

**KENTUCKY TRANSPORTATION CABINET
EXPERIMENTAL SAFETY WEDGE PROJECTS
MANDATORY PRE-BID CONFERENCE
APRIL 15, 2010**

ANDERSON COUNTY
BARDSTOWN ROAD (US62)
FOX CREEK ROAD (US 62)
PROPOSAL ID 10-2049

BATH COUNTY
MIDLAND TRAIL (US 60)
PROPOSAL ID 10-2047

McCRACKEN COUNTY
OLD CAIRO ROAD (KY 305)
PROPOSAL ID 10-2108

OLD MAYFIELD ROAD
PROPOSAL ID 10-2128

CONTRACTORS REPRESENTED:

<u>Name</u>	<u>Representing</u>
Brian McReynolds	Jim Smith Contracting
B. G. Upchurch	Mago Construction
Art Walker	The Walker Company
Buddy Richardson	The Walker Company

OTHERS ATTENDING:

<u>Name</u>	<u>Representing</u>
Wayne Simpson	KYTC – Maintenance
David Leach	KTYC – District 9 (Morehead)
Charlotte Faeth	KYTC – District 7 (Danville)
Larry Price	KTYC – District 9 (Morehead)
Scott Hunt	KYTC – Construction Procurement
Chris Rowley	KTYC – District 9 (Morehead)
Brian Gillum	KTYC – District 9 (Morehead)
T. J. Gilpin	KYTC – Maintenance
Diana Radcliffe	KYTC – Maintenance
Randy Stull	KYTC – District 9
Kyle Poat	KYTC – District 1
Brian Wood	PAIKY
Mark Wells	KYTC – District 7 (Danville)
Bob Lewis	KYTC – State Highway Engineer's Office
Donnie Miracle	KYTC – Construction Procurement
Scott Pedigo	KYTC – Traffic
Tracy Lovell	KYTC – Traffic
Charles Briggs	KYTC – Maintenance
Frank Julian	FHWA (by teleconference)

MINUTES

The Mandatory Pre-Bid Conference began at ~ 9:15 a.m. EDT. The following items applicable to the project were discussed at the Pre-Bid Conference.

- 1. Hierarchy** – The Department advised that statements and responses to questions received from Contractors at the Pre-Bid Conference will be transcribed as minutes of the conference and made available to Contractors on the Division of Construction Procurement's web page prior to the bid letting. The written minutes will take precedence over any verbal comments made at the Pre-Bid Conference. In case of discrepancy between the minutes and the official proposal, the minutes will govern. The Department will accept bids only from Contractors represented at the Pre-Bid Conference.
- 2. Starting & Completion Dates** – The Department advised that bids will be opened at the Department's regular April 23, 2010 Letting. There is no specified starting date. Regardless of when the Contractor begins work, the specified completion date is November 15, 2009.
- 3. Proposal Addendums** – The Department advised that any changes required to the proposal resulting from the Pre-Bid Conference and Field review and questions addressed in these minutes will be incorporated into an official proposal addendum(s).
- 4. KY 305 Striping Quantities** – The Department advised that KY 305 striping quantities in the proposal may be incorrect. The Department is checking the quantities and will advise by addendum if there are any changes.
- 5. KY 994 Shoulder Mix** – The Department advised that Asphalt Mixture for Pavement Wedge shown on the Typical Section in the proposal is incorrect. The shoulder wedge should be same material as, and placed monolithic with, the mainline surface mix. An Addendum will be issued.

- 6. Special Notes** – The Department handed out copies of Special Note for Pavement Safety Wedge and Special Note for Pavement Wedge and Shoulder that are in the proposals and a draft copy of a revised Special Note for Edgeline Rumble Stripes to replace the note currently in the proposals. A Memo from Ryan Griffith to all prequalified contractors regarding upcoming changes to electronic bidding process was also distributed.
- 7. Additional Questions** – The Department advised that if there are any questions not covered at the Pre-Bid Conference and these minutes, they should be addressed to the Department's Division of Construction Procurement in the usual manner.
- 8. Presentation** – The Department made a presentation with pictures showing the shoulder edge drop-off problem to be corrected by the safety wedge, films demonstrating placement by pavers equipped with the wedge, an explanation of the intent and process to place the Wedge, and literature from 2 approved manufacturers of the paver accessory required to construct the wedge and a brochure published by the FHWA.
- 9. Location** – The Department advised that the intended location of the safety wedge is at the outside edge of the newly paved shoulder, that the shoulder preparation would be the same as a normal resurfacing project, and that the wedge is effective for drop-offs of up to 5 inches. After much open discussion about road narrowing obstructions, drop-offs greater than 5 inches, entrances, and other anomalies, the Department advised that such situations were unique to each location and that the Engineer and Contractor would make a determination on such locations, if any, construction just as for atypical situations that occur on any project.
- 10. Entrances** – In response to a question, the Department advised that the pavement edge across entrances can be raked to form a smooth transition the same as a normal edge.
- 11. Approved Manufacturers** – The Department advised that there were 2 approved manufactures of the paver accessory required to construct the safety wedge. It was questioned if the 2 companies were really separate entities since there literature so similar. The FHWA explained that the person who formed the older company left and formed the second company and used an identical style and format for the literature. The FHWA advised the companies were true competitors.

