

Chapter 5: Pallet Pattern Editor

Introduction

This chapter discusses the Pallet Pattern Editor, which 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 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 as pictured below.

The screenshot shows the 'Shipcase Parameters' dialog box. It has a blue title bar and a grey background. On the left side, there are several sections with radio buttons and buttons:

- Case:** New, Fixed, DataBase
- DataBase:** All, Multiple,
- Material:** Corrugated, Other
- Dimensions:** Inside, Outside
- Units:** English, Metric

The main area contains the following fields and controls:

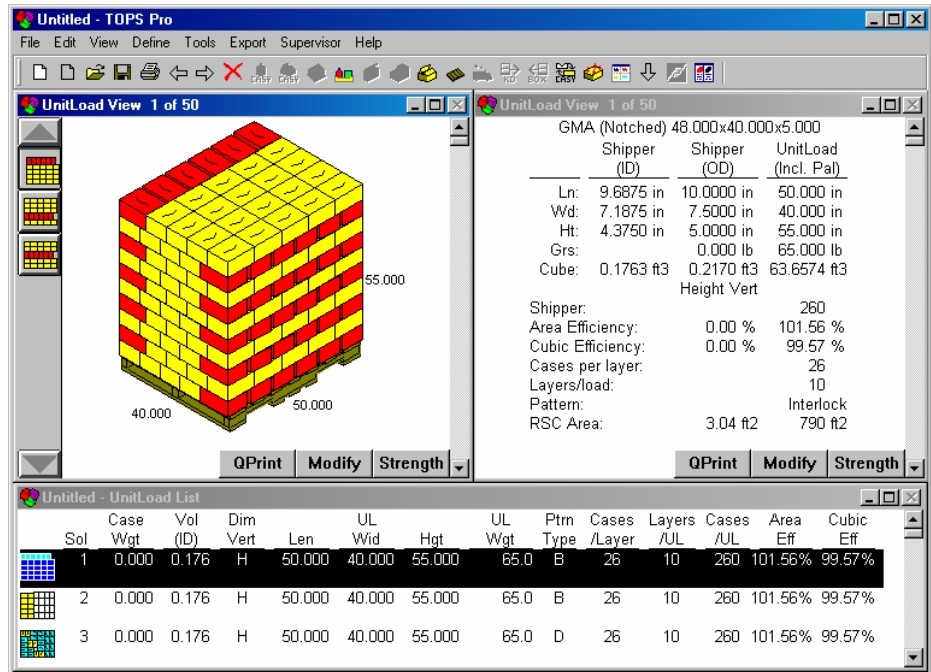
- Description:** User Defined (dropdown)
- Style:** RSC (FEFCO 0201) (dropdown)
- C.A.S.Y. Style:** None (dropdown)
- Flute:** C Flute (dropdown)
- Length (in):** 10.0000
- Width (in):** 7.5000
- Height (in):** 5.0000
- Case Weight (lbs):** 0.000
- Slack:** 0.0000
- Vert:**
- Round to nearest 1/16":**
- Sizing:**
 - Range: Min Count 2, Max Count 6
 - Values: 0, 0, 0, 0, 0

On the right side, there are buttons: .

3. Use the Shipcase Parameters dialog box to define a shipcase with the following parameters:
 - ❖ **Length:** 10 inches
 - ❖ **Width:** 7.5 inches
 - ❖ **Height:** 5 inches
4. After entering shipcase parameters, click on OK. TOPS Pro stores your parameters to memory and closes the dialog box.
5. Click on the Pallet icon and the UnitLoad Parameters dialog box appears, as pictured below.

