

613G

Wheel Tractor-Scraper

CATERPILLAR[®]



Engine

Tractor Engine	Cat [®] C6.6 ATAAC	
Net Power	135 kW	181 hp

Scraper Bowl

Rated Load	11 975 kg	26,400 lb
Capacity Heaped	8.4 m ³	11 yd ³

Weights

Total Operating – empty	16 887 kg	37,229 lb
-------------------------	-----------	-----------

613G Features

New Cab – Standard

Greater visibility from a 30% larger cab – standard with air conditioning, heat and a rotating Cat Comfort seat.

Power Train

New power train components boost rimpull and power, improving load times by as much as 13%.

AccuGrade

Factory mounted platforms, hand holds and a GPS receiver mast are available to help you use AccuGrade to move dirt one-time and accurately.

Structures

New fuel tank with 95-gallon capacity can run a full 10-12 hour shift.

Hydraulics

New all-hydraulic brakes replace air over hydraulics, improving machine availability.

Serviceability

All new hose and harness routings reduce rub and pinch points.

Safety

A new steering disable valve locks the steering and eliminates unplanned machine articulation when entering or exiting the cab.

Elevator Structures

Made simpler and more robust with larger, greased rollers and fewer parts to service.



Contents

Operator Station.....	3
Power Train.....	4
Hydraulics	5
AccuGrade™ Grade Control	6
Electrical.....	7
Serviceability.....	8
613G Wheel Tractor-Scraper Specifications ...	9
613G Standard Equipment	13
613G Optional Equipment.....	14
Notes.....	15

The G-Series 613 carries on a unique tradition of clearing, cut and fill, and finish grade earthwork with a new emphasis on operator comfort and performance. The tractor frame has been redesigned to support a spacious new cab with a Cat Comfort seat that rotates 30 degrees for ease of loading. The cab is standard and comes with air conditioning and heat. Performance improvements – primarily in the cut – are the result of a new power train that features the Cat C6.6 with a horsepower increase and new torque converter. The result is more rimpull that when combined with more hydraulic flow to the elevator yields 13% faster loading. Order the machine with indicate-only AccuGrade and you'll move dirt more efficiently and profitably.

Operator Station

A spacious new cab, standard, offers room to operate more efficiently.

Operator Comfort

- Air conditioning and heat standard
- Hand holds and room to enter and exit freely
- Fully adjustable steering wheel and seat accommodate operator sizes, rotates for easy loading, durable yet soft cloth surface, adjustable seat suspension for hauling
- Arm rests, left foot rest for support and reduced fatigue
- Ergonomic, low-effort controls with auto-kickouts and detents improve efficiency and speed
- Radio ready

Productivity

- AccuGrade™ ready
- Cab mounted display for accurate material placement
- Excellent visibility to cutting edge facilitates fine grading, with more glass than 613CII
- Rotating seat for viewing the cutting edge and loading
- Fatigue-fighting comfort in the seat, roomy interior
- With all-new hydraulic system, implement and steering controls are quick to respond to operator input
- 76 dB(A) operator sound levels

Safety

- Improved visibility to the work site
- Steering disabled when operator is not in seat and machine speed is zero
- Low cab sound levels reduce fatigue
- Integrated ROPS protects the operator when combined with seat belt use
- Primary and secondary braking systems hydraulically actuated eliminates the air-over-hydraulic system
- Parking brake with 304 mm (12 inch) drum has more slope holding ability
- Front and rear windshield wipers

Instruments

- Simple gauge cluster is easy to read
- Backlit switches are close at hand
- Messaging alerts technicians and operator to service needs



Power Train

Cat® C6.6 and torque converter deliver horsepower and rimpull gains.



