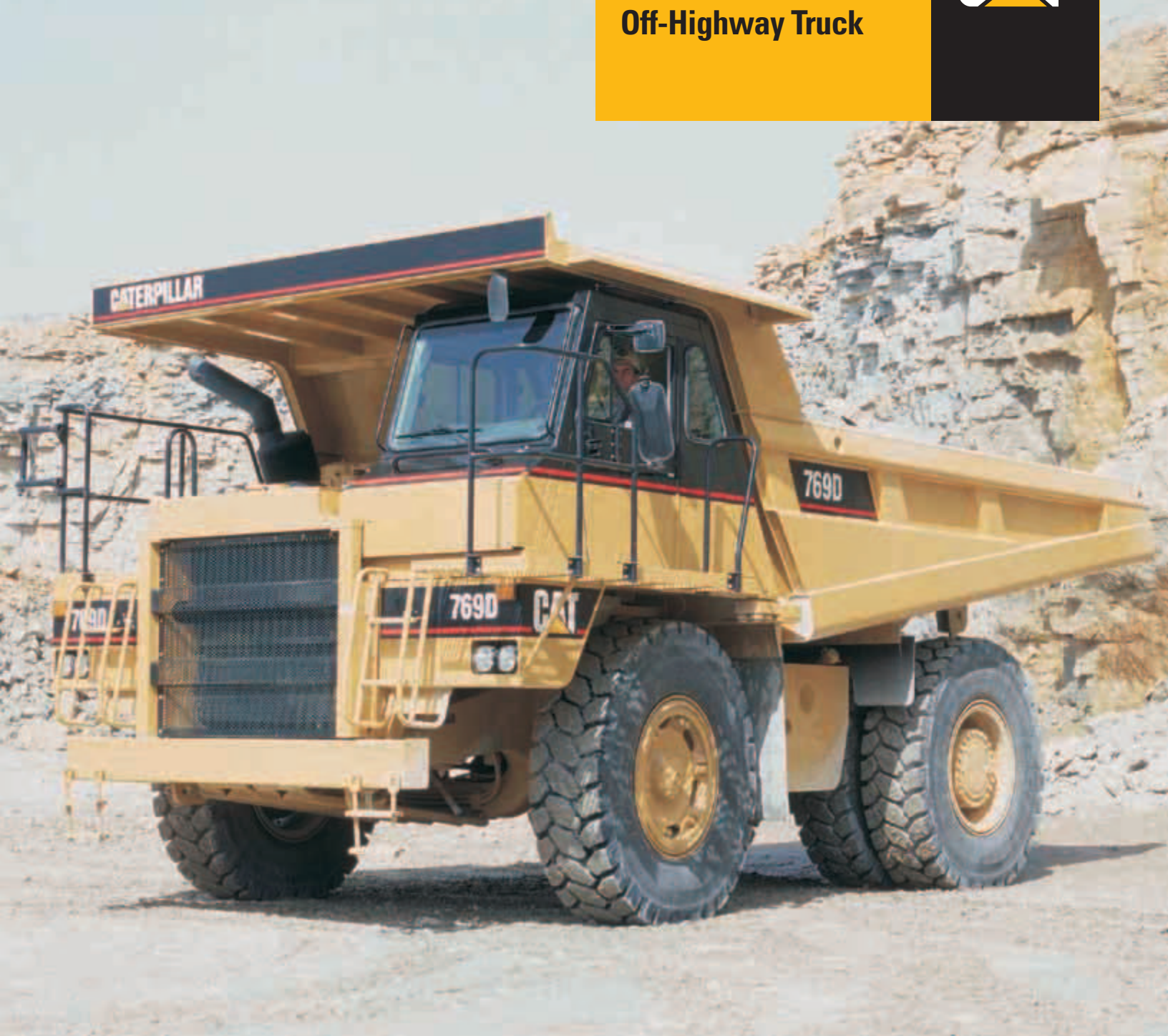


769D

Off-Highway Truck



Cat® 3408E Engine

Gross power 386 kW/518 hp

Flywheel power 363 kW/487 hp

Gross machine weight 71 400 kg

SAE 2:1 (capacity) 24.2 m³

Nominal Payload

Flat Floor 39.3 metric tons

Flat Floor with 16 mm liners 36.0 metric tons

769D Off-Highway Truck

Engineered for performance, designed for comfort and built to last.

Power Train – Engine

The power train features the Caterpillar® 3408E Diesel engine and Advanced Modular Cooling System for efficient operation. **pg. 4**

Power Train – Transmission

The Cat® 7-speed, power shift transmission, matched with the direct-injection 3408E diesel engine provides constant power over a wide range of operating speeds. **pg. 6**

Engine/Power Train Integration

The Caterpillar Data Link System electronically combines engine, transmission, brake and operational information to optimize overall truck performance. The Electronic Technician (ET) accesses stored diagnostic data, significantly reducing downtime. **pg. 7**

Body Options

The 769D offers a flat floor or dual-slope option to meet specific user applications. Both incorporate time-proven box beam and full-length stringer design for extended life. A full offering of attachments and customized options are available to meet specific needs. **pg. 11**

Operator Station

Controls and gauges are positioned to maximize productivity and comfort. The cab includes air suspension seat and advanced electronic monitoring system. Adjustable telescoping steering column, electric wipers, window and body controls reduce operator effort and simplify control. **pg. 12**

Time proven iron and modern technology combine to provide a highly productive, durable, reliable off-highway truck, focused on our customers greatest need... lowest cost-per-ton.



Oil-Cooled, Rear Disc Brakes

Caterpillar oil-cooled, multiple disc brakes offer exceptional, fade-resistant braking and retarding. **pg. 8**

Integrated Braking Control (IBC)

IBC integrates the optional Automatic Retarder Control and Traction Control System (TCS) into one system to enhance truck performance and productivity and improve operator confidence. **pg. 9**

Structures

Caterpillar truck frames are built for severe applications. Mild steel provides flexibility, durability and resistance to impact loads. Castings and forgings in high stress areas of the frame provide great structural strength. **pg. 10**

Serviceability/Total Customer Support

- ✓ Easy serviceability access, QuickEvac™ system, on- and off-board diagnostics, machine management service, worldwide parts availability and literature support represents the Caterpillar commitment to customer support. **pg. 14**

Systems/Applications

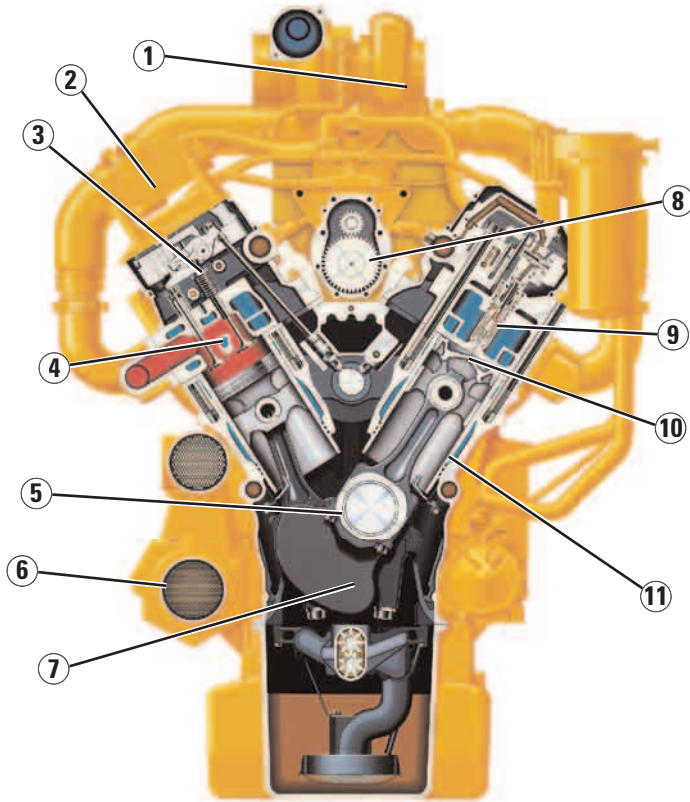
Numerous options and a system approach to match the 769D to the most appropriate loader meets customer needs for various applications. **pg. 16**



✓ *New feature*

Power Train – Engine

The eight cylinder, turbocharged and air-to-air aftercooled HEUI™ engine is built for power, reliability and economy with reduced sound levels and low emissions.



Engine.

- 1 Turbocharger
- 2 Electronic Control Module (ECM)
- 3 Valve Rotators
- 4 Stellite-Faced Valves
- 5 Steel-Backed, Copper-Bonded Bearings
- 6 Oil Cooler
- 7 Forged Crankshaft
- 8 Adjustment-Free Fuel Injection Pump
- 9 Hydraulic Electronic Unit Injectors
- 10 Forged Steel Pistons
- 11 Full-Length, Water-Cooled Cylinder Liners

Cat 3408E Diesel Engine. The four-stroke design uses long power strokes for more complete fuel combustion and optimum efficiency. Large displacement and a low speed rating can help extend engine life. This engine meets U.S. Environmental Protection Agency Tier II emissions regulations and Stage II EU Emissions Directive 97/68/EC.

