



UG20M

MOTOR GRADER

Elphinstone Underground Support Solutions
www.elphinstone.com

ELPHINSTONE

UNDERGROUND RELIABILITY



**UG20M UNDERGROUND
MOTOR GRADER**





FOR IMPROVED PRODUCTIVITY AND RELIABILITY UNDERGROUND.

Machine Safety

With safety as a priority, the UG20M is engineered with features to help protect the operator and others on the job site. The Roll Over Protection System (ROPS) and Falling Object Protection System (FOPS) cabin provides a quiet environment with low vibration levels, reducing operator fatigue so the operator remains efficient and productive all day. An interlocking configuration prevents park brake from releasing if the door is open or the seat-belt is unfastened. Activation of emergency stop switches by the operator or bystander will immediately stop the engine and apply the park/emergency brake.

Maintenance and Serviceability

Easy access to service areas speeds up maintenance and ensures that routine service is performed on time. Ecology drains shorten service times and help prevent spills. Radiator cleanout access gives the operator the ability to clear away debris and other materials that build up around the radiator.

Machine Application

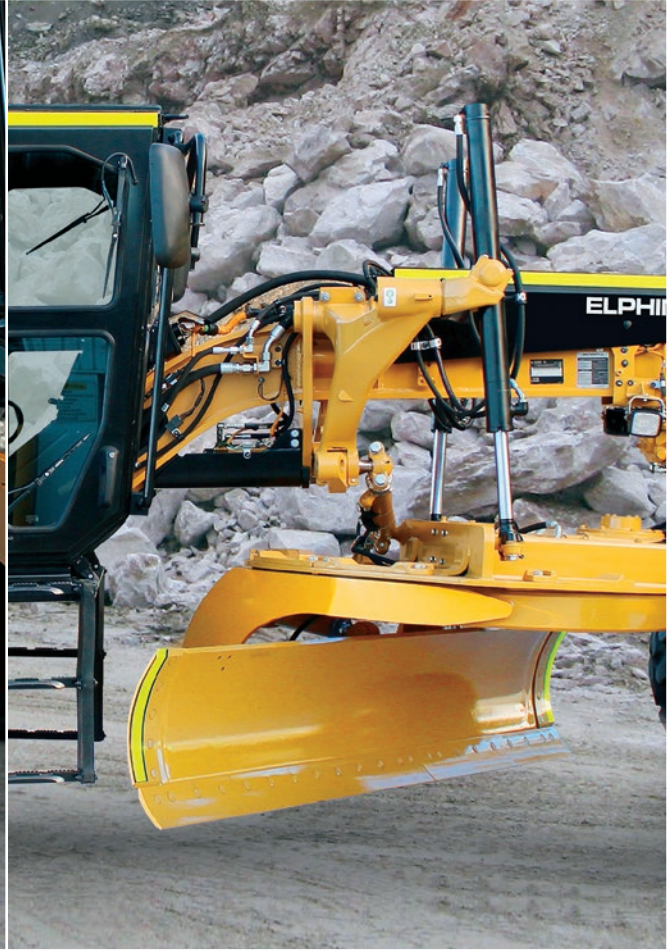
The Elphinstone UG20M Grader can significantly increase the productivity of the production fleet and reduce operational costs by maintaining haul roads. The circle is securely attached to the drawbar by four support shoes. The moldboard has optimal curvature and large throat clearance that helps move all soil types quickly and efficiently. These features ensure excellent load distribution and minimal material build-up in the circle area while allowing large blade loads to roll freely. The UG20M can be optioned with many additional features to suit each application.

Contents

Structures Drawbar-Circle-Moldboard	4
Work Tool and Arrangements	5
Operator Environment	6
Steering and Implementation	7
Engine and Powertrain	8
Hydraulic Configuration	9
Product Features	10
Safety Features	12
Maintenance and Serviceability	13
Customer Support	14
Machine Dimensions	15
Technical Specifications	16
Standard and Optional Equipment	18



STRUCTURES DRAWBAR-CIRCLE-MOLDBOARD



HEAVY DUTY DURABILITY AND PRECISE CONTROL.

Frame provides consistency and strength

The front frame, drawbar and one-piece forged steel circle are designed for durability in heavy applications. The flanged box-section design removes welds from high stress areas, improving reliability and durability. The rear frame structure has two box section channels with a fully-welded differential case for a solid working platform. An integrated bumper reinforces the rear frame to handle high stress loads.

Drawbar, circle and moldboard

The M Series drawbar is designed for high strength and optimum durability.

The circle resists high stress loads. Raised surfaces prevent circle teeth wear against the drawbar.

The circle is manufactured from forged steel and the teeth are induction hardened to resist wear. The circle is securely attached to the drawbar by four support shoes.

The moldboard has optimal curvature and large throat clearance that helps move all soil types quickly and efficiently.

These features ensure excellent load distribution and minimal material build-up in the circle area while allowing large blade loads to roll freely.

Heat-treated rails, hardened ground engaging tools and heavy duty bolts ensure maximum service life and reliability.

Moldboard float

Floating only one cylinder permits one end of the moldboard to follow a hard surface while the operator controls the cross-slope with the other cylinder.

Moldboard

The standard moldboard length is 12' (3700mm). This may be reduced to 10' (3100mm) for underground applications.



IMPROVED VERSATILITY AND PERFORMANCE.

Front mounted groups

A front mounted push plate/counterweight is standard equipment.

Front and rear tow points

Both front and rear tow points are painted red and are provided as standard equipment.

Ground engaging tools

A wide variety of cutting edges and end bits are available, all designed for maximum service life and productivity.

