



# Cat<sup>®</sup> 789

## Mining Truck

***With the lowest cost per ton in its size class and high reliability, the next generation 789 Mining Truck delivers industry-leading results. Featuring the most efficient power train available, more emission choices, and over 30 new features to boost performance and safety, 789 has never been easier to choose, own, operate, and maintain. Additionally, the exceptional support from the Cat<sup>®</sup> Dealer Network assures high uptime and a long-life cycle.***

### **Outperforms Competitive Models – Every Load and Every Cycle**

- Most power available in-class with a 200 hp advantage
- Payload capacity is 10% more than comparable trucks
- Speed on grade is over 5% faster than others

### **Move More With Less Fuel**

- The APECS transmission provides more continuous torque and rimpull to the ground, allowing for higher gear use on grade which delivers fuel economy and faster cycle times
- Larger tire options allow for more speed in long-haul applications
- Zero fuel burn during retarding
- Up to 9% less fuel consumption than the former 789 Tier 2 model

### **Productivity Boosting Cab**

- Quieter cab has 40% less sound pressure level
- Wider design with 34% more operator area and improved visibility
- Speed Coaching provides real time feedback to maximize productivity and efficiency
- Payload Monitoring System has double the accuracy of the previous version
- Improved operator controls deliver greater stability and machine responsiveness

### **Cutting-Edge Connectivity and Technology**

- 100 Mbps 2-wire ethernet connectivity and port with 250 channels (10 Mbps @ 1hz)
- More powerful controllers/ECMs
- Integrated technology
- Real time decision making
- Troubleshoot maintenance issues, predict, and prevent machine failures
- Current and future technology solution

### **Cat 3516E Engine Has More Power, More Efficiency and Lower Costs**

- Fuel optimized engine for less regulated countries or optional engine that is compliant to U.S. EPA Tier 4 Final and EU Stage V emissions standards
- Engines have selectable power ratings of 1417 kW (1,900 hp) or 1566 kW (2,100 hp)
- 12% more durable than previous 3516C, extending life and reducing costs

### **More Safety Built-In**

- Five-sided coverage in the ROPS/FOPS structure protects occupants
- Braking and retarding is immediate and fade-resistant
- Fatigue and distraction alerts are sent to the operator from the Driver Safety System
- Birds-eye visibility with Cat Vision 360

### **Gain an Edge With MineStar™ Solutions**

Whether you need a few semi-autonomous functions or full autonomy, the MineStar™ suite of products improves overall safety, efficiency, and productivity of your operation.

- Fleet Management
- Driver Safety System
- Equipment Care Advisor
- Health Office
- Object Detection
- Proximity Awareness
- Health Equipment Insights
- Command



