ROADTEC®
an Astec Industries Company

Screeds and Applications

Dave Bussard

Screeds

Carlson EZIV

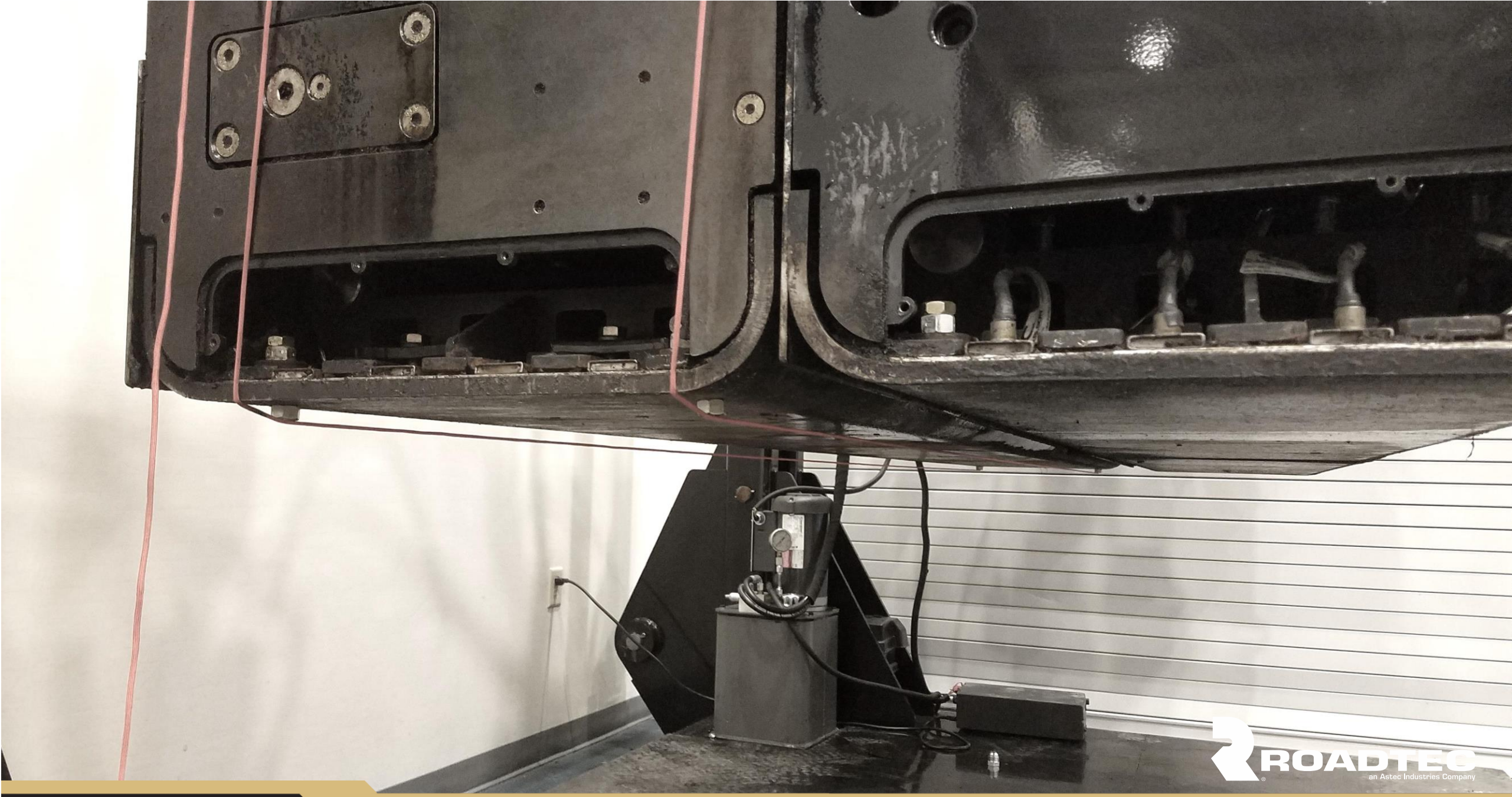
8 Ft Model 8-15
10 Ft Model 10-19

Eagle

8 Ft Model 8-15.6
10 Ft Model 10-19.6

ROADTEC
an Astec Industries Company

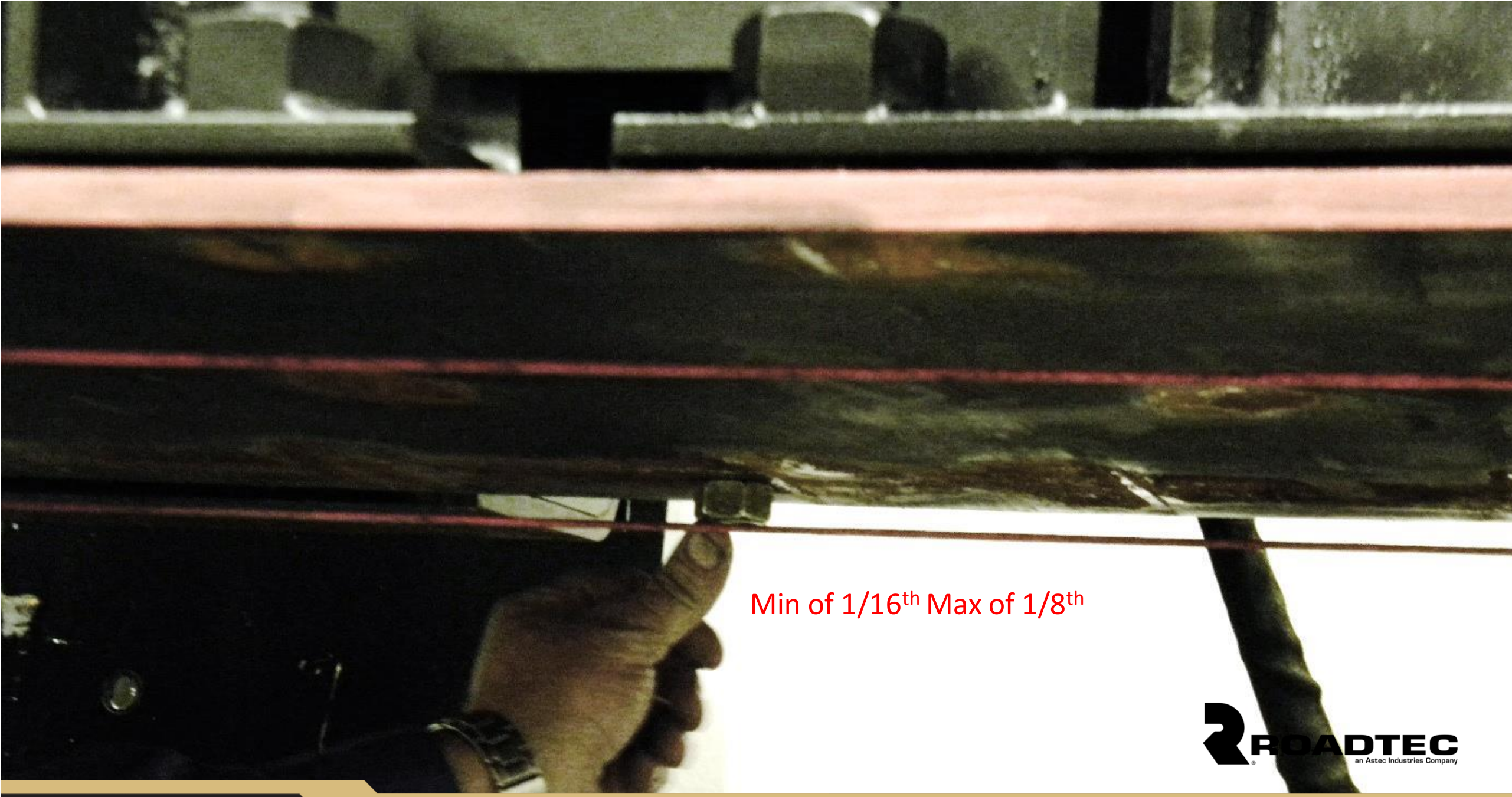
ASTEC INDUSTRIES



ROADTEC
an Astec Industries Company

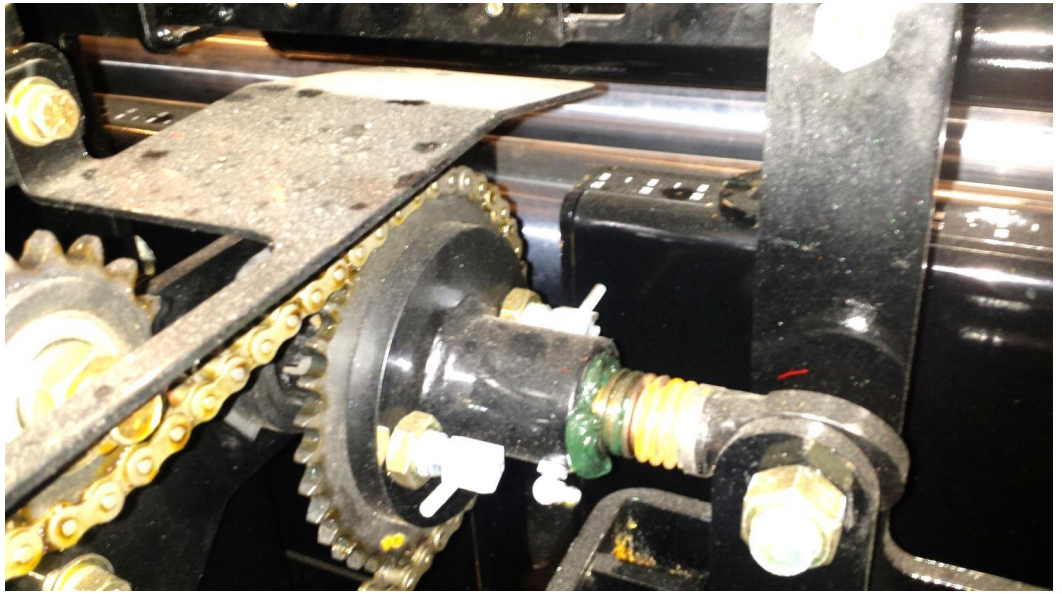
ASTEC INDUSTRIES


ROADTEC
an Astec Industries Company

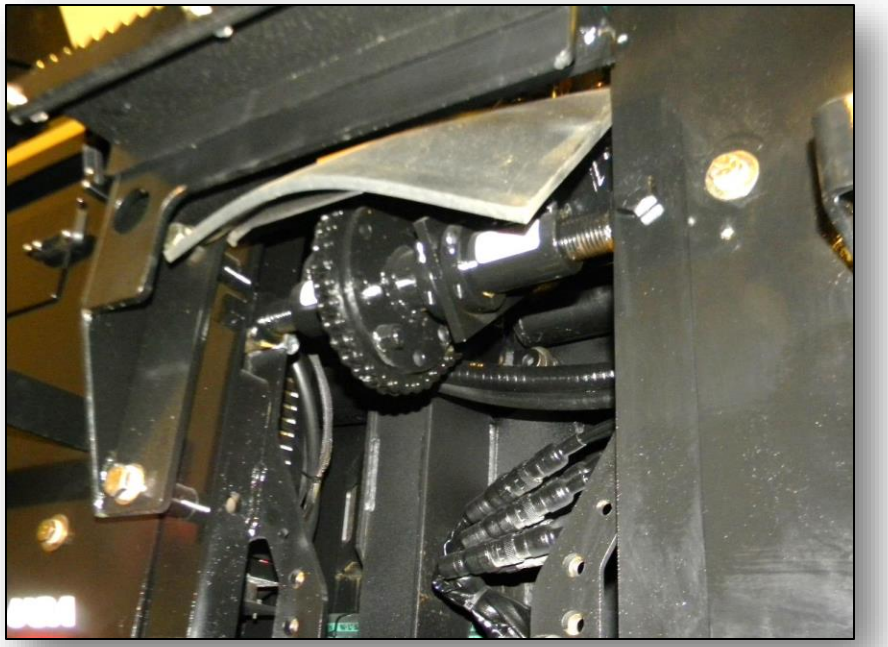


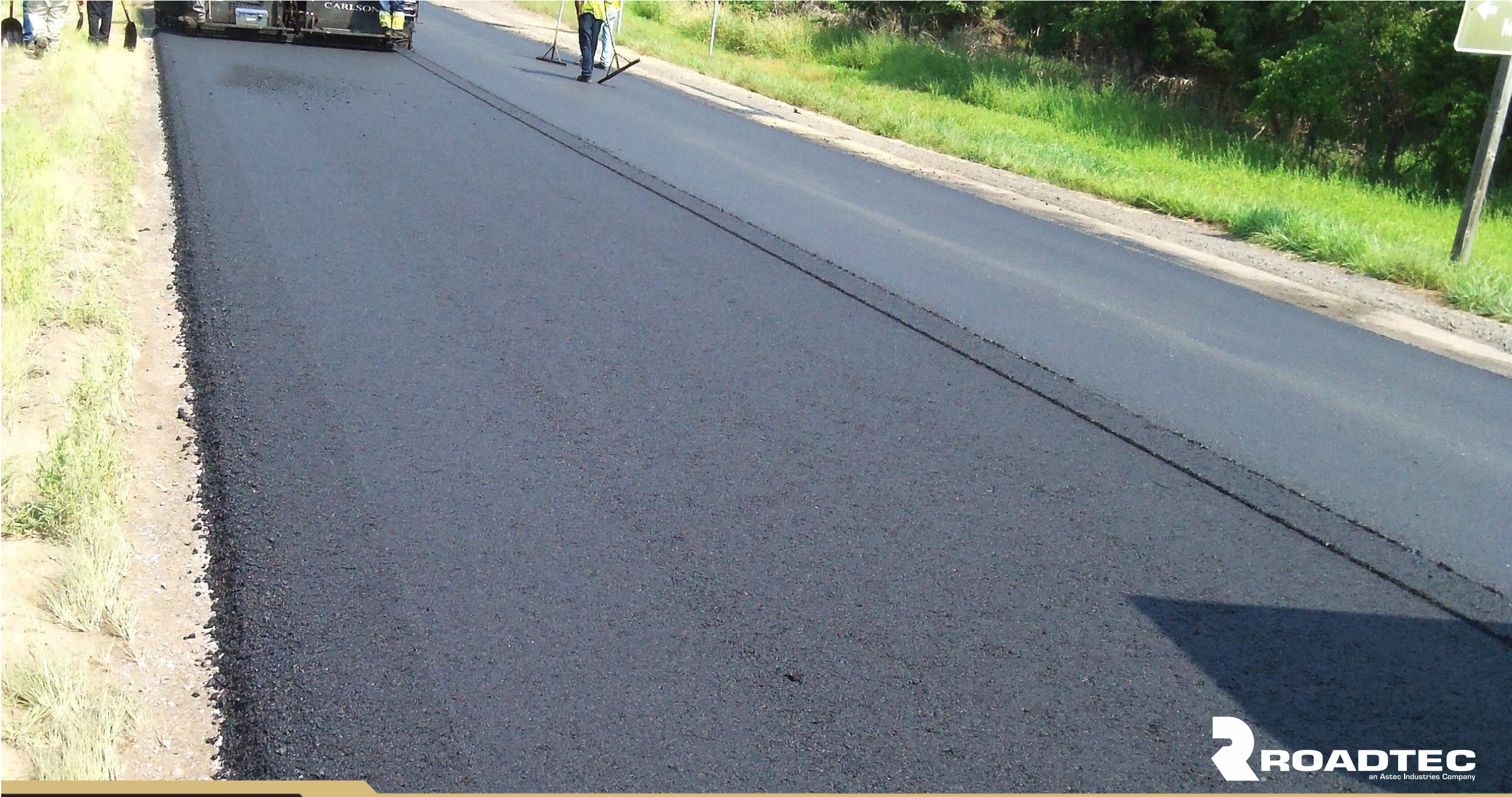
ROADTEC
an Astec Industries Company

Eagle



Carlson





ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES

Pre-Strike Offs on Screed

Q. What happens when the pre-strike off is not adjusted correctly?

- It will change the angle of attack of the screed.
- If one pre-strike off is higher than the other, the angle of attack on of the screed is going to follow.
- This can also cause premature wear to the screed plate.
- Pre-strikes are adjusted to ½" above the main screed.
- The only time you should have to adjust pre-strike off is when you are paving with aggregate size of 1"or below.

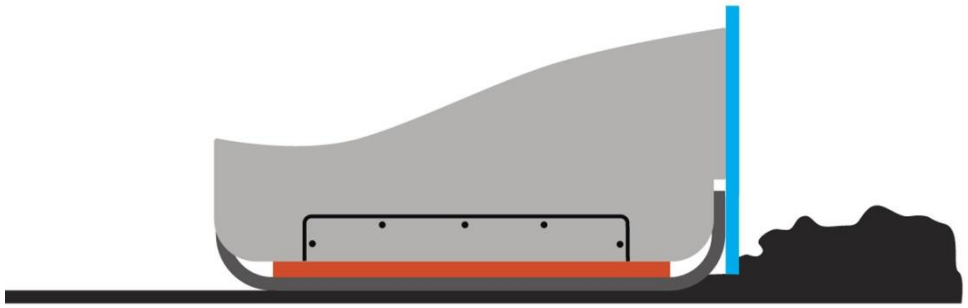
ROADTEC
an Astec Industries Company

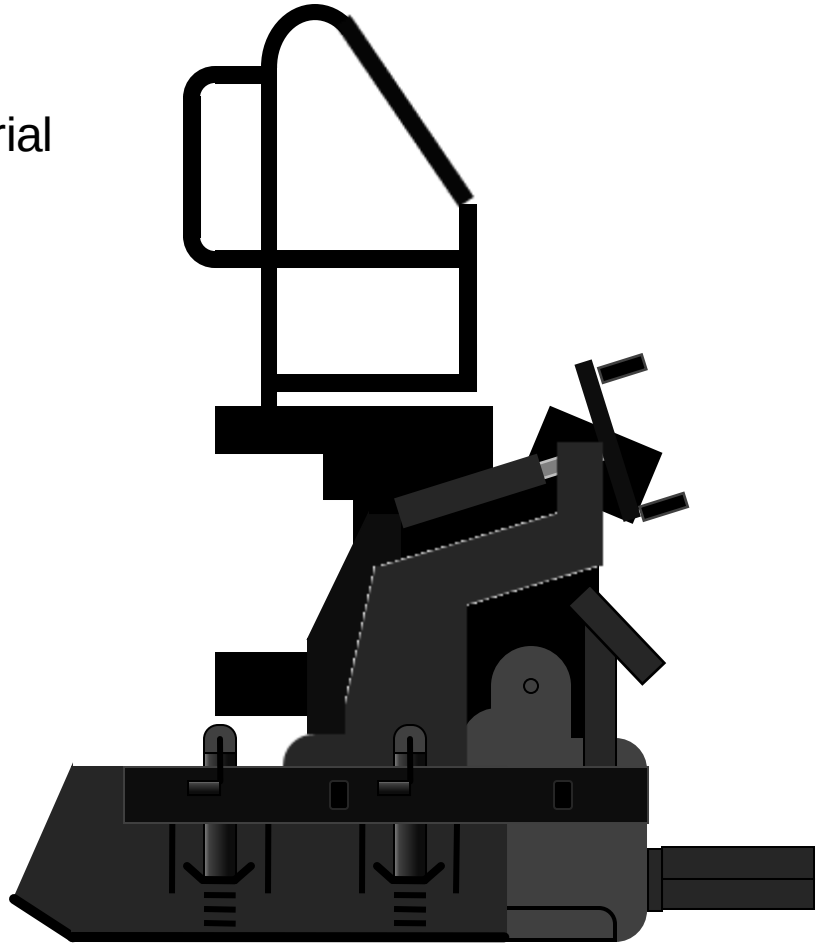
Pre-Strike Off

The pre-strike off meters the flow of material under the screed.

Its adjustment directly affects the balance angle of attack.

Approximately ½ inch above the screed bottom.

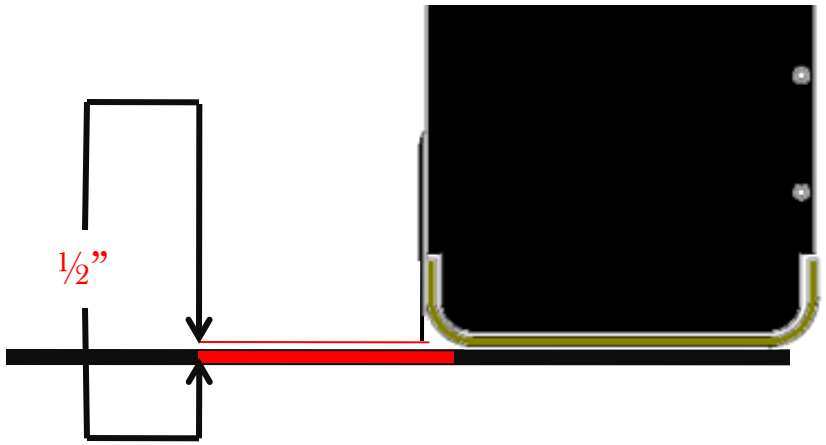


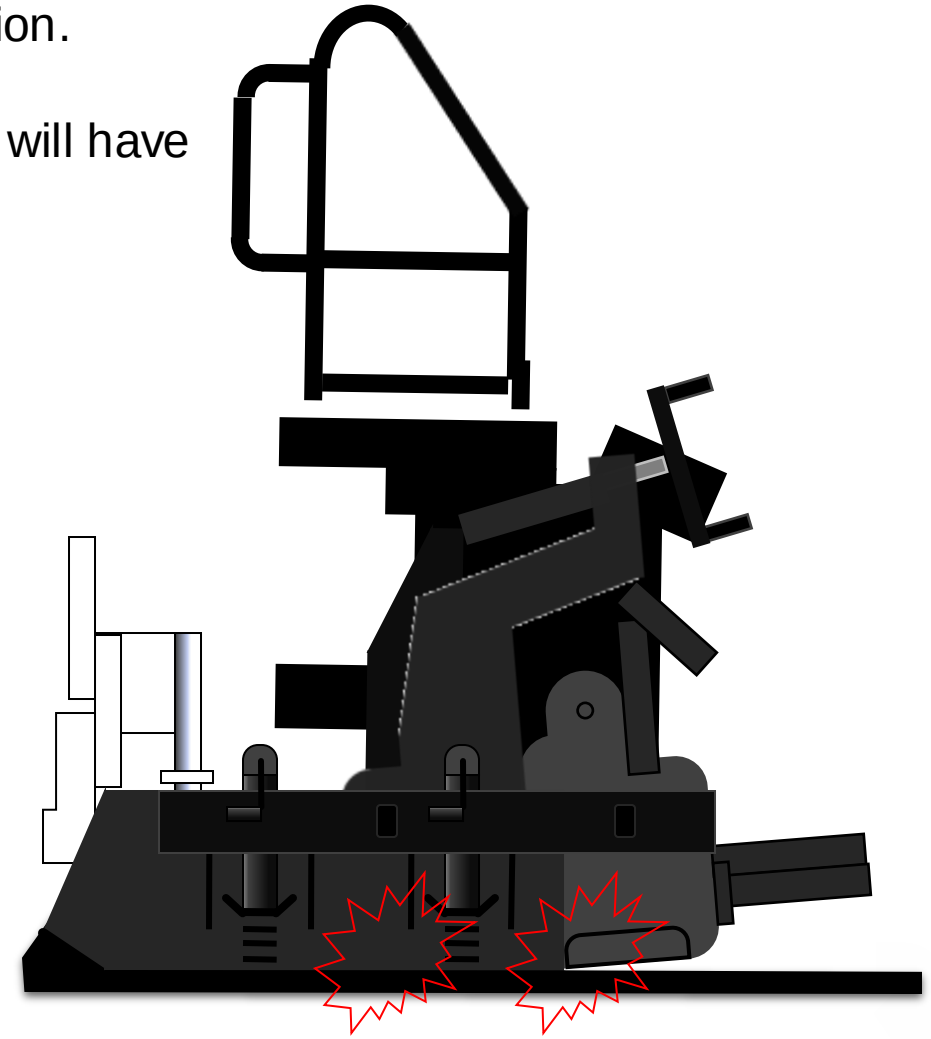


Pre-Strike Off

The force of the head of material against the strike-off will try to roll the screed in a particular direction.

