

Engine		
Engine Model	Cat® C27 ACERT®	
Gross Power – SAE J1995	552 kW	740 hp
Net Power – SAE J1349	524 kW	703 hp
Weights – Approximate		
Target Gross Machine Operating Weight	100 698 kg	222,000 lb

perating Specifications		
Nominal Payload Class (100%)	55 tonnes	61 tons
Maximum Working Payload (110%)	60 tonnes	67 tons
Not to Exceed Payload* (120%)	66 tonnes	73 tons
Body Capacity — SAE 2:1	35 m³	45.8 yd³

- Nominal payload and capacity based on High Impact Steel Body with 20 mm (0.787 in) steel floor. Liner and attachment selection will affect payload and maximum gross machine operating weight.
- * Refer to Caterpillar 10/10/20 policy for maximum gross machine weight limitations.

773F Off-Highway Truck

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

Power Train - Engine

✓ The Cat® C27 engine with ACERT® Technology uses advanced engine technology to reduce emissions without after-treatment. The turbocharged, aftercooled 12-cylinder engine has higher horsepower and faster response for superior performance in demanding applications. pg. 4

Power Train - Transmission

✓ The Cat® seven-speed power shift transmission matched with the Cat C27 engine with ACERT Technology provides constant power and efficiency over a wide operating speed range for optimal power train performance. pg. 5

Structures

✓ The 773F features a mild-steel, boxsection type frame, proven on the 773E to deliver durability and long life with low operating costs. Castings and forgings are strategically placed in highstress areas to evenly distribute stresses and provide long fatigue life. **pg. 6**

Serviceability

✓ The 773F offers 500-hour engine service intervals – 250 hours more than the 773E. Simplified service and maintenance features combined with improved service access are designed to reduce downtime. pg. 12

Information & Monitoring Systems

Messenger system provides real-time engine performance and operating data. The 773F also offers the optional VIMS Advisor monitoring system, providing data for more than 250 machine functions. pg. 13

Top Performance.

Developed specifically for mining, quarry and construction applications, the 773F keeps material moving at high volume to lower cost-per ton.

Reliable, Durable, Dependable. Rugged construction and easy maintenance procedures ensure long life with low operating costs.

Operator's Station

✓ The 773F features an all new operator station with enhanced visibility, increased operator space and ergonomically designed controls that set new industry standards for operator comfort. All controls and gauges are positioned for optimum efficiency and total machine control. pg. 7

Engine – Power Train Integration

✓ The Cat Data Link electronically combines engine, transmission, brake and operational information to optimize overall truck performance. Stored diagnostic data can be accessed via the Cat Electronic Technician (Cat ET) service tool to improve troubleshooting and reduce downtime. pg. 8

Brake System

✓ Front dry disc and rear oil-cooled, multiple disc brakes are now hydraulically controlled, reducing maintenance costs and improving operator control and modulation. They provide exceptional, fade-resistant braking and retarding for maximum performance and productivity in all haul-road conditions. pg. 10

Truck Body Systems

✓ The 773F offers five different Body System selections to accommodate almost any type of application. These systems are designed to maximize strength and durability through rigorous testing in harsh environments to ensure the lowest cost per ton. pg. 14

Customer Support

✓ Cat dealers provide unmatched product support, anywhere in the world. With industry-best parts availability and a wide range of maintenance and service options, Cat dealers have what it takes to keep your hauling machines productive. pg. 16

Safety

✓ Caterpillar sets the standard when it comes to safety in the design and manufacturing of heavy equipment. Safety is not an afterthought at Caterpillar, but an integral part of all machine and systems designs. pg. 17



✓ New Feature

Power Train – Engine

The Cat[®] C27 engine with ACERT[®] Technology is built for power, reliability and efficiency for superior performance in the toughest applications.



Cat® C27 engine with ACERT®

Technology. With the C27 engine, Caterpillar optimizes engine performance while meeting U.S. EPA Tier 3 and European Union Stage IIIa regulations. ACERT® Technology reduces emissions during the combustion process by using advanced technology in the air and fuel systems, in conjunction with integrated electronics. Caterpillar meets emission regulations at the combustion source, rather than recycling exhaust.

Engine Design. The Cat C27 engine uses ACERT Technology and iron-specific features to deliver strong performance and long-term durability.

EPA Compliant. The C27 engine is compliant with U.S. EPA Tier 3 and European Union Stage IIIa emissions regulations, reducing NOx 27.5 percent from 4.8 g/bhp-hr to 3.0 g/bhp-hr over the 3412E.

Altitude Compensation. Electronic engine control automatically compensates for load demand, high-altitude conditions and cold starting.

Single-Piece Piston Design.

New single-piece forged steel pistons with integrated forged steel skirt are more robust to withstand high engine heat and pressure, and enable enhanced combustion efficiency, improved fuel efficiency and lower emissions. Corrosion-resistant, stainless steel top ring reduces ring, groove and liner wear for greater reliability and longer life.

MEUI Fuel System. Fuel delivery, provided by the MEUI mechanically actuated electronic unit injection system, involves a high degree of precision. Precisely shaping the combustion cycle lowers combustion chamber temperatures, generating fewer emissions and optimizing fuel combustion. The system senses operating conditions and regulates fuel delivery for optimum fuel efficiency, improved response times, lower emissions and less smoke.

Electronic Control Module (ECM).

ECM uses advanced engine management software to monitor, control and protect the engine using self-diagnosing electronic sensors. The computerized system senses operating conditions and power requirements and adjusts the engine for peak performance and the most efficient operation at all times.

Advanced Diesel Engine Management A4 Engine Controller. The ADEMTM A4 electronic control module delivers optimum fuel performance. The engine management system provides flexible fuel mapping, allowing the engine to respond quickly to varying application needs. It tracks engine and machine conditions while keeping the engine operating at peak efficiency.

Power Train – Transmission

Cat power train delivers more power to the ground for greater productivity and lower operating costs.

Mechanical Power Train. The Cat mechanical drive power train and power shift transmission provides unmatched operating efficiency and control on steep grades, in poor underfoot conditions, and on haul roads with high rolling resistance.

Transmission. Pairing the Caterpillar seven-speed planetary power shift transmission with the C27 diesel engine with ACERT Technology delivers constant power over a wide range of operating speeds.

• Transmission Chassis Control (TCC). TCC uses electronically transferred engine rpm data to execute shifts at preset points for optimum performance, efficiency and clutch life.

Lock-Up Torque Converter. Combines maximum rimpull and cushioned shifting of torque converter drive with the efficiency and performance of direct drive. The lock-up torque converter engages at approximately 8 km/h (5 mph), delivering more power to the wheels.

- Lock-Up Clutch. Quickly releases and re-engages to reduce power train torque loads for smoother shifting, long life and a more comfortable ride.
- ECPC (Electronic Clutch Pressure Control) System. ECPC modulates clutch engagement individually, allowing for smoother speed and directional shifts. ECPC provides controls for both the torque converter lock-up clutch and the transmission clutches that are tailored to each particular upshift or downshift. This provides the operator a superior ride and reduced fatigue.



Final Drives. Cat final drives work as a system with the planetary power shift transmission to deliver maximum power to the ground. Built to withstand the forces of high torque and impact loads, double reduction final drives provide high torque multiplication to further reduce drive train stress.

