IT28G
Integrated Toolcarrier

Cat® 3056E DIT ATAAC Engine	
Net power	98 kW/132 hp
Gross power	112 kW/150 hp
Bucket capacities	1.6 - 5.0 m^3
Operating weight	12 130 kg

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 and 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

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

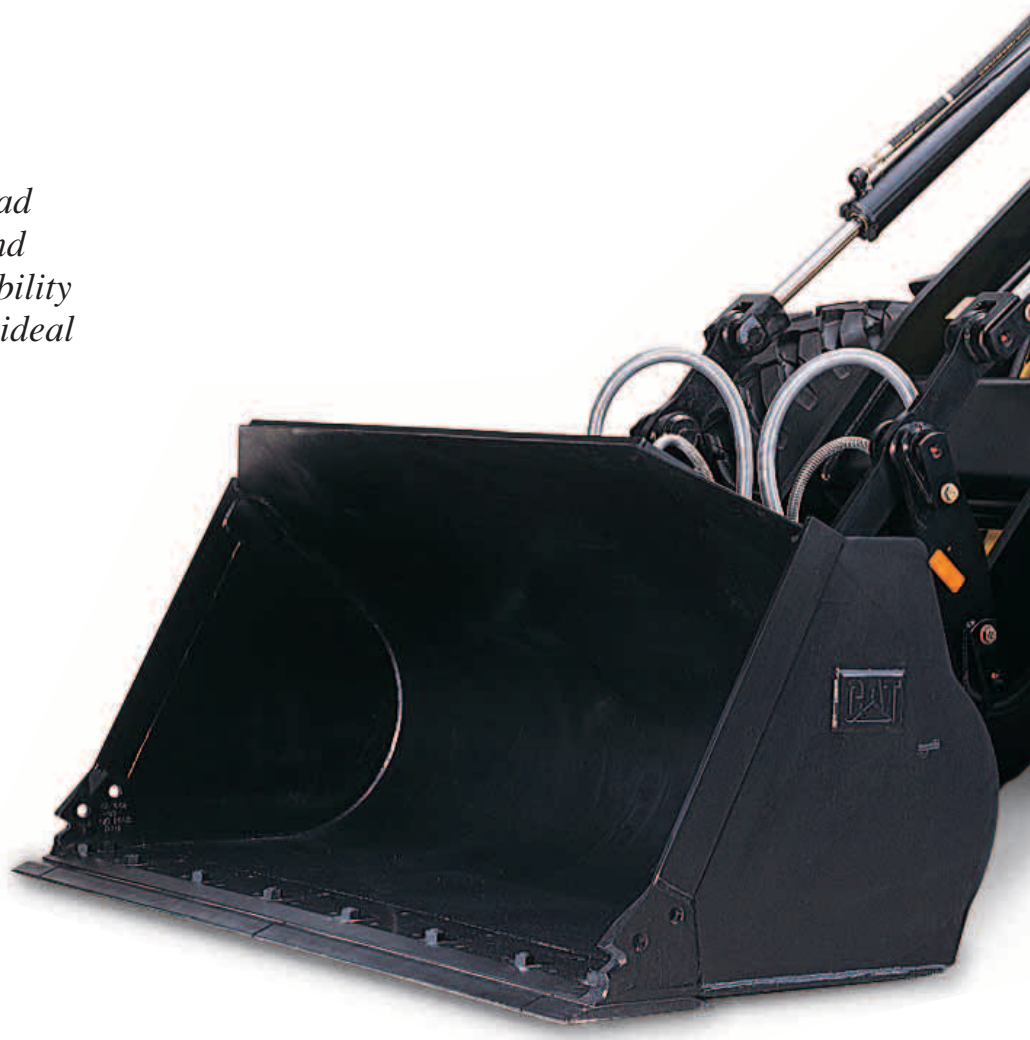
Environmentally Responsible Design

✔ Quiet operation, low engine emissions, less fluid disposal and clean service 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.



