

AS2251 AS2301 Asphalt Screeds

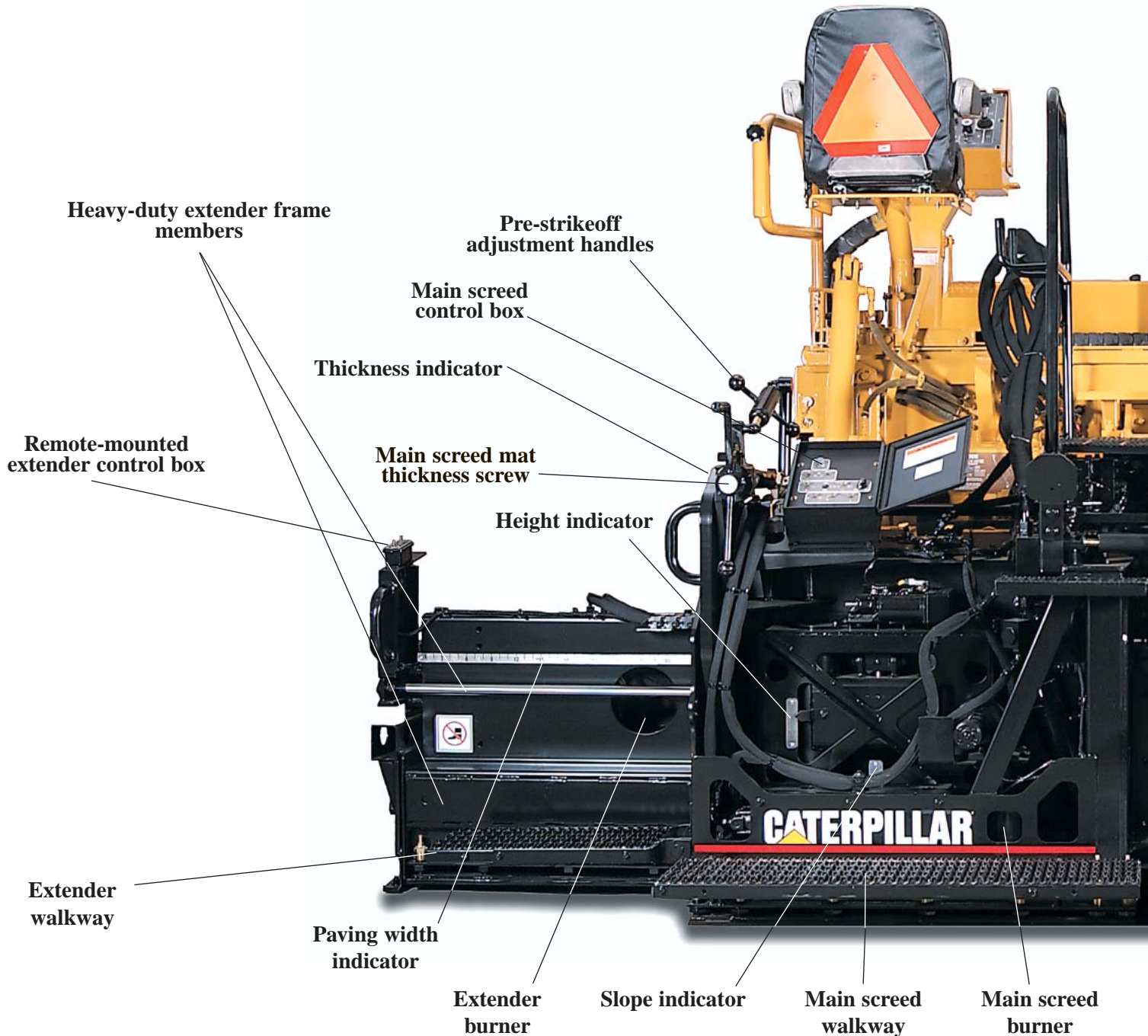


Optional Equipment Shown

	AS2251		AS2301	
Standard paving width	2.5 m	8' 2"	3.05 m	10'
Paving ranges:				
hydraulically extendible	2.5 - 4.4 m	8' 2" - 14' 5"	3.05 - 5.49 m	10 - 18'
with bolt-on extensions	2.5 - 6.2 m	8' 2" - 20' 5"	3.05 - 7.32 m	10 - 24'
with cutoff shoes	1.9 m	6' 2"	2.44 m	8'

