

Cat[®] 160K

MOTOR GRADER



FEATURES:

- **Cat[®] C7 ACERT™ Engine** – Optimum power and fuel efficiency, combined with Power Management and Electronic Throttle Control, assure maximum productivity.
- **Power Train** – The Power Shift transmission features direct drive and electronic control for smooth, powerful shifts at any speed.
- **Balanced Hydraulics** – Proportional hydraulic flow gives operators outstanding “feel” and predictable movements.
- **Machine Safety** – Cat machines are designed with features to help protect the operator and others around the job site.
- **Serviceability** – Grouped service points make daily maintenance easier and faster, while enhanced diagnostics and monitoring help reduce downtime.

Specifications

Engine

Engine Model	Cat C7 ACERT	
Base Power (1st gear) – Net	139 kW	186 hp
Base Power (1st gear) – Net (Metric)		189 hp
VHP Range – Net	139-154 kW	186-206 hp
VHP – gears		
1-2 Net	139 kW	186 hp
3 Net	147 kW	196 hp
4-8 Net	154 kW	206 hp
1-2 Gross	151 kW	203 hp
3 Gross	159 kW	213 hp
4-8 Gross	166 kW	223 hp
Displacement	7.2 L	439 in ³
Bore	105 mm	4.1 in
Stroke	127 mm	5 in
Torque Rise	46%	
Maximum Torque Net	1076 N·m	794 lb ft
Speed @ rated power	2,000 rpm	
Number of cylinders	6	
Derating altitude	3048 m	10,000 ft
Fan Speed Maximum	1,925 rpm	
High 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.
- Net power advertised is the power available at rated speed of 2,000 rpm, measured at the flywheel when engine is equipped with fan, air cleaner, muffler and alternator.
- Maximum torque measured at 1,000 rpm in gears 4-8.

Power Train

Forward/Reverse Gears	8 forward/6 reverse	
Transmission	Direct drive, Power shift	
Brakes		
Service	Air actuated, multiple oil-disc	
Service, surface area	23 948 cm ²	3,712 in ²
Parking	Air actuated, multiple oil-disc	
Secondary	Dual circuit	

- Brakes meet the following standards: SAE J/ISO 3450 JAN 98.

Operating Specifications

Top Speed – forward	46.9 km/h	29.1 mph
reverse	37.0 km/h	23.0 mph
Turning Radius, outside front tires	7.5 m	24 ft 9 in
Steering Range – left/right	47.5 Degrees	
Articulation Angle – left/right	20 Degrees	
Forward – 1st	4.1 km/h	2.5 mph
2nd	5.5 km/h	3.4 mph
3rd	8.1 km/h	5.0 mph
4th	11.1 km/h	6.9 mph
5th	17.2 km/h	10.7 mph
6th	23.4 km/h	14.6 mph
7th	32.2 km/h	20.0 mph
8th	46.9 km/h	29.1 mph
Reverse – 1st	3.2 km/h	2.0 mph
2nd	6.0 km/h	3.7 mph
3rd	8.8 km/h	5.4 mph
4th	13.6 km/h	8.4 mph
5th	25.4 km/h	15.8 mph
6th	37.0 km/h	23.0 mph

- Maximum travel speeds calculated at rated rpm on standard machine configuration with 17.50-25 12PR (G-2) tires.



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Hydraulic System

Circuit Type	Load Sensing, Closed Center, Proportional Priority Pressure Compensating System	
Pump Type	Variable Piston	
Pump Output Standard Pump	159.1 L/min	42 gal/min
Optional High Output Pump	210.5 L/min	55.6 gal/min
Maximum System Pressure	25 500 kPa	3,698.5 psi
Standby Pressure	3600 kPa	522.1 psi
Reservoir Tank Capacity	55 L	14.5 gal

- Pump output measured @ 2,150 rpm.

