# 140M3/ 140M3 AWD

**Motor Graders** 



M Series 3 graders bring the latest emissions reduction technology to the most durable, productive and comfortable motor graders on the market. From building roads to maintaining them, M Series Motor Graders are designed to help you get more work done in less time. Outstanding durability, unprecedented operator comfort and ease of service help to maximize your return on investment. M Series 3 Motor Graders meet U.S. EPA Tier 4 Final/EU Stage IV emission standards.

#### **Machine Controls**

Simple, intuitive joystick controls replace levers, so hand and arm movement is reduced by 78%, helping reduce operator fatigue for better productivity. Control pods can be adjusted electronically, making it easy to set your ideal operating position.

Adding to ease of operation are features like Articulation Return to Center, which automatically returns the machine to a straight frame position with the touch of a button. Electronic Throttle Control provides the best match of horsepower and torque for the demands of the application. Selectable Blade Lift Modes allow you to choose Fine, Normal or Coarse blade lift modes to best fit your application or operating style.

# **Operator Station**

In addition to excellent comfort and visibility, M Series 3 graders feature an updated seat with heated/ventilated options, as well as an optional seat belt indicator. The high capacity Heating, Ventilation and Air Conditioning (HVAC) system dehumidifies and pressurizes the cab, seals out dust and helps keep windows clear. An updated message display shows machine and diagnostic information. Now located in the center console, it also displays Cat® Grade Control Cross Slope readings conveniently in front of the operator. An optional deluxe radio with CD features MP3 and Bluetooth technology.

# **Emissions Technology**

Emissions reduction technology on the M Series 3 Motor Grader is designed to be transparent, with no action required from the operator. There is no need to stop. Regeneration runs automatically at cold start-up and, if needed, in the background while you work. The Selective Catalytic Reduction system utilizes Diesel Exhaust Fluid (DEF), which can be conveniently filled from ground level. Simply refill the DEF tank when you refuel. A gauge on the dash shows your fluid level.



# 140M3/140M3 AWD Motor Graders Features

## **Engine and Power Train**

A Cat C9.3 ACERT<sup>TM</sup> engine gives you the performance to maintain consistent grading speeds for maximum productivity. Programmable Autoshift option simplifies operation by allowing you to program the transmission to shift at optimal points to match your application. A new standard Economy Mode can be turned on to help you save fuel by reducing engine speed so the machine works in a more efficient range. The average fuel savings is up to 10 percent, depending on the application.

Standard Automatic Differential Lock/Unlock monitors machine and application parameters to unlock/re-lock the differential during operation, improving production and enhancing comfort while protecting the power train. A hydraulic demand fan automatically adjusts speed according to cooling needs, so when cooling demand is reduced, you benefit from more power to the ground and improved fuel efficiency.

## **All Wheel Drive**

Optional All Wheel Drive (AWD) gives you the additional power to the ground you need to work more efficiently in mud, gravel, sand or snow. The added traction helps reduce sliding on side slopes.

## Drawbar-Circle-Moldboard (D-C-M)

The drawbar, circle and moldboard are designed to make it easy to keep the components tight. One person can easily adjust or replace the patented top-adjust drawbar wear inserts from the top of the drawbar plate, reducing downtime. Durable nylon composite wear inserts maximize circle torque and component life. Sacrificial brass wear strips between the blade mounting group and moldboard can be easily adjusted and replaced. The Shimless Moldboard Retention System uses vertical and horizontal adjusting screws to keep moldboard wear strips aligned for reduced blade chatter and precise blade control.

# **Responsive Hydraulics**

A proven load-sensing system and advanced electrohydraulics give you superior implement control and responsive hydraulic performance. Proportional Priority Pressure-Compensating valves have different flow rates for the head and rod ends of the cylinder, so you can count on consistent, predictable implement response. Balanced hydraulic flow is proportioned to give you confidence that all implements will operate simultaneously without slowing the engine or speed of some implements.

## **Integrated Technologies**

- Fully scalable, factory integrated optional Cat Grade Control Cross Slope helps you more easily maintain desired cross slope by automatically controlling one side of the blade.
- Optional Cat AccuGrade™ uses positioning and guidance technologies, machine sensors, and automatic blade control to help you get to grade faster, easier and more efficiently.
- Cat Product Link<sup>TM</sup> aids your equipment management with remote monitoring capabilities. A secure VisionLink<sup>®</sup> user interface lets you know where your equipment is, what it's doing and how it's performing so you can maximize efficiency and lower operating costs.

## Safety

Some of the many safety features designed into the M Series 3 Motor Grader include:

- Ground-level Electrical Disconnect and Engine Shutoff switches.
- Operator Presence System keeps the parking brake engaged and hydraulic implements disabled until the operator is seated and machine is ready for operation.
- Hydraulic Lockout disables all implement functions while still providing machine steering control especially useful while roading.
- Speed Sensitive Steering becomes less sensitive as ground speed increases for greater operator confidence and control.
- Optional rearview camera with in-cab monitor.

For more details on these and other features, please see your Cat Dealer or visit www.cat.com.