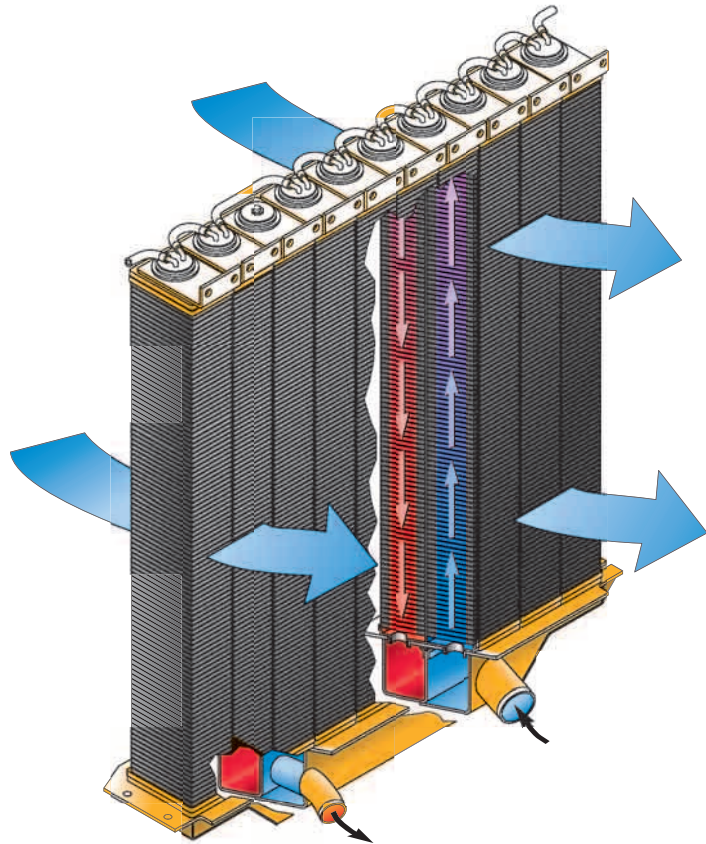
Torque Rise. The 27 percent torque rise provides high lugging force during acceleration on grade or in high rimpull conditions. The torque rise effectively matches the transmission shift points to provide maximum efficiency and faster cycle times.

Engine Features. Contributing to the 3408E power and reliability are:

- High pressure injection.
- Full electronic control
- One piece forged steel pistons with three rings cooled by oil spray.
- Copper-bonded crankshaft bearings
- Hardened crankshaft journals.
- Dry-type radial seal air cleaners with primary and secondary elements and precleaner.
- Direct-electric, 24-volt starting system with 50-amp alternator and four 172-amp-hour, low maintenance, high output, 12-volt batteries.

Hydraulic Electronic Unit Injector (HEUI™).

The HEUI is a proven high-pressure, direct injection fuel system. This system electronically monitors operator and machine inputs to optimize engine performance. HEUI is unique in its ability to independently control injection pressure over the entire engine operating range. This allows complete control over injection timing, duration, performance and efficiency. Rate shaping technology modifies the heat release characteristics of the combustion process for significant decreases in sound and emission levels. Exhaust smoke is significantly reduced through precise, electronic control of fueling limits and injection timing.



Electronic Control Module (ECM).

The ECM monitors key functions and logs critical indicators. The Electronic Technician can access this diagnostic information for easier maintenance and repair.

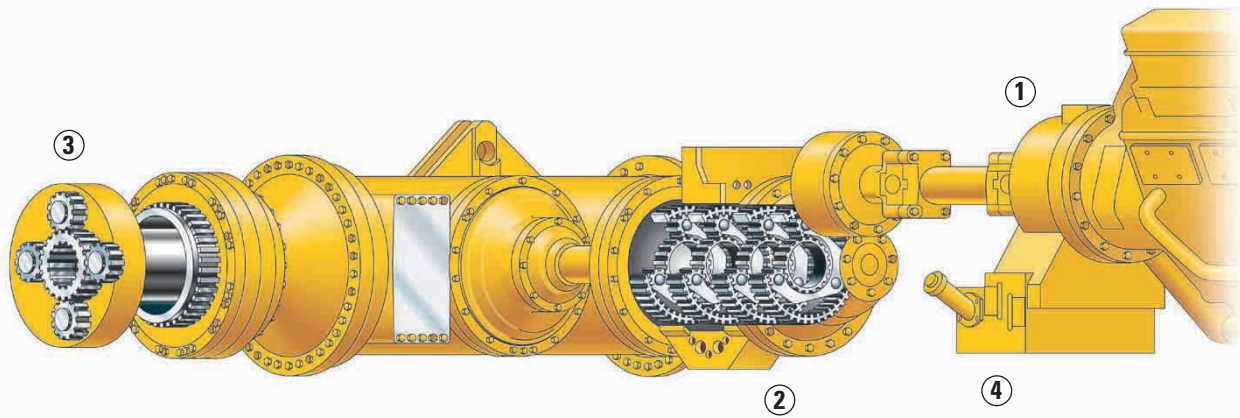
Advanced Modular Cooling System (AMOCS). Is a Caterpillar exclusive technology which improves serviceability and reduces downtime. It utilizes an exclusive two pass cooling system and increased cooling surface area to provide significantly more cooling capacity than conventional systems.

System Operation. The two pass system circulates coolant from the sectioned bottom tank up through one side of the cooling element and down through the other side returning it to the bottom tank.

AMOCS Design. The cooling elements are individual core modules, with brass tube construction within each core, that are connected to a sectioned bottom tank. There is no top tank to remove. Each core module can be replaced individually (without removing the entire radiator), saving considerable cost and repair time. And with nine steel fins per inch, fin bending resistance is improved.

Power Train – Transmission

The Cat 7-speed, power shift transmission gets the job done smoothly and quickly.



Transmission. The Cat 7-speed, power shift transmission, matched with the direct-injection 3408E diesel engine provides constant power over a wide range of operating speeds.

Transmission Features.

- 7 speeds forward, one reverse.
- Torque converter driven reverse.
- 1st gear has both torque converter drive and direct drive.
- 2nd through 7th gears are direct drive.
- Single-lever shift control provides automatic shifting in all gears up to the one selected by the control lever.
- Each shift is individually modulated for maximum smoothness.
- Separate hydraulic circuit with cooler.
- Electronic control has built-in diagnostics and fault code memory, event memory and programmable features.
- Control throttle shifting.
- Economy shift mode.

1 Lock-up Torque Converter. Combines the maximum rimpull and cushioned shifting of torque converter drive with the efficiency and performance of direct drive.

- Engages at approximately 6.9 km/h, delivering more power to the wheels.
- Lock-up clutch quickly releases and re-engages during shifts, maintaining power wind-up, improving transmission life and increasing operator comfort.

2 Planetary Power Shift Transmission.

Utilizes a modulating pressure valve to regulate clutch pressure rise and fall to ease clutch engagement. This reduces shock loads on power train components. Features include:

- Large diameter clutches and robust planetary gears and bearings.
- Patented rotating clutch pressure seals minimize drag losses and improve reliability.
- 35 percent gear splits between all gears match Cat engine design for optimum use of engine power with minimized shifting and torque converter use.

3 Final Drive. Final drive and differential torque multiplication of 13.15:1 further reduces stress on the drive train.

4 Sump. Transmission and torque converter share a common sump. The combined sump offers an easily accessible fill tube and sight gauges.

Axles. Full floating axles are shot-peened to relieve internal stresses and increase durability. Rolled splines also provide increased service life.

Wheels and Rims. Cast rear wheels and Cat center-mount rims are mounted using studs and nuts to minimize maintenance and maximize durability.

Transmission Chassis Controller

(TCC). TCC uses electronically transferred engine rpm data to execute shifts at preset points for optimum performance and efficiency. This integration allows:

- Programmable top gear limit.
- Control throttle shifting.
- Directional shift management.
- Neutral coast inhibitor.
- Economy shift mode.