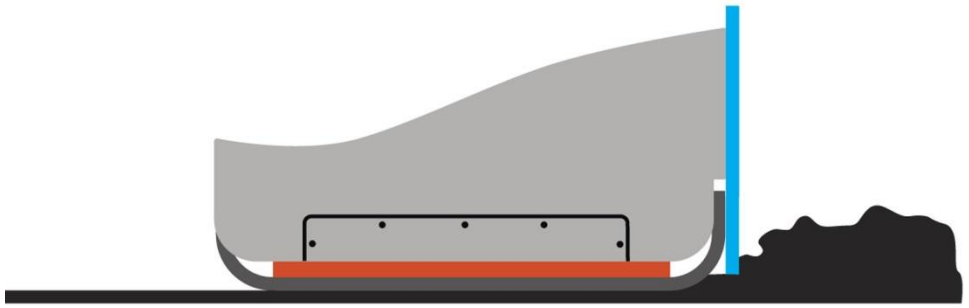
With a strike-off that is adjusted too low, you will have a screed that will ride on its nose.

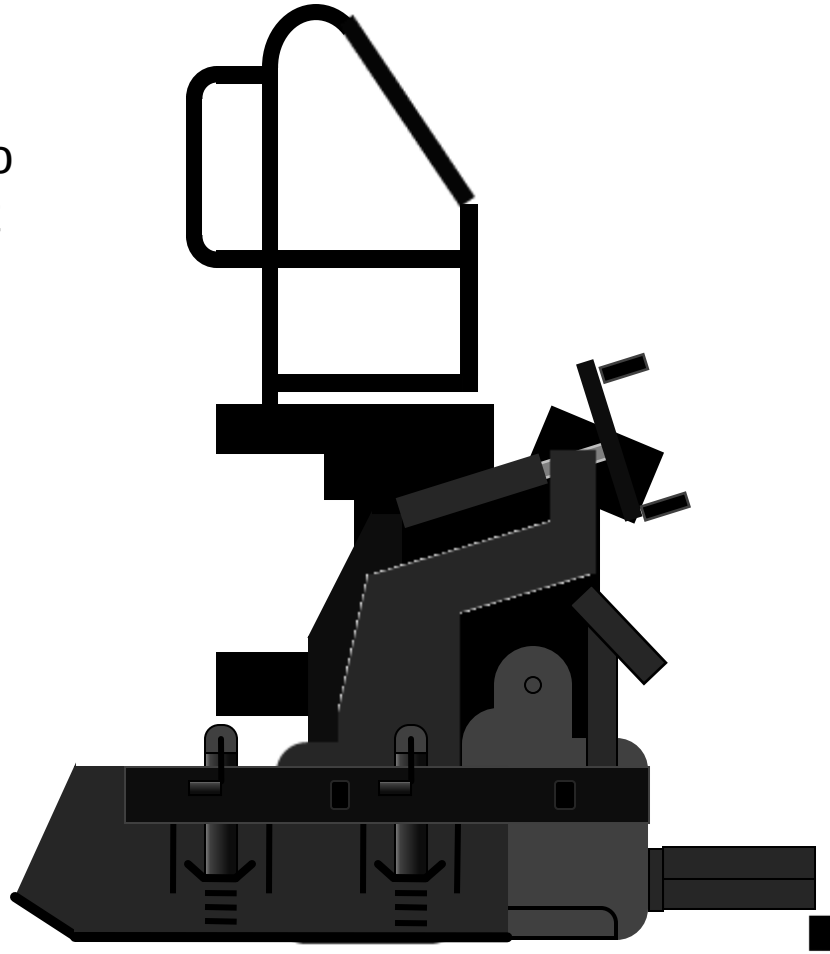




Pre-Strike Off

Due to the number of mix designs, it may be necessary to adjust the pre- strike off plates to force the screed to ride correctly over the mat being laid.





Screed Heat

- Screed heat is one of the most common reasons why we overcorrect our adjustments.
- When the screed plate is cold, the screed wants to ride on its nose.
- When the screed plate is hot, it will ride ¼” higher in the front if the head of material is consistent. Any time the main screed is riding on its nose, the extension must come up.
- If the screed is riding high, the extensions must come down.
- Keep in mind that with front mounted extensions, whatever the main screed does the extensions have to follow.
- Most of the time you can tell by marks in mat what has to be done.

With a hot screed you will have less adjustments!

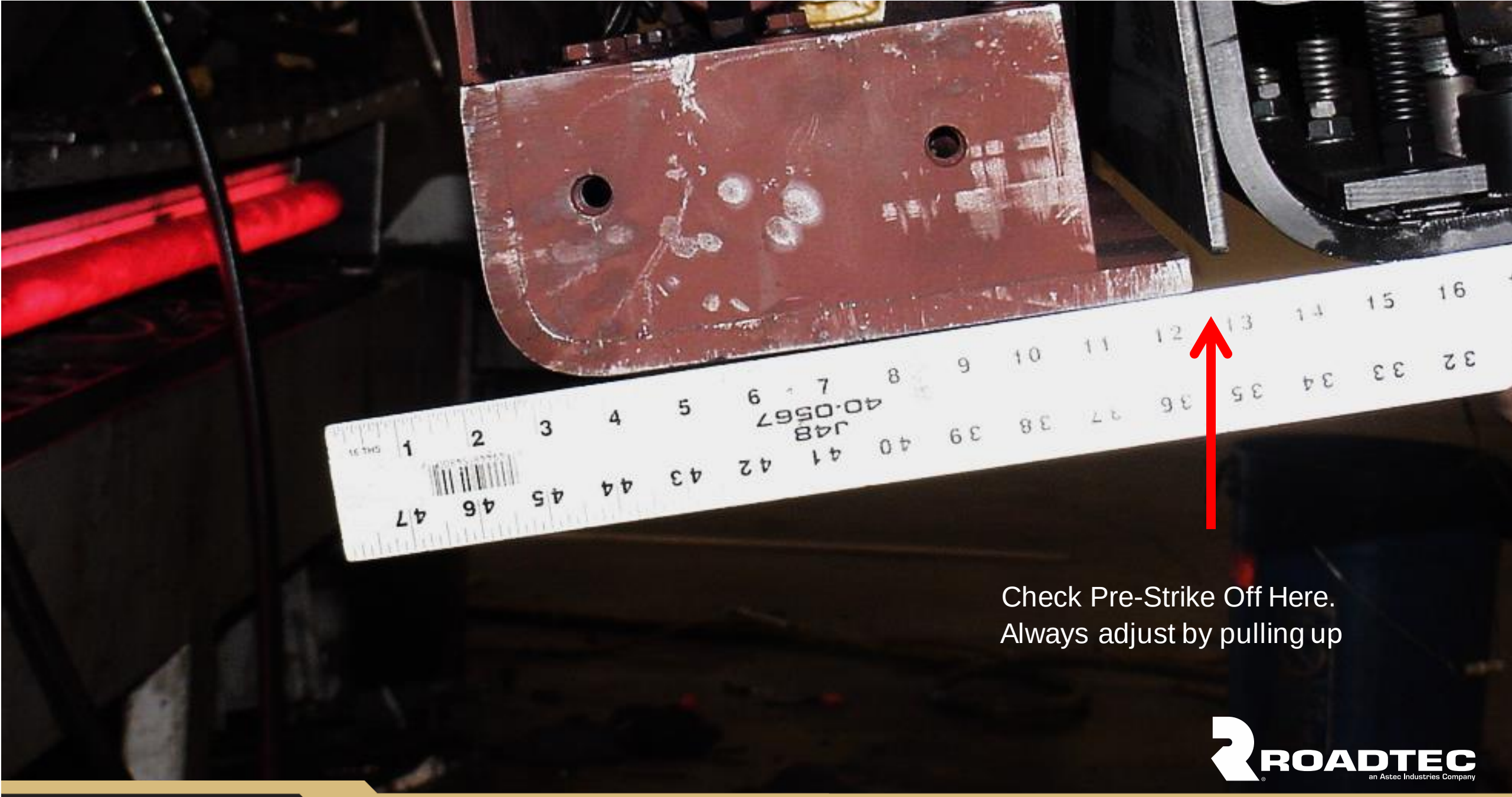
ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES

Carlson Front Mounted Screeds

Front mounted screeds have the extensions mounted to the front of the main screed.

ROADTEC
an Astec Industries Company

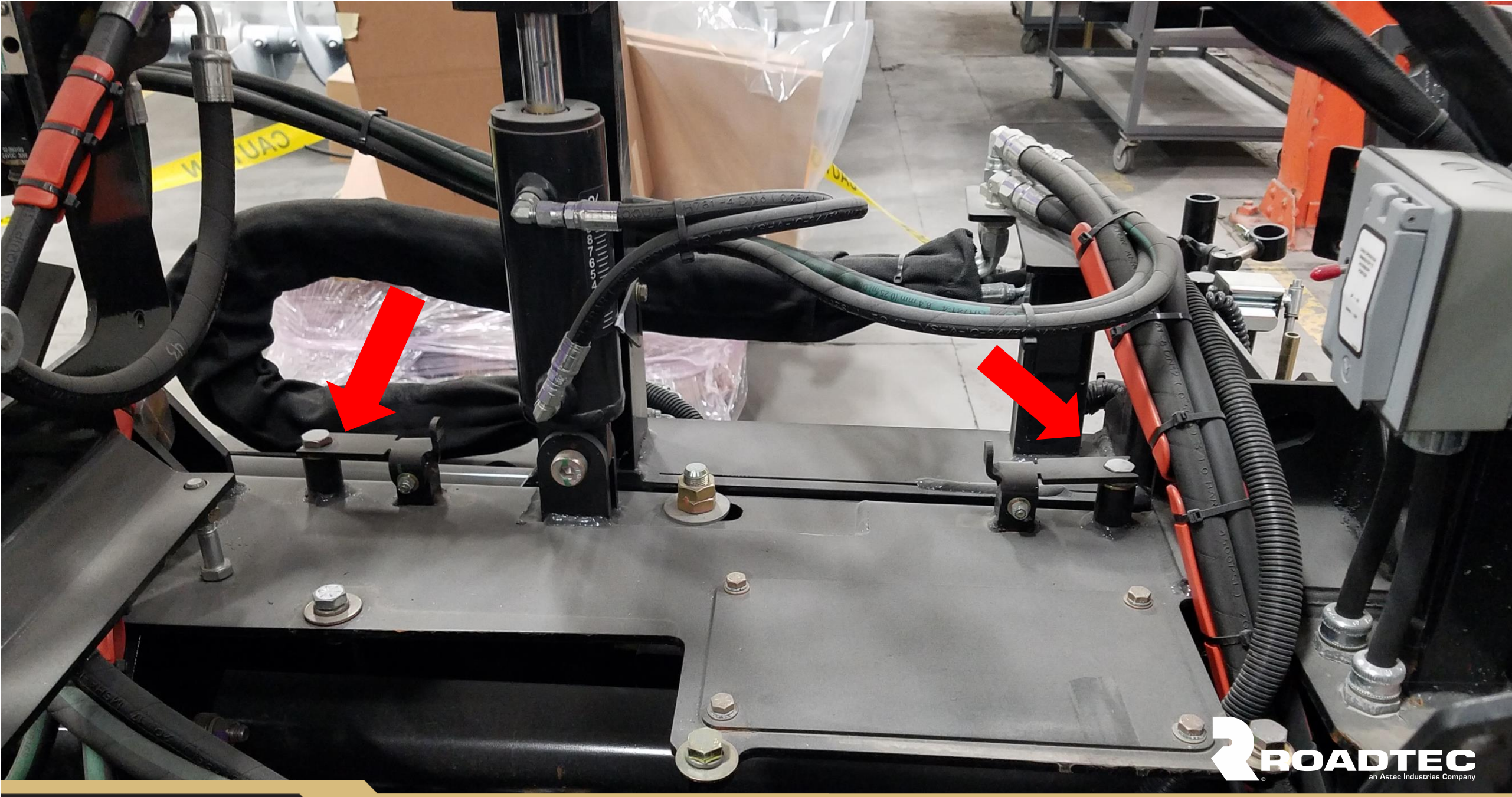


ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES

ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES



ROADTEC
an Astec Industries Company

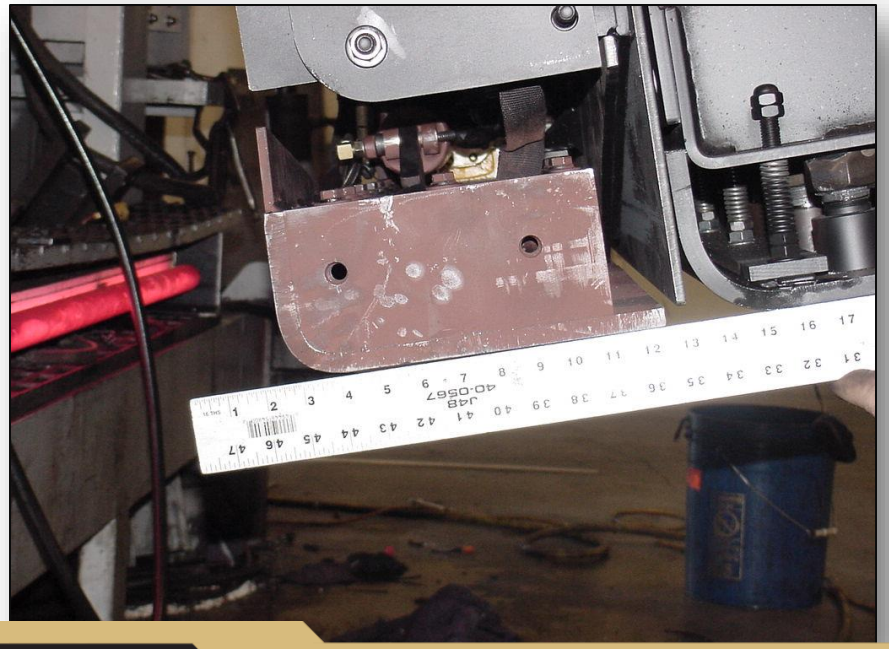
ASTEC INDUSTRIES

ROADTEC
an Astec Industries Company

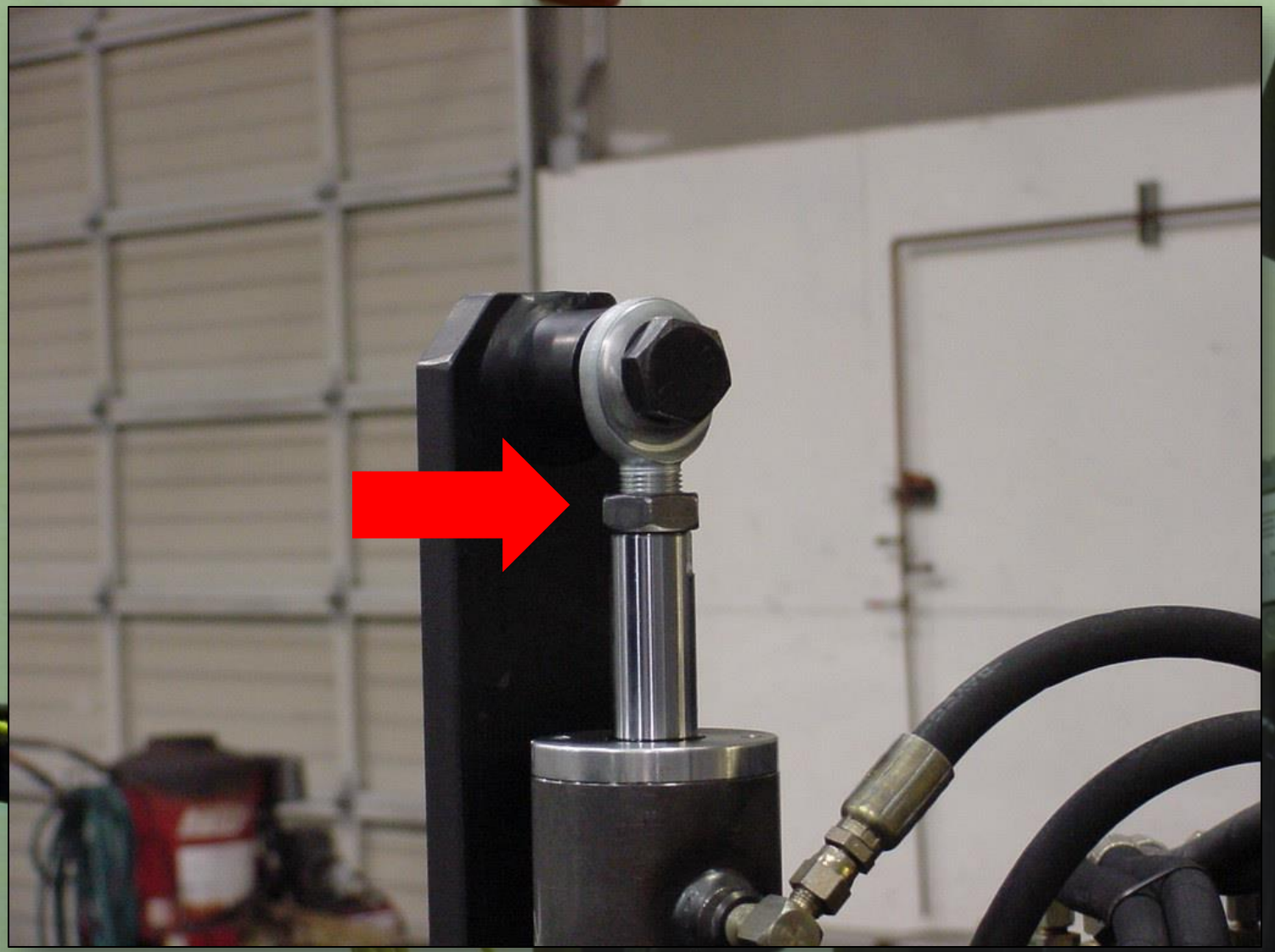
ASTEC INDUSTRIES

Checking Angle of Attack and Tracking

1. Retract the extension.
2. Lower the vertical on the extension until the rear of the extension touches the level.
3. Holding the level in place, extend the extension all the way out.
4. The screed bottom should ride on the straight edge all the way out.
5. If the screed extension doesn't ride on the straight edge it will be necessary to have your shop do some adjustments.



ROADTEC
an Astec Industries Company



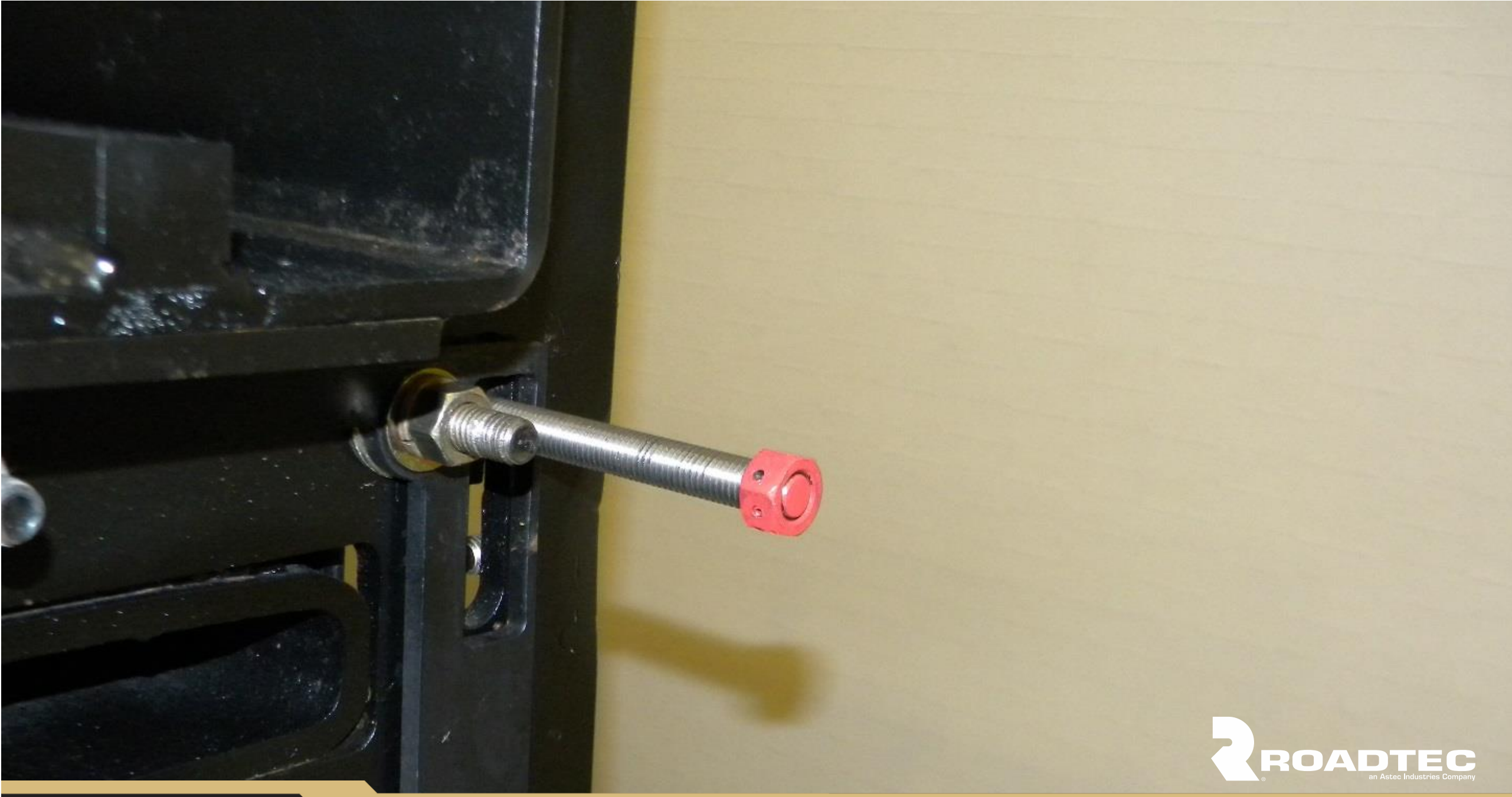
ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES

Angle of Attack on Extensions, WHY?

