

Loading a Pallet Manifest

Introduction

This chapter explains how to use MaxLoad Pro to load a pallet manifest. This chapter walks you through the process you'd most likely follow when building a palletload, including the following topics:

- ❖ Pallet Manifest Pick List Screen
 - Mixed Pallet Tab
 - Options Tab
 - Algorithm Options
 - Comments Tab
 - SKU List
 - Manifest List
- ❖ Defining a Pallet Manifest
- ❖ Printing a Pallet Manifest

Pallet Manifest Pick List Screen

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

System Response: The Pallet Manifest Pick List Screen appears.

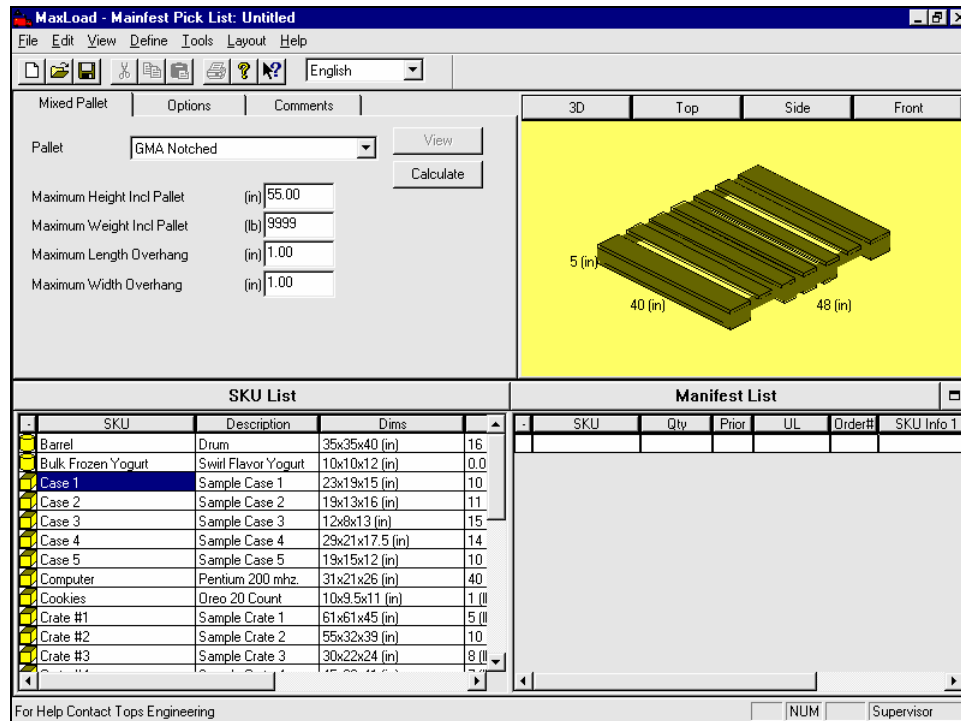


Figure 5.1 Manifest Pick List Screen (Pallet)

This screen is comprised of the following components:

- ❖ **Mixed Pallet Tab:** Allows you to select a pallet and enter the overall height, weight, and overhang factors for the load
- ❖ **Options Tab:** Allows you to enter parameters for loading the pallet(s).
- ❖ **Comments Tab:** Allows you to enter comments regarding the pallet manifest, which appear on the printed reports.
- ❖ **g.o.d. Window:** Displays a 3-dimensional graphic image of the pallet.
- ❖ **SKU List:** Displays a list of all SKU's available for loading onto a pallet.

- ❖ **Manifest List:** Running list of selected SKU's to be loaded onto pallet(s). Here you even define the specifics about the load, like priority, quantity, etc.
- ❖ **View Button:** Allows you to view a load without recalculating it. This feature works only if you have previously built a load and is used primarily after you have made changes to the load in the Editor screen.
- ❖ **Calculate Button:** Allows you to calculate a pallet manifest.