AS2251 / AS2301 Screed Features

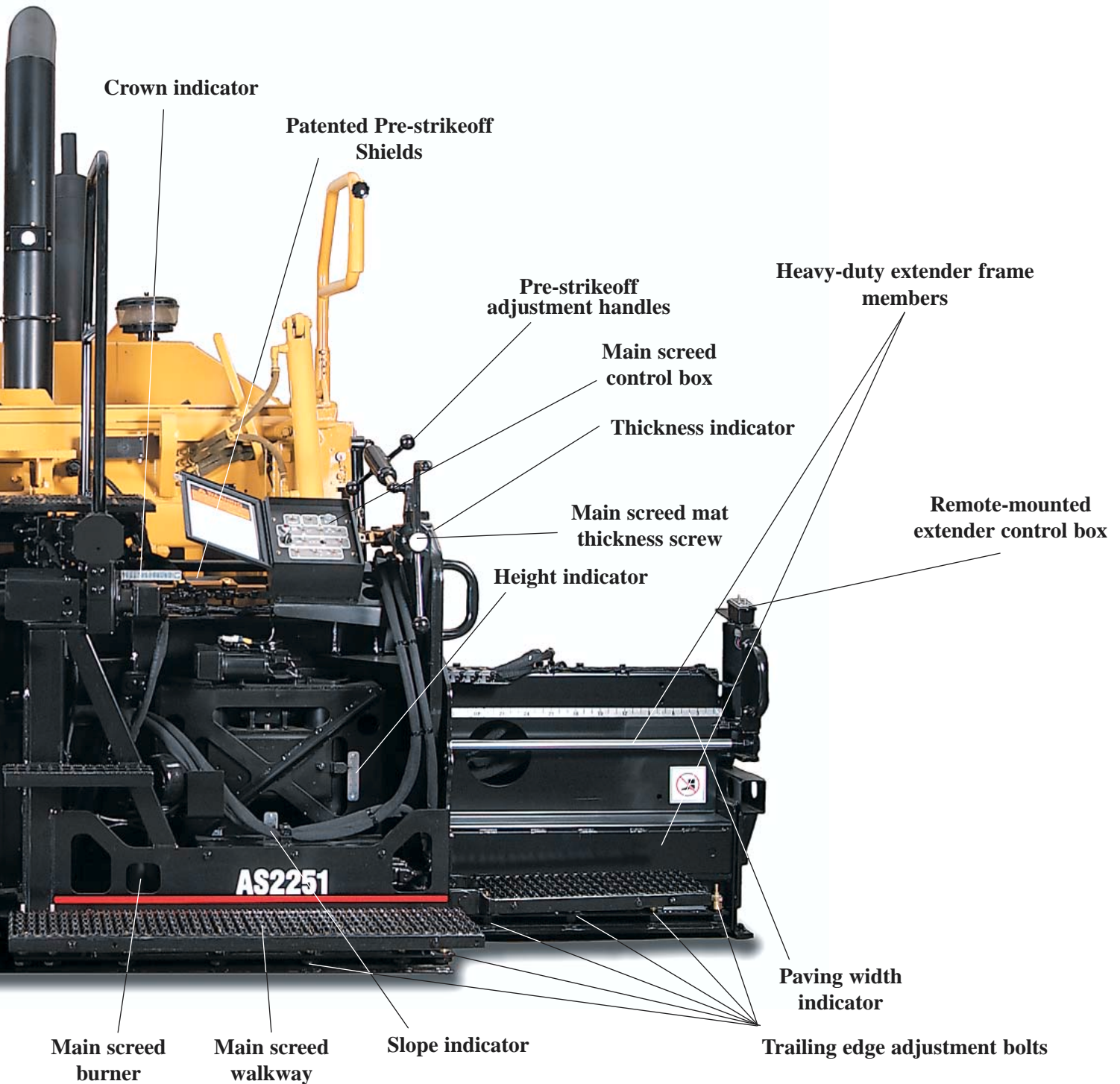
Front-mounted, hydraulically driven extenders simplify paving width changes and minimize handwork.