- The reason for angle of attack on the extensions **is to match the density of the mat behind the main screed.**
- If behind the extension is **loose or tight** and does not match the mat behind the main screed, the angle of attack will need to be adjusted.
- **Turn the nut as if you where going to tighten a bolt. As you tighten the bolt, it will tighten the mat**.
- **Loosen the nut and it will loosen the mat**.
- When making adjustments, **do so in small increments.**
- **Over correcting** the angle of attack can lead to **continuous shifting problems.**

ROADTEC
an Astec Industries Company



ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES

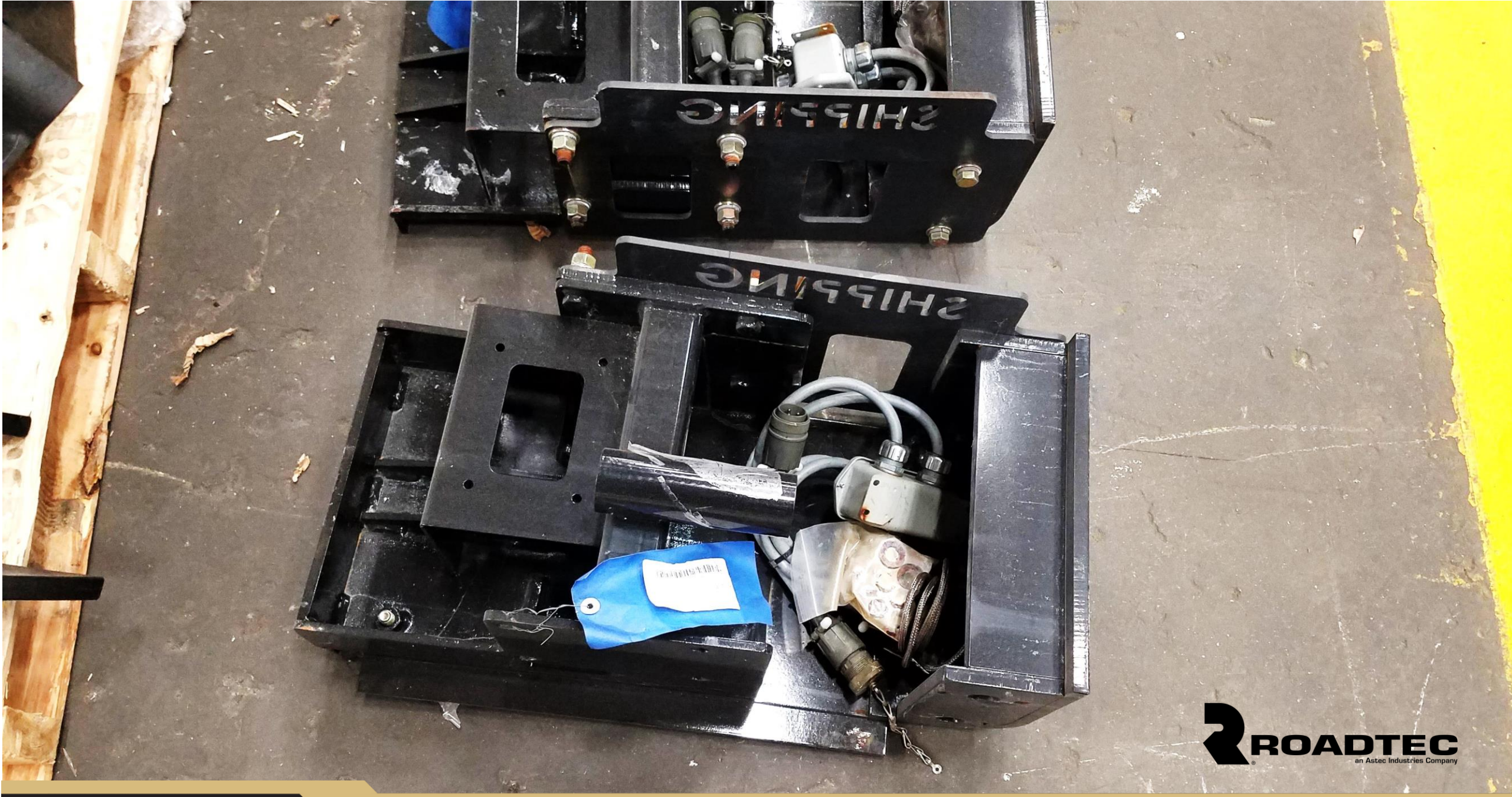

Extension Angle of Attack

ROADTEC
an Astec Industries Company

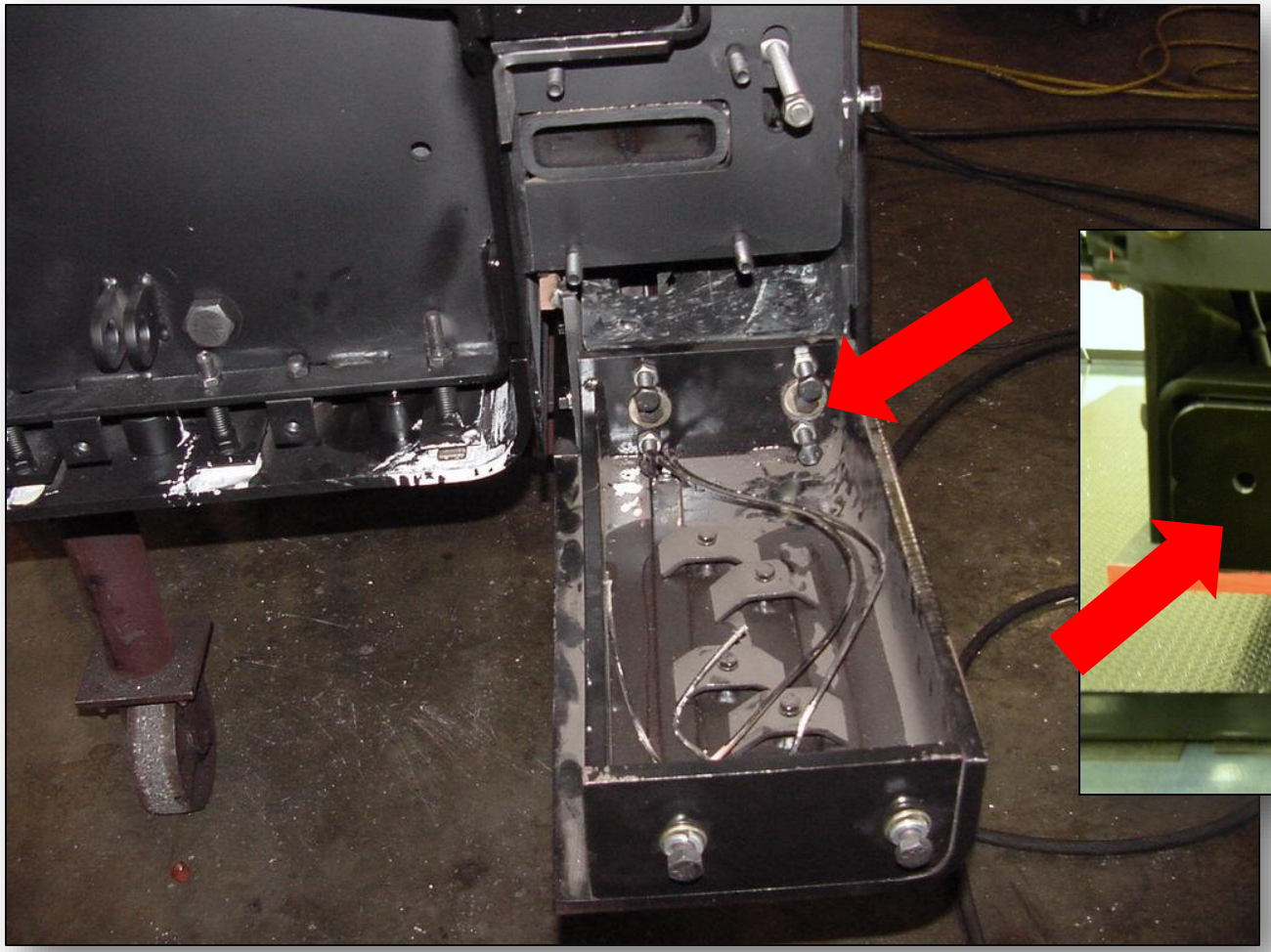
ASTEC INDUSTRIES

ROADTEC
an Astec Industries Company

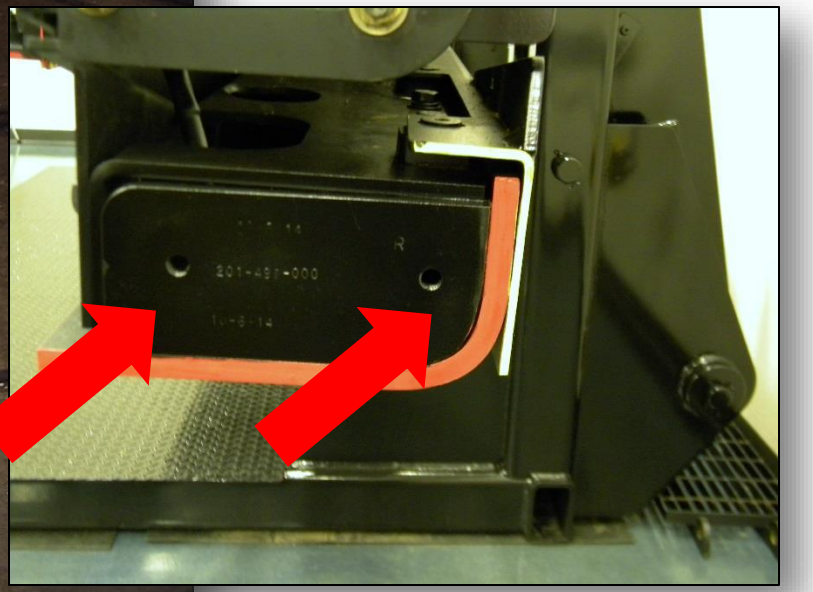
ASTEC INDUSTRIES



ROADTEC
an Astec Industries Company



These extensions attach to the bottom of the screed

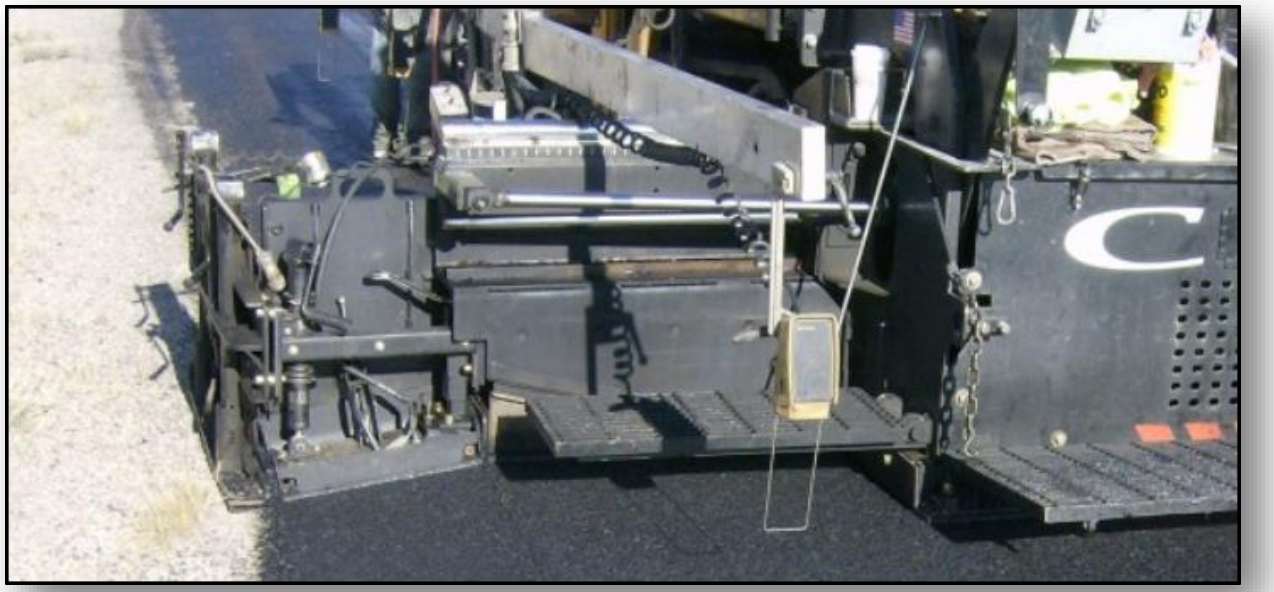


ROADTEC
an Astec Industries Company


ROADTEC
an Astec Industries Company

Tapered Notch

The notch can be easily adjusted from flat to 2 1/2” below mat thickness.



The tapered notch creates a compacted stepped joint, to give the adjoining pavement lift a firm base.

It also allows for safe traffic transitions between old and new pavements.

