

D7R-II

Medium Bulldozer





Applications

Airfield Repair	Road Construction
Landing Zones	Security
Route Clearance	Obstacle Reduction
Mobility	Counter-mobility

Unmatched reliability and performance for combat engineers.

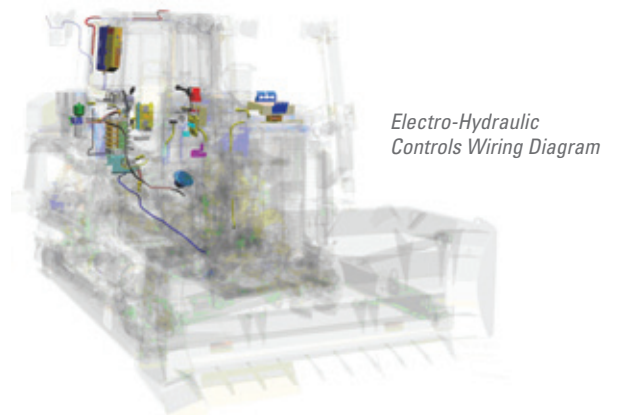
Supplies, support and security need to be provided in remote and hazardous environments. The D7R-II is purpose-built for today's engineering operations and integration-ready for the future.

With performance enabling modifications like electro-hydraulic controls, the D7R-II dozer provides the efficiency and safety needed to support the maneuverability of ground operations. It's built with unequalled power and reliability to mitigate the harshest terrain and navigate complex obstacles in its path.



Electro-Hydraulic Controls for the Future of Engineering Operations

- Improves operator productivity with AutoCarry™ semi-autonomous blade control
- Requires less training, so operators at any experience level can effectively operate the equipment
- Built with drive-by-wire technology for easy control and service



For missions requiring as much protection as performance.

Reduce risk for operators with task-focused modifications like the Cat® remote control and vision system. Whether clearing explosive hazards or rubble to enable mobility, electro-hydraulic controls and integration-ready upgrades put more distance between engineers and threats, allowing operators to effectively utilize equipment while staying out of harm's way.

Military Modifications and Technology Solutions

Cat® Remote Control

- Portable operator console
- Range 1,312.34 ft/400 m LOS
- Frequency 900 MHz or 2.4 GHz
- Remote control indicator lights up and horn sounds during training
- Conceal mode for tactical operations

Cat Vision System

- Vision system control box and 4 cameras (magnet or bolt mounted)
- 2.4 GHz IP radios range 6,561.68 ft/2000 m LOS with video and sound
- Vision system tablet displays 4-camera view: front/rear/left/right
- Optional: 1 additional camera for custom views



Military Modifications

- SU Blade
- Winch (optional)
- Multi-Shank Ripper (optional)
- C17 and C5 air transportable
- M870 and HET trailer transportable
- Armored cab with CPK (optional): 1-person or 2-person
- Removable cab and ROPS for transport
- NATO start receptacle
- Elevated sprocket undercarriage
- MIL-STD-209K lift and tie down provisions: machine, cab, ROPS, push arms and blade
- Fresh water fordable to 30 in/762 mm depth (standard)
- Rifle bracket
- CARC or special paint
- NATO-STANAG-4019 towing lugs
- Keyless engine start switch
- Military oil sampling valves
- Fire extinguisher
- Military data plates
- Remote control (optional)
- Vision system (optional)

Consult Caterpillar Defense for specific details on military modifications.



Armor Protection Solutions

The armored crew protection kit (CPK) on the D7R-II provides 360° protection for operators inside the cab. Its emergency egress hatch gives operators the ability to quickly exit the cab, while providing rescue personnel critical access to those inside. Transparent armor provides a wide field of view of the machine and surrounding areas. Cat armor protection solutions give operators the scalability they need to adapt to changing environments and conditions.

Multiple Armor Packages

1-person or
2-person CPK

Machine Armor Protection
(MAP) for critical machine
automotive components

CPK Protection Levels Available

STANAG 4569 Annex A Level 2 • Annex B Level 4

STANAG 4569 Annex A Level 3 • Annex B Level 4

MAP Protection Levels Available

STANAG 4569 Annex A Level 2 • Annex B Level 3

STANAG 4569 Annex A Level 3 • Annex B Level 3



Mine Clearing Solutions

Constructing obstacles, mitigating explosive threats or assuring the mobility of combat formations—engineers rely on the full range of work tool attachments for long-lasting strength and durability. From inside the cab or utilizing remote control capabilities, operators remain in complete control of the task.

