IT28G

Integrated Toolcarrier



Engine		
Model	Cat® 3056E DIT ATAAC	
Flywheel Power	97.8 kW	131 hp
Max. Flywheel Power	107 kW	144 hp
Buckets		
Bucket Capacities	2.0 m^3 - 5.35 m^3	2.5 yd^3 - 7.0 yd^3
Weights		
Maximum Weight	12 134 kg	26,751 lb

IT28G Integrated Toolcarrier

Offering world class performance, value and reliability.

Caterpillar® Power Train

✔ The IT28G uses a Caterpillar power train for reliable, long life. The Caterpillar 3056E DIT ATAAC six-cylinder engine with Cat power shift transmission are performance-matched to the torque converter and axles for smoother performance and greater operator comfort. **pg. 4**

Operator Station

✔ The IT28G operator station is ergonomically designed to create a comfortable work area. Easy-to-use machine controls and a new gauge console reduce operator fatigue and increase efficiency and productivity. **pg. 6**

Hydraulic System

The robust hydraulic system offers fast loading cycles, easy reconfiguration and exceptional ride control. **pg. 8**

Environmentally Responsible Design

✔ Quiet operation, low engine emissions, less fluid disposal and clean, easy servicing help you meet worldwide regulations and protect the environment. **pg. 13**

Complete Customer Support

Caterpillar dealers offer unmatched customer support, with excellent warranty programs and fast parts availability, resulting in maximum uptime and minimum repair costs. **pg. 14**

High horsepower and torque rise, strong hydraulics and superior load control make the IT28G a solid and versatile performer. Interchangeability of work tools makes this machine ideal for a wide range of jobs.



Serviceability

Perform daily maintenance with easy ground-level access to all major service points. Gull-wing doors provide excellent engine access and a swing-out fan simplifies radiator service. **pg. 9**

Work Tools

A wide range of Caterpillar Work Tools are available to meet the needs of your job site applications. The machine's quick coupler system allows the operator to quickly change from one high performance work tool to another without leaving the cab. **pg. 10**

Owning & Operating Costs

Extended service intervals, advanced electronic warning system, lower fuel consumption and faster cycle times save you time and money. **pg. 12**



✔ *New Feature*

Caterpillar Power Train

Rugged, dependable Cat components deliver maximum rimpull to the ground and full power to the loader hydraulics.



Caterpillar Engine. The six-cylinder 3056E Direct Injection Turbocharged (DIT) engine with Air-to-Air After Cooler (ATAAC) has a proven reputation for reliability, durability and performance. Fuel injection is electronically controlled for precise timing.

Torque Rise. The engine features a 48% torque rise for increased power during heavy-duty use.

Emission Standards. The 3056E DIT ATAAC engine meets worldwide emissions standards.

Cylinders. Low cylinder pressure rise and low peak pressure provide outstanding reliability and durability.

Cooling System. Engine and cooling system are in separate compartments for clean, quiet operation and easy service.

Air-to-Air After Cooling. Air-to-air after cooling reduces engine emissions.

Electronic Control Module. The Caterpillar engine control module not only controls the timing needs of the engine but also monitors critical systems to maintain optimum performance and provide engine protection.

Service Intervals. The recommended engine oil change requirement is every 500 hours of operation.

Axles. Heavy-duty design features strong gears and bearings for durable performance. Oscillating rear axle helps assure four-wheel ground contact for optimum traction and stability.

Brakes. Oil-disc brakes are adjustment-free and fully enclosed.

Optional Heavy-Duty Brakes. Optional heavy-duty brakes provide additional brake discs and axle oil cooler for severe applications.

Duo-Cone® Seals. Duo-Cone Seals keep oil in and contaminants out.

Limited Slip Differentials. Optional front and rear Limited Slip Differentials provide improved traction in poor or uneven underfoot conditions.

Transmission. Rugged, field-proven Caterpillar 4F/3R transmission uses heavy-duty components for durable and reliable operation. High-energy friction materials allow for better heat tolerance while thick reaction plates allow for better heat dissipation. The transmission is also designed for easy service and rebuild.

Electronic Clutch Pressure Control. The Electronic Clutch Pressure Control (ECPC) manages shift torque providing exceptional smoothness.

Gears. High-contact ratio spur gears are precision ground and heat treated for quiet, durable operation.

Shifting Options. Operator can select manual shift or two autoshift modes (full throttle or variable shift control). Full throttle selection provides maximum acceleration while variable selection increases fuel economy and improves operator comfort.

Operator Station

Ergonomic design emphasizes comfort, visibility and easy operation.





Instrument Panel. Redesigned instrument panel is conveniently located with easy-to-read gauges and expanded warning/indicator and diagnostic functions.

Electronic Engine Speed Control. A specific engine RPM can be set and maintained with a switch in the cab.

Steering System. The load-sensing, closed-center steering system with flow amplification matches steering response to a wide variety of applications. The adjustable steering console lifts easily out of the way. Dual suspended brake pedals function as a brake and a transmission neutralizer so the operator can maintain high engine RPM for full hydraulic flow and fast cycle times.

Cab. The ergonomic cab provides a comfortable work environment with large windows, spacious interior room, generous storage areas and low interior sound levels.

Access/Egress. Access/egress is through a two-door design. Both doors open fully and lock flush against the cab. Steps leading up to the cab are wide and angled out for secure footing.

Windows. Large windows improve visibility in all directions. The rear window features a standard electric defroster. Sliding glass is available as an option on the doors.

Visibility. Visibility to critical areas such as the bucket have been optimized. Lift arm spacing is wide and linkage geometry maximizes visibility throughout the production cycle.



Low Effort Operation. Hydraulic joystick controls provide ease of lift and tilt functions. A single joystick is standard. An integrated directional control switch on the joystick provides easy operation and enhanced productivity. A two lever control is optional.

Seat. The standard seat is available in cloth or vinyl with fully adjustable fore/aft position, seatback angle, bottom cushion height, armrest angle and suspension stiffness. Other seat options include:

- Cat Contour Seat, fabric, with adjustable backrest and lumbar support.
- Cat Contour Seat, fabric, electrically adjustable with air suspension.

Seat Belt. All seats include a comfortable 75 mm (3 inch) wide retractable seat belt.



Storage. Generous storage space includes a lockable compartment, coat hook and special molded compartments designed to hold a lunchbox/cooler, cup or can. A tool box is also included.

Customize the Cab. The cab can be customized with:

- 12V converter for powering electronics such as cellular phones, two-way radios and music systems
- Radio installation packages
- Sun visor for windshield
- Roll-down sun screen for rear window
- External mirror package
- Auxiliary lighting packages

Hydraulic System

Hydraulic system provides improved efficiency and greater control.



