621G/627G

Wheel Tractor Scrapers

Engine		
Tractor Engine	Cat® 3406E	
Net Power	246/272 kW	330/365 hp
Scraper Engine	Cat C-9	
Net Power	168/186 kW	225/250 hp
Heaped Capacity	17 m^3	22 yd^3
Rated Load	23 950 kg	52,800 lb

621G/627G Wheel Tractor Scrapers

Responsible, productive earthmoving machines, built to last.

Power Train - Engine

✔ Electronically controlled Caterpillar® engines and automatic planetary powershift transmissions are electronically integrated to provide maximum power to the cutting edge and exceptional haul road speed. **pg. 4**

Power Train - Transmission

Caterpillar planetary powershift transmission design offers greater load carrying capacity than competitive designs by providing a larger contact area between gears. Individual clutch modulation provides fast, smooth shifts and improved serviceability. **pg. 6**

Electronic Controls

The electronic controls respond to operator commands and input from on-board sensors to optimize machine performance. In addition, the electronic controls provide advanced diagnostic capabilities that result in better machine availability. **pg. 7**

Push-Pull Arrangement (627G only)

For maximum production capability, Caterpillar offers an optional push-pull arrangement for the 627G, which allows two push-pull scrapers to act as a self-loading machine. **pg. 12**

Auger Arrangement

Provides self-loading capability with the same wide material appetite as an open bowl machine. **pg. 13**

Quick loading, high travel speeds and the ability to load and dump on the run yield fast cycle times, allowing Caterpillar Wheel Tractor-Scrapers to consistently deliver high productivity at the lowest cost per ton.

Operator Station

✔ The all-new interior incorporates convenient control placement and a comfortable work environment, keys to high productivity. Features include electro-hydraulic controls, a new air seat suspension and improved instrumentation. **pg. 8**

Structures

Superior structural design delivers state-of-the-art ride, capacity, and material control while assuring the durability and reliability customers expect from Caterpillar. **pg. 10**

Scraper Bowl

✔ Caterpillar Scraper bowls are designed for excellent material flow for fast cycle times and high productivity. **pg. 11**

Serviceability

✔ Grouped service points, the latest electronic monitoring systems and rugged Caterpillar components simplify maintenance and minimize downtime. **pg. 14**

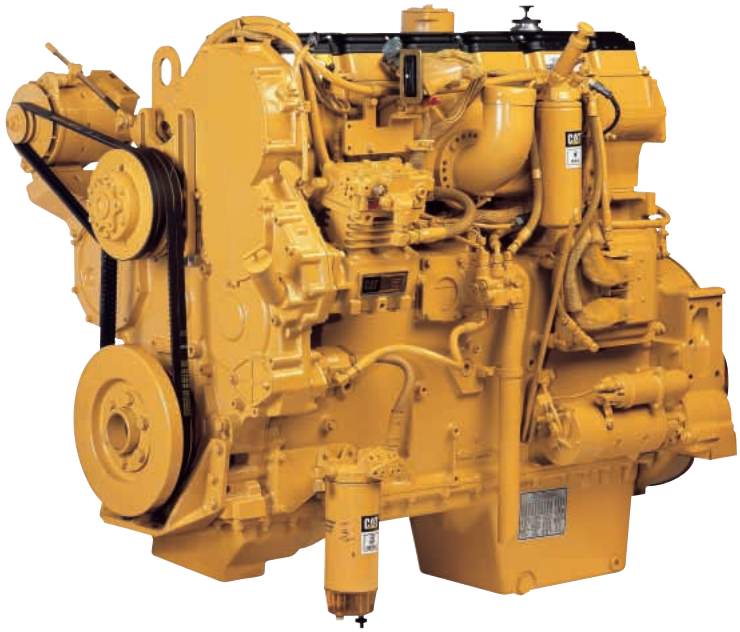
Customer Support

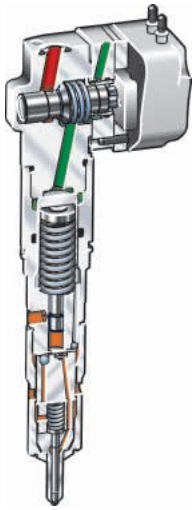
The best parts availability and the best service capability will help keep your equipment working. **pg. 15**

✔ *New Feature*

Power Train - Engine

Proven components are electronically integrated to achieve new levels of performance and efficiency.





3406E Tractor Engine. The 3406E, with dual horsepower capability, provides high power and torque rise for excellent lugging in tough loading conditions. The 3406E is designed for long hours of continuous operation with high displacement and low RPM ratings.

C-9 Scraper Engine. The 627G is tandem powered by the C-9 scraper engine for peak performance and high productivity in self-loading applications.

Dual Horsepower. The electronic engines of the tractor and scraper provide increased power when the auger is engaged or when the machine is in the roading gears, which provides quicker acceleration on the haul road.

Emissions Compliant. The 3406E and the C-9 engines are U.S. Environmental Protection Agency Tier 2 and EU Stage II compliant.

HEUI™ Fuel System. Hydraulically actuated, electronically controlled unit injectors deliver fuel precisely for clean, efficient combustion and excellent fuel economy. The HEUI system has fewer moving parts than mechanical unit injection, for greater reliability and lower maintenance costs.

Electronic Control Module. The ECM responds to operator commands and engine sensor input to optimize engine and machine performance. This advanced engine management software controls and protects the engine at all times against cold starts, high altitude operations and air filter plugging by monitoring:

- injection timing and pressure
- engine cooling fan speed
- ether starting aid
- hydraulic pumps

Advanced Diesel Engine Management. Controls engine rpm by adjusting the fuel duration, which results in quicker starts in hot and cold weather, better fuel economy, better operator response, and automatic compensation for altitude and filter plugging.

Greater Reliability. The Hydraulic Electronic Unit Injection system is more reliable because it has fewer moving parts than mechanical unit injection and requires very few adjustments.

Maintenance. HEUI engines have virtually no mechanically controlled parts to wear or adjust.

Electronic Control Throttle Shifting (CTS). Automatically synchronizes engine speed to transmission speed during shifting to reduce power train stress and increase component life.

Ether Starting Aid. ECM activates the ether injection system during engine cranking to help ensure reliable engine start-up in extreme cold operating conditions.

Directional Shift Management. Regulates engine speed to prevent damage caused by high-speed directional changes.

