

# 160 LVR

MOTOR GRADER



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Base Power (1st Gear) - Net  
Operating Weight - Typically Equipped  
Blade Width

139 kW (186 hp)  
39 035 kg (17,706 lb)  
4.3 m (14 ft)



# 160 LVR

## MOTOR GRADER

The Cat® 160 Motor Grader is the machine you can count on when you need to get work done. Cat motor graders help you make the most of your investment by delivering maximum productivity and durability. The Cat C7 engine, direct-drive power shift transmission, and load sensing hydraulics work together to ensure the power and precision you need to work in demanding conditions. And Cat motor graders are backed by the world-class Cat dealer network to keep you up and running.



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### MAXIMIZE PERFORMANCE

Power shift countershaft transmission matched to engine maximizes power to the ground.

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### INCREASE EFFICIENCY

Aggressive blade angles, optimized moldboard curvature, and large throat clearance allow material to roll more freely along the blade.

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### SIMPLE TO OPERATE

Optional autoshift transmission maximizes productivity by automatically shifting the transmission at optimal shift points.



# PERFORMANCE AND PRODUCTIVITY

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- Cat C7 engine emits equivalent to U.S. EPA Tier 3/EU Stage IIIA or Tier 2/Stage II and Brazil MAR-1, depending on emission standards of specific country.
- Power shift countershaft transmission matched to engine, maximizing power to the ground.



# POWERFUL EFFICIENCY



- Electronic throttle control helps improve productivity by optimizing horsepower and torque to match the power demands of the application.
- Aggressive blade angles, optimized moldboard curvature, and large throat clearance allow material to roll more freely along the blade, increasing efficiency.
- Hydraulic demand fan automatically adjusts speed according to cooling requirements, maximizing power to the ground and improving fuel efficiency.
- Engine Idle Shutdown is available to shut down engine after a set period of time, saving fuel and helping reduce emissions.

# SIMPLE TO OPERATE

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- Proportional priority pressure-compensating (PPPC) provides load-sensing hydraulics with superior control, enhanced performance, and efficiency.
- Optional autoshift transmission improves ease of operation and maximizes productivity by automatically shifting the transmission at optimal shift points.
- Rocker and control switches are in easy reach.
- Proven conventional controls provide industry-standard control pattern and feel for precise cutting edge movement.



# SAVE MAINTENANCE TIME



- Durable nylon composite wear inserts maximize circle torque and component life.
- Sacrificial brass moldboard slide rail wear strips between blade mounting group and moldboard can be easily adjusted and replaced.
- Left-side, ground level service area access speeds up maintenance and ensures that routine service is performed on time.

# HEAVY DUTY CONSTRUCTION

- Utilizing rigorous component design and machine validation processes results in unmatched reliability, durability, and high uptime.
- Components are designed and manufactured to Caterpillar quality standards throughout all Caterpillar facilities.



# WORK IN COMFORT

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- Optional HVAC, defroster fan, and sun shades keep you comfortable, while conveniently placed power ports keep additional communication devices charged and ready.





# PRODUCTIVITY WITH TECHNOLOGY



- Optional Cat Grade uses positioning and guidance technologies, machine sensors, and automatic blade control to help get to grade faster, easier, and more efficiently.
- Optional Cat Product Link™ aids your equipment management with remote monitoring capabilities.
- Grade Attachment Ready Option (ARO) can be ordered as a factory or dealer installed option, making installation of the Grade grade control system faster and easier.

