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## Shoulder Wedge Maker Manual



### 1.0 Purpose and Use of the TransTech Shoulder Wedge Maker

The Shoulder Wedge Maker is used as a paver attachment tool to help construct a higher density, longer lasting, low angle wedge fillet on the outside edge of the paved mat. Through a single simple adjustment, the Shoulder Wedge Maker can help a paving crew construct a tapered shoulder edge fillet.

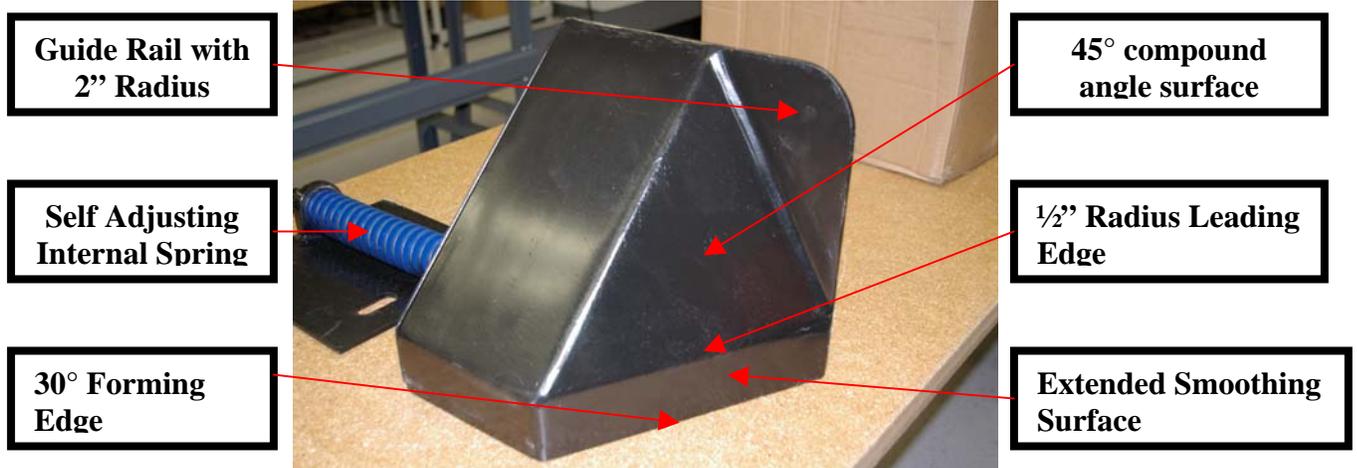
It is designed primarily to construct a precompacted, tapered mat edge with a final angle after rolling of the lane mat of less than 45° to the horizontal. The Shoulder Wedge Maker is typically used in a matched pair, one for the right side of the paver and one for the left side of the paver. The purpose of providing both left and right versions is to facilitate creating the shoulder wedge fillet whether paving in the direction of traffic or paving against the traffic pattern. While paving, the Shoulder Wedge Maker is adjusted to keep the bottom edge of the device in contact with the road shoulder surface in order to prevent asphalt leakage under the wedge, thus producing a well defined wedge fillet.

The following instructions explain the basic installation and adjustments needed to use the Shoulder Wedge Maker to construct a precompacted angled shoulder wedge fillet.

### Caution:

**HEAVY!**  
**To Avoid Injury,**  
**Use Care When Lifting and Installing.**

## 2.0 Explanation of Key Parts



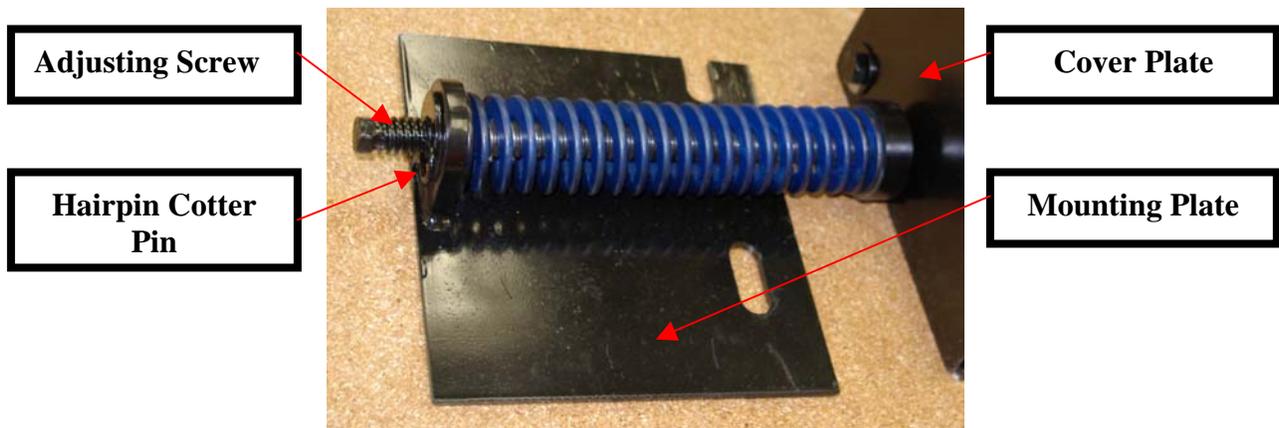
The Guide Rail allows the Shoulder Wedge Maker to ride along the surface of the road shoulder following its topography. The 2" radius helps the transition when the device encounters an obstacle such as a driveway cut or road intersection.