✔*New feature*

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 is available to meet the needs of your jobsite 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 and Operating Costs
Extended service intervals, an advanced electronic warning system, lower fuel consumption and faster cycle times save you time and money. **pg. 12**

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 normal 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 oil cooler for severe applications.

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

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

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. 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 choose 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.

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.

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.

Low Effort Operation. Joystick hydraulic 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 which adds adjustable backrest and adjustable lumbar support.
- Cat Contour Series Seat with added air suspension, electrically adjustable.

Seat Belt. All seats include a comfortable 75 mm 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 provided.

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 package
- Sun visor for windshield
- Roll-down sun screen for rear window
- External mirror package
- Auxiliary lighting packages

Hydraulic System

Modular system provides improved efficiency and greater control.

Precise Control. Designed by Caterpillar, the modular 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.

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

Load-Sensing Implement Hydraulics. Load-sensing implement hydraulics provide exceptional second gear hydraulic-to-rimpull match for better material handling.

Pumps. Separate steering and implement pumps improve machine response.

Tilt Cylinder. Large tilt cylinders deliver0 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.

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

Diagnostics and Monitoring. The IT28G is equipped with Scheduled Oil Sampling (S•O•S^{SM}) ports for the hydraulic, transmission and engine oils.

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 the fan cleans screens without interrupting machine operation.

S•O•S Ports. Scheduled Oil Sampling (S•O•S) 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 and easy troubleshooting by service personnel. Service codes are easily accessed through the gauge console.

Extended Life Coolant/Antifreeze. Cat Extended Life Coolant/Antifreeze allows extended operation (up to 6000 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 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.

Buckets. With exceptional rimpull and high breakout and lift forces, 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
- material handling

Material Handling. Exceptional visibility and heavy-lift capabilities enable you to work quickly and efficiently with the IT28G as a material handler. A wide range of tools are available such as:

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

Special Applications. Some of the numerous specialty tools available include:

- 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. Anoptional 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 and 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 results 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:

- 4000 hour hydraulic oil change
- 1000 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 load 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 Stage II 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.

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

Complete Customer Support

Cat dealer services help you operate longer with lower costs.

Services. Customer Service is critical today in every business. That's why so many people buy Cat equipment. They know they are getting quality reliability and performance backed-up with the best Customer Service. Your Caterpillar dealer offers a wide range of services that can be set up under a Customer Support Agreement. The dealer will help you choose a plan that can cover the whole machine including work tools, to help you to get the best out of your investment.

Product Support. You will find a solution for your parts requirements at your dealer. Cat dealers utilize a worldwide network to find in-stock parts to minimize downtime. In addition your dealer can offer alternative solutions like Reman, Classic Parts and quality used parts to save money on original Caterpillar components.

Service Capability. Whether in the dealer's fully equipped shop or in the field, you will get highly trained service technicians using the latest technology and tools.

Maintenance. More and more equipment buyers are planning for effective maintenance before buying equipment. Choose from your dealer's wide range of maintenance services at the time you purchase your machine. Repair option programs guarantee the cost of repairs up front. Diagnostic programs such as S•O•S Fluid analysis and Technical Analysis help you avoid unscheduled repairs.

Selection. Make detailed comparisons of the machines you are considering before you buy. How long do components last? What is the cost of preventive maintenance? Your Cat dealer can give you precise answers to these questions to make sure you operate your machines at the lowest cost.

Purchase. Consider the financing options available as well as day-to-day operating costs. This is also the time to look at dealer services that can be included in the cost of the machine to yield lower equipment and owning and operating costs over the long run.

Operation. Improving operating techniques can boost your profits. Your Cat dealer has training material and ideas to help you increase productivity.

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

Engine

Caterpillar four-stroke cycle, six cylinder 3056E DIT ATAAC diesel engine.

Net Power	
ISO 9249 (1997)	98 kW/132 hp
EEC 80/1269	98 kW/132 hp
Gross Power	112 kW/150 hp
Bore	100 mm
Stroke	127 mm
Displacement	6 liters

- 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 altitude. Auto Derate protects hydraulic and transmission systems.
- The Caterpillar 3056E DIT ATAAC engine meets Stage II off highway emission regulations.