ROADTEC
an Astec Industries Company

ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES

Keep Area Clean

ROADTEC
an Astec Industries Company

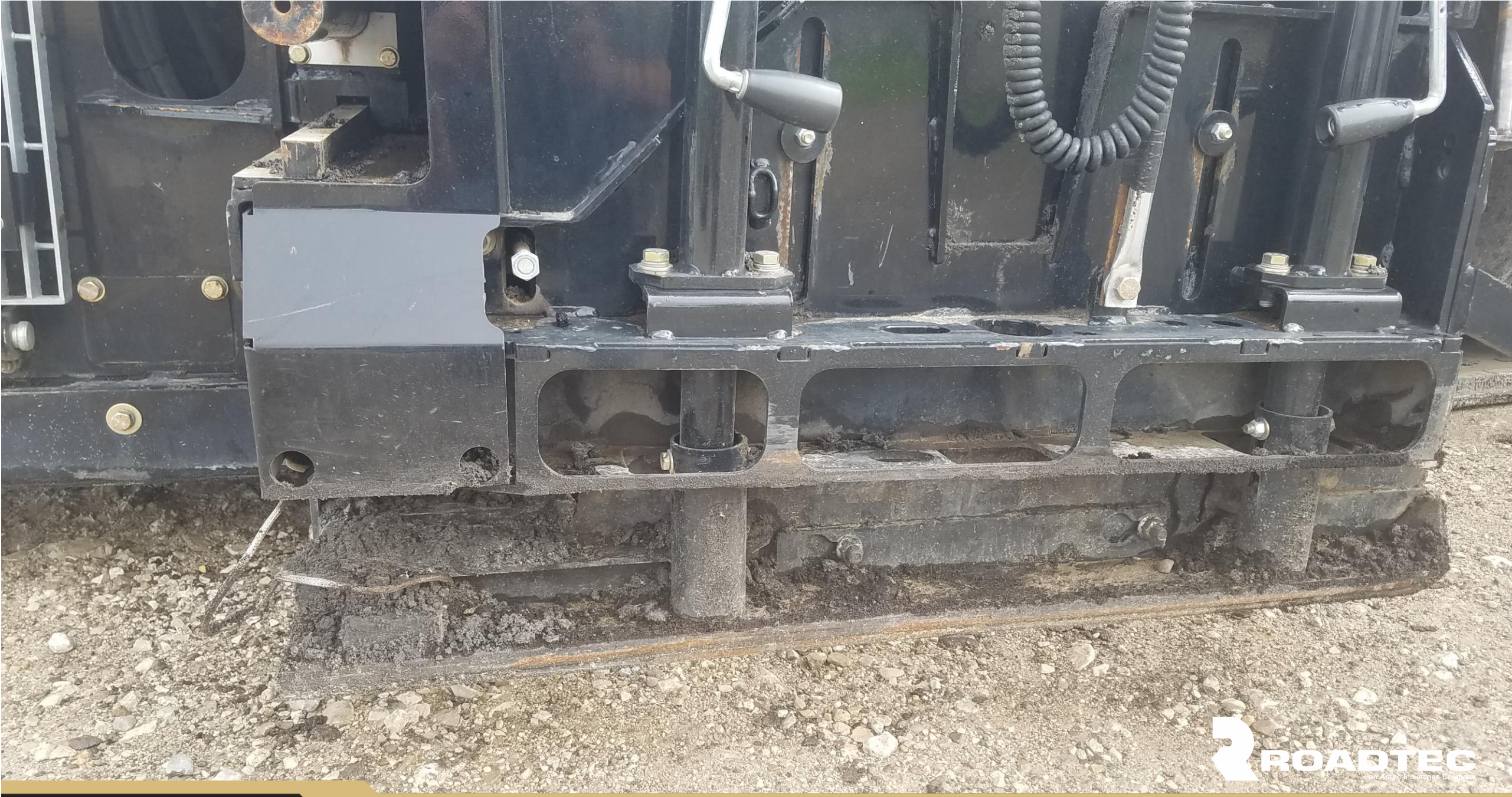
ASTEC INDUSTRIES

ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES

ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES



ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES

ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES

ROADTEC
an Astec Industries Company

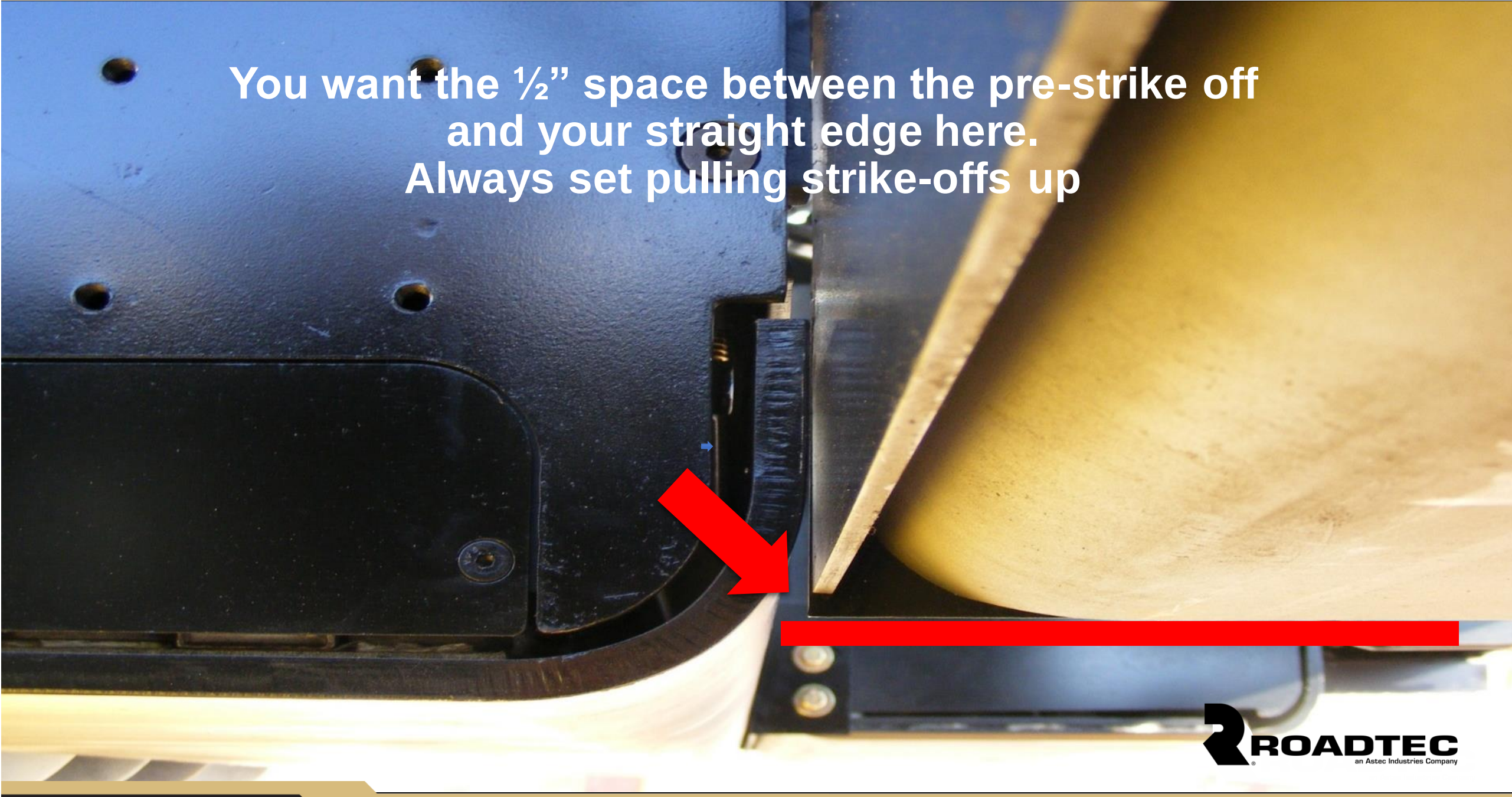
ASTEC INDUSTRIES

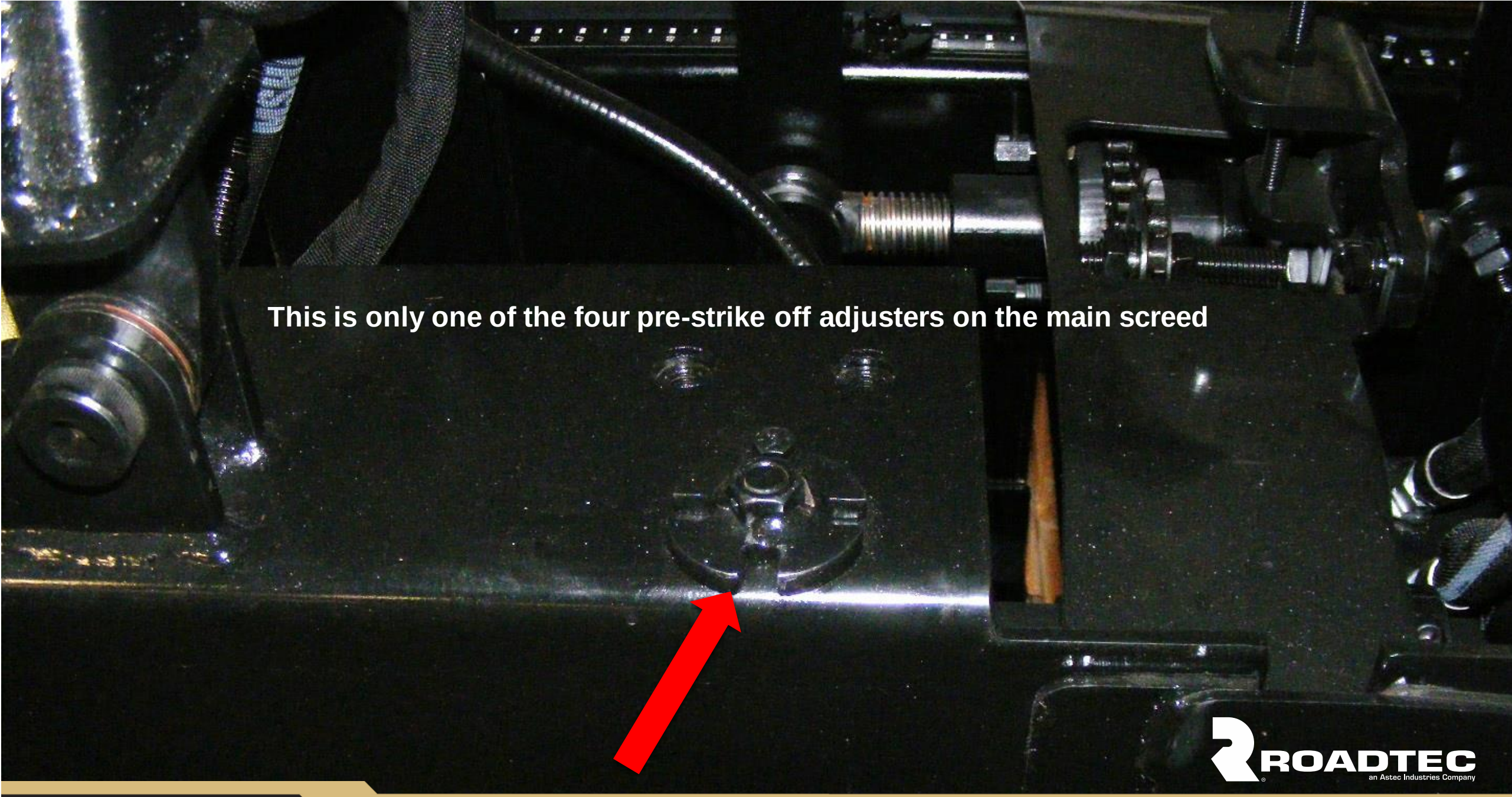
Eagle Screeds

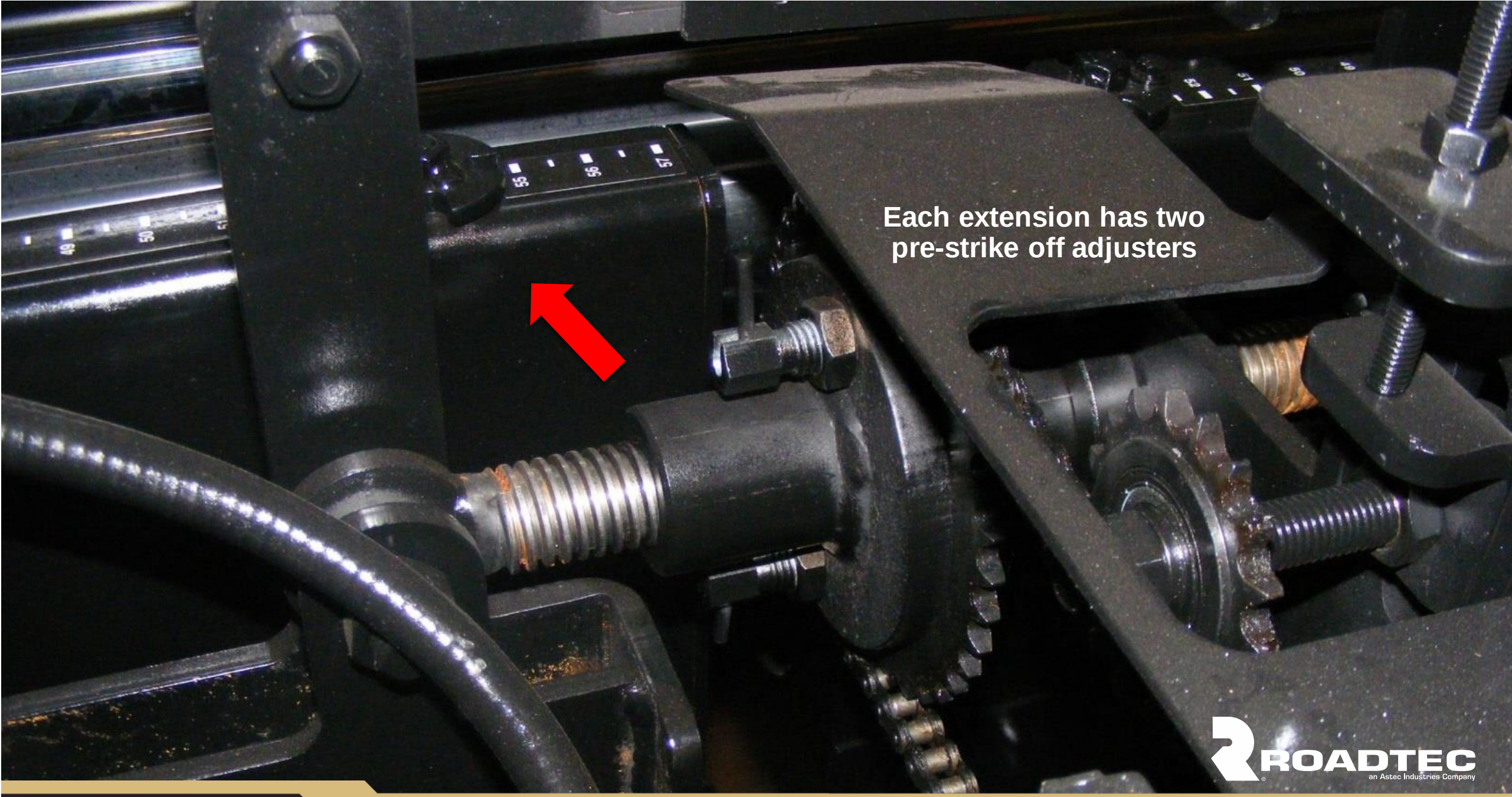
ROADTEC
an Astec Industries Company

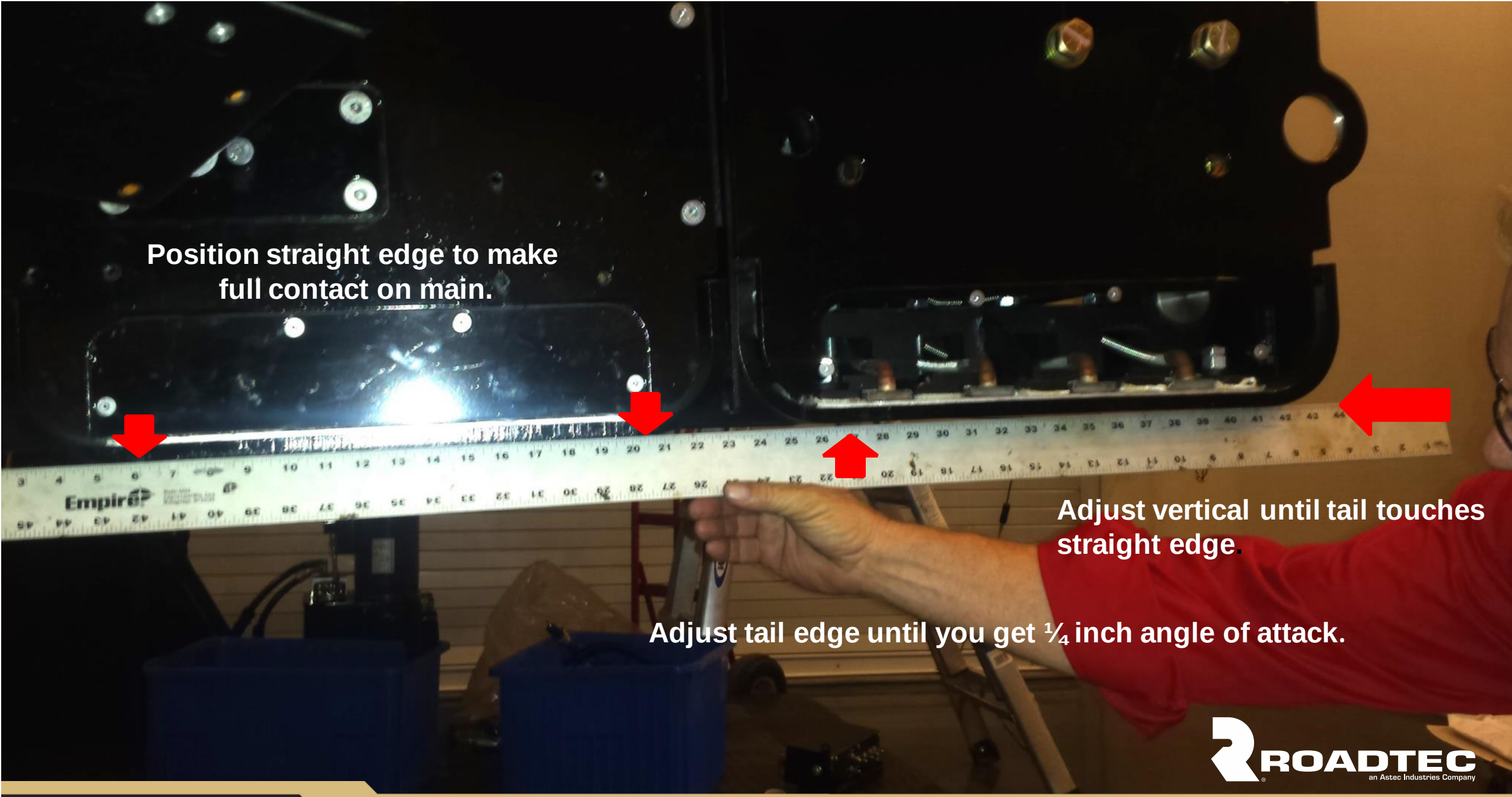
ASTEC INDUSTRIES

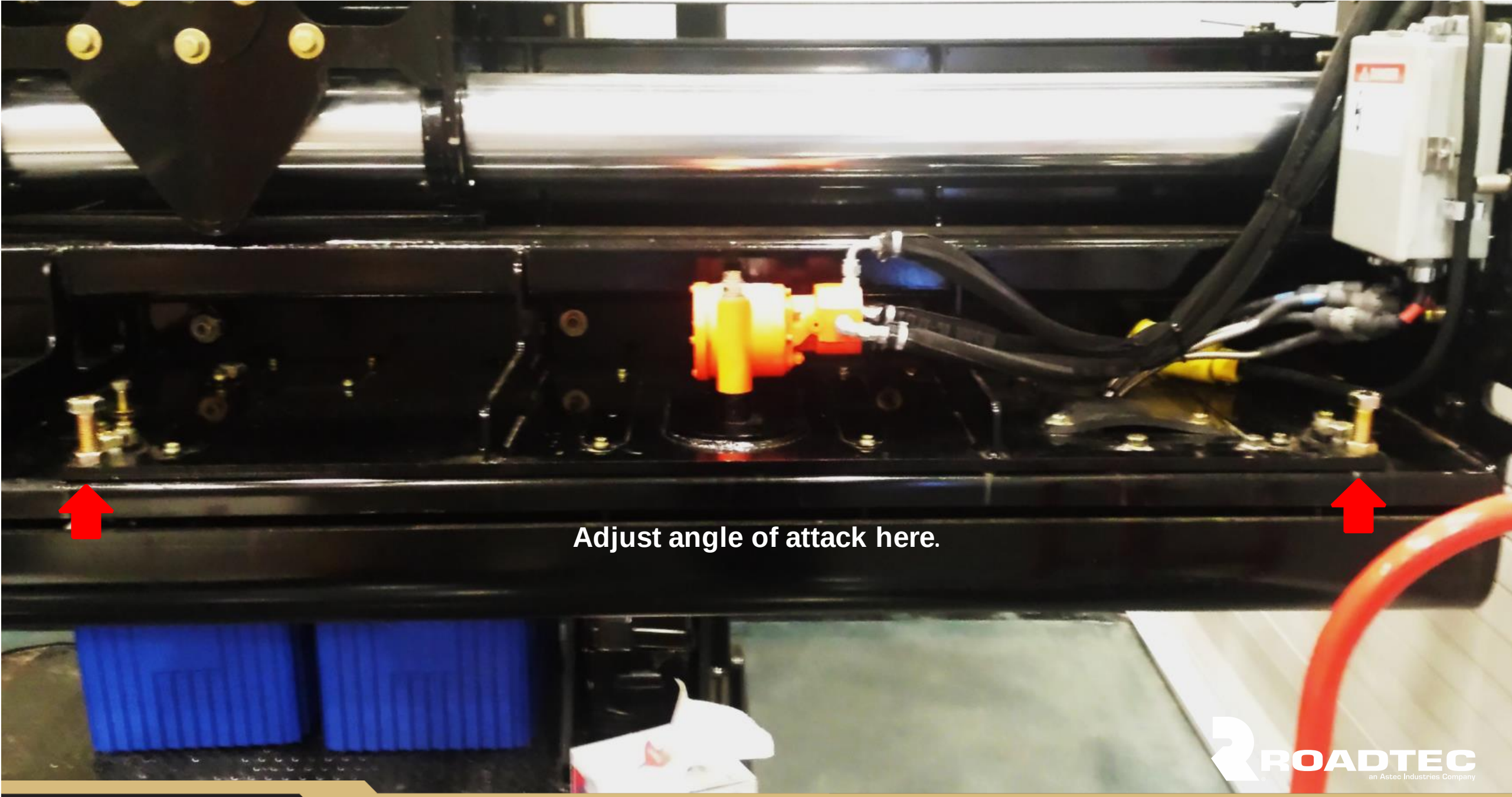
ROADTEC
an Astec Industries Company


You want the ½” space between the pre-strike off
and your straight edge here.
Always set pulling strike-offs up

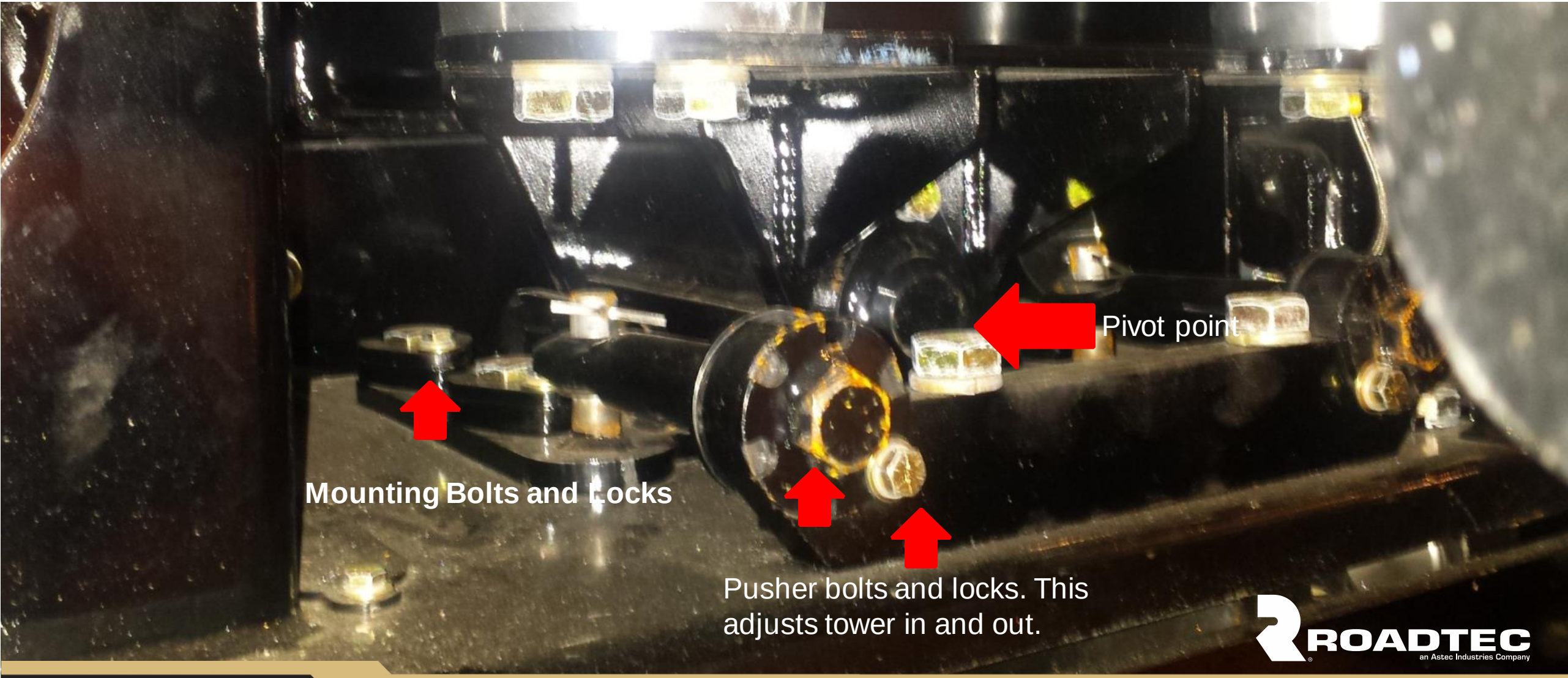

This is only one of the four pre-strike off adjusters on the main screed


Each extension has two
pre-strike off adjusters

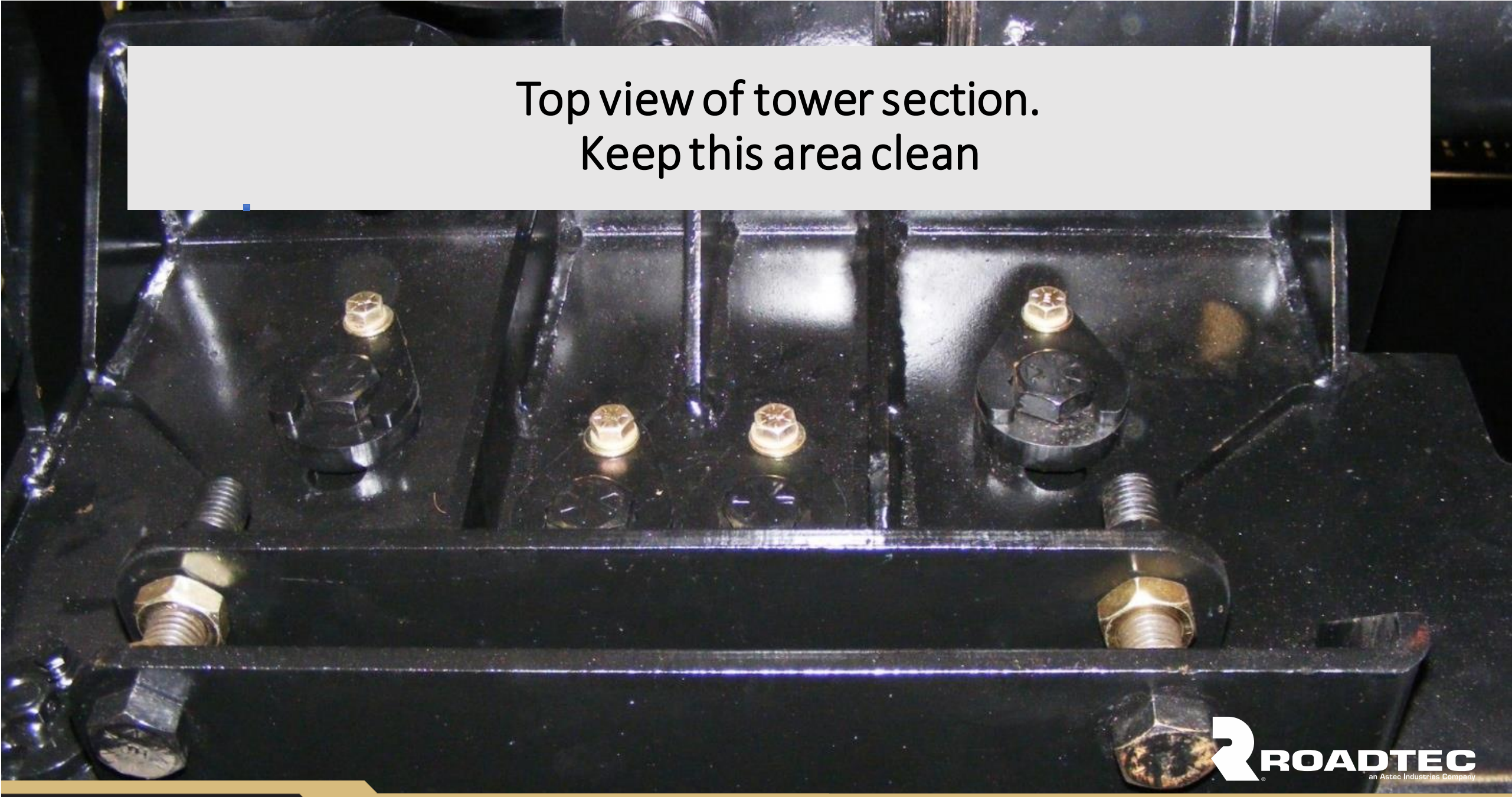

Position straight edge to make full contact on main.
Adjust vertical until tail touches straight edge.
Adjust tail edge until you get ¼ inch angle of attack.
Empire


Adjust angle of attack here.