Screed extenders are supported by two 51 mm (2") diameter tubes that enhance torsional resistance and rigidity.

Patented Pre-Strikeoff Shields allow the proper amount of material to enter the area in front of the main screed.

Width changes can be made from the tractor, main screed or remote-mounted control boxes, which are positioned at the end of each extender.



Accurate width adjustment is measured by a graduated scale that indicates exactly how far the screed has extended in inches and millimeters.

Extender height and slope can be adjusted while the paver is operating.

Extenders are equipped with both vibration and heat.

Extenders and vibrators are hydraulically powered for reliable, positive performance.

End Gates

Easy-to-adjust end gates ensure a good joint with the adjacent mat.

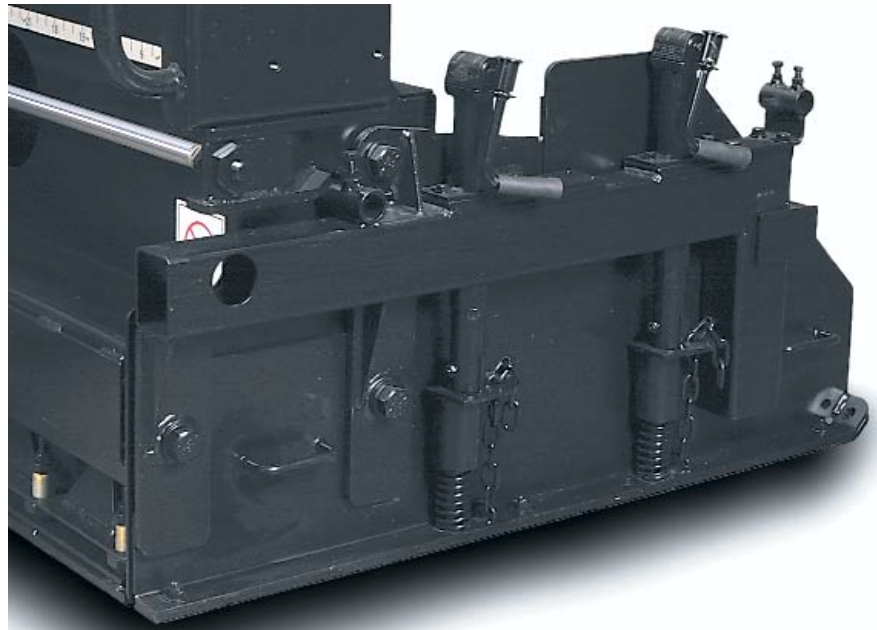
Spring-loaded end gates create a downward force that causes the gates to follow the profile of the surface being paved, assuring a good joint with the adjacent mat.

False-wall design reduces mix contact with the sliding portion of the gate, providing easy gate adjustments.

Bolt-on design allows easy end gate installation and removal.

Replaceable wear strip enhances end gate service life.

Full-length end gate contains material, providing an optimal longitudinal joint.



Screed Plate Heating System

Highly efficient burner system provides fast, even screed plate heating.

Four diesel fuel burners, two on the main screed and one on each extender, provide fast screed plate heating.

Burners on main screed and extenders are mounted on a replaceable, baffled combustion chamber with flame deflectors that direct heat to screed plates, providing even heat distribution.

Full-length insulation over the combustion chamber enhances heating efficiency and minimizes heat transfer to the screed frame.

Glow plug ignition is actuated from the main screed control boxes.

Fuel nozzles incorporate check valves that nearly eliminate visible smoke.

A built-in timer allows 15 minutes of screed plate heating, preventing overheating of the plates.



Screed Plates

Screed plates deliver a high-quality mat and a long service life.

Screed plates are constructed of abrasion resistant alloy steel that resists damage and provides an enhanced service life. Quick screed replacement improves maintenance time.

Curved nose bar design provides pre-compaction and enhances material flow under screed.

