

# USER MANUAL

Please review before installation and/or operation.

# Ramp Champ Series II



## ATTENTION

Read this entire Manual carefully before attempting to install and/or operate. Retain for future reference.



## CAUTION

To avoid injury, use care when lifting, installing, adjusting or operating.



At Advant-Edge Paving Equipment, we are constantly striving to develop products that make our highways safer and last longer. The Ramp Champ Series II is designed to meet these objectives. This device has detachable and inter-changeable “shoes” so that the same basic unit can create either a 30° safety edge along the side of the road or a longitudinal center lane joint often referred to as a Michigan Notch Joint to help make a better seam between lanes. The Ramp Champ II has been specifically designed and constructed to meet government guidelines that are being enacted to improve road safety. And, our patent pending reversible design allows the paving contractor to mount the unit on either side of the paver thereby avoiding the need to purchase a left and right side model.

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Patents Pending

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## 1 IMPORTANT SAFETY PRECAUTIONS

- Please read the entire operating manual before installation or operation of this unit. If you are experiencing a problem, call Technical Support at 814-422-3343 (EDGE).
- Use only according to directions in this user manual or other officially published documents of Advant-Edge Paving Equipment, LLC. This unit is designed to be mounted on the screed or screed extension of paving machines and is intended for asphalt only.
- The Ramp Champ II is HEAVY! To avoid injury, use care when lifting, installing or removing. It is recommended that appropriate work gloves be worn when installing, handling and using the Ramp Champ II.
- Always be sure that appropriately trained and qualified personnel are employed to install and operate the product. Also be sure that appropriate tools and procedures are followed at all times.
- During periods when the Ramp Champ II is not in use, it is recommended that the holes in the screed (which were created for mounting) be filled (say with a spare bolt or screw) so as to keep them clean. Make sure the bolt heads do not interfere with screed extension movements.
- **WARNING! DO NOT DRAW THE SCREED EXTENSION TOO CLOSE TO THE MAIN SCREED.** During paving, the Ramp Champ II could be exposed to contact with the cross feed auger or auger shaft if the screed extension is drawn in too close to the main screed. Severe damage could occur to both the auger and the Ramp Champ II if they come in contact. The width of the Ramp Champ II is 12". The screed extension must be appropriately extended.
- **WARNING! RAISE THE SHOE TO ITS UPPER MOST POSITION WHEN NOT PAVING AND/OR WHEN MOVING THE PAVER BETWEEN LOCATIONS.** When paving is completed in a given direction and the paver is to be moved to a new location before paving again, the Ramp Champ II should be raised to its uppermost position so that its shoe is at a height above that of the bottom edge of the screed.
- **WARNING! IT MAY BE NECESSARY TO UNBOLT THE RAMP CHAMP PRIOR TO TRANSPORTING PAVER.** When transporting the paving machine requires the screed extension to be retracted, it may be necessary on some paving machines to unbolt the Ramp Champ from the screed for transportation. Failure to do so will result in damage to the Ramp Champ and the paving machine.

## 2. PRODUCT OVERVIEW

Technical innovation has led to our new, next generation product: the Ramp Champ II. It is capable of producing a variety of road edge profiles that meet the requirements of two different paving challenges:



Paving Road with Safety Edge



Forming a 30° Edge

1. The 30° safety edge is designed to make our highways safer by reducing the number of accidents caused by the driver losing control of the vehicle when the tires ride over an edge drop-off.
2. The longitudinal center lane joint enables paving crews to create an edge somewhat akin to the "Michigan Notch Wedge Joint" to be used when paving the first of two adjacent highway lanes. This edge will enable the second lane to "bind" with the first lane thereby creating a stronger and longer lasting seam.



Right side oriented Ramp Champ II with Safety Edge Shoe



Right Side Oriented Ramp Champ II with Center Lane Joint

The Ramp Champ II is reversible there is no need to purchase a left side and right side model as is the case with our competitors. With Advant-Edge Paving Equipment, it is buy one and it will perform on both sides of the paving machine.

Our units are also designed to automatically follow the shoulder elevation. When paving begins, the unit is set to the correct shoulder height. When the paver encounters higher shoulder levels (say for driveways) the Ramp Champ II shoe will both rise and flatten out. When the shoulder level returns to its normal level, the shoe will automatically return back to its original slope and height setting.

State and federal specifications being written for safety edges are aimed at creating a 30° slope. In some cases it may be advantageous to create a slightly flatter slope that takes into account a rolling pattern that later tends to increase the slope angle by several degrees. The Ramp Champ II provides the operator with the flexibility to control the final slope angle. The slope setting of this unit may be set in a range from nearly flat up to 30°.

The Ramp Champ is fitted with shoes that create the desired edge profile. The shoes are detachable by the operator so a Ramp Champ II being used as a safety edge maker can be transformed quickly into a longitudinal center lane joint maker.

The safety edge shoe, has two forming surfaces. The leading surface is at an angle to the direction of travel and "funnels" the asphalt to aid compaction. The trailing surface is in line with the direction of travel. It acts as a trowel to smooth the surface and also as the surface which transmits the radial force thereby increasing compaction of the edge. The Safety Edge Shoe is designed to create an edge up to a maximum vertical drop of approximately 5".

