



# D5H SERIES II

## TRACK-TYPE TRACTOR

- **Power Angling and Tilt blade** — with full hydraulic control of lift, dig, angle and tilt...gives exceptional versatility.
- **Load-sensing hydraulic system** — adjusts pump displacement and pressure to load encountered.
- **Excellent fuel efficiency** and productivity.
- **Easy maintenance and repair** — fast daily checks, modular components, reduced downtime.
- **Operating ease** — efficient, comfortable work environment.
- **Total Customer Support System** — unmatched in the industry!

### Cat 3304 Turbocharged diesel Engine

Gross power .....98 kW/132 HP

Flywheel power.....89 kW/120 HP

### Operating weight:

Power shift .....13 099 kg/28,817 lb

Direct drive.....13 177 kg/28,990 lb

Blade capacity .....2.66-3.17 m<sup>3</sup>/3.48-4.15 yd<sup>3</sup>

Featured machines may include additional equipment applicable only for special applications. See your authorized Caterpillar dealer for available options.





# FEATURES

## Elevated Sprocket Undercarriage

Caterpillar's elevated sprocket tractors set the standard in traction, durability and ride.

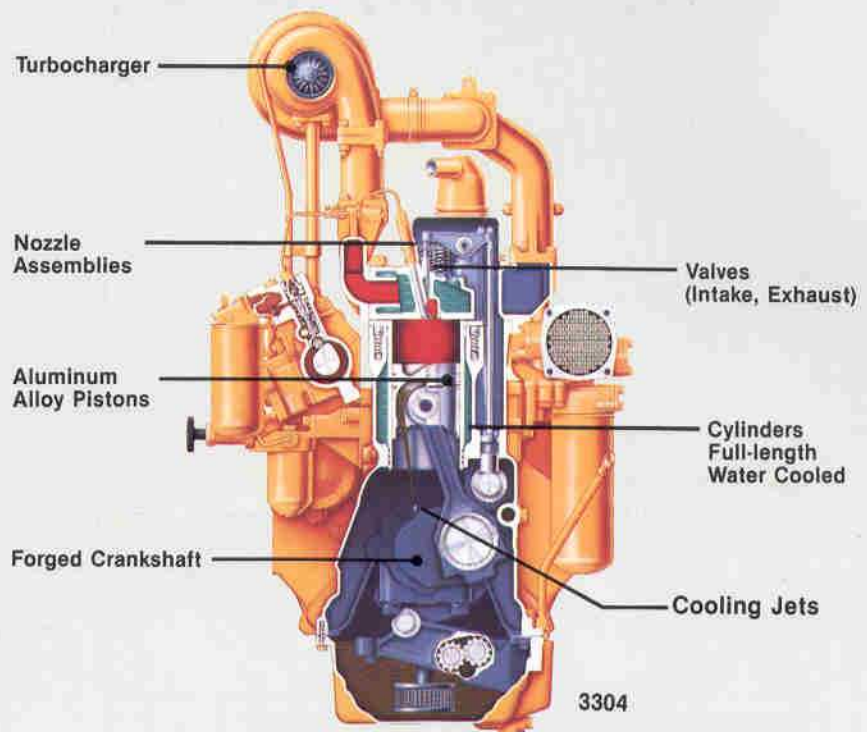
- **Machine balanced** for high dozer production.
- **Final drives and associated power train components** raised above the work area — isolating them from ground-induced impact loads, as well as implement and roller frame alignment loads — extending power train component life.
- **Sprocket position** keeps sprocket teeth, bushing and final drives away from the abrasive materials and moisture — resulting in longer final drive gear and seal life.
- **A forward center of gravity**, with long track footprint on the ground, give aggressive dozer performance and excellent side slope stability.



## Caterpillar® Diesel Engine

Provides power, reliability and performance you can depend on.

