

PM-200

Cold Planer



Cat® C18 Engine with ACERT® Technology

Gross Power (SAE J1995) at 1900 rpm	429 kW/583 hp
Net Power (ISO 9249) at 1900 rpm	415 kW/564 hp
Operating Weight	30 100 kg
Rotor Width (maximum)	2010 mm
Rotor Depth (maximum)	320 mm

PM-200 Cold Planer

The new PM-200 combines enhanced production capabilities, optimized performance and simplified service to complete tough milling applications with productive results.

C18 Engine with ACERT Technology

ACERT Technology works at the point of combustion to optimize engine performance and provide low exhaust emissions. The C18 engine with ACERT Technology provides clean burning power. **pg. 4**

Rotor Drive

A Cat® wet clutch with automatic belt tension adjustment delivers efficient and reliable power to the pavement. The rotor drive consists of field-proven Caterpillar components for long service life. **pg. 6**

Front Loading Conveyor

The PM-200 features a hydraulically folding front loading conveyor for easy transportation. The conveyor swings 48 degrees to the left or right to meet your job requirements. **pg. 7**

Propel System

Propel pump provides balanced flow to dual displacement drive motors on each track. Provides superior tractive effort on slippery surfaces. The electronically controlled load sensing system matches propel speed to load on rotor for maximum production. **pg. 5**

Rotor

Rotor with quick release conical tool holders for quick and easy tool replacement. **pg. 6**

Anti-slab and Collecting Conveyor

A large discharge opening and wide collecting conveyor belt clear out the cutter box fast. Water spray system for lubrication, cooling and dust reduction. **pg. 7**

Performance and reliability you expect.

The PM-200 combines superior performance and reliability to achieve the most demanding job specifications while maximizing machine uptime. With many enhanced features and options, the PM-200 performs full-depth removal of asphalt and concrete pavements with high productive results.



Automatic Grade and Slope Controls

The optional grade and slope systems provide precise control of rotor to a preset cutting depth and cross slope. Remote mounted control boxes allow simple operation from either the operator's station or ground level.

pg. 8

Maneuverability

Four steering modes: front, rear, crab and coordinated enable the operator to have complete control of the machine position in tight milling applications. The four-track drive provides productive operation. **pg. 8**

Operator's Station

Ergonomic design emphasizes comfort, visibility and easy operation. Left and right side machine controls are grouped and conveniently located to enhance operator productivity and reduce fatigue. **pg. 9**

Serviceability

The power-assisted engine hood opens wide and provides exceptional access to the engine, hydraulic pumps and daily service points. Hydraulic rotor service door provides convenient access to the rotor for easy cutting tool removal and replacement. The rotor service door also provides easy access to the water spray nozzles for inspection and replacement without the need for tools. **pg. 10**



C18 Engine with ACERT Technology

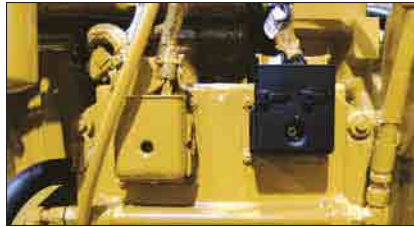
A combination of innovations working at the point of combustion, ACERT Technology optimizes engine performance while meeting European EU Stage IIIA emission regulations for off-road applications.



Optimum power. The engine performs at a full-rated gross power of 429 kW (583 hp) at 1900 rpm with a torque of 2718 Nm. The combination of large displacement and high torque allow the PM-200 to achieve maximum production. Engine power curve is optimized for milling applications providing optimum power while keeping the engine operating at peak efficiency.

High cylinder pressures. High cylinder pressures combined with tightly controlled tolerances promote extremely efficient fuel burn, less blow by and lower emissions.

Mechanically-Actuated Electronically Controlled Unit Injection (MEUI). The fuel system is a unique system that combines the technical advancement of an electronic control system with the simplicity of direct mechanically controlled unit fuel injection. The MEUI system excels in its ability to control injection pressure over the entire engine operating speed range. These features allow the C18 to have complete control over injection timing, duration and pressure.



Precise multiple injection fuel delivery. Combustion chamber temperatures are lowered by precisely shaping the combustion cycle generating fewer emissions and optimizing fuel combustion; translating into more work output for your fuel cost.

The C18 block. Single-piece, grey iron block that features generous ribbing for stiffness and heavy bearing bulkheads for rigidity and strength as the crankshaft turns. This new design supports the engine's higher compression ratios and increases its power density. The incorporation of straight-thread, o-ring connection points reduces the loss of engine oil and fluids.

