

Loading a Tote Manifest

Introduction

A tote manifest is a specific collection of SKU's placed into a shipcase. For example, suppose you ship snack products to a small grocery store on a routine basis. This shipment always includes cases of cookies, potato chips and saltines.

The tote manifest allows you to place these various items, or SKU's, into a tote (shipcase) and load it onto a vehicle. MaxLoad Pro allows you to create this tote manifest, save it to the SKU database and use it as a SKU in a vehicle analysis.

This chapter walks you through the process you'd follow when building a tote, including the following topics:

- ❖ Tote Manifest Pick List Screen
 - Tote tab
 - Options tab
 - Algorithm Options
 - Comments tab
 - SKU list
 - Manifest list
- ❖ Defining a Tote Manifest
- ❖ Printing a Tote Manifest

Tote Manifest Pick List Screen

Start from the Control Center and click on the New button under the Tote Manifest icon.

System Response: The Tote Manifest Pick List screen appears.

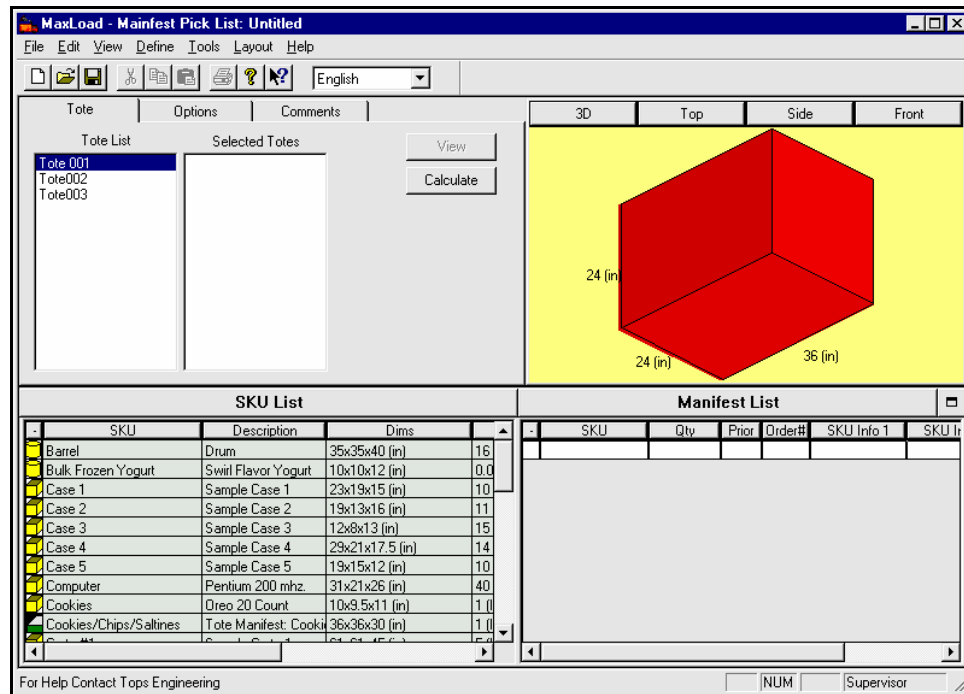


Figure 6.1 Manifest Pick List Screen (Tote)

This screen is comprised of the following components:

- ❖ **Tote Tab:** Lists the available totes/shipcases that can be used for a manifest.
- ❖ **Options Tab:** Allows you to enter parameters for loading the totes.
- ❖ **Comments Tab:** Enter comments regarding the tote manifest.
- ❖ **g.o.d. Window:** Displays a 3-dimensional graphic image of the tote.
- ❖ **SKU List:** Displays a list of all SKU's available in the SKU database.
- ❖ **Manifest List:** A running list of selected SKU's for a tote manifest.
- ❖ **View Button:** Allows you to view a load without recalculating it.
- ❖ **Calculate Button:** Allows you to calculate a tote manifest.

Tote Tab (Tote Manifest)

The Tote tab, pictured below, allows you to select a shipcase to be used with the tote.

