



# R3000H

Underground Mining Loader

## Technical Specifications

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

### Table of Contents

<b>Specifications</b> .....	<b>2</b>
Engine .....	2
Operating Specifications .....	2
Weights .....	2
Transmission .....	2
Hydraulic Cycle Time .....	2
Bucket Capacities .....	2
Turning Dimensions .....	2
Tires .....	3
Service Refill Capacities .....	3
Standards .....	3
Dimensions .....	4
Gradeability/Speed/Rimpull .....	5
<b>Standard and Optional Equipment</b> .....	<b>6</b>

# R3000H Underground Mining Loader Specifications

## Engine

Engine Model	Cat® C15	
Engine Power – VR Engine – ISO 14396:2002	299 kW	401 hp
Engine Power – Tier 3 Engine – ISO 14396:2002	299 kW	401 hp
Bore	137.2 mm	5.4 in
Stroke	171.5 mm	6.8 in
Displacement	15.2 L	927.6 in <sup>3</sup>

- Power ratings apply at a rated speed of 1,800 rpm when tested under the reference conditions for the specified standard.
- All rating conditions are based on ISO/TR14396:2002, inlet air standard conditions with a total barometric pressure of 100 kPa (29.5 in Hg), with a vapor pressure of 1 kPa (0.295 in Hg), and 25° C (77° F). Performance measured using fuel to EPA specifications in 40 CFR Part 1065 and EU specifications in Directive 97/68/EC with a density of 0.845-0.850 kg/L @ 15° C (7.05-7.09 lb/gal @ 59° F) and fuel inlet temperature 40° C (104° F).
- No engine derating required up to 3050 m (10,006 ft) altitude for equivalent Tier 3 engines, and 3506 m (11,502 ft) for VR engines.
- Optional Ventilation Reduction package available.
- Optional engine with emissions equivalent to U.S. EPA Tier 3 and EU stage IIIA is also available.

## Operating Specifications

Nominal Payload Capacity	20 000 kg	44,092 lb
Gross Machine Mass	82 000 kg	180,779 lb
Static Tipping Load Straight Ahead Lift Arms Horizontal	47 264 kg	104,199 lb
Static Tipping Full Turn Ahead Lift Arms Horizontal	40 003 kg	88,191 lb
Breakout Force (SAE)	28 020 kg	61,773 lb

## Weights

Operating Mass*	58 263 kg	128,448 lb
Front Axle	24 747 kg	54,558 lb
Rear Axle	33 499 kg	73,853 lb
Operating Mass + Rated Payload*	78 263 kg	172,540 lb
Front Axle	56 784 kg	125,187 lb
Rear Axle	21 462 kg	47,316 lb

\*Calculated weight.

## Transmission

Forward 1	4.9 km/h	3 mph
Forward 2	9.1 km/h	5.7 mph
Forward 3	16.4 km/h	10.2 mph
Forward 4	28.2 km/h	17.5 mph
Reverse 1	6.6 km/h	4.1 mph
Reverse 2	11.5 km/h	7.1 mph
Reverse 3	20.5 km/h	12.7 mph
Reverse 4	31.3 km/h	19.4 mph

## Hydraulic Cycle Time

Raise	8.8 Seconds
Dump	1.85 Seconds
Lower, Empty, Float Down	3.54 Seconds
Total Cycle Time	14.2 Seconds

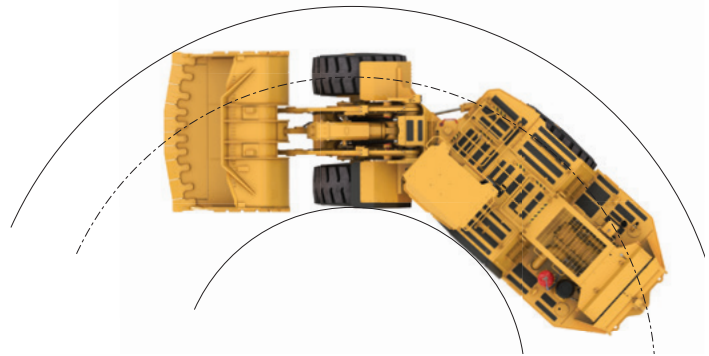
## Bucket Capacities

Dump Bucket – 1 (Standard Bucket)	8.9 m <sup>3</sup>	11.6 yd <sup>3</sup>
Dump Bucket – 2	9.5 m <sup>3</sup>	12.4 yd <sup>3</sup>
Dump Bucket – 3	10.5 m <sup>3</sup>	13.7 yd <sup>3</sup>
Light Material Bucket	11.6 m <sup>3</sup>	15.2 yd <sup>3</sup>

