R2900

Underground Mining Loader

Engine		
Engine Model	Cat® C15	
Emissions – EU Stage V Engine		
Gross Power – ISO 14396	293 kw	393 hp
Net Power – SAE J1349	281 kW	377 hp
Emissions – U.S. EPA Tier 3/ EU Stage IIIA Equivalent Engine		
Gross Power – ISO 14396	305 kW	409 hp
Net Power – SAE J1349	286 kW	384 hp
Emissions – Ventilation Reduction (VR) Engine		
Gross Power – ISO 14396	305 kW	409 hp
Net Power – SAE J1349	286 kW	384 hp

Operating Specifications		
Nominal Payload Capacity	17 200 kg	37,920 lb
Gross Machine Mass	73 816 kg	162,736 lb
Bucket Capacities		
Bucket Capacities	6.3-8.9 m^3	8.2-11.6 yd^3

Proven Powerful and Reliable Load-Haul-Dump (LHD) from Caterpillar with Scalable Emission Solutions

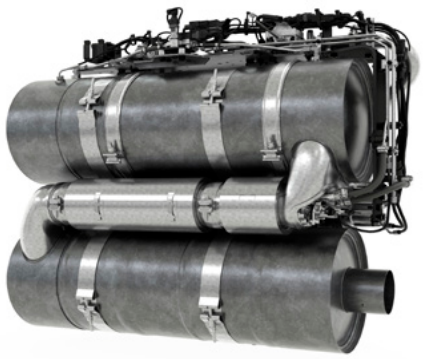
Contents

Our most popular LHD model is available with the latest emission control solutions. With its advanced, EU Stage V compliant engine and aftertreatment, the new R2900 helps improve the underground air quality, is quiet, and stays true to its heritage of long-term durability and performance.

The R2900 is a powerful new tool for underground mining.

Power Train – Engine

Emission reduction options to meet your mine's requirement.



Reliable, Quiet and Durable Power to Ensure Productivity with Clean Emissions

The efficient Cat® C15 engine provides unequalled lugging force while digging, tramming and traversing steep grades. Torque rise effectively matches transmission shift points for maximum efficiency and fast cycle times. Mechanically Actuated, Electronic Unit Injection (MEUI™) high-pressure, direct injection fuel system electronically monitors operator demands and sensor inputs to optimize engine performance. Air-to-air aftercooling provides improved fuel economy by packing cooler, denser air into cylinders for more complete combustion of fuel and lower emissions. Oil cooled pistons increase heat dissipation and promote longer piston life. The crankshaft is forged, and induction hardened for long-term durability.

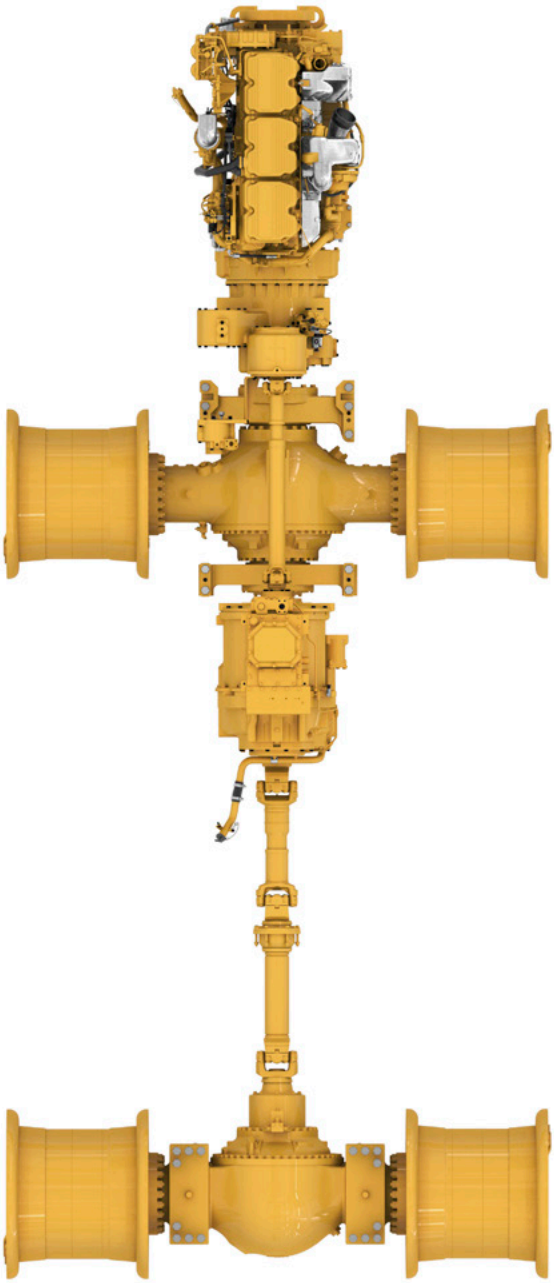
The engine with Stage V emission package is recommended for mines that require compliance with highest emission standards in underground applications or customers that require to drive down diesel particulate matter and NO_x emission to near-zero while improving overall air quality and maintaining a high machine performance. Aftertreatment components are carefully guarded and heat wrapped. The system uses regeneration to manage emissions inside the Clean Emissions Module (CEM). This solution requires the use of 15 PPM ultra-low sulfur diesel and CJ-4 low ash engine oil.

