

CAT® 631

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.

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.
- The spacious cab features easy, intuitive controls and excellent visibility.

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.

DESIGNED FOR SAFETY

- Get in and out of the cab easier with the new optional powered access ladder system.
- Enhance the operator's awareness of site surroundings with the Work Area Vision System (WAVS).
- Seat belt indicator provides visual and audible alerts when the seat belt is not in use.

SUPPORTED BY THE CAT DEALER NETWORK

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

631 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	1,900 rpm	
Engine Power (ISO 14396:2002)	425 kW	570 hp

- 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.

Weights – Approximate

Rated Load	37 200 kg 37.2 tonnes	82,200 lb 41.1 tons

Transmission

Forward 1	5.5 km/h	3.4 mph
Forward 2	10.0 km/h	6.2 mph
Forward 3	12.4 km/h	7.7 mph
Forward 4	16.9 km/h	10.5 mph
Forward 5	22.7 km/h	14.1 mph
Forward 6	20.6 km/h	19.0 mph
Forward 7	41.4 km/h	25.7 mph
Forward 8	55.8 km/h	34.7 mph
Reverse	9.9 km/h	6.2 mph

Service Refill Capacities

Differential	158 L	41.7 gal
Final Drive (Each)	19 L	5 gal
Rear Wheels (Each)	4 L	1 gal
Brake Cooling (Scraper)	33 L	8.7 gal
Crankcase (Tractor)	52 L	13.7 gal
Transmission System	110 L	29 gal
Cooling System	75 L	19.8 gal
Fuel Tank	874 L	231 gal
Hydraulic System	142 L	37.5 gal
Diesel exhaust fluid (DEF) tank*	30.5 L	8 gal

*when equipped

Steering

180° Curb-to-Curb Turning Width	12.23 m	40'2"

Tires

Size	33.25 R29** E-3

Safety Criteria Compliance Standards

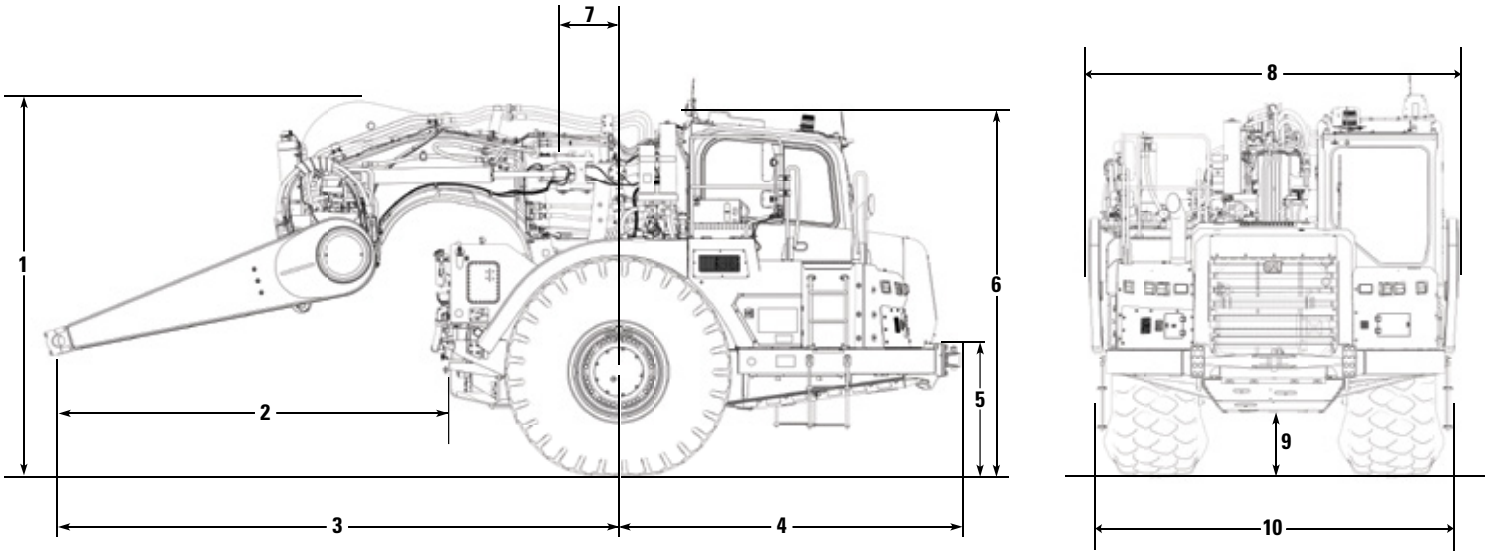
Rollover Protection Structure (ROPS)	ISO 3471:2008 for up to 21 282 kg (46,919 lb)
Falling Object Protective Structure (FOPS)	ISO 3449:2005 Level II
Brakes	ISO 3450:2011
Steering System	ISO 5010:2019*
Seat Belt	ISO 6683:2005, SAE J386
Reverse Alarm	ISO 9533:2010
Interior sound pressure level for standard machine	ISO 6396:2008 is 77 dB(A)

*If equipped with optional secondary steering.