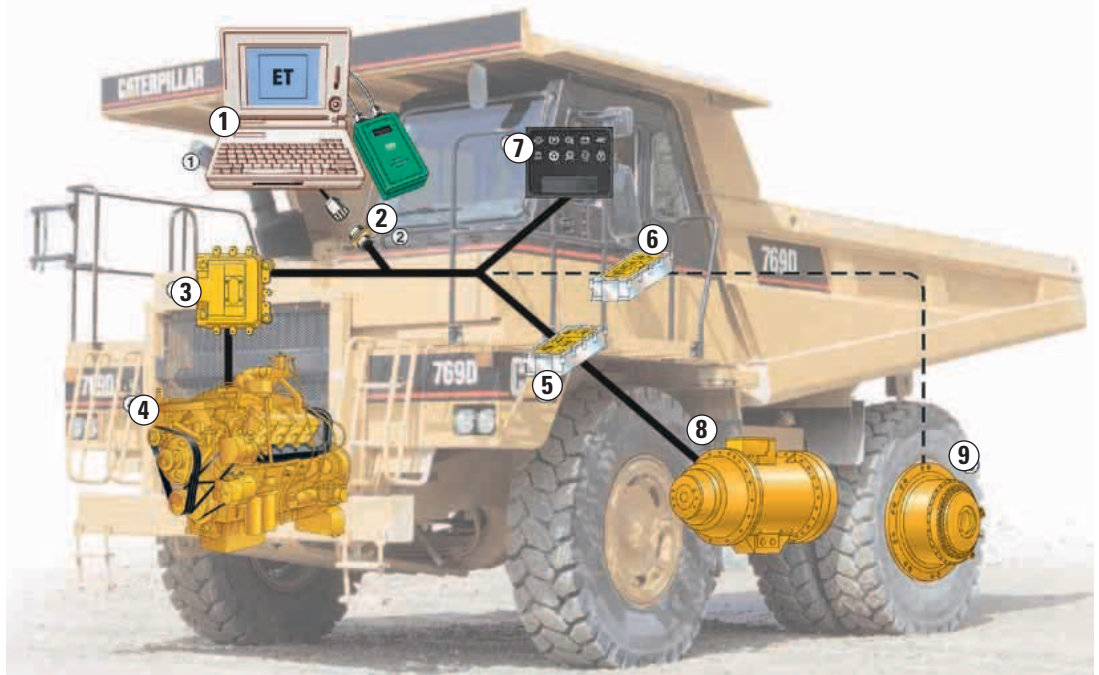
Integration. The Caterpillar power train integration provides increased component life and operator comfort.

Engine/Power Train Integration

Combining the electronic Engine Control Module (ECM) with the Caterpillar Transmission Chassis Controller (TCC) allows critical power train components to work more intelligently.

Integration.

- 1 Electronic Technician
- 2 Cat Data Link System
- 3 Engine Control Module
- 4 Engine
- 5 Transmission Chassis Control
- 6 Automatic Retarder Control, Traction Control System and Integrated Brake Controller
- 7 Caterpillar Electronic Monitoring System
- 8 Transmission
- 9 Oil-cooled Brakes



Cat Data Link. The Cat Data Link electronically integrates the machine's computer systems, which allows communications and provides the following benefits:

- **Controlled Throttle Shifting.** Engine rpm is regulated during a shift to reduce driveline stress for smoother shifts and longer component life.
- **Economy Shift Mode.** Modifies engine maps, resulting in improved fuel consumption.
- **Directional Shift Management.** Regulates engine speed during directional shifts to prevent damage caused by high speed directional changes.

Elevated Idle Neutral Coast Inhibitor.

Helps prevent the transmission from shifting to neutral at speeds above 6.5 km/h.

Body-up Shift Inhibitor. Helps prevent the transmission from shifting above a pre-programmed gear without the body fully lowered.

Event Memory. Records machine management data that can be accessed using the Electronic Technician. Recorded information includes:

- Shift histograms.
- Operator-induced events.
- Lock-up clutch counter.
- Machine overspeed.
- Transmission overspeed.

Electronic Technician (ET). The electronic engine and transmission controls provide exhaustive diagnostic capability for service technicians. The ability to store both active and intermittent indicators will simplify problem diagnosis and total repair time, resulting in improved mechanical availability and lower operating cost.

- ET accesses data stored in the engine and transmission controls via the Cat Data Link System.
- ET displays the status of all engine parameters including throttle position, timing and fuel flow.
- ET replaces 13 mechanical tools to perform functions like cylinder cutout checks, injector solenoid tests and timing calibration.

Caterpillar Electronic Monitoring System (CEMS).

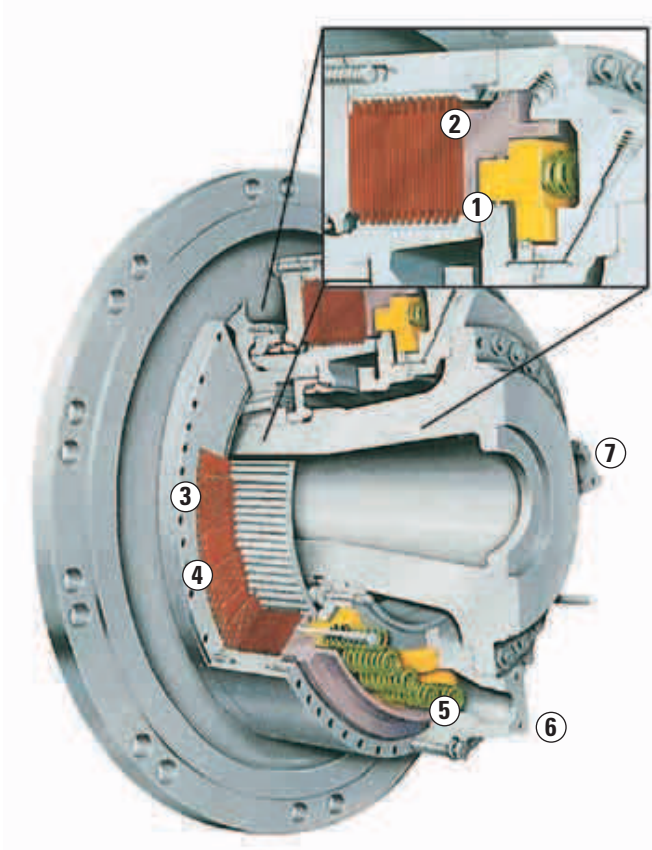
CEMS allows the operator to view requested information and utilizes a three-category warning system to alert the operator to abnormal machine conditions.

Optional Attachments. Caterpillar offers optional attachments that integrate with the Cat Data Link System.

- **Automatic Retarder Control (ARC).** Works with other electronic components to automatically control retarding on grade, maintaining approximately 2,230 rpm.
- **Traction Control System (TCS).** Improves performance in poor underfoot conditions by electronically monitoring and controlling wheel slippage.
- **Integrated Brake Controller (IBC).** Combines ARC and TCS, reducing the number of electronic components and electrical lines.

Oil-Cooled, Rear Disc Brakes

Rear braking lets the operator concentrate on the haul road.



Brakes.

- 1 Parking/Secondary Piston
- 2 Service/Retarding Piston
- 3 Friction Discs
- 4 Steel Plates
- 5 Actuating Springs
- 6 Cooling Oil In
- 7 Cooling Oil Out

Multiple Disc Brakes. Caterpillar forced oil-cooled, multiple disc brakes are continuously cooled for exceptional, fade-resistant braking and retarding. The optional ARC and TCS utilize the oil-cooled rear brakes to enhance truck performance and increase productivity.

Oil Cooled Disc Brakes. Are designed and built for reliable, adjustment-free operation providing superior performance and service life in comparison to shoe-type and dry-disc systems.

Oil Film. An oil film prevents direct contact between the discs. Absorbing the braking forces by shearing oil and carrying heat away, this design extends brake life.

Secondary Braking. Spring applied, hydraulically released, oil-cooled disc brakes are located on the rear axle. The front brakes will activate as part of the secondary system, even if switched out of service.

Parking Brakes. Spring applied, hydraulically released parking brakes use wet disc brakes in service system. A toggle switch activates the parking brakes.

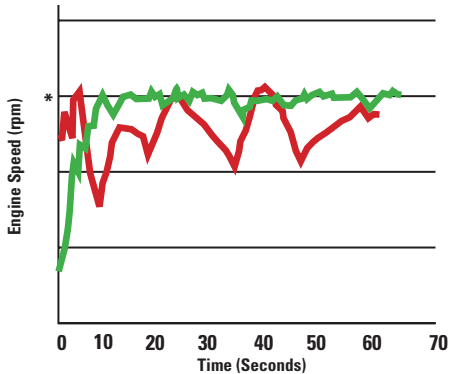
Pistons. A Caterpillar patented, two-piston design combines the service, secondary and parking brakes, along with retarding functions.

The primary piston hydraulically actuates both service and retarding functions. The secondary piston is spring-applied and held in the disengaged position by hydraulic pressure. If hydraulic system pressure drops below a certain level, the spring-applied secondary piston automatically applies the brakes.

Integrated Braking Control (IBC)

Electronically combines Automatic Retarding Control (ARC) and the Traction Control System (TCS) into one integrated control system.

ARC Operating Efficiency Advantages



Automatic Retarder Control
(Maintains Engine rpm between 2160-2300)

Manual Retarder Control
(Wide Variation in Engine rpm)

* Optimum Engine rpm

Cat Retarding System. When retarding, the engine runs against compression on downhill hauls, resulting in no fuel burn. Retarding forces and heat are absorbed through the oil. The retarding system generates lower drive line stresses than drive line retarding systems.

Automatic Retarder Control (Optional).

The ARC electronically controls braking on grade to maintain approximately 2230 engine rpm (engine rpm is adjustable from 2160-2300 rpm in increments of 10 rpm). ARC is deactivated when the operator applies the brakes or throttle.

Engine Overspeed Protection. With the accelerator depressed and/or ARC turned off, ARC will automatically activate at 2475 rpm to help avoid potentially destructive and often costly engine overspeeds.