Precise Control. Designed by Caterpillar, the hydraulic system provides low effort operation and superior control.

Performance. Fast loader cycle times result in greater productivity. The hydraulic system is matched to the power train for outstanding performance.

Joystick Control. Low effort, joystick implement control improves efficiency with simultaneous lift and tilt functions.

Tilt Cylinder. Large tilt cylinders deliver exceptional backdrag performance.

Hoses. Caterpillar XT™ hoses and couplings provide rugged, reliable performance with significantly reduced risk of leaks and blown lines.

Dual Circuit Control Valve. The IT28G comes standard with a control valve for lift and tilt functions. Up to two additional valve sections can be stacked on the existing ones for additional functions.

Ground Level Access. The control valves feature convenient ground level access for easy modifications to the system.

Pumps. Separate steering and implement pumps improve machine response.

Load-Sensing Steering. Load-sensing steering provides low effort operator control, making more power available for rimpull and breakout and lift forces.

Pressure Taps. Standard pressure taps allow quick diagnosis of the entire hydraulic system.

Optional Ride Control System. The improved Ride Control System provides a comfortable ride at all speeds and improved hard bank digging. Three modes are available: auto, on and off.

Serviceability

Improved access and fewer maintenance requirements add up to unparalleled ease of service.

Easy Access. Gull-wing engine enclosure doors with gas struts lift for exceptional access to filters and service points. Radiator and oil coolers are easily accessible for cleaning.

Simplified Routine Service. All service points are accessible from the ground level. Easily check radiator coolant, hydraulic oil and transmission oil levels with sight gauges.

Swing-out Cooling Fan. A swing-out cooling fan allows quick, easy cleaning and service of the radiator. The fan is hydraulically driven and separate from the engine compartment for exceptional low noise operation.

Optional Reversing Fan. Optional reversing capability of fan cleans screens without interrupting machine operation.

S•O•S℠ Ports. Scheduled Oil Sampling ports are factory installed for improved access to engine, transmission and hydraulic oils. S•O•S ports make oil sampling quicker, cleaner and provide the best oil sample for analysis.

Oil Filters. Spin-on filters for engine oil, transmission oil and hydraulic oil are vertically mounted for easier servicing.

Self-Diagnostics. Self-diagnostic transmission and data link allows quick, easy troubleshooting by service personnel. Service codes are easily accessible through the gauge console.



Extended Life Coolant/Antifreeze. Cat Extended Life Coolant/Antifreeze allows extended operation (up to 6,000 hours) between changes.

Other Service Features. Other service features include:

- Maintenance-free driveshaft
- Stationary radiator and coolant hoses
- Standard hydraulic oil cooler
- Adjustment-free brakes
- Adjustment-free engine fuel system
- Grouped grease fittings
- Positive torque hose clamps
- Braided, color coded and numbered wiring

Work Tools

Increase your productivity by performing a variety of jobs with one machine.



Versatility. With a variety of work tools offered by Caterpillar, the IT28G is ideal for a wide range of applications.

Quick Coupler. Work tools can be changed quickly and easily with the machine's integral quick coupler system. A switch in the operator compartment activates a hydraulic cylinder for positive tool engagement or disengagement. Visibility is excellent to the outside edges of buckets and work tools.

Buckets. The IT28G demonstrates strong performance as a bucket loading machine. A wide range of Caterpillar buckets are available including:

- general purpose
- penetration
- light material
- multi purpose
- side dump
- high dump
- refuse

Material Handling. Exceptional visibility and heavy-lift capabilities make the IT28G an efficient material handler. Work tools available include:

- pallet forks
- lumber & log forks, with or without top clamp, coupler-mounted or pin-on
- material handling arm
- specialty clamps

Special Applications. A variety of specialty tools are available including:

- dozer blades
- snow plows
- hydraulic brooms
- asphalt cutter
- loader rakes

For applications not requiring tool changes, the IT28G is also available for use with pin-on work tools.



Parallel Lift Loader Linkage. The IT28G's 8-bar parallel design linkage keeps work tools such as forks level throughout the range of lift without adjustment by the operator. Superior load control is provided by more tilt capacity than lift in all positions. Long lift arms, tall front tower and high pivot points offer more height and reach than conventional loaders.

Waste Handling Configuration. An optional waste handling configuration is available for the IT28G. The package includes special guarding for the cab, lights, rear and bottom structures.



Auxiliary Hydraulics. Optional 3rd and 4th function hydraulics are available for use with tools that require hydraulic power, such as rotary brooms, augers, high-dump and side dump buckets, and others.

Owning & Operating Costs

Cost saving features help improve your bottom line.



Low Fuel Consumption. The 3056E DIT ATAAC engine features low fuel consumption for more economical operation.

Increased Power, Faster Cycle Times. Higher horsepower and increased torque rise result in more power and faster cycle times, allowing the operator to get more work done in a day.

Extended Service Intervals. Service intervals have been extended to reduce machine service time and increase machine availability:

- 4,000 hour hydraulic oil change (S•O•S sampling required)
- 1,000 hour hydraulic filter change
- 500 hour engine oil change

Smoother Transmission for Increased Productivity. A smoother shifting transmission provides a more comfortable work environment, allowing the operator to be more productive throughout the entire work shift.

Demand Fan. Demand fan changes speed to meet cooling requirements and save fuel.

Engine Derate Feature. Auto Derate monitors vital engine systems and will derate the engine horsepower up to 50% to protect the engine.

Product Link Option. Caterpillar's asset management or equipment management system called Product Link, enables dealers and their customers to track equipment for hours and location, and in some cases monitor machine health. This easy to use system provides information flow between a machine and the user through the internet based Dealer Storefront. This information helps lower operating costs through timely service/repairs and optimized machine use.

Machine Security System Option. The Machine Security System (MSS) inhibits unauthorized machine use by immobilizing vital electrical circuits. Critical machine circuits are inhibited unless a valid key is used to start the machine.

Environmentally Responsible Design

Caterpillar machines not only help you build a better world, they help maintain and preserve the fragile environment.

Low Fuel Consumption. The IT28G is the top performer in its size class. The result is more work done in a day, less fuel consumed and minimal impact on the environment.

Low Exhaust Emissions. The Cat 3056E DIT ATAAC is a low emission engine designed to meet current worldwide emission regulations and is Tier 2 compliant.

Quiet Operation. The engine cooling system allows the engine to be fully enclosed, allowing less engine noise to escape. With the optional sound suppression package, the IT28G is even quieter.

Ozone Protection. To help protect the earth's ozone layer, the air conditioning unit uses only R-134a refrigerant which does not contain harmful chlorofluorocarbons (CFC's).