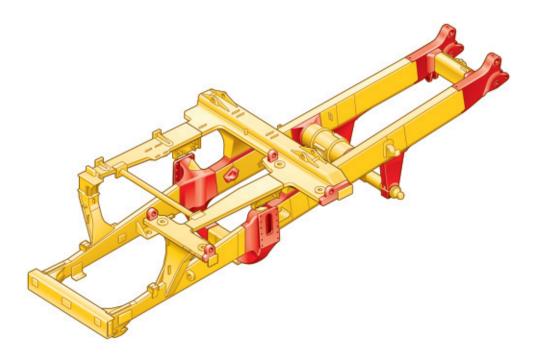
• Steering System. Hydraulic steering control system is designed for exceptional smoothness and precise control.

A separate circuit prevents cross contamination for long life.

- Battery Powered Supplemental Steering. A battery powered supplemental steering system uses pressure accumulators and allows up to three 90 degree turns in case of engine failure.
- Wheels and Rims. Cast rear wheels and Cat center-mount rims are mounted using studs and nuts to minimize maintenance and maximize durability.

Structures

Rugged Cat structures are the backbone of the 773F off-highway truck's durability.



Box-Section Design. The 773F frame uses a box-section design, incorporating two forgings and 19 castings in high-stress areas with deep penetrating and continuous wrap-around welds to resist damage from twisting loads without adding extra weight.

- **Steel Structures.** Mild steel used throughout the frame provides flexibility, durability and resistance to impact loads, even in cold climates, and allows for easy field repairs.
- Castings. Castings have large radii with internal reinforcing ribs to dissipate stress in areas of high stress concentration. Castings move welds to lower stress areas for greater frame life.



Integral Four-Post ROPS Cab.

Resiliently mounted to the main frame with all-new cab mounts that reduce vibration and sound, the integral ROPS is designed as an extension of the truck frame. The ROPS/FOPS structure provides "five-sided protection" for the operator.

Suspension System. Designed to dissipate haul-road and loading impacts for longer frame life and a more comfortable ride.

- **Cylinders.** Four independent self-contained, oil pneumatic, variable-rebound suspension cylinders are designed to absorb shocks in the most severe applications.
- **Durable Design.** Rugged cylinders use a large diameter bore and low pressure nitrogen/oil design for long life with minimal maintenance.

- **Front.** Front cylinders with preset caster and camber are mounted to the frame and serve as steering kingpins for a tight turning radius with excellent maneuverability and low maintenance.
- **Rear**. Rear cylinders allow axle oscillation and absorb bending and twisting stresses caused by uneven and rough haul roads rather than transmitting them to the frame.

Technology Enhanced. Caterpillar structures are tested using System Structural Analysis (SSA) to dynamically simulate operations in field environments and identify potential structural improvements in high stress areas. With analysis of machine structures and variables, such as haul road and payload, structural improvements were made to the frame to accommodate the new cab, platform, engine and radiator.

Quality Control. A Coordinate Measuring Machine (CMM) is used to inspect truck frames for consistency in the manufacturing process. Easy rebuild ability is thereby achieved by ensuring the frames are within tolerance, removing the need to alter down-stream parts.

Operator's Station

Ergonomically designed for operator comfort, superior control and high productivity.

Ergonomic Layout. The 773F operator station is ergonomically designed for total machine control in a comfortable, productive and safe environment. All controls, levers, switches and gauges are positioned to maximize productivity and minimize operator fatigue.

New ISO Designed Cab Mounts.

Integral, sound-suppressed cab is resiliently mounted to the frame to isolate the operator from sound and vibration for a quiet, secure and comfortable ride.

Viewing Area. Designed for excellent all-around visibility and clear sight lines to the haul road. The large viewing area, with 100 percent more glass, enables the operator to maneuver with confidence for greater productivity.

Air Suspension Seat w/Three-Point Operator Restraint. Ergonomically designed, fully adjustable air suspension seat with adjustable armrests provides optimal driving comfort. A wide, retractable 3-point seat/shoulder belt provides a secure, comfortable restraint.

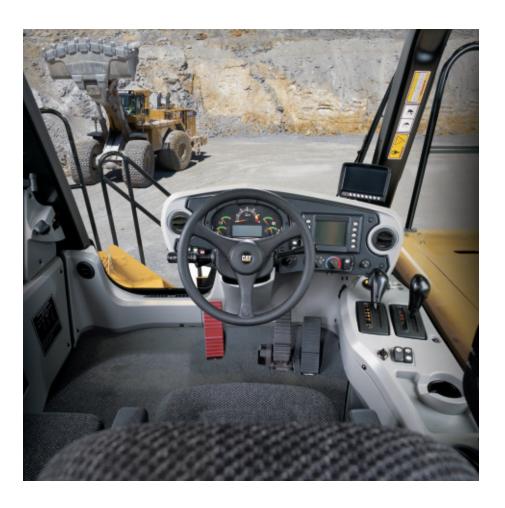
Hoist Lever. Four-position, low effort electronic hoist control system is positioned next to the gear selector in the right-hand console.

Secondary Brake Pedal. Conveniently located on the floor for easy operator control.

Steering Column. Comfortable steering wheel with tilt and telescoping function provides a comfortable driving position for all operators.

Transmission Console. Ergonomic gear shift lever with backlit gear indicators provides easy operation. The parking brake function is integrated into the gear selector.

Trainer Seat. The trainer seat is relocated to the left of the operator, which allows trainer to use same stairway.



When not in use, the fold-down trainer seat creates a working surface with cup holder. The seat also folds up, providing more room for the operator. Under seat storage is convenient for stowing a lunch box.

Operator Controls. Easy to reach turn signal, high beam, intermittent windshield wiper and windshield washer controls are located on the left side of the steering column, and are designed for optimum efficiency and comfort.

Heating/Air Conditioning. Electronically controlled, four-speed fan and 13 vents deliver temperature-controlled air circulation for a comfortable working environment in any climate. Electronic controls reduce maintenance. More robust air compressor offers a 25 percent increase in BTU's, greater durability and longer life.

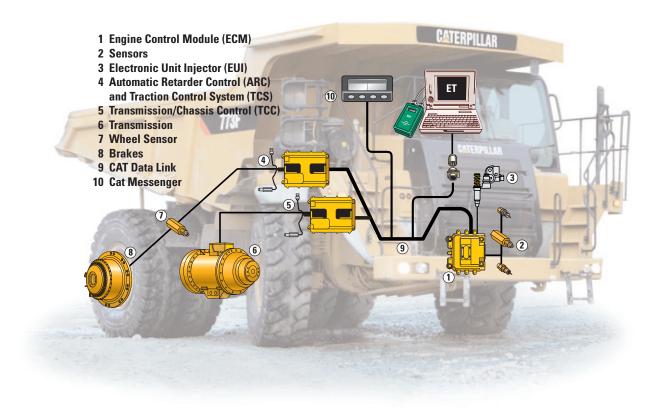
Radio Ready. Cab is prewired with power converter, speakers, wiring harness, antenna and necessities for add-on communication systems.

Multiple Power Ports. Power ports are conveniently located in three locations in the cab: one in the right-hand console, two behind the trainer seat, and one in the dash.

Truck Production Management System (TPMS) (optional). TPMS provides valuable payload and cycle time data, which is viewed through Messenger or VIMSTM Advisor to improve productivity.

Engine – Power Train Integration

This system electronically combines critical power train components to work together more intelligently to optimize overall truck performance.



