140H

Motor Grader



Global Version

Cat® 3176 ETA Engine		
Base Power (all gears)	123 kW	165 hp
Variable Horsepower Arrangement		
- gears 1-3	123 kW	165 hp
- gears 4-8	138 kW	185 hp
Variable Horsepower Plus Arrangement		
- gears 1-3	123 kW	165 hp
- gears 4-6	138 kW	185 hp
- gears 7-8	153 kW	205 hp

Weights		
Gross Vehicle Weight - base	14 677 kg	32,357 lb
front wheels	4138 kg	9,123 lb
rear wheels	10 539 kg	23,234 lb
Moldboard		
Blade Width	3658 mm	12 ft

140H Motor Grader

The 140H blends productivity and durability to give you the best return on your investment.

Engine

✔ The Cat 3176 ETA is designed to handle the tough loads. Variable Horsepower matches torque curves to the gear, to maximize response, power and efficiency. Low fuel consumption reduces operating costs and reduces environmental impact. **pg. 4**

Power Train

The power shift transmission takes full advantage of the powerful 3176 ETA engine. Variable Horsepower uses specific torque curves for each gear range for optimum performance. Dual air system and multi-disc oil brakes assure reliable braking control. **pg. 5**

Hydraulics

The load-sensing hydraulic system lowers power consumption and system heat. The advanced PPPC control valves provide low lever effort, balanced flow and consistent cylinder speeds for outstanding blade control. Blade float is incorporated into the blade lift valves. **pg. 6**

Operator's Station

✔ Low effort blade controls, electronic throttle control, EMS III monitoring system, and improved ventilation provide world-class operator control and comfort. Improved visibility to the front and rear increase operator confidence and productivity. **pg. 10**

Environmentally Responsible Design

✔ New engine arrangements and operator station designs reduce emissions and meet current and anticipated regulations for interior and exterior sound levels, emissions, exhaust. **pg. 12**

Caterpillar has matched and balanced all power train components, hydraulic systems, and structural elements to deliver a superior motor grader. Include the best operator station in the industry and world-class dealer support, and the Cat 140H represents a reliable, cost-effective investment.



Drawbar, Circle, Moldboard

Flexible moldboard positioning and a long wheelbase improve material handling. Rugged construction and replaceable wear parts minimize operation costs. **pg. 7**

Structures

The 140H frame is designed and built to exceed the expectations of the customer. **pg. 8**

Serviceability

✔ Caterpillar® re-engineered inspection and service points, grouping them into a convenient left-hand side, ground level 'service center.' Ground level fueling and extended engine and hydraulic oil change intervals help minimize downtime. **pg. 9**

Customer Support

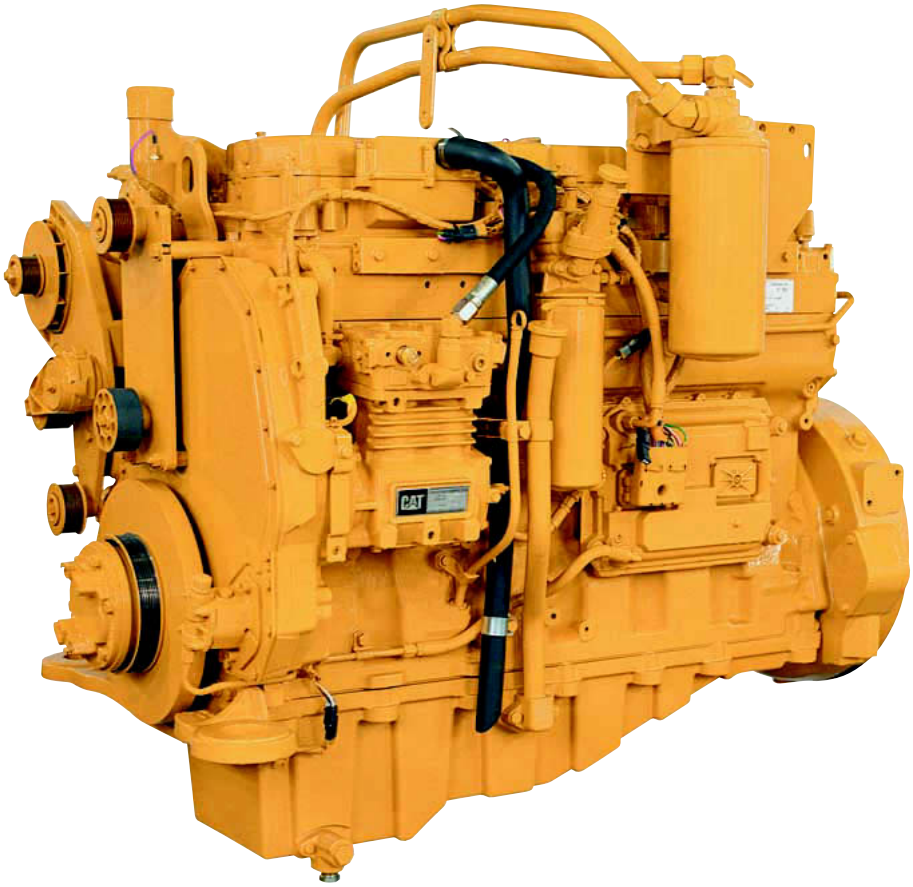
Your Cat dealer offers a range of services that help you operate longer with lower costs. **pg. 13**



✔ *New Feature*

Engine

Caterpillar engines deliver increased performance and lower operating costs.



Cat 3176 Engine. The innovative Cat 3176 diesel engine delivers large-engine performance from a compact engine design. The six-cylinder engine is turbocharged and air-to-air aftercooled. With high displacement and low rated speed, this engine provides excellent fuel economy and durability that can significantly reduce operating costs.

Variable Horsepower (VHP). Automatically increases horsepower in higher gears when the machine can use it. In lower gears where traction is limited, horsepower is limited, reducing wheel slip and conserving fuel.

- The 140H has a VHP Plus option to provide additional horsepower in forward gears 7-8.

Lugging Performance. High torque output and torque rise makes the 3176 very responsive. Its superior lugging maintains consistent grading speeds without the need to downshift.

Fuel Efficiency. Caterpillar state-of-the-art electronically controlled, unit injection fuel system uses high injection pressures for complete fuel combustion, efficient fuel use and reduced emissions. The dual-filter system reduces component wear.

Extended Engine Life. The large bore-stroke design and conservative power rating minimize internal stresses and increase component life. The low engine speeds reduce engine wear and sound levels.