## Turning Dimensions

Outside Clearance Radius**	7536 mm	296.7 in
Inner Clearance Radius**	3247 mm	127.8 in
Axle Oscillation	8°	
Articulation Angle	42.5°	

\*\*Clearance dimensions are for reference only.



# R3000H Underground Mining Loader Specifications

## Tires

Tire Size	35/65 R33
-----------	-----------

## Service Refill Capacities

Engine Crankcase	34 L	9 gal
Transmission	62 L	16.4 gal
Hydraulic Tank	140 L	37 gal
Cooling System	75 L	19.8 gal
Front Differential and Final Drives	119 L	31.4 gal
Rear Differential and Final Drives	127 L	33.5 gal
Front Differential and Final Drives (with Axle Oil Cooling System)	159 L	42 gal
Rear Differential and Final Drives (with Axle Oil Cooling System)	167 L	44.1 gal
Fuel Tank	1539 L	406.5 gal

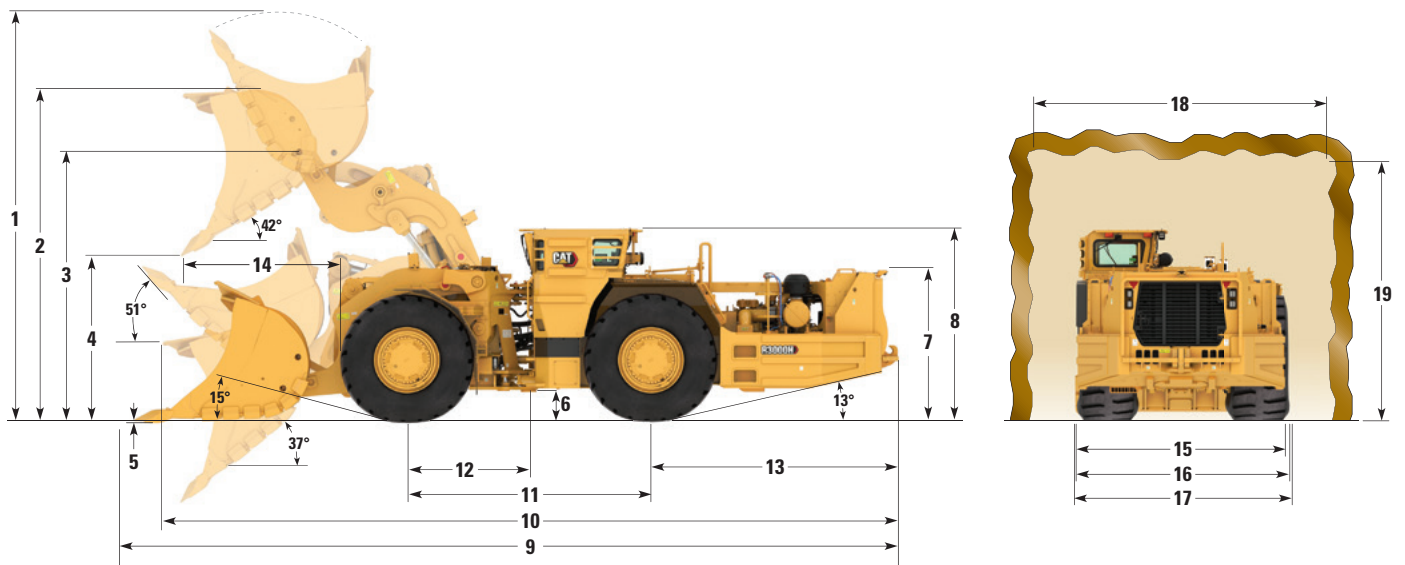
## Standards

Rollover Protective Structure (ROPS)/  
Falling Object Protective Structure  
(FOPS) Certified Cab

# R3000H Underground Mining Loader Specifications

## Dimensions

All dimensions are approximate.