Moldboard

Blade Width	4.3 m	14 ft
Moldboard height	686 mm	27 in
Moldboard thickness	25 mm	1 in
Arc Radius	413 mm	16.3 in
Throat Clearance	90 mm	3.5 in
Cutting Edge width	203 mm	8 in
Cutting Edge thickness	16 mm	0.6 in
End Bit width	152 mm	6 in
End Bit thickness	16 mm	0.6 in
Blade Pull base GVW	9626 kg	21,221 lb
Blade Pull maximum GVW	13 379 kg	29,496 lb
Down Pressure base GVW	7609 kg	16,775 lb
Down Pressure maximum GVW	13 964 kg	30,785 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
Circle Centershift left	752 mm	29.6 in
Moldboard Sideshift right	943 mm	37.1 in
Moldboard Sideshift left	851 mm	33.5 in
Maximum Blade Position Angle	90 Degrees	
Blade Tip Range forward	40 Degrees	
Blade Tip Range backward	5 Degrees	
Maximum shoulder reach outside of tires right	2261 mm	89 in
Maximum shoulder reach outside of tires left	2223 mm	87.5 in
Maximum lift above ground	452 mm	17.8 in
Maximum depth of cut	790 mm	31.1 in

Ripper

Ripping depth – maximum	462 mm	18.2 in
Ripper shank holders, quantity	5	
Ripper shank holder spacing	533 mm	21 in
Penetration force	9095 kg	20,051 lb
Pryout force	12 112 kg	26,703 lb
Machine length increase, beam raised	970 mm	38.2 in
Scarifier shank holder quantity	9	

Scarifier

Mid, V-Type Working width	1184 mm	46.6 in
Mid, V-Type Scarifying depth, maximum	229 mm	9 in
Mid, V-Type Scarifier shank holders quantity	11	
Mid, V-Type Scarifier shank holder spacing	116 mm	4.6 in
Rear Working width	2300 mm	90.6 in
Rear Scarifying depth, maximum	266 mm	10.5 in
Rear Scarifier shank holders quantity	9	
Rear Scarifier shank holder spacing	267 mm	10.5 in

- The mid-mount scarifier is positioned under the drawbar between the moldboard and front axle.

Frame

Circle diameter	1553 mm	61.1 in
Circle blade beam thickness	40 mm	1.6 in
Drawbar height	127 mm	5 in
Drawbar width	76.2 mm	3 in
Front axle height to center	628 mm	24.7 in
Front axle wheel lean, left/right	18 Degrees	
Front axle total oscillation	32 Degrees	
Front-top/bottom plate width	305 mm	12 in
Front-top/bottom plate thickness	25 mm	1 in
Front-side plates width	242 mm	9.5 in
Front-side plates thickness	12 mm	0.5 in
Front-linear weights minimum	165 kg/m	112 lb/ft
Front-linear weights maximum	213 kg/m	144 lb/ft
Front-section modulus minimum	2083 cm ³	127 in ³
Front-section modulus maximum	4785 cm ³	291 in ³

Tandems

Height	572 mm	22.5 in
Width	201 mm	7.9 in
Sidewall thickness – inner	16 mm	0.6 in
Sidewall thickness – outer	18 mm	0.7 in
Drive chain pitch	51 mm	2 in
Wheel axle spacing	1522 mm	59.9 in
Tandem oscillation – front up	15 Degrees	
Tandem oscillation – front down	25 Degrees	

Service Refill

Fuel Capacity	344 L	91 gal
Cooling system	40 L	10.6 gal
Engine Oil	18 L	4.8 gal
Transmission/Differential/Final Drives	60 L	15.9 gal
Tandem housing (each)	80 L	21.1 gal
Front wheel spindle bearing housing	0.5 L	0.1 gal
Circle drive housing	7 L	1.8 gal

