

631G/637G

Wheel Tractor Scrapers



Engine

Tractor Engine	Cat® 3408E	
Net Power	336/362 kW	450/485 hp
Scraper Engine	Cat C-9	
Net Power	186/204 kW	249/274 hp
Heaped Capacity	26.0 m ³	34 yd ³
Rated Load	37 285 kg	82,200 lb

631G/637G 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**

Push-Pull Arrangement (637G only)

For maximum production capability, Caterpillar offers an optional push-pull arrangement for the 637G, which allows two push-pull scrapers to act as a self-loading machine. **pg. 12**

Power Train - Transmission

Integrated electronics allows the machine to monitor the power train which reduces stress as well as provides a better ride to the operator. **pg. 6**

Auger Arrangement

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

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**

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 durable Caterpillar components simplify maintenance and minimize downtime. **pg. 14**

Customer Support

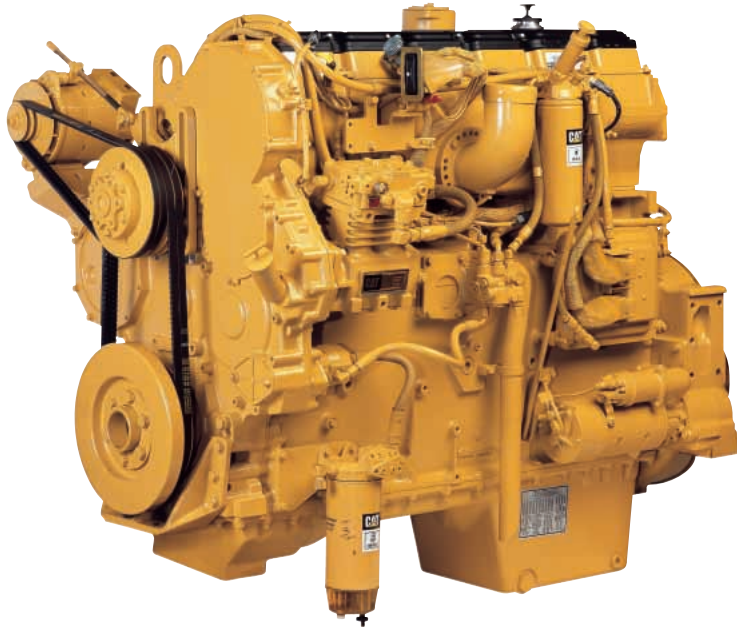
The best parts availability and the best service capability will help keep your equipment working. **pg. 15**



✓ *New Feature*

Power Train - Engine

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



3408E Tractor Engine. The 3408E, with dual horsepower capability, provides high power and torque rise for excellent lugging in tough loading conditions. The 3408E is designed for long hours of continuous operation with high displacement and low RPM ratings.

C-9 Scraper Engine. The 637G is tandem powered by the C-9 scraper engine for peak performance and high productivity in self-loading applications. While the C-9 is smaller and lighter than the Cat 3306, it delivers the same power and allows all service work to be done from the right hand side.

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 3408E 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. 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.

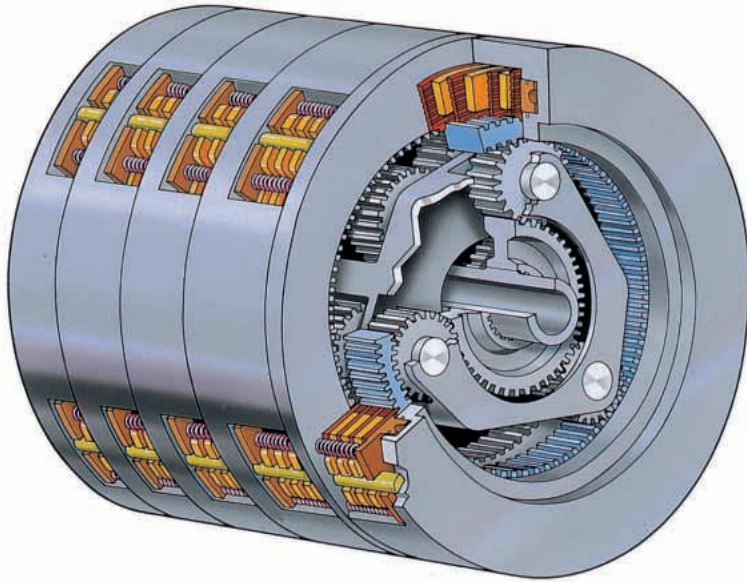
Reduced Exhaust Smoke. The ECM determines the optimum fuel/air ratio, then precisely controls fuel during cranking, starting and acceleration to reduce smoke. This system is faster and more efficient than mechanically controlling the governor rack position.

