14
Motor Grader



Engine		
Model	Cat® C13	
Emissions	U.S. EPA Tier 4 Final/EU Stage V or China Nonroad Stage III emission standards, or Tier 3/Stage IIIA or Tier 2/Stage II equivalent, depending on emission standards of specific country	
Base Power (1st gear) – Net	178 kW	238 hp
Optimized VHP Range – Net	178-213 kW	238-285 hp

Moldboard		
Width	4.3 m	14 ft
Optional	4.9 m	16 ft
Weight		
Operating Weight, Typically Equipped	25 968 kg	57,250 lb

14 Motor Grader Features

Overview
The 14 incorporates customer-driven and sustainability enhancements by increasing ease of operation, providing precision joystick control, delivering superior visibility, and building on a legacy of superior quality.

Operator Comfort
Industry leading cab and intuitive joystick controls give you unmatched comfort and visibility. Heated/ventilated seat options add comfort in a variety of working conditions.

Ease of Service
Drawbar-Circle-Moldboard features make it easy to maintain factory tightness for better grading results. Engine enclosure lights make service more convenient in low light.

Cat® Technologies
Make smart use of technology and services to help you monitor, manage and enhance job site operations.

Safety
Features like Operator Not Present monitoring, hydraulic lockout and redundant steering and braking systems help you meet your safety goals.



Contents

Structures and Drawbar-Circle-Moldboard 4
Engine 6
Emission Technology 7
Power Train 8
Operator Station 10
Hydraulics 12
Cat Technologies 13
Safety 14
Serviceability 16
Work Tools and Attachments 18
Sustainability 19
Customer Support 19
Specifications 20
Standard Equipment 25
Optional Equipment 27



The Cat 14 brings the latest emissions reduction technology to the most durable, productive and comfortable motor graders on the market. From building roads to maintaining them, Cat motor graders are designed to help you get more work done in less time.

The 14 includes features that optimize operating cost reduction, uptime and performance improvements as well as enhanced safety. Outstanding durability, unprecedented operator comfort and ease of service help maximize your return on investment.

Structures and Drawbar-Circle-Moldboard

Engineered for maximum production and service life.





Structure Strength – Built to Last

The 14's front frame, hitch area and rear frame provide performance and durability in heavy duty applications.

- Front Frame Structure – continuous top and bottom plate construction provides consistency and strength. The Center Shift Section is made of a single, heavy duty steel casting which improves stress distribution to this high load area of the mainframe for enhanced durability.
- Rear Frame Structure – is designed to provide easy service access to components in the engine enclosure as well as to improve machine balance while utilizing two bumper castings and thick hitch plates for improved durability. Mechanical locks prevent frame articulation to ensure safety when servicing or transporting the machine.



Optimized Machine Balance

The 14 is designed to optimize machine balance and performance at your site. With an optimized combination of weight and balance, the 14 delivers improved traction and the ability to keep ground speed especially when carrying a large load on the board. Operators will find that the machine will be able to take corners better with improved turning.

Easy Maintenance for More Uptime

A series of patented top-adjust metallic or non metallic wear strips and wear inserts are easy to add or replace. This keeps drawbar-circle-moldboard components factory-tight for higher quality work, and saves you service time and costs. An adjustable circle drive reduces service time and reduces wear by keeping components tight.



Engine

Consistent power and reliability for maximum productivity.



Engine

The Cat C13 engine gives you the performance to maintain consistent grading speeds for maximum productivity. Superior torque and lugging capability pulls through sudden, short-term load increases.

Standard optimized variable horse power (VHP) is designed to provide the ideal amount of power in all gears to efficiently perform diverse motor grader applications while protecting structure and drive train components.

Engine Economy (ECO) Mode

ECO Mode improves fuel economy by reducing high idle engine speed while maintaining machine power. ECO Mode controls the high engine idle speed (capped at 1,750 rpm in working gears) to ensure the engine is performing as efficiently as possible with respect to fuel consumption.

ECO Mode can provide significant fuel consumption savings especially in operations that are typically run at light to moderate loads, high idle and gear usage between 3R to 5F.

Consistent Power to the Ground

This standard, automatically enabled, feature changes the engine power levels in real-time to offset cooling fan losses, resulting in consistent power to the ground independent of ambient temperatures and machine workloads. As a result, you will get the best performance from the machine all the time.



Emission Technology

Providing you reliable, integrated solutions.





Emission Standards

Emissions reduction technology is designed so regeneration runs in the background while you work. It delivers the same power and torque needed for optimal performance. The C13 engine variation with Tier 4 Final/Stage V emission standards includes:

- **Diesel Particulate Filter (DPF)**
  The Diesel Particulate Filter can provide a particulate reduction of greater than 90%. It filters soot from the exhaust then the soot is removed through the regeneration process automatically or manually.
- **Selective Catalytic Reduction (SCR)**
  The Selective Catalytic Reduction system can provide a NO_X reduction of greater than 90%. SCR operation is transparent to the operator during operation. The urea solution, Diesel Exhaust Fluid (DEF), is pumped from the DEF tank and is sprayed into the exhaust stream. The DEF reacts with the SCR catalyst to reduce NO_X.
- **Diesel Exhaust Fluid (DEF)**
  Diesel Exhaust Fluid is a liquid injected into the exhaust system of engines equipped with Selective Catalytic Reduction (SCR) systems. DEF that meets ISO 22241 specifications is required.
- **Ground Level Diesel Exhaust Fluid (DEF) Fill**
  The DEF fill allows the DEF tank to be conveniently filled from ground level. Simply refill the DEF tank when you refuel.