Mixed Pallet Tab (Pallet Manifest)

The Mixed Pallet tab, pictured below, allows you to select a pallet and enter the overall height, weight and overhang data for the load.

Field	Value	Unit
Pallet	GMA Notched	
Maximum Height Incl Pallet	55.00	(in)
Maximum Weight Incl Pallet	9999	(lb)
Maximum Length Overhang	1.00	(in)
Maximum Width Overhang	1.00	(in)

Figure 5.2 Mixed Pallet Tab (Pallet)

The Mixed Pallet tab contains the following fields:

- ❖ **Pallet:** Allows you to select from various types of pallets and slipsheets already defined in the Pallet database. If you click on the down arrow, the list of existing pallets displays. Scroll through the list and select a pallet or slipsheet.

We ship MaxLoad Pro pre-loaded with a range of popular pallet styles. However, if you can't find a pallet or slipsheet that you want to use for this manifest, you can always define a new one.

For more information, please refer to Chapter 3, Defining MaxLoad Pro Databases.

- ❖ **Maximum Height Incl. Pallet:** Enter the maximum height of the mixed pallet. Remember to include the height of the pallet in this

3value. MaxLoad Pro will not calculate any solution that violates this maximum height.

Theoretically, there's no limit to the height to which MaxLoad Pro can build a mixed pallet. The only limit is the value that you enter into this field. Most mixed pallets are built to a height of 40-70 inches.

- ❖ **Maximum Weight Incl. Pallet:** MaxLoad Pro will not calculate any solutions that violate the defined maximum weight for the mixed pallet. As with the Maximum Height field, remember that this value includes the weight of the pallet too. You can verify the defined weight through the Define Pallet screen. For more information, please refer to Chapter 3, Defining MaxLoad Pro Databases.

Again, there's no theoretical limit to the amount of weight you can enter in this field. However, you may want to check with the pallet manufacturer or shipping personnel to determine the maximum weight your pallet can handle.

- ❖ **Maximum Length and Width Overhang:** These values represent the maximum distance a SKU can hang over the edge of the pallet. The overhang dimension is illustrated below.

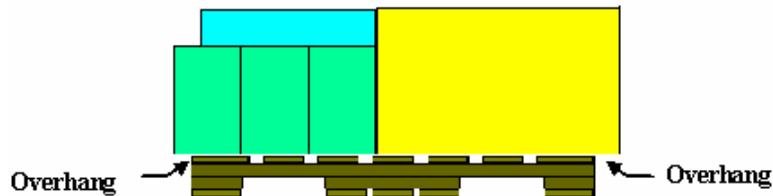


Figure 5.3 Overhang on a Pallet

For the purposes of building a stable load, we recommend that you limit the maximum overhang to at least one-half the length of the smallest SKU to be used in this manifest. This will ensure that no SKU will have the majority of its mass hanging off the edge of the pallet.

When MaxLoad Pro builds a mixed-pallet load, it will use as much of the “available” space on the pallet as possible. The amount of usable space is determined by the pallet size, the amount of overhang allowed, and the maximum height allowed to build a load.

In effect, MaxLoad Pro uses this information to build invisible “walls” representing the absolute parameters of the mixed-pallet load. In fact, when viewing a load you'll notice that the usable area is shaded a different color to differentiate it from the background of the diagram.

Options Tab (Pallet Manifest)

The Options tab, pictured below, allows you to further customize your mixed pallet 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 Mixed Pallet Manifest Pick List screen.

Figure 5.4 Options Tab (Pallet)

The Options tab contains the following fields:

- ❖ **Load By Priority:** When a SKU is assigned a high-priority number, MaxLoad Pro loads it before loading a SKU with a lower priority. MaxLoad Pro loads priority 1 before priority 2, which is loaded before priority 3.