Altitude Compensation. ECM matches atmospheric pressure with elevation providing full engine power up to 3350 m (11,000 ft). Above that elevation, it automatically derates engine to maintain proper fuel-to-air mixture for clean, efficient combustion.

Diagnostic Capability. Electronic Technician (Cat ET) is used to display real-time pressures, temperatures, fuel settings and diagnostic messages as well as a historical information such as engine over-speeds, overheating, low oil pressure and air filter restriction events.

Fuel Economy. Electronic controls are expected to yield a fuel savings by optimizing the timing setting for varying conditions.

Air Filter Restriction. The ECM monitors air filter restriction and sends a warning message to the Electronic Monitoring System III to alert the operator if the restriction exceeds the allowable limit.

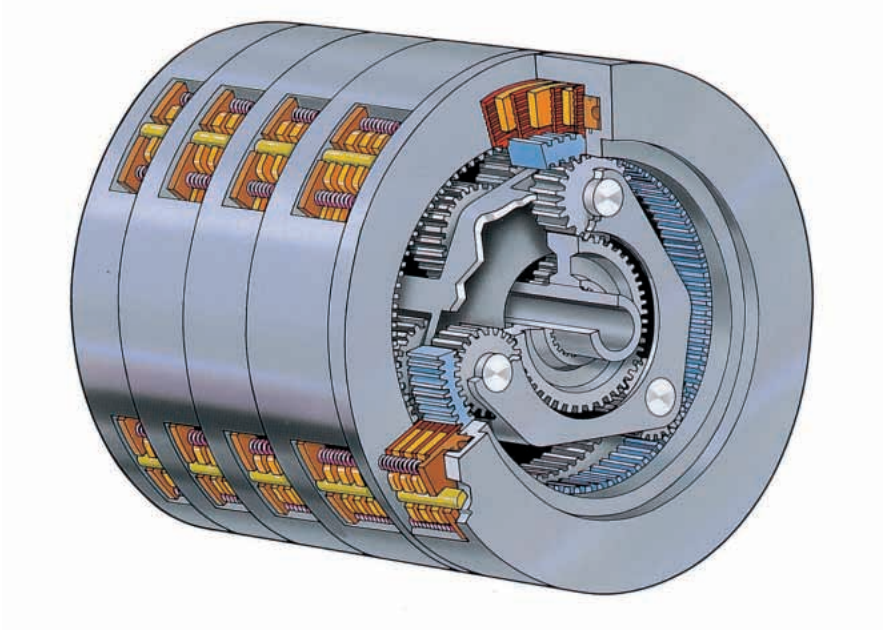
Reduced Exhaust Smoke. The ECM determines the optimum fuel/air ratio, then precisely controls fuel during cranking, starting and acceleration to reduce smoke. This system is faster and more efficient than mechanically controlling the governor rack position.

Tractor Radiator. The radiators on both the tractor and the scraper pull the air from grill side across the radiator fins for cooling. The folded core radiator is comprised of individual modules set in a V configuration with 33 fins per inch. The modular design simplifies servicing, and using a V configuration maximizes surface area in a compact design.

Scraper Radiator. The standard radiator on the scraper is a one-piece unit design with 9 fins per inch, eliminating the need for an attachment radiator.

Power Train - Transmission

Integrated electronics allows the machine to monitor the power train which reduces stress as well as provide a better ride to the operator.



Transmission. Electronically controlled Caterpillar planetary powershift transmission with eight forward and one reverse speed. Tractor gears 1 & 2 operate in converter drive for increased torque capability during cut and fill operations. Gears 3-8 operate in direct-drive for drive train efficiency during the haul. All scraper gears operate in converter drive for increased torque capability during the cut and fill.

Planetary Design. Provides larger contact area between gears than countershaft transmissions for greater load-carrying capacity.

Transmission Hold. Allows the operator to maintain converter drive for increased rimpull, or hold the current gear for enhanced control.

Programmable Top Gear Selection. Allows the operator to manually set the top gear (3rd - 8th) available to match conditions or to match the hauling speed of the fleet to specific job-site needs.

Retarder. The retarder can be used to slow the ground speed of the machine when entering the cut or fill area to allow the transmission to downshift.

Differential Control. Electronic differential lock helps prevent the drive wheels from spinning in poor underfoot conditions. The operator engages the differential lock with a foot control located in the cab.

Clutch Modulation. Individual clutch modulation provides fast, smooth shifts and improved serviceability.

Neutral Coast Inhibitor. Neutral coast inhibitor prevents the transmission from shifting into neutral if the operator selects neutral while moving.

Final Drives. Outboard-mounted, planetary design final drives reduce torque loads on other power train components. Large-capacity, double-row roller bearings and Caterpillar Duo-Cone seals deliver exceptional reliability in the toughest applications.

Brake Performance. Redesigned axles on both the tractor and scraper accommodate wider brake shoes and brake drums, improving brake performance as much as 20 percent and reducing brake and drum wear as much as 75 percent.

Independent Systems. Expanding shoe-type brakes are a cam-operated design that is air-applied and spring released. The braking system uses independent front and rear circuits with secondary brakes automatically applied if the service air pressure drops to 380 kPa (55 psi).

Parking Brakes. The push-button operated parking brake features a spring-applied, air-released mechanism that operates the service brakes.

Electronic Controls

Instant response optimizes machine performance, and advanced diagnostic capabilities maximize machine availability.

Simplified System. The electrical system has been redesigned to utilize three electronic control modules (ECM) on the tractor instead of four. The rear-powered scraper now has two ECMs rather than three.

Air Filter Restrictor Indicator. Electronic control module monitors air filter restriction and sends a warning message to the electronic monitoring system to alert the operator if the restriction exceeds the allowable limit.

Automatic Ether Injection. The ECM activates the ether injection system during engine cranking to enhance cold weather starting.

Automatic Altitude Compensation. At high altitudes the system automatically de-rates fuel delivery as a function of barometric pressure sensed by the system's atmospheric pressure sensor.

Low Battery Elevated Idle. The ECM automatically compensates for low alternator output at low idle to keep the batteries fully charged.

Improved Serviceability. Combined monitoring systems, easy access diagnostics and more durable components make routine maintenance and servicing simple and fast.

Combined EMS Monitoring. The Electronic Monitoring System (EMS III) is designed to monitor both the tractor and scraper from one location instead of two. Both the tractor and powered scraper use the same controller for parts commonality and easier servicing.