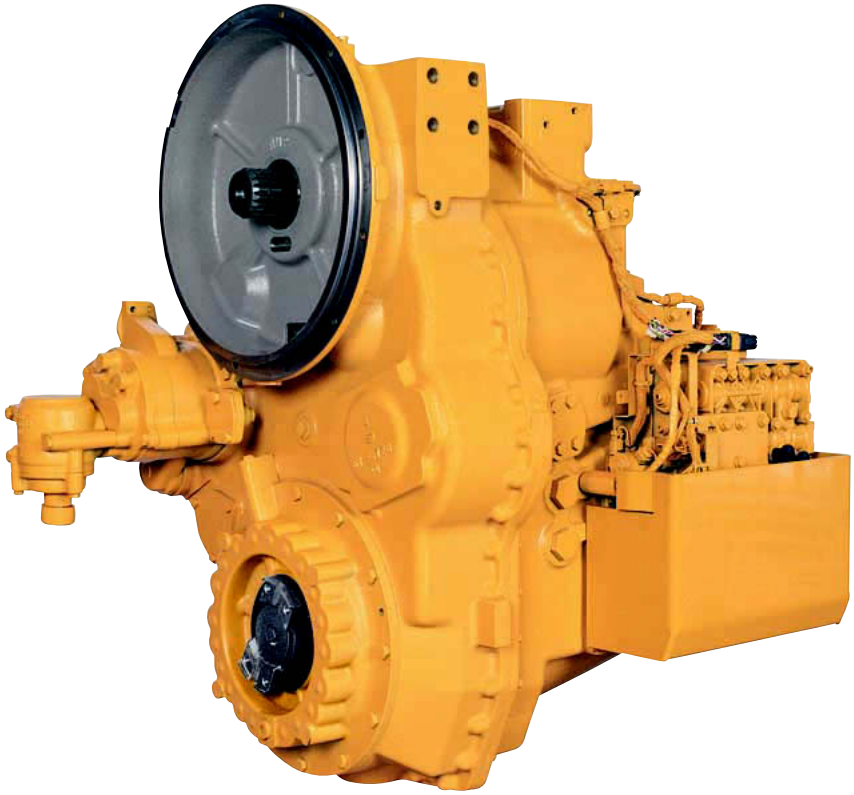
Hydraulic Demand Fan. The hydraulic demand fan control automatically adjusts cooling fan speed according to engine cooling requirements. This system reduces demands on the engine, putting more power to the ground and improving fuel efficiency.

Improved Torque. Power curves customized for the 140H increase peak torque for higher ground speeds and enhanced productivity. Rimpull has been increased in all gears for greater productivity.

Emissions Compliant. The new 140H has reduced NOx, hydrocarbon, and particulate emissions. The Cat 3176 meets or exceeds all U.S. EPA Tier II and EU Stage II emissions control standards worldwide.

Power Train

Matched Caterpillar components deliver smooth, responsive performance and reliability.



Power Shift Transmission. Designed and built specifically for Cat motor graders, the rugged transmission provides on-the-go, full-power shifting as well as inching capability.

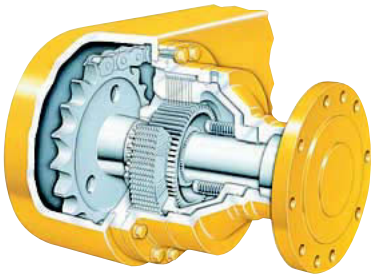
Direct Drive. Delivers superior fuel efficiency and "feel" of blade loads, material hardness and ground speed.

Gear Selection. Eight forward and six reverse speeds offer a wide operating range for maximum flexibility. Four gears below 10.3 km/h (6.4 mph) match working speed to job conditions for maximum productivity in earthmoving jobs. Gears five, six and seven are optimal for efficient snow removal operations. Gear 8 is designed for roading.

Electronic Transmission Control. Produces easy, smooth shifts to maintain uniform surfaces during shifting, and extends transmission life by reducing stress on transmission clutches. A single lever controls direction, gear and the parking brake.

Electronic Clutch Pressure Control. ECPC smoothes shifts and improves inching control, which increases operator comfort and productivity. It uses input from the transmission and operator controls to modulate the directional clutches and produce consistent shifting.

Electronic Overspeed Protection. The transmission control upshifts the transmission to relieve overspeed conditions. The transmission control will also prevent a downshift until machine speed is within the range for the requested gear. This can prevent damage and reduce component wear.



Inching Pedal. Delivers precise control of machine movements in any gear with low pedal effort and excellent modulation, critical in close-quarter work or finish grading. A new pedal design and location improves modulation and operator comfort.

Optional Autoshift. Improves ease of operation and maximizes productivity by automatically shifting the transmission at optimal shift points.

Dual Certified Air Tanks. Supply braking capacity to each side of the machine. This system ensures secondary braking capability in the event a failure occurs in a single brake line. The dual air system also has a large reserve for stalled-engine braking.

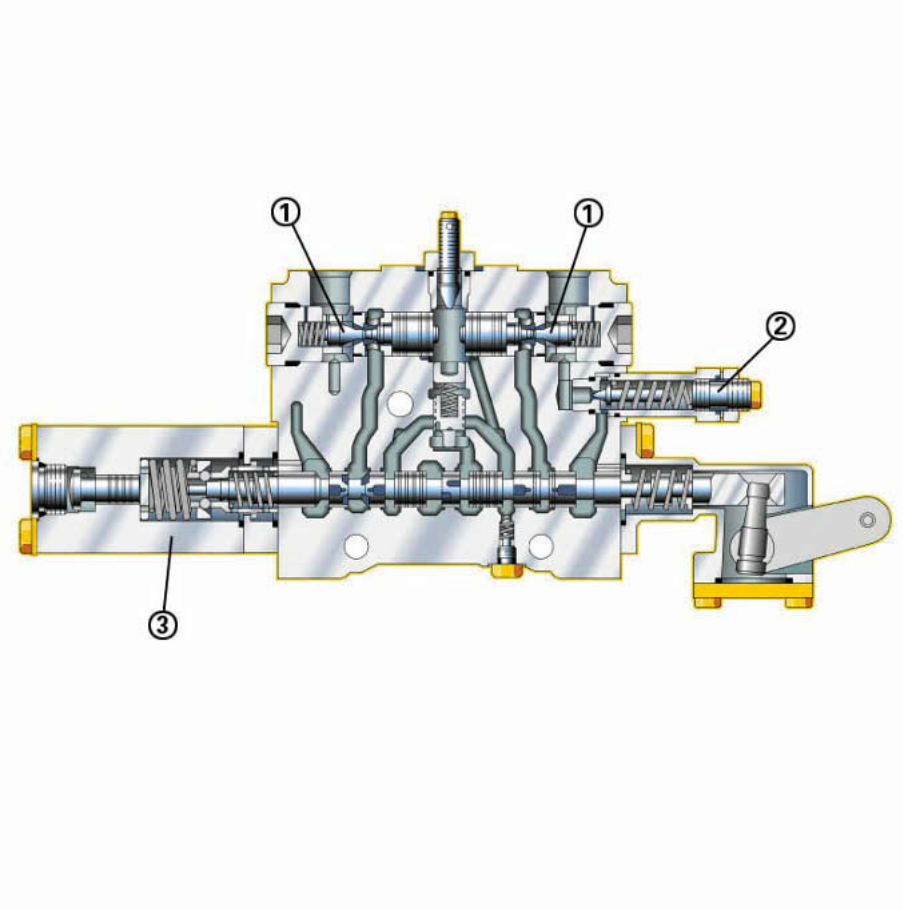
Oil-Disc Brakes. Caterpillar multi-disc brakes have a large brake surface for dependable braking capability and extended life before rebuild.