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 provides 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.

Synchronized Scraper Transmission. The scraper transmission is electronically controlled by the tractor transmission, synchronizing the scraper transmission gear selection with that of the tractor transmission. The scraper transmission cannot be shifted manually. A neutral/run switch, located in the cab, allows the operator to disengage the scraper transmission.

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 should be used on downgrades to reduce wear on the service brakes and enhance machine control. The retarder acts as an internal brake on the driveline that minimizes the need to apply service brakes. The operator typically engages the retarder 3 to 4 seconds before the machine begins a downhill grade.

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.

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.

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. Alerts the operator if air filter 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.

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.

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

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 (0° to 30°) 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 legroom 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.

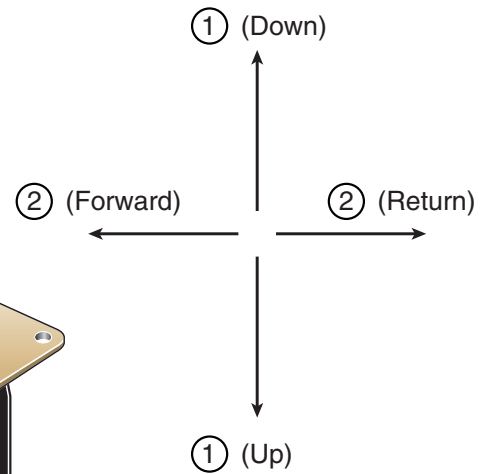
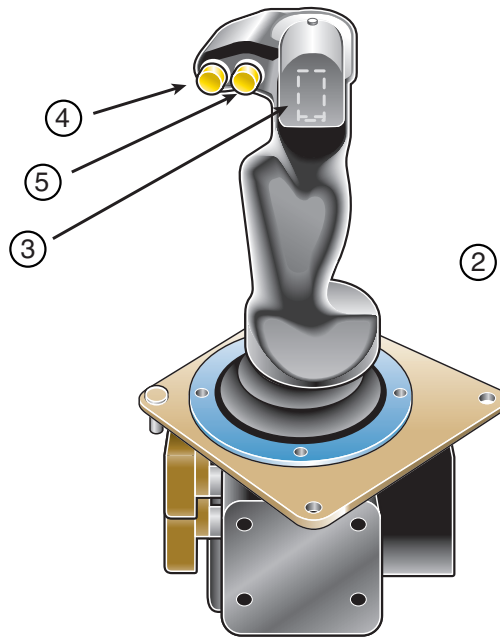
- 1) Bowl (forward & back)
- 2) Ejector (side to side)
- 3) Apron (thumb rocker switch)
- 4) Transmission Hold
- 5) Cushion Hitch
- 6) Trigger (not shown - is on front of joystick)

- 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 637G tachometer can monitor either front or rear engine speeds. Once the 637G 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.

