Engine

<table>
<thead>
<tr>
<th>Engine Model</th>
<th>Cat® 3412E Engine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Power – SAE J1995</td>
<td>509 kW 682 hp</td>
</tr>
<tr>
<td>Flywheel Power</td>
<td>485 kW 650 hp</td>
</tr>
</tbody>
</table>

Operating Specifications

<table>
<thead>
<tr>
<th>Nominal Payload Capacity</th>
<th>54.1 tonnes 60 tons</th>
</tr>
</thead>
</table>

Weights – Approximate

<table>
<thead>
<tr>
<th>Target Gross Machine Operating Weight</th>
<th>99 340 kg 219,007 lb</th>
</tr>
</thead>
</table>
773D Off-Highway Truck
Engineered for performance, designed for comfort, built to last.

Power Train – Engine
The twelve-cylinder, turbocharged and aftercooled engine is built for power, reliability, economy and with the HEUIT™ fuel system, meets U.S. EPA Tier 1 emission standards. pg. 4

Structures
Caterpillar truck frames are built to resist the most severe twisting, high impact applications. Mild steel provides flexibility, durability and resistance to impact loads even in cold climates. The frame incorporates 21 castings and two forgings in high-stress areas, providing two-and-one-half to three times the strength of equivalent-sized fabricated structures. pg. 10

Power Train – Transmission
The power train is designed and built by Caterpillar, starting with the high torque rise, electronic Caterpillar® 3412E Diesel Engine, through the seven-speed power shift transmission. This assures the highest standards for quality, performance and efficiency. Total design control helps assure these individual components perform together as an efficient unit. pg. 5

Truck Body
The 773D offers a dual-slope body to meet user applications. This incorporates time-proven box beam and full-length stringer design for extended life. pg. 11

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. 6

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. The optional Automatic Retarder Control (ARC) and Traction Control System (TCS) use the oil-cooled rear brakes to enhance truck performance and productivity. \textit{pg. 7}

Automatic Retarder Control (ARC) (Optional)
The ARC electronically controls braking on grade, enhancing truck performance and productivity while improving operator confidence. \textit{pg. 8}

Traction Control System (TCS) (Optional)
Electronically controls wheel slippage for improved performance. \textit{pg. 9}

Systems/Applications
The 773D is the industry leader working worldwide in a variety of conditions and applications. \textit{pg. 12}

Operator’s Station
The 773D operator’s station is designed for total machine control in a comfortable and productive environment. 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. \textit{pg. 13}

Serviceability/Total Customer Support
Simplified service and maintenance features combined with improved service access and on-board diagnostics are designed to reduce downtime. Caterpillar\textsuperscript{®} dealers with expert technicians offer a wide range of service plans that will maximize uptime and return on your investment, and provide unmatched product support, anywhere in the world. \textit{pg. 14}
Power Train – Engine

The twelve-cylinder, turbocharged and aftercooled engine is built for power, reliability, economy and with the HEUI™ fuel system, meets U.S. EPA Tier 1 emission standards.

**Engine.** The Cat® 3412E Diesel Engine is a four-stroke design and uses long, effective power strokes for more complete fuel combustion and optimum efficiency. The 3412E is designed with high displacement and a low speed rating for long hours of service between scheduled overhauls and lower operating costs.

**High Torque Rise.** The 19 percent torque rise provides high lugging force during acceleration and less downshifting on grade or in rough underfoot conditions. The torque rise effectively matches the transmission shift points to provide maximum efficiency and faster cycle times.

**Hydraulic Electronic Unit Injector (HEUI).**

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, rate and pressure for maximum performance and efficiency.

- Modifies the heat release characteristics of the combustion process for significant decreases in sound and emission levels.
- Reduces specific fuel consumption by up to five percent.
- Exhaust smoke is significantly reduced (by as much as 75 percent) through precise, electronic control of fueling limits and injection timing.
- Improved reliability and durability through elimination of the governor, reduction in mechanical linkages and incorporation of electronic protection strategies.