The Self Adjusting Internal Spring provides a downward force to keep the Guide Rail in contact with the shoulder surface.

The 30° Forming Edge is the feature that actually produces the wedge fillet. When adjusted properly, the Shoulder Wedge Maker extends below the screed strike-off plate and extrudes the fillet at the specified angle.

The 45° Compound Angle Surface is the patented feature which makes it possible for the Shoulder Wedge Maker to increase compaction on the wedge fillet. This feature forces more asphalt mix under the device than would ordinarily occur with a simple strike off.

The 1/2" Radius Leading Edge provides a smooth transition for the asphalt being extruded under the Shoulder Wedge Maker.



The Extended Smoothing Surface acts as a trowel to smooth the surface of the wedge fillet to give it a better finish.

The Cover Plate protects the inner adjustment elements from dirt and asphalt.

When the Shoulder Wedge Maker is not needed during paving or for cleaning, it can be easily detached from the mounting plate by removing the hairpin cotter pin.

Finally the adjusting screw sets the height of the Shoulder Wedge Maker and when properly adjusted compresses the internal spring to supply a downward force keeping the device in contact with the shoulder surface.

### 3.0 Instructions for Installation of the Shoulder Wedge Maker

**Notes: Installation requires mounting holes on the screed extensions.  
Mounting hardware has been included.**



#### 3.1 Tools Required

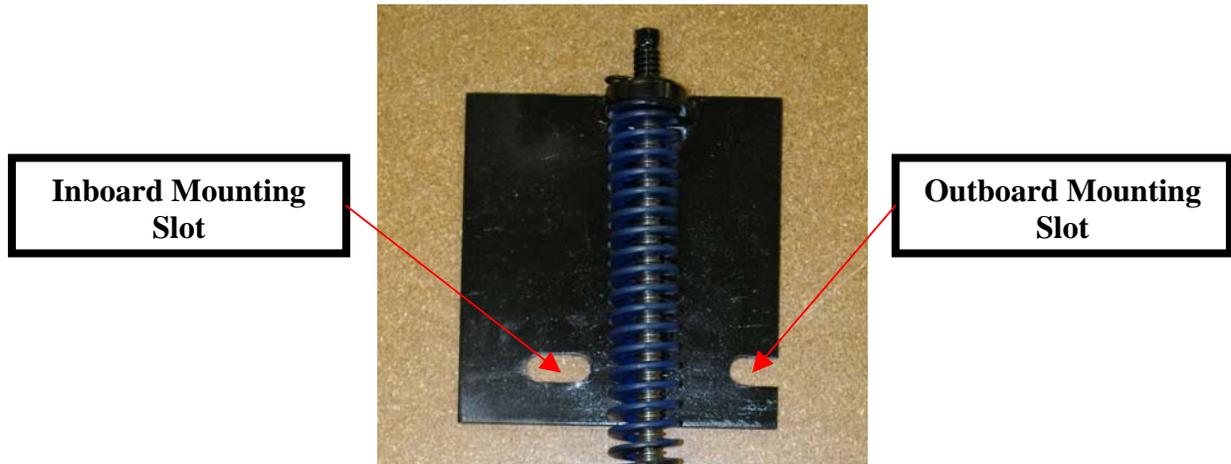
Drill, Drill Bits, Tap, Socket Set, and in some installations it may be necessary to have a cutting torch and welding capability.

#### 3.2 Mounting Hole Preparation

The Shoulder Wedge Maker can be installed on the hydraulic screed extension and/or on one foot and two foot wide bolt-on screed extensions.

**Two holes are needed for mounting the Shoulder Wedge Maker.**

There are two mounting slots on the Shoulder Wedge Maker. The first is the "**Inboard Mounting Slot**" and the second is the "**Outboard Mounting Slot**."



- Inboard Mount Slot is located approximately 6" in from the outboard edge of the Shoulder Wedge Maker (This is the edge of the device closest to the "End Gate") and is shown on the photo above.
- Outboard Mount Slot is located along the outboard edge of the Shoulder Wedge Maker again closest to the "End Gate" and also shown in the photo above.

#### **Approximate Mounting Hole Locations:**

- The location for the **inboard mounting hole** is approximately 16 inches above the bottom of the screed plate and approximately 6 inches in from the end gate side of the screed extension.
- The location for the **outboard mounting hole** is approximately 16 inches above the bottom of the screed plate and approximately 1 inch in from the end gate side of the screed extension.