Engine Model	Engine				
Base Power (1st gear) - Net	Engine Model		Cat C9.3 AC	Cat C9.3 ACERT	
Base Power (1st gear) – Net         149 kW         200 hp           Base Power (1st gear) – Net (Metric)         202 hp           VHP Plus Range – Net         149-188 kW         200-252 hp           VHP Plus Range – Net (Metric)         202-255 hp           AWD Range – Net (Metric)         213-276 hp           Displacement         9.3 L         567.5 in³           Bore         115 mm         4.5 in           Stroke         149 mm         5.9 in           Torque Rise         39%           Maximum Torque (VHP Plus)         1247 N·m         920 lb-ft           Maximum Torque (AWD On)         1355 N·m         1,000 lb-ft           Speed @ Rated Power         2,000 rpm           Number of Cylinders         6           Derating Altitude         3050 m         10,000 ft           High Ambient – Fan Speed         Standard         1,400 rpm           Maximum         1,550 rpm         Minimum           More of Cylinders         6         109° F           High Ambient Capability         43° C         109° F           High Ambient Capability         43° C         109° F           High Ambient Capability         50° C         122° F           WHP Plus kW (hp)         AWD Off kW (hp)	<del></del>		U.S. EPA Tie		
Base Power (1st gear) – Net (Metric)         202 hp           VHP Plus Range – Net         149-188 kW         200-252 hp           VHP Plus Range – Net (Metric)         202-255 hp           AWD Range – Net (Metric)         213-276 hp           AWD Range – Net (Metric)         213-276 hp           Displacement         9.3 L         567.5 in³           Bore         115 mm         4.5 in           Stroke         149 mm         5.9 in           Torque Rise         39%           Maximum Torque (VHP Plus)         1247 N·m         920 lb-ft           Maximum Torque (AWD On)         1355 N·m         1,000 lb-ft           Speed @ Rated Power         2,000 rpm           Number of Cylinders         6           Derating Altitude         3050 m         10,000 ft           High Ambient – Fan Speed         3050 rpm           Standard         1,400 rpm           Maximum         1,550 rpm           Minimum         500 rpm           Standard Capability         43° C         109° F           High Ambient Capability         43° C         109° F           High Ambient Capability         50° C         122° F           WHP Plus kW (hp)         AWD Off kW (hp)         AWD On kW (hp) <td colspan="2"></td> <td>EU Stage IV</td> <td colspan="2">EU Stage IV</td>			EU Stage IV	EU Stage IV	
VHP Plus Range – Net         149-188 kW         200-252 hp           VHP Plus Range – Net (Metric)         202-255 hp           AWD Range – Net (Metric)         213-276 hp           Displacement         9.3 L         567.5 in³           Bore         115 mm         4.5 in           Stroke         149 mm         5.9 in           Torque Rise         39%           Maximum Torque (VHP Plus)         1247 N·m         920 lb-ft           Maximum Torque (AWD On)         1355 N·m         1,000 lb-ft           Speed @ Rated Power         2,000 rpm           Number of Cylinders         6           Derating Altitude         3050 m         10,000 ft           High Ambient – Fan Speed         Standard         1,400 rpm           Maximum         1,550 rpm           Minimum         500 rpm           Standard Capability         43° C         109° F           High Ambient Capability         50° C         122° F           WHP Plus kW (hp)         AWD Off kW (hp)         AWD On kW (hp)           Gear – Net Power         kW (hp)         AWD On kW (hp)         kW (hp)           Forward         1st         149 (200)         156 (210)         164 (220)           2nd         15	Base Power (1st gear) – Ne	et	149 kW	200 hp	
VHP Plus Range – Net         202-255 hp           AWD Range – Net         156-203 kW         210-272 hp           AWD Range – Net (Metric)         213-276 hp           Displacement         9.3 L         567.5 in³           Bore         115 mm         4.5 in           Stroke         149 mm         5.9 in           Torque Rise         39%           Maximum Torque (VHP Plus)         1247 N·m         920 lb-ft           Maximum Torque (AWD On)         1355 N·m         1,000 lb-ft           Speed @ Rated Power         2,000 rpm           Number of Cylinders         6           Derating Altitude         3050 m         10,000 ft           High Ambient – Fan Speed         3050 rpm           Standard         1,400 rpm           Maximum         1,550 rpm           Minimum         500 rpm           Standard Capability         43° C         109° F           High Ambient Capability         50° C         122° F           WHP Plus kW (hp)         kW (hp)         kW (hp)           Gear – Net Power         kW (hp)         kW (hp)         kW (hp)           Forward         1st         149 (200)         156 (210)         164 (220)           2nd	Base Power (1st gear) – Ne	et (Metric)		202 hp	
AWD Range - Net       156-203 kW       210-272 hp         AWD Range - Net (Metric)       213-276 hp         Displacement       9.3 L       567.5 in³         Bore       115 mm       4.5 in         Stroke       149 mm       5.9 in         Torque Rise       39%         Maximum Torque (VHP Plus)       1247 N·m       920 lb-ft         Maximum Torque (AWD On)       1355 N·m       1,000 lb-ft         Speed @ Rated Power       2,000 rpm         Number of Cylinders       6         Derating Altitude       3050 m       10,000 ft         High Ambient - Fan Speed         Standard       1,400 rpm         Maximum       1,550 rpm         Minimum       500 rpm         Standard Capability       43° C       109° F         High Ambient Capability       50° C       122° F         WHP Plus kW (hp)       AWD Off kW (hp)       kW (hp)         Gear - Net Power       kW (hp)       kW (hp)       kW (hp)         Forward       1st       149 (200)       156 (210)       164 (220)         2nd       156 (210)       164 (220)       180 (241)       203 (272)         5th       176 (236)       180 (241)       203 (272)<	VHP Plus Range – Net		149-188 kW	200-252 hp	
AWD Range – Net (Metric)       213-276 hp         Displacement       9.3 L       567.5 in³         Bore       115 mm       4.5 in         Stroke       149 mm       5.9 in         Torque Rise       39%         Maximum Torque (VHP Plus)       1247 N·m       920 lb-ft         Maximum Torque (AWD On)       1355 N·m       1,000 lb-ft         Speed @ Rated Power       2,000 rpm         Number of Cylinders       6         Derating Altitude       3050 m       10,000 ft         High Ambient – Fan Speed         Standard       1,400 rpm         Maximum       1,550 rpm         Minimum       500 rpm         Standard Capability       43° C       109° F         High Ambient Capability       50° C       122° F         WHP Plus kW (hp)       AWD Off kW (hp)       AWD On kW (hp)         Gear – Net Power       kW (hp)       kW (hp)       164 (220)         2nd       156 (210)       164 (220)       180 (241)         3rd       164 (220)       172 (231)       184 (247)         4th       172 (231)       176 (236)       188 (252)         5th       176 (236)       180 (241)       203 (272)	VHP Plus Range – Net (M	(etric)		202-255 hp	
Displacement   9.3 L   567.5 in³	AWD Range – Net		156-203 kW	210-272 hp	
Bore	AWD Range – Net (Metric	c)		213-276 hp	
Stroke         149 mm         5.9 in           Torque Rise         39%         39%           Maximum Torque (VHP Plus)         1247 N·m         920 lb-ft           Maximum Torque (AWD On)         1355 N·m         1,000 lb-ft           Speed @ Rated Power         2,000 rpm           Number of Cylinders         6           Derating Altitude         3050 m         10,000 ft           High Ambient – Fan Speed         1,400 rpm           Standard         1,400 rpm           Maximum         1,550 rpm           Minimum         500 rpm           Standard Capability         43° C         109° F           High Ambient Capability         50° C         122° F           WHP Plus kW (hp)         AWD Off kW (hp)         AWD On kW (hp)           Forward         1st         149 (200)         156 (210)         164 (220)           2nd         156 (210)         164 (220)         180 (241)           3rd         164 (220)         172 (231)         184 (247)           4th         172 (231)         176 (236)         188 (252)           5th         176 (236)         180 (241)         203 (272)           6th         180 (241)         184 (247)         203 (272)	Displacement		9.3 L	567.5 in <sup>3</sup>	
