



# Cat<sup>®</sup> 120M/ 120M AWD Motor Graders

*The Cat<sup>®</sup> 120M/120M AWD Motor Grader is designed to help you get more work done in less time. Unprecedented operator comfort and ease of service help to maximize your return on investment.*

## Performance

- Programmable Autoshift option simplifies operation by allowing transmission to be programmed to shift at optimal points to match application.
- Power Shift Countershaft Transmission matches to engine, maximizing power to the ground.
- Electronic Throttle Control helps improve productivity by providing best match of horsepower and torque for application demands.

## Efficiency

- Aggressive blade angle, optimized moldboard curvature and large throat clearance allow material to roll more freely along blade, increasing efficiency.
- Hydraulic demand fan automatically adjusts speed according to cooling requirements resulting in more power to the ground and improved fuel efficiency.
- Engine idle shutdown is available to shut down engine after a set period of time saving fuel and helping reduce emissions.

## Ease of Operation

- Selectable blade lift modes – Fine, Normal, or Coarse – allow you to choose the blade lift modulation mode that best fits your application or operating style.
- Joystick controls with electronically adjustable control pods reduce hand and arm movement by 78%, helping reduce operator fatigue.
- Left joystick controls steering, articulation, return-to-center, wheel lean, gear selection, left moldboard lift cylinder and float.
- Right joystick controls drawbar, circle and moldboard functions as well as electronic throttle control and manual differential lock/unlock.
- Articulation Return-to-Center automatically returns machine to a straight frame position from any angle with the touch of a button.

## Safety

- Angled cab doors, tapered engine enclosure and sloped rear window increase visibility.
- Optional rear vision camera enhances sight to rear of machine.

## Serviceability

- Convenient access from the top of the circle to the patented top-adjust wear strips and inserts make them easy to add or replace.
- Shimless Moldboard Retention System uses vertical and horizontal adjusting screws to keep moldboard wear strips aligned for reduced blade chatter and precise blade control.

## Comfort

- Control pods can be adjusted electronically, making it easy to set to ideal operating position.
- Standard Cat Comfort Series suspension seat is fully adjustable.
- High capacity Heating, Ventilation, and Air Conditioning (HVAC) system dehumidifies and pressurizes cab, sealing out dust, and helps keep windows clear.

## Technology

- Shuttle Shift allows smooth, fast direction shifts without requiring you to manipulate the throttle or inching pedal.
- Cat Product Link<sup>™</sup> aids your equipment management with remote monitoring capabilities.
- Optional Stable Blade improves grading precision by decreasing engine speed at 15 percent intervals when machine bounce is detected then increases engine rpm systematically when grader stabilizes.
- Optional Auto Articulation allows you to articulate automatically while steering in tight spaces or around curves, obstacles, and turnarounds.
- Optional Cat GRADE with Cross Slope helps maintain desired cross slope by automatically controlling one side of the blade.
- Optional Cat AccuGrade<sup>™</sup> uses positioning and guidance technologies, machine sensors, and automatic blade control to help get to grade faster, easier and more efficiently.
- Optional Cat Advanced Control Joysticks allow you to control automated grading solutions efficiently and safely without removing your hands from the joysticks.



