



Florida Department of
Transportation



PAVING PRODUCTS



1981



PAVING PRODUCTS



Understanding the Paver



Role of the Paver

- To meet specifications for grade, texture & smoothness

Understanding the Paver



Basic Paver Functions

- Self-leveling
- Material feed

Understanding the Paver



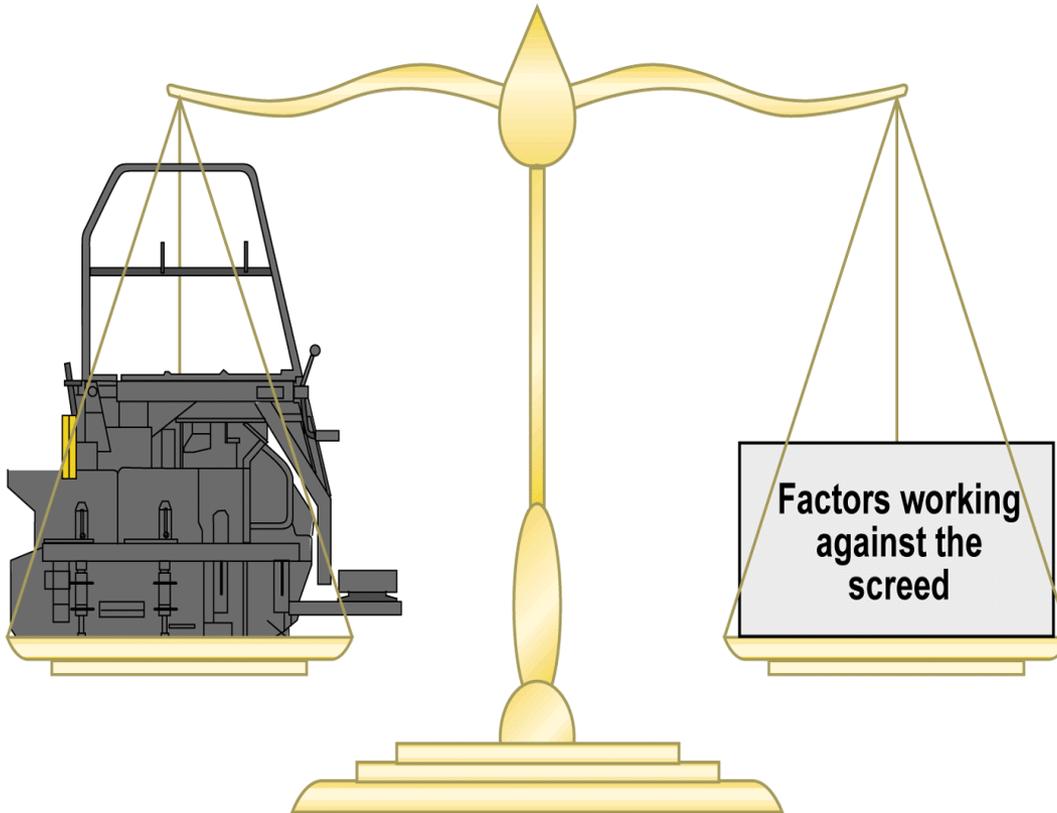
Tractor Self-Leveling

- Screed is free to rise & fall
- Constant line of pull when set up properly
- Smooth surface over irregular grade

History in the Making?



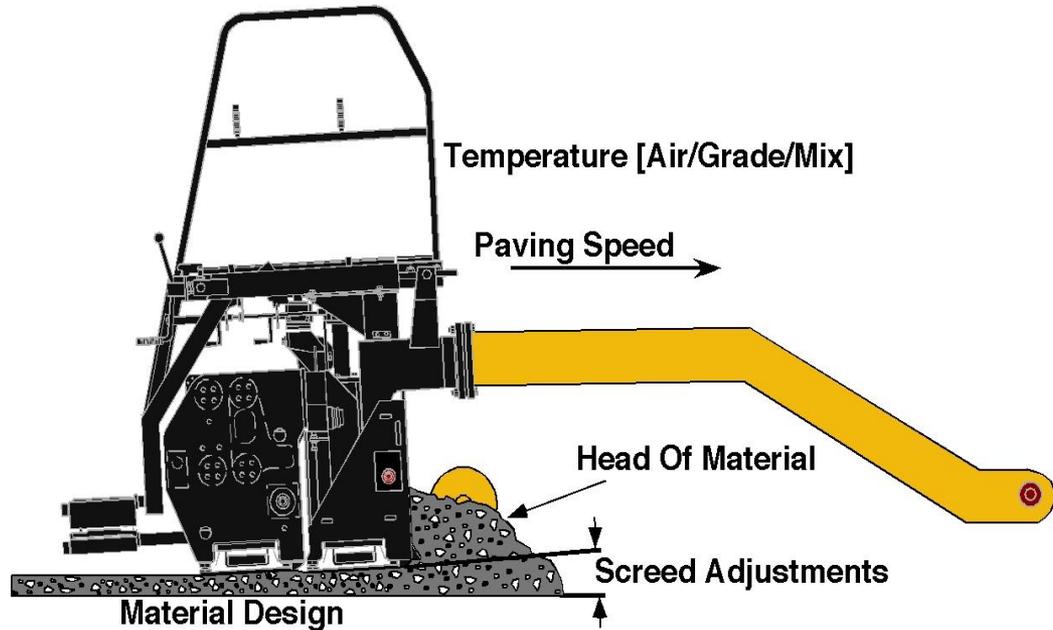
Understanding the Paver



Free-Floating Screed

- Screed position determines mat thickness
- Screed position is constant as long as all factors remain constant

