Diameter or Height – to specify the vertical dimension of the tub **relative to the ground**.
- **Net Weight:** Enter the net weight of the tub in pounds or kilograms, depending on the Units selected.
- **Gross Weight:** Enter the gross weight of the tub in pounds or kilograms, depending on the Units selected.
- **Volume:** This displays the product volume for the tub, when applicable.

- **Inverted Nest:** Check this box to load nested tubs in inverted rows. The picture on the right is an example of nested plastic cups. When enabled, make sure to also select the nest direction.
- **Pack tightly when Nested:** This option can tightly pack flower pots, plumbing parts, water glasses and more by removing any space between the objects.
- **Nest direction (w.r.t Tub dims):** This allows you to choose the different variations of nesting within the shipcase – Both sides, Single Side or Height.



Nest single side

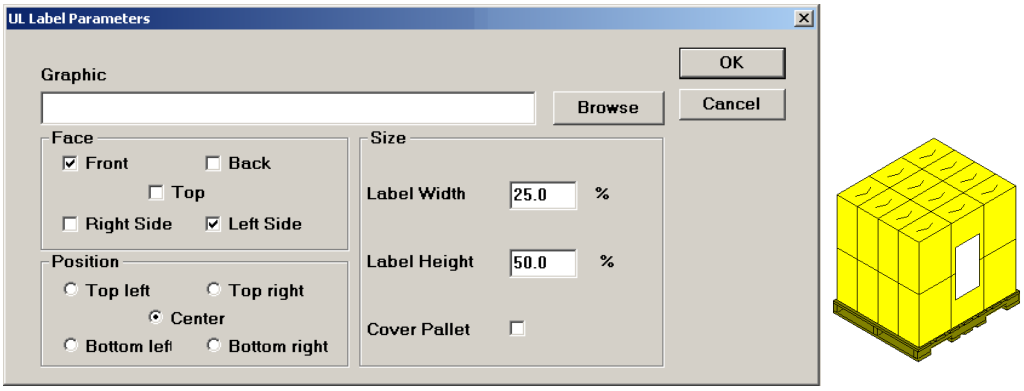


Nest both sides

- **Body Shape:** Select either Round or Rectangular to specify the body shape of the tub.
- **Bundle:** Check the Bundle option set predefined tub arrangement in the intermediate pack or shipcase.
- **Options Button:** Displays the Tub Options dialog box, which allows you to enter bulge parameters for a tub.

UL Label Parameters

Function: This option allows you to apply graphics on the outside of the Unitload and adjust its size and orientation.

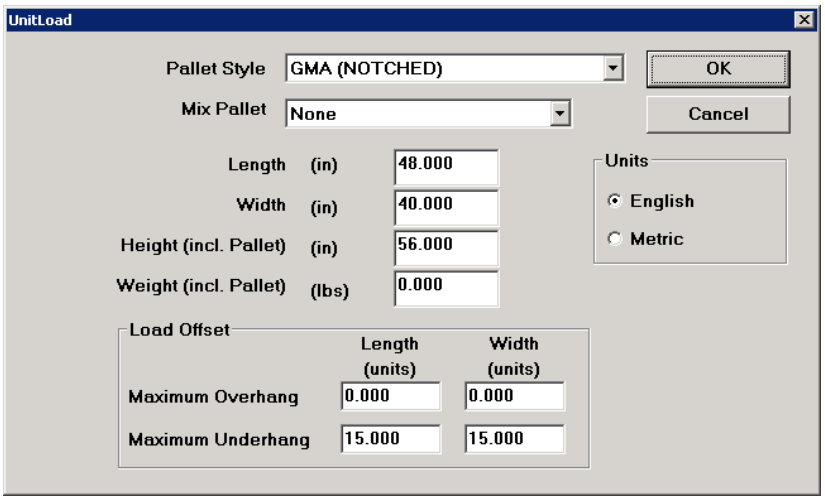


To access, click the Options button at the UnitLoad Parameters dialog box. Then click on the Label button in the Unitload Options dialog.

- **Graphic:** Click the Browse button to specify a graphics to be used as label for the unitload. If no graphic is specified, a plain white label will be used.
- **Face:** Check off the side(s) on the unitload where a label will be placed.
- **Position:** Select the position where the label will be placed. Users can only specify one location and this applies to all sides where a label will be added.
- **Label Width, Label Height:** Enter the width and height of the label as a percentage of the unitload width and height.
- **Cover Pallet:** Check this box if you would like to include dimension of the pallet into calculation of the label size.

UnitLoad (Pallet-Vehicle Analysis)

If you perform a pallet-vehicle analysis, the UnitLoad Parameters dialog box displays as pictured below.



To access: Set up a pallet-vehicle analysis and click on the Pallet Parameters icon or the Slipsheet Parameters icon .

Field Descriptions and Instructions

- **Pallet Style:** Select a pallet or slipsheet style.

  Note: The drop-down list contains pallet types that are already set up in the database. If the pallet type you want is not on the list, you can add it to the database using the Define Pallet function.

- **Mix Pallet:** If you have a mixed pallet created with the MixPro Mixed Pallet Editor you'd like to use for vehicle loading, select it from the drop down lost box.

  If mixed pallets are to be used for the vehicle load, all measurements will be picked up from the mixed pallet and the dimensions and offset field will be grayed out.

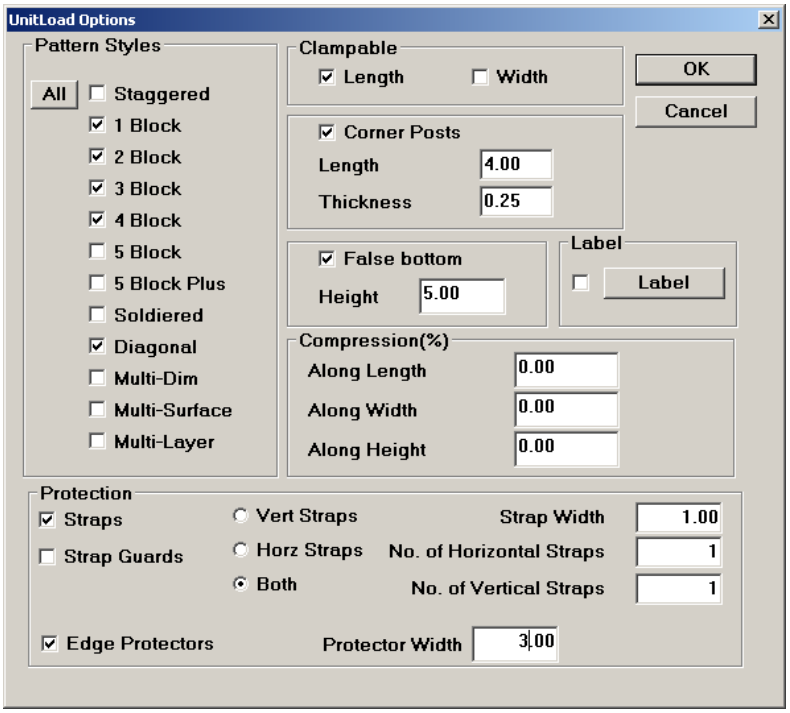
- **Length, Width, Height:** Enter the length, width and height of the pallet or slipsheet.

- **Weight (incl. Pallet):** Enter the weight of the pallet or slipsheet in pounds or kilograms, depending on the Units selected.

- **Load Offset:** Enter the overhang of the unitload and leave the underhang as is.

UnitLoad Options

Function: This dialog box allows you to define pattern styles, clampability and corner post parameters for a pallet.



To access: Click the UnitLoad Parameters icon on the tool bar to access the dialog box, then click on the Options button.

Field Descriptions and Instructions

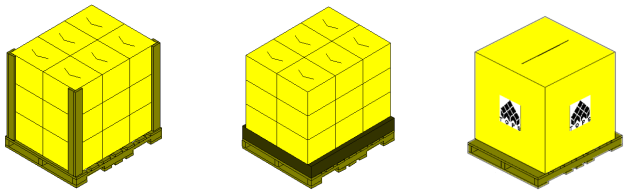
- **Pattern Styles:** Select one, multiple or all pattern styles for which you want TOPS Pro to generate solutions.

  Note: If you selected a pallet style already defined on the UnitLoad Parameters dialog box, the Pattern Styles options will be available. If you defined a new pallet style, the Pattern Styles options will be grayed out and unavailable.

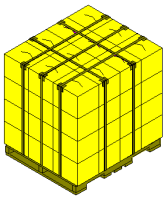
- **Clampable:** Select either Length or Width to specify whether you want the unitload clamped along its length or width.

- **Corner Posts:** Check the box to use corner posts in the unitload calculation and enter the length and thickness in the corresponding fields. Note that unlike layer parameters, corner posts will reduce the amount of usable space on the pallet.

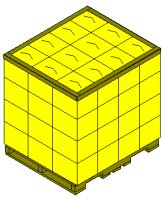
- **False Bottom:** Check the box to add a raised platform to the unitload and enter the height of the false bottom in the corresponding box.



- **Label:** Check the box to place labels on the unitload and click the label button to select the image to be used as well as its size and placement. If no graphic is specified, a plain white label will be used.
- **Compression %:** Some loads may be wrapped and clamp loaded, and such loading may cause compression for the goods loaded on the pallet. This compression can be accounted for by percentage, using this feature. Also, if for some reason you have a UL that needs to account for a bulge factor, you could employ negative values here and the negative compression would respond as a bulge value.
- **Straps:** Check the box to activate the Straps fields and select whether to use vertical, horizontal straps or both.



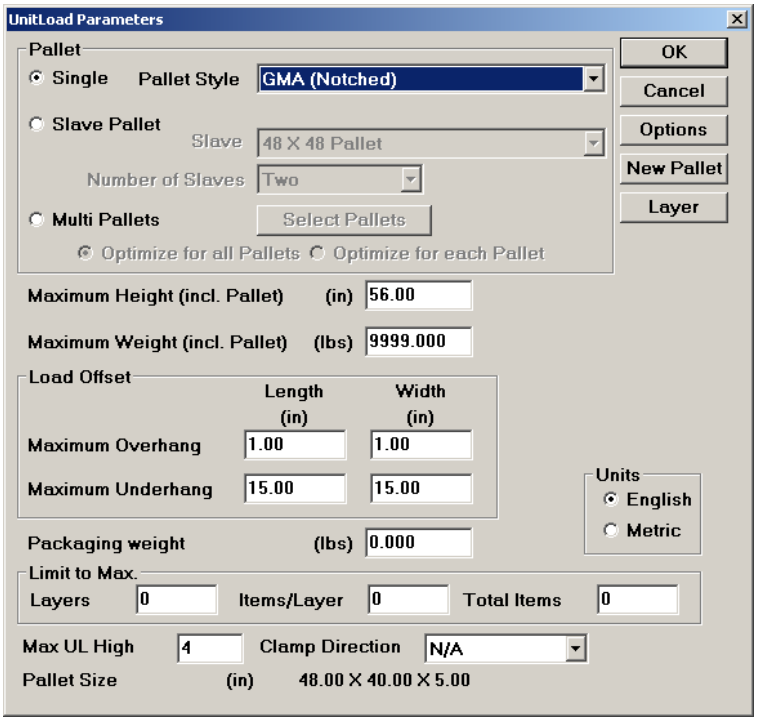
- Strap **Width:** Enter the width of the straps to be used for the unitload
- **Number of:** Enter the number of straps to be used on the unitload. Currently, TOPS only allows use of the same number of straps for both length and width dimension.
- **Strap Guards:** Check the box to use strap guards with the straps.
- **Edge Protectors:** Select whether to use edge protectors and its width for the unitload.



UnitLoad Parameters

Function: This dialog box allows you to define parameters for the unitload using a pallet or slipsheet.

Note: If you are working on a design sequence which starts with pallet stage, the UnitLoad Parameters dialog box will be much simpler as described in the next section “pallet-vehicle analysis”.



To access: From the Control Panel, click on the Pallet Parameters icon or click on the Slipsheet Parameters icon

Note: Be aware that the dialog box linked to a specific icon is determined in the Configuration setup.

Field Descriptions and Instructions

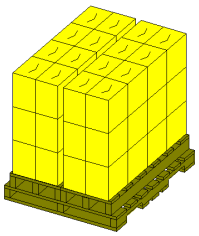
- **Pallet:** Select either Single, Slave or Multi Pallets.

- **Single Pallet Style:** Use the Pallet Style drop-down box to select the pallet style to be used in the calculation.

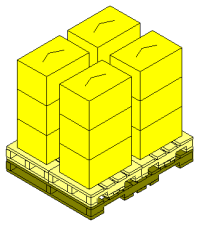
  Note: The drop-down list contains pallet types that are already set up in the database. If the pallet type you want is not on the list, you can add it to the database using the Define Pallet dialog box.

- **Slave Pallet:** Use the Slave drop-down box to select the pallet style and quantity to be used in the calculation. Shipcases will be stacked on slave pallets before being placed on the single pallet.

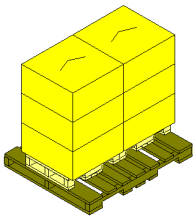
  Note: Slave pallets are not allowed to extend outside the single pallet at the bottom, so make sure the dimensions of the slave pallet are well defined.



2 slave pallets



4 slave pallets



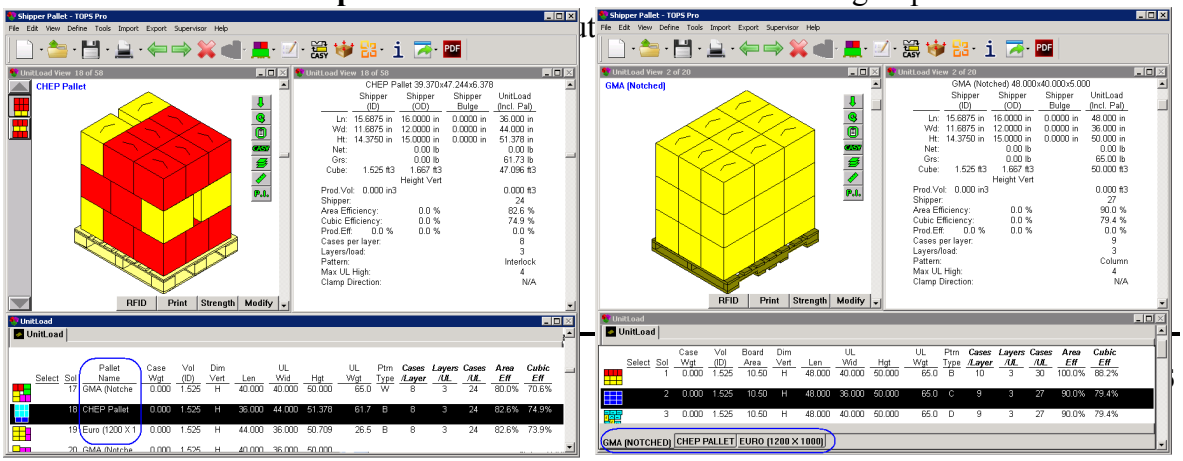
Slave pallets with overhung shipcases

- **Multi Pallets:** If multiple pallets are used, click on the Select Pallets button to display the Select Items dialog box, which allows you to select multiple pallet styles to be used in the calculation.

  Note: When using multiple pallets, users now have the option to group the unitload solutions based on pallet type in the UnitLoad Parameters dialog box shown below.

  - **Optimized for all Pallets** – Solutions will be displayed in one single list with a field "Pallet Name" identifying the pallet used for the selected solution. This option offers the possibility of comparing solutions using different pallets.

  - **Optimize for each Pallet** – Solutions are grouped in tabs based on



- **Maximum Height (incl. Pallet):** Enter the maximum height of the unitload and note that this value also includes the height of the pallet.
- **Maximum Weight (incl. Pallet):** Enter the maximum weight of the unitload, including the weight of the pallet.
- **Maximum Overhang along Length and Width:** Enter the maximum overhang for the length and width of the pallet or slipsheet.
- **Maximum Underhang along Length and Width:** Enter the maximum underhang for the length and width of the pallet or slipsheet.

  Note: TOPS Pro uses underhang values to limit the solutions displayed when calculating legal unitloads. Underhang instructs TOPS Pro to show only those unitloads that are farther than the entered distance from the edge of the pallet.

  If you enter zero for underhang, TOPS Pro will show only those answers that exactly match the size of your pallet (a situation that rarely happens). In general, we recommend that you leave underhang alone; the best answer will rise to the top.

  Unitizing large items can cause problems with otherwise reasonable underhang values; for example, placing 21-inch TV's on a pallet with no overhang and six inches of underhang. Quite often, you can't fit two TV's on a pallet side by side, but if the TV doesn't come within six inches of the edge, TOPS Pro will generate no answers. Using an underhang of 15 inches (or 20 inches) and getting at least one solution is better than getting no solution at all.

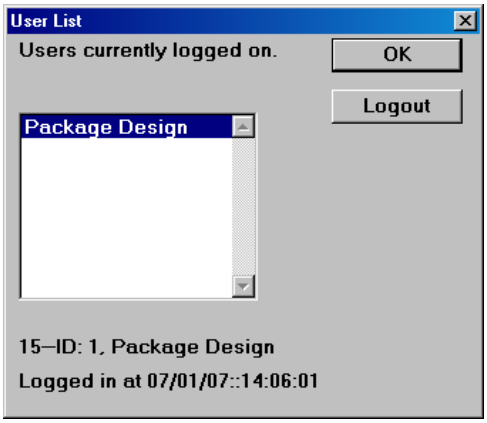
- **Packaging weight:** Enter the weight of other packaging materials to secure a more accurate weight of the unitload. Packaging materials include slip sheets, pads, caps, straps and other filler materials.
- **Limit to Max:** Enter the maximum number of layers, the maximum number of items per layer, or the maximum number of items on a unitload. Keep the default value of zero (0) if there is no preference as to these parameters.
- **Max UL High:** Specify the maximum number of unitloads that can be stacked inside a vehicle or during storage.
- **Clamp Direction:** Specify if this unitload will be clamped and along what direction. Select from the drop down list.