Easier service, maintenance and repair through monitoring key functions and logging critical indicators. Advanced electronic diagnostic capabilities are possible using Cat Electronic Technician.

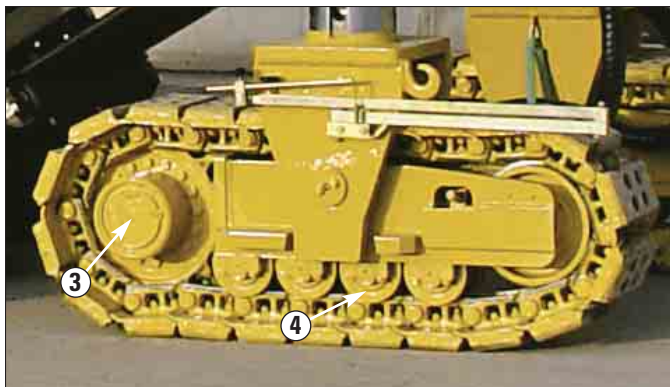
Turbocharged and air-to-air aftercooling. High horsepower with increased response time is assured while keeping exhaust temperatures low for long hours of continuous operation.

Air-to-air aftercooling (ATAAC). Air intake temperatures are maintained low and in concert with the tight tolerance combustion chamber components, maximizing fuel efficiency and minimizing emissions. New turbocharger, unique cross-flow head design, single, front driven, overhead cam and a more efficient intake manifold generate significant improvements in air flow, maximizing efficiency and reduced emissions.

The ADEM™ A4 electronic control module. This module manages fuel delivery, valve timing and airflow for efficient performance per liter of fuel used. The control module provides flexible fuel mapping, allowing the engine to respond quickly to varying application needs. It keeps track of engine and machine conditions while keeping the engine operating at peak efficiency.

Propel System

Hydrostatic drive with hydraulic flow provided by a variable displacement axial piston pump. Dual displacement track drive motors provide balanced tractive effort.



- 1 Two Speed Drive Motor
- 2 Polyurethane Track Pads
- 3 Planetary with Secondary Brake
- 4 Heavy-duty Cat Rollers

Propel pump. A balanced flow to the dual displacement drive motors on each track provides superior tractive effort on all surfaces.

Load control system (anti-stall). The electronically controlled system matches propel speed to load on rotor for maximum production. With the machine in work mode and load control engaged, three load control settings can be selected – HIGH for light cuts, MED for medium cuts and LOW for hard cuts. The propel lever infinitely varies the working speed within the three ranges.

Two speed ranges. The machine operates at either maximum torque throughout the entire milling speed range or at a faster travel speed for moving around the job site.

Positive traction control (flow divider). Equal hydraulic oil flow to each drive motor increases tractive effort in hard cutting applications and in slippery conditions. The positive traction control is actuated from the operator's console.

Rotor

Quick release conical holders for quick and easy replacement.



178 six-sided carbide-tipped tools. Tools are mounted in durable three-piece, quick release tool holders and arranged in a triple wrap flighting pattern for maximum breakout force. Tapered quick release conical tool holders maintain tightness in holder base.

Large replaceable carbide faced loading paddles.

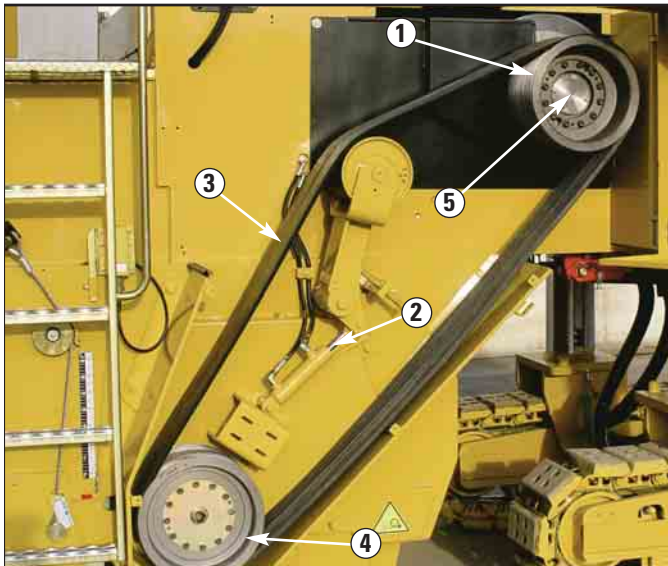
Loading paddles effectively move milled material onto collecting conveyor resulting in higher production and less wear on inside of rotor chamber and cutting tools.