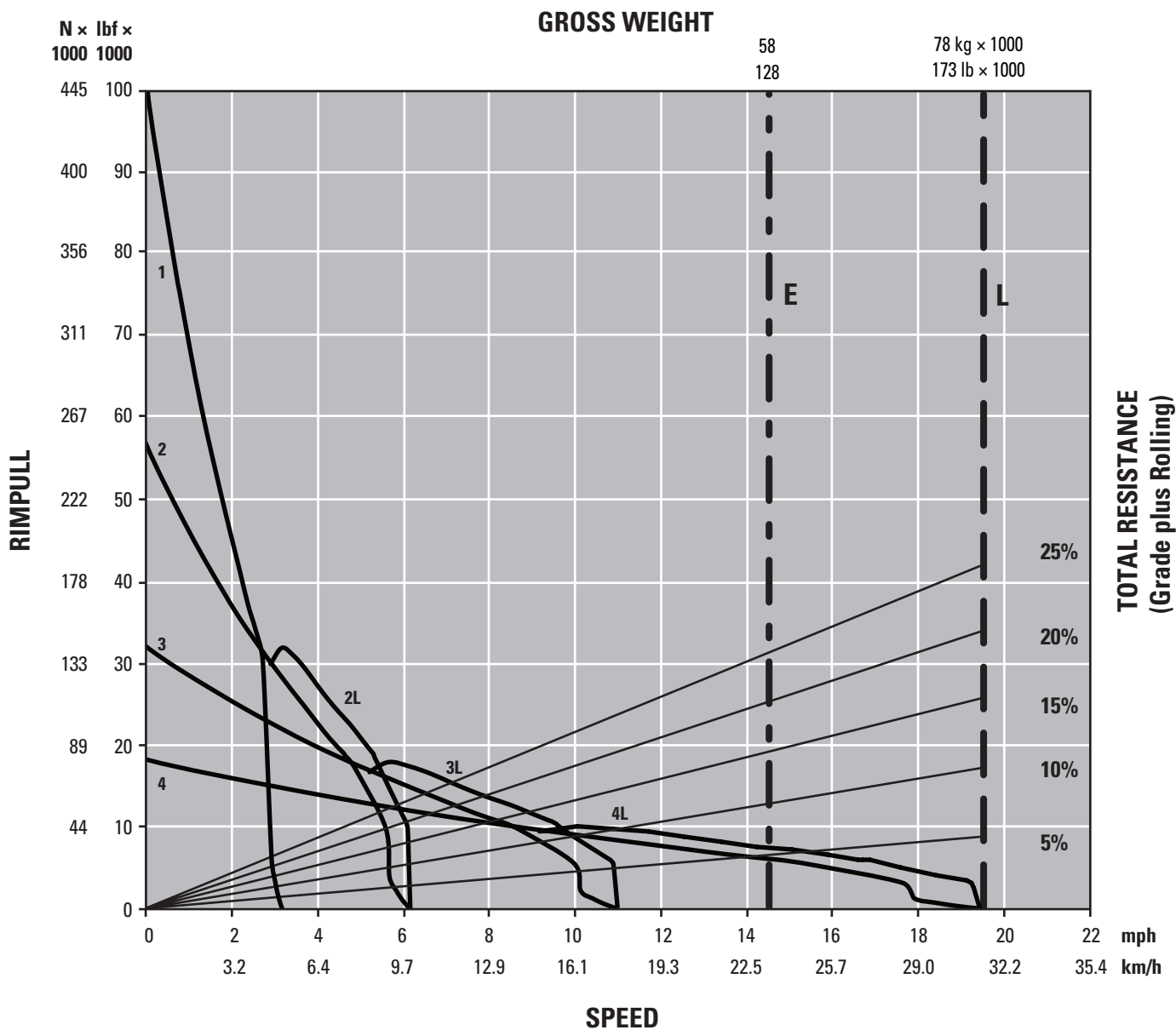


	356-1320		524-6458		372-1680		372-1695	
	Dump Bucket		Dump Bucket		Dump Bucket		Dump Bucket	
Bucket Capacity	8.9 m <sup>3</sup>	11.6 yd <sup>3</sup>	9.5 m <sup>3</sup>	12.4 yd <sup>3</sup>	10.5 m <sup>3</sup>	13.7 yd <sup>3</sup>	11.6 m <sup>3</sup>	15.2 yd <sup>3</sup>
	mm	in	mm	in	mm	in	mm	in
Bucket Width over Cutting Edge	3354	132.0	3476	136.9	3454	136.0	3754	147.8
<b>1</b> Height – Bucket Raised	6283	247.4	6283	247.4	6344	249.8	6344	249.8
<b>2</b> Height – Max Dump	5408	212.9	5445	214.4	5408	212.9	5429	213.7
<b>3</b> Height – Max Lift Bucket Pin	4553	179.3	4553	179.3	4553	179.3	4553	179.3
<b>4</b> Height – Dump Clearance at Max Lift	2744	108.0	2741	107.9	2553	100.3	2635	103.7
<b>5</b> Height – Digging Depth	48.4	1.9	50	2.0	178	7.0	178	7.0
<b>6</b> Height – Ground Clearance	476	18.7	476	18.7	476	18.7	476	18.7
<b>7</b> Height – Top of Hood	2388	94.0	2388	94.0	2388	94.0	2388	94.0
<b>8</b> Height – Top of ROPS	3002	118.2	3002	118.2	3002	118.2	3002	118.2
<b>9</b> Length – Overall (Digging)	11 493	452.5	11 506	453.4	11 632	458.0	11 500	452.8
<b>10</b> Length – Overall (Tramming)	11 150	439.0	11 163	439.5	11 341	446.5	11 260	443.3
<b>11</b> Length – Wheelbase	3780	148.8	3780	148.8	3780	148.8	3780	148.8