Features

- Electronically controlled rotary fuel pump
- Three-ring, controlled-expansion, lubricated pistons
- Geardriven 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 can be easily accessed for cleaning

Transmission

Standard Transmission and Optional Low Speed Transmission. Maximum travel speeds (20.5-25 L-2 tires)

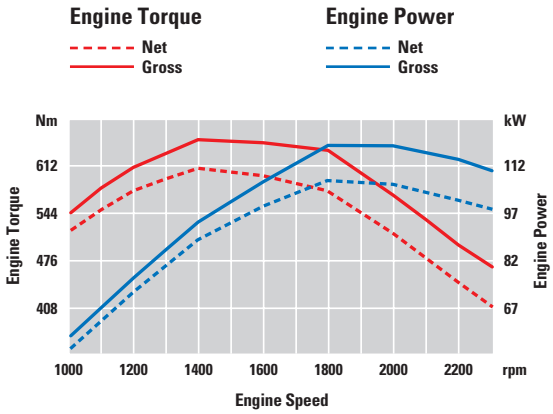
	Standard
Forward	km/h
1	8
2	13
3	26
4	38
Reverse	
1	8
2	13
3	26

- 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.

Loader Hydraulic System

Output at 2300 engine rpm and 6900 kPa with SAE 10W oil at 65°C	151.5 L/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
Lift cylinders, double acting	
Bore	120.6 mm
Stroke	685 mm
Tilt cylinders, double acting	
Bore	101.6 mm
Stroke	755 mm

- 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.



Tires

- 17.5 - 25
- 17.5 R25
- 550/65 R25
- 20.5 - 25
- 20.5 R25

- 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 capabilities. Caterpillar recommends that you consult a tire supplier to evaluate all conditions before selecting a tire model.

Steering

Minimum turning radius (over tire)	5070 mm
Steering angle, each direction	40º
Steering cylinders, two, bore	70 mm
Hydraulic output at 2300 engine rpm and 6900 kPa	104 L/min
Maximum working pressure	20 700 kPa

- Fully hydraulic power steering.
- Center-point frame articulation.
- Front and rear wheels track.
- 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.

Axles

- Fixed front, oscillating rear (±11°) allows rear movementof 480 mm.
- 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 gearset reduces noise levels during meshing.

Weights

Operating Weight	12 130 kg

Specifications shown are for IT28G with optional counterweight, standard lubricants, full fuel tank, ROPS cab, 2.0 m^3 bucket with bolt-on cutting edge, 80 kg operator and 20.5 - 25 12PR (L-2) tires.

Service Refill Capacities

	Liters
Fuel tank	216
Cooling system	42
Crankcase	21
Transmission	34.5
Front	26
Rear	25
Hydraulic system (including tank)	125
Hydraulic tank	70

Bucket Controls

Lift circuit
- Four positions: raise, hold, lower and float.
- Adjustable automatic kickout from horizontal to full tilt.

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 work tools.
- 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.

Brakes

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.

Heavy-duty brake
- Optional heavy-duty brakes with integrated oil cooler.

ROPS/FOPS

- Caterpillar cab with integrated Rollover Protective Structure (ROPS/FOPS) are standard.
- ROPS meets ISO 3471:1994.
- FOPS meets ISO 3449:1992 Level II.

Sound

Operator Sound
- The operator sound level measured according to the procedures specified in ISO 6394:1992 is 74 dB(A), for cab offered by Caterpillar, with doors and windows closed.