Fewer Leaks and Spills. Engine oil, transmission and hydraulic filters are positioned vertically and are easily removed without spillage. Cat O-ring face seals, XT hose and hydraulic cylinders are all designed to help prevent fluid leaks that can weaken the machine's performance and cause harm to the environment.

Rebuildable Components. All major components are designed for rebuildability.



Biodegradeable Hydraulic Oil.
Caterpillar biodegradeable hydraulic oil can be used in the IT28G, providing an environmentally-sound alternative to mineral-based oils.

Complete Customer Support

Cat dealer services ensure a longer machine operating life with lower costs.



Selection. Make detailed comparisons of machines before purchasing. What are the job requirements? What production is needed? What is the true cost of lost production? Your Cat dealer can give you precise answers to these questions.

Purchase. Look at the value the IT28G offers. Consider the financing options your Cat dealer offers as well as day-to-day operating costs. Dealer support services that can be included in the cost of the machine to yield lower equipment owning and operating costs over the life of the machine.

Maintenance. Choose from a wide range of maintenance services at the time of machine purchase. Repair option programs guarantee the cost of repairs up front. Diagnostic programs such as S•O•S Oil Analysis and Technical Analysis help avoid unscheduled repairs that can cost unnecessary time and money.

Replacement. Repair, rebuild or replace? Your Cat dealer can help you evaluate the cost involved to make the right choice.

Product Support. You will find nearly all parts at our dealer parts counter. Cat dealers utilize a worldwide computer network to find in-stock parts to minimize machine downtime. Additionally, Caterpillar offers a line of genuine remanufactured components which can help lower repair costs.

Operation. For the best operating techniques to increase productivity and your profit, turn to your Cat dealer for the latest training literature and trained staff.

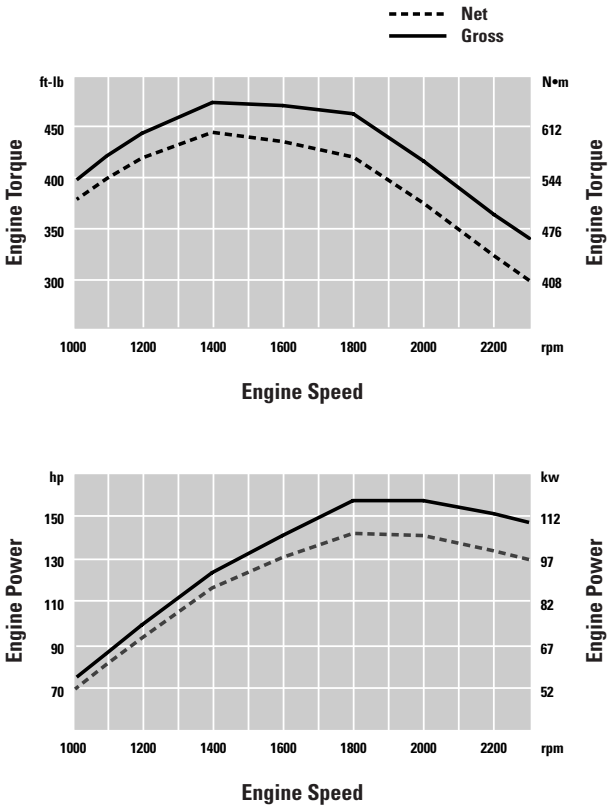
www.CAT.com. For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at www.CAT.com. Specializing in fast, accurate and up-to-date information, the Cat web site delivers the information you need to operate your business, 24-hours a day.

Engine

Model	Cat 3056E DIT ATAAC	
Flywheel Power	97.8 kW	131 hp
Max. Flywheel Power	107 kW	144 hp
Caterpillar	98 kW	131 hp
ISO 9249 (1997)	98 kW	131 hp
EEC 80/1269	98 kW	131 hp
SAE J1349:90	98 kW	131 hp
Bore	100 mm	3.94 in
Stroke	127 mm	5 in
Displacement	6 L	366 in^3

- Ratings at 2300 RPM.
- Net power shown is the power available at the flywheel when the engine is equipped with air cleaner, fan, muffler and alternator.
- No derating required up to 3000 m (9,843 ft) altitude.
- Auto Derate protects the engine, hydraulic and transmission systems.
- The Caterpillar 3056E DIT ATAAC engine meets Tier 2 off-highway emission regulations.
- Features:
  - Electronically controlled rotary fuel pump
  - Three-ring, controlled expansion, lubricated pistons
  - Gear-driven water and oil pumps
  - One-piece cast iron cylinder heads with two valves per cylinder
  - Fuel priming pump and fuel/water separator
  - S•O•S sampling port for engine oil
  - Replaceable dry liners
  - Cast aluminum valve cover
  - Radiator is easily accessed for cleaning

Engine Torque



Weights

Operating Weight	12 134 kg	26,751 lb

- Specifications shown are the IT28G with optional counterweight, standard lubricants, full fuel tank, ROPS cab, 2.0 m^3 (2.6 yd^3) bucket with bolt-on cutting edge, 80 kg (176 lb) operator and 20.5 - 25 12PR (L2) tires.

Steering

Minimum turning radius (over tire)	5233 mm	206 in
Steering angle, each direction	40°	
Steering cylinders, two, bore	69.9 mm	2.75 in
Hydraulic output at 2300 engine rpm and 6900 kPa (1000 psi)	104 L/min	27 gal/min
Maximum working pressure	20 700 kPa	3,000 psi

- Fully hydraulic power steering.
- Center-point frame articulation.
- Front and rear wheels track.
- Separate variable displacement piston pump provides steering power at all engine and ground speeds.
- Tilt steering console.
- High-impact rubber steering stops.
- Secondary steering system available to meet roading regulations in various countries, and to meet ISO 5010.

Loader Hydraulic System

Output at 2300 engine rpm and 6900 kPa (1000 psi) with SAE 10W oil at 65°C (150°F)	151.6 L/min	40.3 gal/min
Hydraulic cycle time:		
Raise	6.1 Seconds	
Dump	1.4 Seconds	
Lower, empty, float down	2.8 Seconds	
Total	10.3 Seconds	
Relief valve setting	22 100 kPa	3,200 psi
Lift cylinders, double acting:		
Bore	120.6 mm	4.75 in
Stroke	685 mm	27 in
Tilt cylinder, double acting:		
Bore	101.6 mm	4 in
Stroke	755 mm	29.7 in

- Open-centered system.
- Fixed displacement vane-type implement pump.
- Low effort, hydraulic joystick controls.
- Electronic pilot shut-off switch disables implement functions for added safety.
- Hydraulic couplings with O-ring face seals.
- Optional heavy-duty oil cooler.
- Improved Ride Control System available to provide improved ride with less spillage from bucket during load & carry operations and better hard bank capability.

