



CATERPILLAR

983B Track-type Loader

Summary of features

- **Cat 3406 diesel Engine** . . . with 893 cu. in. (14.6 litres) displacement.
- **Single-lever power shift transmission** with three speeds forward and three reverse.
- **Pedal steering** frees operator's hands for easy operation of transmission and loader controls.
- **Sealed and Lubricated Track** greatly reduces internal pin and bushing wear, resulting in lower undercarriage maintenance and expense.
- **Sealed loader linkage** and 2000 hour bucket hinge pins extend lubrication intervals, reduce maintenance time.
- **Semi-modular, sound-suppressed ROPS cab** is standard equipment.
- **Bolt-on sprocket rim segments** and two-piece master link save labor costs and reduce downtime.
- **Automatic bucket controls** let bucket rise to pre-set dumping height and return to pre-set digging angle for fast cycle times.
- **CAT PLUS** . . . from your Caterpillar Dealer . . . the most comprehensive, total customer support system in the industry.



Shown with optional rock bucket and center track guiding guards.



Caterpillar Engine

Flywheel horsepower @ 2060 RPM 275
 Kilowatts 205

(Kilowatts (kW) is the International System of Units equivalent of horsepower.)

The net power at the flywheel of the vehicle engine operating under SAE standard ambient temperature and barometric conditions, 85° F (29° C) and 29.38" Hg (995 mbar), using 35 API gravity fuel oil at 60° F (15.6° C), and after deductions for fan, air cleaner, water pump, lubricating oil pump, muffler, fuel pump and alternator. No derating is required up to 10,000 ft. (3000 m) altitude.

Caterpillar 4-stroke-cycle 3406 diesel Engine with six cylinders, 5.4" (137 mm) bore, 6.5" (165 mm) stroke and 893 cu. in. (14.6 litres) displacement.

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

Cam-ground and tapered aluminum alloy pistons with 3-ring design; both compression rings ride in iron band cast into piston. Piston undersides are cooled by oil spray. Steel-backed aluminum alloy bearings. Hi-carbon steel alloy crankshaft, full-flow filtered oil and heat exchanger oil cooler.

Dry-type air cleaner with primary and safety elements, automatic dust ejector and service indicator.

24-volt direct electric starting system with ether starting aid standard. (Ether canister not included.)

983B

Track-type Loader



transmission

Full power shift in all three ranges, forward and reverse. Single-lever shifting. Planetary gear sets shift instantly and smoothly with hydraulically actuated clutches. Oil is filtered, cooled and delivered under pressure for lubrication and hydraulic operation.

Travel speeds at rated engine RPM:

	RPM	MPH	Km/h	FPM	M/min
Forward:	1st	2.4	3.86	211	64
	2nd	4.2	6.76	370	113
	3rd	7.0	11.26	616	188
Reverse:	1st	2.7	4.34	238	73
	2nd	4.7	7.56	414	126
	3rd	8.0	12.87	704	215



torque converter

Single stage, single phase. Jacket water cooled.



steering

Steering and braking controlled by a foot pedal for each track. Third pedal provides braking alone, locks down for parking. Heavy duty, oil-cooled multiple-disc clutches. Hydraulically boosted, oil-cooled contracting band brakes.

Clutch friction material	.....	Metallic
Number of friction surfaces, each clutch	.....	24
Clutch release	.....	Hydraulically actuated



Sealed and Lubricated Track

Sealed and Lubricated Track surrounds the track pin with lubricant to provide quieter operation and eliminate internal bushing wear as a maintenance consideration. Lubricant is held in place by a sealing arrangement consisting of a polyurethane seal, a rubber load ring and a metal thrust ring. Additional lubricant is contained in a reservoir drilled into the track pin. Track rollers, carrier rollers and idlers are Lifetime Lubricated. Standard track guiding guards with bolt-on wear strips are mounted on the track roller frames. Two-piece master link, hydraulic track adjusters and double grouser track shoes are standard.

Track frame	.....	Seven-roller, non-oscillating
Number of shoes (each side)	.....	43
Width of standard track shoes	.....	22" (560 mm)
Length of track on ground	.....	132.6" (3370 mm)
Ground contact area	.....	5,834 sq. in. (3.76 m ²)



hydraulics

Completely sealed to keep out wear-causing dirt and protected by full-flow filtering. Return line filter prevents foreign material from entering reservoir from implement system. Two section vane pump for long life. Operating valves are double spool-type, spring centered, and located in the reservoir for protection. Lines are steel tubing and high pressure hose with flange fittings at connections.