# Cat® 789 Mining Truck

## Standard and Optional Equipment

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

|  | Standard | Optional |  | Standard | Optional |
|--|----------|----------|--|----------|----------|
| <b>ELECTRICAL</b>  |          |          | <b>OPERATOR ENVIRONMENT (continued)</b>                            |          |          |
| 24V electrical system, low maintenance batteries (two) 93 amp-hour | ✓        |          | Fire suppression ready   | ✓        |          |
| Alarm, backup  | ✓        |          | Floor mat, multi-piece and replaceable                             | ✓        |          |
| Auxiliary rear work lights, (one) LH side                          |          | ✓        | <b>Digital gauges and indicators panel:</b>                        |          |          |
| Brushless alternator, 225 amp                                      | ✓        |          | – Critical oil and coolant temperatures                            | ✓        |          |
| Digital payload display  |          | ✓        | – Fuel and Diesel Exhaust Fluid (DEF) level (if applicable)        | ✓        |          |
| LED payload indicator lamps  | ✓        |          | – Engine system, brake and transmission fault indicators           | ✓        |          |
| Workshop horn  |          | ✓        | – Speedometer, Tachometer  | ✓        |          |
| Jump start/battery charge receptacle                               | ✓        |          | Operator selectable max. machine speed by rotary dial              | ✓        |          |
| <b>Ground accessible power control box:</b>                        |          |          | Heated mirrors, right and left                                     | ✓        |          |
| – VIMST™ lamp  | ✓        |          | PRNDL shift lever and body hoist control                           | ✓        |          |
| – Engine starter, transmission and battery lockouts                | ✓        |          | <b>Interactive touchscreen vehicle information display:</b>        |          |          |
| <b>LED Lighting system:</b>  |          |          | – Day/night mode   | ✓        |          |
| – Back-up and hazard lights  | ✓        |          | – Action alarm   | ✓        |          |
| – Curb lights, (one) RH side, (one) LH side                        | ✓        |          | – Configurable gauge display                                       | ✓        |          |
| – Turn signals (front and rear)                                    | ✓        |          | Premium operator air suspension seat                               | ✓        |          |
| – Engine compartment lights  | ✓        |          | Operator door power window   | ✓        |          |
| – Headlights with low-high beam selector                           | ✓        |          | Provision for customer accessory mounting                          | ✓        |          |
| – Ladder light and service deck lights                             | ✓        |          | Push button secure start   | ✓        |          |
| – Stop/tail lights   | ✓        |          | Retractable front visor  | ✓        |          |
| – Additional lighting package                                      |          | ✓        | ROPS cab, insulated/sound suppressed                               | ✓        |          |
| – Body rear stop/tail lights and directional signal                |          | ✓        | Stairway and walkway access, 600 mm (24 in)                        | ✓        |          |
| – Seat and park brake  |          | ✓        | Steering wheel, tiltable, telescopic                               | ✓        |          |
| <b>TRUCK BODIES</b>  |          |          | Self-filling to windshield washer fluid from AC condensate         | ✓        |          |
| Dual Slope body  |          | ✓        | Storage locations for operator gear                                | ✓        |          |
| High Performance (HP) body   |          | ✓        | Three point seat belt for operator seat                            | ✓        |          |
| MSDII body   |          | ✓        | Windshield wiper, intermittent control/washer                      | ✓        |          |
| X body   |          | ✓        | Unitized hydraulic powered HVAC with automatic temperature control | ✓        |          |
| Body specific side wall and tail extensions                        |          | ✓        | <b>Deluxe Cab:</b>   |          |          |
| Customizable body liner packages                                   |          | ✓        | – Premium Plus, heated, cooled and ventilated operator seat        |          | ✓        |
| Body heat exhaust  |          | ✓        | – Premium air suspension companion seat                            |          | ✓        |
| Rock ejectors  |          | ✓        | – Advanced cabin air filtration system                             |          | ✓        |
| <b>FLUIDS</b>  |          |          | – Catwalk and handrails for rear cab access                        |          | ✓        |
| Extended life coolant to –35° C (–30° F)                           | ✓        |          | – Companion door power window                                      |          | ✓        |
| Antifreeze/coolant protects to –50° C (–58° F)                     |          | ✓        | – Storage tray   |          | ✓        |
| <b>OPERATOR ENVIRONMENT</b>  |          |          | <b>POWER TRAIN</b>   |          |          |
| 5V USB charging port   | ✓        |          | 37R57 Standard rims  | ✓        |          |
| 12V auxiliary power connection                                     | ✓        |          | 37R57 Quick change rims  |          | ✓        |
| Cup holders  | ✓        |          | 40R57 Standard rims  |          | ✓        |
| Ethernet service port  | ✓        |          | 40R57 Quick change rims  |          | ✓        |
| Delayed engine shutdown  | ✓        |          |  |          |          |
| Dome courtesy light and map lights                                 | ✓        |          |  |          |          |
| Emergency stop   | ✓        |          |  |          |          |
| Cruise control   |          | ✓        |  |          |          |
| Operator speed coaching  |          | ✓        |  |          |          |
| <b>Entertainment radio ready:</b>                                  |          |          |  |          |          |
| – Speakers   | ✓        |          |  |          |          |
| – Radio Antenna (AM/FM/XM/DAB)                                     |          | ✓        |  |          |          |
| – Radio mounting provisions and 12V power supply                   | ✓        |          |  |          |          |

(continued on next page)

**Not all features are available in all regions. Please check with your local Cat dealer for specific offering availability in your area.**

For additional information and additional regional offerings, refer to the Technical Specifications brochure available at [www.cat.com](http://www.cat.com) or your Cat dealer.

