

794 AC

Mining Truck



Designed and manufactured by Caterpillar, the 794 AC electric drive truck is single sourced from one manufacturer and supported by the best dealer network. The 794 AC is designed to:

- Deliver a true 291 tonnes (320 tons) capacity
- Deliver reliability and uptime
- Deliver easy serviceability
- Deliver low owning and operating cost
- Deliver operator confidence with four corner wet disc blended service brakes and traction control

The 794 AC is built to deliver to your bottom line.

High Performance Engine

The Cat® C175-16 engine offers reliability and durability with proven performance in the large mining truck application. The engine can provide multiple ratings compliant with U.S. EPA Tier 4 Final and EU Stage V.

Focus on Safety

Wide access stairways, service platforms for the engine, traction alternator and control cabinet, four corner wet disc brakes, and industry leading retarding.

Enhanced Serviceability

Open engine and traction alternator access, simplified hydraulics, grouped electrical and hydraulic routing, ground level filters and service points.

Reliable AC Electric Drive System

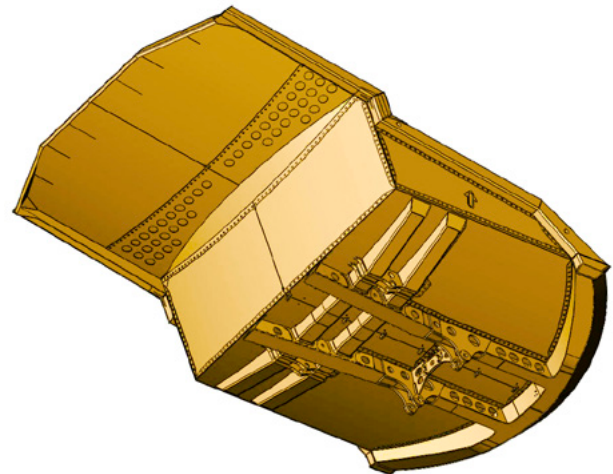
The Cat AC electric drive power train is Caterpillar designed, integrated and supported.

Comfortable Cab

Operators find the spacious and quiet cab offers excellent visibility with intuitive, easy to learn controls.

Truck Body Options

Caterpillar designed and built bodies provide optimal performance and reliability.



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Engine

Engine Model	Cat C175-16	
Gross Power – SAE J1995		
Standard	2610 kW	3,500 hp
Optional	2051 kW	2,750 hp
Rated Speed	1,800 rpm	
Net Power – SAE J1349	2561 kW	3,434 hp
Emissions Rating	Tier 4 Final/Stage V	
Bore	175 mm	6.9 in
Stroke	220 mm	8.7 in
Displacement	85 L	5,187 in ³

- Contact factory for high altitude configuration.

Weights – approximate

Gross Machine Operating Weight	521 631 kg	1,150,000 lb
Chassis Weight	193 372 kg	426,312 lb
Body Weight	28 186 kg	62,140 lb

- Consult your tire manufacturer for maximum tire load.
- Chassis weight with 100% fuel, hoist, body mounting group, rims, and tires.
- Body weight varies depending on how body is equipped.

Operating Specifications

Nominal Payload Capacity	291 tonnes	320 tons
Top Speed – Loaded	60 km/h	37 mph
Steer Angle	39 degrees	
Minimum Turning Radius	16.2 m	53 ft

- Payload assumes no debris, no extra options or attachments.
- Refer to the Cat Mining Truck 10/10/20 Overload Policy (AEXQ0250) for maximum gross machine weight limitations.

Final Drives

Total Reduction Ratio	35:1	
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AC Drive System

Generator/Alternator	Brushless, engine mounted, dual bearing	
Controls	IGBT Inverter Technology, air cooled, pressurized cabinet with filtration	
Wheel Motor	Cat AC induction, rear axle mounted	
Cooling System	Variable speed, hydraulically driven cooling system	

Tires

- 53/80 R63.
- Production capabilities of the 794 AC truck are such that, under certain job conditions, TKPH (TMPH) capabilities could be exceeded and, therefore, limit production.
- Caterpillar recommends the customer evaluate all job conditions and consult tire manufacturer for proper tire selection.