Tower Section



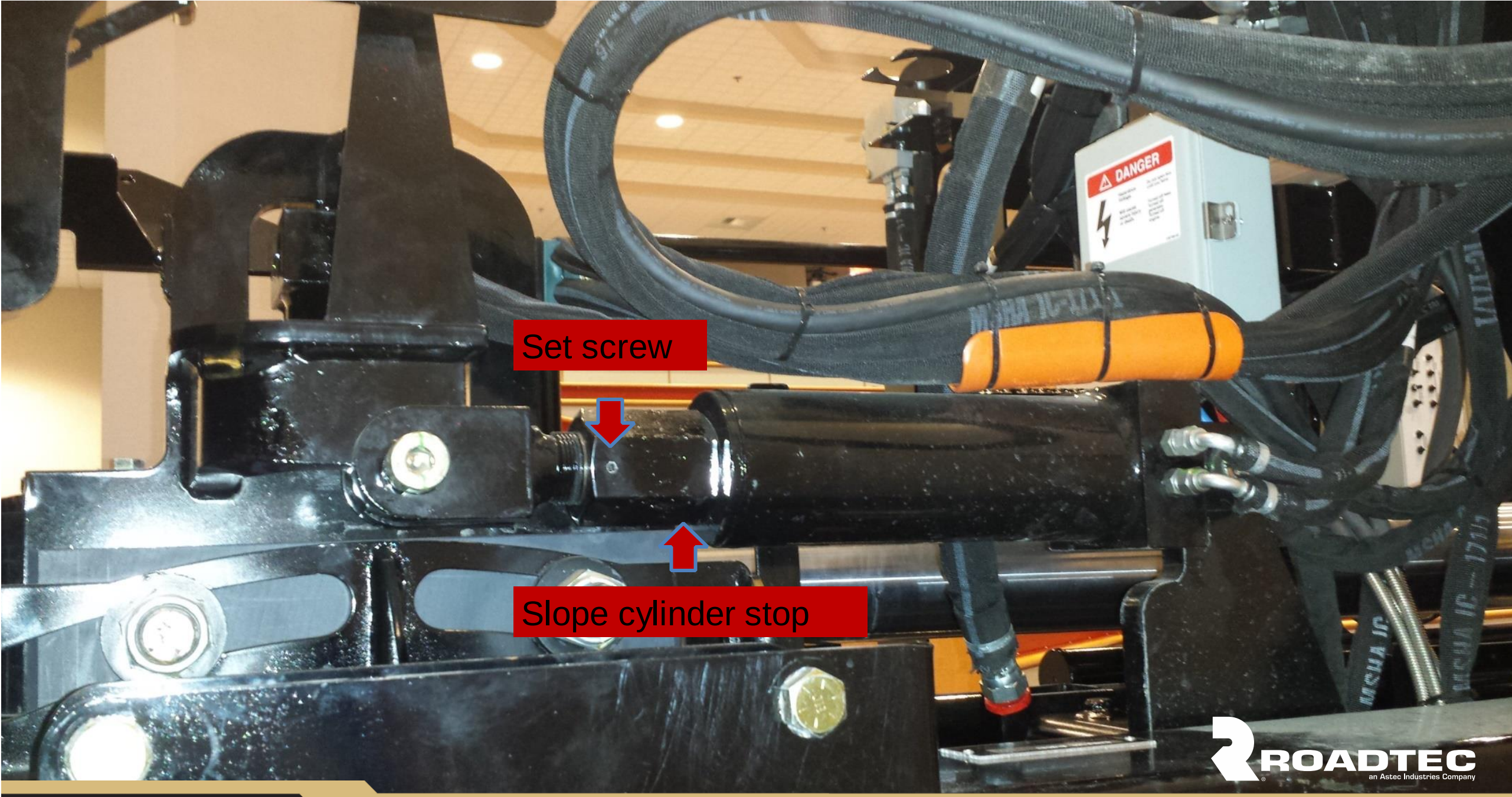

ROADTEC
an Astec Industries Company



Top view of tower section.
Keep this area clean

ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES

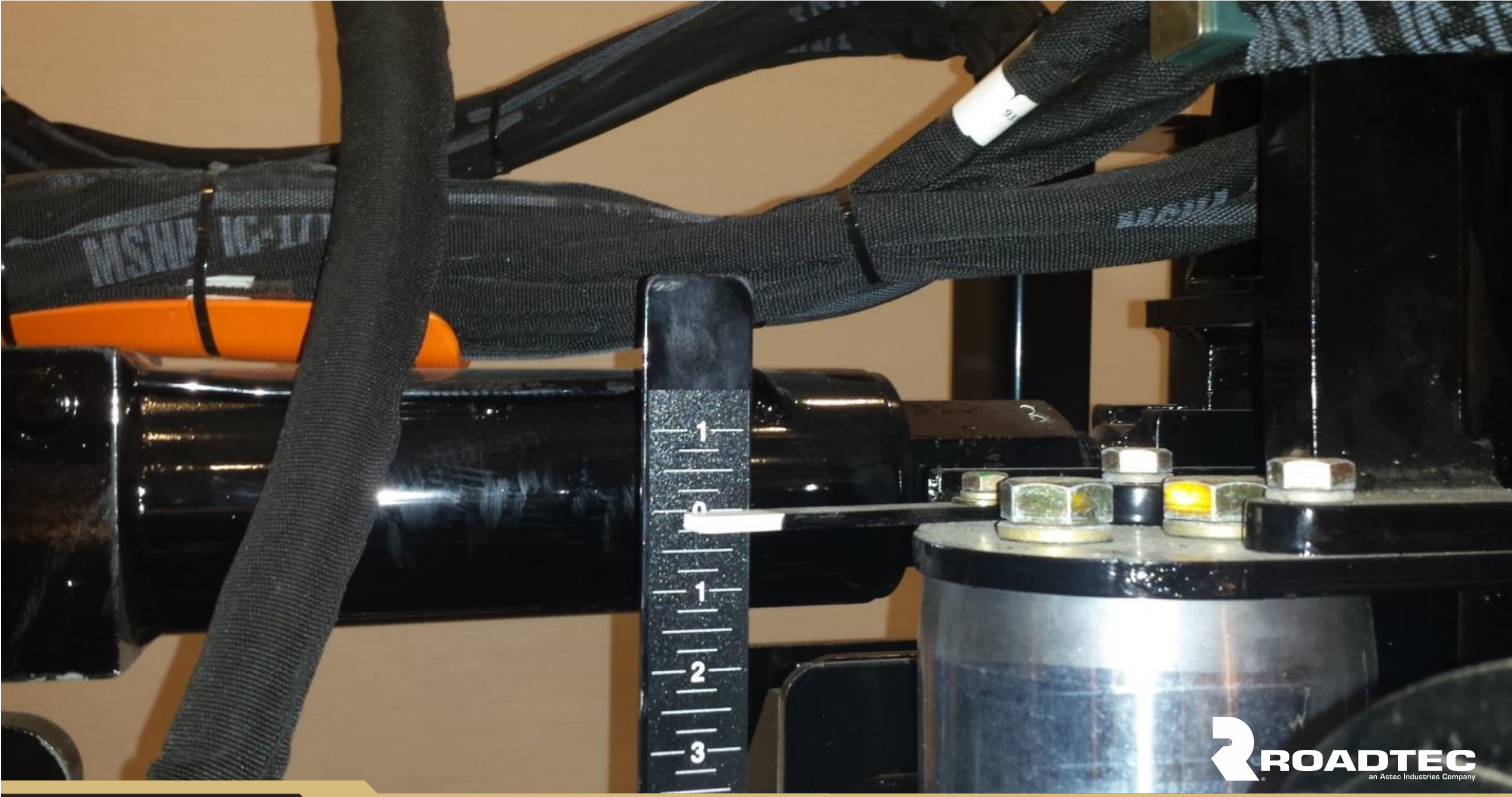

DANGER
Set screw
Slope cylinder stop

Vertical or Match Height

How do we know when the Vertical is off?

Read the mat…. **Lines on the inside** of the main screed means that the
vertical is to low.

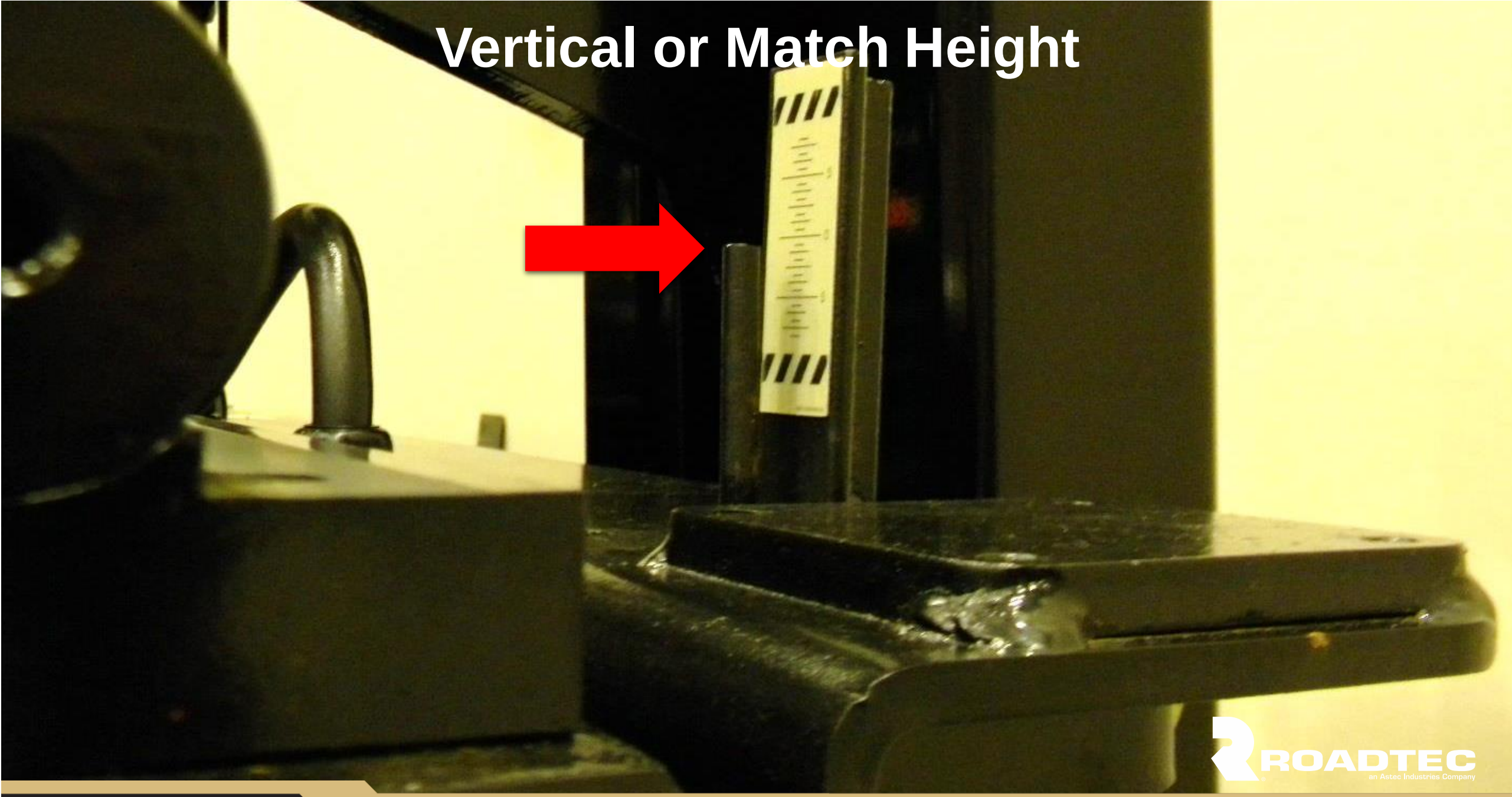
Lines on the outside of the main screed means that the
vertical is to high.



ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES

Vertical or Match Height



ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES

ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES

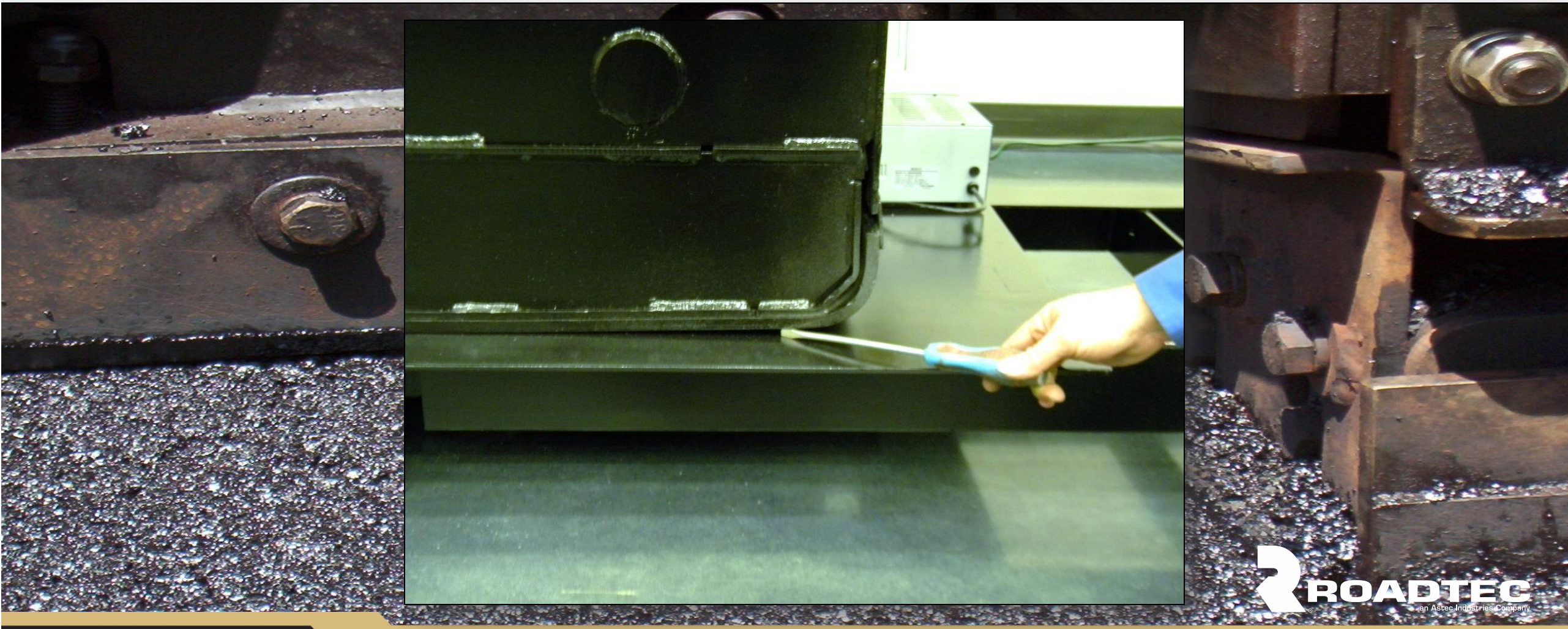
ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES

ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES

Correct angle of attack on the main screed should be ¼” in the front.



ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES

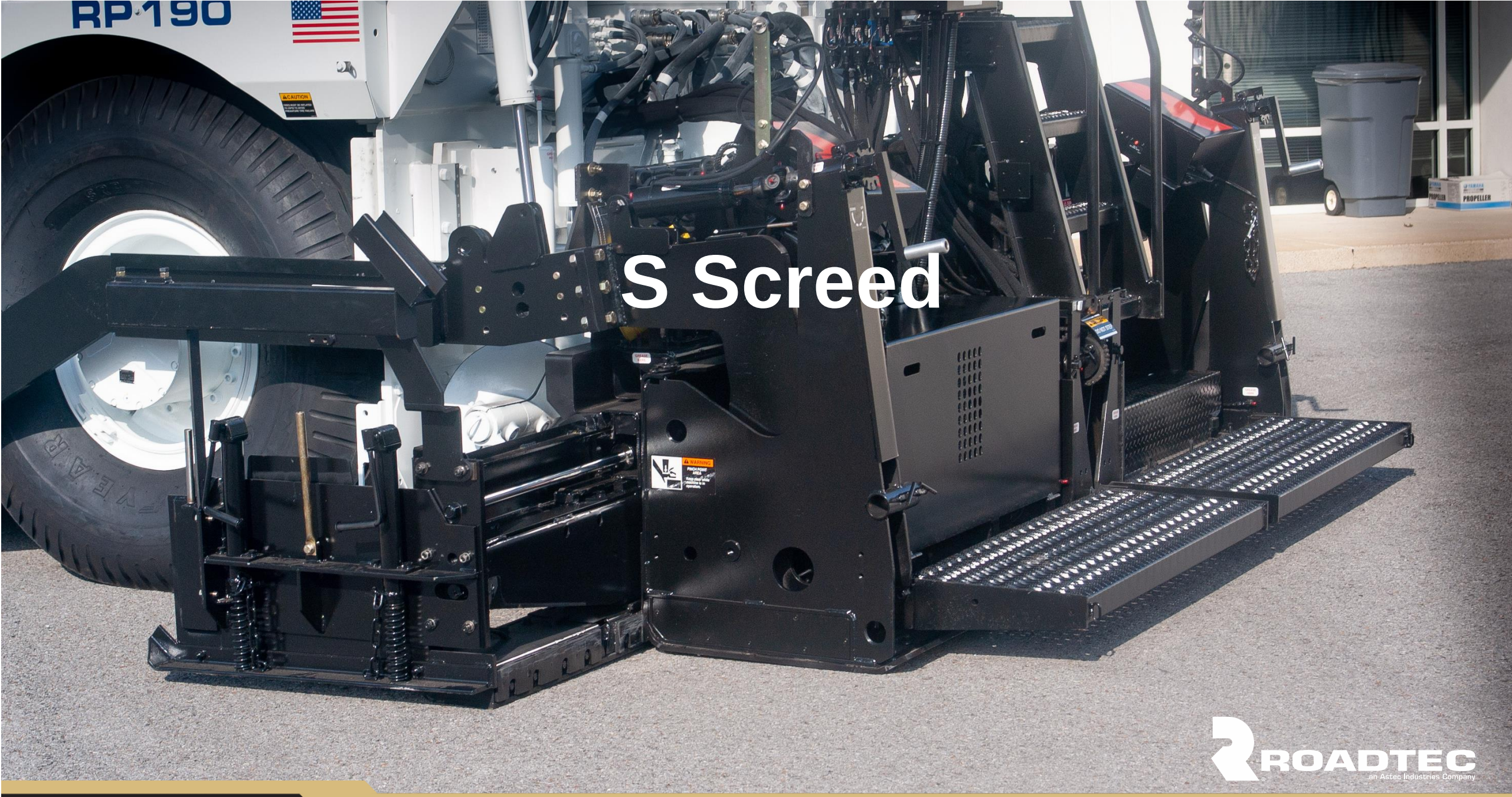
Extensions

ROADTEC
an Astec Industries Company

ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES


ROADTEC
an Astec Industries Company



S Screed

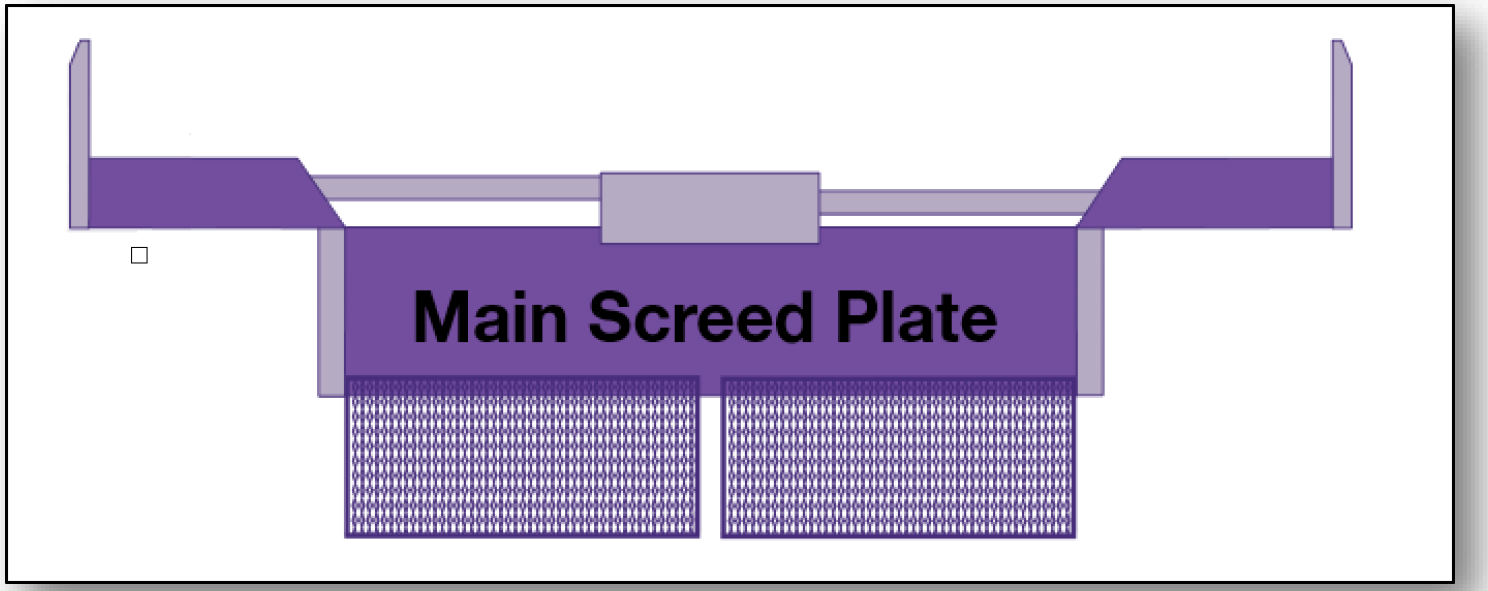
ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES

S Screed

Lightweight screed

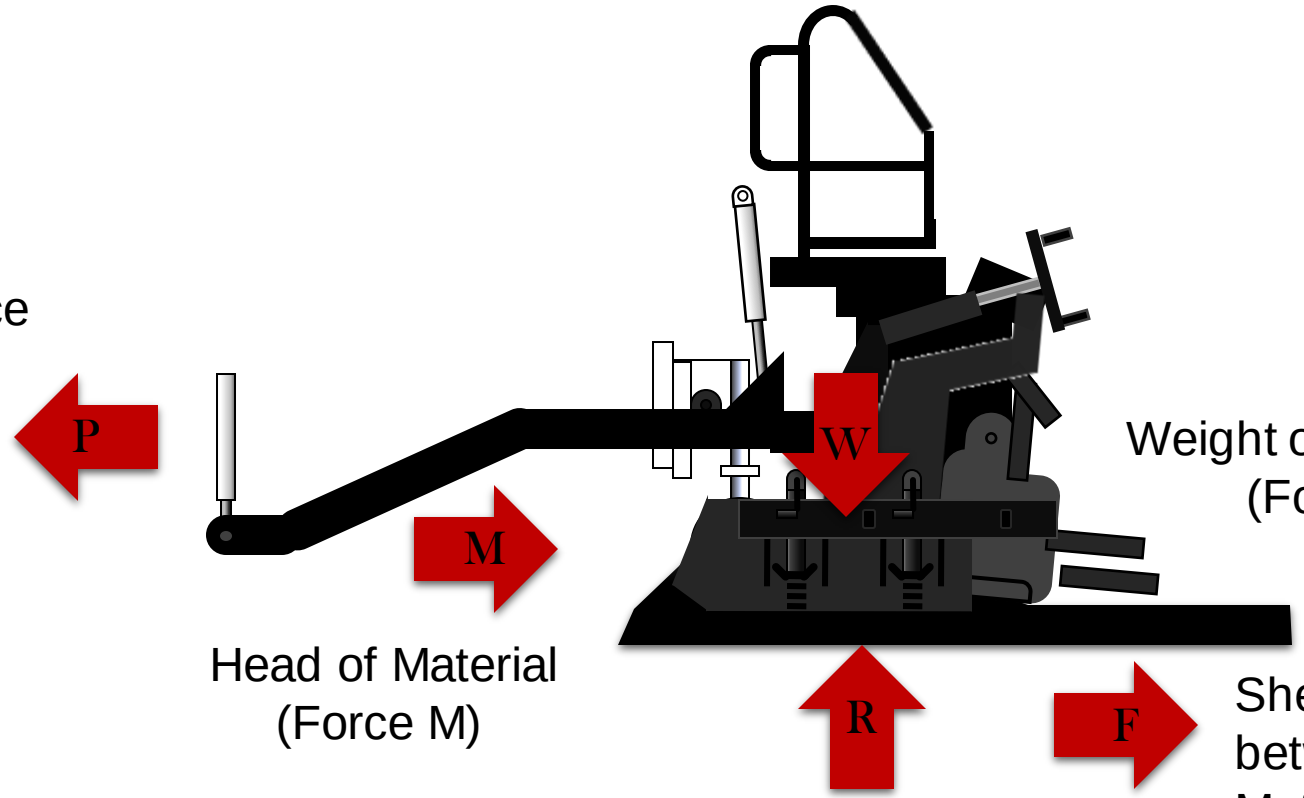
- Easier to deal with as they have less things to adjust.
- If you need to go wider then you need to bolt-on extensions.
- Less flex due to the hard mounted extensions
- Great main line screed and still versatile enough to do commercial paving.