Power Train

Maximum power to the ground.

The front axle steering cylinder and sensing guards have been designed to enhance durability and hydraulic hoses have been routed to improve reliability.

Optional heavy and light duty front guards are available to help protect the front axle from rocks or other debris that could damage the axle or its components.





Power Train

The 14 gives you efficiency and longevity in your most demanding applications.

- The Standard Automatic Differential Lock feature will lock and unlock the differential automatically, based on the application, for easier operation and improved power train protection.
- Advanced Productivity Electronic Control System (APECS) transmission is a key contributor to improved speed shift performance in the 14. You will notice enhanced comfort during shifting resulting in an increased level of productivity.
- Eight forward and six reverse gears are specifically designed to give you a wide operating range for maximum productivity.
- Engine Over-Speed Protection prevents downshifting until an acceptable safe travel speed has been established.

Front and Rear Axles

The sealed spindle keeps front axle bearings lubricated and protected from contaminants. The Cat "Live Spindle" design places the larger tapered roller bearing on the outside, where the load is greater, extending bearing life.

A bolt-on modular rear axle improves serviceability and contamination control with easy access to differential components.

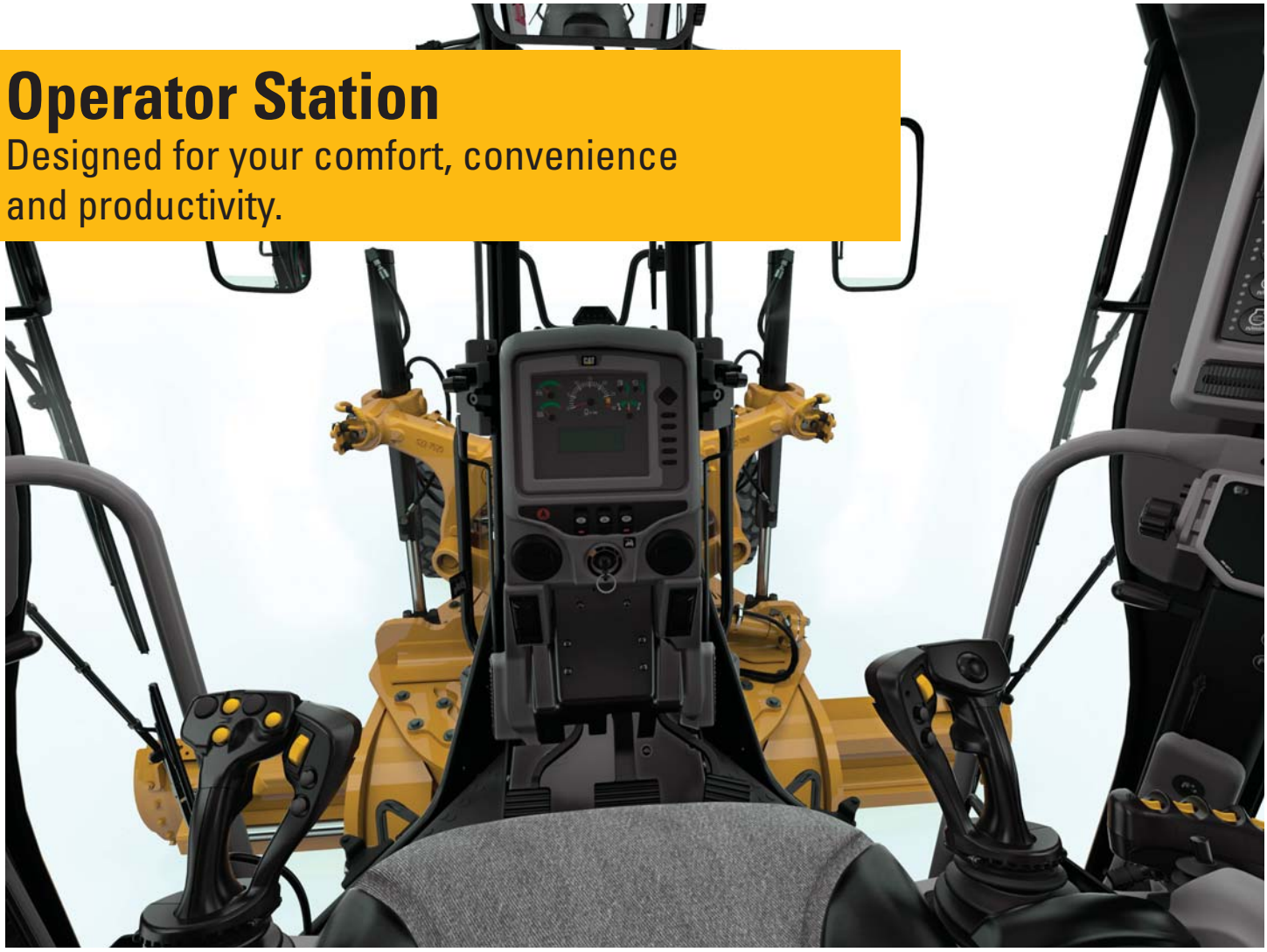
Hydraulic Brakes

Oil-bathed, multi-disc service brakes are hydraulically actuated for smooth, predictable braking and lower operating costs. Brakes are located at each tandem wheel for a large total brake surface area to give you dependable stopping power and longer life.



Operator Station

Designed for your comfort, convenience and productivity.





Ease of Operation

Two electro-hydraulic joysticks reduce hand and wrist movement up to 78%, compared to conventional lever controls, resulting in greatly enhanced operator comfort and efficiency. The intuitive control pattern allows both new and experienced operators to quickly become productive. Electronically adjustable control pods help position joysticks for optimal comfort, visibility and proper operation.