**Electronic Control Module (ECM).**

ECM monitors key functions and logs critical indicators. The Electronic Technician can access this diagnostic information for easier maintenance and repair.
Transmission. The Cat seven-speed power shift transmission, matched with the direct injection Cat 3412E Diesel Engine, provides constant power over a wide range of operating speeds.

1) Lock-up Torque Converter. The lock-up torque converter combines the maximum rimpull and cushioned shifting of torque converter drive with the efficiency and performance of direct drive.
   • It engages at approximately 6.9 km/h (4.3 mph), delivering more power to the wheels.
   • The lock-up clutch will quickly release and re-engage during shifts, maintaining power windup, improving transmission life and increasing operator comfort.

2) Planetary Power Shift Transmission. The seven-speed, 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.
   • 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 17.48:1 further reduces stress on the drive train.

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.

4) Transmission and Torque Converter. The transmission and torque converter have independent sumps, which eliminates cross contamination.

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.

Power Train Integration. Caterpillar power train’s 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.** The electronic integration system designed by Caterpillar optimizes overall power train performance, reliability and component life for reduced power train operating cost.

1) Electronic Technician
2) Cat Data Link System
3) Engine Control Module
4) Engine
5) Transmission Chassis Controller
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 extended 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 Neutral Coast Inhibitor.** Helps prevent the transmission from shifting to neutral at speeds above 6.5 km/h (4 mph).

- **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.
**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.** 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.** Prevents direct contact between the discs. Absorbing the braking forces by shearing oil and carrying heat away, this design extends brake life.

**Pistons.** A Caterpillar patented, two-piston design combines the service, secondary, parking brake and retarding functions.

- The primary piston hydraulically actuates both service and retarding functions.
- The secondary piston is spring applied and is 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.

**Retarding.** The Cat retarding system has an intermittent rating of 1119 kW (1,500 hp) and a continuous rating of 526 kW (705 hp).

- When retarding, the engine runs against compression on downhill hauls, resulting in minimal 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 (ARC) (Optional)

Electronically controls braking on grades for improved engine and brake component life.

**ARC Benefits.** Include:

- 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 the precision of ARC.

- 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 the CEMS, alerting the operator to overspeed conditions and critical machine functions.

**ARC Operating Efficiency Advantages**

<table>
<thead>
<tr>
<th>Time (Seconds)</th>
<th>Automatic Retarder Control (Maintains Engine rpm between 2160-2300)</th>
<th>Manual Retarder Control (Wide Variation in Engine rpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Speed (rpm)</td>
<td>* Optimum Engine rpm</td>
<td></td>
</tr>
</tbody>
</table>

**Automatic Retarder Control (ARC).**

The ARC electronically controls braking on grade to maintain approximately 2,230 rpm (engine rpm is adjustable from 2,150-2,300 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 2,475 rpm to help avoid potentially destructive and often costly engine overspeeds.
Traction Control System (TCS) (Optional)
Electronically controls wheel slippage for improved performance.

**Integrated Braking Control (IBC) (Optional).** Caterpillar offers IBC (optional) combining ARC and TCS into one electronic control.

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

**Operator Awareness.** Provides operator awareness through an on-dash indicator, signifying TCS is engaged.

**Differential Action.** Utilizes normal differential action to provide superior maneuvering in poor underfoot conditions.

- Reduces tire scuffing as compared to positive lock differentials used on other systems.

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

**System Back-up.** Maintains the back-up design. Should the sensors fail, normal differential action is still available to maintain control and steering.
**Structures**
The backbone of the Cat truck.

**Box-Section Design.** The 773D frame uses a box-section design, incorporating 21 castings in high-stress areas, with deep-penetrating and continuous wrap-around welding. Mild steel is used throughout.

- Mild steel provides flexibility, durability, and resistance to impact loads even in cold climates.

**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.** The 773D frame provides for ease of 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 above 16°C (60°F) using readily available welding supplies.