- **Options Button:** Opens the UnitLoad Options dialog box, which allows you to enter pattern styles, clampable and corner post parameters for a pallet.
- **New Pallet Button:** Displays the Define Pallet dialog box, which allows you to define parameters for a new pallet (one that's not already defined in the system).

User List

Function: This dialog box displays the users currently logged onto the system. This feature is critical for network users who have a limited number of TOPS Pro software licenses. For example, if you have two licenses and two users are logged on, then a third user will not be able to logon until one of the current users logs off.

You may find it necessary to logout someone if he or she logged onto TOPS Pro, then did not exit the system normally (e.g., in the event of a crash or power failure). If you're unable to enter TOPS Pro to logout a missing user, you can always login as that user, replace that user, then exit.



From the Menu Bar, open the Tools menu and select User List.

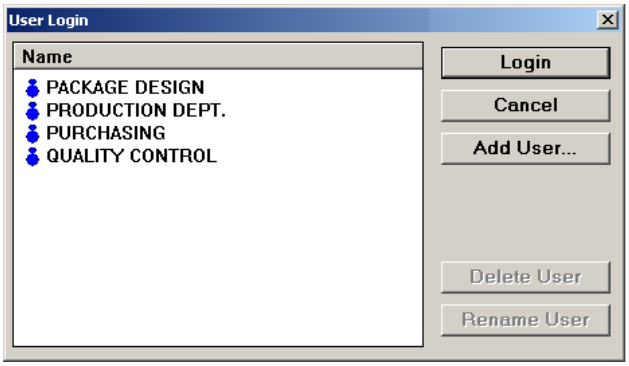
Field Descriptions and Instructions

- The **users list** displays a list of users currently logged onto the system.
- The **user ID** displays the ID number of the selected user.
- The **login date/time** displays the date and time the selected user logged onto the system.
- The **Logout button** allows you to select a user and log him or her out of the system. You must be logged on as a supervisor to logout another user.

User Login

Function: This dialog box allows you to login to the system.

Note: At this time, there is no way to prevent any user from adding a user to the system.



To access, use one of two options:

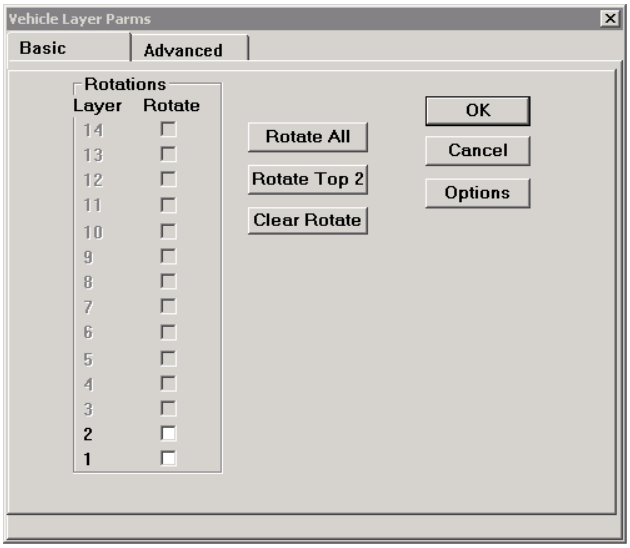
- When you open the TOPS Pro application, the User Login dialog box automatically appears.
- From the Menu Bar, open the File menu and select User Login.

Field Descriptions and Instructions

- The **User List** displays a list of users set up in the system. To login to the system, select a user name and click on the **Login button**.
- **Add User Button:** Displays the New User dialog box, which allows you to add a new user to the system.
- **Delete User:** Available only when you are logged in as Supervisor, this allows you to select a user and delete him or her from the system.
- **Rename User:** Displays the New User dialog box, which allows you to rename a selected user. In order to use this feature, you must be logged in as a supervisor.

Vehicle Layer Parameters

Function: This dialog box allows you to define parameters related to the vehicle layers in your package design.



To access: First, you must create an analysis that places an item (pallet, shipper, etc.) into a transit vehicle. After you've calculated the analysis, go to the Menu Bar, open the Edit menu and select Layer Parameters. You can also click on the layer parameters button ( ) in the vehicle view

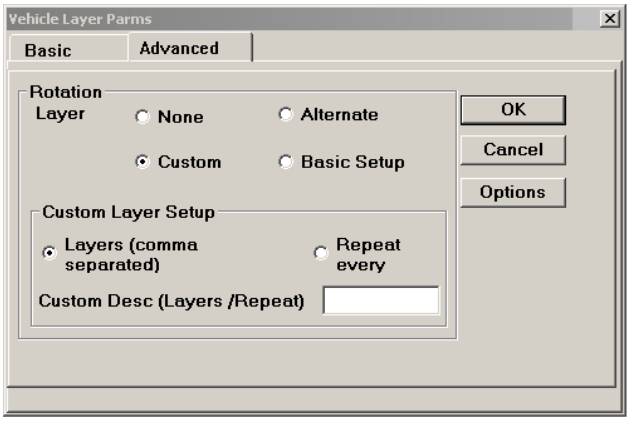
Note: It's imperative to calculate the analysis first; otherwise, the Layer Parameters option will not be available on the Edit menu. You must calculate the analysis and activate the vehicle panel before you can access this menu option.

Basic Tab

- **Layer:** Displays a column of layers that correspond to a vehicle solution. Each layer represents a specific layer of unitloads in the vehicle. For example, Layer 1 represents the first layer, Layer 2 represents the second layer and so on.
- **Rotate:** Check the box to rotate a specific layer. This allows you to manipulate stacking strength.
- **Rotate All Button:** Rotates all layers in the vehicle. When you click on this button, TOPS Pro automatically checks all the active boxes in the Rotate column.
- **Rotate Top 2 Button:** Rotates the top two layers in the vehicle.

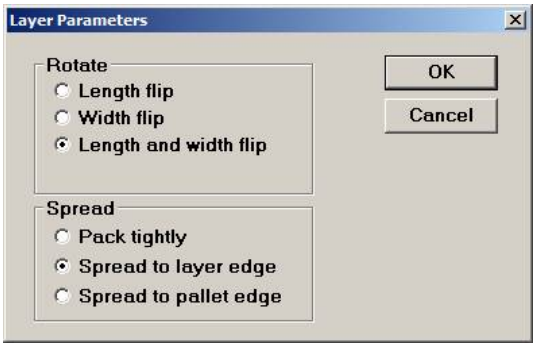
- **Clear Rotate Button:** Clears all the Rotate commands already set up for the vehicle. When you click on this button, TOPS Pro automatically un-checks all the active boxes in the Rotate column.
- **Options Button:** Open the Layer Parameters dialog box to specify how the Rotate command will be executed.

Advanced Tab



- **Rotation Layer:** Select an option to specify which layers to rotate inside the vehicle. Custom allows a user to use the Custom Layer Setup, where layers to be rotated can be specified, using a comma as the separator. Alternate will rotate every other layer and Basic Setup will use the settings

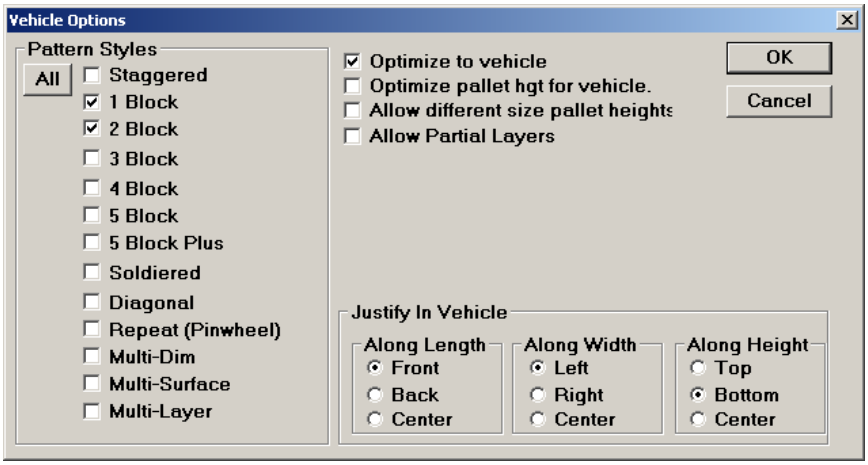
Options



- **Rotation:** Select an option to specify how the layer(s) will be rotated: Length flip, Width flip or Length and width flip.
- **Spread:** Select an option to specify how the unitloads will be spread within the vehicle layers: Pack tightly, Spread to layer edge or Spread to pallet edge.

Vehicle Options

Function: This dialog box allows you to enter additional parameters for a truck, such as pattern styles and pallet configurations inside the truck.



To access: From the Define Transit Vehicle dialog box, click on the Options button.

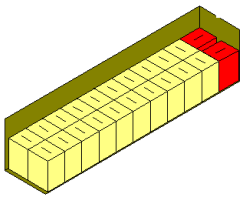
Field Descriptions and Instructions

- **Pattern Styles:** Select one, multiple or all pattern styles for which you want TOPS Pro to generate solutions.
- **Optimize to vehicle:** Check the box to sort solutions based on the best vehicle packing.

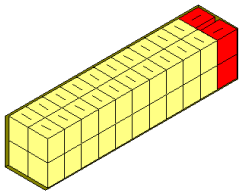
  Note: Normally, TOPS Pro prioritizes solutions based on the best pallet arrangement first, then the best vehicle for that pallet. With this switch turned on, TOPS Pro will sort the solutions based on the best vehicle packing. This is handy where there is a possibility for overhang. Sometimes, less overhang – a less efficient pallet pattern – will result in a better vehicle load.

- **Optimize pallet hgt for vehicle:** Check the box to optimize pallet height for the vehicle.

  Note: If this switch is turned on, TOPS Pro will attempt to fit more shipcases onto the truck by reducing the number of layers per pallet to fit more unitloads per truck. This works best in situations where the unitload is more than half the truck height.

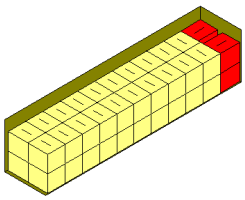


Before: 5 layers/UL
(Max UL height = 70")

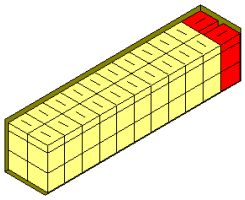


After: 4 layers/UL

- **Allow different size pallet heights:** Check the box to allow different size pallet heights in the truck; i.e., put partial pallets on top of full pallets – if they fit.

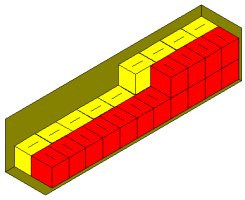


Before: 3 layers/UL
(Max UL height = 52")



After: 2 layers of 3-layer UL
and 1 layer of 1-layer UL

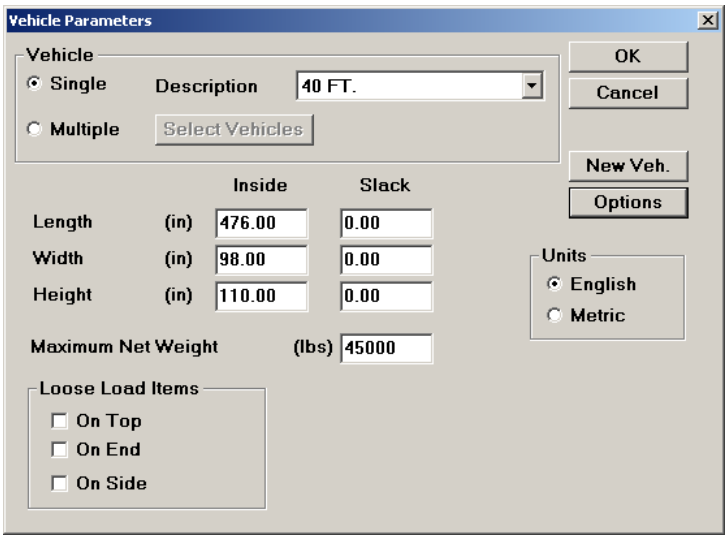
- **Allow Partial Layers:** This function allows TOPS to load the container, until it is limited by the container weight limit specified.



- **Justify in Vehicle Along Length:** Select either Front, Back or Center to specify where to place the unitloads in the vehicle.
- **Justify in Vehicle Along Width:** Select either Left, Right or Center to specify where to place the unitloads in the vehicle.
- **Justify in Vehicle Along Height:** Select either Top, Bottom or Center to specify where to place the unitloads in the vehicle.

Vehicle Parameters

Function: This dialog box allows you to define parameters for a vehicle.

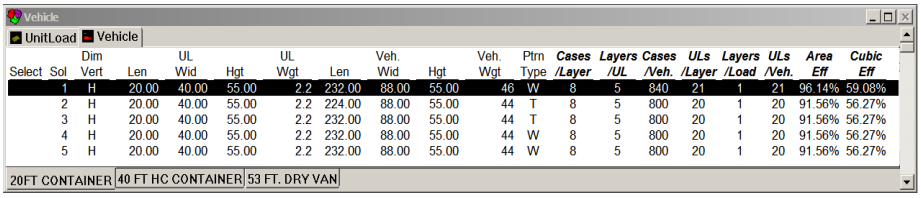


To access: From the Control Panel, click on one of these vehicle icons: Truck , Sea Van or Rail Car .

Field Descriptions and Instructions

- **Single:** For single vehicle, select a pre-defined vehicle or type in the first few letters or numbers of the vehicle.
- **Multiple:** Select multiple vehicles to use more than one vehicle type for calculation. Click on the Select Vehicles to open the Select Items dialog box to specify the vehicles to be used.

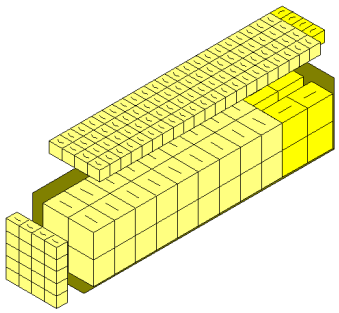
  After calculation, solutions for each vehicle type will be presented in different tabs in the Solution List Pane as pictured below.



- **Inside Length, inside Width, Inside Height:** Enter the length, width and height along the inside of the vehicle. These define the loadable space inside the vehicle.

The following three fields – **Slack Length**, **Slack Width** and **Slack Height** – refer to the extra (wasted) space you intend to include in the vehicle. For example, you might figure in 12 inches of slack space at the top (height) to more easily insert items into the vehicle.

- **Slack Length, Slack Width, Slack Height:** Enter the extra space intended for the length, width and height of the vehicle.
- **Maximum Net Weight:** Enter the net weight of the vehicle in pounds or kilograms, depending on the Units selected.
- **Loose Load Items:** Check the locations (On Top, Side or End) inside the vehicles where loose shipcases will be stacked to take advantage of available void space.



In the statistics pane, the number of Shipper per Vehicle Load will be displayed as, for example, 460 (T=88, S=0, E=20), meaning a total of 460 shipcases inside the vehicle, with 88 loose items on tops, none on the side and 20 on the end.

Note: C.A.S.Y. display must be turned off in order to see the loose load items in the vehicle load in the analysis view and in reports.

- **New Vehicle Button:** Displays the Define Vehicle dialog box, which allows you to define a new vehicle and save it to the database.
- **Options Button:** Displays the Vehicle Options dialog box, which allows you to enter additional parameters for a truck, such as pattern styles and pallet configurations inside the truck.

Appendix C: Menu Options

Introduction

This appendix outlines the eight menus that comprise the Menu Bar in the TOPS Pro program, along with a brief description of the options available with each menu.

For more information about the dialog boxes for each menu option, please refer to Appendix B, Dialog Boxes.

The eight primary menus are as follows:

- File menu
- Edit menu
- View menu
- Define menu
- Tools menu
- Import menu
- Export menu
- Supervisor menu
- Help menu

File Menu

New

The New option clears the Control Panel of any work and allows you to begin a new analysis.

Open

The Open option displays the Open Analysis dialog box, which allows you to select and open an analysis.

New via Template

The New via Template option displays the Open Analysis dialog box, which allows you to select a template and start a new analysis.

Save

The Save option saves the current analysis record to the database.

Note: Be aware that this function does not save an analysis as a file on your hard drive. Rather, it saves the analysis as a record to the TOPS Pro database – an important difference to remember when you need to open or search for an analysis.

Save As

The Save As option displays the Analysis Save As dialog box, which allows you to save an analysis record to the database.

Note: Same as the Save function, this function saves the analysis as a record to the TOPS Pro database.

Save As Template

The Save As Template option displays the Analysis Save As dialog box, which allows you to save an analysis as a template and add it to the Template Toolbar.

Save As XML

The Save As XML option saves the opened analysis as an XML file in the default \TOPSAPPS\TOPSPRO\Data\ folder.

Publish Analysis

The Publish Analysis option displays a second menu of options:

- **To Web:** Opens the web Publisher dialog box, which allows you to publish the results of an analysis to the web, thus allowing other people to view the analysis.
- **To Network:** Open the network Publisher dialog box, which allows you to publish the results of an analysis to a local network, thus allowing other users within the company to view the analysis.

