



CATERPILLAR

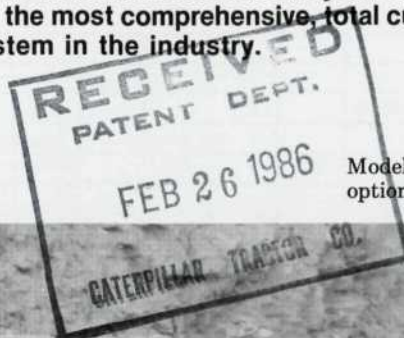
D11N

Track-type Tractor

Summary of features

- Cat 3508 diesel Engine 574 kW/770 hp
- Operating weight up to 97 524 kg/215,000 lbs.
- Blade capacity to 32.2 m³/42.2 yd³
- Turbocharged Cat 3508 diesel Engine delivers 574 kW/770 flywheel horsepower and 20% torque rise.
- Elevated sprocket design removes final drives from wear environment and reduces shock loading for extended power train life.
- Resilient mounted bogey undercarriage system means reduced impact loading on rollers and roller frames and improved vehicle traction and operator ride. Sealed and Lubricated Track, Lifetime Lubricated rollers and idlers. Features large pins, bushings and bolts and positive pin retention. Improved track seal life and prevents "pin walking". Two piece master link has 60% more clamping force than the D10.
- Pivot shaft and pinned equalizer bar control roller frame alignment and oscillation.
- Modular design of major components facilitates repairs, allows component exchange and permits pretesting of units before installation.

- Cooling system features hydrostatically driven fan mounted between radiator and easy service oil coolers for excellent cooling and noise reduction. Hinged and louvered grill.
- Tag link dozer stabilizer brings the blade close to the tractor for excellent balance, better implement control and tractor maneuverability.
- Isolation mounted operator's compartment has console mounted machine and implement controls within easy reach. Angled seat helps provide excellent visibility both front and rear.
- Simple maintenance with reduced grease points, hydraulic track adjusters, use of sight gauges, spin-on fuel and oil filters.
- CAT PLUS services . . . from your Caterpillar Dealer . . . the most comprehensive, total customer support system in the industry.



Model shown may include optional equipment



Caterpillar Engine

Gross power @ 1800 rpm 609 kW/817 hp
Flywheel power @ 1800 RPM 574 kW/770 hp
(Kilowatts (kW) is the International System of Units equivalent of horsepower.)

Net power at the flywheel of the vehicle engine is based on SAE J1349 standard conditions of 25° C/77° F and 100 kPa/29.61" Hg. Power is based on using 35° API (15.6° C/60° F) gravity fuel having an LHV of 42 780 kJ/kg/18,390 Btu/lb when used at 29.4° C/85° F and with a density of 838.9 g/L/7,001 lb/U.S. gal. Power rating is adjusted for vehicle equipped with fan, air cleaner, alternator, water pump, fuel pump, muffler and lubricating oil pump. No derating is required up to 1500 m/5000 ft altitude.

Caterpillar 4-stroke-cycle 3508 60° V8 diesel Engine, with 170 mm/6.7" bore, 190 mm/7.5" stroke and 34.5 liters/2105 cu. in. displacement. Twin turbochargers with water cooled bearings for long life. Parallel manifold porting with two intake and two exhaust valves per cylinder. Stellite-faced valves, hard alloy steel seats, valve rotators.

Cam-ground and tapered aluminum alloy pistons with 3-ring keystone design, cooled by oil spray. Steel-backed aluminum bearings, and hardened crankshaft journals. Pressure lubrication with full-flow filtered and cooled oil. Dry-type air cleaners with primary and safety elements.

24-volt direct electric starting system. 50-amps alternator. Four 12-volt, 220 amp-hour batteries.

Engine/torque-divider module is isolation mounted to the main frame to reduce vehicle vibration and structure-radiated noise.

D11N

Track-type Tractor



transmission

Planetary-type power shift with 533 mm/21" diameter, high-torque-capacity oil clutches. Special modulation system permits fast speed and direction changes.

