



# 140 GC

## Motor Grader

# Technical Specifications

Configurations and features may vary by region. Please consult your Cat® dealer for availability in your area.

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# 140 GC Motor Grader Specifications

Engine		
Engine Model	Cat C7.1	
Emissions	Meets India CEV Stage V emission standards or China Nonroad Stage III and Brazil MAR-1 emission standards, equivalent to U.S. EPA Tier 3/EU Stage IIIA	
Base Net Power – ISO 9249/SAE J1349 EEC 80/1269	131 kW	176 hp
Base Net Power – ISO 9249/SAE J1349 EEC 80/1269 (metric)		178 hp
Power Range – Net	131 kW-147 kW	176 hp-196 hp
Power Range – Net (metric)		178 hp-199 hp
Torque Rise – ISO 9249 Tier 3/Stage IIIA	40%	
Torque Rise – ISO 9249 CEV Stage V	33%	
Maximum Torque – ISO 9249 Tier 3/Stage IIIA	889 N•m	656 lbf-ft
Maximum Torque – ISO 9249 CEV Stage V	835 N•m	616 lbf-ft
Derating Altitude – Tier 3/Stage IIIA	4500 m	14,764 ft
Derating Altitude – CEV Stage V	3000 m at 1800 rpm; 1676 m at 2200 rpm	9,842 ft at 1,800 rpm; 5,499 at 2,200 rpm
Fan Speed	550-1,500 rpm	
Bore	105 mm	4.1 in
Displacement	7.01 L	427.8 in <sup>3</sup>
Stroke	135 mm	5.3 in
Engine RPM	2,200 rpm	
Number of Cylinders	6	
Ambient Capacity	50°C	122°F

- Net power is tested per ISO 9249, SAE J1349 and EEC 80/1269 standards in effect at the time of manufacture.
- Net power advertised is the power available at rated speed of 2,200 rpm, measured at the flywheel when engine is equipped with fan, air cleaner, muffler and alternator.
- VHP Plus is standard for the 140 GC.
- Biodiesel blends up to B30 (30% blend by volume) are acceptable when blended with 500 ppm (mg/kg) sulfur or less ULSD. B30 should meet ASTM D7467 specification (biodiesel blend 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.

Net Power			
Gear		VHP	
Forward			
1st	131 kW	176 hp	
2nd	139 kW	186 hp	
3rd	147 kW	196 hp	
4th	147 kW	196 hp	
5th	147 kW	196 hp	
6th	147 kW	196 hp	
Reverse			
1st	131 kW	176 hp	
2nd	139 kW	186 hp	
3rd	147 kW	196 hp	

Power Train	
Forward/Reverse Gears	6 Forward/3 Reverse
Transmission	Countershaft Torque Converter Powershift
High Idle Speed	2,400 rpm
Low Idle Speed	800 rpm
Air Cleaner	Dry

# 140 GC Motor Grader Specifications

## Hydraulic System

Type	Closed – Center	
Type (AWD)	Closed – Center	
Type Circuit	Parallel	
Pump Type	Variable Piston	
Output	24 150 kPa at 2,200 rpm	3,503 psi at 2,200 rpm
System Flow	0-155 L/min	0-40.9 gal/min

## Transmission Hydraulic System

Type	Countershaft Torque Converter Powershift	
Lube Oil Pressure	20-90 kPa	3-13 psi
Pump Type	Gear	
Clutch Supply	78 L/min at 1600- 1800 kPa	20.6 gal/min at 232- 261 psi

## Steering

Rated Metering Capacity	159 cc/rev	
Rated Metering Capacity (AWD)	231 cc/rev	
Front Steering Maximum Angle	47.5°	
Frame Steering Angle Left or Right	20°	

## Front Axle

Lean Angle	18° Left and Right	
Oscillation	32° Total	
Ground Clearance at Center	610 mm	24.1 in
Ground Clearance at Center (AWD)	616 mm	24.3 in