ROADTEC
an Astec Industries Company

Forces Acting on the Screed

When a **constant speed** of paving is implemented, you will have **a balance on all forces**.



Pulling Force
(Force P)

Weight of Screed
(Force W)

Head of Material
(Force M)

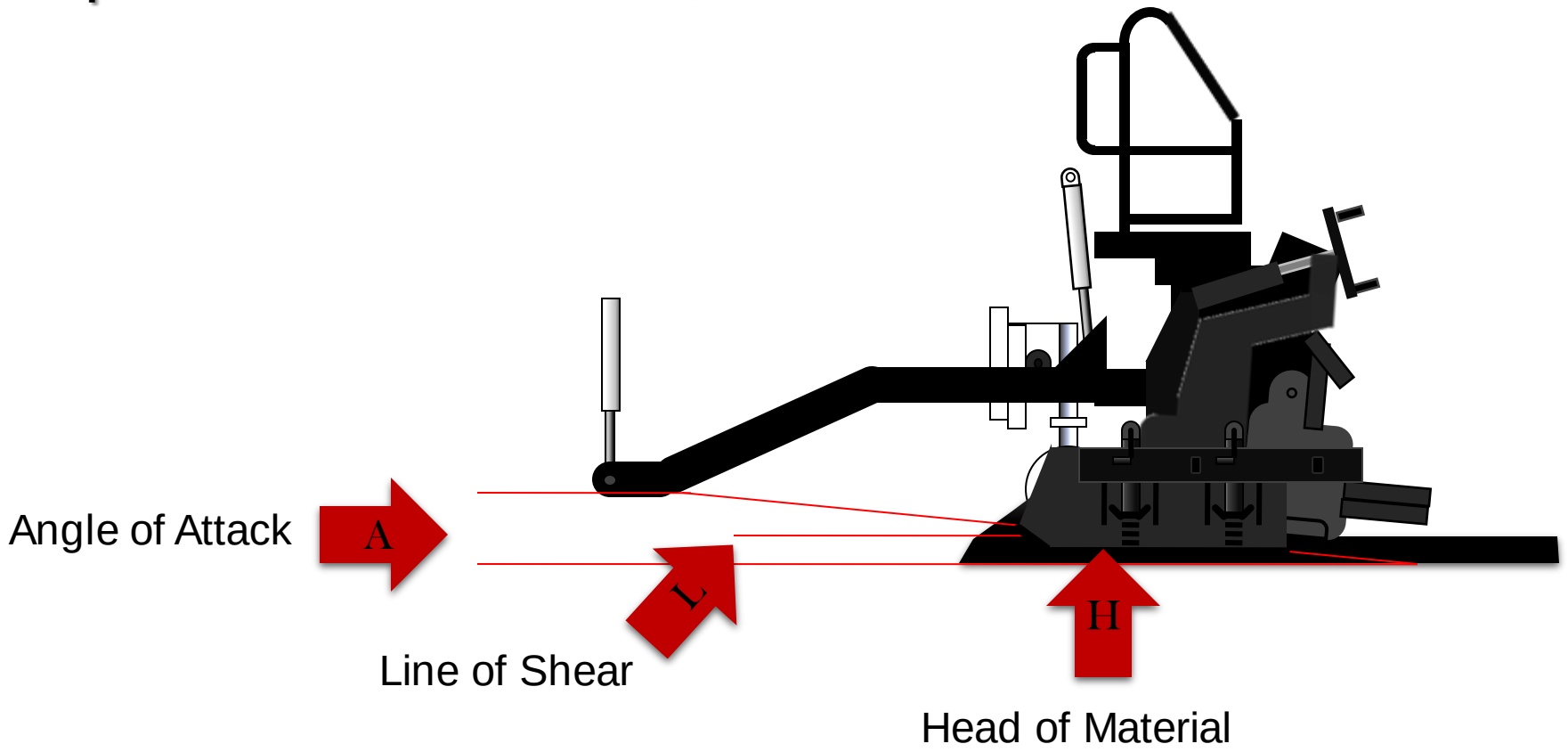
Reaction of Material
Under Screed (Force R)

Shear Force
between
Material and
Screed
(Force F)

ROADTEC
an Astec Industries Company

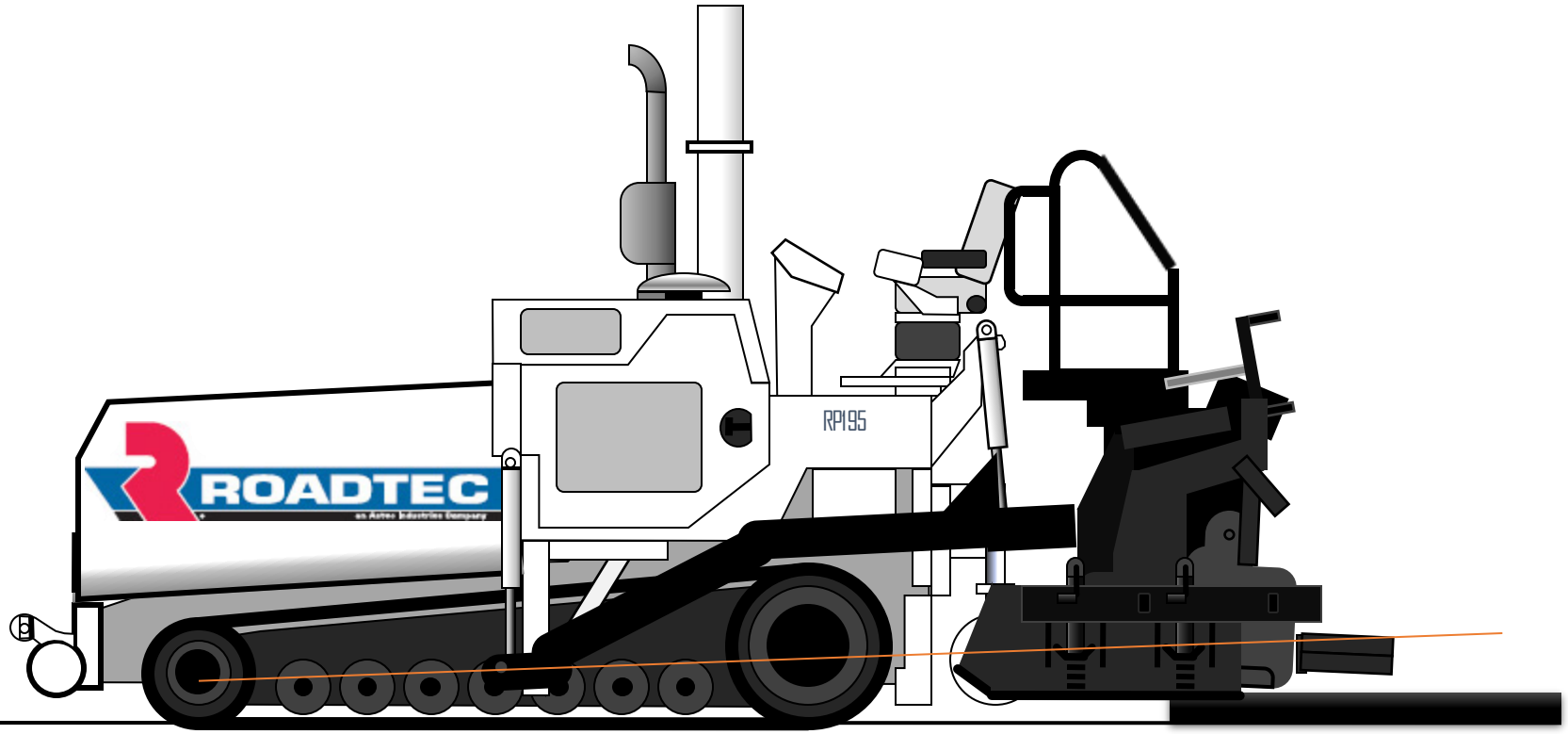
Screed Shear Point

The **Head of Material** is the mass of material that lies directly in front of, and **spans the entire width of the screed.**



Line of Pull

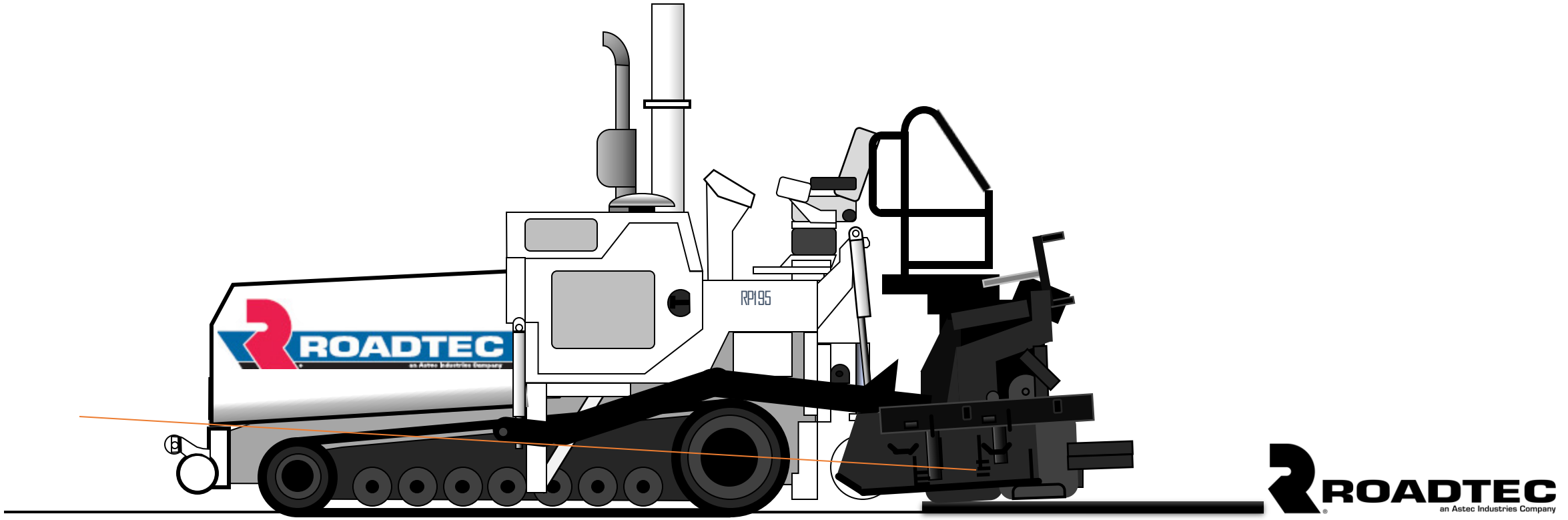
With a low tow-point and a thick lift you have a line of pull that is always pulling downward.



ROADTEC
an Astec Industries Company

Line of Pull

With a high tow-point and a thin lift you have a line of pull that is always pulling upward.

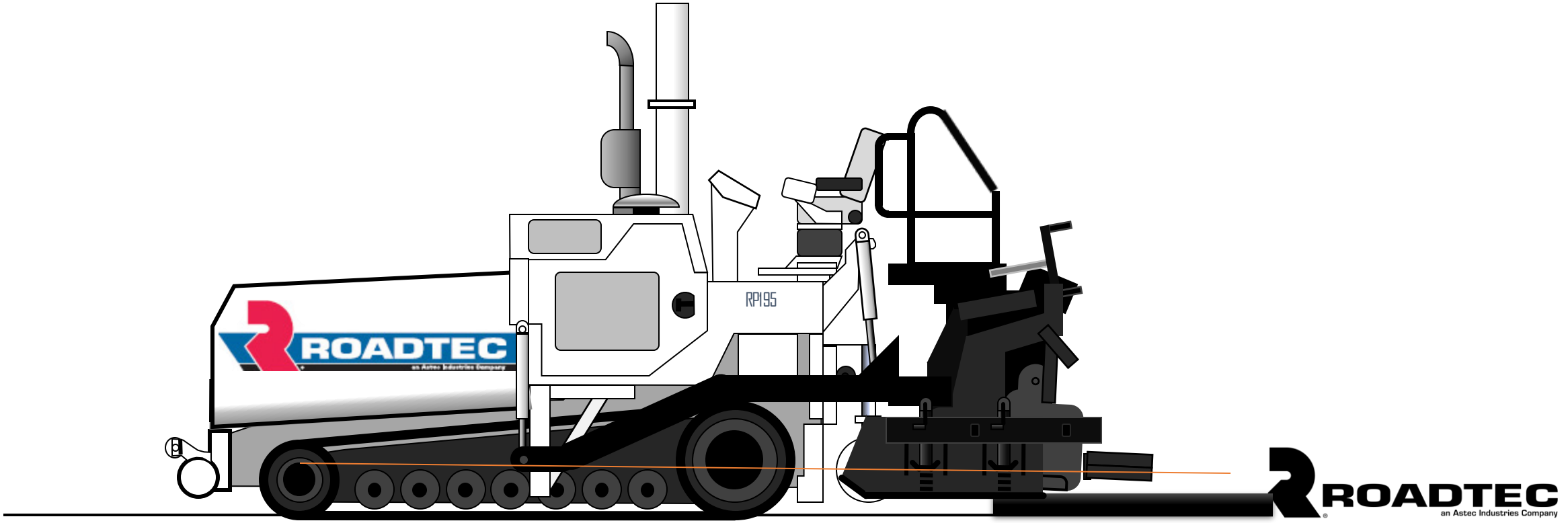


Line of Pull

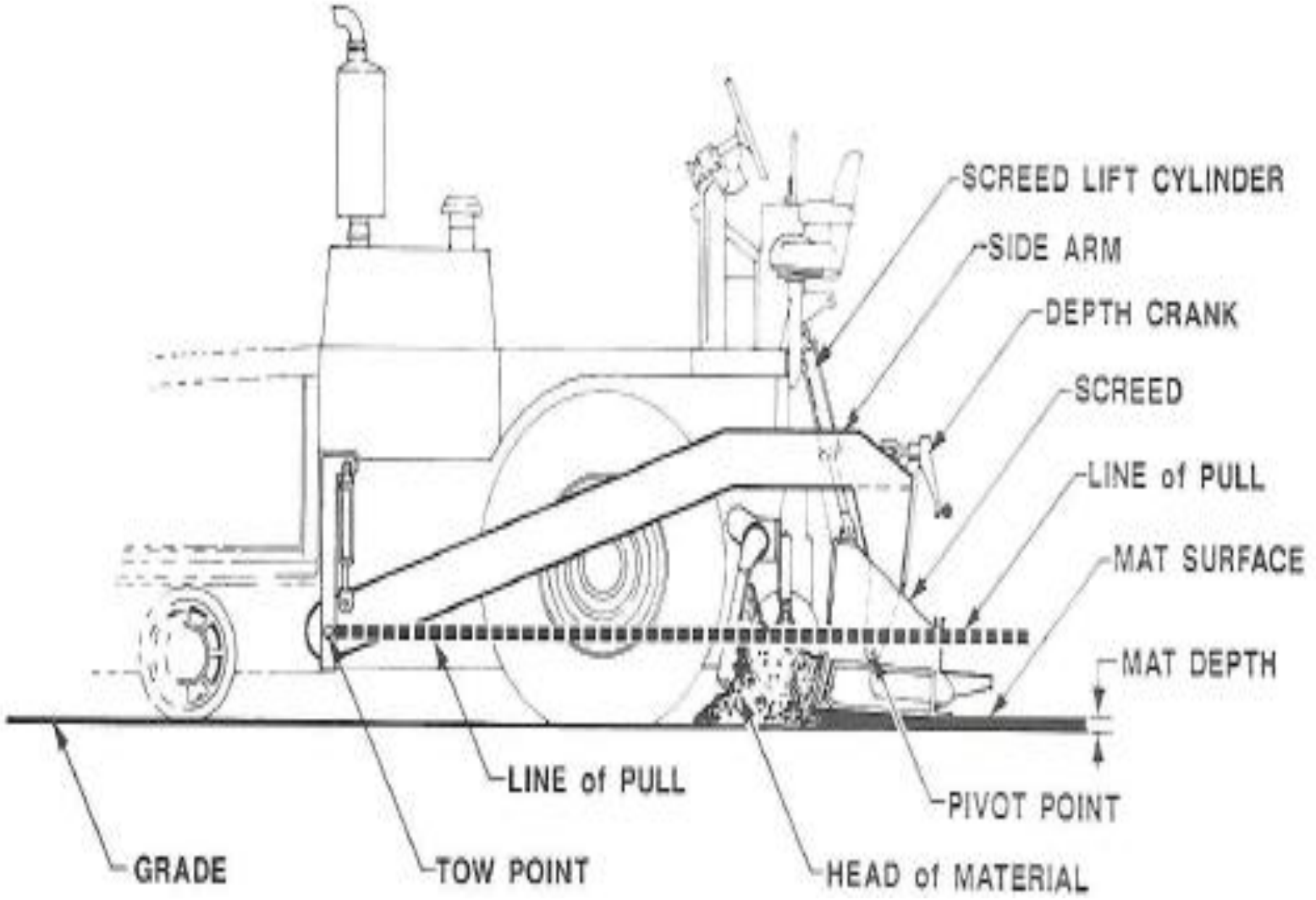
ROADTEC
an Astec Industries Company

Line of Pull

Place the tow-point **1”** higher then the loose mat thickness you are laying.



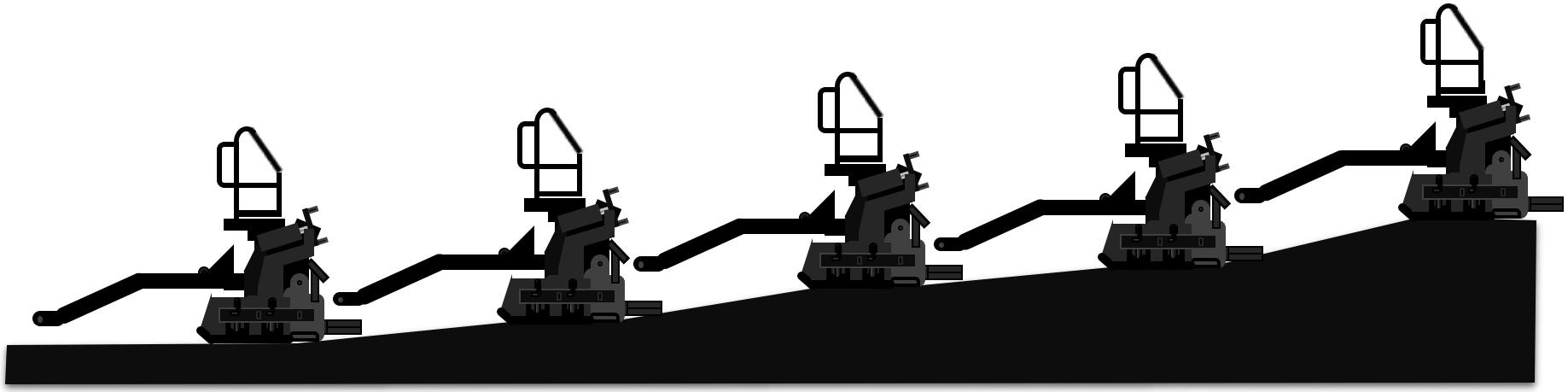
1992 Manual



ROADTEC
an Astec Industries Company

Screed Reaction Time

It takes 5 tow arm lengths for the screed to rebalance the forces working against it.



Remaining 30% to 35%	60% to 65%

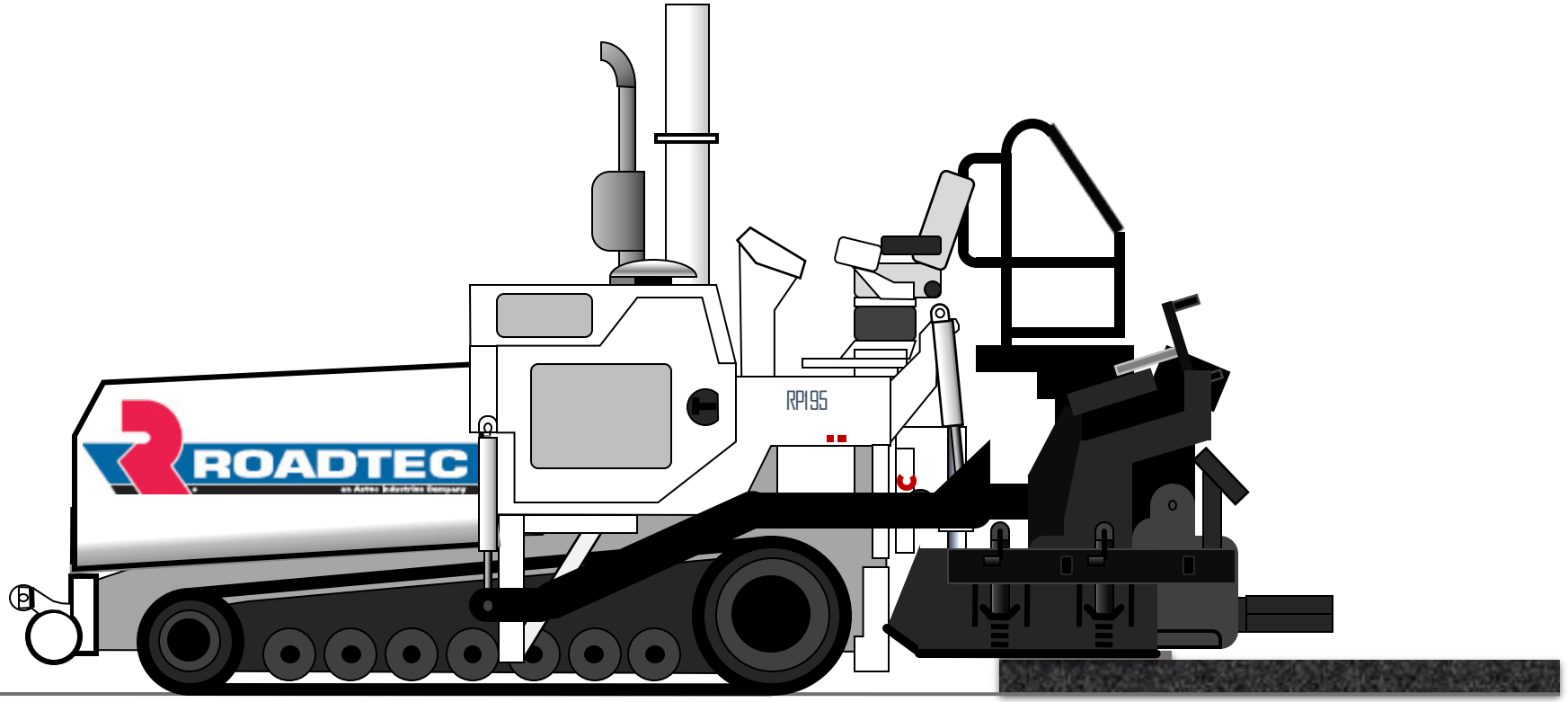
ROADTEC
an Astec Industries Company

Starting Off

Allow for your roll down.