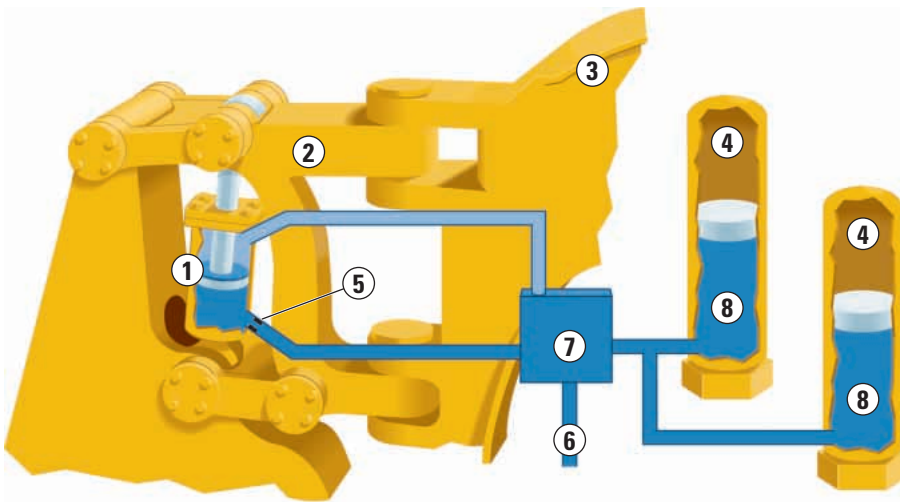
Logical Control Placement. Frequently used switches and indicator lights are on the instrument panel, and less frequently used switches on the overhead console.

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 ensures 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 631G should be push loaded by a D9R or D10R Track-Type Tractor.

Push-Pull Arrangement (637G only)

Caterpillar offers a self-loading arrangement for the 637G.



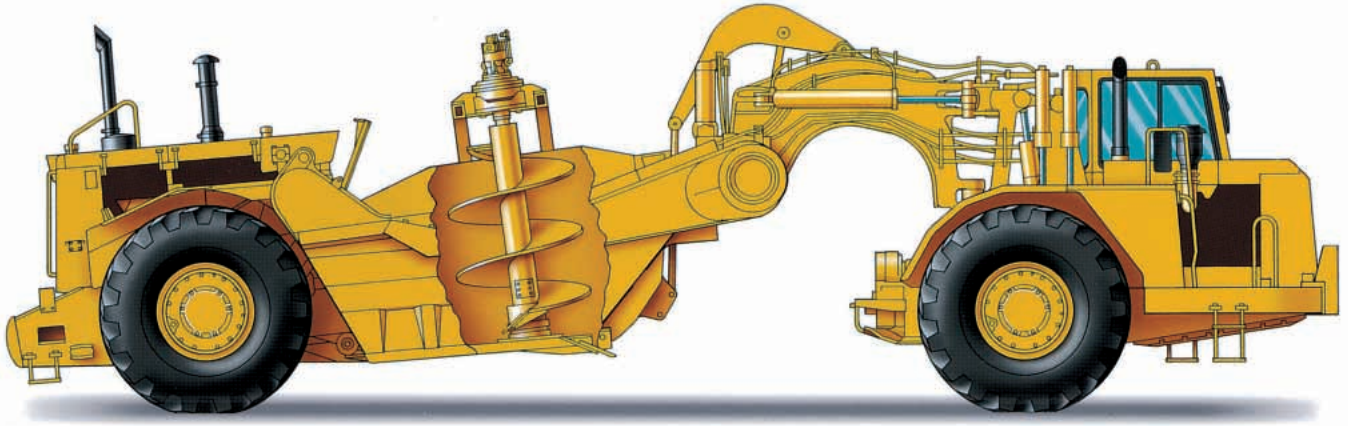
Push-Pull Attachment . This optional arrangement concentrates the combined horsepower of two machines onto one cutting edge. The push-pull attachment allows two individual machines to act as a self-loading system, typically loading both machines in less than a minute.

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.

Electro-hydraulic Controls. Full electro-hydraulic controls 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•SSM 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 3408E
Scraper Engine	Cat C-9

Tractor Engine

Net Power - Gears 1-2	336 kW	450 hp
Net Power - Gears 3-8	362 kW	485 hp
Gross Power - Gears 1-2	358 kW	480 hp
Gross Power - Gears 3-8	387 kW	519 hp
Bore	137 mm	5.4 in
Stroke	152 mm	5.9 in
Displacement	18 L	1,099 in ³

- Net power advertised is the power available at rated speed of 2000 rpm, measured at the flywheel when the engine is equipped with fan, air cleaner, muffler and alternator.