Open Archive

The Open Archive option displays the Open Archived Analysis dialog box which allows you to restore any previously archived analysis.

Open XML

The Open XML option displays the Get Export File Name dialog box which allows you to open and saved analysis in XML format.

Print

The Print option displays a second menu of options, as follows:

- **Analysis:** Displays the Print Parameters dialog box, which allows you to design the layout of your printed output of an analysis, then decide what type of information will be included and how that information will be presented (different graphical views, text and numbers, etc.).
- **Pallet Report:** Prints the Pallet report containing unitload information with efficiency factors and Wal-Mart scores.
- **Package Profile:** Prints the Package Profile for an analysis.
- **Container Diagram:** Displays the Container Diagram List dialog box, which allows you to select container diagram for printing.
- **Combined Report:** Prints a combined report, which displays information from two analyses on one printout.

- **Compare Solutions:** Prints a report comparing different solutions of the same analysis.

  For more information about the Combined Report feature, please refer to Chapter 11, Printing.

- **Problem Definition:** Prints the problem definition for the current analysis.

- **Carton Arrangement List:** Prints the carton arrangement list for the current analysis.

- **Intermediate Pack List:** Prints the intermediate Pack List for the current analysis.

- **ShipCase List:** Prints the shipcase list for the current analysis.

- **UnitLoad List:** Prints the unitload list for the current analysis.

- **Vehicle List:** Prints the vehicle list for the current analysis.

- **Stack Strength List:** Prints the stacking strength list for the current analysis.

Print Preview

The Print Preview option displays a second menu of options, as follows:

- **Analysis:** Displays the Print Parameters dialog box, which allows you to design the layout of your printed output of an analysis, then decide what type of information will be included and how that information will be presented (different graphical views, text and numbers, etc.).

- **Pallet Report:** Displays the Pallet report containing unitload information with efficiency factors and Wal-Mart scores

- **Package Profile:** Displays a print preview of the package profile for an analysis.

- **Container Diagram:** Displays the Container Diagram List dialog box, which allows you to select container diagram for printing.

- **Combined Report:** Displays a print preview of a combined report, which displays information from two analyses on one printout.

- **Compare Solutions:** Displays a report comparing different solutions of the same analysis.

Print Databases

The Print Databases option displays a second menu of options which allows you to print the following:

- **Product Report:** Packaging Component Specifications Report
- **Products:** Products Database
- **Cartons:** Cartons Database
- **Shipcases:** Shipcases Database
- **Pallets:** Pallets Database
- **Vehicles:** Vehicles Database
- **Box Styles:** Box Styles Database
- **Dividers:** Dividers Database
- **Films:** Bag Films Database
- **Cost Parameters:** Cost Factors Database
- **Stacking Strength:** Board Combinations Database
- **User List:**

Page Setup

The Page Setup option displays the Print Parameters dialog box, which allows you to design the layout of your printed output of an analysis, then decide what type of information will be included and how that information will be presented (different graphical views, text and numbers, etc.).

Printer Setup

The Printer Setup option displays the Print Setup dialog box, which allows you to set up parameters for your printer.

User Login

The User Login option displays the User Login dialog box, which allows you to login to the system.

Package Profile

The Package Profile option displays the Package Profile dialog box, which allows you to create a package profile for a complete package analysis, sometimes called a cube specification. The package profile is designed for situations where many products use the same packaging.

Analysis Details

The Analysis Details option displays the Analysis Details dialog box which allows you to enter more detail information about the analysis. This function is reserved for specific customers only. Please contact TOPS for more information.

Container Diagram

The Container Diagram option displays the Container Diagram Spec dialog box, which allows you to enter or update specifications for a specific container diagram.

Request Approval

The Request Approval option displays a dialog box that allows you to place an analysis in an approval queue. This feature is used to submit an analysis to a supervisor for approval. When a supervisor approves an analysis, that analysis can then be viewed by all users. Before an analysis is approved, it can only be viewed by the user who created the analysis or the supervisor.

Email Analysis

The Email Analysis option saves the current analysis as a text attachment in your email program so it can be sent to another TOPS user.

Exit

The Exit option closes the TOPS Pro program.

Edit Menu

Copy to Clipboard Color

This option allows you to select a graphic image in the TOPS Pro program, then copy the image to the clipboard in color.

Copy to Clipboard B+W

This option allows you to select a graphic image in the TOPS Pro program, then copy the image to the clipboard in black and white.

Layer Parameters

This option displays the Layer Parameters dialog box for the current active window. This dialog box allows you to define parameters related to the vehicle layers in your package design.

Package Instruction

This option displays the Package Instruction dialog box where users can add packaging accessories and note to the report.

Modify Pattern

This option opens the shipcase or pallet pattern editor which allows you modify the arrangement of primary packs in an intermediate packs, intermediate packs in a shipcase or shipcases on a pallet.

Select as Secondary Pattern

The Select as Secondary Pattern option allows you to select a pallet pattern and specify it as your secondary pattern from the list of solutions. This feature is useful if TOPS Pro has another pallet pattern you'd like to insert for a given layer of your primary (first) solution.

Go to Secondary Pattern

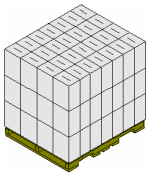
The Go to Secondary Pattern option allows you to select a pallet pattern and apply the secondary pattern to a layer or layers of your primary (first) pallet solution.

View Menu

The options under the View menu allow users to change the display of graphics or contents of the current solution window pane.

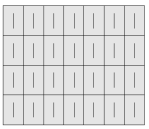
3-Dimension

The 3-Dimension option displays the 3-dimensional view of a selected graphic, as pictured on the right.



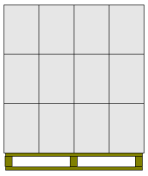
Plan

The Plan option displays the plan (top) view of a selected graphic, as pictured on the right.



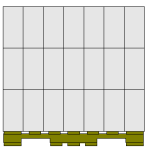
Front

The Front option displays the front view of a selected graphic, as pictured on the right.



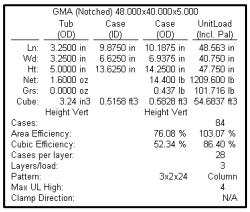
Side

The Side option displays the side view of a selected graphic, as pictured on the right.



Text

The Text option displays the corresponding statistics in text form for a selected graphic, as pictured on the right.

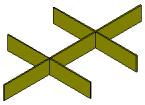


GMA (Notched) 48.000x40.000x5.000

	Tub (OD)	Case (ID)	Case (OD)	UnitLoad (Incl. Pal)
Ln:	3.2500 in	9.8750 in	10.1875 in	48.563 in
Wd:	3.2500 in	6.6250 in	6.9375 in	40.750 in
Ht:	5.0000 in	13.6250 in	14.2500 in	47.750 in
Net:	1.6000 oz		14.400 lb	1209.600 lb
Grs:	0.0000 oz		0.437 lb	101.716 lb
Cube:	3.24 in3	0.5158 ft3	0.5828 ft3	54.6837 ft3
	Height Vert		Height Vert	
Cases:				84
Area Efficiency:			76.08 %	103.07 %
Cubic Efficiency:			52.34 %	86.40 %
Cases per layer:				28
Layers/load:				3
Pattern:			3x2x24	Column
Max UL High:				4
Clamp Direction:				N/A

Divider 3D

The Divider 3D option displays the 3-dimensional view of the divider in a selected graphic, as pictured on the right.



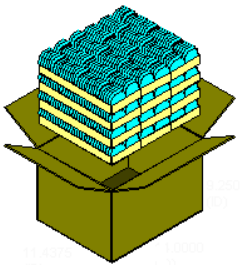
Divider Plan

The Divider Plan option displays the plan (top) view of the divider in a selected graphic, as pictured here.

Show/Hide Dims

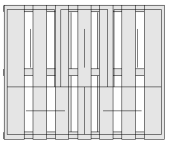
The Show/Hide Dims option acts as a toggle switch that allows you to show or hide (erase) the numeric dimensions on a selected graphic.

Show Contents



The Show Contents option displays the contents of a container. For example, if a carton contains trays of cookies, the Show Contents option will display the trays of cookies in the graphic, as pictured on the right.

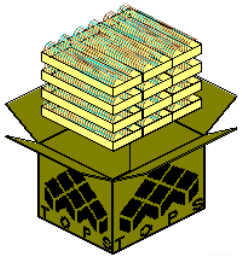
Transparent Boxes



The Transparent Boxes option allows you to view the footprint of a pallet. To use this feature, open the View menu, select Plan, then select Transparent Boxes. The pallet pattern redisplays with one layer of the unitload having transparent boxes, as pictured as the right.

To see other views of the pallet pattern, use the Shift/Arrow keys to rotate the pallet.

Show Graphics/C.A.S.Y.



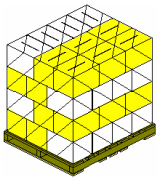
The Show Graphics/C.A.S.Y. option allows you to display paste-on graphics on the front, back or top of your shipcases, as pictured below. This feature also allows you to display a CASY design you've created for a container. For a faster display, leave this feature turned off.

Note: If an analysis includes both graphics and a CASY design, the system will display the CASY design, not both.

Show Graphics

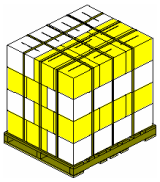
The Show Graphics option allows you to display paste-on graphics on the front, back or top of your shipcases. For a faster display, leave this feature turned off.

Show ShrinkWrapped



The Show ShrinkWrapped option allows you to display a unitload with shrinkwrap applied, as pictured on the right.

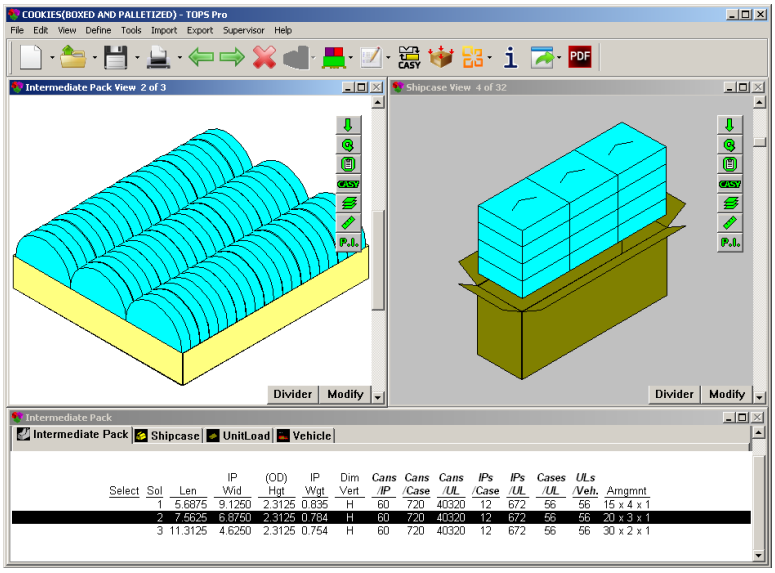
Show Strapped



The Show Strapped option allows you to display a unitload with strapping applied, as pictured on the right.

Split Screen

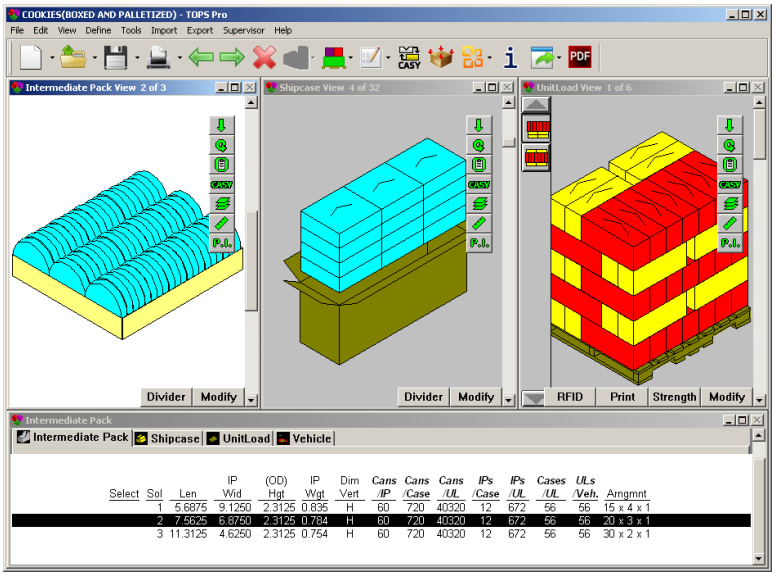
The Split Screen option divides the Analysis View into three panes, as pictured below. Click the Next (➡) or Previous (⬅) button to move between stages.



Tri Screen

When available, depending on the number of stages in the Design Sequence, the Tri Screen layout presents the graphics in three different panes as pictured on the next page.

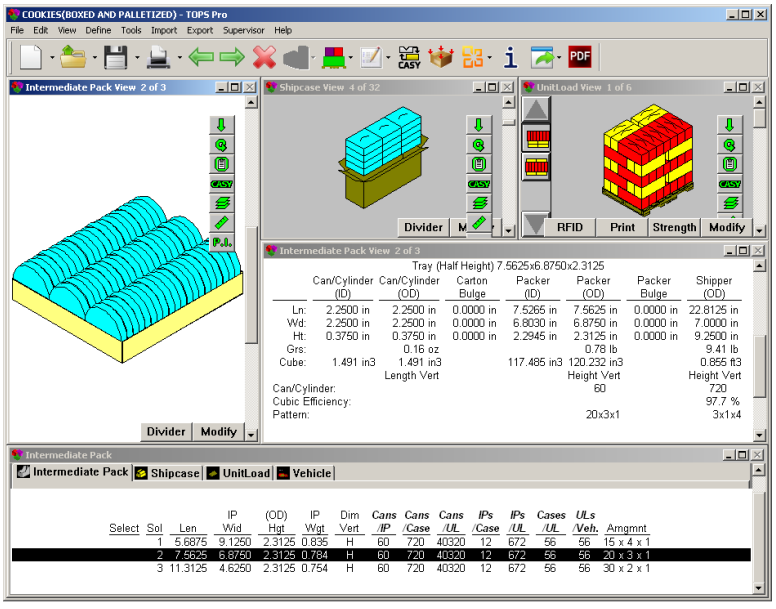
You can use the Next (➡) or Previous (⬅) button to move between stages or click on the different tabs in the Solution List pane.



Tri With Stat Screen

When available, the Tri Screen with Statistics option presents the graphics in three different panes plus the statistics of the highlighted stage.

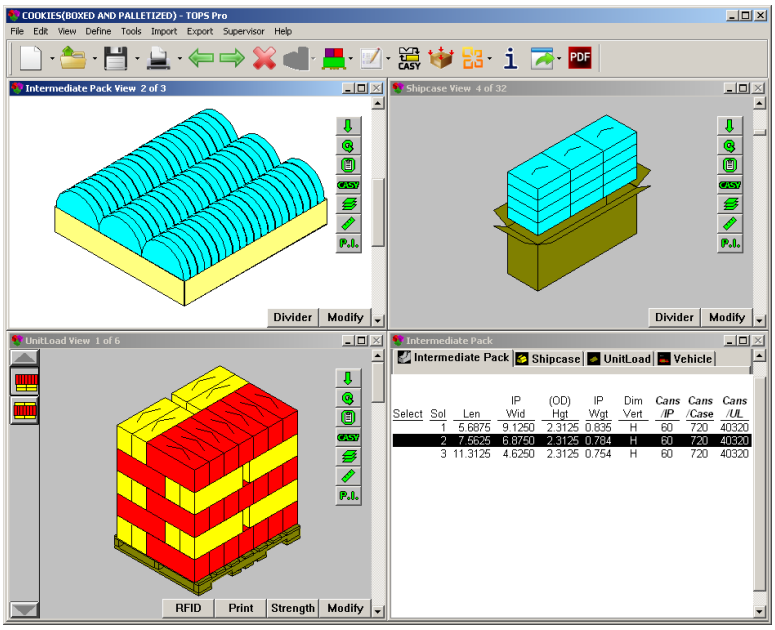
You can use the Next (⇨) or Previous (⇦) button to move between stages or click on the different tabs in the Solution List pane.



Quad Screen

The Quad Screen option divides the Analysis View into four panes, as pictured next.

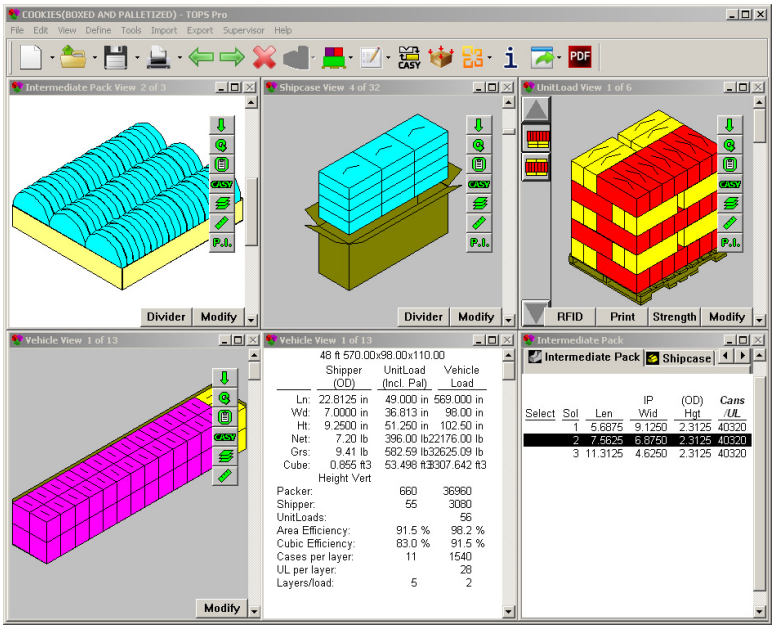
Again, click on Next (➡) or Previous (⬅) button to move between stages or click on the different tabs in the Solution List pane.