Optimum tool spacing. Triple-tree tool placement on rotor ends provides optimum tool spacing to clean up loose material and reduces wear on rotor when maneuvering in the cut.

Hydraulic side plates. Self-tensioning side plates can be hydraulically operated from operator station and at ground level.

Rotor Drive

Exclusive Caterpillar wet clutch delivers maximum available horsepower to each cutting tool while providing long service life and reliability.



Caterpillar wet clutch. The most efficient and reliable system of applying rotor power to the pavement. The rotor clutch system has a separate oil sump, pump, filter, clutch control valve and oil cooler to provide continuous cooling and lubrication.

Two cutting speeds. Upper and lower pulleys are easily interchangeable for maximum torque with the toughest materials and different material sizing requirements.

Two molded six-rib high tensile belts. High tensile belts provide efficient transmission and long service life.

Automatic belt tension adjustment. The hydraulically powered automatic drive belt tensioner prevents rotor drive belt slippage and reduces maintenance.

- 1 Upper Pulley
- 2 Tension Cylinder
- 3 Molded Drive Belt
- 4 Lower Pulley
- 5 Input Pulley Shaft

Folding Loading Conveyor

High capacity and versatility add to increased jobsite productivity.



Hydraulic folding conveyor. Machine transportation is made easier by the upward hydraulically folding front conveyor that reduces the machine dimensions.

800 mm wide upper conveyor. Front loading conveyor height adjustment is hydraulically controlled and two cylinders provide a 48 degree swing to the left and right.

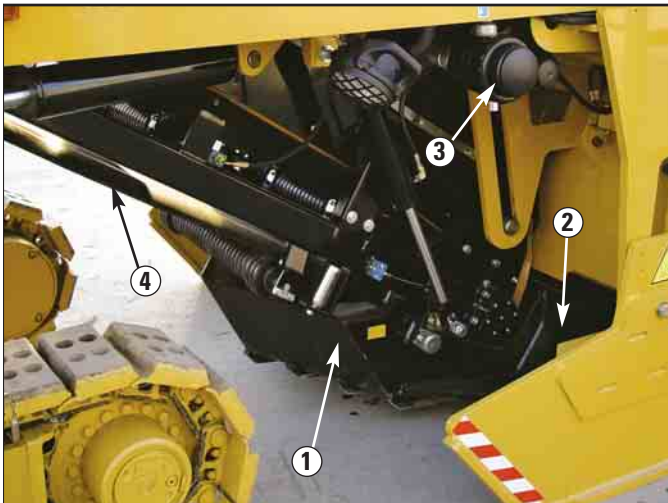
Seamless belt. Seamless belt with high cleats offers long service life and provides better control of fine particles.

Variable belt speed. Front loading conveyor variable belt speed controls loading of milled materials to closely match material type and amount.

Optional dual water spray system. Additional lubrication and cooling is provided for dust abatement during tougher cutting applications. This system includes a second water pump and extra spray nozzles that lubricate and control dust on the loading and collecting conveyors.

Anti-slab and Collecting Conveyor

A large discharge opening and wide collecting conveyor belt clear out the cutter box fast. Water spray system for lubrication, cooling and dust reduction.



1 Anti-Slab Device
2 Hydraulic Front Door

3 Water Filter
4 Seamless Belt

Optimum material sizing and gradation. The hydraulically operated anti-slab device prevents slabbing of the road surface, protects the collecting conveyor and ensures an optimum discharge opening to the rotor chamber.

Large discharge opening. Rotor chamber is rapidly cleared for increased production.

800 mm wide collecting conveyor. Driven by a high torque hydraulic motor for maximum efficiency.

Variable belt speed. Collecting conveyor variable belt speed controls loading of milled materials to closely match material type and amount.

Optimum dust reduction. Standard pressurised water spray lubricates and controls dust on collecting belt. Water spray nozzles are easily accessed for inspection and replacement without the need for tools.

Automatic Grade and Slope Control Options

The optional contacting or non-contacting grade controls provide precise control of rotor to a preset cutting depth. System can be configured to control grade or cross slope.



Contact or non-contact grade sensors. Sensors can be easily positioned on each side of the machine and provide a consistent accuracy. Cross-slope sensor adds to system versatility.

