



CATERPILLAR

D5H Track-type Tractor

D5H Features

- Cat 3304 diesel Engine . . . 89 kW/120 HP
7 liters/425 cu. in. displacement
- Operating weight
range from . . . 12 144 kg/26,772 lb
to . . . 13 890 kg/30,620 lb
- Blade capacity . . . 2.06 m/2.69 yd to 2.66 m/3.48 yd
- Elevated sprocket design for:
 - Optimum balance and stability.
 - Improved flotation.
 - High ground clearance and smooth underside.
 - Long power train life.
- Power Angling and Tilt Blade . . . with full hydraulic control of lift, dig, angle and tilt . . . to give exceptional versatility.
- Load-sensing hydraulic system to adjust flow rate and pressure to load encountered for better fuel efficiency and greater productivity.
- Economical operation with:
 - Low maintenance costs.
 - Modular design of power train components for faster repair.
 - Folded core radiator for extended cleaning intervals, less costly repair.



Machine shown
may have optional equipment.

D5H FEATURES

The D5H with its elevated sprocket design is **really** different . . . so you can expect something **really** different — and **better** — when you put it to work on your job.

Elevated sprocket design: better performance, more durability, lower cost

Compared to conventionally designed tractors, the D5H with its elevated sprocket design provides significant benefits in performance, durability/reliability and low operating costs.

Optimum fore and aft balance:

The elevated sprocket design gives Caterpillar the flexibility to optimize balance and stability by tailoring the D5H roller frame mounting location for the best possible performance. On the standard model, Cat combines a forward center of gravity with more track on the ground for optimum dozing. This gives excellent dozer penetration in hard materials . . . while still maintaining outstanding finish grading capability. Track on the ground is an outstanding 2306 mm/91".

Excellent side slope capability:

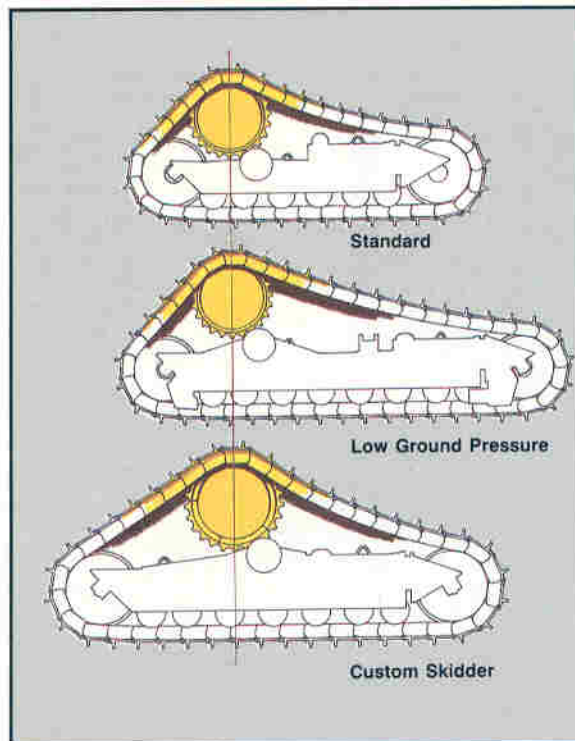
The D5H has a 1800 mm/71" gauge and approximately the same center of gravity height as its predecessor, the D5B. This gives the D5H excellent side slope stability.

Improved flotation:

With 2306 mm/91" track on the ground and optional shoe widths up to 510 mm/20", a fully equipped standard D5H can provide a ground pressure as low as 0.52 kg/cm²/7.4 psi.

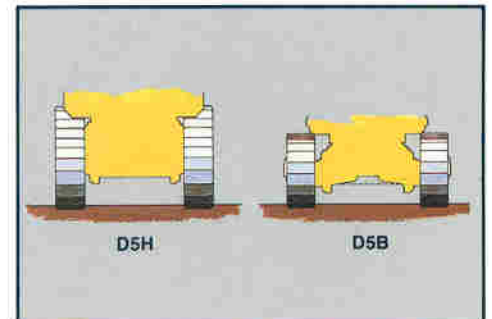
Better ground clearance:

The D5H uses a pivot shaft and pinned equalizer bar to maintain roller frame alignment. Because there are no diagonal braces, the D5H has 40% more ground clearance than the D5B, and there's less chance of getting hung up on a stump or rock — or snagging brush or debris.