**Rollover Protection Structure (ROPS).** 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, 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.
Design. 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/m$^3$ (2,900 lb/yd$^3$) material and higher.

Sidewall and Floor Junctions. 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:
- Raise – 9.5 seconds.
- Lower – 12.5 seconds.

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

Dual Slope Body. The dual-slope body offers the lowest cost-per-ton option in most construction and mining applications.
- The dual-slope body performs efficiently 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 8° “V” bottom for increased load retention, a low center of gravity, and reduced shock loading. It also aids in centering the load.
- An 18° ducktail and 9° forward body slope retains the load on grades up to 15 percent and higher. This design also helps maintain proper load distribution.
Machine Configuration Options.
The 773D is the industry leader working worldwide in a variety of conditions and applications. By offering a variety of machine configuration options, Caterpillar helps meet customer needs.

Tire Options. Representing various tire manufacturers, Caterpillar offers a full line of tire options to maximize performance and life for specific applications.

Attachments. Attachments give the customer options to tailor trucks for specific application requirements, including:
- Truck Production Management System.
- Automatic Retarder Control.
- Traction Control System.
- 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. This 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). The Caterpillar Production Analysis Team (PAT) and Caterpillar software programs can assist customers with detailed, application evaluation.

Loader Match. Designed to work as part of a system, the 773D is best matched to the following Caterpillar loaders:
- 988F – five pass/match.
- 990 – three pass/match.
Operator’s Station. The 773D operator station is rated highly by operators. Everything needed for top performance is at the operator’s finger tips.


2) Caterpillar Contour Series Air Suspension Seat. The seat is fully adjustable and includes an adjustable right-hand armrest.

3) Tilt/Telescoping Steering Wheel. Improves comfort and control.
   - New steering system reduces operator effort by 55 percent.
   - Enhanced turn signal lever with high beam actuator and electric windshield wiper controls.
   - Ergonomically designed retarder lever.

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

5) Visibility. Exceptional all-around visibility reduces fatigue and improves productivity.

6) Integral, Sound-Suppressed ROPS/FOPS Cab. The Cab is resiliently mounted, providing a quiet, protected work environment.
   - Radio-ready cab with speakers, wiring harness, antenna and mounting bracket.

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

8) Large Storage Compartment. Large storage compartment 0.10 m³ (3.5 ft³) is located under the trainer’s seat.

9) Trainer’s Seat. Increased hip/shoulder room, back rest and retractable seat belt.

10) Caterpillar Electronic Monitoring System (CEMS). CEMS provides critical data. The system features three separate displays:
   - A four-gauge cluster with coolant temperature, oil temperature, brake air pressure, fuel level.
   - Tachometer, digital speedometer/actual gear indicator.
   - Message center module.

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

12) Foot Pedals. Ergonomically designed foot pedals for increased operator comfort.
   - Secondary brake moved to floor.


15) Truck Production Management System (TPMS) (optional). The optional TPMS 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 conditions to within ±5 percent over a normal operating shift.
   - Delivers consistent accurate payloads and improves efficiency by minimizing overloading and underloading.
   - On-board computer stores 1,400 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.
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 down time 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. Easy to change, reducing air filter maintenance times.

Vertical Spin-On Filters. Simplified servicing.

Quick Coupler Pressure Taps. Quick coupler pressure taps, located in all hydraulic systems, provide clear, quick pressure checks. S•O•S™ Oil and Coolant Sampling Valves make oil sampling quick, clean, and easy.