Cat C6.6 Engine with ACERT™ Technology

- Net power increase from the C6.6 engine (181 hp/135 kW)
- Electronically controlled for quick load response and emissions control
- Common rail fuel injection facilitates emissions compliance through pilot ignition and control over injection timing and pressures
- 500 hr engine oil and oil filter change intervals
- Easy access fuel filters
- Modular cooling package with swing out cores facilitates maintenance



Torque Converter

- New torque converter, proven in the D6N, increases rimpull by 11% in 2nd gear and shortens load times
- Efficient at delivering power to the ground converting fuel dollars into more dirt moved
- Built tough for constant directional changes typical of track-type tractor applications

Transmission

- Planetary powershift manual transmission
- 6 speeds forward/1 reverse
- Design proven for the application

Differential Lock

- Foot activated differential lock evenly distributes power, minimizing wheel spin
- Improves traction in slippery underfoot conditions



Hydraulics

Newly updated hydraulics enhance 613G performance and serviceability.

Braking

Primary, secondary and tertiary braking is hydraulically controlled without the need for an air system.

Hoses

- All new routings avoid rubs and facilitate service.
- New service port on the bowl side improves access to hoses reducing service time.

Hydraulic Tank

- New tank offers simpler construction, better accessibility, greater capacity, low oil turbulence and aeration with reverse flow filtration for cleaner oil.

Pumps, Motors, Valves

- All new pumps work more efficiently and are sized for performance improvement.
- New elevator pump provides higher flow and turns the elevator at slightly faster speeds.
- New implement valve offers faster response to operator input.
- Steering disable valve engages when machine is in Park, operator is absent from the seat and ground speed is zero. Eliminates unwanted articulation when entering or exiting the cab.

AccuGrade™ Grade Control

The 613G offers factory-installed AccuGrade options.



Features

- The 613G offers indicate-only AccuGrade™ system.
- The AccuGrade system is cross slope, single GPS technology.
- AccuGrade allows the operator to manually place or cut dirt exactly where it's called for.
- This system is accurate and efficient, allowing the 613G to work on stake-less job sites.
- For easy mounting of the satellite receiver, the 613G features purpose built platforms and hand-holds assembled and durability tested at the factory.
- These platforms align for safe removal of the GPS (Global Positioning System) receiver when the machine is articulated 90 degrees to the right.
- The system, along with the mast, is purpose built to work with the 613G's cutting edge.
- Each component has been designed and validated to withstand scraper applications and life expectancies.





Electrical

All new harnesses, routings and lamps improve availability and visibility.

Key Updates

- LED lights offer superior life and reliability on the rear of the scraper.
- HID lighting options available on flood lamps offer 6X the output of conventional halogens.
- Front head lamps feature low and high beam settings with directional lamps for roading.
- An optional air horn gets respect under all job site conditions.
- Polyurethane coated harnesses, found across the hitch, are weather resistant and improve durability.

Serviceability

The 613G is easier than ever to service, monitor and inspect.



- Accessibility to filter and fluid sight gauges are either at ground level or have platforms with anti-skid plate.
- Thoughtful hydraulic hose routings reduce wear and improve accessibility.
- Electrical wiring harnesses over the hitch use weather resistant polyurethane jacketing.
- Smaller harness sections are easy to replace and resist pinching and stretching.
- Cab tilts for access to left side of the engine.
- Fuse and breaker box located in the cab for easy access.
- Recessed battery reduces the opportunity for damage.
- Electric priming located on primary fuel filter.
- Grease point for elevator pivot joint located outside the bowl at ground level.
- New elevator rollers include grease fittings for longer life.
- New, clean fuel tank design reduces fuel contamination risk.
- Fold out radiator cores make cleaning fast and simple.
- Fault code messaging through the Electronic Monitoring Center simplify service.



613G Wheel Tractor-Scraper Specifications

Engine

Tractor Engine	Cat® C6.6 ATAAC	
Bore	100 mm	3.94 in
Stroke	127 mm	5 in
Displacement	6.6 L	403 in ³
Net Power	135 kW	181 hp
Gross Power	144 kW	193 hp

Transmission

1 Forward	3.4 km/h	2.1 mph
2 Forward	5.6 km/h	3.5 mph
3 Forward	9 km/h	5.6 mph
4 Forward	14.3 km/h	8.9 mph
5 Forward	20.6 km/h	12.8 mph
6 Forward	39.3 km/h	24.4 mph
Travel Speed Maximum	39.3 km/h	24.4 mph
Reverse	5.8 km/h	3.6 mph