Cat Data Link. Electronically integrates machine computer systems to optimize overall power train performance, increase reliability and component life, and reduce operating costs. All control modules communicate via the Cat Data Link and work together as an integrated system to maximize production efficiency and extend component life.

Transmission Chassis Control (TCC).

TCC uses electronically transferred engine rpm data to execute shifts at preset points for optimum performance, efficiency and clutch life.

Electronic Technician (Cat ET). Cat ET service tool provides service technicians with easy access to stored diagnostic data through the Cat Data Link to simplify problem diagnosis and increase machine availability.

Controlled Throttle Shifting. Regulates engine rpm during shifting to reduce power train stress and clutch wear by controlling engine speed, torque converter lock-up, and transmission clutch engagement for smoother shifts and longer component life.

Directional Shift Management.

Regulates engine speed during directional shifts to prevent damage caused by high-speed directional changes.

Neutral Coast Inhibitor. Prevents the transmission from shifting to neutral at speeds above 6.5 km/h (4 mph), protecting the transmission from operating with insufficient lubrication.

Body-up Shift Limiter. Prevents the transmission from shifting above a pre-programmed gear without the body being fully lowered. This function is programmable via Cat Electronic Technician (Cat ET) and Messenger or Advisor.

Body-up Reverse Neutralizer.

Automatically shifts the transmission to neutral if the hoist lever is activated while the transmission is shifted in reverse.

Overspeed Protection. The transmission control electronically senses engine conditions and automatically up-shifts one gear to prevent overspeeding. If overspeeding occurs in the top gear, the lock-up clutch is disengaged, and the brakes are applied.

Programmable Top Gear. Transmission top gear maximum can be set using Cat Messenger, VIMS Advisor or the Cat ET service tool to help the operator maintain speed limits.

Anti-Hunt Function. This function minimizes shifting by not allowing the transmission to up or down shift immediately after a shift has occurred. This prevents gear hunting when operating near a shift point and minimizes transmission shifting for increased component life.

Downshift Inhibitor. Prevents engine overspeeding by keeping the transmission from downshifting until engine speed reaches the downshift point.

ECPC Control. Both the torque converter lock-up clutch and the transmission clutches now have software-control for clutch fill and slip characteristics to provide superior smooth shifting.

Economy Shift Mode. Modifies engine maps for greater fuel economy.

Reverse Shift Inhibitor. Protects the engine from abrupt directional changes by slowing down the engine before shifting the transmission into reverse.

Cat Messenger. Critical data from the engine and transmission, including transmission shifting, engine speed and fuel consumption, provides service technicians with enhanced diagnostic capability, through Cat Messenger, to reduce downtime and operating costs.

Traction Control System (TCS) (optional). TCS electronically monitors and controls rear wheel slippage for greater traction and enhanced truck performance in poor underfoot conditions.

Brake System

Reliable braking with superior control gives the operator the confidence to focus on productivity.



Integrated Braking System. The Cat oil-cooled braking system delivers reliable performance and control in the most extreme haul-road conditions. The integrated system combines the service, secondary, parking brake and retarding functions in the same system for optimum braking efficiency.

Oil-Cooled Multiple Disc Brakes.

Cat dry front and rear oil-cooled, multiple disc brakes are now hydraulically controlled, reducing maintenance costs.

The 773F brakes provide exceptional, fade-resistant braking and retarding for maximum performance and productivity in all haul-road conditions.

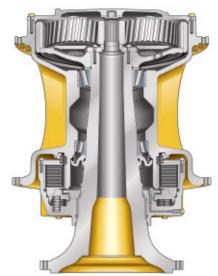
Extended Life Multiple Disc Brakes (optional). Extended life friction material has double the wear life of standard brakes and is twice as resistant to glazing for more consistent braking power with less noise.

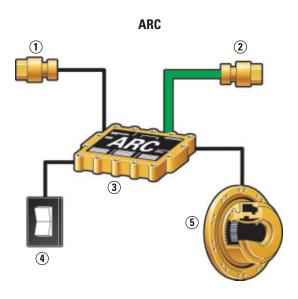
Brake Design. Cat rear oil-cooled disc brakes are designed with large discs and plates for reliable, adjustment-free operation and performance. Rear brakes are completely enclosed and sealed to prevent contamination and reduce maintenance.

Long Life. An oil film prevents direct contact between the discs. This design absorbs the braking forces by shearing the oil molecules and carrying heat away to extend brake life.

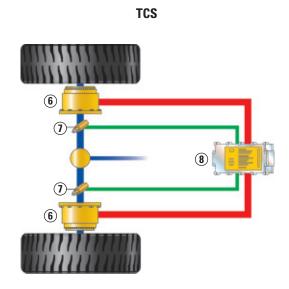
Pistons. The Caterpillar two-piece piston design combines the service, secondary, parking brake and retarding functions in the same system. The primary piston hydraulically actuates both service and retarding functions. The secondary piston is spring-applied and held in the disengaged position by hydraulic pressure. If hydraulic system pressure drops below a specified level, the spring-applied secondary piston automatically applies the brakes.

Parking Brake. Oil-cooled, spring-applied, hydraulically released parking brake is applied to the rear wheels for superior parking capability on all grades up to 15 percent.



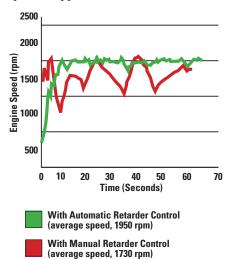


- 1 Service Brake Sensor
- 2 Engine Sensor
- 3 ARC
- 4 ARC Switch
- 5 Brakes
- **6 Service Brakes**
- 7 Axle Speed Sensor
- 8 TCS



Automatic Retarder Control (ARC).

Standard ARC electronically controls braking on grade to maintain engine at approximately 1,900 rpm (adjustable from 1,850-1,950 rpm in increments of 10). ARC is deactivated when the operator applies the brakes or throttle.



• Faster Speeds. ARC allows the operator to maintain optimum engine speeds for up to 15 percent faster downhill hauls and greater productivity.

- **Superior Control.** Automatic brake modulation offers a smoother ride and better control in slippery conditions, allowing the operator to concentrate on driving.
- **Ease of Operation.** ARC increases operating ease, resulting in greater operator confidence with less fatigue.
- Engine Overspeed Protection.

Automatically activates ARC when engine speed exceeds factory preset levels, regardless of operator inputs, to avoid potentially damaging engine overspeeds.

Traction Control System (TCS)

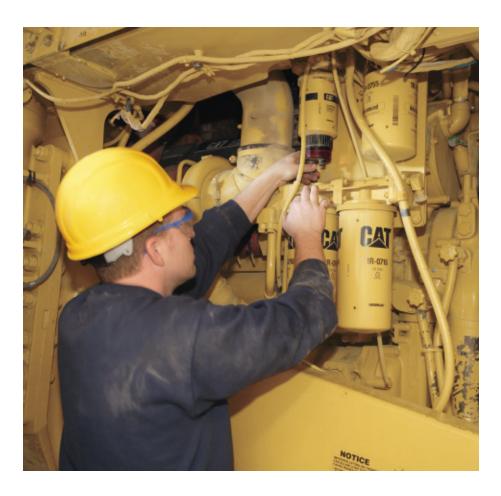
(optional). Electronically monitors and controls rear wheel slippage for greater traction and enhanced truck performance in poor underfoot conditions. If slippage exceeds a set limit, the oil-cooled disc brakes engage to slow the spinning wheel. Torque is then automatically transferred to the wheel with better traction.