With the touch of a button, the articulation return-to-center feature automatically returns the machine to a straight frame position from any angle.

You can choose the blade lift modulation mode that best fits your application or operating style: Fine, Normal or Coarse.

Electronic throttle control provides easy, precise and consistent throttle operation.



Visibility

Good visibility is key to your safety and efficiency. Large windows provide exceptional visibility while an optional rear vision camera can further enhance your lines of sight to the rear of the machine.



Comfort and Control

Experience the most spacious, comfortable cab in the industry. Revolutionary joystick controls replace conventional levers and steering wheel, helping to reduce operator fatigue. Moreover, Advanced Control Joysticks, a patented interface, improve operational efficiency, boost productivity levels and enhance operator comfort are available as an option.

Now conveniently located in the center console, a message display shows machine and diagnostic information in addition to Cat GRADE with Cross Slope readings. The keypad allows activation and deactivation of different functions in the machine with one touch and indicates whether a function is active or not through light emitting diode (LED) lights.

The standard mechanical suspension seat has side bolsters that restrain side-to-side movement especially when working on side slopes. Multiple isolation mounts significantly reduce sound and vibration for a more relaxed work environment. An optional heated and ventilated seat provides enhanced comfort for operators in extreme weather conditions.

The high capacity Heating, Ventilation and Air Conditioning (HVAC) system dehumidifies and pressurizes the cab, circulates fresh air, seals out dust and keeps windows clear.

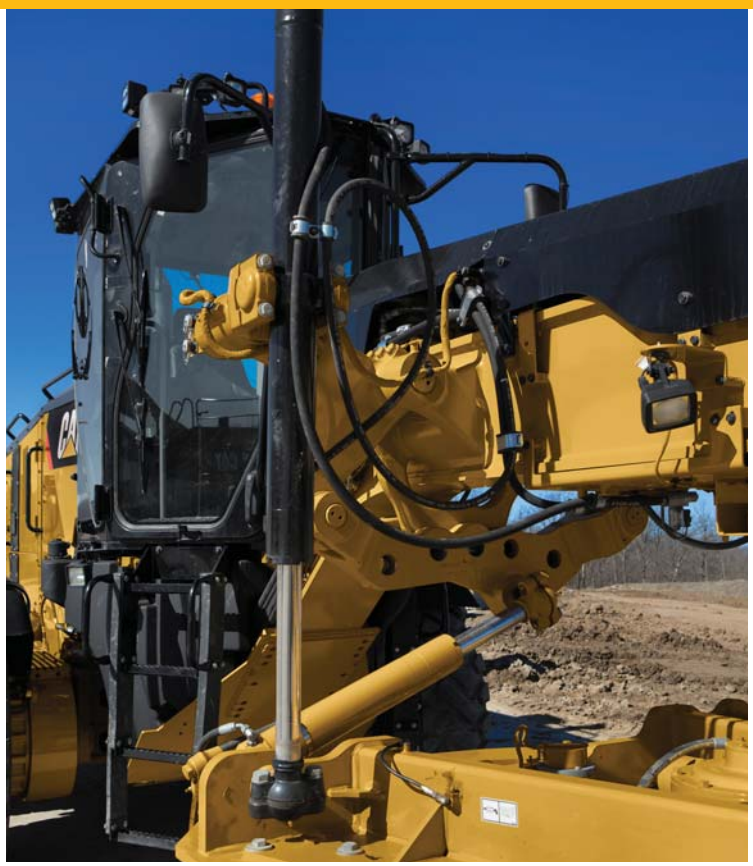
Additional storage space for commonly used cabin items is included inside the cab.

Optional Bluetooth™ and satellite radio are available.



Hydraulics

Advanced machine controls with precise and predictable movements.



Load Sensing Hydraulics (PPPC)

A proven load-sensing system and advanced Proportional Priority Pressure-Compensating (PPPC) electro-hydraulic valves give you superior implement control and enhanced machine performance. Continuously matching hydraulic flow/pressure to power demands creates less heat and reduces power consumption.

- Consistent, Predictable Movement – PPPC valves have different flow rates for the head and rod ends of each cylinder, so you can count on consistent, predictable implement response.
- Balanced Flow – hydraulic flow is proportioned to give you confidence that all implements will operate simultaneously without slowing the engine or speed of some implements.

Blade Float

Allows the blade to move freely under its own weight. By floating both cylinders, the blade can follow the contours of the road. Floating only one cylinder permits the toe of the blade to follow a hard surface while the operator controls the slope with the other lift cylinder.

Independent Oil Supply

Large, separate hydraulic oil supplies prevent cross-contamination and provide proper oil cooling which reduces heat build-up and extends component life.





Cat Technologies

Monitor, manage, and enhance job site operations.

Cat Product Link™ Elite

Product Link is deeply integrated into your machine, helping take the guesswork out of equipment management. Easy access to timely information like machine location, hours, fuel usage, idle time and event codes via the online VisionLink® user interface can help you effectively manage your fleet and lower operating costs.
NOTE: Product Link licensing not available in all areas. Please consult your Cat dealer for availability.

Cat GRADE with Cross Slope

Cat GRADE with Cross Slope is an option for the 14. The grade control system helps you more easily maintain your desired cross slope by automatically controlling one side of the blade. The system is scalable for the future with AccuGrade™ upgrade kits that provide additional 2D and/or 3D control features.