- **High torque rise** provides lugging force to power train during heavy loads.
- **High displacement-to-power ratio**, low RPM for long life and reliability.
- **Direct-injection fuel system**, adjustment-free pumps and valves for efficient, precise fuel metering.
- **Four-stroke-cycle design** provides long, effective power strokes, more complete fuel combustion.
- **Resilient engine mounting** for quieter operation, less vibration.
- **Engine oil cooler** maintains optimum engine oil temperature to cool engine components and prolong engine and lubricant life.
- **Full-length, water-cooled cylinders** ensure maximum heat transfer for longer engine life.

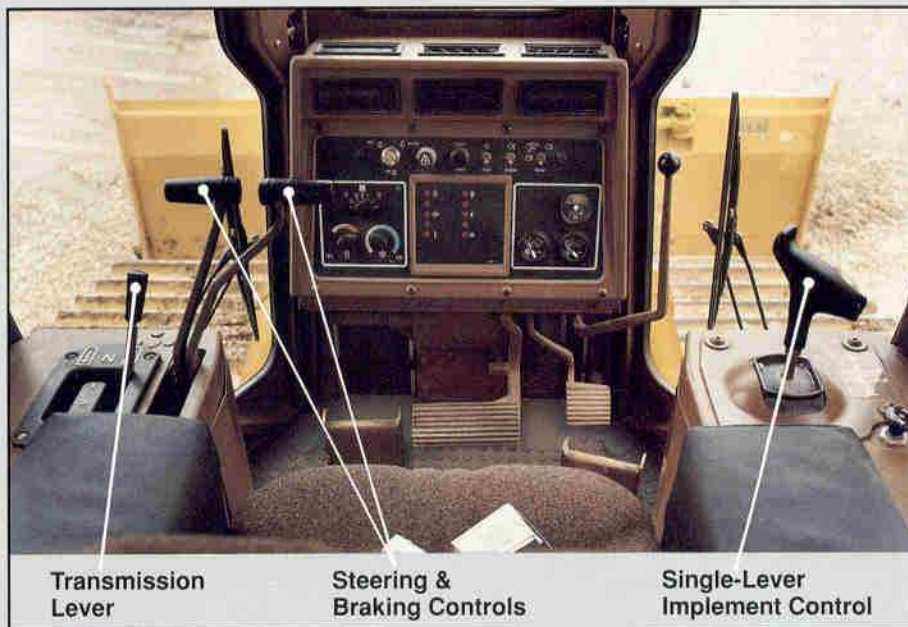




## Operator's Station

Comfort and convenience designed into the control station for an efficient and productive operator.

- **Operator's station** provides excellent visibility to blade and rear of machine for maximum operator productivity.
- **Easy-to-reach, low-effort controls** provide sure, precise steering and dozer control for less operator fatigue.
- **Fully adjustable, suspension seat** for operator comfort.
- **Instrument panel** includes standard gauge group and Electronic Monitoring System (EMS) for monitoring critical machine functions.
- **Isolation-mounted cab** (optional) with air pressurizer and heater reduces noise and vibration for shift-long comfort.