ARC Benefits.

- Increased operating efficiency with faster downhill speeds. By maintaining consistently higher engine speeds, average truck speed will be higher than a manually controlled truck.
- Excellent controllability and reduced operator effort. Automatic brake modulation provides a smoother ride over manual modulation, allowing the operator to focus more on truck operation down the haul road.
- Improved component life, optimized system cooling capability and reduced torque fluctuations result from ARC's precision.
- Faster troubleshooting and diagnosis with self-diagnostic capability and the ability to communicate with ET through the Cat Data Link System.
- Operator awareness through electronic integration and CEMS, alerting the operator to overspeed conditions and critical machine functions.

Traction Control System (Optional).

Monitors wheel slip so if it exceeds the set limit, the oil-cooled disc brakes are automatically applied to slow the spinning wheel.

Operator Awareness. An on-dash indicator shows the operator that TCS is engaged.

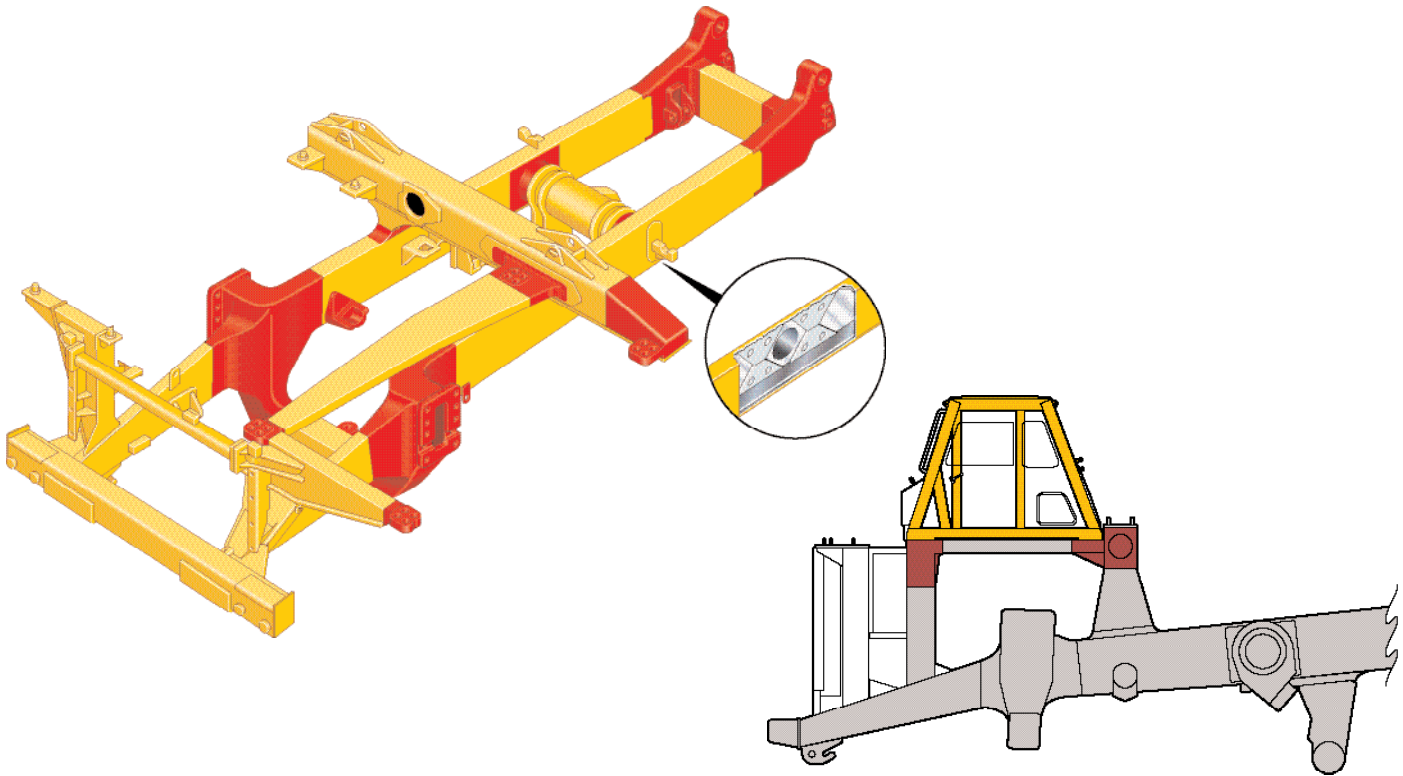
Differential Action. Utilizes normal differential action to provide superior maneuvering in poor underfoot conditions. Also reduces tire scuffing as compared to positive lock differentials used on other systems.

Torque. TCS divides torque equally to reduce stress created on final drives and axles when torque is transferred to one side.

System Back-up. Should sensors fail, the normal differential action is still available to maintain control and steering.

Structures

The backbone of the Cat off-highway truck.



Box-Section Design. The 769D frame uses a box section design, incorporating 17 castings in high stress areas with deep penetrating and continuous wrap-around welding. Mild steel, which provides flexibility, durability and resistance to impact loads even in cold climates is used throughout.

Castings. Castings have large radii with internal reinforcing ribs to dissipate stress. Castings move welds to lower stress areas and provide two to three times the strength of equivalent sized fabricated structures.

Frame Features. Include:

- Integral front bumper.
- Front box beams for suspension cylinder and ROPS support.
- Box-section rear crossmember for body and ROPS support with attachment points for maintenance platform and rear engine hood hinge support.
- Castings are used to provide additional strength in critical stress areas.
- Mild steel plates (290 MPa minimum yield strength) and castings (241 MPa minimum yield strength) provide flexibility, durability and easy field maintenance.

Frame Serviceability. The box-section frame allows simple access to power train components. This open design reduces overall removal and installation time, lowering repair costs. Transmission access is excellent under the raised and pinned body. Repairs can be made without preheating in ambient temperatures 16°C using readily available welding supplies.

Rollover Protection Structure (ROPS).

The ROPS attaches securely to four castings welded into the frame.

Suspension System. Designed to dissipate haul road and loading impacts for extended frame life. Four, independent, self-contained, oil pneumatic, variable-rebound, suspension cylinders absorb shocks. Rear cylinders allow axle oscillation and absorb the bending and twisting stresses. Front cylinders, mounted to the frame, serve as steering kingpins, providing excellent maneuverability and reduced maintenance. Caster and camber are preset.

Body Options

Caterpillar builds a variety of rugged, durable bodies to perform in the toughest applications.



Design. 769D bodies are designed to handle a variety of material densities. Maximum payload is reached in three to five passes from a matched Cat loader in 1700 kg/m³ material and higher.

Sidewall and Floor Junctions.

Are joined by five-sided beams to resist impact loading and sustained hauling stresses.

Box-Section Beams. Offer increased durability in the floor, sidewalls, top rail, corner and cab canopy areas.

400 Brinell Steel. Wear surfaces provide excellent wear resistance and are easily welded without preheating procedures.

Two-Stage Hoist Cylinders. Provide fast dump cycle times of 7.5 seconds for Raise and 8.3 seconds for Lower.

Standard Body. Comes exhaust heated with options including a full-time muffler or exhaust diverter.

Custom Attachments. Including tail extensions, liner packages, sideboards and other custom designs are offered to help ensure rated payload.

1 Dual-Slope Body. Offers the lowest cost-per-ton option in most construction and mining applications.

Dual-Slope Body Performance. Efficient under most haul road conditions, but its strength comes from higher levels of production in sites with rough haul roads and steeper grades.

Body Floor Construction. Uses an eight degree “V” bottom for increased load retention, a low center of gravity and reduced shock loading. It also aids in centering the load.

18 Degree Ducktail and 9 Degree Forward Body Slope. Retains the load on grades up to 15 percent and higher. This design also helps maintain proper load distribution.

2 Flat Floor Construction and Mining Body. Offers excellent load retention on grades up to 12 percent and on smoother haul road conditions.

Body Floor Construction. Uses a 12 degree single slope, offering excellent wear characteristics and uniform dumping into hoppers, crushers and feeders.

Operator Station

Control ease and comfort maximizes productivity.



769D Operator Station. Rated highly by operators. Everything needed for top performance is at the operator's fingertips.

1 Wraparound Dash Panel. Offers an easy line-of-sight arrangement, using LED backlit rocker switches.

2 Caterpillar Contour Series Air Suspension Seat. Standard and fully adjustable, including an adjustable right-hand armrest.

3 Tilt/Telescoping Steering Wheel. With ergonomic grip improves comfort and control. Low effort steering system and ergonomically designed retarder lever reduces operator fatigue. Also includes an enhanced turn signal lever with high beam actuator and electric windshield wiper controls.

4 Transmission Console. Has LED backlit gear numbers and ergonomic shift knob.



14 Electrohydraulic Hoist Lever. Is fingertip actuated and provides low impact body-down snubbing.

5 Visibility. Exceptional all-around viewing area reduces fatigue and improves productivity.

6 Integral, Sound-Suppressed ROPS/FOPS Cab. Is resiliently mounted providing a quiet, protected work environment.

Radio-Ready. The cab is radio-ready with speakers, wiring harness, antenna and mounting bracket.