On the LGP model, the undercarriage is extended both forward and to the rear to provide the more neutral center of gravity desired in an LGP environment.

For skidding applications, the undercarriage is positioned dramatically to the rear to maximize tractor balance under heavy winch or grapple loads.



A longer-lasting power train

With the elevated sprocket design, final drives and associated power train components are raised above the work area . . . isolating them from ground impact shocks, as well as implement and roller frame alignment loads. And that means longer component life.

The D5H elevated sprocket position also gets sprocket teeth, bushings and final drive seals away from the grit, mud, ice and dust that plague conventional tractor designs. The result is longer final drive life.

Operator environment designed for efficiency

Your operator will be more efficient and productive on the D5H due to:

Better all-around visibility

Because the operator sits higher, overall visibility is excellent. He has a better view of the blade corners because the engine hood is tapered. There's a better view to the ripper or winch, too, because the fuel tank is tapered. And the seat is fully adjustable five ways.

Convenient control placement

The console-mounted steering and braking controls are just to his left. They're low-effort and easily operated with one hand. On the powershift model, the transmission lever is there, too — as is the directional lever on the direct drive version. Single-lever dozer, ripper or winch controls are console-mounted to his right.



- ① Single-Lever Implement Control
- ② Steering and Braking Controls
- ③ Transmission Lever

Reliable warning system

An Electronic Monitoring System analyzes critical temperatures and pressures and gives visual and audible warning if corrective action or machine shutdown is required. This three-level warning system includes:

- I. **Operator Awareness:** LED light on instrument panel indicates a potential but not yet critical problem.
- II. **Operator Response Required:** Main warning light in front of operator indicates continued operation could cause eventual component failure.
- III. **Immediate Operator Shutdown Required:** Flashing light and horn warn that continued operation may cause immediate failure of a component.

A circuit test switch verifies system reliability.

ROPS cab for year-round comfort

For even more comfort there's an optional sound-suppressed ROPS cab with air pressurizer and heater. It's resiliently mounted to minimize noise and vibration. Visibility to blade corners is excellent, as door glass is shaped to allow maximum view. Side and rear windows slide open and doors can be latched open. An optional air conditioner gives added hot-weather comfort.

Power Angling and Tilt Blade offers optimum versatility

The PAT or P-Blade is designed for all types of bulldozing, including those previously requiring an S-Blade . . . from tough land clearing and pioneering to finish grading. This blade has 13% more capacity than the D5B Straight Blade. It's stronger than the D5B A-Blade and also gives more capacity, lift height, penetration and pryout forces than the D5B S- and A-Blades. It features full hydraulic control of lift, dig, angle and tilt functions.

The inside arm C-frame is solidly pinned to the main frame for good blade control and elimination of blade motion due to track oscillation. The sliding-plate, sub-frame design puts the blade close to the front of the tractor for better stability and balance . . . and reduced overall tractor length for enhanced maneuverability in tight quarters. Pryout and penetration forces are also maximized.



A redesigned winch

55 Winch improvements include an anti-fallback device to prevent dropping the load when shifting from brake-on to reel-in.

Other improvements:

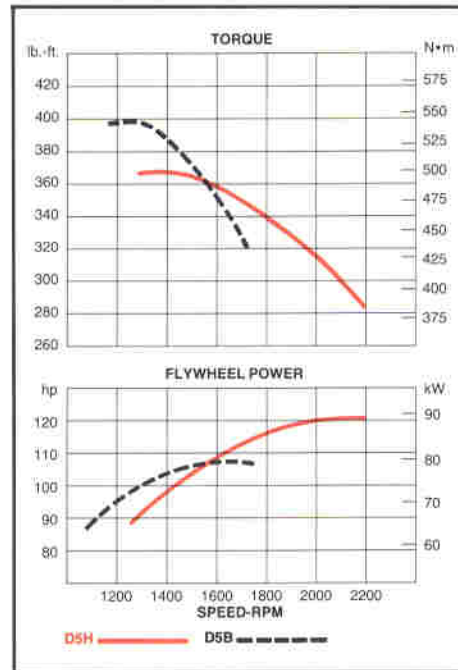
- Multiple-disc, oil-cooled clutches and brakes.
- Freespool with drag adjustment to disengage the drum from the rest of the winch power train — so less effort is needed to pull out the cable.
- Single-lever control of all winch functions.
- Full-filtered hydraulics for pressure lubrication to all bearings, gears and clutches.
- An integral drawbar as part of the winch.

