

D4H

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® 3204 Turbocharged d	iesel Engine
Gross Power	74 kW/99 HP
	71 kW/95 HP
Operating weight	
Standard machine	
Power shift	10 105 kg/22,277 lb
	10 231 kg/22,555 lb
LGP arrangement	
	11 350 kg/25,022 lb
	11 476 kg/25,300 lb
Blade capacity	
	1.89 m ³ /2.47 yd ³ to
	2.31 m ³ /3.01 yd ³
LGP arrangement	2.03 m ³ /2.66 yd ³ to
	2.17 m ³ /2.84 yd ³

Machine shown may include optional equipment.



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 mud, ice and dust — resulting in longer track, sprocket and final drive life.
- A forward center of gravity with long track footprint on the ground, give aggressive dozer performance and excellent side slope stability.

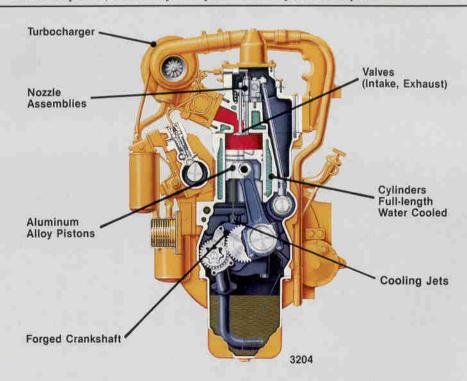


 Elevated sprocket design provides superior performance, durability/reliability and low operating costs.

Caterpillar® Diesel Engine

Provides power, reliability and performance you can depend on.

- High torque rise provides lugging force to power train during heavy loads — no need to downshift.
- 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.



Bulldozer Specifications (Standard)

Blade	Cap	ade acity J1265)	Wi	ade dth nd bits)	Hei	de ght		ging pth	And the second	und ance	100000000000000000000000000000000000000	mum ilt		i ght ut hyd. rols)	Weig	oerating ght* blade)
	m ³	yd ³	mm	ft. in.	mm	in.	mm	in.	mm	in.	mm	in.	kg	lb	kg	lb
4P	2.31	3.01	2636	8'8"	1085	42.7	397	15.6	861	34	397	15.6	1424	3139	10 105	22,277
45	1.89	2.47	2584	8'6"	965	38	414	16.3	870	34.3	402	15.8	1536	3387	10 212	22,513

Bulldozer Specifications (LGP)

Blade	Cap	ade acity J1265)	Wi	ade idth ind bits)	Hei	ade ight		ging pth		und rance	100000000000000000000000000000000000000	mum ilt	(witho	ight ut hyd. rols)	Weig	perating ght* blade)
	m ³	yd ³	mm	ft. in.	mm	in.	mm	in.	mm	in.	mm	in.	kg	lb	kg	lb
4P	2.03	2.66	3256	10'8.2"	908	35.7	414	16.3	906	35.7	491	19.3	1618	3567	11 350	25,022
45	2.17	2.84	3256	10'8.2"	920	36.2	459	18.1	899	35.4	421	16.6	1594	3515	11 324	24,965

^{*} 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 460 mm/18" shoes — LGP 760 mm/30" shoes.



SPECIFICATIONS



Standard Equipment

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

Air cleaner, dry-type. Air cleaner service indicator. Alternator, 35-amp. Back-up alarm (U.S.A.). Blower fan. Canopy, ROPS (Required in U.S.A.). Decelerator (PS). Diagnostic connector. Drawbar, rigid. End guiding guards. Electric hour meter. Electronic Monitoring System. Electric starting, 24-volt direct. Ether starting aid. Horn, front warning.

Lifetime Lubricated rollers and Lighted instrument panel. Lockable storage compartment. Muffler. Precleaner. Radiator guard. Seat, adjustable. Seat belt. Segmented sprocket. Single key start. Track: Adjusters, hydraulic. Sealed and Lubricated Track with 460 mm/18", 39-section (standard undercarriage) single grouser track shoes.

Two-piece master link.

Transmission, power shift or direct drive.