## Standard and Optional Equipment (continued)

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

|   | Standard | Optional |   | Standard | Optional |
|---|----------|----------|---|----------|----------|
| <b>POWER TRAIN (continued)</b>  |          |          | <b>OTHER EQUIPMENT (continued)</b>  |          |          |
| <b>Cat® 3516E Engine:</b>   |          |          | Body heat exhaust   |          |          |
| - Automatic engine and DEF thermal management (if applicable)   | ✓        |          | Bumper towing – center pin kit  |          | ✓        |
| - Automatic low voltage idle management   | ✓        |          | Cold weather start (block heater)   |          | ✓        |
| - Air cleaner with precleaner (two)   | ✓        |          | Communication arrangement – MineStar™ radio   |          | ✓        |
| - Turbocharging (four) with air-to-air aftercooler  | ✓        |          | Electronic Operation and Maintenance Manual in touchscreen                            | ✓        |          |
| - Mechanical Electronic Unit Injector (MEUI™-A) fuel system   | ✓        |          | Fast fill fuel and DEF remote fill system   | ✓        |          |
| - Electric starter (no air) with 93-amp hour batteries (four), electric horn and automatic lubrication system | ✓        |          | Fire extinguisher, portable   |          | ✓        |
| - Turbine air starter with 93-amp hour batteries (two), air tank, air horn and automatic lubrication system   |          | ✓        | Fuel heater, fuel water separator   |          | ✓        |
| - Variable speed fan drive  |          | ✓        | Fuel tank mud guard   |          | ✓        |
| - Engine pre-lubrication system   |          | ✓        | Gauge, brake wear indicator   |          | ✓        |
| <b>Hydraulic braking system:</b>  |          |          | Ground accessible fluid service center, hydraulic and coolant                         |          | ✓        |
| - Four channel independent wheel braking control  | ✓        |          | Guards for rotating components  | ✓        |          |
| - Anti Lock Braking (ABS)/Dynamic Stability Control (DSC)   |          | ✓        | Hub odometer, kilometers  |          | ✓        |
| - Automatic retarder control (ARC), adjustable and automatic  | ✓        |          | Hydraulic filters, 1,000 hours  | ✓        |          |
| - Brake release motor (towing)  | ✓        |          | Powered access stairway   |          | ✓        |
| - Engine over speed protection  | ✓        |          | Rim diffuser  |          | ✓        |
| - Extended life brake disc material   | ✓        |          | Secondary steering (automatic)  | ✓        |          |
| - Hill start assist/anti roll back strategy   | ✓        |          | Tie off points  | ✓        |          |
| - Oil-cooled, multi-disc (front and rear) – service, retarding, parking, secondary                            | ✓        |          | Tow hooks (front) and tow pin (rear)  | ✓        |          |
| - Park brake integrated with gear selector  | ✓        |          | Sight glasses for hydraulic oils  | ✓        |          |
| <b>Transmission:</b>  |          |          | S-O-S <sup>SM</sup> ports   | ✓        |          |
| - Six-speed, automatic power shift with Electronic Clutch Pressure Control (ECPC)                             | ✓        |          | Wheel chocks  |          | ✓        |
| - Advanced Productivity Electronic Control Strategy (APECS)   | ✓        |          | Wireless Electronic Technician (ET)   |          | ✓        |
| - Body-up reverse neutralizer   | ✓        |          | Working at heights protection   |          | ✓        |
| - Body-up shift inhibitor   | ✓        |          | Vital Information Management System (VIMS)  | ✓        |          |
| - Downshift/reverse shift inhibitor   | ✓        |          | Mudflaps  | ✓        |          |
| - Directional shift management  | ✓        |          | <b>CAT® TECHNOLOGY PRODUCTS</b>   |          |          |
| - Engine pre-lubrication system   |          | ✓        | 360 degree surround view  |          | ✓        |
| - Enhanced traction control system  | ✓        |          | Product Link™ Elite with cellular radio   | ✓        |          |
| - Programmable top speed  | ✓        |          | Product Link Elite with cellular and satellite radio                                  |          | ✓        |
| - Oil level sensor  | ✓        |          | Connectivity bundle (includes: wireless operator ID, Bluetooth® key FOB to start)     |          | ✓        |
| - Neutral coast inhibitor   | ✓        |          | Cyber security  | ✓        |          |
| Lock-up torque converter  | ✓        |          | Driver Safety System (DSS) 4.0 ready  |          | ✓        |
| Rear axle continuous lubrication/filtration   | ✓        |          | Integrated object detection system with touchscreen display                           | ✓        |          |
| Rear axle cooler  |          | ✓        | MineStar GPS  |          | ✓        |
| <b>OTHER EQUIPMENT</b>  |          |          | MineStar communication group (enables: MineStar Fleet, Aux)                           |          | ✓        |
| Automatic lubrication system  | ✓        |          | Oil Renewal System (ORS) (non-Tier 4)   |          | ✓        |
| Auxiliary “buddy” dumping quick connect   | ✓        |          | Productivity bundle (includes: AutoHoist, crusher mode, dump control, speed coaching) |          | ✓        |
| Auxiliary connection ‘user defined shutdown’  | ✓        |          | Road Analysis Control (RAC)   | ✓        |          |
| Auxiliary steering quick connect (towing)   | ✓        |          | Tire Payload Monitoring System 2 (TPMS 2)   | ✓        |          |
|   |          |          | Remote flash software and troubleshooting   | ✓        |          |

