



Unit Rig™ MT3700

Electric Drive Truck

Specifications

Engine

MTU 12v4000

Number of cylinders	12
Gross power (SAE J1995)	1678 kW (2,250 hp)
Net flywheel power**	1566 kW (2,100 hp)
Weight (dry)	7076 kg (15,600 lb)

* Flywheel power is the rated horsepower at the engine flywheel minus the average accessory losses. Accessory losses include radiator fan and battery-charging alternator. Rating based on 152.4 m (500 ft) altitude at 29°C (85°F). No deration required up to 3 048 m (10,000 ft).

MTU 16V 4000

Number of cylinders	16
Gross power (SAE J1995)	1864 kW (2,500 hp), 1715 kW (2,300 hp)
Net flywheel power*	1752 kW (2,350 hp), 1603 kW (2,150 hp)
Weight (dry)	8165 kg (18,000 lb)

* Flywheel power is the rated horsepower at the engine flywheel minus the average accessory losses. Accessory losses include radiator fan and battery-charging alternator. Rating based on 152.4 m (500 ft) altitude at 29°C (85°F). No deration required up to 3 048 m (10,000 ft).

Cummins® QSK 60 (Single Stage)

Number of cylinders	16
Gross power (DIN/ISO 3046)	1864 kW (2,500 hp), 1715 kW (2,300 hp)
Net flywheel power*	1752 kW (2,350 hp), 1603 kW (2,150 hp)
Weight (dry)	8570 kg (18,893 lb)

* Flywheel power is the rated horsepower at the engine flywheel minus the average accessory losses. Accessory losses include radiator fan and battery-charging alternator. Rating based on 152.4 m (500 ft) altitude at 29°C (85°F). No deration required up to 1 676 m (5,500 ft).

Cummins® QSK 50

Number of cylinders	16
Gross power (DIN/ISO 3046)	1491 kW (2,000 hp)
Net flywheel power*	1380 kW (1,850 hp)
Weight (wet)	5293 kg (11,670 lb)

* Flywheel power is the rated horsepower at the engine flywheel minus the average accessory losses. Accessory losses include radiator fan and battery-charging alternator. Rating based on 152.4 m (500 ft) altitude at 29°C (85°F). No deration required up to 2 438 m (8,000 ft)

Cummins® K 2000 E (Tier 1)

Number of cylinders	16
Gross power (DIN/ISO 3046)	1491 kW (2,000 hp)
Net flywheel power*	1380 kW (1,850 hp)
Weight (wet)	5293 kg (11,670 lb)

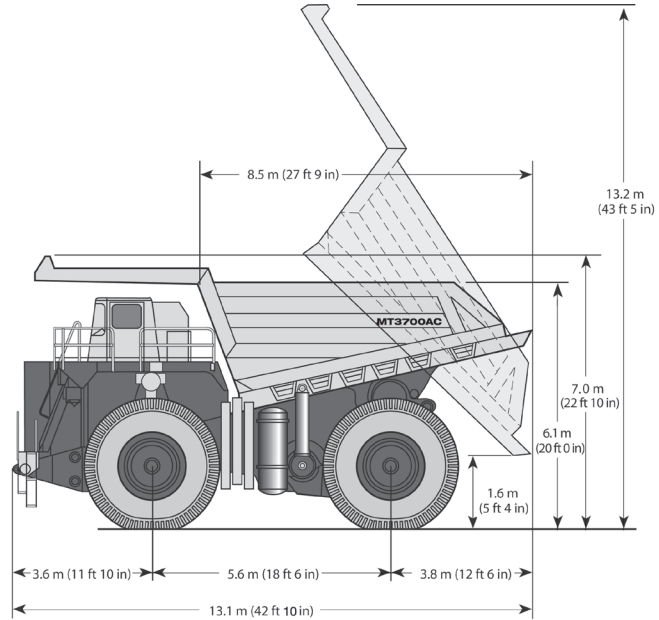
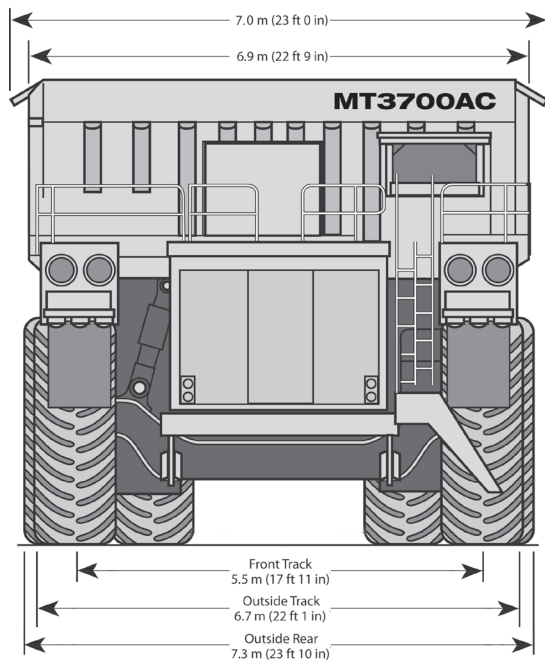
Electric Drive System