**Measure and mark the locations for the 2 mounting holes.** Before drilling the locations check the alignment of the marked holes by placing the Shoulder Wedge Maker mounting plate up against the screed extension and verify that the marked holes line up with the pre-drilled slots on the mounting plate.

Drill and tap each hole for a **1/2inch bolt**. An alternative in case the metal in the mounting areas is too thin to tap satisfactorily is to weld a nut on the back of the hole.

### 3.3 Installation of the Shoulder Wedge Maker

- Remove the mounting plate from the Shoulder Wedge Maker assembly by removing the hairpin cotter pin and sliding the plate over the adjusting screw.
- Position the Shoulder Wedge Maker mounting plate over the mounting holes and against the end gate.
- Insert a bolt and washer into each of the mounting slots and tighten.
- Position the Shoulder Wedge Maker assembly under the mounting plate support bracket.
- Lift the assembly inserting the adjusting screw through the hole in the support bracket.
- Insert the hairpin cotter pin into the hole in the adjusting screw.
- Turn the adjusting screw clockwise until the lower section of the Shoulder Wedge Maker is even with the bottom of the screed strike off.

The Shoulder Wedge Maker is now mounted!!!

#### **Note:**

**Prior to setting the position of the paving screed and lowering for paving, the Shoulder Wedge Maker should be left in its uppermost position to insure that the device does not get damaged while adjustments to the paver are completed.**

**"End Of Installation Section of Manual."**

## "Using the Shoulder Wedge Maker for Paving"

### 4.0 Instructions for the adjustment of the Shoulder Wedge Maker during paving

#### 4.1 Positioning the Shoulder Wedge Maker

Once the paving operation begins, and full mat depth has been reached, the Shoulder Wedge Maker should be adjusted to create the wedge fillet to the full depth of the mat. This is accomplished by lowering the device to the full mat depth below the screed.

#### 4.2 Adjusting the depth of the Shoulder Wedge Maker

Rotate the Shoulder Wedge Maker Adjusting Screw counterclockwise. This will extend the wedge assembly downward below the screed strike off plate. Continue extending until the guide rail reaches the roadbed surface. Two ways of recognizing when this is accomplished are as follows.

1. Looking behind the paver one should see the road edge at a 30° angle to the horizontal with a clean edge at the shoulder surface.
2. As the adjusting screw is rotated note that the hairpin cotter pin will rise above the surface of the mounting bracket.

#### 4.3 Adjusting the downward pressure on the Shoulder Wedge Maker

Once contact is made with the shoulder roadbed, continue to extend the wedge assembly until the cotter pin is “floating” approximately ½ to 1 inch above the surface of the mounting bracket. This will insure a downward pressure exerted by the internal spring to keep the device in contact with the shoulder surface.

### 5.0 Guidance on Using the Shoulder Wedge Maker

#### 5.1 Mat or Lane Width

It is important to know that the Shoulder Wedge Maker decreases the width of the lane being laid by approximately 6”, depending on the thickness of mat being laid. This decreased width needs to be added back in by extending the end gate the appropriate amount.

#### 5.2 Rolling Patterns

It is recommended that the first rolling pass on the freshly laid mat be made with the roller drum away from the outside edge of the lane by about 8 – 12 inches. This will insure that the shoulder wedge fillet will not “roll up” due to outward pressure from the

first pass. The roller should be driven straight up to the back of the paver and back without turning the roller. If possible, this should be done in vibratory mode.

**DO NOT ROLL THE TAPER.** Attempting to roll the taper can result in damaging or destroying the area. It is not necessary to roll the fillet as the Shoulder Wedge Maker increases the density during extrusion from the paver.

**Warning!** During paving, the Shoulder Wedge Maker could be exposed to contact with the crossfeed auger and auger shaft if the hydraulic screed extension is drawn in too close to the main screed. Severe damage could occur to both the crossfeed auger and the Shoulder Wedge Maker if they come in contact.

**Warning!** When paving is completed in a given direction and the paver is to be moved to a new position, the Shoulder Wedge Maker should be raised to its mounting height or uppermost position. This will insure that the device does not hang below the screed and come in contact with road features that may damage the device.

### 5.3 Keeping the End Gate in Proper Position

**In order for the Shoulder Wedge Maker to work properly, the paver end gate ski must be kept riding directly on the surface being paved.** Most end gates have a tension rod, or compression spring, mechanism which can be adjusted to keep enough downward pressure on the ski so that it does not lift up during paving. If the end gate lifts off the pavement for any reason, asphalt may flow out the side of the paver and not provide enough asphalt to the Shoulder Wedge Maker to achieve proper precompaction in order to construct a high quality tapered edge.

**For assistance during installation and usage of the Shoulder Wedge Maker, call TransTech at 1-800-724-6306 for Customer Support.**