Braking System

Front Wet Disc Brake Surface Area	131 473 cm ²	20,378 in ²
Rear Wet Disc Brake Surface Area	198 388 cm ²	30,750 in ²
Standards	ISO 3450:2011	
Electric Retarding – Radial Grid Design		
Dynamic Retarding Power		
Continuous	4086 kW	5,480 hp

Weight Distributions – approximate

Front Axle – Empty	47.5%	
Rear Axle – Empty	52.5%	
Front Axle – Loaded	33%	
Rear Axle – Loaded	67%	

Body Hoists

Pump Flow – High Idle (LAA @ 1,960 rpm)	910 L/min	240 gal/min
Pump Flow – High Idle (HAA @ 1,800 rpm)	840 L/min	221 gal/min
Relief Valve Setting – Raise	20 884 kPa	3,029 psi
Body Raise Time – High Idle	24 Seconds	
High Idle Body Lower Time – Float	20 Seconds	
Total Cycle Time	44 Seconds	

- Twin, two-stage hydraulic cylinders mounted inside main frame; double-acting cylinders in both stages.
- Power raise in both stages; power down in both stages possible.
- Automatic body-lower modulation reduces impact on frame.

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Capacity – HE Body – 100% fill factor

Struck	108-133 m ³	142-175 yd ³
Heaped (SAE 2:1)	180-222 m ³	236-290 yd ³