Easy Access Diagnostics. Real-time pressures, temperatures, fuel settings and diagnostic messages and historical information such as engine over-speeds, overheating, low oil pressure, and air filter restriction events can be accessed via the Caterpillar Electronic Technician (Cat ET) Service Tool for easy diagnostics.

Greater Reliability. Caterpillar's HEUI fuel system uses hydraulic electronic unit injectors, has fewer moving parts than mechanical unit injection, and requires few adjustments.

Maintenance. With fewer mechanically controlled parts to wear or adjust, the electronic controls reduce maintenance costs and increase machine availability.

Fuel Economy. Electronic controls yield a fuel savings by optimizing the timing setting for varying conditions.

Product Link Ready. Mounting locations and wiring provided for Product Link, which allows customer to track machine location, hours, and machine health. The system has the capability to automatically issue alerts when the machine is being operated beyond owner defined time and location limits.

Reduced Exhaust Smoke. Utilizing electronic sensors, the optimum air/fuel ratio is precisely controlled by the ECM during all segments of the haul cycle. This results in a reduction of smoke and particulates during cranking, starting, and acceleration.

Operator Station

Redesigned for enhanced operator comfort and productivity.

Multi-Adjustable Seat. The Cat Comfort Cloth Seat has an adjustable seat and armrests for maximum operator comfort.

- Swivels and locks in four positions (0º to 30º) providing the optimum operating position in the cut or on the haul.
- Fore/aft and vertical height adjustment to accommodate various sized operators.

Seat Suspension. The new standard seat suspension redefines the ride of scrapers. It features a self-contained air compressor with a high performance air shock absorber.

Revised Steering Column. Increases leg room a full 89 mm (3.5 in), and reduces knee contact.

Standard Air Conditioning. Standard air conditioning system with improved ventilation location enhances airflow in the cab.

Storage And Amenities. Convenient storage location includes space for a lunch box and first aid kit. The cab also has a cup holder as well as an ashtray.

Visibility. The redesigned hood has sloped corners to maintain visibility. The exhaust is located at the back of the hood for good visibility to the right side.

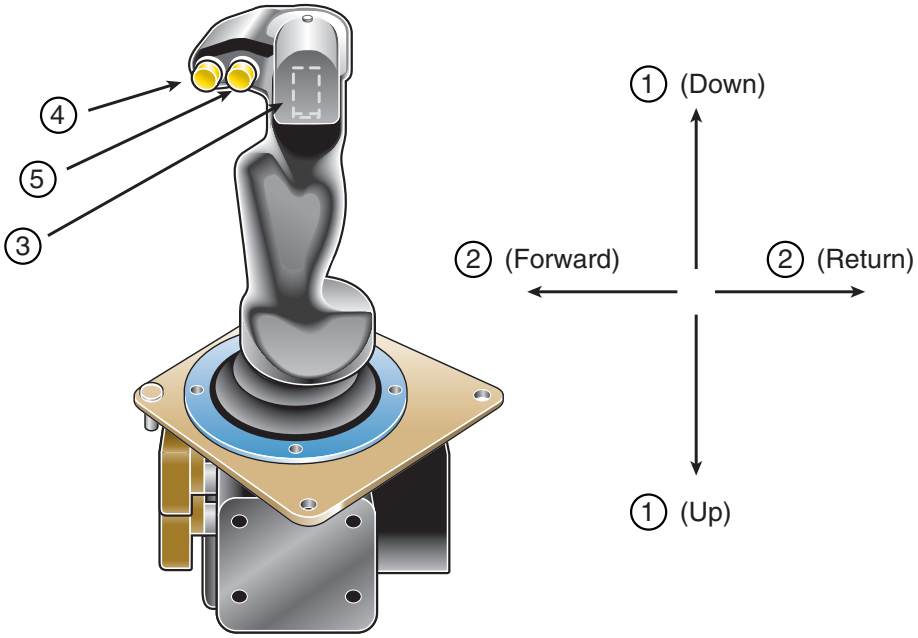
Single Lever Implement Control. Simple and easy to operate, the joystick enhances the productivity of operators of all skill levels. Requires less force to control the critical scraper functions and requires less lever travel.

1) Bowl (forward & back)
2) Ejector (side to side)
3) Apron (thumb rocker switch)
4) Transmission Hold
5) Cushion Hitch
6) Trigger (not shown - is on front of joystick)

- Auger (on/off)
- Push-Pull (bail up/down)

* Standard open bowl does not have a trigger.

Simplified Transmission Control. Simplifies gear selection (1st, 2nd, Drive and Reverse) and allows operator-defined top gear control. Relocating the gear control to the rear increases operator legroom.



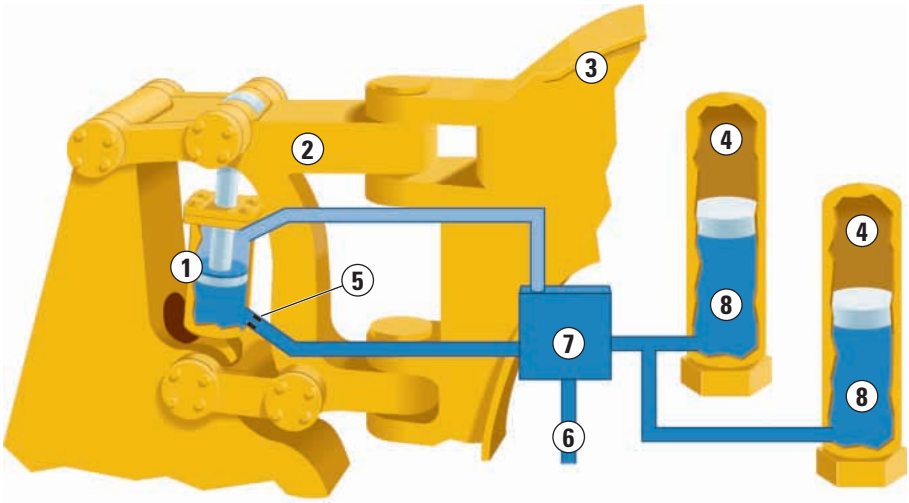
Instrument Display Panel. Features a new quad-gauge layout showing engine coolant temp, transmission/ torque converter oil temp, fuel level, and system air pressure. The 627G tachometer can monitor either front or rear engine speeds. Once the 627G tractor engine has been started, the operator can start the rear engine from inside the cab using a switch on the instrument panel. EMS III can display both front and rear engine information right in the cab.