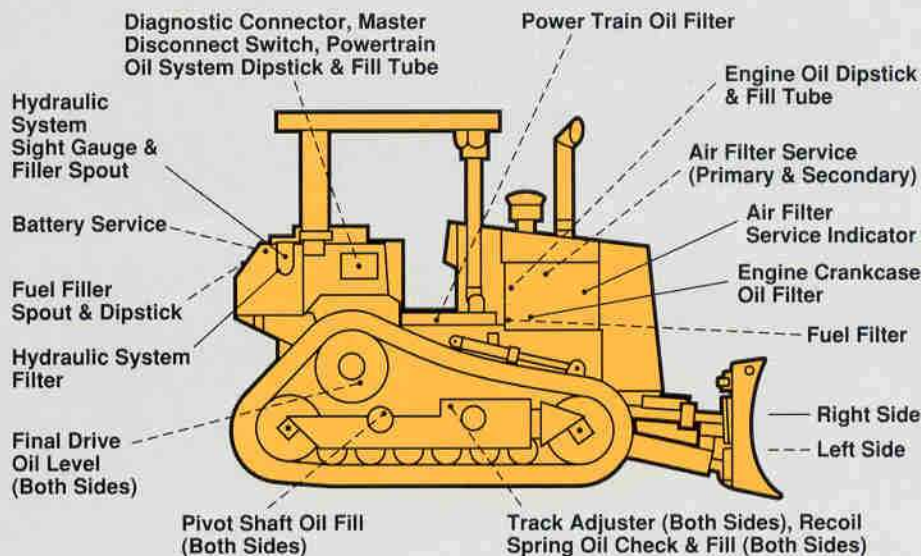
## Service

Cat's modular design concept moves the elevated sprocket tractors a generation ahead in simplified service and repair.

- **Modular design of power train components** permits fast removal and installation.
- **Pre-testing modular components** before installation or after repair assures high quality.
- **Grouped service points** and excellent access to service areas make routine checks fast and convenient.
- **An Electronic Monitoring System** analyzes critical temperatures and pressure — gives visual and audible warning for fast troubleshooting.
- **Electrical system diagnostic connector** enables fast troubleshooting of starting and charging problems.

- **Modular cooling system**, with individual core assemblies, provides improved serviceability, reduced replacement costs and improved durability.

- **Caterpillar Remanufactured dozer hydraulic cylinders and rods**, starters, alternators, cylinder heads, short blocks, engines, oil pumps and final drive hubs are available for fast, economical repairs.





# FEATURES

## Work Tools

Caterpillar work tools include tailored dozers, rippers and winch.

### Blades

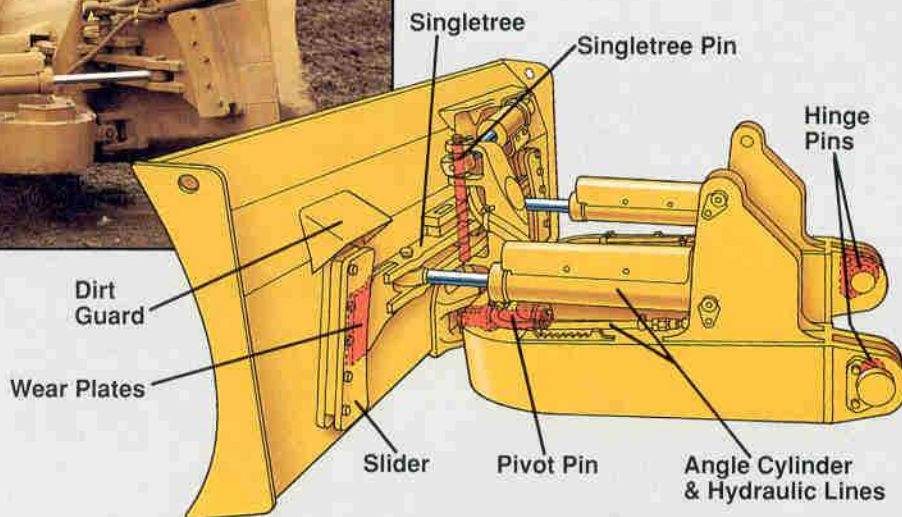
■ **Choices of Power Angling and Tilt (PAT) or Straight (S) blades** for optimum job match-up.

■ **PAT blade:**

- Full hydraulic control of lift, dig, angle and tilt functions.
- C-frame is solidly pinned to the main frame for good blade control and elimination of blade motion due to track oscillation.
- Hardened pin with replaceable bearings extend service life.
- Lubrication points located at those pin joints most susceptible to wear.
- Large singletree tower pin and lubrication of contact areas reduce impact stress giving longer pin life.
- Replaceable wear plates on singletree guide area increases service life.
- Angle cylinder bypass valve and additional hardware help reduce stress on singletree pin.
- Line guards help protect angle cylinder lines from sharp objects and abrasive materials.

■ **S-Blade** for heavy corner loading applications.

■ **Angle (A)-Blade** available through Custom Machine Products.



### Rippers

- **Rugged design** for high production ripping.
- **Socket beam design** means easy servicing.
- **Multi-shank ripper** lets you choose one, two or three shanks to match the job conditions.