Work Tool Attachments

V-shaped Mine Plow

Full Width Side Cast Mine Rake
(designed for sandy or loose soils)



Support and Serviceability

Upgrade Legacy Fleets with Electro-Hydraulic Control

Transform existing D7R-II Medium Dozers into highly capable machines. When equipped with mine clearing and armor protection solutions and the line-of-sight remote control and vision system, operators can maneuver the dozer safely and efficiently from a distance to complete tasks. Additional mission upgrades include armor kits, mine clearing work tool attachments and AutoCarry™ semi-autonomous blade control.

- Increases the responsiveness of dozer controls
- Improves operator effectiveness and reduces fatigue
- Remote control integration-ready
- Vision system integration-ready
- Builds the foundation for integrating future technologies

Easy to maintain. Ready for work.

Proper maintenance of your dozer will keep it running at peak performance with minimal downtime. The D7R-II is engineered with easy-to-access maintenance points and a full range of systems to ensure operators and technicians are able to efficiently diagnose and maintain the machine.

Advanced Modular Cooling System (AMOCS)

Reduce repair costs and downtime with the AMOCS individual core modules. This system allows the removal of a single core without removing the entire radiator.

Monitoring Systems

Maintain dozer readiness. Minimize the maintenance burden. On-board diagnostics allow operators to monitor engine and machine systems using electronic control modules (ECMs). The Cat Electronic Technician (ET) software allows technicians to view a complete range of equipment parameters and data logs.

Elevated Final Drive

Get longer final drive and seal life, while ensuring quick and easy service. This exclusive modular design isolates the final drives from implement and ground-induced impact, abrasive materials and moisture.

Cooling Package

Cores and fan are fully accessible from ground level for easy cleaning and maintenance.

Additional Dozer Service Conveniences

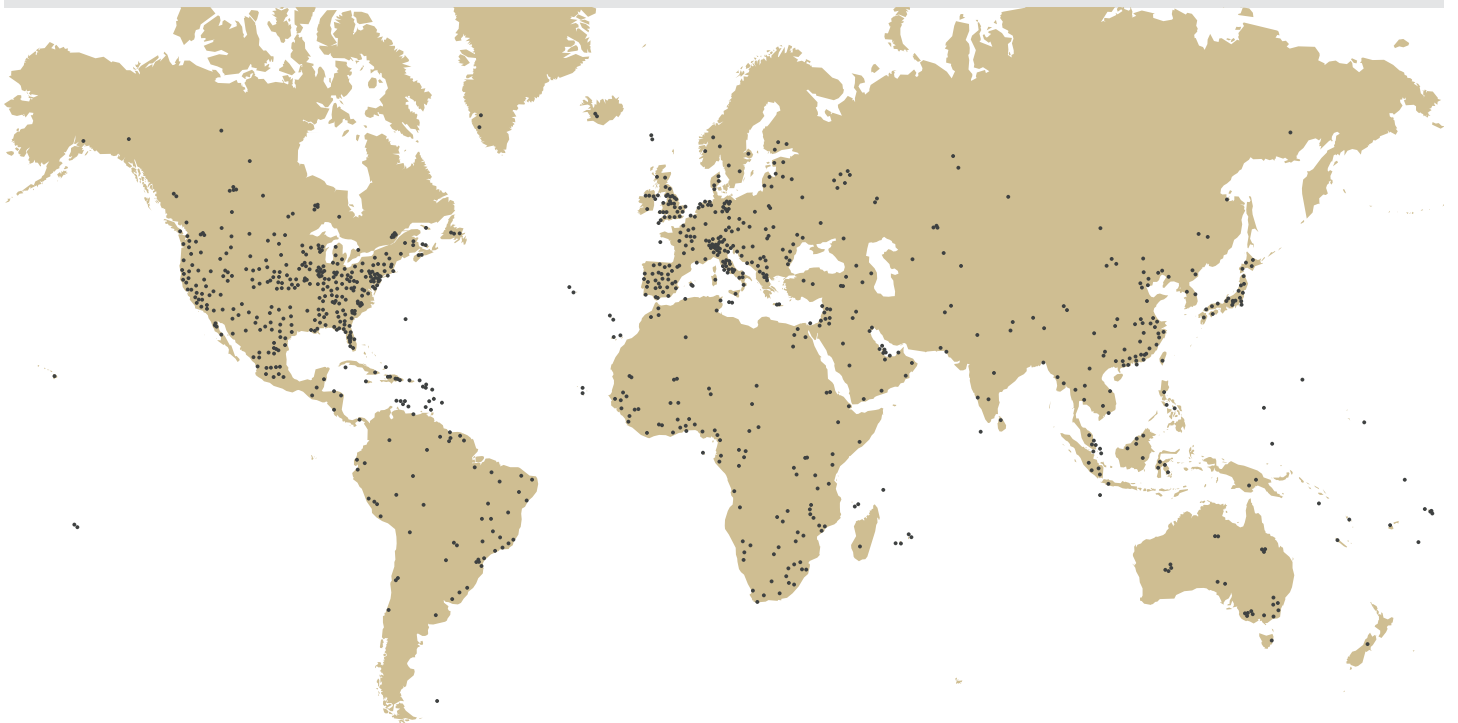
- Electric service center
- Easily visible sight gauges
- Left side engine grouped maintenance points
- Easy access to engine compartment
- Ecology drains for simple and clean fluid drainage
- Maintenance-free batteries
- Military sampling valves
- Modular major components