Hex Screen

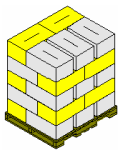
When available, the Hex Screen option presents the graphics view in six different panes as pictured below.

Again, click on Next (➡) or Previous (⬅) button to move between stages or click on the different tabs in the Solution List pane.



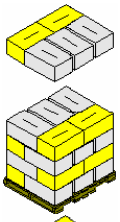
Single Stack

The Single Stack option displays a unitload as a single-stack pattern, as pictured on the right.



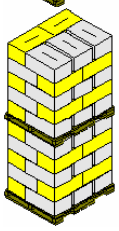
Pop Top

The Pop Top option displays a unitload with the top layer suspended, which allows you to see the second layer in the pattern, as pictured below.



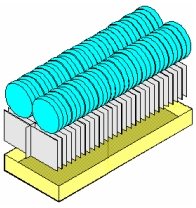
Double Stack

The Double Stack option displays a unitload as a double-stack pattern, as pictured on the right.



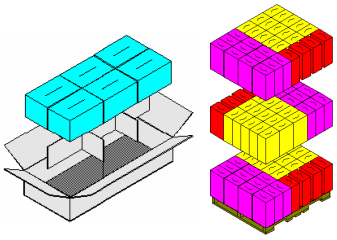
Assembly

The Assembly option is used for cartons with dividers and displays a view how the carton and dividers are assembled, as pictured on the right.



Exploded

The Exploded option is used for cartons or shipcases with dividers and displays a view how the items are loaded into a shipper, as pictured on the right.



Define Menu

Product

The Product option displays the Define Product dialog box, which allows you to define parameters for a new product. You can also use this dialog box to change parameters for an existing product. Products are used in Package Profiles. Please refer to Chapter 10 for more details.

Carton

The Carton option displays the Define Carton dialog box which allows you to define parameters for a new carton or to change parameters for an existing carton.

Once defined, these cartons can be found in the drop-down list of the Description field in the Carton Parameters dialog box.

Can

The Can option displays the Define Can dialog box which allows you to define parameters for a new can or to change parameters for an existing can. Again, defined cans can be found in the drop-down list of the Description field in the Can Parameters dialog box.

Tub

The Tub option displays the Define Tub dialog box which allows you to define parameters for a new tub or to change parameters for an existing tub. Defined tubs can be found in the drop-down list of the Description field in the Tub Parameters dialog box.

Bottle

The Bottle option displays the Define Bottle dialog box which allows you to define parameters for a new or to change parameters for an existing bottle. Defined bottles can be found in the drop-down list of the Description field in the Bottle Parameters dialog box.

Film Bag

The Film Bag option displays the Define Film Bag dialog box which allows you to define parameters for a new bag or to change parameters for an existing file bag. Defined film bags can be found in the drop-down list of the Description field in the Bag Parameters dialog box.

Milk Carton

The Milk Carton option displays the Define Milk Carton dialog box which allows you to define parameters for a new milk carton or to change parameters for an existing milk carton. Defined milk cartons can be found in the drop-down list of the Description field in the Milk Carton Parameters dialog box.

Shipping Case

The Shipping Case option displays the Define Shipping Case dialog box which allows you to define parameters for a new a shipcase or to change parameters for an existing shipcase. Defined shipping cases can be found in the drop-down list of the Description field in the Shipcase Parameters dialog box when using a Fixed Case.

Pallet

The Pallet option displays the Define Pallet dialog box which allows you to define parameters for a new a pallet or to change parameters for an existing pallet. Defined pallets can be found in the drop-down list of the Pallet Style field in the UnitLoad Parameters dialog box.

Vehicle

The Vehicle option displays the Define Vehicle dialog box which allows you to define a new vehicle and save it to the database or to change parameters for an existing vehicle. Defined vehicles can be found in the drop-down list of the Description field in the Vehicle Parameters dialog box.

Box Styles

The Box Styles option displays the Case Styles dialog box which allows you to define parameters for a new case style (one that's not already defined in the system). This dialog box also allows you to change parameters for an existing style.

Defined box styles are available in the drop-down list of the Style field in the Carton, Intermediate Pack and Shipcase Parameters dialog boxes.

Dividers

The Dividers option displays the Define Dividers dialog box which allows you to define parameters for a new divider or to change parameters for existing dividers.

Pallet Accessories

The Pallet Accessories option displays the Define Pallet Accessories dialog box which allows you to define custom slipsheet, pad, tray or cap and save them to the TOPS database for later use.

Film

The Film option displays the Define Film dialog box which allows you to define parameters for a new film or to change parameters for existing film. Defined films can be found in the drop-down list of the Film field in the Bag Parameters dialog box.

Bag Costing

The Bag Costing option displays the Costing Data dialog box which allows you to enter costing data related to a number of bag-related items. More information can be found in Appendix B – Costing Data dialog box.

C.A.S.Y. Primary Style

This option displays the CASY Primary Package Screen, which allows you to design a primary package (bottle, can, cup, etc.) that has a custom, non-standard shape. More information is available in Chapter 8, Create A Shape Yourself (CASY).

C.A.S.Y. Tray Style

This option displays the CASY Shipcase/Tray Screen, which allows you to design and build a shipcase or tray that has a custom, non-standard shape. More information is available in Chapter 8, Create A Shape Yourself.

Tools Menu

Configuration

The Configuration option displays the Configuration dialog box, which allows you to define the configuration of your TOPS Pro system by selecting and de-selecting a range of options.

Language

The Language option displays a second menu, which allows you to select the language to be used with the TOPS Pro system.

You can also access the Edit menu which displays the Text Modification dialog box which allows you to replace existing text strings within TOPS Pro with a new text string.

Stacking Strength

The Stacking Strength option displays the Stacking Strength dialog box, which allows you to perform a stacking strength test on a package analysis.

For more information about the Stacking Strength dialog box, please refer to Chapter 9, Stacking Strength, or Appendix B, Dialog Boxes.

Search

This option displays Analysis Search dialog box where users can specify the dimension of a carton or shipcase to be searched through the database or from the archives.

User List

The User List option displays the User List dialog box, which displays the users currently logged onto the system. This feature is critical for network users who have a limited number of TOPS Pro software licenses. For example, if you have two licenses and two users are logged on, then a third user will not be able to logon until one of the current users logs off.

Color Selection

The Color Selection option displays the Color Selection dialog box, which allows you to select a color for a number of images in the system – blocks, packers, shippers, etc.

MixPro

The MixPro option displays the MixPro Screen, which allows you to design a mixed pallet with any number of different size boxes.

For more information about the MixPallet Screen, please refer to Chapter 6, MixPro Pallet.

MixTray

The MixTray option displays the MixTray Screen, which allows you to design a mixed tray with any number of different size primary packages.

For more information about the MixTray Screen, please refer to Chapter 6, MixPro Tray.

ESR

The ESR, Eco Saving Report option opens a second menu which allows you to configure cost factors for ESR and to create ESR after multiple solutions have been selected for comparison.

Recover Analyses

The option opens the Auto Recover dialog box which allows you to select analyses for recovery or deletion.

Import Menu

Import TOPS Data

The Import TOPS Data option displays the Import From ASCII dialog box, which allows you to import an ASCII comma delimited text file or XML files into the TOPS Pro system. You can use this function to import shipcases into TOPS Pro. The functionality is identical to that of the Import option on the File menu in the Configuration program.

Easy Import

The Easy Import option displays the Easy Import dialog box, which allows you to import an ASCII comma delimited text file into the TOPS Pro system.

This is a simpler import when compared to the general TOPS import and can include up to the following 32 fields/Columns for an analysis:

1) Analysis Name	2) Analysis Type (starting stage of analysis)
3) Unit of Measure For distance	4) Unit of Measure For weight
5) Primary pack (if present)	6) Primary pack type
7) Primary pack length	8) Primary pack width
9) Primary pack height	10) Primary pack net weight
11) Primary pack gross weight	12) Intermediate pack (if present)
13) Intermediate pack style	14) Intermediate pack flute
15) Intermediate pack maximum count	16) Intermediate pack minimum count
17) Shipcase (if present)	18) Shipcase type
19) Shipcase style	20) Shipcase length
21) Shipcase width	22) Shipcase height
23) Shipcase flute	24) Shipcase maximum count
25) Shipcase minimum count	26) Unitload (if present)
27) Unitload Pallet	28) Unitload maximum height
29) Unitload maximum weight	30) Vehicle (if present)
31) Vehicle name	32) Vehicle maximum weight

Export Menu

BMP (Color)

The BMP (Color) option displays the Save File As dialog box and allows you to save a selected graphic as a color bitmap file.

BMP (B+W)

The BMP (B+W) option displays the Save File As dialog box and allows you to save a selected graphic as a black-and-white bitmap file.

EPS

The EPS option displays the Save File As dialog box and allows you to save a selected graphic as an encapsulated post script (EPS) file.

TIFF

The TIFF option displays the Save File As dialog box and allows you to save a selected graphic as an TIFF file.

PCX

The PCX option displays the Save File As dialog box and allows you to save a selected graphic as an PCX file.

JPEG

The JPEG option displays the Save File As dialog box and allows you to save a selected graphic as a JPEG file.

HTML

The HTML option displays the Save File As dialog box and allows you to save a selected graphic as an HTML file.

PNG

The PNG option displays the Save File As dialog box and allows you to save a selected graphic as a PNG file.

Note: TOPS recommends the PNG format because it provides the smallest file size and the best quality image.

PDF

The PDF option displays the Save File As dialog box and allows you to save a selected graphic as a PDF file.

WMF

The WMF option displays the Save File As dialog box and allows you to save a selected graphic as a WMF file.

Product Report

The Product Report option displays the Product Export dialog box, which allows you to export a product report. This report exports information to an ASCII comma delimited text file in a form suitable for import into Microsoft Access or Excel. The report includes information on every product attached to an approved package profile.

Case

The Case option displays the Export to ASCII dialog box, which allows you to export the shipcase in the current analysis from the TOPS Pro system to an ASCII comma delimited test file for use by third-party products, such as Design Axis' Package for DOS product.

Carton

The Carton option displays the Export to ASCII dialog box, which allows you to export the carton in the current analysis from the TOPS Pro system to an ASCII comma delimited test file for use by third-party products, such as Design Axis' Package for DOS product.

Analysis

The Analysis option displays the Export Analysis dialog box, which allows you to export an analysis to an ASCII comma delimited text or XML file. You can use this file to transfer analyses to other copies of TOPS Pro (same release or higher) or to back up your work.

Analysis Summary

The Export Analysis Summary option allows you to export all analyses, including both working and approved ones, in the TOPS Pro database into a comma delimited file. In order to open the export in Excel or Access, please provide a file name with a CSV or TXT extension.

Sarbrook – WinSPEX

This option integrates TOPS Pro with the Sarbrook – WinSPEX system. For more information, please call TOPS Technical Support.

Design Axis – PKG

This option integrates TOPS Pro with the PKG Specification system. For more information, please call TOPS Technical Support.

Robotic Palletizer

The Robotic Palletizer option allows you to export the arrangement of a pallet pattern layer to an ASCII comma delimited text file, which can be used by robotic palletizing machines to determine how to arrange a unitload.

Interface

The Interface option allows you to export data from TOPS Pro to other software applications like JD Edwards. For an up-to-date list of applications that interface with TOPS Pro, please contact TOPS Technical Support.

Send to MS Office

The Send to MS Office option displays the Select template to export dialog box which allows you to export the current analysis to MS Word or Excel using predefined templates. For more information, please see Chapter 18 – Send to MS Office.

Send to Esko Artios

The Send to Esko Artios option displays the Send to Artios dialog box which allows you to export shipcase or shipcase and pallet information to Artios CAD. For more information, please see Chapter 3.

Supervisor Menu

Login/Logout

The Login/Logout option displays the Supervisor Login dialog box, which allows you to login to the system as a supervisor. This is required in order to perform the following tasks:

- Approve analyses
- Rename and delete users
- Change statistics settings
- See all users' work
- Log off other users
- Change button templates
- Change Quick Print templates

For more information about the Supervisor Login dialog box, please refer to Chapter 15, Supervisor Functions, or Appendix B, Dialog Boxes.

Open Request

The Open Request option displays the Open Request for Approval dialog box, which displays a list of analyses that are queued up for approval or denial. This dialog box allows a supervisor to open an analysis and look it over before approving or denying it.

For more information, please refer to Chapter 15, Supervisor Functions.

Approve

The Approve option allows the supervisor to approve an analysis.

Deny Approval

The Deny Approval option allows the supervisor to deny approval of an analysis.

Template Setup

The Template Setup option displays the Control Panel in red and allows a supervisor to set up a template analysis and assign a button to it.

QPrint Template

The QPrint Template option displays the Control Panel in red and allows a supervisor to set up a Quick Print analysis.

Revert From Last Approved

The Revert From Last Approved option is currently not active.

Set License

The Set License option opens the Set TOPS License box which allows you to setup your TOPS electronic license.

Help Menu

Contents and Index

The Contents and Index option displays the TOPS Pro Help index, which allows you to select and displays Help information for a comprehensive range of topics.

About

The About option displays the About TOPS Pro screen which displays a variety of information about your license include software version, registered name, serial number, current user, license format (stand-alone or network) and number of simultaneous users.

It also lists the directory path for the TOPS Pro installation, its database, language and location of the TOPSPRO.INI file.

Email Problem Definition

The Email Problem Definition option allows you to e-mail an analysis or problem definition report to TOPS Technical Support. This feature launches your e-mail browser, automatically attaches the selected analysis and addresses the e-mail to TOPS Technical Support.

Appendix D: Pallet Patterns

Introduction

TOPS Pro allows you to configure unitloads with a specific pattern. For example, the Shipcase Option dialog box allows you to select one or multiple pattern arrangements for TOPS Pro to consider when the system generates solutions for an analysis. This appendix describes the pattern styles you can use with TOPS Pro.

Depending on your situation, you may want to use a number of patterns in your analysis to get a tighter load. Conversely, you might want to eliminate some options because you want simpler patterns; for example, your palletizing machine can handle only simple 1-block patterns.

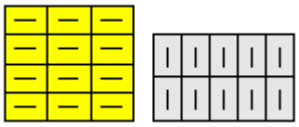
Note two things about the information presented in this appendix:

- The pattern styles 1-block, 2-block, 3-block, 4-block, 5-block, 5-block plus and diagonal, allow you to choose a vertical dimension for the shipcases and use that vertical dimension throughout the arrangement.

  The figures presented with these patterns each use the depth dimension as the vertical dimension. For each pattern, two unitloads are displayed in plan view for enhanced clarity.

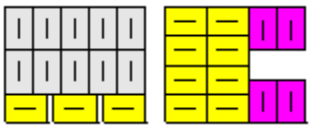
- Each pattern style has a corresponding letter in parentheses. This letter is used in the various List panels and unitload statistics, and is a single-letter abbreviation for that particular pattern style.

1-Block Pattern (C)



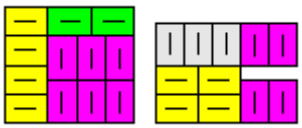
The 1-block, column stack pattern is a simple pattern with one block of shipcases.

2-Block Pattern (B)



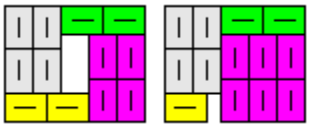
The 2-block pattern or bi-block configuration, is pictured below. This pattern is also known as interlock pattern if used in conjunction with layer rotation.

3-Block Pattern (T)



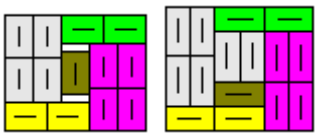
The 3-block, or tri-block, pattern is pictured here.

4-Block Pattern (W)



The 4-block, pinwheel pattern is pictured below. In the two unitloads, this pattern is made up of four blocks of shipcases that form a pinwheel-like figure.

5-Block Pattern (P)

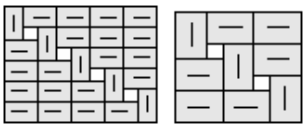


The 5-block, or penta-block, pattern is pictured here. In these two unitloads, this pattern is made up of five blocks of shipcases. Four blocks of shipcases form a pinwheel configuration; the fifth block of shipcase is positioned in the middle.

5-Block Plus Pattern (Q)

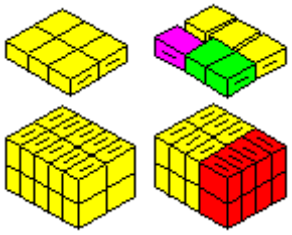
Notice that this 5-block pattern has another 5-block pattern in the middle of the configuration. In these two unitloads, this pattern is made up of five blocks of shipcases. Four blocks of shipcases form a pinwheel configuration; a separate 5-block configuration of shipcases is positioned in the middle.

Diagonal Pattern (D)



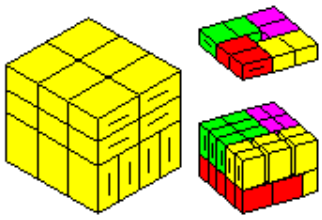
In these unitloads, the pattern has alternating blocks of shipcases that form a diagonal configuration.