Hydraulics

Bowl Cylinder Bore	101.6 mm	4 in
Bowl Cylinder Stroke	419 mm	16.5 in
Floor Cylinder Bore	130 mm	5.1 in
Floor Cylinder Stroke	624.8 mm	24.6 in
Ejector Cylinder Bore	88.9 mm	3.5 in
Ejector Cylinder Stroke	914.4 mm	36 in
Steering Circuit	96 L/min	25.4 gal/min
Scraper Circuit	323 L/min	85.3 gal/min
Supplemental Steering Circuit	16 L/min	4.23 gal/min
Relief Valve – Steering Circuit	19 000 kPa	2,756 psi
Relief Valve – Implement Circuit	17 250 kPa	2,502 psi
Compensator Settings – Elevator Circuit	17 225 kPa	2,498.3 psi

Scraper Bowl

Capacity Heaped	8.4 m ³	11 yd ³
Rated Load	11 975 kg	26,400 lb
Capacity Struck	6.8 m ³	8.9 yd ³
Depth of Cut – max	160 mm	6.3 in
Width of Cut, to Router Bits	2430 mm	95.7 in
Ground Clearance – max	450 mm	17.7 in
Cutting Edge thickness	22 mm	0.87 in.
Hydraulic Penetration Force	280 kN	62,946 lb
Depth of Spread – max	571 mm	22.5 in

Elevator

Length – overall	2438 mm	96 in
Width of Flight Face	176 mm	6.9 in
Length of Flights	1680 mm	66.1 in
Spacing of Flights	406 mm	16 in
Number of Flights	15	

Steering

Width – 180° Turn	8.93 m	29 ft 4 in
Steering Angle – Right	90°	
Steering Angle – Left	90°	
Hydraulic Output	96 L/min	25.4 gal/min
Ground-Driven Secondary Steering System	16 L/min	4.23 gal/min

Service Refill Capacities

Fuel Tank	359.6 L	95 gal
Crankcase	20 L	5.3 gal
Transmission	35 L	9.2 gal
Differential	19 L	5 gal
Final Drive (each side)	5.8 L	1.5 gal
Cooling System	38.5 L	10.2 gal
Hydraulic Reservoir	128 L	33.8 gal

Weights

Total Operating – empty	16 887 kg	37,229 lb
Front Axle	11 177 kg	24,641 lb
Rear Axle	5710 kg	12,588 lb
Total Shipping	16 626 kg	36,653 lb
Tractor Shipping	11 083 kg	24,434 lb
Scraper Shipping	5542 kg	12,219 lb
Total Operating – loaded	28 862 kg	63,629 lb
Front Axle Weight – loaded	15 134 kg	33,364 lb
Rear Axle Weight – loaded	13 728 kg	30,266 lb