Torque Rise         39%           Maximum Torque (VHP Plus)         1247 N·m         920 lb-ft           Maximum Torque (AWD On)         1355 N·m         1,000 lb-ft           Speed @ Rated Power         2,000 rpm           Number of Cylinders         6           Derating Altitude         3050 m         10,000 ft           High Ambient – Fan Speed         1,400 rpm           Maximum         1,550 rpm           Minimum         500 rpm           Standard Capability         43° C         109° F           High Ambient Capability         50° C         122° F           WHP Plus kW (hp)         AWD Off kW (hp)         kW (hp)           Forward         1st         149 (200)         156 (210)         164 (220)           2nd         156 (210)         164 (220)         180 (241)           3rd         164 (220)         172 (231)         184 (247)           4th         172 (231)         176 (236)         188 (252)           5th         176 (236)         180 (241)         203 (272)           6th         180 (241)         184 (247)         203 (272)           7th         184 (247)         188 (252)         203 (272)           Reverse         1st	Bore		115 mm	4.5 in	
Maximum Torque (VHP Plus)         1247 N·m         920 lb-ft           Maximum Torque (AWD On)         1355 N·m         1,000 lb-ft           Speed @ Rated Power         2,000 rpm           Number of Cylinders         6           Derating Altitude         3050 m         10,000 ft           High Ambient – Fan Speed         1,400 rpm           Maximum         1,550 rpm           Minimum         500 rpm           Standard Capability         43° C         109° F           High Ambient Capability         50° C         122° F           Gear – Net Power         kW (hp)         kW (hp)         kW (hp)           Forward         1st         149 (200)         156 (210)         164 (220)           2nd         156 (210)         164 (220)         180 (241)           3rd         164 (220)         172 (231)         184 (247)           4th         172 (231)         176 (236)         188 (252)           5th         176 (236)         180 (241)         203 (272)           6th         180 (241)         184 (247)         203 (272)           8th         184 (247)         188 (252)         203 (272)           Reverse         1st         149 (200)         149 (200)	Stroke		149 mm	5.9 in	
Maximum Torque (AWD On)         1355 N·m         1,000 lb-ft           Speed @ Rated Power         2,000 rpm           Number of Cylinders         6           Derating Altitude         3050 m         10,000 ft           High Ambient – Fan Speed         1,400 rpm           Maximum         1,550 rpm           Minimum         500 rpm           Standard Capability         43° C         109° F           High Ambient Capability         50° C         122° F           WHP Plus kW (hp)         AWD Off kW (hp)         kW (hp)           Forward         1st         149 (200)         156 (210)         164 (220)           2nd         156 (210)         164 (220)         180 (241)           3rd         164 (220)         172 (231)         184 (247)           4th         172 (231)         176 (236)         188 (252)           5th         176 (236)         180 (241)         203 (272)           6th         180 (241)         184 (247)         188 (252)         203 (272)           8th         188 (252)         188 (252)         203 (272)           Reverse         1st         149 (200)         149 (200)         149 (200)           156 (210)         156 (210)         <	Torque Rise		39%		
Speed @ Rated Power         2,000 rpm           Number of Cylinders         6           Derating Altitude         3050 m         10,000 ft           High Ambient – Fan Speed         1,400 rpm           Standard         1,550 rpm           Maximum         500 rpm           Standard Capability         43° C         109° F           High Ambient Capability         50° C         122° F           WHP Plus kW (hp)         AWD Off kW (hp)         kW (hp)           Forward         1st         149 (200)         156 (210)         164 (220)           2nd         156 (210)         164 (220)         180 (241)           3rd         164 (220)         172 (231)         184 (247)           4th         172 (231)         176 (236)         188 (252)           5th         176 (236)         180 (241)         203 (272)           6th         180 (241)         184 (247)         203 (272)           8th         188 (252)         188 (252)         203 (272)           Reverse         1st         149 (200)         149 (200)         149 (200)           2nd         156 (210)         156 (210)         156 (210)	Maximum Torque (VHP P	lus)	1247 N·m	920 lb-ft	
Number of Cylinders         6           Derating Altitude         3050 m         10,000 ft           High Ambient – Fan Speed         1,400 rpm           Standard         1,400 rpm           Maximum         1,550 rpm           Minimum         500 rpm           Standard Capability         43° C         109° F           High Ambient Capability         50° C         122° F           Gear – Net Power         VHP Plus kW (hp)         kW (hp)         kW (hp)           Forward         1st         149 (200)         156 (210)         164 (220)           2nd         156 (210)         164 (220)         180 (241)           3rd         164 (220)         172 (231)         184 (247)           4th         172 (231)         176 (236)         188 (252)           5th         176 (236)         180 (241)         203 (272)           6th         180 (241)         184 (247)         203 (272)           7th         184 (247)         188 (252)         203 (272)           Reverse         1st         149 (200)         149 (200)         149 (200)           2nd         156 (210)         156 (210)         156 (210)         156 (210)	Maximum Torque (AWD (	On)	1355 N·m	1,000 lb-ft	
Derating Altitude         3050 m         10,000 ft           High Ambient – Fan Speed         1,400 rpm           Standard         1,550 rpm           Maximum         500 rpm           Standard Capability         43° C         109° F           High Ambient Capability         50° C         122° F           WHP Plus RW (hp)         AWD Off RW (hp)         AWD On RW (hp)           Forward         1st         149 (200)         156 (210)         164 (220)           2nd         156 (210)         164 (220)         180 (241)           3rd         164 (220)         172 (231)         184 (247)           4th         172 (231)         176 (236)         188 (252)           5th         176 (236)         180 (241)         203 (272)           6th         180 (241)         184 (247)         203 (272)           7th         184 (247)         188 (252)         203 (272)           Reverse         1st         149 (200)         149 (200)         149 (200)           2nd         156 (210)         156 (210)         156 (210)         156 (210)			2,000 rpm		
High Ambient – Fan Speed           Standard         1,400 rpm           Maximum         1,550 rpm           Minimum         500 rpm           Standard Capability         50° C         122° F           High Ambient Capability         50° C         122° F           WHP Plus RW (hp)         AWD Off RW (hp)         AWD On RW (hp)           Forward         1st         149 (200)         156 (210)         164 (220)           2nd         156 (210)         164 (220)         180 (241)           3rd         164 (220)         172 (231)         184 (247)           4th         172 (231)         176 (236)         188 (252)           5th         176 (236)         180 (241)         203 (272)           6th         180 (241)         184 (247)         203 (272)           8th         188 (252)         188 (252)         203 (272)           Reverse         1st         149 (200)         149 (200)         149 (200)           2nd         156 (210)         156 (210)         156 (210)         156 (210)	Number of Cylinders		6		
Standard         1,400 rpm           Maximum         1,550 rpm           Minimum         500 rpm           Standard Capability         43° C         109° F           High Ambient Capability         50° C         122° F           Gear – Net Power         VHP Plus kW (hp)         AWD Off kW (hp)         AWD On kW (hp)           Forward         1st         149 (200)         156 (210)         164 (220)           2nd         156 (210)         164 (220)         180 (241)           3rd         164 (220)         172 (231)         184 (247)           4th         172 (231)         176 (236)         188 (252)           5th         176 (236)         180 (241)         203 (272)           6th         180 (241)         184 (247)         203 (272)           7th         184 (247)         188 (252)         203 (272)           8th         188 (252)         188 (252)         203 (272)           Reverse         1st         149 (200)         149 (200)         149 (200)           2nd         156 (210)         156 (210)         156 (210)         156 (210)	Derating Altitude		3050 m	10,000 ft	