Throttle Lock Controller. Enhances operation during long haul cycles by allowing the operator to maintain a desired engine speed without maintaining pressure on the throttle.

Structures

Superior structural design and construction optimize performance and reliability.

1 Load cylinder
2 Hitch castings
3 Scraper gooseneck
4 Nitrogen accumulators
5 Orifice
6 Oil from tractor hydraulic system
7 Leveling valve
8 Free floating pistons



Cushion Hitch. The electronically actuated cushion hitch incorporates a parallelogram-type linkage for exceptional strength with nitrogen accumulators to deliver a smooth ride for enhanced operator comfort.

- controlled oil flow dampens rebound oscillation
- leveling valve automatically centers piston in cylinder for all loads
- steel castings are used extensively to eliminate many welded joints and increase strength
- double-kingbolt design withstands high external forces and simplifies installation and removal

Nitrogen Accumulators. Vertically mounted hydraulic cylinder transfers road shocks to nitrogen accumulators. Nitrogen accumulators absorb and dampen road shocks, thus preventing these loads from being transmitted to the operator.

Lockout Switch. An operator-selectable lockout switch, located on the joystick, locks the cushion hitch for improved control of the cutting edge during loading and dumping.

Scraper Bowl

Designed for optimum loading, material retention and ejection.

Redesigned Bowl. Excellent productivity with a 10% increase in bowl capacity, improved draft arm protection, and better load retention. Low-profile design of the bowl offers less resistance to incoming materials, while cellular construction adds strength and dent resistance to bowl sides and floor.

Bulldozer Ejection System. Combines constant spreading control while minimizing carryback material. A spill guard on the ejector helps retain material and keep it from spilling over onto the rear of the scraper.

Cutting Edges. May be adjusted according to job conditions. The stinger (drop down) position provides good penetration and efficient flow of material into the bowl whereas the level cutting edge is used for finish work or very high impact conditions.

Caterpillar Ground Engaging Tools (G.E.T.). A wide variety of Ground Engaging Tool (GET) options, such as standard, serrated, and abrasion resistant material (ARM), are available to optimize scraper loading in various materials. Most are reversible to provide long life and reduced operating costs. Contact your Cat Dealer to learn more about the best tools for your applications.

Tandem Engine. Two engines ensure the power to handle steep grades, and makes possible all wheel drive to handle soft, slippery underfoot conditions.

Dual Horsepower. Provides increased horsepower during the haul which results in faster cycle times.

Material Application. Well suited to handle a wide variety of material from clay to shot rock.

Push-Loading. To achieve maximum productivity, the 621G should be push loaded by a D9R or D10R Track-Type Tractor.

Push-Pull Arrangement (627G only)

Caterpillar offers a self-loading arrangement for the 627G.

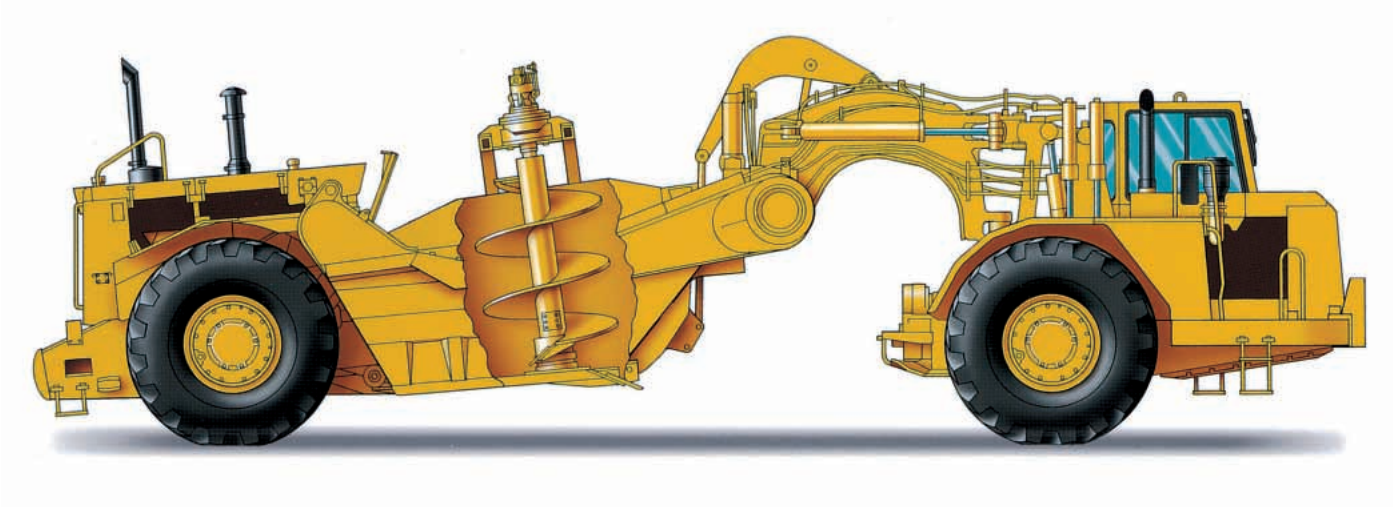
Push-Pull Attachment. This optional arrangement concentrates the combined horsepower of two machines onto one cutting edge. The push-pull attachment allows two individual machines to act as a self-loading system, typically loading both machines in less than a minute.

Flexible Fleet. This system provides a more balanced, flexible fleet using fewer machines and less investment than comparable self-loading or push-loading systems.

Hydraulically Actuated Bail. The push-pull arrangement uses a hydraulically actuated bail and cushioned plate bolted to the front of the tractor, and a hook that is attached to the rear of the scraper.

Auger Arrangement

Excellent self-loading capability in a wide range of material.



Versatility. The auger has a wide material appetite ranging from rock to free flowing material such as sand. The auger lifts material off of the cutting edge, conditions it, and spreads it evenly in the bowl.

Auger Mechanism. The auger lifts material off of the cutting edge and carries it to the top of the load for true self-loading capability.

Material Handling. The auger actions on the material produce several benefits:

- wide material appetite, ideal for landfills
- blends the material to help eliminate voids in the bowl for consistent payloads
- conditions material which promotes compaction in the fill
- reduces dust and noise during loading
- precise metering of material in the fill

Dual Horsepower. Tractor engine automatically reverts to the higher setting when the auger motor is engaged.