The engine with optional Ventilation Reduction Package is also available. The VR Package focuses on diesel particulate matter and it incorporates selective engine hardware and software to minimize diesel particulate matter in the engine exhaust. A Cat Diesel Particulate Filter (wall flow filter or flow through filter) can be used with the VR engine package. The filters compliment the VR engine by further reducing particulate matter in the exhaust. This solution requires the use of 15 PPM ultra-low sulfur diesel and CJ-4 low ash engine oil.

Optional Tier 3 equivalent and Stage IIIA equivalent engine is also available.

Power Train – Transmission

More power to the ground
for greater productivity.



Power Shift Transmission

The Cat four-speed planetary power shift transmission is matched with the Cat C15 diesel engine to deliver constant power over a wide range of operating speeds.

Robust Design

Designed for rugged underground mining conditions, the proven planetary power shift transmission is built for long life between overhauls.

Torque Converter Lockup Clutch

Combines maximum rimpull while in torque converter drive with the efficiency and performance of direct drive when the lockup clutch is engaged. The lockup clutch delivers more power to the wheels for superior power train efficiency.

Electronic Auto Shift Transmission

The electronic auto shift transmission increases operator efficiencies and optimizes machine performance. The operator can choose between manual or auto shift modes.

Transmission Neutralizer

Using the left brake pedal, the operator can engage the service brakes and neutralize the transmission, maintaining high engine rpm for full hydraulic flow, enhancing digging and loading functions.

Final Drives

Cat final drives work as a system with the planetary power shift transmission to deliver maximum power to the ground. Built to withstand the forces of high torque and impact loads, double reduction final drives provide high torque multiplication to further reduce drive train stress.

Hydraulics

Cat® hydraulics deliver the power and control to keep material moving.

Hydraulic System

Powerful Cat hydraulics deliver exceptional digging and lifting forces for fast cycle times.

Lift and Tilt System

High hydraulic flow rates provide fast hydraulic cylinder response and powerful lift forces. Large-bore lift and tilt cylinder delivers exceptional strength, performance and durability.

Pilot Controls

Low effort, pilot operated joystick implement control with simultaneous lift and tilt functions optimizes operating efficiency.

Optional Ride Control

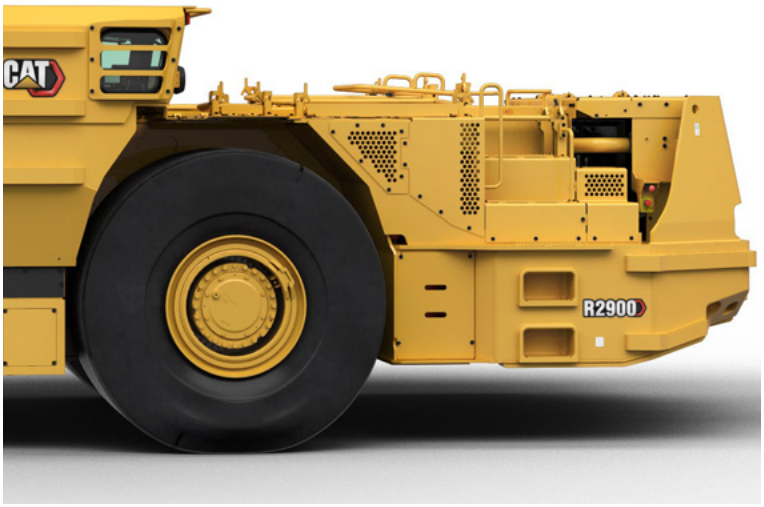
The optional ride control system uses a nitrogen filled oil accumulator in the hydraulic lift circuit to act as a shock absorber for the bucket and lift arms. The lift arm and bucket response to movement is dampened over rough ground, reducing fore and aft pitch, improving cycle times and load retention. A smoother, more comfortable ride gives operators the confidence to travel at speeds above 5 km/h (3 mph) during load and carry operations.

Cat Hydraulic Hose

Field proven Cat high pressure XT hydraulic hoses are exceptionally strong and flexible for maximum system reliability and long life in the most demanding conditions. Reusable couplings with O-ring face seals provide superior, leak free performance and prolong hose assembly life.

Structures

Rugged Cat structures – the backbone of the R2900's durability.



Frame Design

The frame is engineered to withstand extreme forces generated during loading and tramming cycles. Precision manufacturing process ensures all structures are consistently built to high quality. Deep penetration and consistent welds throughout the frame ensures structures are solidly fused to provide sturdy platform for the linkage and the axles.

The engine end frame was a complete redesign which allowed us to improve:

- The center of gravity.
- The machine's loading characteristics.
- Ride quality for the operator.

Hitch

Spread hitch design widens the distance between upper and lower hitch plates to distribute forces and increase bearing life. Thicker hitch plates reduce deflection. The wide opening provides easy service access. Upper and lower hitch pins pivot on roller bearings to distribute horizontal and vertical loads over a greater surface area. Shim adjusted preload reduces maintenance time. An on-board steering frame lock pin is fitted to prevent articulation during maintenance and service.