Dump Body Plate Thickness Varies Depending on Body Selection		
Floor Plate	16 mm	0.63 in
Front Plate	9 mm	0.35 in
Side Plate	8 mm	0.31 in
Canopy Plate	5 mm	0.20 in

- Contact your local Cat dealer for body recommendations.

Service Refill Capacities

Fuel Tank	3785 L	1,000 gal
Cooling System	799 L	211 gal
Crankcase	310 L	82 gal
Final Drives, each	254 L	67 gal
Hydraulic Tank	1121 L	296 gal
Hydraulic System (includes tank)	1458 L	385 gal
DEF Tank	378 L	100 gal

ROPS

ROPS Standards

- ROPS (Rollover Protective Structure) meets ISO 3471:1994.
- FOPS (Falling Object Protective Structure) meets ISO 3449:1992.

Sound

Sound Standard

- The operator sound pressure level measured according to work cycle procedures specified in ISO 6394 and 6396 is 75 dB(A) for cab offered by Caterpillar when properly installed, maintained, and tested with doors and windows closed.
- Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained or doors/windows open) for extended periods or in a noisy environment.

Steering

Steering Standards

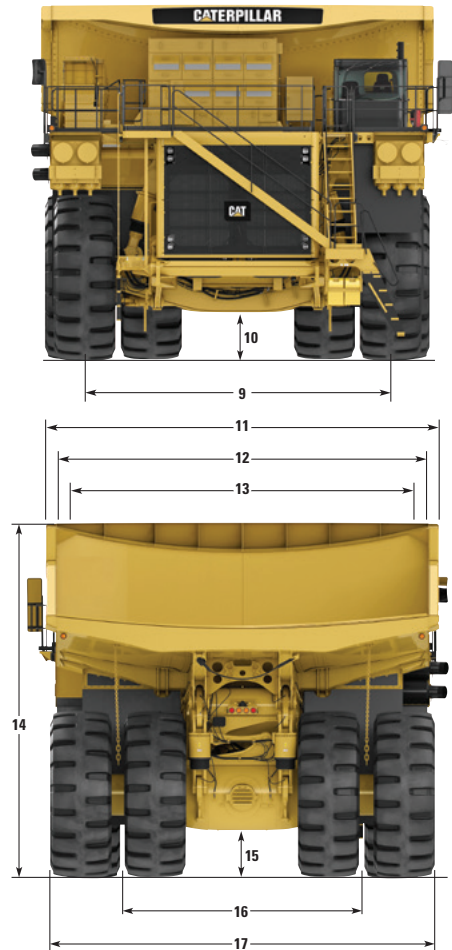
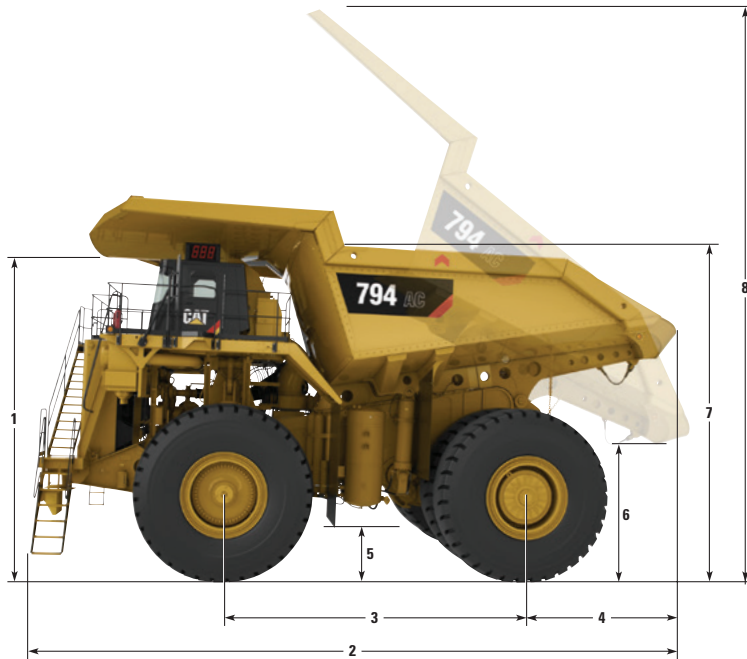
ISO 5010:2007