Rear ripper (dealer fit option only)

The M Series optional ripper is designed to quickly penetrate and break-up tough material so it can be easily pushed aside by a subsequent pass of the moldboard. The ripper beam is supplied with three shanks, with provision to add two more if needed.

Please note: The ripper is a dealer-supplied option only.





OPERATOR ENVIRONMENT



ERGONOMICALLY DESIGNED FOR ALL-DAY COMFORT.

Designed for productivity

M Series cabs are designed to keep the operator comfortable, relaxed and productive. Features like two electro-hydraulic control joysticks replace the conventional steering and lever controls. Located either side of the operators seat, the joysticks can be positioned for optimal operator comfort and reduced fatigue.

Productivity and safety are enhanced by the operator's clear view of the moldboard and tandem tyres.

Working in the dark is easier with backlit transmission shifter and rocker switches.

In-dash instrument cluster

The instrument panel, with easy-to-read, high-visibility gauges and warning lamps, places vital machine information and diagnostic capability easily within the operator's view.



The dash includes gauges for engine coolant temperature, articulation, voltage and fuel level. Hour meter, speedometer and tachometer are standard. All major systems are monitored by warning lights. Both doors are fitted with interlocks and seat belt alarms are visual and audible.



INTUITIVE CONTROL AND UNRIVALLED PRECISION.

Ease of operation

Two electro-hydraulic joysticks require up to 78% less hand and wrist movement than conventional lever controls for greatly enhanced operator comfort and efficiency. The intuitive control pattern allows both new and experienced operators to quickly become productive.

Ergonomically positioned joysticks for optimal comfort, visibility and proper operation.

Joystick functions

- ▶ The left joystick primarily controls the machine direction and speed including steering, articulation, return-to-center, wheel lean, gear selection, left moldboard lift cylinder and float.
- ▶ The right joystick primarily controls the drawbar, circle and moldboard functions including right moldboard lift cylinder and float, moldboard slide and tip, circle turn, drawbar center shift, electronic throttle control and manual differential lock/unlock.

Intuitive steering control

Joystick lean angle mirrors the steer tires' turning angle. A brake tensioning system holds the joystick in position until the operator moves it. The steering control automatically reduces steering sensitivity at higher ground speeds for comfortable and predictable control.

Electronic throttle control

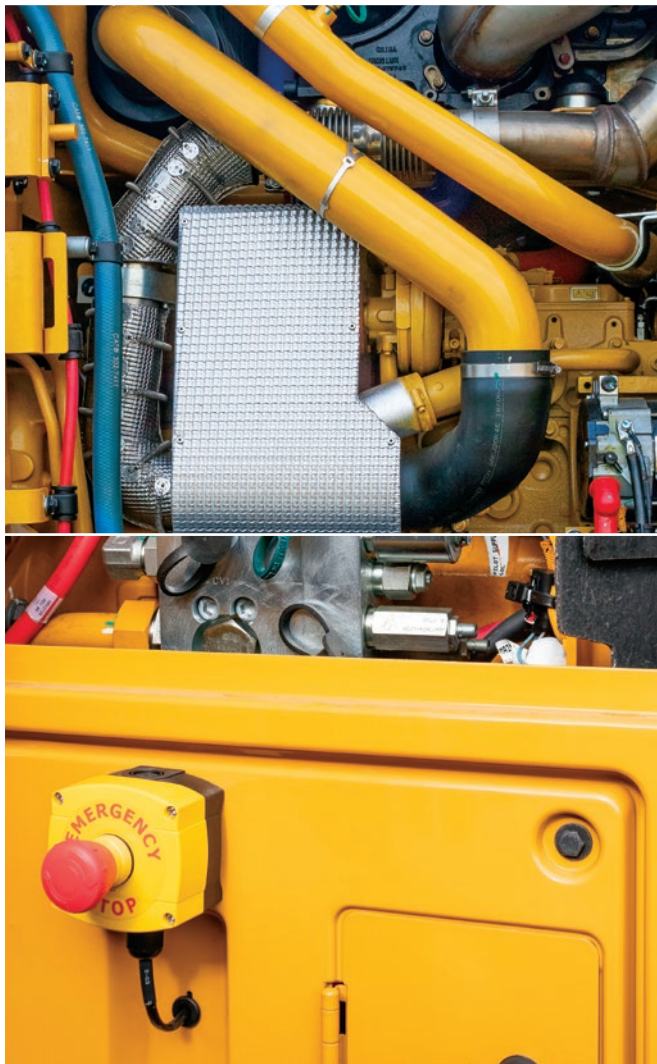
Provides easy, precise and consistent throttle operation. An automatic/manual mode switch offers flexibility for different applications and operator preferences.

Articulation return-to-center

Automatically returns the machine to a straight frame position from any angle with the touch of a button.



SAFETY FEATURES



MACHINE SAFETY IS OUR FIRST PRIORITY.

ROPS/FOPS Cab

The Roll Over Protection System (ROPS) and Falling Object Protection System (FOPS) cabin provides a quiet environment with low vibration levels, reducing operator fatigue so the operator remains efficient and productive all day.

Lights, camera, action!

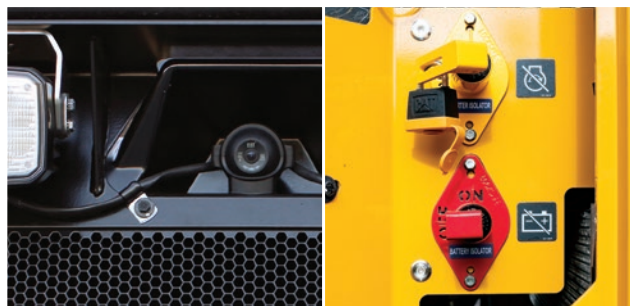
Dark becomes light with well-located LED lights providing a safer work environment by minimising intense shadows. The reversing camera (optional) provides the operator with a wide-angle view of the area behind the grader, increasing awareness of surroundings. A multi-view camera is also available as an option.