Sealed Pins

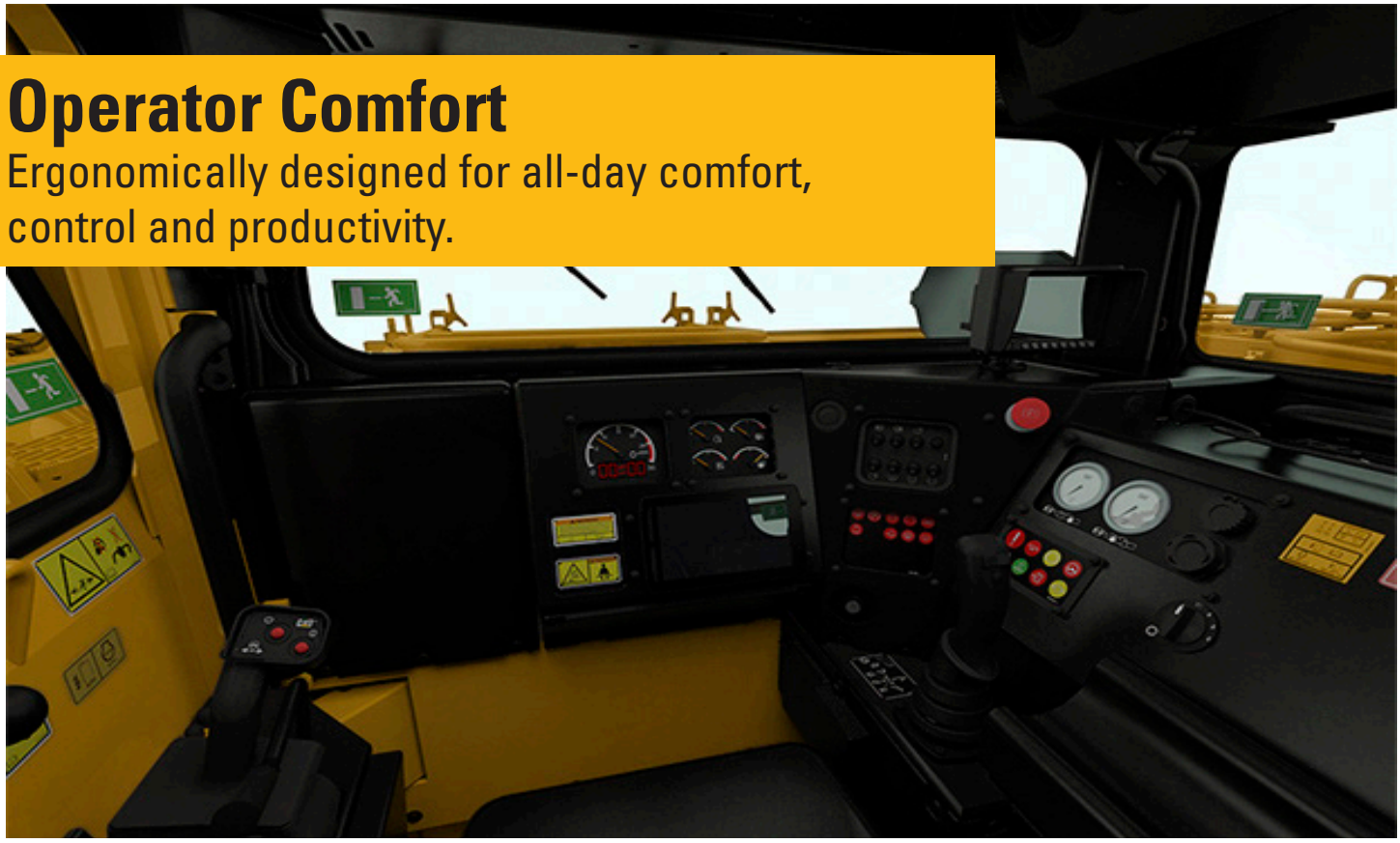
Sealed collected pins are fitted to all major bucket and lift arm hinge points for longer pin and bushing life. This reduces maintenance costs and extends service intervals. The sealed joints retain lubrication and prevent contaminant entry.

Z-bar Loader Linkage

Proven Z-bar loader linkage geometry generates powerful breakout force and an increased rack back angle for better bucket loading and material retention. Heavy duty steel lift arms with cast steel cross tube ensures extreme loads encountered during loading and tramming are efficiently dissipated for long service life.

Operator Comfort

Ergonomically designed for all-day comfort, control and productivity.



The operator station is ergonomically designed for total machine control in a comfortable, productive and safe environment. All controls, levers, switches and gauges are positioned to maximize productivity and minimize operator fatigue.

Protective Structure

Integral to the cab and frame, the Rollover Protective Structure (ROPS) and the Falling Objects Protective Structure (FOPS), are resiliently mounted to the frame to isolate the operator from vibration for a more comfortable ride.

Optional Enclosed Cab

Optional sound-suppressed ROPS cab provides a quiet, secure working environment. Large window openings offer excellent visibility in all directions. Enclosed design provides fresh, pressurized, temperature-controlled air circulation with air condition for a more comfortable working environment.

STIC™ Steering and Transmission Integrated Control

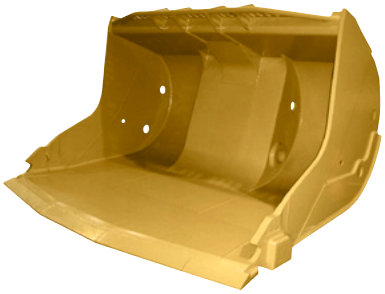
STIC provides effortless control of the machine by a single controller. Simple side-to-side motion articulates the machine. Directional shifting (forward/neutral/reverse) is controlled using a three position rocker switch. The thumb operated buttons control gear selection.

Pilot Controls

Low-effort pilot operated joystick controls integrate steering, transmission and implement functions for smoother, faster cycles with less operator fatigue. The added function of a transmission neutralizer over ride switch on the joystick provides the operator the ability to inch toward a truck when loading without having to remove their foot completely from the pedal enabling greater control of the machine.