Note: Load By Priority and Load By StopOff 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 of Load By Priority. Stop off 1 is loaded after stop off 2, and therefore closest to the rear door; 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 boxes could potentially result in loss of cubic utilization. While we can't definitively 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.

- ❖ **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 SKU's 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 checkbox takes precedence over the Keep Orders Together checkbox, thus answering the question of what happens when both boxes are checked.
- ❖ **Load By SKU Ratio:** This option is not available for loading Pallet Manifest.
- ❖ **Maximum Vertical Gap:** This option allows you to control which spaces MaxLoad Pro joins together for the purpose of loading other items on top.

In the process of loading SKU's onto a mixed pallet, 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 on the pallet that MaxLoad Pro will "mix" items of a different priority or stop-off. 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 3 inches. This would leave a 3 inch gap between the two loading of two priorities

- ❖ **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 also features a progress bar and dialog box that display how your load is being configured while it is calculating.

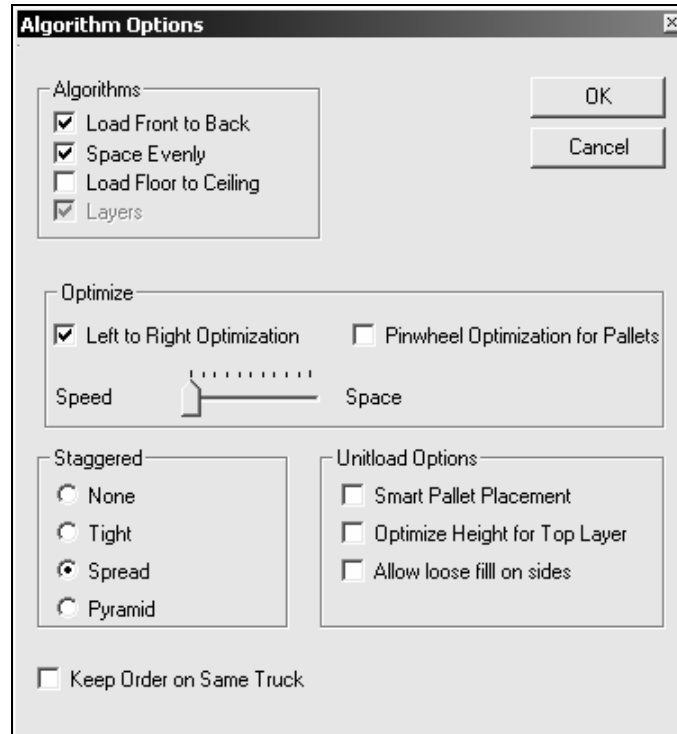


Figure 5.5 Algorithm Options Dialog Box (Pallet)

The Algorithm Options dialog box contains the following features:

Algorithms

- ❖ **Load Front to Back:** Loads a pallet starting at one edge of the pallet 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 pallet in order to make a more secure unitload. Whenever the cargo's cubic measurement is less than the unitload's available cubic capacity – remember that you define parameters of height, weight and overhang to define the cubic capacity – MaxLoad Pro creates an artificial “ceiling.” This lowers the maximum height of the load, forcing it to be spread as equally as possible over the surface area of the pallet.

Load Floor to Ceiling: MaxLoad Pro first takes the largest, strongest SKU it can find, starting at the base of the pallet and builds the load upwards. It always loads the larger boxes first, with smaller boxes on top. This loading method may result in mixed layers of products, depending on the quantities chosen and other parameters (e.g. stacking strength).

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

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 onto a pallet, 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 Pallet Manifest Pick List Screen.

The next time you calculate solutions for this manifest, MaxLoad will display a progress dialog box.

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.