Maximum         1,550 rpm           Minimum         500 rpm           Standard Capability         43° C         109° F           High Ambient Capability         50° C         122° F           WHP Plus kW (hp)         AWD Off kW (hp)         AWD On kW (hp)           Forward         1st         149 (200)         156 (210)         164 (220)           2nd         156 (210)         164 (220)         180 (241)           3rd         164 (220)         172 (231)         184 (247)           4th         172 (231)         176 (236)         188 (252)           5th         176 (236)         180 (241)         203 (272)           6th         180 (241)         184 (247)         203 (272)           7th         184 (247)         188 (252)         203 (272)           8th         188 (252)         188 (252)         203 (272)           Reverse           1st         149 (200)         149 (200)         149 (200)           2nd         156 (210)         156 (210)         156 (210)	High Ambient – Fan Speed	đ			
Minimum         500 rpm           Standard Capability         43° C         109° F           High Ambient Capability         50° C         122° F           VHP Plus kW (hp)         AWD Off kW (hp)         AWD On kW (hp)           Forward         1st         149 (200)         156 (210)         164 (220)           2nd         156 (210)         164 (220)         180 (241)           3rd         164 (220)         172 (231)         184 (247)           4th         172 (231)         176 (236)         188 (252)           5th         176 (236)         180 (241)         203 (272)           6th         180 (241)         184 (247)         203 (272)           7th         184 (247)         188 (252)         203 (272)           8th         188 (252)         188 (252)         203 (272)           Reverse         1st         149 (200)         149 (200)         149 (200)           2nd         156 (210)         156 (210)         156 (210)         156 (210)	Standard		1,400 rpm		
Standard Capability         43° C         109° F           High Ambient Capability         50° C         122° F           WHP Plus kW (hp)         AWD Off kW (hp)         AWD On kW (hp)           Forward         1st         149 (200)         156 (210)         164 (220)           2nd         156 (210)         164 (220)         180 (241)           3rd         164 (220)         172 (231)         184 (247)           4th         172 (231)         176 (236)         188 (252)           5th         176 (236)         180 (241)         203 (272)           6th         180 (241)         184 (247)         203 (272)           7th         184 (247)         188 (252)         203 (272)           8th         188 (252)         188 (252)         203 (272)           Reverse         1st         149 (200)         149 (200)         149 (200)           2nd         156 (210)         156 (210)         156 (210)         156 (210)	Maximum		1,550 rpm		
High Ambient Capability         50° C         122° F           VHP Plus kW (hp)         AWD Off kW (hp)         AWD On kW (hp)           Forward         1st         149 (200)         156 (210)         164 (220)           2nd         156 (210)         164 (220)         180 (241)           3rd         164 (220)         172 (231)         184 (247)           4th         172 (231)         176 (236)         188 (252)           5th         176 (236)         180 (241)         203 (272)           6th         180 (241)         184 (247)         203 (272)           7th         184 (247)         188 (252)         203 (272)           8th         188 (252)         188 (252)         203 (272)           Reverse         1st         149 (200)         149 (200)         149 (200)           2nd         156 (210)         156 (210)         156 (210)         156 (210)	Minimum		500 rpm		
Gear – Net Power         kW (hp)         AWD Off kW (hp)         AWD On kW (hp)           Forward         1st         149 (200)         156 (210)         164 (220)           2nd         156 (210)         164 (220)         180 (241)           3rd         164 (220)         172 (231)         184 (247)           4th         172 (231)         176 (236)         188 (252)           5th         176 (236)         180 (241)         203 (272)           6th         180 (241)         184 (247)         203 (272)           7th         184 (247)         188 (252)         203 (272)           8th         188 (252)         188 (252)         203 (272)           Reverse         1st         149 (200)         149 (200)         149 (200)           2nd         156 (210)         156 (210)         156 (210)         156 (210)	Standard Capability		43° C	109° F	
Gear – Net Power         kW (hp)         kW (hp)         kW (hp)           Forward           1st         149 (200)         156 (210)         164 (220)           2nd         156 (210)         164 (220)         180 (241)           3rd         164 (220)         172 (231)         184 (247)           4th         172 (231)         176 (236)         188 (252)           5th         176 (236)         180 (241)         203 (272)           6th         180 (241)         184 (247)         203 (272)           7th         184 (247)         188 (252)         203 (272)           8th         188 (252)         188 (252)         203 (272)           Reverse         1st         149 (200)         149 (200)         149 (200)           2nd         156 (210)         156 (210)         156 (210)         156 (210)	High Ambient Capability		50° C	122° F	
1st         149 (200)         156 (210)         164 (220)           2nd         156 (210)         164 (220)         180 (241)           3rd         164 (220)         172 (231)         184 (247)           4th         172 (231)         176 (236)         188 (252)           5th         176 (236)         180 (241)         203 (272)           6th         180 (241)         184 (247)         203 (272)           7th         184 (247)         188 (252)         203 (272)           8th         188 (252)         188 (252)         203 (272)           Reverse           1st         149 (200)         149 (200)         149 (200)           2nd         156 (210)         156 (210)         156 (210)	Gear – Net Power				
2nd     156 (210)     164 (220)     180 (241)       3rd     164 (220)     172 (231)     184 (247)       4th     172 (231)     176 (236)     188 (252)       5th     176 (236)     180 (241)     203 (272)       6th     180 (241)     184 (247)     203 (272)       7th     184 (247)     188 (252)     203 (272)       8th     188 (252)     188 (252)     203 (272)       Reverse       1st     149 (200)     149 (200)     149 (200)       2nd     156 (210)     156 (210)     156 (210)	Forward				
3rd     164 (220)     172 (231)     184 (247)       4th     172 (231)     176 (236)     188 (252)       5th     176 (236)     180 (241)     203 (272)       6th     180 (241)     184 (247)     203 (272)       7th     184 (247)     188 (252)     203 (272)       8th     188 (252)     188 (252)     203 (272)       Reverse       1st     149 (200)     149 (200)     149 (200)       2nd     156 (210)     156 (210)     156 (210)	1st	149 (200)	156 (210)	164 (220)	
4th         172 (231)         176 (236)         188 (252)           5th         176 (236)         180 (241)         203 (272)           6th         180 (241)         184 (247)         203 (272)           7th         184 (247)         188 (252)         203 (272)           8th         188 (252)         188 (252)         203 (272)           Reverse           1st         149 (200)         149 (200)         149 (200)           2nd         156 (210)         156 (210)         156 (210)	2nd	156 (210)	164 (220)	180 (241)	
5th         176 (236)         180 (241)         203 (272)           6th         180 (241)         184 (247)         203 (272)           7th         184 (247)         188 (252)         203 (272)           8th         188 (252)         188 (252)         203 (272)           Reverse           1st         149 (200)         149 (200)         149 (200)           2nd         156 (210)         156 (210)         156 (210)	3rd	164 (220)	172 (231)	184 (247)	
6th 180 (241) 184 (247) 203 (272)  7th 184 (247) 188 (252) 203 (272)  8th 188 (252) 188 (252) 203 (272)  Reverse  1st 149 (200) 149 (200) 149 (200)  2nd 156 (210) 156 (210) 156 (210)	4th	172 (231)	176 (236)	188 (252)	
7th         184 (247)         188 (252)         203 (272)           8th         188 (252)         188 (252)         203 (272)           Reverse           1st         149 (200)         149 (200)         149 (200)           2nd         156 (210)         156 (210)         156 (210)	5th	176 (236)	180 (241)	203 (272)	
8th     188 (252)     188 (252)     203 (272)       Reverse       1st     149 (200)     149 (200)     149 (200)       2nd     156 (210)     156 (210)     156 (210)	6th	180 (241)	184 (247)	203 (272)	
Reverse       1st     149 (200)     149 (200)     149 (200)       2nd     156 (210)     156 (210)     156 (210)	7th	184 (247)	188 (252)	203 (272)	
1st 149 (200) 149 (200) 149 (200) 2nd 156 (210) 156 (210) 156 (210)	8th	188 (252)	188 (252)	203 (272)	
1st 149 (200) 149 (200) 149 (200) 2nd 156 (210) 156 (210) 156 (210)	Reverse		-	<u>·</u>	
2nd 156 (210) 156 (210) 156 (210)		149 (200)	149 (200)	149 (200)	

