



Cat[®] 24

Motor Grader

The Cat[®] 24 Motor Grader continues the Caterpillar tradition of being the industry leader in enabling you to build and maintain your haul roads to maximize your mine-site productivity and lower your owning and operating costs. The 24 motor grader is designed to help you get more work done in less time while keeping you safe and comfortable.

Serviceability

- The improved power train rebuild life, new modular design and new machine protection features can save you up to 2,400 servicing hours over the life of the machine.*
- Cat C27 ACERT™ engine, 533 mm (21 in) transmission and lower power train provide 33 percent additional machine life before needing to be rebuilt.**
- New, innovative main component modular design means they can be removed and installed quicker and easier. Transmission and cooling package can be removed up to 70 percent faster than the 24M.
- Fluid Service Center provides single location at ground level for access to engine, transmission, hydraulic oil and coolant. This feature, along with clustered filters and extended service intervals, saves you maintenance time and operating costs.
- Hoses and electrical harnesses are split at easily accessible bulkhead locations allowing your service technicians to work with smaller sections easier and faster.
- Ok-to-Start and Critically Low Fluid monitoring systems protect your machine by providing electronic verification of fluid levels and alerting you when low fluid levels are detected, protecting your machine.

Performance

- Cat C27 ACERT engine provides enhanced altitude capabilities with no derate up to 3048 m (10,000 ft) for U.S. EPA Tier 4/EU Stage IV emission standards and 4572 m (15,000 ft) for equivalent Tier 2/ Stage II emissions.
- An 11 percent weight increase helps provide more traction and blade down pressure than the 24M.
- Consistent Power-to-the-Ground changes real-time engine power levels to offset cooling fan losses resulting in best performance at all times independent of ambient conditions.

Safety

- Fifteen tie-off points located around engine enclosure and cab provide secure tie off hooks protecting you and your technicians when performing service operations.
- Optional Working at Heights package adds an extra layer of safety by providing handrails and hand holds to improve access and safety.
- The 24 is a Fire Suppression-Ready machine which means you can easily install a fire suppression system to further protect your investment.
- Standard rearview camera provides better visibility from the cab to behind the machine while optional front-facing cameras provide enhanced forward and side visibility.
- Standard seat belt indicator provides visual/audible alerts when the seat belt is not in use. The 24 is pre-wired so you can easily install a beacon on top of the cab to indicate seat belt usage.

Technology

- The 24 features asset protection and performance-improving technologies including: engine overspeed/underspeed, second generation steering system, articulation eStop, ripper auto stow, implements lock out and circle angle limits, to name a few.
- Standard Cat GRADE with Cross Slope improves operator productivity and haul road quality and durability by helping maintain desired cross slope for appropriate water drainage by automatically controlling one side of the blade.
- The Cat 24 is MineStar™ ready and includes Cat Product Link™ Elite and VIMS™ to help optimize equipment management, remote monitoring capabilities, machine availability and component life while reducing both repair cost and the risk of a catastrophic failure.

*Life assumed is 64,000 hours.

**24 power train rebuild life target is 16,000 hours.



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Engine

Engine Model	Cat C27 ACERT	
Emissions	Tier 4 Final/Stage IV or Equivalent to Tier 2/Stage II	
Base Power (1st gear) – Net (Tier 4)	399 kW	535 hp
Displacement	27.03 L	1,648 in ³
Bore	137.2 mm	5.4 in
Stroke	152.4 mm	6 in
Torque Rise	191	
Peak Net Torque	3277 N·m	2417 lbf·ft
Speed @ Rated Power	1,000 rpm	
Number of Cylinders	12	
Maximum Altitude at Full Power		
Maximum Altitude at Full Power (Tier 4)	3048 m	10,000 ft
Maximum Altitude at Full Power (Tier 2)	4572 m	15,000 ft
Standard – Fan Speed	1,325 rpm	
Standard Capability	50° C	122° F
<ul style="list-style-type: none"> • Net power is tested per ISO 9249, SAE J1349, and EEC 80/1269 Standards in effect at the time of manufacture. • Optimized VHP Plus is standard for the 24. • Net power advertised is the power available at rated speed of 1,800 rpm, measured at the flywheel when engine is equipped with fan, air cleaner, muffler and alternator. • Power as declared per ISO 14396. Rated rpm 1,800 (561 hp) 		

Front Frame Structure

Circle – Outer Diameter	2631 mm	104 in
Front Axle		
Wheel Lean, Left/Right	18°	
Total Oscillation per Side	32°	

Air Conditioning System

The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 2.0 kg of refrigerant which has a CO₂ equivalent of 2.860 metric tonne.

Weights

Gross Vehicle Weight – Base*		
Total	71 563 kg	157,769 lb
Front Axle	19 894 kg	43,858 lb
Rear Axle	51 669 kg	113,910 lb
Gross Vehicle Weight – Typically Equipped		
Total	73 344 kg	161,695 lb
Front Axle	20 169 kg	44,466 lb
Rear Axle	53 125 kg	117,229 lb

*Base operating weight calculated on standard machine configuration with 29.5R29 tires, full fuel tank, operator and ROPS cab.

Moldboard

Blade Width	7.3 m	24 ft
Blade Height	1025 mm	40 in
Thickness	50 mm	2 in

Blade Range

Circle Centershift		
Right	437 mm	17.2 in
Left	804 mm	31.7 in
Moldboard Sideshift		
Right	1150 mm	45.3 in
Left	970 mm	38.2 in
Blade Tip Range		
Forward	40°	
Backward	0°	
Maximum Shoulder Reach Outside of Rear Tires		
Right	3073 mm	121 in
Left	3073 mm	121 in
Maximum Lift Above Ground	410 mm	16.1 in
Maximum Depth of Cut	550 mm	21.7 in

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