7 Front Brake Cut-Out Switch. Increases front brake component life.

8 Large Storage Compartment. 0.10 m³ of space is located under the trainer's seat.

9 Trainer's Seat. Includes back rest and retractable seat belt.

10 Caterpillar Electronic Monitoring System (CEMS). Provides critical data. The system features three separate displays:

- Four-gauge cluster with coolant temperature, oil temperature, brake air pressure, fuel level.
- Tachometer, digital speedometer/actual gear indicator.
- Message center module.

11 Standard Heater and Optional Air Conditioner. Includes four-speed fan and nine vents.

12 Foot Pedals. Ergonomically designed for increased operator comfort.

13 Electric Power Window. For simplified operation.



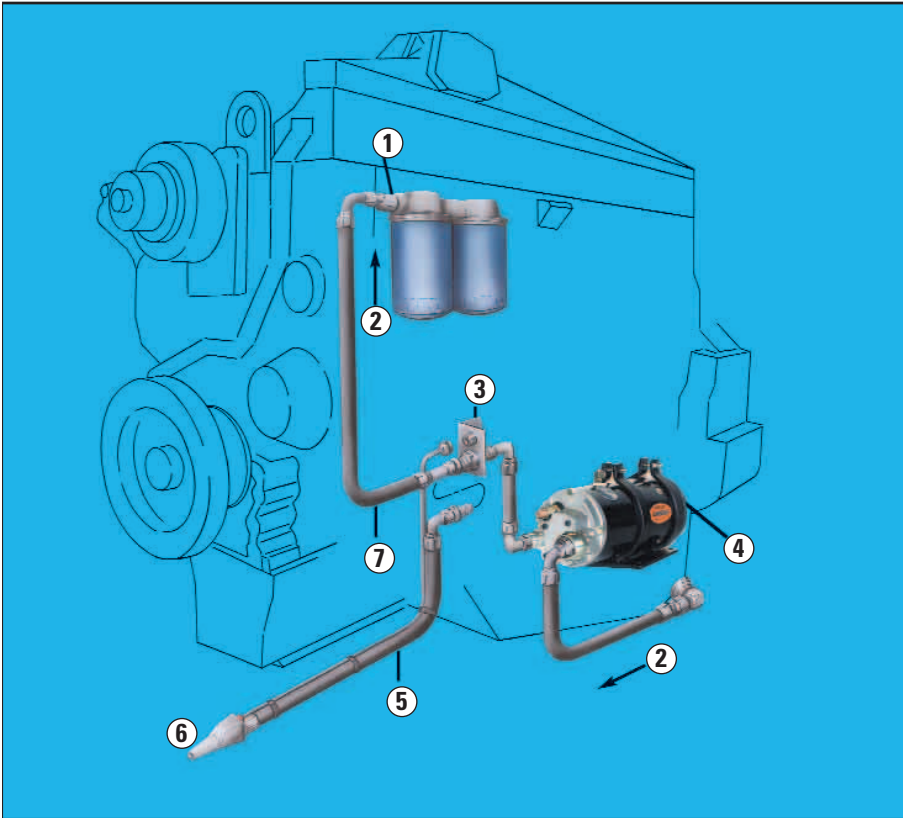
15 Truck Production Management System (TPMS) (Optional).

Provides payload and cycle time data.

- Cat developed technology utilizes strut pressure sensors and an on-board microprocessor to determine payload weight.
- Accurate under normal loading to within \pm five percent over a normal operating shift.
- Delivers consistent accurate payloads and improves efficiency by minimizing overloading and underloading.
 - On-board computer stores 1400 cycles for further analysis of payload weight, cycle segment times, cycle segment distances and actual clock time and date of each cycle.
 - External lights signal loading tool operator when payload is reached.
 - Internal troubleshooting and fault recording for easier maintenance.

Serviceability/Total Customer Support

Purchase of a Caterpillar machine includes a total commitment to customer support.



- 1 QuickEvac Check Valve
- 2 Oil Flow
- 3 QuickEvac Bracket
- 4 QuickEvac/Prelube motor
- 5 QuickEvac Service Tool Assembly (available separately)
- 6 To Waste Oil Drain
- 7 Line to Oil Filter

Cat QuickEvac™ System.

An exclusive Caterpillar on-board engine oil evacuation and prelubrication system.

Automated Engine Oil Change.

A new, state of the art on-board system evacuates engine sump in less than one minute and allows for purge of oil filters prior to removal, minimizing oil spills. It delivers new oil through primary filters for filtered protection and ensures new filters are correctly filled following routine oil change.

Contamination Control.

Environmentally efficient, clean oil changes are ensured since engine sump is evacuated directly into PM trucks or waste containers with flush faced, quick disconnects for fast evacuation and fill. This eliminates handling of waste oil, minimizes chances of oil spillage and enhances Contamination Control efforts by ensuring complete filtration of new oil on engine refill.

Complete Engine Prelubrication.

Provides engine oil pressure prior to engine cranking. Reduces engine dry start wear and risk of cold starts for increased protection of key engine components. Also provides expanded low temperature range for 15W40 motor oils.

Improved Serviceability and Machine Availability.

Reduces time to complete engine service (changing engine oil, oil filters, fuel filter, air cleaner) by as much as 30 to 50 percent. Improves the ability to schedule engine services at prescribed hours, allows for servicing during normal working hours and integrates easily with PM trucks to further reduce total cycle time of engine service.

Machine Platform. Provides access to air tanks, brake master cylinder and make-up tank; engine oil level; air filters; steering hydraulic tank; and battery compartment.



Ground Level Battery Disconnect Switch. Facilitates safe, convenient servicing and maintenance.

On-Board Diagnostics. With CEMS, provides the machine operator with a three-category warning system and quick access to stored diagnostic data.

Off-Board Diagnostics. With ET, allows service technicians access to stored diagnostics data reducing downtime and lowering operating costs. ET stores engine parameter information such as timing, throttle position and fuel flow. Transmission data is available through ET via access to the Cat Data Link System.



Radial Seal Filters. Are easy to change, reducing air filter maintenance times.

Vertical, Spin-on Oil Filters. Provide for simplified servicing.

Quick Coupler Pressure Taps. Located in all hydraulic systems provide clear, quick pressure checks. S•O•SSM oil analysis points make oil sampling quick, clean and easy.

Sealed Electrical Connectors. Lockout dust and moisture. Color-coded wiring is standard for the entire Cat product line.

Machine Management Service.

Cat Dealers help manage equipment investments with:

- Vehicle systems analysis to help match the right machine to the job.
- Preventative maintenance programs.
- S•O•S oil analysis and technical analysis programs.
- Repair option analysis.
- Training for operators and mechanics.
- TPMS data analysis.

Parts Availability. The Caterpillar worldwide computer network locates parts instantly to minimize machine downtime.

Literature Support. Caterpillar manuals are easy to use and help provide the full value of an equipment investment.

Systems/Applications

The 769D is designed for versatility.



Machine Configuration Options.

Caterpillar offers a variety of machine configuration options to help meet customer needs.

Body Options. Include a full line of standard and custom designs based on specific customer preference, material density, loading tool and site conditions.

Tire Options. A full line of tire options, representing various manufacturers, is offered by Caterpillar to maximize performance and life for specific applications.

Attachments. Give the customer options to tailor trucks for specific application requirements, including:

- Truck Production Management System.
- Automatic Retarder Control.
- Traction Control System.
- Custom product offerings.
- Muffler/exhaust diverter.

System Approach. The Caterpillar system approach means increased efficiencies through common design. Haul trucks, loaders, excavators, tractors, engines for generator sets and pumps – all designed by Caterpillar – use common components, parts and design. Commonality reduces customer parts stock, improves parts availability, reduces training/maintenance and improves diagnostics. This system approach adds up to lower cost-per-ton. Dealer support is available to address customer needs regardless of the component.

Caterpillar Product Analysis Team

(PAT). Combined with Caterpillar software programs can assist customers with detailed, application evaluation.

Loader Match. Designed to work as part of a system, the 769D is best matched to the following Caterpillar loaders:

- 980G – 4 to 5 pass/match.
- 988G – 3 to 4 pass/match.
- 5080/5090B – 4 to 5 pass/match.
- 375/385B ME – 4 to 5 pass/match.

Engine

Cat 3408E

Gross Power	386 kW/518 hp
Flywheel Power	363 kW/487 hp
Net Power	
ISO 9249	363 kW/487 hp
EEC 80/1269	363 kW/487 hp
Max. Torque	2194 Nm
Torque rise	27%
Bore	137 mm
Stroke	152 mm
Displacement	18 Liters

- These ratings apply at 2000 rpm when tested under the specified standard conditions for the specified standard.
- Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler and alternator.
- No derating required up to 3050 m altitude.
- Complies with U.S. Environmental Protection Agency Tier II emissions regulations.
- Complies with Stage II EU Emissions Directive 97/68/EC.