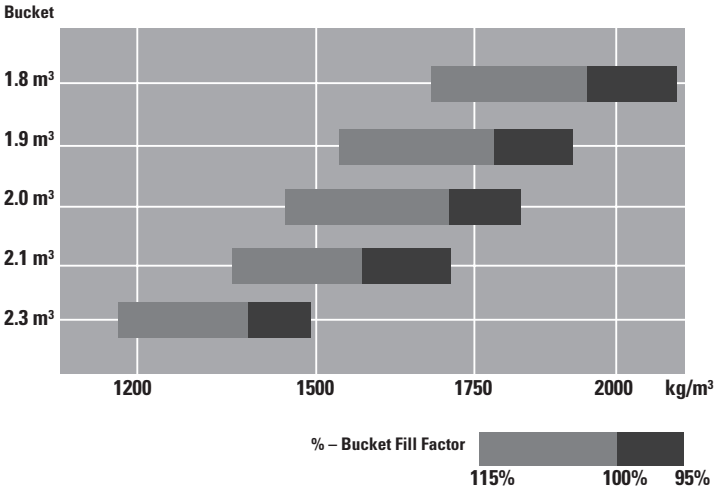
Exterior Sound
- Labeled spectator sound power level measured according to the test procedures and conditions specified in 2000/14/EC
  – standard version 107 dB(A)

Supplemental Specifications

	Change in Operating Weight	Change in Articulated Static Tipping Load
	kg	kg
Air conditioner	48	51
Canopy, ROPS (less cab)	-198	-164
Counterweight, 290 kg (removal)	-290	-512
Guard, crankcase	17	22
Guard, power train	58	51
Ride Control System	41	18
Secondary steering (removal)	42	52
Tires, 1 piece rims		
17.5-25, 12PR (L-2)	-421	-236
17.5-25, 12PR (L-3)	-342	-192
17.5-25, 12PR (L-2/L-3)	-279	-156
17.5-R25, radial (L-2)	-374	-209
17.5 R25, radial (L-3)	-218	-120
Tires, 3 piece rims		
17.5-25, 12PR (L-2)	-289	-162
17.5-25, 12PR (L3)	-217	-122
17.5-25, 12PR (L-2/L-3)	-173	-97
17.5-25, radial (L2)	-249	-140
17.5 R25, radial (L-3)	-149	-84
550/65 R25, radial (L-2)	44	25
550/65 R25, radial (L-3)	104	58
20.5-25, 12PR (L-2)	144	81
20.5-25, 12PR (L-2/L-3)	188	105
20.5-25, radial (L-2)	68	38
20.5-25, radial (L-3)	240	134