- Gross Machine Operating Weight is 521 631 kg (1,150,000 lb).

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Dimensions

All dimensions are approximate.
Shown with 193.6 m³ (253 yd³) HE Body.

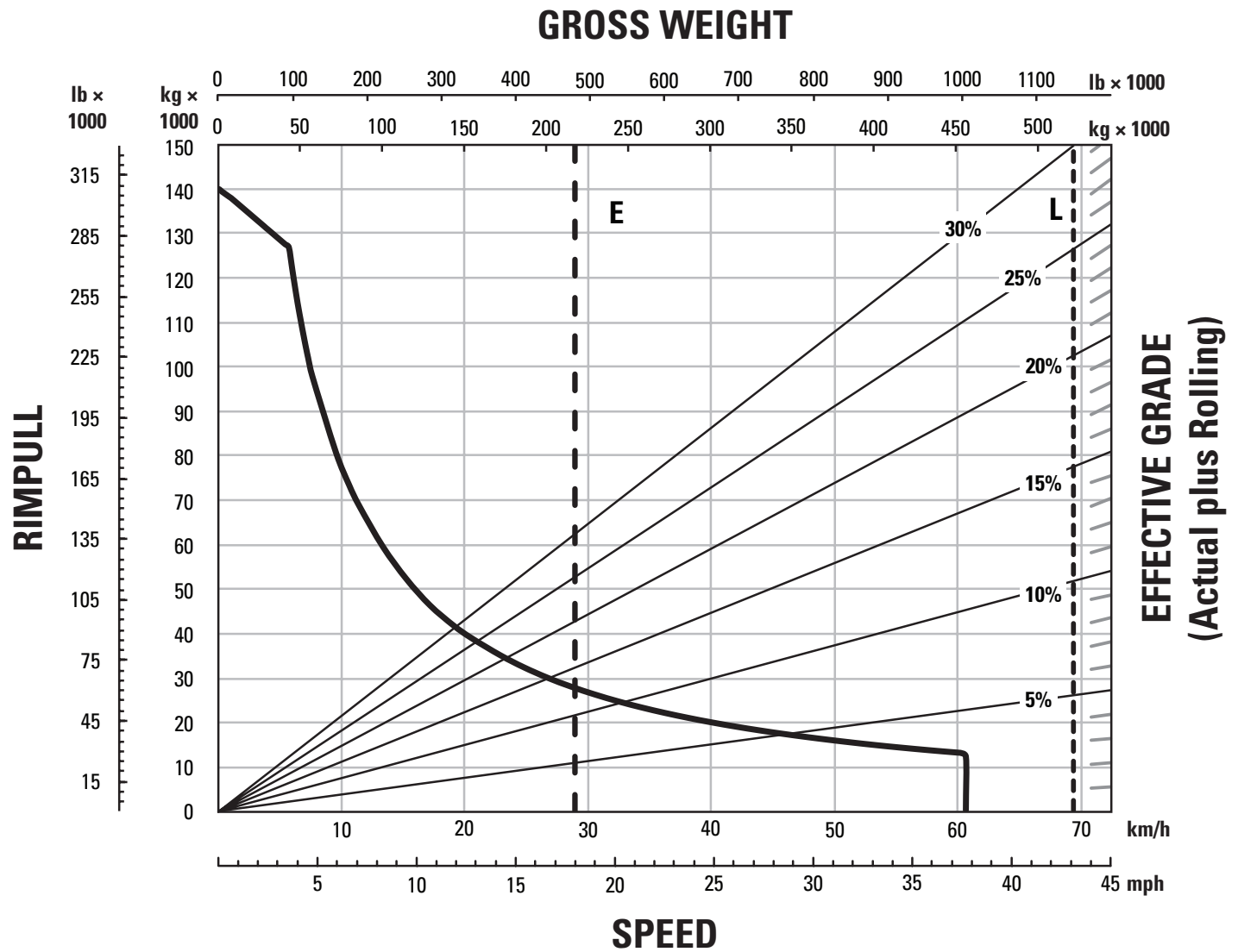


1	Height to Top of ROPS	6779 mm	22'3"
2	Overall Length	15 463.5 mm	50'9"
3	Wheelbase	6644.5 mm	21'10"
4	Rear Axle to Tail	4716 mm	15'6"
5	Ground Clearance	906 mm	2'8"
6	Dump Clearance	1555 mm	3'0"
7	Loading Height - Empty	6995 mm	2'11"
8	Overall Height - Body Raised	14 747 mm	48'5"
9	Centerline Front Tire Width	7036 mm	23'1"
10	Front Axle Clearance	969 mm	3'2"
11	Overall Canopy Width	9763 mm	32'0"
12	Outside Body Width	9062 mm	29'9"
13	Inside Body Width	8560 mm	28'1"
14	Front Canopy Height	8024 mm	26'4"
15	Rear Axle Clearance	934 mm	3'1"
16	Centerline Rear Dual Tire Width	5727 mm	18'9"
17	Overall Tire Width	8738 mm	28'8"

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Gradeability/Speed/Rimpull*

To determine gradeability performance: Read from gross weight down to the percent of total resistance. Total resistance equals actual percent grade plus 1% for each 10 kg/t (20 lb/ton) of rolling resistance. Usable rimpull will depend upon traction available and weight on drive wheels.