Service Refill Capacities

Fuel tank	216 L	57.1 gal
Cooling system	42 L	11.1 gal
Crankcase	21 L	5.5 gal
Transmission	34.5 L	9.1 gal
Differentials and final drives:		
Front	26 L	6.9 gal
Rear	25 L	6.6 gal
Hydraulic system (including tank)	125 L	33 gal
Hydraulic tank	70 L	18.5 ga

Transmission

Standard transmission, max travel speeds:		
Forward 1	7.9 kph	4.9 mph
Forward 2	12.6 kph	7.8 mph
Forward 3	25.8 kph	16 mph
Forward 4	37.7 kph	23.4 mph
Reverse 1	7.9 kph	4.9 mph
Reverse 2	12.6 kph	7.8 mph
Reverse 3	25.8 kph	16 mph

- Electronically-controlled Caterpillar countershaft transmission with full on-the-go directional and speed change capability.
- High-energy friction materials and thick reaction plates for better tolerance of heat.
- High-contact ratio spur gears are precision ground and heat treated for quiet, reliable operation.
- Electronic autoshift is standard.
- Button on implement control lever allows downshifting on demand.
- Computer controlled modulation provides smoother transitions.

Axles

Features:

- Fixed front, oscillating rear (±11°) allows rear movement of 480 mm (18.9 in).
- Caterpillar axle with fully-enclosed brakes and final drives.
- Patented Duo-Cone Seals between axle and housing.
- Limited Slip Differentials are optional on front, rear or both axles.
- Rear axle trunnion has remote lubrication fitting.
- Planetary final drives are lubricated from the main oil sump.
- High contact ratio gearset reduces noise levels during meshing.

Tires

Choice of:

- 17.5 - 25, 12PR (L-2)
- 17.5 - 25, 12PR (L-3)
- 17.5 - R25, radial (L-2)
- 17.5 - R25, radial (L-3)
- 17.5 - R25, radial (L-2/L-3)
- 20.5 - 25, 12PR (L-2)
- 20.5 - 25, 12PR (L-3)
- 20.5 - R25, radial (L-2)
- 20.5 - R25, radial (L-3)
- 20.5 - R25, radial (L-2/L-3)
- 550/65R25, radial (L-2)
- 550/65R25, radial (L-3)
- Other tire choices are available, contact your Cat Dealer for details.
- In certain applications, the loader's productive capabilities may exceed the tire's tonnes-km/h (ton-mph) capabilities. Caterpillar recommends that you consult a tire supplier to evaluate all conditions before selecting a tire model.

Brakes

Features:

- Service brake:
  - Inboard oil-immersed disc brakes on front and rear axles are standard.
  - Completely enclosed and sealed.
  - Adjustment-free.
  - Separate circuits for front and rear.
  - Dual pedal braking system
  - Fully integrated with hydraulic system, no air system required.
- Secondary brake:
  - Indicator light alerts operator if brake pressure drops.
  - Continually-charged nitrogen accumulators provide stopping power after loss of engine power.
- Parking brake:
  - Mechanical, shoe-type brake.
  - Mounted on drive line for positive manual operation.
  - Application of parking brake neutralizes the transmission.
- Optional heavy-duty brakes with integrated oil cooler.

Cab

ROPS	SAE J1040 MAY94, ISO 3471-1994
FOPS	SAE J231 JAN81, ISO 3449-1992 Level II

- Caterpillar cab and Rollover Protective Structure (ROPS) are standard in North America and Europe.
- When properly installed and maintained, the cab offered by Caterpillar, when tested with doors and windows closed as per work cycle procedures specified in ANSI/SAE J1166 May 90, results in operator sound exposure Leq (equivalent sound pressure level) of 74 dB(A).
- As manufactured by Caterpillar, this machine's exterior sound power level meets the criteria spelled out in the European Directives noted on the certificate of conformance and the accompanying labeling.

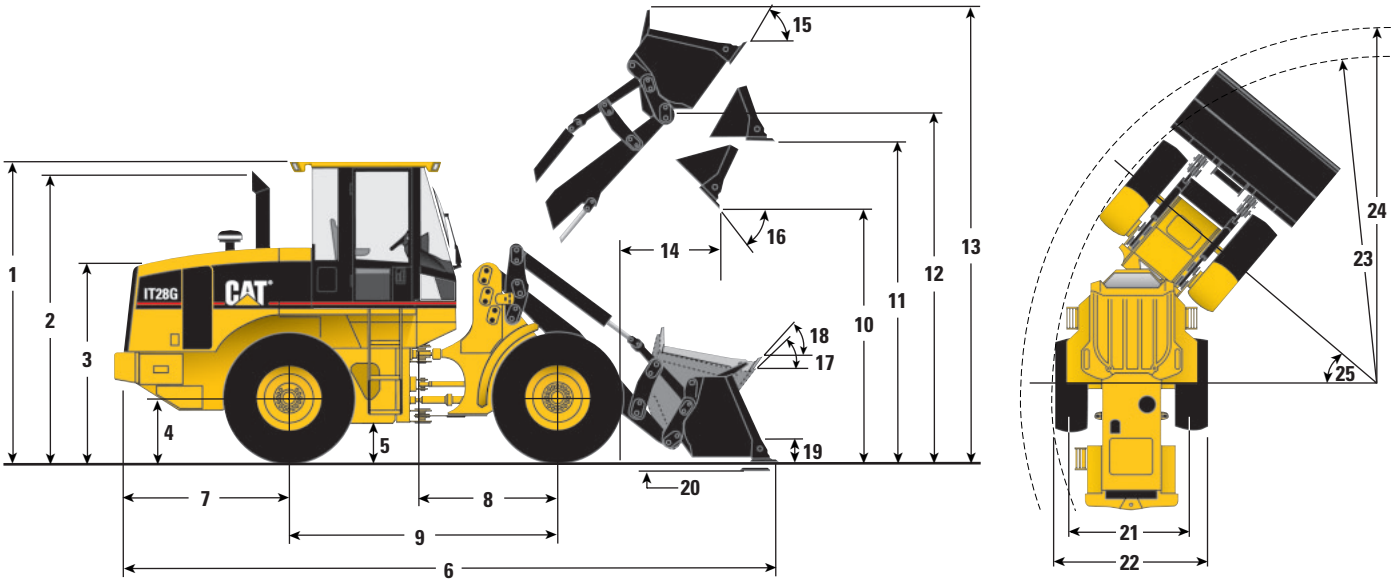
Bucket Controls

Features:

- Lift circuit:
  - Four positions: raise, hold, lower and float.
  - Adjustable automatic kickout from horizontal to full lift.
- Tilt circuit:
  - Three positions: tilt back, hold and dump.
  - Two-speed dump for quick dumping with bucket and precise load control with forks or other attachments.
  - Adjustable automatic bucket positioner to desired loading angle.
  - Does not require visual spotting.
- Controls:
  - Choice of two low effort control systems: a joystick or a two-lever control of lift and tilt circuits.
  - Optional third and fourth function hydraulic circuits available with individual lever controls for remote hydraulic functions.
  - Controls can be disabled for roading.

