



# Cat<sup>®</sup> 651

## Wheel Tractor-Scraper

*The 651 has rejoined our wheel tractor-scraper lineup. Delivering high levels of productivity, the 651 single engine earthmoving system is a wise choice on numerous large-scale projects by providing fast cycle times when working in lower grades and rolling resistance applications. First introduced into the Cat<sup>®</sup> wheel tractor-scraper lineup in 1962, the 651 continues to uphold its legacy as one of our signature machines. Its single engine power provides the ability to work with a Cat D10 or D11 Dozer, delivering ultra-fast load times and the ability to work in abrasive or rocky conditions. With improvements in productivity combined with enhancements in operator comfort and new safety features – Powered Access System and effective wet disc brakes – this machine offers high returns on investment and time.*

### Be More Productive

- Move more material with Advanced Productivity Electronic Control System (APECS), which allows the machine to better utilize engine power and torque.
- Set the desired top speed with Ground Speed Control, and the machine will find the gear that works best for the engine and the transmission, providing a lower fuel burn in speed reduced areas.
- 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 working in colder climates.
- Cat Payload Estimator for scrapers achieves on-the-go weighing to deliver optimal payload and jobsite efficiency.

### Work in Comfort

- Steer with less effort with the newly designed high-pressure steering system.
- Reduce up to 14 individual operator commands per cycle with Sequence Assist (optional attachment).
- Enjoy interior improvements and a more ergonomic work environment.
- Intuitive, ergonomic controls with multifunction display 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.
- Enhance the operator's awareness of site surroundings with the optional Work Area Vision System (WAVS).
- Ground-level access to fuel fill and several maintenance points for easier and safer service.
- Seat belt indicator provides visual and audible alerts when the seat belt is not in use.

### Easy to Operate

- 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.

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## Integrated Cat Technologies

- Access information anytime, anywhere with Vision Link® – use it to make informed decisions that boost productivity, lower costs, simplify maintenance, and improve safety and security on your jobsite.
- Product Link™ collects machine data that can be viewed online through web and mobile applications (optional attachment).

## Execute Efficiency

- The Cat C18 tractor engine meets U.S. EPA Tier 4 Final and EU Stage V emission standards, contributing to lower fuel consumption.
- The new tractor hydraulic demand fan and required belt guarding help lower fuel consumption.

## Standard Equipment and Optional Attachments

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

	Standard	Optional		Standard	Optional
<b>POWERTRAIN</b>			<b>OPERATOR ENVIRONMENT (CONTINUED)</b>		
Cat C18 engine (U.S. EPA Tier 4 Final and EU Stage V)	✓		Keypad switches: throttle lock; wipers/washers; hazard lights; work lights on, off; information mode; messenger display; safety tab rocker switches, parking brake	✓	
Cat engine brake	✓		Seat belt, static two-piece	✓	
Electric start, 24V	✓		Steering wheel, tilt, telescoping, padded	✓	
Fan, hydraulic	✓		Windows, right side emergency egress	✓	
Ground-level engine shutdown	✓		Windows, sliding	✓	
Guard, crankcase	✓		Messenger display	✓	
Starting aid, ether	✓		Powered access ladder		✓
Braking system: primary and secondary, wet disc, hydraulic; parking, hydraulic released, spring-applied	✓		Seat – Cat Advanced Ride Management (ARM), Cat Comfort Series III, rotates 30 degrees	✓	
Transmission: 8-speed planetary powershift, Electronic Clutch Pressure Control (ECPC), Advanced Productivity Electronic Control Strategy (APECS) software, programmable top gear selection, transmission hold, differential lock, guard – powertrain, ground speed control, machine speed limit	✓		<b>FLUIDS</b>		
<b>ELECTRICAL</b>			Extended life coolant to -37°C (-34°F)	✓	
Alternator, 115 amp	✓		<b>OTHER STANDARD EQUIPMENT – TRACTOR</b>		
Batteries (4), 12V, 1,000 CCA, maintenance free	✓		Accumulators (brake and cushion hitch) with Canadian Registration Number (CRN)	✓	
Electrical system, 24V	✓		Fast oil change	✓	
Lighting system: headlights – halogen, turn signals with hazard functions – LED, floodlights, (2) cutting edge and (1) bowl, side vision – halogen	✓		Vandalism locks	✓	
Starting/charging receptacle	✓		Steering locks	✓	
<b>OPERATOR ENVIRONMENT</b>			Heater, engine coolant 120V	✓	
HVAC system, heat, AC, defrost	✓		<b>OTHER ATTACHMENTS</b>		
Thermostat control of HVAC system	✓		Cab beacon		✓
Coat hook	✓		Air horn		✓
Lunchbox platform with holding strap	✓		Wiring group		✓
Diagnostic connection (2)	✓		<b>SERVICE INSTRUCTIONS</b>		
12V power ports (2)	✓		Film arrangement – U.S. (ANSI)		✓
Differential lock (1)	✓		Film arrangement – International (ISO)		✓
Dome courtesy light	✓		<b>INTEGRATED TECHNOLOGIES</b>		
Horn, electric	✓		Cat Production Measurement		✓
T-Handle implement control	✓		Product Link™	✓	
Radio ready	✓		Sequence Assist with Payload Estimator		✓
Rollover protective structure/falling objects protective structure (ROPS/FOPS) cab, pressurized	✓				