Lockable battery and starter motor isolation switches

These isolation switches are provided for the use of the operator and/or maintenance personnel to prevent inadvertent machine starts or battery discharge.

Emergency stop switches

Activation of any of these switches by the operator or a bystander will immediately stop the engine and apply the park/emergency brake.



Brake systems and machine protection

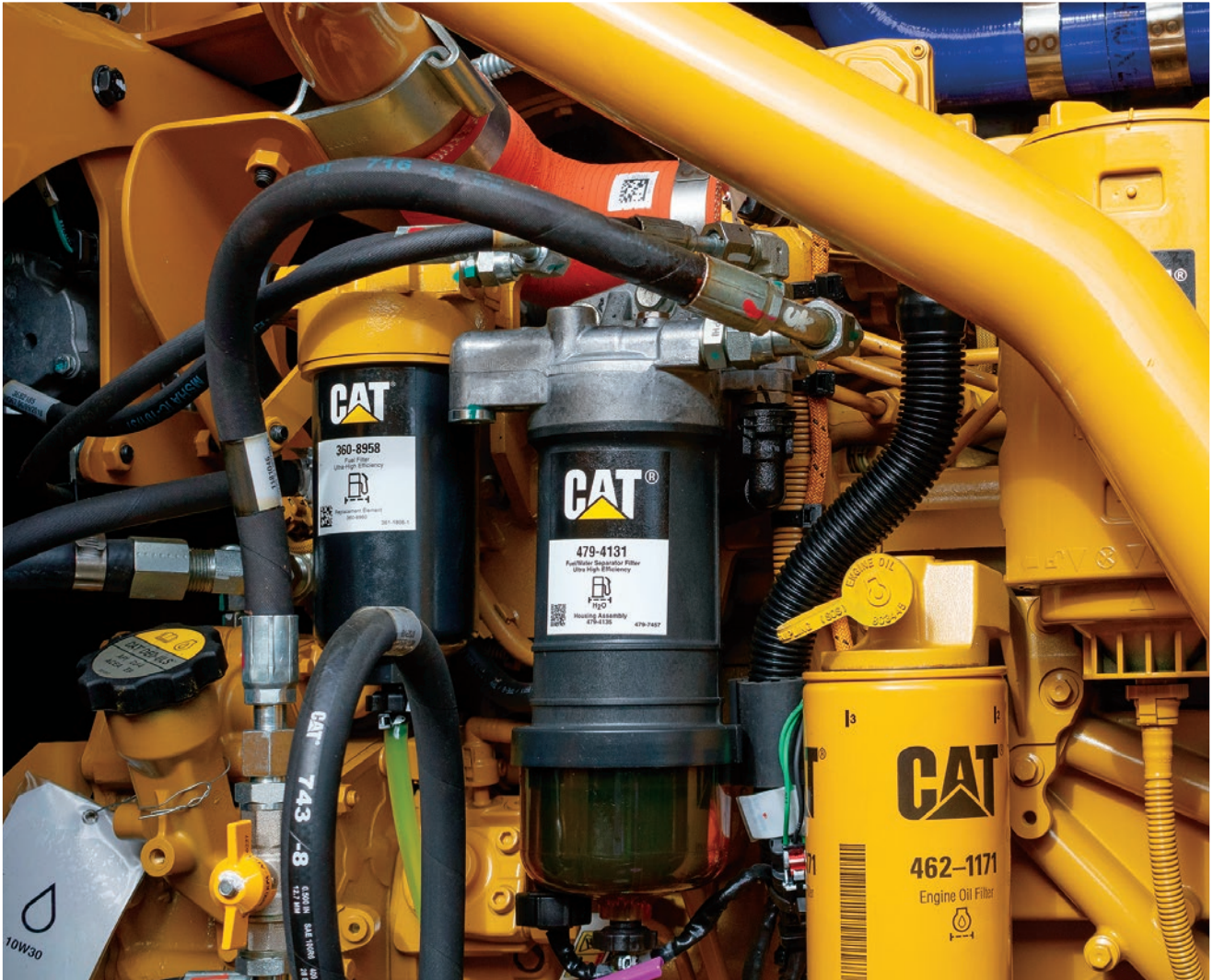
Brakes located at each tandem wheel offer the largest total brake surface area in the industry, delivering dependable stopping power and longer brake life.

Door and seat belt interlock

An interlocking configuration prevents park brake from releasing if the door is open or the seat-belt is unfastened.

Additional standard safety features

Laminated glass windows and lockable doors, brake lights, conveniently located grab rails, reversing lights and alarm also help ensure a safe work environment.



SERVICEABILITY EQUALS INCREASED PRODUCTIVITY.

Easy maintenance for more uptime

Easy access to service areas speeds up maintenance and ensures that routine service is performed on time. Ecology drains shorten service times and help prevent spills. Radiator cleanout access gives the operator the ability to clear away debris and other materials that build up around the radiator.

Extended service intervals

- ▶ 500 hour engine oil changes.
- ▶ 4,000 hour hydraulic oil changes.
- ▶ 12,000 hour engine coolant changes.

Diagnostics and machine monitoring

The dash cluster panel provides enhanced machine information and diagnostic capability, which allows faster servicing of the transmission and engine.

O-Ring face seals

O-Ring face seals create a reliable connection and are used in hydraulic circuits to minimise the possibility of oil leaks.

Separate wiring harnesses

Modular harness design provides simple disconnects for major machine repairs or rebuilds which reduces machine downtime.