Standards

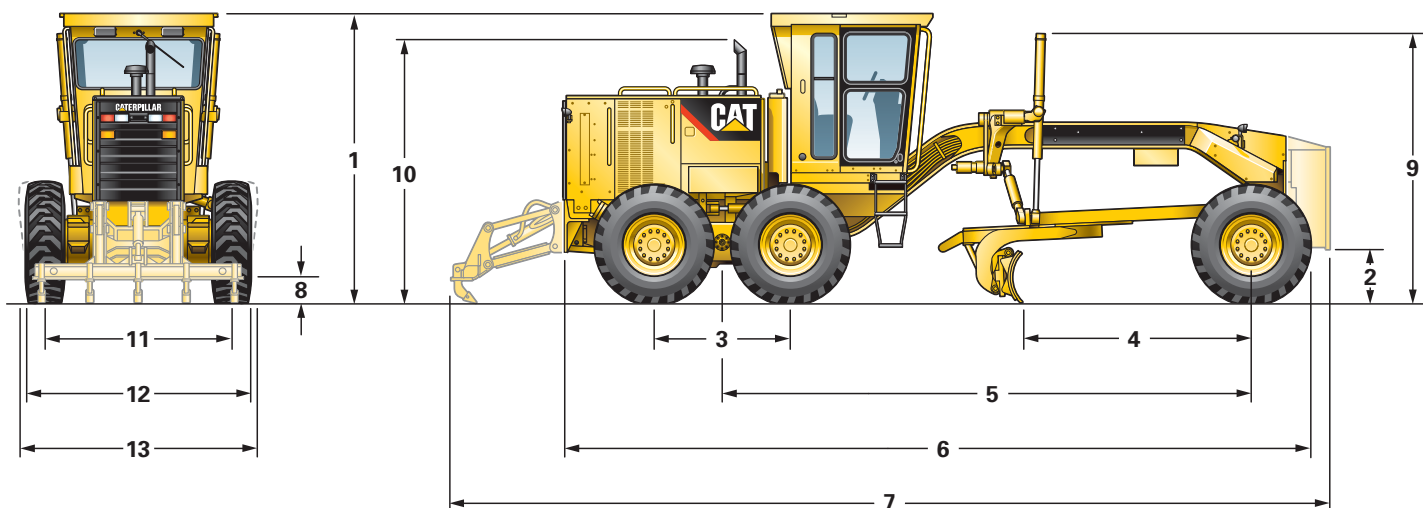
ROPS/FOPS	ISO 3471:2008/ISO 3449:2005
Steering	ISO 5010:2007
Brakes	ISO 3450:1996
Sound	ISO 6394:2008 ISO 6396:2008

- These standards are met when the machine is equipped with a cab.
- The static operator sound pressure level is 77 dB(A) when "ISO 6394:2008" is used to measure the value for an enclosed cab. The measurement was conducted with the cab doors and the cab windows closed. The cab was properly installed and maintained.

Weights

Gross Vehicle Weight – Base		
total	15 057 kg	33,195 lb
front axle	4362 kg	9,616 lb
rear axle	10 695 kg	23,579 lb
Gross Vehicle Weight – Typically Equipped		
total	18 275 kg	40,289 lb
front axle	5243 kg	11,559 lb
rear axle	13 032 kg	28,731 lb
Gross Vehicle Weight – Maximum		
total	22 870 kg	50,420 lb
front axle	8005 kg	17,647 lb
rear axle	14 866 kg	32,773 lb

- Base weight calculated on standard machine configuration with 14.00-24 12PR (G-2) tires, full fuel tank, coolant, lubricants and operator.
- Typical operating weight calculated on standard machine configuration with Cab High Profile ROPS, rear ripper, push block, 14.00-24 12PR (G-2) tires, full fuel tank, coolant, lubricants and operator.
- Maximum Vehicle Weight includes all compatible attachments with Cab High Profile ROPS, 17.50-25 12PR (G-2) tires, full fuel tank, coolant, lubricants and operator.