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# Cat® 789 Mining Truck

## 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  | Fuel Optimized |                       |
| Bore  | 170 mm         | 6.7 in                |
| Stroke  | 215 mm         | 8.5 in                |
| Displacement  | 78.1 L         | 4,766 in <sup>3</sup> |
| <ul style="list-style-type: none"> <li>Net Power advertised is the power available at the flywheel when the engine is equipped with air intake system, exhaust system, and alternator.</li> <li>Optional 1417 kW (1,900 hp) engine rating.</li> <li>U.S. EPA Tier 4 Final/EU Stage V optional engine available for applicable markets.</li> </ul> |                |                       |

| Weights – Approximate   |            |            |
|---|------------|------------|
| <b>Rated Gross Machine Weight (RGMW)</b>  |            |            |
| 37 R57 Tires  | 324 318 kg | 715,000 lb |
| 40 R57 and 42/90 R57 Tires  | 324 318 kg | 715,000 lb |
| <b>Chassis Weight (CW) (LRC)</b>  |            |            |
| 37 R57 Tires  | 103 657 kg | 228,525 lb |
| 40 R57 and 42/90 R57 Tires  | 106 847 kg | 235,557 lb |
| <b>Body Weight (BW) (HP Body)</b>   | 27 400 kg  | 60,406 lb  |
| <b>Nominal Rated Payload (NRP)</b>  |            |            |
| 37 R57 Tires  | 193 tonnes | 213 ton    |
| 40 R57 and 42/90 R57 Tires  | 190 tonnes | 210 ton    |
| <ul style="list-style-type: none"> <li>Consult your tire manufacturer for maximum tire load.</li> <li>Chassis weight with full fuel and fluids, standard and mandatory attachments, hoist, body mounting group, rims, and tires.</li> </ul> |            |            |

| Weight Distributions – Approximate  |     |
|---|-----|
| Front Axle – Empty  | 50% |
| Rear Axle – Empty   | 50% |
| Front Axle – Loaded   | 33% |
| Rear Axle – Loaded  | 67% |
| <ul style="list-style-type: none"> <li>Weight distributions optimized with Cat body.</li> </ul> |     |

| 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 and Rims  |  |
|---|--|
| 37 R57 (standard)   |  |
| 40 R57 (optional)   |  |
| 42/90 R57 (optional)  |  |
| 29" x 57" Rims  |  |
| <ul style="list-style-type: none"> <li>Quick Change Rims optional</li> <li>Caterpillar recommends the customer evaluate all job conditions and consult tire manufacturer for proper tire selection and TKPH (TMPH) capabilities.</li> </ul> |  |

| Braking System  |                         |                        |
|---|-------------------------|------------------------|
| <b>Service Brakes:</b> Four-Corner, Wet Disc, Oil Cooled, Hydraulically Actuated      |                         |                        |
| Front Wet Disc Brake Surface Area   | 81 693 cm <sup>2</sup>  | 12,662 in <sup>2</sup> |
| Rear Wet Disc Brake Surface Area  | 134 590 cm <sup>2</sup> | 20,861 in <sup>2</sup> |
| Standards (Service and Secondary)   | ISO 3450:2011           |                        |
| <b>Parking Brake:</b> Four-corner, Multi-disc, Spring applied, Hydraulically Released |                         |                        |

| Capacity – High Performance Body – 100% Fill Factor   |                    |                     |
|---|--------------------|---------------------|
| Struck  | 77 m <sup>3</sup>  | 101 yd <sup>3</sup> |
| Heaped (SAE 2:1)  | 143 m <sup>3</sup> | 187 yd <sup>3</sup> |
| <ul style="list-style-type: none"> <li>Consult your local Cat dealer for body recommendations.</li> </ul> |                    |                     |

| 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 and 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 Standard                                   | 2500 L | 550 gal   |
| Fuel Tank Large                                      | 4546 L | 1,000 gal |
| Fuel Tank for Tier 4/Stage V Truck                   | 2500 L | 55 gal    |
| 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 and 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    |

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AEXQ3506 (07-2022)  
Build Number: 08A  
(AME, AUZ, CIS, EU, India,  
Indonesia, LACD, NACD)

