D7R Series 2

Track-Type Tractor



Engine		
Engine Model	Cat® 3176C	
Gross Power	192 kW	258 hp
Flywheel Power	179 kW	240 hp
Weights – Standard		
Operating Weight	25 304 kg	55,786 lb
Shipping Weight	20 630 kg	45,479 lb

D7R Series 2 Track-Type Tractor

The D7R Series 2 power, response, and control deliver more production at lower cost-per-yard.

Engine

The rugged, easy-to-service 3176C engine features the electronically controlled, direct injection fuel system for improved fuel efficiency and reduced emissions. **pg. 4**

Advanced Modular Cooling System (AMOCS)

AMOCS utilizes an exclusive two pass cooling system and increased cooling surface area to provide significantly more cooling efficiency than conventional systems. **pg. 5**

Drive Train

Matched with the electronic engine control, the Caterpillar® electronic transmission control allows the power train to work more intelligently. **pg. 6**

Undercarriage

With the elevated sprocket design, the final drives are located above the work area, isolating them from ground induced impacts. The different undercarriage configurations allows you to match the machine to the application. **pg. 13**

Integrated Electronic Solutions

Caterpillar offers technology options such as Product Link and AccuGrade® Laser Grade Control System that provide greater accuracy, higher productivity, lower operating costs and more profitability. **pg. 14**

Serviceability

Major components have a modular design for excellent serviceability and fast in-field component exchange. **pg. 15**

Engineered for demanding work.
The D7R Series 2 is designed to be productive in a variety of applications.
It keeps material moving with the reliability and low operating costs you expect from Cat machines.



Operator's Station

The comfortable operator's station provides excellent viewing area to the blade and rear of the machine for maximum operator productivity. Controls are low-effort and easy to reach. **pg. 8**

Work Tools

Caterpillar offers a variety of work tools to equip your D7R Series 2 with the versatility needed to accomplish the job quickly and efficiently. **pg. 10**

Structure

Mainframe is heavy, strong and durable. Full box sections, steel castings and continuous rolled rails provide durable support to the undercarriage, elevated final drives and other integral frame components. **pg. 12**

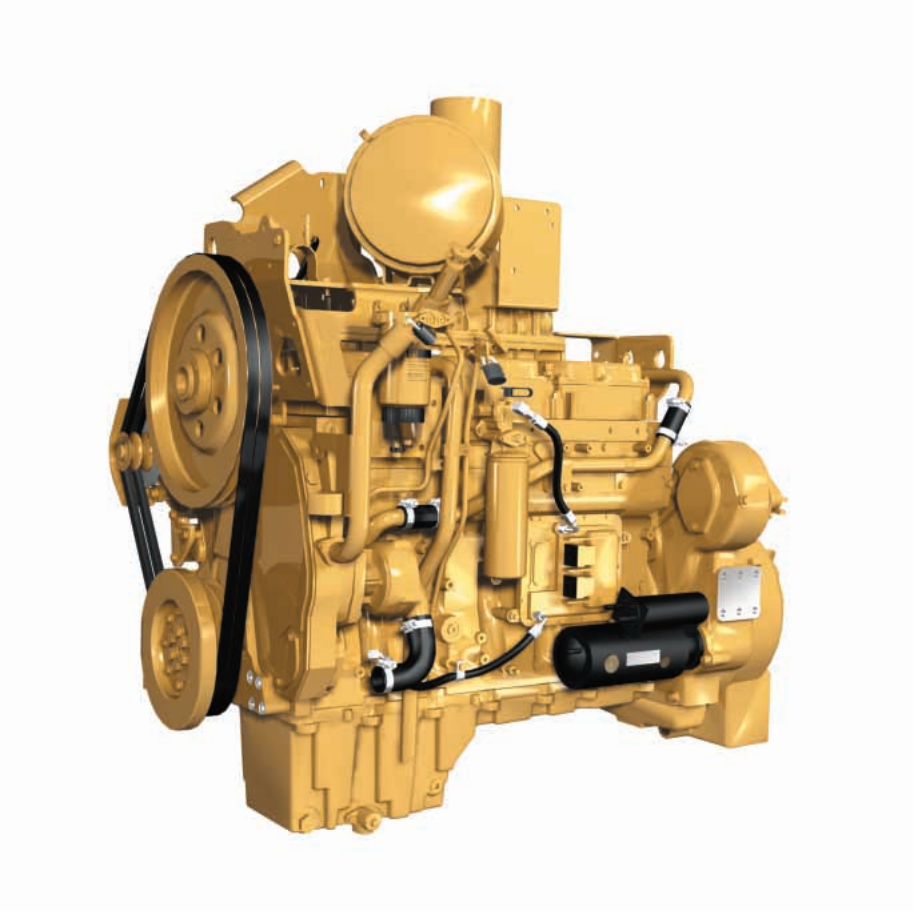


Total Customer Support

Your Cat Dealer offers a wide range of services that can be set up under a customer support agreement when you purchase your equipment. The dealer will help you choose a plan that can cover everything from machine and attachment selection to replacement, helping you get the best return on your investment. **pg. 16**

Engine

The 3176C engine, matched with the torque divider and field proven power shift transmission, provides years of dependable service.



3176C Engine Features:

- Higher efficiency turbocharger for improved airflow.
- Fuel/Air Ratio Control to minimize acceleration smoke.

Electronic Unit Injector (EUI). The mechanically-actuated, electronically controlled unit injector combines an electronic actuator, pump assembly and nozzle into a single, compact unit for reliability and durability. The 3176C fuel system has been tested in thousands of engines in some of the most demanding applications and environments around the world.



Cylinder Block. Engine durability begins with its foundation - the engine block. The serpentine design of the 3176C block provides maximum strength in a reduced weight design. It is a single-piece, deep-skirted design that provides a solid base for the durability you require in today's D7R Series 2.

Cylinder Head. The 3176C cylinder head is designed for maximum breathing, which helps ensure excellent fuel efficiency. This one-piece, stress-relieved, gray-iron casting has four valves per cylinder. Robust intake and exhaust valves aid airflow and provide excellent reliability and fuel efficiency.

Pistons. The two-piece, articulated piston design consists of a forged-steel crown for maximum strength and a cast aluminum skirt to reduce weight. A large piston pin holds the crown, skirt and connecting rod together. The aluminum skirt runs cooler than conventional pistons, allowing a closer fit to the cylinder liner and providing longer life. The steel crown handles the higher internal pressures of today's engines.