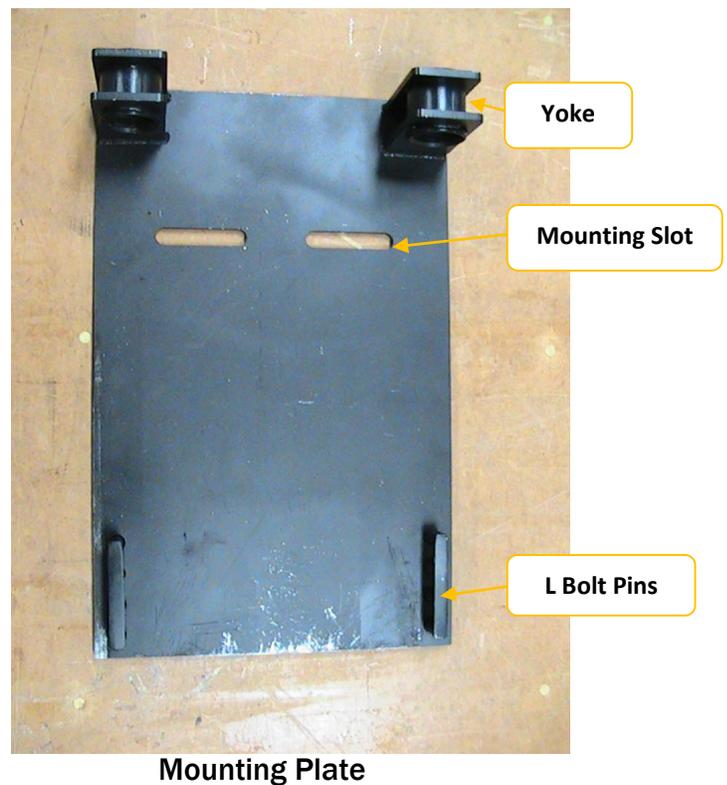
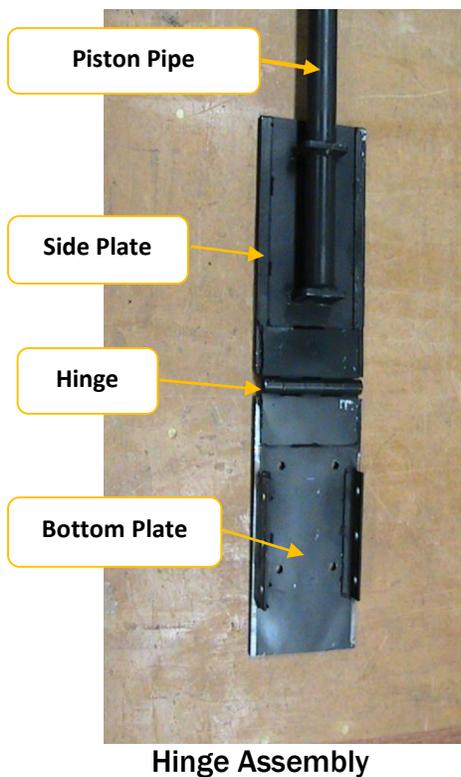
The longitudinal center lane joint shoe is slightly more complex. It creates a profile similar to what is commonly referred to as a "Michigan Notch Wedge Joint." It has an upper vertical face where the edge meets the pavement mat surface, a tapered face (with an added groove in it to enhance seam binding), and a lower vertical face to provide sufficient material for structural integrity near the road bed. This shoe performs in a similar manner to the safety edge shoe in that they each utilize both compaction surfaces and trowel surfaces to enhance compaction. The Center Lane Joint Shoe is designed to accommodate pavement surface heights above the adjacent unpaved lane of 1" to 5". A note, although the Ramp Champ is reversible, the Center Lane Joint Shoe is not. The operator must purchase a left and right shoe to create center lane joints on either side of the paving machine.

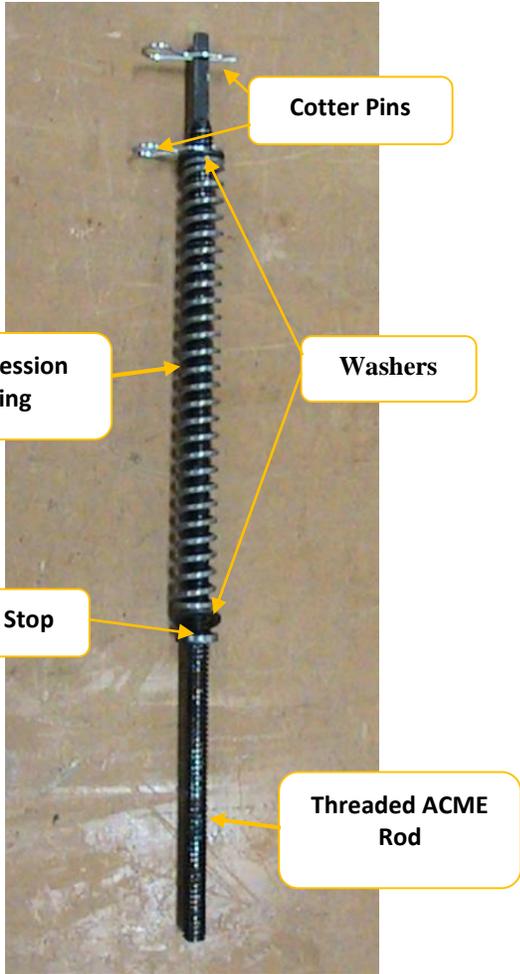
Our product is built to be used by the road paving construction industry. Nearly all components are made of 1/4" steel remaining pieces such as the springs are made of the stainless steel and/or construction grade steel. Our threaded rod is ACME so that it can withstand the stress under paving operations and will withstand dirt and asphalt materials in which it may come in contact.