Wire (yo-yo) contacting grade sensors. Wire grade sensor measures side plate movement that enables the entire length of the side plate to become an averaging device for accurate grade matching.

Remote mounted control boxes. Manual or automatic operation can be carried out from either the operator's station or at ground level. Constant read-out for rotor depth and cross-slope are easily visible even in direct sunlight.

Sonic Averaging System. This system features three non-contacting grade sensors, or one contacting and two non-contacting grade sensors, which mount on the side of the machine, enabling the entire length of the machine to become an averaging device.

- 1 Wire Controlled Contacting Grade Sensor
- 2 Remote Mounted Control Boxes

Maneuverability

Four steering modes provide excellent handling for precise control and increased production.



Four steering modes. Steering control provides four steering modes for maneuvering in tight quarters: front steer, crab steer, coordinated steer and rear steer.

Tight cutting radius. 2 m cutting radius allows for precise milling on narrow city streets and cul-de-sacs.

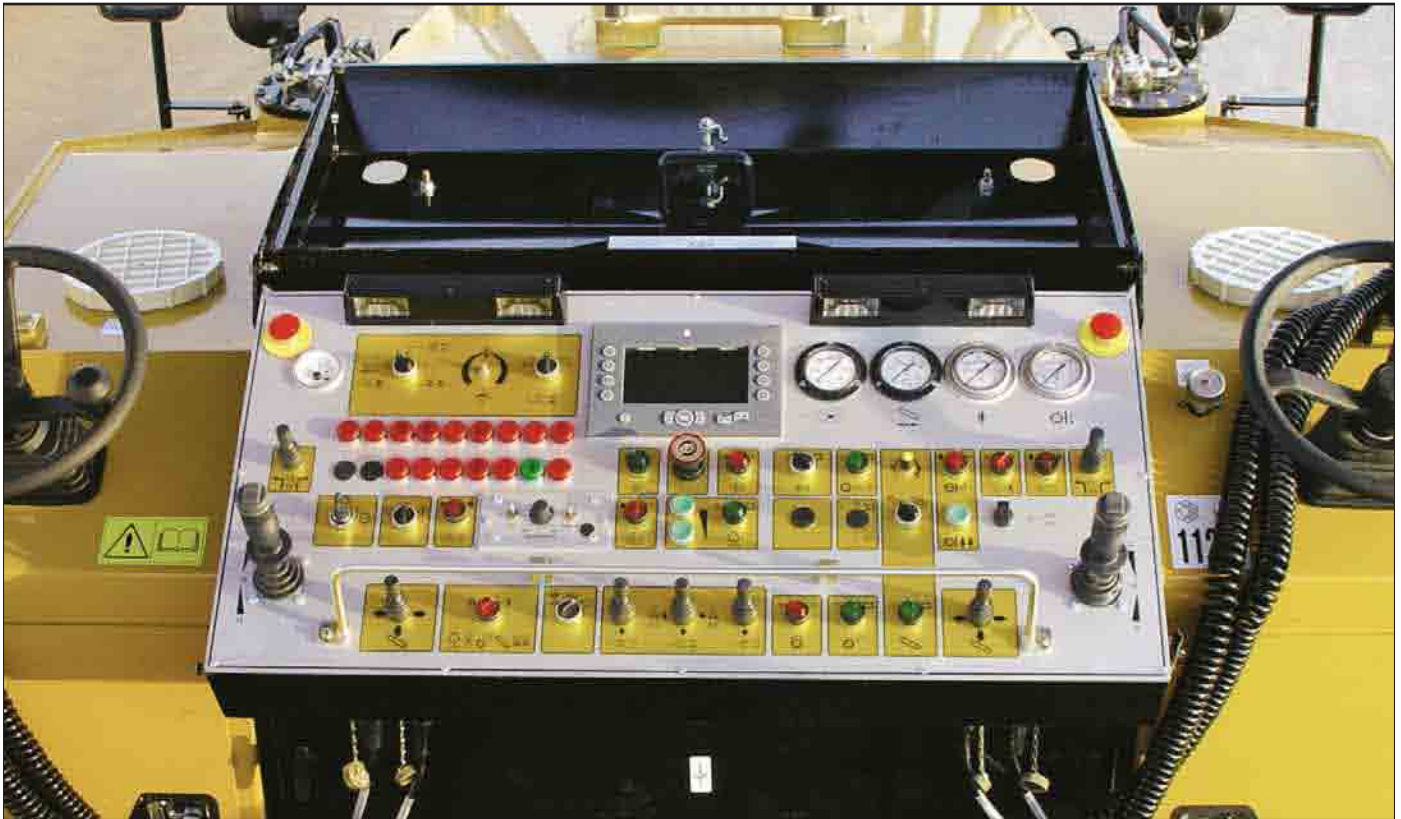
Polyurethane track pads. Polyurethane track pads provide good traction and improved durability against track pad separation.