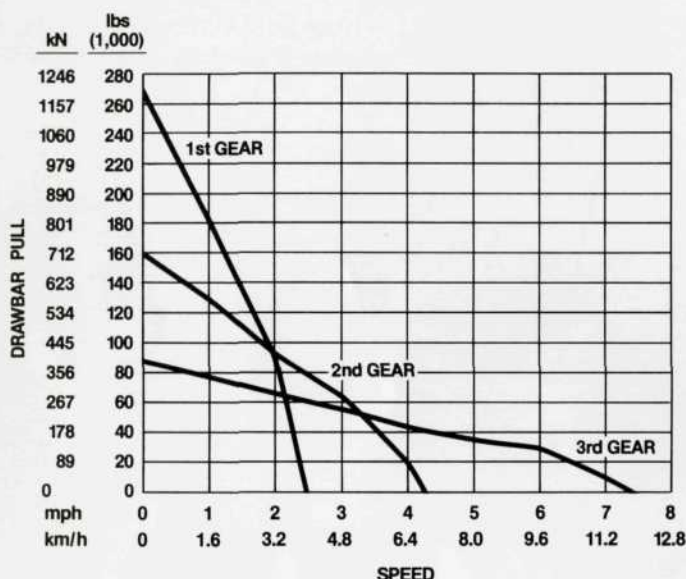
Single-stage torque converter with output torque divider. Connected to transmission by a double universal joint for unit construction to provide servicing ease.

Modular transmission and bevel gear plug into rear of main drive case and can be exchanged with ripper installed. Power train features two oil to water coolers mounted under the radiator.

Travel speeds at rated engine RPM:

Gear	Forward Speed		Reverse Speed	
	Km/h	MPH	Km/h	MPH
1	3.9	2.4	4.7	2.9
2	6.8	4.2	8.2	5.1
3	11.6	7.2	14.1	8.7

Drawbar Pull* vs. Ground Speed Chart



steering and braking

Hydraulically applied, multiple-disc (464 mm/18.3") outside diameter clutches. Cooled by pressurized oil and require no adjustment. Each assembly serviceable as a unit.

Hand levers combine steering clutch disengagement and braking in one control for each track. Pull back slightly to disengage steering clutches, fully back to brake track. Brakes are hydraulically released, spring applied.

Single pedal simultaneously applies brakes to both tracks for fast stops. Parking brake is applied by transmission lock lever. A service tool, electrically driven from auxiliary start receptacle, is available when towing is required to allow in-seat brake release upon loss of control system pressure.



final drives

Crown-shaved, two stage planetary in-line final drive gears, splash lubricated and sealed with Duo-Cone Floating Ring Seals. Sprockets with three bolt-on, replaceable rim segments.

track roller frame



Tubular design to resist bending and torsional loads. Lifetime Lubricated rollers and idlers are resiliently mounted to roller frame by a series of bogies. Bogies oscillate on sealed and lubricated cartridge pin connections; travel controlled by resilient pads.

Oscillating roller frames attach to tractor by a pivot shaft and pinned equalizer bar. Large pivot bushings operate in an oil reservoir. The equalizer bar-roller frame ball joint pins are sealed and lubricated; saddle connection is a low friction, no maintenance bushing. Equalizer bar oscillation restrained by resilient pads. Recoil system is fully sealed and lubricated.

Number of rollers (each side)8
Oscillation502 mm/19.75"



Sealed and Lubricated Track

Sealed and Lubricated Track surrounds the track pin with lubricant to reduce internal bushing wear as critical maintenance consideration. Lubricant is held in place by a sealing arrangement consisting of a polyurethane seal, a rubber load ring and a thrust ring. Additional lubricant is contained in a reservoir drilled into the track pin. Positive pin retention locks the pin to the link to prevent "end play" or pin "walking." Extends track wear life and undercarriage maintenance intervals — reduces costs. Hydraulic track adjusters, track guiding guards and large positive-clamping two-piece master link standard.

Pitch317.5 mm/12.5"
Number of shoes (each side)41
Shoe typeExtreme Service
Width of standard shoe712 mm/28"
Length of track on ground4441 mm/175"
Ground contact area with
standard shoes6.3 m²/9800 in²
Grouser height (from ground face of shoe)102 mm/4.0"
Ground clearance623 mm/24.5"
Gauge2896 mm/114"



service refill capacities

	Liters	U.S. Gallons
Fuel tank	1490	394
Cooling system	215	56.8
Lubrication systems		
Diesel engine crankcase	106	28
Powertrain	243	64
Final drives (each)	17	4.5
Roller frame (each)	95	24.7
pivot shaft compartment	61	16
Implement hydraulic system,		
four valve	250	66
Tank only	180	47.5



weight (approximate)

Shipping, includes lubricants, coolant,
5% fuel and ROPS with FOPS cab68 834 kg/151,750 lb
Operating, includes lubricants, coolant, full fuel tank,
hydraulic controls, 11U Bulldozer, Single shank ripper,
813 mm/32" extreme service shoes, ROPS,
FOPS cab and operator92 769 kg/204,517



ROPS

ROPS cab is standard in U.S.A.
ROPS (Rollover Protective Structures) offered by Caterpillar for this machine meet ROPS criteria SAE J395, SAE J1040c and ISO 3471. They also meet FOPS (Falling Object Protective Structure) criteria SAE J231 and ISO 3449. Cab offered by Caterpillar, when tested with doors and windows closed according to ANSI/SAE J1166 SEP80, meets OSHA and MSHA requirements for operator sound exposure limits in effect at the time of manufacture.