Maximum rated line pull is 28 418 kg/ 62,650 lb. on the power shift model and 19 954 kg/ 43,991 lb. on direct drive. Three options are available for specific job requirements:

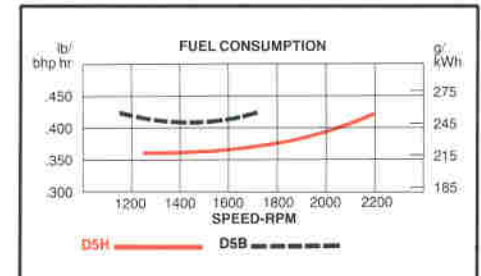
- **Power-in/power-out** ... for applications where releasing a load for extended distances with speed control is required. It also can help the operator reel out line to hook up a load.
- **Slow-speed** ... with power-in/power-out option. For applications requiring very slow line speeds as well as additional line control.
- **Fairlead or guide rolls** ... to protect the winch case and extend cable life in applications where frequent pulls over the side of the winch are required. Arches with fairleads are available also through your Cat Dealer.

Efficient power over a wide operating range

The D5H's Cat 3304 diesel Engine delivers 90 kW/120 FWHP. Weight-to-horsepower ratio is excellent, with 28% torque rise. That means superior lugging power and fast response to changing loads. The D5H also has a 800 RPM operating range for less shifting under changing loads.



This turbocharged Cat 3304 has a scroll-type fuel system, which gives more precise fuel injection than a sleeve-metering system. This fuel efficiency — combined with a good weight-to-horsepower ratio, more track on the ground, better balance and improved blade penetration and pryout — means more material moved per unit of fuel.



A load-sensing hydraulic system

With the load-sensing hydraulic system, a variable displacement piston pump senses implement loads and automatically adjusts flow rate to match the loads encountered. That means engine power required by the hydraulic system is matched to the implement demand. Fuel is conserved, heat generation is reduced and more engine power is available to the tracks for greater productivity.

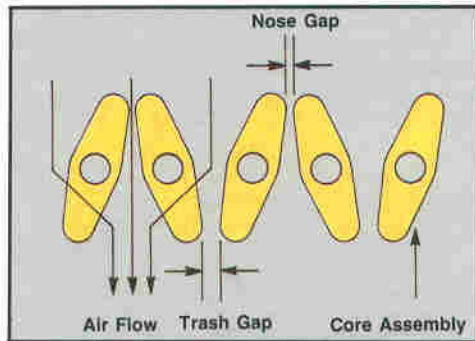


Low-cost operation adds to D5H value

Several D5H features contribute to economical operations:

Folded-core radiator.

Narrow modular cores assembled in an accordion-type arrangement between top and bottom tanks have a high fin density. This deflects debris through trash gaps, which greatly extends cleaning intervals. The folded-core radiator is also less costly to repair, as individual core assemblies can be replaced rather than an entire conventional core.



Diagnostic connector.

This allows faulty electrical system components to be pinpointed in minutes. Cat Dealers have a test tool that plugs into this connector to quickly and accurately troubleshoot the system.

Easy access plugs.

These let the mechanic quickly and easily diagnose problems in the power train oil, steering system and implement oil systems.

Lower maintenance costs.

All ball joints, trunnions, pivot pins and cylinder mounts incorporate hardened steel, heat-treated components or sintered iron bushings — which eliminate the need for grease fittings. That means no lube points on the tractor ... none on dozer blades. Grouped service points and excellent access to service areas make routine checks fast and convenient. And the D5H's multiple-disc brakes require no adjustment — a significant improvement. In fact, total scheduled maintenance cost over 2000 hours are 15% less than on the D5B.

Low repair costs/higher availability

Modular design of major D5H power train components results in a sizeable reduction in removal and installation times. This means lower labor costs ... plus less time in the repair shop and more on the job.

Modular power train components provide other benefits, too. Since they can be removed independently without major disassembly of nearby components, there are fewer repair steps than on a conventional tractor. Repairs are less complex, reducing the possibility of mistakes that lengthen repair times. Modular components can also be assembled and tested before installation in the tractor, ensuring high quality.