Dimensions with Bucket

All dimensions are approximate. Dimensions vary with bucket. Refer to Operating Specifications chart.



1	Height to top of ROPS/FOPS	3268 mm	(10 ft 8 in)
2	Height to top of exhaust stack	3184 mm	(10 ft 5 in)
3	Height to top of hood	2197 mm	(7 ft 3 in)
4	Height to center of axle	684 mm	(2 ft 3 in)
5	Ground clearance	407 mm	(1 ft 4 in)
6	Overall length	7256 mm	(23 ft 10 in)
7	Length – rear axle to bumper	1973 mm	(6 ft 6 in)
8	Center line of front axle to hitch	1450 mm	(4 ft 9 in)
9	Wheel base length	2900 mm	(9 ft 6 in)
10	Dump clearance at maximum lift and 45° dump	2967 mm	(9 ft 9 in)
11	Bucket clearance at maximum lift and level	3694 mm	(12 ft 1 in)
12	Bucket pin height at maximum lift	3980 mm	(13 ft 1 in)
13	Overall height – bucket raised	5045 mm	(16 ft 7 in)
14	Reach at maximum lift and 45° dump	958 mm	(3 ft 2 in)
15	Rack back angle at maximum lift	55°	
16	Dump angle at maximum lift	45°	
17	Rack back angle at ground	53°	
18	Rack back angle at carry	56°	
19	Carry height	382 mm	(1 ft 3 in)
20	Digging depth	108 mm	(4.3 in)

Dimensions listed are for machines equipped with 20.5-25 12PR (L-2) tires and 1.8 m^3 (2.3 yd^3) general purpose bucket with bolt-on cutting edge. Refer to Operating Specifications for bucket variations.

		17.5-25 12PR (L-2) Tires		**20.5-25 12PR (L-2) Tires**	
21	Overall width over tires	2427 mm	(96 in)	2537 mm	(100 in)
22	Width at tread center	1950 mm	(77 in)	1950 mm	(77 in)
23	Minimum turning radius over tire	5228 mm	(17 ft 2 in)	5233 mm	(17 ft 2 in)
24	Minimum turning radius over bucket	–	–	5662 mm	(18 ft 7 in)
25	Steering angle – left/right	40°		40°	
	Change in vertical dimension	–64 mm	(–2.5 in)	–	–

Operating Specifications with Bucket

			General Purpose Buckets									Waste/Ag
			With Bolt-On Cutting Edge			With Bolt-On Teeth & Segments*			With Bolt-On Teeth*			With Bolt-On Cutting Edge
	Rated bucket capacity (§)	m^3	1.8	2.0	2.3	1.8	2.0	2.3	1.7	1.9	2.2	2.8
		yd^3	2.3	2.6	3.0	2.3	2.6	3.0	2.25	2.5	2.9	3.6
	Struck capacity (§)	m^3	1.5	1.7	1.9	1.5	1.7	1.9	1.5	1.6	1.8	2.3
		yd^3	2.0	2.25	2.5	2.0	2.25	2.5	2.0	2.1	2.35	3.0
	Bucket width	mm	2549	2549	2549	2549	2549	2549	2532	2532	2532	2550
		ft/in	8'4"	8'4"	8'4"	8'4"	8'4"	8'4"	8'4"	8'4"	8'4"	8'4"
10	Dump clearance at full lift and 45° discharge (§)	mm	2967	2911	2849	2855	2799	2737	2855	2799	2737	2860
		ft/in	9'9"	9'7"	9'4"	9'4"	9'2"	8'11"	9'4"	9'2"	8'11"	9'5"
14	Reach at full lift and 45° discharge (§)	mm	958	1014	1021	1052	1109	1116	1052	1109	1116	1222
		ft/in	3'2"	3'4"	3'4"	3'5"	3'8"	3'8"	3'5"	3'8"	3'8"	4'0"
	Reach at 45° discharge and 2130 mm (7'0") clearance (§)	mm	1537	1567	1546	1578	1605	1580	1578	1605	1580	1754
		ft/in	5'1"	5'2"	5'1"	5'2"	5'3"	5'2"	5'2"	5'3"	5'2"	5'9"
	Reach with lift arms horizontal and bucket level	mm	2303	2383	2431	2449	2529	2577	2449	2529	2577	2546
		ft/in	7'7"	7'10"	7'11"	8'0"	8'4"	8'5"	8'0"	8'4"	8'5"	8'4"
20	Digging depth (§)	mm	108	108	143	122	122	156	122	122	156	112
		in	4.3"	4.3"	5.6"	4.8"	4.8"	6.1"	4.8"	4.8"	6.1"	4.4"
6	Overall length	mm	7256	7336	7435	7402	7482	7496	7380	7460	7496	7504
		ft/in	23'10"	24'1"	24'5"	24'3"	24'7"	24'7"	24'3"	24'6"	24'7"	24'7"
13	Overall height with bucket at full raise (§)	mm	5045	5080	5238	5045	5080	5238	5045	5080	5238	5352
		ft/in	16'7"	16'8"	17'2"	16'7"	16'8"	17'2"	16'7"	16'8"	17'2"	17'7"
24	Loader clearance radius with bucket in carry position (§)	mm	5662	5680	5770	5712	5731	5831	5712	5731	5831	5845
		ft/in	18'7"	18'8"	18'11"	18'9"	18'10"	19'2"	18'9"	18'10"	19'2"	19'2"
	Static tipping load straight (§)	kg	8619	8530	8093	8532	8456	8014	8710	8628	8196	8351
		lb	19,002	18,805	17,842	18,810	18,642	17,668	19,202	19,022	18,069	18,411
	Static tipping load full 40° turn (§)	kg	7469	7388	6973	7381	7313	6894	7550	7476	7065	7214
		lb	16,466	16,288	15,373	16,272	16,122	15,199	16,645	16,482	15,576	15,904
	Breakout force (§)	kg	11 492	10 631	9640	11 419	10 567	9565	12 306	11 340	10 246	8889
		lb	25,340	23,441	21,253	25,179	23,300	21,087	27,135	25,005	22,589	19,597
	Operating weight	kg	12 116	12 134	12 312	12 185	12 194	12 374	12 100	12 109	12 288	12 178
		lb	26,711	26,751	27,143	26,863	26,883	27,280	26,676	26,696	27,090	26,848