Loader Bucket Systems

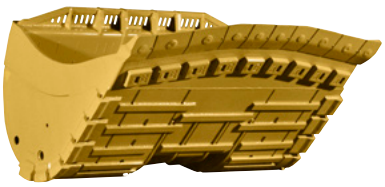
Rugged performance and reliability in tough underground mining applications.



Buckets

Cat LHD buckets deliver unmatched productivity and structural reliability to help lower your cost-per-ton.

Our bucket design is also improved with the use of two types of cast corners to help strengthen the side plate to bucket lip joint as well as allowing for various cutting edges.



Optional Wear Packages

Weld-on wear plates in high wear areas are standard. Additional wear packages, including sacrificial wear strips and Cat heel shrouds protect the edges from damage and reduce the need for costly bucket rebuilds.

Optional Cutting Edges

Cat half arrow and cast half arrow cutting edges extend bucket life in high wear applications.

Available weld-on ground engaging tools (GET) offers more wear material to maximize system wear life and bucket protection. Downtime is also reduced by an even wear rate between corners and edge segments, allowing both to be replaced at the same time.

The Cat Bolt-on Half Arrow (BOHA) GET System is another available GET option, designed for extreme conditions in abrasive environments. This system provides a longer component life and a highly reduced replacement time compared to Weld-on systems, allowing the machine to go back in production quicker.

Cat Mechanically Attached Shrouds (MAS) are also available on the R2900 buckets to provide non weld-on option for hardware selection to better suit application.

The MAS can be further protected with the installation of the Cat Mechanically Attached Wear Plates (MAWPS) to protect the bucket base and cutting edge.

Serviceability

More time for production.

Service Access

Easy access to daily service points simplifies servicing and reduces time spent on regular maintenance procedures.

Ground-Level Access

Allows convenient servicing to all tanks, filters, lubrication points and compartment drains. Electric fuel priming. Engine oil and fuel filters installed on cold side of engine.

Air Filters

Radial seal air filters are easy to change, reducing time required for air filter maintenance.

Sight Gauges

Fluid level checks are made easier with sight gauges.

Diagnostics

Caterpillar Electronic Technician (Cat ET) service tool enables quick electronic diagnosis of machine performance and key diagnostic data for effective maintenance and repairs.

Sealed Electrical Connectors

Electrical connectors are sealed to lock out dust and moisture. Harnesses are covered for protection. Wires are color and number coded for easy diagnosis and repair.

Scheduled Oil Sampling

S·O·S℠ helps avoid minor repairs becoming major ones. Sample point adapters fitted standard to machine.

Customer Support

Cat dealer services keep underground mining equipment productive.

Dealer Capability

Cat dealers will provide the level of support you need, on a global scale. Dealer expert technicians have the knowledge, experience, training and tooling to handle your repair and maintenance needs, when and where you need them.

Product Support

When Cat products reach the field, they are supported 24/7 by a worldwide network of reliable and prompt parts distribution facilities, dealer service centers, and technical training facilities to keep your equipment up and running.

Service Support

Cat equipment is designed and built to provide maximum productivity and operating economy throughout its working life. Cat dealers will be with you every step of the way with its unsurpassed worldwide parts support, trained technicians and customer support agreements.

Technology Products

Cat dealers offer a range of advanced technology products designed to improve efficiency, productivity and lower costs. Product Link™ Elite and Command for Underground options available from factory.

Replacement

Repair or rebuild? Your Cat dealer can help you evaluate the costs so you can make the right choice.

www.cat.com

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at www.cat.com.

Safety

Cat mining machines and systems are designed with safety as their first priority.

Product Safety

Caterpillar has been and continues to be proactive in developing mining machines that meet or exceed safety standards. Safety is an integral part of all machine and systems designs.

Engine Shut Off Switch

A secondary engine shutoff switch is located at ground level.

Integral ROPS Cab

Integral to the cab and frame, the ROPS is resiliently mounted to the frame to isolate the operator from vibration for a more comfortable ride.

Brake Systems

Four corner oil-cooled braking system provides excellent control. The service brake system is actuated by modulated hydraulic pressure, while the parking brake function is spring applied and hydraulic released. This system assures braking in the event of loss of hydraulic failure.

Standard Safety Features

Anti-skid upper deck surfaces, lower cab light, ground level compartment sight glasses, increased visibility, 3-point access to cab and machine, push out safety glass, suspension seat, inertia reel retractable seat belt, bucket control group safety pins, hot and cold side of engine, articulation lock, hinged belly guards.

SAFETY.CAT.COM™

For more complete information on safety, please visit www.cat.com/safety.

Manufacturing

A Focus on Quality and Safety

The R2900 is designed in Burnie Tasmania (Australia) and manufactured in Rayong Thailand.

Burnie is also home of the Caterpillar Burnie Proving Grounds where a complete Command for Underground test facility and training center is available to customers. A video of this facility is available at *www.cat.com/underground*.

The Caterpillar factory in Rayong is one of the newest manufacturing facilities at Caterpillar, with 100 percent focus given to underground hard rock mining products.

The Rayong facility was designed and built by Caterpillar, and is managed and operated by a highly skilled and uniquely diverse team who have embedded the Cat Production System into their culture.

Upon joining the team in Rayong, an employee will undergo 250 hours of training before performing their task on the line. Significantly more education is given to our welders. To ensure they succeed in their tasks, we provide our welders with the latest tooling so that our team can work ergonomically and achieve the weld penetration specified. The quality of your Cat machine starts with this team.