Multi-Layer Pattern (Z)



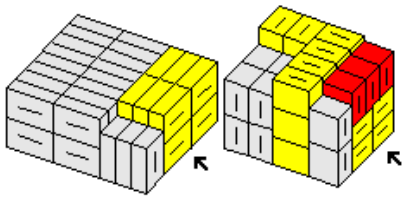
In these two unitloads, the top layer is lifted to show that different layers have different patterns. With a multi-layer pattern, TOPS Pro configures the unitload with the vertical dimension you specified, with the exception of the top layer. (The top layer is not affected by stacking strength).

Multi-Dimension Pattern (Z)



In the two unitloads shown here, each layer has a different vertical dimension.

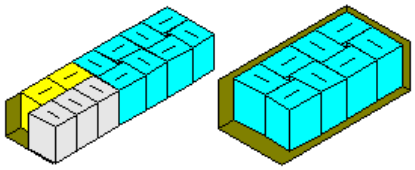
Multi-Surface Pattern (O)



With this pattern, TOPS Pro turns the pallet on its side, loads the pallet, configures the pattern, then turns the pallet upright again. In the figure, the arrows indicate the side on which TOPS Pro loaded the pallet.

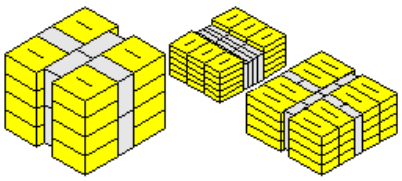
To use a multi-surface pattern, it's necessary to select at least two dimensions as vertical dimensions. When you use a multi-surface pattern, TOPS Pro automatically calculates other multi-patterns.

Repeat (Pinwheel) Pattern (R)



With the repeater pattern, you'll fill the vehicle with the pinwheel pattern on the right, then fill the rest of the vehicle space with other patterns, if possible. This pattern is available only if you're loading pallets onto a vehicle.

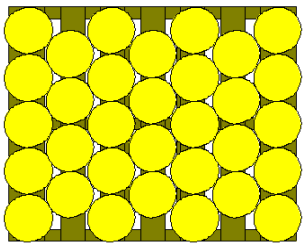
Soldiered Pattern (S)



In the two unitloads, the cases are spaced apart so that other cases can be turned on their sides and fit into the space.

Staggered Pattern (N)

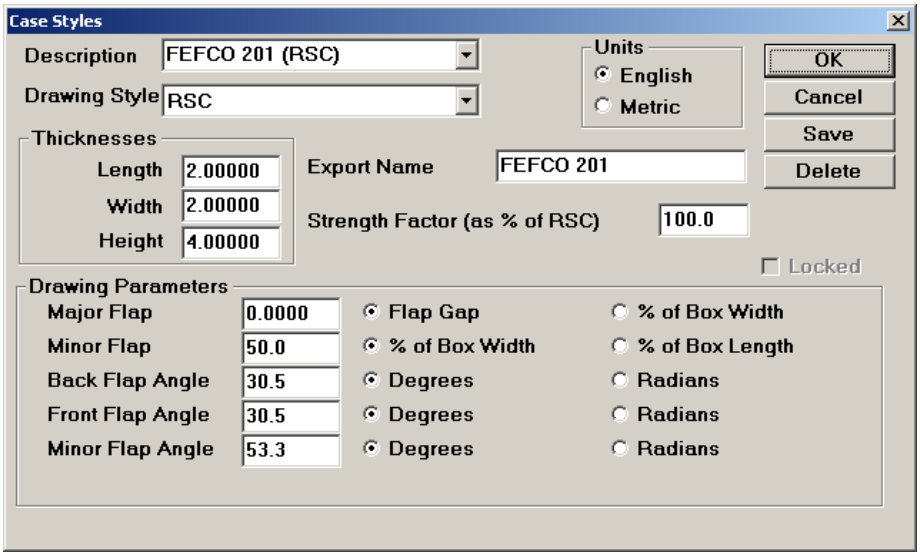
The staggered pattern is used to load round containers onto a pallet. As you can see, the round containers mean the configuration will have a staggered, rather than a linear, pattern.

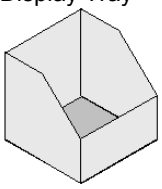
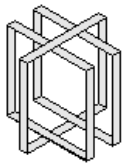
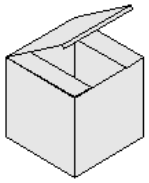
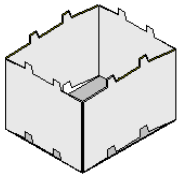
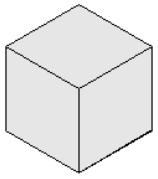
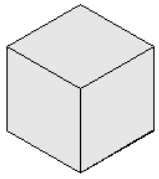
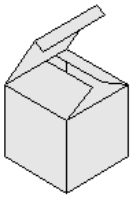
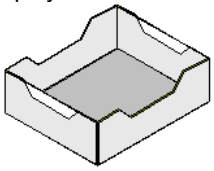
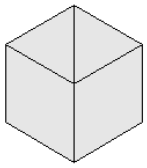


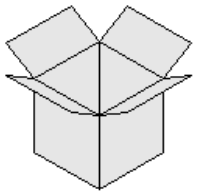
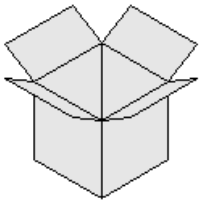
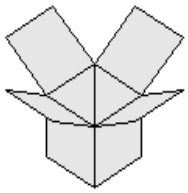
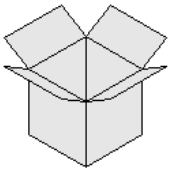
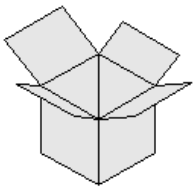
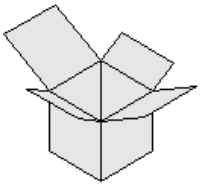
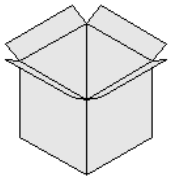
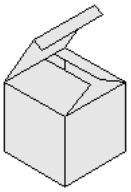
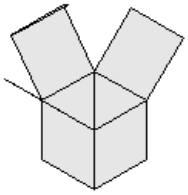
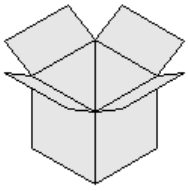
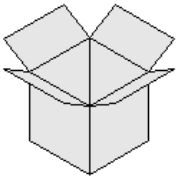
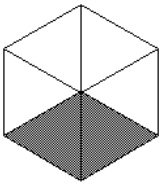
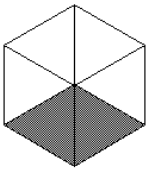
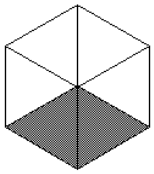
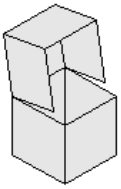
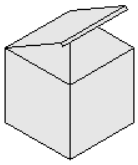
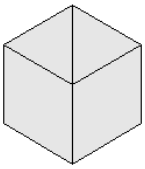
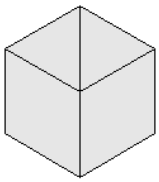
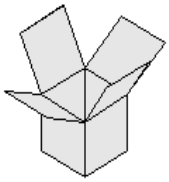
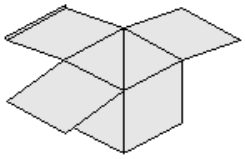
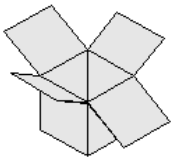
Appendix E: Box Styles

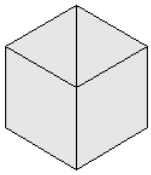
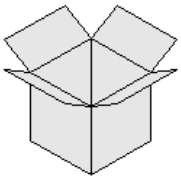
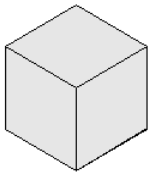
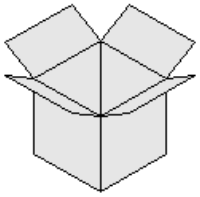
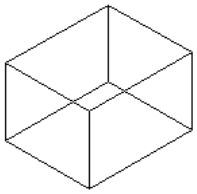
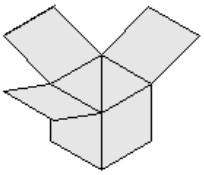
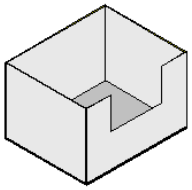
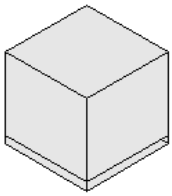
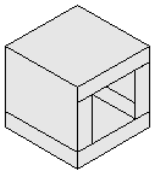
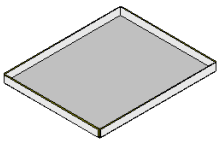
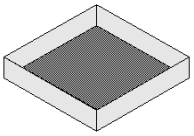
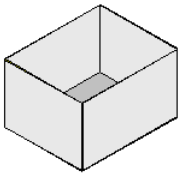
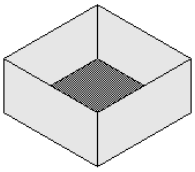
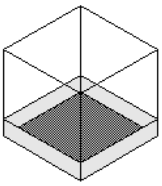
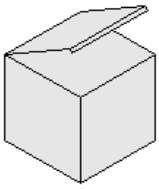
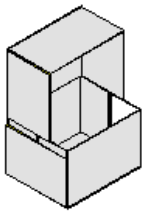
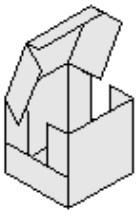
This appendix outlines the box styles defined in the TOPS Pro database.

To see the parameters for each box style as shown in this chapter, select Box Styles under the Define Menu. Click on the drop down list in the Description field to select the style. The Case Styles dialog box will appear to provide detail parameters for the selected style.



Bottle Display Tray 	Bundle Strapped 	Carton 
CFS 	Cube 	Cube (No Thicknesses) 
Die Cut 	Display Case 	FEFCO 200 

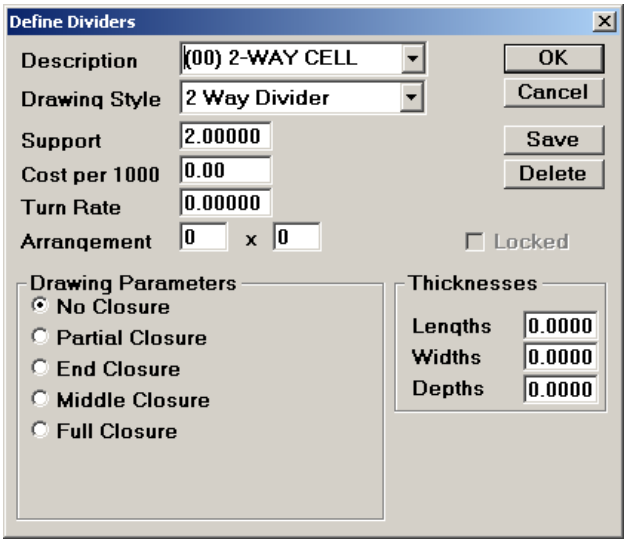
FEFCO 201 (RSC) 	FEFCO 202 	FEFCO 203 (FOL) 
FEFCO 204 	FEFCO 205 	FEFCO 206 
FEFCO 209 	FEFCO 210-15 (Die Cut 	FEFCO 215 
FEFCO 216 	FEFCO 230 	FEFCO 300 
FEFCO 304 	FEFCO 308 	FEFCO 406 
FEFCO 421 	FEFCO 422 	FEFCO 453 
FOL 	Friction Lock Tuck Top 	Full Overlap Seal End Carton 

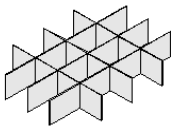
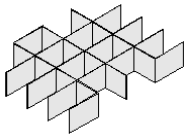
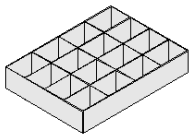
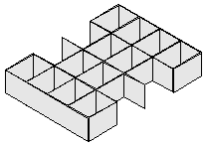
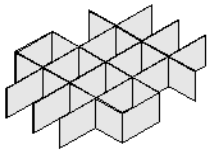
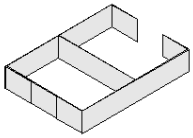
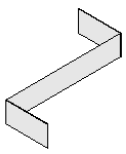
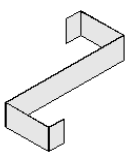
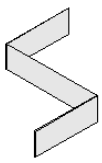
HSC 	RSC 	RSC (Closed) 
RSC (FEFCP 0201) 	Shrink Wrap 	Standard Reverse Tuck Carton 
Tear Out 	Telescoping 	Tray and Shroud 
Tray (1-inch) 	Tray (2-inch) 	Tray (CFC) 
Tray (Half Height) 	Tray (Shrink Wrap) 	Tuck 
Wrap Around 	Wrap Around Economy 	

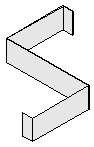
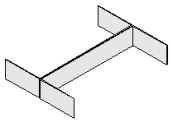
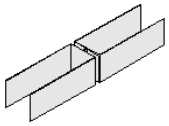
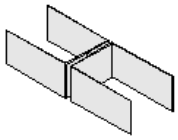
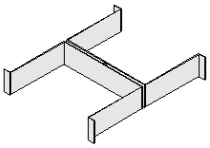
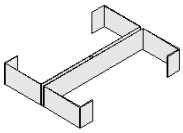
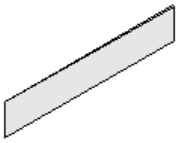
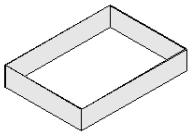
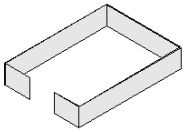
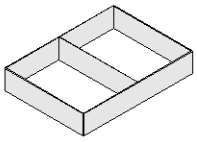
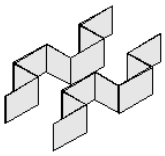
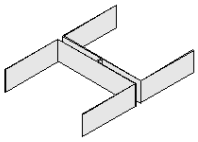
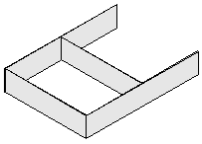
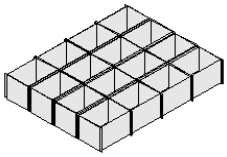
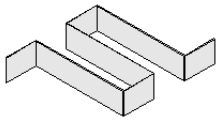
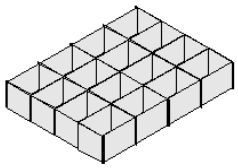
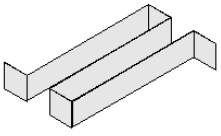
Appendix F: Divider Styles

This appendix outlines the divider styles defined in TOPS Pro's database:

To see the parameters for each divider style shown in the appendix, select Dividers under the Define Menu. Click on the drop down list in the Description field to select the style. The Define Dividers dialog box, as shown below, displays the parameters for the selected divider.



2-Way Cell (A) 	2-Way w/ Partial (B) 	2-Way w/ Sleeve (C) 
2-Way w/ Closed E (D) 	2-Way w/ Closed M (E) 	3-Cell w/ Tabs (F) 
Z-Part Length (G) 	Z-Part Length w/ T (H) 	Z-Part Width (I) 

Z-Part Width w/ T (J) 	H-Part (Inside) (K) 	H-Part (Outside) (L) 
H-Part (Outside) (M) 	H-Part w/ tabs (Outside) (N) 	H-Part w/ Tabs IN (O) 
Split Width (P) 	Split Length (Q)	Perimeter (R) 
Perimeter w/ Gap (S) 	Perimeter w/ Center T (T) 	U-Part w/ Tabs (U) 
Dual U w/ Box IN (V) 	Cradle (W) 	Complete Aircell 
Len U Simple 	Perimeter Aircell 	Wid U Simple 

Appendix G: TOPS Bookmarks & Defined Names

TOPS Bookmarks for MS Word

Product / Primary Pack

IMAGE_PROD_POPTOP_3D	Product Poptop 3D Image
IMAGE_PROD_SINGLE_STACK_3D	Product Single Stack 3D Image
IMAGE_PROD_DOUBLE_STACK_3D	Product Double Stack 3D Image
IMAGE_PROD_ASSEMBLY_3D	Product Assembly 3D Image
IMAGE_PROD_EXPLODED_3D	Product Exploded 3D Image
IMAGE_PROD_POPTOP_PLAN	Product Poptop Plan Image
IMAGE_PROD_SINGLE_STACK_PLAN	Product Single Stack Plan Image
IMAGE_PROD_DOUBLE_STACK_PLAN	Product Double Stack Plan Image
IMAGE_PROD_ASSEMBLY_PLAN	Product Assembly Plan Image
IMAGE_PROD_EXPLODED_PLAN	Product Exploded Plan Image
IMAGE_PROD_POPTOP_FRONT	Product Poptop Front Image
IMAGE_PROD_SINGLE_STACK_FRONT	Product Single Stack Front Image
IMAGE_PROD_DOUBLE_STACK_FRONT	Product Double Stack Front Image
IMAGE_PROD_ASSEMBLY_FRONT	Product Assembly Front Image
IMAGE_PROD_EXPLODED_FRONT	Product Exploded Front Image
IMAGE_PROD_POPTOP_SIDE	Product Poptop Front Image
IMAGE_PROD_SINGLE_STACK_SIDE	Product Single Front Image
IMAGE_PROD_DOUBLE_STACK_SIDE	Product Double Stack Front Image
IMAGE_PROD_ASSEMBLY_SIDE	Product Assembly Front Image
IMAGE_PROD_EXPLODED_SIDE	Product Exploded Front Image