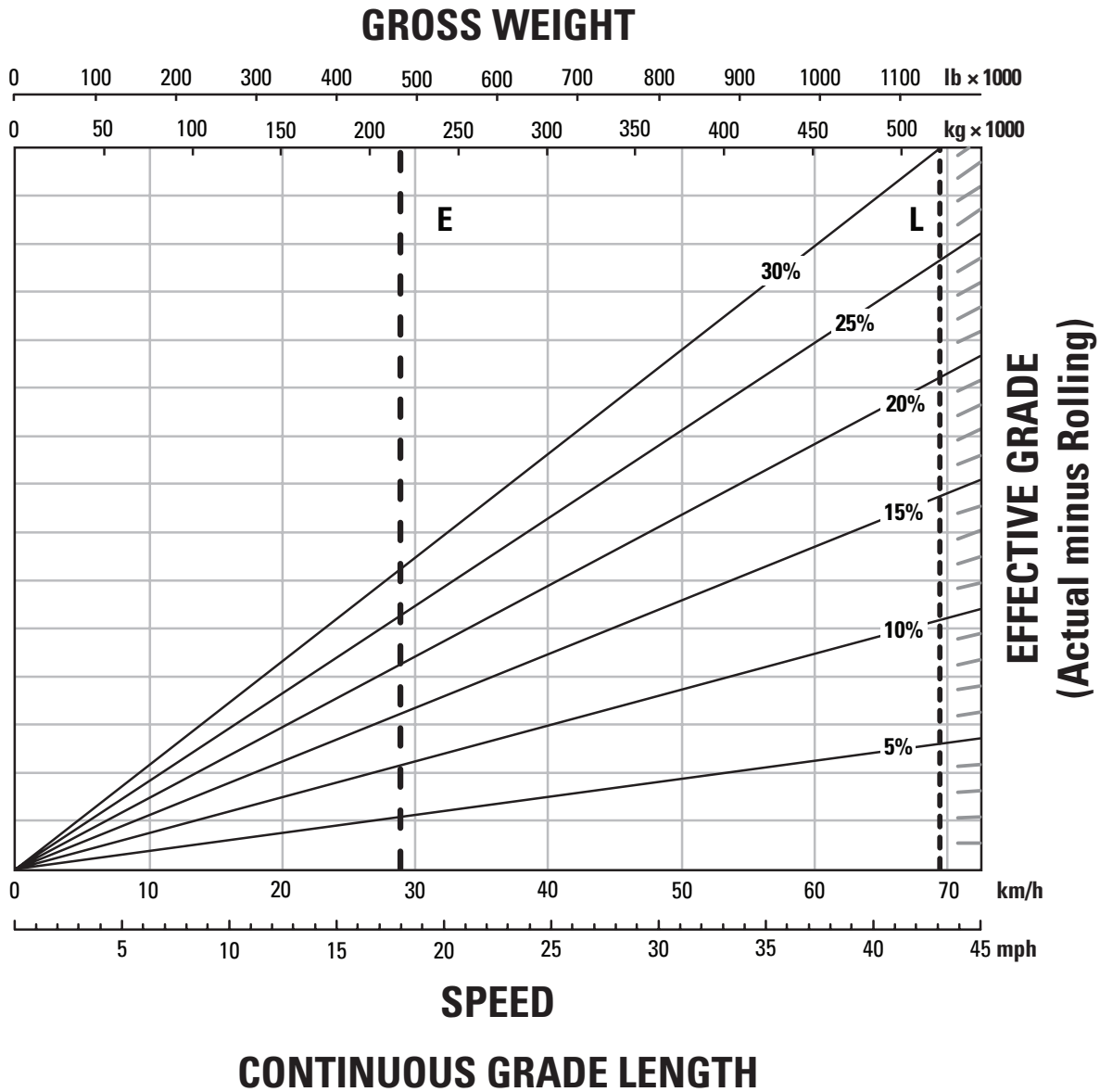


*At sea level, 30° C (86° F). Contact factory for performance estimates based upon site specific temperatures and altitudes.

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Retarding Performance*

To determine retarding performance: Read from gross weight down to the percent effective grade. Effective grade equals % grade minus 1% for each 10 kg/t (20 lb/ton) of rolling resistance. The following chart is based on 30° C (86° F) ambient temperature, at sea level, with 53/80 R63 tires.



KEY

E – Empty Operating Weight 217 419 kg (479,327 lb)

L – Target GMW 521 631 kg (1,150,000 lb)

*At sea level, 30° C (86° F). Contact factory for performance estimates based upon site specific temperatures and altitudes.

Standard Equipment

Standard equipment may vary. Consult your Cat dealer for details.

POWER TRAIN

- C175-16 meets Tier 4 Final/Stage V emission standards
- Diesel engine:
 - Turbocharging (4)/aftercooled
 - Air to air after cooler (ATAAC)
 - Air cleaner (4) with precleaner
 - Elevated low idle control
 - Multi-point oil pressure sensing
 - Pre-lubrication/engine
- Braking system:
 - Brake release towing
 - Oil-cooled, multi-disc (front and rear) (service, retarding, parking, secondary)
 - Automatic Retarder Control
 - Electric dynamic retarding with blended low speed
 - Extended life brake disc material
- Cat AC drive train:
 - IGBT controlled AC induction motors
 - AC generator
 - AC cooled radial grid
- Body-up reverse neutralizer
- Programmable top speed
- Rear axle continuous lube/filtration
- Reverse shift inhibitor
- Directional shift management
- Neutral coast inhibitor
- Body-up shift inhibitor
- Neutral start inhibitor