Stable Blade

An optional Stable Blade system detects bounce through an accelerometer and reduces engine rpm as required at 15% intervals to stabilize machine bounce. Once the motor grader has stabilized, Stable Blade will increase engine speed back to the initial set level. The throttle will not be reduced below 1,200 rpm.

Auto Articulation

The Auto Articulation option on the 14 is active in gears 1-4F and 1-3R and allows the motor grader to automatically articulate to match the steering angle of the front tires. The system is tuned to allow full articulation at full steering angle and is modulated for maximum performance.

Safety

Focused on keeping everyone safe.





Operator Presence Monitoring System

Standard system keeps the parking brake engaged and hydraulic implements disabled until the operator is seated and the machine is ready for operation.

Brake Systems

Brakes are located at each tandem wheel to eliminate braking loads on the power train. Redundant brake systems utilize accumulator to enable stopping in case of machine failure.

Access to Tandem

Strategically placed grab handles and non slip steps are located behind the tandems for access to tandem walkways.



Speed Sensitive Steering
Makes steering less sensitive as ground speed increases for greater operator confidence and control.

Secondary Steering System
Automatically engages an electric hydraulic pump in case of a drop in steering pressure so the operator can safely steer the machine to a stop.

Light Emitting Diode (LED) Enclosure Service Lights
The enclosure lights provide better visibility to field technicians for machine servicing and maintenance. Two LED lights are offered as a standard feature, one in the engine compartment and one on the service center door.

Seat Belt Indication – Optional
Provides visual alert to the operator on the display panel when seat belt is not in use.

Blade Lift Accumulators – Optional
Help absorb impact loads to the moldboard by allowing vertical blade travel. This optional feature helps reduce wear and aids operator safety.

Other Standard Safety Features
- Circle drive slip clutch
- Hydraulic lockout
- Laminated front window glass
- Ground-level electrical disconnect switch
- Ground-level engine shutoff switch
- Glare reducing paint for night operation
- Grouped, ground level service points
- Laminated front window glass
- Optional rear fenders
- Optional rearview camera with in-cab monitor



Serviceability

Reduce service time to increase your uptime.



High mechanical availability is one of your top concerns. Designed to help increase your uptime, the 14's major components are modular in design, so most can be removed and reinstalled without disturbing other components.





Long Life Service Intervals

Key service intervals*:

- 500 hours
  - change engine oil and filter
  - change fuel system filters
  - clean transmission and differential screen
  - clean fuel tank cap and strainer
  - clean tandem breather
- 1,000 hours
  - change transmission and differential oil filter
  - change hydraulic supply and return filters
  - clean transmission and differential breather
- 2,000 hours
  - change transmission and differential oil
  - change circle drive oil
  - clean cooling system pressure cap
  - change tandem drive oil
  - change wheel bearing oil

*Service hours apply when S·O·S℠ sampling and Cat branded filters are used.

Serviceability Enhancements

- Safe, ground level core clean out access
- One door engine enclosure access with inner prop-rods and outer door stops
- Easy access to engine valve cover and injectors
- Optimized filter and S·O·S port placement
- Rear axle modular design
- Brake wear indicators
- Gen 2 Electro-Hydraulic (EH) steering – optimized warning strategy
- Transmission and axle – cold and hot dipstick fluid marks
- Platform door for ground level access to cab air filter
- Electronic Technician (Cat ET)



Work Tools and Attachments

Provide flexibility to match the machine to your job.

Moldboard Options

A 4.3 m (14 ft) moldboard is standard on the 14. An optional 4.9 m (16 ft) moldboard is available.

Ground Engaging Tools (GET)

A variety of solutions are available from Cat Work Tools, including cutting edges, grader bits and end bits, all designed for maximum service life and productivity.

Rear Ripper/Scarifier

The 3-shank ripper penetrates tough material fast and rips thoroughly for easier movement with the moldboard. Nine scarifier shanks can also be added to break material into smaller particles for easier mixing and better adhesion.

Snow Removal Work Tools

Snow plow, snow wing and mounting options increase machine versatility and utilization throughout the year.