Cat electronic technician (Cat ET)

Cat Electronic Technician is a two-way communication tool that gives service technicians easy access to stored diagnostic data, reducing machine downtime and lowering operating costs.

Circle Saver™ (Cat option)

Keeping your system lubricated daily is important and the optional Circle Saver makes it easy to do. The easy-to-access grease kit allows you to keep the circle drive pinion greased at all times. Circle Saver™ features a remote fitting and grease line that runs from the drawbar to the pinion housing, making it easier to grease the pinion from the top of the drawbar instead of underneath the circle.



FEATURE OVERVIEW

DESIGNED FOR STRENGTH, DURABILITY AND INCREASED PRODUCTIVITY.

● Standard ● Optional ● Safety

FRONT COUNTERWEIGHT ● PUSH BLOCK

Front counterweight/push-block ensures adequate front wheel traction (and hence steering)

WHEEL CHOCKS ●●

2x chocks stored in brackets either side of the front counterweight

● REDUCED HEIGHT MOLDBOARD CYLINDERS

● SHORTENED GRADER WHEELBASE

Includes shortening the frame and moldboard drawbar

● CAB ACCESS LIGHTS

Located on inside of door - illuminates stairs and entry when door is opened

ELPHINSTONE

LIVE SPINDLE FRONT AXLE DESIGN ●

3-PIECE 24 in (610mm) WHEEL RIMS ●

FRONT RETRIEVAL POINT ●

Painted red (hidden by tyre)

●● 8x ADDITIONAL LED WORK LIGHTS

Appropriate for underground operation
2x below the cabin facing forward
2x facing rearwards and 4x mounted on the spine facing forwards

STANDARD 12 ft MOLDBOARD ● SHORTENED 10 ft MOLDBOARD ●

● FLEXIBLE CAB ACCESS STAIRS





● ROPS/FOPS ENCLOSED CABIN

Low profile ROPS/FOPS enclosed cabin with air conditioning and pressurisation. Features joystick controls and easy to read in-dash instrument cluster

●●1x FLASHING BEACON

Rotating amber beacon

● REDUCED HEIGHT EXHAUST OUTLET AND AIR INTAKE

● COMPLETE CAT POWERTRAIN

Proven Cat C7.1 engine with U.S. Tier 4 Interim/ EU Stage IIIB equivalent emission levels, power-shift countershaft transmission, 8 forward and 6 reverse gears for optimal productivity, differential lock and oscillating tandem (chain) drive system

● REAR RADIATOR PROTECTION FRAME

●● REFLECTIVE TAPE

Reflective tape delineation of the machine profile

●● REAR VIEW CAMERA

● STOP (BRAKE) LIGHTS

● REAR INDICATOR LIGHTS

Rear turning, reversing and front turning indicator lights

EMERGENCY STOP ●●

Red button accessible from within the operator station

AUTOMATIC FIRE ●● SUPPRESSION SYSTEM

Dry powder or aqueous film forming foam (AFFF)

●● EMERGENCY STOP

Red button accessible from left hand side at ground level (Right hand side is optional)

● REAR RETRIEVAL POINTS

FABRICATED STEEL ● FUEL TANKS

AUTOMATIC GREASE ● LUBRICATION SYSTEM

● CATERPILLAR REAR-MOUNTED RIPPER ASSEMBLY (DEALER FIT)



ENGINE ARRANGEMENT

MAXIMUM POWER AND EFFICIENCY.

Power management

The Cat C7.1 Tier 4 Interim engine with ACERT™ Technology uses electronic control, precision fuel delivery and refined air management to provide outstanding performance and lower emissions. Certified to U.S. Tier 4 Interim/EU Stage IIIB emissions standards and is CSA certified.

Variable Horse Power (VHP) to provide more power in the higher gears.

The electronic throttle control provides easier, more precise and consistent throttle operation. Engine over-speed protection prevents downshifting until an acceptable safe travel speed has been established.



POWER TRAIN

RELIABLE PERFORMANCE.

Smooth shifting transmission

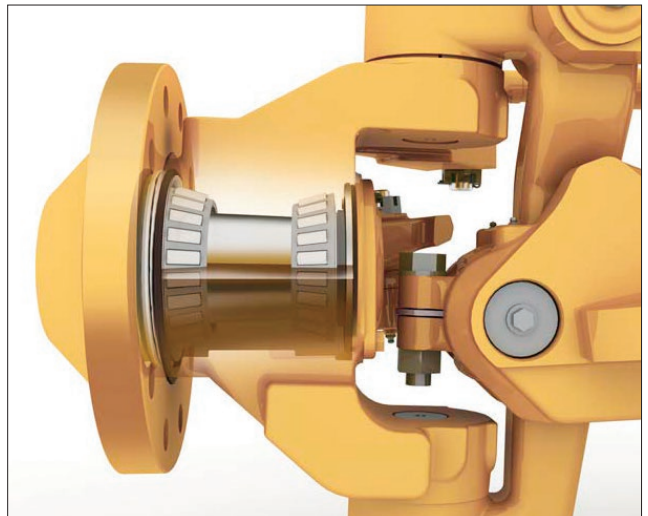
- ▶ Full Electronic Clutch Pressure Control (ECPC) ensures smooth speed and directional changes.
- ▶ Shift torque management helps to smooth gear changes without the use of the inching pedal, helping the operator to remain focused on the task at hand.
- ▶ Load compensation ensures consistent shift quality regardless of blade or machine load.
- ▶ Autoshift automatically shifts the transmission at optimal points for easier operation.

Oil disc brakes completely sealed, adjustment free

Hydraulically activated, oil-bathed, air-actuated and spring-released service brakes, located at each tandem wheel to eliminate power train braking loads and to reduce service time. The large brake surface area provides dependable braking capability and extended life before rebuild.

