



CAT[®] 789

MINING TRUCK

U.S. EPA Tier 4 Final / EU Stage V

FEATURES

Caterpillar's comprehensive design ownership creates a total hauling unit that delivers the best integration of high production, availability, and payload in combination with low operating cost and long life.

The Cat[®] 789 continues the tradition of Caterpillar's proven 789D Truck with high productivity and lowest in class cost per ton.

High Performance Engine: The proven Cat[®] 3516E engine meets U.S. EPA Tier 4 Final and EU Stage V emission standards and offers the perfect balance between power, robust design, and economy.

Enhanced Serviceability: Modular HVAC unit, modular radiator, optional Cat Health Equipment Insights, and improved and grouped service points improve maintenance and reduce downtime.

Safety: Integrated Cat Detect system, LED lighting, 600 mm (24 in) wide walkways, guarding of rotating components, and hydraulic brake system with enhanced traction control. Optional working at heights package and powered access stairway.

Advanced Productivity Electronic Control Transmission: The APECS transmission provides a smoother ride for the operator, less spillage on the haul road, and allows for faster acceleration.

Reliable Mechanical Drive System: The 789's powertrain delivers the fastest truck on steep grades, poor underfoot conditions, and on haul roads with high rolling resistance.

Robust Braking: The Cat oil-cooled, multiple-disc braking system on all four wheels provides exceptional, fade-resistant braking in all conditions.

Comfortable, Larger Cab: The ergonomically designed 34% larger cab, provides operator and trainer with improved comfort, visibility, and safety.

Truck Bodies: Four different Caterpillar designed and built bodies (Dual Slope, High Performance, MSDII, X Body) are available to provide optimal performance and reliability in any application.

TECHNICAL SPECIFICATIONS

Engine

Engine Model	Cat [®] 3516E	
Gross Power - SAE J1995:2014	1566 kW	2,100 hp
Net Power - SAE J1349:2011	1473 kW	1,975 hp
Rated Speed	1,650 rpm	
Emissions Rating	U.S. EPA Tier 4 Final / EU Stage V	
Bore	170 mm	6.7 in
Stroke	215 mm	8.5 in
Displacement	78.1 L	4,766 in ³

- Net Power advertised is the power available at the flywheel when the engine is equipped with air intake system, exhaust system, and alternator.

Weights – Approximate

Rated Gross Machine Weight (RGMW)	324 319 kg	715,001 lb
Chassis Weight (CW)	106 425 kg	234,627 lb
Body Weight (BW)	27 137 kg	59,827 lb
Nominal Rated Payload (NRP)	191 tonnes	211 tons

- Consult your tire manufacturer for maximum tire load
- Chassis weight with full fuel and fluids, standard & mandatory attachments, hoist, body mounting group, rims, and tires.

Weight Distributions – Approximate

Front Axle - Empty	50 %
Rear Axle - Empty	50 %
Front Axle - Loaded	33 %
Rear Axle - Loaded	67 %

- Weight distributions optimized with Cat body.



789 Mining Truck Specifications

Final Drives

Double reduction, planetary with full floating axles.

Differential Ratio	2.35:1
Planetary Ratio	10.83:1
Total Reduction Ratio	25.46:1

Transmission

Forward 1	12.6 km/h	7.8 mph
Forward 2	17.1 km/h	10.6 mph
Forward 3	23.1 km/h	14.4 mph
Forward 4	31.2 km/h	19.4 mph
Forward 5	42.3 km/h	26.3 mph
Forward 6	57.2 km/h	35.5 mph
Reverse	11.8 km/h	7.3 mph
Top Speed - Loaded	57.2 km/h	35.5 mph

Tires & Rims

37 R51 (standard)
40 R51 (optional)
29" x 57" Rims

- Quick Change Rims optional.
- Caterpillar recommends the customer evaluate all job conditions and consult tire manufacturer for proper tire selection and TKPH (TMPH) capabilities.