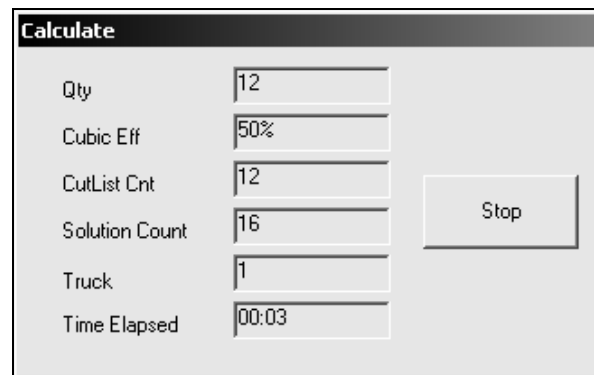


Figure 5.6 Progress Dialog Box (Pallet)

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 onto a pallet.

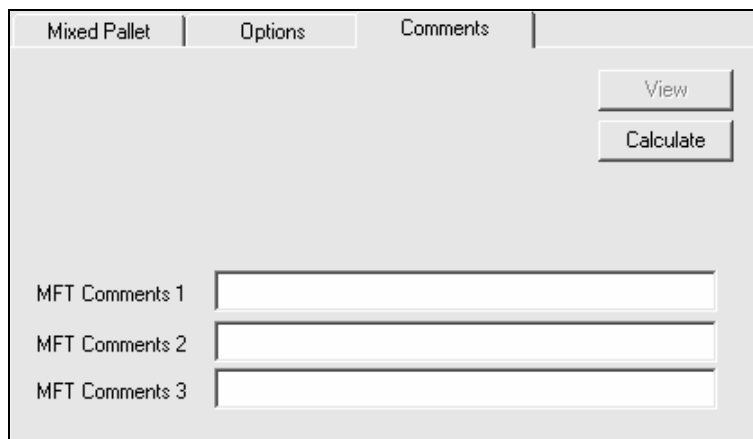
- ❖ **None:** This option assumes that cylindrical objects are rectangular SKU's and loads them in a linear fashion as a shipcase
- ❖ **Tight:** Loads as many cylindrical SKUs as possible along the width.
- ❖ **Spread:** This to spread the round SKU's during loading
- ❖ **Pyramid:** This is for loading 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 (Pallet Manifest)

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



The screenshot shows a software interface with three tabs at the top: 'Mixed Pallet', 'Options', and 'Comments'. The 'Comments' tab is selected. In the top right corner, there are two buttons: 'View' and 'Calculate'. Below these buttons, there are three text input fields labeled 'MFT Comments 1', 'MFT Comments 2', and 'MFT Comments 3'.

Figure 5.7 Comments Tab (Pallet)

The Comments tab contains the following fields.

- ❖ **MFT Comments 1:** Enter comments regarding the pallet manifest. Comment 1 appears as a header on all printouts.
- ❖ **MFT Comments 2 & MFT Comments 3:** Enter comments regarding the pallet manifest to appear on Load and Load Front to Back View Printouts only.

SKU List (Pallet 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 (Pallet Manifest)

The Manifest List displays the SKUs onto the pallet. 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 Pallet Manifest

To define a new pallet manifest, start from the Control Center and follow these instructions:

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

System Response: The Manifest Pick List Screen appears

2. Select a pallet from the pull-down Pallet list.

Note: If a pallet you want is not included in this list, remember that you can define a new pallet. For more information, please refer to Chapter 3, Defining MaxLoad Pro Databases.

3. Enter values for maximum height, weight and overhang. The maximum height and weight values include the pallet. Maximum overhang must be defined for both the length and width of the pallet.
4. Select the SKU's to be loaded from the SKU List.

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

5. In the Manifest List, enter a quantity and stop-off/priority number for each SKU. You can designate which loading method (i.e. by stop-off or priority) to use under the Options tab.
6. In the Manifest List, key in an order number, if applicable.
7. If everything is correct, click on the Calculate button.

System Response: MaxLoad Pro calculates solutions based on your input.

8. Select the solution that that best meets your needs from the Sol List.
9. From the Menu Bar, open the File menu and select Save As.