- 12. Shop Made Equipment** – After considerable discussion of the possibility/advisability of the Contractor manufacturing his own equipment, the Department advised that provisions in the proposal, allowing for this possibility would not be changed. The Department advised that the provisions requiring the Contractor to demonstrate to the approval of the Engineer, through successful use on previous project or by successfully constructing a test strip, that the proposed equipment provides a satisfactory wedge would be enforced.
- 13. Graded Stone Backup** – The Department advised that backing up the safety wedge with graded stone would be handled in the usual manner. The Bath County project has a bid item for DGA to be placed in areas designated by the Engineer where drop-offs exceed 1 inch after construction of the shoulder. This is the customary way District 9 handles the situation. The other projects do not have graded stone as a bid item and shoulder backup will be by state forces, as is customary in the districts where the projects are located.
- 14. Rumble Stripes-** The Department advised that all the projects have edgeline rumble stripes. The special note in the proposal will be replaced by the draft note distributed at the conference. It was emphasized that the edge line rumble stripe is to be constructed on the shoulder and not on the safety wedge. The KY 305 project in McCracken County also has centerline rumble stripes. It was emphasized that the centerline rumble stripes are continuous through the listed location, both passing and non-passing areas. There will be no signs erected in conjunction with the centerline rumble stripes. Lane widths on KY 305 are such that construction of centerline rumble stripes will not have any impact on construction of the safety wedge.
- 15. Preconstruction Conference** – The Department advised that a Preconstruction Conference would be held for each project according to Section 108.03.

The Pre-Bid Conference adjourned at ~10:30 a.m.

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CONTRACTORS SIGN IN ROSTER

<u>NAME</u>	<u>REPRESENTING</u>
 BRIAN McKeonolds	JIM SMITH CONTRACTING
 Bob Upchurch	Mago Construction
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OTHERS ATTENDING SIGN IN ROSTER

<u>NAME</u>	<u>REPRESENTING</u>
Wayne Simpson	KYTC C.O. Maint
David Leach	D9 - Morehead
Charlotte Faeth	D7 - Danville Section
LARRY PRICE	D-9 morehead
Scott Hunt	C-O Estimating
Chris Rowley	D9 - Morehead
Brian Gillum	D-9 Morehead Sect.
T.J. Gipson	KYTC commnt
DIANA RADCLIFFE	KYTC commnt
RANDY SULL	KYTC D-9
Kyle Poff	KYTC - D-1
BRIAN WOOD	PAIKY
Mark Walls	D7 - Danville Section
Bob Lewis	KYTC - SHE office
Dannie Miracle	CO Construction Procurement.
Scott Redipo	KYTC - C.O. Traffic
TRACY LOVELL	KYTC - C.O. Traffic

**EDGELINE RUMBLE STRIPES (EXPERIMENTAL)
PRE-BID CONFERENCE**

Construct edgeline rumble stripes at the locations listed in the proposal according to the drawings for Shoulder Rumble Strip, Shoulder Rumble Stripe Details, and Shoulder Rumble Stripe Installation. The locations listed and dimensions on the drawings are approximate only and may vary from existing marking's locations; the Engineer will determine the exact locations and dimensions at the time of construction. Unless directed otherwise by the Engineer, **DO NOT** install rumble stripes where the posted speed limit is 45 MPH or less. Before sawing the rumble stripes, pre-mark the pavement surface and obtain the Engineer's approval of the proposed location, alignment, and control guides. Notify the Engineer if questions arise regarding changes in striping patterns. If necessary, the Engineer will obtain guidance from the District Traffic Engineer and/or the Division of Traffic. After sawing rumble stripes, construct a rumble stripe by applying permanent edgeline striping according to Section 713 on the sawed rumble strips at the modified locations approved by the Engineer.

