



# R2900G

Underground Mining Loader

## Technical Specifications

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

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# R2900G Underground Mining Loader Specifications

## Engine

Engine Model	Cat® C15	
Rated Power	1,800 rpm	
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	927.9 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 591 m (1,938 ft) altitude.
- Optional Ventilation Reduction Package available.
- Optional Tier 3 engine package emits equivalent to U.S. EPA Tier 3 and EU Stage IIIA.

## Operating Specifications

Rated Payload	17 200 kg	37,920 lb
Gross Machine Mass	70 350 kg	155,095 lb
Static Tipping Load Straight Ahead Lift Arms Horizontal	39 923 kg	88,015 lb
Static Tipping Load Full Turn Lift Arms Horizontal	34 069 kg	75,109 lb
Breakout Force (SAE)	27 346 kg	60,298 lb

## Weights

Operating Mass*	50 209 kg	110,692 lb
Front Axle	23 057 kg	50,832 lb
Rear Axle	27 152 kg	59,860 lb
Operating Mass + Rated Payload*	67 409 kg	148,611 lb
Front Axle	50 220 kg	110,716 lb
Rear Axle	17 189 kg	37,895 lb

\*Calculated weight.

## Transmission

Forward 1	5.4 km/h	3.4 mph
Forward 2	9.7 km/h	6.0 mph
Forward 3	17.3 km/h	10.7 mph
Forward 4	29.8 km/h	18.5 mph
Reverse 1	6.6 km/h	4.1 mph
Reverse 2	11.8 km/h	7.3 mph
Reverse 3	21.0 km/h	13.0 mph
Reverse 4	35.5 km/h	22.0 mph

## Hydraulic Cycle Time

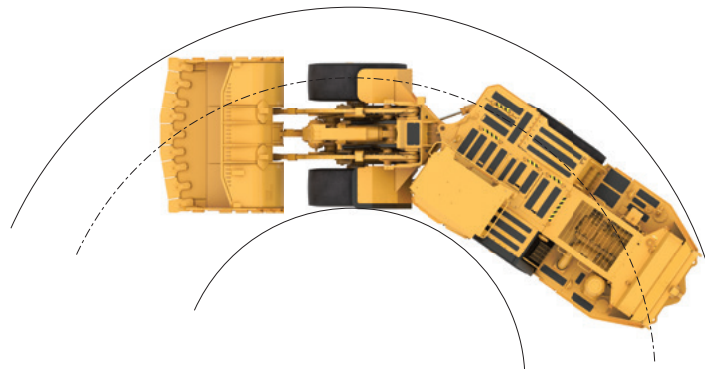
Raise	9.2 Seconds
Dump	3.4 Seconds
Lower, Empty, Float Down	3.1 Seconds
Total Cycle Time	15.7 Seconds

## Bucket Capacities

Dump Bucket – 1	6.3 m <sup>3</sup>	8.2 yd <sup>3</sup>
Dump Bucket – 2	7.2 m <sup>3</sup>	9.4 yd <sup>3</sup>
Dump Bucket – 3	8.3 m <sup>3</sup>	10.9 yd <sup>3</sup>
Dump Bucket – 4	8.9 m <sup>3</sup>	11.6 yd <sup>3</sup>

## Turning Dimensions

Outside Clearance Radius	7323 mm	288.3 in
Inner Clearance Radius	3383 mm	133.2 in
Axle Oscillation	8°	
Articulation Angle	42.5°	



# R2900G Underground Mining Loader Specifications

## Tires

Tire Size	29.5 × 29
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## 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 (Dual)	1425 L	376.4 gal

