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	U.S. EPA Tier 4 Final/ EU Stage V and China Nonroad Stage IV emission standards	
Net Power ISO 9249:2007/SAE J1349	131 kW	176 hp
Net Power EEC 80/1269 (DIN)	133 kW	178 hp
Power Range – Net	131 kW-147 kW	176 hp-196 hp
Power Range – Net (DIN)	133 kW-148 kW	178 hp-199 hp
Engine Power All-Wheel Drive (AWD)	147 kW	196 hp
Bore	105 mm	4.1 in
Displacement	7.01 L	427.8 in^3
Stroke	135 mm	5.3 in
Engine RPM	2,200	
Number of Cylinders	6	
Torque Rise – ISO 9249:2007	33%	
Maximum Torque – ISO 9249:2007	835 N·m	616 lb-ft
Maximum Torque – ISO 9249:2007 (AWD on)	835 N·m	616 lb-ft
Derating Altitude	3000 m at 1,800 rpm	9,842 ft at 1,800 rpm
	1676 m at 2,200 rpm	5,499 at 2,200 rpm
Maximum – Fan Speed	1,300 rpm	
Maximum – Fan Speed (AWD)	1,500 rpm	
Minimum – Fan Speed	800 rpm	
Standard Capacity	43° C	109° F
High Ambient Capacity	50° C	122° F
Biodiesel Capability	Up to B20[1]	

- Net power is tested per ISO 9249:2007, SAE J1349, and EEC 80/1269 standards in effect at the time of manufacture.
- Net power available at the flywheel when the engine is equipped with fan, air cleaner, aftertreatment, and alternator with engine speed at 2,200 rpm.
- Rated speed at 2,200 rpm.

[1]Cat diesel engines are required to use ULSD (ultra-low sulfur diesel fuel with 15 ppm of sulfur or less) or ULSD blended with the following lower-carbon intensity fuels up to:

- ✓ 20% biodiesel FAME (fatty acid methyl ester)*
- ✓ 100% renewable diesel, HVO (hydrotreated vegetable oil) and GTL (gas-to-liquid) fuels

Refer to guidelines for successful application. Please consult your Cat dealer or "Caterpillar Machine Fluids Recommendations" (SEBU6250) for details.

**Engines with no aftertreatment devices can use higher blends, up to 100% biodiesel (for use of blends higher than 20% biodiesel, consult your Cat dealer).*

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

Powertrain

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

Hydraulic System

Type	Open – 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
	0-155 L/min	0-40.9 gal/min
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	
Pump Type	Gear	
Clutch Supply	78 L/min at 1600-1800 kPa	20.6 gal/min at 2,321-2,611 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 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) or 14.00-24 (bias tires), no slip.

Base Machine Weight

Weight*	14 620 kg	32,231 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.

Typically Equipped Machine Weight*

Weight (Stage V)**	17 565 kg	38,725 lb
Front Axle	4942 kg	10,895 lb
Rear Axle	12 623 kg	27,829 lb
Weight (Tier 4 Final)***	18 280 kg	40,301 lb
Front Axle	5142 kg	11,336 lb
Rear Axle	13 138 kg	28,965 lb
Weight (AWD) (Stage V)**	18 305 kg	40,356 lb
Front Axle	5517 kg	12,163 lb
Rear Axle	12 788 kg	28,193 lb
Weight (AWD) (Tier 4 Final)***	19 020 kg	41,932 lb
Front Axle	5732 kg	12,637 lb
Rear Axle	13 288 kg	29,295 lb

*Typically equipped operating weight is calculated with full fuel tank, coolant, lubricants, operator, push block, rear ripper, tires on multi-piece rims (**17.5-25 Bias/***17.5R-25), 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 × 610 mm × 20 mm (12 ft × 24 in × 7/8 in)	701 kg	1,545 lb
4279 mm × 659 mm × 20 mm (14 ft × 25.9 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	970 kg	2,138 lb
Front Blade	1142 kg	2,518 lb

140 GC Motor Grader Specifications

Air Conditioning

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_2 equivalent of 2.86 metric tonnes.