LGP arrangement (additional)
Brake system, service, parking and emergency.
Guards, crankcase — normal service.
Hook, front pull.
Track:
Sealed and Lubricated Track with 760 mm/30", 44-section single grouser track shoes.

Optional Equipment

	kg	lb		kg	lb
Air conditioning system	41	90	For use without heavy-duty		
Alternator, 50-amp (24-EM only)	5	11	radiator guard	11	25
Back-up alarm (std. in U.S.A.),	2	5	For use with ROPS canopy		
Cab, ROPS, sound suppressed	322	709	For use with heavy-duty		
Canopy, ROPS (required in U.S.A.)	91	200	radiator guard	11	25
Decelerator (DD)	4.5	10	For use without heavy-duty		
Drawbar, rigid (less off)	-70	-155	radiator guard	11	25
Swinging (parts only)	125	275	Logging Arrangement	410	904
Engine enclosure (perforated)	20	44	Precleaner with prescreener	4	10
heavy duty	41	91	Rear screen for ROPS and winch	64	142
Fan, reversible	16	35	Ripper	553	1220
Fenders, heavy duty	52	11	Sound suppression (COSA)	23	50
Guards:			Starting aids		
Crankcase extreme service	48	106	Heater, engine coolant,		
Fuel tank	71	156	choice of 110 or 220 volt	1	3
Fuel tank (for use with			Starting system, low-temperature	9	20
ROPS & Winch)	36	79	Suspension seat	10	21
Radiator (heavy duty, hinged)	46	102	Sweeps, logging for ROPS canopy	181	400
Track guiding, center section only	34	76	Tool kit	7	15
Track roller, full length	146	321	Track, pair: Sealed and Lubricated		
Hook, front pull	10	21	or Sealed (non-lubricated)		
Hydraulic controls:			Standard — 39-section:		
Two valve for 4S bulldozer and			410 mm/ 16"	85	187
ripper or rear implement (std. only)	191	421	460 mm/18"	169	373
Two valve for 4S bulldozer and tilt	186	410	460 mm/18" (extreme service)	63.5	140
Three valve for 4S bulldozer, tilt and			LGP tractor — 44-section:		
one rear implement (standard only)	200	440	760 mm/ 30"	275	606
Three valve for 4P bulldozer	193	425	460 mm/ 18"	-134	-295
Four valve for 4P bulldozer, ripper			Vandalism protection		
or one rear implement (std. only)	213	470	For ROPS cab	5	10
Lighting system, six lights:			For ROPS canopy	9	20
For use with ROPS cab			Winch	820	1808
For use with heavy-duty			Winch fairlead	180	397
radiator guard	11	25			



Ripper Specifications

Beam width
Cross section
Ground clearance under beam raised898 mm/35"
Under tip at full raise475 mm/19"
Number of pockets3
Maximum penetration375 mm/14.75"
Maximum pryout force12 076 kg/26,000 lb
Maximum penetration force
(S-Blade equipped)3178 kg/7,000 lb
Weight
With one tooth613 kg/1,350 lb
Each additional tooth34 kg/74 lb

Winch Specifications

Weight	891 kg	1965 lb
Winch length	1022 mm	40.25"
Winch case width	1003 mm	39.5"
Flange diameter	445 m	17.5"
Drum width	241 mm	9.5"
Cable size:		
Recommended	16 mm	0.62"
Optional	19 mm	0.75"
Drum capacity:		
Recommended cable	107 m	351'
Optional cable	76 m	248'
Oil capacity	47 L	12.5 gal
Cable/ferrule sizes	51 mm X	41 mm
(OD X length)	1.62" X	2.00"

Weight (approximate)

Shipping (includes lubricants, coolant, ROPS canopy, 5% fuel, track end guiding guards, rigid drawbar, forward warning horn, precleaner, ether starting aid, decelerator for powershift, and standard shoes).

	Standard	LGP
Power shift	8276 kg/18,245 lb	9327 kg/ 20,562 lb
Direct drive	8402 kg/18,523 lb	9453 kg/ 20,840 lb

Operating (includes lubricants, coolant, ROPS canopy, full fuel tank, operator, PAT Bulldozer, track end guiding guards, rigid drawbar, three valve hydraulic control, forward warning horn, precleaner, ether starting aid, decelerator for power shift and standard shoes).