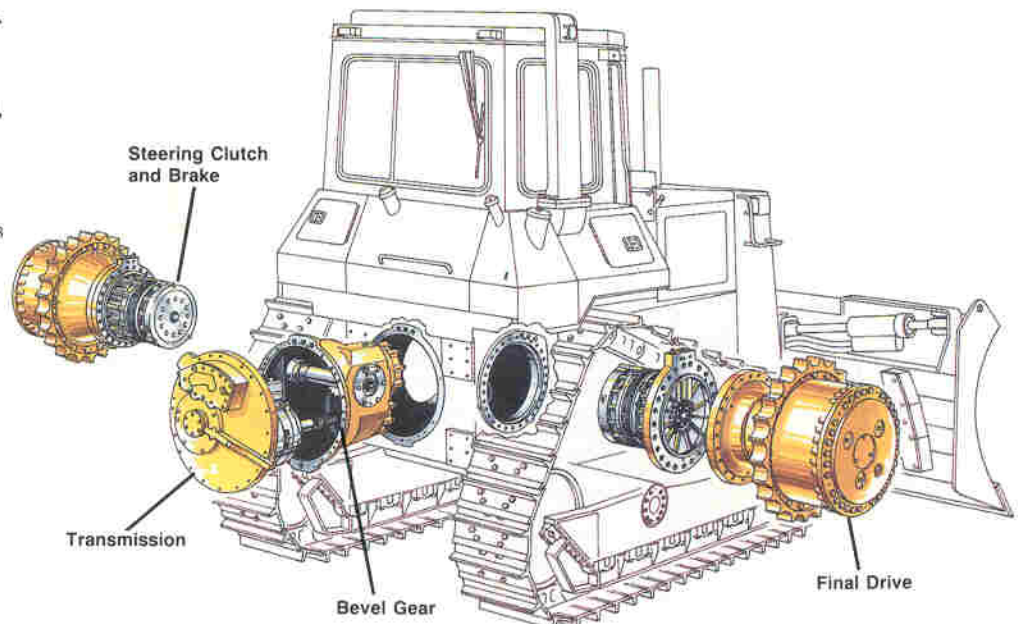
The D5H is the Shape of the Future ... Here Today. And that means a step ahead in bottom line value.

Major component removal and installation times in man-hours

(Assuming one trained mechanic with occasional assistance from a helper and appropriate tools and lifting devices)

			Time saved, man hours
	D5H	D5B	
Engine	12	25	13
Torque converter	5.5	13	7.5
PS Transmission and bevel gear module	1.5	14	12.5
Steering clutch and brake	4	12	8
Final drive	3	6.5	3.5
DD Master clutch	1	11	10

Note: Times may vary from area to area.





Caterpillar Engine

Gross power at 2200 RPM 96 kW/129 hp
Flywheel power at 2200 RPM 90 kW/120 hp

(Kilowatts (kW) is the International System of Units equivalent to 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, water pump, fuel pump, muffler and lubricating oil pump. No derating is required up to 2300 m/ 7,500 ft. altitude.

These additional ratings also apply at 2200 RPM

ISO 1585 91.0 kW/122.0 HP
ISO 3046-1 89.6 kW/120.1 HP
EEC 80/1269 91.0 kW/122.0 HP

Caterpillar 4-stroke-cycle 3304 diesel Engine with four cylinders, 121 mm/4.75" bore, 152 mm/6.0" stroke and 7 liters/425 cu. in. displacement.

Direct injection fuel system with individual adjustment-free injection pumps and valves.

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

Two 24-volt direct electric starting systems — standard or low temperature (include ether aid, engine coolant heater, heavy duty batteries and heavy duty starter motor). Ether aid, heavy duty batteries and engine coolant heaters are also available separately for cold weather starting.



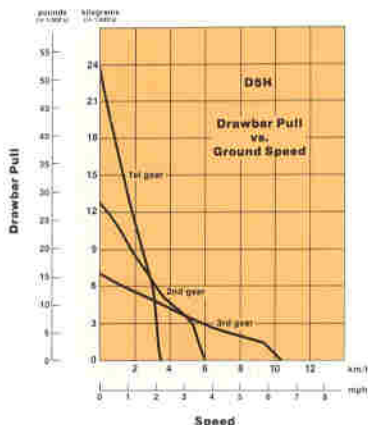
Transmission

Power shift:

Planetary power shift with 279 mm/11.00" diameter, high-torque-capacity oil clutches. Special valve permits fast speed and direction changes. Three speeds forward, three reverse.