Front axle with Cat live spindle design

The Cat sealed spindle keeps bearings free from contaminants and lubricated in a lightweight oil to reduce owning and operating costs. A larger tapered roller bearing is outboard where the load is greater, extending bearing life.





DELIVERING POWER AND CONTROL.

Balanced flow, independent oil supply

Hydraulic flow is proportioned to ensure all implements operate simultaneously. Independent oil supply prevents cross-contamination and provides proper oil cooling, which means less heat build-up and extended component life.

Implement control valves

Provide outstanding operator “feel” and predictable system response for unmatched implement control.

To help maintain exact blade settings, lock valves are built into all control valves. Line relief valves are also incorporated into selected control valves to protect the cylinders from over pressurization.

Load-sensing hydraulics

A load sensing variable displacement pump and advanced electro-hydraulic valves provide precise implement control and better machine performance. Continuously matching hydraulic flow and pressure to power demands creates less heat and reduces power consumption.



Consistent and predictable movement

The electro-hydraulic system valves are specifically designed for each hydraulic function on the motor grader. They compensate for differences in flow requirements, based on cylinder size and the difference in surface volume between the rod end and barrel end of the cylinder. The result is predictable, consistent hydraulic control whether extending or retracting the cylinder.



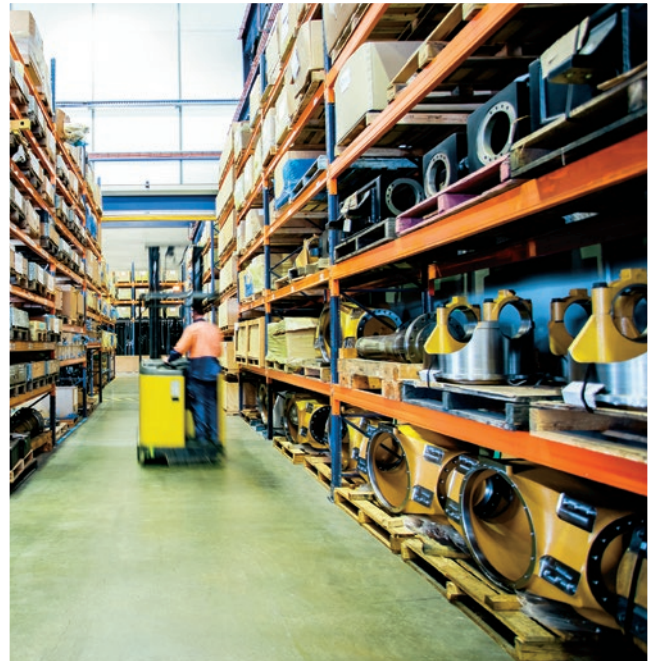
CUSTOMER SUPPORT

WHEN UPTIME REALLY COUNTS.

Renowned Cat dealer support

From helping you choose the right machine to financing and ongoing support, your Cat dealer provides the best in sales and service.

- ▶ Manage your costs with preventive maintenance programs like S-O-SSM fluids analysis, coolant sampling and guaranteed maintenance contracts.
- ▶ Stay productive with best-in-class parts availability.
- ▶ Your Cat dealer can also help you boost efficiency with operator training.
- ▶ When it's time for component replacement, your Cat dealer can help you save even more. Genuine Cat remanufactured parts carry the same warranty and reliability as new products at savings of 40 to 70 percent for powertrain and hydraulic components.



FUTURE SUSTAINABILITY

THINKING INTO THE FUTURE.

Sustainable waste and cost management

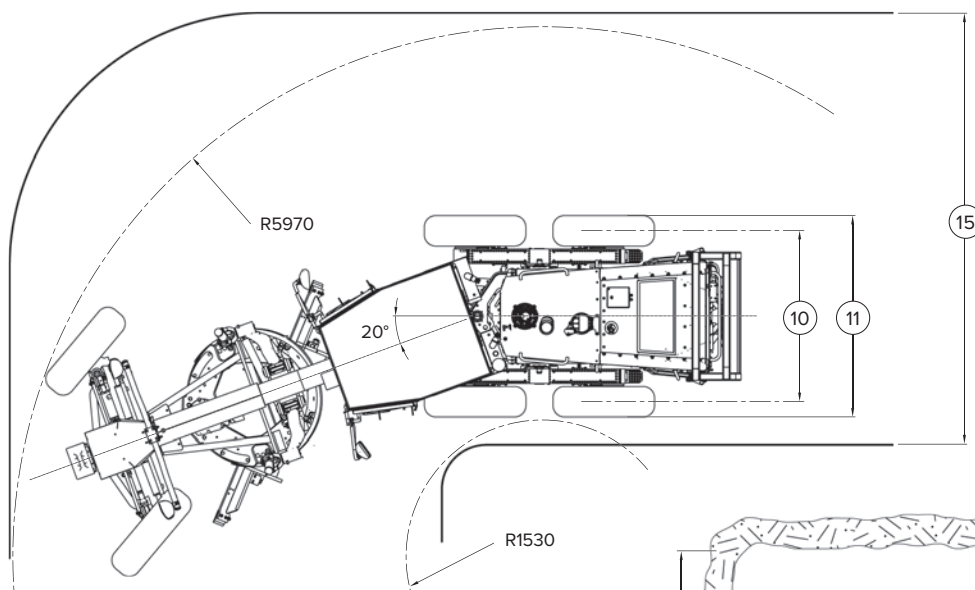
- ▶ Integrated machine systems and technologies improve productivity for greater accuracy, lower fuel use and reduced machine wear.
- ▶ Replaceable wear parts save maintenance time and cost, and extend major component life.
- ▶ Ecology drains help make draining fluids more convenient and help prevent spills.
- ▶ Major components are built to be rebuilt, eliminating waste and saving customers money by giving the machine and/or major components a second – and even third life.
- ▶ Safety features help safeguard operators and others on the job site.