Output @ rated engine speed and

1000 psi (69 bar)	.....	136 gpm (515 litres/min)
Relief valve setting (main)	.....	2150 psi (148 bar)
Tilt cylinder, rod end	.....	2800 psi (193 bar)
Tilt cylinder, head end	.....	2275 psi (157 bar)
Lift cylinders, bore and stroke	.....	8.25" × 42.40" (210 × 1080 mm)
Tilt cylinders, bore and stroke	.....	7.25" × 29.75" (184 × 760 mm)

Hydraulic cycle time, rated load in bucket, in seconds §:

Raise	Dump	Float Down (Empty)	Total
8.1	1.5	2.0	11.6



bucket controls

Lift circuit — raise, lower, hold, float. (Automatic kick-out — adjustable in top 2' (610 mm) of lift height.)

Tilt circuit — tilt back, hold, dump. (Automatic bucket positioner — adjustable to desired digging angle.)



lift arms

Sealed — 50 service meter hour lube intervals. Lower bucket pins are cartridge type and require lubrication only every 2000 service meter hours.



service refill capacities

	U.S. Gallons	Litres
Fuel tank	135	511
Cooling system	23.5	89
Lubricating systems:		
Crankcase	9	34
Transmission, torque converter, steering clutches	25	95
Final drives (each side)	8.5	32.2
Hydraulic system (includes tank)	75	284
Hydraulic tank	31	117



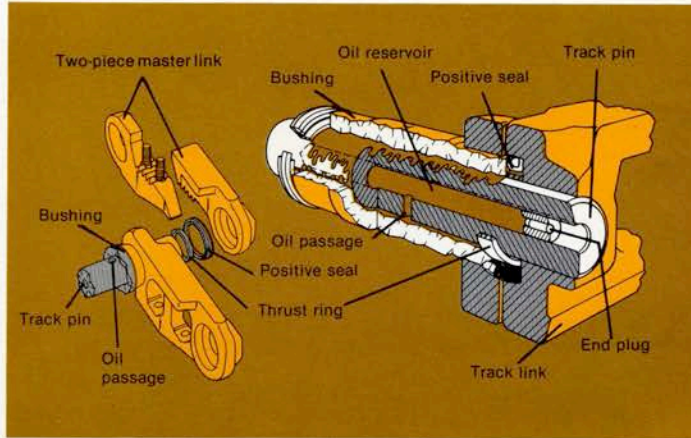
ROPS

(ROPS cab is standard.)

ROPS (Rollover Protective Structures) offered by Caterpillar for this machine meets ROPS criteria: SAE J395, SAE J1040a and ISO 3471. They also meet FOPS (Falling Object Protective Structure) criteria SAE J231 and ISO 3449.

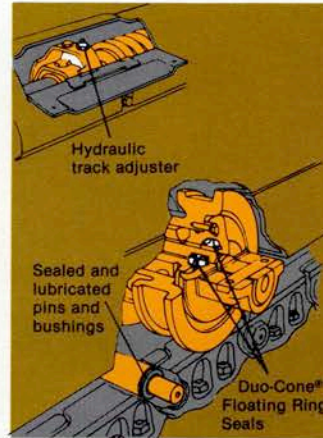
Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers. SAE Standard J732c (1968) and J742b (1969) govern loader ratings, denoted in the text by (§).

Rugged undercarriage design means less downtime, low maintenance cost.

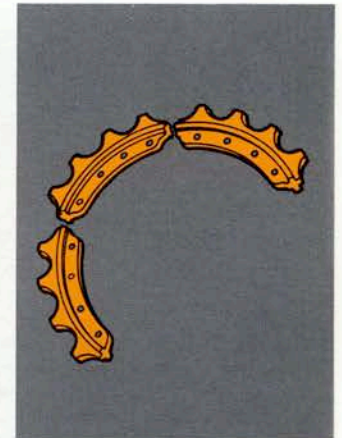


Sealed and Lubricated Track can greatly reduce undercarriage maintenance and expense. A special sealing arrangement maintains an oil film between pin and bushing contact surfaces, eliminating internal bushing wear as a maintenance consideration. The pin contains an oil reservoir in the center for continuous lubing. The thicker bushing has longer external wear life. Sealed and Lubricated Track potentially extends undercarriage component life and noticeably reduces track noise.

Standard two-piece master link makes installation and breaking of the track less time-consuming. Serrated two-piece link is held in place by bolts which fasten the track shoe to each link.

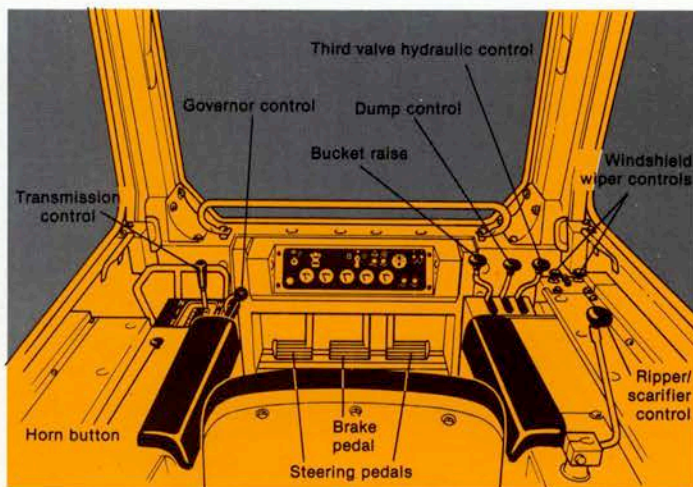


No-daily-maintenance undercarriage saves you time and work. Track rollers, carrier rollers and idlers are Lifetime Lubricated with Duo-Cone® Floating Ring Seals to keep in lubricant . . . keep out abrasives. Standard hydraulic track adjusters keep proper tension with just occasional adjustment with a grease gun.