Braking System

Service Brakes: Four-Corner, Wet Disc, Oil Cooled, Hydraulically Actuated

Front Wet Disc Brake Surface Area	81 693 cm ²	12,662 in ²
Rear Wet Disc Brake Surface Area	134 590 cm ²	20,861 in ²
Standards (Service and Secondary)	ISO 3450:2011	

Parking Brake: Four-corner, Multi-disc, Spring applied, Hydraulically Released

Capacity – Dual Slope Body - 100% fill factor

Struck	77 m ³	101 yd ³
Heaped (SAE 2:1)	108 m ³	141 yd ³

- Consult your local Cat dealer for body recommendations.

Body Hoists

Twin, two-stage hydraulic cylinders with snubbing valve.

Pump Flow - High Idle	403 L/min	106.5 gal/min
Relief Valve Setting - Raise	18 950 kPa	2,749 psi
Body Raise Time - High Idle	14 sec	
Body Lower Time - Float	16 sec	

Suspension

Self-contained nitrogen/oil cylinders, pin-to-pin mounting, top & bottom double shear clevis attachments

Effective Cylinder Stroke - Front	104.65 mm	4.12 in
Effective Cylinder Stroke - Rear	93.22 mm	3.67 in
Rear Axle Oscillation	+/- 5 degrees	

Service Refill Capacities

Fuel Tank	2060 L	544 gal
Diesel Exhaust Fluid (DEF) Tank	233 L	62 gal
Cooling System	679 L	180 gal
Crankcase	291 L	77 gal
Front Wheels, Each	22 L	5.8 gal
Differentials & Final Drives	610 L	161 gal
Steering Tank	160 L	42 gal
Steering System (Includes Tank)	175 L	46 gal
Brake/Hoist Tank	640 L	169 gal
Brake/Hoist System (Includes Tank)	1315 L	347 gal
Torque Converter/Transmission System (Includes Sump)	209 L	55 gal

Cab

Air Conditioning (HFC - 134A refrigerant)	31,733 Btu/hr
Heater / Defroster	36,510 Btu/hr

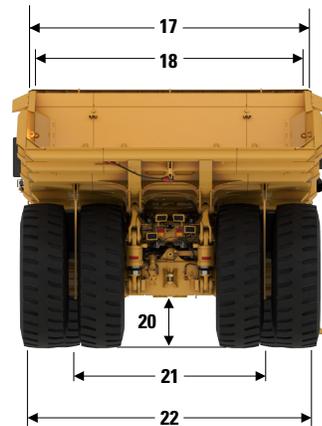
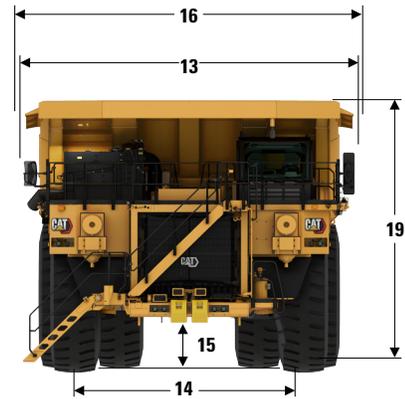
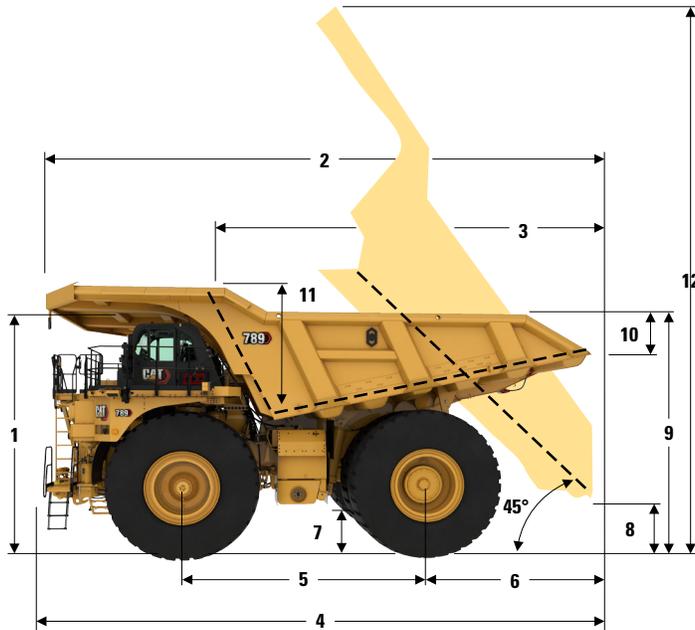
- The operator sound pressure level, 76 dB(A), complies with ISO 6394:2008 and ISO 6396:2008.
- ROPS (Rollover Protective Structure) meets ISO 3471:2008 for Operator and ISO 13459:2012 for Trainer.
- FOPS (Falling Objects Protective Structure) meets ISO 3449:2005 for Operator and ISO 13459:2012 Level II for Trainer.