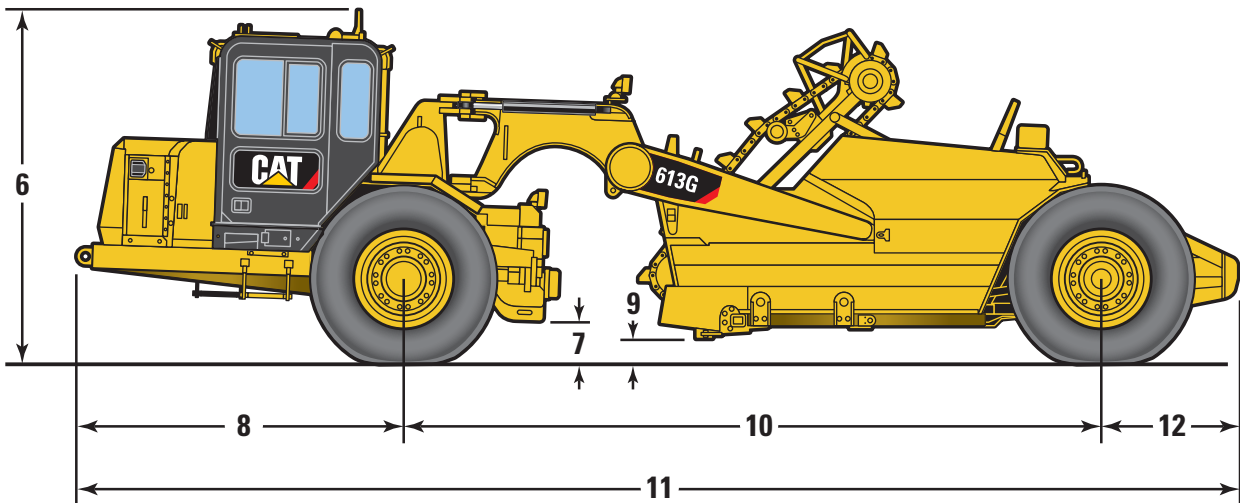
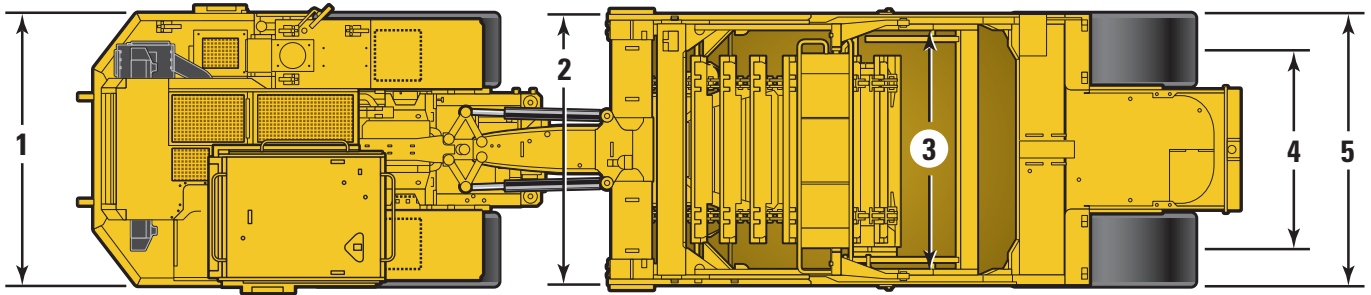
613G Wheel Tractor-Scraper Specifications

Dimensions			Standards	
Height – overall shipping	3190 mm	125.6 in	ROPS/FOPS	ISO 3471-1994, SAE J1040-MAY 2003; ISO 3449-2005
Length – overall machine	10 419 mm	410.2 in		
Width – overall machine	2430 mm	95.7 in	Brakes	ISO 3450-1996
Height – top of cab	3190 mm	125.6 in		
Height – top of AccuGrade receiver	3476 mm	136.9 in		
Height – scraper blade max.	571 mm	22.5 in		
Width – tractor	2430 mm	95.7 in		
Width – inside of bowl	2203 mm	86.7 in		
Width – rear tire center lines	1797 mm	70.8 in		
Width – outside rear tires	2430 mm	95.7 in		
Rim radius	635 mm	25 in		
Front of Tractor to Front Axle	2934 mm	115.5 in		
Wheelbase	6264 mm	246.6 in		
Rear Axle to Rear of Machine	1221 mm	48.1 in		
Ground Clearance, Tractor	367 mm	14.4 in		

- Shipping height does not include GPS mast

Dimensions

All dimensions are approximate.