Service Refill Capacities

	Liters
Fuel Tank	530
Cooling System	113.5
Crankcase	45
Differentials and final drives	83
Steering	
Tank	34
System (includes tank)	56
Brake/Hoist	
Hydraulic tank	155
System (includes tank)	277
Torque converter/transmission	
Sump	53
System (includes sump)	72

Brakes

Brake surface	
front	1395 cm ²
rear	54 999 cm ²

- Brakes meet ISO 3450:1996 standards up to 71 400 kg gross operating weight.
- Retarding system continuous rating 433 kW intermittent rating 895 kW.

Final Drives

Planetary, full-floating.

Ratio	
Differential	2.74:1
Planetary	4.80:1
Total reduction	13.15:1

Transmission

Maximum travel speeds (standard 18.00-R33).

Forward	km/h
1	12.6
2	17.2
3	23.3
4	31.4
5	42.5
6	57.3
7	77.7
Reverse	16.6

Body Hoists

Pump flow	
high idle	417 L/min
Relief valve setting	
raise	17 225 kPa
lower	3445 kPa

Body raise time	
high idle	7.5 Seconds
Body lower time float	8.3 Seconds
Body power down	
high idle	8.3 Seconds

- Twin, two-stage, hydraulic cylinders mounted inside the main frame, double acting in second stage.
- Power raise in both stages and power down in second stage.

Suspension

Effective cylinder stroke	
front	234 mm
rear	149 mm
Rear axle oscillation	±8.5°

Steering

Meets ISO 5010-1992

- Turning diameter per ISO 7457-1997 is 17 m.
- Machine clearance diameter per ISO 7457-1997 (E) is 20.3 m.
- Steering angle (left or right) is 39 degrees.
- Separate hydraulic system prevents cross contamination.
- Steering wheel effort is low and cycle times are reduced with dynamic, load sensing, variable displacement piston-type steering pump.

Flat Floor

Approximate Weights. Percentages represent weight distribution without liner.

Gross vehicle	71 400 kg
Chassis	23 000 kg
Body	7800 kg
Standard liner	3300 kg
Front axle	
empty	49.7%
loaded	33.3%
Rear axle	
empty	50.3%
loaded	66.7%

Capacity – 100% fill factor

Struck	16.5 m ³
Heaped 3:1	21.6 m ³
Heaped 2:1 (SAE)	24.2 m ³
Heaped 1:1	31.7 m ³

Body Liners

Floor	16 mm
Side	8 mm
Front	8 mm

Dual-slope

Approximate Weights.

Gross vehicle	71 400 kg
Chassis	23 000 kg
Body	7300 kg
Standard liner	3200 kg
Front axle	
empty	49.8%
loaded	33.3%
Rear axle	
empty	50.2%
loaded	66.7%

Capacity – 100% fill factor

Struck	17 m ³
Heaped 3:1	21.7 m ³
Heaped 2:1 (SAE)	24.2 m ³
Heaped 1:1	31 m ³

Body Liners

Floor	16 mm
Side	8 mm
Front	8 mm

ROPS

ROPS meets ISO 3741:1994

Rollover Protective Structure (ROPS) is offered by Caterpillar as standard equipment.

Sound

Exterior Sound

When the optional attachment sound suppression package is properly installed and maintained, this machine complies with the European Directive for Equipment Used Outdoors – 2000/14/EC.

Operator Sound

The operator sound pressure level measured according to the procedures specified in ISO 6394:1998 is less than 74 dB(A) for the cab offered by Caterpillar when properly installed, maintained and tested with doors and windows closed.

Tires

Standard: 18.00-R33 (E4)

- Productive capabilities of the 769D are such that, under certain job conditions, Tkm/h capabilities of standard or optional tires could be exceeded and, therefore, limit production.
- Caterpillar recommends the user evaluate all job conditions and consult the tire manufacturer to make proper tire selection.

Weights

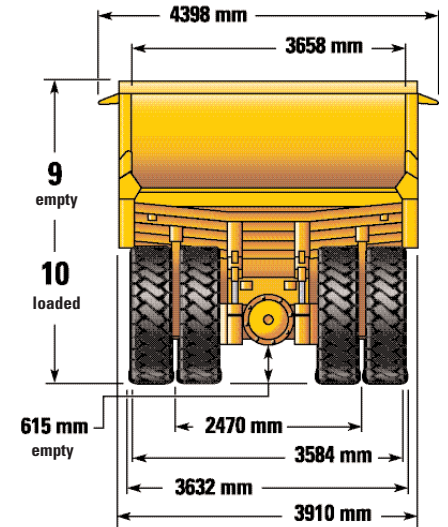
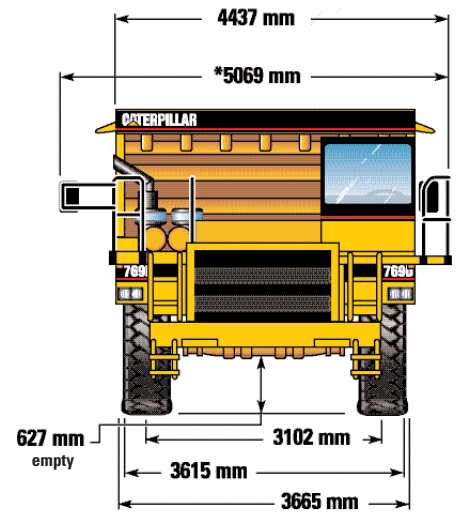
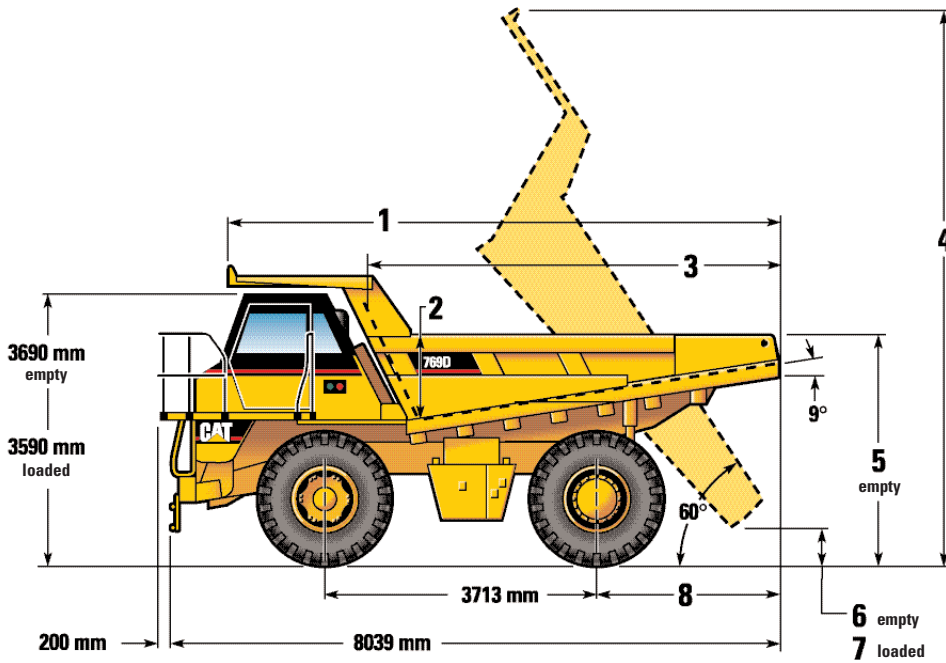
Gross Machine Weight	71 400 kg
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Operating Specifications

SAE (2:1) Capacity	24.2 m ³
Nominal Payload Capacity	
Flat floor	39.3 tonnes
Flat floor with 16 mm liners	36.0 tonnes

Dimensions

All dimensions are approximate.