Differential Action. Normal differential action provides superior maneuvering and control in slippery conditions.

Compression Brake (optional). Optional Compression Brake is integrated with Automatic Retarder Control (ARC) to provide up to 35 percent higher downhill travel speed and reduce wear on brake components.

Serviceability

Less time spent on maintenance means more time on the haul roads.



Servicing Ease. Easy access to daily service points simplifies servicing and reduces time spent on regular maintenance procedures. Enhanced serviceability and extended 500-hour service intervals are designed to increase machine availability and productivity.

Maintenance Platform. Easy stairway access to engine, air filters, steering hydraulic tank and radiator.

Ground-Level Access. Allows convenient servicing to tanks, filters, drains, battery disconnect and engine shutdown.

Engine Prelube. Engine prelubrication provides engine oil pressure prior to engine cranking. This reduces engine dry and cold start wear, and reduces engine component wear. This system automatically fills engine oil filters and galleries, and ensures components are lubed prior to starting the engine.

Scheduled Oil Sampling. S•O•SSM sampling valves speed sampling and analysis reliability.

Pressure Test Points. Disconnect valves are conveniently located throughout the hydraulic systems for easy pressure testing. New ECPC transmission provides multiple pressure taps outside the transmission.

Air Filters. Radial seal air filters are easy to change, reducing time required for air filter maintenance.

Sealed Electrical Connectors. Electrical connectors are sealed to lock out dust and moisture. Harnesses are braided for protection. Wires are color-coded for easy diagnosis and repair.

Spin-on Filters. Spin-on filters for fuel and oil systems reduce changing time and help ensure clean, tight seals.

On-Board Diagnostic Systems.

Messenger continuously checks all critical machine functions and components, and helps locate faults quickly for faster repair. Electronic control system enables quick diagnosis of engine conditions and effective maintenance and repairs using the Electronic Technician (Cat ET) service tool.

Lincoln's Quick Lube Automatic Lubrication (optional). This advanced lubrication system is available as a factory installed option on the 773F.

Clustered Grease Fittings (optional).Clustered grease fittings save time as all lubrication points are mounted in three main locations.

Oil Dipstick. New "rope-type" oil dipstick improves serviceability by allowing easy daily checks.

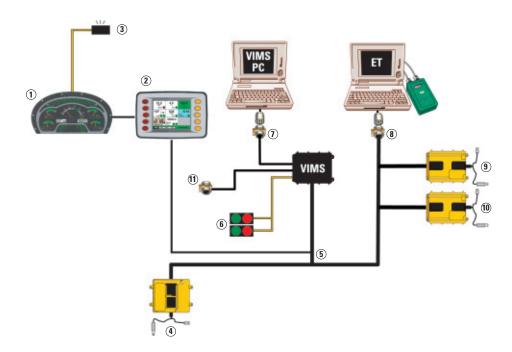
Next Generation Modular Radiator (NGMR). This cooling system's new modular design permits removal of a single core without removing the entire radiator, reducing downtime and repair costs. The less complex design offers improved reliability and higher efficiency over the two-pass flow core. NGMR also offers wider fin spacing for greater resistance to plugging and more convenient cleaning.

QuickEvac™ System. Oil change labor time is reduced by as much as 50 percent with this standard on-board engine oil evacuation and pre-lube system. It speeds the process of evacuating the engine sump and allows for the purging of oil filters prior to removal, minimizing oil spills. QuickEvac system also enhances contamination control by ensuring complete filtration of new oil on engine refill.

Reduced Maintenance Costs/Higher Machine Availability. The C27 engine with ACERT Technology offers 500-hour service intervals under normal conditions. For the 773F, commonly used engine service points have been placed on the right side of the engine. Feedback from engine sensors provides data to the electronic controller. When engine data is out of spec, a warning is sent to the operator.

Information & Monitoring Systems

Vital machine health and payload data keeps the 773F performing at peak production levels.



- 1 Gauge Cluster
- 2 Advisor Display
- 3 Action Alarm
- 4 ADEM A4 Engine Control Module
- 5 CAT Data Link
- 6 Payload Lamps
- 7 Data Port (VIMS-PC)
- 8 Diagnostic Connector (ET)
- 9 Automatic Retarder Control (ARC) and Traction Control System (TCS)
- 10 Transmission/Chassis Control (TCC) Module
- 11 Telemetry Port

Instrument Cluster. Critical operating information on the 773F is relayed via the Cat Data Link to five gauges, 18 LED indicator lights, and an LCD digital display.

Cat Messenger. Standard on the 773F, Cat Messenger provides real-time machine performance and operating data, and basic trip, maintenance, and diagnostic data using an LCD display. The viewable LCD screen area of the Messenger display is 22.5 mm × 84.6 mm (0.89 in × 3.33 in).

Truck Production Management System (TPMS) (optional). TPMS provides valuable payload and cycle time data to improve productivity.

- Uses strut pressure sensors and onboard microprocessor to determine payload weight.
- Delivers consistent, accurate payloads and improves efficiency by minimizing overloading and underloading.

- External lights signal loading tool operator when payload is reached.
- On-board computer stores up to 2,400 cycles for analysis of payload weight, cycle times, distances, and actual cycle dates and times.
- A second gear reweigh takes an additional measurement once the truck has reached second gear for improved accuracy.
- System is accurate within ± 5 percent under normal loading conditions over a normal shift.
- Standard LED lamps replace incandescent lamps on the TPMS, extending lamp life by 25 times.

VIMS™ Monitoring System (optional).

Caterpillar designed machine monitoring system provides more than 250 machine parameters, critical machine health and payload data in real-time to keep the 773F performing at top production levels.

Product Link (optional). Now available out of the factory, this system streamlines diagnostic efforts, downtime, and maintenance scheduling and costs by providing a two-way communication flow of vital machine data and location information between the dealer and the customer. Product Link provides updates on service meter hours, machine condition, machine location as well as integrated mapping/route planning.

MineStar™ Ready. MineStar information management system helps meet the challenges of the mining industry by linking the machines in the field with business and operating systems to ensure peak performance of mining assets at the lowest possible cost. These products deliver customers everything from real-time machine health information to GPS-guided production aids. The 773F is equipped for quick and easy installation of MineStar™ information management system products.

Truck Body Systems

Cat designed and built for rugged performance and reliability in the toughest hauling applications.



Body Selection. Selection of the right body system depends on material, haul road and loading conditions. The better the match of body to application, the greater the efficiency. Cat dealers can help select the right body system for site-specific applications.

Body/Chassis Integration. Caterpillar truck body systems are designed and matched with the integrated chassis system for optimum structural reliability, durability and long life.

Electronic Hoist Control. Provides the operator with better control of the load when dumping, including over-center load control and modulated control throughout the operating range. The automatic body snubbing feature reduces impact on the frame, hoist cylinders and operator.

Fast Hoist Cycle Times. Two-stage hoist cylinders provide fast dump cycle times of 9.5 seconds for raise and 12.5 seconds for lower.

Body Liners. Two liner materials, steel and rubber, are available to help extend body system life. All steel liner wear surfaces are equipped with 400 BHN steel to handle tough impact loads while resisting abrasion. Optional rubber liners deliver long life in high-wear and high-impact areas as well as increases operator comfort during loading.