### 3. PARTS LIST

Carefully unpack the shipping container and inspect the contents. You will find the following parts:

1. Hinge Assembly (made up of a hinge, side plate, bottom plate and piston pipe)
2. Mounting Plate
3. (2) Asphalt Shields (a left hand side and a right hand side) with (3) screws and (3) nuts
4. Compression Spring
5. ACME Rod with (2) cotter pins and (2) washers
6. Housing Pipe
7. L bolt with cotter pin
8. Shoe (30° safety edge shoe or center lane notch joint shoe) with (4) screws and (4) nuts
9. Hand Crank
10. Mounting Plate Shim Set (optional only if needed)
11. Mounting Hardware consisting of: (2) ½" bolts, (2) lock washers, (6) washers and (2) ½" nuts.
12. Installation and Operating Manual

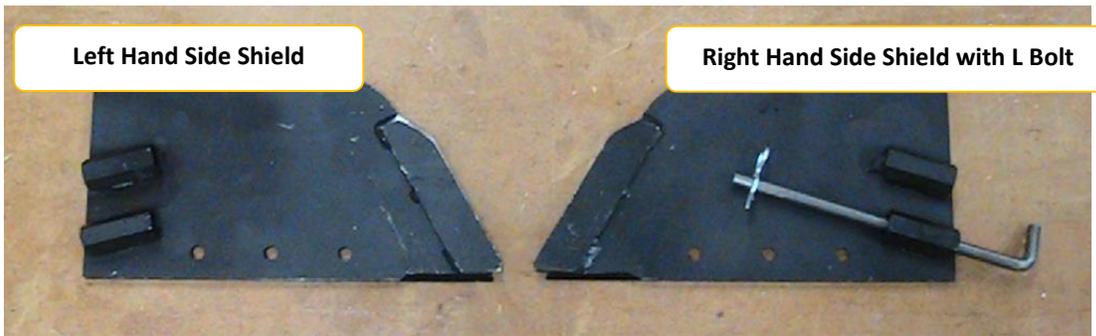




ACME Rod and Spring



Hand Crank and Housing Pipe



Asphalt Shields



Safety Edge Shoe (reversible)



Center Lane Joint Shoe (left side)

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## 4. INITIAL INSTALLATION

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Two holes must be made in the screed extension to mount the Ramp Champ II to the Paver. Once these holes are made, the Ramp Champ unit will be easily attachable and detachable from the paving machine as needed. Holes should be made in both sides of the screed so that the unit can be switched from side to side as desired. In most cases, the tools required are: a drill, a center tap, a small (metal) tap drill bit,  $\frac{1}{2}$ " (metal) drill bit, and two (2)  $\frac{3}{4}$ " wrenches, one of which should preferably be a socket wrench. In some cases, where it is difficult to access the rear side of the screed, users may find it advantageous to tap holes in the screed extension or weld nuts to the back face of the screed extension that will serve as a secure threaded hole. This method will be explained as well.

**Important note:** The following instructions are intended for the most commonly used commercial paving machines including: Caterpillars, Cedar Rapids, Barber Green and newer models of Blaw Knox, Volvo, RoadTech and Carlson Machines. Some older model screeds such as the Omni III, Ultramat and EZ Screed do not have a flat screed face. Their faces have either lower kick-out plates (triangular in cross-section) or faces that flare out toward the front of the machine. If you find that the Mounting Plate surface is not flush against the screed face or if you find that the Mounting Plate is not plumb level or if you find that there is a lower prestrike-off plate that will interfere with the operation of the Ramp Champ II when mounted, please STOP the installation process and contact us. Chances are you will need a Shim Set in order to attach the unit to your paver. We will provide a shim set which can be welded to the back of the Mounting Plate prior to the initial installation instructions provided here.

The following procedure is designed to create a sloped angle as measured relative to the pavement mat which is normally different from true horizontal. If your project specifications

call for a 30° edge as measured from true horizontal you will need to shim our unit roughly 2° flatter to offset the normal mat slope. This is accomplished by drilling holes in the screed face that are not at the same height.

**Step 1. Position Paver and Screed.** Bring the paving machine to a location where the ground is relatively flat. Note: it need not be true horizontal so long as it is flat. Lower the screed to ground level.