Nose bar and screed plate replacement are simplified with tapped holes and studs.

Heavy-duty mounting platforms provide rigid support for screed plates, which simplifies leveling.



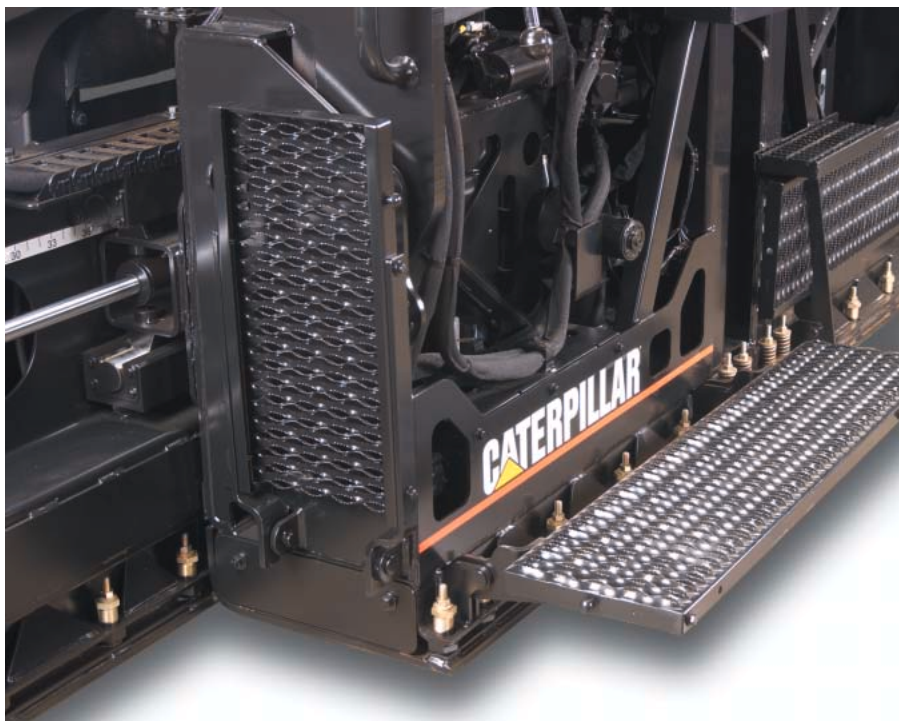
Screed Plate Leveling

Save time with the trailing edge screed plate leveling system.

Screed plate leveling is quick and convenient with the trailing edge adjusting system, which eliminates shims.

The trailing edge adjusting system saves time when installing new screed plates or when adjusting existing plates.

The trailing edge adjusting bolt system hardware is plated to provide extra corrosion resistance.



Screed Controls

Conveniently positioned extender and main screed control boxes provide easy access to various screed functions.



Left side main screed and extender controls



Main screed control boxes are mounted on each side of the screed and contain:

- Extender in-out;
- Feeder gain;
- Burner ignition;
- Horn; and
- Feeders on-off.