Worldwide Service Capabilities

Cat dealer field service technicians have the experience and tools necessary to service your machine on-site. Field service trucks are fully loaded with state-of-the-art tools and diagnostic equipment, as well as specifications and schematics for every Cat machine. Technical experts at the dealership and the Caterpillar team are available to provide assistance to field service technicians. When on-site repair isn't enough, Cat dealerships are fully-equipped to service your bulldozer quickly.

Dealer Support

The Caterpillar global network of dealers is the best in the world at providing support to keep your bulldozer up and running. With over 99% of customer orders shipped the same day, Cat dealers are partners in support.



Operating Specifications

Engine

MODEL	Cat® 3176C
Gross Power (hp/kW)	258 / 192
Flywheel Power (hp/kW)	240 / 179
Net Power - Cat (hp/kW)	240 / 179
Net Power - ISO 9249 (hp/kW)	240 / 179
Net Power - SAE J1349 (hp/kW)	238 / 177
Net Power - EU 80/1269 (hp/kW)	240 / 179
Net Power - DIN 70020 (PS)	248
Bore (in/mm)	4.9 / 125
Stroke (in/mm)	5.5 / 140
Displacement (in³/L)	629 / 10.3

Engine ratings at 2,100 RPM

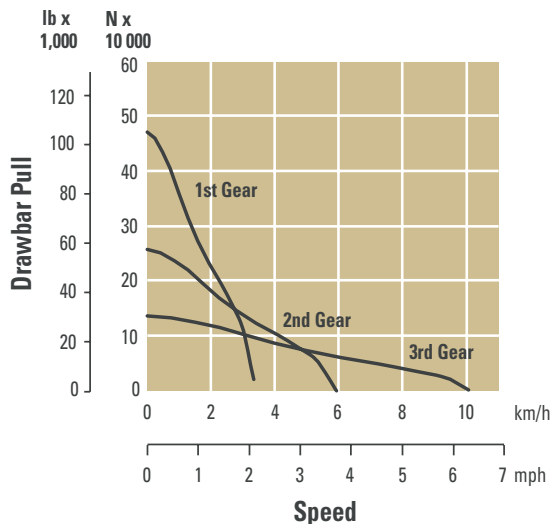
Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner muffler and alternator

No derating required up to 7,500 ft/2,286 m altitude, beyond 7,500 ft/2,286 m automatic derating occurs.

Transmission

Forward - 1st (mph/kph)	2.1 / 3.5
- 2nd (mph/kph)	3.7 / 6.1
- 3rd (mph/kph)	6.5 / 10.5
Reverse - 1st (mph/kph)	2.8 / 4.5
- 2nd (mph/kph)	4.8 / 7.8
- 3rd (mph/kph)	8.4 / 13.5

Power Shift with Differential Steer



Hydraulic Controls - Main Relief Valve Settings

Main Hydraulic Relief (psi/kPa)	6,092 / 42 000
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Hydraulic Controls - Maximum Operating Pressure

Bulldozer (psi/kPa)	3,307 / 22 800
Tilt Cylinder (psi/kPa)	2,498 / 17 225
Ripper - Lift (psi/kPa)	3,300 / 22 750
Ripper - Pitch (psi/kPa)	3,300 / 22 750
Steering (psi/kPa)	5,511 / 38 000