Location. Brakes are located at each tandem wheel to eliminate braking loads on the power train and to reduce servicing time.

Brake Reliability. The completely sealed and adjustment-free brakes are oil-bathed, air-actuated and spring-released.

Hydraulics

Balanced hydraulics deliver consistent, precise and responsive control.



1 Lock valve, 2 Line relief valve, 3 Blade float detent

Load Sensing Hydraulics. A load sensing variable displacement pump and the advanced proportional priority pressure-compensating (PPPC, or "triple-PC") hydraulic valves provide superior implement control and enhanced machine performance and efficiency. Continuously matching hydraulic flow and pressure to power demands creates less heat and reduces power consumption.

Implement Control Valves. PPPC valves have different flow rates for the head and rod ends of the cylinder. This insures consistent extension and retraction properties for each cylinder, and improves operator 'feel' and system response. All control valves use lock valves to maintain blade settings. Line relief valves protect cylinders from excessive pressure.

Balanced Flow. Hydraulic flow is proportioned to ensure all implements operate simultaneously. If demand exceeds pump capacity, all cylinders are reduced by the same ratio. The result is improved productivity in virtually any application.

Blade Float. Blade float, incorporated into the blade lift control valves, allows the blade to move freely under its own weight. By floating both cylinders, the blade can follow the contours of the road when removing snow. 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 supply prevents cross-contamination and provides proper oil cooling, which reduces heat build-up and extends component life.

Heavy Duty XT Hose. Caterpillar hose technology allows high pressures for maximum power and reduced downtime, and intelligent routing minimizes exposure to damage.

Optional Hydraulic Lockout. Mechanically locks all moldboard, machine, and attachment control levers during machine roading. This prevents implements from being accidentally engaged when the motor grader is travelling down the road.

Drawbar, Circle, Moldboard

Every component is designed for maximum productivity and durability.

Blade. Heat treated moldboard rails, tough-hardened cutting edge and end bits, and large diameter bolts assure reliability and longer service life.

Blade Positioning. The blade linkage design provides extensive moldboard positioning, most beneficial in mid-range bank sloping and in ditch cutting and cleaning.

Blade Angle. A long wheelbase allows the operator to obtain an aggressive moldboard angle. This aggressive angle permits material to roll more freely along the blade, which reduces power requirements. This is particularly helpful in handling very dry materials, cohesive soils, snow and ice.

Circle Construction. One-piece forged circle stands up to high stress loads. Raised wear surfaces prevent circle teeth wear against the drawbar. The 64 uniformly spaced circle teeth are flame cut and heat induction hardened to resist wear, and the circle is secured to the drawbar by six support shoes for maximum support.

Replaceable Wear Items. Tough, durable nylon composite wear inserts are located between the drawbar and circle, and between the support shoes and circle. This sacrificial wear system helps keep components tight for fine grading and allows easy replacement. These inserts reduce rotational friction resulting in extended component life.