Scraper Engine

Net Power - Gear 1	186 kW	249 hp
Net Power - Gears 2-4	204 kW	274 hp
Gross Power - Gear 1	204 kW	274 hp
Gross Power - Gears 2-4	223 kW	299 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	26 m ³	34 yd ³
Rated Load	37 285 kg	82,200 lb
Struck Capacity	18.3 m ³	24 yd ³
Maximum Depth of Cut	437 mm	17.2 in
Width of Cut, Outside Router Bits	3512 mm	11.5 ft
Maximum Ground Clearance	545 mm	21.5 in
Maximum Hydraulic Penetration Force		
- 637G	360 kN	81,000 lb
- 631G	255 kN	57,375 lb
Maximum Depth of Spread	480 mm	18.9 in
Apron Opening	2007 mm	79 in
Apron Closure Force	170 kN	38,250 lb

Steering

Width Required for Curb-to-Curb 180° Turn	12.2 m	40 ft
Steering Angle - Right	90°	
Steering Angle - Left	85°	

- Optional supplemental steering system meets SAE J1511 (OCT 90) and ISO 5010 (1992) requirements.
- Steering circuit at 2000 RPM.

Standards

- The operator sound exposure Leq (equivalent sound pressure level) measured according to the work cycle procedures specified in ANSI/SAE J1166 OCT98 is 80 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.
- Rollover Protective Structure (ROPS) which meets SAE J320a, SAE J1040 MAY 94, ISO 3471-1986 and ISO 3471-1994
- Falling Object Protective Structure (FOPS) which meets SAE J231 JAN 81 and ISO 3449-1992
- Meet the following standards: OSHA, MSHA, ISO 3450: 1998

Hydraulics

The 631G and 637G feature closed, full-flow filtered hydraulic circuits powered by gear-type and piston-type pumps.

Model	631G		637G	
Double acting bowl cylinders (2)				
Dimensions: bore	184 mm	7.2 in	184 mm	7.2 in
stroke	873 mm	34.4 in	873 mm	34.4 in
Double acting apron cylinder (1)				
Dimensions: bore	210 mm	8.2 in	210 mm	8.2 in
stroke	727 mm	28.6 in	727 mm	28.6 in
Double acting ejector cylinder (1)				
Dimensions: bore	210 mm	8.2 in	210 mm	8.2 in
stroke	1880 mm	74 in	1880 mm	74 in
Steering circuit at 2000 rpm	379 liter/min	100 gal/min	379 liter/min	100 gal/min
Scraper circuit	344 liter/min	91 gal/min	344 liter/min	91 gal/min
Cushion hitch circuit at 2000 rpm	34.5 liter/min	9 gal/min	34.5 liter/min	9 gal/min
Optional supplemental steering circuit at 24 km/h (14.9 mph)	379 liter/min	100 gal/min	379 liter/min	100 gal/min
Relief valve settings for:				
Steering circuit	13 700 kPa	1987 psi	13 700 kPa	1987 psi
Implement circuit	14 000 kPa	2030 psi	14 000 kPa	2030 psi
Compensator settings for:				
Cushion hitch circuit	16 000 kps	2320 psi	16 000 kps	2320 psi

Service Refill Capacities

Model	631G		637G Tractor		637G Scraper	
	L	gal	L	gal	L	gal
Fuel tank	814	215	—	—	1268	335
Crankcase	45	11.9	45	11.9	30	7.9
Transmission	110	29	110	29	72	19
Differential	148	39	148	39	12	3.2
Final drive, each side	23	6.1	23	6.1	19	5
Cooling system	110	29	110	29	76	20
Hydraulic system	190	50.2	190	50.2	—	—
Wheel coolant, each	75	19.8	75	19.8	75	19.8
Windshield washer	6	1.5	6	1.5	—	—

Weights

(approximate)