Understanding the Paver



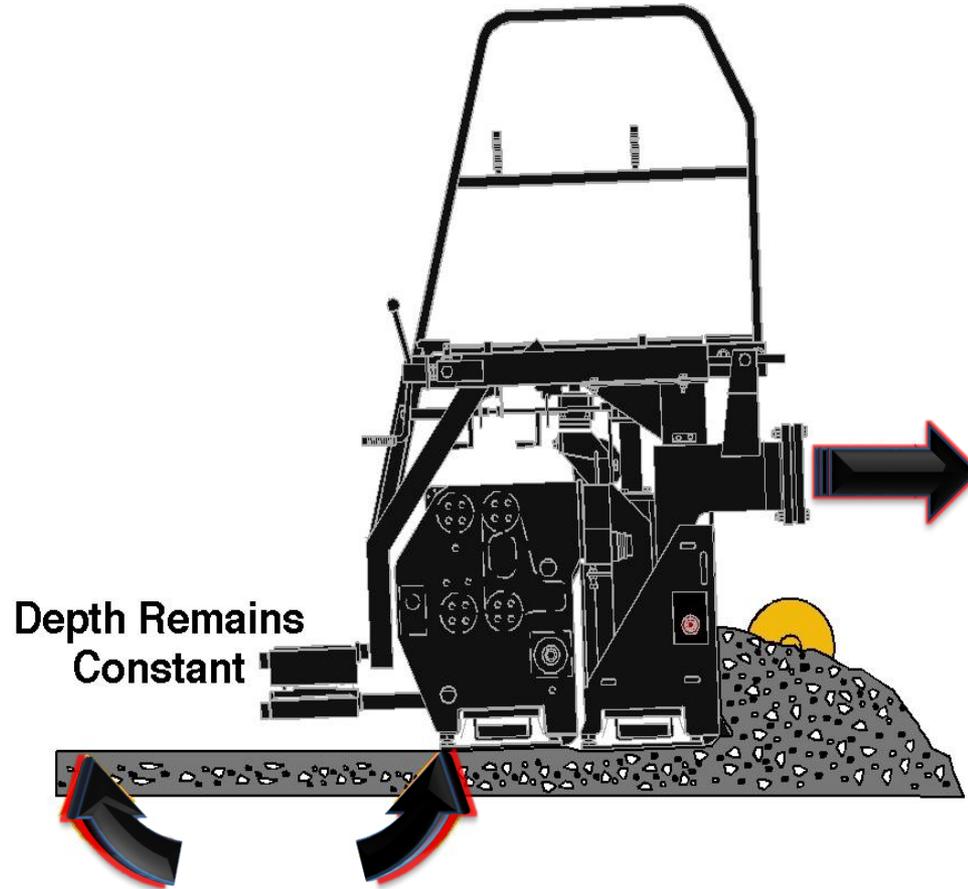
Factors Affecting the Screed

- Paving speed
- Head of material
- Screed adjustments
- Mix design
- Mix temperature
- Air temperature
- Grade temperature

Factors Affecting Screed

Constant Speed

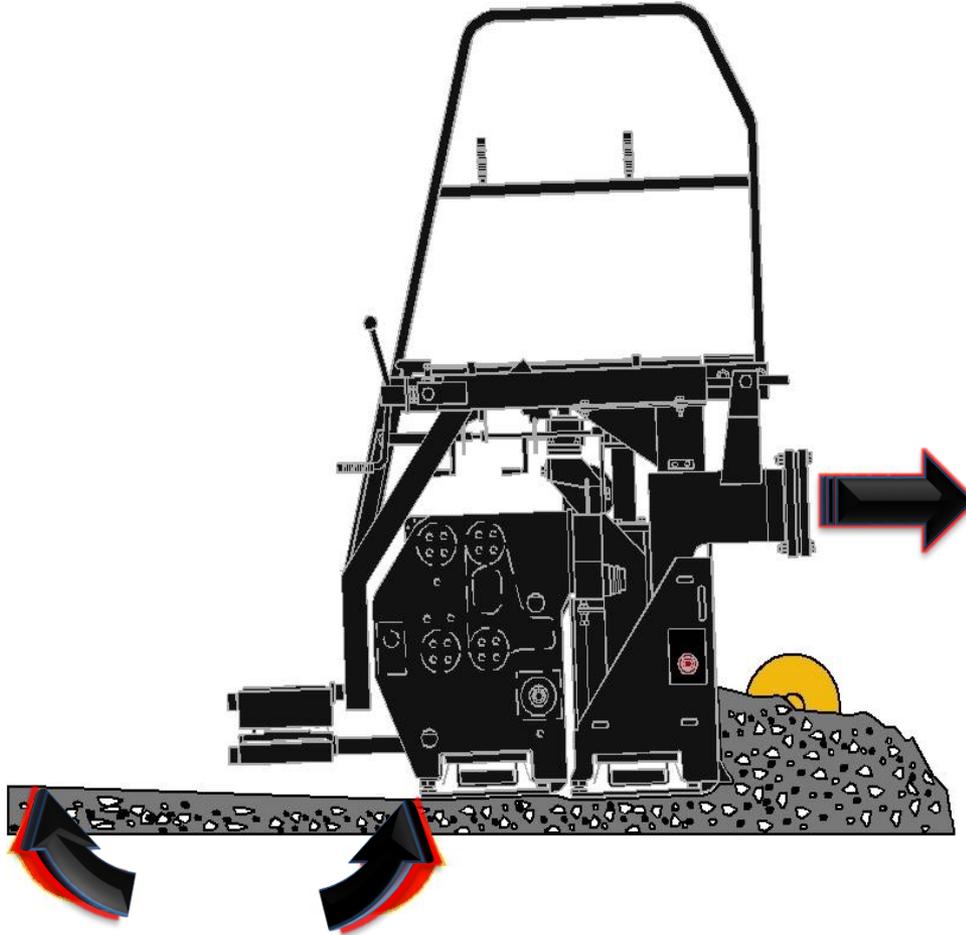
- Shear factor is constant
- Depth remains constant