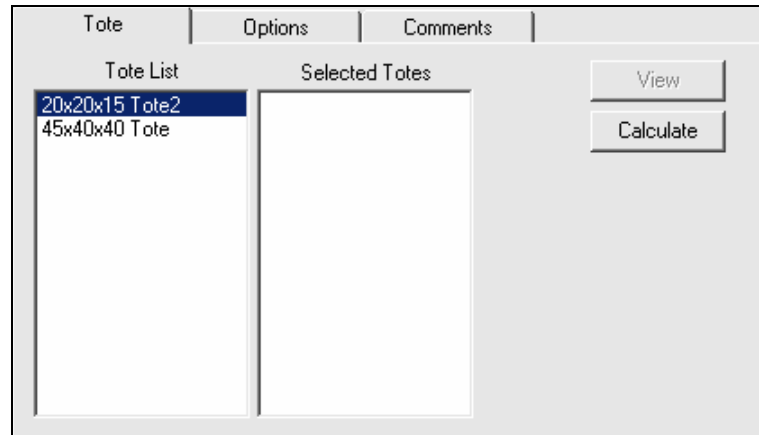


Figure 6.2 Tote Tab (Tote)

The Tote tab contains the following features:

- ❖ **Tote List:** Displays a list of available shipcases in the tote database. In order to build a load, you will need to either choose an existing tote or define a new one through the Define menu.

Double click on a tote in Tote List to move it to the Selected Totes list. Also notice that as a tote name is highlighted, a representation of that tote appears in the g.o.d. (graphical on-line drawing) window.

MaxLoad Pro allows you to load multiple totes at one time. To do so, select more than one tote to be analyzed when calculating a manifest. Simply follow the procedure described above to select multiple totes.

- ❖ **Selected Totes:** Displays the totes selected from the Tote List, for a particular manifest.

When Maxload Pro calculates solutions for a manifest, it uses only the totes listed in the Selected Totes list. To remove a tote from this list, double click on the tote in question, in the Selected Tote list. This will remove the tote from the Selected Tote list and place it back in the Tote List. A representation of the selected tote will appear in the g.o.d. window.

Options Tab (Tote Manifest)

The Options tab, pictured below, allows you to further customize your tote manifest by setting various loading parameters. To access this screen, use the mouse to click on the Options tab button found at the top of the Tote Manifest Pick List screen.

The screenshot shows a software interface with three tabs: 'Tote', 'Options', and 'Comments'. The 'Options' tab is selected. The interface includes several checkboxes: 'Use UnitLoads', 'Use Mixed Pallets', 'Keep Same Orders Together', and 'Keep Like SKUs Together'. There are two radio buttons for 'Load By Priority' (which is selected) and 'Load By Stop Off'. A 'Load By SKU Ratio' checkbox is also present. Below these are four input fields: 'Minimum Ceiling Clearance' (0), 'Maximum Vertical Gap' (3), 'Maximum Priority Overlap' (1000), and 'Maximum Overhang' (0). On the right side, there are buttons for 'View', 'Calculate', 'Algorithms...', and 'Weight Limit'.

Figure 6.3 Options Tab (Tote)

The Options tab contains the following fields:

- ❖ **Load By Priority:** When a SKU is assigned a high priority number, it will be loaded before an SKU with a lower priority number. Priority 1 will be loaded before priority 2, which will be loaded in front of priority 3.

Note: Load By Priority and Load By Stop Off options determine which column is displayed in the Manifest List: Priority or Stop-Off. You can select either Load By Priority option or Load By Stop Off, but not both.

- ❖ **Load By Stop Off:** When you load by stop-off, the loading method is just the opposite: Stop-off 1 is loaded after stop-off 2, stop-off 2 is loaded after stop-off 3, etc.

Note: The following two options (Keep Same Orders Together and Keep Like SKU's Together) work in conjunction with stop-offs and priorities. In other words, if you build a load with two stop-offs, MaxLoad Pro will keep like SKU's or orders together within the individual stop-off or priority number.

Bear in mind that checking either one of these options could potentially result in the loss of cubic utilization. While we can't

definitely say how these options will affect a load, it's safe to say that these options will affect MaxLoad Pro's calculations, thus making it possible that the load will be affected negatively. Load By Stop Off for totes works in conjunction with the Load Front to Back algorithm.

