



# Cat<sup>®</sup> 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 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.
- 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.

### **Work in Comfort**

- Reduce up to 14 individual operator commands per cycle with Sequence Assist (optional attachment).
- 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.
- Easy ground level access to fuel, water, and engine oil.



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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 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 Cat Grade Control and Load Assist (optional 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 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
<b>POWERTRAIN – TRACTOR</b>					
Cat C18 engine with Mechanically Actuated Electronic Unit Injection (MEUI™)	✓		<b>FLUIDS</b>		
Cat engine brake	✓		Extended life coolant to -37° C (-34° F)	✓	
Electric start, 24V	✓		<b>OTHER STANDARD EQUIPMENT – TRACTOR</b>		
Fan, hydraulic	✓		Advanced cushion hitch	✓	
Ground level engine shutdown	✓		Accumulators (cushion hitch and brake) with Canadian registration number (CRN)	✓	
Guard, crankcase	✓		Fast oil change (engine)	✓	
Starting aid, ether	✓		Fenders, non-metallic	✓	
Braking system: primary and secondary, wet disc, hydraulic; parking, hydraulic-released, spring-applied	✓		Heater, engine coolant 120V	✓	
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, transmission guard, ground speed control, machine speed limit	✓		Tow pin, front	✓	
<b>POWERTRAIN – SCRAPER</b>					
Braking system: primary and secondary, dry disc, hydraulic	✓		<b>OTHER STANDARD EQUIPMENT – SCRAPER</b>		
<b>ELECTRICAL – TRACTOR</b>					
Alternator, 115 amp	✓		Bowl: 18.4 m³ (24.0 yd³) – heaped, 26.0 m³ (34.0 yd³) – struck	✓	
Batteries (4), 12V, 1,000 CCA, maintenance free	✓		Hydraulic position sensing cylinders (bowl lift and apron)	✓	
Electrical system, 24V	✓		<b>STEERING ARRANGEMENTS</b>		
Lighting system: LED low beam, high beam, and work lights	✓		Secondary steering (ground driven)	✓	
Starting/charging receptacle	✓		<b>INTEGRATED TECHNOLOGIES</b>		
<b>ELECTRICAL – SCRAPER</b>					
Alarm, backup	✓		Product Link™		✓
Lighting system: brake lights-LED, turn signals with hazard function-LED	✓		Sequence Assist and Cat Payload		✓
<b>OPERATOR ENVIRONMENT – TRACTOR</b>					
HVAC powered air precleaner	✓		Cat Grade Control, Cat Payload, Sequence Assist, and Load Assist		✓
HVAC system, heat, AC, defrost	✓		<b>OTHER ATTACHMENTS</b>		
Thermostat control of HVAC system	✓		Push-pull		✓
Coat hook	✓		Fast-fill fuel tank	✓	
Lunchbox platform with holding strap	✓		Camera arrangement – Work Area Vision System (WAVS)	✓	
Diagnostic connection (2)	✓		Steering lock – external	✓	
Dome courtesy light	✓		Cab beacon with air horn		✓
Horn, electric	✓		Fender, scraper	✓	
T-handle implement control	✓		Guard, overflow	✓	
Radio ready	✓		Year of manufacture plate		✓
Rollover protective structure (ROPS)/falling objects protective structure (FOPS) cab, pressurized	✓		<b>SERVICE INSTRUCTIONS</b>		
Keypad switches: throttle lock, wipers/washers, hazard lights, retarding level select, work lights on/off, information mode on messenger display	✓		Film arrangement – U.S. (ANSI)		✓
Powered access		✓	Film arrangement – International (ISO)		✓
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	✓				
Messenger 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
<ul style="list-style-type: none"> <li>Meets U.S. EPA Tier 4 Final and EU Stage V emission standards, or equivalent to U.S. EPA Tier 3 and EU Stage IIIA, or equivalent to U.S. EPA Tier 2.</li> <li>Net power available at the flywheel when the engine is equipped with fan, air cleaner, aftertreatment, and alternator with engine speed at 1,900 rpm.</li> </ul>		

### 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	33.25R29**E3	
Scraper	33.25R29**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	158.0 L	41.7 gal
Final Drive (Each)	19.0 L	5.0 gal
Rear Wheels (Each)	4.0 L	1.0 gal
Brake Cooling (Scraper)	33.0 L	8.7 gal
Crankcase (Tractor)	52.0 L	13.7 gal
Transmission System	110.0 L	29.0 gal
Cooling System	75.0 L	19.8 gal
Fuel Tank	874.0 L	231.0 gal
Hydraulic System	142.0 L	37.5 gal
Diesel Exhaust Fluid (DEF) Tank*	30.5 L	8.0 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

\*If equipped with optional secondary steering

### 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 pressure level for the standard machine (ISO 6395:2008) is 119 dB(A).
- The interior sound pressure level for the standard machine (ISO 6396:2008) is 77 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<sub>2</sub> equivalent of 2.71 metric tonnes (2.674 tons).

AEXQ3573-01 (11-2024)  
Replaces AEXQ3573-00  
Build Number: 11A  
(Global, excluding Japan)