



Cat[®] 631

Wheel Tractor-Scraper

Since 1960, the 631 family of wheel tractor-scrapers has been a signature machine for Caterpillar, and the current 631 edition stays true to its original characteristics – built with strength and durability in mind for today and tomorrow's work. No matter how difficult the task is for a construction or mining project, the 631 delivers results with the ability to load and dump on the run with fast cycle times on any earthmoving site worldwide. Its single engine allows for lower operating costs in applications and minimal rolling resistance, allowing the delivery of high productivity at the lowest cost per ton.

Be More Productive

- Advanced Productivity Electronic Control System (APECS) allows the engine and transmission to communicate on a high level. This communication allows the machine to utilize better 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 allows the machine to maintain a set top speed instead of relying on top gear selector.
- 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.
- Cat[®] Payload for scrapers is an earthmoving solution for optimal payload and jobsite efficiency. Cat Payload achieves on-the-go weighing by using bowl lift cylinder pressure during the loaded haul segment. Cat Payload is optimized to be used with Sequence Assist, which provides increased productivity with less operator effort.
- Enhance productivity through the usage of Cat Payload with Sequence Assist.

Work in Comfort

- Reduce up to 14 individual operator commands per cycle with Sequence Assist.
- 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

- Enhance an operator's awareness of site surroundings with the Work Area Vision System (WAVS).
- Get in and out of the cab easier with the new powered access ladder system (optional attachment).
- Seat belt indicator provides visual and audible alerts when the seatbelt is not in use.
- Advanced Cushion Hitch allows the cushion hitch to prevent endstroke by predicting endstroke events and managing the rate of dampening, resulting in reduced hitch maintenance and improved operator ride in rough conditions.
- The fuel fill, fuel filter, engine oil filter, engine oil change, and water drain are easily accessible at ground level.



Cat® 631 Wheel Tractor-Scraper

Easy to Operate

- The spacious cab features easy, intuitive controls and excellent visibility. The cab provides a comfortable working environment for all-day operations.
- Cat Advanced Ride Management (ARM) seat suspension reduces endstroke 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's 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 Sequence Assist and Load Assist (included with Cat Grade 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 (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			FLUIDS		
Cat C18 engine with Mechanically Actuated Electronic Unit Injection (MEUI™)	✓		Extended life coolant to -37° C (-34° F)	✓	
Cat engine brake	✓		OTHER STANDARD EQUIPMENT – TRACTOR		
Differential lock	✓		Advanced cushion hitch	✓	
Electric start, 24V	✓		Accumulators (cushion hitch and brake) with Canadian registration number (CRN)	✓	
Fan, hydraulic	✓		Fast oil change (engine)	✓	
Ground level engine shutdown	✓		Fenders, non-metallic	✓	
Guard, crankcase	✓		Heater, engine coolant 120V	✓	
Starting aid, ether	✓		Tow pin, front	✓	
Braking system: primary and secondary, wet disc, hydraulic; parking, hydraulic-released, spring-applied	✓		OTHER STANDARD EQUIPMENT – SCRAPER		
Transmission: 8-speed planetary powershift, Electronic Clutch Pressure Control (EPC), Advanced Productivity Electronic Control Strategy (APECS) software, programmable top gear selection, transmission hold, transmission guard, ground speed control, machine speed limit	✓		Bowl: 18.3 m³ (24.0 yd³) – struck, 26.0 m³ (34.0 yd³) – heaped	✓	
POWERTRAIN – SCRAPER			Hydraulic position sensing cylinders (bowl lift and apron)	✓	
Braking system: primary and secondary, dry disc, hydraulic	✓		Fast-fill fuel tank	✓	
ELECTRICAL – TRACTOR			Fender, scraper	✓	
Alternator, 115 amp	✓		Guard, overflow	✓	
Batteries (4), 12V, 1,000 CCA, maintenance free	✓		STEERING ARRANGEMENTS		
Electrical system, 24V	✓		Secondary steering (ground driven)	✓	
Lighting system: LED low beam, high beam, and work lights	✓		INTEGRATED TECHNOLOGIES		
Starting/charging receptacle	✓		Product Link™		✓
ELECTRICAL – SCRAPER			Sequence Assist and Cat Payload	✓	
Alarm, backup	✓		Cat Grade, Cat Payload, Sequence Assist, and Load Assist		✓
Lighting system: brake lights-LED, turn signals with hazard function-LED	✓		OTHER ATTACHMENTS		
OPERATOR ENVIRONMENT – TRACTOR			Push-pull		✓
HVAC powered air precleaner	✓		Steering lock – external	✓	
HVAC system, heat, AC, defrost	✓		Cab beacon with air horn		✓
Thermostat control of HVAC system	✓		SERVICE INSTRUCTIONS		
Coat hook	✓		Film arrangement – U.S. (ANSI)		✓
Lunchbox platform with holding strap	✓		Film arrangement – International (ISO)		✓
Diagnostic connection	✓				
Dome courtesy light	✓				
Horn, electric	✓				
T-handle implement control	✓				
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 touchscreen display	✓				
Seat belt, static two-piece	✓				
Powered access ladder		✓			
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	✓				
Work Area Vision (3) Camera System	✓				
254 mm (10 in) touchscreen information display	✓				