<b>12</b> Length – Front Axle to Hitch	1890	74.4	1890	74.4	1890	74.4	1890	74.4
<b>13</b> Length – Rear Axle to Bumper	3582	141.0	3582	141.0	3582	141.0	3582	141.0
<b>14</b> Length – Reach	1789	70.4	1812	71.3	1822	71.7	1719	67.7
<b>15</b> Width – Machine without Bucket	3200	126.0	3200	126.0	3200	126.0	3200	126.0
<b>16</b> Width – Overall Tire	3266	128.6	3266	128.6	3266	128.6	3266	128.6
<b>17</b> Width – Machine with Bucket	3454	136.0	3576	140.8	3554	139.9	3854	151.7
<b>18</b> Recommended Clearance Width	5000	196.9	5000	196.9	5000	196.9	5000	196.9
<b>19</b> Recommended Clearance Height	4500	177.2	4500	177.2	4500	177.2	4500	177.2

# R3000H Underground Mining Loader Specifications

## Gradeability/Speed/Rimpull

To determine gradeability performance: Read from gross weight down to the percent of total resistance. Total resistance equals actual percent grade plus rolling resistance. As a general guide use 2% for rolling resistance in underground applications or refer to the Caterpillar Performance Handbook. From the total resistance point, read horizontally to the curve with the highest obtainable gear, then down to maximum speed. Usable rimpull will depend upon traction available and weight on drive wheels.