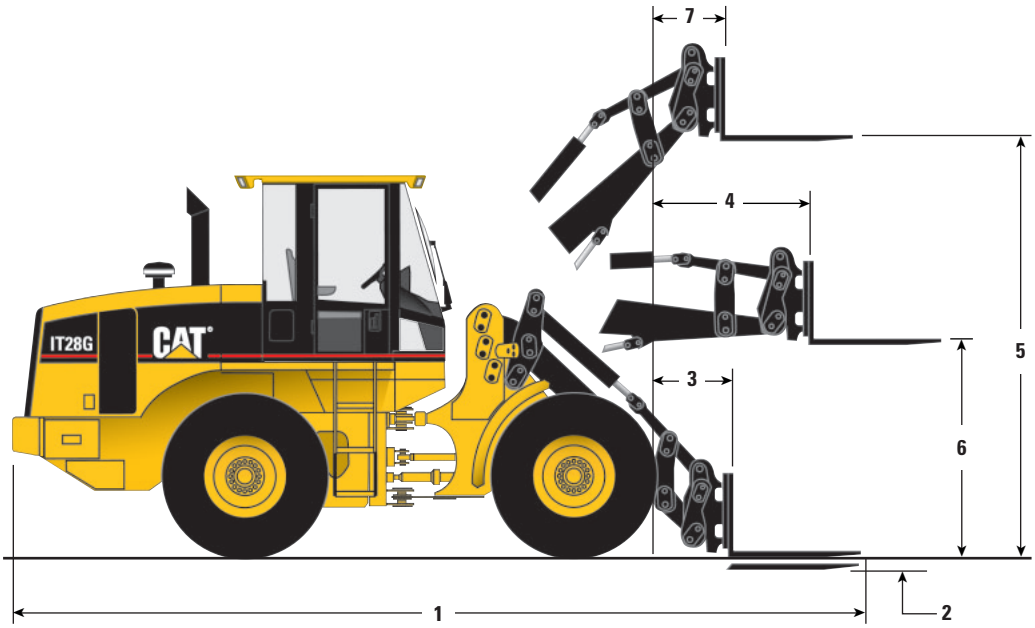
Specifications shown are for machine with optional counterweight, standard lubricants, full fuel tank, ROPS cab, 80 kg (176 lb) operator and 20.5-25 12PR (L-2) tires.

* Dimensions are measured to the tip of the bucket teeth to provide accurate clearance data. SAE standards specifies the cutting edge.

(§) Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE), including SAE Standards J732 JUN92 and J742 FEB85 governing loader ratings.

Dimensions with Pallet Forks

All dimensions are approximate. Dimensions vary with fork length. Refer to Operating Specifications chart below.



1	See Table	
2	9 mm	(0.3 in)
3	750 mm	(2 ft 6 in)
4	1513 mm	(5 ft 0 in)
5	3843 mm	(12 ft 7 in)
6	1923 mm	(6 ft 4 in)
7	703 mm	(2 ft 4 in)

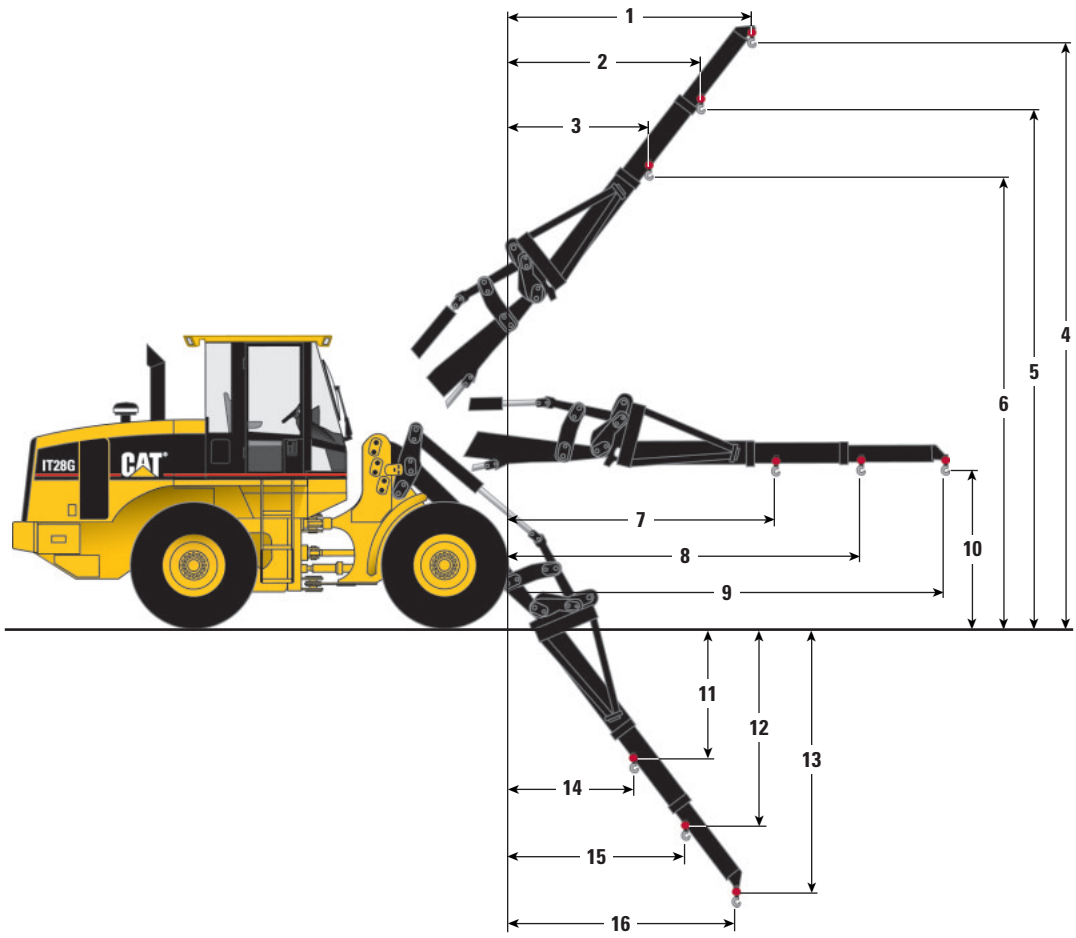
Operating Specifications with Pallet Forks