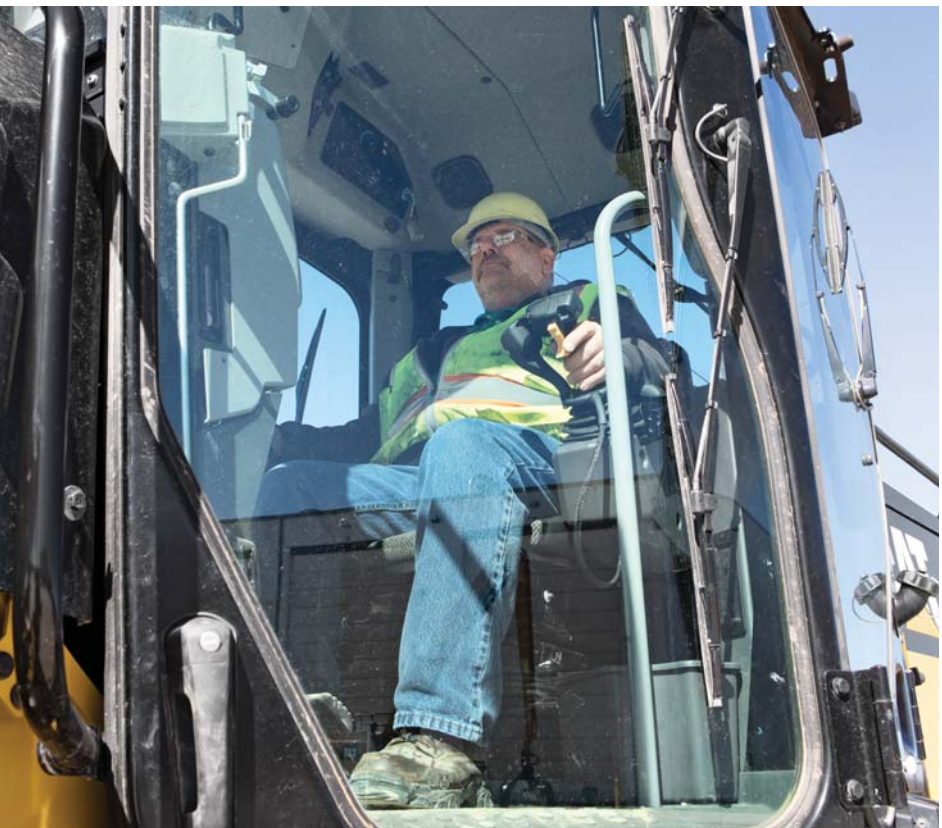
Sustainability

Thinking generations ahead.

Sustainable Development for Caterpillar means leveraging technology and innovation to increase efficiency and productivity with less impact on the environment. This helps you by enabling your businesses to become more productive by providing products, services and solutions that use resources more efficiently.

The 14 offers a number of sustainable benefits:

- Fuel saving features like Engine Economy (ECO) Mode help decrease overall fuel consumption.
- Major components on Cat motor graders are designed to be rebuilt.
- The Cat Certified Rebuild program conserves natural resources by delivering a cost effective second and even third life for our machines.





Customer Support

Your Cat dealer knows how to keep your machines moving.

From helping you choose the right machine to knowledgeable ongoing support, Cat dealers provide you with unmatched sales and service.

- Preventive maintenance programs and guaranteed maintenance contracts.
- Best-in-class parts availability.
- Operator training to help boost your profits.
- Genuine Cat Remanufactured parts.

14 Motor Grader Specifications

Engine

Engine Model	Cat C13 VHP	
Base Power (1st gear) – Net	178 kW	238 hp
Base Power (1st gear) – Net (metric)		241 hp
VHP Range – Net	178-213 kW	238-285 hp
VHP Range – Net (metric)		241-289 hp
Displacement	12.5 L	763 in^3
Bore	130 mm	5.1 in
Stroke	157 mm	6.2 in
Torque Rise	41%	
Maximum Torque ISO 9249	1542 N·m	1,137 lbf-ft
Speed @ Rated Power	1,850 rpm	
Number of Cylinders	6	
Derating Altitude		
Tier 4 Final/Stage V	3673 m	12,049 ft
Tier 3/Stage III Equivalent and China	4374 m	14,349 ft
Tier 2/Stage II Equivalent	3673 m	12,049 ft
Standard – Fan Speed		
Maximum	1,600 rpm	
Minimum	550 rpm	
Standard – Ambient Capability	50° C	122° F

- Notes: The 14 is offered with three variations of the C13 engine.
- Three variations of the C13 engine. One meets Tier 4 Final/Stage V emission standards and is required for higher regulated countries. One meets China Nonroad Stage III standards (equivalent to Tier 3/Stage IIIA), depending on emission standards of the specific country. One emits equivalent to Tier 2/Stage II and is available for lesser or non-regulated countries.
- Power as declared per ISO 14396 for Tier 4 Final/Stage V/China III emission standards 228 kW (306 hp) at 1,850 rpm rated speed.
- Net power is measured per ISO 9249 at rated speed of 1,850 rpm and includes an engine equipped with fan, air cleaner, muffler and alternator.
- On Tier 4 Final/Stage V Ultra Low Sulfur Diesel (ULSD) and low ash oil are required.
- On Tier 4 Final/Stage V Diesel Exhaust Fluid (DEF) that meets ISO 22241 specifications is required.

Variable Power by Gear

Gear	Net kW	Net HP	Metric HP
Forward			
1st	178	238	241
2nd	181	243	246
3rd	185	248	251
4th	189	253	256
5th	196	263	267
6th	202	271	274
7th	206	276	280
8th	213	285	289
Reverse			
1st	178	238	241
2nd	181	243	246
3rd–6th	185	248	251

Power Train

Forward/Reverse Gears	8 Forward/6 Reverse	
Transmission	Direct drive, power shift, countershaft	
Brakes		
Service	Hydraulic, multiple disc oil	
Dynamic Brake Torque per Wheel	24 518 N·m	18,087 lbf-ft
Parking	Spring apply, hydraulic release	
Secondary	Dual circuit control system. Applies two service brakes.	

Hydraulic System

Circuit Type	Electro-hydraulic load sensing, closed center	
Pump Type	Variable piston	
Pump Output*	257 L/min	68 gal/min
Maximum System Pressure	24 100 kPa	3,495 psi
Standby Pressure	5900 kPa	856 psi

*Pump output measured at high idle of 1,950 rpm.

Operating Specifications

Top Speed		
Forward	50.5 km/h	31.4 mph
Reverse	39.9 km/h	24.8 mph
Turning Radius (outside front tires)	8 m	25 ft 11 in
Steering Range – Left/Right	50°	
Articulation Angle – Left/Right	20°	
Forward		
1st	4.4 km/h	2.7 mph
2nd	6.0 km/h	3.7 mph
3rd	8.7 km/h	5.4 mph
4th	12 km/h	7.4 mph
5th	18.6 km/h	11.5 mph
6th	25.2 km/h	15.6 mph
7th	34.7 km/h	21.5 mph
8th	50.5 km/h	31.4 mph
Reverse		
1st	3.5 km/h	2.2 mph
2nd	6.5 km/h	4.0 mph
3rd	9.5 km/h	5.9 mph
4th	14.7 km/h	9.1 mph
5th	27.4 km/h	17.0 mph
6th	39.9 km/h	24.8 mph

• Calculated with no slip and 20.5 R25 L-3 tires.

