

CAT® 651

PARTIAL WHEEL TRACTOR-SCRAPER

Caterpillar offers partial wheel tractor-scraper power units designed for specialty machines. These tractor-only configurations are available for purchase directly from Caterpillar OEM Solutions. They can be leveraged for a variety of final machines, including water pulls, elevating scrapers, steel mill arrangements, lowboy trailer power units, and more.

BE MORE PRODUCTIVE

- **The Advanced Productivity Electronic Control System (APECS)** 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 transmission, providing a lower fuel burn in speed reduced areas.
- **Auto-Stall** assists in quickly bringing the transmission to an operating temperature at start-up when working in colder climates.

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 Work Area Vision System (WAVS).
- Convenient ground-level access to fuel fill, filters, engine oil change, and water drain for safer, easier access and more efficient service.
- Seat belt indicator provides visual and audible alerts when the seat belt is not in use.

WORK IN COMFORT

- Steer with less effort with the newly designed high-pressure steering system.
- Enjoy interior improvements with a larger, more ergonomic work environment.
- Intuitive, ergonomic controls with multifunction display keep operators focused on their work.
- Maintain desired cab temperature with automatic temperature control.

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.

SUPPORTED BY THE CAT DEALER NETWORK

- Full support of Cat dealer and parts network
- Eligible for Equipment Protection Plans (EPP) & Customer Value Agreements (CVAs)

651 PARTIAL SCRAPER TECHNICAL SPECIFICATIONS

Configurations and features may vary by region. Please consult your Cat® dealer for availability in your area.

Engine

Engine Model	Cat® C18	
Rated Engine Speed	2,000 rpm	
Engine Power (ISO 14396:2002): Tractor	469 kW	629 hp

- Meets U.S. EPA Tier 4 Final/EU Stage V emission standards.

Weights – Approximate

Unloaded	28 752 kg	63,388 lb
Rated Load	47 174 kg 46.4 tonnes	104,000 lb 52 tons

Transmission

Forward 1	5.7 km/h	3.5 mph
Forward 2	10.5 km/h	6.5 mph
Forward 3	12.5 km/h	7.8 mph
Forward 4	17.0 km/h	10.6 mph
Forward 5	22.8 km/h	14.2 mph
Forward 6	30.9 km/h	19.2 mph
Forward 7	41.4 km/h	25.7 mph
Forward 8	56.1 km/h	34.9 mph
Reverse	10.8 km/h	6.7 mph

Service Refill Capacities

Crankcase: Tractor	52 L	13.7 gal
Transmission System: Tractor	136 L	35.9 gal
Cooling System: Tractor	88.6 L	23.4 gal
Fuel Tank	860 L	227 gal
Hydraulic System	150 L	39.6 gal
Diesel Exhaust Fluid: Tractor	30.5 L	8.1 gal

Steering

180° Curb-to-Curb Turning Width (Right)	13.85 m	45.4 ft

Tires

Size	40.5/75 R39 ** E-3

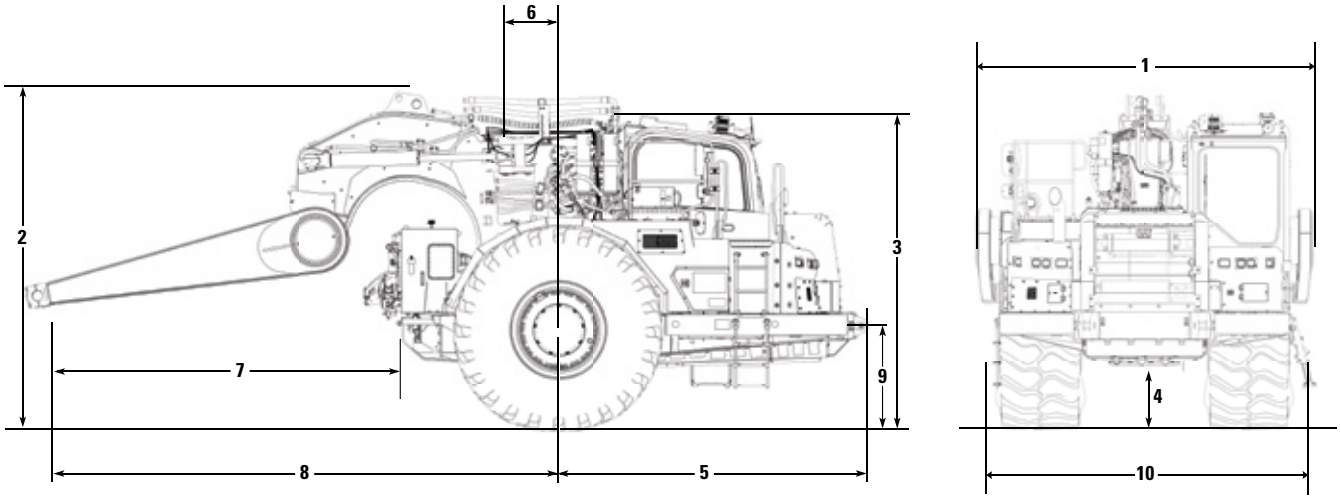
Safety Criteria Compliance Standards

Rollover Protection Structure (ROPS)	ISO 3471:2008 for up to 26 600 kg (58,643 lb)
Falling Object 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
Interior sound power level for standard machine	ISO 6396:2008 is 75 dB(A)