Crankshaft. The crankshaft is a steel forging with induction-hardened journals and fillets. The wide center and end main journals and bearings are designed to maintain maximum oil film thickness for excellent lubrication and for cooling the bearings. The result is long life-to-overhaul.

Advanced Modular Cooling System (AMOCS)

AMOCS utilizes an exclusive two pass cooling system and increased cooling surface area to provide significantly more cooling efficiency than conventional systems.

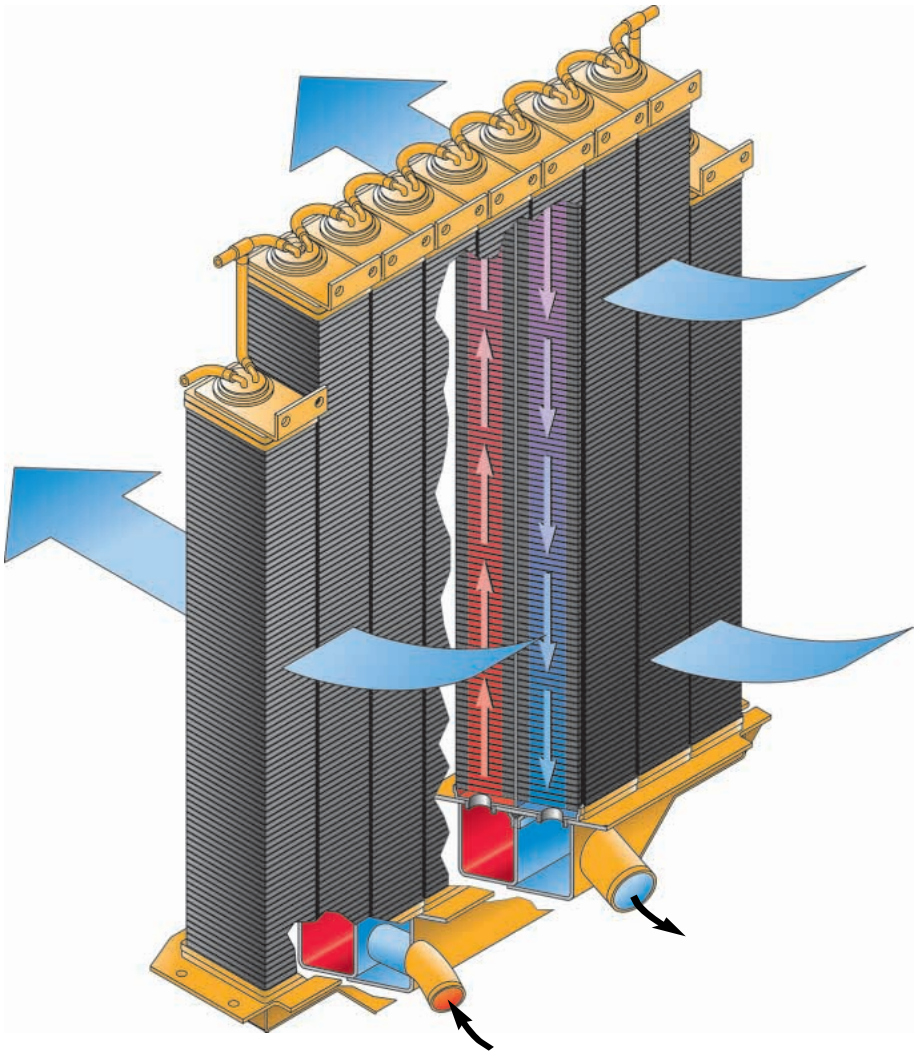
Two Pass Cooling System. Using a two pass system, the AMOCS radiator provides a more efficient heat exchange. The coolant is routed from a sectioned bottom tank up the front side, over the top of the core and down the engine side of the core to the bottom tank. This flow pattern allows the coolant to pass through the radiator twice for better cooling.

Modular Design. The cooling elements are individual core modules that are connected to a sectioned bottom tank. There is no top tank to remove.

- Standard 9 steel fins per 2.54 cm (1 in), or an optional 6 steel fins per 2.54 cm (1 in).
- Brass tube construction within each core for improved reliability.

Separate Circuit Aftercooling. The D7R Series 2 features a Separate Circuit Aftercooler. Two of the AMOCS cores are dedicated to the aftercooler coolant circuit to achieve cooler inlet air temperatures, which increases performance and improves engine emissions. A separate water pump is used to circulate the aftercooler coolant.

Serviceability. The modular core design permits removal of a single core without removing the entire radiator, which reduces repair costs and downtime. AMOCS also eliminates the top tank, side channels and one sealing surface, making it more reliable and easier to service. It also features a site gauge for quick service checks.