## Engine (cont'd)

- Net power is tested per ISO 9249, SAE J1349, and EEC 80/1269 Standards in effect at the time of manufacture.
- VHP Plus is standard for the 140M3 and 140M3 AWD.
- 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.
- No engine derating required up to 3050 m (10,000 ft).
- Power as declared per ISO 14396

Rated rpm 2,000

VHP + = 189 kW (253 hp)

AWD = 204 kW (274 hp)

- All nonroad U.S. EPA Tier 4, European Union (EU) Stage IIIB and IV, and Japan (MLIT) Step 4 diesel engines are required to use only Ultra Low Sulfur Diesel (ULSD) fuels containing 15 ppm (mg/kg) sulfur or less. Biodiesel blends up to B20 (20% blend by volume) are acceptable when blended with 15 ppm (mg/kg) sulfur or less ULSD. B20 should meet ASTM D7467 specification (biodiesel blend stock should meet Cat biodiesel spec, ASTM D6751 or EN 14214). Cat DEO-ULS™ or oils that meet the Cat ECF-3, API CJ-4, and ACEA E9 specification are required. Consult your OMM for further machine specific fuel recommendations.
- Cat engines equipped with a Selective Catalytic Reduction (SCR) system are required to use:
- Diesel Exhaust Fluid (DEF) which meets the requirements outlined in the International Organization for Standardization (ISO) standard 22241-1.

Forward/Reverse Gears	8 Forward/6 Reverse	
Transmission	APECS, Direct Drive, Powershift	
Brakes		
Service	Multiple Oil Disc	
Service, Surface Area	23 000 cm <sup>2</sup> 3,565 in <sup>2</sup>	
Parking	Multiple Oil Disc	
Secondary	Dual Circuit	
Hydraulic System		
Circuit Tuna	Daratlal	

Tryuraunc System		
Circuit Type	Parallel	
Pump Type	Variable Pist	ton
Pump Output	210 L/min	55.7 gal/min
Maximum System Pressure	24 150 kPa	3,500 psi
Reservoir Tank Capacity	64.0 L	16.9 gal
Standby Pressure	6100 kPa	885 psi

• Pump output measured at 2,150 rpm.