Factors Affecting Screed

Increased Speed

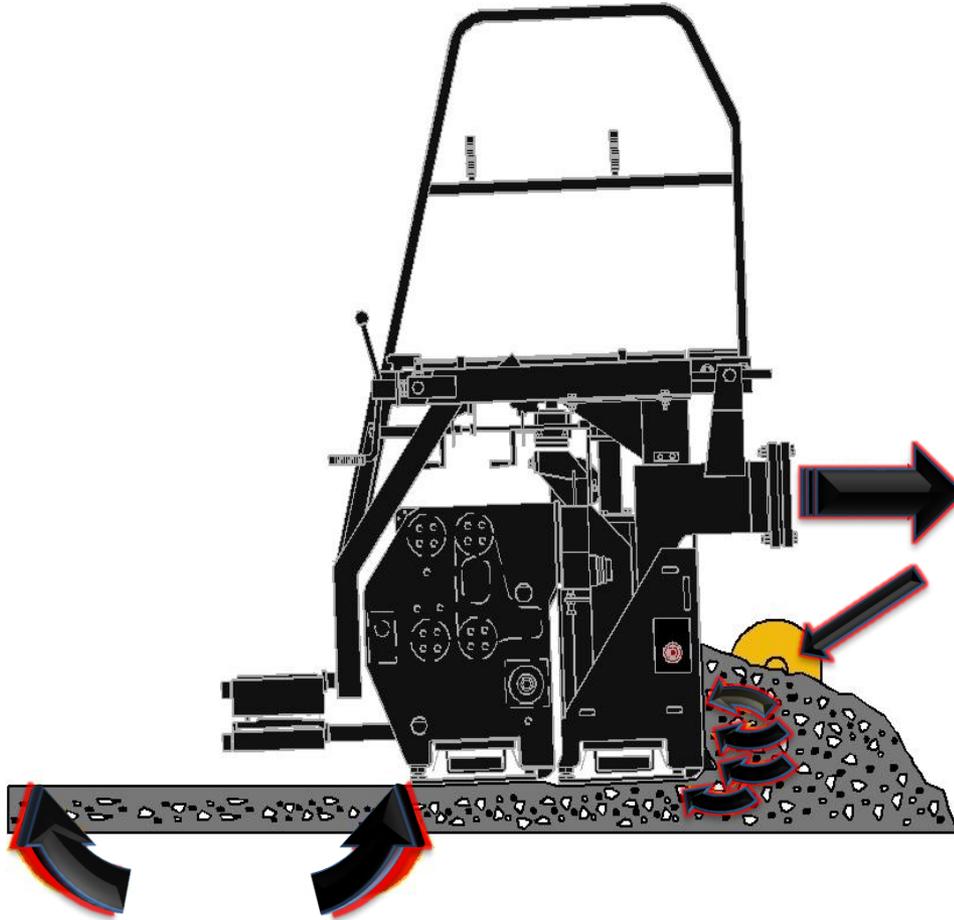
- Shear factor decreases
- Depth decreases



Factors Affecting Screed

Correct Head of Material

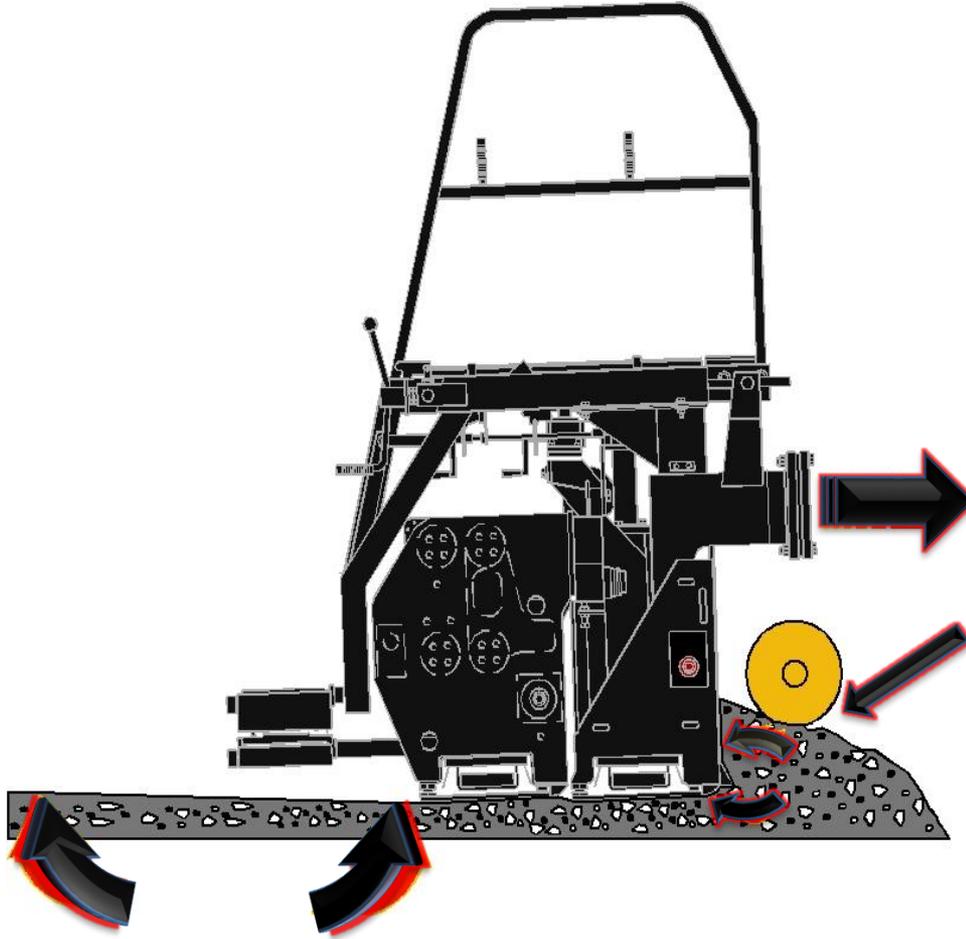
- Half auger level
- Constant resistance
- Constant depth