- KEY**
- 1 – 1st Gear
  - 2 – 2nd Gear
  - 2L – 2nd Gear (Lockup Clutch)
  - 3 – 3rd Gear
  - 3L – 3rd Gear (Lockup Clutch)
  - 4 – 4th Gear
  - 4L – 4th Gear (Lockup Clutch)

- KEY**
- E – Empty 58 263 kg (128,448 lb)
  - L – Loaded 78 263 kg (172,540 lb)

# R3000H Standard and Optional Equipment

## Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
<b>POWER TRAIN</b>			<b>ELECTRICAL</b>		
Brakes, Full Hydraulic Enclosed Wet Multiple-Disc Spring Applied, Fluid Released (SAFR™)	✓		Alarm, Reversing	✓	
Engine:			Alternator, 95 Amp	✓	
– Cat C15 6 Cylinder Diesel	✓		Battery Disconnect Switch, Ground Level	✓	
– Air-To-Air Aftercooler (ATAAC)	✓		Battery Disconnect Switch, In Cab		✓
Engine Options:			Batteries, Low Maintenance	✓	
– Engine, Ventilation Reduction (VR)		✓	Diagnostic Connector	✓	
– VR Engine, Flow Thru Ready		✓	Engine Shutdown Switch	✓	
– Engine, Tier 3		✓	Lighting:		
Exhaust:			– External, Front, Rear, Halogen	✓	
– Particulate Filter, Flow Thru		✓	– Stop, Dual, Halogen	✓	
– Particulate Filter, Wall Flow		✓	– Cat LED Worklights		✓
– Exhaust, Purifier, Muffler	✓		Receptacle Group, Auxiliary Start	✓	
Filter, Engine, Remote Mounted	✓		Starter, Electric, 24-Volt	✓	
Fuel Adapters:			Starting and Charging System	✓	
– Standard Fill, Dual, Rubber Coated, Double Steel Braided Fuel Lines	✓				
– Standard Fill, Dual, Stainless Steel Covered, Single Braided Fuel Lines		✓			
– Fast Fill, Dual, Rubber Coated, Double Steel Braided Fuel Lines		✓			
– Fast Fill, Dual, Stainless Steel Covered, Single Braided Fuel Lines		✓			
Fuel Priming Aid	✓				
Park Brake Switch Engagement, Choose Between:	✓				
– Push to Apply					
– Pull to Apply					
Precleaner, Engine Air Intake	✓				
Secondary Steering System		✓			
Torque Converter with Automatic Lock-Up Clutch	✓				
Transmission, Automatic Planetary Powershift (4F/4R)	✓				
Transmission Neutralizer	✓				

(continued on next page)

# R3000H Standard and Optional Equipment

## Standard and Optional Equipment *(continued)*

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

	Standard	Optional		Standard	Optional
<b>OPERATOR ENVIRONMENT</b>			<b>TECHNOLOGY PRODUCTS</b>		
Automatic Brake Application (ABA)	✓		Command for Underground*		✓
Cab Enclosed:			Vital Information Management System (VIMS) Gen 3		✓
– ROPS/FOPS Certified	✓		Payload System, Loadrite		✓
– Air Conditioning	✓		Remote Control Interface (excludes Transmitter and Receiver) – RCT		✓
– Cab Pressurizer and Filter	✓		<b>TIRES, RIMS, AND WHEELS</b>		
– Dome Light	✓		Tires Arrangements: Tires	✓	
– Heater	✓		Must Be Selected From the Mandatory Attachments Section, Choose Between:		
– Radio Ready Compartment for Radio and Speakers	✓		– Tire, 35/65 R33, VSNT, Bridgestone		
– Salt Resistant Air Conditioner	✓		– Tire, 35/65 R33, VSDL, Bridgestone		
Camera, Color Rear Facing		✓	Rims (set of four):		
Caterpillar Electronic Monitoring System (CEMS), (dash instrumental panels)	✓		– Five Piece, Tubeless	✓	
Duct, Air, Flow Diverter		✓	Rim Identification Numbering		✓
Horns, Electric	✓		Spare Rim, Tubeless		✓
Idle Timer (enclosed cab)		✓	*Please consult with your Regional Commercial or Technology Representative prior to upgrading your machine to Command for Underground.		
Instrumentation/Gauges:			<i>(continued on next page)</i>		
– Speedometer/Tachometer	✓				
– Fuel Level	✓				
– Hydraulic Oil Temperature	✓				
– Engine Coolant Temperature	✓				
– Brake Pressure		✓			
Operator Presence System	✓				
Light, Warning, Residual Brake	✓				
Low Hydraulic Level Warning	✓				
Pilot Hydraulic Implement Controls (single joystick)	✓				
Seat:					
– Seat, Suspension, Vinyl	✓				
– Seat, Suspension, Tee, Vinyl		✓			
– Seat, Suspension, Air, Vinyl		✓			
– Seat Cover		✓			
Seat Belt, Retractable	✓				