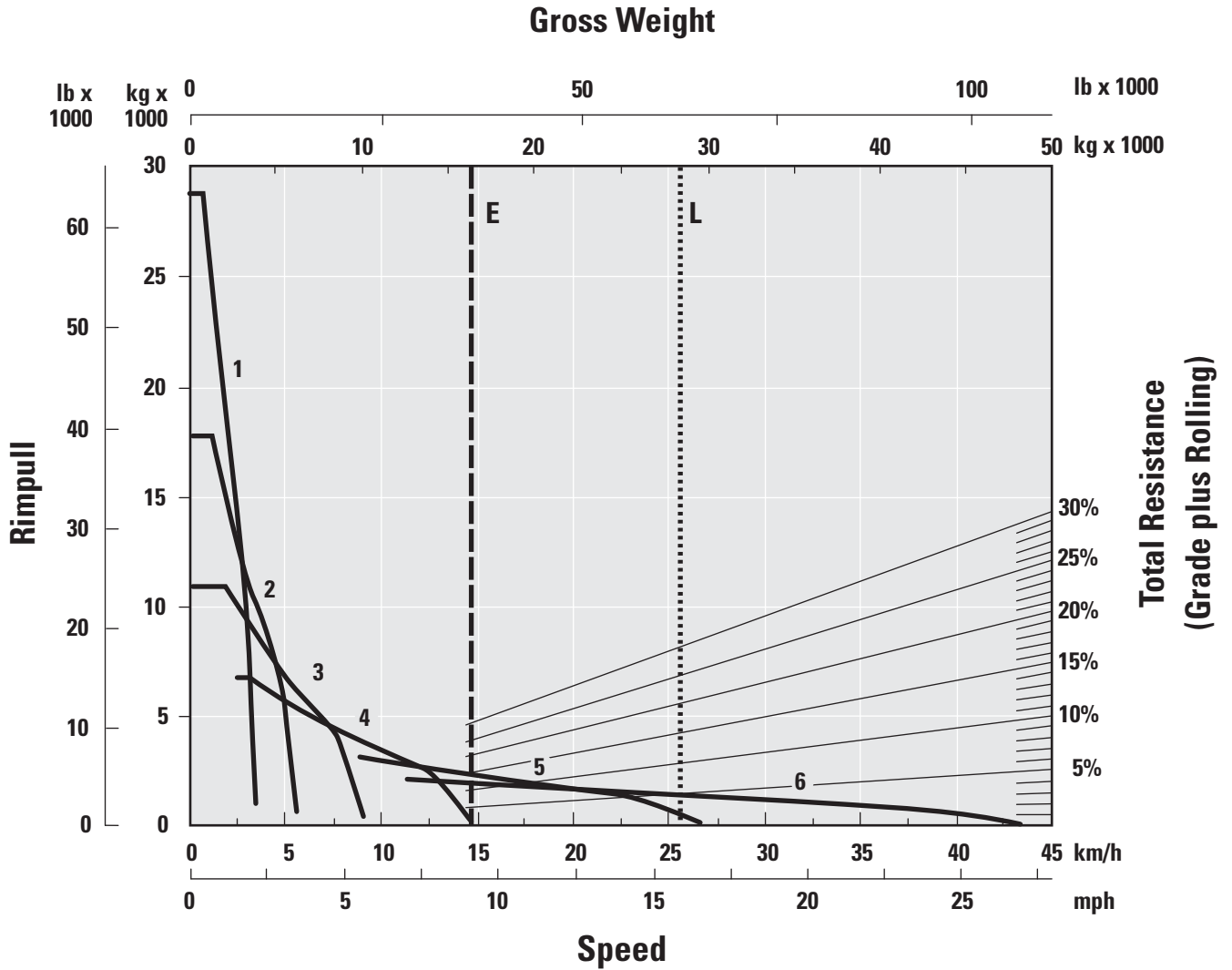


	mm	in
1 Width – tractor	2430	95.7
2 Width of cut, to router bits	2430	95.7
3 Width – inside of bowl	2203	86.7
4 Width – rear tire center lines	1797	70.7
5 Width – outside rear tires	2430	95.7
6 Height – overall shipping	3190	125.6

	mm	in
7 Ground clearance – tractor	367	14.4
8 Front of tractor to front axle	2934	115.5
9 Height – scraper blade maximum	571	22.5
10 Wheelbase	6264	246.6
11 Length – overall machine	10 419	410.2
12 Rear axle to rear of machine	1221	48.1