**Step 2. Extend the Screed Extension.** We recommend approximately 2' to 3' so that there is ample room to work. Place a 3/4" shim (plywood works well) on the ground in front of the vertical face of the screed extension. With regard to the shim, the important factors are 1) that the bottom edge of the Mounting Plate remains parallel to the edge of the screed trowel surface and 2) the bottom edge of the Mounting Plate is approximately level with the top of the screed compaction edge which usually tapers up and is above the trowel level on most screeds.

**Step 3. Position Mounting Plate.** Place the Mounting Plate on the 3/4" shim with the Coupling Yokes at the top of the Mounting Plate. Next, slide the Mounting Plate horizontally along the shim until the outside edge of the Plate is 1/4" from the end gate.

**Step 4. Mark Holes.** There are two horizontal Mounting Slots on the Mounting Plate. They are symmetrical in size and location. With the unit in position, carefully mark the center line of the two horizontal Mounting Slots then locate your two desired holes on this line and mark with a marker that is easy to see. We have provided slots as opposed to holes so that you may orient the hole you are drilling slightly left or right should there be "obstacles" on the back side of the Screed extension you wish to avoid. It is best staying away from any obstacles as you may be needing to apply a wrench to a nut at the site whenever attaching or removing the Ramp Champ form the paving machine.



Mounting Plate with Slots



Drilling Holes in Face of Screed Extension

**Step 5. Drilling Holes.** It is important that the holes be drilled are very close to where they were marked. Failure to drill in the proper location will result in the Ramp Champ II not being perpendicular to the screed forming surface which means that it may not be possible to achieve desired safety edge slope angles. In many cases the paving machine provides the operator easy access to the back side of the vertical screed extension face behind the Mounting Plate. In these cases we suggest simply drilling two holes as described in Step 5(a) below. In cases where the access is limited or difficult, we suggest following the procedure outlined in Step 5 (b).

**Step 5 (a). Easy Access to Back of Screed Extension.** Remove Mounting Plate from shim and set on the side. With a center punch or center tap, mark the center of the two holes to be drilled. Starting with a small pilot drill bit, drill a hole at each location. Next, drill two 1/2" holes – one for each of the two slots.

**Step 5 (b). Difficult Access to Back of Screed Extension.** Remove Mounting Plate from shim and set on the side. Remove and detach the vertical screed extension face from the paving machine and confirm that there are no “obstacles” immediately behind the marked holes where a nut will be welded on. If there is, move the mark either left or right along the line that will keep it centered in the horizontal Mounting Slots. With a center punch or center tap, mark the center of the two holes to be drilled. Starting with a small pilot drill bit, drill a hole at each location. Next, drill two 1/2" holes – one for each of the two slots. Two nuts now need to be welded onto the back side of the screed extension. Be sure that each nut is aligned to the hole so that a 1/2" bolt passing through the hole will be able to thread into the nut. Reattach the vertical face of the screed extension to the paving machine. Please use only experienced personnel to install these features.

Note: Some operators may wish tap holes directly in the vertical face instead of welding on two nuts. If you choose this method of tapping holes, please first make sure that the vertical face of the screed is sufficiently thick to accept such a tap for a 1/2" bolt.

## 5. UNIT ASSEMBLY

The Ramp Champ II as shipped needs to be assembled. We suggest using a work bench with ample space and wearing gloves so that your fingers do not get pinched by accident.

**Step 1. Attach Asphalt Shield to Hinge Assembly.** There are two shields included. The pictures in this section illustrate the attachment of the right hand Shield (used when the Ramp Champ II is attached to the right side of the paver). Attach the shield using the (3) flat head screws and nuts provided.

**Step 2. Attach Housing Pipe to Yoke.** Screw the Housing Pipe into the threaded yoke in the top of the Mounting Plate. Note: use the left yoke when mounting the Ramp Champ II on the right side of the paving machine.

**Step 3. Slide Spring and Washers onto ACME Rod.** Slide the compression spring with a washer on both ends onto the ACME Rod. The washers have small outside diameters so that they will fit inside the Housing Pipe.

**Step 4. Slide ACME Rod into Housing Pipe.** Slide the assembled spring and ACME Rod (square end first) up through the yoke and into the Housing Pipe until the square end protrudes through the hole in the top of the Housing Pipe.

**Step 5. Thread ACME Rod into Piston Pipe.** Thread the ACME Rod into the top of the Piston Pipe by turning the squared end of the rod that is protruding through the top of the Housing Pipe. You may wish to use the Hand Crank provided. Thread the Rod into the Piston Pipe approximately 3”.

**Step 6. Secure the Rod to the Housing Pipe.** Slide the Piston Pipe up into the Housing Pipe until you feel resistance from the compression Spring. Next, slide a washer (from the Mounting Hardware Pack) onto the Rod so that it is positioned above the Housing Pipe. There are two holes in the ACME Rod for cotter pins. The lower hole should be in view just slightly above the washer. Place a cotter pin through this hole. Note: if there is a gap between the washer and cotter pin, you may wish to add another washer or two to fill the gap.