Dimensions (all dimensions are approximate)

	mm	in		mm	in
1 Height – ROPS Cab	3354	132.0	7 Length – Counterweight to Ripper	10 013	394.2
Height – Non-ROPS Cab	3348	131.8	8 Ground Clearance, Trans. Case	362	14.3
Height – ROPS Canopy	3354	132.0	9 Height – Top of Cylinders	3049	120.0
2 Ground Clearance – Center Front Axle	626	24.6	10 Height to Exhaust Stack	2895	114.0
3 Length – Between Tandem Axles	1523	60.0	11 Width – Tire Center Lines	2065	81.3
4 Length – Front Axle to Moldboard	2598	102.3	12 Width – Outside Rear Tires	2452	96.6
5 Length – Front Axle to Mid Tandem	6086	239.6	13 Width – Outside Front Tires	2481	97.7
6 Length – Front Tire to Rear of Machine	8504	334.8			

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STANDARD EQUIPMENT

ELECTRICAL

- Alternator, 115 Ampere
- Backup alarm, reversing lights
- Batteries, maintenance free 750 CCA
- Electrical system, 24 volt
- Horn, electric
- Lights, stop and tail
- Motor, starting
- Product Link Ready
- Working lights

OPERATOR ENVIRONMENT

- Accelerator
- Control console, adjustable
- Gauge cluster (includes voltmeter, articulation, engine coolant temperature, air brake pressure and fuel level)
- Guard rails, operator station
- Hydraulic controls, load sensing (right/left blade lift, circle drive, centershift, sideshift, front wheel lean and articulation)
- Indicator lights (includes high beam, LH and RH turn, low engine oil pressure, throttle lock, check engine, transmission filter bypass and check, centershift pin, brake air pressure, parking brake engaged, auto shift)
- Key start/stop switch
- Meter, hour
- Power steering, hydraulic
- Seat, vinyl-covered static
- Seat belt
- Steering wheel, tilt, adjustable
- Storage area, cooler/lunch box
- Throttle, electronic control

POWER TRAIN

- Air cleaner, dry type radial seal with service indicator and automatic dust ejector
- Air to air after cooler (ATAAC)
- Blower fan
- Brakes, oil disc, four-wheel air actuated
- Differential with lock/unlock
- Engine, Cat C7 with ACERT Technology, diesel with automatic engine derate and idle control. The 160K is offered with two variations of the C7 ACERT engine. One meets China Nonroad Stage III emission standards and U.S. EPA Tier 3/EU Stage IIIA equivalent emission standards. The other variation meets Tier 2/Stage II equivalent emission standards.
- Fuel water separator
- Muffler, under hood
- Parking brake, multi-disc, sealed and oil cooled
- Prescreener
- Priming pump, fuel, resiliently mounted
- Sediment drain, fuel tank
- Tandem drive
- Transmission, 8 speed forward and 6 speed reverse, power shift, direct drive with electronic shift control and overspeed protection
- VHP (Variable Horse Power)

OTHER STANDARD EQUIPMENT

- Bumper, rear
- CD ROM Parts Book
- Circle drive slip clutch
- Cutting edges, 152 mm × 16 mm (6 in × 5/8 in) curved DH-2 steel
- Doors, Engine compartment
- Drawbar, 6 shoe replaceable nylon composite wear strips
- Endbits, 16 mm (5/8 in) DH-2 steel
- Frame, articulated with safety lock
- Fuel tank, 344 L (91 gal)
- Ground level engine shutdown
- Link bar, 7 position
- Moldboard, 4267 mm × 686 mm × 25 mm (14 ft × 27 in × 1 in) blade with hydraulic sideshift and tip
- S-O-S ports, engine, hydraulic, transmission and cooling
- Toolbox with padlock
- Vandalism protection – including cap locks for hydraulic tank, radiator access cover, fuel tank, engine and transmission oil check/fill and lockable battery boxes.

ANTIFREEZE

- Extended Life Coolant to -35° C (-30° F)

OPTIONAL EQUIPMENT (See K Series Motor Graders Specalog [AEHQ6891] for list)

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