Factors Affecting Screed

Head of Material Decreased

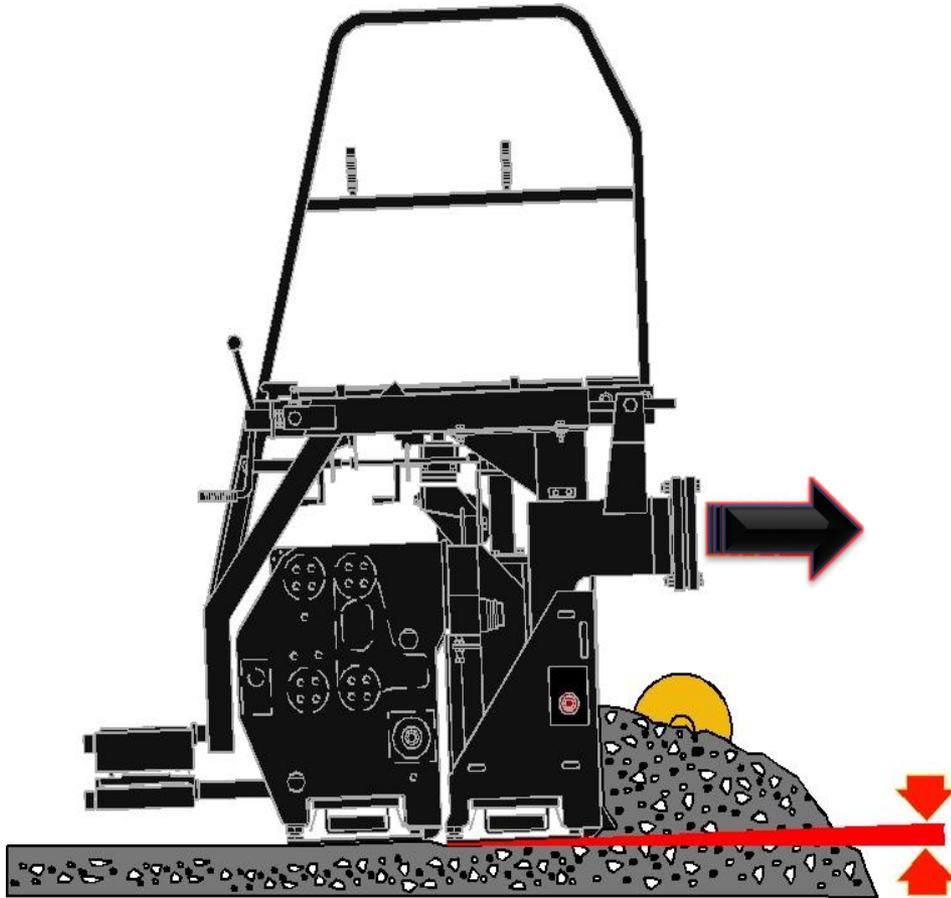
- Resistance decreased
- Depth decreases