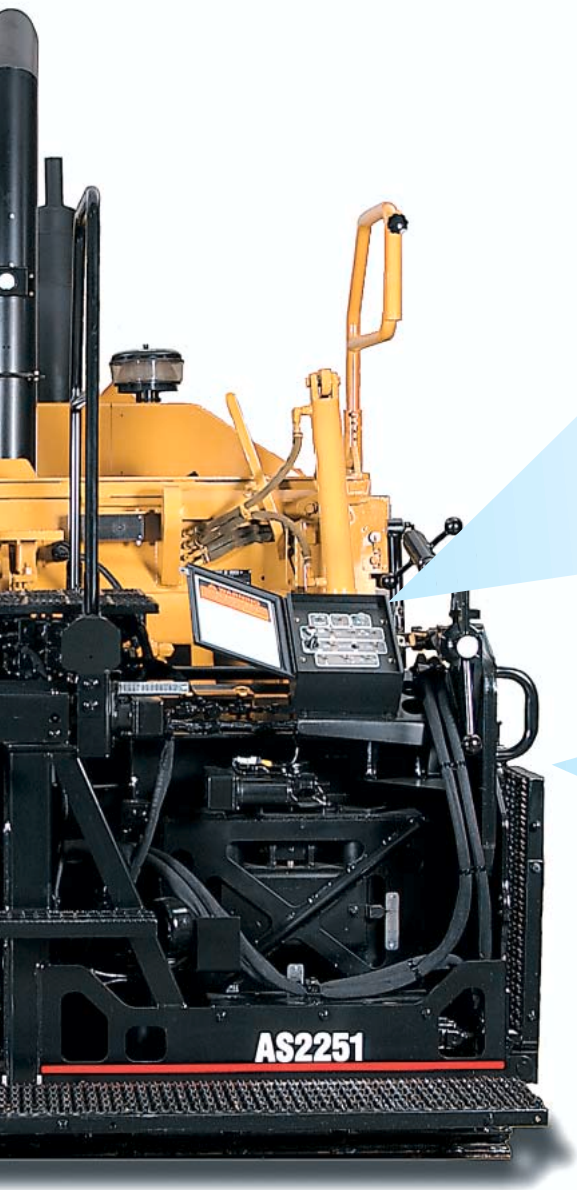
Right side main screed control box also contains the burner fuel pump switch and vibrator on-off switch.

All other operational controls are grouped near the main screed control boxes, providing easy access and enhancing operator efficiency.

Remote-mounted control boxes are positioned on each extender and contain a feeder control switch and extender in-out control switch.



Extender width changes can also be made by the tractor operator with a switch on the operator's console. On-the-go slope and height adjustment for extenders are made with easy-to-operate hand cranks, which are equipped with positive-locking devices.



Right side main screed and extender controls



Power Slope is standard on each extender and can be sloped during operation from +10% to -3% or +76 mm to -25 mm. Indicators shows the percent of slope.

Height adjustment allows each extender to match the mat thickness being laid by the main screed. Indicators show the amount of adjustment in 6.4 mm (1/4") increments.

Crown range is from +10% to -3% or +133 mm to -38 mm. The amount of crown is indicated on a scale near the control.

Crown adjustment is made with an easy-to-operate hand crank, which is equipped with a positive-locking device.

Optional Power Controls for Crown and Height include electric motor-driven gearboxes that provide fingertip operation of main screed crown and extender height adjustments.

Diesel fuel burner on-off valves for the main screed and extenders are positioned below the main screed control boxes.