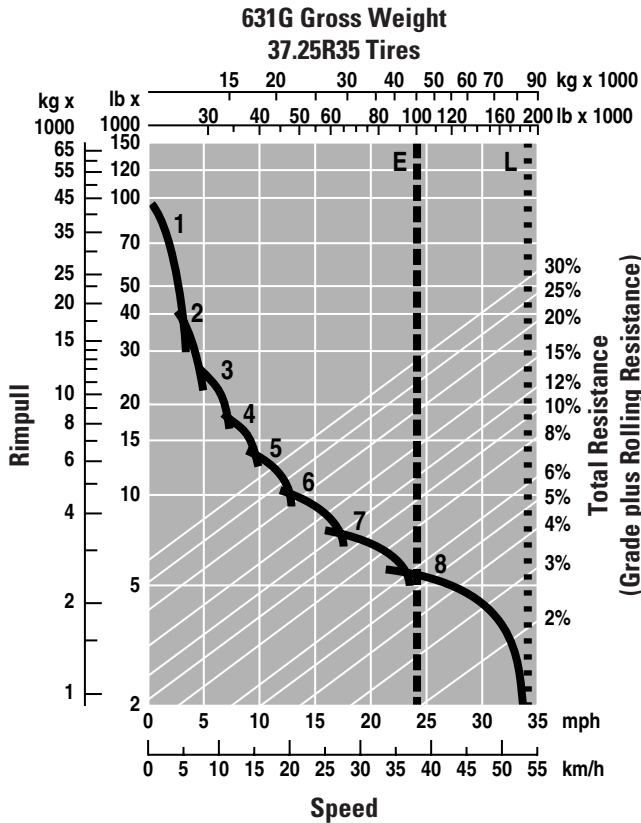
Model	631G		637G		637G	
			Standard		Push-Pull	
Shipping, with ROPS cab and 10% fuel						
Front axle	67%		59%		59%	
	30 393 kg	67,005 lb	30 177 kg	66,529 lb	31 071 kg	68,499 lb
Rear axle	33%		41%		41%	
	14 969 kg	33,001 lb	20 970 kg	46,231 lb	21 591 kg	47,601 lb
Total 100%	45 362 kg	100,006 lb	51 147 kg	112,760 lb	52 662 kg	116,100 lb
Operating empty, with ROPS cab, full fuel tanks and operator						
Front axle	67%		59%		59%	
	31 138 kg	68,648 lb	30 708 kg	67,700 lb	31 602 kg	69,670 lb
Rear axle	33%		41%		41%	
	15 337 kg	33,812 lb	21 339 kg	47,044 lb	21 960 kg	48,414 lb
Total 100%	46 475 kg	102,460 lb	52 047 kg	114,744 lb	53 562 kg	118,084 lb
Loaded, based on a rated load of 37 285 kg (82,200 lb)						
Front axle	53%		49%		49%	
	44 393 kg	97,870 lb	43 773 kg	96,503 lb	44 515 kg	98,139 lb
Rear axle	47%		51%		51%	
	39 367 kg	86,790 lb	45 559 kg	100,441 lb	46 332 kg	102,145 lb
Total 100%	83 760 kg	184,660 lb	89 332 kg	196,944 lb	90 874 kg	200,284 lb

Transmission

Model	631G		637G	
	Forward	1	4.7 kph 2.9 mph	5.5 kph 3.4 mph
	2	8.4 kph 5.2 mph	10.0 kph 6.2 mph	
	3	11.9 kph 7.4 mph	12.2 kph 7.6 mph	
	4	16.1 kph 10.0 mph	16.6 kph 10.3 mph	
	5	21.6 kph 13.4 mph	22.2 kph 13.8 mph	
	6	29.3 kph 18.2 mph	30.1 kph 18.7 mph	
	7	39.4 kph 24.5 mph	40.6 kph 25.2 mph	
	8	53.5 kph 33.2 mph	54.9 kph 34.1 mph	
Reverse		9.9 kph 6.2 mph	9.9 kph 6.2 mph	