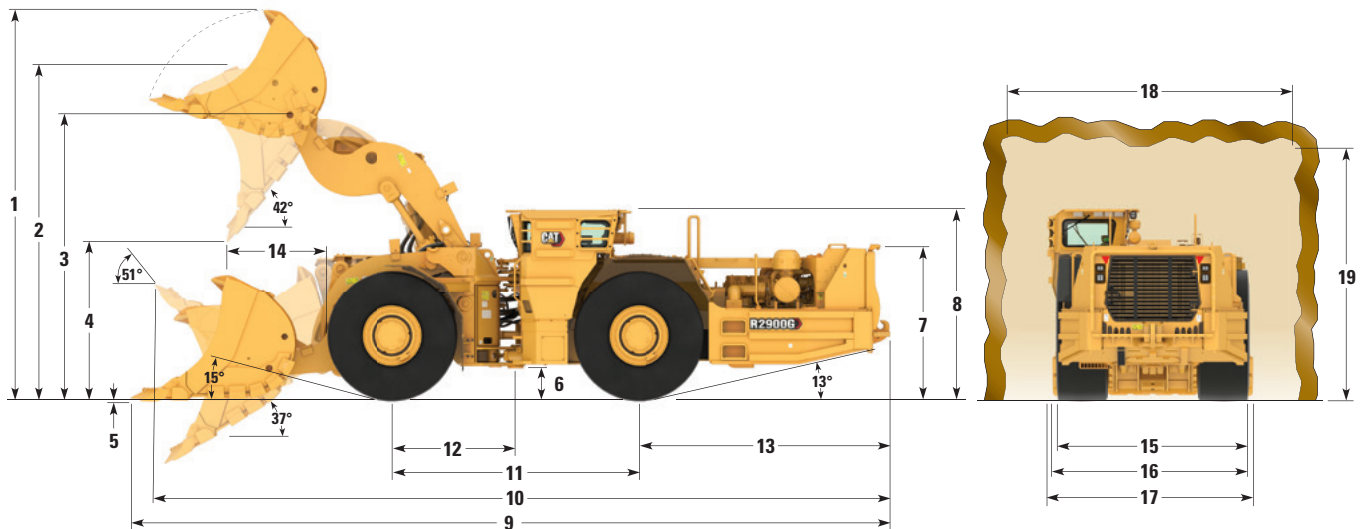
## Standards

Brakes	ISO 3450, AS2958.1, CAN-CSA424.30-M90
Cab/Falling Object Protective Structure (FOPS)	ISO 3449, SAE J231, AS2294.3, EN13627
Cab/Rollover Protective Structure (ROPS)	ISO 3471, SAE J1040, AS2294.2, EN13510

# R2900G Underground Mining Loader Specifications

## Dimensions

All dimensions are approximate.