Each step of the manufacturing process has quality control gates, and every single employee is empowered to stop the assembly line to continuously improve safety or the manufacturing process.

A clean environment helps keep components free of contaminants and provides a better work climate. Like all Caterpillar facilities around the world, visitors are most welcome to see where and how their machines are made.

R2900 Underground Mining Loader Specifications

Engine

Engine Model	Cat C15	
Gross Power – Stage V Engine – ISO14396	293 kW	393 hp
Gross Power – VR Engine – ISO14396	305 kW	409 hp
Gross Power – Tier 3/Stage IIA Equivalent Engine – ISO14396	305 kW	409 hp
Bore	137.2 mm	5.4 in
Stroke	171.5 mm	6.8 in
Displacement	15.2 L	927.6 in^3

- Power ratings apply at a rated speed of 1,800 rpm for VR and Tier 3 equivalent model when tested under the reference conditions for the specified standard.
- Power ratings apply at a rated speed of 2,000 rpm for Stage V model engine when tested under the reference conditions for the specified standard.
- All rating conditions are based on ISO/TR14396, inlet air standard conditions with a total barometric pressure of 100 kPa (29.5 in Hg), with a vapor pressure of 1 kPa (.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 (59° F) and fuel inlet temperature 40° C (104° F).
- Minimal engine derating* required up to 2926 m (9600 ft) at rated speed for Stage V engines, 3048 m (10,000 ft) altitude for Tier 3/Stage IIIA equivalent engines, and 3505 m (11,500 ft) for Tier 2/Stage II equivalent VR engines.
- Optional Ventilation Reduction Package available.
- Optional engine with emissions equivalent to Tier 3 and Stage IIIA is also available.
- Optional engine available that meets U.S. EPA Tier 4 Final and EU Stage V emission standards.

*<5%

Noise Emissions

Cab Sound Pressure Level	80.9 +/- 2.5 dB(A)
Machine Sound Power Level	116.8 +/- 2.5 dB(A)

- The declared sound levels listed are for standard machine configurations, measured according to ISO6395:2008 and ISO6396:2008 and include measurement uncertainty due to the production variation.

Operating Specifications

Gross Machine Mass	73 816 kg	162,736 lb
Shipping Mass	56 791 kg	125,203 lb
Static Tipping Load Straight Ahead Lift Arms Horizontal	42 686 kg	94,106 lb
Static Tipping Load Full Turn Lift Arms Horizontal	36 599 kg	80,686 lb
Breakout Force – Lift	22 704 kg	50,062 lb
Breakout force – Tilt	27 346 kg	60,298 lb

Weights

Operating Mass*	52 089 kg	114,837 lb
Front Axle	22 962 kg	50,623 lb
Rear Axle	29 127 kg	64,214 lb
Operating Mass + Rated Payload*	69 289 kg	152,756 lb
Front Axle	49 872 kg	109,949 lb
Rear Axle	19 417 kg	42,807 lb

*Calculated Weight.

Transmission

Forward 1	5.1 km/h	3.2 mph
Forward 2	9.7 km/h	6.0 mph
Forward 3	17.3 km/h	10.7 mph
Forward 4	30.4 km/h	18.9 mph
Reverse 1	6.6 km/h	4.1 mph
Reverse 2	12 km/h	7.5 mph
Reverse 3	21.5 km/h	13.4 mph
Reverse 4	32.8 km/h	20.4 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

Hydraulic System Lift/Tilt

Lift/Tilt System – Circuit	Open Centre, Pilot Control	
Lift/Tilt System – Pump	Fixed Displacement Gear Pump	
Maximum Flow at 2,120 rpm	440 L/min	
Relief Valve Setting – Main	23,500 kPa	
Lift Cylinder – Bore	230 mm	9.1 in
Lift Cylinder – Stroke	747 mm	29.4 in
Tilt Cylinder – Bore	267 mm	10.5 in
Tilt Cylinder – Stroke	546 mm	21.5 in

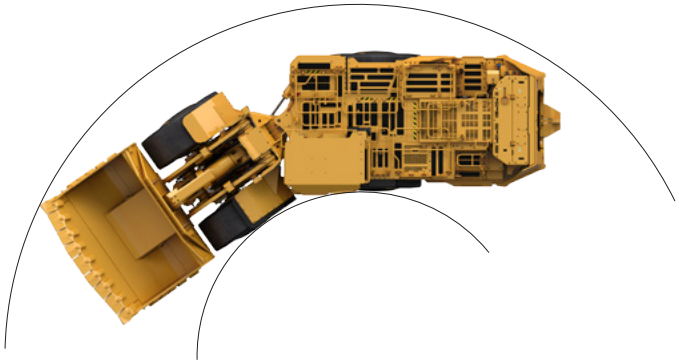
Bucket Capacities

Dump Bucket – 1	6.3 m^3	8.2 yd^3
Dump Bucket – 2 (Standard)	7.2 m^3	9.4 yd^3
Dump Bucket – 3	8.3 m^3	10.9 yd^3
Dump Bucket – 4	8.9 m^3	11.6 yd^3

R2900 Underground Mining Loader Specifications

Turning Dimensions

Outside Clearance Radius**	7323 mm	288.3 in
Inner Clearance Radius**	3401 mm	133.9 in
Axle Oscillation	8°	
Articulation Angle	42.5°	



**Clearance dimensions are for reference only.

Tires

Tire Size	29.5 R29

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	630 L	166 gal
DEF Tank	32 L	8.5 gal