Gradeability/Speed/Rimpull

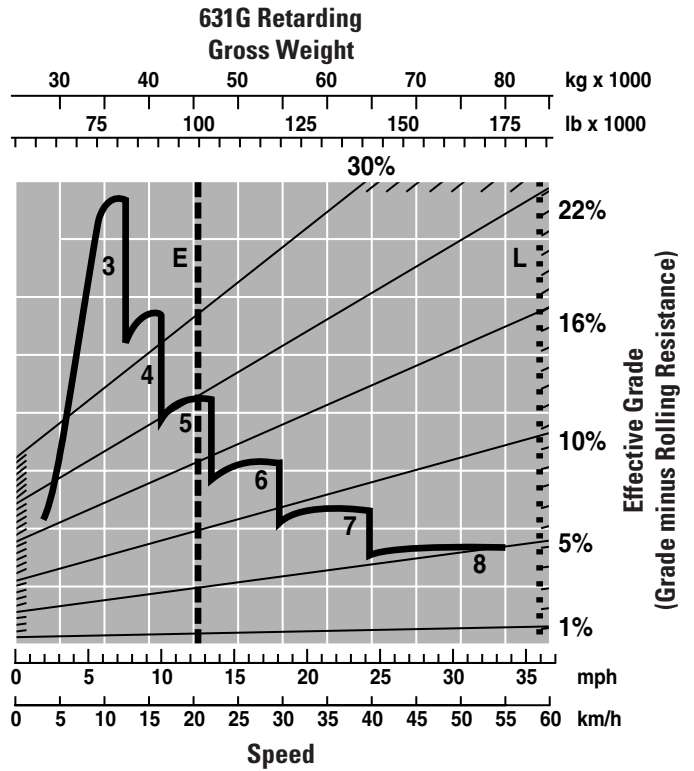
To determine gradeability performance: Read from gross weight down to the percent of total resistance. Total resistance equals actual percent grade plus 1% for each 9 kg/t (20 lb/ton) of rolling resistance. From this weight-resistance point, read horizontally to the curve with the highest obtainable gear, then down to maximum speed. Usable rimpull will depend upon traction available and weight on drive wheels.



- 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 46 475 kg (102,460 lb)
- L—Loaded 83 760 kg (184,660 lb)

Retarding

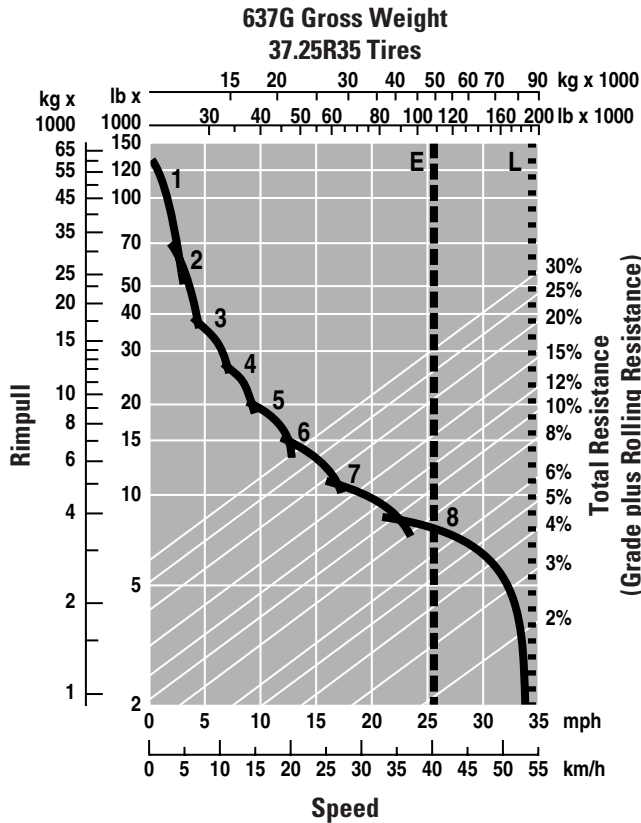
To determine retarding performance: Read from gross weight down to the percent effective grade. (Effective grade equals actual percent grade minus 1% for each 9 kg/t (20 lb/ton) of rolling resistance). From this weight-effective grade point, read horizontally to the curve with the highest obtainable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



