

150/150 AWD Motor Graders Specifications

Engine

Engine Model	Cat C9.3		
Emissions	U.S. EPA Tier 4 Final/ EU Stage V		
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	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	
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)
3rd–6th	164 (220)	164 (220)	164 (220)

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 150/150 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)
- 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.
- 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).*

***Tailpipe greenhouse gas emissions from lower-carbon intensity fuels are essentially the same as traditional fuels.*

Powertrain

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

Hydraulic System

Circuit Type	Parallel	
Pump Type	Variable Piston	
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.

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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

• 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

Frame

Circle		
Diameter	1530 mm	60.2 in
Height	138 mm	5.4 in
Blade Beam Thickness	40.0 mm	1.6 in
Drawbar		
Height	152 mm	6.0 in
Width	76.2 mm	3.0 in
Thickness	12.7 mm	0.50 in
Front-Top/Bottom Plate		
Width	305 mm	12.0 in
Thickness	22.0 mm	0.87 in
Front Frame Structure		
Height	321 mm	12.6 in
Width	305 mm	12.0 in
Front Axle		
Height to Center	596 mm	23.5 in
Wheel Lean, Left/Right	18°	
Total Oscillation per Side	32°	

• 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°	

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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

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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 150 and 150 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 150 and 150 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.

Air Conditioning System

The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 1.8 kg of refrigerant which has a CO₂ equivalent of 2.574 metric tonnes.