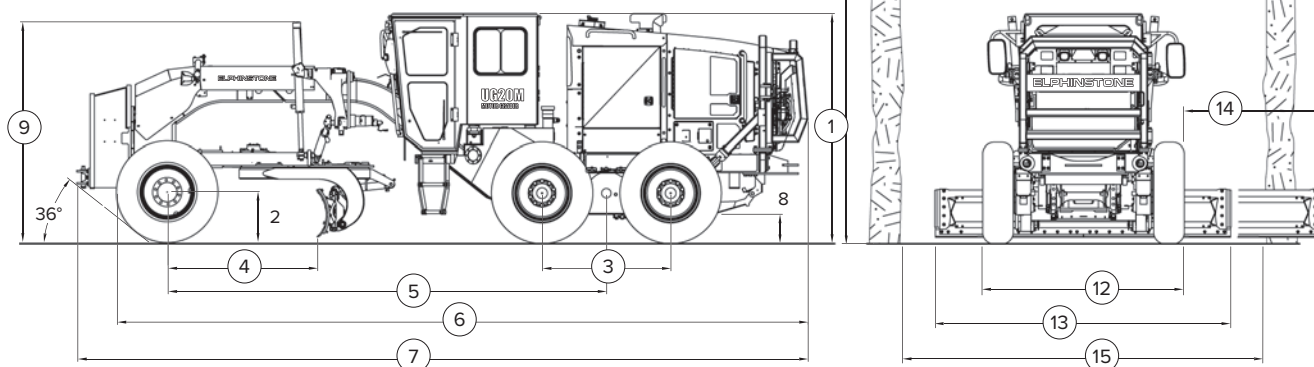


MACHINE DIMENSIONS

Turning Radius



Side View and Drive Size



Dimensions

All dimensions are based on 14.0R24 tyres. *Ripper is a dealer fit option

1	Height - Top of Cab Height - Exhaust Stack	2720 mm 2720 mm	8 ft 11 in 8 ft 11 in
2	Height - Front Axle Centre	595 mm	1 ft 11.4 in
3	Length - Between Tandem Axles	1510 mm	4 ft 11.4 in
4	Length - Front Axle to Moldboard	1590 mm	5 ft 2.5 in
5	Length - Front Axle to Mid Tandem	5140 mm	16 ft 10.4 in
6	Length - Front Tyre to Rear of Machine	8125 mm	26 ft 7.9 in
7	Length - Counterweight to Rear of Machine Length - Counterweight to Ripper*	8620 mm 10032 mm	28 ft 3.4 in 32 ft 10.9 in
8	Ground Clearance - Transfer Case	350 mm	1 ft 1.7 in
9	Height - Top of Cylinders	2660 mm	8 ft 8.7 in
10	Width - Tyre Centre Lines	2120 mm	6 ft 11.4 in
11	Width - Outside Rear Tyres	2490 mm	8 ft 2 in
12	Width - Outside Front Tyres	2511 mm	8 ft 2.8 in
13	Width - Moldboard Standard Width - Moldboard Optional	3658 mm 3048 mm	12 ft 10 ft
14	Maximum Reach, Standard 12 ft Moldboard	1700 mm	5 ft 6.9 in

Drive Size

15	Minimum Width Portal (90° corner)	4500 mm	14 ft 9.2 in
16	Typical Minimum Height Portal	4500 mm	14 ft 9.2 in



TECHNICAL SPECIFICATIONS

Engine

Engine Model	Cat® C7.1 ACERT™	
Emissions	U.S. Tier 4 Interim/ UE Stage IIIB	
Base Power (1st gear), Net	108 kW	145 hp
Base Power (1st gear), Net (Metric)		147 hp
VHP Plus range, Net	108-141 kW	145-189 hp
VHP Plus range, Net (Metric)		147-192 hp
Displacement	7.01 L	428 in³
Bore	105 mm	4.13 in
Stroke	135 mm	5.31 in
Torque rise	45%	
Max Torque	939 N·m	693 lb ft
Speed @ rated power	2100 rpm	
Number of Cylinders	6	
Derating Altitude	3048 m	10,000 ft
Standard Capability	43° C	109° F
Hi Ambient Capability	50° C	122° F
Hi Ambient, Fan Speed		
Standard	1,000 rpm	
Max	1,350 rpm	
Min	500 rpm	
VHP Plus, Gear		
1F, Net	108 kW	145 hp
2F, Net	114 kW	153 hp
3F, Net	120 kW	161 hp
4F, Net	126 kW	169 hp
5F, Net	130 kW	174 hp
6F, Net	134 kW	179 hp
7F, Net	137 kW	184 hp
8F, Net	141 kW	189 hp

- 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 maximum speed of 2,100 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 7-8.