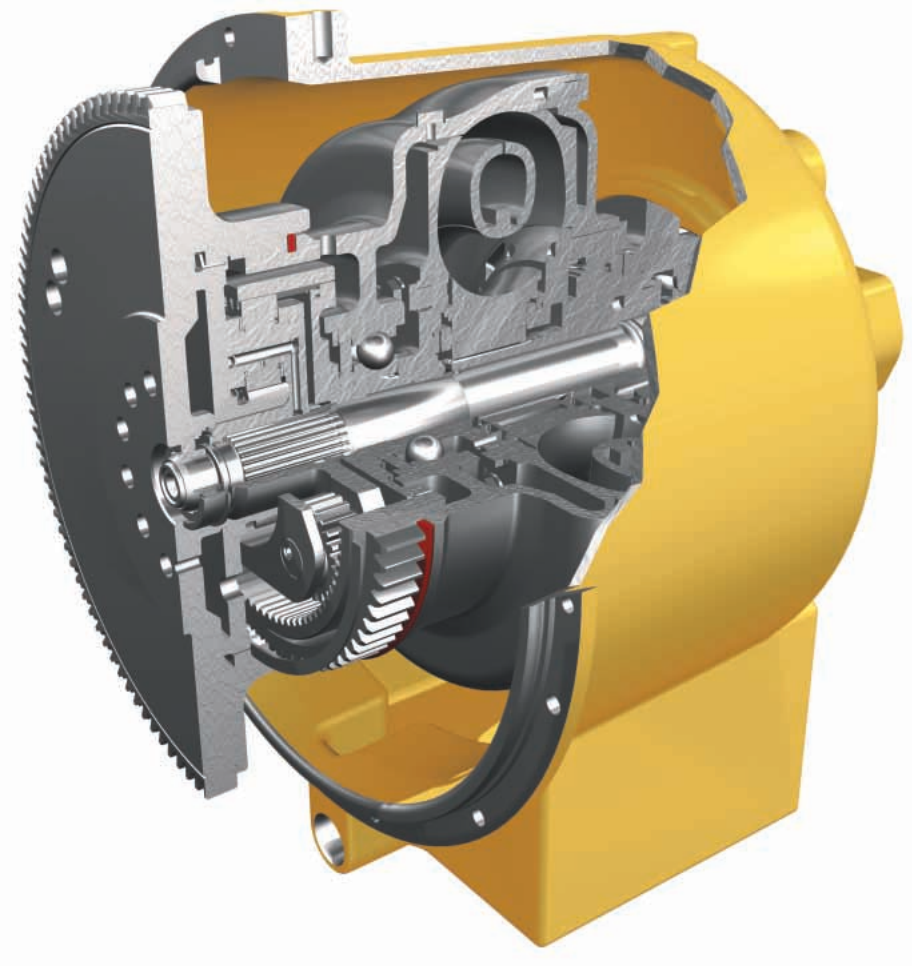


Protection From Leaks. To reduce the potential for coolant leaks, brass tubes are welded to a large, thick header, improving strength of the tube-to-header joint. In conditions where abrasive materials can be airborne, the attachment sand blast grid should be used to prevent core damage.

Sand Blast Grid. In an application where airborne debris is prevalent, radiator core protection is a concern. To extend radiator life in harsh applications, a sand blast grid is available as an option to deflect the damaging debris the engine fan propels at the radiator.

Drive Train

Getting maximum power to the ground with the efficiency and reliability you expect from Cat machines.

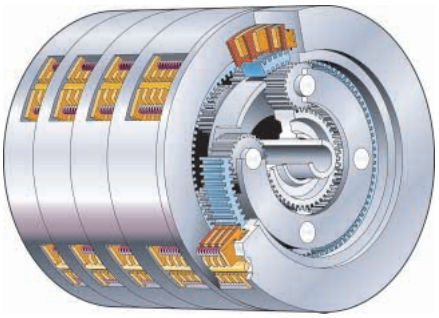


Torque Divider. An improved single-stage torque converter sends 70% of engine torque through a converter and 30% through a direct drive shaft for greater driveline efficiency and higher torque multiplication. The torque divider provides improved efficiency and broader range of performance in second gear dozing and scraper pushloading.

Key Benefits Of Torque Divider.
The D7R Series 2 torque divider provides:

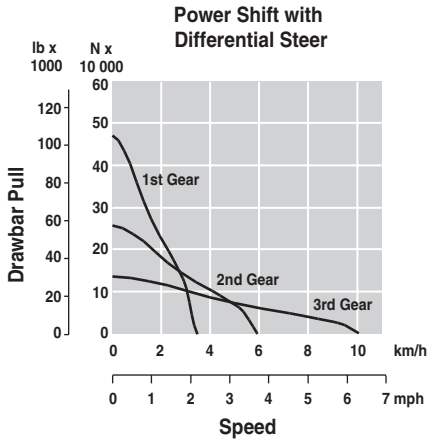
- High reliability.
- Proven component design.
- Low dynamic torque.
- Optimum combination of operator efficiency and driveline reliability.
- Components are designed to absorb full engine power.
- High torque multiplication to get heavy loads moving.

Operating Efficiency And Driveline Reliability. The D7R Series 2 torque divider attains the best combination of operating efficiency and driveline reliability. It reduces dozing shock loads to the transmission and final drives by acting as a hydrodynamic component between the engine and transmission.



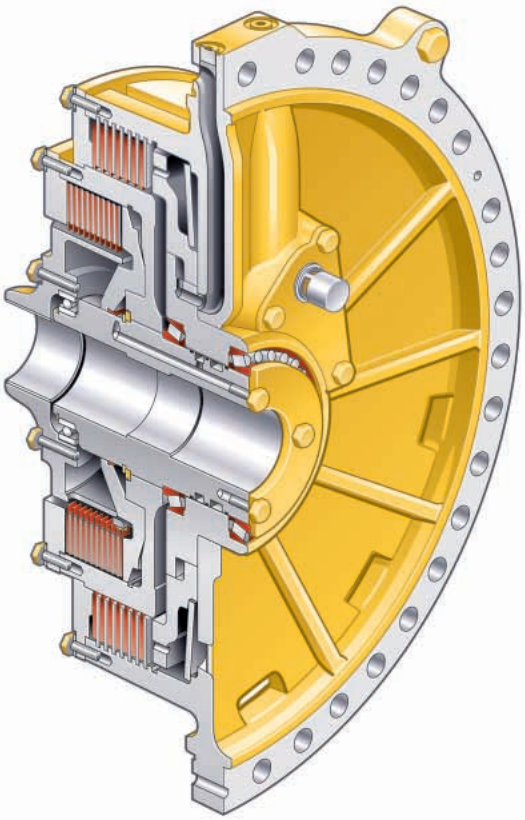
Transmission. The D7R Series 2 planetary power shift transmission features three speeds forward and three speeds reverse and utilizes large diameter, high-capacity, oil cooled clutches. To maximize the life of the transmission the planetary design distributes loads and stresses over multiple gears.

- Controlled throttle shifting regulates engine speed during high energy directional shifts for smoother, more comfortable operation and longer component life.
- Electronic modulations system permits fast speed and direction changes.
- Modular transmission and bevel gear slide into rear case for servicing ease, even with ripper installed.
- Oil-to-water cooler for maximum cooling capacity.
- Forced oil flow lubricates and cools clutch packs to provide maximum clutch life.



Drawbar Pull vs Ground Speed. As loads on the tractor increase, the D7R Series 2 offers unmatched lugging capability and smooth shifting as the need occurs to change gears under varying loads. The 3-speed forward, 3-speed reverse transmission offers excellent runout speeds.

Differential Steering. A D7R Series 2 equipped with differential steering maintains power to both tracks while turning. The tractor turns when one track speeds up and the other slows down an equal amount. The operator can steer and control the transmission simultaneously, which can reduce cycle times in some applications. The differential steering tiller bar has touch shift buttons for upshifts and downshifts. The tiller bar itself is easily rotated forward or reverse to change the respective tractor direction. The tiller bar is moved forward to steer the tractor to the left and pulled back to go right. Low tiller bar efforts assure operator comfort during long shifts. Large blade loads can be maneuvered around buildings, bridge abutments, trees or other obstacles. Steering modulation is also optimized for precise control in these applications. Greater load capacity, power and speed control are possible in soft underfoot conditions on steep slopes because both tracks are powered during turns.