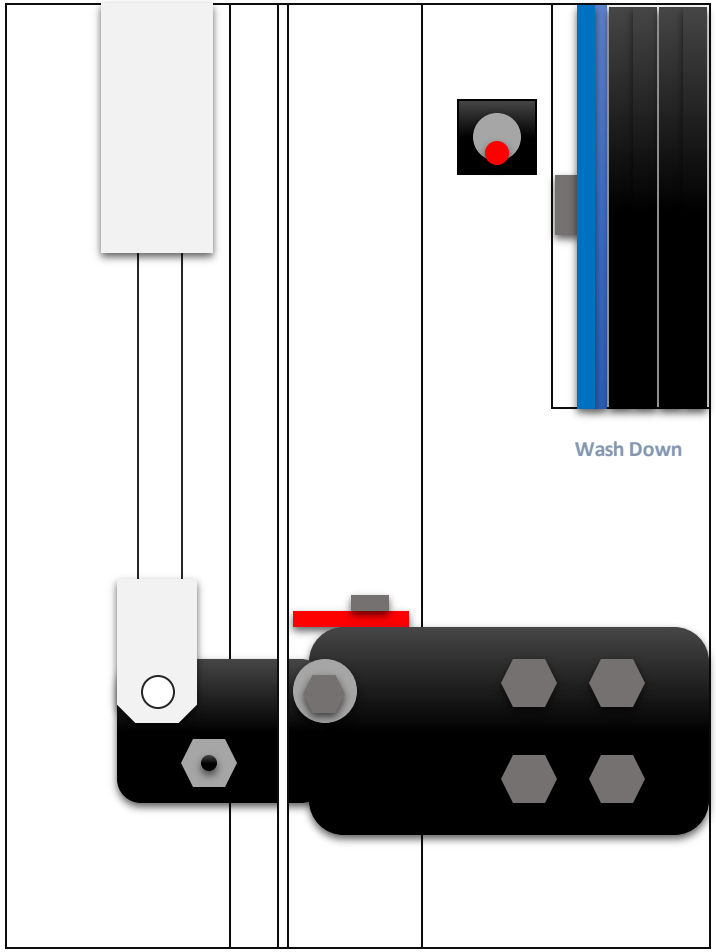
Set the screed down and pull the slack out of the tow arm.

Why is there a need to pull the paver forward?



ROADTEC
an Astec Industries Company

Set the Tow-Point



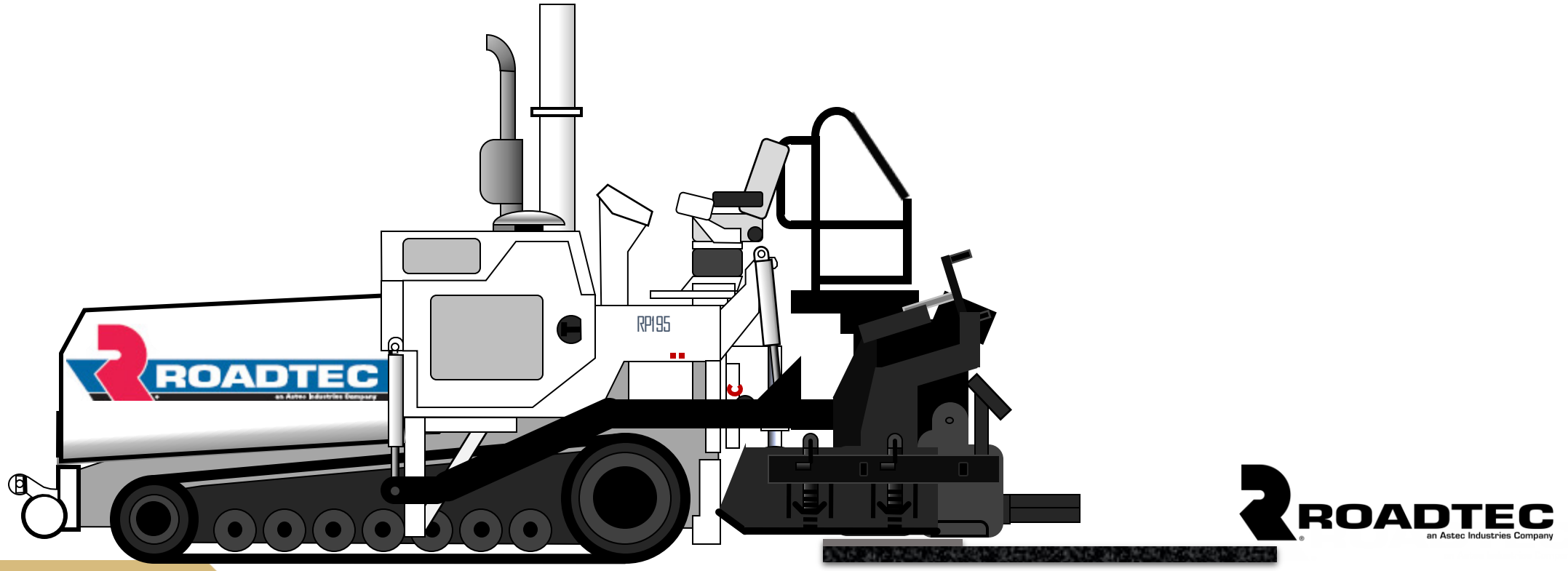
Where should this Tow-Point be set?

This will depend on the thickness of the mat, but **a good rule to follow is 1 inch above the loose mat thickness**

ROADTEC
an Astec Industries Company

Joint Matching

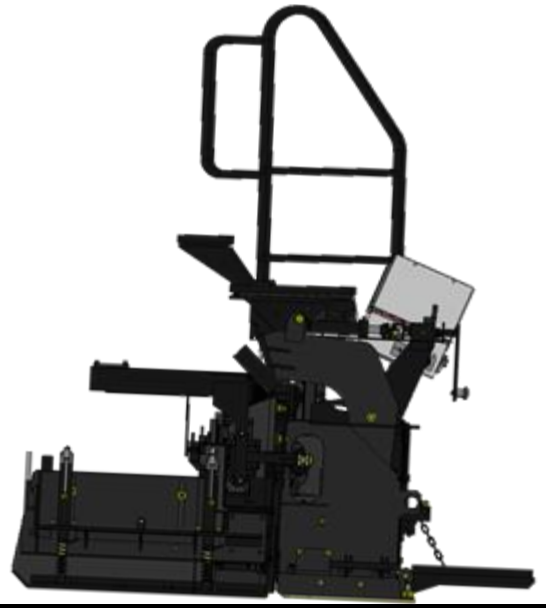
As you lower the screed onto the shims needed, check the end gate so that it is free to float up and down on the ground.

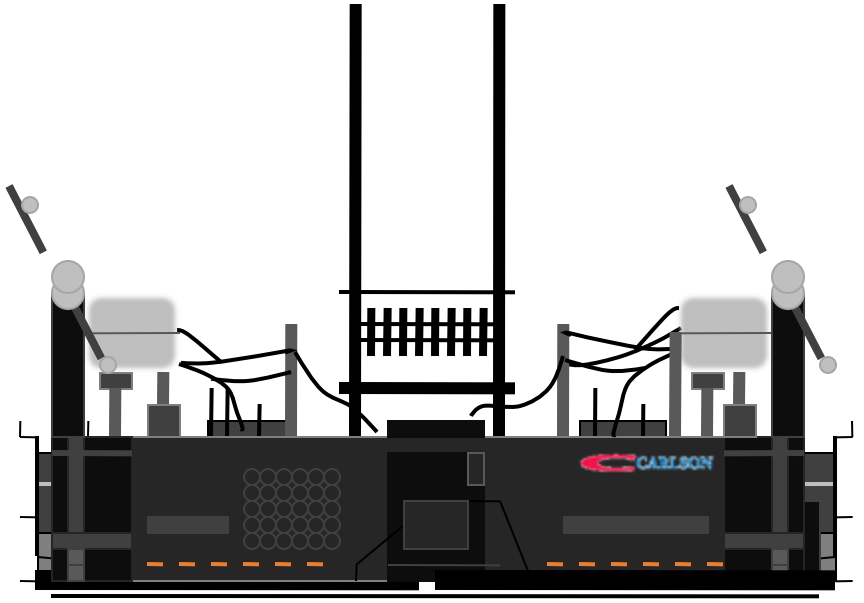


ROADTEC
an Astec Industries Company

Null Out the Screed, Using Both Screws Together

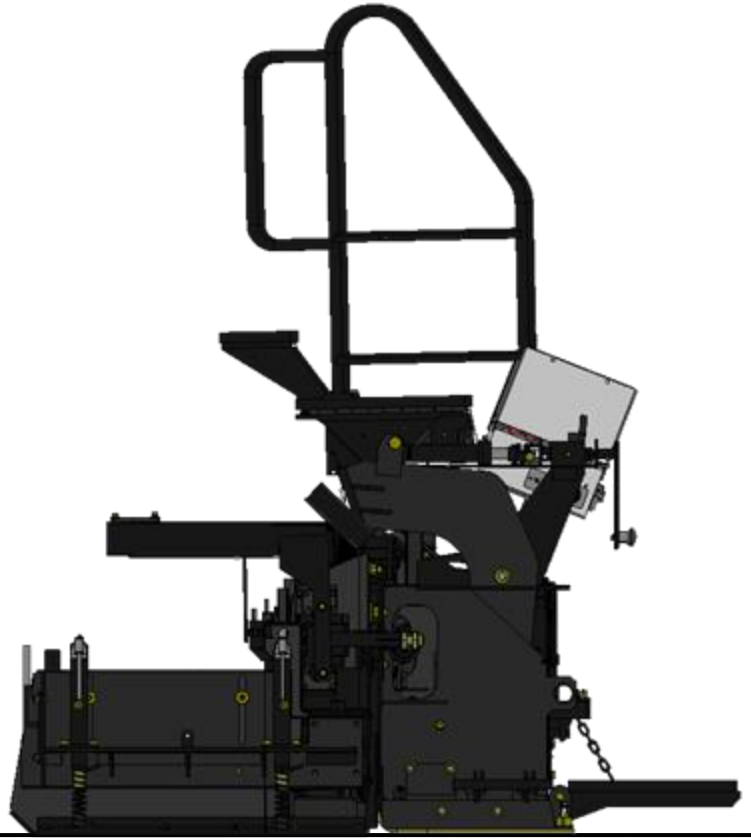
What? Wait a minute.
Is something wrong?

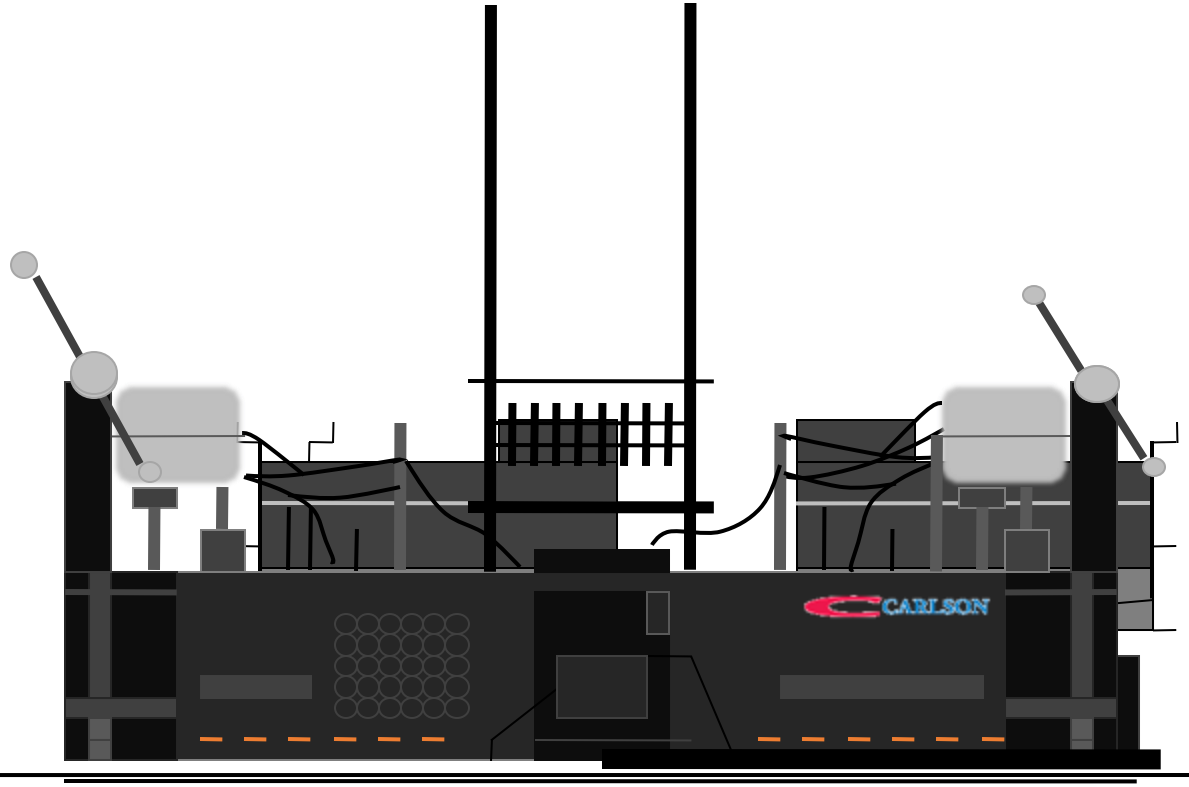




ROADTEC
an Astec Industries Company

Add Angle of Attack





Auger Height

Auger height controls the head of material, and is determined by mat thickness.

Auger Adjustments

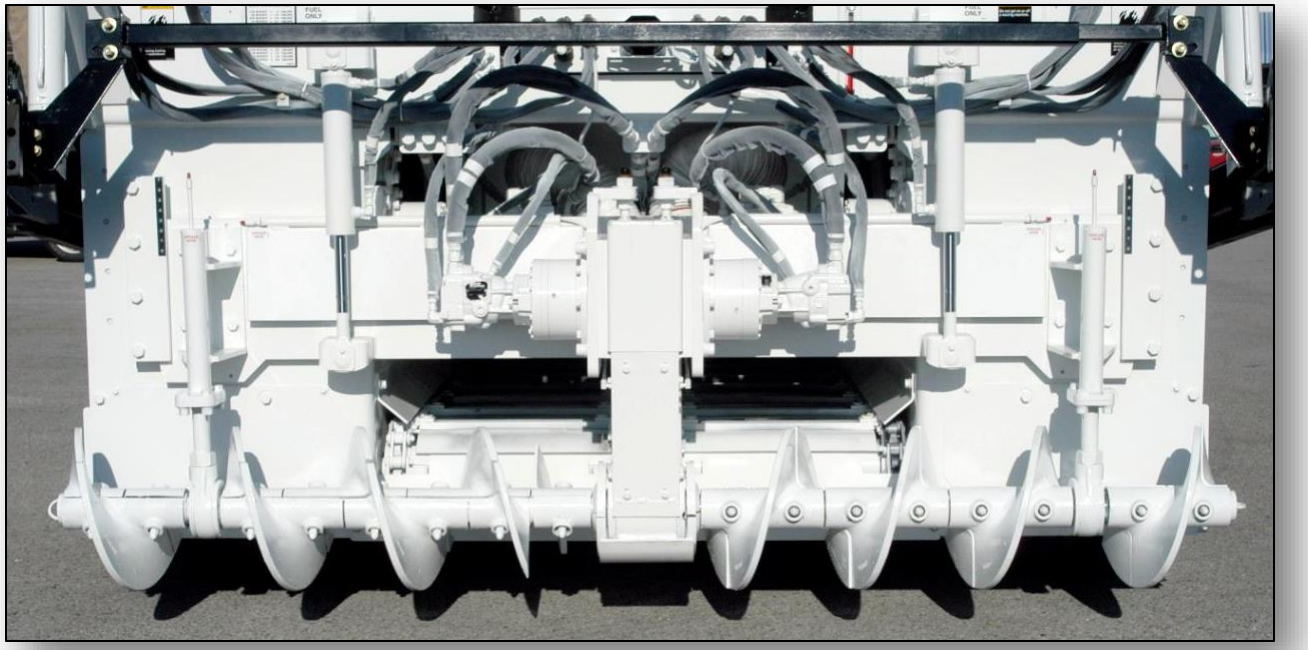
The head of material is the asphalt that is carried in front of the screed

There is no need to carry any more material in front of the screed than is required to feed the entire length of the screed.

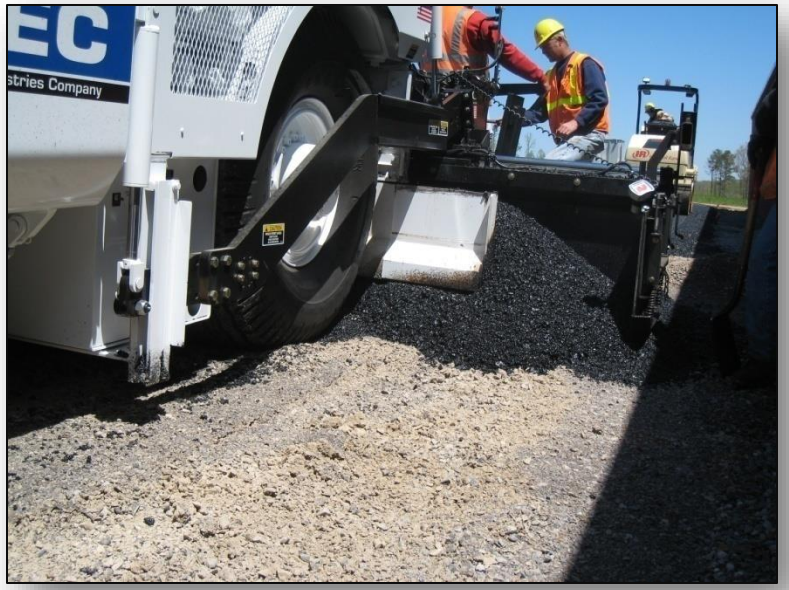
Augers break.

Augers get worn out.

Augers can be changed.



ROADTEC
an Astec Industries Company

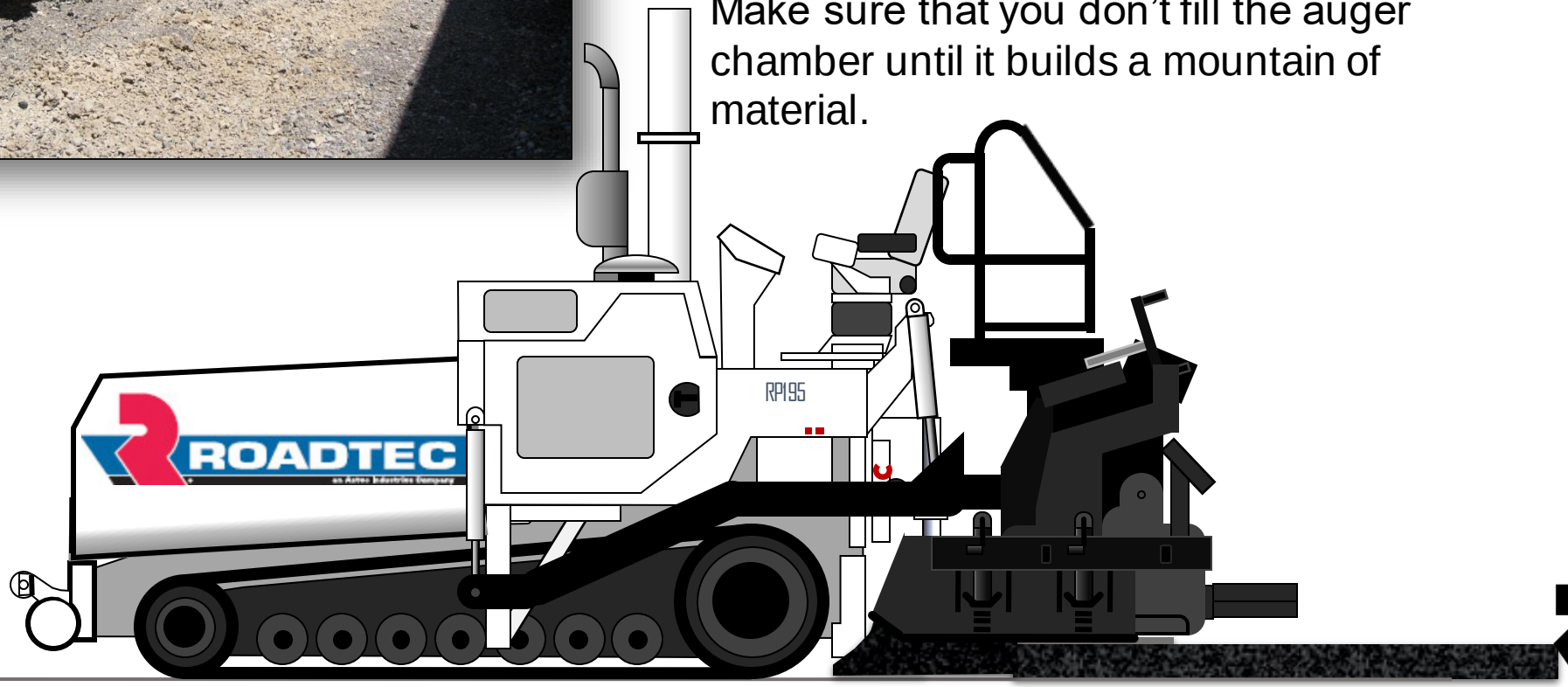


Starting Off

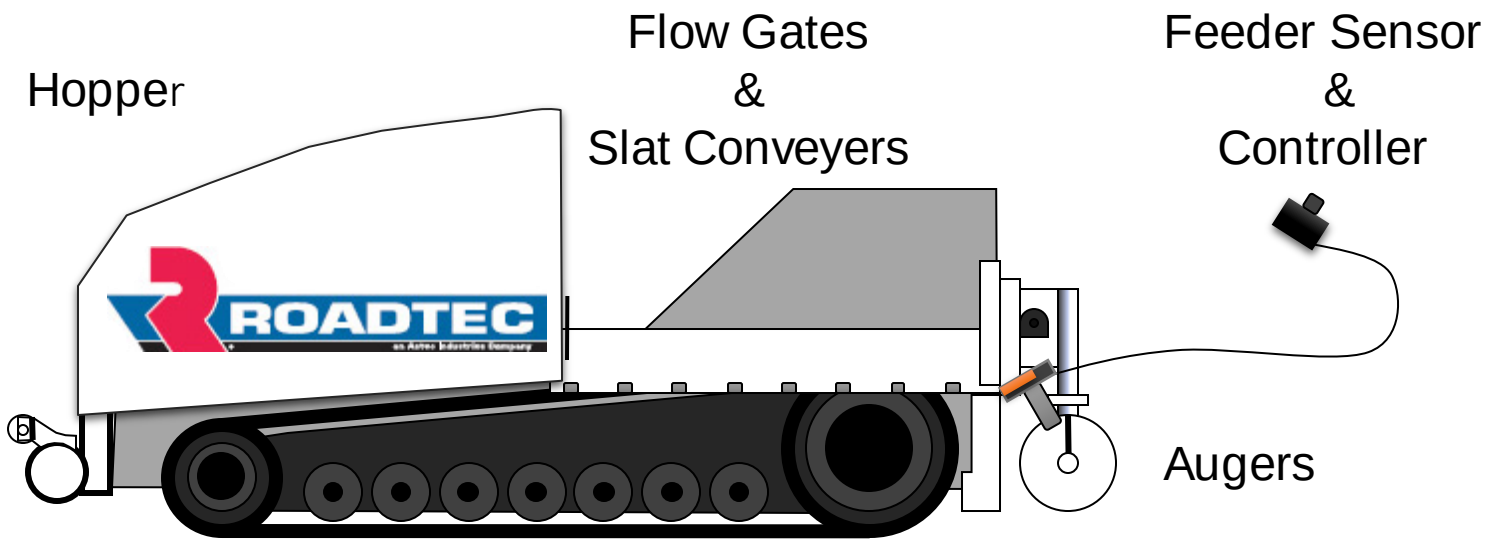
Load your auger chamber with material.