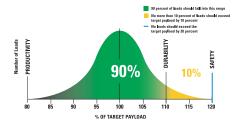


Body Design. With the introduction of the 773F, Caterpillar offers five application-specific body systems. Dual slope and flat floor body offerings are available in three steel configurations and two rubber configurations.

The new dual slope and flat floor body systems will continue to use fully fabricated, mild steel structures, offering a strong, yet weldable underbody structure. All interior, steel body surfaces that come in contact with material are fabricated from 400 BHN steel to provide superior wear characteristics and resistance to impact. Wide box-section ribs provide excellent durability and impact support in the floor, front-wall, sidewall, and top rail areas. Full-length stringer rails enhance strength and rigidity throughout the body. Other new features that further enhance durability of the understructure include:

- The body sidewall ties directly in with the floor, providing increased strength in the sidewalls.
- Thickness of ribs increased to 10 mm and the number of floor ribs have been increased from 7 to a total of 9 ribs.
- Front wall body rest supports are integrated into the front wall structure for enhanced durability.
- Front wall is 400 BHN and the thickness is increased from 10.2 mm (0.4 in) to 16.0 mm (0.63 in), eliminating the need for additional liners for impact resistance in most applications.





Target Payload Strategy. Your Cat dealer can help you manage to target payload to maximize equipment use, ensure safe operation, increase productivity and lower cost-per-ton.

- Underloading increases costs due to lost payloads, underutilizes equipment, and increases cost-per-ton.
- Overloading causes excessive wear on vehicle components, such as brakes, tires and drive train, reducing component life and increasing maintenance costs and repairs.

Matched Systems. Designed to work as an optimum pass/match system, the 773F is best sized to match the 988H Wheel Loader, with a 4 pass/match, the 990H Wheel Loader, with 3 pass/match, and the 385C Hydraulic Excavator with a 6 pass match.



Customer Support

Cat dealers have what it takes to keep trucks productive.

Commitment Makes the Difference.

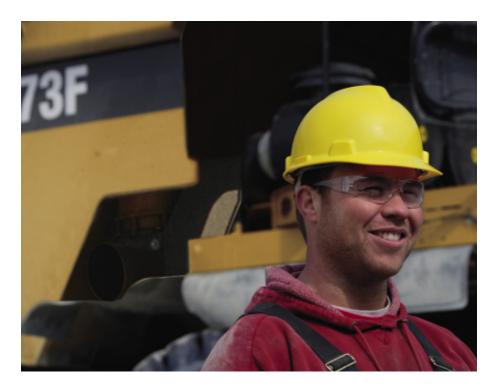
Cat® dealers offer a wide range of solutions, services and products that help you lower costs, enhance productivity and manage your operation more efficiently. Support goes far beyond parts and service. From the time you select a piece of Cat equipment until the day you rebuild, trade or sell it, the support you get from your Cat dealer makes the difference that counts.

Dealer Capability. Cat dealers provide the level of support you need, on a global scale. Dealer expert technicians have the knowledge, experience, training and tooling necessary to handle your repair and maintenance needs, when and where you need them.

Product Support. Cat dealers believe superior products deserve superior support. When Cat products reach the field, they are supported by a worldwide network of parts distribution facilities, dealer service centers, and technical training facilities to keep your equipment up and running. Cat customers rely on prompt, dependable parts availability and expertise through our global dealer network, ready to meet your needs 24/7.

Service Support. Every piece of Cat equipment is designed and built to provide maximum productivity and operating economy throughout its working life. Cat dealers offer a wide range of service plans that will maximize uptime and return on your investment, including:

- Preventive Maintenance Programs
- Diagnostic Programs, such as Scheduled Oil Sampling and Technical Analysis
- · Rebuild and Reman Options
- Customer Support Agreements



Application Awareness. Operating and maintenance costs are influenced by many application and site-specific factors, such as material density, loading position, payload, grades, speeds, haul road design and maintenance. To optimize total cost of ownership and productivity, your Cat dealer can provide you with a fundamental understanding of the effects application characteristics and operating techniques have on maintenance and operating costs.

Operation. With today's complex products, equipment operators must have a thorough understanding of machine systems and operating techniques to maximize efficiency and profitability. Your Cat dealer can arrange training programs to help operator's improve productivity, decrease downtime, reduce operating costs, enhance safety, and improve return on the investment you make in Cat products.

Technology Products. Cat dealers offer a range of advanced technology products, such as VIMS™ monitoring system and MineStar™ information management system. These products include radio data communications, machine monitoring and diagnostics, fleet management, and haul road maintenance software – all designed to improve fleet efficiency, increase productivity, and lower costs.

www.cat.com. For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at www.cat.com.

Safety

Caterpillar machines and systems are designed with safety as the first priority.

Product Safety. Caterpillar has been and continues to be proactive in developing machines that meet or exceed safety standards. Safety is an integral part of all machine and systems designs.

Integral ROPS Cab. Resiliently mounted to the frame to reduce vibration and sound, the integral ROPS structure, which provides "five-sided protection" for the operator, is designed as an extension of the truck frame.

Payload Guidelines. Safety is integral to maintaining the highest productivity in mining machine operation.
The Caterpillar 10/10/20 Payload Guidelines ensures that steering and braking systems have sufficient capacity to perform.

WAVS Camera (optional). An optional rear vision camera system provides visibility to the rear of the machine through an LCD monitor in the cab. The monitor can be set to activate only when the truck is in reverse, and the display is equipped with a sensor to detect ambient light, which automatically brightens or dims the display.

High Intensity Discharge (HID) Lights (optional). Thirty-five Watt HID lights can replace the standard high beam 65 Watt Halogen lights. The powerful HID lights are almost two times brighter and 50 percent more efficient, improving night time visibility.

Brake Systems. Cat hydraulically controlled dry front and rear oil-cooled multiple disc brakes provide exceptional, fade-resistant braking and retarding for maximum performance and productivity in all haul-road conditions. The service brakes and retarding system are actuated by modulated hydraulic pressure, while secondary and parking brake functions are spring applied and hydraulic released. This reliable and durable system ensures braking in the event of complete hydraulic failure.



Steering System. A twin, double-acting cylinder steering system is designed to deliver precise control under all loading and underfoot conditions. The steering hydraulic system is separate from the main hydraulic system to prevent crosscontamination and overheating.

Engine Shutoff Switch. A secondary engine shutoff switch is located at ground level.

Electrical System Disconnect. A battery disconnect switch, located directly above the front bumper, provides ground-level lockout of the electrical system.

Ladder/Secondary Egress. A wide, stationary stairway allows easy access to and from the machine. The ladder on the left side of the machine permits secondary egress.

A stairway lamp illuminates the cab access stairs and can be activated at ground level during entry and shut off with a switch in the cab.

Standard Safety Features.

- Slip resistant surfaces
- 75 mm (3 in) wide orange three-point operator restraint
- Heated, wide-angle mirrors
- · Body raised indicator
- · Guard rails
- Reverse neutralizer when dumping
- · Low interior sound level
- Service platform level transmission, hoist and steering disable switch
- Service platform level starter disable switch

Engine Engine Model Cat® C27 ACERT® Rated Engine Speed 1,800 rpm Gross Power – SAE J1995 552 kW 740 hp Net Power - SAE J1349 524 kW 703 hp Net Power - ISO 9249 524 kW 703 hp Net Power - 80/1269/EEC 524 kW 703 hp Number of Cylinders 12 Peak Torque 3399 N·m 2,507 lb ft Bore 137 mm 5.4 in

- Power ratings apply at 1,800 rpm when tested under the specified condition for the specified standard.
- Ratings based on SAE J1995 standard air conditions of 25° C (77° F) and 100 kPa (29.61 Hg) barometer. Power based on fuel having API gravity of 35 at 16° C (60° F) and an LHV of 42 780 kJ/kg (18,390 BTU/lb) when engine is used at 30° C (86° F).