Sealed Electrical Connectors. Lockout dust and moisture. The color-coding for wires 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 Fluid 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.
### Engine

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Model</td>
<td>Cat® 3412E Engine</td>
</tr>
<tr>
<td>Rated Engine Speed</td>
<td>2,000 rpm</td>
</tr>
<tr>
<td>Gross Power – SAE J1995</td>
<td>509 kW 682 hp</td>
</tr>
<tr>
<td>Net Power – SAE J1349</td>
<td>480 kW 643 hp</td>
</tr>
<tr>
<td>Net Power – Caterpillar</td>
<td>485 kW 650 hp</td>
</tr>
<tr>
<td>Flywheel Power</td>
<td>485 kW 650 hp</td>
</tr>
<tr>
<td>Net Power – ISO 9249</td>
<td>485 kW 650 hp</td>
</tr>
<tr>
<td>Net Power – 80/1269/EEC</td>
<td>485 kW 650 hp</td>
</tr>
<tr>
<td>Number of Cylinders</td>
<td>12</td>
</tr>
<tr>
<td>Net Torque</td>
<td>2314 N(\cdot)m 1,707 lbf</td>
</tr>
<tr>
<td>Bore</td>
<td>137 mm 5.4 in</td>
</tr>
<tr>
<td>Stroke</td>
<td>152 mm 6 in</td>
</tr>
<tr>
<td>Displacement</td>
<td>27 L 1,649 in(^2)</td>
</tr>
</tbody>
</table>

**Power rating conditions:**
- Based on standard air conditions of 25°C (77°F) and 99 kPa (29.32 Hg) dry barometer.
- Used 35°C (95°F) API gravity fuel having an LHV of 42 780 kJ/kg (18,390 BTU/lb) when used at 30°C (86°F) [ref. a fuel density of 838.9 g/L (7.001 lb/U.S. gal)].
- 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 2300 m (7,500 ft) altitude.

### Weights – Approximate

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target Gross Machine</td>
<td>99,340 kg 219,007 lb</td>
</tr>
<tr>
<td>Operating Weight</td>
<td></td>
</tr>
<tr>
<td>Operating Weight – Empty</td>
<td>39,500 kg 87,082 lb</td>
</tr>
<tr>
<td>Chassis Weight</td>
<td>30,200 kg 66,580 lb</td>
</tr>
<tr>
<td>Body Weight</td>
<td>9300 kg 20,503 lb</td>
</tr>
</tbody>
</table>
- Chassis weight with 10% fuel, hoist, body mounting group, rims and tires.
- Body weight varies depending on how body is equipped.

### Operating Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Payload Capacity</td>
<td>54.1 tonnes 60 tons</td>
</tr>
<tr>
<td>Top Speed – Loaded</td>
<td>62.2 km/h 38.6 mph</td>
</tr>
<tr>
<td>Body Capacity – SAE 2:1</td>
<td>35.2 m(^3) 46 yd(^3)</td>
</tr>
</tbody>
</table>
- Refer to the Caterpillar 10/10/20 Payload Guidelines for maximum gross machine weight limitations.
- Capacity with dual slope body.

### Transmission

<table>
<thead>
<tr>
<th>Gear</th>
<th>Forward 1</th>
<th>Forward 2</th>
<th>Forward 3</th>
<th>Forward 4</th>
<th>Forward 5</th>
<th>Forward 6</th>
<th>Forward 7</th>
<th>Reverse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>9.9 km/h</td>
<td>13.9 km/h</td>
<td>18.8 km/h</td>
<td>25.2 km/h</td>
<td>34.1 km/h</td>
<td>45.9 km/h</td>
<td>62.2 km/h</td>
<td>13.1 km/h</td>
</tr>
<tr>
<td></td>
<td>6.2 mph</td>
<td>8.6 mph</td>
<td>11.6 mph</td>
<td>15.6 mph</td>
<td>21.1 mph</td>
<td>28.5 mph</td>
<td>38.6 mph</td>
<td>8.1 mph</td>
</tr>
</tbody>
</table>

- Maximum travel speeds with standard 24.00R35 (E4) tires.

### Final Drives

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Differential Ratio</td>
<td>3.64:1</td>
</tr>
<tr>
<td>Planetary Ratio</td>
<td>4.80:1</td>
</tr>
<tr>
<td>Total Reduction Ratio</td>
<td>17.48:1</td>
</tr>
</tbody>
</table>

### Brakes

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brake Surface – Front</td>
<td>1395 cm(^2) 216 in(^2)</td>
</tr>
<tr>
<td>Brake Surface – Rear</td>
<td>61269 cm(^2) 9,496 in(^2)</td>
</tr>
<tr>
<td>Brake Standards</td>
<td>ISO 3450: 1996</td>
</tr>
</tbody>
</table>
- Meets the SAE J1473 OCT90, ISO 3450-1985 standards up to 99 340 kg (219,007 lb) gross operating weight.

