



Cat[®] 627

Wheel Tractor-Scraper

The principal choice for moving material on an earthmoving site is the Cat[®] 627 Wheel Tractor-Scraper. Twin-powered for high rolling resistance and steep grades, this machine is engineered to work effectively in a wide range of conditions and material types. Whether traveling through sand, clay, or shot rock, it's specifically designed to fit an earthmover's needs for today's and tomorrow's work.

Be More Productive

- Up to 8% improvement in productivity.
- Advanced productivity electronic control strategy (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.
- 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.
- Auto-stall assists in quickly bringing the transmission to an operating temperature at start-up when the machine is working in a cold climate region.
- Boost productivity with the Payload Estimator feature (optional attachment). Payload Estimator is an automatic feature when ordered with sequence assist.
- 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 with 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

- 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 work area vision system (WAVS) (optional attachment).
- Differential lock engagement protection (standard) prevents the operator from engaging the differential lock when damage can occur.
- Seat belt indicator provides visual and audible alerts when the seat belt is not in use.
- 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.
- Use fuel economy mode to assist in fuel savings.
- Using draft-arm overflow guards diverts material away from the bowl, retaining material and limiting spills onto the rear of the scraper.
- 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™)	✓		Safety tab rocker switches: parking brake	✓	
Fan, hydraulic	✓		Seat – Cat advanced ride management (ARM), Cat Comfort Series III, rotates 30 degrees	✓	
Guard, crankcase	✓		Windows, right side emergency egress	✓	
Braking system: primary and secondary, wet disc, hydraulic; parking, hydraulic-released, spring-applied	✓		FLUIDS		
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	✓		Extended life coolant to -37° C (-34° F)	✓	
POWERTRAIN – SCRAPER			OTHER STANDARD EQUIPMENT – TRACTOR		
Cat C9.3 engine with high pressure common rail	✓		Advanced cushion hitch	✓	
Fan, driveline	✓		Accumulators (cushion hitch) with Canadian registration number (CRN)	✓	
Braking system: primary and secondary, wet disc, hydraulic	✓		Fast oil change (engine)	✓	
COMMON POWERTRAIN – TRACTOR/SCRAPER			Fenders, non-metallic	✓	
Cat engine brake	✓		Heater – engine coolant 120V	✓	
Electric start, 24V	✓		OTHER STANDARD EQUIPMENT – SCRAPER		
Muffler (Tier 2/Tier 3 only)	✓		Bowl: 18.4 m³ (24 yd³) – heaped, 14.1 m³ (18.4 yd³) – struck, fast oil change, vandalism locks, guard – overflow, heater – engine coolant 120V	✓	
Starting aid, ether	✓		Hydraulic position sensing cylinders (bowl lift and apron)	✓	
Ground level engine shutdown	✓		SPECIAL ARRANGEMENTS		
ELECTRICAL – TRACTOR			Push-pull		✓
Alternator: tractor – 115 amp, scraper – 65 amp	✓		Fueling: fast fill group	✓	
Batteries (4), 12V, 1,000 CCA, maintenance free, high output	✓		Cold start		✓
Electrical system, 24V	✓		STEERING ARRANGEMENTS		
LED low beam, high beam, and work lights	✓		Secondary steering (electrically powered)		✓
Starting/charging receptacle	✓		INTEGRATED TECHNOLOGIES		
ELECTRICAL – SCRAPER			Sequence Assist CPM – Payload Estimator and Cat Production Measurement		✓
Alarm, backup	✓		Load assist		✓
Lighting system: brake lights – LED, turn signals with hazard function – LED	✓		Product Link™		✓
Starting /charging receptacle	✓		OTHER ATTACHMENTS		
OPERATOR ENVIRONMENT – TRACTOR			Camera arrangement – work area vision system (WAVS)		✓
HVAC system, heat, AC, defrost	✓		Steering lock – external	✓	
Differential lock (1)	✓		Cab beacon		✓
T-handle implement control	✓		Cab precleaner		✓
Powered access		✓	Air horn		✓
Radio ready	✓		Year of manufacture plate		✓
Rollover protective structure (ROPS)/falling objects protective structure (FOPS) cab, pressurized	✓		SERVICE INSTRUCTIONS		
Keypad switches: rear engine start, throttle lock, wipers/washers, hazard lights, retarding level select, work lights on/off, information mode on messenger display	✓		Film arrangement – U.S. (ANSI)		✓
			Film arrangement – International (ISO)		✓

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Technical Specifications

Engine		
Engine Model:	Tractor Cat C13	Scraper Cat C9.3
Rated Engine Speed:	Tractor 2,000 rpm	Scraper 2,150 rpm
Engine Power (ISO 14396:2002):	Tractor 304 kW (407 hp)	Scraper 216 kW (290 hp)

Tractor/Scraper – Engine emission options are available:

- Meets U.S. EPA Tier 4 Final emission standards.
- Meets EU Stage V emission standards.
- Meets U.S. EPA Tier 4 Final and EU Stage V emission standards.
- Emits equivalent to U.S. EPA Tier 2.
- Emits 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' 7"
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	

Non Push-Pull		
Operating Weight (Empty)	40 982 kg	90,350 lb
Overall Length	14.02 m	45' 10"

Push-Pull		
Operating Weight (Empty)	42 328 kg	93,317 lb
Overall Length (With Bail Down)	15.58 m	51' 1"

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

Service Refill Capacities						
	Tractor	L	gal	Scraper	L	gal
Crankcase		37.0	9.7		24.5	6.5
Transmission System		97.0	25.5		49.0	12.9
Cooling System		42.0	11.1		41.0	10.8
Brake Cooling					33.0	8.7
Final Drive		19.0	5.0		19.0	5.0
Differential		158.0	41.7		42.0	11.0
Diesel Exhaust Fluid*		30.5	8.1		22.0	5.8
Fuel Tank		1272.0 L		336.0 gal		
Hydraulic System		83.0 L		21.9 gal		

*When equipped

Safety Criteria Compliance Standards	
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
Apron Raise	3.0 Seconds	Apron Lower	3.8 Seconds
Ejector Extend	5.2 Seconds	Ejector Retract	6.7 Seconds
Bail Raise	1.8 Seconds	Bail Lower	3.2 Seconds

Cab	
Rollover Protective Structure (ROPS)	ISO 3471:2008
Falling Objects Protective Structure (FOPS)	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 lbs) of refrigerant which has a CO ₂ equivalent of 2.71 metric tonnes (2.674 tons).	

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(Global)