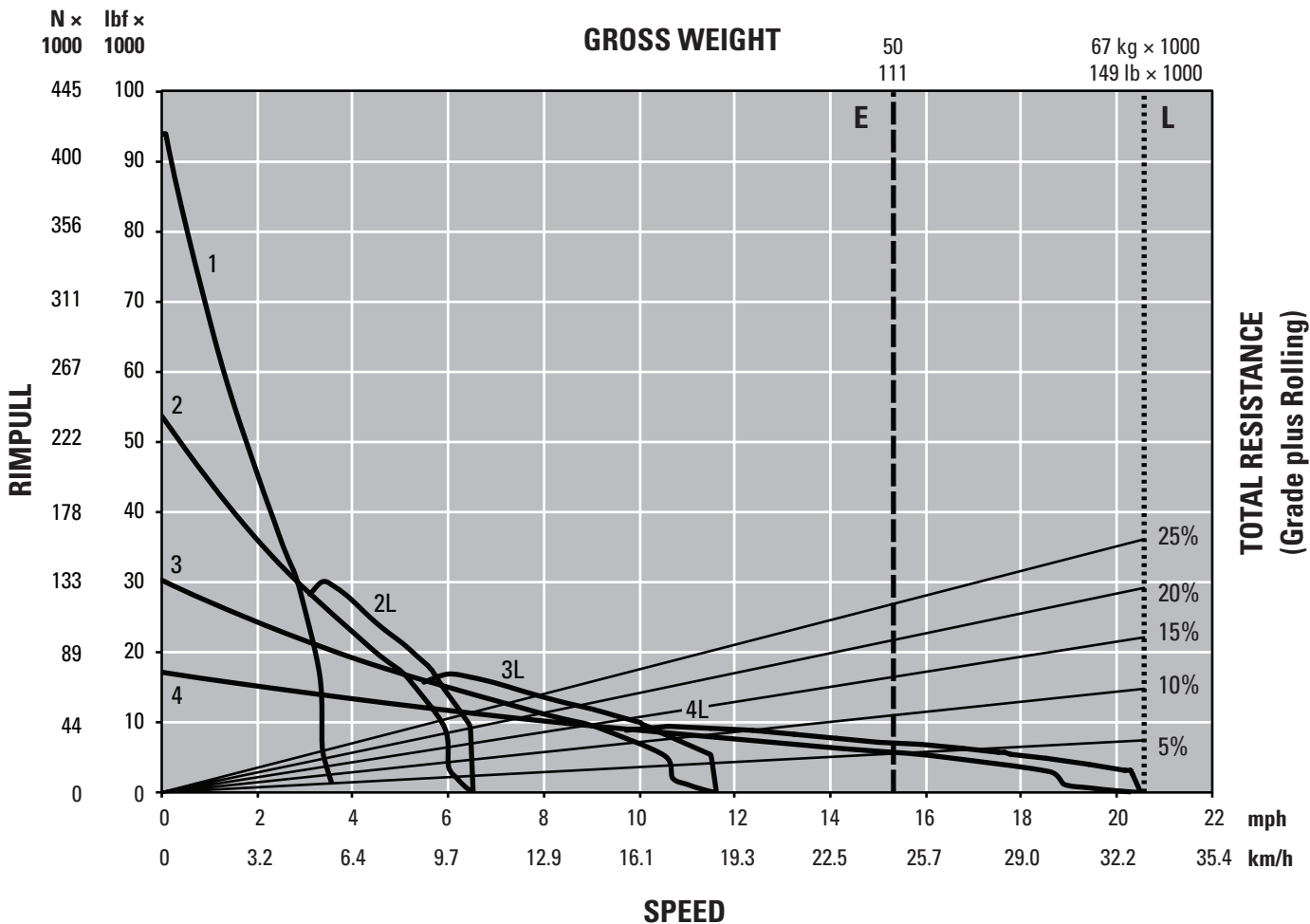
	303 8806 Dump Bucket		249 4899 Dump Bucket		249 4892 Dump Bucket		249 4893 Dump Bucket	
	mm	in	mm	in	mm	in	mm	in
Bucket Capacity	6.3 m <sup>3</sup>	8.2 yd <sup>3</sup>	7.2 m <sup>3</sup>	9.4 yd <sup>3</sup>	8.3 m <sup>3</sup>	10.9 yd <sup>3</sup>	8.9 m <sup>3</sup>	11.6 yd <sup>3</sup>
Bucket Width over Cutting Edge	3054	120.2	3054	120.2	3154	124.2	3354	132.0
<b>1</b> Height – Bucket Raised	6014	236.8	6179	243.3	6232	245.4	6232	245.4
<b>2</b> Height – Max Dump	5427	213.7	5427	213.7	5427	213.7	5427	213.7
<b>3</b> Height – Max Lift Bucket Pin	4539	178.7	4539	178.7	4539	178.7	4539	178.7
<b>4</b> Height – Dump Clearance at Max Lift	2868	112.9	2868	112.9	2735	107.7	2724	107.2
<b>5</b> Height – Digging Depth	52	2.0	52	2.0	65	2.6	65	2.6
<b>6</b> Height – Ground Clearance	465	18.3	465	18.3	465	18.3	465	18.3
<b>7</b> Height – Top of Hood	2371	93.3	2371	93.3	2371	93.3	2371	93.3
<b>8</b> Height – Top of ROPS	2886	113.6	2886	113.6	2886	113.6	2886	113.6
<b>9</b> Length – Overall (Digging)	11 302	445.0	11 302	445.0	11 507	453.0	11 525	453.7
<b>10</b> Length – Overall (Tramming)	10 949	431.1	10 949	431.1	11 073	435.9	11 083	436.3
<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	3572	140.6	3572	140.6	3572	140.6	3572	140.6
<b>14</b> Length – Reach	1656	65.2	1656	65.2	1803	71.0	1817	71.5
<b>15</b> Width – Overall Tire	2898	114.1	2898	114.1	2898	114.1	2898	114.1
<b>16</b> Width – Machine without Bucket	3010	118.5	3010	118.5	3010	118.5	3010	118.5
<b>17</b> Width – Machine with Bucket	3176	125.0	3176	125.0	3272	128.8	3472	136.7
<b>18</b> Recommended Clearance Width	4500	177.2	4500	177.2	4500	177.2	4500	177.2
<b>19</b> Recommended Clearance Height	4500	177.2	4500	177.2	4500	177.2	4500	177.2

