



# Cat<sup>®</sup> 120K

## Motor Grader

*The Cat<sup>®</sup> 120K 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 ACERT<sup>™</sup> engine, direct-drive power shift transmission and load sensing hydraulics work together ensuring you have the power and precision you need when you need it.*

### Performance

- Cat C7 ACERT engine meets Brazil MAR-1 emission standards.
- Power Shift Countershaft Transmission matched to engine, maximizing power to the ground.

### Efficiency

- Electronic Throttle Control helps improve productivity by optimizing HP and torque to match the power demands of the application.
- Aggressive blade angles, optimized moldboard curvature and large throat clearance allows material to roll more freely along 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, decreasing fuel consumption which results in fewer emissions.

### Ease of Operation

- 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.

### Serviceability

- 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.

### Reliability

- 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.

### Comfort

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

### Technology

- Optional Cat AccuGrade<sup>™</sup> 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<sup>™</sup> aids your equipment management with remote monitoring capabilities.
- AccuGrade Attachment Ready Option (ARO) can be ordered as a factory or dealer installed option making installation of the AccuGrade grade control system faster and easier.

### Safety

- 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 cylinder lock check valves
- Clear view to moldboard heel and tandem tires enhance productivity and safe operation.
- Blade Lift Accumulators help absorb impact loads to the moldboard by allowing vertical blade travel.



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## Engine

Engine Model	Cat C7 ACERT	
Base Power – Net	93 kW	125 hp
VHP Range – Net	108-118 kW	145-158 hp
Displacement	7.2 L	439 in <sup>3</sup>
Bore	105 mm	4.1 in
Stroke	127 mm	5 in
Torque Rise	50%	
Maximum Torque	774 N·m	571 lbf-ft
Speed @ Rated Power	2,000 rpm	
Derating Altitude	3048 m	10,000 ft
High Ambient – Fan Speed		
Maximum	1,575 rpm	
High Ambient Capability	50° C	122° F
<ul style="list-style-type: none"> <li>• Net power is tested per ISO 9249, SAE J1349, and EEC 80/1269 standards in effect at the time of manufacture.</li> <li>• 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.</li> <li>• Maximum torque measured at 1,000 rpm in gears 4-8.</li> </ul>		

## Weights

Gross Vehicle Weight, Base		
Total	12 743 kg	28,093 lb
Front Axle	3274 kg	7,217 lb
Rear Axle	9469 kg	20,876 lb
Gross Vehicle Weight, Typically Equipped		
Total	14 340 kg	31,614 lb
Front Axle	4203 kg	9,266 lb
Rear Axle	10 137 kg	22,348 lb
Operating Weight, Maximum		
Total	17 000 kg	37,478 lb
Front Axle	5197 kg	11,456 lb
Rear Axle	11 803 kg	26,022 lb
<ul style="list-style-type: none"> <li>• Base weight calculated on standard machine configuration with 13.00-24 12PR (G-2) tires, SP Rims, full fuel tank, coolant, lubricants and 90 kg (198 lb) operator.</li> <li>• Typical operating weight calculated on standard machine configuration with HVAC ROPS Cab, 13.00-24 12PR (G-2) tires, MP Rims, MMS, hydraulic tip, full fuel tank, coolant, lubricants and 90 kg (198 lb) operator.</li> </ul>		

## Frame

Circle – Outer Diameter	1530 mm	60.2 in
Circle – Blade Beam Thickness	30 mm	1.2 in
Front Axle		
Wheel Lean, Left/Right	18°	
Total Oscillation per Side	32°	

## Moldboard

<b>Blade Width</b>	<b>3.7 m</b>	<b>12 ft</b>
Moldboard – Height	610 mm	24.0 in
Moldboard – Thickness	22 mm	0.9 in
Arc Radius	413 mm	16.3 in
Throat Clearance	58 mm	2.3 in
Cutting Edge – Width	152 mm	6.0 in
Cutting Edge – Thickness	16 mm	0.6 in
End Bit – Width	152 mm	6.0 in
End Bit – Thickness	16 mm	0.6 in

## Blade Range

Circle Centershift		
Right	656 mm	25.8 in
Left	658 mm	25.8 in
Moldboard Sideshift		
Right	663 mm	26.0 in
Left	512 mm	20.2 in
Blade Tip Range		
Forward	40°	
Backward	5°	
Maximum Shoulder Reach Outside of Tires		
Right	1928 mm	75.9 in
Left	1764 mm	69.4 in
Maximum Lift Above Ground	410 mm	16.1 in
Maximum Depth of Cut	775 mm	30.5 in



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AEXQ2152 (03-2017)

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