Elevated Final Drive. Isolates final drives from ground and work tool induced impact loads for extended power train life.

Auto-Shift/Auto-Kickdown. Auto-shift allows the operator to pre-select a forward and reverse gear for easy, efficient directional changes. Auto-shift settings include first forward to second reverse, second forward to second reverse and second forward to first reverse. Auto-kickdown allows the transmission to automatically downshift when significant load increases are detected.

Operator's Station

The D7R Series 2 operator station is designed for comfort and ease of operation.



Cab. Isolation-mounted, pressurized cab reduces noise and vibration for operator comfort.

Clear Working View. Operator has an excellent view to the blade and rear of the machine for maximum operator productivity. The tapered hood gives the operator a clear line of sight to the front work area. The low rear window lets the operator see the ripper tip. The large single-pane door windows allow the operator to see both ends of the blade.

Interior Amenities. The D7R Series 2 operator's station interior storage and amenities include:

- Intermittent windshield wipers (optional).
- Storage area behind seat for first aid kit.
- Lunchbox tie-downs.
- Cup holder and ashtray.
- Standard 24 to 12 volt converter.
- Two power point plug-in receptacles behind seat.
- Perimeter-mounted headliner with integral pre-wired radio mount, speakers and antenna.
- Steep slope foot pads.
- Storage compartment for personal items.
- Adjustable armrests.
- Padded consoles for side slope operations.
- Sliding Windows.

Dash. An informed operator is a productive operator. With a newly designed dash, the operator will be kept informed of the machine status and system information. The analog gauges are easy to read and a warning lamp keeps the operator aware of any action that is needed. A new feature for the D7R Series 2 is the addition of the foot pads on the dash. These foot pads help the operator stay confident and comfortable during slope applications.

Electronic Steering And Transmission Control. The D7R Series 2 has standard Differential Steering, which gives the D7R Series 2 the maneuverability and control that operators need to match to the applications. The touch buttons on the steering control shifts the electronically controlled powershift transmission.

Work Tool Controls. Low effort pilot operated hydraulics for the work tools make the D7R Series 2 easy to operate and provides sure, precise blade control with less operator fatigue. Lower lever efforts and ergonomically shaped blade and ripper control handles provide increased operator comfort during long shifts.



Work Tool Lockout Rocker Switch. When engaged, the lockout prevents inadvertent operation of the hydraulic work tool attachments.

Throttle Rocker Switch. A rocker switch control sets the high or low idle with a touch of the finger. A decelerator pedal gives the operator full control of engine speed when the rocker switch is in the high idle position.

Caterpillar Comfort Series Seat. The D7R Series 2 features a new Cat Comfort Series Seat for increased operator comfort and reduced operator fatigue. The seat is fully adjustable and designed for comfort and support. The seat and back cushions are thicker and designed to reduce pressure on the lower back and thighs while allowing unrestricted arm and leg movement.

Work Tools

Caterpillar D7R Series 2 work tools are designed to provide flexibility to match the machine to the job.



Dozers. With moldboard construction and hardened bolt-on cutting edges, Caterpillar bulldozer blades load easily and are durable. In tough applications, Caterpillar blades resist torsional bending and distortion thanks to their high-tensile strength.

Universal Blade. The U blade is efficient at moving big loads over long distances. It's ideal for light or relatively easily dozed material.

Semi-Universal Blade. Built for tough applications where penetration is more important than capacity. The SU blade is more aggressive in penetrating and loading material than the U blade. The blade wings are designed for superior load retention and penetration. It can be configured with a push plate for pushloading scrapers.

Straight Blade. The S blade provides excellent versatility. Since it is physically smaller than the SU or U blade its easier to maneuver and can handle a wide range of materials. The S blade is more aggressive when penetrating hard materials.

Angle Blade. The angle blade is mounted to a C-frame, using a pinned connection which permits blade angling and tilting, left or right.

Cutting Edges. In tough applications, high-tensile strength Cat DH-2 steel cutting edges resist torsional bending and distortion. End bits are DH-3 to provide maximum service life in tough materials.

Load Sensing Hydraulics.
The D7R Series 2 features field-proven load-sensing pilot controlled hydraulics, which respond to operating requirements by automatically and continually adjusting attachment hydraulic power.

Multi-Shank Ripper. The multi-shank parallelogram ripper is adjustable and lets you choose one, two or three shanks depending on job conditions.



Winches.

- Variable line pull and line speed.
- Hydraulically driven winch for precise load control during real in or real out.
- Inching control through modulation of variable displacement pump and motor.
- Dual braking system provides a static brake with a sprag clutch to eliminate fall back and a brake valve for dynamic braking.
- Single lever joystick control for ease of operation and reliable performance with no cable nor linkage adjustments.
- Three roller fairlead is standard.

Rear Counterweights. Rear counterweights may be needed to maximize balance for backing up steep slopes or increasing performance in heavy dozing applications. Recommended if other rear attachment is not specified.



Drawbar. D7R Series 2 can be equipped with a drawbar for applications such as:

- Disks.
- Compactors.
- Chopper wheels.
- Pull-type scrapers.
- Retrieving other equipment.

Forestry Sweeps. In applications where tree limbs can damage a machine, optional forestry sweeps are available to protect your investment. Sweeps help shield intake air cleaners, exhaust stack, cab windows, and lights from damage.

Structure

Engineered and built to give solid support in the most demanding work.



Frame And Castings. The D7R Series 2 frame is built to absorb high impact shock loads and twisting forces. Castings provide added strength to the main case and equalizer bar saddle.

Tag-Link. The tag-link blade mounting brings the blade closer to the machine for excellent maneuverability, machine balance and blade penetration. The tag-link design provides solid lateral stability and better cylinder positions for constant pryout independent of blade height. The tag-link also eliminates the need for diagonal bracing because it transfers side loads to the mainframe instead of the dozer pusharms.

Pivot Shaft. The pivot shaft runs through the mainframe and connects to the roller frames for independent oscillation. The full-length pivot shaft distributes impact loads throughout the case, reducing bending stresses on the case. This design eliminates alignment problems and the need for diagonal braces on the roller frames. Caterpillar track-type tractors set the industry standard for mainframe durability.