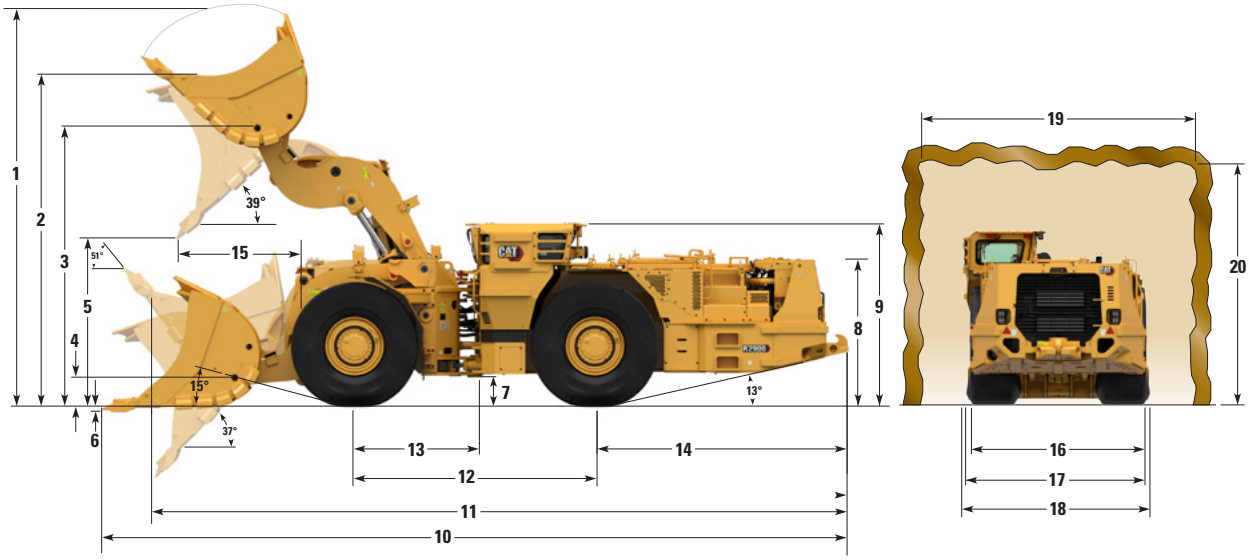
Standards

ROPS/FOPS Certified Cab

R2900 Underground Mining Loader Specifications

Dimensions

All dimensions are approximate.