**Step 7. Attach Hand Crank.** Slide the Hand Crank onto the square end of the Rod and attach the remaining cotter pin through the top hole to secure the Hand Crank in place.

**Step 8. Attach Shoe to Bottom Plate.** Use the (4) flat head screws, lock washers and nuts to attach the shoe to the Bottom Plate.

**Step 9. Attach L Bolt to Shield.** Slide the L Bolt between the middle pins on the lower right hand corner of the base plate and through the lower of the two hexagonal couplings on the Shield. You may need to lower or raise the unit by turning the Hand Crank in order for the L Bolt to slide through the coupling. Secure the L Bolt in place using the cotter pin supplied. Note: the middle pin setting used here is recommended for a 3” to 4” edge drop-off. See section 6 for a detailed description of pin settings and edge drop-offs.

The unit is now fully assembled and ready to be mounted the paver’s screed using the Mounting Hardware and the holes that were drilled in Section 4.

The Ramp Champ II as assembled in this section is oriented for paving on the right side of the paving machine. This will create a safety edge on the road shoulder when paving in the direction of traffic. If you are interested creating a safety edge with the Ramp Champ on the other side of the paving machine, our unit can be flipped around. Simply reverse the assembly steps above and use the left side Asphalt Shield instead of the right.



Assembled Full View



Assembled Showing Detail of L Bolt Pins

## 6. CREATING A SAFETY EDGE WITH THE RAMP CHAMP II

### ATTACHING THE UNIT TO THE PAVING MACHINE

**Step 1: Setting the lift height.** When the paving machine reaches the site, set the paver into position for paving and set the screed height to match the desired lift height.

**Step 2: Setting the edge drop-off height.** Prior to paving, it is necessary to estimate the vertical edge drop-off that will be covered by the 30° safety edge. There is a choice of three settings on the Ramp Champ II:

- 2" to 3"
- 3" to 4" or
- 4" to 5"

If you happen to choose a setting that is greater/deeper than you need, the edge you create may be flatter than the desired 30°. If you choose a setting that is less than you need, the edge will have a 30° slope, but it will “fall-off” at the end and not reach the full depth of the edge drop-off.

The L Bolt pin positioning controls the drop-off setting. When the L Bolt is positioned between the two top pins on the Mounting Plate the edge drop-off is 2" to 3". The middle pins yield a 3" to 4" drop-off, and the bottom pins yield a 4" to 5" drop-off.

The L Bolt is designed to pass between the desired pins and then slide through the lower of the two hexagonal tubes. There is a hole in the L Bolt for a cotter pin to hold it in place. Note: the upper of the two hexagonal tubes is used when creating a center lane joint.

The Ramp Champ II will cover an edge drop-off of 5". If you intend to put down more than one lift or layer of asphalt, we suggest that you use the Ramp Champ II only when applying the final lift. This will avoid the difficult problem of trying to align consecutive lifts on top of each other.

We also suggest that when performing an overlay of say 1½", do not attempt to create a 30° safety edge of only 1½" to just cover the asphalt being laid. The compression forming an edge this small is not very good and the structural integrity may be less than desired. A quality edge can be created by extending the width of the new pavement beyond that of the existing pavement so that the safety edge not only covers the new 1½" lift, but also the edge drop-off from the existing road. This is likely to mean a 3" to 5" vertical drop-off and a quality edge will be formed.

### **Step 3: Attaching the Unit to the Paver's Screed**

Prior to bolting the unit onto the screed, crank the handle on the ACME Rod clockwise which will raise the shoe relative to the mounting plate and flatten the angle. Continue turning the handle until the shoe angle is relatively flat and the unit cannot travel any more. **Do not over turn or force the rod.** The Ramp Champ II can now be bolted onto the screed using the hardware provided and the holes that were previously drilled. When positioning the Ramp Champ II, leave a gap of approximately ¼" between the end gate and the unit. We recommend this gap so as to prevent binding.



**Shoe in Raised Position**



**Unit Attached to Screed Extension  
with Gap between End Gate**

#### **Step 4: Adjusting the Shoe Height and Spring Compression.**

Once bolted on, turn the Hand Crank counter clockwise until the bottom edge of the shoe makes contact with the ground. Continue turning the Hand Crank an additional 5 turns. These extra turns are compressing the spring which in turn will help to keep the shoe steady and increase compaction while paving.

The unit is now set for paving. You may find that the first 5 to 10 yards of paving the edge is a little rough. This is because the shoe has not yet “warmed up” to operating temperature. The edge will become smooth after a short paving stretch.

#### **OPERATING IN THE FIELD AND MAKING ADJUSTMENTS**

Once the paving operation is under way the Ramp Champ II requires little attention. It will automatically ride up and flatten out as you pave past a driveway or side street. It will then return to its original setting as the side street is passed.