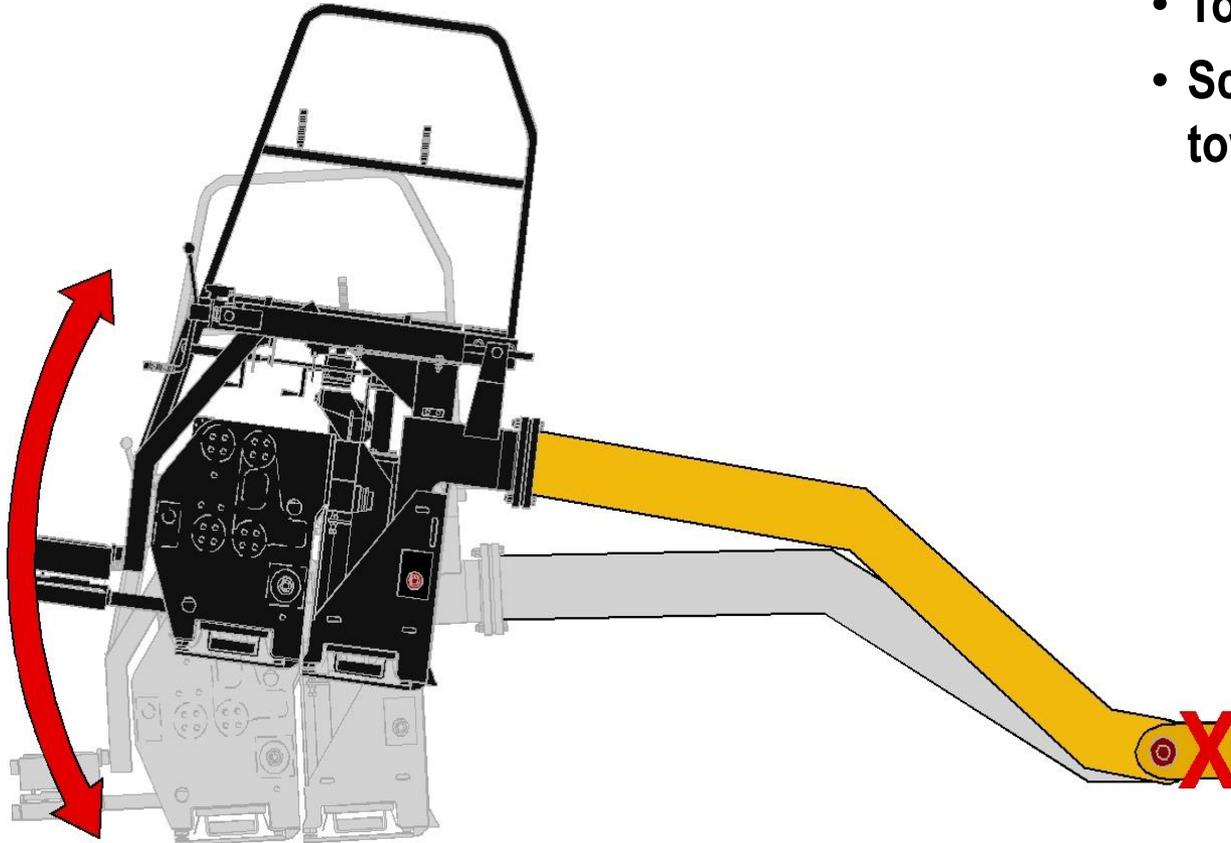
Screed Adjustments

Angle of Attack

- Angle of attack is the relationship between the nose of the screed & the trailing edge of the screed
- Nose up attitude
- Screed reaches equilibrium

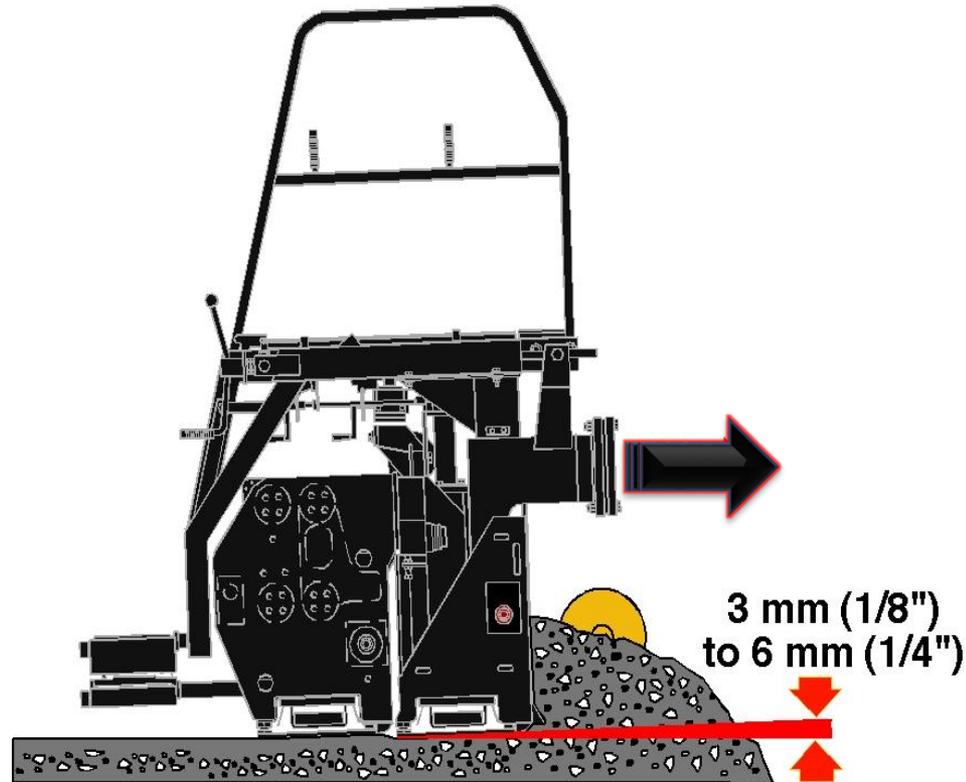


Screed Adjustments



- Tow point fixed
- Screed pivots around fixed tow point

Screed Adjustments



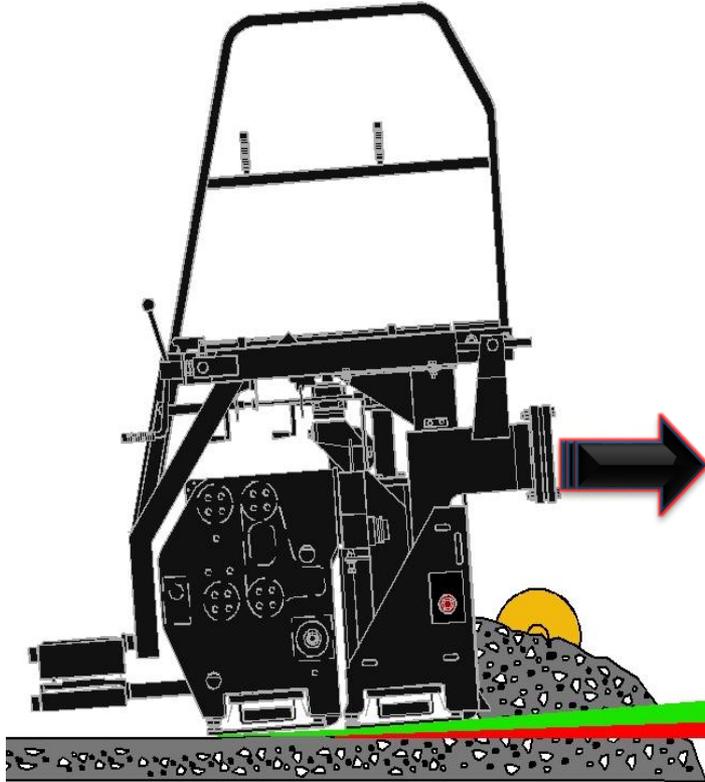
Angle of Attack

- Normally 3 mm (1/8") to 6 mm (1/4")
- Angle too high, screed compacting with trailing edge
- Angle too low increases shear factor and wear