	Flat Floor	Dual-slope		Flat Floor	Dual-slope
1	7615 mm	7430 mm	6	465 mm	525 mm
2	1390 mm	1454 mm	7	315 mm	415 mm
3	5430 mm	5275 mm	8	2541 mm	2380 mm
4	7751 mm	7709 mm	9	4072 mm	4027 mm
5	3188 mm	3143 mm	10	3997 mm	3952 mm

Weights/Payload Calculation

	Flat Floor	Dual-slope
	kg	kg
Empty Chassis Weight	23 000	23 000
Fuel Correction	400	400
Optional Attachments Weight		
Debris Allowance (4% of chassis)	+920	+920
Chassis Weight	24 320	24 320
Body Weight	7800	7300
Body Attachments Weight	+3300	+0
Total Empty Operating Weight	35 420	31 620
Target Payload	+35 980	+39 780
Gross Machine Operating Weight	71 400	71 400

* Operating width to r.h. mirror

Retarding Performance

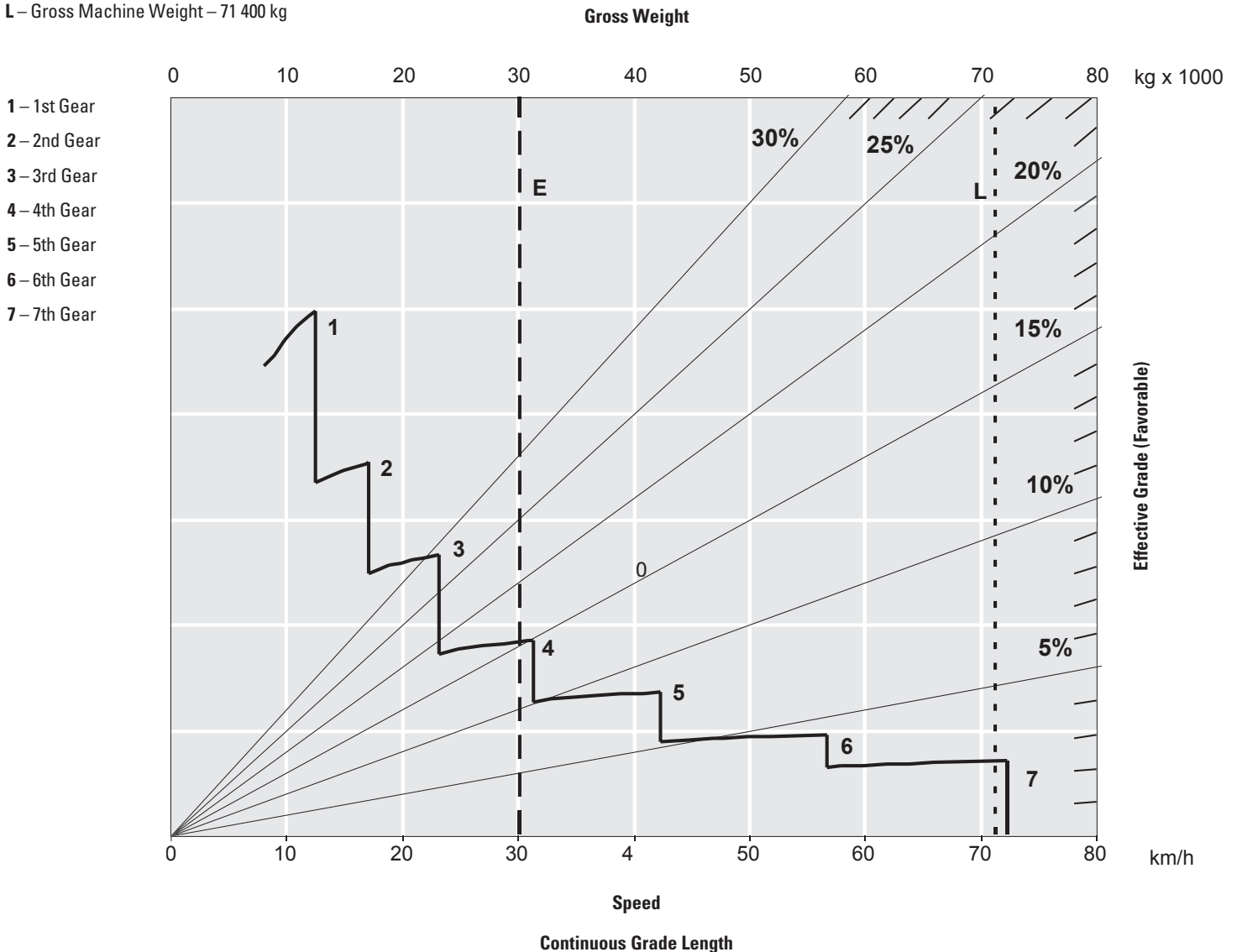
The brake performance retarding curves shown in this section are for general guidance only. As each site has many unique environmental and operating conditions that will impact retarding performance, actual site performance could vary considerably from predicted performance. Users should use the retarding speed (gear) recommendations from these tables as a starting point for determining retarding performance and then adjust retarding speeds to their site-specific conditions. In adjusting retarding performance to continuously changing environmental and site-specific conditions, users need to exercise care to maintain brake cooling and machine controllability at all times.

To determine brake retarding performance from retarding tables:

1. Determine the total distance of all downhill grades combined for a given haul profile. This total distance determines the appropriate retarding table (continuous or one of the grade distance tables) applicable to your haul profile.
2. Read from the appropriate gross weight down to percent favorable effective grade. (For these retarding charts, effective grade equals the maximum grade of all downhill haul segments minus rolling resistance – do not use an average grade value.)

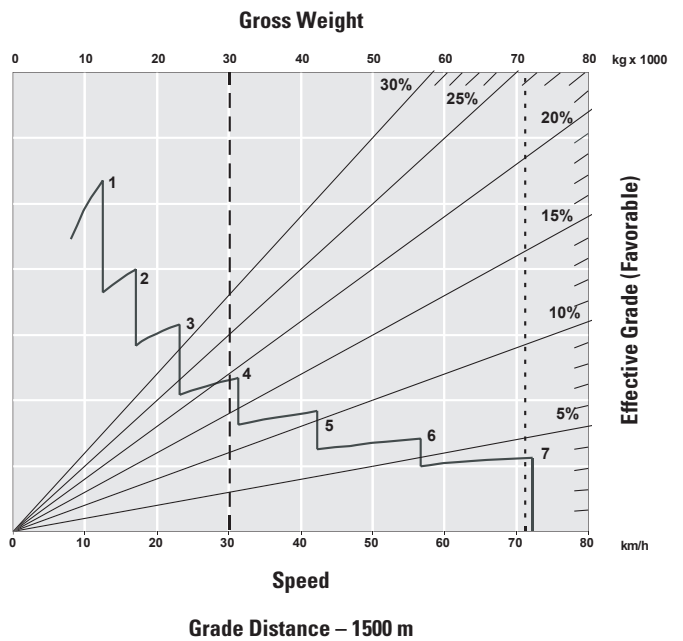
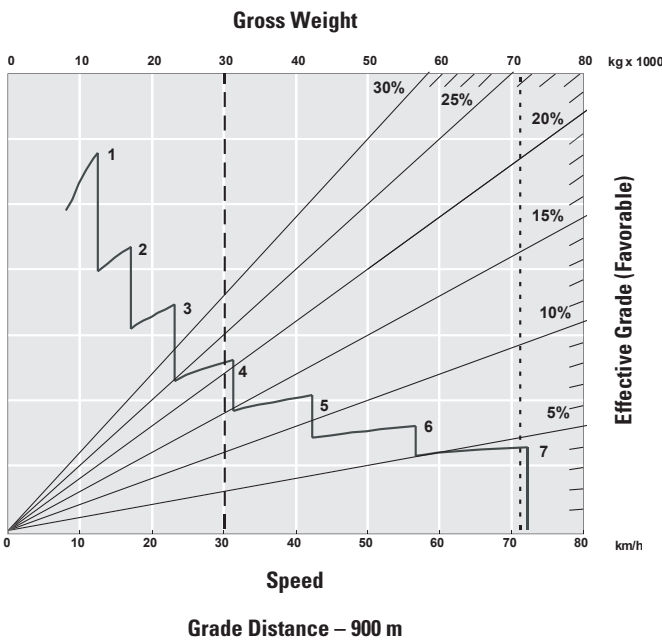
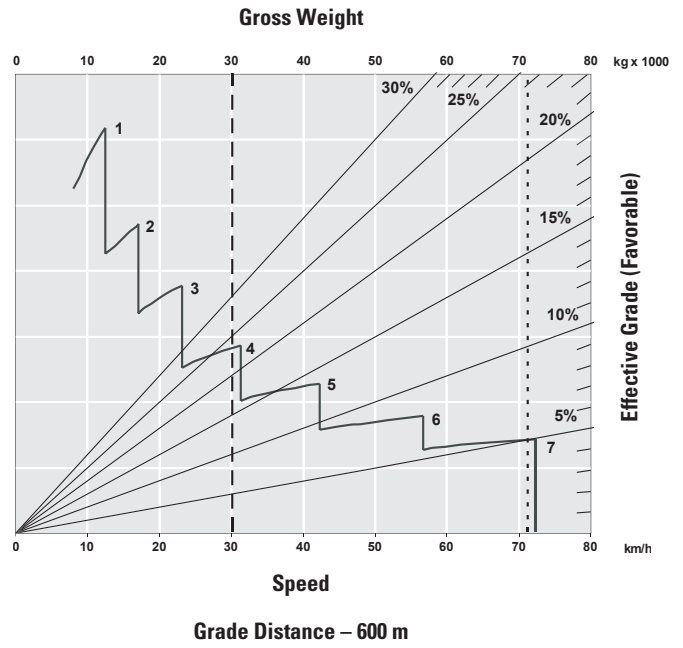
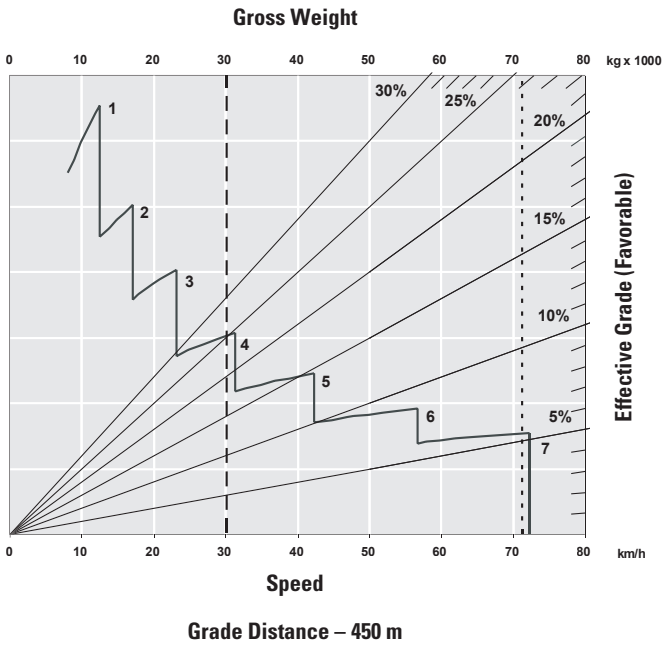
E – Empty Weight