## Operating Specifications

Top Speed Forward	41.7 km/h	25.9 mph
Top Speed Reverse	24.0 km/h	14.9 mph
Turning Radius, Outside Front Tires	7.8 m	25.6 ft
Steering Range	47.5° Left and Right	
Articulation Range	20° Left and Right	
Forward		
1st	4.7 km/h	2.9 mph
2nd	8.2 km/h	5.1 mph
3rd	10.9 km/h	6.8 mph
4th	18.9 km/h	11.7 mph
5th	24.0 km/h	14.9 mph
6th	41.7 km/h	25.9 mph
Reverse		
1st	4.7 km/h	2.9 mph
2nd	10.9 km/h	6.8 mph
3rd	24.0 km/h	14.9 mph

- Machine speed measured at 2,250 rpm with 14.00R24 radial tires, no slip.

## Base Machine Weight – Tier 3/Stage IIIA Equivalent

Weight*	14 310 kg	31,548 lb
Front Axle	4007 kg	8,834 lb
Rear Axle	10 303 kg	22,714 lb

- \*Base operating weight on standard machine configuration is calculated with full fuel tank, coolant, lubricants, operator open canopy and 14.0R24 tires on single-piece rims.

## Base Machine Weight – India CEV Stage V

Weight*	14 570 kg	32,121 lb
Front Axle	4080 kg	8,995 lb
Rear Axle	10 490 kg	23,126 lb

- \*Base operating weight on standard machine configuration is calculated with full fuel tank, coolant, lubricants, operator open canopy and 14.0R24 tires on single-piece rims.

# 140 GC Motor Grader Specifications

## Typically Equipped Machine Weight – Non-ROPS<sup>1</sup> – Tier 3/Stage IIIA Equivalent

Weight	16 620 kg	36,640 lb
Front Axle	4670 kg	10,295 lb
Rear Axle	11 950 kg	26,345 lb
Weight (AWD)	17 420 kg	38,405 lb
Front Axle (AWD)	5226 kg	11,521 lb
Rear Axle (AWD)	12 194 kg	26,883 lb

<sup>1</sup>Typically equipped operating weight is calculated with full fuel tank, coolant, lubricants, operator, push block, non-ROPS closed cab, rear ripper/scarifier, 3.7 m (12 ft) blade, 14.0R24 tires on multi-piece rims and other equipment.

<sup>2</sup>Typically equipped operating weight is calculated with full fuel tank, coolant, lubricants, operator, push block, ROPS closed cab, rear ripper/scarifier, 4.3 m (14 ft) blade, 17.5-25 MP tires on multi-piece rims and other equipment.

## Typically Equipped Machine Weight – India CEV Stage V

Weight (Stage V)	17 650 kg	38,912 lb
Front Axle	4942 kg	10,895 lb
Rear Axle	12 708 kg	28,016 lb

Typically equipped operating weight is calculated with full fuel tank, coolant, lubricants, operator, push block, rear ripper, 4.3 m (14 ft) blade, tires on multi-piece rims (17.4-25 bias), ROPS cab with HVAC and other equipment.

## Major Component Weights

Moldboard (with cutting edge)		
3669 mm × 610 mm × 20 mm (12 ft × 24 in × 7/8 in)	660 kg	1,455 lb
3669 mm × 689 mm × 20 mm (12 ft × 24 in × 7/8 in)	701 kg	1,545 lb
4279 mm × 659 mm × 20 mm (14 ft × 24 in × 7/8 in)	819 kg	1,806 lb
Guards		
Transmission	86 kg	190 lb
Fender	245 kg	540 lb
Push Plate	1005 kg	2,216 lb
Rear Ripper	983 kg	2,167 lb

## Typically Equipped Machine Weight – ROPS<sup>2</sup> – Tier 3/Stage IIIA Equivalent

Weight	17 390 kg	38,338 lb
Front Axle	5217 kg	11,502 lb
Rear Axle	12 173 kg	26,836 lb
Weight (AWD)	18 190 kg	40,102 lb
Front Axle (AWD)	5457 kg	12,031 lb
Rear Axle (AWD)	12 733 kg	28,071 lb