### Body Hoists

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump Flow – High Idle</td>
<td>560 L/min 148 gal/min</td>
</tr>
<tr>
<td>Relief Valve Setting – Raise</td>
<td>17 225 kPa 2,500 psi</td>
</tr>
<tr>
<td>Relief Valve Setting – Lower</td>
<td>3450 kPa 500 psi</td>
</tr>
<tr>
<td>Body Raise Time – High Idle</td>
<td>9.5 Seconds</td>
</tr>
<tr>
<td>Body Lower Time – Float</td>
<td>12.5 Seconds</td>
</tr>
<tr>
<td>Body Power Down – High Idle</td>
<td>12.5 Seconds</td>
</tr>
</tbody>
</table>

### Capacity – Dual Slope – 100% fill factor

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Struck</td>
<td>26.6 m(^3) 34.8 yd(^3)</td>
</tr>
<tr>
<td>Heaped 2:1 (SAE)</td>
<td>35.2 m(^3) 46 yd(^3)</td>
</tr>
</tbody>
</table>

### Weight Distributions – Approximate

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front Axle – Empty</td>
<td>47.3%</td>
</tr>
<tr>
<td>Front Axle – Loaded</td>
<td>33.3%</td>
</tr>
<tr>
<td>Rear Axle – Empty</td>
<td>52.7%</td>
</tr>
<tr>
<td>Rear Axle – Loaded</td>
<td>66.7%</td>
</tr>
</tbody>
</table>
Sound Standards
• The operator sound pressure level measured according to work cycle procedures specified in ANSI/SAE J1166 MAY90 is 78 dB(A) for cab offered by Caterpillar, when properly installed and 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 Standards
ISO 5010:1992
Steer Angle 31°
Turning Diameter Front Wheel 22 m 72 ft 3 in
Track
Turning Circle Clearance 25 m 82 ft

Dimensions
• Dimension listed reflect the Dual Slope Body System.
### Dimensions

All dimensions are approximate.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Measurement</th>
<th>Conversion</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>8535 mm</td>
<td>28'0&quot;</td>
</tr>
<tr>
<td>B</td>
<td>1805 mm</td>
<td>5'11&quot;</td>
</tr>
<tr>
<td>C</td>
<td>6400 mm</td>
<td>21'0&quot;</td>
</tr>
<tr>
<td>D</td>
<td>8787 mm</td>
<td>28'10&quot;</td>
</tr>
<tr>
<td>E</td>
<td>3773 mm</td>
<td>12'5&quot;</td>
</tr>
<tr>
<td>F</td>
<td>676 mm</td>
<td>2'2&quot;</td>
</tr>
<tr>
<td>G</td>
<td>566 mm</td>
<td>1'11&quot;</td>
</tr>
<tr>
<td>H</td>
<td>2782 mm</td>
<td>9'1&quot;</td>
</tr>
<tr>
<td>I</td>
<td>4393 mm</td>
<td>14'5&quot;</td>
</tr>
<tr>
<td>J</td>
<td>4350 mm</td>
<td>14'4&quot;</td>
</tr>
</tbody>
</table>
## Weight/Payload Calculation*
(Example)