### Winch

- **Modulated input clutch on the engine PTO shaft** reduces drains on engine horsepower for fuel efficiency.
- **Full freespool capacity** allows operator to pull line easily from drum for fast, efficient hook-up.
- **Single-lever actuation of both clutch and brake functions** — automatic synchronization of input and directional clutch engagement for smooth control.



## Total Customer Support

Unmatched in the industry!

- **Parts availability** — Most Cat® parts are immediately available off the shelf. Dealer parts availability is backed by Cat's computer-controlled, emergency search system.
- **Service Capability** — Whether in the dealer's fully equipped shop or in the field, you'll get trained service people using the latest technology and tools.
- **Machine management services** — Cat dealers help manage equipment investments with:
  - Custom Track Service.
  - Effective preventive maintenance programs.
  - Diagnostic programs like Scheduled Oil Sampling and Technical Analysis.
  - Information to make the most cost-effective repair option decisions.
  - Customer meetings, training for operators and mechanics.
- **Exchange components for quick repairs** — low-cost components assure maximum, cost-effective uptime.
- **Literature support** — Easy-to-use operation and maintenance guide helps you get the full value out of your equipment investment.





# SPECIFICATIONS



## Engine

Gross power at 2200 RPM .....98 kW/**132 HP**  
 Flywheel power at 2200 RPM.....89 kW/**120 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, water pump, fuel pump, muffler and lubricating oil pump. No derating is required up to 2300 m/7500 ft. altitude.*

These additional ratings also apply at 2200 RPM:

ISO 1585.....89.0 kW/**120.0 HP**  
 ISO 3046-1.....98.0 kW/**132.0 HP**  
 EEC 80/1269 .....89.0 kW/**120.0 HP**

Caterpillar four-stroke-cycle, 3304 diesel engine with four cylinders, 121 mm/4.75" bore, 152 mm/6.0" stroke and 7 liters/425 in<sup>3</sup> displacement.

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

Cam-ground and tapered, aluminum-alloy pistons have three rings each and are cooled by oil spray. Steel-backed, copper-bonded aluminum bearings, thru-hardened crankshaft journals. Pressure lubrication with full-flow filtered and cooled oil. Dry-type air cleaner with primary and secondary elements.

Direct-electric, 24-volt starting system – includes ether starting aid. Heavy duty batteries and engine coolant heater are also available separately for cold weather starting.



## 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 design isolates the final drives from ground-impact and blade-induced loads for long service life. Segmented sprocket for replacement ease.



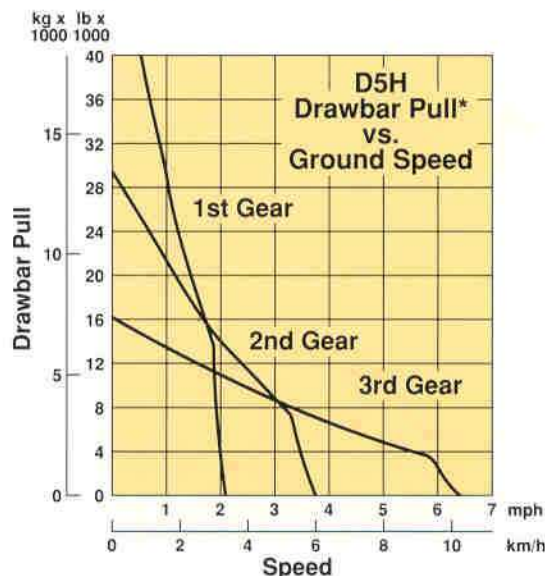
## Transmission

### Power Shift:

Planetary-type with 279 mm/11.00" diameter high torque-capacity oil clutches. Special valve modulates clutch engagement for fast speed and direction changes. Single-stage torque converter connects directly to flywheel. Oil-to-water exchangers cool the torque converter oil.