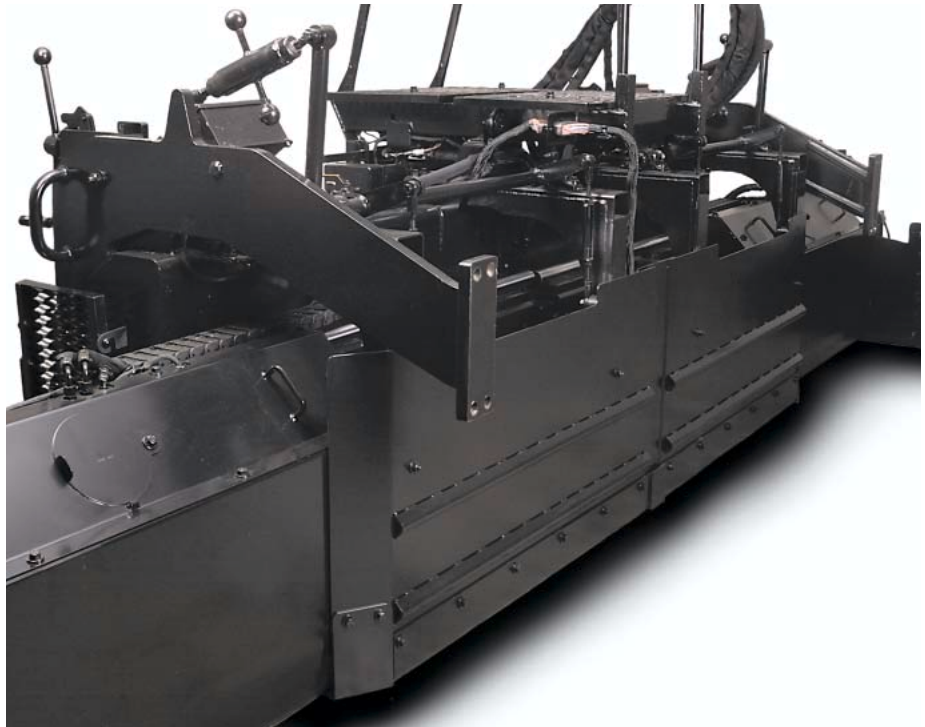
Patented Pre-Strikeoff Shields

A pair of pre-strikeoff shields are positioned at the front of the screed, making first contact with the mix after it passes through the augers.

Pre-strikeoff shields allow the proper amount of material to enter the area in front of the main screed, which leads to a smooth mat texture and helps prevent segregation.

Two adjustment handles allow the shield height to be fine tuned, depending on the mix or operating conditions.

When the thickness screws are used to adjust mat depth, the pre-strikeoff shields follow the leading edge of the main screed, providing automatic adjustment.



Serviceability

The AS2301 and AS2251 Screeds are easy and fast to service.

The screeds have been designed for easy service and maintenance with special emphasis given to component access.

Hydraulic hoses and electrical wiring harnesses are cleanly routed and clamped to reduce wear and provide easy service.

Diesel fuel burner lines are equipped with a quick-disconnect coupling that simplifies switching from the screed plate heating system to the wash-down system.

Remote-mounted fittings for vibrator bearings provide simplified lubrication access.

O-Ring Face Seal fittings and couplings provide maximum protection against hydraulic leaks.

Exposed hoses have nylon sleeve protection to reduce abrasion.

Vibrator system hydraulic lines are constructed of steel tubing, providing durability and resistance to damage.

Integrity of the electrical system is ensured with the use of high-quality components.

The Caterpillar electrical standards, developed to enhance reliability and durability, feature soldered, molded, numbered and color-coded wires. Nylon-braided wrap protects the electrical wires.

Electrical schematics detailing wire numbers, wire colors and component part numbers are located in the service manual.

Extender Slope

Each extender can be sloped during operation from +10% to -3% or +76 mm to -25 mm. Power slope is standard. Indicators show the percent of slope.

Crown

Crown adjustment is made with an easy-to-operate hand crank, which is equipped with a positive-locking device. Crown range is from +10% to -3% or +133 mm to -38 mm. Optional power crown control can be added.

Extender Height

Height adjustment allows each extender to match the mat thickness being placed by the main screed. Adjustments are made with easy-to-operate hand cranks, which are equipped with positive-locking devices. Indicators show the amount of adjustment in 6.4 mm (0.25") increments. Optional power height controls can be added.

Pre-Strikeoff Shields

A pair of patented pre-strikeoff shields are positioned at the front of the screed. The pre-strikeoff shields allow the proper amount of material to enter the area in front of the main screed, which influences the head of material in front of the main screed.

The pre-strikeoff shields follow the leading edge of the main screed, when the thickness screws are used to adjust mat depth. These proportional changes occur because the shields are attached to the drop arms with mechanical linkages.

If manual adjustment of the shields is desired, handles on the mechanical linkages allow the height to be fine tuned. Adjusting the handles only changes the height of the pre-strikeoff shields. The adjustment handles are located near the main screed control boxes.

Hydraulic System

The extenders and vibrator systems are hydraulically controlled with electric-over-hydraulic components. The tractor supplies hydraulic flow. Systems are equipped with test ports for easy access to sample pressures.

All hydraulic connections have O-ring face seal (ORFS) fittings and couplings to provide maximum protection against hydraulic system leaks. High-pressure Cat XT hoses provide an extended service life.

Electrical System

The electrical system is 24-volts to match the tractor. Integrity of the electrical system on Cat machines is ensured with the use of high-quality components. The Caterpillar electrical standards, developed to enhance reliability and durability, feature soldered, molded, numbered and color-coded wires with nylon-braided wrap to protect the electrical harness.