Equalizer Bar. The pinned equalizer bar gives the roller frames the ability to oscillate up or down to better match ground contours while providing maximum traction and operator comfort. Equalizer bar end pins are oil filled with limited slip seals for longer life and reduced repair costs.

Undercarriage

The Caterpillar elevated sprocket undercarriage arrangements allow optimized balance for the best possible performance in each application.

Undercarriage Arrangements.

Standard arrangement

- A general-purpose undercarriage that performs well in many applications with firm underfoot conditions.

XR arrangement

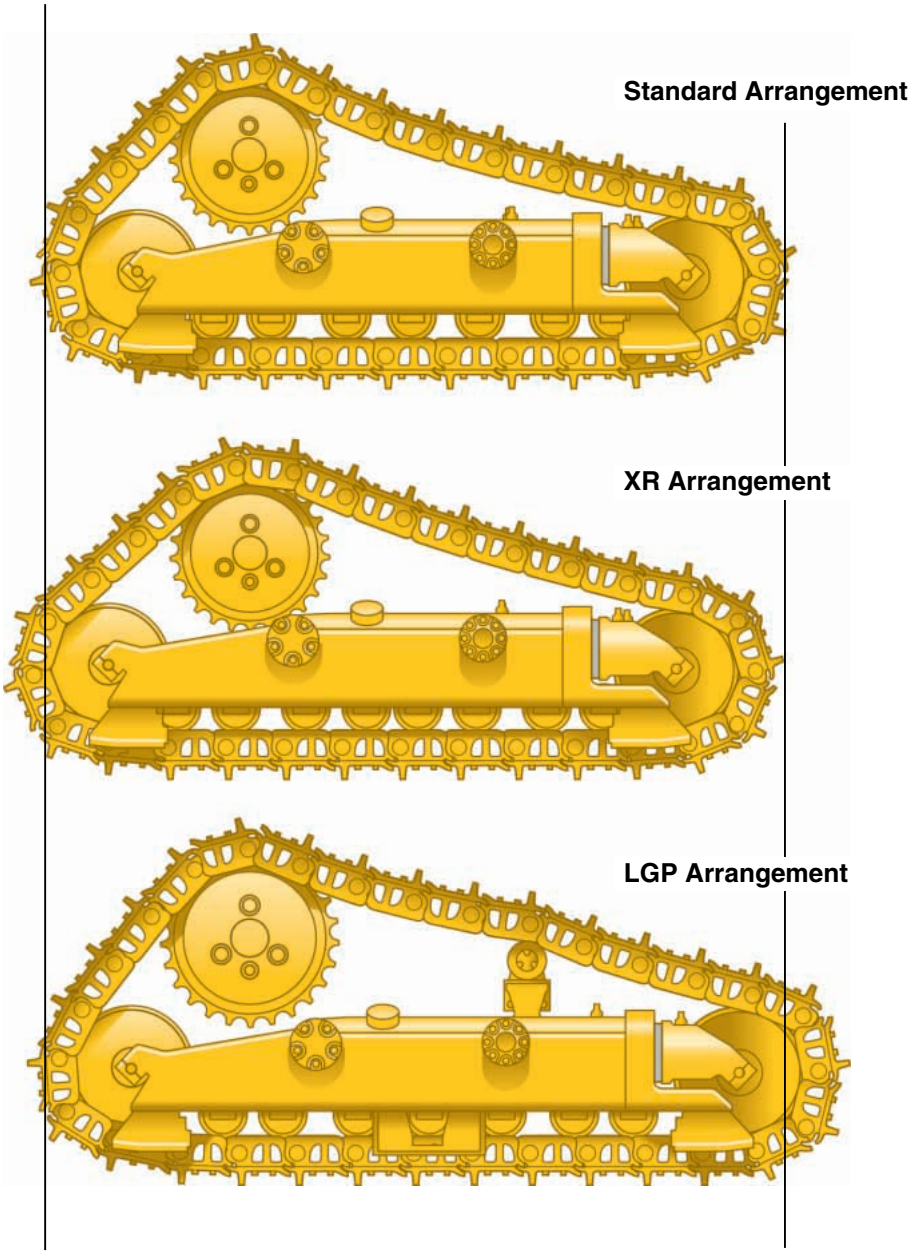
- More track to the rear positions the tractor's weight forward, which increases traction and stability for drawbar, skidding, and ripping applications.

LGP arrangement

- Specially designed to work in soft and spongy conditions. Wide track shoes, long track frames, and a wider gauge increases track contact area and reduces ground pressure for improved stability providing excellent floatation in swampy conditions.

Roller Frames. Roller Frames are tubular, to resist bending and twisting, with added reinforcement where operating loads are the highest.

- Roller frames attach to tractor by a pivot shaft and pinned equalizer bar.
- Large pivot shaft bushings operate in an oil reservoir.
- Resilient pads restrain equalizer bar oscillation.
- The recoil system is sealed and lubricated.



Integrated Electronic Solutions

Caterpillar technology offers customers new opportunities for efficiency and profitability.



AccuGrade® Grade Control System. The AccuGrade System allows operators to grade and fill with increased accuracy without the use of traditional stakes or grade checkers. Using advanced laser or Global Positioning System (GPS) technology, machine-mounted components and an off-board transmitter, the AccuGrade System significantly improves the productivity and accuracy of grading equipment by as much as 50 percent over conventional methods.



AccuGrade System Cost Savings. Grade is reached in fewer passes so owning and operating costs are reduced. Fewer grade stakes are required and re-staking is virtually eliminated realizing a 90 percent cost savings. Higher accuracy means savings in imported material. Productivity is increased up to 50 percent and can be maintained all day so more jobs can be scheduled with more scheduling flexibility.



Product Link. The optional Product Link system is factory installed or easily retrofitted wireless system that simplifies equipment fleet tracking. Using satellite or cellular technology, the system automatically reports key machine parameters such as location, machine hours, active and logged service codes and security alarms. Depending on the Product Link version, it can connect with other on-board systems, issue e-mail or pager alerts and provide fuel consumption data.



Cat Machine Security System (MSS). MSS uses electronically coded keys selected by the customer to limit usage by individuals or time parameters. MSS deters theft, vandalism and unauthorized usage. Each machine system can store up to 255 keys and each key can be used on as many machines as desired. MSS can be controlled by a customer's Personal Data Assistant. Field installation is available.