Bucket Size Selector

Material Density

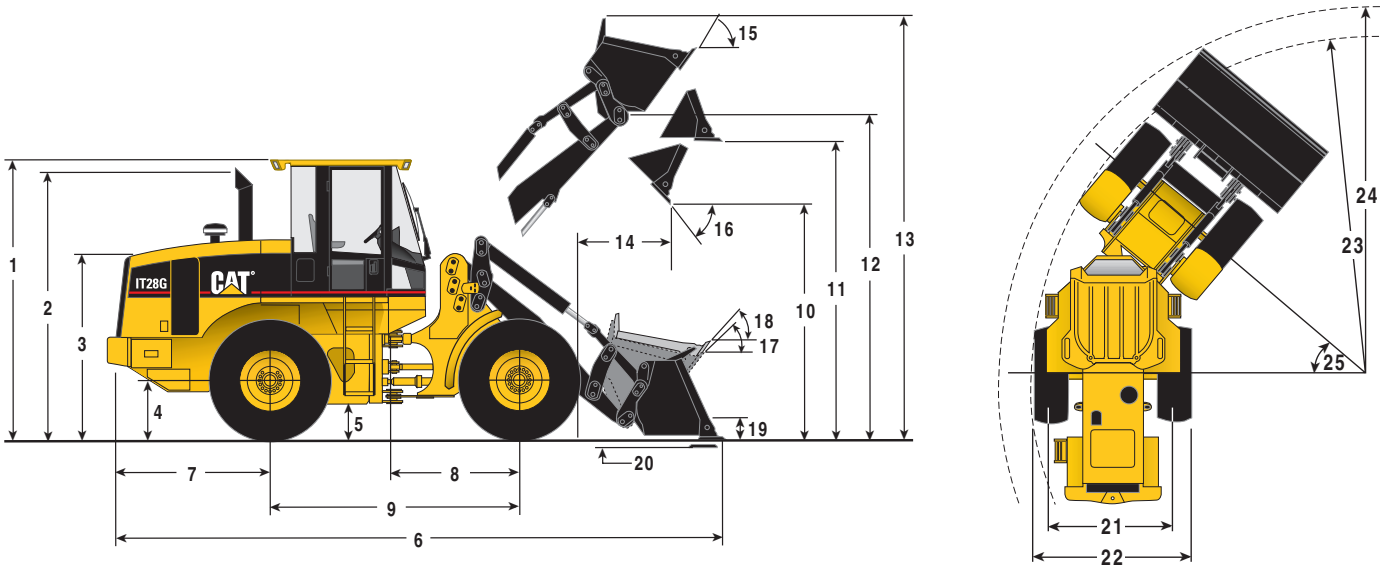


Typical Material Densities – Loose

	kg/m³
Basalt	1960
Bauxite, Kaolin	1420
Clay	
natural bed	1660
dry	1480
wet	1660
Clay and gravel	
dry	1420
wet	1540
Decomposed rock	
75% rock, 25% earth	1960
50% rock, 50% earth	1720
25% rock, 75% earth	1570
Earth	
dry, packed	1510
wet, excavated	1600
Granite	
broken	1660
Gravel	
pitrun	1930
dry	1510
dry, 6-50 mm	1690
wet, 6-50 mm	2020
Gypsum	
broken	1810
crushed	1600
Limestone	
broken	1540
crushed	1540
Sand	
dry, loose	1420
damp	1690
wet	1840
Sand and clay	
loose	1600
Sand and gravel	
dry	1720
wet	2020
Sandstone	1510
Shale	1250
Slag	
broken	1750
Stone	
crushed	1600
Wood chips	400

Dimensions with Bucket

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



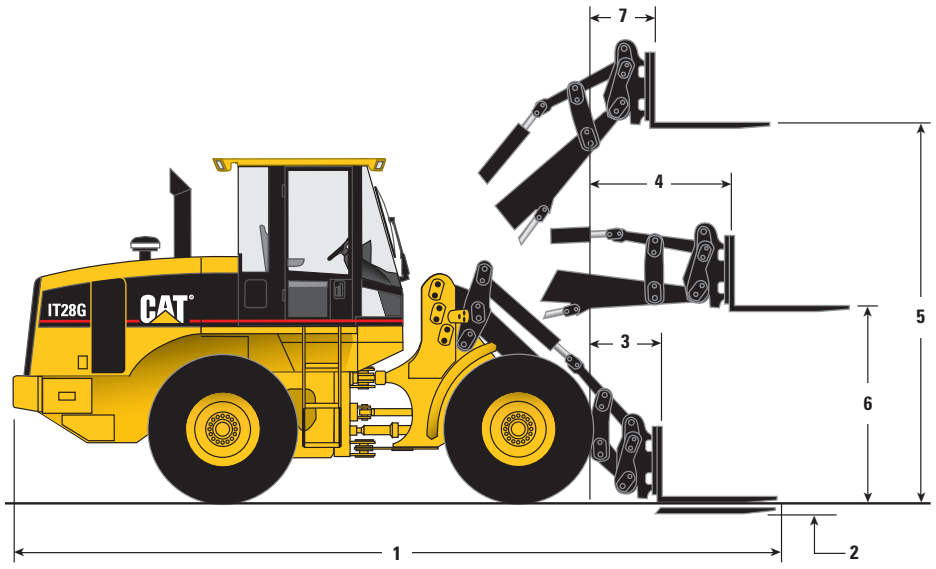
1	Height to top of ROPS/FOPS	3268 mm
2	Height to top of exhaust stack	3184 mm
3	Height to top of hood	2197 mm
4	Height to centre of axle	684 mm
5	Ground clearance	407 mm
6	Overall length	7256 mm
7	Length - rear axle to bumper	1973 mm
8	Centre line of front axle to hitch	1450 mm
9	Wheel base length	2900 mm
10	Dump clearance at maximum lift and 45° dump	2967 mm
11	Bucket clearance at maximum lift and carry	3694 mm
12	Bucket pin height at maximum lift	3980 mm
13	Overall height - bucket raised	5045 mm
14	Reach at maximum lift and 45° dump	958 mm
15	Rack back angle at maximum lift and level	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
20	Digging depth	108 mm