Powertrain

Forward/Reverse Gears			8 Fwd/6 rev		
Transmission			Direct Drive, Powershift		
Brakes					
Service			Air Actuated Multiple Oil Disc		
Service, surface area			23,000 cm ²		3,565 in ²
Parking			Air Actuated Multiple Oil Disc		
Secondary			Dual Circuit		

Hydraulic System

Circuit Type	Parallel	
Pump Type	Variable Piston	
Pump Output	210 L/min	55.7 gal/min
Maximum System Pressure	24,150 kPa	3,500 psi
Standby Pressure	4,200 kPa	609 psi
Reservoir Tank Capacity	60 L	15.85 gal

- Pump output measured @ 2,150 rpm

Operating Specifications

Top Speed		
Forward	45.7 km/h	28.4 mph
Reverse	36.1 km/h	22.4 mph
Turning Radius, Outside Front Tyres	5970 mm	23 ft 7 in
Steering Range, Left/Right	47.5°	
Articulation Angle, Left/Right	20°	
Forward		
1st	4.0 km/h	2.5 mph
2nd	5.4 km/h	3.4 mph
3rd	7.8 km/h	4.9 mph
4th	10.8 km/h	6.7 mph
5th	16.8 km/h	10.4 mph
6th	22.8 km/h	14.2 mph
7th	31.4 km/h	19.5 mph
8th	45.7 km/h	28.4 mph
Reverse		
1st	3.1 km/h	1.9 mph
2nd	5.9 km/h	3.9 mph
3rd	8.5 km/h	5.3 mph
4th	13.2 km/h	8.2 mph
5th	24.8 km/h	15.4 mph
6th	36.1 km/h	22.4 mph

- Maximum travel speeds calculated at a high idle on standard machine configuration with 14.0R24 tyres.

Service Refill

Fuel Capacity	358 L	94 gal
Cooling System	49 L	12.9 gal
Hydraulic System		
Tank	64L	16.9 gal
Engine Oil	30 L	7.9 gal
Trans./Diff./Final Drives	62.5L	16.5 gal
Tandem Housing (each)	59 L	15.6 gal
Front Wheel Spindle Bearing Housing	0.5 L	0.13 gal
Circle Drive Housing	7 L	1.8 gal

Frame

Circle		
Diameter	1530 mm	60.2 in
Blade Beam Thickness	35 mm	1.4 in
Drawbar		
Height	152 mm	6.0 in
Width	76.2 mm	3.0 in
Thickness	9.5 mm	0.4 in
Front-top/bottom plate		
Width	255 mm	10.0 in
Thickness	22 mm	0.87 in
Front frame structure		
Height	280 mm	11.0 in
Width	204 mm	8.0 in
Front axle		
Height to centre	572 mm	22.5 in
Wheel lean, left/right	18°	
Front axle - total oscillation per side	32°	

- Front-top/bottom plate – width tolerance ±2.5 mm (0.098 in)



TECHNICAL SPECIFICATIONS

Tandems

Height	502 mm	19.8 in
Width	172 mm	6.8 in
Sidewall Thickness		
Inner	14 mm	0.5 in
Outer	16 mm	0.6 in
Drive Chain Pitch	44.5 mm	1.8 in
Wheel Axle Spacing	1510 mm	59.5 in
Tandem Oscillation		
Front Up	15°	
Front Down	25°	

Moldboard

Width Standard	3658 mm	12 ft
Width Optional	3048 mm	10 ft
Height	610 mm	24 in
Thickness	22 mm	0.9 in
Arc Radius	413 mm	16.3 in
Throat Clearance	123.9 mm	4.9 in
Cutting Edge		
Width	152 mm	6 in
Thickness	16 mm	0.6 in
Pull		
Base GVW	10,767 kg	23,737 lb
Maximum GVW	13,599 kg	29,980 lb
Down Pressure		
Base GVW	6,818 kg	15,030 lb
Maximum GVW	12,354 kg	27,235 lb

Moldboard Range

Centreshift		
Right	656 mm	25.8 in
Left	656 mm	25.8 in
Sideshift		
Right	660 mm	26 in
Left	510 mm	20.1 in
Maximum blade position range	90°	
Tip Range		
Forward	40°	
Backward	5°	
Maximum shoulder reach outside of tyres		
Right	1905 mm	75 in
left	1742 mm	68.6 in
Maximum Lift Above Ground	427 mm	16.8 in
Maximum Depth of Cut	720 mm	28.3 in

Weights

Gross Vehicle Weight, Base		
Total	14,493 kg	35,025 lb
Front Axle	3621 kg	8,651 lb
Rear Axle	10,872 kg	26,374 lb
Gross Vehicle Weight, Maximum		
Total	20,271 kg	44,690 lb
Front Axle	6689 kg	14,748 lb
Rear Axle	13,582 kg	29,942 lb
Gross Vehicle Weight, Typically Equipped		
Total	16,876 kg	37,204 lb
Front Axle	4524 kg	9,974 lb
Rear Axle	12,352 kg	27,230 lb

- Base operating weight calculated on standard machine configuration with 14.0R24 tires, full fuel tank, coolant, lubricants and operator.
- Typically equipped operating weight is calculated with push block, rear ripper, and other equipment.

Standards

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



STANDARD AND OPTIONAL EQUIPMENT

● Standard ● Optional ● Safety

Powertrain

Air cleaner, dual stage, dry type, diesel, with automatic engine derate and automatic dust ejector, service indicator through cat messenger	●
Air To Air After Cooler (ATAAC)	●
Belt, Serpentine, Automatic Tensioner	●
Brakes, Oil Disc, Four-Wheel, Hydraulic	●
Demand Fan, Hydraulic, Swing-out	●
Differential Lock/Unlock, Automatic	●
Drain, Engine Oil, Ecology	●
Electronic Over Speed Protection	●
Engine, C7.1 with ACERT technology, US Tier 4 Interim and EU Stage IIIB emission standards	●
Fuel Tank, Conventional Fill	●
Fuel Tank, 358 L (94 gal), Ground Level Access	●
Fuel Tank, Fast Fill	●
Parking Brake, Multi-disc, Sealed, Oil-cooled	●
Priming Pump, Fuel	●
Rear Axle, Modular	●
Tandem Drive	●
Transmission - 8F/6R, Power Shift, Direct Drive	●
Tyres, 14.0 R24, Bridgestone VUT *L2MP	●
VHP Plus, Variable Horsepower	●