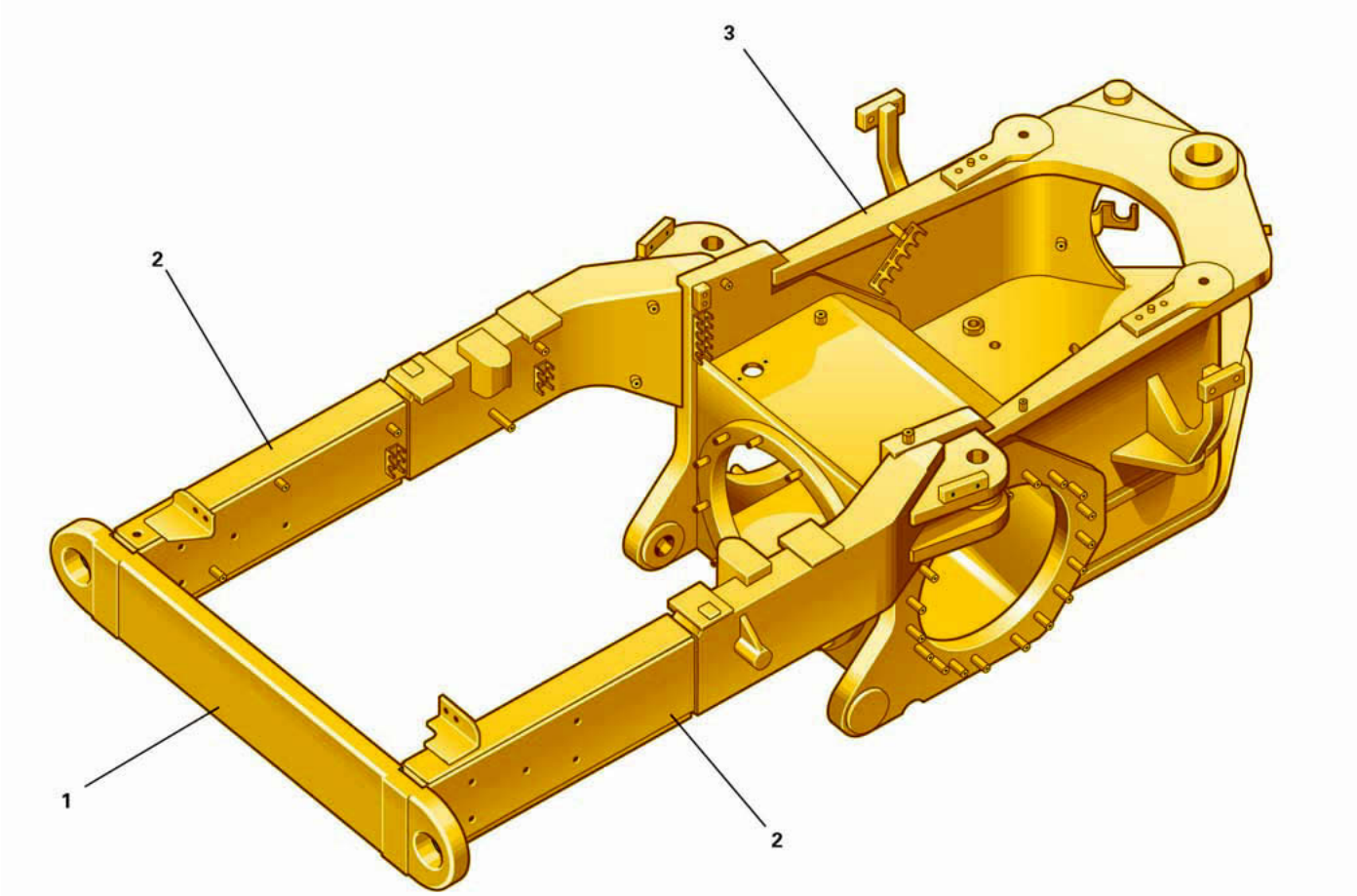


Circle Drive Slip Clutch. This standard feature protects the drawbar, circle and moldboard components from shock loads when the blade encounters immovable objects. It also reduces the possibility of the grader making abrupt directional changes in poor traction conditions.

Drawbar Construction. The Y-frame drawbar is constructed of two solid beams for high strength and optimum durability, as well as precise blading control.

Structures

The 140H frame is designed and built to exceed the expectations of the customer.



1 Integrated bumper; 2 Box-sectioned channels; 3 Fully welded differential

Integrated Bumper. The integrated bumper ties the rear frame together into a cohesive unit, to handle the loads possible with the new 3176 power train. This is especially important in ripping, or snow removal applications where graders are equipped with snow wing attachments.

Rear Frame. Rear frame has two box-sectioned channels integral with fully welded differential case for a solid working platform.

Front Frame. Continuous top and bottom plate construction provides consistency and strength. The flanged box section design removes welds from high stress areas, improving reliability and durability, and increasing resale values for the customer.

Serviceability

Re-engineered inspection and service points save time and expense.

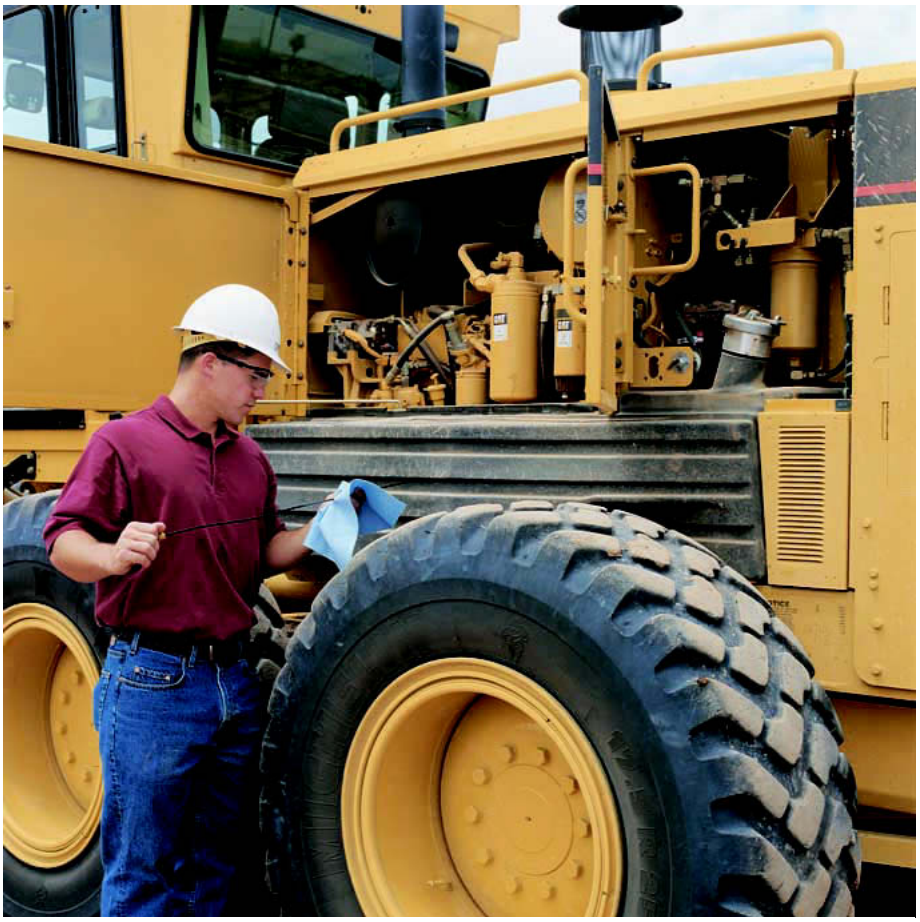
Service Center. A 'Service Center' on the left-hand side provides easy, centralized access to most check and maintenance points. Routine inspection and service are faster and easier, for better machine availability and lower operating costs.

- Large hinged doors provide easy access to the adjacent engine and maintenance service compartments.
- Engine and hydraulic oil checkpoints, coolant gauges, and air filters
- Spin-on filters for oils, fuel, coolant
- Remote lubrication points, purge valves and ecology drain lines
- Fuse panel with new automotive style fuses located inside cab
- Sample ports for engine, hydraulic, transmission fluids, coolant and fuel, encourage preventive maintenance and diagnostics like the S•O•S^{SM} program.

Fuel Tank. The 105 gallon (397 L), ground level fuel tank allows longer work shifts and reduces refueling frequency. An easily accessible fuel tank sediment drain enables the operator to remove sediment accumulation, reducing the risk of fuel system damage.

Extended Oil Change Interval. Operate a full 500 hours between engine oil and filter changes, and 4000 hours between hydraulic oil changes. This reduces downtime and operating expense.

Cat XT Hose. Caterpillar XT hose technology allows high pressures for maximum power and reduced downtime. Hoses are securely routed to minimize exposure to damage.



O-Ring Face Seals. Cat O-ring face seals assure rock-solid connections that maintain pressure and reduce oil leaks. Intelligent hose routing minimizes exposure to damage, increasing hose life and enhancing reliability.