# BUILT-IN SAFETY FEATURES

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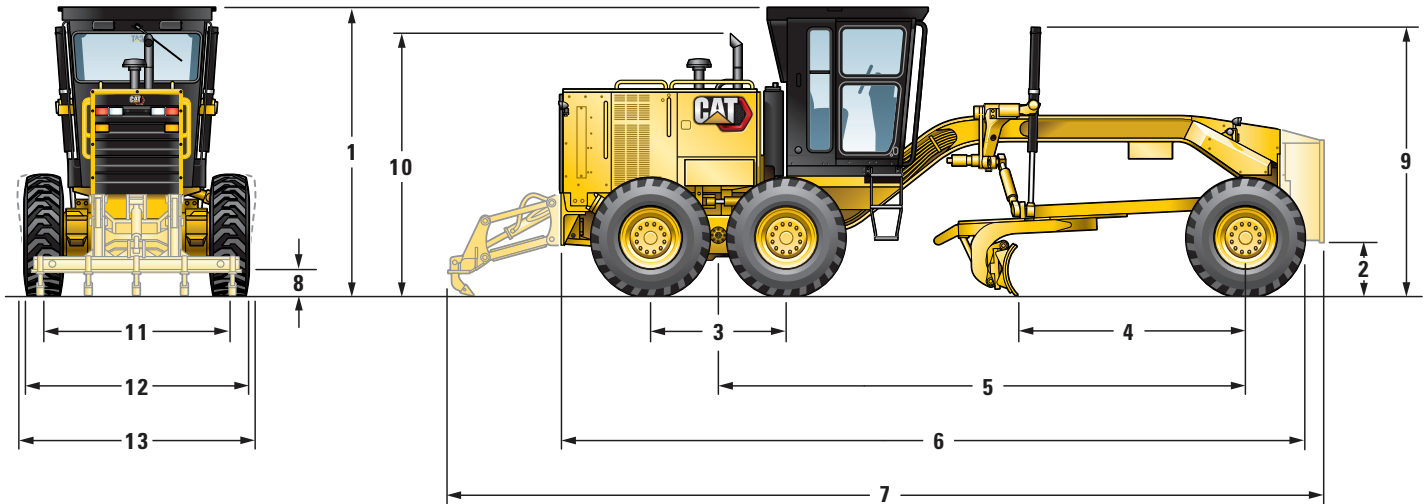
- Brakes located at each tandem wheel offer the largest total brake surface area in the industry, delivering dependable stopping power.
- Standard circle drive slip clutch protects the drawbar, circle, and moldboard from shock loads when the blade encounters an immovable object.
- Ground level engine shutoff allows anyone nearby to shut the machine down in case of an emergency.
- Built-in lock check valves.
- Clear view to moldboard heel and tandem tires enhances productivity and safe operation.
- Blade Lift Accumulators help absorb impact loads to the moldboard by allowing vertical blade travel.



# SPECIFICATIONS

## Dimensions

All dimensions are approximate.



	12K		140K		160K	
	mm	in	mm	in	mm	in
<b>1</b> Height – Rollover Protective Structure (ROPS) Cab	3354	132.0	3354	132.0	3354	132.0
Height – Non-ROPS Cab	3348	131.8	3348	131.8	3348	131.8
Height – ROPS Canopy	3354	132.0	3354	132.0	3354	132.0
<b>2</b> Ground Clearance – Center Front Axle	626	24.6	626	24.6	626	24.6
<b>3</b> Length – Between Tandem Axles	1523	60.0	1523	60.0	1523	60.0
<b>4</b> Length – Front Axle to Moldboard	2598	102.3	2598	102.3	2598	102.3
<b>5</b> Length – Front Axle to Mid Tandem	6086	239.6	6086	239.6	6086	239.6
<b>6</b> Length – Front Tire to Rear of Machine	8504	334.8	8504	334.8	8504	334.8
<b>7</b> Length – Counterweight to Ripper	10 013	394.2	10 013	394.2	10 013	394.2
<b>8</b> Ground Clearance, Trans. Case	362	14.3	362	14.3	362	14.3
<b>9</b> Height – Top of Cylinders	3049	120.0	3049	120.0	3049	120.0
<b>10</b> Height to Exhaust Stack	2895	114.0	2895	114.0	2895	114.0
<b>11</b> Width – Tire Center Lines	2065	81.3	2065	81.3	2065	81.3
<b>12</b> Width – Outside Rear Tires	2452	96.6	2452	96.6	2452	96.6
<b>13</b> Width – Outside Front Tires	2481	97.7	2481	97.7	2481	97.7



# EMPOWERING TECHNOLOGY

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## WORK SMARTER AND PROTECT YOUR INVESTMENT

### MAKE BETTER ROADS, FASTER

Standard Cat Grade with Cross Slope helps operators maintain cross slope by automatically controlling one side of the blade, resulting in haul roads that are graded faster, are more durable, and drain better.



