



Cat[®] 623

Wheel Tractor-Scraper

The Cat[®] 623 Wheel Tractor-Scraper is a cost effective, all-in-one system built for production and grading. Built for today's and tomorrow's work, its single engine and elevating bowl help you make the most of your investment by consistently delivering maximum productivity and fast cycle times at the lowest cost per ton.

Be More Productive

- Up to 7% additional elevator torque.
- Up to 50% improvement in chain life.
- Enhanced elevator drive sprocket for reduced chain wear.
- Improved scissor-style chain tension system for decreased sprocket wear, chain wear, and chain jumping.
- Use ground speed control to set the desired top speed, and the machine will find the gear that works best for the engine and the transmission, providing a lower fuel burn.
- The machine speed limit feature replaces top gear selection.
- Advanced productivity electronic control system (APECS) allows the engine and transmission to communicate on a high level. This communication allows the machine to better utilize the power and torque the engine is producing. The net result is moving more material.
- Auto-stall assists in quickly bringing the transmission to an operating temperature at startup when the machine is working in a cold climate region.
- Cat Payload Estimator for scrapers is an earthmoving solution for optimal payload and jobsite efficiency. Payload Estimator achieves on-the-go weighing by using bowl lift cylinder pressure during the loaded haul segment. Payload Estimator is optimized to be used with sequence assist, which provides increased productivity with less operator effort.

Work in Comfort

- Reduce up to 14 individual operator commands per cycle with sequence assist (optional attachment).
- Steer with less effort using the newly designed high-pressure steering system.
- Enjoy interior improvements and a more ergonomic work environment with a 21% larger cab than the G Series cab.
- Intuitive, ergonomic controls keep operators focused on their work.
- Maintain desired cab temperature with automatic temperature control.

Designed for Safety

- Hydraulically actuated wet disc brakes for the tractor and scraper.
- Get in and out of the cab easier with the new powered access ladder system (optional attachment).
- Enhance an operator's awareness of site surroundings with the optional work area vision system (WAVS).
- Seat belt indicator provides visual and audible alerts when the seat belt is not in use.
- Ground level, engine shutoff switch stops all fuel to the engine when activated and shuts down the machine.
- Advanced cushion hitch allows the cushion hitch to prevent end stroke by having the ability to predict end stroke events and manage the rate of dampening, resulting in reduced hitch maintenance and improved operator ride in rough conditions.



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Easy to Operate

- The spacious cab features easy, intuitive controls and excellent visibility. The cab provides a comfortable working environment for all-day operation.
- Cat advanced ride management (ARM) seat suspension reduces end stroke movement of the load cylinder for a smoother ride.
- Engine overspeed protection will automatically engage with no operator input when the machine is in eighth gear. The machine will assist in slowing the machine speed by canceling the throttle command and engaging the engine compression brake.

Integrated Cat Technologies

- Monitor, manage, and enhance jobsite operations.
- Hit target grade faster and more accurately with Cat Grade technologies. Finish jobs in fewer passes and with less operator effort, saving you time and helping to increase profit.
- Product Link™ collects machine data that can be viewed online through web and mobile applications (optional attachment).
- Access information anytime, anywhere with VisionLink® – use it to make informed decisions that boost productivity, lower costs, simplify maintenance, and improve safety and security on your jobsite.
- Shorten the learning curve for inexperienced operators with load assist (optional attachment).

Execute Efficiency

- The new tractor hydraulic on-demand fan helps assist in lower fuel consumption.
- Using draft-arm overflow guards diverts material away from the bowl, preventing material from getting caught between the draft arms and the bowl sides.
- Cat Grade Control (optional attachment) intelligently ensures the machine does not cut below grade in a cut area or overfill in the fill area.

Standard Equipment and Optional Attachments

Standard equipment and optional attachments may vary. Consult your Cat dealer for details.