The Department will measure sawed rumble strips according to Section 403.04.07. Unless required by the Traffic Control Plan or directed by the Engineer, the Department will not measure temporary edgeline striping for payment. The Department will measure permanent edgeline striping according to Section 713.04. The Department will not measure the removal of existing markings, pre-marking and layout, surface preparation, or corrective work and will consider them incidental to installation of the sawed rumble strips and permanent edge line striping.



TransTech Systems, Inc. ♦ 1594 State Street ♦ Schenectady, NY 12304
(518) 370-5558 ♦ 1-800-724-6306 ♦ Fax (518) 370-5538
Web Page www.transtechsys.com

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.

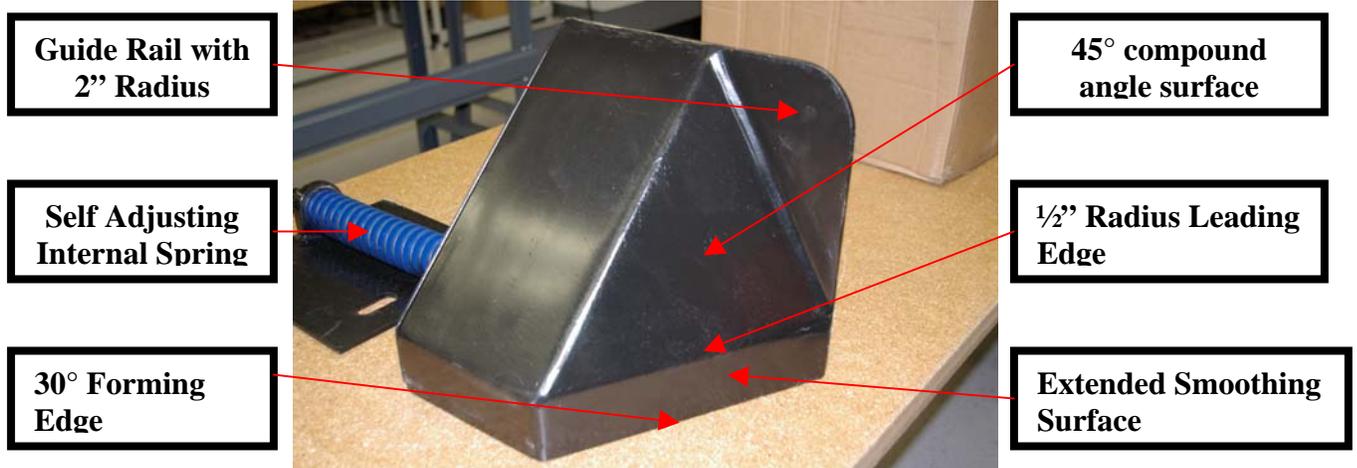
It is designed primarily to construct a precompacted, tapered mat edge with a final angle after rolling of the lane mat of less than 45° to the horizontal. The Shoulder Wedge Maker is typically used in a matched pair, one for the right side of the paver and one for the left side of the paver. The purpose 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



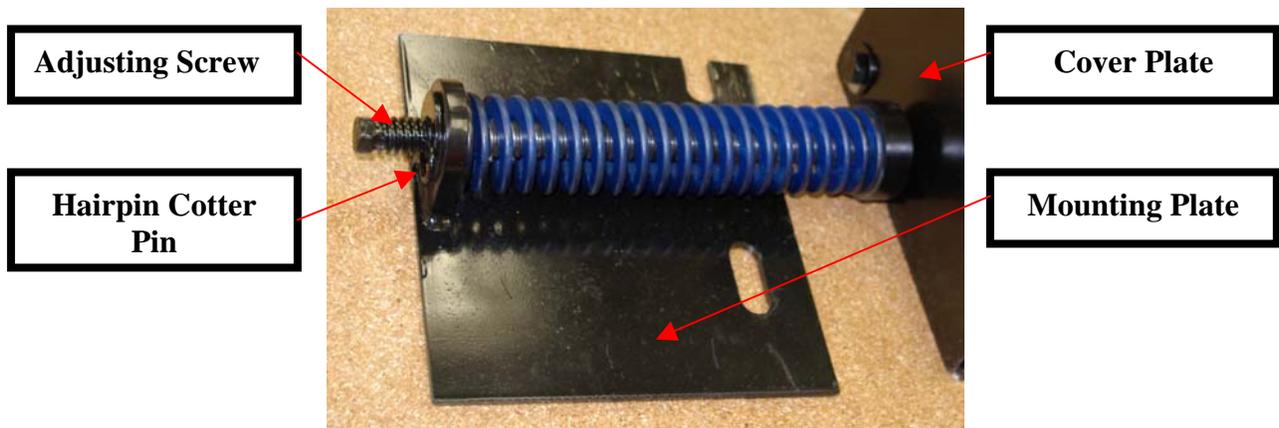
The Guide Rail allows the Shoulder Wedge Maker to ride along the surface of the road shoulder following its topography. The 2" radius helps the transition when the device encounters an obstacle such as a driveway cut or road intersection.