		17.5-25 12PR (L-2)	**20.5-25 12PR (L-2)**
21	Width over tread center	2427 mm	2537 mm
22	Overall width over tires	1950 mm	1950 mm
23	Minimum turning radius over tires	5228 mm	5233 mm
24	Minimum turning radius over bucket	5781 mm	5781 mm
25	Steering angle - left/right	40°	40°
	Change in vertical dimension	-64 mm	–

Dimensions with Pallet Forks

Dimensions are for machines equipped with 20.5-25 12PR (L-2) tires. Dimensions vary with fork length. Refer to operating specifications chart below.

1	Overall Length (see below)
2	9 mm
3	750 mm
4	1513 mm
5	3843 mm
6	1923 mm
7	703 mm



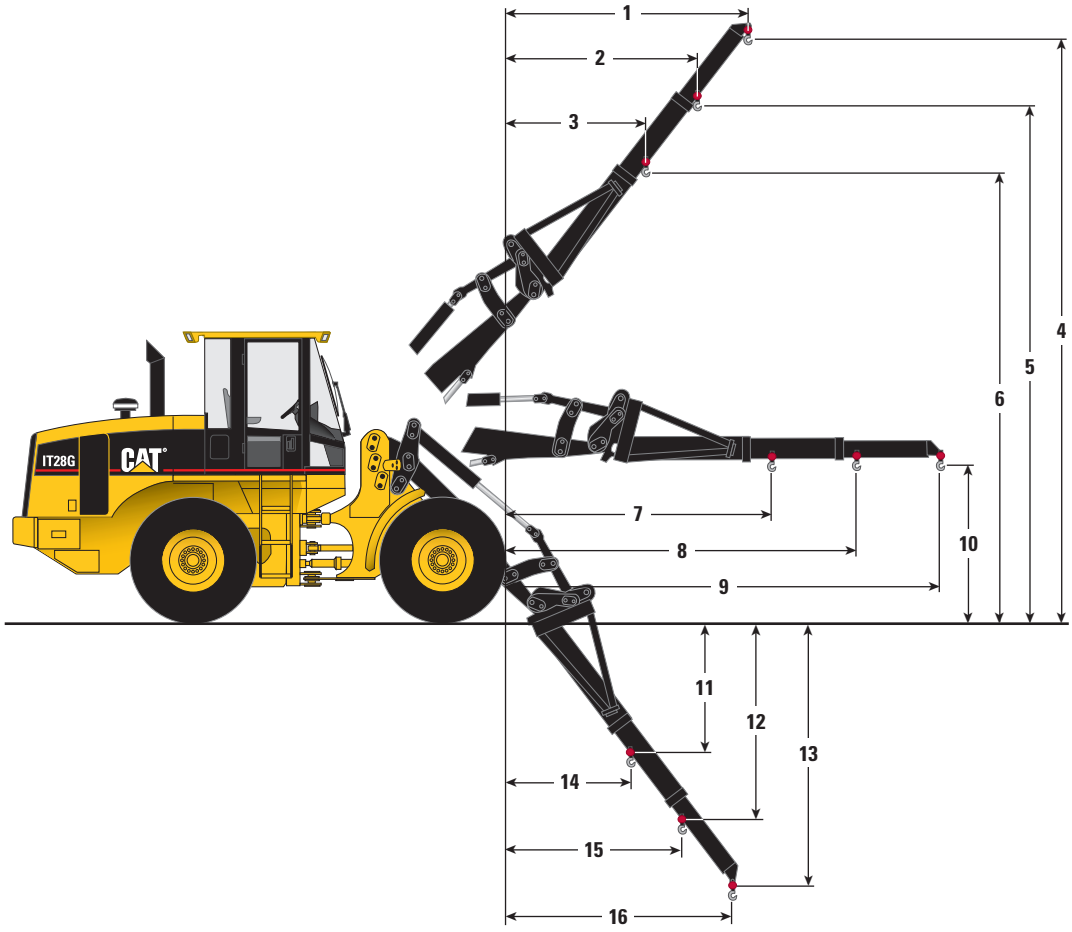
Operating Specifications with Pallet Forks