Alternator	5GTA 41 GE
Control	IGBT
Traction motor	5GE B25D
Gear ratio	31.8:1
Speed (maximum)	64 km/h (40 mph)

NOTE: Drive system application depends on gross vehicle weight, haul road grade and length, rolling resistance, engine hp and other parameters. Each application must be analyzed to ensure optimum truck specifications.



Electric Drive Truck—MT3700



General Data:

Payload	186 tonnes (205 ton)
Rated Output	1491-1864 kW (2,000-2,500 hp)
Loaded Vehicle Weight	335 658 kg (740,000 lb)
Max Speed	64 km/h (40 mph)

Features

The MT3700's drive system utilizes a wide range of horsepower, while significantly reducing friction brake wear and lowering maintenance costs.

- Transitioning from full propel to 90% retard can be done in less than two seconds
- Improved dynamic retarding controls truck speed down to less than one mile (1.6 km) per hour without braking.
- Excellent service availability is ensured even under the most severe haul conditions.

Tires

Rock type tubeless	40.00 R57
Rim size	29.00 x 57
Same tire rim fits all positions.	
Option	46/90R57

Cab

The integral ROPS/FOPS cab accommodates two full-size seats. Features deluxe interior, tinted safety glass, curved windshield for added field of view, tilt and telescopic steering wheel, heater and defroster, pressurized and filtered intake air for driver comfort. ROPS meets SAE J1040 MAY94 criteria. The high-productivity cab, correctly maintained and assembled, provides a sound exposure L_{eq} (equivalent sound level) of less than 82 dB (A) when tested per ANSI/SAE J1166 MAY90 with doors and windows closed. Meets both U.S. OSHA and MSHA occupational noise criteria for operator-weighted sound-exposure level. Two 1-inch steel plates protect the operator in the event of a tire blow out.

Frame

- Completely computer-aided design utilizing special alloy steel, double box-section construction.
- Center crossmember incorporates wrap-around spherical axle box nose cone connection.
- Continuous frame rail beams with deep section in critical area, along with ROPS supports for rugged, dependable service.

Loaded Ground Clearance

Front axle loaded	762 mm (30 in)
Rear axle loaded	660 mm (26 in)

Superstructure

Rugged one-piece I-beam construction featuring a closed bottom to protect critical components from road damage, and top access to engine, piping and electrical wiring for easy maintenance access. Deck components located to optimize driver's field of view.

Dump Body

Horizontal bolster deep vee design with flat floor and a 45° dumping angle. Standard rock body incorporates 19 mm (0.75 in) bottom plate with 10 mm (0.375 in) sides and 13 mm (0.5 in) front plate. Dump body heating available as an option.

Struck (SAE)	93 m ³ (121 yd ³) (205 ton)
Heaped (SAE 2:1)	123 m ³ (161 yd ³) (205 ton)

Optional bodies available based on material density and payload rating. Liner and tailgate accessories also available.