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

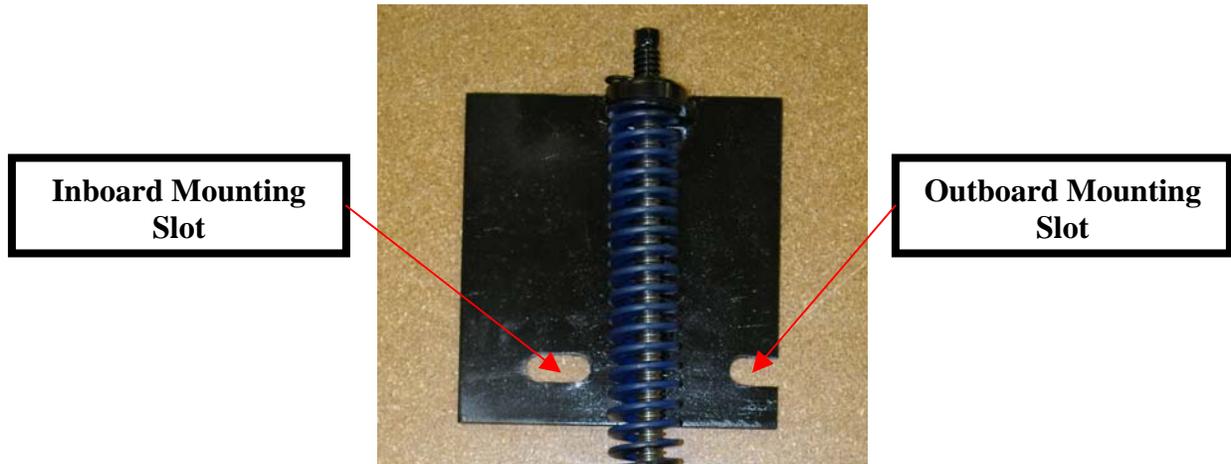
Drill, Drill Bits, Tap, Socket Set, and in some installations it may be necessary to have a cutting torch and welding capability.

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.

Advant-Edge Paving Equipment LLC

Advant-Edge Paving Equipment LLC. ♦ 33 Old Niskayuna Rd. ♦ Loudonville, NY 12211
(518) 280-6090 ♦ 1-518-368-5699 ♦ Fax (518) 518-465-4881
Web Page www.Advant-Edge.com

Advant-Edger Universal Model Manual



1.0 Purpose of the Advant-Edge Equipment LLC Advant-Edger – Universal Model

The Advant-Edger is used as a paver attachment tool to help construct a highly consolidated, longer lasting, low angle wedge fillet on the outside edge of the paved mat. Through a single simple adjustment, the Advant-Edger can help a paving crew construct a tapered safety edge fillet.

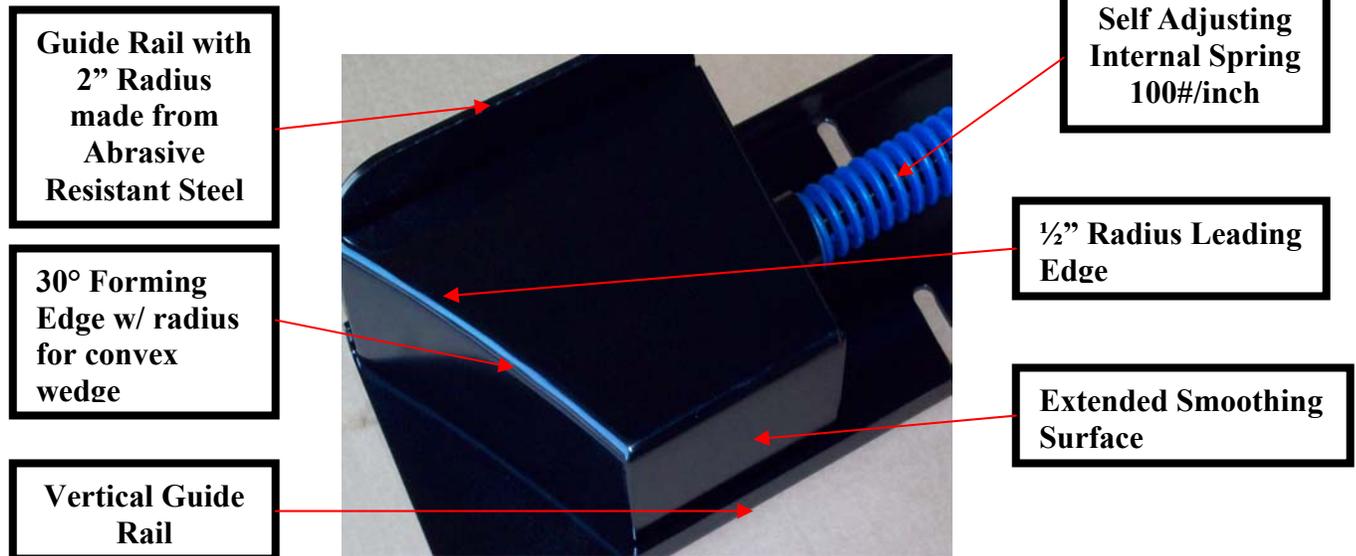
It is designed primarily to construct a consolidated, tapered mat edge with a final angle after rolling of the lane mat of approximately 30° to the horizontal. The Advant-Edger Universal model can be used on both the right and left side of the paving machine. The purpose of providing both left and right operation in one device is to facilitate creating the lane edge wedge fillet whether paving in the direction of traffic or paving against the traffic pattern. Thus only one unit is required to do both functions. While paving, the Advant-Edger 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 Advant-Edger to construct a consolidated angled road edge fillet.