Operating Specifications		
Top Speed		
Forward	46.6 km/h	29.0 mph
Reverse	36.8 km/h	23.0 mph
Turning Radius, Outside Front Tires	7.8 m	25 ft 7 in
Steering Range – Left/Right	50°	
Articulation Angle – Left/Right	20°	
Forward		
1st	4.1 km/h	2.5 mph
2nd	5.5 km/h	3.4 mph
3rd	8.0 km/h	5.0 mph
4th	11.0 km/h	6.9 mph
5th	17.1 km/h	10.6 mph
6th	23.3 km/h	14.5 mph
7th	32.0 km/h	19.9 mph
8th	46.6 km/h	29.0 mph
Reverse		
1st	3.2 km/h	2.0 mph
2nd	6.0 km/h	3.7 mph
3rd	8.7 km/h	5.4 mph
4th	13.5 km/h	8.4 mph
5th	25.3 km/h	15.7 mph
6th	36.8 km/h	23.0 mph

<sup>•</sup> Calculated with no slip and 14.0R24 tires.

Service Refill		
Fuel Capacity	394 L	104 gal
Cooling System	57.0 L	15.0 gal
Hydraulic System		
Total	100 L	26.4 gal
Tank	64.0 L	16.9 gal
Engine Oil	30.0 L	7.9 gal
Trans./Diff./Final Drives	70.0 L	18.5 gal
Tandem Housing (Each)	76.0 L	20.0 gal
Front Wheel Spindle Bearing Housing	0.5 L	0.13 gal
Circle Drive Housing	7.0 L	1.8 gal
Diesel Exhaust Fluid	22.0 L	5.8 gal

1530 mm	60.2 in
138 mm	5.4 in
40.0 mm	1.6 in
152 mm	6.0 in
76.2 mm	3.0 in
12.7 mm	0.50 in
305 mm	12.0 in
22.0 mm	0.87 in
321 mm	12.6 in
305 mm	12.0 in
596 mm	23.5 in
18°	
32°	
	138 mm 40.0 mm  152 mm 76.2 mm 12.7 mm  305 mm 22.0 mm  321 mm 305 mm

• Front-top/bottom plate – width tolerance ±2.5 mm (0.098 in).

Tandems		
Height	506 mm	19.9 in
Width	201 mm	7.9 in
Sidewall Thickness		
Inner	16.0 mm	0.63 in
Outer	18.0 mm	0.71 in
Drive Chain Pitch	50.8 mm	2.0 in
Wheel Axle Spacing	1523 mm	60.0 in
Tandem Oscillation		
Front Up	15°	
Front Down	25°	

# **Optional Tire Arrangements**

# Common Tire Options for M Series 3 Motor Graders

40M3/140M3 AW	D		
Rim Size	Wheel Group	Tires	
9 × 24	Single-Piece	14.0R24	
13 × 25	Single-Piece	17.5R25	
10 × 24	Multi-Piece	14.0R24	
10 × 24	Multi-Piece	14.0-24	
14 × 25	Multi-Piece	17.5R25	
14 × 25	Multi Diece	17 5 25	

**Note:** Consult your dealer for individual tire width, size and brand.

Moldboard		
Blade Width	3.7 m	12 ft
Moldboard		
Height	610 mm	24.0 in
Thickness	22.0 mm	0.87 in
Arc Radius	413 mm	16.3 in
Throat Clearance	166 mm	6.5 in
Cutting Edge		
Width	152 mm	6.0 in
Thickness	16.0 mm	0.60 in
End Bit		
Width	152 mm	6.0 in
Thickness	16.0 mm	0.60 in
Blade Pull		
Base GVW	11 672 kg	25,732 lb
Maximum GVW	15 541 kg	34,262 lb
Base GVW (AWD)	16 484 kg	36,341 lb
Maximum GVW (AWD)	22 512 kg	49,630 lb
Blade Down Pressure		
Base GVW	7475 kg	16,480 lb
Maximum GVW	13 294 kg	29,308 lb
Base GVW (AWD)	8351 kg	18,411 lb
Maximum GVW (AWD)	13 294 kg	29,308 lb
Blade Range		
Circle Centershift		
Right	728 mm	28.7 in
Left	695 mm	27.4 in
Moldboard Sideshift		
Right	660 mm	26.0 in
Left	510 mm	20.1 in
Maximum Blade Position Angle	90°	
Blade Tip Range		
Forward	40°	
Backward	5°	
Maximum Shoulder Reach Outside of	Tires	
Right	1978 mm	77.9 in
Left	1790 mm	70.5 in
Maximum Lift Above Ground	480 mm	18.9 in
Maximum Depth of Cut	715 mm	28.1 in

Ripper		
Ripping Depth, Maximum	426 mm	16.8 in
Ripper Shank Holders	5	
Ripper Shank Holder Spacing	533 mm	21.0 in
Penetration Force	9440 kg	20,812 lb
Pryout Force	12 607 kg	27,794 lb
Machine Length Increase, Beam Raised	1031 mm	40.6 in
Scarifier		
Front, V-Type: Working Width	1205 mm	47.4 in
Front, V-Type, 5 or 11 Tooth		
Working Width	1031 mm	40.6 in
Scarifying Depth, Maximum	467 mm	18.4 in
Scarifier Shank Holders	5/11	
Scarifier Shank Holder Spacing	116 mm	4.6 in
Mid, V-Type		
Working Width	1184 mm	46.6 in
Scarifying Depth, Maximum	292 mm	11.5 in
Scarifier Shank Holders	11	
Scarifier Shank Holder Spacing	116 mm	4.6 in
Rear		
Working Width	2133 mm	84.0 in
Scarifying Depth, Maximum	426 mm	16.8 in
Scarifier Shank Holders	9	
Scarifier Shank Holder Spacing	267 mm	10.5 in
Weights		
Gross Vehicle Weight, Base		
Total	17 323 kg	38,191 lb
Front Axle	4355 kg	9,601 lb
Rear Axle	12 968 kg	28,590 lb
Gross Vehicle Weight, Maximum		
Total	25 013 kg	55,144 lb
Front Axle	7745 kg	17,075 lb
Rear Axle	17 268 kg	38,069 lb
Operating Weight, Typically Equipped		
Total	19 935 kg	43,950 lb
Front Axle	5692 kg	12,549 lb
Rear Axle	14 243 kg	31,401 lb