Cat® 631 Wheel Tractor-Scraper

Technical Specifications

Engine

Engine Model: Tractor	Cat® C18	
Rated Engine Speed: Tractor	1,900 rpm	
Engine Power (ISO 14396:2002)	425 kW	570 hp
• Meets Brazil MAR-1 emission standards, equivalent to U.S. EPA Tier 3 and EU Stage IIIA. Meets UN ECE R96 Stage IIIA emission standards, equivalent to U.S. EPA Tier 3 and EU Stage IIIA.		

General Data

Overall Width	3.94 m	12'11"
Overall Shipping Height	3.89 m	12'9"
Scraper Capacity:		
Struck	18.3 m³	24.0 yd³
Heaped	26.0 m³	34.0 yd³
Rated Load	37 200 kg 37.2 tonnes	82,200 lb 41.1 tons
Width of Cut	3.51 m	17'7"
Maximum Depth of Cut	450 mm	12.4"
Maximum Depth of Spread	535 mm	21.1"
Top Speed (Loaded)	55.8 km/h	34.7 mph
180° Curb-to-Curb Turning Width	12.23 m	40'2"
Tires:		
Tractor Drive	37.25R35**E3	
Scraper	37.25R35**E3	

Non Push-Pull

Operating Weight (Empty)	46 600 kg	102,750 lb
Overall Length	15.04 m	49'4"

Push-Pull

Operating Weight (Empty)	48 275 kg	106,430 lb
Overall Length (With Bail Down)	16.64 m	54'7"

Transmission

Speed	km/h	mph	Speed	km/h	mph
Forward 1	5.5	3.4	Forward 6	30.6	19.0
Forward 2	10.0	6.2	Forward 7	41.4	25.7
Forward 3	12.4	7.7	Forward 8	55.8	34.7
Forward 4	16.9	10.5	Reverse 1	9.9	6.2
Forward 5	22.7	14.1			

Service Refill Capacities

Differential	153.0 L	40.41 gal
Final Drive (Each)	33.0 L	8.71 gal
Rear Wheels (Each)	9.0 L	2.37 gal
Crankcase	52.0 L	13.7 gal
Transmission System	110.0 L	29.0 gal
Cooling System	71.0 L	18.75 gal
Fuel Tank	874.0 L	231.0 gal
Hydraulic System	142.0 L	37.5 gal
Diesel Exhaust Fluid (DEF)*	30.5 L	8.0 gal
Windshield Washer Fluid	5.0 L	1.3 gal

*When equipped.

Safety Criteria Compliance Standards

Rollover Protective Structure (ROPS)	ISO 3471:2008 for up to 21 282 kg (46,919 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
Reverse Alarm	ISO 9533:2010

Implement Cycle Times

Bowl Raise	3.5 seconds
Bowl Lower	3.5 seconds
Apron Raise	4.0 seconds
Apron Lower	3.8 seconds
Ejector Extend	8.5 seconds
Ejector Retract	8.5 seconds
Bail Raise	1.5 seconds
Bail Lower	2.1 seconds

Sound

- The exterior sound power level for the standard machine (ISO 6395:2008) is 116 dB(A).
- The interior sound pressure level for the standard machine (ISO 6396:2008) is 79 dB(A).

Air Conditioning

The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a or R1234yf. Refer to the machine labeling for identification of the gas.

- If equipped with 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).
- If equipped with R1234yf (Global Warming Potential = 0.501), the system contains 1.85 kg (4.1 lb) of refrigerant which has a CO₂ equivalent of 0.001 metric tonnes (0.001 tons).

AEXQ3573-02 (07-2025)
Replaces AEXQ3573-01
Build Number: 11A
(Global, excluding Japan)