Caution:

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

2.0 Explanation of Key Parts

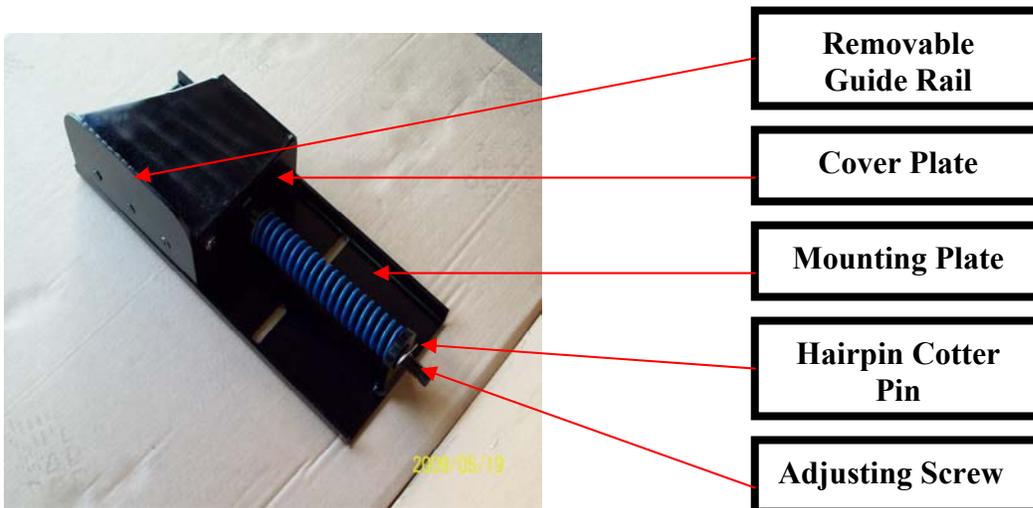


The Guide Rail allows the Advant-Edger to ride along the surface of the road shoulder following its topography. The 2" radius helps the transition when the device encounters an obstacle such as a driveway cut or road intersection. This component is easily removable so the forming box portion of the device can be rotated 180° and then reattached and mounted on the other side of the paver for left or right hand operation in a single unit.

The 30° Forming Edge is the feature that actually produces the wedge fillet. When adjusted properly, the Advant-Edger extends below the screed strike-off plate and extrudes the fillet at the specified angle. It has a concave radius surface resulting in the wedge fillet being convex in shape to better facilitate vehicle recovery from road departure.

The ½" Radius Leading Edge provides a smooth transition for the asphalt being extruded under the Advant-Edger.

The extended smoothing surface acts as a trowel, smoothing the asphalt as it leaves the device producing a finished consolidated edge feature on the road mat.



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

The Vertical Guide Rail confines the Edger so that when adjusting road width with the paving end gate, the device will not pull away from the end gate surface thus preventing asphalt from building up behind the device. Note this feature is on both right and left sides of the mounting plate allowing reversal of the unit for use on both sides of the paving machine.