Steering

Steer Angle	36.07 degrees	
Turning Diameter (ISO 7457:2009)	27.53 m	90.3 ft
Steering Standards	ISO 5010:2007	

789 Mining Truck Specifications

Dimensions



1 Height to Top of ROPS	5550 mm	18 ft 3 in
2 Overall Body Length	12810 mm	42 ft
3 Inside Body Length	8391 mm	27 ft 4 in
4 Overall Length	12650 mm	41 ft 6 in
5 Wheelbase	5700 mm	18 ft 8 in
6 Rear Axle to Tail	3585 mm	11 ft 9 in
7 Ground Clearance	1304 mm	4 ft 3 in
8 Dump Clearance	1450 mm	4 ft 9 in
9 Loading Height – Empty	5675 mm	18 ft 7 in
10 Rear Sidewall Height	974 mm	3 ft 2 in
11 Inside Body Depth – Maximum	2836 mm	9 ft 4 in
12 Overall Height – Body Raised	13435 mm	44 ft 1 in
13 Operating Width	7832 mm	25 ft 8 in
14 Centerline Front Tire Width	5410 mm	17 ft 9 in
15 Engine Guard Clearance	1290 mm	4 ft 3 in
16 Overall Canopy Width	7645 mm	25 ft 1 in
17 Outside Body Width	6865 mm	22 ft 6 in
18 Inside Body Width	6500 mm	21 ft 4 in
19 Front Canopy Height	6540 mm	21 ft 5 in
20 Rear Axle Clearance	1263 mm	4 ft 2 in
21 Centerline Rear Dual Tire Width	4695 mm	15 ft 5 in
22 Overall Tire Width	7120 mm	23 ft 4 in

789 Mining Truck Specifications

Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
ELECTRICAL			OPERATOR ENVIRONMENT		
24V electrical system, low maintenance batteries (2) 93 amp-hour	✓		12V auxiliary power connection	✓	
Alarm, backup	✓		Diagnostic connection port COM3 and Ethernet	✓	
Brushless alternator, 225 amp	✓		Delayed engine shutdown	✓	
Digital Payload Display		✓	Dome courtesy light and map lights	✓	
Ground accessible power control box:			Entertainment radio ready:		
• Ethernet VIMS™ port and VIMS lamp	✓		• Speakers	✓	
• Engine starter, transmission and battery lockouts	✓		• Antenna (AM/FM/WB/satellite radio)	✓	
Jump start/battery charge receptacle	✓		• Radio mounting provisions & 12V power supply	✓	
LED payload indicator lamps	✓		Fire suppression ready	✓	
LED Lighting system:			Gauges and indicators panel:		
• Back-up and hazard lights	✓		• Critical oil and coolant temperatures	✓	
• Curb lights, (one) RH side, (one) LH side	✓		• Fuel and DEF level	✓	
• Turn signals (front and rear)	✓		• Engine system, brake and transmission fault indicators	✓	
• Engine compartment lights	✓		• Speedometer, Tachometer	✓	
• Headlights with low-high beam selector	✓		Heated mirrors, right and left	✓	
• Ladder light and service deck lights	✓		Wide heated mirrors		✓
• Stop/tail lights	✓		Hoist, body control (electric)	✓	
• Additional lighting package		✓	Interactive touchscreen vehicle information display:		
• Auxiliary VIMS		✓	• Day/night mode	✓	
• Work lamps		✓	• Action alarm	✓	
TRUCK BODIES			• Quad gauge display	✓	
Dual slope Body		✓	Operator and trainer air suspension seats	✓	
High Performance (HP) body		✓	Power windows	✓	
MSDII body		✓	Provision for customer accessory mounting	✓	
X body		✓	Retractable front visor	✓	
Body specific side wall and tail extensions		✓	ROPS cab, insulated/sound suppressed	✓	
Customizable body liner packages		✓	Stairway & walkway access, 600 mm (24")	✓	
Body heat exhaust		✓	Steering wheel, tiltable, telescopic	✓	
Rock ejectors		✓	Self-filling to windshiled washer fluid from AC condensate	✓	
Rear body lighting package		✓	Storage locations for operator gear	✓	
FLUIDS			Windshield wiper, intermittent control	✓	
Extended Life Coolant to -35° C (-30° F)	✓		Unitized hydraulic powered HVAC with automatic temperature control	✓	
Antifreeze/coolant protects to -50° C (-58° F)		✓			