ELECTRICAL

- Alarm, backup
- Brushless alternator 225 amp charging
- Batteries – 12V (8) 90 amp hour
- Converter, 12V electrical
- Electrical system, 24V, 10, 15, 20 amp fuses and breakers
- Battery charge receptacle
- Lighting, signals/service:
 - Halogen lighting package
 - Backup and hazard lighting
 - Directional signals (front and rear LED)
 - Front stair access/service deck
 - Stop/tail lights (LED)
 - Engine compartment
 - Inverter energy LED warning lights

OPERATOR ENVIRONMENT

- Air conditioner
- 12V DC power supply (1)
- Cup holder (2)
- Diagnostic connection port
- Dome courtesy light
- Entertainment radio ready:
 - 20 amp switched/10 amp memory converter
 - Speakers, and wiring harnesses
- Gauges/indicators
- Gauge panel:
 - Hydraulic oil temperature
 - Engine coolant temperature
 - Fuel level
 - DEF level
 - Electric engine control fault indicator
 - Electric hour meter
 - Speedometer
 - Tachometer
 - VIMS message center advisor
- Heater/defroster
- Storage space behind seat
- ROPS cab, insulated/sound suppressed
- Seat, operator, air suspension
- Seatbelt, operator, three points
- Seat, trainer, air suspension
- Seatbelt, trainer, two point
- Steering wheel, tilt, telescopic
- Tinted glass
- Window, electric powered, operator/passenger
- Wiper, windshield, intermittent control and washer
- Fixed access ladder

FLUIDS

- Extended life coolant to –35° C (–30° F)

OTHER STANDARD EQUIPMENT

- Traction control system
- Auxiliary “buddy” dumping quick connect
- Auxiliary steering quick connect (towing)
- Rotating component guards
- Fast fill fuel system (LH and RH side)
- Fuel filter with water separator
- Fast fill DEF system (RH side)
- Ground level battery lockout
- Machine lockout
- Engine start lockout
- ECM cabinet lockout
- Ground level engine shut-down
- Rock ejectors (chain)
- Tow hooks and pin (front)
- Tow pin (rear) (empty truck only)
- Mudflaps
- Coolant level gauge (on radiator)
- Automatic lubrication system
- S·O·S sample points (hydraulic, cooling, engine)
- Body canopy side extensions (RH and LH side)
- Cab pedestal for additional equipment mounting
- Product Link Elite (PLE) VIMS system

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Optional Equipment

Optional equipment may vary. Consult your Cat dealer for details.

- Contact factory for low HP
- Throttle lock
- Timer, engine shutdown
- Gel batteries (8)
- High Intensity Discharge (HID) lighting package
- LED lighting package
- Fog lights
- LED work lights
- English or Metric gauges
- Payload, digital display
- Powered access ladder
- Inverter platform
- Fast fill fuel system (front and right)
- Rims: Six (6) position and quick change
- ANSI and ISO service instructions
- Retarding indicator light
- Radio/CD player
- Front bumper center tow attachment
- Brake wear indicator tool
- Coolant -50°C (-58°F)
- HE dump body rock box liner
- HE dump body canopy rock deflectors
- Heated mirrors (LH and RH)
- Rear axle oil cooler
- Standard accumulators and Australia/Canada certified accumulators
- Hot start, for cold weather
- Diesel fuel warmer
- Wheel chocks (ANSI or ISO)
- Portable fire extinguisher
- Murphy gauge
- High efficiency dump body
 - 1543 kg/m^3 ($2,600\text{ lb/yd}^3$) density body
 - 1721 kg/m^3 ($2,900\text{ lb/yd}^3$) density body
 - 1839 kg/m^3 ($3,100\text{ lb/yd}^3$) density body
 - 2076 kg/m^3 ($3,500\text{ lb/yd}^3$) density body
- Body rock box
- Side profile lighting
- Central service
- Language monitors – English, Spanish, Italian, Portuguese, Dutch, Norwegian, Swedish, Estonian, Latin, Lithuanian, Slovakian, Slovenian, Greek, Romanian, Russian, Polish, Czech, Hungarian, Icelandic, Finnish, Danish, Thai, Indonesian, Vietnam, Malaysian, Chinese

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