152 mm

27 L

6 in

1,649 in³

• Compliant with U.S. Environmental Protection Agency Tier 3 and European Union Stage IIIa emissions standards.

Weights - Approximate

Stroke

Displacement

Target Gross Machine	100 698 kg	222,000 lb
Operating Weight		
Chassis Weight	31 633 kg	69,738 lb
Body Weight	12 961 kg	28,574 lb

- Chassis weight with 100% fuel, hoist, body mounting group, rims and tires.
- Body weight varies depending on how body is equipped.

Operating Specifications

Nominal Payload Class (100%)	55 tonnes	61 tons
Maximum Working Payload (110%)	60 tonnes	67 tons
Not to Exceed Payload* (120%)	66 tonnes	73 tons
Body Capacity – SAE 2:1	35 m³	45.8 yd³
Top Speed – Loaded	67.4 km/h	41.9 mph

- Nominal payload and capacity based on High Impact Steel Body with 20 mm (0.787 in) steel floor. Liner and attachment selection will affect payload and maximum gross machine operating weight.
- * Refer to Caterpillar 10/10/20 policy for maximum gross machine weight limitations.

Transmission

Forward 1	10.8 km/h	6.7 mph
Forward 2	15 km/h	9.3 mph
Forward 3	20.3 km/h	12.6 mph
Forward 4	27.3 km/h	17 mph
Forward 5	37 km/h	23 mph
Forward 6	49.9 km/h	31 mph
Forward 7	67.5 km/h	41.9 mph
Reverse	14.2 km/h	8.8 mph

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

Final Drives

Differential Ratio	3.64:1	
Planetary Ratio	4.80:1	
Total Reduction Ratio	17.49:1	

Brakes

Brake Surface – Front	1395 cm²	216 in ²
Brake Surface – Rear	61 269 cm ²	9,497 in ²
Brake Standards	ISO 3450: 1996	

 Target Gross Machine Operating Weight is 100 698 kg (222,000 lb).

Body Hoists

Pump Flow – High Idle	560 L/min	148 gal/min
Relief Valve Setting – Raise	17 225 kPa	2,500 psi
Relief Valve Setting – Lower	3450 kPa	500 psi
Body Raise Time – High Idle	9.5 Seconds	
Body Lower Time – Float	12.5 Seconds	3
Body Power Down – High Idle	12.5 Seconds	3

Capacity – Dual Slope – 100% fill factor

Struck	26.8 m³	35 yd³
Heaped 2:1 (SAE)	35.6 m ³	46.5 yd ³

Capacity – Flat Floor – 100% fill factor

Struck	25.9 m³	33.8 yd³
Heaped 2:1 (SAE)	35.1 m³	45.9 yd ³

Weight Distributions – Approximate Front Axle – Empty 51% Front Axle – Loaded 35% Rear Axle – Empty 49% Rear Axle – Loaded 65%

Suspension		
Effective Cylinder Stroke – Front	235 mm	9.25 in
Effective Cylinder Stroke – Rear	149 mm	5.9 in
Rear Axle Oscillation	8°	

Service Refill Capacities		
Fuel Tank	700 L	185 gal
Cooling System	175 L	46 gal
Crankcase	95 L	25 gal
Differentials and Final Drives	155 L	41 gal
Steering Tank	34 L	9 gal
Steering System (Includes Tank)	60 L	16 gal
Brake/Hoist System (Includes Tank)	307 L	81 gal
Torque Converter/ Transmission System	53 L	14 gal
Torque Converter/Transmission System (Includes Sump)	72 L	19 gal
Brake/Hoist Hydraulic System	133 L	35 gal

Tires	
Standard Tire	24.00R35 (E4)

- Productive capabilities of the 773F truck are such that, under certain job conditions, TKPH (TMPH) capabilities of standard or optional tires could be exceeded and, therefore, limit production.
- Caterpillar recommends the customer evaluate all job conditions and consult the tire manufacturer for proper tire selection.

ROPS

ROPS/FOPS Standards

- ROPS (Rollover Protective Structure) for cab offered by Caterpillar meets ISO 3471:1994 ROPS criteria.
- FOPS (Falling Objects Protective Structure) meets ISO 3449:1992 Level II FOPS criteria.

Sound

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.

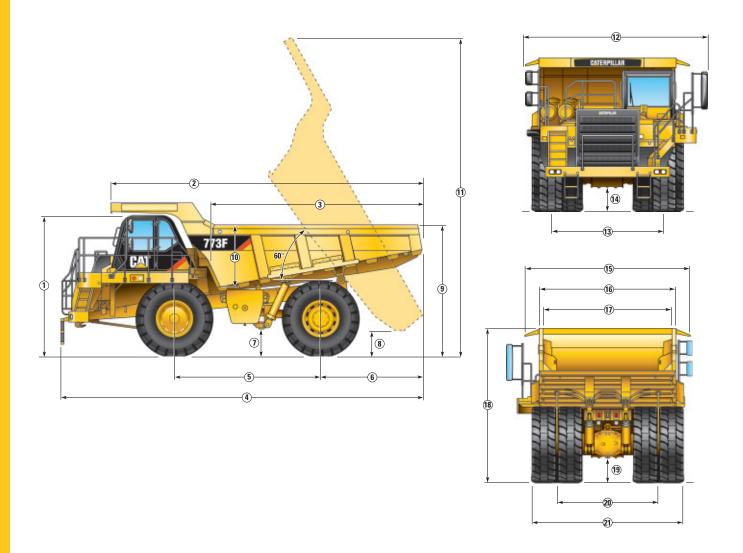
Steering

Steering Standards	ering Standards SAE J1511			
· ·	ISO 5010:1992			
Steer Angle	31°			
Turning Diameter – Front	23.5 m	77 ft 1 in		
Turning Circle Clearance	26.1 m	85 ft 8 in		
Diameter				

 Target Gross Machine Operating Weight is 100 698 kg (222,000 lb).

Dimensions

All dimensions are approximate. Shown with Dual Slope Body.