- ❖ **Keep Same Orders Together:** This option is linked directly to the Order # field in the Manifest List. When you key in an order number, MaxLoad Pro gives you the option to group SKU's from the same order together when loading. If you do not choose to input order numbers, this field will be meaningless, and activating the checkbox will not affect the placement of SKU's within your manifest.
- ❖ **Keep Like SKUs Together:** This option is very similar to the Keep Same Orders Together option. Activating this option tells MaxLoad Pro to load all products with the same SKU number together. The Keep Like SKU's Together option takes precedence over the Keep Same Orders Together checkbox, thus answering the question of what happens when both boxes are checked.
- ❖ **Load by SKU Ratio:** Selection of this option directs MaxLoad Pro to load a tote with a given ratio of SKU's instead of quantities.

For example, you can instruct MaxLoad to load a container with double the quantity of SKU-A than SKU-B; or have the quantity of three selected SKUs in the ratio of 3:2:1.

- ❖ **Minimum Ceiling Clearance:** This feature is available only for Truck Manifest analysis. For more information, please refer Chapter 4, Loading a Tote Manifest
- ❖ **Maximum Vertical Gap:** This option, lets you control which spaces MaxLoad Pro joins together for the purpose of loading other items on top.

In the process of loading SKU's into a tote, MaxLoad Pro accumulates a list of "leftover" spaces. Whenever possible, MaxLoad Pro combines neighboring leftover spaces to make larger spaces. Ideally, these neighboring spaces present a level surface. If they do not present a level surface, you can enter a value in this field that artificially "joins" the two uneven surfaces together, thus creating a larger level surface.

If the difference in height of the two spaces is less than or equal to this value (in English or Metric units), MaxLoad Pro joins together the offending gap, assuming that you will pad or brace the shorter space to bring it up to the height of the taller space.

- ❖ **Maximum Priority/Stop-Off Overlap:** MaxLoad Pro uses this option to determine the placement of the next priority or stop-off. This field allows you to define the distance inside the tote that MaxLoad Pro will “mix” items of a different priorities or stop-offs. This field determines how far forward into another priority or stop-off the front of an item with a lower priority number will be placed.

For instance, if the value in this field is 30 inches, MaxLoad Pro will place the next priority on top of the previous priority, with the front of the lower priority protruding over the top of the higher priority by a maximum of 30 inches.

- ❖ **Algorithms Button:** This button displays the Algorithm Options dialog box, which allows you to determine how MaxLoad Pro will load a manifest.

Algorithm Options

The Algorithm Options dialog box, allows you to determine how MaxLoad Pro will load a manifest. The sliding calculation bar allows you to calculate loads based on speed or efficiency. MaxLoad Pro also features a progress bar and dialog box that display how your load is being configured while it is calculating.

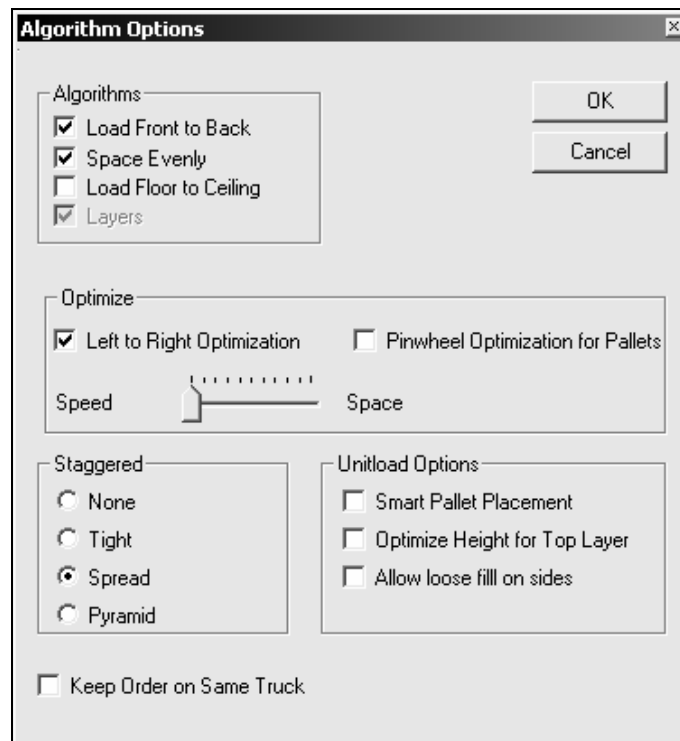


Figure 6.4 Algorithm Options Dialog Box (Tote)

The Algorithm Options dialog box contains the following features:

Algorithms

- ❖ **Load Front to Back:** Loads a tote, starting at one edge of the tote and working toward the opposite edge, stacking mixed or identical-sized SKU's in columns.
- ❖ **Space Evenly:** Essentially spreads a load over the entire surface area of the tote.
- ❖ **Load Floor to Ceiling:** MaxLoad first takes the largest, heaviest SKU it can find, starting at the base of the tote and moving upwards. MaxLoad Pro always loads larger SKUs first, with smaller SKUs on top. This loading method may result in mixed layers of products,

depending on quantities chosen and other parameters (e.g., stacking rules).