Speeds with power shift transmission (approximate):

	1st	2nd	3rd
Forward, Km/h .....	3.3	5.9	10.0
MPH .....	2.1	3.7	6.2
Reverse, Km/h .....	4.2	7.3	12.5
MPH .....	2.6	4.5	7.8



\*Usable pull will depend on weight and traction of equipped tractor.

### Direct Drive:

Constant-mesh, sliding-collar countershaft transmission. The D5H Series II offers six speeds forward and reverse, enabling the operator to match tractor speed and drawbar pull to job requirements. Helical gears are 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 quieter operation.

Flywheel clutch has three discs. Clutch is lubricated and cooled by pressure-circulated oil. Clutch is hydraulically actuated and requires no adjustment. Live PTO for use with 55 winch.

### Travel speeds and drawbar pull

Gear	Forward		Reverse		Drawbar Pull, forward			
					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	12 250	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.





## ROPS

ROPS Canopy is required in U.S.A. ROPS (Rollover Protection Structures) offered by Caterpillar for this machine meet ROPS criteria SAE J395, SAE J1040 APR88 and ISO 3471. They also meet FOPS (Falling Object Protective Structure) criteria SAE J231 and ISO 3449.



## Cab

Cab offered by Caterpillar, when tested with doors and windows closed according to ANSI/SAE J1166 JUL 87, meets OSHA and MSHA requirements for operator sound exposure limits in effect at the time of manufacture.



## Sealed and Lubricated Track

Sealed and Lubricated Track surrounds the track pin with lubricant to eliminate internal pin and bushing wear. Lubricant is held in place by a sealing arrangement consisting of a rigid shear seal, a rubber load ring and a thrust ring. Additional lubricant is contained in a reservoir drilled into the track pin. Extends undercarriage maintenance intervals and reduces costs. Hydraulic track adjusters and two-piece master link standard.



## Pivot Shaft and Equalizer Bar

The D5H Series II 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 keeps track roller frames in proper alignment. The D5H Series II design has excellent ground clearance and provides a smooth underside to prevent the collection of mud and debris.



## 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 level. Gear driven from rear of engine.

### Implement system:

Flow at maximum  
 pressure.....108.8 L/min/**28.7 gpm** at 2200 RPM  
 Maximum pressure .....20 670 kPa/**3,000 psi**



## Steering

Hydraulically actuated, multiple-disc, oil-cooled steering brakes are spring engaged and hydraulically released. Clutches are multiple-disc, oil-cooled, hydraulically applied. The disc assemblies provide high load and carrying capability, long life and require no adjustment.

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



## Track Roller Frame

Tubular design to resist torsional loads. Lifetime Lubricated rollers and idlers are directly mounted to roller frame.

Oscillating roller frames attach to tractor by a pivot shaft and fully pinned equalizer bar. Large pivot bushings operate in an oil reservoir.

Equalizer bar saddle connection is a low-friction bushing with remote lub line. Recoil system is fully sealed and lubricated.

Oscillation at front idlers .....	±83 mm/ <b>3.2"</b>
Number of rollers (each side) .....	6
Number of shoes (each side).....	37
Width of standard shoes.....	510 mm/ <b>20"</b>
optional shoes.....	460 mm/ <b>18"</b>
Length of track on ground.....	2306 mm/ <b>91"</b>
Gauge.....	1800 mm/ <b>71"</b>
Ground contact area:	
510 mm/ <b>20"</b> shoes.....	2.35 m <sup>2</sup> / <b>3,646 in<sup>2</sup></b>
460 mm/ <b>18"</b> shoes.....	2.11 m <sup>2</sup> / <b>3,276 in<sup>2</sup></b>
Ground pressure:	
510 mm/ <b>20"</b> shoes.....	0.557 kg/cm <sup>2</sup> / <b>7.90 psi</b>
460 mm/ <b>18"</b> shoes.....	0.613 kg/cm <sup>2</sup> / <b>8.70 psi</b>
Grouser height	
(from ground face of shoe) .....	57 mm/ <b>2.2"</b>