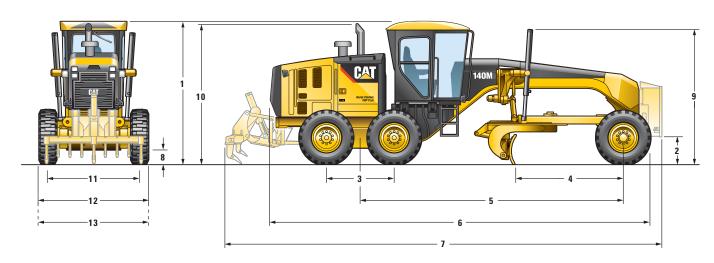
Weights – AWD		
Gross Vehicle Weight, Base		
Total	18 316 kg	40,380 lb
Front Axle	4865 kg	10,726 lb
Rear Axle	13 451 kg	29,654 lb
Gross Vehicle Weight, Maximum		
Total	25 013 kg	55,144 lb
Front Axle	7745 kg	17,075 lb
Rear Axle	17 268 kg	38,069 lb
Operating Weight, Typically Equipped		
Total	20 827 kg	45,917 lb
Front Axle	6169 kg	13,601 lb
Rear Axle	14 658 kg	32,316 lb

- Base operating weight on standard machine configuration is calculated with full fuel tank, coolant, lubricants, operator and 14.0R24 tires with multi-piece (MP) rims.
- Typically equipped operating weight is calculated with push block, transmission guard, rear ripper/scarifier, 14.0R24 tires with multi-piece (MP) rims, and other equipment.

Standards	
ROPS/FOPS	ISO 3471/ISO 3499
Steering	ISO 5010
Brakes	ISO 3450
Sound	ISO 6394; ISO 6395

- The declared dynamic operator sound pressure level is 71 dB(A) for the 140M Series 3 and 140M Series 3 AWD when "ISO 6396:2008" is used to measure the value for a European Union "CE" marked machine. The measurement was conducted at 70% of the maximum engine cooling fan speed. The sound level may vary at different engine cooling fan speeds.
- The declared exterior sound power level is 107 dB(A) for the 140M Series 3 and 140M Series 3 AWD when the value is measured according to the dynamic test procedures and the conditions that are specified in "ISO 6395:2008." The measurement was conducted for a European Union "CE" marked machine at 70% of the maximum engine cooling fan speed. The sound level may vary at different engine cooling fan speeds and during diesel particulate filter regeneration.

# **Dimensions**



1 Height – Top of Cab	3308 mm	130 in
2 Height – Front Axle Center	596 mm	23.5 in
3 Length – Between Tandem Axles	1523 mm	60.0 in
4 Length – Front Axle to Moldboard	2552 mm	100 in
5 Length – Front Axle to Mid Tandem	6123 mm	241 in
<b>6</b> Length – Front Tire to Rear of Machine	8912 mm	351 in
7 Length – Counterweight to Ripper	10 136 mm	399 in

8 Ground Clearance at Rear Axle	339 mm	13.3 in
<b>9</b> Height to Top of Cylinders	3040 mm	120 in
10 Height to Exhaust Stack	3256 mm	128 in
11 Width – Tire Center Lines	2140 mm	84.3 in
12 Width – Outside Rear Tires	2511 mm	98.9 in
13 Width – Outside Front Tires	2511 mm	98.9 in

<sup>•</sup> Calculated with 14.0R24 Tires.

# 140M3/140M3 AWD Motor Graders Standard Equipment

# **Standard Equipment**

Standard equipment may vary. Consult your Cat dealer for details.

#### **POWER TRAIN**

- Air cleaner, dual stage, dry type, diesel, with automatic engine derate and automatic dust ejector, service indicator through Cat Messenger
- Air-to-air after cooler (ATAAC)
- Belt, serpentine, automatic tensioner
- Brakes, oil disc, four-wheel, hydraulic
- · Demand fan, hydraulic, swing-out
- Diesel exhaust fluid tank, 22.0 L (5.8 gal) ground level access, and sediment drain
- Differential Lock/Unlock, Automatic
- Drain, engine oil, ecology
- · Economy mode
- Electronic over speed protection
- Engine, C9.3 with ACERT Technology, U.S. EPA Tier 4 Final/EU Stage IV emission standards
- Fuel tank, 394 L (104 gal), ground level access and sediment drain
- Parking brake multi-disc, sealed, oil-cooled
- Priming pump, fuel
- · Rear axle, modular
- · Sediment drain, fuel tank
- · Tandem drive
- Transmission, 8F/6R, powershift, direct drive, Advanced Productivity Electronic Control Strategy (APECS)

#### **ELECTRICAL**

- · Alarm, back up
- · Alternator, 150 ampere, sealed
- Batteries, maintenance free, heavy duty, 1,125 CCA
- · Breaker panel, ground accessible
- Cab harness and electrical hydraulic valves
- Electrical system, 24V
- Grade Control Ready Cab harness, software, electrical hydraulic valves, bosses and brackets
- Lights, roof-mounted roading, reversing, LED stop and tail
- Product Link
- · Starter, electric

### **OPERATOR ENVIRONMENT**

- Accelerator
- · Air conditioning with heater
- · Arm and wrist rest, electronically adjustable
- Articulation, automatic Return-to-Center
- Cat Messenger operator information system
- · Centershift pin indicator
- · Coat hook
- · Cup holder
- · Display, digital speed and gear
- Doors, left and right side with wiper
- · Gauge, machine level
- Gauge cluster (analog) fuel, articulation, engine coolant temp, engine RPM, hydraulic oil temp, regen, DEF
- · Hour meter, digital
- Joystick hydraulic controls right/left blade lift with float position, circle drive, blade sideshift and tip, centershift, front wheel lean, articulation and power steering
- Joystick, adjustable armrests
- · Joystick gear selection
- · Joystick hydraulic power steering
- · Ladders, cab, left and right side
- Lights, night time cab
- · Mirror, inside rearview, wide angle
- Power port, 12V
- · Radio Ready, Entertainment
- ROPS cab, sound suppressed 70 dB(A)
- · Seat, cloth-covered, comfort suspension
- Seat belt, retractable 76 mm (3 in)
- Storage area for cooler/lunchbox
- Throttle control, electronic
- Windows, laminated glass:
- fixed front with intermittent wiper
- -door with intermittent wipers (3)
- · Windows: tempered
- -left and right side wipers
- -rear and intermittent wiper

