

# Cat<sup>®</sup> 623K

## WHEEL TRACTOR-SCRAPER

### MAIN FEATURES AND BENEFITS:

- **Tractor Serviceability Improvement** – The filter bank located at the rear of the engine compartment has undergone improvements for serviceability by raising the filter bank up for easier access.
- **Engine Over Speed Protection** – In the event of an engine over speed situation, the compression brake or brakes will automatically engage with no operator input. The machine determines the over speed condition based on rate of acceleration and applies compression brakes automatically.
- **Advanced Cushion Hitch** – With similar technology as the Cat<sup>®</sup> Advanced Ride Management seat suspension, this software allows the cushion hitch to prevent end stroke by having the ability to predict end stroke events and manage the rate of dampening. The desired result is improved hitch repair, reduced maintenance and improved operator ride in rough conditions.
- **High Pressure Steering** – 620K Series steering system design requires significantly less steering effort. The reduced steering effort will allow for decreased operator fatigue and a more efficient operator resulting in possible higher rates of production late in the work cycle.
- **Load Assist Option** – The 623K now is offered with the Load Assist option like the 621K and 627K.
- **Draft Arm Overflow Guards** – The open bowls now come standard with bowl side overflow guards to help prevent material from flowing over the bowl sides and falling onto the draft arms where material becomes lodged between the bowl side and draft arm resulting in decreased work cycle times.
- **Auto Stall** – In cold weather conditions the machine will use the Auto Stall feature to help warm up the transmission oil faster resulting in the machine shifting out of torque converter drive (2nd gear) faster than on previous models.
- **Differential Lock Engagement Protection (Standard)** – This standard feature allows the machine to prevent the operator from engaging the differential lock when damage could occur.
- **Cab Improved** – The interior of the K Series cabs has improved the operator comfort and visibility by redesigning the dash area and key pad placement.
- **Machine Speed Limit** – This feature is designed to take the place of top gear selection. If the machine top speed needs to be limited the operator can select the top speed through the display or the top speed can be set in ET. This will allow the machine to find the correct gear that works best for the engine and transmission. Allowing the engine and transmission to select the correct gear to pull the load in most cases resulting in a lower engine load factor and lower fuel burn verses using top gear selection that required the machine to run at engine speeds at or close high idle.
- **Ground Speed Control** – Ground Speed Control sets the desired top speed by the operator if job site conditions or segment speed limits require a speed less than full run out. Machine Speed Limit is intended for use when top speed needs to be limited for longer durations and Ground Speed Control is intended for use when the top speed needs to be reduced for shorter segments or intermediate periods of time. The operator can set the desired top speed and the machine will find the correct gear that works best for the engine and transmission. Allowing the engine and transmission to select the correct gear to pull the load in most cases will result in a lower engine load factor and lower fuel burn verses top gear selection.

## Specifications

### General Data

Fuel Tank Refill Capacity: Scraper	763 L	201 U.S. gal	Top Speed (Loaded)	53.9 km/h	33.5 mph
Overall Width	3.57 m	11'7"	180° Curb-to-Curb Turning Width	11.8 m	38'7"
Overall Shipping Height	3.77 m	12'3"	Tires:		
Scraper Capacity:			Tractor Drive	33.25R29**E3	
Struck	14.4 m <sup>3</sup>	18.8 yd <sup>3</sup>	Scraper	33.25R29**E3	
Heaped	17.6 m <sup>3</sup>	23 yd <sup>3</sup>	Operating Weight (Empty)	39 937 kg	88,061 lb
Rated Load	25 038 kg	55,200 lb	Overall Length	13.77 m	45'2"
	25.1 tonnes	27.6 tons	Elevator Flight Spacing	520 mm	20"
Width of Cut	3.14 m	10'4"	Number of Flights	15	
Maximum Depth of Cut	262 mm	10.3"	Maximum Floor Opening	1.34 mm	4'4"
Maximum Depth of Spread	465 mm	18.3"			

# 623K Wheel Tractor-Scraper

## Engine

Engine Model	Cat C13 ACERT™	
Rated Engine RPM	2,000 rpm	
Flywheel Power: Tractor	304 kW	407 hp

- C13 ACERT engine emits equivalent to U.S. EPA Tier 2/EU Stage II or U.S. EPA Tier 3/EU Stage III.

## Cab

ROPS/FOPS	Meets ISO standards
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- The exterior sound power level for the standard machine (ISO 6393) is 111.5 dB(A).

## Safety Criteria Compliance Standards

Rollover Protection Structure (ROPS)	ISO 3471:2008 for up to 17 084 kg (37,664 lb)
Falling Object Protective Structure (FOPS)	ISO 3449:2005 Level II
Brakes	ISO 3450:2011
Steering System	ISO 5010:2007
Seat Belt	SAE J386:JUN1985
Reverse Alarm	ISO 9533:2010

## Travel Speeds (Runout)

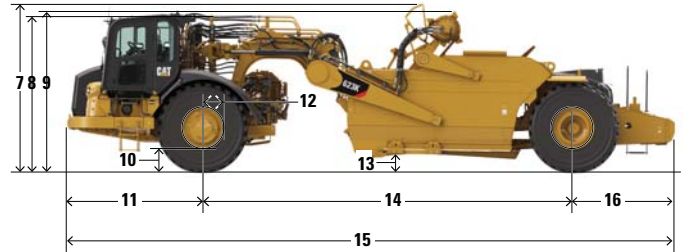
Transmission Gear:		
First	5.0 km/h	3.1 mph
Second	8.9 km/h	5.5 mph
Third	12.1 km/h	7.5 mph
Fourth	16.3 km/h	10.1 mph
Fifth	21.9 km/h	13.6 mph
Sixth	29.6 km/h	18.4 mph
Seventh	39.9 km/h	24.8 mph
Eighth	53.9 km/h	33.5 mph
Reverse	9.2 km/h	5.7 mph