	Standard	LGP
Power shift	10 105 kg/ 22,277 lb	11 350 kg/25,022 lb
Direct drive	10 231 kg/ 22,555 lb	11 476 kg/25,300 lb



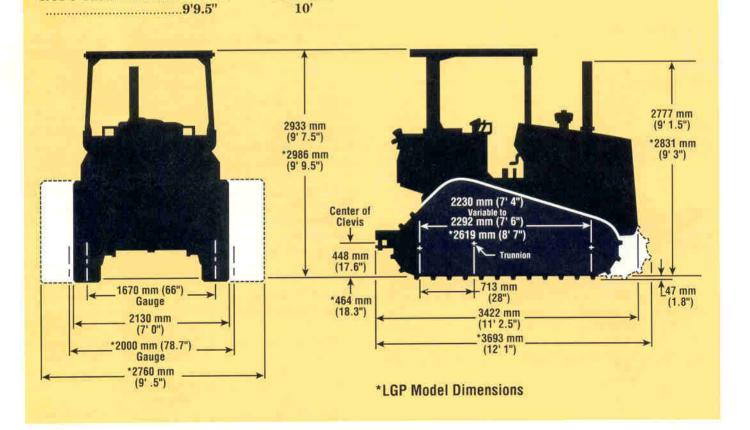
SPECIFICATIONS

Service Refill Capacities

Fuel tank	110.0	U.S. Gallons 44.0 7.0 4.0	Final drives (each)	6.0 67.3 30.0	U.S. Gallons 1.5 17.5 7.8
LGP	122.0	31.7			

Dimensions (approximate)

	Standard	LGP	Standard	LGP
Ground clearance,			With the following	
from ground face			attachments, add	
of shoe (per			to basic tractor	
SAE J1234)	376 mm/	362.5 mm/	length of3422 mm/	3693 mm/
	14.8"	14.3"	11'2.5"	12'1"
Actual clearance			Ripper803 mm/2'7.5'	
under case		430 mm/17"	54 Winch304 mm/12"	304 mm/ 12 "
Machine height from		r with the	PAT-Blade810 mm/2'7.5'	' 1209 mm/ 4'0 "
following equipment			S-Blade80 mm/2'7.5"	1081 mm/3'3"
ROPS Canopy		3033 mm/		
	9'9"	9'11.5"		
ROPS Cab	2986 mm/	3039 mm/		



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 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.

ROPS

ROPS Canopy is required in U.S.A. ROPS (Rollover Protection Structures) offered by Caterpillar for this machine meets ROPS criteria SAE J395, SAE J1040 APR88 and ISO 3471-1986. They also meet FOPS (Falling Object Protective Structure) criteria SAEJ231 and ISO 3449-1984.

Cab

Cab offered by Caterpillar, when tested with doors and windows closed according to ANSI/SAE J1166 JUL87, meets OSHA and MSHA requirements for operator sound exposure limits in effect at the time of manufacture.

Pivot Shaft and Equalizer Bar

The D4H 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 D4H design has excellent ground clearance and provides a smooth underside to prevent the collection of mud and debris.

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 polyurethane 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.

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 systems:

Flow at maximum

pressure94.6 L/min / **25.5 gpm** at 2200 RPM Maximum pressure18,600 kPa/**2700 psi**

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, nomaintenance bushing. Recoil system is fully sealed and lubricated.