When the Advant-Edger 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 Advant-Edger 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 Advant-Edger

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

3.1 Tools Required

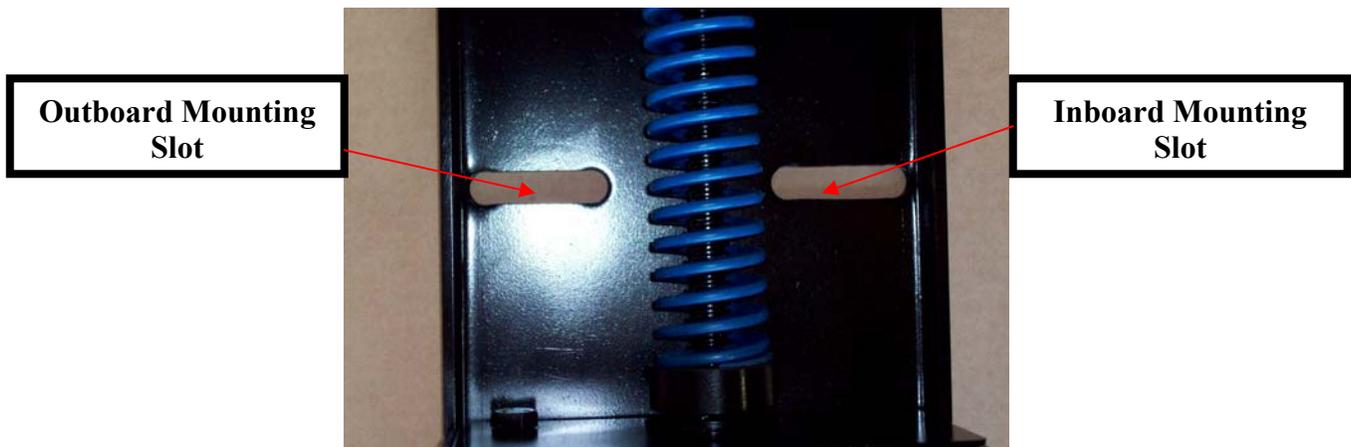
Drill, Drill Bits, Tap, Socket Set, Allen Wrench and in some installations it may be necessary to have a cutting torch and welding capability.

3.2 Mounting Hole Preparation

The Advant-Edger can be installed on the hydraulic screed extension and/or on one foot and two foot wide bolt-on screed extensions on either right or left side of the paving machine..

Two holes are needed for mounting the Advant-Edger.

There are two slots on the Advant-Edger mounting plate. 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 Advant-Edger (The outboard edge is the one closest to the “End Gate”) and is shown on the photo above.
- Outboard Mount Slot is located along the outboard edge of the Advant-Edger 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.

The easiest way to set up for drilling the mounting holes in the screed face is, with the screed lowered to the ground, set the Advant-Edger mounting plate or entire device on a 1" thick shim with the device against the end gate. Mark the location of the mounting slots on the screed face. Drill and tap each hole for a ½-13 UNC bolt. An alternative in case the metal in the mounting areas is too thin to tap satisfactorily is to drill clearance holes for a ½" bolt and weld a nut on the back of the hole.

3.3 Installation of the Advant-Edger

- Remove the mounting plate from the Advant-Edger assembly by removing the hairpin cotter pin and sliding the plate over the adjusting screw.
- Position the Advant-Edger 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 Advant-Edger 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 Advant-Edger is even with or above the bottom of the screed strike off.

The Advant-Edger is now mounted!!!

To reverse location from left to right side or right to left, simply remove the guide rail, rotate the forming box 180° and reinstall the guide rail so the 2" radius is pointing forward.

Note:

Prior to setting the position of the paving screed and lowering for paving, the Advant-Edger 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 Advant-Edger"

4.0 Instructions for the adjustment of the Advant-Edger during paving

4.1 Positioning the Advant-Edger

Once the paving operation begins, and full mat depth has been reached, the Advant-Edger 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 Advant-Edger

Rotate the Advant-Edger 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 Advant-Edger

Once contact is made with the shoulder roadbed, continue to extend the wedge assembly until the cotter pin is “floating” approximately 1 to 1½ 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 Advant-Edger

5.1 Mat or Lane Width

It is important to know that the Advant-Edger decreases the width of the lane by up to 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 Advant-Edger consolidates the asphalt during extrusion from the paver.

Warning! During paving, the Advant-Edger 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 Advant-Edger 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 Advant-Edger should be retracted 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 it.