Single-stage torque converter directly connects to the engine. Oil-to-water exchangers cool the torque converter oil.

Gear	Forward Speed		Reverse Speed	
	Km/h	MPH	Km/h	MPH
1	3.3	2.1	4.2	2.6
2	5.9	3.7	7.3	4.5
3	10.0	6.2	12.5	7.8



Direct drive:

A constant mesh sliding collar countershaft transmission is used in the D5H. The D5H offers six speeds forward and reverse, enabling the operator to more closely match tractor speed and drawbar pull to job requirements.

Gears in the D5H sliding collar transmission are in constant mesh so helical gears can be used. The curvature of the gears allows two teeth to be in contact at all times, sharing the loads. Helical gears also mesh more smoothly for quiet operation.

Master clutch has three plates. Clutch lubricated and cooled by pressure-circulated oil. Clutch is hydraulically actuated and require no adjustment. Live PTO for use with 55 Winch.

Direct drive speeds and drawbar pulls:

Gear	Drawbar Pull Forward							
	Forward		Reverse		At rated RPM		Max. at Lug	
	Km/h	MPH	Km/h	MPH	Kg	Lb	Kg	Lb
1	2.7	1.7	3.3	2.1	9140	20,150	12 205	27,000
2	3.4	2.1	4.2	2.6	7005	15,440	9435	20,800
3	4.5	2.8	5.6	3.5	5190	11,440	7045	15,530
4	5.8	3.6	7.2	4.5	3835	8,450	5260	11,600
5	7.6	4.7	9.4	5.8	2785	6,140	3880	8,550
6	10.0	6.2	12.4	7.7	1950	4,300	2780	6,130

Transmissions are modular and located at the rear of the tractor for easy removal and installation with or without the bevel and pinion and transfer gears.



Steering

Hydraulically actuated, multiple-disc oil cooled steering brakes are held in engagement by springs and disengaged hydraulically. Clutches are multiple-disc, oil cooled, hydraulically engaged and disengaged. The disc assemblies provide high load carrying capability, long life and require no adjustment.

Combined clutch and brake hand controls are located to the operators left. A single brake pedal suspended from the dash brakes both tracks without disengaging the clutches.



Final drives

Single reduction planetary final drives spread the torque loads over three gears instead of one. Modular design greatly reduces the time required for removal. The elevated sprocket design isolates the final drives from ground impact induced loads for long service life. Segmented sprocket for replacement ease.



Pivot shaft and equalizer bar

The D5H employs a pivot shaft and pinned equalizer bar oscillation system. The pivot shaft transmits ground impact loads directly to the main frame rather than through the power train components. The pinned equalizer bar protects track roller frames from misalignment loads. The D5H design improves ground clearance, and provides a smooth underside to prevent the collection of mud and debris.



Track roller frame

Reinforced box-section and tubular construction. Life-time Lubricated rollers and idlers.
Number of rollers (each side) 6
Oscillation at front idlers ±83 mm/3.2"



Sealed and Lubricated Track

Sealed and Lubricated Track surrounds the track pin with lubricant to greatly reduce internal bushing wear. Lubricant is held by a sealing arrangement consisting of a polyurethane seal, a rubber load ring and a thrust ring. Hydraulic track adjusters and two-piece master link standard.

Gauge	1800 mm/71"
Number of shoes (each side)	37
Width of standard shoe	410 mm/16"
Length of track on ground	2306 mm/91"
Ground contact area with optional 510 mm/20" shoes	23 521 cm ² /3,646 sq. in.
Grouser height (from ground face of shoe)	57 mm/2.25"
Ground pressure with optional 510 mm/20" shoes	0.52 kg/cm ² /7.4 psi



Hydraulic controls

Load sensing hydraulics, a variable displacement piston pump senses implement load and automatically adjusts flow rate to the load encountered. Sight gauge for checking fluid levels.