L – Gross Machine Weight – 71 400 kg



3. From the intersection of the gross weight and effective grade line point, read horizontally to the appropriate gear curve. the horizontal line intersects two gear curves, choose the first gear curve that the horizontal line intersects (reading from right to left) and read the retarding speed performance immediately below this point. If the intersection point falls on a vertical line between two gears, choose the lowest of the two gears to allow for higher engine rpm thus maximizing brake cooling capability.

4. Adjust recommended retarding speeds to site specific (environmental and operational) conditions. If the brake system overheats or specific site conditions dictate (tight turns, short steep grades, manual braking, etc.), reduce ground speed to allow the transmission to shift to the next lower speed range.

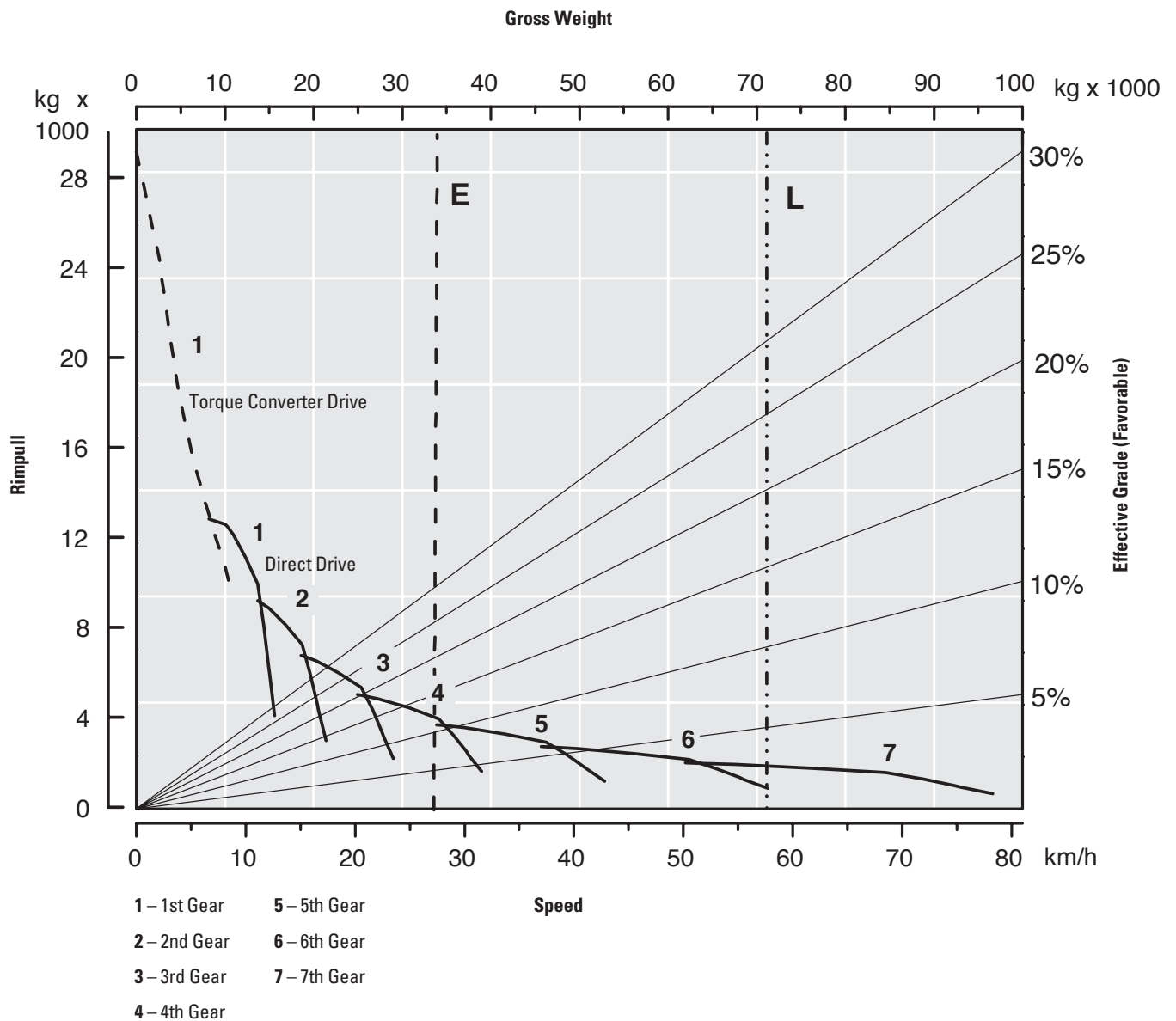


Gradeability/Speed/Rimpull

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/metric ton of rolling resistance.
 From this weight-resistance point, read horizontally to the curve with the highest obtainable gear, then down to maximum speed. Usable rimpull will depend upon traction available and weight on drive wheels.

E – Empty Weight

L – Gross Machine Weight – 71 400 kg



Standard Equipment

Standard and optional equipment may vary. Consult a Caterpillar Dealer for specifics.

Air horn, electric	Electrical system, 24-volt	Reservoirs (separate)
Air line dryer	Electronic Monitoring System	Brake/hoist
Alternator, 50-amp	Filters, spin-on	Steering
Auxiliary jump start receptacle	Gauges	Transmission/torque converter
Backup alarm	Actual Gear Indicator	Retarder
Battery disconnect switch, ground level	Air pressure	Rock ejectors
Body mounting group	Brake oil temperature	Seat belts, retractable
Brakes	Coolant temperature	Seat, passenger
Caliper disc (front)	Fuel	Service platform, bolt-on
Oil disc (rear)	Hour meter, electric	Starting, electric
Parking	Odometer	Steering, automatic supplemental, electric
Secondary	Speedometer	Steering wheel, padded, tilt, telescopic
Brake (front) disconnect switch	Tachometer	Tires, 18.00-33, radial
Brake heat exchanger	Heater/defroster 11 070 kCal	Tow hooks, front
Brake release motor for towing	Hoist lever, fingertip-actuated	Tow pin, rear
Cab, ROPS	Lighting system	Transmission, electronically controlled automatic power shift with downshift/reverse shift inhibitor, neutralizer during dumping, neutral start switch, engine overspeed protection, directional shift management, programmable top gear, body-up shift limiter, economy shift mode and control throttle shifting
Caterpillar Contour Series air suspension seat	Backup light	Vandalism protection locks
Coat hook	Dome/courtesy light	Window, electric power (operator)
Insulated and sound-suppressed	Hazard and directional signals, LED	Windshield wipers and washer, electric intermittent
Radio-ready	Headlights, halogen, with dimmer	
Storage compartment	Stop/tail lights, LED	
Sun visor	Mirrors, right and left	
Tinted glass	Power port, 24-volt	
Crankcase guard	Precleaner	
Diagnostic connection port, 24-volt	QuickEvac™ System with Prelube	
Driveline guard		

Optional Equipment

With approximate changes in operating weights.

	kg		kg
Air conditioning	90	Traction Control System (TCS)	50
Automatic lube system	60	Truck Bodies:	
Automatic Retarder Control (ARC)	6	Dual slope body	7330
Clustered grease fittings	20	Body liner for dual-slope body (Liner thickness – 16 mm floor, 8 mm front and side walls)	3200
Engine coolant heater – 120-volt	3	Flat floor body	7800
Engine coolant heater – 240-volt	4	Body liner for flat floor body (Liner thickness – 16 mm floor, 8 mm front and side walls)	3300
Engine ground level shut-off	80	Truck Production Management System (TPMS)	45
Ether starting aid	5	Wheel chocks	25
Exhaust diverter/muffler	75	Wiggins fast fuel change	2
Flexxaire fan	110	Wiggins high-speed oil change	1
Fuel heater kit	5		
Integrated brake control	55		
Muffler	55		
Sound suppression package(2000/14/EC compliant)	136		
Spare rim 330 mm	360		

769D Off-Highway Truck

HEHM5440 (05/2002) hr

Featured photos of machines may not always include standard equipment.
See your Caterpillar Dealer for available options.
Materials and specifications are subject to change without notice.

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