Service Refill Capacities

Fuel Tank	295 L	77.9 gal
Diesel Exhaust Fluid (DEF)	16 L	4.2 gal
Circle Drive	2 (Standard)/ 7.5 (slip clutch)	0.5 gal/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

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^2	226.3 in^2

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

Moldboard

	Standard		Option 1		Option 2	
Width	3.7 m	12 ft	3.7 m	12 ft	4.3 m	14 ft
Height	610 mm	24 in	610 mm	24 in	659 mm	25.9 in
End Bit	152 mm	6 in	152 mm	6 in	152 mm	6 in
Cutting Edge	152 mm	6 in	203.2 mm	8 in	203.2 mm	8 in
Arc Radius	417 mm	16.4 in	417 mm	16.4 in	417 mm	16.4 in
Throat Clearance	112 mm	4.7 in	112 mm	4.7 in	112 mm	4.7 in

Drawbar Circle Moldboard

Range of Motion	Standard	
Lift Cylinders	2	
Maximum Depth of Cut	715 mm	28.1 in
Maximum Lift Above Ground	475 mm	18.7 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	649 mm	25.6 in
Side Shift Right	526 mm	20.7 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°

Maximum Shoulder Reach Outside of Tires

Blade	3.7 m (12 ft)		4.3 m (14 ft)	
Right	1812 mm	71.3 in	2379 mm	93.7 in
Left	1886 mm	74.3 in	2537 mm	99.9 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	275 mm	10.8 in

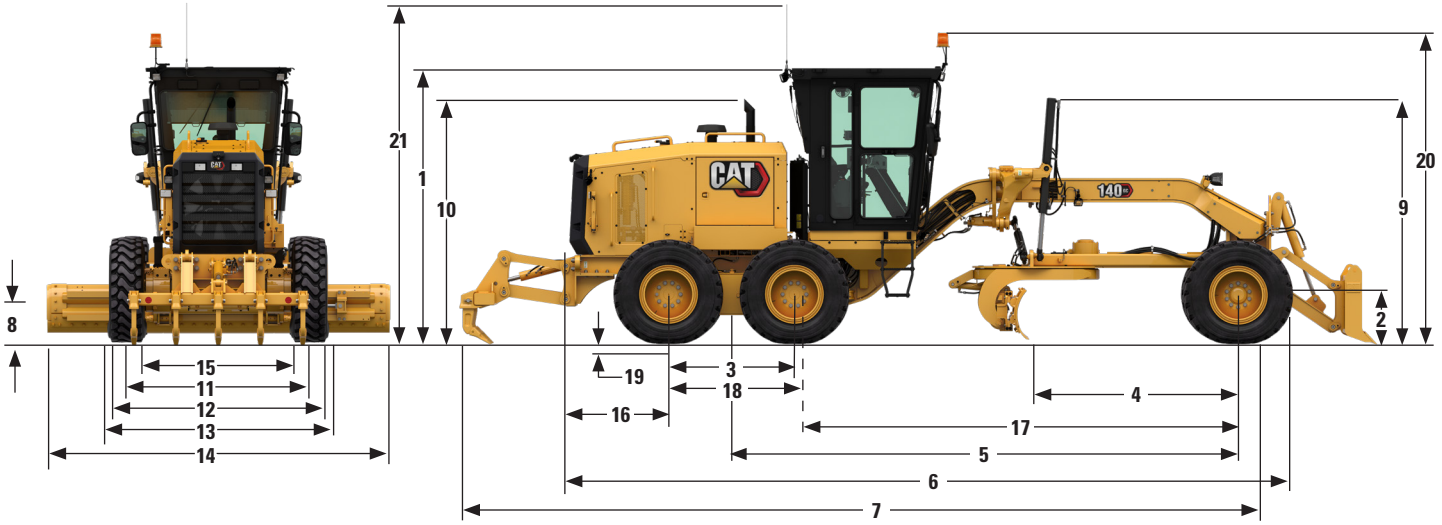
Electrical

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	145 amps at 24V

140 GC Motor Grader Specifications

Dimensions

All dimensions are approximate.