The Ramp Champ has been professionally designed and constructed to create a tapered safety edge slope of up to 30° at the road shoulder. The slope can be adjusted in the field and set as desired by the operator. Please note that this slope angle is measured relative to the pavement mat which is normally different from true horizontal. Our company recognizes that no two road paving field conditions are identical and that various factors can create results that differ from the desired 30° target. Thus the value of being able to adjust the slope angle can be of great value in achieving the desired target. Listed below are some

circumstances that you may run across and suggested corrective actions to achieve the desired results.

**Tapered Edge Slope is too Flat.** Should you find that the edge is less than a 30° slope first try increasing the spring pressure by turning the Hand Crank counter-clockwise. This will force the shoe's bottom edge against the pavement/shoulder and then apply additional pressure to keep the shoe from "floating up" or flattening out.

It is also possible that the L Bolt has been set between the incorrect pins. Check the vertical depth of the safety edge. If you find it is less than the L Bolt setting, it will result in a flatter edge. In this case you will need to stop the paving operation and move the L Bolt to a higher pin setting as described earlier in this section.

**Tapered Edge Slope is too Great.** 30° (relative to the pavement mat) is the maximum slope that should be created as our unit is designed. Measure the slope angle before the roller goes by to help identify the source of the issue. If the initial angle is over 30°, it is possible that the unit has been attached/bolted on to the screed at an angle that is not parallel to the screed forming surface.

It is also possible that the unit is producing a 30° edge, but as the roller goes by it is pushing the top of the edge out and creating a steeper angle. This may happen with some asphalt mixes and higher temperatures. We suggest first rolling the new mat 8" to 12" from the edge before rolling close to it. If that does not work, try making the first pass of the roller as close to the edge as possible.

If altering the roller pattern does not work, it is also possible to flatten the edge. Instead of starting with a 30° edge, start with a somewhat flatter edge (say 25°) so that when the roller goes by it will push out this edge to the desired 30°. To accomplish this procedure, first turn the Hand Crank clockwise (which will raise and flatten the shoe). This may be all you need to do, but if the edge is no longer deep enough you will need to drop the L Bolt down to a lower pin setting. This will require you to stop paving and follow the procedure previously outlined to set the L Bolt position.

**Safety Edge Does Not Cover the Full Edge Drop-Off.** In some instances you may find that the slope is 30° but there is a "fall-off" at the outer most edge of the safety edge and that the compression of asphalt material does not appear very good at this edge. In this case, the shoe is probably set too high relative to the shoulder and needs to be lowered slightly by turning the Hand Crank counter clockwise. If this does not lower the shoe you will need to stop paving and change the L Bolt setting to a lower pin level as described earlier.

**Edge is Rough and Pebbly.** This may occur when the unit has not had sufficient time to "heat up" to the ambient asphalt temperature. In this event see if the surface improves after a few more minutes of paving.

The issue may also be lack compression pressure on the shoe. Try turning the Hand Crank counter clockwise 4 or 5 turns.

**Edge is Cracking Over Time.** The structural integrity of the edge created by the Ramp Champ II is only as good as the underling shoulder base. The base needs to be compacted aggregate. If the underling base erodes, the edge above it will do so as well.

**Poor Compaction on a Small Lift.** It is very difficult to attain good compaction on a lift less than 2. We suggest extending the end gate beyond the desired lane width by several inches so that the edge will now cover the drop-off from the original road. The new edge drop-off will now likely be 3” to 5” and a quality edge can be formed.

**Excess Asphalt is Piling up Along Side the Safety Edge.** In order for the Ramp Champ to work properly, the end gate should be riding directly on the surface of the shoulder being paved at all times. Most end gates have a tension rod or compression spring mechanism which can be adjusted to keep enough downward pressure on the end gate 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 Ramp Champ to achieve proper consolidation.

**The angle of the paved surface is tearing.** This may be due to the temperature of the mix; mixes that are too cool may cause the material to tear. The composition of the mix may be at fault as well; mixes that are too dry may cause tears in the surface.

**The Screws are stuck or seems too difficult to turn.** First clean off all threads using your normal asphalt cleaning process. If the difficulty still exists, the screw may have been damaged or bent and may need to be replaced. We believe this is not likely to happen although, should it occur we will be able to supply you with replacement parts.

**WARNING! DO NOT ROLL THE EDGE.** Attempting to roll the tapered edge is likely result in damage or distortion of the edge. It is not necessary to roll the edge as the Ramp Champ’s patent pending radial compaction pressure creates a very strong and viable edge.

**WARNING! DO NOT DRAW THE SCREED EXTENSION TOO CLOSE TO THE MAIN SCREED.** During paving, the Ramp Champ could be exposed to contact with the cross feed auger and auger shaft in some models of paving machines when the screed extension is drawn in too close to the main screed. Please check if this is the case with your machine. Severe damage can occur to both the cross feed auger and the Ramp Champ if they come in contact.

**WARNING! RAISE THE BOX TO ITS UPPER MOST POSITION BEFORE MOVING OR TRANSPORTING THE PAVER.** When paving is completed in a given direction and the paver is to be moved to a new position, the Ramp Champ should be raised to its uppermost position.