Radiator Cleanout Access. Radiator clean-out access gives the operator the ability to clear away debris and other materials that build up around the radiator. This ensures that the radiator functions properly keeping the engine cool and increasing component life.

Operator's Station

The 140H includes innovative changes to improve operator efficiency and, in turn, greater machine productivity.



Comfort and Convenience. Comfort and convenience are designed into every feature of the operator's station.

Optimized Inching Modulation. The new Electronic Clutch Pressure Control (ECPC) optimizes inching modulation and smoothes shifting. It also eliminates cable control, improving reliability and enhances cold oil characteristics.

Electronic Throttle Control. ETC provides easier, more precise, more consistent throttle operation. Two modes on a single switch offer flexibility for varying applications and operator preference. Like cruise control, ETC improves fuel efficiency.

Electronic Monitoring System. Powerful monitoring and diagnostic capabilities allow more efficient and safer machine operation. The Cat EMS III keeps operators better informed of machine status with:

- Continuous tracking of all critical machine parameters on a dash display
- Warnings/alerts for abnormal conditions
- Retrieval or adjustment of over 200 vehicle system parameters using the powerful ET service tool

Controls On Steering Console. Controls and switches are located on the steering console, shift console and right cab post, all within easy reach. Gauges are located inside the cab, directly in front of the operator.

Backlit Controls. Rocker switches and transmission shifter are backlit for nighttime operation.

Optional Air Conditioner/Heater. The optional heater and air conditioner arrangements help create a comfortable work environment. The high-capacity systems dehumidify air and pressurize the cab, which circulates fresh air and seals out dust. Multiple additional vents evenly distribute air throughout the cab for clear windows and operator comfort.



Suspension Seat. Standard contour series suspension seat features fold-up armrests and a retractable seat belt. The seat can easily adjust for optimal support and comfort. Seat controls are located within easy reach and in plain view.

Fresh Air Filters. Located above each cab door for quick replacement.

Optional 12V Power Port. Available for use with computers, cellular phones or other electronic equipment.

Exceptional Visibility. A redesigned operator's console improves forward visibility. Large side windows allow a clear view of the moldboard heel and tandem tires. A wide rear window and tapered engine hood provide a good view to the rear of the machine. Moving the air dryer and air cleaner, and aligning the precleaner and muffler, improves visibility to the rear of the machine. Operators can work more confidently and efficiently.

Environmentally Responsible Design

Caterpillar builds machines that help you create a better world.



Quiet Cab. The resiliently mounted engine and transmission reduce interior engine noise and vibration to less than 75 dB(A). With the sound suppression group, interior sound levels do not exceed 72 dB(A), using ISO 6394. Lower interior noise levels improve operator working conditions.

Quiet Machine. Exterior sound levels are under 110 dB(A) using ISO 6395. The sound suppression group lowers exterior sound levels below 107 dB(A), complying with the EU 2000/14/EC sound limit of 109 dB(A). This quiet operation lets the 140H work with minimal disturbance to the surroundings.

Low Emissions. The 140H Motor Grader is even more environmentally friendly than its predecessors with reductions in NOx, hydrocarbon, and particulate emissions. It meets or exceeds all U.S. EPA Tier II and EU Stage II emissions control standards worldwide.

Fuel Efficient. Caterpillar state-of-the-art electronically controlled, unit injection fuel system has high injection pressure for complete fuel combustion, increased fuel efficiency and reduced emissions.

Dry Machine. Lubricant fill points and filters are designed to minimize spillage. O-ring face seals, Cat XT hose and Cat hydraulic cylinders protect against leaks.

Extended Oil Change Interval. Operate a full 500 hours between engine oil and filter changes, and 4000 hours between hydraulic oil changes. This reduces machine downtime and operating expense, and helps preserve our natural resources.

Ecology Drains. Make regular maintenance easier and help prevent spills when changing fluids.

Ozone Protection. To help protect the earth's ozone layer, air-conditioning units use a refrigerant free of chloroflourocarbons (CFCs).

Customer Support

Cat dealer services help you operate longer with lower costs.

Product Support. You will find nearly all parts at our dealer parts counter. Cat dealers use a world-wide computer network to find in-stock parts to minimize machine down time. Save money with genuine Cat Reman parts. You receive the same warranty and reliability as new products at substantial cost savings.

Machine Selection. Make detailed comparisons of the machines under consideration before purchase. Cat dealers can estimate component life, preventive maintenance cost, and the true cost of lost production.

Purchase. Look past initial price. Consider the financing options available as well as day-to-day operating costs. Look at dealer services that can be included in the cost of the machine to yield lower equipment owning and operating costs over the long run.

Customer Support Agreements. Cat dealers offer a variety of product support agreements, and work with customers to develop a plan that best meets specific needs. These plans can cover the entire machine, including attachments, to help protect the customer's investment.

Operation. Improving operating techniques can boost your profits. Your Cat dealer has videotapes, literature and other ideas to help you increase productivity, and Caterpillar offers certified operator training classes to help maximize the return on your machine investment.



Maintenance Services. Talk to your dealer about the range of available maintenance services. Repair option programs guarantee the cost of repairs up front. Diagnostic programs such as S•O•S℠ and Coolant Sampling and Technical Analysis help avoid unscheduled repairs.

Replacement. Repair, rebuild or replace? Your Cat dealer can help you evaluate the cost involved so you can make the right choice.