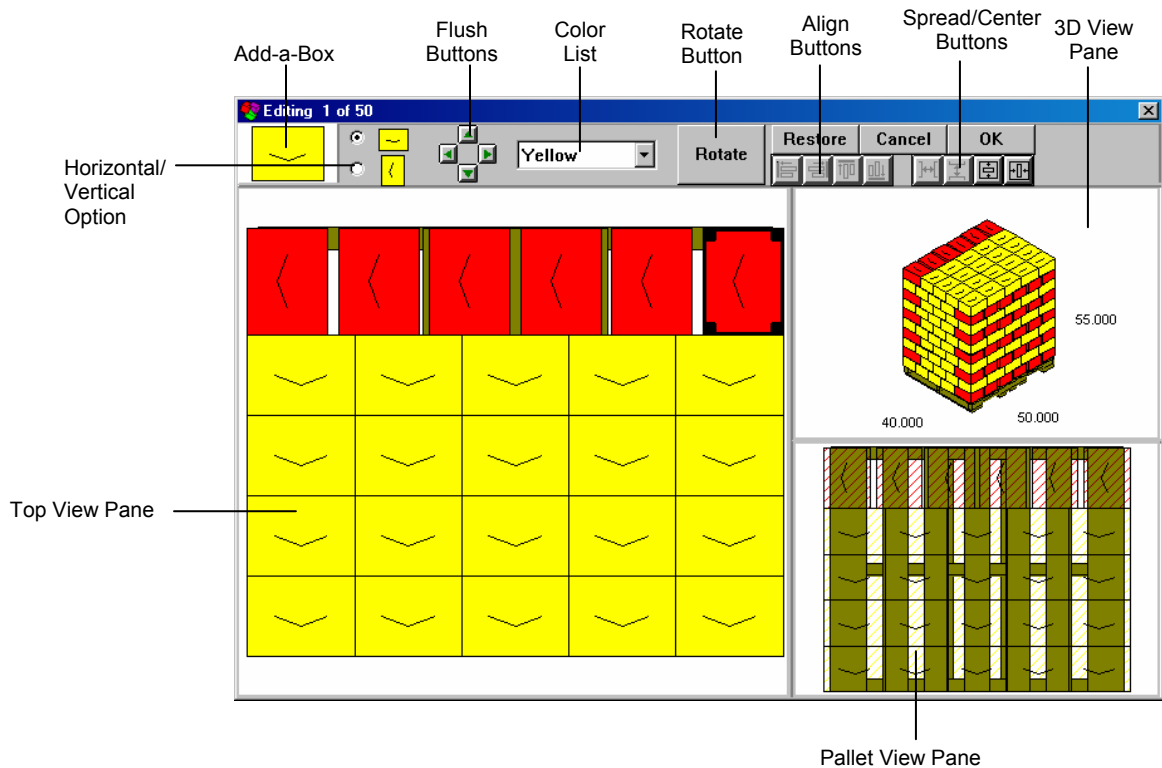
6. Use the UnitLoad Parameters dialog box to define a standard pallet. Use the defaults already set up in the dialog box.
7. After completing the unitload parameters, click on OK.
8. Click on the Calc button to generate solutions for the analysis.

TOPS Pro uses the defined parameters – shipcase and unit load – and generates all possible solutions for the analysis. When the calculation is complete, the Analysis View appears with three panes, as pictured on the next page.












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.

- Click on the Modify button on either pane and the Editing Screen appears, as pictured below.



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 Button:** Rotates the highlighted shipcase 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.
- ❖  **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.
- ❖ **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.
- ❖ **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, click on the other boxes you want to move. (TOPS Pro highlights all the selected boxes.)
3. Move the boxes as necessary.
4. Release the Shift key.

Rubber-Banding

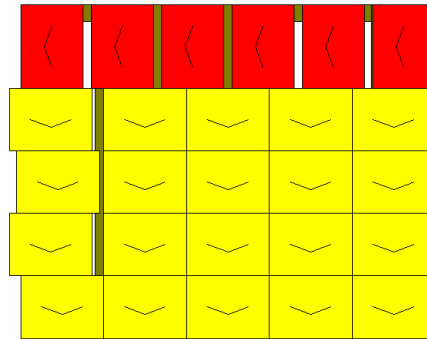
You can also select multiple boxes for moving by using the rubber-banding feature. To select boxes with the rubber-banding method, follow these instructions:

1. Left-click on the white area outside the unitload and hold down the left mouse button.
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.