1	Height – Top of Cab	3315 mm	130.5 in
	Height – Low Profile Top of Cab	3095 mm	121.9 in
2	Height – Front Axle Center		
	Standard	610 mm	24.0 in
	AWD	616 mm	24.3 in
3	Length – Between Tandem Axles	1523 mm	60 in
4	Length – Front Axle to Moldboard		
	Standard	2535 mm	100 in
	AWD	2500 mm	98.4 in
5	Length – Front Axle to Mid Tandem		
	Standard	6137 mm	241.7 in
	AWD	6102 mm	240 in
6	Length – Front Tire to Rear of Machine		
	Standard	8788 mm	346 in
	AWD	8735 mm	344 in
7	Length – Push Plate to Ripper	10 332 mm	406.8 in
8	Ground Clearance at Rear Axle	377 mm	14.8 in
9	Height to Top of Cylinders	3001 mm	118 in
10	Height to Exhaust Stack	3184 mm	125 in

11	Width – Tire Center Lines	2222 mm	87.5 in
12	Width – Outside Rear Tires	2493 mm	98.1 in
13	Width – Outside Front Tires		
	Standard	2493 mm	98.1 in
	AWD	2638 mm	103.9 in
14	Width – Front Blade	2748 mm	108 in
15	Width – Inside Rear Tires	1777 mm	70 in
16	Length – Rear Axle to Rear of Machine	1976 mm	77.8 in
17	Length – Front Axle to Articulation Hitch		
	Standard	5327 mm	209.7 in
	AWD	5292 mm	208.3 in
18	Length – Rear Axle to Articulation Hitch	810 mm	31.9 in
19	Height – Tire Deflection at Performance Weight	65 mm	2.6 in
20	Maximum Height – with Attachments – Beacon	3798 mm	149.5 in
21	Maximum Height – with Attachments – Antenna	4139 mm	163 in

Optional Tire Arrangements

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

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

Standards

Rollover Protection Structure (ROPS)	ISO 3471:2008 Maximum Mass: 23 000 kg (50,706 lb) Enclosed Cab Maximum Mass: 22 000 kg (48,502 lb) Canopy Cab
Falling Objects Protective Structure (FOPS)	ISO 3449:2005 Level II
Brakes	ISO 3450:2011 Maximum Mass: 23 000 kg (50,706 lb)
Steering	ISO 5010:2007 Maximum Mass: 23 000 kg (50,706 lb)
Exterior Noise Level – ISO 6395:2008	106 dB(A)
Operator Noise Level – ISO 6394:2008	79 dB(A)

- The dynamic spectator sound power level measurements are performed according to the dynamic test procedures that are specified in ISO 6395:2008. The measurements were conducted at 70% of the maximum engine cooling fan speed. The machine was equipped with sound suppression system.
- The dynamic operator sound pressure level measurements are performed according to the dynamic 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. The machine was equipped with sound suppression system.

140 GC Standard and Optional Equipment

Standard and Optional Equipment

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

	Standard	Optional
CAB		
Vinyl seat	✓	
Mechanical suspension seat		✓
Air suspension seat		✓
Adjustable steering wheel/lever controls	✓	
Seat belt	✓	
Electric throttle control	✓	
No-spin differential	✓	
ROPS/FOPS	✓	
Heating/cooling cab system		✓
Defrost fans		✓
Rear wiper		✓
Base cab	✓	
Cab plus		✓
Low profile cab		✓
Cab storage	✓	
Information display screen	✓	
Entertainment radio ready	✓	
Cup holder	✓	
Cell phone holder	✓	
Dome interior light	✓	
Coat hook	✓	
Rear window screen		✓
Front wipers	✓	
Lower front wipers		✓
Digital blade slope meter		✓
Product Link™		✓
POWERTRAIN		
Cat C7.1	✓	
Eco mode	✓	
On-demand fan	✓	
Heavy duty starter		✓
43° C (109° F) standard capacity	✓	
Transmission with autoshift		✓
DRAWBAR CIRCLE MOLDBOARD		
Standard drawbar circle moldboard	✓	
Circle drive slip clutch		✓
Circle saver		✓

(continued on next page)