Screed Plates

Main and extender screed plate width, measured front to back, is 457 mm (18"). Main and extender screed plates are constructed of 360 - 440 Brinnell hardness alloy steel that helps resist abrasion and extends wear life. Heavy-duty mounting platforms provide rigid support for screed plates, which simplifies leveling.

Screed plate leveling is quick and convenient with the trailing edge adjusting system. Leveling is accomplished with adjusting studs mounted across the trailing edge of the screed. The bolts thread into large nuts welded onto the underside of the screed frame. The trailing edge adjusting bolt system hardware is plated to provide extra corrosion resistance.

Extender Configuration

Two hydraulically driven extenders infinitely vary screed width within the paving range. The extenders are positioned in front of the main screed. The front-mounted extenders are supported by two 51 mm (2") diameter extendible tubes that provide torsional resistance and rigidity.

Extender width changes can be made from the tractor, main screed or remote-mounted control boxes. The remote-mounted control boxes are positioned at the end of each extender.

Extendors are equipped with vibrators and heaters that are separate from the main screed. Vibrator motors and shafts are hydraulically driven. Frequency and amplitude are synchronized with main screed vibrators.

Vibrator System

The main screed and extenders are equipped with a vibrator system that provides initial compaction. Vibrator speed is adjustable from 0 to 50 Hz (3,000 vpm).

Walkways

The main screed and each extender are equipped with open-faced, slip-resistant walkways. The walkways are 476 mm (18.75") wide.

Thickness

Thickness control screws are located on the outboard side of each control console. The thickness screws determines the paving depth. Four thickness control screw thread configurations are available.

End Gates

End gates are 1283 mm (50.5") long, helping contain material and providing an optimal longitudinal joint. End gates are spring loaded, creating an adjustable downward force that causes them to follow the profile of the surface being paved. The spring-loaded design also creates a contained joint with the adjacent mat.

Screed Plate Heating

The screed plate heating system consists of four diesel fuel burners, two on the main screed and one on each extender. The system provides fast and efficient screed plate heating. A built-in timer allows 15 minutes of screed plate heating and then automatically shuts off, preventing over-heating of the plates. Most diesel vapors are eliminated by controlling fuel pressure, directing air flow and controlling fuel at the nozzles.

Controls

Controls are logically grouped providing easy operation. Main screed control consoles are mounted on each side of the screed. They contain all electrically actuated controls. All other operational controls are grouped near the main screed control consoles.

Remote-mounted control boxes are mounted on the outboard surface of each extender. They contain switches for extender width and the feeder system.

Optional Equipment

Power Height allows each extender to match the mat thickness being placed by the main screed with switches in the main screed control consoles. The switches actuate electrical motors that change extender height.

Power Crown allows the center of the main screed to have crown applied to it with a switch in the right main screed control console. The switch actuates an electrical motor that adjusts the crown.

Thickness Control Screw Configurations are available to accommodate operator preferences. The screed can be equipped with one of four thickness control screw thread configurations consisting of clockwise standard thread, counterclockwise standard thread, clockwise Acme thread or counterclockwise Acme thread.

Screed Extensions increase paving width. Extensions are available in 305 mm (12") and 610 mm (24") widths. Heat is by convection from the main screed.

Cutoff Shoe Package allows the paving width of a screed to be reduced up to 610mm (2'). The Cutoff Shoes are available in either 305 mm (12") or 610 mm (24") widths. With either width, the shoes can be varied in 76 mm (3") increments.

Customer Support

Cat dealer services help you operate longer with lower costs.

Your Cat Dealer offers a wide range of services that can be set up under a customer support agreement when purchasing equipment. The dealer will help customers choose a plan that can cover everything from machine and attachment selection to replacement, to help get the best return on the machine investment.

Selection. Make detailed comparisons of the machines under consideration before buying. How long do components last? What is the cost of preventive maintenance? What is the true cost of lost production? Cat Dealers can give precise answers to these questions.

Operation. Improving operating techniques can boost one's profits. Cat Dealers have training videotapes, literature and other ideas to help increase productivity.

Purchase. Look past initial price. Consider the financing options available as well as day-to-day operating costs. This is also the time to look at dealer services that can be included in the cost of the machine to yield lower equipment owning and operating costs over the long run.