For assistance during preparation, installation and use of the Ramp Champ

- call Technical Support at 1-814-422-3343 (EDGE) or
- e-mail us at [sales@advantedgepaving.com](mailto:sales@advantedgepaving.com)

## 7. REVERSING THE RAMP CHAMP II

At times it will be advantageous to create either the tapered safety edge or the center lane on the opposite side of the paving machine. For safety edges this may occur when the operator is paving in the direction against traffic or when the safety edge is being created on the shoulder of the median of the road. In either case the Ramp Champ II is reversible and can be used on either side of the paving machine. In order to switch sides disassemble the unit as described in Section 4 and reassemble using the Asphalt Shield for the opposite side and placing the parts in the appropriate positions. This process should take 5 to minutes if the unit is cool and free of asphalt.



**Assembled for left side paving**

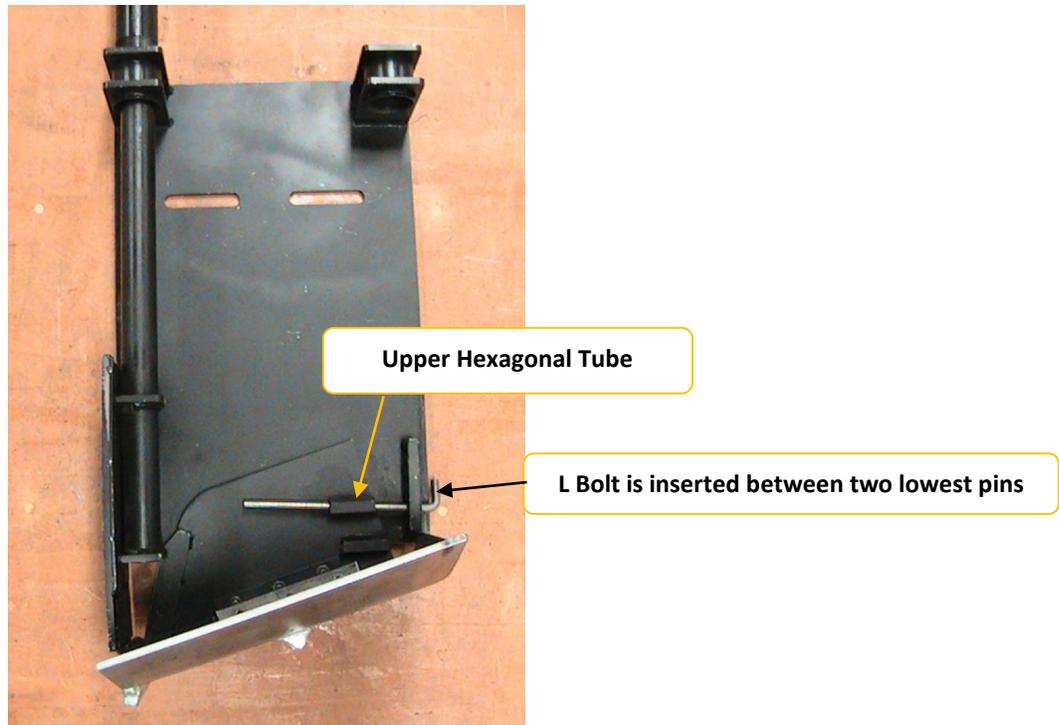


**Assembled for right side paving**

## 8. CREATING A CENTER LANE NOTCH JOINT WITH THE RAMP CHAMP II

The Center Lane Joint Shoe is designed to create a diagonally shaped notched sloped edge (sometimes referred to as a Michigan Notch Wedge Joint) while paving the initial lane of traffic. When the adjacent lane is later paved, our patented design helps to form a strong bond at the seam where the lanes meet.

Initial installation and assembly is identical to the Safety Edge described earlier with one exception. The L Bolt passes through the higher of the two hexagonal tubes when forming a Center Lane Joint. The lower tube is used for the Safety Edge. Also note the Safety Edge Shoe is reversible and can be used on either side of the paving machine. The Center Lane Joint Shoe must be specified left or right.



Ramp Champ with Center Lane Joint Shoe

**Step 1. Setting the L Bolt.** Prior to mounting the unit on the screed, set the L Bolt through the two lowest pins and then slide through the upper hexagonal tube. Then proceed as outlined in Section 6 for use of the Safety Edge Shoe. By setting the L Bolt at this maximum depth, it assures that the binding surface created will be 11" diagonally across with a notch in the center.

**Step 2. Setting Initial Height.** Once the unit is mounted on the paver, turn the Hand Crank counter clockwise (moving the unit down) as until the bottom edge of the shoe makes contact with the ground.

**Step 3. Final Height Adjustment.** When paving begins, continue turning the Hand Crank counter clockwise until the desired 1/2" notch is being formed at the top of the newly created asphalt mat.

The Ramp Champ is now set to create a center lane joint that should safely let traffic traverse from the old to new pavement within approximately one to two hours (once the pavement has set). It should also be creating a joint profile as pictured above.

If you intend to put down more than one lift or layer of asphalt in a timely succession, we suggest that you use the Ramp Champ only when applying the final lift.