Intermediate Pack

IMAGE_IP_POPTOP_3D	Intermediate Pack Poptop 3D Image
IMAGE_IP_SINGLE_STACK_3D	Intermediate Pack Single Stack 3D
IMAGE_IP_DOUBLE_STACK_3D	Intermediate Pack Double Stack 3D
IMAGE_IP_ASSEMBLY_3D	Intermediate Pack Assembly 3D
IMAGE_IP_EXPLODED_3D	Intermediate Pack Exploded 3D
IMAGE_IP_POPTOP_PLAN	Intermediate Pack Poptop Plan
IMAGE_IP_SINGLE_STACK_PLAN	Intermediate Pack Single Stack Plan
IMAGE_IP_DOUBLE_STACK_PLAN	Intermediate Pack Double Stack Plan
IMAGE_IP_ASSEMBLY_PLAN	Intermediate Pack Assembly Plan
IMAGE_IP_EXPLODED_PLAN	Intermediate Pack Exploded Plan
IMAGE_IP_POPTOP_FRONT	Intermediate Pack Poptop Front
IMAGE_IP_SINGLE_STACK_FRONT	Intermediate Pack Single Stack Front
IMAGE_IP_DOUBLE_STACK_FRONT	Intermediate Pack Double Stack Front
IMAGE_IP_ASSEMBLY_FRONT	Intermediate Pack Assembly Front
IMAGE_IP_EXPLODED_FRONT	Intermediate Pack Exploded Front
IMAGE_IP_POPTOP_SIDE	Intermediate Pack Poptop Side
IMAGE_IP_SINGLE_STACK_SIDE	Intermediate Pack Single Stack Side
IMAGE_IP_DOUBLE_STACK_SIDE	Intermediate Pack Double Stack Side
IMAGE_IP_ASSEMBLY_SIDE	Intermediate Pack Assembly Side
IMAGE_IP_EXPLODED_SIDE	Intermediate Pack Exploded Side

Shipcase

IMAGE_SC_POPTOP_3D	Shipcase Poptop 3D
IMAGE_SC_SINGLE_STACK_3D	Shipcase Single Stack 3D
IMAGE_SC_DOUBLE_STACK_3D	Shipcase Double Stack 3D
IMAGE_SC_ASSEMBLY_3D	Shipcase Assembly 3D
IMAGE_SC_EXPLODED_3D	Shipcase Exploded 3D
IMAGE_SC_POPTOP_PLAN	Shipcase Poptop Plan
IMAGE_SC_SINGLE_STACK_PLAN	Shipcase Single Stack Plan
IMAGE_SC_DOUBLE_STACK_PLAN	Shipcase Double Stack Plan
IMAGE_SC_ASSEMBLY_PLAN	Shipcase Assembly Plan
IMAGE_SC_EXPLODED_PLAN	Shipcase Exploded Plan
IMAGE_SC_POPTOP_FRONT	Shipcase Poptop Front
IMAGE_SC_SINGLE_STACK_FRONT	Shipcase Single Stack Front
IMAGE_SC_DOUBLE_STACK_FRONT	Shipcase Double Stack Front
IMAGE_SC_ASSEMBLY_FRONT	Shipcase Assembly Front
IMAGE_SC_EXPLODED_FRONT	Shipcase Exploded Front
IMAGE_SC_POPTOP_SIDE	Shipcase Poptop Plan
IMAGE_SC_SINGLE_STACK_SIDE	Shipcase Single Stack Plan
IMAGE_SC_DOUBLE_STACK_SIDE	Shipcase Double Stack Plan
IMAGE_SC_ASSEMBLY_SIDE	Shipcase Assembly Plan
IMAGE_SC_EXPLODED_SIDE	Shipcase Exploded Plan

Unitload

IMAGE_UL_POPTOP_3D	Unitload Poptop 3D
IMAGE_UL_SINGLE_STACK_3D	Unitload Single Stack 3D
IMAGE_UL_DOUBLE_STACK_3D	Unitload Double Stack 3D
IMAGE_UL_ASSEMBLY_3D	Unitload Assembly 3D
IMAGE_UL_EXPLODED_3D	Unitload Exploded 3D
IMAGE_UL_POPTOP_PLAN	Unitload Poptop Plan
IMAGE_UL_SINGLE_STACK_PLAN	Unitload Single Stack Plan
IMAGE_UL_DOUBLE_STACK_PLAN	Unitload Double Stack Plan
IMAGE_UL_ASSEMBLY_PLAN	Unitload Assembly Plan
IMAGE_UL_EXPLODED_PLAN	Unitload Exploded Plan
IMAGE_UL_POPTOP_FRONT	Unitload Poptop Front
IMAGE_UL_SINGLE_STACK_FRONT	Unitload Single Stack Front
IMAGE_UL_DOUBLE_STACK_FRONT	Unitload Double Stack Front
IMAGE_UL_ASSEMBLY_FRONT	Unitload Assembly Front
IMAGE_UL_EXPLODED_FRONT	Unitload Exploded Front
IMAGE_UL_POPTOP_SIDE	Unitload Poptop Side
IMAGE_UL_SINGLE_STACK_SIDE	Unitload Single Stack Side
IMAGE_UL_DOUBLE_STACK_SIDE	Unitload Double Stack Side
IMAGE_UL_ASSEMBLY_SIDE	Unitload Assembly Side
IMAGE_UL_EXPLODED_SIDE	Unitload Exploded Side

Statistics (Primary Pack)

STATS_PRIPACK_NAME	Primary pack box style
STATS_PRIPACK_LEN	Primary Pack Length (Inside)
STATS_PRIPACK_LEN_METRIC	Primary Pack Length in metric (Inside)
STATS_PRIPACK_LEN_METRIC_CM	Primary Pack Length in cm (Inside)
STATS_PRIPACK_LEN_OUTSIDE	Primary Pack Length (Outside)
STATS_PRIPACK_LEN_METRIC_OUTSIDE	Primary Pack Length in metric (Outside)
STATS_PRIPACK_LEN_METRIC_CM_OUTSIDE	Primary Pack Length in cm (Outside)
STATS_PRIPACK_WID	Primary Pack Width (Inside)
STATS_PRIPACK_WID_METRIC	Primary Pack in metric (Inside)
STATS_PRIPACK_WID_METRIC_CM	Primary Pack in cm (Inside)
STATS_PRIPACK_WID_OUTSIDE	Primary Pack Width (Outside)
STATS_PRIPACK_WID_METRIC_OUTSIDE	Primary Pack in metric (Outside)

STATS_PRIPACK_WID_METRIC_CM_OUTSIDE	Primary Pack in cm (Outside)
STATS_PRIPACK_HGT	Primary Pack Height (Inside)
STATS_PRIPACK_HGT_METRIC	Primary Pack Height in metric (Inside)
STATS_PRIPACK_HGT_METRIC_CM	Primary Pack Height in cm (Inside)
STATS_PRIPACK_HGT_OUTSIDE	Primary Pack Height (Outside)
STATS_PRIPACK_HGT_METRIC_OUTSIDE	Primary Pack Height in metric (Outside)
STATS_PRIPACK_HGT_METRIC_CM_OUTSIDE	Primary Pack Height in cm (Outside)
STATS_PRIPACK_DIMVERT	Vertical Dimension of Primary pack
STATS_PRIPACK_CUBE	Primary Pack Cube (Inside)
STATS_PRIPACK_CUBE_METRIC	Primary Pack Cube in metric (Inside)
STATS_PRIPACK_CUBE_OUTSIDE	Primary Pack Cube (Outside)
STATS_PRIPACK_CUBE_METRIC_OUTSIDE	Primary Pack Cube in metric (Outside)
STATS_PRIPACK_WGT_NET	Net Weight - Primary Pack
STATS_PRIPACK_WGT_NET_METRIC	Net Weight in metric - Primary Pack
STATS_PRIPACK_WGT_GROSS	Gross Weight - Primary Pack
STATS_PRIPACK_WGT_GROSS_METRIC	Gross Weight in metric - Primary Pack
STATS_PRIPACK_PER_LAYER	Primary Pack per layer
STATS_PRIPACK_LAYER_PER_LOAD	Primary pack layers per load
STATS_PRIPACK_COUNT	Primary Pack Count

Statistics (Intermediate Pack)

STATS_IPACK_NAME	Intermediate pack box style
STATS_IPACK_LEN	Intermediate Pack Length (Inside)
STATS_IPACK_LEN_METRIC	Intermediate Pack Length in metric (Inside)
STATS_IPACK_LEN_METRIC_CM	Intermediate Pack in cm (Inside)
STATS_IPACK_LEN_OUTSIDE	Intermediate Pack Length (Outside)
STATS_IPACK_LEN_METRIC_OUTSIDE	Intermediate Pack Length metric (Outside)
STATS_IPACK_LEN_METRIC_CM_OUTSIDE	Intermediate Pack in cm (Outside)
STATS_IPACK_WID	Intermediate Pack Width (Inside)
STATS_IPACK_WID_METRIC	Intermediate Pack Width in metric (Inside)
STATS_IPACK_WID_METRIC_CM	Intermediate Pack in cm (Inside)
STATS_IPACK_WID_OUTSIDE	Intermediate Pack Width (Outside)
STATS_IPACK_WID_METRIC_OUTSIDE	Intermediate Pack Width in metric (Outside)
STATS_IPACK_WID_METRIC_CM_OUTSIDE	Intermediate Pack in cm (Outside)
STATS_IPACK_HGT	Intermediate Pack Height (Inside)
STATS_IPACK_HGT_METRIC	Intermediate Pack Height in metric (Inside)
STATS_IPACK_HGT_METRIC_CM	Intermediate Pack in cm (Inside)
STATS_IPACK_HGT_OUTSIDE	Intermediate Pack Height (Outside)
STATS_IPACK_HGT_METRIC_OUTSIDE	Intermediate Pack Height metric (Outside)
STATS_IPACK_HGT_METRIC_CM_OUTSIDE	Intermediate Pack in cm (Outside)
STATS_IPACK_DIMVERT	Vertical Dimension of Intermediate pack
STATS_IPACK_PATTERN	Loading Pattern onto the intermediate pack
STATS_IPACK_CUBE	Intermediate Pack Cube (Inside)
STATS_IPACK_CUBE_METRIC	Intermediate Pack Cube in metric (Inside)
STATS_IPACK_CUBE_OUTSIDE	Intermediate Pack Cube (Outside)
STATS_IPACK_CUBE_METRIC_OUTSIDE	Intermediate Pack Cube in metric (Outside)
STATS_IPACK_WGT_NET	Net Weight - Intermediate Pack
STATS_IPACK_WGT_NET_METRIC	Net Weight in metric - Intermediate Pack
STATS_IPACK_WGT_GROSS	Gross Weight - Intermediate Pack
STATS_IPACK_WGT_GROSS_METRIC	Gross Weight in metric - Intermediate Pack
STATS_IPACK_PER_LAYER	Intermediate Pack per layer
STATS_IPACK_LAYER_PER_LOAD	Intermediate Pack layers per load
STATS_IPACK_COUNT	Intermediate Pack Count

Statistics (Shipper)

STATS_SHIPPER_LEN	Shippers Length (Inside)
STATS_SHIPPER_LEN_METRIC	Shippers Length in metric (Inside)
STATS_SHIPPER_LEN_METRIC_CM	Shippers Length in cm (Inside)

STATS_SHIPPER_LEN_OUTSIDE	Shippers Length (Outside)
STATS_SHIPPER_LEN_METRIC_OUTSIDE	Shippers Length in metric (Outside)
STATS_SHIPPER_LEN_METRIC_CM_OUTSIDE	Shippers Length in cm (Outside)
STATS_SHIPPER_WID	Shippers Width (Inside)
STATS_SHIPPER_WID_METRIC	Shippers Width in metric (Inside)
STATS_SHIPPER_WID_METRIC_CM	Shippers Width in cm (Inside)
STATS_SHIPPER_WID_OUTSIDE	Shippers Width (Outside)
STATS_SHIPPER_WID_METRIC_OUTSIDE	Shippers Width in metric (Outside)
STATS_SHIPPER_WID_METRIC_CM_OUTSIDE	Shippers Width in cm (Outside)
STATS_SHIPPER_HGT	Shippers Height (Inside)
STATS_SHIPPER_HGT_METRIC	Shippers Height in metric (Inside)
STATS_SHIPPER_HGT_METRIC_CM	Shippers Height in cm (Inside)
STATS_SHIPPER_HGT_OUTSIDE	Shippers Height (Outside)
STATS_SHIPPER_HGT_METRIC_OUTSIDE	Shippers Height in metric (Outside)
STATS_SHIPPER_HGT_METRIC_CM_OUTSIDE	Shippers Height in cm (Outside)
STATS_SHIPPER_DIMVERT	Vertical Dimension of Shipper
STATS_SHIPPER_PATTERN	Loading Pattern onto the shipper
STATS_SHIPPER_CUBE	Shippers Cube (Inside)
STATS_SHIPPER_CUBE_METRIC	Shippers Cube in metric (Inside)
STATS_SHIPPER_CUBE_OUTSIDE	Shippers Cube (Outside)
STATS_SHIPPER_CUBE_METRIC_OUTSIDE	Shippers Cube in metric (Outside)
STATS_SHIPPER_WGT_NET	Net Weight - Shipper
STATS_SHIPPER_WGT_NET_METRIC	Net Weight in metric – Shipper
STATS_SHIPPER_WGT_GROSS	Gross Weight – Shipper
STATS_SHIPPER_WGT_GROSS_METRIC	Gross Weight in metric - Shipper
STATS_SHIPPER_RSCAREA	RSC Area of Shipper
STATS_CARTONS_PER_SHIPPERLAYER	Cartons per layer in Shipper
STATS_SHIPPER_LAYER_PER_LOAD	Shipper layers per Unitload
STATS_CARTONS_PER_SHIPPER_COUNT	Cartons per Shipper – Count

Statistics (Unitload)

STATS_UL_LEN	Unitload Length (Inside)
STATS_UL_LEN_METRIC	Unitload in metric (Inside)
STATS_UL_LEN_METRIC_CM	Unitload in cm (Inside)
STATS_UL_LEN_OUTSIDE	Unitload Length (Outside)
STATS_UL_LEN_METRIC_OUTSIDE	Unitload in metric (Outside)
STATS_UL_LEN_METRIC_CM_OUTSIDE	Unitload in cm (Outside)
STATS_UL_WID	Unitload Width (Inside)
STATS_UL_WID_METRIC	Unitload Width in metric (Inside)
STATS_UL_WID_METRIC_CM	Unitload Width in cm (Inside)
STATS_UL_WID_OUTSIDE	Unitload Width (Outside)
STATS_UL_WID_METRIC_OUTSIDE	Unitload Width in metric (Outside)
STATS_UL_WID_METRIC_CM_OUTSIDE	Unitload Width in cm (Outside)
STATS_UL_HGT	Unitload Height (Inside)
STATS_UL_HGT_METRIC	Unitload Height in metric (Inside)
STATS_UL_HGT_METRIC_CM	Unitload in cm (Inside)
STATS_UL_HGT_OUTSIDE	Unitload Height (Outside)
STATS_UL_HGT_METRIC_OUTSIDE	Unitload Height in metric (Outside)
STATS_UL_HGT_METRIC_CM_OUTSIDE	Unitload in cm (Outside)
STATS_UL_PATTERN	Loading Pattern in the Unitload
STATS_UL_CUBE	Unitload Cube (Inside)
STATS_UL_CUBE_METRIC	Unitload Cube in metric (Inside)
STATS_UL_CUBE_OUTSIDE	Unitload Cube (Outside)
STATS_UL_CUBE_METRIC_OUTSIDE	Unitload Cube in metric (Outside)
STATS_UL_WGT_NET	Net Weight - Unitload
STATS_UL_WGT_NET_METRIC	Net Weight in metric – Unitload
STATS_UL_WGT_GROSS	Gross Weight – Unitload
STATS_UL_WGT_GROSS_METRIC	Gross Weight in metric – Unitload
STATS_UL_RSCAREA	RSC Area of Unitload

STATS_UL_CUBICEFF	Cubic Efficiency in %
STATS_UL_AREAEFF	Area Efficiency in %
STATS_UL_PALLETNAME	Pallet name
STATS_UL_PALLETLEN	Pallet Length
STATS_UL_PALLETLEN_METRIC	Pallet Length in metric
STATS_UL_PALLETWID	Pallet Width
STATS_UL_PALLETWID_METRIC	Pallet Width in metric
STATS_UL_PALLETWGT	Pallet Weight
STATS_UL_PALLETWGT_METRIC	Pallet Weight in metric
STATS_UL_OVERHANGLEN	Maximum length Overhang
STATS_UL_OVERHANGWID	Maximum width Overhang
STATS_UL_UNDERHANGLEN	Maximum length Underhang
STATS_UL_UNDERHANGWID	Maximum width Underhang
STATS_UL_PER_LAYER	Unitload per layer
STATS_UL_LAYERS_PER_ULOAD	Unitload layers per load
STATS_UL_COUNT	Unitload Count
STATS_UL_PRIPACKCOUNT	Primary pack per Unitload
STATS_UL_INTPACKCOUNT	Intermediate pack per Unitload

Statistics (Transit Vehicle)