Pump, variable displacement piston type:

Capacity @ 207 bar/3000 psi	108.8 L/m/28.7 gpm
RPM @ rated engine speed	2200
Pump will destroke to minimum angle at 20 670 kPa/3000 psi maximum pressure.	
Drive	Geared from engine



Dimensions (approximate)

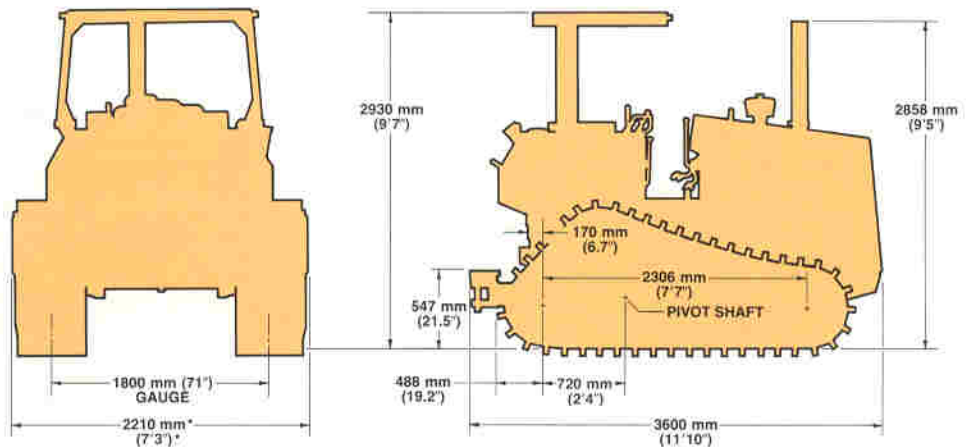
Ground clearance, from ground face of shoe (per SAE J1234) 390 mm/15.3"

Machine height from tip of grouser with the following equipment

ROPS Canopy	2987 mm/9'9.5"
ROPS Cab	3047 mm/10'0"

With the following attachments, add to base tractor length of 3600 mm/11'10":

Ripper	967 mm/3'2"
55 Winch	320 mm/13"
PAT-Blade	914 mm/3'0"
S-Blade	934 mm/3'1"
S-Petroleum Blade	914 mm/3'0"
A-Blade	1154 mm/3'9"



* WITH 410 mm/16" SHOES

Bulldozer specifications

Blade	Blade Capacity (per SAE J1265)	Overall Width (Tractor with Bulldozer)	Height	Digging Depth	Ground Clearance	Maximum Tilt	Weight w/o hyd. controls)
5S	2.66 m ³ 3.48 yd ³	2950 mm 9'8"	1070 mm 42.1"	406 mm 16"	936 mm 36.9"	562.5 mm 22.1"	1820 kg 4,012 lb
5A Straight	2.42 m ³ 3.17 yd ³	3800 mm 12'5.5"	925 mm 36"	467 mm 18.4"	955 mm 37.6"	569 mm 22.4"	2181 kg 4,808 lb
			3496 mm 11'6"	925 mm 36"	467 mm 18.4"	955 mm 37.6"	569 mm 22.4"
5S Petroleum	2.06 m ³ 2.69 yd ³	2500 mm 8'2.5"	1025 mm 40.4"	425 mm 16.7"	934 mm 36.8"	376 mm 14.8"	1656 kg 3,651 lb
			3170 mm 10'5"	425 mm 16.7"	934 mm 36.8"	476 mm 18.7"	1883 kg 4,151 lb
5PAT Straight	2.50 m ³ 3.27 yd ³	2922 mm 9'7"	1025 mm 40.4"	425 mm 16.7"	934 mm 36.8"	476 mm 18.7"	1883 kg 4,151 lb
			977 mm 38.8"	425 mm 16.7"	934 mm 36.8"	476 mm 18.7"	1883 kg 4,151 lb

*Manual tilt. Hydraulic tilt is 446 mm/17.6".



ROPS

ROPS Canopy is standard in U.S.A. ROPS (Rollover Protective Structures) offered by Caterpillar for this machine meet ROPS criteria SAE J395, SAE J1040a 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 MAR85, 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 weight 19 300 kg/42,550 lb.