Excellent visibility to the cutter box side plates. Excellent visibility increases productivity and allows the operator to precisely place the rotor against gutter pans or when working near obstructions.

Dual propel levers. Infinitely variable machine speeds for moving around the job site quickly.

Operator's Station

Designed for efficiency, productivity and simple operation from either side of the console. Easy to reach controls minimize operator fatigue.



Dual operating controls. Clear control and instrumentation layout designed for ease of use. All gauges and displays are easily visible even in direct sunlight.

Computerized monitoring system. The system constantly monitors system pressures and engine condition with multiple modes of operation. Alerts the operator if a problem does occur with three levels of event information.

Hydraulically operated canopy option. Full width canopy with two side extending wings and front and rear windshields provides optimum comfort and protection. Canopy can be hydraulically lowered for transportation.

Optimum night lighting. Work area is efficiently illuminated by a set of quick-fitting lights conveniently stored in one of the machine's compartments.

Reliability and Serviceability

Reliability and serviceability are integrated into every Caterpillar machine. These important features keep your machine investment profitable.



The power-assist engine hood opens wide to provide optimum access to the engine, air filter, hydraulic components and daily service points.

Hydraulic rotor service door.

Service door opens wide for convenient access to rotor for inspection and tool maintenance.

Electronic Control Module (ECM).

Machine systems are monitored providing self-diagnostics for operator or service personnel.

Three event levels. Operator is alerted to conditions on the machine that require attention. Encourages repair before major failure.

Accessory drive system. In an engine not running condition or non-operational auxiliary hydraulic system, full operational control of main machine functions are readily available for assisted machine movement for maintenance and servicing.

Visual indicators. Visual indicators allow easy check of water spray tank level and hydraulic oil tank level.

Quick-connect hydraulic test ports.

Quick-connect feature simplifies system diagnostics.

Ecology drains. Environmental method to drain fluids. They are included on the radiator, engine oil pan, hydraulic and fuel tank.

S•O•SSM ports. Scheduled Oil Sample ports allow for simple fluid collection of hydraulic oil.

Secure hose routing. Polyethylene routing blocks provide a secure routing to reduce rubbing and increase service life of hoses.

Maintenance-free Caterpillar batteries. Batteries are mounted at the rear of the machine. Cat batteries are specifically designed for maximum cranking power and protection against vibration.

Cooling package. The cooling package is a single plane design, stacked in series for easy access for cleaning and service. A modular stacked cooling system provides more efficient cooling of individual systems and makes routine cleaning easier.

Engine

Six cylinder Caterpillar C18 with ACERT Technology, turbocharged air-to-air after-cooled diesel engine. Meets European EU Stage IIIA emissions control standards.

Gross Power	1900 rpm
SAE J1995	429 kW/583 hp
Rated Net Power	1900 rpm
ISO 9249	415 kW/564 hp
EEC 80/1269	415 kW/564 hp
Bore	145 mm
Stroke	183 mm
Displacement	18.1 liters

- All engine horsepower (hp) are metric including front page.
- Net power ratings are tested at the reference conditions for the specified standard.
- Net power advertised is the power available at the flywheel when the engine is equipped with alternator, air cleaner, muffler and fan.
- Dual-element, dry-type air cleaner with visual restriction indicator, cold mode starting aid and dual fuel filters with water separator and air compressor as standard.

Hydraulic System

- Pumps for propel, rotor clutch lubrication, collecting and upper conveyors, auxiliary hydraulics and cooling fan are installed on the engine mounting pad.
- Hydraulic oil cooler located at the rear of the machine and arranged in a modular stacked design for efficient cooling and easy access for cleaning.
- Three-micron filtration on pressure side of auxiliary flow, seven-micron filtration on return side.
- Quick-connect hydraulic test ports simplify system diagnostics.

Brakes

Primary Brake Features

- Closed-loop hydrostatic drive provides dynamic braking during normal operation.