Screed Adjustments

Increase Angle of Attack

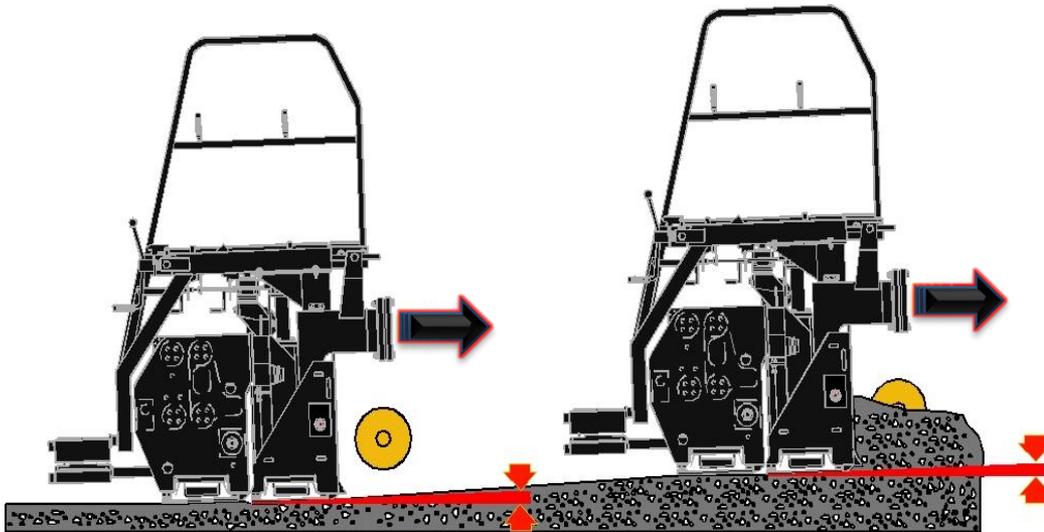
- More material passes under screed
- Screed rises to new level



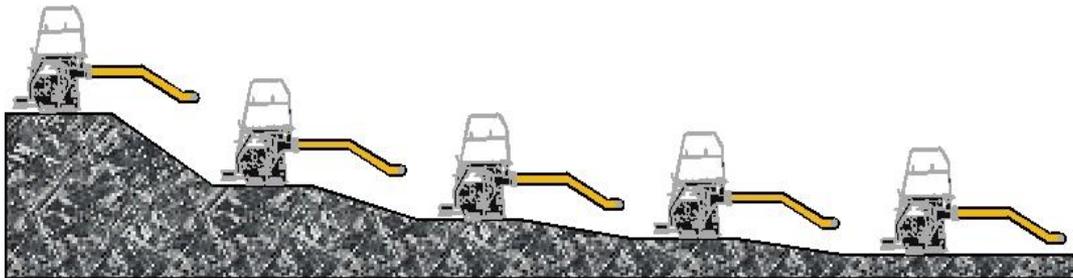
Screed Adjustments

Screed Reaches New Height

- Achieves equilibrium
- Resumes original angle of attack



Screed Adjustments



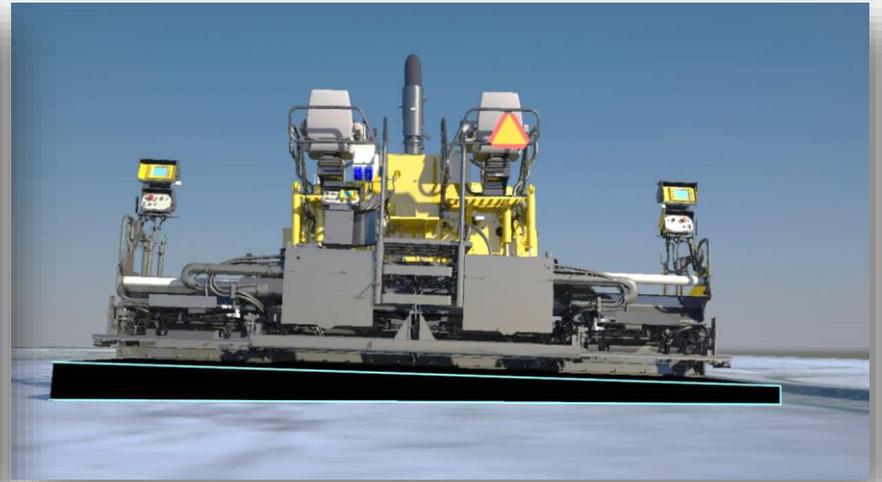
Screed Reaction Time

- Screed reacts to change in angle of attack over 5 tow arm lengths
- 65% of change occurs in the first tow arm length
- 35% of change occurs in the last 4 tow arm lengths
- Factor improves rideability