STATS_TV_NAME	Vehicle name
STATS_TV_LEN	Vehicle Length (Inside)
STATS_TV_LEN_METRIC	Vehicle Length in metric (Inside)
STATS_TV_LEN_OUTSIDE	Vehicle Length (Outside)
STATS_TV_LEN_METRIC_OUTSIDE	Vehicle Length in metric (Outside)
STATS_TV_WID	Vehicle Width (Inside)
STATS_TV_WID_METRIC	Vehicle Width in metric (Inside)
STATS_TV_WID_OUTSIDE	Vehicle Width (Outside)
STATS_TV_WID_METRIC_OUTSIDE	Vehicle Width in metric (Outside)
STATS_TV_HGT	Vehicle Height (Inside)
STATS_TV_HGT_METRIC	Vehicle Height in metric (Inside)
STATS_TV_HGT_OUTSIDE	Vehicle Height (Outside)
STATS_TV_HGT_METRIC_OUTSIDE	Vehicle Height in metric (Outside)
STATS_TV_PATTERN	Loading Pattern in the Vehicle
STATS_TV_CUBE	Vehicle Cube (Inside)
STATS_TV_CUBE_METRIC	Vehicle Cube in metric (Inside)
STATS_TV_CUBE_OUTSIDE	Vehicle Cube (Outside)
STATS_TV_CUBE_METRIC_OUTSIDE	Vehicle Cube in metric (Outside)
STATS_TV_WGT_NET	Net Weight – Vehicle
STATS_TV_WGT_NET_METRIC	Net Weight in metric – Vehicle
STATS_TV_WGT_GROSS	Gross Weight – Vehicle
STATS_TV_WGT_GROSS_METRIC	Gross Weight in metric – Vehicle
STATS_TV_UL_COUNT	Unitloads per vehicle

Statistics (General)

ANAL_NAME	Analysis Name
ANAL_AUTHOR	Analysis Author (User)
COMPANY_NAME	Company Name
CUST_Address	Customer Address
CUST_Name	Customer Name
CUST_Order	Customer Order Number
HDR_Desc	Header Description
HDR_Spec	Header Specification
INFO_Stats	Show all statistics for the Analysis

Defined Names for MS Excel

Data (Intermediate Pack)

IP_AREAEFF	Area Efficiency - Intermediate Pack
IP_CASESPERLAYER	Case per Layer - Intermediate Pack
IP_COUNT	Intermediate Pack Count
IP_CUBICEFF	Cube Efficiency - Intermediate Pack
IP_DIMVERT	Vertical Dimension of Intermediate Pack
IP_GROSS	Gross Weight - Intermediate Pack
IP_LAYERSPERLOAD	Intermediate Pack Layers per Load
IP_NAME	Name of Intermediate Pack
IP_NET	Net Weight - Intermediate Pack
IP_PATTERN	Intermediate Pack Load Pattern
IP_RSCAREA	RSC Area of Intermediate Pack
IP_TOPULLAYERS	- Not Applicable -
IPIN_CUBE	Intermediate Pack Cube (Inside)
IPIN_HGT	Intermediate Pack Height (Inside)
IPIN_LEN	Intermediate Pack Length (Inside)
IPIN_WID	Intermediate Pack Width (Inside)
IPOUT_CUBE	Intermediate Pack Cube (Outside)
IPOUT_HGT	Intermediate Pack Height (Outside)
IPOUT_LEN	Intermediate Pack Length (Outside)
IPOUT_WID	Intermediate Pack Width (Outside)

Data (Primary Pack)

PP_AREAEFF	Area Efficiency – Primary Pack
PP_CASESPERLAYER	Case per Layer - Primary Pack
PP_COUNT	Primary Pack Count
PP_CUBICEFF	Cube Efficiency - Primary Pack
PP_DIMVERT	Vertical Dimension - Primary Pack
PP_GROSS	Gross Weight - Primary Pack
PP_LAYERSPERLOAD	Primary Pack Layers per Load
PP_NAME	Name of Primary Pack
PP_NET	Net Weight - Primary Pack
PP_PATTERN	Primary Pack Load Pattern
PP_RSCAREA	RSC Area of Primary Pack
PPIN_CUBE	Primary Pack Cube (Inside)
PPIN_HGT	Primary Pack Height (Inside)
PPIN_LEN	Primary Pack Length (Inside)
PPIN_WID	Primary Pack Width (Inside)
PPOUT_CUBE	Primary Pack Cube (Outside)
PPOUT_HGT	Primary Pack Height (Outside)
PPOUT_LEN	Primary Pack Length (Outside)
PPOUT_WID	Primary Pack Width (Outside)

Data (Product)

PR_CASESPERLAYER	Case per Layer - Product
PR_COUNT	Product Count
PR_CUBICEFF	Cub Efficiency - Product
PR_DIMVERT	Vertical Dimension of Product
PR_GROSS	Gross Weight - Product
PR_LAYERSPERLOAD	Layer per Load - Product
PR_NAME	Product Name
PR_NET	Net Weight of Product

PR_PATTERN	Product Load Pattern
PR_RSCAREA	RSC Area of Product
PRIN_CUBE	Product Cube (Inside)
PRIN_HGT	Product Height (Inside)
PRIN_LEN	Product Length (Inside)
PRIN_WID	Product Width (Inside)
PROUT_CUBE	Product Cube (Outside)
PROUT_HGT	Product Height (Outside)
PROUT_LEN	Product Length (Outside)
PROUT_WID	Product Width (Outside)

Data (Shipcase)

SC_AREAEFF	Area Efficiency – Shipcase
SC_CASESPERLAYER	Case per Layer - Shipcase
SC_COUNT	Shipcase Count
SC_CUBICEFF	Cube Efficiency - Shipcase
SC_DIMVERT	Vertical Dimension of Shipcase
SC_GROSS	Gross Weight - Shipcase
SC_LAYERSPERLOAD	Layer per Load - Shipcase
SC_NAME	Shipcase Name
SC_NET	Net Weight of Shipcase
SC_PATTERN	Shipcase Load Pattern
SC_RSCAREA	RSC Area of Shipcase
SCIN_CUBE	Shipcase Cube (Inside)
SCIN_HGT	Shipcase Height (Inside)
SCIN_LEN	Shipcase Length (Shipcase)
SCIN_WID	Shipcase Width (Inside)
SCOUT_CUBE	Shipcase Cube (Outside)
SCOUT_HGT	Shipcase Height (Outside)
SCOUT_LEN	Shipcase Length (Outside)
SCOUT_WID	Shipcase Width (Outside)
STPR_NET	- Not Applicable -
STSCIN_LEN	- Not Applicable -

Data (Vehicle)

TV_AREAEFF	Area Efficiency - Vehicle
TV_CASESPERLAYER	Cases per Layer - Vehicle
TV_COUNT	Vehicle Count
TV_CUBICEFF	Cube Efficiency - Vehicle
TV_DIMVERT	Vertical Dimension of Vehicle
TV_GROSS	Gross Weight - Vehicle
TV_LAYERSPERLOAD	Layers per Load - Vehicle
TV_NAME	Vehicle Name
TV_NET	Net Weight - Vehicle
TV_PATTERN	Vehicle Load Pattern
TV_RSCAREA	RSC Area of Vehicle
TVIN_CUBE	Vehicle Cube (Inside)
TVIN_HGT	Vehicle Height (Inside)
TVIN_LEN	Vehicle Length (Inside)
TVIN_WID	Vehicle Width (Inside)
TVOUT_CUBE	Vehicle Cube (Outside)
TVOUT_HGT	Vehicle Height (Outside)
TVOUT_LEN	Vehicle Length (Outside)
TVOUT_WID	Vehicle Width (Outside)

Data (Unitload)

UL_AREAEFF	Area Efficiency – UnitLoad
UL_CASESPERLAYER	Cases per Layer - UnitLoad
UL_COUNT	UnitLoad Count
UL_CUBICEFF	Cube Efficiency - UnitLoad
UL_DIMVERT	Vertical Dimension of UnitLoad
UL_GROSS	Gross Weight of UnitLoad
UL_LAYERSPERLOAD	Layers per Load - UnitLoad
UL_NAME	UnitLoad Name
UL_NET	Net Weight - UnitLoad
UL_PATTERN	UnitLoad Load Pattern
UL_RSCAREA	RSC Area of UnitLoad
ULIN_CUBE	UnitLoad Cube (Inside)
ULIN_HGT	UnitLoad Height (Inside)
ULIN_LEN	UnitLoad Length (Inside)
ULIN_WID	UnitLoad Width (Inside)
ULOUT_CUBE	UnitLoad Cube (Outside)
ULOUT_HGT	UnitLoad Height (Outside)
ULOUT_LEN	UnitLoad Length (Outside)
ULOUT_WID	UnitLoad Width (Outside)

Images

IMAGE_IP_POPTOP_3D	Intermediate Pack poptop 3D View
IMAGE_PROD_SINGLE_STACK_3D	Product Single Stack 3D View
IMAGE_SC_POPTOP_3D	Shipcase Poptop 3D View
IMAGE_TV_SINGLE_STACK_3D	Vehicle Single Stack 3D View
IMAGE_UL_DOUBLE_STACK_3D	Unitload Double Stack 3D View
IMAGE_UL_SINGLE_STACK_3D	Unitload Single Stack 3D View

More images are available, please contact TOPS Technical Support.

Appendix H: Importing to TOPS

Shipcase Database Import/Export

Shipcase records are one to a line. Any field left blank will be automatically assigned the default value that would be used if the shipcase was entered from the keyboard. Placing strings within quotes is optional unless the strings contain delimiters. Numerical units are always in English even if Metric is selected. If needed, conversion of units from English to Metric occurs during use.

Exporting the shipcase database is done through the TOPS Pro Config program by clicking on the Export Data quick link in the Control Panel.

Importing data into TOPS Pro can be done through either:

- The TOPS Pro program: go to the Import menu and select Import TOPS Data
- The TOPS Pro Config program: click on the Import Data quick link in the Control Panel.

Importing is an additive process, deletion of items must be done manually. If you would like to nuke the database and start over you should follow these steps:

1. Delete the files SHIPCASE.DAT and SHIPCASE.IDX in the \TOPSAPPS\TOPSPro\DATA\ directory.
2. Run TOPS Pro Config program.
3. After logging in you will be prompted to recreate the SHIPCASE database, answer “Create”.

At this point the Shipcase database will be empty and ready for a fresh import.

Shipcase Import Format

```
[Ship Case]
"Shipcase one",E,I,"RSC","C",C,0,,,12,10,8,,,,6,0,0,0,
"Shipcase two”,E,O,"RSC","C",O,0.25,,,12,10,8,,,,6,0,0,0,
```

Column	Name	Type	Description
A	Name	String (21)	Shipcase Name
B	Units	String (1)	Units for display "E" for English or "M" for Metric
C	Dimensions	String(1)	"I" for Inside Dims or "O" for Outside
D	Box Style	String (31)	Name of Box Style from Box Styles Database
E	Flute	String (1)	Box flute if applicable (I.E. "A", "B", "C", etc.)
F	Material	String (1)	"C" for corrugated(fluted), "O" for Other (Caliper based)
G	Caliper	Distance	Caliper of non-corrugated material. Not used with Fluted (Leave empty)
H	Blank		Placeholder; not used at this time.
I	Blank		Placeholder; not used at this time.
J	Length	Distance	Length of shipcase (normally greater than width)
K	Width	Distance	Width of shipcase
L	Height	Distance	Height of shipcase, the distance through the flaps
M	Blank		Placeholder; not used at this time.
N	Blank		Placeholder; not used at this time.
O	Blank		Placeholder; not used at this time.
P	Weight	Weight	Gross weight of shipcase, if things are placed within then this number is considered to be the maximum weight of it’s contents. 0 (zero) indicates no limit.
Q	Cost	Number	Costing information is not used at this time and may be left off
R	Turn Rate	Number	Costing information is not used at this time and may be left off
S	Cases per pallet	Number	Costing information is not used at this time and may be left off
T	Graphic	String (80)	Graphic on Top (File Name with full path)
U	Graphic	String (80)	Graphic on Left Side (File Name with full path)
V	Graphic	String (80)	Graphic on Back (File Name with full path)
W	Supervisor Lock	String (1)	Lock the record for other users Y/N
X	Custom Shape	String (80)	CASY Shape for Shipcase
Y	Tare Weight	Weight	Tare weight of shipcase
Z	Graphic	String (80)	Graphic on Front (File Name with full path)
AA	Graphic	String (80)	Graphic on Right Side (File Name with full path)

Carton Import Format

The **Carton** database structure is provided below; however, there should not normally be any reason to use it. In most cases, cartons should be entered using the shipcase database as a non-corrugated case.

```
[Carton]
"Carton one",E,O,"Tuck",5,4,3,0.018,
```

Column	Name	Type	Description
A	Name	String (21)	Carton Name
B	Units	String (1)	Units for display "E" for English or "M" for Metric
C	Dimensions	String(1)	"I" for Inside Dims or "O" for Outside
D	Box Style	String (31)	Name of Box Style from Box Styles Database
E	Length	Distance	Length of carton (normally greater than width)
F	Width	Distance	Width of carton
G	Height	Distance	Height of carton
H	Caliper	Distance	Caliper of carton material

Easy Import (Analysis) Format

To access, go to TOPS Pro's Import menu and select Easy Import.

Column	Name	Type	Description
A	AnalName	String (31)	Name of Analysis to be imported
B	AnalType	String (2)	Starting stage of analysis PP- Primary Pack SC – Shipper UL – Unitload
C	UOM (Dist)	String	Unit of Measurement for Distances DIST_IN – Inches DIST_FT – Feet DIST_MM – Millimeters DIST_MTR – Meters DIST_CM – Centimeters ***If left blank, DIST_IN is assumed***
D	UOM (Wgt)	String	Unit of Measurement for Weights DIST_LB – Pounds DIST_OZ – Ounces DIST_KG – Kilograms DIST_GR – Grams ***If left blank, DIST_LB is assumed***
E	hasPP	String (1)	Has Primary Pack or not (Y/N)
F	PPType	String (1)	Primary Pack Type C – Carton N – Can/Cylinder
G	PPLen	Distance	PP Length
H	PPWid	Distance	PP Width
I	PPHgt	Distance	PP Height
J	PPNet	Weight	PP Net Weight
K	PPGross	Weight	PP Gross Weight
L	hasIP	String (1)	Has Intermediate Pack or not (Y/N)
M	IPStyle	String (31)	IP Box Style
N	IPFlute	String (3)	IP Flute
O	IPMaxCount	Number	Max Count
P	IPMinCount	Number	Min Count
Q	hasSC	String (1)	Has Shipcase or not (Y/N)
R	SCType	String (1)	SC Type ***(Refer to PPType)***
S	SCStyle	String (31)	SC Box Style
T	SCLen	Distance	SC Length
U	SCWid	Distance	SC Width
V	SCHgt	Distance	SC Height
W	SCFlute	String (3)	SC Flute
X	SCMaxCount	Number	Max Count
Y	SCMinCount	Number	Min Count
Z	hasUL	String (1)	Has Unitload or not (Y/N)
AA	ULPal	String (21)	Pallet Name
AB	ULMaxHgt	Distance	Max height of Unitload (including pallet)
AC	ULMaxWgt	Weight	Max Wieight of Unitload (including pallet)
AD	hasTV	String (1)	Has Vehicle or not (Y/N)
AE	TVName	String (21)	Vehicle Name
AF	TVMaxWgt	Weight	Max weight of Vehicle load

Units for Import

For all Import files in Tops, the Units of the values entered in the text file are indicated by the following tags.

Tag	Units
[English]	All units below the tag are in English – Weights in **lbs** and distances in **inches. If no tags are specified, this is the default assumed.**
[Metric]	All units below the tag are in Metric – Weights in **kg** and distances in **Meters**
[DIST_MTR]	All distances below tag to be in **Meters**
[DIST_CM]	All distances below tag to be in **Centimeters**
[DIST_MM]	All distances below tag to be in **Millimeters**
[DIST_FT]	All distances below tag to be in **Feet**
[DIST_IN]	All distances below tag to be in **Inches**
[WGT_KG]	All weights below tag to be in **Kilograms**
[WGT_GR]	All weights below tag to be in **Grams**
[WGT_LB]	All weights below tag to be in **Pounds**
[WGT_OZ]	All weights below tag to be in **Ounces**

Pallet Database Format

Column	Name	Type	Description
A	Pallet Name	String (31)	Name of Analysis to be imported
B	Units	String (1)	Units for display "E" for English or "M" for Metric
C	Pallet Style	String (1)	Pallet Style S – Stringer N – Notched Stringer B – Block P – Slipsheet E – Euro Pallet C – Chep Pallet L – Ledge W – Litco Presswood X – No Style
D	Construction Type	String (1)	Pallet Construction Type S – Single D – Double R– Reverse
E	Alignment Type	String (1)	Pallet alignment F– Flush S – Single Wing D – Double Wing
F	Length Tab	String (1)	For slipsheets (Y/ N)
G	Width Tab	String (1)	For slipsheets (Y/ N)
H	Both Tabs	String (1)	For slipsheets (Y/ N)
I	Length	Distance	Length of Pallet
J	Width	Distance	Width of Pallet
K	Height	Distance	Height of Pallet
L	Weight	Distance	Weight of Pallet
M	OutDeckWidth	Distance	Width of Outer deck board Length of Feet in case of Litco Pallet
N	InDeckWidth	Distance	Width of Inside deck board Width of Feet in case of Litco Pallet
O	deckHgt	Distance	Height of deck boards Width of Feet in case of Litco Pallet
P	Stringer Width	Distance	Stringer Width
Q	Offset	Distance	Offset
R	Tab Width	Distance	Slipsheet Tab Width
S	No. Boards	Number	Number of inside deck boards No. of Feet along Length for Litco Pallets
T	AutoSize	String(1)	Y/N
U	midDeckWidth	Distance	Middle Deck Width (EuroPallets) No. of Feet along width for Litco Pallets
V	supvLock	String(1)	Locked by supervisor Y/N
W	defMaxHgt	Distance	Default Maximum height
X	DispColor	Long number	Pallet Color for Display

Y	Align Distance	Distance	Distance by which the offset is aligned - from the left side of pallet
Z	Graphic0	String(80)	Pallet graphic on top
AA	Graphic1	String(80)	Pallet graphic on right side
AB	Graphic2	String(80)	Pallet graphic on left side
AC	Graphic Orientation	Number	Graphic orientation
AD	Design File	String(80)	Design specification File (with full path)
AE	Version		Not imported into db
AF	Pallet Id	Long Number	Pallet Id (P&G specific)
AG	DbType	Number	80 – Pallet 83 – Slip Sheet (used for defining Pallet Accessories) 68 – Pad (used for defining Pallet Accessories) 67 - Cap (used for defining Pallet Accessories) 84 –Tray (used for defining Pallet Accessories)

Appendix I: Glossary

Allowable Slack in the Case

Additional space added to the inside dimensions of a shipcase to make loading easier. Many designers provide a minimum of 0.125" of slack in the length and width of a shipcase to allow for manufacturing tolerances. In most cases, designers specify zero slack in the shipcase depth so the flaps close directly on the cartons.