## Service Refill Capacities

Fuel Tank	297 L	78.5 gal
Diesel Exhaust Fluid (DEF)	16 L	4.2 gal
Circle Drive		
STD	2 L	0.5 gal
Slip Clutch	7.5 L	2 gal
Engine Crankcase	21 L	5.6 gal
Cooling System	40 L	10.6 gal
Hydraulic System	45 L	11.9 gal
Transmission	18 L	4.8 gal
Differential Group	33 L	8.7 gal
Tandem Box (Each)	62 L	16.4 gal
Front Axle Housing STD Only (Each)	0.5 L	0.1 gal

- The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 2.0 kg of refrigerant which has a CO<sub>2</sub> equivalent of 2.86 metric tonnes.

## Tandems

Oscillation Front Up	15°
Oscillation Rear Up	25°

## Service Brakes

Type System	Dual Circuit Hydraulic	
Type Brake	Multiple Oil Disc	
Number of Brakes	4	
Number of Disc Assemblies (each)	6	
Size (outer diameter)	355 mm	14 in
Size (inner diameter)	255 mm	10 in
Lining Area Per Brake	5749 cm <sup>2</sup>	226.3 in <sup>2</sup>

## Parking Brake

Type System	Hydraulic Actuated
Type Brake	Disc Type
Slope Holding Ability	30% Grade
Meets ISO 3450:2011	
Secondary Brakes	Dual Circuit Control System, Applies Two Service Brakes

# 140 GC Motor Grader Specifications

## Moldboard

	Standard		Option 1		Option 2	
Width	3.7 m	12 ft	3.7 m	12 ft	4.3 m	14 ft
Height	509 mm	20 in	509 mm	20 in	543 mm	21.4 in
End Bit	152 mm	6 in	152 mm	6 in	152 mm	6 in
Cutting Edge	152 mm	6 in	200.7 mm	7.9 in	200.2 mm	7.9 in
Arc Radius	413 mm	16.3 in	413 mm	16.3 in	413 mm	16.3 in
Throat Clearance	112 mm	4.7 in	112 mm	4.7 in	112 mm	4.7 in

## Drawbar Circle Moldboard

	Standard	
Range of Motion		
Lift Cylinders	2	
Maximum Depth of Cut	735 mm	28.9 in
Maximum Lift Above Ground	480 mm	18.9 in
Throat Clearance	112 mm	4.4 in
Circle Center Shift Cylinder		
Center Shift Right	728 mm	28.7 in
Center Shift Left	752 mm	29.6 in
Moldboard Side Shift Cylinder		
Side Shift Left	663 mm	26.1 in
Side Shift Right	512 mm	20.2 in
Blade Tip Cylinder		
Maximum Blade Tip Forward	40°	
Maximum Blade Tip Backward	5°	
Circle Drive	360° of Blade Rotation	
Link Bar	7 Positions to adjust the drawbar circle moldboard range of motion	
Drawbar Shoes	4 with replaceable wear strips	

## Circle

Section	Rolled Ring Forging
Number of Teeth	64
Rotation	360°

## Sound

Sound	ISO 6395:2008 ISO 6396:2008
Spectator Sound Level	106 dB(A)
Operator Sound Level	79 dB(A)

- The dynamic spectator sound power level measurements are performed according to the test procedures that are specified in ISO 6395:2008. The measurements were conducted at 70% of the maximum engine cooling fan speed.
- The dynamic operator sound pressure level measurements are performed according to the test procedures that are specified in ISO 6396:2008. The measurements were conducted at 70% of the maximum engine cooling fan speed, with the cab doors and the cab windows closed. The cab was properly installed and maintained.

## Standards

ROPS	ISO 3471:2008
FOPS	ISO 3449:2005 Level II
Steering	ISO 5010:2007
Brakes	ISO 3450:2011

## Maximum Shoulder Reach Outside of Tires

Blade	3.7 m (12 ft)		4.3 m (14 ft)	
Right	1928 mm	75.9 in	2233 mm	87.9 in
Left	1764 mm	69.4 in	2201 mm	86.7 in

- An additional 300 mm (11.8 in) of reach can be achieved to the right or left by changing the side shift mounting bracket on the 4.3 m (14 ft) blade.