Antifreeze

Coolant, Extended Life for -35°C (-30°F)	●
Coolant, Arctic Extended Life for -50°C (-58°F)	●

Operator Environment

Accelerator	●
Air Conditioning with Heater	●
Articulation Automatic Return-To-Center	●
Cat® Messenger Operator Information System	●
Centreshift Pin Indicator	●
Camera, Reverse	●
Camera, Multiview	●
Cup Holder	●
Display, Digital Speed and Gear	●
Doors, Left and Right Side with Wiper	●
Fan, Defroster Front Window	●
Gauge Cluster (Analog), Fuel, Articulation, Engine Coolant Temp, Engine Rpm, Hydraulic Oil Temp, Regen	●
Hour Meter, Digital	●
Joystick, Hydraulic - Controls right/left blade lift with float position, circle drive, blade sideshift and tip, centershift, front wheel lean, articulation and power steering	●
Joystick, Adjustable Armrests	●
Joystick, Gear Selection	●
Joystick, Hydraulic Power Steering	●
Ladders, Cab, Left and Right Side	●
Lights, Night Time Cab (when door is open)	●
Mirror, Outside Mounted	●
Power Port, 12V	●
Precleaner, HVAC	●
Pressuriser, Cab	●
Pressuriser, Cab, Monitor	●
Radio Ready	●
ROPS Cab, Sound Suppressed Inside Cab 81.2 Db	●

Operator Environment

Seat Belt, Retractable, 2 Point	●
Seat Belt, Retractable, 2 Point with Occupancy Indicator	●
Seat, Compact Mechanical Suspension, Low Back with Black PVC Trim	●
Seat Cover, Cloth, Enclosed Cab	●
Storage Area for Cooler/Lunchbox	●
Throttle Control, Electronic	●
Windows, Laminated Glass	●
Wiper/Washer - Fixed front and door with intermittent wiper side	●

Electrical

Alarm, back up	●
Alternator, 150 Ampere, Sealed	●
Batteries, Maintenance Free, Heavy Duty, 1,125 CCA	●
Breaker Panel, Ground Accessible	●
Cab Harness and Electrical Hydraulic Valves	●
Electrical System, 24V	●
Emergency Stop Switch Cab	●●●
Emergency Stop Switch LHS Engine Cowling	●●●
Emergency Stop Switch RHS Engine Cowling	●●●
Ground Level Engine Shutdown	●
Horn, Electric	●
Lights, Brake, Tail, Indicator, LED	●
Lights, Headlights, High LED, Low LED	●
Lights, Warning, Beacon	●●●
Lights, Working, LED	●
Lights, Working, Engine Enclosure, Front, LED	●
Lights, Working, Lower Cab Side, LED	●
Lights, Maintenance, Engine Enclosure, LED	●
Product Link Cellular PLE 641	●
Starter, Electric	●

Work Tools

Moldboard 12 ft Blade, 12 ft x 24 in x 7/8 in (3658 mm x 610 mm x 22 mm) with hydraulic side shift and blade tip. 2 x 6 ft, 6 in x 5/8 in (152 mm x 16 mm) DH2 heat treated cutting edges	●
Moldboard 10 ft Blade, 10 ft x 24 in x 7/8 in (3048 mm x 610 mm x 22 mm) with hydraulic side shift and blade tip. 1 x 6 ft & 1 x 4 ft, 6 in x 5/8 in (152 mm x 16 mm) DH2 heat treated cutting edges	●
Endbits 16 mm (5/8 in) DH-2 steel 19 mm (3/4 in) mounting bolts	●

Ripper

Machine ready for dealer fit	●
------------------------------	---

Guards

Fenders, Front (Dealer Fit)	●
Fenders, Rear (Dealer Fit)	●
Rear Guard	●
Transmission	●

Other

Accumulators, Brake, Dual Certified	●
Automatic Fire Suppression System (Dry Powder or AFFF)	●●●
Clutch, Circle Drive, Slip	●
Doors (4), Engine Compartment, Locking	●
Drawbar, 6 Shoes, Replaceable Wear Strips	●



STANDARD AND
OPTIONAL EQUIPMENT

● Standard ● Optional ● Safety

Other

Dryer, Air	●
Electrical Hydraulic Valves	●
Film GP Reflective Fluorescent Yellow	● ●
Film GP Reflective Fluorescent Orange	● ●
Fluid Check, Ground Level	●
Frame, Articulated with Safety Lock	●
Hand Rails, Green	● ●
Hydraulic Lines for Base Functions	●
Lockout, Hydraulic Implement (for roading and servicing)	●
Parts Book, Operation and Maintenance Manual Download	●
Pump, Hydraulic, High Capacity, 98 cm ³ (6 in ³)	●

Other

Push Plate, Counterweight	●
Radiator, Cleanout Access, Both Sides with Swing Doors)	●
Retrieval Points	●
SOS™ Ports, Engine, Hydraulic, Transmission, Coolant, Fuel	●
Secondary Steering	●
Steps, Colour Green	●
Tandem Walkway/Guards	●
Tool Box	●
Wheel Chocks	● ●



YOUR
NOTES

Blank lined area for notes.

UNDERGROUND RELIABILITY.

Over 40 years' experience in the mining industry.

ELPHINSTONE

UG20M Motor Grader

For more complete information on Elphinstone products, dealer services, and industry solutions, visit www.elphinstone.com or contact your local Cat dealer.

Material and specifications are subject to change without notice. Featured machines in photos may include additional equipment.

Elphinstone and their respective logos, as well as corporate and product identity used herein, are trademarks of Elphinstone and may not be used without permission.

© 2019 Elphinstone. All rights reserved.
Made in Australia for export.



HM06644-02 (04-2022)