# R2900G 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.

- - - - - Typical Field Empty Weight  
 ..... Loaded Weight



**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 50 209 kg (110,692 lb)  
 L – Loaded 67 409 kg (148,611 lb)

# R2900G 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 (SAFR)	✓		Alarm, reversing	✓	
Engine			Alternator, 95 amp	✓	
– Cat C15 six 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, stop light, dual halogen	✓	
– Particulate filter, Flow Thru		✓	– Cat LED work lights		✓
– Particulate filter, Wall Flow		✓	– Truck loading light		✓
– 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	✓		<b>OPERATOR ENVIRONMENT</b>		
– Standard fill, dual, stainless steel covered, single braided fuel lines		✓	Automatic Brake Application (ABA)	✓	
– Fast fill, dual, rubber coated, double steel braided fuel lines		✓	Cab		
– Fast fill, dual, stainless steel covered, single braided fuel lines		✓	– Cab, enclosed, ROPS/FOPS		✓
Fuel priming pump	✓		– Cab, open, ROPS/FOPS	✓	
Park Brake Switch Engagement (choose between):	✓		Camera, color rear facing		✓
– Push to Apply			Caterpillar Electronic Monitoring System (CEMS), dash instrumental panels	✓	
– Pull to Apply			Duct, air, flow diverter		✓
Pre-cleaner, engine air intake	✓		Horns, electric	✓	
Secondary Steering System		✓	Idle timer (enclosed cab)		✓
Torque converter, lock-up clutch (LUC)	✓		Instrumentation/gauges		
Transmission			– Speedometer/tachometer	✓	
– Electronic Clutch Pressure Control (ECPC)	✓		– Fuel level	✓	
– Auto planetary powershift (4F/4R)	✓		– Hydraulic oil temperature	✓	
– Transmission neutralizer	✓		– Engine coolant temperature	✓	
			– Brake pressure		✓
			Operator presence system	✓	
			Light, warning, residual brake	✓	
			Mounting, ROPS	✓	
			Pilot hydraulic implement controls (single joystick)	✓	
			Seat		
			– Seat, suspension, vinyl	✓	
			– Seat, suspension, tee, vinyl		✓
			– Seat, suspension, air, vinyl		✓
			– Seat covers, tee, air and standard		✓
			Seat belt, retractable	✓	

(continued on next page)

# R2900G 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>TECHNOLOGY PRODUCTS</b>			<b>OTHER STANDARD AND OPTIONAL EQUIPMENT (continued)</b>		
Command for Underground*		✓	Faster fill and evacuation systems		
Vital Information Management System (VIMS) Gen 3		✓	– Engine, Fast Fill		✓
Payload system, Loadrite		✓	– Radiator, Fast Fill		✓
Remote Control Interface (excludes transmitter and receiver) – RCT		✓	– Hydraulic, Fast Fill		✓
			– Transmission, Fast Fill		✓
<b>TIRES, RIMS, AND WHEELS</b>			Draw bar attachment, bolt-on		✓
Tires arrangements: tires must be selected from the Mandatory Attachments section, choose between:	✓		Fenders, front, rear	✓	
– Tire, 29.5 × R29 VSMS 2 Bridgestone			Firewall	✓	
– Tire, 29.5 × R29 VSDL L5 Bridgestone			Fire Suppression System		
Rims (set of four): five piece, tubeless	✓		– Ansul, dry powder		✓
Rim identification numbering		✓	– Foam, water based		✓
Spare rim (tubeless)		✓	Fluids		
			– Arctic coolant		✓
<b>OTHER STANDARD AND OPTIONAL EQUIPMENT</b>			– Arctic fuel		✓
Brake axle cooling	✓		Guard, light and window		✓
Brake Release Arrangements			Guards, engine and transmission	✓	
– Recovery hook		✓	Handholds	✓	
– Recovery bar		✓	Handrails		✓
Cap, radiator, manual release	✓		Lift arm positioner for return to dig	✓	
Catalytic exhaust purifier/muffler	✓		Lubrication System		
Dump bucket	✓		– Automatic		✓
Buckets			– Centralized		✓
– Various sizes, dump (6.3 m <sup>3</sup> /8.2 yd <sup>3</sup> to 8.9 m <sup>3</sup> /11.6 yd <sup>3</sup> )		✓	Mine Transfer		✓
– Light materials, dump, uninstalled (10.5 m <sup>3</sup> /13.7 yd <sup>3</sup> , 11.6 m <sup>3</sup> /15.2 yd <sup>3</sup> )		✓	Radiator grill, swing out	✓	
Bucket lip			Reversible steering		✓
– Modular weld-on		✓	Reflective tape		✓
– Bolt-on lips		✓	Ride Control System		✓
– Durilock™		✓	Service tools		
– Lip weldings – full weld edge or tack weld edge and corners	✓		– Collet jacking bolts		✓
Ground Engaging Tools			– Recovery bar		✓
– Cutting edge, Cat weld-on		✓	Service oil sample	✓	
– Cutting edge, bolt-on half arrow		✓	Valve, drain, transmission oil filter	✓	
– Cutting edge, shrouds, Durilock		✓	Valve, hydraulic, standard	✓	
– MAWPS – bucket lip protection		✓	Vandalism protection		✓
– Heel shrouds		✓	Windows		
– Wear bars		✓	– Single pane	✓	
– Liners		✓	– Dual pane		✓
– Overflow guard		✓	Wear protection bars		
			– Cab/ROPS		✓
			– Hydraulic tank		✓
			– Radiator		✓

\*Please consult with your Regional Commercial or Technology Representative prior to upgrading your machine to Command for Underground.

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)

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(Global)

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

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