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### AUTO ARTICULATION

Optional Auto Articulation allows the 160 to automatically articulate to match the steering angle of the front tires, improving performance.



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### SYSTEMS THAT PROTECT

Numerous electronic systems from fluid level verification to circle angle limits make sure your grader will last for the long haul.



# TECHNICAL SPECIFICATIONS

## Engine

Base Power (1st Gear) - Net	139 kW	186 hp
Engine Model	Cat® C7	
Displacement	7.2 l	439 in <sup>3</sup>
Bore	105 mm	4.1 in
Stroke	127 mm	5 in
High - Ambient Capability	50°C	122°F
Derating Altitude	3048 m	10,000 ft
Maximum Torque	1076 N·m	794 ft·lb
VHP Range - Net	139-154 kW (186-206 hp)	
Torque Rise	46%	
Number of Cylinders	6	

Net power is tested per ISO 9249, SAE J1349, and EEC 80/1269 standards in effect at the time of manufacture.

Maximum torque measured at 1,000 rpm in gears 4-8.

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.

## Moldboard

Blade Width	4.3 m	14 ft
Arc Radius	413 mm	16.3 in
Throat Clearance	90 mm	3.5 in
End Bit - Width	152 mm	6 in
Moldboard - Height	686 mm	27 in
Cutting Edge Width	203 mm	8 in
Cutting Edge Thickness	16 mm	0.6 in
End Bit - Thickness	16 mm	0.6 in
Moldboard - Thickness	25 mm	1 in

## Blade Range

Circle Centershift - Left	752 mm	29.6 in
Maximum Shoulder Reach Outside of Tires - Right	2261 mm	89 in
Maximum Shoulder Reach Outside of Tires - Left	2223 mm	87.5 in
Moldboard Sideshift - Left	851 mm	33.5 in
Moldboard Sideshift - Right	943 mm	37.1 in
Maximum Depth of Cut	790 mm	31.1 in
Maximum Lift Above Ground	452 mm	17.8 in
Circle Centershift - Right	728 mm	28.7 in
Blade Tip Range - Forward	40°	
Blade Tip Range - Backward	5°	

## Frame

Circle - Outer Diameter	1553 mm	61.1 in
Front Axle - Wheel Lean - Left/Right	18°	
Front Axle - Total Oscillation per Side	32°	

## Weights

Operating Weight - Typically Equipped	39 035 kg	17,706 lb
Gross Vehicle Weight - Typically Equipped - Front Axle	5136 kg	11,324 lb
Gross Vehicle Weight - Typically Equipped - Rear Axle	12 570 kg	27,711 lb
Gross Vehicle Weight - Base - Front Axle	4459 kg	9,831 lb
Gross Vehicle Weight - Typically Equipped - Total	17 706 kg	39,035 lb
Gross Vehicle Weight - Base - Total	15 185 kg	33,477 lb
Gross Vehicle Weight - Base - Rear Axle	10 726 kg	23,646 lb

# STANDARD & OPTIONAL EQUIPMENT

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

	Standard	Optional
<b>RIPPER/SCARIFIER</b>		
Ripper/scarifier, rear mounted		✓
Scarifier, mid mounted, V-type		✓
<b>ANTIFREEZE</b>		
Extended Life Coolant to -35 degrees Celcius (-30 degrees Fahrenheit)	✓	
<b>POWERTRAIN</b>		
Air cleaner, dry type radial seal with service indicator and automatic dust ejector	✓	
Air-to-air aftercooler (ATAAC)	✓	
Blower fan	✓	
Brakes, oil disc, four-wheel air actuated	✓	
Differential with lock/unlock	✓	
Eco mode	✓	
Engine idle shutdown	✓	
Engine, Cat C7 diesel with automatic engine derate and idle control	✓	
Fuel water separator	✓	
Muffler, under hood	✓	
Next gen filter design	✓	
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	✓	
Variable Horsepower (VHP)	✓	
Autoshift		✓
<b>OTHER ATTACHMENTS</b>		
Digital Blade Slope Meter		✓
Product Link™		✓
Product Link Elite		✓
Snow wing mounting, frame-ready		✓
Grade Attachment Ready Option (ARO)		✓
Dryer, air		✓
Push plate, counterweight		✓
Accumulator, blade lift		✓
Battery, extreme duty (1,400 CCA)		✓
Ether, starting aid		✓
Heater, engine coolant, 220v		✓
Circle Saver		✓
Ripper tow package		✓