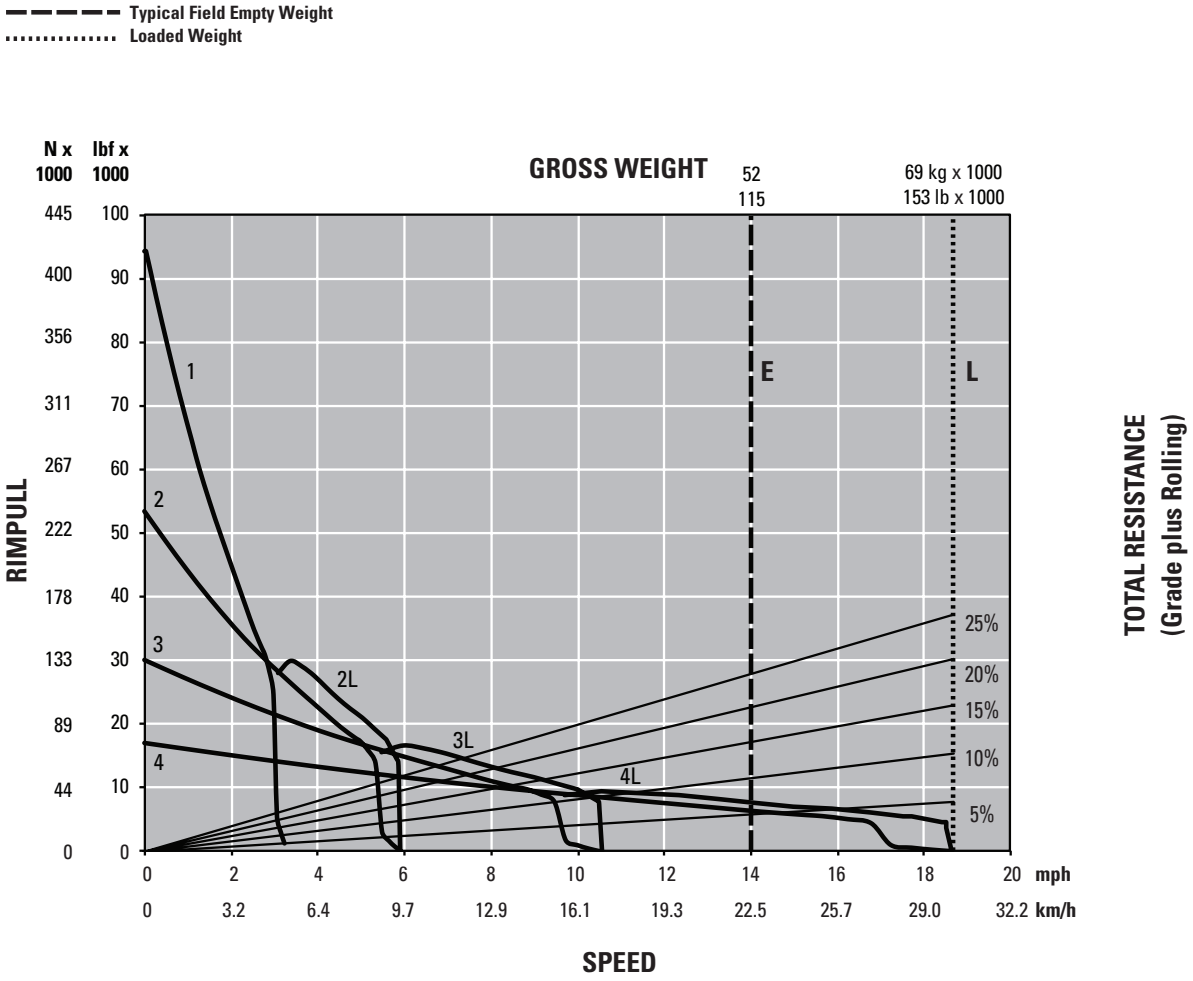


		303 8806 Dump Bucket		249 4899 Dump Bucket (Std.)		249 4892 Dump Bucket		249 4893 Dump Bucket	
	Bucket Capacity	6.3 m^3	8.2 yd^3	7.2 m^3	9.4 yd^3	8.3 m^3	10.9 yd^3	8.9 m^3	11.6 yd^3
		mm	in	mm	in	mm	in	mm	in
	Bucket Width over Cutting Edge	3054	120.2	3054	120.2	3154	124.2	3354	132.0
1	Height – Bucket Raised	5998	236.1	6179	243.3	6215	244.7	6215	244.7
2	Height – Max Dump	5400	212.6	5405	212.8	5405	212.8	5405	212.8
3	Height – Max Lift Bucket Pin	4521	178.0	4521	178.0	4521	178.0	4521	178.0
4	Height – Tramming Bucket Pin	697	27.4	697	27.4	697	27.4	697	27.4
5	Height – Dump Clearance at Max Lift	2835	111.6	2836	111.7	2699	106.3	2688	105.8
6	Height – Digging Depth	75	3.0	75	3.0	90	3.5	90	3.5
7	Height – Ground Clearance	447	17.6	447	17.6	447	17.6	447	17.6
8	Height – Top of Hood	2300	90.6	2300	90.6	2300	90.6	2300	90.6
9	Height – Top of ROPS	2873	113.1	2873	113.1	2873	113.1	2873	113.1
10	Length – Overall (Digging)	11 384	448.2	11 384	448.2	11 582	456.0	11 599	456.7
11	Length – Overall (Tramming)	11 055	435.2	11 055	435.2	11 179	440.1	11 189	440.5
12	Length – Wheelbase	3780	148.8	3780	148.8	3780	148.8	3780	148.8
13	Length – Front Axle to Hitch	1890	74.4	1890	74.4	1890	74.4	1890	74.4
14	Length – Rear Axle to Bumper	3678	144.8	3678	144.8	3678	144.8	3678	144.8
15	Length – Reach	1656	65.2	1656	65.2	1803	71.0	1817	71.5
16	Width – Overall Tire	2915	114.8	2915	114.8	2915	114.8	2915	114.8
17	Width – Machine without Bucket	3047	120.0	3047	120.0	3047	120.0	3047	120.0
18	Width – Machine with Bucket	3176	125.0	3176	125.0	3276	129.0	3476	136.9
19	Recommended Clearance Width	4500	177.2	4500	177.2	4500	177.2	4500	177.2
20	Recommended Clearance Height	4500	177.2	4500	177.2	4500	177.2	4500	177.2

Dimensions shown are nominal only with standard bucket fitted with Cat half arrow Ground Engaging Tools

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 52 089 kg (114,837 lb)
L – Loaded 69 289 kg (152,756 lb)

R2900 Standard Equipment

Standard Equipment

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

ELECTRICAL

- 12V Power Supply in Cab
- Alternator, 150-amp
- Auxiliary Start Receptacle
- Battery Disconnect Switch, Ground Level
- Circuit Breaker, 80-amp
- Corrosive Protection Spray
- Diagnostic Connector
- Electric Starting, 24-volt
- Engine Shutdown Switches
  - Rear Right Hand Side
  - Rear Left Hand Side
- External LED Lighting System, Front, Rear, Stop light, dual
- Low Maintenance Batteries
- Reversing Alarm
- Starting and Charging System

OPERATOR ENVIRONMENT

- Cat Electronic Monitoring System (Cat EMS)
- Electric Horns
- Gauges
  - Engine Coolant Temperature
  - Transmission Coolant Temperature
  - Hydraulic Oil Temperature
  - Fuel Level
  - Speedometer
  - Tachometer
- Indicator Lights
  - Alert Warning Light
  - Residual Brake Pressure
- Low Hydraulic Level Warning
- Open Operator Station ROPS/FOPS Structure
- Operator Presence System (Auto Park Brake)
- Pilot Hydraulic Implement Controls, Single Joystick
- Push Button Panel for Lights
- Suspension Seat with Retractable Seat Belt
- STIC Steering

POWER TRAIN

- Cat C15 ATAAC Diesel Engine, 6-Cylinder
- Brake Axle Cooling
- Electric Fuel Priming Pump
- Engine Air Intake Precleaner
- Engine Oil Filter, Remote Mounted
- Heat Shields
- Long Life Coolant
- Planetary Powershift Transmission with Automatic Shift Control, 4 Speed Forward/4 Speed Reverse
- Radiator, Cross Flow
- Radiator Cap Manual Release
- Rims, 5-Piece, Tubeless
- SAFR™ Full Hydraulic Enclosed Wet Multiple-Disc Brakes
- Torque Converter with Automatic Lockup Clutch
- Transmission Neutralizer
- Transmission Filter Drain Tap