		Fork Tine Length					
		1050 mm	**(3 ft 5 in)**	**1200 mm**	**(3 ft 11 in)**	**1350 mm**	**(4 ft 5 in)**
	Operating load:						
	Per SAE J1197 FEB91 (50% of FTSTL)	3132 kg	(6905 lb)	3042 kg	(6707 lb)	2957 kg	(6519 lb)
	Per CEN 474-3, rough terrain (60% of FTSTL)	3759 kg	(8287 lb)	3651 kg	(8049 lb)	3549 kg	(7824 lb)
	Per CEN 474-3, firm & level ground (80% of FTSTL)	5012 kg	(11,050 lb)	4868 kg	(10,732 lb)	4732 kg	(10,432 lb)
1	Overall length	7425 mm	(24 ft 4 in)	7575 mm	(24 ft 10 in)	7725 mm	(25 ft 4 in)
	Load center	525 mm	(21 in)	600 mm	(24 in)	675 mm	(27 in)
	Static tipping load with level arms and forks, straight*	7187 kg	(15,845 lb)	6983 kg	(15,395 lb)	6790 kg	(14,969 lb)
	Static tipping load with level arms and forks, full 40° turn*	6265 kg	(13,812 lb)	6085 kg	(13,415 lb)	5915 kg	(13,040 lb)
	Operating weight*	11 707 kg	(25,810 lb)	11 723 kg	(25,845 lb)	11 737 kg	(25,876 lb)

* Static tipping and operating weights shown are for machine with optional counterweight, lubricants, full fuel tank, ROPS cab, 80 kg (176 lb) operator and 20.5-25 12PR (L-2) tires. Tipping load is defined by SAE J732 JUN92.

Dimensions with Material Handling Arm

All dimensions are approximate.



1	2791 mm	(9 ft 2 in)
2	2199 mm	(7 ft 3 in)
3	1608 mm	(5 ft 3 in)
4	7185 mm	(23 ft 7 in)
5	6379 mm	(20 ft 11 in)
6	5574 mm	(18 ft 3 in)
7	3187 mm	(10 ft 5 in)
8	4186 mm	(13 ft 9 in)
9	5186 mm	(17 ft 0 in)
10	1983 mm	(6 ft 6 in)
11	1502 mm	(4 ft 11 in)
12	2306 mm	(7 ft 8 in)
13	3111 mm	(10 ft 2 in)
14	1529 mm	(5 ft 0 in)
15	2122 mm	(7 ft 0 in)
16	2715 mm	(8 ft 11 in)

Operating Specifications with Material Handling Arm

	Material Handling Arm Position					
	Retracted		**Mid-Position**		**Extended**	
Operating load at 40° full turn	2555 kg	(5633 lb)	1767 kg	(3896 lb)	1470 kg	(3241 lb)
Static tipping load, straight*	5110 kg	(11,266 lb)	4066 kg	(8964 lb)	3380 kg	(7452 lb)
Static tipping load, full 40° full turn*	4450 kg	(9811 lb)	3535 kg	(7793 lb)	2940 kg	(6482 lb)
Operating weight*	11 584 kg	(25,538 lb)	11 584 kg	(25,538 lb)	11 584 kg	(25,538 lb)

* Static tipping and operating weights shown are for machine with optional counterweight, lubricants, full fuel tank, ROPS cab, 80 kg (176 lb) operator and 20.5-25 12PR (L-2) tires. Tipping load is defined by SAE J732 JUN92.

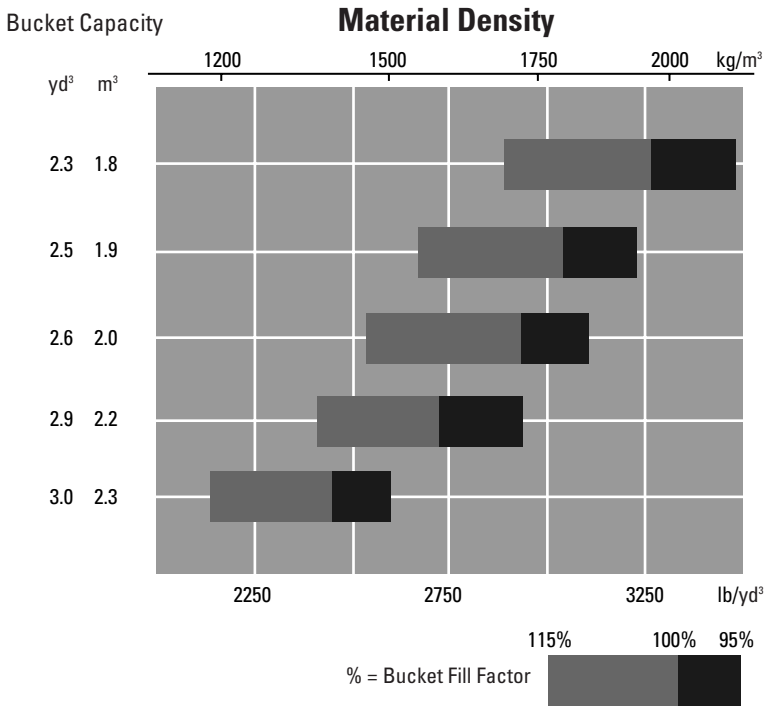
Note: Machine stability and operating weights are affected by tire size, tire ballast and other attachments.

Typical Material Densities – Loose

	kg/m³	lb/yd³
Basalt	1960	3305
Bauxite, Kaolin	1420	2394
Clay		
natural bed	1660	2799
dry	1480	2495
wet	1660	2799
Clay and gravel		
dry	1420	2394
wet	1540	2596
Decomposed rock		
75% rock, 25% earth	1960	3305
50% rock, 50% earth	1720	2900
25% rock, 75% earth	1570	2647
Earth		
dry, packed	1510	2546
wet, excavated	1600	2698
Granite		
broken	1660	2799
Gravel		
pitrun	1930	3254
dry	1510	2546
dry, 6-50 mm (0.2-2")	1690	2849
wet, 6-50 mm (0.2-2")	2020	3406

	kg/m³	lb/yd³
Gypsum		
broken	1810	3052
crushed	1600	2698
Limestone		
broken	1540	2596
crushed	1540	2596
Sand		
dry, loose	1420	2394
damp	1690	2849
wet	1840	3102
Sand and clay		
loose	1600	2698
Sand and gravel		
dry	1720	2900
wet	2020	3416
Sandstone	1510	2546
Shale	1250	2107
Slag		
broken	1750	2950
Stone		
crushed	1600	2698