# Cat® 651 Wheel Tractor-Scraper

## Technical Specifications

### Engine

Engine Model: Tractor	Cat® C18	
Rated Engine Speed: Tractor	2,000 rpm	
Net Power (SAE J1349:2011/ISO 9249:2007): Tractor	436 kW	585 hp
Gross Power (SAE J1995:2014): Tractor	475 kW	637 hp
Engine Power (ISO 14396:2002): Tractor	469 kW	629 hp

Tractor – Two engine emission options are available:

- Meets U.S. EPA Tier 4 Final and 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 2,200 rpm.

### General Data

Fuel Tank Refill Capacity	860 L	227 gal
Shipping (split configuration)		
Tractor Width	3.90 m	12.8 ft
Tractor Height	4.52 m	14.8 ft
Scraper Width	4.08 m	13.4 ft
Scraper Height	3.90 m	12.8 ft
Scraper Capacity		
Struck	24.5 m <sup>3</sup>	32.0 yd <sup>3</sup>
Heaped	33.6 m <sup>3</sup>	44.0 yd <sup>3</sup>
Rated Load	47 174 kg 46.4 mt	104,000 lb 52.0 ton
Width of Cut	3.8 m	12.5 ft
Maximum Depth of Cut (Cushion Hitch Locked)	440 mm	17.3 in
Maximum Depth of Spread (Cushion Hitch Locked)	530 mm	20.9 in
Maximum Depth of Spread	660 mm	26.0 in
Top Speed (Loaded)	56.1 km/h	34.9 mph
180° Curb-to-Curb Turning Width (Right)	13.6 m	44.6 ft
Tire Size	40.5/75 R39 ** E-3	
Operating Weight (Michelin Tires, Full Fuel, Without Operator)		
Unloaded	74 253 kg	163,700 lb
With Rated Load	121 427 kg	267,700 lb
Overall Length	17.97 m	58.96 ft

### Safety Criteria Compliance Standards

Rollover Protective Structure (ROPS)	ISO 3471:2008 for up to 26 600 kg (58,643 lb)
Falling Objects Protective Structure (FOPS)	ISO 3449:2005 Level II
Brakes	ISO 3450:2011
Steering System	ISO 5010:2019
Seat Belt	ISO 6683:2005, SAE J386
Forward Horn and Reverse Alarm	ISO 9533:2010
Exterior Sound Power Level for Standard Machine	ISO 6395:2008 is 116 dB(A)
Interior Sound Pressure Level for Standard Machine	ISO 6396:2008 is 77 dB(A)

### Implement Cycle Times

Apron Lower	4.1 seconds
Apron Raise	4.4 seconds
Bail Lower	1.9 seconds
Bail Raise	1.7 seconds
Bowl Lower	4.5 seconds
Bowl Raise	4.2 seconds
Ejector Extend	9.2 seconds
Ejector Retract	7.8 seconds

### Service Refill Capacities

Crankcase: Tractor	38.0 L	10.0 gal
Transmission System: Tractor	136.0 L	35.9 gal
Cooling System: Tractor	88.6 L	23.4 gal
Fuel Tank	1628.0 L	430.1 gal
Hydraulic System	150.0 L	39.6 gal
Diesel Exhaust Fluid (DEF): Tractor	30.5 L	8.1 gal

### Air Conditioning System

The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 2.0 kg (4.4 lb) of refrigerant which has a CO<sub>2</sub> equivalent of 2.86 metric tonnes (3.153 tons).



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