Service Refill Capacities

Fuel Tank (gal/L)	126.5 / 479
Cooling System (gal/L)	20.4 / 77.4
Engine Crankcase (gal/L)	8.2 / 31
Power Train (gal/L)	47 / 178
Final Drives - each (gal/L)	3.4 / 13
Roller Frames (gal/L)	6.5 / 24.6
Attachment Hydraulic System - Tank Only (gal/L)	14.3 / 54
Pivot Shaft Compartment (gal/L)	0.5 / 1.9

Hydraulic Controls - Pump

Pump Capacity (psi/kPa)	1,015 / 7000
Pump Output - Differential Steering (gpm/Lpm)	77.9 / 295
Lift Cylinder Flow (gpm/Lpm)	47.6 / 180
Tilt Cylinder Flow (gpm/Lpm)	21.1 / 80
Ripper Cylinder Flow (gpm/Lpm)	47.6 / 180

Pump speed at 2,231 RPM

Pump specifications at rated engine speed

Multi-Shank Ripper

Type	Adjustable Parallelogram
Beam Width (in/mm)	87 / 2210
Beam Cross Section (in/mm)	13.5 x 11 / 343 x 279
Maximum Penetration (in/mm)	29.4 / 748
Maximum Clearance Raised - Shank Tip (in/mm)	29.8 / 757
Number of Pockets	3
Maximum Penetration Force (lb/kg)	19,100 / 8664
Maximum Pryout Force (lb/kg)	38,513 / 17 138
Weight - 1 Shank (lb/kg)	7,431 / 3307
Weight - 3 Shanks (lb/kg)	8,091 / 3607

Bulldozer Blade Specifications

Blade Capacity - SAE J1265 (yd ³ /m ³)	8.98 / 6.86
Width - Over End Bits (in/mm)	145 / 3693
Height (in/mm)	60 / 1524
Digging Depth (in/mm)	20.7 / 527
Ground Clearance (in/mm)	45 / 1145
Maximum Tilt (in/mm)	31.4 / 799
Weight - With Push Plate (lb/kg)	4,790 / 2173

Winch Specifications

Winch Model	PA110VS Variable Speed
Weight (lb/kg)	4,176 / 1894
Winch and Bracket Length (in/mm)	57.5 / 1461
Winch Case Width (in/mm)	46.1 / 1171
Increased Tractor Length - Standard (in/mm)	29.2 / 742
Flange Diameter (in/mm)	24 / 610
Drum Width (in/mm)	13.3 / 337
Drum Diameter (in/mm)	12.5 / 318
Cable Size (in/mm)	1.0 / 25
Cable Length (ft/m)	175 / 53
Oil Capacity (gal/L)	4 / 15.1

Weights

Including Blade and Attachment	Standard D7R-II EH	D7R-II EH 1-person Armored Cab	D7R-II EH 2-person Armored Cab	D7R-II EH 2-person Armored Cab Machine Armor Package
Winch Equipped (lb/kg)	63,500 / 28 803	68,000 / 30 844	68,500 / 31 071	78,350 / 35 540
Ripper Equipped (lb/kg)	67,000 / 30 391	71,500 / 32 432	72,000 / 32 659	81,850 / 37 127

Standards

- ROPS (Rollover Protective Structure) offered by Cat for the machine meets ROPS criteria SAE J395, SAE 1040 MAY94 and ISO 3471:1994.
- FOPS (Falling Object Protective Structure) meets ISO 3449:1992 Level II.