ROPS structure is designed and
certified for operating weight100 000 kg/220,460 lb.



hydraulic controls

Complete system consists of pump, tank with filter, valves, lines, linkage and control levers. Hydraulic pilot valves assist operations of ripper and dozer tilt controls. Four optional hydraulic systems, all with external valves, include: Hydraulic oil cooler in oil to water cooler located at the top front of the engine.

	Kg	Lb
Two valves, for 11S or 11U Bulldozer and tilt	535	1180
Four valves, for 11S or 11U Bulldozer, tilt function and ripper with hydraulic shank pitch adjustment	578	1275
Four valves, for 11S or 11U Bulldozer, tilt function and ripper with hydraulic shank pitch adjustment with pin puller	578	1295
Pump, gear-type:		
Output @ 6895 kPa/69 bar/1000 psi	579 liters/min/153 gpm	
Tilt cylinder flow	144 liters/min/38 gpm	
Pump rpm @ rated engine speed	1800	

Relief valve setting, Bulldozer	19 306 kPa/193 bar/2800 psi
Tilt Cylinder	17 926 kPa/179 bar/2600 psi
Ripper	17 237 kPa/172 bar/2580 psi
Drive	Geared from auxiliary drive

Control Valve Positions:

Bulldozer	Raise, hold, lower, float
Ripper	Raise, lower, extend, return, hold
Tilt cylinder	Tilt right, hold, tilt left

Reservoir:

Mounting	Fender (isolation mounted)
Tank capacity	250 liters/66 gal.

D11 Bulldozers are designed for tough dozing, reclamation and push-loading jobs. Cutting edges and end bits are DH-2 steel for durability. Tag link dozer coupling brings blade close to tractor for better balance and control. Dozer lift cylinders mount to top corners or radiator guard to improve mechanical advantage. Single lever controls all blade movement, including tilt.

Bulldozer specifications

Blade	Capacity Per SAE J1265		Overall Width*		Height		Digging Depth		Ground Clearance		Maximum Tilt		Weight**		Total Operating Weight***	
	m ³	yd ³	mm	in	mm	in	mm	in	mm	in	mm	in	kg	lb	kg	lb
11S	25.1	32.8	5645	18'6"	2305	7'6.7"	757	29.8"	1501	4'11"	845	33.3"	13 302	29,325	82 061	180,910
11U	32.2	42.2	6407	21'0"	2305	7'6.7"	757	29.8"	1501	4'11"	1571	5'2"	14 676	32,354	83 435	183,940

*Width over corner bits.

**Does not include hydraulic controls, but 11S and 11U include blade tilt cylinder.

***Includes hydraulic controls, blade tilt cylinder (11U or 11S), coolant, lubricants, full fuel tank, ROPS with FOPS cab and operator.



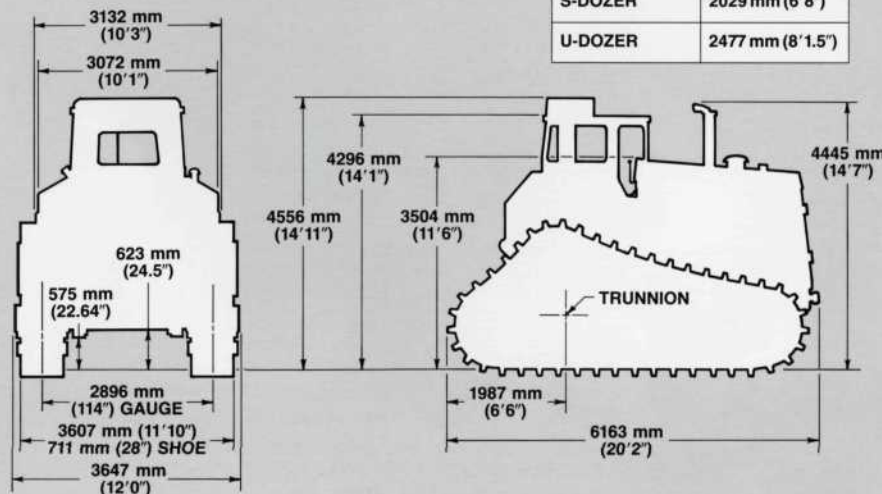
dimensions (approximate)

Ground clearance, from ground face of shoe per SAE J1234	623.5 mm/24.5"
Drawbar height from ground face of shoe	777 mm/30.6"
Width over trunnions	4216 mm/13'10"