	Fork Tine Length 1050 mm	Fork Tine Length 1200 mm	Fork Tine Length 1350 mm
Operating load:			
Per EN 474-3, rough terrain (60% of FTSTL)	3759 kg	3651 kg	3549 kg
Per EN 474-3, firm and level ground (80% of FTSTL)	5012 kg	4868 kg	4732 kg
1 Overall length	7425 mm	7575 mm	7725 mm
Load center	525 mm	600 mm	675 mm
Static tipping load with level arms and forks, straight*	7187 kg	6893 kg	6790 kg
Static tipping load with level arms and forks, full 40° turn*	6265 kg	6085 kg	5915 kg
Operating weight*	11 707 kg	11 723 kg	11 737 kg

* Static tipping and operating weights shown are for a IT28G with optional counterweight, lubricants, full fuel tank, ROPS cab, 80 kg operator, secondary steering and 20.5-25 12PR (L-2) tires. Tipping load is defined by SAE J732 JUN92.

Dimensions with Material Handling Arm

Dimensions are for machines equipped with 20.5-25 12PR (L-2) tires.
Refer to operating specifications chart below.



1	2791 mm
2	2199 mm
3	1608 mm
4	7185 mm
5	6379 mm
6	5574 mm
7	3187 mm
8	4186 mm
9	5186 mm
10	1983 mm
11	1502 mm
12	2306 mm
13	3111 mm
14	1529 mm
15	2122 mm
16	2715 mm

Operating Specifications with Material Handling Arm

	Retracted	Mid-Position	Extended
Operating load	2555 kg	1767 kg	1470 kg
Static tipping load, straight*	5110 kg	4066 kg	3380 kg
Static tipping load, full 40° full turn*	4450 kg	3535 kg	2940 kg
Operating weight*	11 584 kg	11 584 kg	11 584 kg

* Static tipping and operating weights shown are for a IT28G with optional counterweight, lubricants, full fuel tank, ROPS cab, 80 kg operator, secondary steering and 20.5-25 12PR (L-2) tires. Tipping load is defined by SAE J732 JUN92.

Machine stability and operating weights are affected by tire size, tire ballast and other work tools.

Operating Specifications with Bucket

Specifications shown are for IT28G with optional counterweight, standard lubricants, full fuel tank, ROPS cab, 80 kg operator, secondary steering and 20.5-25 12PR (L-2) tires.

Hook-on Buckets using Quick Coupler

		General Purpose Buckets								Penetration	Waste/Ag
		Bolt-On Cutting Edge			Bolt-On Teeth and Segments*			Bolt-On Teeth*		Fllush-Mounted Teeth*	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	1.7	2.8
Struck capacity	m^3	1.5	1.7	1.9	1.5	1.7	1.9	1.5	1.6	1.5	2.3
Bucket width	mm	2549	2549	2549	2549	2549	2549	2532	2532	2615	2550
Dump clearance at full lift and 45° discharge	mm	2967	2911	2849	2855	2799	2737	2855	2737	3039	2860
Reach at full lift and 45° discharge	mm	958	1014	1021	1052	1109	1116	1052	1116	934	1222
Reach at 45° discharge and 2130 mm clearance	mm	1537	1567	1546	1578	1605	1580	1578	1580	1470	1754
Reach with lift arms horizontal and bucket level	mm	2303	2383	2431	2449	2529	2577	2449	2577	2242	2546
Digging depth	mm	108	108	143	122	122	156	122	156	94	112
Overall length	mm	7256	7336	7435	7402	7482	7496	7380	7496	7255	7504
Overall height with bucket at full raise	mm	5045	5080	5238	5045	5080	5238	5045	5080	4968	5352
Loader turning circle with bucket in carry position	mm	5662	5680	5770	5712	5731	5831	5712	5831	5670	5845
Static tipping load, straight	kg	8619	8530	8093	8532	8456	8014	8710	8196	8832	8351
Static tipping load, full 40° turn	kg	7469	7388	6973	7381	7313	6894	7550	7065	7584	7214
Breakout force	kN	112	104	95	112	104	94	121	111	121	87
Operating weight	kg	12 116	12 134	12 312	12 185	12 194	12 374	12 100	12 288	12 055	12 178