	Standard	Optional		Standard	Optional
POWERTRAIN – TRACTOR			OPERATOR ENVIRONMENT – TRACTOR (CONTINUED)		
Cat® C13 engine with Mechanically Actuated Electronic Unit Injection (MEUI™)	✓		Keypad switches: throttle lock, wipers/washers, hazard lights, retarding level select, work lights on/off, information mode on messenger display	✓	
Cat engine brake	✓		Windows, right side emergency egress	✓	
Electric start, 24V	✓		Windows, sliding	✓	
Fan, hydraulic	✓		Messenger display	✓	
Ground level engine shutdown	✓		FLUIDS		
Guard, crankcase	✓		Extended life coolant to -37° C (-34° F)	✓	
Starting aid, ether	✓		OTHER STANDARD EQUIPMENT – TRACTOR		
Braking system: primary and secondary, wet disc, hydraulic; parking, hydraulic-released, spring-applied	✓		Advanced cushion hitch	✓	
Transmission: 8-speed planetary power shift, electronic clutch pressure control (ECPC), advanced productivity electronic control strategy (APECS) software, programmable top gear selection, transmission hold, differential lock, transmission guard, ground speed control, machine speed limit	✓		Accumulators (cushion hitch and brake) with Canadian registration number (CRN)	✓	
POWERTRAIN – SCRAPER			Fast oil change (engine)	✓	
Braking system: primary and secondary, wet disc, hydraulic	✓		Fenders, non-metallic	✓	
ELECTRICAL – TRACTOR			Heater, engine coolant 120V	✓	
Alternator, 115 amp	✓		Tow pin, front	✓	
Batteries (4), 12V, 1,000 CCA, maintenance free	✓		OTHER STANDARD EQUIPMENT – SCRAPER		
Electrical system, 24V	✓		Bowl: 17.6 m³ (23 yd³) – heaped, 13.5 m³ (17.6 yd³) – struck	✓	
Lighting system: LED low beam, high beam, and work lights	✓		Vandalism locks	✓	
Starting/charging receptacle	✓		Elevator with 15 flights	✓	
ELECTRICAL – SCRAPER			Hydraulic position sensing cylinders (bowl lift)	✓	
Alarm, backup	✓		STEERING ARRANGEMENTS		
Lighting system: brake lights – LED, turn signals with hazard function – LED	✓		Secondary steering (electrically powered)	✓	
OPERATOR ENVIRONMENT – TRACTOR			INTEGRATED TECHNOLOGIES		
HVAC system, heat, AC, defrost	✓		Sequence Assist CPM – Payload Estimator and Cat Production Measurement	✓	
Thermostat control of HVAC system	✓		Load assist	✓	
Coat hook	✓		Product Link™	✓	
Lunchbox platform with holding strap	✓		Cat Grade Control with load assist	✓	
Diagnostic connection (2)	✓		OTHER ATTACHMENTS		
Differential lock (1)	✓		Cab powered access ladder	✓	
Dome courtesy light	✓		Cab HVAC powered air preleaner	✓	
Horn, electric	✓		Camera arrangement – work area vision system (WAVS)	✓	
T-handle implement control	✓		Fast-fill fuel tank	✓	
Radio ready	✓		Cold start	✓	
Rollover protective structure/falling objects protective structure (ROPS/FOPS) cab, pressurized	✓		Steering lock – external	✓	
			Cab beacon	✓	
			Air horn	✓	
			Fender, scraper	✓	
			Year of manufacture plate	✓	
			SERVICE INSTRUCTIONS		
			Film arrangement – U.S. (ANSI)	✓	
			Film arrangement – International (ISO)	✓	

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Technical Specifications

Engine

Engine Model: Tractor	Cat® C13	
Rated Engine Speed: Tractor	2,000 rpm	
Engine Power: Tractor	304 kW	407 hp
<ul style="list-style-type: none"> Meets U.S. EPA Tier 4 Final or EU Stage V emission standards, or equivalent to U.S. EPA Tier 2, or equivalent to U.S. EPA Tier 3 and EU Stage IIIA. Net power available at the flywheel when the engine is equipped with fan, air cleaner, aftertreatment, and alternator with engine speed at 2,000 rpm. 		

General Data

Overall Width	3.57 m	11' 8"
Overall Shipping Height	3.77 m	12' 3"
Scraper Capacity:		
Struck	14.4 m³	18.8 yd³
Heaped	17.6 m³	23.0 yd³
Rated Load	25 038 kg 25.1 tonnes	55,200 lb 27.6 tons
Width of Cut	3.14 m	10' 4"
Maximum Depth of Cut	262 mm	10.3"
Maximum Depth of Spread	465 mm	18.3"
Top Speed (Loaded)	53.9 km/h	33.5 mph
180° Curb-to-Curb Turning Width	11.8 m	38' 7"
Tires:		
Tractor Drive	33.25R29**E3	
Scraper	33.25R29**E3	

Transmission

Speed	km/h	mph
Forward 1	5.0	3.1
Forward 2	8.9	5.5
Forward 3	12.1	7.5
Forward 4	16.3	10.1
Forward 5	21.9	13.6
Forward 6	29.6	18.4
Forward 7	39.9	24.8
Forward 8	53.9	33.5
Reverse 1	9.2	5.7

Service Refill Capacities

Differential	158.0 L	41.7 gal
Final Drive (Each)	19.0 L	5.0 gal
Rear Wheels (Each)	4.0 L	1.0 gal
Brake Cooling (Scraper)	33.0 L	8.7 gal
Crankcase	37.0 L	9.7 gal
Transmission System	97.0 L	25.5 gal
Cooling System	42.0 L	11.0 gal
Fuel Tank	818.0 L	216.1 gal
Hydraulic System	83.0 L	21.9 gal
Diesel Exhaust Fluid (DEF)*	30.5 L	8.1 gal

*When equipped

Safety Criteria Compliance Standards

Rollover Protective Structure (ROPS)	ISO 3471:2008 for up to 17 084 kg (37,664 lb)
Falling Object Protective Structure (FOPS)	ISO 3449:2005 Level II
Brakes	ISO 3450:2011
Steering System	ISO 5010:2007
Seat Belt	SAE J386:JUN1985
Reverse Alarm	ISO 9533:2010

Implement Cycle Times

Bowl Raise	3.0 Seconds
Bowl Lower	3.5 Seconds
Ejector Extend	6.5 Seconds
Ejector Retract	9.7 Seconds

Cab

ROPS/FOPS	ISO 3471:2008 ISO 3449:2005 Level II
• The exterior sound power level for the standard machine (ISO 6393:2008) is 120 dB(A).	

Air Conditioning

The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential =1430). The system contains 1.9 kg (4.2 lb) of refrigerant which has a CO₂ equivalent of 2.71 metric tonnes (2,674 tons).

AEXQ2706-00 (10-2022)
Build Number: 11A
(Global)