## Implement Cycle Times

Bowl Raise	3.0 seconds
Bowl Lower	3.5 seconds
Ejector Extend	6.45 seconds
Ejector Retract	9.7 seconds

## Service Refill Capacities

Crankcase	30.58 L	8.08 gal
Transmission System	93 L	24.76 gal
Cooling System	45 L	11.89 gal
Fuel Tank	818 L	216.09 gal
Hydraulic System	83 L	21.926 gal



## Dimensions

	623K	
	mm	in
<b>1</b> Width – Overall Machine	3585	141.1
<b>2</b> Width – Overall Machine – Ladder Down	3790	149.2
<b>3</b> Width – Tractor	3381	133.1
<b>4</b> Width – Rear Tire Centers	2290	90.2
<b>5</b> Width – Inside of Bowl	3048	120.0
<b>6</b> Width – Outside Rear Tires	3275	128.9
<b>7</b> Height – Overall Shipping	4037	158.9
<b>8</b> Height – Top of Cab	3621	142.6
<b>9</b> Height of Top of Elevator	3768	148.3
<b>10</b> Ground Clearance – Tractor	557	21.9
<b>11</b> Front of Tractor to Front Axle	3119	122.8
<b>12</b> Axle to Vertical Hitch Pin	432	17.0
<b>13</b> Height – Scraper Blade Maximum	520	20.5
<b>14</b> Wheelbase	8370	329.5
<b>15</b> Length – Overall Machine	13 767	542.0
<b>16</b> Rear Axle to Rear of Machine	2278	89.7

## STANDARD EQUIPMENT

### POWER TRAIN – TRACTOR

- Cat C13 ACERT engine with MEUI™
- Cat engine brake
- Electric start, 24 Volt
- Air cleaner, dry type with precleaner
- Fan, hydraulic
- Ground level engine shutdown
- Radiator, aluminum unit core, 9 fins per inch
- Guard, crankcase
- Muffler (only for less or non-regulated regions engine arrangement only)
- Starting aid, ether
- Braking system:
  - Primary and secondary, wet disc, hydraulic
  - Parking, hydraulic-released, spring-applied
  - Throttle lock
- Transmission:
  - 8-speed planetary power shift
  - ECPC control
  - APECS software
  - Programmable top gear selection
  - Transmission hold
  - Differential lock
  - Guard, power train
  - Standard tire spin reduction
  - Ground speed control
  - Machine speed limit
  - Differential lock protection

### POWER TRAIN – SCRAPER

- Braking system:
  - Primary and secondary, wet disc, hydraulic

### ELECTRICAL – TRACTOR

- Alternator, 150 Amp
- Batteries (4), 12V, 1,000 CCA, maintenance free, high output
- Electrical system, 24V
- Lighting system:
  - Headlights, halogen
  - Turn signals with hazard function, LED floodlights, (2) cutting edge (1) bowl, halogen side vision (2)
- Starting/charging receptacle

### ELECTRICAL – SCRAPER

- Alarm, backup
- Lighting system:
  - Brake lights, LED
  - Turn signals with hazard function, LED

### OPERATOR ENVIRONMENT – TRACTOR

- 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 (1)
- Dome courtesy light
- Horn, electric
- T-Handle implement control
- Mirror, rearview
- Radio ready
- ROPS/FOPS cab, pressurized
- Keypad switches:
  - Throttle lock
  - Wipers/washers
  - Hazard lights
  - Retarding level select
  - Work lights on, off
  - Information mode on Messenger Display
- Safety tab rocker switches:
  - Regeneration control
  - Parking brake
- Seat belt, static two-piece
- Seat, Cat Advanced Ride Management (ARM), Cat Comfort Series 3, 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
  - 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

### FLUIDS

- Extended Life Coolant to  $-37^{\circ}\text{C}$  ( $-34^{\circ}\text{F}$ )

### OTHER STANDARD EQUIPMENT – TRACTOR

- Advanced cushion hitch
- Accumulators (cushion hitch) with Canadian Registration Number (CRN)
- Fast oil change
- Fenders, non-metallic
- Heater, engine coolant 120V
- Rims (2)
- Tow pin, front
- Vandalism locks
- Heater, engine coolant 120V

### OTHER STANDARD EQUIPMENT – SCRAPER

- Bowl
  - 17.6 m<sup>3</sup> (23 yd<sup>3</sup>), heaped
  - 13.5 m<sup>3</sup> (17.6 yd<sup>3</sup>), struck
- Vandalism locks
- Elevator with 15 flights
- Hydraulic position sensing cylinders (bowl lift and apron)

# 623K Wheel Tractor-Scraper

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## OPTIONAL ATTACHMENTS

### STEERING ARRANGEMENTS

- Secondary Steering Arrangement

### INTEGRATED TECHNOLOGIES

- Sequence Assist Arrangement
- Load Assist
- Cat Grade Control with Load Assist

### OTHER ATTACHMENTS

- Camera arrangement – WAVS
- Steering lock – external
- Cab beacon
- Air horn
- Air horn and beacon
- Fender, scraper
- Wiring group

### WORK LIGHT ATTACHMENTS

- HID work lights

### AMBIENT CAPABILITY ARRANGEMENTS

- Cooling, high ambient HRC
- Cooling, low ambient HRC
- Cooling, high ambient LRC
- Cooling, low ambient LRC

### OTHER ATTACHMENTS

- Year of manufacture plate

### SERVICE INSTRUCTIONS

- Film arrangement – U.S. (ANSI)
- Film arrangement – International (ISO)

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