<table>
<thead>
<tr>
<th></th>
<th>Dual Slope</th>
<th>Dual Slope w/Liner</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CHASSIS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empty Chassis Weight</td>
<td>30 200 (66,579)</td>
<td>30 200 (66,579)</td>
</tr>
<tr>
<td>Fuel Correction</td>
<td>529 (1,166)</td>
<td>529 (1,166)</td>
</tr>
<tr>
<td>Debris Allowance</td>
<td>+1208 (+2,663)</td>
<td>+1208 (+2,663)</td>
</tr>
<tr>
<td><strong>Total Chassis Weight</strong></td>
<td>31 937 (70,408)</td>
<td>31 937 (70,408)</td>
</tr>
</tbody>
</table>

| **BODY**             |                  |                   |
| Body Weight          | 9300 (20,503)    | 9300 (20,503)     |
| Body Attachment Weights | 3965 (8,741)   |                   |
| **Total Body Weight** | +9300 (+20,503) | +13 265 (+29,244) |
| Total Empty Operating Weight | 41 237 (90,911) | 45 202 (99,652) |
| **Target Payload**   | **58 103 (128,094)** | **54 138 (119,353)** |
| Gross Machine Operating Weights | 99 340 (219,005) | 99 340 (219,005) |

* Refer to Caterpillar’s 10/10/20 Payload Policy for Quarry and Construction Trucks
To determine retarding performance: Add lengths of all downhill segments and, using this total, refer to proper retarding chart. Read from gross weight down to the percent effective grade. Effective grade equals actual % grade minus 1% for each 10 kg/metric ton (20 lb./U.S. ton) of rolling resistance. From this weight-effective grade point, read horizontally to the curve with the highest obtainable gear, then down to maximum descent speed brakes can properly handle without exceeding cooling capacity. The following charts are based on these conditions: 32°C (90°F) ambient temperature, at sea level, with 24.00-R35 tires and a properly maintained cooling system.

**NOTE:** Select the proper gear to maintain engine rpm at the highest possible level, without overspeeding the engine. If cooling oil overheats, reduce ground speed to allow transmission to shift to the next lower speed range.
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 (20 lb./U.S. 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.
Standard Equipment

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

Air horn, electric
Air line dryer
Alternator, 50-amp
Auxiliary jump start receptacle
Back up alarm
Battery disconnect switch, ground level
Body mounting group
Brakes:
   Caliper disc (front)
   Oil-disc (rear)
   Parking
   Secondary
Brake (front) disconnect switch
Brake heat exchanger
Brake release motor, for towing
Cab, ROPS:
   Caterpillar Contour Series air suspension seat
   Coat hook
   Insulated and sound-suppressed
   Radio ready
   Storage compartment
   Sun visor
   Tinted glass
Crankcase guard
Diagnostic connection port, 24-volt
Drive line guard
Electrical system, 24-volt
Electronic Monitoring System
Filters, spin-on
Gauges:
   Actual Gear Indicator
   Air pressure
   Brake oil temperature
   Coolant temperature
   Fuel gauge
   Hour meter, electric
   Odometer
   Speedometer
   Tachometer
   Hoist lever, finger tip-actuated
Lighting system:
   Back up light
   Dome/courtesy light
   Hazard and directional signals, LED
   Headlights, Halogen, with dimmer
   Stop/tail lights, LED
Mirrors, right and left
Power port, 24-volt
Precleaner
Reservoirs (separate):
   Brake/hoist
   Steering
   Transmission/torque converter
Retarder
Rock ejectors
Seat belts, retractable
Seat, passenger
Service platform, bolt-on
Sound reduction switch, body-up
Starting, electric
Steering, automatic supplemental, electric
Steering wheel, padded, tilt, telescopic
Tires, 24.00-35, radial
Tow hooks, front
Tow pin, rear
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
Vandalism protection locks
Window, electric power (operator)
Windshield wipers and washer, electric intermittent
Optional Equipment
Optional equipment may vary. Consult your Caterpillar dealer for details.

Air conditioning
Automatic lube system
Automatic Retarder Control (ARC)
Engine coolant heater – 240 volt
Fuel fast fill adapter
Fuel heater
Integrated brake control
Muffler
Spare rim, 432 mm (17”)
Traction Control System (TCS)

Truck Body:
Dual-slope body
Body tail end liner for dual-slope body
[Liner thickness – 16 mm (0.063”) floor]
Truck Production Management System (TPMS)
Wiggins Service Center