Oscillation at front idlers

Standard	1000	+ 65 mm/2 6"
LGP		
	Standard	LGP
Number of rollers		
(each side)	7	7
Number of shoes		
(each side)	39	44
Width of		
standard shoes46	30 mm/18"	760 mm/30"
narrow shoes41		1 3 % CHAINTEC S. (5)
extreme service		
shoes46	30 mm/18"	
Length of track		
on ground22	30 mm/88"	2620 mm/103"
Gauge16		2000 mm/78.7"
Ground contact area-		
standard shoes	2.05 m ² /	3.99 m^{2}
	$3168 in^{2}$	6180 in ²
narrow shoes	1.82 m ² /	2.39 m ² /
	$2826 in^{2}$	$3708 in^2$
extreme service		
shoes	$2.05 \text{ m}^{2/}$	-
	$3168 in^2$	_
self cleaning shoes		3.99 m^{2}
	· —	$6180 in^2$
Ground Pressure		
with standard shoes0.		0.28 kg/cm ² /
	7.03 psi	4.05 psi
narrow shoes0.		$0.47~\mathrm{kg/cm^2}$
	7.64 psi	$6.75 \mathrm{\ psi}$
extreme service	22 Y 2 3	
shoes0.		
	7.08 psi	0.001
self cleaning shoes	—	0.28 kg/cm ²
		4.05 psi

SPECIFICATIONS

Caterpillar Engine

Gross power (PS) at 2200 RPM74 kW/99 HP

Flywheel power (PS) at

2200 RPM 71 kW/95 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 for direct drive, 3000 m/10,000 ft. for power shift model.

These additional ratings also apply at 2200 RPM

	kW	HP
ISO 1585	. 70.9	95
ISO 3046-1		93.5
EEC 80/1269	. 70.9	95

Caterpillar four-stroke-cycle, 3204 turbocharged diesel engine with four cylinders, 114 mm/4.5" bore, 127 mm/5.0" stroke and 5.2 liters/318 in³ displacement. Individual, adjustment-free injection pumps and valves. Cam-ground and tapered, aluminum alloy pistons have two rings each. Steel-backed, copper-bonded aluminum bearings; die quenched crankshaft/piston cooling jets; stellite-faced exhaust valves; and replaceable valve seat inserts are standard.

Pressure lubrication with full-flow, filtered oil. Drytype air cleaner with primary and secondary elements.

Two direct-electric, 24-volt starting systems—standard or low temperature available. Ether aid starting attachment for low temperature starting option. Canister is not included.



Final Drive

sprocket for replacement ease.

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

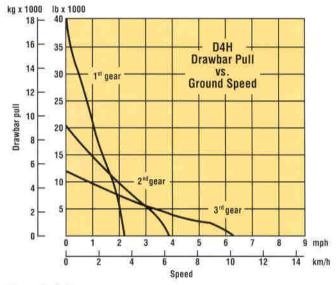
Transmission

Power shift:

Planetary-type with high torque-capacity oil clutches. Special valve modulates clutch engagement for fast speed and direction changes. Single-stage torque converter connects directly to flywheel. Live PTO used with 54 Winch.

Speeds with power shift transmission (approximate):

		1st	2nd	3rd
Forward	Km/h	3.5	6.2	10.2
	MPH	2.2	3.9	6.3
Reverse	Km/h	4.3	7.5	12.2
	MPH	2.7	3.9	7.6



Direct drive:

Constant-mesh, sliding-collar countershaft transmission. The D4H offers six speeds forward and reverse, enabling the operator to match tractors 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 plates. Clutch is lubricated and cooled by pressure-circulated oil. Clutch is hydraulically actuated and requires no adjustment. Live PTO used with 54 winch.

Standard transmission speeds and drawbar pulls:

Gear				Drawbar Pull Foward				
	Foward		Reverse		At rated RPM		Max. at lug	
	Km/h	MPH	Km/h	MPH	kg	lb	kg	lb
1	2.5	1.6	3.3	2.1	7454	16,434	9767	21,533
2	3.2	2.0	4.2	2.6	5715	12,599	7522	16,583
3	4.3	2.6	5.6	3.4	4235	9,336	5613	12,375
4	5.5	3.4	7.2	4.5	3132	6,904	4195	9,248
5	7.2	4.4	9.4	5.8	2277	5,020	3093	6,818
6	9.5	5.9	12.4	7.7	1597	3,520	2215	4,883

Low Ground Pressure

The D4H LGP gives you optimum balance and stability with excellent slope capabilities.

