



## Twelve Steps to Perfect Paving



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# The Twelve Steps to Perfect Paving

## 1.) Heat the screed

- Screed heat is essential to a quality mat. The heat applied to the screed keeps the fresh asphalt from sticking to the screed when contact is first made.
- For machines with propane fueled burners, use the lighting torch supplied with the machine. DO NOT try to light the individual burners with a cigarette lighter. DO NOT let burners run for more than 20 minutes at a time. Too much heat can warp the screed plates. Once the burners have been turned off, wait 30 minutes to relight.
- For machines with an electric screed, start the engine and let it idle for several minutes in order to ensure proper hydraulic oil temperature. Turn the generator switch to the ON position and push the RED button to begin heating the screed. The electric screed has a timer which will automatically turn the heating elements off after 15 minutes.

## 2.) Center the tow points

- With the screed in the up position, center both tow points.
- For machines with the sliding gauge, set the pointer at zero.
- For other machines without the gauge, extend the tow points out completely until the hydraulic ram has reached its maximum stroke. Use a tape measure to find the exact length of the ram, and divide that number by two, and you have the center of your tow point.
- Example: For a hydraulic ram that is 7 ½ inches long, the center of the tow point would be 3 ¾ inches.

- 3.) Set the paving width
  - With the screed still raised, move the extensions out to the desired paving width.
  - Try to balance the width of the extensions so that the forces against each extension are equal. For example, if you need of total of 3 feet of extension, move the left and right extension out to an equal amount – 1 foot 6 inches on both sides.
- 4.) Set main screed crown to job specifications
  - Use the crown adjustment on the screed to add a positive or negative crown to the screed, depending on what is needed.
- 5.) Set extension slopes if needed
  - If there is no extension slope needed, be sure that extensions are level with the main screed and proceed to the next step.
- 6.) Lower the screed onto the starting reference. Make sure screed switch/lever is in float.
  - Select proper starter boards whose thickness matches that of the mat depth and rate of compaction. Most mats will typically compact  $\frac{1}{4}$  of an inch for every inch of thickness. For example, to get a 2 in mat, use starter boards that are 2  $\frac{1}{2}$  inches thick.
  - ALWAYS be sure that screed switch/lever is in the float position before starting to pave. If the switch/lever is not in float when paving begins, damage to the mat WILL occur.
- 7.) Move the machine forward to remove slack in the tow points
  - There will be a little bit of slack in the screed once you set it down on the starter boards. Pull the machine forward 2 to 3 feet in order to remove any slack from the screed.
  - This will help when trying to null the screed in the next step.

- 8.) Null screed by turning depth screws until loose
  - Turn depth screws until there is no resistance felt in the handle. This is the “null” position.
  - This will ensure that the entire weight of the screed is supported on the starter reference.
  - You may have to go back and forth between each depth screw to be sure the screed is completely null. This may take 2 or 3 times.
- 9.) Lower end gates to contact grade
  - End gates keep the material at the proper width. The end gate will somewhat “float” on the grade in order to keep material from spilling out from underneath the end gate.
- 10.) Set the position of the sonic feeders
  - Be sure to keep the “eye” of the sonic sensor clean and free of debris. If it becomes dirty, take a dry, soft cloth and wipe the eye clean. Do not use any type of abrasive material or solvent to clean the eye. This WILL damage the eye.
- 11.) Manually fill auger chamber in front of screed until it is ½ full of asphalt. Using a shovel, hand fill area between last auger and end gate. Place all feeder controls in Automatic position(where applicable)
  - Using the auger and conveyor switches/levers, alternately convey and auger material into the auger chamber and out to the ends of the augers
  - The goal is to fill the auger chambers evenly on both sides. Use one conveyor switch/lever at a time to move material out until it just touches the auger shaft.

- Then use the auger switch/lever to move the material out to the end of the screed. The correct head of material is one that covers ½ of the augers.
- Be sure not to overfill the auger chamber as this will cause a bump when starting off of the transverse joint.
- If extensions have been extended, DO NOT try to use the augers to push material out to the end gate. This will make the head of material too large in front of the main screed, resulting in a bump. Use a shovel to hand fill the area between the auger and the end gate.

#### 12.) Taking Off.

- Set engine speed to high idle
- Release parking brake
- Set automatic switches in the AUTO position
- Take off smooth and steady until desired paving speed is reached. Once paving has started, screed persons need to check material height at outboard of end gate.
- Adjust mix height controls to maintain a level at ½ auger.

One of the most important fundamentals of smooth paving is maintaining a consistent paving speed. You can set up the paver to pave at any speed that matches the delivery of material to the job site. The important thing to remember is to keep the speed constant. If the paving speed is changed drastically, the screed will either rise or fall and the smoothness of the mat will suffer greatly. Also, if the paver speed changes, then demands on the feeder system will also change. Speeding the paver up will require the feeder system to speed up as well, and vice versa for slowing the paver down. For quality paving results, always follow the basic fundamentals of paver set-up and keep the operation CONSISTENT!!!