Service Refill

Fuel Capacity	416 L	109.9 gal
DEF Tank	22 L	5.8 gal
Cooling System	60 L	15.9 gal
Hydraulic System		
Total	125 L	33 gal
Tank	60 L	15.9 gal
Engine Oil	30 L	7.9 gal
Transmission/Differential/Final Drives	89 L	23.5 gal
Tandem Housing (each)	100 L	26.4 gal
Front Wheel Spindle Bearing Housing	0.9 L	0.24 gal
Circle Drive Housing	7 L	1.8 gal

Frame

Circle		
Diameter	1822 mm	71.7 in
Blade Beam Thickness	50 mm	2 in
Drawbar		
Height	203 mm	8 in
Width	76 mm	3 in
Front Frame Structure		
Height	419 mm	14.5 in
Width	336 mm	13.2 in
Thickness Side/Top Plates	16 mm	0.63 in
Front Axle		
Height to Center	762 mm	30 in
Wheel Lean	17.1° Left and Right	
Total Oscillation per Side	32°	

Tandems

Height	616 mm	24.3 in
Width	214 mm	8.4 in
Sidewall Thickness		
Inner/Outer	20 mm	0.8 in
Drive Chain Pitch	57.15 mm	2.25 in
Wheel Axle Spacing	1656 mm	65.2 in
Tandem Oscillation		
Front Up	15°	
Front Down	25°	

Blade Range

Circle Centershift		
Right	520 mm	20.5 in
Left	650 mm	25.6 in
Moldboard Sideshift		
Right	790 mm	31.1 in
Left	740 mm	29.1 in
Maximum Blade Position Angle	90° (AccuGrade/ Cross Slope) 360° (Standard)	
Blade Tip Range		
Forward	40°	
Backward	5°	
Maximum Shoulder Reach Outside of Tires		
Right	2004 mm	78.9 in
Left	1870 mm	73.6 in
Maximum Lift above Ground	419 mm	16.5 in
Maximum Depth of Cut	593 mm	23.3 in

14 Motor Grader Specifications

Moldboard

Moldboard	4.3 m	14 ft
Width	4166 mm	164 in
Height	585 mm	23 in
Thickness	25 mm	1 in
Arc Radius	413 mm	16.3 in
Throat Clearance	117 mm	4.6 in
Cutting Edge		
Height	203 mm	8 in
Width	2131 mm	83.9 in
Thickness	19 mm	0.8 in
Width (Cutting Edges + Moldboard)	4265 mm	167.9 in
Height (Cutting Edges + Moldboard)	631 mm	24.9 in
End Bit		
Height	452 mm	17.8 in
Width	152 mm	6 in
Thickness	15 mm	0.6 in
Width (End Bits + Moldboard)	4290 mm	168.9 in
Height (End Bits + Moldboard)	see moldboard height	
Blade Pull*		
Base GVW	15 102 kg	33,294.4 lb
Maximum GVW	18 871 kg	41,603.5 lb
Down Force		
Base GVW	11 188 kg	24,665.3 lb
Maximum GVW	17 402 kg	38,364.8 lb

• 4.9 m (16 ft) optional moldboard available.

*Blade pull calculated at 0.9 traction coefficient, which is equal to ideal no-slip conditions, and Gross Machine Weight.

Ripper

Ripping Depth – Maximum	404 mm	15.9 in
Ripper Shank Holders	7	
Shank Holder Spacing		
Minimum	373 mm	14.7 in
Maximum	472 mm	18.6 in
Penetration Force	13 116 kg	28,916 lb
Pryout Force	21 228 kg	46,800 lb
Machine Length Increase, Beam Raised	766 mm	27.8 in

Weights Tier 4 Final/Stage V*

Gross Vehicle Weight – Typically Equipped		
Total	25 968 kg	57,250 lb
Front Axle	6915 kg	15,245 lb
Rear Axle	19 053 kg	42,005 lb
Gross Vehicle Weight – Base**		
Total	23 124 kg	50,979 lb
Front Axle	6344 kg	13,985 lb
Rear Axle	16 780 kg	36,993.8 lb
Gross Vehicle Weight – Maximum Tested		
Total	30 835 kg	67,980 lb
Front Axle	9867 kg	21,753.5 lb
Rear Axle	20 968 kg	46,226.1 lb

*For machines not equipped with Tier 4 Final/Stage V emission engine, subtract 200 kg (441 lb) from the rear axle weight and total weight.

**Base operating weight calculated on standard machine configuration with 20.5 R25 tires, full fuel tank operator and ROPS cab.

Standards

ROPS/FOPS	ISO 3471:2008/ ISO 3449:2005
Steering	ISO 5010:2007
Brakes	ISO 3450:2011
Sound	ISO 6395:2008, ISO 6396:2008

• The dynamic spectator sound power level is 108 dB(A) for Stage V certified configurations and 110 dB(A) for Tier 2/Stage II and Tier 3/Stage IIIA equivalent machines when measured according to the dynamic test procedures that are specified in ISO 6395:2008. The measurement was conducted at 70% of the maximum engine cooling fan speed.

• The dynamic operator sound pressure level is 72 dB(A) for Stage V certified configurations and 72 dB(A) for Tier 2/Stage II and Tier 3/Stage IIIA equivalent machines when measured according to the dynamic test procedures that are specified in ISO 6396:2008. The measurement was 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.