- LGP undercarriage is especially designed to work in soft, spongy or wet conditions.
- Wide track shoes, long track frame and wider gauge combine to increase track contact area, reduce ground pressure for high flotation and excellent stability.
- The increased track contact area and excellent stability provide better slope capabilities and improve finish dozing.
- End track guiding guards keep track aligned. Full-length guards are available for severe side-slope applications.
- Caterpillar LGP track shoes:
 - Single-grouser shoes, made from heat-treated, cast steel, 760 mm/30", are standard.
 - Self-cleaning shoes available for improved performance in cohesive material. Shoes reduce material build-up for better traction.



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 servicemen 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.

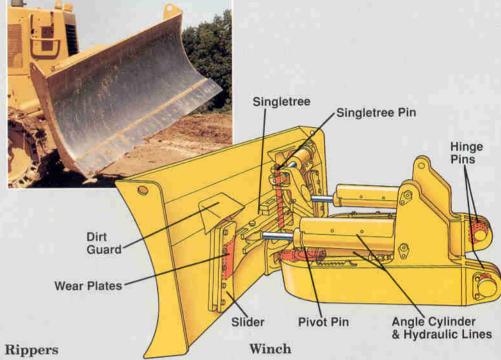
- Exchange components for quick repairs — low-cost components assure maximum, cost-effective uptime.
- Literature support Easy-touse operation and maintenance guide helps you get the full value out of your equipment investment.

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 a good blade control and elimination of blade motion due to oscillation.
 - Increased blade height protects radiator grill and the PAT dozer components.
 - Lubrication points will extend service life of those areas most susceptible to abrasion of dozer frame, C-frame and main frame.
 - Large singletree tower pin and lubrication of contact areas reduce impact stress giving longer pin and service life.
 - Replaceable wear plates on singletree guide area increases service life.
 - 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.
- A-Blade available through Custom Machine Products.

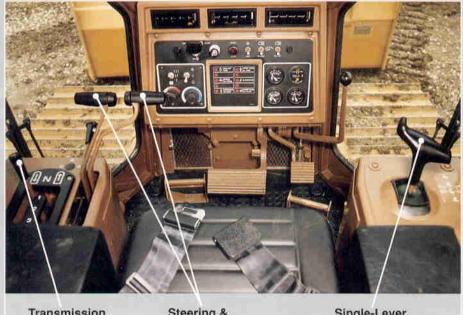


- Rugged design for high production ripping.
- Socket beam design means easy servicing.
- Multi-shank ripper lets you choose one, two or three shanks to match the job conditions.
- Modulated input clutch on the engine PTO shaft reduces drains on engine horsepower for fuel efficiency.
- Full freespool 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.

Operator's Station

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

- Higher operator's station provides excellent visibility to front and rear of machine.
- Easily accessible, low-effort controls provide sure, precise steering and dozer control for less operator fatigue.
- Fully adjustable, five-way 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.



Transmission Lever

Steering & Braking Controls

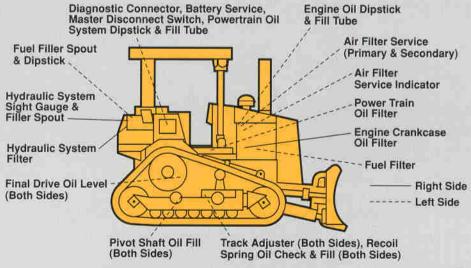
Single-Lever Implement Control

Serviceability

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.
- 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.
- Modular core design is available with two options — Folded Core modules and Multi-Row modules.
- Caterpillar Remanufactured Parts: dozer hydraulic cylinders and rods, starters, alternators, cylinder heads, short blocks, engines, oil pumps and final drive hubs — available for fast, economical repairs.



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 D4H excellent side slope stability.

 Excellent power-to-weight ratio — faster loading, bigger loads, shorter cycle time.

 Turbocharged 3204 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 pretested, 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 easyto-read, non-glare instrument panel — less strain and fatigue for operator.

 Sound-suppressed ROPS/FOPS cab available heater (standard with cab) or optional heater/air conditioner controls environment pressurizations 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 turning 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 servicemen — 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 Machine 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 D4H to your special applications.