- 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 46 475 kg (102,460 lb)
- L—Loaded 83 760 kg (184,660 lb)

Gradeability/Speed/Rimpull

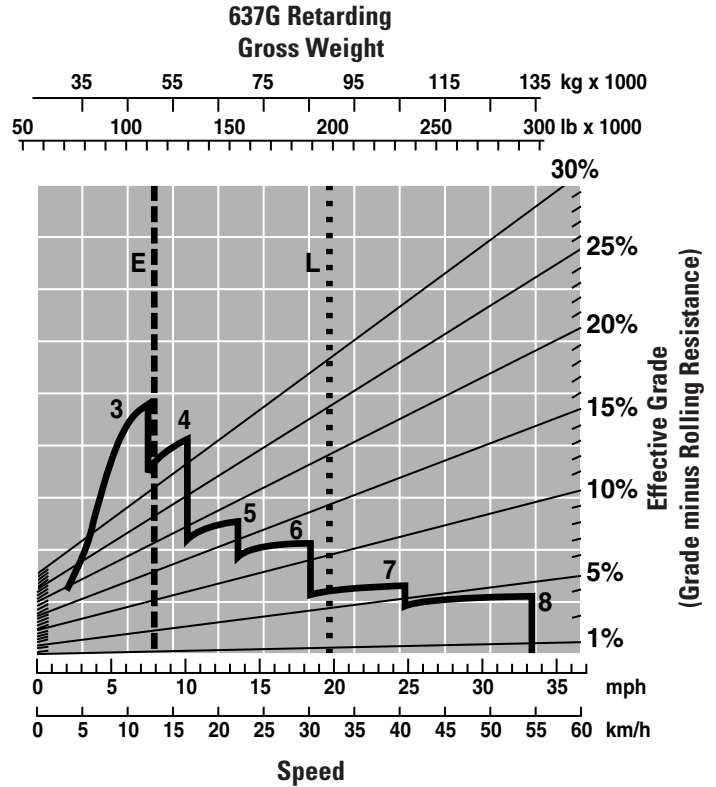
To determine gradeability performance: Read from gross weight down to the percent of total resistance. Total resistance equals actual percent grade plus 1% for each 9 kg/t (20 lb/ton) of rolling resistance. From this weight-resistance point, read horizontally to the curve with the highest obtainable gear, then down to maximum speed. Usable rimpull will depend upon traction available and weight on drive wheels.



- 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 52 047 kg (114,745 lb)
 - L—Loaded 89 332 kg (196,944 lb)

Retarding

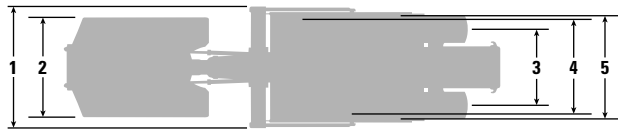
To determine retarding performance: Read from gross weight down to the percent effective grade. (Effective grade equals actual percent grade minus 1% for each 9 kg/t (20 lb/ton) of rolling resistance). From this weight-effective grade point, read horizontally to the curve with the highest obtainable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



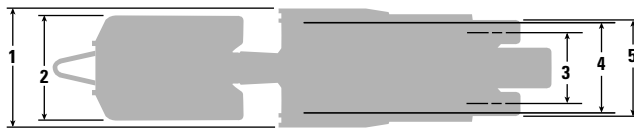
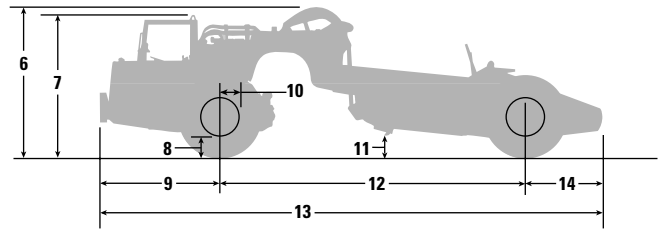
- 3—3rd Gear Direct Drive
 - 4—4th Gear Direct Drive
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 - 6—6th Gear Direct Drive
 - 7—7th Gear Direct Drive
 - 8—8th Gear Direct Drive
- E—Empty 52 047 kg (114,745 lb)
 - L—Loaded 89 332 kg (196,944 lb)