Optimize

- ❖ **Pinwheel Optimization for Pallets:** This feature is not available for loading totes
- ❖ **Left-to-Right Optimization:** Check the box to optimize the manifest load from left to right.

Looks for the best combination of two placements in order to maximize the space across the width of the tote. When you use this option, MaxLoad Pro attempts to find some combination of two placements to optimize the width of the tote. If the box is not checked, MaxLoad Pro will strive to place the largest placement possible in the tote, but won't necessarily attempt to maximize the space across the width of the tote.

It's important to understand that this algorithm does not always provide the best solution, even though the logic behind the algorithm would suggest that it would. Why not? Because of the physical dimensions of the SKU's being loaded into a tote, there simply may not be a combination of two placements that can maximize the width.

- ❖ **Speed-Space Tab:** Move the sliding bar to optimize calculation for speed (flush left) or for efficiency (flush right).

The **For Speed** option tells MaxLoad Pro to calculate solutions as quickly as possible.

The **For Space** option tells MaxLoad Pro to take more time and calculate the most space-efficient solutions.

When you click OK, in the Algorithms dialog box, MaxLoad Pro saves your algorithm options to memory and returns you to the Tote Manifest Pick List Screen.

The next time you calculate solutions for this manifest, MaxLoad will display a progress dialog box, as pictured on the next page.

Note: When you select multiple algorithms, MaxLoad Pro will display at least one solution for each selected algorithm. Also, whenever Left to Right Optimization is turned on, MaxLoad Pro will calculate two solutions for each selected algorithm.

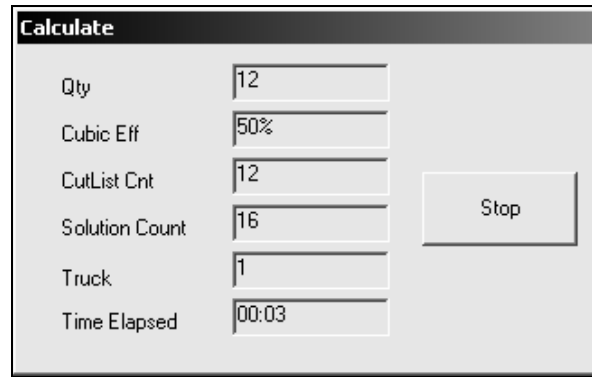


Figure 6.5 Progress Dialog Box (Tote)

Notice the following about the Progress Dialog Box :

- The dialog box displays a running count of the following parameters for the current calculation: quantity, cubic efficiency, cut list count, solution count, container number and time elapsed.
- A Stop button allows you to stop the calculation at any time and gives you the best solution found so far.

Staggered

This algorithm is used to load round shape SKU's. Due to the cylindrical shape, MaxLoad Pro gives the following options to load the SKU's in a container.

- ❖ **None:** This option assumes that cylindrical objects as rectangular SKU's and loads them in a linear fashion as a shipcase
- ❖ **Tight:** Loads as many cylindrical SKUs as possible along the width.
- ❖ **Spread:** This to spread the round SKU's during loading
- ❖ **Pyramid:** This is for loading the cylindrical SKU's on their side, in horizontal orientation, stacking in a pyramid shape.

Unitload Options

These are available for Truck Manifest. Refer to Chapter 4, Truck Manifest for more details.

Comments Tab (Tote Manifest)

The Comments tab, pictured below, allows you to enter comments regarding the tote manifest.