Standard and Optional Equipment *(continued)*

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

	Standard	Optional
SAFETY		
Parking brake	✓	
Signaling/warning horn	✓	
Back-up alarm	✓	
Rearview mirror	✓	
Rearview camera		✓
Warning beacon		✓
Hydraulic brakes	✓	
Hydraulic system – integrated work port pressure relief	✓	
Hydraulic system – integrated dead engine implement lower	✓	
Secondary steering system		✓
Side view mirrors	✓	
Walkways		✓
Grab rails	✓	
Four-point safety harness seat belt		✓
ELECTRICAL		
Sealed alternator	✓	
Reversing lights	✓	
Breaker panel	✓	
900 CCA standard duty batteries	✓	
1,400 CCA heavy duty batteries		✓
Electric starter	✓	
Rear lights with LED lighting	✓	
Halogen lighting	✓	
SERVICE AND MAINTENANCE		
Grouped location for engine oil and fuel filters	✓	
Extended life coolant	✓	
GUARDS		
Fender		✓
Transmission	✓	
Cover, under cab platform		✓
VERSATILITY		
Push block		✓
Ripper		✓
Scarifier		✓
Front blade		✓
Towing hitch		✓
Mid-mount scarifier		✓
Front lift group from factory		✓
L3 tires		✓
Sy-Klone precleaner		✓

140 GC Environmental Declaration

The following information applies to the machine at the time of final manufacture as configured for sale in the regions covered in this document. The content of this declaration is valid as of the date issued; however, content related to machine features and specifications are subject to change without notice. For additional information, please see the machine's Operation and Maintenance Manual.

For more information on sustainability in action and our progress, please visit https://www.caterpillar.com/en/company/sustainability.

Engine

- The Cat® 140 GC meets U.S. EPA Tier 4 Final, EU Stage V and China Nonroad Stage IV emission standards.
- Cat diesel engines are required to use ULSD (ultra-low sulfur diesel fuel with 15 ppm of sulfur or less) or ULSD blended with the following lower-carbon intensity fuels up to:
  - ✓ 20% biodiesel FAME (fatty acid methyl ester)*
  - ✓ 100% renewable diesel, HVO (hydrotreated vegetable oil) and GTL (gas-to-liquid) fuels

  Refer to guidelines for successful application. Please consult your Cat dealer or "Caterpillar Machine Fluids Recommendations" (SEBU6250) for details.

  **Engines with no aftertreatment devices can use higher blends, up to 100% biodiesel (for use of blends higher than 20% biodiesel, consult your Cat dealer).*

Air Conditioning System

- The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 2.0 kg (4.4 lb) of refrigerant which has a CO_2 equivalent of 2.86 metric tonnes (3.15 tons).

Paint

- Based on best available knowledge, the maximum allowable concentration, measured in parts per million (PPM), of the following heavy metals in paint are:
  - Barium < 0.01%
  - Cadmium < 0.01%
  - Chromium < 0.01%
  - Lead < 0.01%

Sound Performance

With cooling fan speed at 70% of maximum value:
Exterior Noise Level (ISO 6395:2008) – 106 dB(A)
Operator Noise Level (ISO 6396:2008) – 79 dB(A)

- The dynamic spectator sound power level measurements are performed according to the dynamic test procedures that are specified in ISO 6395:2008. The machine was equipped with sound suppression system.
- The dynamic operator sound pressure level measurements are performed according to the dynamic test procedures that are specified in ISO 6396:2008. The measurements were with the cab doors and the cab windows closed. The cab was properly installed and maintained. The machine was equipped with sound suppression system.

Oils and Fluids

- Caterpillar factory fills with ethylene glycol coolants. Cat Diesel Engine Antifreeze/Coolant (DEAC) and Cat Extended Life Coolant (ELC) can be recycled. Consult your Cat dealer for more information.
- Cat Bio HYDO™ Advanced is an EU Ecolabel approved biodegradable hydraulic oil.
- Additional fluids are likely to be present, please consult the Operations and Maintenance Manual or the Application and Installation guide for complete fluid recommendations and maintenance intervals.

Features and Technology

- The following features and technology may contribute to fuel savings and/or carbon reduction. Features may vary. Consult your Cat dealer for details.
  - Eco mode minimizes fuel consumption for light applications
  - Engine idle shutdown timer reduces fuel burn, greenhouse gas emissions and unnecessary idle time by shutting down the machine after a pre-set idling period
  - Improve productivity with the electronic throttle control which matches engine power and torque to application requirements
  - Extended maintenance intervals not only reduce downtime but decrease the amount of fluid and filters that are replaced over the life of the machine
  - The on-demand fan reduces fuel consumption and under-hood heat for longer component life
  - Improve job site efficiency with lower operating costs with Product Link™ and VisionLink® insights

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

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

AEXQ3873-00 (07-2024)
Build Number 02A
(N Am, Europe, Chile,
China, Colombia, Turkey)