Parking Brake Features

- Spring-applied/hydraulically-released multiple disc type brake mounted on each gear reducer. Brakes are applied automatically when propel lever is in the neutral detent position.
- A loss of hydraulic pressure in the brake circuit is caused when the parking brake switch, located on the operator's console, is pushed in.
- Parking brake is automatically applied when the engine is shut down.
- Propel pump is de-stroked when parking brake is engaged. Propel lever must be returned to neutral after brake is released before machine will propel.

Electrical

The 24-volt electrical system consists of two maintenance-free Cat batteries. Electrical wiring is color-coded, numbered and labeled with component identifiers. The starting system provides 1365 cold cranking amps (cca). The system includes a 100-amp alternator.

Steering

Hydraulic power-assist steering with two steering wheels on operator's console. Four steering modes with automatic realignment of rear tracks through ECM is standard.

Features

- Double-acting steering cylinders control the front and rear tracks and are powered by a pressure-compensated, axial piston variable displacement pump. Constant pressure is assured in the steering system.
- Switch on operator's console provides four steering modes.

Steering Modes

- Front steer – controlled by the steering wheel from both driving positions. The ECM automatically aligns rear tracks to the center position for straight tracking.
- Rear steer – controlled by joysticks on operator's console and toggle switches at ground level control panels. Rear steering is controlled manually in this steering mode.
- Crab steer – front and rear tracks turn simultaneously in the same direction.
- Coordinate steer – front and rear tracks turn simultaneously in the opposite direction.

Turning Radius

Minimum	2000 mm
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Frame

Fabricated from heavy gauge steel plates and structural steel tubing. Track assembly features track frame stops to limit track angles to improve machine's ability to propel up steep inclines and out of deep cuts. Top of deck and steps features non-skid treads for sure footing.

Propel System

Hydrostatic drive with hydraulic flow provided by a variable displacement axial piston pump. Drive motors with planetary gear reduction on each track provides balanced tractive effort.

Features

- A variable displacement, axial piston pump with electronic displacement control supplies pressurized flow.
- Positive traction control valve provides equal hydraulic oil flow to each drive motor to increase tractive effort in hard cutting and slippery conditions.
- Two-speed hydraulic motors allow operation at either maximum torque throughout the entire milling speed range or at a faster travel speed for moving around the job site.
- Gear selection controlled electrically by a selector switch on the operator's console.
- With the machine in work mode and load control engaged, three load control settings can be selected – HIGH for light cuts, MED for medium cuts and LOW for hard cuts.
- Infinitely variable machine speed and direction of travel controlled by propel lever.
- Load control system, controlled by Electronic Control Module (ECM), matches propel speed to load on the rotor for maximum production.
- Tracks are 1640 mm long, 300 mm wide and feature replaceable polyurethane track pads.

Max. Speeds (forward and reverse):

Operating	0-38 mpm
Travel	0-5.9 km/h

Rotor Drive System

Operates direct through a hydraulically actuated, Caterpillar wet clutch driving a planetary gear reducer.

Features

- Heavy-duty wet clutch mounts directly to the engine. Hydraulically actuated by a ON/OFF switch on the operator's console.
- The rotor clutch system has a separate oil sump, pump, filter, clutch control valve and oil cooler to provide continuous cooling and lubrication.
- Two six-rib high tensile strength drive belts drive the rotor through a drum drive gear reducer located inside the rotor mandrel.
- Hydraulically powered automatic drive belt tensioner prevents rotor drive belt slippage and reduces maintenance.
- Upper and lower pulleys are easily interchangeable for maximum torque with the toughest materials and different material sizing requirements.
- Single caliper with dual disc brake installed on rotor drive output drive shaft.

Rotor Specifications

Rotor Drive System

Rotor drive	
Two six-rib high tensile belts	
Transmission	
Mechanical	
Clutch	
Hydraulic/wet multi-disc	
Speed at 1900 engine rpm	114 rpm

Rotor

Cutting width	2010 mm
Cutting depth	320 mm
Number of tools	178
Tool spacing (tip)	15 mm

Conveyor System

- Collecting conveyor is driven by a high torque hydraulic motor to ensure maximum production and clearing out the rotor chamber effectively.
- Variable belt speed control for collecting and front loading conveyors enable matching of milled material size and production for all applications. Both conveyor belts can be reversed for quick clean out of belts.
- Hydraulically folding front loading conveyor facilitates machine transportation.
- Upper aluminum covers on loading conveyor helps avoid material spillage and wind blown fine materials.