## Ripper

Ripping Depth Maximum	410 mm	16.1 in
Ripper Shank Holder	5	
Ripper Shank Holder Spacing	500 mm	19.7 in
Machine Length Increase, Beam Raised	1170 mm	46.1 in

## Rear Scarifier

Working Width	2137 mm	84.1 in
Number of Shanks	9	
Shank Spacing	250 mm	9.8 in
Scarifying Depth, Maximum	281 mm	11.1 in

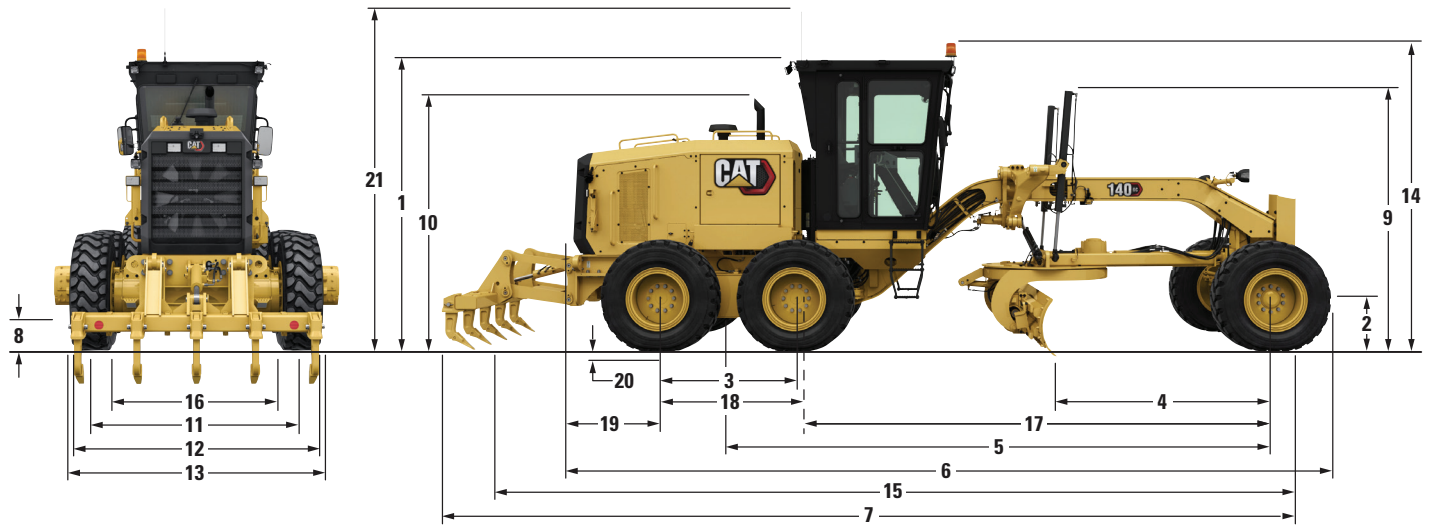
## Electrical

Starting System Type	Direct Electric	
Heavy Duty Battery		
CCA at -18°	1,400 amp	
Volts	12V	
Quantity	2	
Standard Battery		
CCA at -18°	900 amp	
Volts	12V	
Quantity	2	
Standard Alternator	115 amps at 24V	

# 140 GC Motor Grader Specifications

## Dimensions

All dimensions are approximate.