# R3000H Standard and Optional Equipment

## Standard and Optional Equipment (continued)

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

	Standard	Optional		Standard	Optional
<b>OTHER STANDARD AND OPTIONAL EQUIPMENT</b>			<b>OTHER STANDARD AND OPTIONAL EQUIPMENT (continued)</b>		
Brake Axle Cooling	✓		Fenders, Front, Rear	✓	
Brake Light	✓		Firewall	✓	
Brake Release Arrangements:			Fire Suppression System:		
– Recovery Hook		✓	– Ansul, Dry Powder		✓
– Recovery Bar		✓	– Foam, Water Based		✓
Cap, Radiator, Manual Release	✓		Fluids:		
Catalytic Exhaust Purifier/Muffler	✓		– Arctic Coolant		✓
Dump Bucket (8.9 m <sup>3</sup> /11.6 yd <sup>3</sup> )	✓		– Arctic Fuel		✓
Buckets:			Fuel Systems:		
– Various Sizes, Dump (9.5 m <sup>3</sup> /12.4 yd <sup>3</sup> , 10.5 m <sup>3</sup> /13.7 yd <sup>3</sup> )		✓	– Dual Fuel Tanks	✓	
– Light Materials, Dump (11.6 m <sup>3</sup> /15.2 yd <sup>3</sup> )		✓	– Fuel System Manual Shut Off Taps	✓	
– Light Materials, Dump, Uninstalled (11.5 m <sup>3</sup> /15.0 yd <sup>3</sup> )*		✓	Guard, Light and Window		✓
Bucket Lip:			Guards, Engine and Transmission	✓	
– Modular Weld-On	✓		Handholds (Access On/Off Top Deck)	✓	
– Bolt On Lips		✓	Handrails		✓
– Durilock		✓	Lift Arm Positioner for Return to Dig	✓	
– Lip Weldings – Full Weld Edge or Tack Weld Edge and Corners	✓		Lubrication System:		
Ground Engaging Tools (GET):			– Automatic		✓
– Cutting Edge, Cat Weld-On		✓	– Centralized		✓
– Cutting Edge, Bolt-On Half Arrow		✓	Mine Transfer		✓
– Cutting Edge, Shrouds, Durilock		✓	Radiator Grill, Swing Out	✓	
– Mechanically Attached Wear Plate System (MAWPS) – Bucket Lip Protection		✓	Reversible Steering		✓
– Heel Shrouds		✓	Reflective Tape		✓
– Wear Bars		✓	Ride Control System		✓
– Liners		✓	Service Tools:		
– Overflow Guard		✓	– Collet Jacking Bolts		✓
Faster Fill and Evacuation Systems:			– Recovery Bar		✓
– Engine, Fast Fill		✓	Service Oil Sample	✓	
– Radiator, Fast Fill		✓	Valve, Drain, Transmission Oil Filter	✓	
– Hydraulic, Fast Fill		✓	Valve, Hydraulic, Standard	✓	
– Transmission, Fast Fill		✓	Vandalism Protection		✓
Decals, International Picto Graphics	✓		Windows:		
Draw Bar Attachment, Bolt-On		✓	– Single Pane	✓	
			– Dual Pane		✓
			Wear Protection Bars:		
			– Cab/ROPS		✓
			– Hydraulic Tank		✓
			– Radiator		✓

\*Only for use with Chilean Dealers



For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at [www.cat.com](http://www.cat.com)

AEXQ3478 (06-2022)  
(Global)

© 2022 Caterpillar  
All rights reserved

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

CAT, CATERPILLAR, LET'S DO THE WORK, their respective logos, "Caterpillar Corporate Yellow," the "Power Edge" and Cat "Modern Hex" trade dress as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