Collecting Conveyor

Width	800 mm
Speed	300 mpm

Loading Conveyor

Width	800 mm
Speed	300 mpm
Swing (from center)	48 degrees

Rotor Housing

- Large discharge opening clears out the rotor housing fast for increased production and reduced tool wear.
- Side plates contact surface in anti-wear material for longer service life.
- Floating moldboard with adjustable down pressure is standard and features a replaceable cutting edge.
- Height control for rotor door located at operator's station and at two ground level control stations.

Water Spray System

- Centrifugal pump supplies water to spray nozzles for dust control and belt lubrication.
- Water spray nozzles focuses the water spray in a flat fan pattern to the rotor for better cooling of cutting tools. Nozzles are easily removed for inspection and replacement without the need for tools.
- Standard system includes gauges to monitor water pressure, a low water level indicator and water control valves to conserve water usage.
- Water tank can be filled from the top of the machine or at ground level.
- An optional water spray system is available for additional lubrication and cutting tool cooling and for additional dust abatement during heavy-duty cutting applications.

Water Tank

Capacity 3500 liters

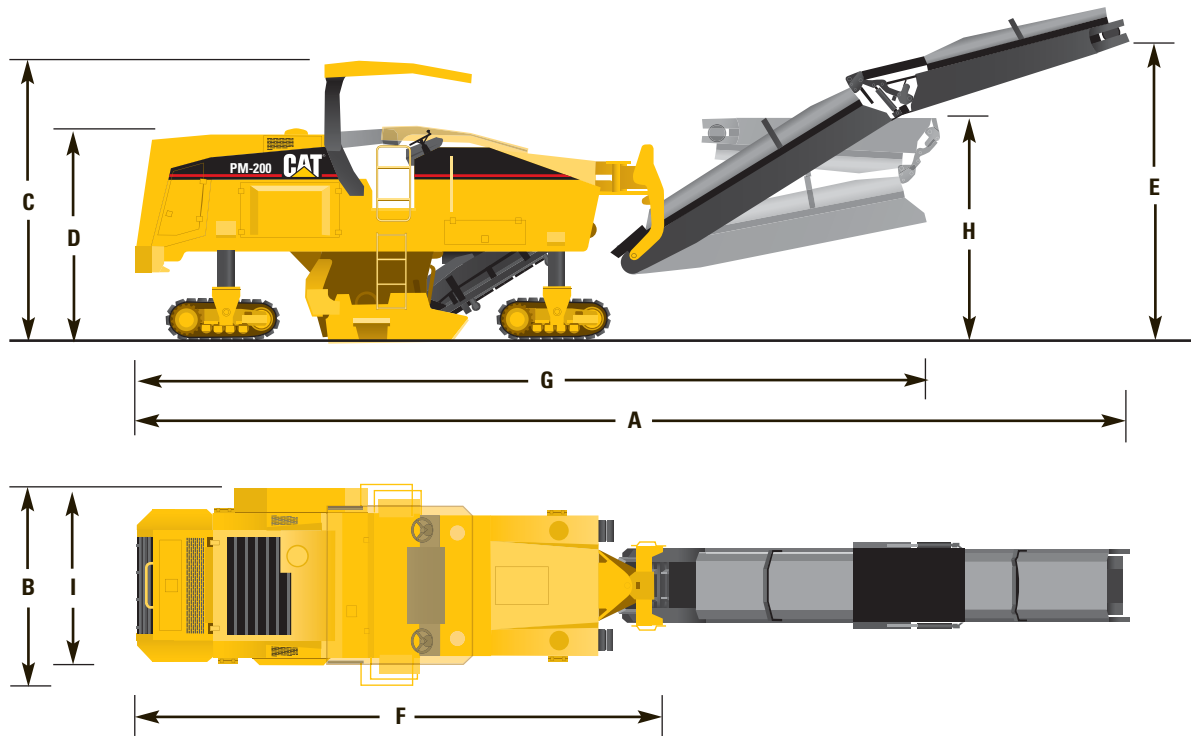
Optional Grade and Slope Controls

Machine elevation – rotor depth and cross slope is manually controlled by operator. Automatic rotor depth and slope control is optional and features electronic over hydraulic control. System can be configured with contacting (yo-yo) or non-contacting grade sensors. Slope sensor adds versatility.