- The operator sound pressure level was measured according to ISO 6396:2008. The measurement was conducted at 100% of the maximum engine cooling fan speed.
- Note: Welding on ROPS or making modifications to the ROPS may void the ROPS certification.
- Please contact Caterpillar OEM Solutions if the application requires welding on the machine frame.

651 PARTIAL SCRAPER DIMENSIONS

All dimensions are approximate.



Dimensions

1	Tractor Width	3721 mm	12 ft	3 in
2	Overall Machine Height (with gooseneck)	4272 mm	14 ft	1 in
3	Height to Top of Cab	3933 mm	12 ft	11 in
4	Tractor Ground Clearance	814 mm	2 ft	8 in
5	Front of Tractor to Front Axle	3885 mm	12 ft	9 in
6	Axle to Vertical Hitch Pin	630 mm	2 ft	1 in
7	Draft Arm Pivot Point to Rear Tractor Bumper	4500 mm	14 ft	9 in
8	Centerline of Wheel Hub to Rear Draft Arm Pivot Point	6500 mm	21 ft	4 in
9	Height of front bumper attachment pin	1300 mm	4 ft	3 in
10	Width of Draft Arms	4400 mm	14 ft	5 in

Standard and Optional Equipment

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

POWERTRAIN	Standard	Optional
Cat C18	•	
Cat engine brake	•	
Electric start, 24V	•	
Differential Lock	•	
Electric start, 24V	•	
Fan, hydraulic	•	
Ground-level engine shutdown	•	
Guard, crankcase	•	
Starting aid, ether	•	
Braking system: primary and secondary, wet disc, hydraulic; parking, hydraulic-released, spring-applied	•	
Throttle lock	•	
Transmission: 8-speed planetary powershift, Electronic Clutch Pressure Control (ECPC), Advanced Productivity Electronic Control Strategy (APECS) software, programmable top gear selection, transmission hold, guard – powertrain, ground speed control, machine speed limit	•	

OPERATOR ENVIRONMENT	Standard	Optional
HVAC powered air precleaner	•	
HVAC system, heat, AC, defrost	•	
Thermostat control of HVAC system	•	
Coat hook	•	
Lunchbox platform with holding strap	•	
Diagnostic connection	•	
12V power ports (2)	•	
Dome courtesy light	•	
Horn, electric	•	
T-handle implement control	•	
254 mm (10 in) touchscreen information display	•	
Radio ready	•	
Rollover protective structure/falling objects protective structure (ROPS/FOPS) cab, pressurized	•	
Keypad switches: throttle lock, wipers/washers, hazard lights, retarding level select, work lights on/off, information mode on the touchscreen display	•	
Seat belt, static two-piece	•	
Steering wheel, tilt, telescoping, padded	•	
Windows, right side emergency egress	•	
Work Area Vision (3) Camera System	•	
Powered access ladder	•	
Safety tab rocker switches	•	
Seat – Cat Advanced Ride Management (ARM), Cat Comfort Series III, rotates 30 degrees	•	

ELECTRICAL	Standard	Optional
Alternator, 115 ampere	•	
Batteries (4), 12V, 1,000 CCA, maintenance free	•	
Electrical system, 24V	•	
Lighting system: LED headlights low beam and high beam, flood lights	•	
Starting/charging receptacle	•	

FLUIDS	Standard	Optional
Extended life coolant to -37° C (-34° F)	•	

CAT TECHNOLOGY PRODUCTS	Standard	Optional
Sequence Assist and Cat Payload	•	
Cat Grade		○
Product Link™		○

OTHER EQUIPMENT	Standard	Optional
Accumulators (brake and cushion hitch) with Canadian Registration Number (CRN)	•	
Fast oil change	•	
Vandalism locks	•	
Steering locks	•	
Secondary Steering (ground driven)	•	
Heater, engine coolant 120V	•	

OTHER ATTACHMENTS	Standard	Optional
Cab beacon with air horn		○
Kingbolt housing		○
Rear wheel arrangement (set of 2)		○
Scraper draft arm package		○
Steering cylinder group (set of 2)		○
Wiring group		○

SERVICE INSTRUCTIONS	Standard	Optional
Film arrangement – U.S. (ANSI)		○
Film arrangement – International (ISO)		○

For more information on Cat partial machines, contact OEM Solutions:

oem_solutions@cat.com | www.cat.com/oemsolutions

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

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