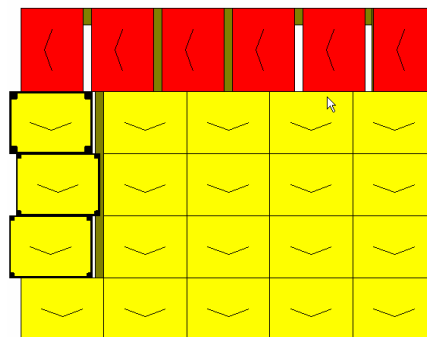
In the figure below, you'll see that three boxes on the left side of the pattern are positioned just off the pallet. Suppose we want to position these three boxes just off the pallet, but we want the three to align together with the bottom-most box (the anchor).



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:

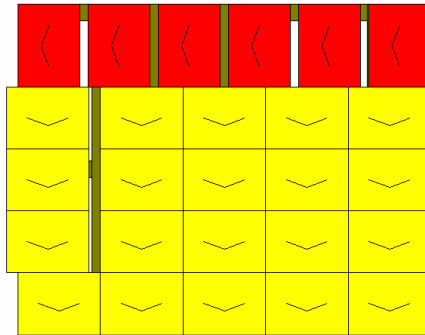
1. Left-click on the first box, then press the Shift key and click on the other two boxes that are out of line. Be sure to click on the bottom-most box first. (Don't release the Shift key until all three boxes are selected.)

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



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 next page.



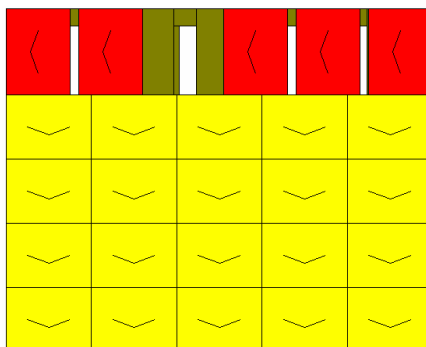
Note that when you aligned the boxes to the left, the 3-D View and Pallet View panes redisplay to reflect the boxes' new position on the pallet.

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.

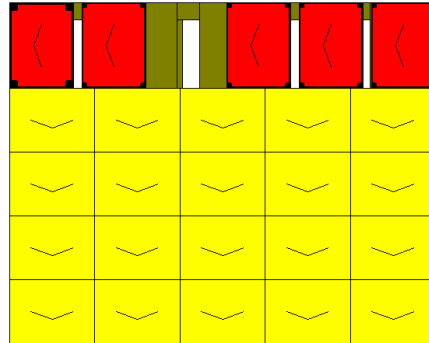
In the figure below, you'll see that one of the boxes has been removed from the top row on the pallet.



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:

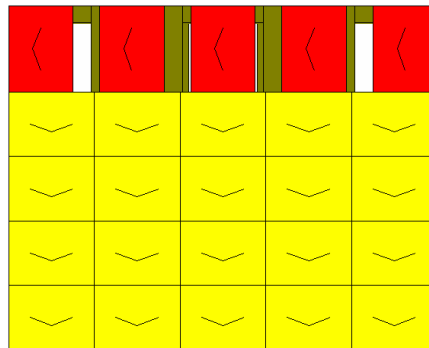
1. Press the Shift key and click on the five boxes on the top row of the pallet. (In this case, it doesn't matter which box you select first.)

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



2. Click on the Spread Horizontal button .

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

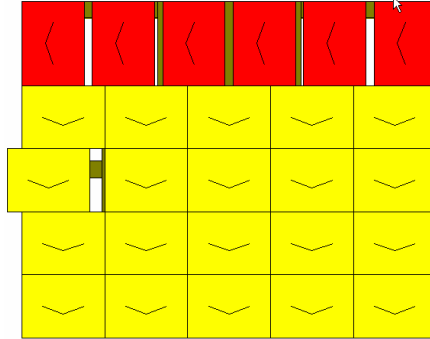


Note that when you spread the selected boxes horizontally, the 3-D View and Pallet View panes redisplay to reflect the boxes' new position on the pallet.