Amount of Printing

The stacking strength of a shipcase is affected by the amount of printing on the shipcase. The printing operation not only crushes the combined board, but also saturates the fibers of the shipcase enough to reduce the amount of stacking strength.

Area Efficiency Percentage

TOPS Pro calculates the area efficiency of a pallet pattern by multiplying the number of cases per layer times the area of the shipcase face bearing against the pallet surface. TOPS Pro divides this value by the area of the pallet. The resulting value is a percentage.

Calculation Method

TOPS Pro uses the widely accepted McKee formula to calculate stacking strength. For the ring crush factor (RCF) method, TOPS Pro modifies the McKee formula slightly to transpose from RCF values to edge crush factor (ECF) values. If you need the exact formula, please contact TOPS Technical Support. It's relatively easy to insert other formulas in order to customize your specific application.

Carton Arrangement

The carton arrangement is displayed in the graphic output. For example, "2D 3L 3W" is interpreted as follows:

- In the length of the shipcase, there are two depths of the carton.
- In the width of the shipcase, there are three lengths of the carton.
- In the depth of the shipcase, there are three widths of the carton.

Cartons per Load

Main solution reports are ranked by the cartons (primary package) per load (pallet load). This value is calculated by multiplying the case count by the best number of cases per pallet load found in the analysis for the particular arrangement and carton size.

Case Cube

TOPS Pro calculates the shipcase cube – in cubic feet or cubic meters – and uses this value in output reports for warehouse/transit needs. Case cube is based on outside shipcase dimensions.

Case Depth

The opening-to-opening dimension of the shipcase.

Case Dimensions

This field allows you to specify which shipcase dimension is the vertical dimension for loading onto a pallet. For maximum stacking strength, the shipcase depth is usually the dimension used as the vertical dimension. If you select more than one dimension as the vertical dimension, TOPS Pro will allow you to perform a multi-dimensional pallet loading analysis.

Case Largest Allowable

This value allows you to filter out shipcase sizes that are not reasonable in shape; for example, case length is four times its width. As a rule of thumb, enter the largest allowable dimension. If in doubt, use a very large number.

Case Length

The longer of the two non-depth dimensions of the shipcase. See Case Depth.

Case Smallest Allowable

This value allows you to filter out shipcase sizes that are not reasonable in shape; for example, case length is four times its width. As a rule of thumb, enter the smallest allowable dimension. If in doubt, use a very small number.

Case Stacking Strength

The previously calculated at-lab-compression value for the shipcase is further adjusted for humidity, palletizing, storage and miscellaneous construction factors. This value is the predicted amount of stacking strength for the shipcase. Under the conditions specified, the shipcase will fail at or near this value.

Case Style

The shipcase style dictates how TOPS Pro calculates the conversion from inside case dimensions to outside case dimensions. The specific case style selected dictates how many corrugated wall thicknesses to add to the shipcase length, width and depth dimensions.

Case Weight

The actual weight of the shipcase – either pounds or kilograms – after it's loaded with product.

Case Width

The shorter of the two non-depth dimensions of the shipcase. (See Case Depth.)

Cases per Layer

The number of cases on a single layer of the pallet. Layers are sometimes referred to as "tiers" on a pallet load.

Clampable

Many pallet loads are squeezed from the sides of the load for handling within the transit system. TOPS Pro automatically calculates whether a pallet load is clampable by reviewing the pallet pattern voids. The amount of void cannot exceed 0.5 inches. Printed reports also indicate if the load is clampable in the unit load length or unit load width dimensions.

Note: All loads are subject to in-the-field verification.

Conditions

You can specify the conditions to which a shipcase is exposed. The value selected – average or severe – correlates directly with the safety factor selected – calculated or predetermined. If TOPS Pro calculates the safety factor, which is usually the case, TOPS Pro will ignore any manual conditions entries when it calculates stacking strength.

Cubic Efficiency Percentage

TOPS Pro calculates cubic efficiency by multiplying the individual case cube by the number of shipcases per unit load, then divides this value by the available cube of the unit load. The available cube of the unit load is the pallet length times the pallet width times the usable unit load height (unit load height minus the pallet height itself).

Double Stack

A diagram of two pallets stacked on top of one another. TOPS Pro provides this view to show where the bottom boards of the second pallet bear against the top surface of the bottom pallet load. This view also graphically shows how to correctly place a top load.

End-to-End

The predicted stacking strength of a shipcase with the length of the case vertical to pallet surface. This value is expressed in pounds or kilograms.

Flap Gaps

Early laboratory analysis determined that the amount of "squareness" of a shipcase affects its stacking strength. When the shipcase is closed, you can specify the amount of differential between the minor flaps and major flaps of the shipcase.

Flute Construction

TOPS Pro uses this value to apply the actual corrugated wall thickness to the case style selected in calculating inside-to-outside shipcase dimensions. TOPS Pro uses the following flute construction values:

- A flute: 0.188 inch
- B flute: 0.125 inch
- C flute: 0.157 inch
- BC flute: 0.267 inch
- CA flute: 0.267 inch
- E flute: 0.072 inch

Front View

The view of the pallet load from the side with the length of the unit load being left to right.

General Case Size

The arrangement report shows this value to indicate the approximate shipcase size that results if a specific carton arrangement is selected.

Humidity Percentage RH

Exposure to relative humidity is one of the most damaging factors to the stacking strength of a shipcase. Enter the maximum amount of relative humidity a shipcase is expected to experience during its transit and storage.

I.D.

The inside dimensions of the shipcase or carton.

Interior Partition Code

Stacking strength calculations include 31 various partition styles that influence the overall strength of the system. You can enter a code that will automatically adjust the stacking strength of the overall system (shipcase).

Interlocking Layers

Many times, TOPS Pro rotates alternating layers of a unit load 180 degrees – the axis rotation varies – to produce a unit load that ties together better. While this produces a more easily transportable load, it does reduce the stacking strength of the load.

Lab Compression

The lab compression value for stacking strength is the calculated failure point of a shipcase at ideal conditions. This value is derived from ECT or RCF values, box perimeter and caliper of the combined board. TOPS Pro then adjusts this raw number for the flute direction, print, shape and length-to-width factors. The final calculation becomes the basis of further calculations that involve user-specified environmental factors.

Layers per Pallet

In combination with the calculation of maximum number of cases per layer (tier), TOPS Pro calculates the most number of layers (tiers) that the load can dimensionally support given the maximum usable load height and weight of the unit load.

Length Flip

The rotation of the pallet pattern with the length axis of the pallet; for example, 48 inches. The successive layers are mirror images of the previous layer's pattern across the length axis of the pallet.

Length and Width Flip

This double combination flip of successive layers is a length flip and width flip pattern executed simultaneously.

Note: A double flip of a symmetrical pinwheel pattern reverts to a columnar stack.

Maximum Case Weight

TOPS Pro uses this value to specify a maximum filled case weight, which enables the system to find the best arrangement solution without creating a design that is too heavy to lift.

Maximum Dimension

The maximum dimension that TOPS Pro will consider when it calculates solutions for an analysis. TOPS Pro uses this value as the ending dimension in the varying of the primary carton size. TOPS Pro automatically increments this value by 1/32 inch (1 millimeter) until it reaches the maximum dimension in the analysis. You can control this increment; call TOPS Technical Support for details.

Maximum Loads High

The break-even point for how many pallet loads can be stacked in the warehouse without causing a safety problem regarding stacking strength. This value determines the number of pallet loads that can be safely stacked in the warehouse.

Note: The bottom pallet is counted as the first pallet.

Minimum Dimension

The minimum dimension that TOPS Pro will consider when it calculates solutions for an analysis. TOPS Pro uses this value as the starting dimension in the varying of the primary carton size. TOPS Pro automatically increments this value by 1/32 inch (1 millimeter) until it reaches the minimum dimension in the analysis. You can control this increment; call TOPS Technical Support for details.

Mullen Burst

A measure of tearing resistance.

Normal Loading Analysis

Most pallet loads fall under this description. "Normal loading" means that the same shipcase dimension is vertical to the loading surface. Therefore, TOPS Pro calculates solutions in which the shipcase depth (or width or length) is vertical to loading in all layers. If the vertical dimension of the shipcase varies, there would be no mixing of different layers.

Number of Safe Loads

The break-even point where the fractional number of pallet loads high equals the resulting maximum load that can be experienced by a shipcase on the bottom pallet, bottom layer.

O.D.

The outside dimensions of the shipcase or carton.

Pallet Overhang

The differential between the finished unit load dimensions and the respective pallet dimension. For example, after TOPS Pro calculates a solution, if the unit load dimensions are 49.5 inches and respective pallet dimension is 48 inches, then the pallet overhang is 1.5 inches (total) or 0.75 inch on each side of the pallet (with a centered load).

Pallets per Warehouse

When TOPS Pro calculates stacking strength for a shipcase, the system uses this user-specified value as the basis to calculate how much weight is above the bottom case, bottom layer of the bottom pallet in the specified warehouse stack. This value rarely exceeds four pallet loads high.

Pallet Size – Height

The height of the pallet itself. For example, a common pallet in the U.S. market is the standard Grocery Manufacturers Association (GMA) pallet at five to six inches in height.

Pallet Size – Length

The length of the pallet itself. For example, a common pallet in the U.S. market is the standard Grocery Manufacturers Association (GMA) pallet at 48 inches in length.

Pallet Size – Weight

The weight of the pallet itself. For example, a common pallet in the U.S. market is the standard Grocery Manufacturers Association (GMA) pallet at 65 pounds.

Pallet Size – Width

The width of the pallet itself. For example, a common pallet in the U.S. market is the standard Grocery Manufacturers Association (GMA) pallet at 40 inches in width.

Pallet Type

Many styles of pallets are used around the world. For the purpose of calculating stacking strength, TOPS Pro makes several pallet types available. You can specify the "full surface" pallet, which is similar to slipsheets or plywood pallets. For medium pallet board spacing, specify the GMA pallet. For wide board spacing, specify the non-standard GMA pallet.

Pattern Number

When TOPS Pro calculates solutions to find pallet patterns, the system assigns an order to the answers it finds. These answers are ranked by efficiency. This number is also used to specify which pattern is to be displayed.

Pattern Type

TOPS Pro assigns a name to pallet pattern types to assist in visualizing the basic pattern. TOPS Pro assigns the following pattern names:

- C: 1-block or column
- B: 2-block, interblock or bi-block
- T: 3-block or tri-block
- W: 4-block or pinwheel
- P: 5-block or pentablock
- Q: 5-block plus or pentablock
- D: Diagonal
- Z: Multi-layer or multi-dimension
- O: Multi-surface
- R: Repeater
- S: Soldiered
- N: Staggered

Percentage of Required Strength

The comparison of calculated stacking strength of the shipcase, under the conditions specified, to the weight above the bottom case, bottom layer, bottom pallet load of the warehouse stack. Look for values greater than 100 percent to assure a strong, stable pallet load/warehouse stack.

Primary Package

Usually the carton or packaging material that comes into contact with the product itself. Other names for a primary package are bottle, tray, packer, etc.

Printing Type

The type of printing – Flexo or Quickset/Oil – has an effect on the stacking strength of a shipcase. TOPS Pro allows you to specify the type of printing. This correction factor is usually minor to overall stacking strength.

Product Code

This field allows you to enter specific product code information or any other information that will appear on selected printouts. This field will accept up to 35 characters.

Product Support per Case

The added strength provided by a product packaged inside the shipcase. This value is entered as the total weight that the product inside the shipcase (on the whole case basis) can handle. The value is added to the total stacking strength of the shipcase and is not reduced by factors such as humidity, storage, overhang, etc.

Range of Case Counts

This field indicates a minimum and maximum shipcase count to be reviewed. For example, if a minimum of 12 case count and maximum of 24 case count is selected as the range, TOPS Pro will review all case counts between 12 and 24; that is, 12, 13, 14 ... 22, 23, 24.

Required Strength

This value represents the comparison of the shipcase stacking strength to the actual load that a shipcase will experience on the bottom layer of the bottom pallet load. A value greater than 100 percent means the shipcase stacking strength is greater than the actual load it is experiencing.

Reversed Plan View

The pallet pattern viewed from the perspective of being directly above the pallet load, but with the layer rotated to represent the next layer arrangement to be used for good stability.

Safety Factor (Calculated)

This value is calculated by dividing the at lab compression strength by the actual weight experienced by the bottom shipcase, bottom layer, bottom pallet load. The resulting value has no dimension in nature, but is used throughout the corrugated industry as a good rule of thumb to predict the integrity of a shipcase.

Safety Factor (Data Input)

An early method of predicting shipcase performance was to specify a safety factor. Simply stated, the safety factor is the ideal compressive strength of a shipcase (at ideal conditions of humidity, storage, etc.) divided by the actual load to which the shipcase will be exposed during its life. TOPS Pro can be configured to accept a predetermined safety factor or actually calculate the resulting safety factor for each board grade combination.

Secondary Package

Usually refers to the shipcase. It generally applies that a secondary package is the item used to overwrap/package the primary package.

Select Carton Style

The carton style is used in an analysis so that the carton blank size can be calculated and related to total material costs for the particular solution.

Select Measure Unit

The unit measure (English or metric) to be used for input and output values in the TOPS Pro software.

Side View

The view of the pallet load from the perspective of the viewer who sees the load from the side, with the width of the unit load being left to right.

Side-to-Side

The predicted stacking strength of a shipcase with the width of the case vertical to pallet surface. This value is expressed in pounds or kilograms.

Single Stack

A diagram of only one pallet load standing by itself.

Single/Double Wall

When you select "S" or "D," TOPS Pro converts inside-to-outside case dimensions based on single- or double-wall board construction.

Soldiering Analysis

A highly specialized type of pallet loading. A soldiered load occurs only when the shipcase length and width are exactly equal; that is, a square footprint. The loading procedure attempts to find the most cubic-efficient pallet load where the shipcase can be slipped down between the pallet seams on its edge to provide a better pattern. Not all cases with a square footprint can be soldiered.

Specific Case Counts

This question allows you to select specific case counts desired. You can enter up to three specific case counts to be reviewed. If three values are already entered, simply type over the existing case counts requested or type in zero (0) to void a case count to be reviewed.

Storage Time

An estimate of the total time the shipcase will be stored in the distribution network. A storage time of 60 days is usually a good value.

Tiers per Flat Stack

The number of upright layers in the pallet pattern. This value appears only in the soldiering calculations. These cases are loaded on the pallet with the case depth dimension vertical.

Tiers per Soldiers

The number of soldiered layers in the pallet pattern. This value appears only in the soldiering calculations. These cases are loaded on the pallet with the case width/length dimension vertical.

Top Plan View

The pallet pattern viewed from the perspective of being directly above the pallet load with the length of the unit load left to right.

Top-to-Bottom

The predicted stacking strength of a shipcase with the depth of the shipcase vertical to the pallet surface. This value is expressed in pounds or kilograms.

Truck Width (in/m)

The inside clearance dimensions of the transit vehicle's width. This value is expressed in inches or meters.

Unit Load Cube

A complex calculation of finished load dimensions. Basically, the unit load cube (cubic feet or cubic meters) is the pallet load dimension (length by width) times the finished load height. If the pallet load does not exceed the pallet dimensions, then the pallet dimensions are used in the calculation instead of the unit load dimensions.

Unit Load Height

The overall height that a unit load can reach. For example, most transit vehicles allow for approximately 108-110 inches of vertical clearance height. Therefore, a good unit load height would not exceed 54 inches (for a double stack in the trailer).

Unit Load Length

The length of the pallet plus any allowable overhang. For example, if the pallet length is 48 inches and there is one inch of overhang allowed on each side of the pallet, the unit load length would be 50 inches.

Unit Load Loading

A type of trailer loading allowed in the TOPS Pro software. The algorithm will find the best patterns available for loading a pallet/unit load into a rectangular space (the transit vehicle, sea container, etc.).

Unit Load Statistics

After calculating the pallet patterns, TOPS Pro shows the finished unit load dimensions. These values are the maximum values of the unit load length, width, height (including the pallet itself) and weight.

Unit Load Weight

The maximum allowed weight (pounds or kilograms) of a completely loaded pallet. TOPS Pro will filter out all solutions that exceed the maximum allowed weight.

Unit Load Width

The width of the pallet plus any allowable overhang. For example, if the pallet width is 40 inches and there is one inch of overhang allowed on each side of the pallet, the unit load width would be 42 inches.

Width Flip

The rotation of the pallet pattern with the width axis of the pallet; for example, 40 inches. The successive layers are mirror images of the previous layer's pattern across the width axis of the pallet.

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