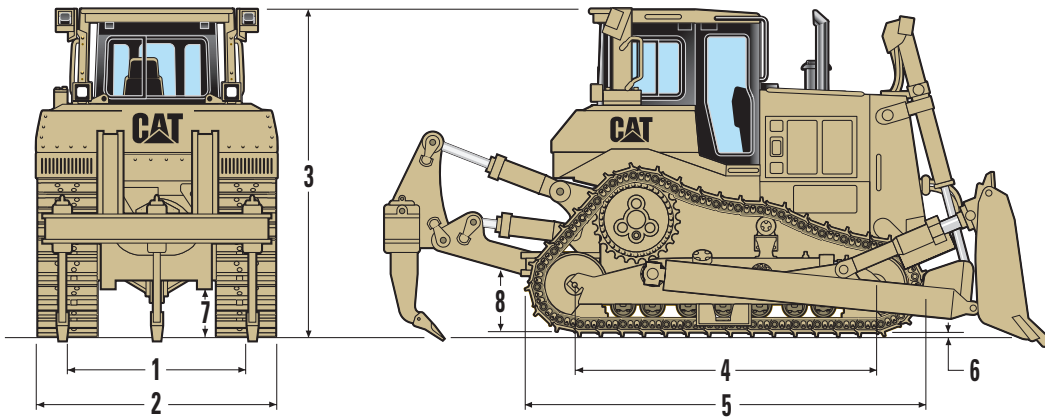
Cab

- The operator sound exposure Leq (equivalent sound pressure level) measured according to the work cycle procedures specified in ANSI/SAE J1166 OCT 98 is 83 dB(A), for cab offered by Caterpillar, when properly installed and maintained and tested with the doors and windows closed.
- Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained or doors/windows open) for extended periods or in noisy environment.
- The exterior sound pressure level for the standard machine measured at a distance of 15 meters according to the test procedures specified in SAE J88 APR 95, mid-gear-moving operation, is 86 dB(A).

Brakes

- Brakes meet the standard SAE J/ISO 10265 MARCH99.

Dimensions



1) Track Gauge (in/mm)	78 / 1981
2) Width of Tractor	
- Over Trunnions (in/mm)	113 / 2869
- Without Trunnions (in/mm)	100 / 2540
3) Machine Height from Tip of Grouser	
- Stack (in/mm)	132 / 3353
- EROPS (in/mm)	134 / 3359
4) Length of Track on Ground (in/mm)	114 / 2878
5) Length of Basic Tractor (in/mm)	186 / 4736
Length Added to Tractor	
- Ripper with Tip at Ground Line (in/mm)	47 / 1196
- Ripper with Tip Fully Raised (in/mm)	39 / 992
- Winch (in/mm)	3 / 77
- Bulldozer Blade (in/mm)	51 / 1301
6) Height of Grouser (in/mm)	2.8 / 71
- Ground Contact Area (in ² /m ²)	5,016 / 3.2
- Number of Track Shoe Width	40
7) Ground Clearance (in/mm)	16.4 / 416
- Standard Track Shoe Width (in/mm)	22 / 560
- Ground Pressure (psi/kg/cm ²)	10.9 / .766
8) Drawbar Height - Grouser Tip to Center of Clevis (in/mm)	24.9 / 634
Pitch (in/mm)	8.5 / 216
Track Rollers/Side	7

Standard Equipment

Power Train

- 3176C diesel engine (TIER 2) with EUI (electronic unit injection)
- Advanced Modular Cooling System (AMOCS)
- Air filter with electronic service indicator
- Coolant, extended life
- Fan, blower, direct drive
- Final drives, 3 planet double reduction planetary
- Fuel priming pump
- Muffler with mitered stack
- Parking brake, electronic
- Precleaner with strata tube dust ejector
- Prescreener
- Shift management:
 - Automatic directional and downshift
 - Controlled throttle, load compensating
- Starting aid, automatic ether
- Torque divider
- Transmission, electronically controlled - 3F/3R speeds
- Turbocharger, waste gate
- Water separator

Electrical

- Alternator, 95-amp brushless
- Alarm, backup
- Batteries, 2 maintenance free 12V (24V System), HD
- Converter, 12V, 10 amp with 2 power outlets
- Horn, forward warning
- Lights, 4 front, 2 rear, with guards

Undercarriage

- Track adjuster, hydraulic
- Idlers, lifetime lubricated
- Track rollers, lifetime lubricated
- End track guiding guards
- Sprocket rim segments, replaceable

Operator Environment

- Air conditioner, heater and defroster
- Armrests, adjustable
- Cab, sound suppressed
- Differential steering control with touch shift
- Distance travel indicator, electronic
- Electronically controlled blade and ripper control
- Electronic Monitoring System (EMS) with coolant temperature, power train oil, hydraulic oil and fuel gauge, tachometer, odometer, gear indicator and diagnostic functions
- Hour meter electronic
- Mirror, rearview
- Pedal, decelerator
- Seat, adjustable contour suspension
- Seat belt, retractable 3 in/76 mm
- Wipers, intermittent

Other Standard Equipment

- Auto carry blade control
- Oil cooler, hydraulic
- Lift and tie downs
- NATO start receptacle
- Fire extinguisher
- CARC paint
- Data plates and stencils
- Sampling valves
- Lubrication plate
- Shipping data plate
- Cab lift provisions
- Mount group, rifle
- Tow lugs
- Keyless start switch
- Inclinator
- Messenger screen
- UID Labels
- Remote Control capable

*Standard equipment may vary.
Consult Caterpillar Defense for details.*

*All dimensions are approximate and may vary with configuration.
Specific military service configurations are available upon request.*

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Materials and specifications are subject to change without notice. Featured machines may include additional equipment. See your account manager for available options.

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