Slip Limiter Switch. Prevents rear wheel slip during loading.

Hydraulic System. Single hydraulic system for entire machine with separate implement pumps/valves simplifies maintenance and improves reliability.

Electro-hydraulic Controls. The 627G features full electro-hydraulic controls, which improve serviceability and reduce noise by replacing the cab pilot valves with a single-lever joystick control.

Full-flow Circuits. The hydraulic system features closed-loop, full-flow hydraulic circuits powered by vane-type and piston-type pumps.

Apron. Prevents material spillage and retains fine material far better than an elevating scraper.

Serviceability

Count on Caterpillar for simplified service and the most productive uptime.

Grouped Service Points. Maintenance and service points for the engine are grouped on the right-hand side for easy access. They include the engine air cleaner, engine oil check and fill, fuel filters and priming, coolant level sight glass, window washer bottle, air conditioning dryer cartridge, ether starting aid canister, engine oil filter, fan drive lubrication, and sampling ports for the engine oil and coolant.

- Spin-on fluid filters for all but the main hydraulic filter
- Cab wiring harness redesigned and relocated for better serviceability

Electronic Monitoring System (EMS III). Monitors machine status and provides real-time information to the operator including warnings of problems identified by the Electronic Control Modules.

Electro-Hydraulic Implement Control. Simplifies serviceability by removing the cab pilot valve and associated lines, which also improves reliability and reduces noise. The high efficiency electro-hydraulic pilot oil filter provides cleaner oil for the pilot system.

Electronic Technician (Cat ET). The Caterpillar Electronic Technician (Cat ET) Service Tool is useful in troubleshooting existing problems or identifying potential problems by displaying:

- Real-time pressures, temperatures, fuel settings and diagnostic messages
- Historical data such as engine over-speeds, overheating, low oil pressure and air filter restriction events
- More detailed information to the service technician who can access Cat ET via a laptop computer

Easy Access Diagnostics. Diagnostic codes are accessible through the EMS main display module, via the Cat ET. Relaying this information to the service technician can let him know which tools, troubleshooting guides, and possibly even replacement parts to bring to the machine.

Customer Support

Cat dealer services help you operate longer with lower costs.

Product Support. You will find nearly all parts at our dealer parts counter. Cat dealers use a world-wide computer network to find in-stock parts to minimize machine down time. Save money with genuine Cat Reman parts. You receive the same warranty and reliability as new products at substantial cost savings.

Machine Selection. Make detailed comparisons of the machines under consideration before purchase. Cat dealers can estimate component life, preventive maintenance cost, and the true cost of lost production.

Purchase. Look past initial price. Consider the financing options available as well as day-to-day operating costs. Look at dealer services that can be included in the cost of the machine to yield lower equipment owning and operating costs over the long run.

Customer Support Agreements. Cat dealers offer a variety of product support agreements, and work with customers to develop a plan that best meets specific needs. These plans can cover the entire machine, including attachments, to help protect the customer's investment.

Operation. Improving operating techniques can boost your profits. Your Cat dealer has videotapes, literature and other ideas to help you increase productivity, and Caterpillar offers certified operator training classes to help maximize the return on your machine investment.

Maintenance Services. Talk to your dealer about the range of available maintenance services. Repair option programs guarantee the cost of repairs up front. Diagnostic programs such as S•O•S℠ Analysis and Coolant Sampling and Technical Analysis help avoid unscheduled repairs.

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

Engine

Tractor Engine	Cat 3406E
Scraper Engine	Cat C-9

Tractor Engine

Net Power - Gears 1-2	246 kW	330 hp
Net Power - Gears 3-8	272 kW	365 hp
Gross Power - Gears 1-2	267 kW	358 hp
Gross Power - Gears 3-8	293 kW	393 hp
Bore	137 mm	5.4 in
Stroke	165 mm	6.5 in
Displacement	14.6 L	893 in^3

- Net power advertised is the power available at rated speed of 1800 rpm, measured at the flywheel when the engine is equipped with fan, air cleaner, muffler and alternator.

Scraper Engine

Net Power - Gear 1	168 kW	225 hp
Net Power - Gears 2-4	185 kW	249 hp
Gross Power - Gear 1	168 kW	225 hp
Gross Power - Gears 2-4	186 kW	249 hp
Bore	112 mm	4.41 in
Stroke	149 mm	5.87 in
Displacement	8.8 L	538 in^3

- Net power advertised is the power available at rated speed of 2200 rpm, measured at the flywheel when the engine is equipped with fan, air cleaner, muffler and alternator.

Scraper Bowl

Heaped Capacity	17 m^3	22 yd^3
Rated Load	23 950 kg	52,800 lb
Struck Capacity	12 m^3	15.7 yd^3
Maximum Depth of Cut	333 mm	13.1 in
Width of Cut, Outside Router Bits	3023 mm	9.11 ft
Maximum Ground Clearance	553 mm	21.7 in
Thickness of Optional Cutting Edge	29 mm	1.14 in
Maximum Hydraulic Penetration Force		
- 627G	215 kN	48,375 lb
- 621G	150 kN	33,721 lb
Maximum Depth of Spread	522 mm	20.6 in
Apron Opening	1780 mm	70 in
Apron Closure Force	107 kN	24,075 lb

Transmission

1 Forward	5 kph	3.1 mph
2 Forward	7.6 kph	4.7 mph
3 Forward	10.9 kph	6.8 mph
4 Forward	14.8 kph	9.2 mph
5 Forward	19.9 kph	12.4 mph
6 Forward	26.9 kph	16.7 mph
7 Forward	36.4 kph	22.6 mph
8 Forward	51.5 kph	32 mph
Reverse	8.9 kph	5.4 mph

Steering

Width Required for Curb-to-Curb 180° Turn	10.9 m	35.9 ft
Steering Angle - Right	90°	
Steering Angle - Left	85°	
Hydraulic Output	209 L/min	55 gal/min