# SPECIFICATIONS



## Ripper

Beam width.....	2202 mm/86.7"
Cross section.....	216 mm x 254 mm/8.5" x 10"
Maximum clearance, raised .....	592 mm/23.3"
Number of pockets .....	3
Maximum penetration .....	451 mm/17.7"
Maximum pryout force .....	13 521 kg/29,747 lb
Maximum penetration force (PAT blade equipped) power shift .....	3663 kg/8,058 lb
Weight:	
With one tooth.....	936 kg/2,059 lb
Each additional tooth .....	70 kg/154 lb



## Winch

Weight.....	891 kg/1,965 lb
Winch length.....	1022 mm/40.25"
Winch case width .....	1003 mm/39.5"
Flange diameter .....	445 mm/17.5"
Drum width .....	241 mm/9.5"
Drum diameter .....	203 mm/8.0"
Cable size:	
Recommended .....	19 mm/0.75"
Optional.....	22 mm/0.88"
Drum capacity:	
Recommended cable .....	76 m/248'
Optional cable.....	53 m/173'
Oil capacity .....	47 L/12.5 gal
Cable/ferrule sizes	
(OD x length) .....	54 mm x 67 mm/2.12" x 2.63"



## Service Refill Capacities

	Liters	U.S. Gallons
Fuel Tank.....	246	65
Cooling System.....	27.9	7.4
Engine Crankcase .....	17.8	4.7
Transmission, bevel gear and steering clutch compartments (includes torque converter or oil clutch).....	112	29.6
Final Drives (each).....	7	1.8
Implement Hydraulic System .....	70	18.5
Hydraulic Tank .....	36.4	9.6



# SPECIFICATIONS



## Standard Equipment

**Note:** Standard and optional equipment may vary. Consult your Caterpillar dealer for specifics.

Air cleaner, dry-type.	Electric hour meter.	Radiator guard.
Air cleaner service indicator.	Electronic Monitoring System.	Seat, suspension.
Alternator, 50-amp.	Electric starting, 24-volt direct.	Seat belt.
Back-up alarm (U.S.A.).	Ether starting aid.	Segmented sprocket.
Batteries, heavy duty.	Gauge package (PS).	Single key start.
Blower fan.	Hook, front pull.	Track:
Canopy, ROPS (Required in U.S.A.).	Horn, front warning.	Adjusters, hydraulic.
Decelerator.	Lifetime Lubricated rollers and idlers.	Sealed and Lubricated Track with 510 mm/20", 37-section single grouser track shoes.
Diagnostic connector.	Lockable storage compartment.	Two-piece master link.
Drawbar, rigid.	Muffler.	Transmission, power shift or direct drive.
End guiding guards.	Precleaner.	



## Optional Equipment

	Kg	Lb		Kg	Lb
Air conditioner with heater.....	130	287	Lighting system, cab.....	16	35
Cab - ROPS sound suppressed.....	364	802	Lighting system, canopy.....	16	35
Fan, reversible.....	8	18	Lighting system without canopy.....	10	22
Fenders, heavy duty.....	55	108	Prescreener.....	5	11
Grill, heavy duty hinged.....	32	92	Ripper (with one tooth).....	936	2,059
Guards:			Additional tooth (each).....	70	154
Center section track guiding.....	72	159	Starting aids (dealer installed):		
Engine closures.....	19	35	Engine coolant heater.....	1	2
Extreme service crankcase.....	62	137	Sweeps (for ROPS canopy).....	224	494
Rear screen (for ROPS cab).....	53	117	Tool kit.....	15	33
Rear screen (for ROPS canopy).....	64	142	Track, pair, Sealed and Lubricated,		
Rear tank (for ROPS cab or canopy)....	106	234	37-section:		
Track roller.....	289	637	460 mm/18" single grouser.....	-112	-247
Heater (for OROPS).....	34	75	510 mm/20" extreme service.....	118	260
Hydraulics:			Winch.....	891	1,965
Two valve for 5S bulldozer and tilt cylinder.....	254	560			
Three valve for 5S and 5P bulldozer, tilt cylinder and ripper.....	281	620			
Four valve for 5P bulldozer, tilt cylinder, angle cylinder and ripper.....	295	650			