Service refill capacities

	Liters	U.S. Gallons
Fuel tank	246	65
Cooling system	27.9	7.4
Lubricating systems:		
Diesel engine crankcase	17.8	4.7
Transmission, bevel gear and steering clutch compartments (includes torque converters or oil clutch)	112	29.6
Final drives (each)	7	1.8
Implement hydraulic system	70	18.5
Tank	36.4	9.6



Weight (approximate)

Shipping (includes lubricants, coolant, 10% fuel, and ROPS canopy):

Powershift:	
1800 mm/71" gauge	9604 kg/21,173 lb.
Direct drive:	
1800 mm/71" gauge	9672 kg/21,322 lb.

Operating (includes lubricants, coolant, full fuel tank, crops lighting GP, hydraulic control, 5S Bulldozer, ROPS canopy, operator):

Powershift:	
1800 mm/71" gauge	12 144 kg/26,772 lb.
Direct drive:	
1800 mm/71" gauge	12 212 kg/26,922 lb.



Ripper specifications

The D5H ripper is a radial ripper with greatly improved pryout forces when compared to a parallelogram design.

Beam width	2202 mm/86.7"
Beam cross section	216 mm × 254 mm/8.5" × 10"
Maximum penetration	451 mm/17.7"
Maximum clearance raised	592 mm/23.3"
Number of pockets	3
Maximum pryout force	14 243 kg/31,400 lb.
Maximum penetration force	4002 kg/8,804 lb.
Weight with one tooth	936 kg/2,059 lb.
Each additional tooth	70 kg/154 lb.



Standard equipment

NOTE: Standard and optional equipment may vary. Consult your Caterpillar Dealer for specifics.

Caterpillar 3304 DIT Engine. Brake system (service, parking, and emergency). 50-amp alternator. ROPS canopy. Rear view mirror. Air cleaner service indicator. Blower fan. 24-volt direct electric key start system with diagnostic connector. Rigid drawbar. Dry type air cleaner and full view precleaner. Electric hour meter. Radiator guard. Lighted instrument panel and electronic monitoring system. Muffler. Choice of power shift transmission or direct drive transmission. Lockable storage compartment. Adjustable seat and seat belts. 410 mm/16" shoes. Sealed and Lubricated Track, Hydraulic track adjusters, Lifetime Lubricated rollers and idlers. Replaceable sprocket rim segments. Two piece master link. Normal service crankcase guards. Decelerator (PS).



Optional equipment

(approximate change in operating weight)

	Kg	Lb
Abrasion end bits	11	24
Air conditioner w/heater	130	287

	Kg	Lb
Backup alarm	1	2
Cab — ROPS sound suppressed	364	802
Decelerator (standard on power shift)	2	4.5
Fan, reversible	8	18
Fenders, heavy duty	49	108
Front warning horn	1.5	3
Gauge package	1	2
Guards:		
Center section track guiding	72	159
Engine enclosures	16	35
Engine enclosures, heavy duty	34	74
Extreme service crankcase	62	137
Rear screen (for ROPS cab)	53	117
Rear screen (for ROPS canopy)	64	142
Rear tank (for ROPS cab or canopy)	106	234
Track roller (end guiding included)	289	637
Headguard canopy	-178	-392
Hook, front pull	2	4
Hydraulic controls:		
One valve for S-bulldozer	213	470
Positions: Raise, hold, lower float		
Two valve for S-bulldozer and tilt cylinder	254	560
Three valve for S-bulldozer, tilt cylinder and ripper	281	620
Four valve for P-bulldozer and ripper	295	650
Lighting system, cab	16	35
Lighting system, canopy	16	35
Lighting system without canopy	10	22
Precleaner	4	9
Prescreener	5	11
Radiator core protector grid	10	20
Radiator guard, hinged heavy duty	109	240
Starting aids:		
Batteries, heavy duty	5	10
Engine coolant heater	1	2
Ether starting aid (less canister)	3	6
Low temperature includes ether starting aid, engine coolant heater, heavy duty batteries, heavy duty starting motor	18	40
Sun canopy	-261	-575
Suspension seat	21	46
Sweeps (for ROPS canopy)	224	494
Swinging drawbar	179	395
Tilt cylinder	32	70
Tool kit	15	33
Track shoes		
460 mm/18" single grouser	112	247
510 mm/20" single grouser	224	494
Vandalism protection:		
For use with ROPS cab	9	20
For use with ROPS canopy	5	12
Winch	989	2180
Winch installation arrangement	191	360

Materials and specifications are subject to change without notice.