System Response: The File Save As dialog box appears, as pictured on next page.

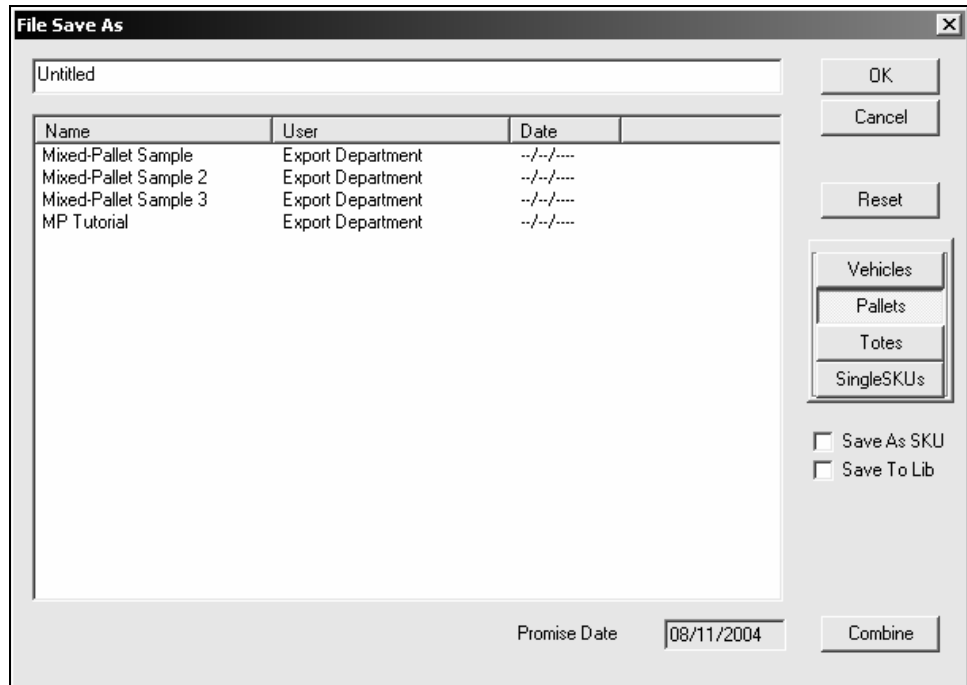


Figure 5.8 File Save As Dialog Box

10. In the blank line at the top of the box, replace the word “Untitled” with the name of this mixed pallet manifest.
11. Check the Save As SKU box, if you want to save the manifest as SKU to be used in a Truck Manifest and click on OK.

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

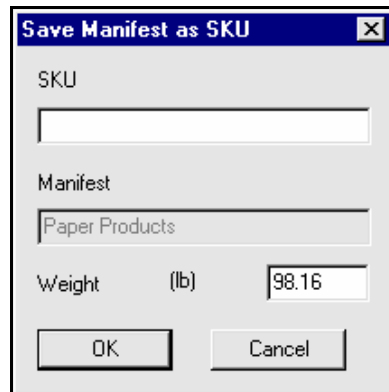


Figure 5.9 Save Manifest as SKU Dialog Box

12. In the blank SKU field, give the mixed pallet manifest a SKU name and click OK.

System Response: MaxLoad Pro saves the new mixed pallet manifest/ SKU to memory and returns you to the View Screen.

Note: Chapter 8, Viewing a Solution, describes in detail the options you have once a manifest has been calculated. Chapter 9, Editing a Solution, discusses how to use the Editor to customize a solution. Refer to those chapters for more details.

Printing a Mixed Pallet Manifest

To see a report of the new mixed pallet manifest, open the File menu and select one of the Print Preview options.

In the Mixed Pallet analysis, the normal Print and Print Preview functions are available. Further, if you're working with a Truck analysis in which one or more mixed pallet SKU's are loaded onto a vehicle, you can print reports for those mixed pallet 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 Unitload.

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

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

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