OTHER STANDARD EQUIPMENT

- Brake Light
- Bucket, Dump
- Bucket Lip, Hardox 450 Bucket
- Bucket Positioner, Return To Dig
- Catalytic Exhaust Purifier/Muffler Group
- Decals, International Picto Graphics
- Fuel System
  - Single Fuel Tank, Bolt-In
  - Fuel System Manual Shut Off Taps
- Engine and Transmission Belly Guards
- Fenders, Front, Rear
- Firewall
- Handrails
  - Hand Hold (Acces On/Off Top Deck)
  - Fold Down
- Operation and Maintenance Manual – English and other applicable local languages to select
- Protection Wear Bars 100 × 50 mm (4 × 2 in)
- Semi Centralized Lubrication Points
- Rim, 5-Piece, Tubeless
- S·O·S port
  - Coolant
  - Engine Oil
  - Hydraulic Oil
  - Transmission Oil
- Swing Out Radiator Grill
- Tires and Rims: A tire must be selected from the mandatory attachments section of the machine price list. Base machine price includes a standard tubeless rim allowance only.

Optional Equipment

Optional equipment may vary. Consult your Cat dealer for details.

- Battery and Engine Shutdown Switches
  - Ground Level Isolation, In Cab Isolation Switch
  - Ground Level Isolation, Engine Shutdown Switch
  - Ground Level Isolation, In Cab Isolation, Engine Shutdown Switch
- Brake Pressure Gauges
- Brake Release Arrangements
  - Recovery Hook
  - Recovery Bar
- Buckets
  - Various Sizes, Dump ($6.3 m^3/8.2 yd^3$ to $8.9 m^3/11.6 yd^3$)
  - Bucket, Light Weight Material ($10.5 m^3/13.7 yd^3$ to $11.6 m^3/15.2 yd^3$)
  - Bucket Spill Guard
- Bucket Hardware
  - Cutting Edge, Cat Weld On
  - Cutting Edge, Half Arrow, Flat
  - Cutting Edge, Bolt-On
  - Heel Shrouds
  - Mechanical Attached Shroud (MAS)
  - Mechanically Attached Wear Plate System, Cutting Edge Protection (MAWPS)
  - Mechanically Attached Wear Plate System, Bottom Protection (MAWPS)
  - Protector Pads (Bottom of Bucket)
  - Wear Bars
  - Wear Liner
- Bucket Lip
  - Lip Fully Welded or Tack Welded
  - Lip Bare (No Hardware)
- Bolt-On Lip
  - MAS Ready (Mechanically Attached Shrouds)
- Camera, Color Rear Facing
- Cover, Anti Vandalism for Shipping
- Draw Bar Attachment, Bolt-On
- Engine Options
  - Engine, Ventilation Reduction (VR)
  - Engine, Equivalent to Tier 3
  - Engine, EU Stage V
  - After-treatment options (for use with VR Engine only)
    - DPF (Flow Through)
    - DPF (Wall Flow)
- Lighting
  - Loading
- Fast Fill System
  - Fuel
  - Coolant
  - Engine Oil
  - Hydraulic Oil
  - Transmission Oil
- Fire Suppression System
  - Ansul, Wet for Stage V
  - Ansul, Wet for VR and Tier 3 equivalent
- Fluids
  - Arctic Coolant
  - Arctic Fuel
- Front Light Protectors
- Fuel System
  - Fuel Lines Double Braided (Stainless Sleeving)
  - Fuel Lines Standard Braided (Double Braid Hydraulic Hose)
- Guard, Rear Side Quarter Window
- Hydraulic System
  - Alternate Implement/Pilot Control Configuration
- Lubrication System
  - Automatic
  - Centralized
- Operator's Station, Enclosed ROPS/FOPS
  - Air Conditioning
  - Cab Pressurizer and Filter
  - Dome Light
  - Heater
  - Radio Ready Compartment for Radio and Speakers
- Park Brake Switch Engagement
  - Push to Apply
  - Pull to Apply
- Payload Control System
  - Loadrite L2180
- Remote Control Interface (excludes Transmitter and Receiver)
  - RCT
- Radiator
  - Standard
  - High Efficiency
- Reversible Steering
- Reflective Tape
- Ride Control System
- Rim
  - Rim Identification Numbering
  - Spare (Tubeless)
- Seats
  - Seat Covers, Tee, Air and Standard
  - Suspension Seat Tee, Vinyl
  - Suspension Seat Air, Vinyl
- Secondary Steering System
- Service Tools
  - Collet Jacking Bolts
  - Recovery Bar (for use with Brake Release, Recovery Bar System)
- Switches
  - Engine Shutdown, Fire Suppression Activation
  - Idle Timer
  - Engine Shutdown/Idle Timer
- Technology
  - Command for Underground
  - Wifi (Product Link™ Elite)
- Tire Arrangements
  - Tire, 29.5 × R29 VSM L-5S Bridgestone
  - Tire, 29.5 × R29 VSDL L-5 Bridgestone
- Wear Protection Bars
  - Cab/ROPS
  - Hydraulic Tank
  - Radiator
- Windows,
  - Single Pane
  - Dual Pane

- NOTE: Not all features are available in all regions. See your Cat dealer for more information.

Notes

Notes

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at **www.cat.com**

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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.