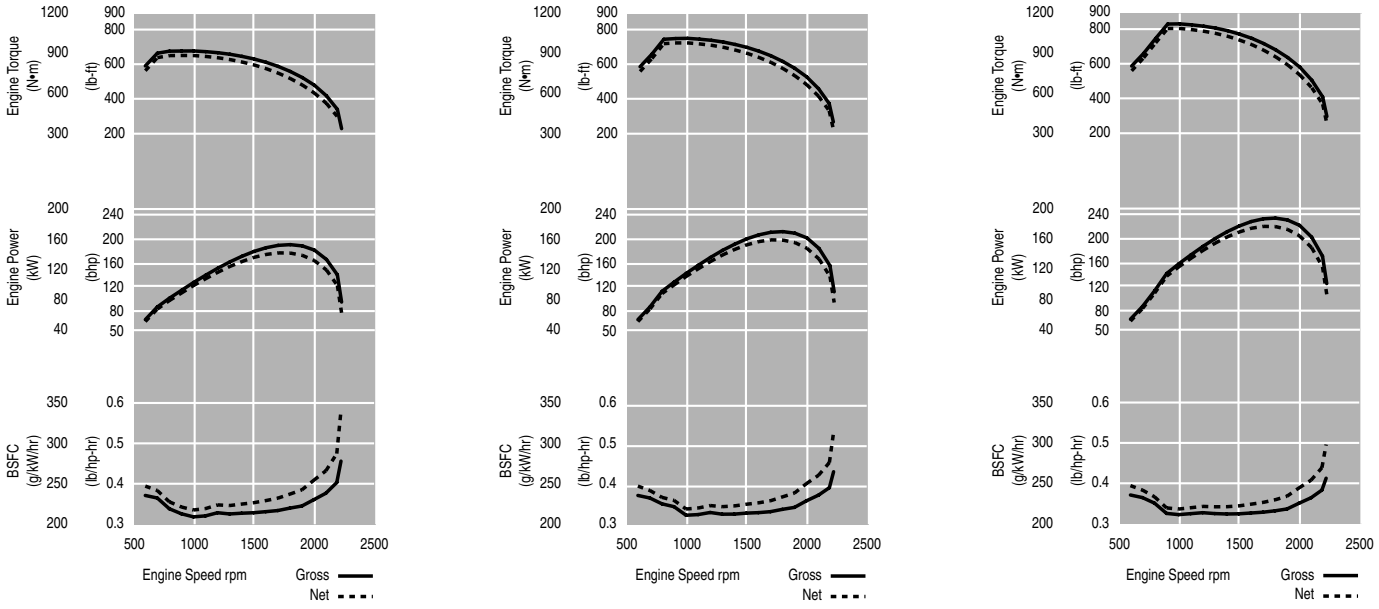
Engine

Engine Model	Cat 3176 ETA, Variable HP	
Base Power (all gears) Net	123 kW	165 hp
VHP - gears 1-3 Net	123 kW	165 hp
- gears 4-8 Net	138 kW	185 hp
VHP Plus - gears 1-3 Net	123 kW	165 hp
- gears 4-6 Net	138 kW	185 hp
- gears 7-8 Net	153 kW	205 hp
Base Power (all gears) Gross	136 kW	182 hp
VHP - gears 1-3 Gross	136 kW	182 hp
- gears 4-8 Gross	151 kW	202 hp
VHP Plus - gears 1-3 Gross	136 kW	182 hp
- gears 4-6 Gross	151 kW	202 hp
- gears 7-8 Gross	166 kW	222 hp
Displacement	10.3 L	629 in^3
Bore	125 mm	4.9 in
Stroke	140 mm	5.5 in
Torque rise	50 %	
Max torque @ 1000 rpm	1095 N.m	808 lb ft

Speed @ rated power	2000 RPM	
Number of cylinders	6	
Derating altitude	3048 m	10,000 ft
Std - Fan speed - max	1210 RPM	
- min	500 RPM	
Std - Ambient Capability	47°C	117°F
Hi Ambient - Fan speed - max	1300 RPM	
- min	500 RPM	
Hi - Ambient Capability	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.
- VHP and VHP Plus are optional arrangements.
- Net power advertised is the power available at rated speed of 2000 rpm, measured at the flywheel when engine is equipped with fan, air cleaner, muffler and alternator.
- No derating required up to 3048 m (10,000 ft) altitude. Deration rate of 1.5% per 304.8 m (1000 feet) above 3048 m (10,000 feet).

Base **Gears 1 - 8**
VHP **Gears 1 - 3** **Gears 4 - 8**
VHP Plus **Gears 1 - 3** **Gears 4 - 6** **Gears 7 - 8**



Power Train

Forward/Reverse Gears	8 fwd/6 rev	
Transmission	Direct drive, power shift	
Brakes - service	air-actuated, oil-disc	
- service, surface area	23 948 cm^2	3,712 in^2
- Parking	manual, multiple oil-disc	
- Secondary	air actuated, oil-disc	

Hydraulic System

Circuit type	Closed center load sense	
Pump type	axial piston	
Pump output @ 2100 RPM	206 L/min	54.4 gal/min
Maximum system pressure	24 150 kPa	3,500 psi
Reservoir tank capacity	38 L	9.9 gal
Standby pressure	3100 kPa	450 psi

Operating Specifications

Top Speed - Fwd.	44 km/h	27.4 mph
- Rev.	34.7 km/h	21.6 mph
Turning radius (outside front tires)	7.5 m	24.6 ft
Steering range - left/right	50°	
Articulation angle - left/right	20°	
Fwd. 1st	3.8 km/h	2.3 mph
2nd	5.1 km/h	3.2 mph
3rd	7.4 km/h	4.6 mph
4th	10.3 km/h	6.4 mph
5th	16.2 km/h	10 mph
6th	22 km/h	13.7 mph
7th	30.3 km/h	18.8 mph
8th	44 km/h	27.4 mph
Rev. 1st	3 km/h	1.8 mph
2nd	5.6 km/h	3.5 mph
3rd	8.1 km/h	5 mph
4th	12.8 km/h	7.9 mph
5th	23.9 km/h	14.8 mph
6th	34.7 km/h	21.6 mph

Service Refill

Fuel tank	397 L	105 gal
Cooling system	38 L	10 gal
Hydraulic system - total	80 L	20.8 gal
- tank	38 L	9.9 gal
Engine oil	39 L	10.2 gal
Differential/Final drives	47 L	12.4 gal
Tandem housing (each)	64 L	16.9 gal
Circle drive housing	7 L	1.8 gal
Front wheel spindle bearing housing	0.5 L	0.13 gal

Frame

Circle - diameter	1530 mm	60.2 in
- blade beam thickness	30 mm	1.2 in
Drawbar - height	127 mm	5 in
- thickness	76 mm	3 in
Front-top/bottom plate - width	305 mm	12 in
- thickness	25 mm	1 in
Front-side plates - width	241 mm	9.5 in
- thickness	12 mm	0.5 in
Front-linear weights - min	165 kg/m	112 lb/ft
- max	213 kg/m	144 lb/ft
Front-section modulus - min	2083 cm^3	127 in^3
- max	4785 cm^3	291 in^3
Front axle - ground clearance	625 mm	24.6 in
- front wheel lean	18°	
- oscillation angle	32°	

Tandems

Height	506 mm	19.9 in
Width	201 mm	7.9 in
Sidewall thickness - inner	16 mm	0.63 in
- outer	18 mm	0.71 in
Drive chain pitch	51 mm	2 in
Wheel axle spacing	1522 mm	60 in
Tandem oscillation - forward	15°	
- reverse	25°	

Moldboard

Blade width	3658 mm	12 ft
Moldboard height	610 mm	24 in
Thickness	22 mm	0.87 in
Arc radius	413 mm	16.25 in
Throat clearance	120 mm	4.7 in
Cutting edge - width	152 mm	6 in
- thickness	16 mm	0.63 in
End bit - width	152 mm	6 in
- thickness	16 mm	0.63 in
Blade pull - max GVW	19 135 kg	42,184 lb
- base GVW	13 209 kg	29,121 lb
Down pressure - max GVW	13 017 kg	28,698 lb
- base GVW	7098 kg	15,648 lb

- Blade Pull calculated at 0.9 traction coefficient, which is equal to ideal no-slip conditions, and Gross Vehicle Weight (GVW).