With following attachments, add to basic tractor length of	6163 mm/20'2.5"
Single Shank Ripper	2331 mm/7'8"
Multi-Shank Ripper	1994 mm/6'6.5"
S-Dozer	2227 mm/7'4"
U-Dozer	2675 mm/8'9"

WITH FOLLOWING ATTACHMENTS, ADD TO BASIC TRACTOR LENGTH OF 6163 mm (20' 2")

SINGLE SHANK RIPPER	2332 mm (7'8")
MULTI-SHANK RIPPER	1994 mm (6'6.5")
S-DOZER	2029 mm (6'8")
U-DOZER	2477 mm (8'1.5")



Rugged Cat Rippers are available for added machine versatility. Hydraulic tip adjustment cylinders vary shank angle to aid penetration and help lift and shatter rock . . . for high productivity and long shank life. Streamlined and narrowed ripper frame improves single

shank performance through minimum clogging and slab retention. Optional single shank pin puller lets operator adjust shank length from the seat. Multishank ripper allows use of one, two or three shanks, depending on job conditions.

Ripper	Beam Width		Maximum Penetration Force		Maximum Penetration		Pryout Force		Clearance Raised (under tip)		*** Shank Positions	Weight (without hydraulic controls)		Total Tractor Operating Weight (with 11U blade and ripper)**	
	mm	in	kN	lb	mm	in	kN	lb	mm	in		kg	lb	kg	lb
Single shank	1940	76"	265	59,740	1610	63.4"	643	144,540	1164	46"	4	8368	18,448	92 769	204,517
Single Shank, Deep Ripping Arrangement	1940	76"	265	59,740	2180	85.8"	643	144,540	1164	46"	6	8571	18,895	92 972	204,965
Multishank Arrangement	3330	131"	262	58,888	1069	42"	645	145,050	1118	44"	mm in 2990 118"	9349	20,610*	93 830	206,680

*Includes one shank. Add 660 kg/1454 lb. for each additional shank.

**Machine operating weight also includes hydraulic controls, blade tilt cylinder, lubricants, full fuel tank, ROPS cab and operator.

***Shank cross section 100 x 400 mm/3.9" x 15.7".



standard equipment NOTE: *Standard and optional equipment may vary outside U.S.A. Consult your Caterpillar Dealer for specifics.*

50-amp alternator. Backup alarm. Blower fan. Cab, FOPS sound suppressed, with ROPS rollbar (includes cab accessory group and mirror). Diagnostic adapters for pressure. Decelerator and hand throttle lever. 24-volt direct electric starting. Rigid drawbar. Precleaner with prescreener and dust ejector. Dry-type air cleaners. Mufflers. Ether starting aid. Fuel priming pump. 8-roller track frame. 712 mm/28" extreme service grouser tracks (41-section). Sealed and Lubricated Track. Lifetime Lubricated rollers and idlers. Hydraulic track adjusters. Lighting system

(four lights forward, two rear). Suspension-type undercarriage. Pinned equalizer bar. Pivot shaft. Hinged extreme service crank-case guard. Front pull hook. Hinged power train guard. Track guiding guards. Hinged radiator and blast deflector guards. Power shift transmission. Starting receptacle. Electric hour meter. Adjustable suspension seat. Front warning horn. Parking brake. Lighted instrument panel with EMS horn for critical systems. Seat belt. Vandalism protection includes cap locks for: fuel tank, power train tank, implement hydraulic tank, engine oil filler, radiator filler and dip stick, plus battery box locks (two). Gauge group. Rain cap. Retrieval hitch. Toolbox. Heater.



optional equipment

(with approximate change from operating weight)

	Kg	Lb
Alternator 75 amp	5	11
Air conditioner	104	229
Counterweight, rear mounted	4994	11,010
Fast-fill fuel system	5	11
Fire suppression system dry chemical	90	198
Fire suppression system halon 2402	65	143
Oil change system, quick service	8	18.5
Push block, cushioned	3456	7620
Push plate	502	1107
Rippers:		
Single shank, deep ripping shank	6937	15,293
Standard shank	6733	14,843
Multishank (includes one shank)	771	17,011

	Kg	Lb
Ripper shank (for multi-shank ripper)	653	1440
Pin puller	99	218
Tool kit	6	14
Tracks, pair, Sealed and Lubricated:		
810 mm/32", Extreme Service	821	1810
914 mm/36", Extreme Service	1675	3693
Starting aids		
Engine coolant heater	8	17.5
Fuel heater	8	17.5
Hydraulic controls		
4 valve	580	1279
4 valve (Pin puller)	589	1299

Materials and specifications are subject to change without notice.

13
1986
01/10