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

Center Horizontal/Vertical Buttons

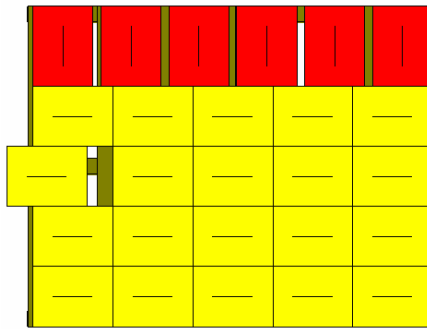
The Center Horizontal feature allows you to center all the boxes horizontally on the pallet. In the figure below, you'll see that one box on the left side is positioned a few inches off the pallet; consequently, the boxes are not centered on the pallet.



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 below.



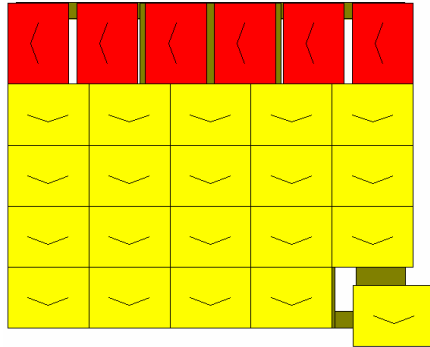
Note that when you center the selected boxes horizontally, the 3-D View and Pallet View panes redisplay to reflect the boxes' new position on the pallet.

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

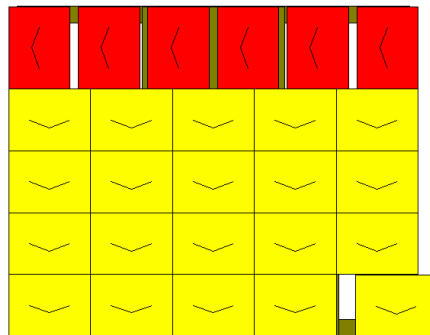


You'll use the Flush directional arrows to move the box back into position. In this exercise, we'll use the Up and Left arrows separately, then together. Follow these instructions:

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 below.



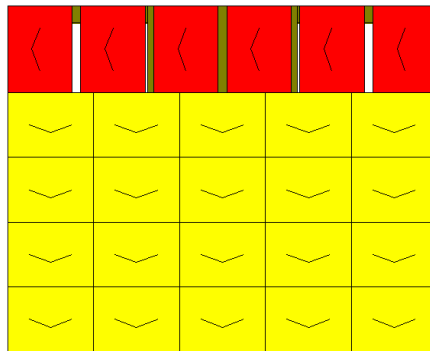
Note that when you moved the box flush up, the 3-D View and Pallet View panes redisplay to reflect the box's new position on the pallet.

Now you want to move the box flush left.

1. Click on the box to select it.
2. Click on the Flush Left arrow.

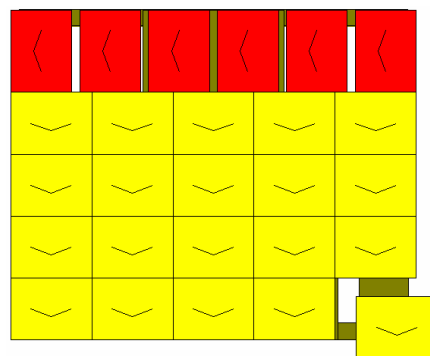
Note: When you click on this arrow, it will depress and show a red outline.

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



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 below.

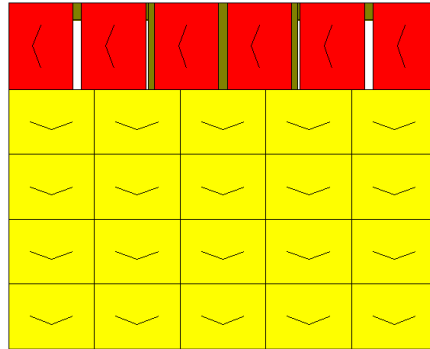


To move the box flush up and left simultaneously, follow these instructions:

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 below.



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.
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.