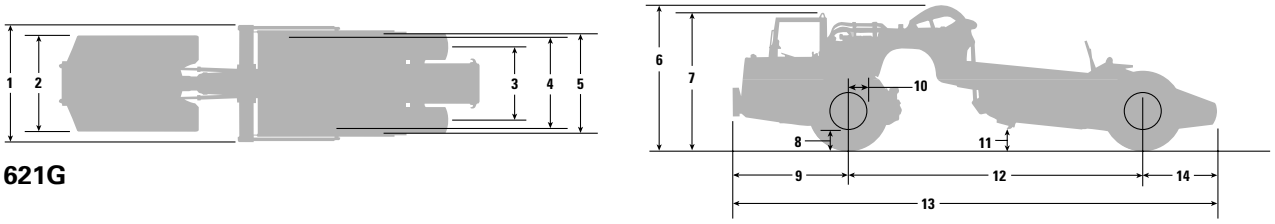
- Optional supplemental steering system meets SAE J1511 (OCT 90) and ISO 5010 (1992) requirements.
- Steering circuit at 1900 RPM

Standards

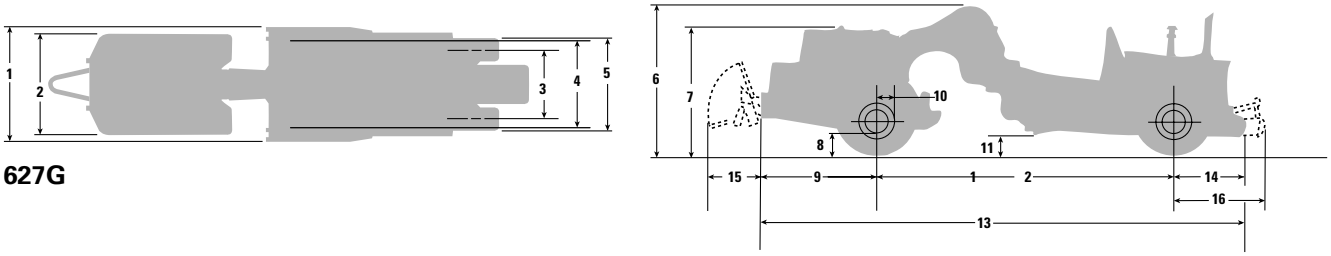
- Rollover Protective Structure (ROPS) meets SAE J320a, SAE J1040 MAY 94, ISO 3471-1986 and ISO 3471-1994
- Falling Object Protective Structure (FOPS) meets SAE J231 JAN 81 and ISO 3449-1992
- The operator sound exposure Leq (equivalent sound pressure level) measured according to the work cycle procedures specified in ANSI/SAE J1166 OCT98 is 80.5 dB(A), for cab offered by Caterpillar, when properly installed and maintained and tested with the 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 noisy environments.

Dimensions

All dimensions are approximate.



621G



627G

Dimension/Model		621G		627G	
1	Overall machine width	3467 mm	11'5"	3467 mm	11'5"
2	Cab width	3130 mm	10'4"	3130 mm	10'4"
3	Width to center of rear tires	2200 mm	7'3"	2200 mm	7'3"
4	Width to inside of bowl	2946 mm	9'8"	2946 mm	9'8"
5	Width to outside of tires	3048 mm	10'0"	3048 mm	10'0"
6	Overall shipping height	3705 mm	12'2"	3705 mm	12'2"
7	Height to top of cab	3423 mm	11'3"	3423 mm	11'3"
8	Tractor ground clearance	553 mm	1'10"	553 mm	1'10"
9	Length to front of machine from front axle	3058 mm	10'1"	3058 mm	10'1"
10	Width from center of rim to outside of rim	432 mm	1'6"	432 mm	1'6"
11	Maximum scraper blade height	522 mm	1'9"	522 mm	1'9"
12	Wheelbase	7722 mm	25'5"	7722 mm	25'5"
13	Overall machine length	12 917 mm	42'5"	12 917 mm	42'5"
14	Length to rear of machine from rear axle	2142 mm	7'1"	2142 mm	7'1"
15	Maximum bail length for push-pull	—	—	1612 mm	5'4"
16	Extended push block	—	—	2786 mm	9'2"

Hydraulics

Closed, full-flow filtered hydraulic circuits powered by vane-type and piston-type pumps.

Model		621G		627G	
Double acting bowl cylinders (2)					
Dimensions:	bore	152 mm	6 in	152 mm	6 in
	stroke	813 mm	32 in	813 mm	32 in
Double acting apron cylinder (1)					
Dimensions:	bore	184 mm	7.25 in	184 mm	7.25 in
	stroke	597 mm	23.5 in	597 mm	23.5 in
Double acting ejector cylinder (1)					
Dimensions:	bore	165 mm	6.5 in	165 mm	6.5 in
	stroke	1549 mm	61 in	1549 mm	61 in
Steering circuit at 1900 rpm		209 liter/min	55 gal/min	209 liter/min	55 gal/min
Scraper circuit at 1900 rpm		284 liter/min	65.5 gal/min	284 liter/min	65.5 gal/min
Cushion hitch circuit at 1900 rpm		37 liter/min	9.8 gal/min	37 liter/min	9.8 gal/min
Optional supplemental steering circuit at 24 km/h (14.9 mph)		150 liter/min	39.9 gal/min	150 liter/min	39.9 gal/min
Relief valve settings for:					
Steering circuit		15 500 kPa	2250 psi	15 500 kPa	2250 psi
Implement circuit		15 000 kPa	2175 psi	15 000 kPa	2175 psi

Service Refill Capacities

Model	621G*		627G* Tractor		627G Scraper	
	L	gal	L	gal	L	gal
Fuel tank	606	160	—	—	1105	292
Crankcase	36	9.5	36	9.5	30	7
Transmission	72	19	72	19	59	15.6
Differential	144	38	144	38	15	4
Final drive, each side	19	5	19	5	19	5
Cooling system	107	28	107	28	77	20.3
Hydraulic	140	37	140	37	—	—
Wheel coolant, each	45	12	45	12	45	12
Windshield washer	6	1.5	6	1.5	—	—