		Dual S	Slope	Flat F	loor	
1	Height to Top of ROPS	4116 mm	13 ft 6 in	4108 mm	13 ft 6 in	
2	Overall Body Length	9211 mm	30 ft 3 in	9293 mm	30 ft 6 in	
3	Inside Body Length	6254 mm	20 ft 6 in	6336 mm	20 ft 9 in	
4	Overall Length	10 249 mm	33 ft 7 in	10 334 mm	33 ft 11 in	
5	Wheelbase	4215 mm	13 ft 10 in	4215 mm	13 ft 10 in	
6	Rear Axle to Trail	2749 mm	9 ft	2837 mm	9 ft 4 in	
7	Ground Clearance	777 mm	2 ft 6 in	777 mm	2 ft 6 in	
8	Dump Clearance	616 mm	2 ft	626 mm	2 ft 1 in	
9	Loading Height – Empty	3818 mm	12 ft 6 in	3773 mm	12 ft 5 in	
10	Inside Body Depth –	1806 mm	5 ft 11 in	1806 mm	5 ft 11 in	
_	Max					
11	Overall Height – Body Raised	9261 mm	30 ft 5 in	9261 mm	30 ft 5 in	

		Dual	Slope	Flat Floor		
12	Operating Width	5425 mm	17 ft 10 in	5425 mm	17 ft 10 in	
13	Centerline Front Tire Width	3205 mm	10 ft 6 in	3205 mm	10 ft 6 in	
14	Engine Guard Clearance	700 mm	2 ft 4 in	698 mm	2 ft 4 in	
15	Overall Canopy Width	4735 mm	15 ft 6 in	4996 mm	16 ft 5 in	
16	Outside Body Width	3919 mm	12 ft 11 in	3917 mm	12 ft 11 in	
17	Inside Body Width	3658 mm	3658 mm 12 ft 3657		12 ft	
18	Front Canopy Height	4460 mm	14 ft 7 in	4435 mm	14 ft 7 in	
19	Rear Axle Clearance	earance 675 mm 2 ft 2 in 675 mm		675 mm	2 ft 2 in	
20	Centerline Rear Dual Tire Width	2929 mm	9 ft 7 in	2928 mm	9 ft 7 in	
21	Overall Tire Width	4406 mm	14 ft 6 in	4411 mm	14 ft 6 in	

Weight/Payload Calculation

(Example)

					Flat	Floor				
	Medium Impact Steel Body System (16 mm)		High Impact Steel Body System (20 mm)		Heavy Duty High Impact Steel Body System (25 mm)		High Impact Rubber Body System (102 mm)		Heavy Duty High Impact Rubber Body System Rubber Liner	
Target Gross Machine										
Weight* $- kg (lb)$		(222,000)		(222,000)		(222,000)		(222,000)		(222,000)
Empty Chassis Weight* – kg (lb)	31 633	(69,738)	31 633	(69,738)	31 633	(69,738)	31 633	(69,738)	31 633	(69,738)
Body System Weight – kg (lb)	12 905	(28,451)	13 483	(29,725)	15 068	(33,219)	13 770	(30,358)	14 505	(31,978)
Empty Machine Weight – kg (lb)	44 538	(98,189)	45 116	(99,463)	46 701	(102,957)	45 403	(100,096)	46 138	(101,716)
Attachments										
Fuel Tank Size – L (gal)	700	(185)	700	(185)	700	(185)	700	(185)	700	(185)
Fuel Tank – 90% fill – kg (lb)	531	(1,170)	531	(1,170)	531	(1,170)	531	(1,170)	531	(1,170)
Empty Operating Weight** – kg (lb)	45 069	(99,359)	45 647	(100,633)	47 232	(104,127)	45 934	(101,266)	46 669	(102,886)
Target Payload* – kg (lb)	55 629	(122,641)	55 051	(121,367)	53 466	(117,873)	54 764	(120,734)	54 029	(119,114)
Target Payload* – tonnes (tons)	55.63	(61.32)	55.05	(60.68)	53.47	(58.94)	54.76	(60.37)	54.03	(59.56)
					Dual	Slope				
	Steel Liner (16 mm)		Steel Liner (20 mm)		Steel Liner (25 mm)		Rubber Liner (102 mm)		Heavy-Duty Rubber Liner	
Target Gross Machine Weight* – kg (lb)	100 698	(222,000)	100 698	(222,000)	100 698	(222,000)	100 698	(222,000)	100 698	(222,000)
Empty Chassis Weight* – kg (lb)	31 633	(69,738)	31 633	(69,738)	31 633	(69,738)	31 633	(69,738)	31 633	(69,738)
Body System Weight – kg (lb)	12 961	(28,574)	13 536	(29,842)	15 008	(33,087)	13 769	(30,355)	14 488	(31,941)
Empty Machine Weight – kg (lb)	44 594	(98,312)	45 169	(99,580)	46 641	(102,825)	45 402	(100,093)	46 121	(101,679)
Attachments										
Fuel Tank Size – L (gal)	700	(185)	700	(185)	700	(185)	700	(185)	700	(185)
Fuel Tank -90% fill $-kg$ (lb)	531	(1,170)	531	(1,170)	531	(1,170)	531	(1,170)	531	(1,170)
Empty Operating Weight** – kg (lb)	45 125	(99,482)	45 700	(100,750)	47 172	(103,995)	45 933	(101,263)	46 652	(102,849)
Target Payload* – kg (lb)	54 884	(122,518)	54 998	(121,250)	53 526	(118,005)	54 765	(120,737)	54 046	(119,151)
Target Payload* – tonnes (tons)	54.88	(61.26)	55.00	(60.63)	53.53	(59.00)	54.77	(60.37)	54.05	(59.58)

^{*} Refer to Caterpillar 10/10/20 overload policy. ** Includes weight of all attachments.

Retarding Performance

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/t (20 lb/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

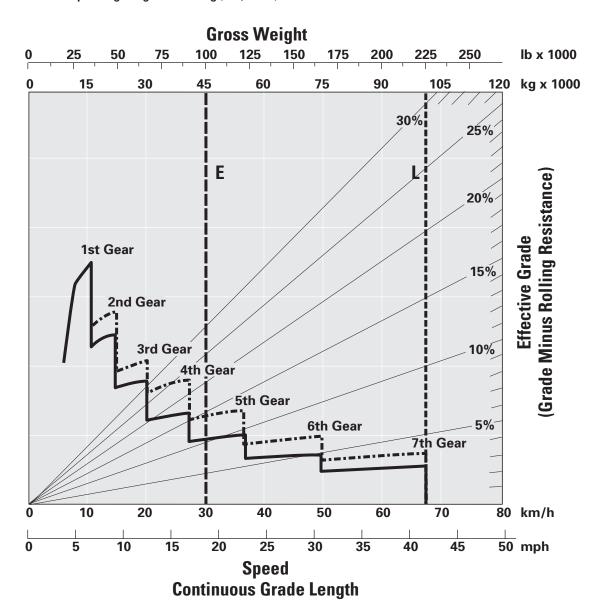
cooling capacity. The following charts are based on these conditions: 32° C (90° F) ambient temperature, at sea level, with 24.00 R35 tires.

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.

With ARC Only ----- ARC and Engine Brake

E - Typical Field Empty Weight

L - Target Gross Machine Operating Weight 100 698 kg (222,000 lb)



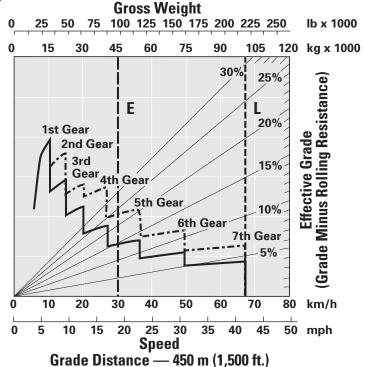
Retarding Performance

With ARC Only

----- ARC and Engine Brake

E - Typical Field Empty Weight

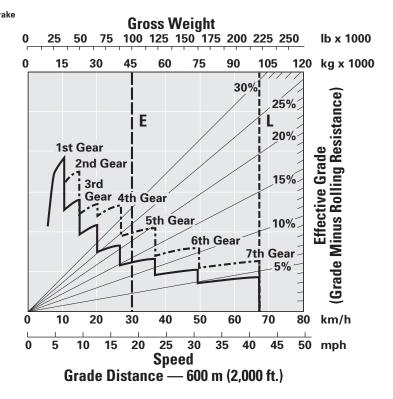
L – Target Gross Machine Operating Weight 100 698 kg (222,000 lb)