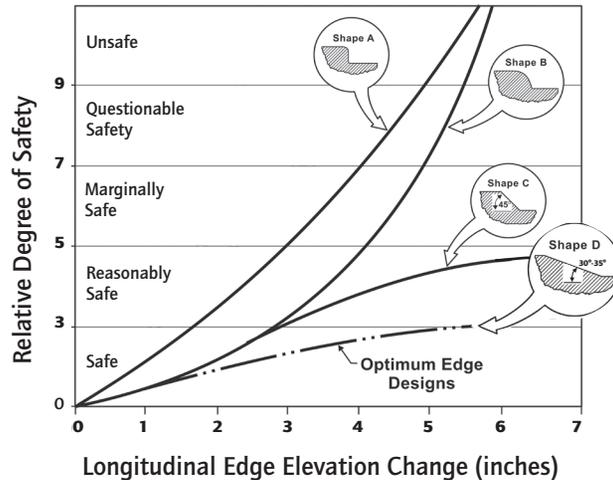
5.3 Keeping the End Gate in Proper Position

In order for the Advant-Edger 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 shoulder for any reason, asphalt may flow out the side of the paver and not provide enough asphalt to the Advant-Edger to achieve proper consolidation to construct a high quality tapered edge.

For assistance during installation and usage of the Advant-Edger, call Advant-Edge Paving Equipment LLC at 1-518-280-6090 for Customer Support.

Relative Safety of Various Edge Elevations and Shapes

The chart below shows how various edge shapes relate to safety at speeds of up to 55 mph.



Graphic Source: Zimmer and Ivey, Texas Transportation Institute



Photo Source: FHWA

The Safety Wedge Shoe is a special edging device that asphalt paving contractors can install on new or existing resurfacing equipment to shape the Safety Edge.

Contact the FHWA for More Information about the Safety Edge and other Roadway Departure Crash Countermeasures

For more information about Roadway Departure issues and effective countermeasures to prevent Roadway Departure crashes, go to the FHWA Office of Safety's Web site at <http://safety.fhwa.dot.gov/> and click on "Roadway Departure." FHWA contacts for technical assistance with the Safety Edge are listed below.

CONTACTS

Frank Julian

FHWA Resource Center
Safety and Design Team
(404) 562-3689
Frank.Julian@dot.gov

Chris Wagner

FHWA Resource Center
Pavement and Materials Team
(404) 562-3693
Christopher.Wagner@dot.gov

Cathy Satterfield

FHWA Office of Safety
Roadway Departure Team
(708) 283-3552
Cathy.Satterfield@dot.gov

- Hallmark et. al: *Safety Impacts of Pavement Edge Drop-Offs*, AAA Foundation for Highway Safety, Washington, DC, September 2006.



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YOU CAN REDUCE
PAVEMENT EDGE
DROP-OFFS WITH **THE**
SAFETY
EDGE PAVEMENT EDGE
TREATMENT



Photo Source: FHWA

- Saves Lives
- Reduces Tort Liability
- Reduces Maintenance Expense
- Costs Less than 1 Percent of Pavement Resurfacing Budget



Safe Roads for a Safer Future
Investment in roadway safety saves lives

Pavement Edges Can Pose Serious Safety Risks

Roadway departures account for 53 percent of fatal crashes. While national data documenting the role of pavement edge configuration in the sequence of events leading to crashes are not available, some State-level studies point to the life-saving potential of safety edges. For example, researchers studying crashes in Iowa during 2002-2004 reported that pavement edges may have been a contributing factor in as many as 18 percent of rural run-off-road crashes on paved roadways with unpaved shoulders. This type of crash was four times more likely to include a fatality than rural crashes overall on similar roads.¹

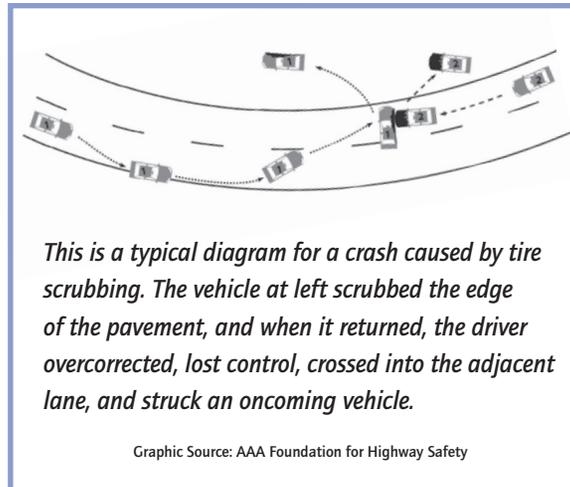
How Pavement Edges Affect Crash Severity

When a tire drops off a paved surface, sometimes just inches from the travel lane, a driver can have difficulty re-entering the roadway if the pavement edge



Sharp, steep pavement edge drop-offs can contribute to crashes.

is nearly vertical—especially if the height difference is significantly more than 2 inches. When a driver drifts off the pavement and tries to steer back on, the nearly vertical edge can create a “tire scrubbing” condition that may result in over-steering. If drivers over-steer to return to the paved surface without reducing speed, they are likely to lose control of the vehicle. The vehicle may veer into the adjacent lane, where it may collide with, or sideswipe oncoming cars; overturn; or run off the opposite side of the roadway and crash.