* Dimension varies with bucket. Refer to chart above.
Dimensions are measured to the tip of the bucket teeth to provide accurate clearance data.
SAE standards specifies the cutting edge.

Standard Equipment

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

Electrical

Alternator, 80-amp
Alarm, back-up
Batteries, maintenance-free, 12V, 950 CCA (2)
Directional signals, (front and rear)
Electrical system, 24V
Halogen working lights (front and 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)
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, backrest, armrest (fabric or vinyl)
Seatbelt, 75 mm, retractable
Tinted safety glass
Two door cab, fixed glass
Wet arm wiper/washer, intermittent, front and rear

Power Train

Engine, Caterpillar 3056E DIT ATAAC
- Low emission diesel engine
- Turbocharged
- Aftercooled
- Electronically controlled

Air cleaner, dry type
Axle seal guards
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
- transmission oil

Torque converter
Transmission, 4F/3R, autoshift, single lever control and kickdown button
Transmission neutralizer

Hydraulics

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

Other standard equipment

Antenna, for radio
Antifreeze/coolant, extended-life protects to -36C
Automatic bucket positioner/fork positioner
Brakes, secondary and parking
Bucket positioner, automatic
Counterweight
Engine enclosure, lockable
Fenders, front
Hitch, recovery
Implement control lever locks
Loader linkage, VersaLink
Lift kickout, automatic
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 specifics.

Electrical

Alternator, 95-amp
Electrical accessories package
  (12V converter, accessory plug outlet, wiring)
Flood lights, auxiliary, cab-mounted

Operator environment

Air conditioner (R-134a refrigerant)
Canopy, ROPS
Mirrors, external (two)
Radio prep packages:
  12V installation, includes speakers, cable, mounting bracket, hardware, converter and accessory plug. Radio not included.
  24V installation, same as above, but without converter or accessory plug.
Seats:
  Caterpillar Contour Series, fabric
  Caterpillar Contour Series, fabric, with air suspension
Sliding door windows (left and right)
Sun screen, rear
Visor, sun (front)

Power Train

Differential, limited slip, front axle and/or rear axle
Brakes, heavy duty
Fan, reversing
Low speed transmission
Ride control system
Starting aid, engine coolant heater, 120V

Hydraulics

Hydraulic control, two lever (lift/tilt)
Hydraulic control, 3rd and 4th valve
Hydraulic oil cooler, heavy-duty
Load check valves

Other optional equipment

Antifreeze/coolant, extended-life, protects to -50°C
Beacon light, rotating, magnetic-mount
Buckets/ground engaging tools
Counterweight, 290 kg
Dust bowl precleaner
Fenders, roading, rear
Guards:
  Crankcase
  Lights
  Power train
  Vandalism protection (for use with ROPS canopy only)
  Waste guarding package
  Windshield
Linkage, high lift
Machine Security System
Material handling arm
Pallet forks, carriage
Product Link
Quick Coupler, wide
Sound suppression package
Steering, secondary
Tires:
  Bias ply, 17.5 - 25 and 20.5 - 25
  Radial, 17.5 - 25, 550/65 R25 and 20.5 - 25
Working lights, auxiliary, cab-mounted

IT28G Integrated Toolcarrier

HEHL2836 (03/2003) hr

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

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