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| Engine   |                 |            |
|--|-----------------|------------|
| Engine Model   | Cat C6.6 ACERT™ |            |
| Emissions  | Brazil MAR-1    |            |
| Base Power (1st gear) – Net  | 103 kW          | 138 hp     |
| Base Power (1st gear) – Net (Metric)   | 140 hp          |            |
| VHP Plus Range – Net   | 103-136 kW      | 138-182 hp |
| VHP Plus Range – Net (Metric)  | 140-185 hp      |            |
| Displacement   | 6.6 L           | 403 in³    |
| Bore   | 105 mm          | 4.13 in    |
| Stroke   | 127 mm          | 5.0 in     |
| Torque Rise (VHP Plus)   | 40%             |            |
| Maximum Torque (VHP Plus-Net)  | 906 N·m         | 668 lbf·ft |
| Maximum Torque (AWD On)  | 963 N·m         | 710 lbf·ft |
| Speed @ Rated Power  | 2,000 rpm       |            |
| Number of Cylinders  | 6               |            |
| Derating Altitude  | 3505 m          | 11,500 ft  |
| Standard Fan Speed – Maximum   | 1,150 rpm       |            |
| Standard Fan Speed – Minimum   | 600 rpm         |            |
| High Ambient Fan Speed – Maximum   | 1,650 rpm       |            |
| High Ambient Fan Speed – Minimum   | 600 rpm         |            |
| High Ambient Capability  | 50° C           | 122° F     |
| <ul style="list-style-type: none"> <li>• Maximum torque (VHP Plus) measured at 1,400 rpm.</li> <li>• Net power is tested per ISO 9249, SAE J1349, and EEC 80/1269 Standards in effect at the time of manufacture.</li> <li>• Net power advertised is the power available at rated speed of 2,000 rpm, measured at the flywheel when engine is equipped with fan running at minimum speed, air cleaner, muffler and alternator.</li> <li>• Power as declared per ISO 14396<br/>Rated Speed = 2,000 rpm<br/>VHP Plus = 175 kW (234 hp)</li> <li>• No engine derating required up to 3048 m (10,000 ft).</li> </ul> |                 |            |

| Frame                                   |         |         |
|---|---------|---------|
| Circle – Diameter                       | 1530 mm | 60.2 in |
| Drawbar – Height                        | 152 mm  | 6.0 in  |
| Drawbar – Width                         | 76.2 mm | 3.0 in  |
| Front Frame Structure – Height          | 280 mm  | 11.0 in |
| Front Frame Structure – Width           | 255 mm  | 10.0 in |
| Front Axle – Wheel Lean, Left/Right     | 18°     |         |
| Front Axle – Total Oscillation per Side | 32°     |         |

| Weights                                   |           |           |
|---|-----------|-----------|
| Gross Vehicle Weight – Base               |           |           |
| Total                                     | 16 231 kg | 35,783 lb |
| Front Axle                                | 4220 kg   | 9,303 lb  |
| Rear Axle                                 | 12 011 kg | 26,479 lb |
| Gross Vehicle Weight – Maximum            |           |           |
| Total                                     | 22 045 kg | 48,601 lb |
| Front Axle                                | 6839 kg   | 15,077 lb |
| Rear Axle                                 | 15 206 kg | 33,523 lb |
| Gross Vehicle Weight – Typically Equipped |           |           |
| Total                                     | 18 400 kg | 40,565 lb |
| Front Axle                                | 5090 kg   | 11,221 lb |
| Rear Axle                                 | 13 310 kg | 29,343 lb |

| Moldboard                |              |              |
|--------------------------|--------------|--------------|
| <b>Moldboard – Width</b> | <b>3.7 m</b> | <b>12 ft</b> |
| Moldboard – Height       | 610 mm       | 24.0 in      |
| Arc Radius               | 413 mm       | 16.3 in      |
| Throat Clearance         | 134 mm       | 5.2 in       |

| Blade Range                                     |         |         |
|---|---------|---------|
| Circle Centershift – Right                      | 656 mm  | 25.8 in |
| Circle Centershift – Left                       | 656 mm  | 25.8 in |
| Moldboard Sideshift – Right                     | 660 mm  | 26.0 in |
| Moldboard Sideshift – Left                      | 510 mm  | 20.1 in |
| Blade Tip Range – Forward                       | 40°     |         |
| Blade Tip Range – Backward                      | 5°      |         |
| Maximum Shoulder Reach Outside of Tires – Right | 1905 mm | 75.0 in |
| Maximum Shoulder Reach Outside of Tires – Left  | 1742 mm | 68.6 in |
| Maximum Lift Above Ground                       | 427 mm  | 16.8 in |
| Maximum Depth of Cut                            | 720 mm  | 28.3 in |



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