Automation

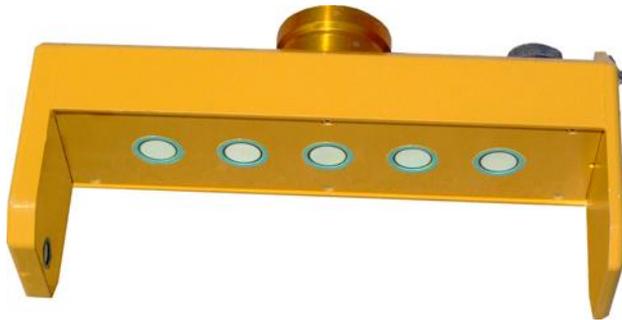


Grade



Slope

Automation



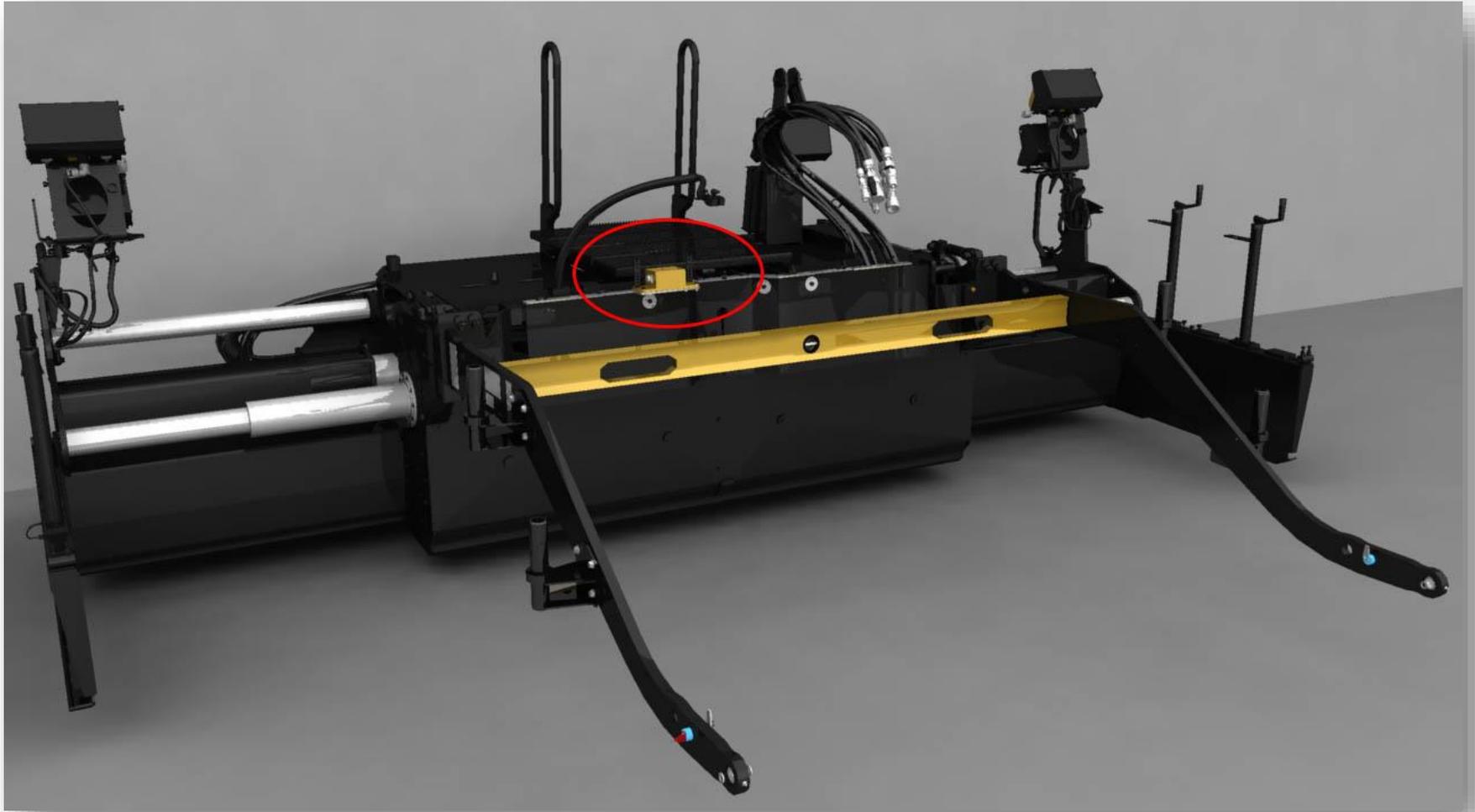
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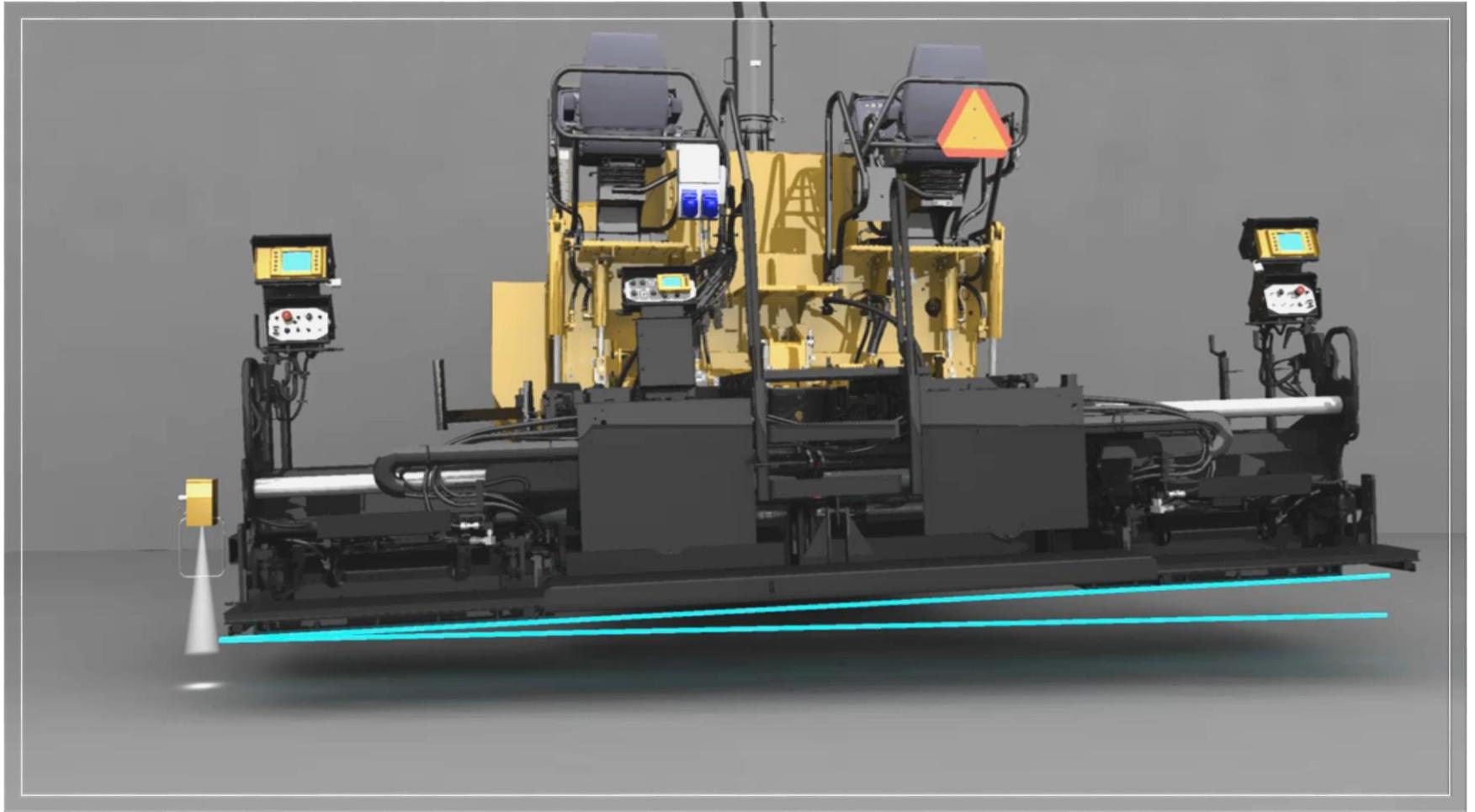
Grade Control