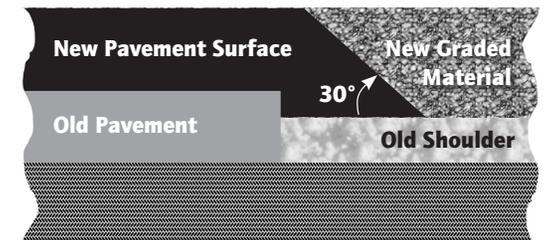
Increase Roadway Safety at No or Low Cost by Specifying the Safety Edge

A simple and cost-effective way to promote pavement edge safety is to adopt a standard specification for all resurfacing projects that requires a 30° - 35° angle “Safety Edge.” After paving, the adjacent material is graded flush with the top of the pavement.

Solutions to the Pavement Edge Drop-off Risk

- Require a 30° - 35° angle asphalt wedge “Safety Edge” at the graded material interface in asphalt resurfacing projects.
- Routinely resurface shoulders when roadways are resurfaced, and add the Safety Edge.
- Maintain edge drop-off depths at 2 inches or less on high-speed highways.

The asphalt wedge provides a safer roadway edge, and a stronger interface between the pavement and the graded material. The additional cost of the asphalt wedge is minimal when included as part of resurfacing projects. Benefits include the avoided economic and social impacts of fatalities, injuries, and property damage.



The placement of the asphalt wedge during resurfacing operations mitigates the risk posed by edge drop-offs as soon as the paving machine lays down the asphalt mat, allowing the highway agency reasonable time to restore the shoulder or other adjacent graded material.



TRANSPORTATION CABINET

Frankfort, Kentucky 40622
www.transportation.ky.gov/

Steven L. Beshear
Governor

Michael W. Hancock, P.E.
Acting Secretary

TO: All Prequalified Contractors

FROM: Ryan Griffith, P.E. *rlg*
Director
Division of Construction Procurement

DATE: April 14, 2010

SUBJECT: Reminder of Electronic Bidding

Bid Information

Beginning with the April 23, 2010 letting, the Expedite Bid (EBS) files, Eligible Bidder's List and Notice to Contractor will be available on the Division of Construction Procurement and the Bid Express websites. All other information will remain on the Division of Construction Procurement website. The bid proposals will be available on the Division of Construction Procurement website. It is the responsibility of the bidder to review the proposal and make paper copies, as necessary. The Division of Construction Procurement will no longer be mailing the proposals to bidders.

Beginning with the July 30, 2010 letting, EBS Files and Eligible Bidder's List will be available on Bid Express only. All other information will remain on the Division of Construction Procurement website.

Bid Submittal

For the April, May or June 2010 lettings, bids may be submitted by either the manual method (hand carried to 200 Mero Street, Frankfort, KY) or electronically through the Bid Express bidding service. **Please use only one method to submit a bid.** If the Department receives a bid by both methods on a project from the same bidder, then the paper copy of the bid submitted by the manual method will be used.

Beginning with the July 30, 2010 letting, bids will only be accepted when submitted through the Bid Express bidding service.



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Bid Bonds

If submitting electronically, bidders may still use a paper bid bond or cashier's check as long as either is received by the Division of Construction Procurement by 10:00 a.m. prevailing time the day of the letting. This will be effective with the April 23rd letting and the policy will remain in effect in July when only electronic bids will be accepted.

For those bidders using the manual method for submitting their bid or those bidders submitting a bid electronically but not using an electronic bid bond, the Expedite program will give an error because the last sheet is not complete. A bid submitted with this error will be acceptable, but please check for other errors.

Bidder Registration

Bidders **must** register for each project they intend to bid. Bids will **not** be accepted from bidders that are not registered to bid on a project. This is for either method (manual or electronic) the bidder chooses to use. The bidder registration form for the April 23, 2010 letting can be found at <http://transportation.ky.gov/Contract/Lettings/2010/0423/> . Only bidders prequalified for a work type required for a particular project will be registered for that project and placed on the Eligible Bidders List. There is no charge to register to bid. Bidders can verify they are registered to bid by looking for their name on the Eligible Bidders List.