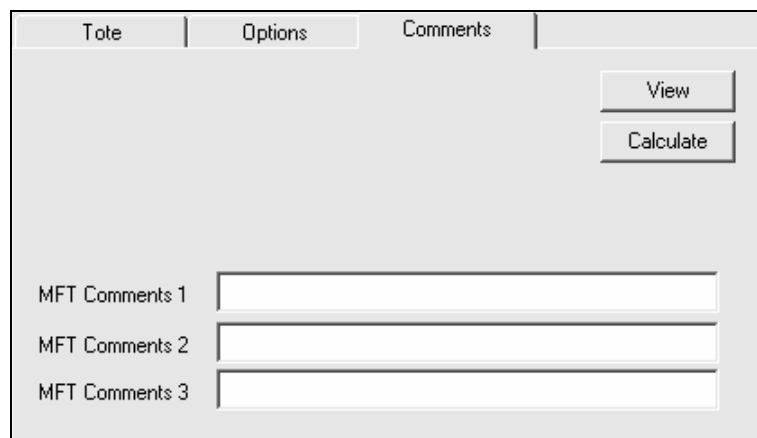


Figure 6.6 Comments Tab (Tote)

The Comments tab contains the following fields.

- ❖ **MFT Comments 1:** Enter comments regarding the tote manifest. These comments will appear on all reports including Load, Load Front/BackView, Manifest, Summary, Load List, CutList, Placement List, Load By Placement, Load By Leading Edge, and Load By Stop-Off.
- ❖ **MFT Comments 2 & MFT Comments 3:** Enter comments regarding the tote manifest to appear on Load and Load Front/Back View report.

SKU List (Tote Manifest)

The SKU List, displays a list of all SKU's available in the SKU database. For more information, please refer to Chapter 4, Loading a Truck Manifest

Manifest List (Tote Manifest)

The Manifest List displays, the SKUs to be loaded into the tote. As you select SKUs, by double clicking in the SKU List, they automatically appear in the Manifest List. For more information, please refer Chapter 4, Loading a Truck Manifest.

Defining a Tote Manifest

To create a new tote manifest, start from the Control Center and follow these instructions:

1. Under the Tote Manifest box, click on the New button.

System Response: The Manifest Pick List Screen appears

2. From the Tote List, select the tote (shipcase) that you want to use to create the new tote manifest. You'll place your SKU's into this tote (shipcase). To select a tote from the Tote List, double-click on it.

System Response: The selected tote appears in the Selected Totes list.

3. From the SKU List, select the specific SKU's that will be placed into the tote. To select a SKU, double-click on it.

System Response: The selected SKU's appear in the Manifest List.

4. Define the quantity of each SKU, in the Manifest List, that will be placed into the tote. When you're finished defining SKU quantities, click on the Calculate button.

System Response: MaxLoad Pro calculates various solutions for the tote manifest and displays the first of the solution from the Sol List in the View Screen

5. Select the tote manifest solution from the Sol List that best meets your needs.

6. From the Menu Bar, open the File menu and select Save As.

System Response: The File Save As dialog box appears.

7. In the blank line at the top of the box, replace the word "Untitled" with the name of this Tote manifest.

8. Check the Save As SKU box, if you want to save the manifest as SKU to be used in a Truck Manifest and click OK.

System Response: The Save Manifest as SKU dialog box appears, as pictured below.

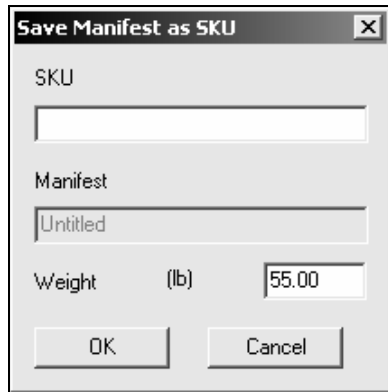


Figure 6.7 Save Manifest as SKU Dialog Box (Tote)

9. In the blank SKU field, give the tote manifest a SKU name and click OK.

System Response: MaxLoad Pro saves the new tote manifest/SKU to the SKU database and returns you to the View Screen.

Printing a Tote Manifest

To see a report of the tote manifest, open the File menu and select one of the Print Preview options. Also, suppose you're working with a truck manifest that has one or more tote SKU's loaded onto a vehicle. From the truck analysis, you can print reports for those tote SKU's that are part of the truck manifest. From the truck analysis, follow these instructions:

1. Open the File Menu, select Print Preview, then select Totes.

System Response: The Print Preview window displays a report for the first tote SKU loaded onto the vehicle.

2. If the truck manifest includes more than one tote SKU, click on the Next Page button.

System Response: The Print Preview window displays a report for the next tote SKU in the manifest.