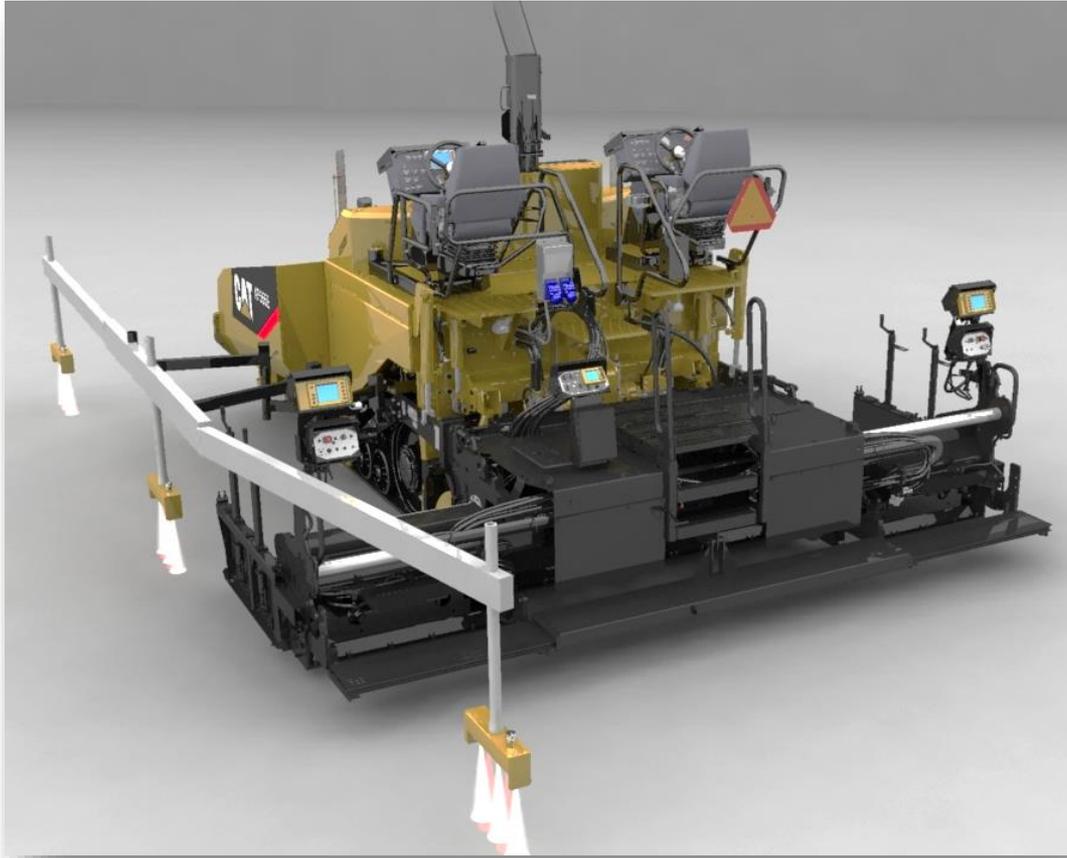
Slope Control



Slope Control



Averaging Ski



- Sonic Averaging Ski (SAS)
 - Aluminium Beam
 - Mounted To Tow Arm
 - Hinged Section Front And Rear
 - 1 to 4 Sonic Sensors

Automation



PAVING PRODUCTS





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