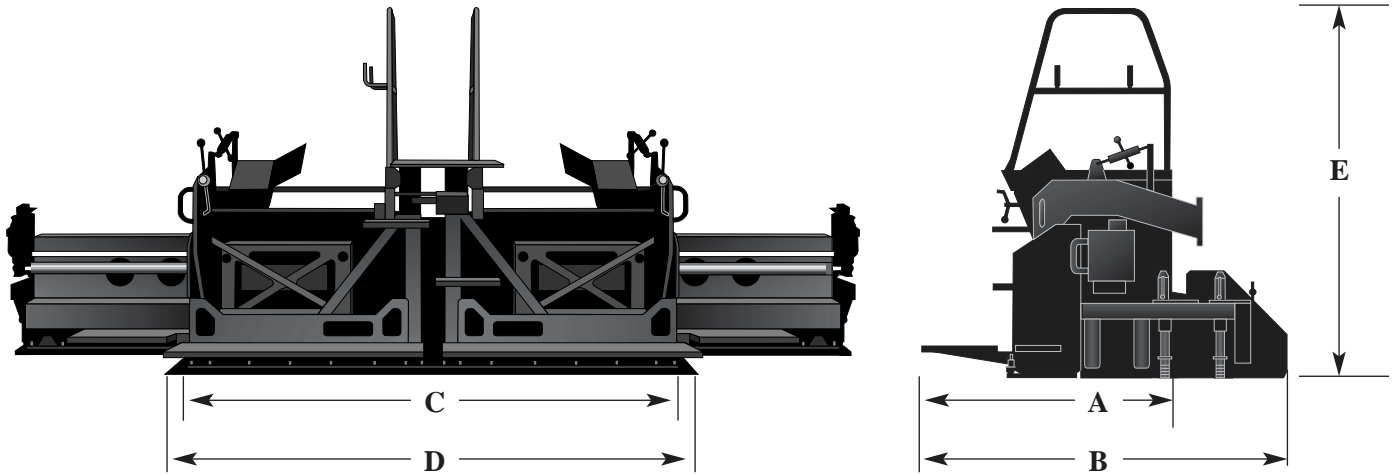
Maintenance. More and more equipment buyers are planning for effective maintenance before buying equipment. Choose from the dealer's wide range of maintenance services at the time of purchase. Repair option programs guarantee the cost of repairs up front. Diagnostic programs such as S•O•S oil analysis and Technical Analysis help avoid unscheduled repairs.

Product support. Nearly all parts are available at the Cat Dealer parts counter. Cat Dealers utilize a worldwide computer network to find in-stock parts to minimize machine downtime.

Replacement. Repair, rebuild or replace? Cat Dealers can help evaluate the cost involved so the right choice is made.

Dimensions

	AS2251 Screed	AS2301 Screed
A Length without End Gates (front to rear)	1478 mm (58")	1478 mm (58")
B Length with End Gates (front to rear)	1933 mm (76")	1933 mm (76")
C Width without End Gates	2.6 m (8' 9")	3.23 m (10' 7")
D Width with End Gates	2.8 m (9' 3")	3.38 m (11' 1")
E Height	2309 mm (91")	2309 mm (91")



Paving Widths

	AS2251 Screed	AS2301 Screed
Standard paving width	2.5 m (8' 2")	3.05 m (10')
Paving ranges:		
hydraulically extendible	2.5 - 4.27 m (8' 2" - 14' 5")	3.05 - 5.49 m (10 - 18')
with bolt-on extensions	2.5 - 6.10 m (8' 2" - 20' 5")	3.05 - 7.32 m (10 - 24')
with cutoff shoes	1.9 m (6' 2")	2.44 m (8')

Weights (approximate)

AS2251 Screed	3214 kg (7,070 lb)
AS2301 Screed	3355 kg (7,840 lb)
305 mm (1') Extension	73 kg (160 lb)
610 mm (2') Extension	152 kg (335 lb)



QEHQ9919 (4-02)
Replaces QEHQ9817
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Caterpillar follows a policy of continual product improvement.
For this reason, some material and specifications could change without notice.