<b>1</b> Height – Top of Cab	3315 mm	130.5 in	<b>11</b> Width – Tire Center Lines	2222 mm	87.5 in
<b>2</b> Height – Front Axle Center			<b>12</b> Width – Outside Rear Tires	2493 mm	98.1 in
STD	610 mm	24.0 in	<b>13</b> Width – Outside Front Tires		
AWD	616 mm	24.3 in	STD	2493 mm	98.1 in
<b>3</b> Length – Between Tandem Axles	1523 mm	60 in	AWD	2638 mm	103.9 in
<b>4</b> Length – Front Axle to Moldboard			<b>14</b> Maximum Height – with Attachments (Beacon and Antenna in Shipment Position)	3798 mm	149.5 in
STD	2535 mm	99.8 in	<b>15</b> Length – Push Plate to Raised Ripper	10 181 mm	400.8 in
AWD	2500 mm	98.4 in	<b>16</b> Width – Inside Rear Tires	1777 mm	70.0 in
<b>5</b> Length – Front Axle to Mid Tandem			<b>17</b> Length – Front Axle to Articulation Hitch		
STD	6137 mm	241.7 in	STD	5327 mm	209.7 in
AWD	6102 mm	240 in	AWD	5292 mm	208.3 in
<b>6</b> Length – Front Tire to Rear of Machine			<b>18</b> Length – Rear Axle to Articulation Hitch	810 mm	31.9 in
STD	8788 mm	346 in	<b>19</b> Length – Rear Axle to Rear of Frame	1215 mm	47.8 in
AWD	8735 mm	344 in	<b>20</b> Height – Tire Deflection at Performance Weight	65 mm	2.6 in
<b>7</b> Length – Push Plate to Ripper	10 332 mm	406.8 in	<b>21</b> Maximum Height – with Attachments (Beacon and Antenna in Operating Position)	4139 mm	163.0 in
<b>8</b> Ground Clearance at Rear Axle	377 mm	13.3 in			
<b>9</b> Height to Top of Cylinders	3001 mm	118.1 in			
<b>10</b> Height to Exhaust Stack	3184 mm	125.3 in			

## Optional Tire Arrangements

Rim Size	Wheel Group	Tires
9 x 24	Single-Piece	14.00-24
10 x 24	Multi-Piece	14.00-24
14 x 25	Multi-Piece	17.5R25
14 x 25	Multi-Piece	17.5-25

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

# 140 GC Standard and Optional Equipment

## Standard and Optional Equipment

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

	Standard	Optional
<b>CAB</b>		
Vinyl seat	✓	
Mechanical suspension seat		✓
Air suspension seat		✓
Adjustable steering wheel/lever controls	✓	
Seat belt	✓	
Electric throttle control	✓	
ROPS/FOPS		✓
Heating/cooling cab system		✓
Defrost fans		✓
Rear wiper		✓
Base cab	✓	
Canopy		✓
Cab Plus		✓
Cab storage	✓	
Information display screen	✓	
Halogen lighting	✓	
Entertainment Radio Ready	✓	
Cup holder	✓	
Dome interior light	✓	
Coat hook	✓	
Rear window screen		✓
Front wipers		✓
Digital blade slope meter		✓
Product Link™		✓
<b>POWER TRAIN</b>		
Cat C7.1	✓	
ECO mode	✓	
On-demand fan	✓	
No-spin differential	✓	
Heavy duty starter		✓
50° C (122° F) ambient capacity	✓	
<b>DRAWBAR CIRCLE MOLDBOARD</b>		
Standard drawbar circle moldboard	✓	
Circle drive slip clutch		✓
Circle saver		✓

(continued on next page)

# 140 GC Standard and Optional Equipment

## Standard and Optional Equipment *(continued)*

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

	Standard	Optional
<b>SAFETY</b>		
Parking brake	✓	
Signaling/warning horn	✓	
Back-up alarm	✓	
Rearview mirror	✓	
Rearview camera		✓
Warning beacon		✓
Hydraulic brakes	✓	
Secondary steering system		✓
Side view mirrors	✓	
Grab rails	✓	
Walkways		✓
<b>ELECTRICAL</b>		
Sealed alternator	✓	
Reversing lights	✓	
Breaker panel	✓	
900 CCA standard duty batteries	✓	
1,400 CCA heavy duty batteries		✓
Electric starter	✓	
<b>SERVICE AND MAINTENANCE</b>		
Grouped location for engine oil and fuel filters	✓	
Extended Life Coolant	✓	
<b>GUARDS</b>		
Fender		✓
Transmission	✓	
Cover, under cab platform		✓
<b>VERSATILITY</b>		
Push block		✓
Ripper		✓
Scarifier		✓
Front blade		✓
Towing hitch		✓





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