With ARC Only

----- ARC and Engine Brake

L – Target Gross Machine Operating Weight 100 698 kg (222,000 lb)



E – Typical Field Empty Weight

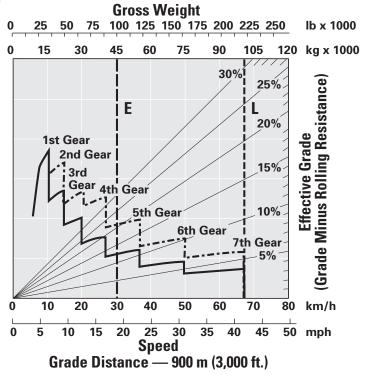
Retarding Performance

With ARC Only

----- ARC and Engine Brake

E - Typical Field Empty Weight

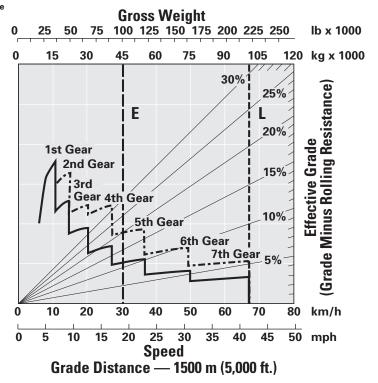
L – Target Gross Machine Operating Weight 100 698 kg (222,000 lb)



With ARC Only
----- ARC and Engine Brake

E – Typical Field Empty Weight

L – Target Gross Machine Operating Weight 100 698 kg (222,000 lb)



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/t (20 lb/ton) of rolling resistance. From this weight-resistance point, read

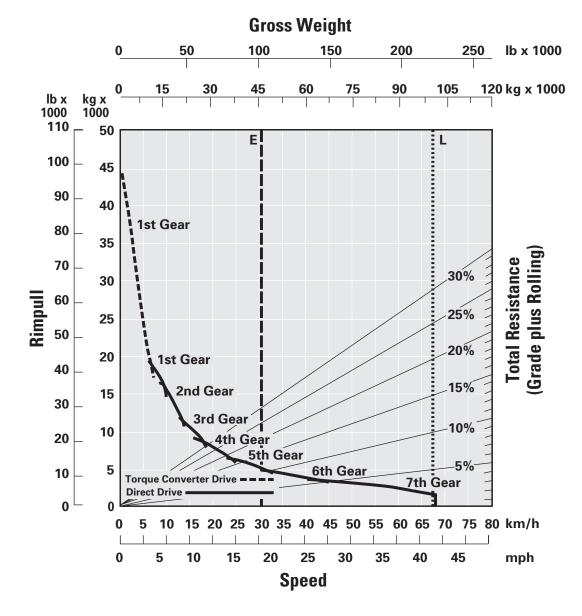
horizontally to the curve with the highest obtainable gear, then down to maximum speed. Usable rimpull will depend upon traction available and weight on drive wheels.

With ARC Only

----- ARC and Engine Brake

E - Typical Field Empty Weight

L - Target Gross Machine Operating Weight 100 698 kg (222,000 lb)



Standard Equipment

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

OPERATOR ENVIRONMENT

Air conditioning

Ashtray and cigarette lighter

Coat hook

Cup holders (4)

Diagnostic connection port, 24V

Entertainment Radio Ready

5 amp converter

Speakers

Antenna

Wiring harness

Gauges/indicators:

Air cleaner service indicator

Brake oil temperature gauge

Coolant temperature gauge

Engine overspeed indicator

Fuel level

Hour meter

Speedometer/odometer

Tachometer

Transmission gear indicator

Heater/defroster, (11 070 kCal/43,930 BTU)

Hoist lever

Horn

Light, dome/courtesy

Load counter, automatic

Messenger display unit

Mirrors, heated (left/right)

Power port, 24V and 12V (2)

ROPS cab, insulated/sound suppressed

Seat, Caterpillar Comfort

Full air suspension

Retractable, 3-point seat belt with shoulder harness

Seat, training with lap belt

Steering wheel, padded, tilt and telescopic

Storage compartment

Sun visor, tinted glass

Throttle lock

Windshield wiper (intermittent) and washer

POWER TRAIN

Cat® C27 Engine with ACERT® Technology

12-cylinder diesel

Air-to-Air Aftercooler (ATAAC)

Air cleaner with precleaner (2)

Automatic cold mode idle control

Electric priming pump

Ether starting aid

Exhaust, body heat

Fuel filter/water separator

QuickEvacTM System with engine prelube

Turbocharger (2)

Braking system:

Automatic Retarder Control (ARC) (utilizes rear

oil-cooled brakes)

Brake release motor (towing)

Manual retarder (utilizes rear oil-cooled brakes)

Oil-cooled, multiple disc (rear)

Front dry disc brakes

Transmission:

7-speed automatic powershift w/Electronic

Clutch Pressure Control (ECPC)

Body up shift inhibitor

Controlled throttle shifting

Directional shift management

Downshift inhibitor

Neutral start switch

Neutral coast inhibitor

Reverse shift inhibitor

Reverse neutralizer during dumping

Programmable top gear selection

ANTIFREEZE

Extended Life Coolant to -35° C (-30° F)

ELECTRICAL

Alarm, backup

Alternator, 50-amp

Auxiliary jump start receptacle

Batteries, maintenance-free, 12V (4), 190 amp-hour

Electrical system, 25-amp, 24V to 12V converter

Lighting system:

Backup light (halogen)

Directional signals/hazard warning, (front/rear LED)

Headlights, halogen with dimmer

Operator access courtesy lights

Side profile lights

Stop/tail lights LED

MineStarTM Ready

Product Link Ready (Level 1)

Standard Equipment

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

GUARDS

Engine crankcase

Driveline

Fan and Air Conditioning

SUSPENSION SYSTEM

Suspension, rear (European Union compliant)

OTHER STANDARD EQUIPMENT

Body mounting group

Body safety pin (secures body in up position)

Body down indicator

CD-ROM parts book

Center mounted rims

Direct drive fan

Fuel tank, 700 L (185 gal)

Ground level battery disconnect

Ground level engine shutdown

Ground level grease fittings

Rims

Rock ejectors

Service platform level engine start/disable switch

Service platform level transmission, hoist and

steering disable switch

Supplemental steering (automatic)

Tow hooks, front

Tow pin, rear

Vandalism protection locks

Optional Equipment

Optional equipment may vary. Consult your Cat dealer for details.

Optional Body Systems:

Body Liner, Dual Slope/Flat Floor, Steel, 16 mm, 20 mm

or 25 mm

Body Liner, Dual Slope/Flat Floor, Rubber, High Impact

or Heavy Duty

Cat Compression Brake

Lincoln Quick Lube Automatic Lubrication System

Clustered Grease Fittings

Electric cold weather starter

Engine Coolant Heater

Extended Life Disc Brakes

Fast Fuel, Non-pressurizing

Fuel Heater

HID Lights

Hoist Control

Muffler Exhaust Body

Product Link (Level 3)

Rockford Fan

Spare Rim, 17 in

Traction Control System (TCS)

Truck Production Management System (TPMS)

VIMSTM Monitoring System

Work Area Vision System (WAVS) Rear Vision Camera

Wheel Chocks

Wiggins High Speed Oil Change

Wiggins Service Center

773F Off-Highway Truck

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