Bucket Size Selector



Supplemental Specifications

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
Air conditioner	48	106	51	112
Canopy, ROPS (less cab)	–198	–437	–164	–362
Counterweight, 290 kg/639 lb (removal)	–290	–639	–512	–1129
Guard, crankcase	17	37	22	49
Guard, power train	58	128	51	112
Ride control	41	90	18	40
Secondary steering	42	97	52	115
Tires, 1-piece rims				
17.5-25, 12PR (L-2)	–421	–928	–236	–520
17.5-25, 12PR (L-3)	–342	–354	–192	–423
17.5-25, 12PR (L-2/L-3)	–279	–615	–156	–344
17.5-R25, radial (L-2)	–374	–825	–209	–461
17.5-R25, radial (L-3)	–218	–481	–120	–265
Tires, 3-piece rims				
17.5-25, 12PR (L-2)	–289	–367	–162	–357
17.5-25, 12PR (L-3)	–217	–478	–122	–269
17.5-25, 12PR(L-2/L-3)	–173	–381	–97	–214
17.5-R25, radial (L-2)	–249	–549	–140	–309
17.5-R25, radial (L-3)	–149	–329	–84	–185
20.5-25, 12PR (L-3)	144	317	81	179
20.5-25, 12PR (L-2/L-3)	188	415	105	232
20.5-R25, radial (L-2)	68	150	38	84
20.5-R25, radial (L-3)	240	529	134	295
550/65 R25, radial (L-2)	44	97	25	55
550/65 R25, radial (L-3)	104	229	58	128

Standard Equipment

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

ELECTRICAL
- Alternator, 80-amp
- Alarm, back-up
- Batteries, maintenance-free, 950 CCA, (2)
- Directional signals (front & rear)
- Starting and charging system, 24V
- Halogen work lights (front & rear)
- Ignition key start/stop switch
- Roading lights
- Starting aid, thermal

OPERATOR ENVIRONMENT
- Cab, ROPS (sound suppressed and pressurized)
- Gauges:
  - Engine coolant temperature
  - Hydraulic oil temperature
  - Torque converter oil temperature
  - Fuel level gauge
  - Speedometer
  - Digital tachometer
  - Digital hour meter/odometer
- Warning indicators:
  - Primary steering malfunction
  - Electrical system voltage low
  - Coolant temperature
  - Engine oil pressure low
  - Parking brake applied
  - Brake charge pressure low
  - Transmission oil temperature
  - Transmission oil filter bypass
  - Hydraulic oil filter bypass
- Adjustable tilt steering column
- Coat hook
- Ground level door release
- Heater/defroster
- Horn, steering wheel mounted (electric)
- Hydraulic control lever lockout
- Interior light
- Interior and exterior auxiliary power sockets
- Lighter
- Lunch box storage with cup holder
- Pilot hydraulic implement controls
- Rear window defroster, electric
- Rear view mirrors (2 inside)
- Seat, adjustable suspension, armrest (fabric or vinyl)
- Seat belt, 75 mm (3 in), retractable
- Tinted safety glass
- Tool box
- Two door cab, fixed glass
- Wet arm wiper/washer, intermittent, front & rear

POWER TRAIN
- Engine, Caterpillar 3056E DIT ATAAC
  - Low emission diesel engine
  - Turbocharged
  - Electronically controlled
  - After cooled
- Air cleaner, dry type
- Brakes, enclosed wet-disc full hydraulic
- Differentials, conventional (front/rear)
- Driveshaft, lubed for life
- Engine fuel priming pump
- Engine speed control
- Fuel/water separator
- Muffler
- Radiator, unit serviceable
- S•O•S℠ oil sampling port, engine oil
- S•O•S℠ oil sampling port, transmission oil
- Torque converter
- Transmission, 4F/3R, autoshift, single lever control with F/N/R and kickdown button
- Transmission neutralizer

HYDRAULICS
- Hydraulic diagnostic connectors
- Hydraulic oil cooler
- Hydraulic control, 2-valve, 1-lever, with F/N/R
- Load-sensing steering system
- S•O•S℠ oil sampling port, hydraulic oil

OTHER STANDARD EQUIPMENT
- Antenna, for radio
- Antifreeze/coolant, extended-life protects to -36°C (-33°F)
- Automatic bucket positioner/fork positioner
- Brakes, secondary and parking
- Bucket positioner, automatic
- Counterweight
- Engine enclosure, lockable
- Fenders, front
- Hitch, recovery
- Loader linkage, sealed 8-bar parallel lift
- Lift kickout, automatic
- Machine Security System ready
- Product Link ready
- Quick Coupler
- Remote grease lines
- Steering stops, cushioned
- Swing-out, hydraulically driven demand fan
- Vandalism protection, lockable service points
- Visual indicators:
  - air cleaner service
  - coolant level
  - hydraulic oil
  - transmission oil

Optional Equipment

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

Air conditioner (R-134a refrigerant)
Alternator, 95-amp
Antifreeze/coolant, extended-life, protects to -50°C (-58°F)
Beacon light, rotating, magnetic-mount
Brakes, heavy duty
Buckets/ground engaging tools
Canopy, ROPS
Counterweight, 250 kg (550 lb)
Differential, Limited Slip, front axle and/or rear axle
Differential, NoSpin, rear axle only (custom order)
Dust bowl precleaner
Electrical accessories package (12V converter, accessory plug outlet, wiring)
Fan, reversing
Fenders, roading, rear
Flood lights, auxiliary, cab-mounted
Guards:
- Crankcase
- Power train
- Vandalism protection (for use with ROPS canopy only)
- Waste guarding package

Hydraulic control, two lever (lift/tilt)
Hydraulic control, third and fourth valve
Hydraulic oil cooler, heavy-duty
Load check valves (dealer installed)
Machine Security System
Material handling arm
Mirrors, external (two)
Pallet forks, carriage
Product Link
Quick coupler, wide
Radio prep package, 12V installation, includes speakers, cable, mounting bracket, hardware, converter and accessory plug. Radio not included.
Ride Control System
Seats:
- Cat Contour Seat, fabric, with adjustable backrest and lumbar support
- Cat Contour Seat, fabric, electrically adjustable with air suspension

Sliding door windows (left and right)
Sound suppression package
Starting aids, engine coolant heater, 120V
Steering, secondary
Sun screen, rear
Tires:
- Bias ply, 17.5 - 25 and 20.5 - 25
- Radial, 17.5 - 25, 550/65 R25 and 20.5 - 25

Visor, sun (front)

Notes

Notes

IT28G Integrated Toolcarrier

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Materials and specifications are subject to change without notice.
Featured machines in photos may include additional equipment.
See your Caterpillar dealer for available options.

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