#### **FLUIDS**

- Antifreeze
- Extended Life Coolant to -35° C (-30° F)

#### TIRES, RIMS AND WHEELS

 Partial allowance for tires on 254 × 607 mm (10 × 24 in) multi-piece rims is included in the base machine price and weight

#### OTHER STANDARD EQUIPMENT

- · Accumulators, brake, dual certified
- Anti-glare paint
- Bumper, rear, integrated with hitch
- CD ROM Parts Book
- Clutch, circle drive slip
- Cutting edges
- $-152 \times 16 \text{ mm } (6 \times 5/8 \text{ in})$
- -curved DH-2 steel
- -19 mm (3/4 in) mounting bolts
- Doors (3), engine compartment, locking
- Drawbar 6 shoes, replaceable wear strips
- Electrical hydraulic valves, hydraulic lines for base 8 functions
- Endbits
- -16 mm (5/8 in) DH-2 steel
- -19 mm (3/4 in) mounting bolts
- Fluid check, ground level
- Frame, articulated, with safety lock
- Ground level engine shutdown
- Hammer (emergency exit)
- Horn, electric
- Hydraulic lines for base functions
- Lockout, hydraulic implement (for roading and servicing)
- Moldboard  $3658 \times 610 \times 22$  mm (12 ft × 24 in × 7/8 in)
- · Mounting, cab roof accessories
- Pump, hydraulic, high capacity, 98 cm<sup>3</sup> (6 in<sup>3</sup>)
- Radiator, cleanout access (both sides with swing doors)
- · Secondary steering
- Serviceability, LH side
- S·O·S<sup>SM</sup> ports: engine, hydraulic, transmission, coolant, fuel
- Tandem walkway/guards
- Tool box

# 140M3/140M3 AWD Motor Graders

# **Optional Equipment**

Optional equipment may vary. Consult your Cat dealer for details.

	kg*	lb*		kg*	lb*		kg*	lb*
ELECTRICAL			POWER TRAIN			WORK TOOLS/G.E.T.		
• Alternator, 280 ampere	2	5	<ul> <li>All Wheel Drive</li> </ul>	892	1,967	• Blade extension, left hand,	113	249
• Batteries:			<ul> <li>Precleaner, snow</li> </ul>	2	5	610 mm (2 ft)		
- extreme duty, 1,400 CCA	14	30	<ul> <li>Starter, extreme duty,</li> </ul>	22	48	Blade extension, right	113	249
• Lights:			1,000 Amps			hand, 610 mm (2 ft)		
- Headlights, high	38	84	<ul> <li>Transmission, autoshift</li> </ul>	2	5	• Counterweight	427	939
– Headlights, low	35	77				• Cutting edges, curved	43	95
<ul> <li>Working lights, basic</li> </ul>	9	20	OTHER ATTACHMENTS			• Endbits, overlay	24	52
<ul> <li>Working lights, plus</li> </ul>	10	22	<ul> <li>AccuGrade ARO</li> </ul>	46	101	• Front lift group, mounting	5	11
-Warning: beacon	2	5	<ul> <li>Integrated cross slope</li> </ul>	47	103	• Front lift group, mechanical	680	1,500
or strobe			<ul> <li>Accumulators, blade lift</li> </ul>	55	121	• Grader bit, narrow and	181	400
– Mounting for	5	11	<ul> <li>Camera, rearview</li> </ul>	9	20	super penetration		
warning light			<ul> <li>Cat Product Link 321SR</li> </ul>	13	29	• Mid-Mount Scarifier,	917	2,017
			<ul> <li>Cat Product Link 522</li> </ul>	13	29	Package		
GUARDS			<ul> <li>Drain, ecology, engine</li> </ul>	2	5	• Moldboard		222
<ul> <li>Articulation guard</li> </ul>	5	11	Wiggins			$-4267 \text{ mm} \times 610 \text{ mm}$	147	323
• Fenders, front	121	266	• Heater, engine coolant:			$\times$ 22 mm (14 ft $\times$ 24 in $\times$ 7/8 in)		
• Fenders, front, AWD	56	124	-120V	1	3	~ 7/8 III) -4267 mm × 686 mm	284	625
<ul> <li>Fenders, rear</li> </ul>	156	344	-240V	1	3	$\times$ 25 mm (14 ft $\times$ 27 in	204	023
<ul> <li>Front axle guard</li> </ul>	13	30	<ul> <li>Hydraulic arrangements with</li> </ul>			× 1 in)		
<ul> <li>Sound suppression</li> </ul>	110	243	more additional hydraulic va			• Push plate	1285	2,833
(bottom)			available for rear ripper, doz	er, snow		• Ripper, rear	1042	2,292
<ul> <li>Sound suppression</li> </ul>	15	33	plow and snow wing.	0.1	200	• Ripper tooth	28	61
(enclosure)			• Snow wing mounting, frame ready	91	200	• Scarifier, front	434	956
<ul> <li>Transmission</li> </ul>	141	311	• Starting aid, ether	0.5	1	• Snow Arrangement	161	355
ODERATOR FAMILIDAMIATAIT			- Starting aid, ether	0.5	1	• Snow Wing Ready Package	119	262
OPERATOR ENVIRONMENT						• Tow hitch	53	116
• Mirrors, outside:						Tow inten	33	110
-heated 24V	15	33				MACHINE ARRANGEMENTS		
- mounted	15	33				Canadian Arrangement	2	4
• Comfort Plus Arrangement	2	4				• European Arrangement	289	637
Comfort Premium	3	7				• TUV Roading Arrangement		994
Arrangement						10 v Roading Arrangement	<b>T</b> J1	22 <del>4</del>

<sup>\*</sup>Weights shown are to be added to the standard configuration when option is chosen.

Materials and specifications are subject to change without notice.

Featured machines in photos may include additional equipment.

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at www.cat.com

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(North America, Europe)

AEHQ7070-01 Replaces AEHQ7070

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