- 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.

631 PARTIAL SCRAPER DIMENSIONS

All dimensions are approximate.



Dimensions

1	Overall Machine Height (with gooseneck)	3300 mm	10 ft	9 in
2	Draft Arm Pivot Point to Rear Tractor Bumper	4000 mm	13 ft	2 in
3	Centerline of Wheel Hub to Rear Draft Arm Pivot Point	5800 mm	19 ft	0 in
4	Front of Tractor to Front Axle	3600 mm	11 ft	10 in
5	Height of front bumper attachment pin	1900 mm	6 ft	3 in
6	Height to Top of Cab	3800 mm	12 ft	6 in
7	Axle to Vertical Hitch Pin	2100 mm	6 ft	11 in
8	Width of Draft Arms	3900 mm	12 ft	10 in
9	Tractor Ground Clearance	600 mm	2 ft	0 in
10	Tractor Width	3400 mm	11 ft	2 in

Standard and Optional Equipment

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

POWERTRAIN	Standard	Optional
Cat® C18 engine with Mechanically Actuated Electronic Unit Injection (MEUI™)	•	
Cat engine brake	•	
Electric start, 24V	•	
Air cleaner, dry type with precleaner	•	
Fan, hydraulic	•	
Ground level engine shutdown	•	
Radiator, aluminum unit core, 9 fins per inch	•	
Guard, crankcase	•	
Starting aid, ether	•	
Braking system: primary and secondary, wet disc, hydraulic; parking, hydraulic-released, spring-applied	•	
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 speed limit	•	

ELECTRICAL	Standard	Optional
Alternator, 115 amp	•	
Batteries (4), 12V, 1,000 CCA, maintenance free	•	
Electrical system, 24V	•	
LED Lights	•	
Starting/charging receptacle	•	

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

CAT TECHNOLOGY PRODUCTS	Standard	Optional
Product Link™		○
Sequence Assist and Cat Payload		○
Cat Grade Control, Cat Payload, Sequence Assist, and Load Assist		○
Cat Production Measurement		○

OPERATOR ENVIRONMENT	Standard	Optional
HVAC system, heat, AC, defrost	•	
Thermostat control of HVAC system	•	
Coat hook	•	
Lunchbox platform with holding strap	•	
Diagnostic connection (2)	•	
12V power ports (2)	•	
Differential lock	•	
Dome courtesy light	•	
Horn, electric	•	
T-handle implement control	•	
Mirror, rearview	•	
Radio ready	•	
Rollover protective structure (ROPS)/falling objects protective structure (FOPS) cab, pressurized	•	
Keypad switches: throttle lock, wipers/washers, hazard lights, retarding level select, work lights on/off, information mode on messenger display	•	
Seat belt, static two-piece	•	
Safety tab rocker switches	•	
Seat – Cat advanced ride management (ARM), Cat Comfort Series III, rotates 30 degrees	•	
Steering wheel, tilt, telescoping, padded	•	
Windows, right side emergency egress	•	
Windows, sliding	•	
Windows, laminated, zipped in	•	
Windshield wipers, front and rear windows, includes washers	•	
Door lock	•	
Messenger display	•	
Gauges, warnings include: coolant temperature, engine oil temperature, hydraulic oil temperature, diesel particulate filter (DPF) temperature, fuel level, park brake, implement lockout, brake system, regeneration required, throttle lock, system voltage, secondary steering, bail down, ejector auto, differential lock, apron float, transmission hold, cushion hitch, high beam lights, action lamp, engine speed – rpm, gear selection, diesel exhaust fluid (DEF)* fill level	•	

*when equipped

Standard and Optional Equipment

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OTHER EQUIPMENT	Standard	Optional
Advanced cushion hitch	•	
Accumulators (cushion hitch and brake) with Canadian registration number (CRN)	•	
Fast-fill fuel tank	•	
Fenders, non-metallic	•	
Heater, engine coolant 120V	•	
Tow pin, front	•	
Vandalism locks	•	

OTHER ATTACHMENTS	Standard	Optional
Fast-fill fuel tank	•	
Camera arrangement – work area vision system (WAVS)		○
Steering lock – external	•	
Cab beacon and air horn		○
Guard, overflow	•	
Kingbolt housing		○
Rear wheel arrangement (set of 2)		○
Scraper draft arm package		○
Steering cylinder group (set of 2)		○
Year of manufacture plate		○

STEERING ARRANGEMENTS	Standard	Optional
Secondary steering (electrically powered)	•	

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

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

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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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