Standard and Optional Equipment *(continued)*

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

	Standard	Optional		Standard	Optional
POWER TRAIN			OTHER EQUIPMENT		
37R57 power train with standard rims	✓		Automatic lubrication system	✓	
Cat 3516E Tier 4 Final engine and aftertreatment:			Auxiliary "buddy" dumping quick connect	✓	
• Automatic engine and DEF thermal management (if applicable)	✓		Auxiliary steering quick connect (towing)	✓	
• Automatic low voltage idle management	✓		Auxiliary connection "user defined shutdown"	✓	
• Air cleaner with precleaner (two)	✓		Brake Wear Indicator		✓
• Turbocharging (four) with air-to-air aftercooler	✓		Cold Weather Starter		✓
• Mechanical Electronic Unit Injector (MEUI™-A) fuel system	✓		Hydraulic filters, 1,000 hours	✓	
• Automatic starter protection	✓		Hub Odometer, Kilometers		✓
• Automatic ether starting aid	✓		Guards for rotating components	✓	
• No air – electric starter with 93-amp hour batteries (four), electric horn and automatic lubrication system		✓	Fast fill fuel & DEF remote fill system	✓	
• Turbine air starter with air tank, air horn and automatic lubrication system		✓	Mudflaps	✓	
• Variable speed fan drive		✓	Powered access stairway		✓
Hydraulic braking system:			Secondary steering (automatic)	✓	
• Automatic retarder control (ARC), adjustable	✓		Tie off points	✓	
• Anti roll back strategy	✓		Tow hooks (front) and tow pin (rear)	✓	
• Brake release motor (towing)	✓		Vital Info Management System (VIMS)	✓	
• Engine over speed protection	✓		Rim diffuser		✓
• Extended life brake disc material	✓		Right Side Discharge Exhaust Piping		✓
• Oil-cooled, multi-disc (front and rear) – Service, retarding, parking, secondary	✓		Sight glasses for hydraulic oils	✓	
• Park brake integrated with gear selector	✓		S-O-S SM sample ports	✓	
Transmission:			Wheel chocks		✓
• Six-speed, automatic power shift with Electronic Clutch Pressure Control (ECPC)	✓		Working at Heights Handrail Arrangement		✓
• Advanced Productivity Electronic Control Strategy (APECS)	✓		Working at Heights Handhold Arrangement		✓
• Body-up reverse neutralizer	✓				
• Body-up shift inhibitor	✓		CAT TECHNOLOGY PRODUCTS		
• Downshift/reverse shift inhibitor	✓		Product Link™ Elite	✓	
• Directional shift management	✓		Minestar GPS		✓
• Enging Pre-lubrication system		✓			
• Enhanced Traction Control System (TCS)	✓				
• Programmable top gear	✓				
• Oil level sensor	✓				
• Neutral coast inhibitor	✓				
• Neutral start switch	✓				
• Lock-up torque converter	✓				
• Rear axle continuous lubrication/filtration	✓				
• Rear Axle Oil Cooler & Filter		✓			

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