Dimensions

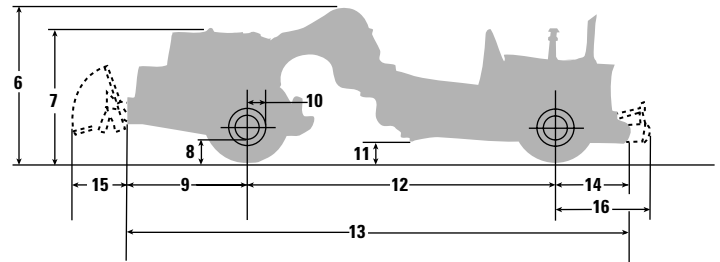
All dimensions are approximate.



631G



637G



Dimension/Model	631G		637G	
1 Overall machine width	3938 mm	12'11"	3938 mm	12'11"
2 Tractor width	3481 mm	11'5"	3481 mm	11'5"
3 Width to center of rear tires	2464 mm	8'1"	2464 mm	8'1"
4 Width to inside of bowl	3405 mm	11'2"	3405 mm	11'2"
5 Width to outside of tires	3636 mm	11'11"	3636 mm	11'11"
6 Overall shipping height	4286 mm	14'1"	4286 mm	14'1"
7 Height to top of cab	3715 mm	12'2"	3715 mm	12'2"
8 Tractor ground clearance	665 mm	2'2"	665 mm	2'2"
9 Length from front axle to front	3359 mm	11'0"	3359 mm	11'0"
10 Axle to vertical hitch pin	548 mm	1'10"	548 mm	1'10"
11 Maximum scraper blade height	545 mm	1'9"	545 mm	1'9"
12 Wheelbase	8769 mm	28'9"	8769 mm	28'9"
13 Overall machine length	14 565 mm	47'9"	14 565 mm	47'9"
14 Length from rear axle to rear	2437 mm	8'0"	2437 mm	8'0"
15 Maximum bail length	—	—	4960 mm	6'3"
16 Extended push block	—	—	2744 mm	9'0"

Standard Equipment

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

ELECTRICAL

- Alarm, backup
- Alternator, 75 amp - tractor engine
- Alternator, 35 amp - scraper engine (637G)
- Batteries (4), 12V Maintenance Free, High Output
- Batteries (2), 12V Maintenance Free, High Output (637G)
- 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
 - 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 (637G)
- 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:
 - 8 cylinder diesel, 3408E HEUI
 - Air Cleaner, dry-type with pre-cleaner
 - Guard, crankcase
- Scraper (637G):
 - 6 cylinder diesel, C-9 Diesel HEUI
- 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 (637G):
 - 4-speed Powershift with Electronic Control

OTHER STANDARD EQUIPMENT

- Air dryer
- Cushion hitch
- Extended Life Coolant, -36° C (-33° F)
- Fast Oil Change
- Fenders (637G)
- Hydraulic Retarder (637G)
- Locks, vandalism protection
- Product Link ready
- Tires/Rims - 37.25-R35 radial
- Tow Pins - front and rear

Optional Equipment

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

	<u>kg</u>	<u>lb</u>
Auger	3629	8000
Guard, Tractor crankcase	52	114
Extended Life Coolant, -50° C (-58° F)		
Fan, Defrost		
Fenders (631G scraper)	294	650
Fuel system, fast-fill	22	48
Heater, engine coolant	3	7
Hydraulic retarder (tractor)	150	330
Hydraulic retarder (scraper)	154	340
Lights, side vision	5	10
Lock, Steering		
Guard, Scraper overflow (631G)	181	400
Guard, Power train	184	405
Push-pull arrangement (637G tractor)	803	1770
Push-pull arrangement (scraper)	794	1570
Steering, secondary	169	372

631G/637G Wheel Tractor Scrapers

AEHQ5529 (1-03)

Replaces AEHQ5412 (10-00)

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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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