Features

- Machine elevation controls located on the operator's console and at ground level allows rotor depth and cross slope to be controlled manually. Visual depth gauge displays depth of cut.
- The optional AUTOMATIC grade and slope control automatically controls rotor depth and cross slope to a preset cutting depth. Setting cutting depth is easily accomplished first in manual mode by using the adjustment knob on the controller.
- Remote mounted control boxes allow manual or automatic operation from either the operator's station or at ground level. A cross communication function allows the operator to view and change settings of control boxes located on the opposite side of the machine. This allows operators a means to control both sides of a job from a single location. Constant read-out for rotor depth and cross-slope are easily visible even in direct sunlight.
- Sonic grade control sensors can be positioned on each side are easy to position and provide a consistent accuracy.
- Contacting (yo-yo) grade sensor measures side plate movement that enables the entire length of the side plate to become a mini averaging ski for optimum grade matching.
- Sonic Averaging System features three non-contacting grade sensors, or one contacting (yo-yo) and two non-contacting grade sensors, which mount on the side of the machine, enabling the entire length of the machine to become an averaging device.

Dimensions



Operating	mm
A Overall length (conveyor up)	13 940
B Overall machine width	2900
C Maximum height with canopy raised	3950
D Minimum height	2930
E Maximum truck clearance	4600
Rotor ground clearance	356
Conveyor swing	48° left or right of center
Collecting conveyor width	800
Upper conveyor width	800
Inside turning radius	2000

Shipping	mm
F Length of base machine	7500
G Length with conveyor folded	11 380
H Height with conveyor folded	3150
I Maximum width	2500

Service Refill Capacities

	Liters
Fuel tank (useable)	1100
Engine oil w/filter	64
Propel planetary gear reducer (each)	1
Hydraulic tank	200
Rotor clutch sump	48
Water spray system	3500

Weights

Operating Weights*	kg
Machine	30 100
on front tracks	15 600
on rear tracks	14 500
Shipping Weights**	
Machine	28 000
on front tracks	12 650
on rear tracks	15 350

Weights shown are approximate and include:

* coolant, lubricants, 50% fuel tank, 50% water tank and a 75 kg operator.

** coolant, lubricants, 50% fuel level and empty water tank.

Optional Equipment

Some options listed may be an option in some areas and standard in others. Consult your dealer for specifics.

Hydraulically Operated Canopy.

Full width canopy with two side extending wings and front and rear windshields provides optimum comfort and protection. Canopy can be hydraulically lowered for transportation.

High Pressure Washdown System.

This system uses water from the water spray system to help with machine clean-up at the end of each day's operation. System includes a spray wand and hose with a quick-connect coupler.

Water Tank High Capacity Refilling Pump.

A hydraulic driven water pump provides fast water tank refilling.

Electric Refueling Pump. An electric powered fuel pump provides fast refueling operations while the machine is working without interruption. Machine refueling can be carried out even without starting the engine.

Additional Water Spray System for Dust Reduction.

An additional water spray system for additional cooling of the cutting tools in hard applications and dust abatement. This system consists of an extra water pump, a second spray bar in the rotor chamber for additional cooling of the cutting tools and extra spray nozzles for additional dust abatement on the collecting and loading conveyors.

Ground Control Moldboard Pressure Adjustment.

Moldboard down-pressure can also be adjusted and varied by ground crew.

Pneumatic Tool. Pneumatic tool with quick connect fitting and knockout hammer for removing cutting tools.

Hydraulic Hammer Connection Ports.

Quick connect fitting for hydraulic hammer.

Two Operator Seats. Two folding cushioned seats provide for further operator comfort during operation. Seats can be folded to facilitate access to engine compartment from the operator's station.

Automatic Grade and Slope System

automatically controls rotor depth and cross slope to a preset cutting depth. System can be configured with contacting (yo-yo) or non-contacting grade sensors.

Contacting (yo-yo) controlled grade sensors measures side plate movement.

Non-contacting sonic grade sensors can be configured using one sensor per side or the Sonic Averaging System (SAS).

The Sonic Averaging System (SAS) features three non-contacting grade sensors, or one contacting (yo-yo) and two non-contacting grade sensors, which mount on the side of the machine, enabling the entire length of the machine to become an averaging device. System also includes a cross-slope sensor to meet slope applications/requirements in job specifications.

PM-200 Cold Planer

HEHG3267 (05/2005) hr

Materials and specifications are subject to change without notice.
Featured machines in photos may include additional equipment.
See your Caterpillar dealer for available options.

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