Electric Drive Truck—MT3700

Braking System

Front brakes	1118 mm (44 in) single disc, 3 calipers wheel speed disc
Rear brakes	635 mm (25 in) dual disc, 1 caliper/disc
Parking brakes	Manual actuated by switch on instrument panel

Dynamic retarding max. power rating 2908 kW (3,900 hp)

- Hydraulic brake actuation system features: Fully modulated service brakes (foot-operated), fully modulated secondary brake (hand-operated), loading brake and spring-applied, hydraulically released parking brake. Hydraulic pressure is supplied by accumulators (3) charged by a pressure-compensated piston pump.
- Option: Service brakes automatically applied when accumulator pressure drops below 9653 kPa (1,400 psi).
- Braking system meets the requirements of SAE/ISO 3450.
- Electric dynamic retarding with continuous-rated single blown and high-density grid elements.
- NOTE: Drive system application depends on Gross Vehicle Weight, haul road grade and length, rolling resistance, engine HP and other parameters. Each application must be analyzed to ensure optimum truck specifications.

Suspension

Maximum front stroke	356 mm (14 in)
Maximum rear stroke	273 mm (10.75 in)
Maximum rear axle oscillation	±10°

- Four nitrogen-over-oil cylindrical suspension struts provide maximum driver comfort and are interchangeable left to right, keeping inventory cost low. Upper and lower suspension attachment points to the frame are clevis-and-pin connected, providing rugged, reliable and easily maintained attachment points. Both axles incorporate a clevis-and-pin lateral stabilizing link to ensure true tire tracking and maximize truck performance.

Service Capacities

Cooling system	492 L (130 gal) - DDC 12 V 492 L (130 gal) - QSK 50
Hydraulic system*	890 L (235 gal)
Fuel tank	2877 L (760 gal) Optional - 3634 L (960 gal)
Engine oil	200 L (52.75 gal) - DDC 12 V 204 L (54 gal) - QSK 50
Wheel motor gear box each	40 L (10.5 gal)

*Filters not included in oil capacity.

Steering System

- Full-time, closed-center, load-sensing system operating two double-acting cylinders, supplied by accumulators that are replenished by a pressure-compensated piston pump
- Auxiliary steering powered by accumulator capacity and meets SAE J1511/ISO 5010
- Minimum turning radius (SAE): 13.6 m (44 ft 8 in)
- Turning circle diameter 27.2 m (89 ft 4 in).

Hydraulic System

Hoist: Manually operated pilot system controlling a hoist valve, operating two doubleacting telescoping two-stage cylinders. Hydraulic fluid is supplied by a single-section gear pump, delivering 829 lpm (219 gpm).

Power up loaded	22 seconds
Power down	14 seconds

- Remote dump quick-disconnects are standard with gauges for testing pressures in the hydraulic control cabinet.
- Filtration: High-pressure units with 6 micron (nominal) filtration and environmentally disposable elements. Hydraulic tank outlet contains a strainer with 100 mesh screening.
- Component box: Hydraulic gauges and quick-disconnect test points are standard.
- Hydraulic tank: The 662 l (175 gal) tank is pressurized to provide longer pump life.

Electrical System

24 Volt system powered by six (6) twelve (12) Volt batteries (3 series pairs in parallel). Battery isolation switch standard.

Alternator	24 Volt, 100 amp output
Lighting	24 Volt
Starter	24 Volt

Weight Distribution

Empty vehicle weight

Front axle	69 400 kg (153,000 lb)
Drive	80 286 kg (177,000 lb)
Total	149 686 kg (330,000 lb)

Loaded vehicle weight

Front axle	108 862 kg (240,000 lb)
Drive	226 796 kg (500,000 lb)
Total	335 658 kg (740,000 lb)

*Nominal GVW not to exceed 335 658 kg (740,000 lb) including options, fuel and payload.