Weights

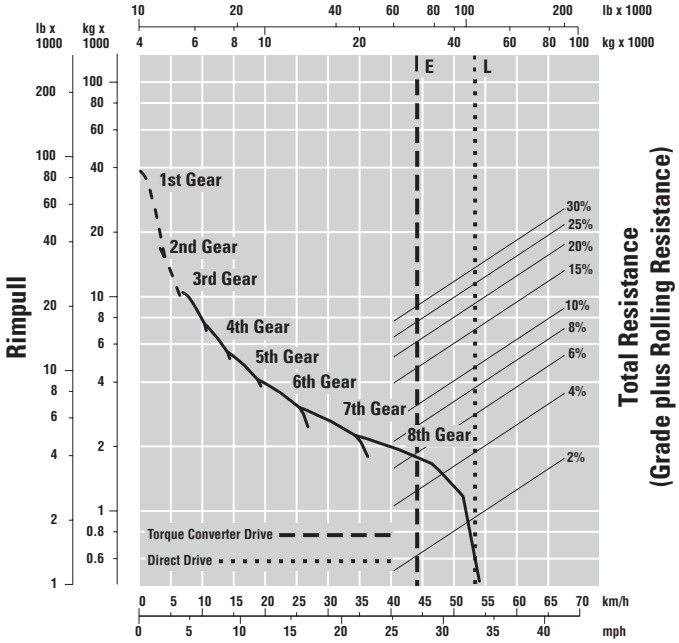
(approximate)

Model	621G		627G Standard		627G Push-Pull	
Shipping, with ROPS cab and 10% fuel						
Tractor	69%		59%		61%	
	22 052 kg	48,616 lb	22 151 kg	48,836 lb	23 534 kg	51,885 lb
Scraper	31%		41%		39%	
	9906 kg	21,841 lb	15 393 kg	33,937 lb	15 047 kg	33,172 lb
Total 100%	**31 958 kg**	**70,458 lb**	**37 545 kg**	**82,773 lb**	**38 581 kg**	**85,058 lb**
Operating empty, with ROPS cab, full fuel tanks and operator						
Front axle	68%		59%		60%	
	22 143 kg	48,817 lb	22 508 kg	49,622 lb	23 512 kg	51,834 lb
Rear axle	31%		41%		40%	
	10 420 kg	22,973 lb	15 641 kg	34,483 lb	15 674 kg	34,556 lb
Total 100%	**32 563 kg**	**71,790 lb**	**38 149 kg**	**84,105 lb**	**39 186 kg**	**86,390 lb**
Loaded, based on a rated load of:	23 950 kg	52,800 lb	23 950 kg	52,800 lb	23 950 kg	52,800 lb
Front axle	53%		48%		49%	
	29 952 kg	66,033 lb	29 808 kg	65,714 lb	30 936 kg	68,203 lb
Rear axle	47%		52%		51%	
	26 561 kg	58,557 lb	32 291 kg	71,191 lb	32 199 kg	70,987 lb
Total 100%	**56 513 kg**	**124,590 lb**	**62 099 kg**	**136,905 lb**	**63 135 kg**	**139,190 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 9 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.

621G Gross Weight
33.25 R29 Tires



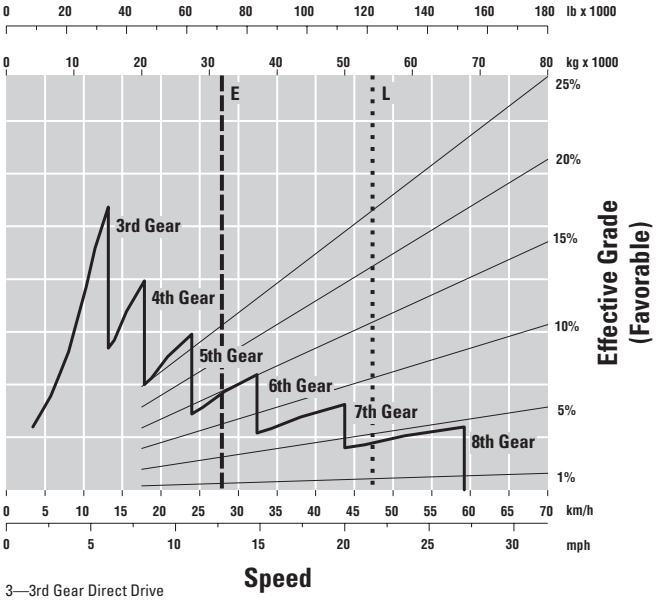
1—1st Gear Torque Converter Drive
2—2nd Gear Torque Converter Drive
3—3rd Gear Direct Drive
4—4th Gear Direct Drive
5—5th Gear Direct Drive
6—6th Gear Direct Drive
7—7th Gear Direct Drive
8—8th Gear Direct Drive

E—Empty 32 563 kg (71,790 lb)
L—Loaded 56 513 kg (124,590 lb)

Retarding

To determine retarding performance: Read from gross weight down to the percent effective grade. (Effective grade equals actual percent grade minus 1% for each 9 kg/t (20 lb/ton) of rolling resistance). From this weight-effective grade point, read horizontally to the curve with the highest obtainable speed range, then down to maximum descent speed the retarder can properly handle.

621G Retarding
Gross Weight



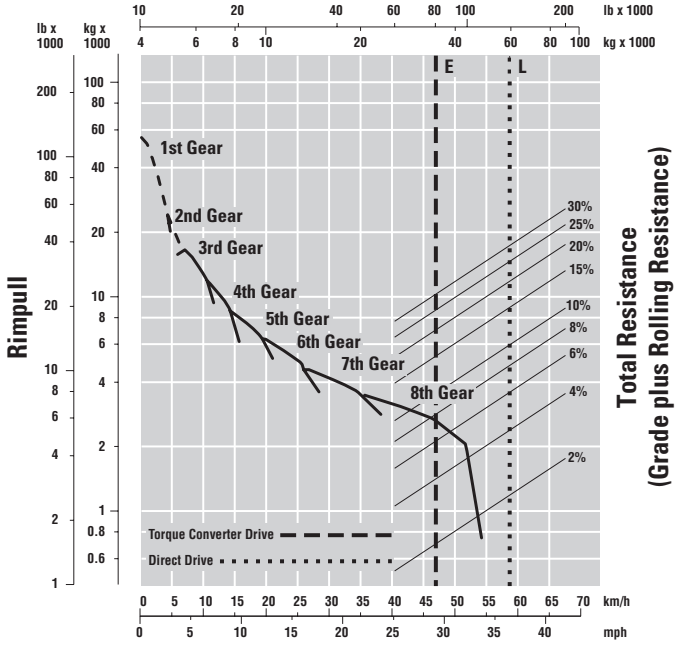
3—3rd Gear Direct Drive
4—4th Gear Direct Drive
5—5th Gear Direct Drive
6—6th Gear Direct Drive
7—7th Gear Direct Drive
8—8th Gear Direct Drive

E—Empty 32 563 kg (71,790 lb)
L—Loaded 56 513 kg (124,590 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 9 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.