Serviceability

Simplified service means more productive uptime.

Built-In Serviceability. Less service time means more working time. Major components are made as modules and most can be removed without disturbing or removing others.

Cooling System. AMOCS individual cooling elements allow radiator servicing without major component removal, saving considerable time and cost.

Caterpillar Monitoring System. The D7R Series 2 features a more flexible monitoring system that is easily upgraded by flashing software rather than replacing the module. As technology changes and new electronics and software become available, this upgraded monitoring system will allow the machine to be easily updated and take advantage of improvements. The Caterpillar Monitoring System is designed to:

- Allow easy upgrades.
- Reduce the parts cost.
- Reduce downtime.
- Match software to unique application needs.

Diagnostic Connector. Diagnostic connector allows Caterpillar dealers to quickly troubleshoot the D7R Series 2 or access stored data with the use of Electronic Technician (ET) or ECAP.



Pressure Test Points. Pressure test points for power train and hydraulic systems are provided.

Ecology Drains. Ecology drains provide an environmentally safer method to drain fluids. They are included on the radiator, hydraulic tank and major power train components.

Fast Fuel System. The D7R Series 2 includes an optional fast fuel fill attachment with positive fuel shut-off to prevent fuel spillage.

Total Customer Support

Unmatched in the industry!



Services. Your Cat Dealer offers a wide range of services that can be set up under a customer support agreement when you purchase your equipment. The dealer will help you choose a plan that can cover everything from machine and attachment selection to replacement, to help you get the best return on your investment.

Product Support. You will find nearly all D7R Series 2 parts at our dealer parts counter. Cat Dealers utilize a worldwide computer network to find in-stock parts to minimize machine down time. Save money with remanufactured parts. You receive the same warranty and reliability as new products at cost savings of 40 to 70 percent.

Service Capability. Whether in the dealer's fully equipped shop or in the field, you will get trained service technicians using the latest technology and tools.

Selection. Make detailed comparisons of the machines you are considering before you buy. How long do components last? What is the cost of preventive maintenance? What is the true cost of lost production? Your Cat Dealer can give you precise answers to these questions.

Purchase. Consider the financing options available as well as day-to-day operating costs. This is also the time to look at dealer services that can be included in the cost of the machine to yield lower equipment owning and operating costs over the long run.

Operation. Improving operating techniques can boost your profits. Your Cat Dealer has training videotapes, literature and other ideas to help you increase productivity.

Replacement. Repair, rebuild or replace? Your Cat Dealer can help you evaluate the cost involved so you can make the right choice.

Maintenance. More and more equipment buyers are planning for effective maintenance before buying equipment. Choose from your dealer's wide range of maintenance services at the time you purchase your machine. Repair option programs guarantee the cost of repairs up front. Diagnostic programs such as Scheduled Oil Sampling and Technical Analysis help you avoid unscheduled repairs.

Engine

Engine Model	Cat 3176C	
Gross Power	192 kW	258 hp
Flywheel Power	179 kW	240 hp
Net Power - Caterpillar	179 kW	240 hp
Net Power - ISO 9249	179 kW	240 hp
Net Power - SAE J1349	177 kW	238 hp
Net Power - EU 80/1269	179 kW	240 hp
Net Power - DIN 70020	248 PS	
Bore	125 mm	4.9 in
Stroke	140 mm	5.5 in
Displacement	10.3 L	629 in^3

- Engine Ratings at 2100 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 2286 m (7500 ft) altitude, beyond 2286 m (7500 ft) automatic derating occurs.

Transmission

1 Forward	3.52 kph	2.19 mph
2 Forward	6.10 kph	3.79 mph
3 Forward	10.54 kph	6.55 mph
1 Reverse	4.54 kph	2.82 mph
2 Reverse	7.85 kph	4.88 mph
3 Reverse	13.58 kph	8.44 mph

Weights

Operating Weight - Std.	25 304 kg	55,786 lb
Shipping Weight - Std.	20 630 kg	45,479 lb
Operating Weight - XR	25 880 kg	57,056 lb
Shipping Weight - XR	21 206 kg	46,752 lb
Operating Weight - LGP	27 443 kg	60,503 lb
Shipping Weight - LGP	22 722 kg	50,094 lb

- Shipping Weight
  (Includes lubricants, coolant, cab, hydraulic controls, Standard Track and 10% fuel.)
- Operating weight
  (Includes lubricants, coolant, full fuel tank, SU blade with tilt cylinder, shoes, cab, hydraulic controls, drawbar and operator.)

Service Refill Capacities

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

Hydraulic Controls - Pump

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

- Pump speed at 2231 RPM
- Pump specifications at rated engine speed

Hydraulic Controls - Main Relief Valve Settings

Differential Steering Models	42 000 kPa	6,092 psi

Hydraulic Controls - Maximum Operating Pressure

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

Blades

Blade Type		
U Blade Capacity	8.34 m^3	10.91 yd^3
U Blade Width	3988 mm	13.08 ft
SU Blade Capacity	6.86 m^3	8.98 yd^3
SU Blade Width	3693 mm	12.12 ft
S Blade Capacity	5.16 m^3	6.75 yd^3
S Blade Width	3904 mm	12.81 ft
LGP S Blade Capacity	5.89 m^3	7.70 yd^3
LGP S Blade Width	4545 mm	14.91 ft
A Blade Capacity	3.89 m^3	5.08 yd^3
A Blade Width	4503 mm	14.77 ft

Multi-Shank Ripper

Type	Adjustable Parallelogram	
Beam width	2210 mm	87 in
Beam cross section	343 x 279 mm	13.5 x 11 in
Maximum penetration	748 mm	29.4 in
Maximum clearance raised (shank tip)	757 mm	29.8 in
Number of pockets	3	
Maximum penetration force	8664 kg	19,100 lb
Maximum pryout force	17 138 kg	38,513 lb
Weight - with one shank	3307 kg	7,431 lb
Weight - each additional shank	150 kg	330 lb

Winch Specifications

Winch Model	PA110VS Variable Speed	
Weight	1894 kg	4,176 lb
Winch and Bracket Length	1461 mm	57.5 in
Winch Case Width	1171 mm	46.1 in
Increased Tractor Length - STD	742 mm	29.2 in
Increased Tractor Length - XR	587 mm	23.1 in
Increased Tractor Length - LGP	742 mm	29.2 in
Flange Diameter	610 mm	24 in
Drum Width	337 mm	13.3 in
Drum Diameter	318 mm	12.5 in
Drum Capacity - 24 mm (1 in)	127.41 m	418 ft
Drum Capacity - 29 mm (1.13 in)	84.12 m	276 ft
Drum Capacity - 32 mm (1.25 in)	58.83 m	193 ft
Ferrule Size (O.D. x Length)	2.38 in x 2.56 in / 60 mm x 65 mm	
Oil Capacity	15.1 L	4 gal

Standards

ROPS/FOPS

- ROPS (Rollover Protective Structure) offered by Caterpillar 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.