Blade Range

Circle centershift - right	728 mm	28.7 in
- left	695 mm	27.4 in
Moldboard sideshift - right	660 mm	26 in
- left	524 mm	20.6 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	1896 mm	74.6 in
Maximum lift above ground	480 mm	18.9 in
Maximum depth of cut	715 mm	28.1 in

Ripper

Ripping depth, maximum	462 mm	18.2 in
Ripper shank holders	5	
Ripper shank holder spacing	533 mm	21 in
Penetration force	8047 kg	17,740 lb
Pryout force	9281 kg	20,460 lb
Machine length increase, beam raised	970 mm	38.2 in

Scarifier

Front, 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
Front, straight:	Working width	1800 mm	71 in
	Scarifying depth, maximum	317 mm	12.5 in
	Scarifier shank holders	17	
	Scarifier shank holder spacing	111 mm	4.38 in
Rear:	Working width	2300 mm	91 in
	Ripping depth, maximum	411 mm	16.2 in
	Scarifier shank holders	9	
	Scarifier shank holder spacing	267 mm	10.5 in

Weights

Gross Vehicle Weight - max		21 261 kg	46,872 lb
	- front wheels	7590 kg	16,733 lb
	- rear wheels	13 671 kg	30,139 lb
Gross Vehicle Weight - base		14 677 kg	32,357 lb
	- front axles	4138 kg	9,123 lb
	- rear axles	10 539 kg	23,234 lb

- Base operating weight calculated on standard machine configuration with 14.00-24 10PR (G-2) tires, full fuel tank, coolant, lubricants and operator.

Cab

ROPS (Rollover Protective Structure) meets the following criteria: SAE J396, SAE J1040 APR 88, ISO 3471:1986, ISO 3471:1974

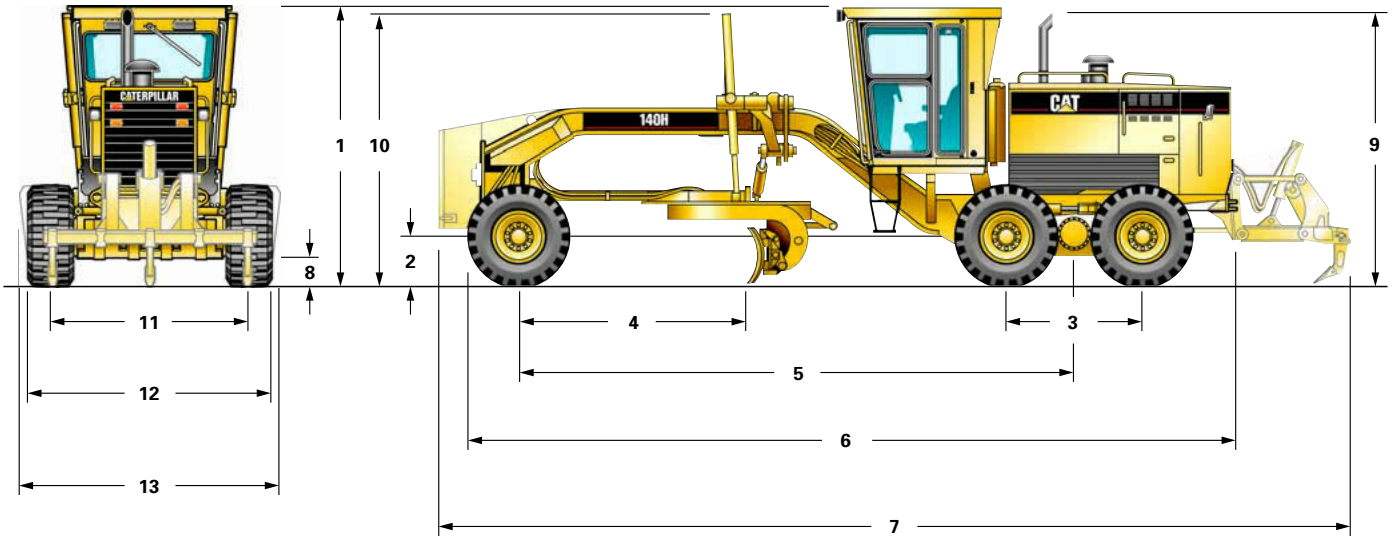
FOPS (Falling Object Protective Structure) meets the following criteria: SAE J231 JAN 81, ISO 3449:1984, ISO 3449:1992 Level II

Brakes

Brakes meet the following standards: SAE J1473 OCT 90.

Dimensions

All dimensions are approximate.



1	Height - low profile cab	3131 mm	123 in
	- high profile cab	3356 mm	132 in
	- no cab	3103 mm	122.2 in
2	Height to axle	600 mm	23.6 in
3	Length - between tandem axles	1523 mm	60 in
4	Length - front axle to moldboard	2561 mm	100.8 in
5	Length - front axle to mid tandem	6169 mm	242.9 in
6	Length - front tire to end of rear frame	8713 mm	343 in
7	Length - counterweight to ripper	10 097 mm	398 in
8	Ground clearance at trans. case	344 mm	13.5 in
9	Height to exhaust stack	3103 mm	122.2 in
10	Height to top of cylinders	3028 mm	119.2 in
11	Width - tire center lines	2077 mm	81.8 in
12	Width - outside rear tires	2443 mm	96.2 in
13	Width - outside front tires	2464 mm	97 in

Standard Equipment

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

ELECTRICAL
- Alarm, back-up
- Alternator, 75 ampere, sealed
- Batteries, maintenance free, 750 CCA
- Electrical system, 24 volt
- Kill switch, external
- Lights, stop and tail
- Motor, starting
- Product Link connection