Configurations

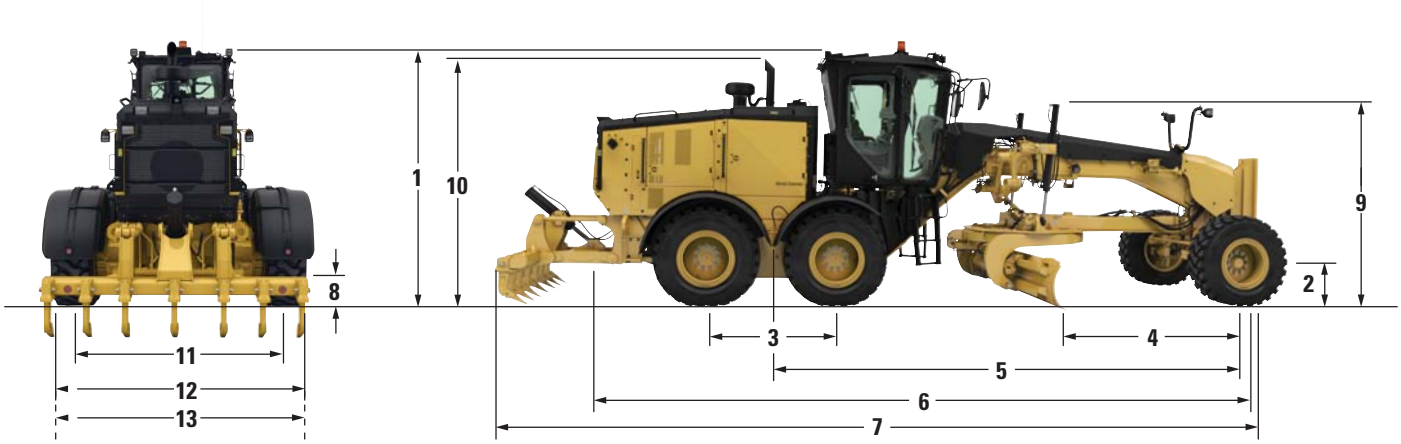
Configuration	Construction	Mining
Operating Weight*	25 968 kg (57,250 lb)	26 174 kg (57,704 lb)
Maximum GVW	30 835 kg (67,980 lb)	
Blade Pull		
Typically Equipped	17 148 kg (37,805 lb)	17 263 kg (38,058 lb)
Maximum GVW	18 871 kg (41,604 lb)	
Blade Down Force		
Typically Equipped	12 196 kg (26,888 lb)	12 338 kg (27,201 lb)
Maximum GVW	17 402 kg (38,364 lb)	
Top Speed		
Forward	50.5 km/h (31.4 mph)	
Reverse	39.9 km/h (24.8 mph)	
Turning Radius	8 m (25 ft 11 in)	
Width outside Tires	3050 mm (120 in)	
Length, Front Tire to Rear of Machine	9600 mm (378 in)	
Height to Top of Cab	3566 mm (140 in)	

*A typically equipped Operating Weight for construction includes 4.3 m (14 ft) moldboard, 20.5R25 tires, pushblock, ripper, belly guard, and full fluids. The mining configuration includes all of these items plus a 4.9 m (16 ft) moldboard, and additional guarding.

14 Motor Grader Specifications

Dimensions

All dimensions are approximate, based on standard machine configuration with 20.5 R25 tires.



	14	
1 Height – Top of Cab	3566 mm	140.4 in
2 Height – Front Axle Center	762 mm	30 in
3 Length – Between Tandem Axles	1656 mm	65.2 in
4 Length – Front Axle to Moldboard	2840 mm	111.8 in
5 Length – Front Axle to Mid Tandem	6559 mm	258.2 in
6 Length – Front Tire to Rear of Machine	9600 mm	378 in
7 Length – Counterweight to Ripper (raised)	10 901 mm	429.2 in
8 Ground Clearance at Rear Axle	373 mm	14.7 in
9 Height to Top of Cylinders	2910 mm	114.6 in
10 Height to Exhaust Stack	3468 mm	136.6 in
11 Width – Tire Center Lines	2516 mm	99.1 in
12 Width – Outside Rear Tires	3050 mm	120.1 in
13 Width – Outside Front Tires	3050 mm	120.1 in

Optional Tire Arrangements*

Common tire options for the 14.

Wheel Group	Tires
17×25 MP	20.5 R25 Bridgestone VJT 1 Star
17×25 MP	20.5 R25 Bridgestone VKT 1 Star
17×25 MP	20.5 R25 Michelin XHA 1 Star
17×25 MP	20.5 R25 Michelin X SNO Plus 1 Star

*Factory options may vary based on availability.

Standard Equipment

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

OPERATOR ENVIRONMENT

- Joystick, power adjustable armrests
- Air conditioner with heater
- Centershift pin indicator
- Coat hook
- Cup holder
- Display, digital speed and gear
- Doors, left and right side with wiper
- Gauges (analog) inside cab (includes fuel, articulation, engine coolant temp, engine rpm, and hydraulic oil temp)
- Gauges, machine level
- Message display
- Joystick gear selection
- Joystick hydraulic controls for implements, steering, transmission
- Ladders, cab, left and right side
- Lights, left and right side lights
- Lights, night time cab, LED
- Meter, hour, digital
- Mirror, inside rearview, wide angle
- Power port, 12V
- Radio ready, entertainment
- ROPS cab, sound suppressed, less than 73 dB(A) ISO 6394 (70% fan speed)
- Seat, mechanical suspension, cloth
- Storage compartments
- Throttle control, electronic