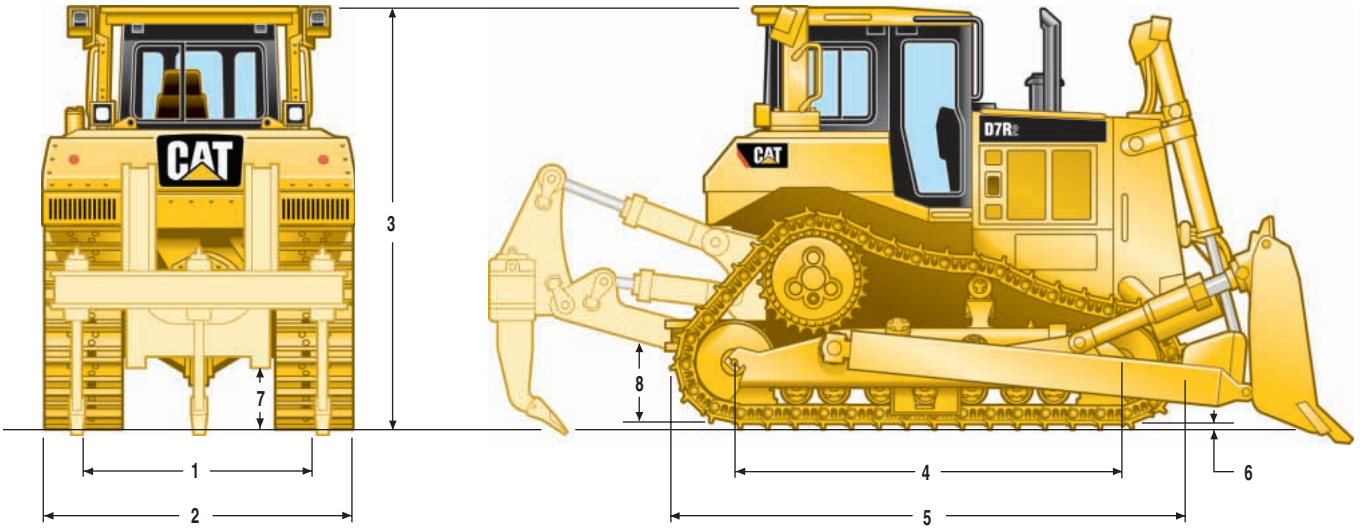
Bulldozer Specifications

Blade		7S	7SU	7U	7A		7S LGP
					Straight	Angled 25°	
Blade Capacity	m^3	5.16	6.86	8.34	3.89	—	5.89
(SAE J1265)	yd^3	6.75	8.98	10.91	5.08	—	7.70
Width (over end bits)	mm	3904	3693	3988	4503	4120	4545
	ft/in	12'10"	12'1"	13'1"	14'9"	13'6"	14'11"
Height	mm	1363	1524	1553	1111	1111	1343
	ft/in	4'5.7"	5'0"	5'3"	3'7.7"	3'7.7"	4'5"
Digging Depth	mm	527	527	527	669	669	668
	in	20.7"	20.7"	20.7"	26.3"	26.3"	26.3"
Ground Clearance	mm	1145	1145	1145	1115	1115	1153
	in	45"	45"	45"	44"	44"	45"
Maximum Tilt	mm	845	799	861	627	627	686
	in	33.3"	31.4"	33.9"	24.7"	24.7"	27"
Weight	kg	3465	3593	3926	3523	3523	3732
(without hyd. controls)	lb	7640	7923	8657	7768	7768	8229
Total Operating Weight*	kg	27 277	27 413	27 731	27 323	27 323	29 500
(with blade)	lb	60,136	60,436	61,136	60,236	60,236	65,036

* Operating weight includes power shift arrangement, lubricants, coolant, full fuel tank, hydraulic controls, blade tilt cylinder, ROPS canopy, multi shank ripper (one shank), 560 mm (22") shoes for standard, 914 mm (36") shoes for LGP and operator. (Width with C-frame only is 3085 mm (10'1.5") includes C-frame assembly.

Dimensions

(approximate)



Tractor Dimensions

		Standard		XR		LGP	
1.	Track Gauge	1981 mm	78"	1981 mm	78"	2235 mm	88"
2.	Width of Tractor						
	Over Trunnions	2869 mm	9'5"	2869 mm	9'5"	3371 mm	11'1"
	Without Trunnions (std. shoe width)	2540 mm	8'4"	2590 mm	8'6"	3150 mm	10'4"
3.	Machine Height from tip of Grouser:						
	Stack	3353 mm	11'0"	3353 mm	11'0"	3435 mm	11'3"
	OROPS	3372 mm	11'1"	3372 mm	11'1"	3454 mm	11'4"
	EROPS	3359 mm	11'2"	3359 mm	11'2"	3441 mm	11'3"
	From Ground Face of Shoe	563 mm	22.2"	563 mm	22.2"	642 mm	25.3"
4.	Length of Track on Ground	2878 mm	114"	3050 mm	120"	3167 mm	125"
5.	Length of Basic Tractor (with drawbar)	4736 mm	15'6"	4736 mm	15'6"	4736 mm	15'6"
	With the following attachments add to basic tractor length:						
	Ripper (with tip at ground line)	1196 mm	3'11.1"	1196 mm	3'11.1"	—	
	Ripper (with tip fully raised)	992 mm	3'3.1"	992 mm	3'3.1"	—	
	Winch	77 mm	3"	77 mm	3"	77 mm	3"
	S Blade	1081 mm	3'6.6"	1081 mm	3'6.6"	1071 mm	3'6"
	SU Blade	1301 mm	4'3"	1301 mm	4'3"	—	
	U Blade	1541 mm	5'.7"	1541 mm	5'.7"	—	
	A Blade	1301 mm	4'6.4"	1301 mm	4'6.4"	—	
6.	Height of Grouser	71 mm	2.8"	71 mm	2.8"	71 mm	2.8"
	Ground Contact Area (std. shoe)	3.22 m^2	5016 in^2	3.72 m^2	5760 in^2	5.79 m^2	9000 in^2
	Number of Shoes per side	40		41		43	
7.	Ground Clearance	416 mm	16.4"	416 mm	16.4"	496 mm	19.5"
	Standard Shoe Width and Type*	560 mm	22" ES	610 mm	24" ES	914 mm	36" MS
	Ground Pressure	0.766 kg/cm^2	10.9 psi	0.690 kg/cm^2	9.8 psi	0.464 kg/cm^2	6.6 psi
8.	Drawbar Height (grouser tip to center of clevis)	634 mm	24.9"	634 mm	24.9"	713.4 mm	28.1"
Pitch		216 mm	8.5"	216 mm	8.5"	216 mm	8.5"
Track Rollers/Side		7		8		7	
Number of Carrier Rollers (optional)		1 per side		1 per side		1 per side	