OPERATOR ENVIRONMENT
- Accelerator
- Ashtray and lighter
- Coat hook
- Control console, adjustable
- Cup holder
- EMS III operator warning system
- Panel gauges inside the cab
  - fuel
  - articulation
  - engine coolant temp
  - system voltage
  - air brake pressure
- Hydraulic controls, load sensing
  - right/left blade lift with float position
  - blade sideshift and tip
  - circle drive
  - centershift
  - front wheel lean
  - articulation
- Meter, hour, digital
- Mirror, inside rearview, wide angle
- Mounting bracket, general purpose
- Power steering, hydraulic
- ROPS cab, sound suppressed, low profile
- Seat, cloth, contour suspension
- Seat belt, retractable 76 mm (3 in)
- Steering wheel, tilt, adjustable
- Storage area for cooler/lunchbox
- Sunscreen, front windshield
- Throttle control, electronic
- Washer/wipers, (3) front windshields
- Windows, fixed lower front

POWERTRAIN
- Air cleaner
  - dry type radial seal
  - service indicator
  - automatic dust ejector
- Air to air after cooler (ATAAC)
- Brakes - oil disc, four-wheel air actuated
- Demand fan
- Differential, lock-unlock
- Engine, 3176 ETA diesel
  - automatic derate
  - automatic idle control
- Fuel tank, sediment drain
- Fuel-water separator
- Lube for life pump drive shaft
- Muffler, under hood
- Parking brake - multi-disc, sealed and oil cooled
- Pre-screener
- Priming pump, fuel
- Serpentine belt, automatic tensioner
- Tandem drive
- Transmission
  - 8 forward/6 reverse speeds
  - power shift
  - direct drive
  - electronic shift control
  - overspeed protection

OTHER STANDARD EQUIPMENT
- Antifreeze -35°C (-30°F)
- Bumper, rear, integrated, with hitch
- Clutch, circle drive slip
- Cutting edges
  - 152 mm x 16 mm (6" x 5/8")
  - curved DH-2 steel
  - 16 mm (5/8") mounting bolts
- Doors, engine compartment, locking
- Drawbar
  - 6 shoe
  - replaceable wear strips
- Endbits - 16 mm (5/8") DH-2 steel, 16 mm (5/8")
  - mounting bolts
- Frame, articulated with safety lock
- Fuel tank, 105 gallon (397 L)
- Fueling, ground level
- Horn, air
- Moldboard
  - 3658 mm x 610 mm x 22 mm (12' x 24" x 7/8")
  - hydraulic sideshift and tip
- Radiator cleanout access
- S•O•S^{SM} ports: engine, hydraulic, transmission, coolant, fuel
- Tool box

TIRES, RIMS, & WHEELS
- Partial allowance: 14.00-24 10PR on 9" single piece rims

Optional Equipment

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

	kg	lb
Accumulators, blade lift	71	156
Air conditioner with heater and pressurizer	49	107
Air dryer	13	29
Autoshift, transmission	2	5
Batteries, extreme duty, 1300 CCA	58	128
Batteries, heavy duty, 1100 CCA	42	93
Blade, 3658 mm x 688 mm x 25 mm (12' x 27" x 1")	151	340
Blade, 4267 mm x 610 mm x 22 mm (14' x 24" x 7/8")	75	166
Blade, 4267 mm x 688 mm x 25 mm (14' x 27" x 1")	261	574
Blade, front-mounted 2750 mm x 980 mm	850	1874
Cab, ROPS, high profile, sound suppressed	77	170
Canopy, ROPS, high profile, with rear wall and window	-41	-90
Converter, 25-amp, 24-V to 12-V	5	11
Cutting edges for 22 mm (7/8") thick blade	–	–
203 mm x 19 mm (8" x 3/4") for 3.7 m blade	–	–
203 mm x 19 mm (8" x 3/4") for 4.1 m blade	–	–
203 mm x 16 mm (8" x 5/8") for 3.7 m blade	–	–
203 mm x 16 mm (8" x 5/8") for 4.1 m blade	–	–
Cutting edges for 25 mm (1") thick blade	–	–
203 mm x 19 mm (8" x 3/4") for 3.7 m blade	–	–
203 mm x 19 mm (8" x 3/4") for 4.1 m blade	–	–
Endbits, overlay, reversible	11	24
Engine, VHP or VHP Plus	4	10
Ether starting aid	1	2
Extensions, blade 610 mm (2') right and left		
for 22 mm (7/8") thick blade	114	250
for 25 mm (1") thick blade	148	325
Fan, defroster, front and rear	2	4
Graderbit system, penetration bit type	163	360
Guard, brake lines	8	18
Guard, lower platform	23	50
Guard, transmission	98	215
Hammer, with mounting	5	12
Heater, engine coolant	1	3
Heater, cab	14	30
Heater, cab, with pressurizer	18	40
Hydraulic arrangements with one or more additional hydraulic valves are available for front scarifier, rear ripper-scarifier, dozer, dozer angle, snow plow and snow wing. See dealer price list.		
Hydraulic lockout	2	5

	kg	lb
Lighting systems:		
bar mounted, directional and headlights	13	28
cab mounted, directional and headlights	9	20
cab and bar mounted, directional, headlights and work lights	22	48
cab and bar mounted, high, directional, headlights and work lights	22	48
work lights, front and rear	6	13
snow wing light, right	18	40
warning light, cab or canopy mounted	3	6
Louver covers, with screen	7	15
Mirrors, dual, inside mounted	–	–
Mirrors, outside mounted	8	18
Mirrors, outside mounted, heated	11	25
Mount, snow wing, frame-ready	91	200
Power port, 12-V	2	5
Push plate, front mounted	919	2025
Radio ready, entertainment	–	–
Receptacle, starting, plug-in	2	5
Rims, tires – see dealer price list		
Ripper-scarifier, rear	961	2119
Ripper-scarifier/tooth, one	33	72
Rear scarifier, shanks/teeth, nine	65	144
Scarifier, front mounted, V-type	845	1862
Scarifier, front mounted, straight	903	1988
Seat, cloth-covered, contour air suspension	–	–
Seat, vinyl-covered, contour suspension	–	–
Snow arrangements, refer to Snow Arrangement Supplement		
Sound suppression	5	11
Speedometer/tachometer	1	2
Steering, secondary	50	111
Sunshade, rear window	3	7
Windows, lower front, opening	3	6
Windows, sliding side	4	8
Wiper and washer, rear, intermittent	7	16
Wipers, intermittent (3), front	0.5	1
European roading group which provides an additional air tank, air circuit protection valve and two position lights with integral turn signals. Dealer supplied equipment is required to meet some specific country on-road requirements	23	52

140H Motor Grader

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

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