## 9. MAINTENANCE

We suggest that you care for your Ramp Champ in a manner similar to all other paving machine accessories. The unit should be cleaned daily after use with your usual asphalt cleaning solutions. We recommend those that are environmentally safe. Additionally, the Ramp Champ should be stored in a dry location. Constant exposure to rain and weather conditions may affect its performance.

## 10. WARRANTY

**EXPRESS LIMITED WARRANTY.** Advant-Edge Paving Equipment, LLC warrants to the original purchaser only (Buyer) and subject to the limitations, terms and conditions and exclusions set forth herein: the Ramp Champ II unit(s) are warranted only against failure due to defective material or workmanship for the period of one (1) year from the date of delivery.

**THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, AND ALL OTHER LIABILITIES (CONTRACT, TORT OR OTHERWISE, INCLUDING NEGLIGENCE) AND ADVANT-EDGE PAVING EQUIPMENT, LLC MAKES NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PARTICULAR PURPOSE. THIS WARRANTY WILL AUTOMATICALLY TERMINATE AND BECOME VOID UPON THE SALE, TRANSFER OR CONVEYANCE OF THE RAMP CHAMP II UNIT(S) OR MACHINE, MACHINE ATTACHMENT OR PROPERTY ON WHICH THE RAMP CHAMP UNIT(S) ARE INSTALLED AND OPERATED.**

**ADVANT-EDGE PAVING EQUIPMENT, LLC DOES NOT MAKE ANY WARRANTY OR ASSUME ANY OBLIGATION WITH RESPECT TO THE VALIDITY OF ANY PATENTS, DESIGNS, COPYRIGHTS OR TRADEMARKS WHICH MAY COVER SUCH RAMP CHAMP II UNIT. THE CONDITIONING OF LIABILITY, RIGHTS, OBLIGATIONS AND REMEDIES OF THE BUYER RELATING TO CLAIMS ARISING FROM A DEFECTIVE RAMP CHAMP II UNIT(S) SHALL BE GOVERNED EXCLUSIVELY BY THE TERMS OF THIS SECTION 11 HEREOF.**

This EXPRESSED LIMITED WARRANTY does NOT apply where there has failure of the Ramp Champ II unit(s) due to improper use; breakage not due to defect, including, but not limited to, natural forces and/or acts of God; failure on account of faulty or improper installation or handling; where repairs or modifications have been made or attempted by others; or failure on account of installation in or on a product of faulty design or construction. As an example, this EXPRESS LIMITED WARRANTY will NOT apply if an object of any kind is attached to Ramp Champ II unit without the prior written consent of Advant-Edge Paving Equipment, LLC. Sales representatives of Advant-Edge Paving Equipment, LLC are not

authorized to make warranties about the Ramp Champ II unit. Advant-Edge Paving Equipment, LLC sales representatives' ORAL STATEMENTS DO NOT CONSTITUTE WARRANTIES, shall not be relied upon by Buyer, and are not part of the contract for sale.

If Buyer believes it has purchased a defective Ramp Champ II unit(s) as described above, Buyer must notify Advant-Edge Paving Equipment, LLC immediately in writing why Buyer believes the Ramp Champ II unit(s) are defective. Advant-Edge Paving Equipment, LLC may then request the Buyer to return the allegedly defective Ramp Champ II unit(s) to Advant-Edge Paving Equipment, LLC; have an Advant-Edge Paving Equipment, LLC representative inspect the unit(s) at the job site, as installed, or at Advant-Edge Paving Equipment, LLC's address; and/or rely upon the information Buyer has provided to determine whether the unit(s) are defective as described above. If any unit(s) are proven to be defective as described above, then Advant-Edge Paving Equipment, LLC will, at Advant-Edge Paving Equipment, LLC's sole discretion, either repair or replace the defective unit(s) or issue to Buyer a credit equal to the price of the defective unit(s) charged by Advant-Edge Paving Equipment, LLC to Buyer. Said repair or replacement of defective unit(s) or issuance of credit shall constitute fulfillment of all liabilities of Advant-Edge Paving Equipment, LLC to Buyer with respect to, or arising out of, the unit(s), whether based on contract, negligence, strict tort or otherwise. Advant-Edge Paving Equipment, LLC reserves the right to change design, color, models and to discontinue the manufacture of any unit(s).

**LIMITATION OF LIABILITY.** Advant-Edge Paving Equipment, LLC shall not under any circumstances be liable for incidental damages or for special or consequential damages. The remedies of Buyer set forth herein are exclusive, and the liability of Advant-Edge Paving Equipment, LLC with respect to any contract or anything done in connection therewith such as the performance or breach thereof, or from the manufacture, sale, delivery, resale, installation or use of any Ramp Champ II unit(s) covered by or furnished to Buyer, whether arising out of contract, negligence, strict tort, or under any warranty or otherwise, shall not, except as expressly provided herein, exceed the price of the unit(s) upon which such liability is based. This limitation of liability applies to original and replacement unit(s).

**CONTROLLING LAW.** The sale, delivery and use of Ramp Champ II unit(s) shall be governed by, and this warranty shall be construed and enforced in accordance with, the laws of State of New York.

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