	Standard	Optional
<b>OPERATOR ENVIRONMENT</b>		
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	✓	
Air conditioner with heater		✓
Heater, cab		✓
<b>LIGHTS</b>		
Bar mounted, low directional and headlights		✓
LED Lights		✓
Rotating amber beacon		✓
Combination headlight		✓
Cab and bar mounted, high, directional, headlights and work lights		✓
Rear facing cab lights		✓
<b>HYDRAULICS</b>		
Pump, hydraulic, high capacity (210 L/min, 55.7 gal/min)		✓
Hydraulic arrangements with one or more additional hydraulic valves are available for rear ripper, mid-mount scarifier, dozer, snow plow, and snow wing		✓
<b>BLADES, MOLDBOARDS</b>		
Blade, 3658 mm x 610 mm x 22 mm (12 ft x 24 in x 7/8 in) with hydraulic sideshift and tip and 5/8 in end bits cutting edge 203 mm x 19 mm (8 in x 3/4 in) - for use with 4.3 m (14 ft) blade		✓
End bits, overlay, reversible pair for use with 203 mm (8 in) cutting edges		✓



	Standard	Optional
<b>GUARDS</b>		
Guard, transmission		✓
<b>OTHER STANDARD EQUIPMENT</b>		
Blade Float	✓	
Bumper, rear	✓	
CD ROM parts book	✓	
Circle drive slip clutch	✓	
Cutting edges, 152 mm x 16 mm (6 in x 5/8 in) curved DH-2 steel	✓	
Doors, engine compartment	✓	
Drawbar, 6 shoe, replaceable nylon composite wear strips	✓	
End bits, 16 mm (5/8 in) DH-2 steel	✓	
Frame, articulated with safety lock	✓	
Fuel tank, 305 L (80.6 gal)	✓	
Ground level engine shutdown	✓	
Link bar, 7 position	✓	
Moldboard, 3658 mm x 610 mm x 22 mm (12 ft x 24 in x 7/8 in) blade with hydraulic sideshift and mechanical tip	✓	
Moldboard, 4267 mm x 686 mm x 25 mm (14 ft x 27 in x 1 in) blade with hydraulic sideshift and tip	✓	
Scheduled Oil Sampling (S•O•S <sup>SM</sup> ) 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	✓	
<b>ELECTRICAL</b>		
Alternator, 115 ampere	✓	
Backup alarm, reversing lights	✓	
Batteries, maintenance free 750 CCA	✓	
Common fuse block	✓	
Electrical system, 24 volt	✓	
Horn, electric	✓	
Indication display	✓	
Lights, stop and tail	✓	
Motor, starting	✓	
Product Link ready	✓	
Working lights	✓	

	Standard	Optional
<b>CAB/CANOPY</b>		
Cab, rollover protective structure (ROPS)		✓
Cab, non-ROPS		✓
Canopy, ROPS		✓
Seat, vinyl adjustable		✓
Seat, cloth, contour		✓
Fan, defroster, front window		✓
Fan, defroster, rear window		✓
Sun shade, rear		✓
Wiper/washer, rear		✓
Wipers, intermittent front		✓
Mirrors, dual inside		✓
Mirror, heated		✓
Mirrors, outside mounted		✓
Power port, 12V accessory		✓
Radio, Bluetooth		✓
Radio ready entertainment		✓
Rear vision camera		✓
Tachometer/speedometer		✓

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