Electric Drive Truck—MT3700

Standard Features and Options

Maintenance

- Lubrication automatic
- Fuel fast fill - Quick change
- Fuel water separator

Powertrain

- Engine prelube
- Radiator L & M (Mesabi)
- Engine shut down delay
- Brakes - front/rear dry disc
- Brakes - parking
- Brakes - electric dynamic retard
- Traction control system

Operator Environment

- Air Conditioning
- 12 Volt power port (2)
- Cup holder (1)
- Document holder compartment
- Radio/CD player, MP3 input with speakers
- Heater/defroster
- Gauges/indicators:
- Air cleaner service indicator
- Brake drag warning
- Autolube visual/audio alarm
- Coolant temperature gauge
- Voltmeter
- Fuel level
- Speedometer, odometer & hourmeter
- Tachometer
- Engine oil pressure gauge
- Check engine indicator
- Electric system fault indicator
- High hydraulic temperature
- Low blower pressure
- Low brake pressure
- Low hydraulic oil level
- Low steering pressure
- Stop engine
- Access light switch
- Hoist lever
- Horn
- Light dome/courtesy
- Engine start/stop switch
- Hand brake control
- Headlight/taillight switch
- High/low beam indicator and switch
- Load brake switch
- Park brake switch
- Turn indicator lights and lever
- Rearview mirrors (left and right)
- ROPS Cab, insulated/sound suppressed
- Seat - Full air suspension type
- Seatbelt - Retractable, 3-point seatbelt with shoulder harness
- Seat, training with 3-point seatbelt
- Steering wheel, padded, tilt and telescopic
- Sun visor, tinted glass
- Windshield wiper (intermittent) and washer
- Power windows

Guards

- Radiator fan guard
- Pump drive guard
- Alternator (24 Volt) belt guard
- Air conditioner compressor belt guard

Electrical

- Alternator 100 amp
- Ground level Electric isolator switch
- Ground level Engine shutdown switch
- Batteries - 8 (size 31) AGM
- Lights - 4 halogen headlights (high/low beam)
- Lights - Service group
- Lights - Access steps
- Lights - rear, dynamic braking, service brakes, back-up
- Solid conduit harness

Miscellaneous

- Muffler (without body heating)
- Access ladder
- Automatic auxiliary steering (accumulators)
- Auxiliary dumping connections
- Engine service ladder (left and right side)
- Rearview mirrors (left and right)
- Skid-resistant deck top
- Air cleaner rock shields
- Centralized terminal board locations
- Converter 24 Volt to 12 Volt, 25 amp capacity
- Dry air cleaners
- Front wheel fenders and mud guards
- Fuel tank sight gauge
- Hydraulic component box gauges
- Hydraulic test ports
- Rock ejectors
- Keylock master switch
- Super large bore tire inflation valves
- Weigh system

Safety

- Fire extinguisher (20 lb)
- Dump Body Lock-up cable
- Reverse alarm
- Deck hand rails
- Reverse hoist interlock

Options

- Truck Recording Information and Payload System (TRIPS): Enhance your truck's productivity and improve the return on your capital investment by continually monitoring your haul truck's performance parameters and payload.
- Central service group: Radiator fill
Engine oil evacuation
Engine oil fill
Hydraulic oil tank fill
Autolube reservoir fill
- Fire suppressant system
- Fuel heater (cold weather)
- Kim hotstart (cold weather)
- Brakes - release system for towing
- Body heater
- Body - extended canopy
- Body liners
- Alternator 220 amp
- Custom body configurations
- Jump start connector
- Battery charging connection J1283
- Lighting - Back up (additional)
- Fog lights
- Lights HID
- Lights - side profile marker
- Lights work rear
- Central service group
- Spare parts for first service
- Wheel chocks
- Access Steps (diagonal)
- Weigh system digital display
- Hub odometer
- Hydraulic filter restriction indicator
- Radiator level gauge
- Tailgate
- Mirrors, heated (left/right)
- Service brake auto apply

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at mining.cat.com/unit-rig/

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