627G Gross Weight
33.25 R29 Tires



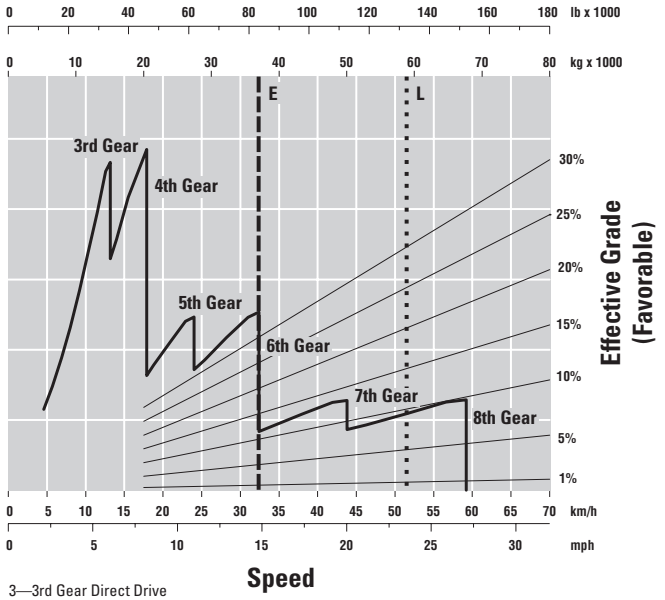
1—1st Gear Torque Converter Drive
2—2nd Gear Torque Converter Drive
3—3rd Gear Direct Drive
4—4th Gear Direct Drive
5—5th Gear Direct Drive
6—6th Gear Direct Drive
7—7th Gear Direct Drive
8—8th Gear Direct Drive

E—Empty 38 149 kg (84,105 lb)
L—Loaded 62 099 kg (136,905 lb)

Retarding

To determine retarding performance: Read from gross weight down to the percent effective grade. (Effective grade equals actual percent grade minus 1% for each 9 kg/t (20 lb/ton) of rolling resistance). From this weight-effective grade point, read horizontally to the curve with the highest obtainable speed range, then down to maximum descent speed the retarder can properly handle.

627G Retarding
Gross Weight



3—3rd Gear Direct Drive
4—4th Gear Direct Drive
5—5th Gear Direct Drive
6—6th Gear Direct Drive
7—7th Gear Direct Drive
8—8th Gear Direct Drive

E—Empty 38 149 kg (84,105 lb)
L—Loaded 62 099 kg (136,905 lb)

Standard Equipment

ELECTRICAL
- Alarm, backup
- Alternator, 75 amp - tractor engine
- Alternator, 35 amp - scraper engine (627G)
- Batteries (4), 12V Maintenance Free, High Output
- Batteries (2), 12V Maintenance Free, High Output (627G)
- Electrical System, 24V
- Lighting System - Tractor
  - Directional Signals; Hazard Lights; Headlights, halogen with dimmer; Floodlight, cutting edge
- Lighting System - Scraper
  - Directional Signals; Hazard Lights; Stop/Tail
- Starting Receptacle - tractor and scraper engines

OPERATOR ENVIRONMENT
- Air Conditioner (includes heater and defroster)
- Cigarette Lighter and Ashtray
- Coat Hook
- Diagnostic Connection Port (12V)
- Dome Courtesy Light
- Gauge Group
  - Air Pressure
  - Converter/Retarder temperature
  - Electronic Monitoring System (EMS III)
  - Engine coolant temperature
  - Actual Transmission Gear Indicator
  - Fuel
  - Speedometer
  - Tachometer
  - Transmission gear indicator
- Horn
- Implement Control Joystick
- Rearview Mirrors
- Radio Ready (two bays, speakers, 5-amp converter)
- ROPS Cab with Sound Suppression and Pressurization
- Static Seatbelt
- Scraper Engine Controls (627G)
- Seat, Air Suspension, Caterpillar Comfort, cloth
- Steering Wheel - tilt and telescoping
- Storage Compartment
- Throttle Lock
- Transmission Hold
- Windows - sliding side, swingout
- Windshield - laminated glass
- Windshield Wiper/Washer - front and rear

POWER TRAIN
- Engine
  - Electric start, 24V
  - Fan, suction
  - Ground level engine shutdown
  - Muffler
  - Starting Aid, ether
  - Thermo-shield, laminated
  - Tractor:
    - 6 cylinder diesel, 3406E HEUI
    - Air Cleaner, dry-type with pre-cleaner
    - Guard, crankcase
  - Scraper (627G):
    - 6 cylinder diesel, C-9 Diesel HEUI
    - Alternator, 35 amp
- Braking System
  - Parking/Primary/Secondary
  - Shields- brake
- Transmission
  - Tractor:
    - 8-speed automatic Powershift with Electronic Control
    - Control throttle shifting
    - Differential - lockup
    - Downshift Inhibitor
    - Neutral Coast Inhibitor
    - Programmable top-gear selection
  - Scraper (627G):
    - 4-speed Powershift, Electronic Control

OTHER STANDARD EQUIPMENT
- Fast Oil Change
- Fenders
- Extended Life Coolant, –36°C (–33°F)
- Tires/Rims - 33.25-R29 radial
- Tractor:
  - Air dryer
  - Cushion hitch
  - Locks, vandalism protection
  - Product Link ready
  - Tow Pins - front and rear

Optional Equipment

Optional equipment may vary. Consult your dealer for specifics.

	kg	lb
621G		
Auger	4536	10,000
Fenders, scraper	121	266
Fuel system, fast-fill	10	23
Heater, engine coolant	2	4
Lights, side vision	5	10
Retarder, hydraulic	150	330
Steering, secondary	50	110

	kg	lb
627G		
Auger	4536	10,000
Fuel system, fast-fill	10	23
Heater, engine coolant	2	4
Lights, side vision	5	10
Push block, extended (scraper)	200	440
Push-pull arrangement (scraper)	489	1078
Push-pull arrangement (scraper) w/o rear engine radiator guard	349	770
Retarder, hydraulic (tractor)	150	330
Retarder, hydraulic (scraper)	154	340
Steering, secondary	50	110

621G/627G Wheel Tractor Scrapers

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

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