POWER TRAIN

- Air cleaner, dual stage, dry-type radial seal with service indicator through messenger and dust ejector
- Articulation, automatic Return-to-Center
- Air-to-Air After Cooler (ATAAC)
- Auto Diff Lock
- Brake wear indication
- Brakes, oil disc, four-wheel, hydraulic
- Consistent power to ground
- Monitoring system
- Clutch, circle drive slip
- Differential, lock/unlock
- Drain, engine oil, ecology
- Demand fan, hydraulic
- Engine ECO Mode
- Ether starting aid
- Fuel tank, ground level
- Fuel-water separator
- Hydraulic demand fan
- Muffler, under hood (China Nonroad Stage III and Tier 3/Stage IIIA/Tier 2/ Stage II equivalent)
- Optimized VHP
- Parking brake – multi disc, sealed, oil-cooled
- Priming pump, fuel
- Sediment drain, fuel tank
- Three variations of the C13 engine. One meets Tier 4 Final/Stage V emission standards and is required for higher regulated countries. One meets China Nonroad Stage III standards (equivalent to Tier 3/Stage IIIA). One emits equivalent to Tier 2/Stage II and is available for lesser or non-regulated countries.
- Transmission, 8F/6R, power shift, direct drive

ELECTRICAL

- Alternator, 150 ampere, sealed
- Batteries, maintenance free, HD, 1,125 CCA
- Breaker panel
- Electrical system, 24V
- Belt, serpentine, automatic tensioner
- Lights: reversing (LED), roof-mounted roading, stop and tail (LED)
- Product Link
- Starter, electric
- Service lights, enclosure, rear, LED

SAFETY

- Alarm, back up
- Ground level engine shutdown
- Hammer (emergency exit)
- Horn, electric
- Lockout, hydraulic implement for roading
- Operator Not Present Monitoring system
- Paint, glare reducing – top of front frame, rear enclosure and ripper cylinders
- Seat belt, retractable 76 mm (3 in)
- Secondary steering
- Windows, laminated glass
  - Fixed front with intermittent wiper
  - Side and rear wipers (3)

Continued on next page

Standard Equipment *(Continued)*

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

OTHER STANDARD EQUIPMENT

- 4 bolt side shift blade bracket
- AccuGrade ARO
- Brake accumulators, dual certified
- CD ROM parts book
- Clutch, circle drive slip
- Cutting edges, curved DH-2 steel
  - 203 mm × 19 mm (8 in × ¾ in)
  - 19 mm (¾ in) mounting bolts
- Doors, 4, engine compartment (2 left hand and 2 right hand), locking
- Doors, 3 service compartment (1 left hand and 2 right hand), locking
- Drawbar – 6 shoes with replaceable wear strips
- End bits, 16 mm (⅝ in) DH-2 steel, 19 mm (¾ in) mounting bolts
- Fluid check
- Frame, articulated, with safety lock
- Hydraulics, load-sensing
- Plastic fuel tank, 416 L (109.9 gal)
- Non metallic DCM wear strips
- Moldboard
  - 4290 mm × 631.4 mm × 25.4 mm (14 ft × 25 in × 1 in)
  - Hydraulic side shift and tip
- Radiator, two cleanout access doors
- Rear bumper
- Rear tandem access steps and hand bar
- S·O·S ports: engine, hydraulic, transmission, coolant, fuel
- Tandem walkway
- Top adjust circle wear strips
- Tool box

TIRES, RIMS, AND WHEELS

- Multi-piece rims are included in the base machine price and weight for tires on 17" × 25" (20.50R25)

FLUIDS

- Antifreeze

WORK TOOLS/G.E.T.

- 4.3 m (14 ft) blade

Optional Equipment

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

OPERATOR ENVIRONMENT
- Air horn
- Heated door
- Mirrors high visibility
- Mirrors, outside heated 24V
- Mirrors, outside mounted
- Seat, heated
- Seat, heated/ventilated
- Rearview camera
- Seat belt indicator

POWER TRAIN
- Transmission, autoshift
- Engine, compression brake

TECHNOLOGY
- Cat GRADE with Cross Slope
- Stable Blade
- Advanced Control Joysticks
- Auto Articulation

GUARDS
- Debris guard
- Front axle cylinder guards
- Rear fenders
- Sound suppression, engine enclosure and transmission
- Transmission guard
- Accumulators, blade lift
- Fast fill fuel, 378.5 L/min (100 gal/min)
- Metallic DCM wear strips

ELECTRICAL
- Light, LED, warning strobe
- Lights, front headlights high
- Lights, front headlights low
- Mounting, for warning light
- Working lights halogen
- Working lights LED

SAFETY
- Additional rearview camera and monitor
- Machine security system key

OTHER ATTACHMENTS
- Moldboard, 4.9 m (16 ft)
- Heater, engine coolant, 120V
- Heater, engine coolant, 240V
- Hydraulic arrangements with additional hydraulic valves: Base +1, Base +3, Base +4, Base +5, Base +6
- Product Link satellite, cellular
- Rim, 431.8 mm × 635 mm (17 in × 25 in) MP (spare)
- Snow wing, mounting frame ready
- Fast fill

WORK TOOLS/G.E.T.
- 4.9 m (16 ft) blade with flat cutting edge 254 mm × 35 mm (10 in × 1 3/8 in)
- Push block, counterweight
- Ripper, rear
- Tooth, ripper

FLUIDS
- Coolant, –51° C (–60° F)

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

AEHQ7821-04 (10-2019)
Replaces AEHQ7821-03
Build Number: 15A

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