613G Wheel Tractor-Scraper Specifications

613G Rimpull



Standard equipment may vary. Consult your Caterpillar dealer for details

Bowl	Diff lock	Shields, brake
8 m ³ /11 yd ³ heaped	Operator not present	Transmission
Elevator	High beam	6 speed Powershift, torque converter drive
Backup alarm	Brake system	Differential, lock-up
AccuGrade ready option weldments for bracket & mast	Transmission system	Scraper
Electrical	Hydraulic system	Braking system
Alternator, 80 ampere	Torque converter temp	Fuel pump, electric
Electrical system, 24 volt	Fuel level	Parking
Batteries (2), 70 ampere hr. 880 CCA, maintenance-free	Hyd. oil temp	Secondary
Lighting system	Mirrors, right side & rearview	Shields, brake
Headlights, highway signal (T)	Radio ready	Other Standard Equipment
Lights (LED), highway signals (S)	Seat, cloth, air suspension, rotates 30°	Tractor
AccuGrade ready option wiring embedded in machine harnesses	Seat belt (non-retractable)	Product Link
Starting/charging receptacle	Steering wheel, tilt & telescopic	Fenders
	Windshield washer-wiper	Hydraulic system
	Air conditioner and heater	Locks, vandalism protection
	Power train	Rims (2), center mounted
Operator Environment	Tractor	Steering, variable flow modulated
Cab, ROPS, sound suppressed	Engine, Cat C6.6 ACERT	Tow pins, front and rear
Gauges/Indicators	I-6, 4 stroke diesel, turbocharged, aftercooled	Scraper
Turn signals	Electric start, 24 volt	Rims (2), center mounted
Battery charge	Air cleaner w/ precleaner	Tires, Rims, & Wheels
Fuel pressure	Fan, suction	An allowance for 23.5R25 radial tires is included in the base machine price. Tires MUST be selected from the Mandatory Attachments section.
Engine monitoring	Guard, crankcase	Antifreeze
Throttle lock	Muffler	Extended Life Coolant to -36° C (-33° F)
Primary steering	Braking system (hydraulic)	
Action Light	Caliper disc (front & rear)	
Tachometer	Parking	
Parking brake	Secondary	
Steering disable		

613G Optional Equipment

Optional equipment may vary. Consult your Caterpillar dealer for details

Ground Engaging Tools

Teeth, GET, Long set of 4

Bolt-on, set of 4, with replaceable tips

Antifreeze, -50° C (-58° F)

NOTE: Standard machine is protected with Extended Life Coolant to -36° C (-33° F)

Packing

Domestic Packing

Domestic Truck, Tractor only

Domestic Rail, Tractor only

Domestic Truck, TR/SCR Combined

Domestic Rail, TR/SCR Combined

Export Packing

Tractor only, Cab or Canopy remains mounted for shipment

Export Protection, Bundled

Tractor and Scraper. Units are detached for shipment

Additional Packing

Domestic Truck

For use with OP-0685 Miscellaneous

Material only

Note: Custom Product Ordering Instructions Include OP-5203 Custom Modification on all orders with Custom Product part numbers. Contact 217-475-6523 for additional information.

Electrical

Lights, 5×5 flood, Work Lamps

Flood lamps located on top of gooseneck and drive train pointing into the bowl and cutting edge

CANNOT BE USED WITH: 289-2630 lights, 5×5 flood, work lamps

Guard, Power train

Other Attachments

Tractor

Steering, Secondary

Starting Aid, Ether

Does not include cylinder. For temperatures below -9° C (15° F).

Scraper

Fenders, Standard

AccuGrade

AccuGrade ARO (Attachment Ready Option) installed by the factory. Includes mast, access platforms, and hand holds, electrical, structural and hardware and GPS receivers. Required for all North American, Europe, Africa and Middle East orders as well as Latin American orders.

613G Wheel Tractor-Scraper

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

© 2009 Caterpillar Inc.
All rights reserved

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

CAT, CATERPILLAR, SAFETY.CAT.COM, their respective logos, "Caterpillar Yellow" and the POWER EDGE trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

AEHQ5993-01 (03-2009)
Replaces AEHQ5993

CATERPILLAR®