* ES – Extreme Service
MS – Moderate Service

Standard Equipment

Electrical
- Alternator, 95-amp brushless
- Alarm, backup
- Batteries, 2 maintenance free 12V (24V system)
- Converter, 12V, 10 amp with 2 power outlets
- Horn, forward warning
- Starting receptacle, auxiliary

Operator Environment
- Air conditioner, under hood
- Armrests, adjustable
- Cab, sound suppressed
- Differential steering control with touch shift
- Distance travel indicator, electronic
- Electronic Monitoring System (EMS)
  - with coolant temperature, power train oil, hydraulic oil and fuel gauge, tachometer, odometer, gear indicator and diagnostic functions
- Heater
- Hour meter, electronic
- Mirror, rearview
- Pedal, decelerator
- Pilot operated hydraulic controls with electronic deactivation switch
- Radio ready
- Seat, adjustable contour suspension (gray fabric)
- Seat belt, retractable 76 mm (3")
- Wipers, intermittent

Power Train
- 3176C diesel engine 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 stratta 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

Undercarriage
- Carrier roller (LGP, only)
- Track adjuster, hydraulic
- Idlers, lifetime lubricated
- Track rollers, lifetime lubricated
- End track guiding guards
- Sprocket rim segments, replaceable

Other Standard Equipment
- CD-ROM parts book
- Engine enclosures, perforated
- Front pull device
- Guards, hinged bottom
- Hood, perforated
- Hydraulics, load sensing, dozer lift and tilt
- Oil cooler, hydraulic
- Product Link ready
- Radiator doors, hinged fan blast deflector
- S·O·S^{SM} sampling ports
- Tool box
- Vandalism protection for fluid and battery compartments

Optional Equipment (with approximate change in operating weight)

Standard and optional equipment may vary. For specific tractor applications, additional guarding may be required. Consult your Caterpillar dealer for further information.

	Mass (kg)	Weight (lb)
Bulldozer Arrangements Complete Bulldozers Installed		
7A Bulldozer, Complete	3542	7,810
7S Bulldozer, Complete	3457	7,623
7S LGP Bulldozer, Complete	3728	8,220
7SU Bulldozer, Complete	3681	8,117
7U Bulldozer, Complete	3911	8,624
Bulldozer Attachments		
7A Tilt Cylinders	166	366
7S Landfill Blade w/Trash Rack	2349	5,180
7SU Blade Wear Plate	332	732
7SU Landfill Blade w/Trash Rack	2404	5,300
7SU Landfill Blade Wear Plate	332	732
7S LGP ERF Dual Tilt	500	1,103
7U Landfill Blade w/Trash Rack	2730	6,020
Electrical		
AccuGrade Ready Option	83	182
Alternator – 75A (Sealed)	13	29
Converter 20A, 12V	1	2
Lights, 6	32	71
Lights, 8	33	73
Lights, 10	64	141
Lights, Supplemental – (Adj Rip Only)	2	4
Lights, Supplemental – 2 Fender	19	42
Machine Security System	1	3
Product Link	3	7
Guards		
Crankcase – ES	80	176
Fuel Tank – STD	236	520
Fuel Tank – XR	240	529
Fuel Tank – LGP	245	540
Rear	71	157
Radiator, Hinged – HD	48	106
Screen – Rear (Winch)	86	190
Screen – Rear (ROPS AC)	71	157
Sweeps	295	650
Track Guiding Guards		
Center – STD	85	187
Center – XR	107	236
Track Roller Guards		
Track Roller Guard – STD	292	644
Track Roller Guard – XR	362	798
Track Roller Guard – LGP	405	893

	Mass (kg)	Weight (lb)
Operator Environment		
Air Conditioner (ROPS Mounted)	277	611
Air Suspension Seat	1.5	3
Glass, Ultra-Strength 40	51	113
Seat, Vinyl	0	0
Power Train		
Ecology Drain	4	9
Fan, Reversible	0	0
Fast Fuel System	3	7
Oil Change System	9	20
Sand Blast Grid	15	33
Undercarriage		
Track Groups		
STD 24" ES HD	614	1,354
STD 24" MS HD	155	342
STD 24" MS RBT	155	342
STD 26" MS HD	304	670
XR 24" MS RBT	0	0
XR 26" ES HD	470	1,037
XR 26" MS HD	153	337
LGP 36" MS RBT	0	0
Carrier Rollers		
Carrier Rollers – STD	156	344
Carrier Rollers – XR	156	344
Other Attachments		
Counterweight	1061	2,340
Counterweight Additional	345	761
Drawbar	234	516
Sound Suppression	159	351
Winch	1841	4,059
Winch Control	53	117
Starting Aids		
Batteries, HD	15	33
Heater, Engine Coolant	3	7
Hydraulics		
Controls, Ripper	43	95
Controls, Ripper Adjustable	55	121
Cooler, Hydraulic Oil	26	57
Ripper		
Adjustable Ripper, Multi-Shank	3307	7,431
Additional Tooth	150	330
Field Installed Attachments		
Radio/Cassette	1	2
Tool Kit	5	10

- Waste Handling Arrangements are available from the factory. Contact Custom Products for availability.

Notes

D7R Series 2 Track-Type Tractor

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AEHQ5438-02 (6-07)

Replaces AEHQ5438-01

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