Here is a great example of containing your material as you take off.

Make sure that you don't fill the auger chamber until it builds a mountain of material.

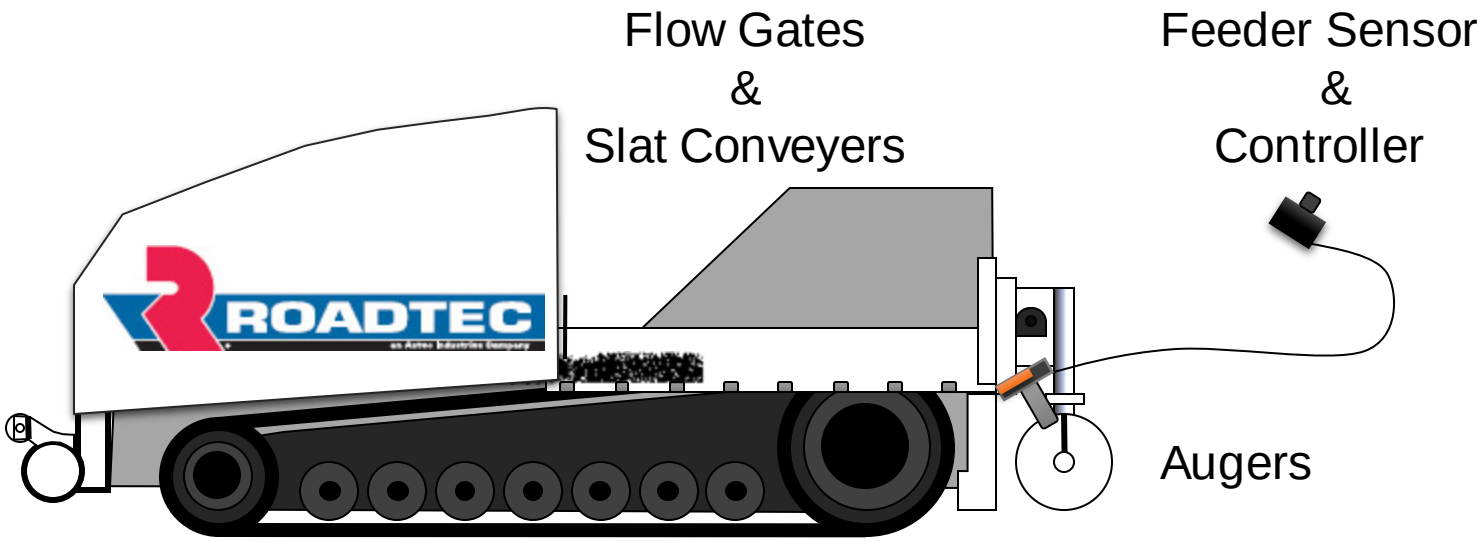


ROADTEC
an Astec Industries Company



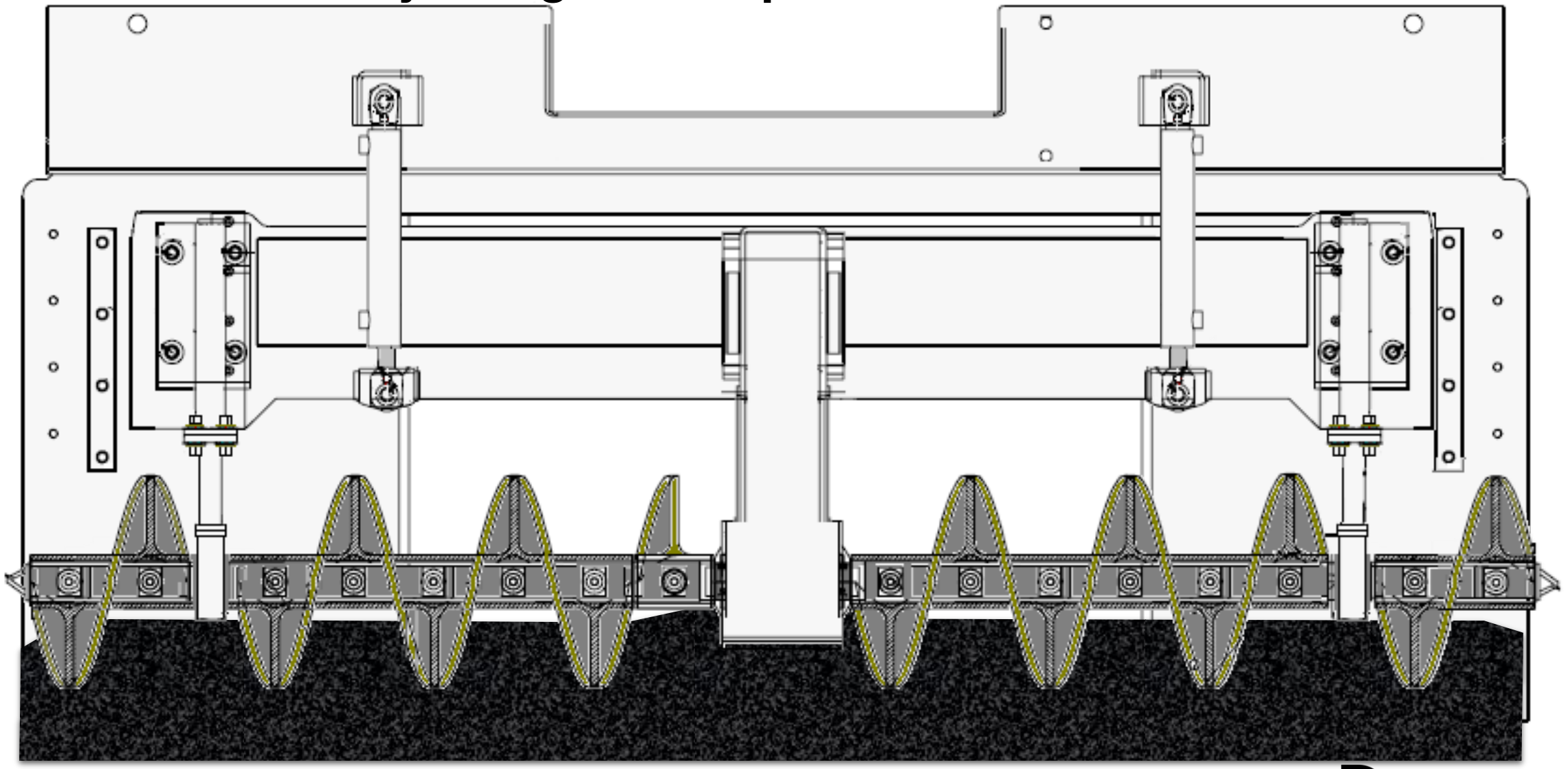
- The hopper receives the mix
- Slate conveyors carry it through the paver tunnel.
- Flow gates strike off the mix.
- Augers distribute the mix in front of the screed.
- Sensors control the material level at the outboard edge of the screed.

Feed System Components

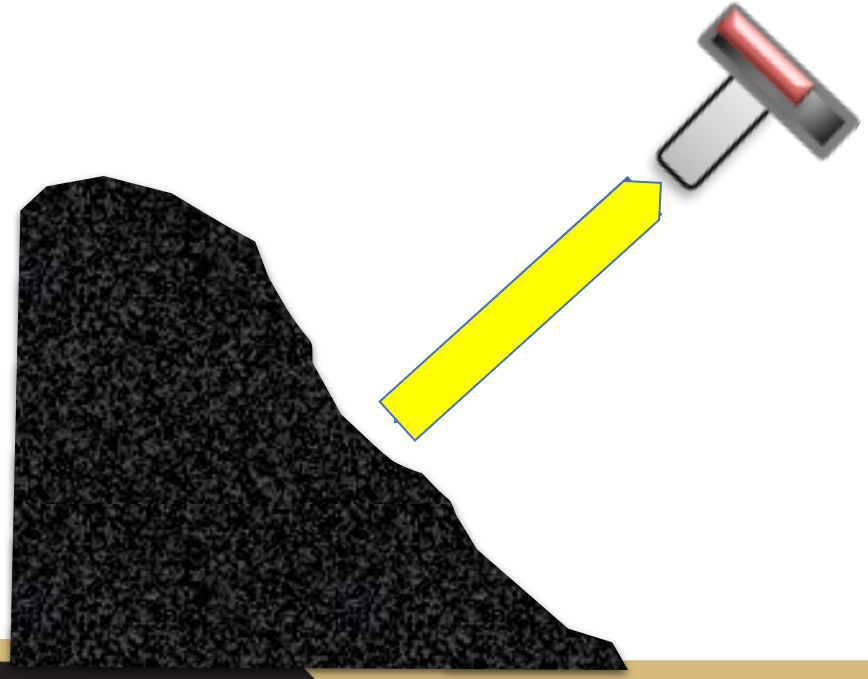


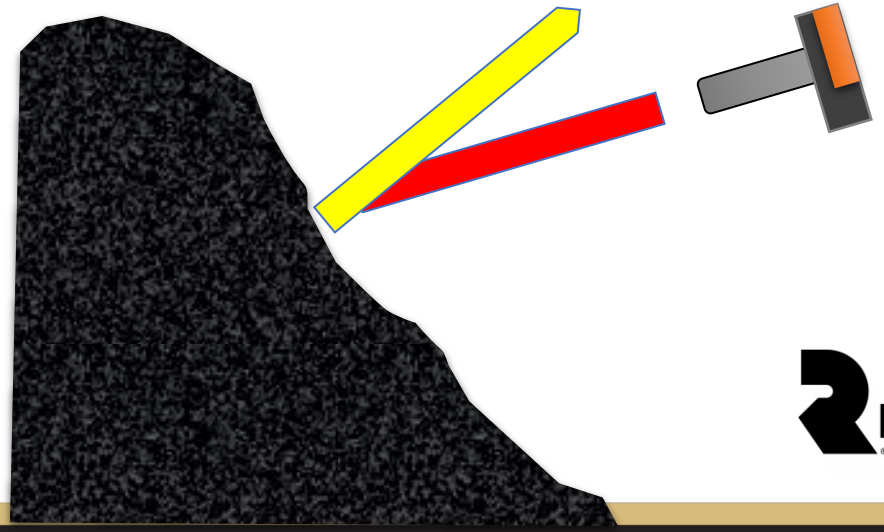
- Flow gates strike off the mix.
- Augers distribute the mix in front of the screed.

Adjusting the Proper Head of Material



ROADTEC
an Astec Industries Company

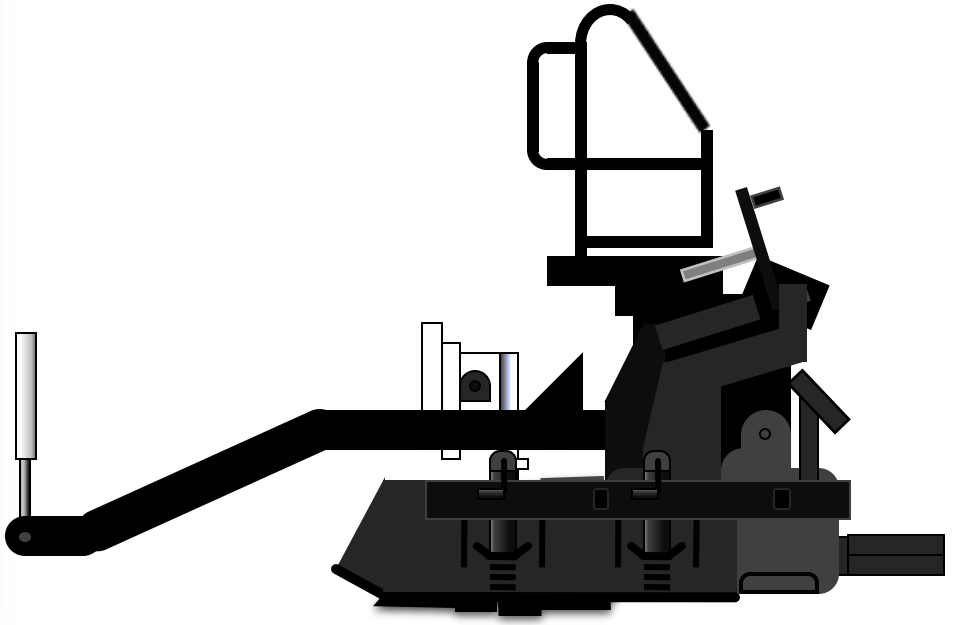




ROADTEC
an Astec Industries Company

Managing the Feed System

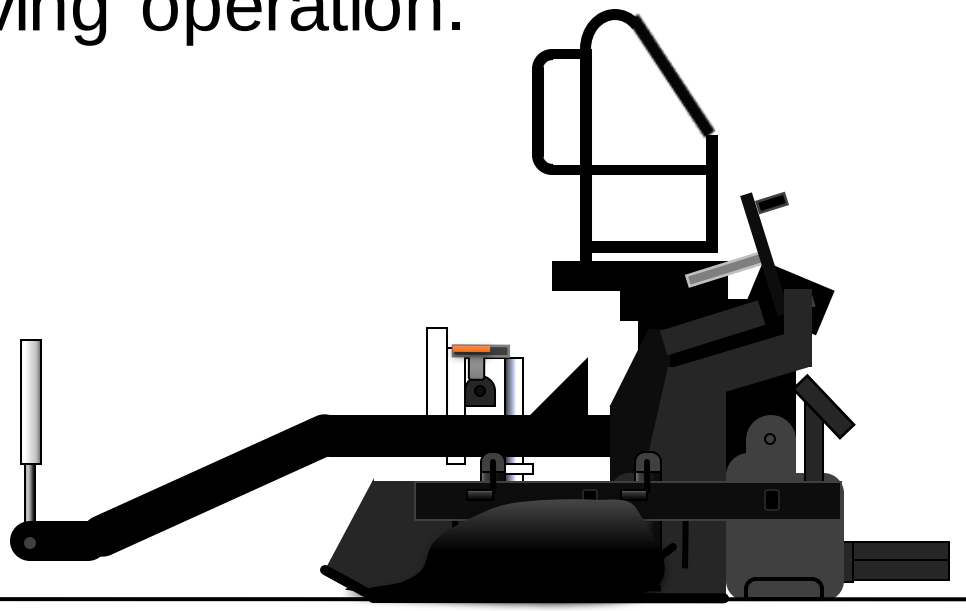
This is an example of a feeder that is not positioned properly.



ROADTEC
an Astec Industries Company

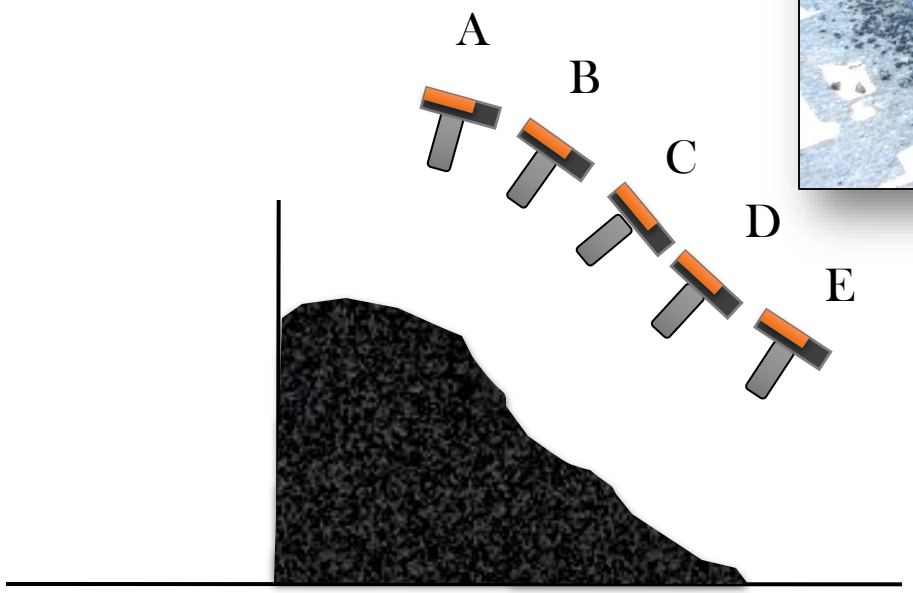
Managing the Feed System

The correct position as illustrated here, will cure many problems with your paving operation.



Managing the Feed System

What is the best position to manage this head of material?

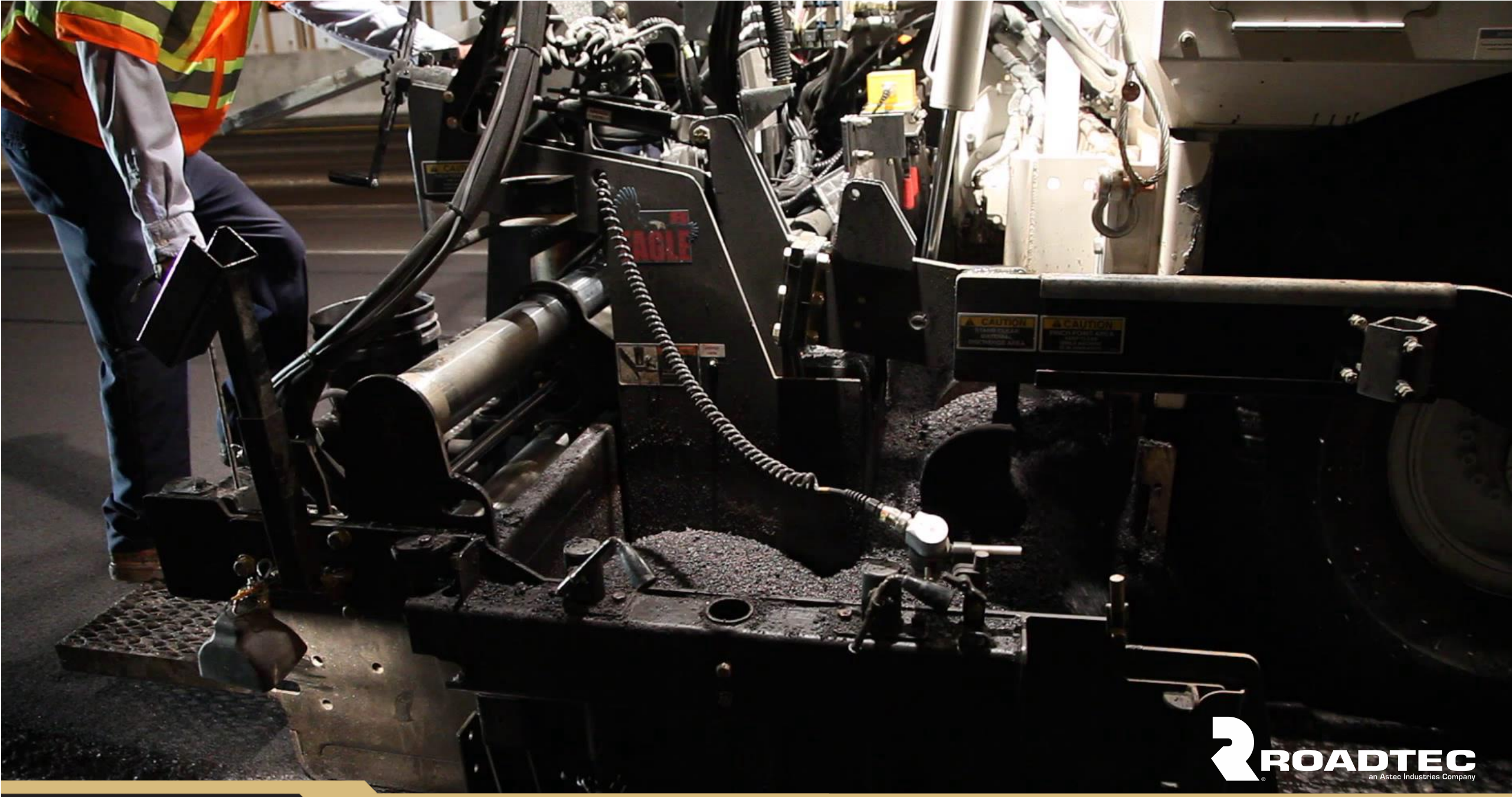


ROADTEC
an Astec Industries Company

ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES


ROADTEC
an Astec Industries Company



ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES

ROADTEC
an Astec Industries Company

ASTEC INDUSTRIES