## Bulldozer Specifications

Blade	Blade Capacity (SAE J1265)		Blade Width (over end bits)		Blade Height		Digging Depth		Ground Clearance		Maximum Tilt		Weight (without hyd. controls)		Total Operating Weight** (with blade)	
	m <sup>3</sup>	yd <sup>3</sup>	mm	ft. in.	mm	in.	mm	in.	mm	in.	mm	in.	kg	lb	kg	lb
5P .....	3.17	4.15	3170*	10'5"*	1155	45.5	433	17.0	951	37.4	476	18.7	2041.5	4,501	13 099	28,817
5S .....	2.66	3.48	2950	9'8"	1070	42.1	406	16	936	36.9	446	17.6	1854	4,087	12 947	28,485

\* PAT blade straight – Angled dimensions; 2922 mm/9'7".

\*\* Operating weight includes lubricants, coolant, full fuel tank, power shift arrangement, ROPS canopy, operator, hydraulic controls, track end guiding guards, rigid drawbar, dozer listed, forward warning horn, precleaner, ether starting aid, decelerator for power shift and 510 mm/20" shoes.





## The Competitive Edge

### Performance

- **A forward center of gravity** with more track on the ground provides optimum dozing.
- **Excellent side slope capacity** — wide track gauge gives the D5H Series II excellent side slope stability.
- **Excellent power-to-weight ratio** — faster loading, bigger loads, shorter cycle time.
- **Turbocharged 3304 engine** — direct fuel injection for more working power from each unit of fuel.
- **Versatile Power Angle and Tilt blade** for increased productivity.

### Reliability/Durability

- **Tubular track roller frames** resist bending and twisting.
- **Oil-cooled brakes** for increased capacity, service life.
- **Elevated sprocket design** — final drives and associated power train components raised above work environment...isolates from implement and ground-induced shock loads...extends drive train life.
- **Large engine displacement** — peak power with little strain.
- **Durable main frame** absorbs all implement and roller frame loads through pivot shaft.

### Maintenance/Repair

- **Modular components** — remove as single units for simpler, quicker repairs, less downtime.
- **Modules can be pre-tested, field-installed** — less shoptime, downtime.
- **Electronic Monitoring System** — guards against costly failures when gauges aren't checked often enough.
- **Modular core radiator** — easy servicing and repair of the individual modules.
- **Exclusive plug-in diagnostic tool connector** — tool reads electrical system check points — electrical problems diagnosed quickly.

### Operating Ease

- **Conveniently placed, low-effort controls** and easy-to-read, non-glare instrument panel — less strain, fatigue for operator.
- **Sound-suppressed ROPS/FOPS cab** available — heater (standard with cab) or optional heater/air conditioner controls environment — pressurization keeps out dust.
- **Fully adjustable, suspension seat** for comfort and visibility of blade and ripper or winch operations.
- **Smooth, precise one-handed** forward, reverse and speed control.

### Total Customer Support System

- **Parts availability** — most Cat parts on dealer's shelf when you need them — computer-controlled, emergency search system back-up.
- **Service capability** — dealer's shop or fast field service — trained service people — latest tools and technology.
- **Machine management services** — effective preventive maintenance programs, diagnostic programs (Scheduled Oil Sampling, Technical Analysis), cost-effective repair options, customer meetings, operator and mechanic training.
- **Exchange components for quick repairs** — choose remanufactured products or rebuilt components for maximum availability and lower costs.
- **Literature support** — easy-to-use operation and maintenance guide helps you get the maximum value out of your equipment.
- **Flexible Financing** — your dealer can arrange attractive financing on the entire line of Cat equipment. Terms structured to meet your cash flow requirements. See how affordable and easy it is to own Cat equipment.

### Custom Products

- In addition to the standard range of optional equipment, special attachments and machine configurations to suit particular customer applications can be made. Contact your Caterpillar dealer for details on matching the D5H Series II to your special applications.

# CATERPILLAR®