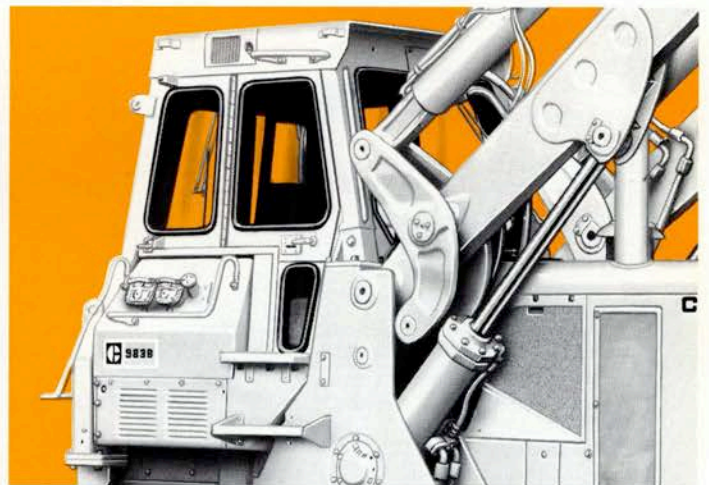


Bolt-on sprocket rim segments really save on labor costs and reduce downtime because rerimring can be done in the field. There's no need to pull the sprocket or break the track.

Built-in convenience, comfort and protection mean more operator efficiency.

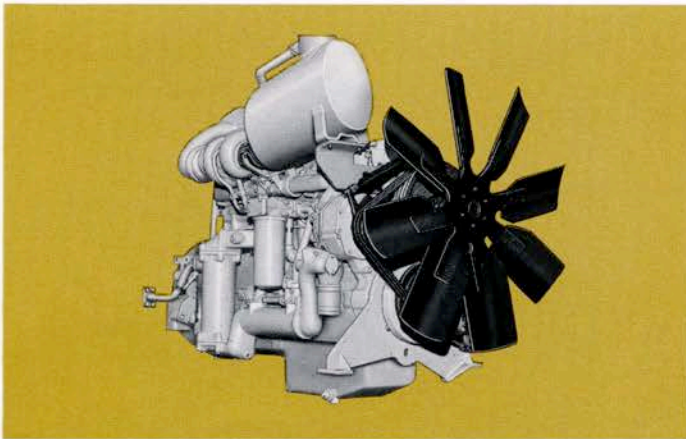


Operator comfort is designed into the 983B: Thickly padded suspension seat adjusts up and down, forward and back. Gauges and indicators are clustered on the dash for fast easy checking. Single lever transmission control located at the operator's left hand allows instant speed and direction changes. There's no decelerating or pausing in neutral. Bucket controls are mounted conveniently at the operator's right hand and feature automatic lift kick-out and bucket positioning. Three pedals mounted under the dash enable the operator to steer with his feet and keep his hands free to operate bucket and transmission. Push the right or left pedal half-way down to release the steering clutches for a slow turn . . . all the way down to brake for sharp turn. The center pedal brakes both tracks without releasing the clutches and locks down for a parking brake.

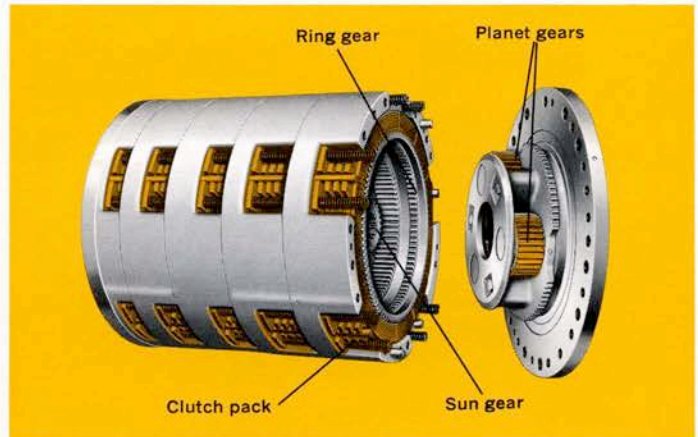


ROPS sound-suppressed cab is standard and contains many operator comfort features: air pressurizer and filter, windshield washers and wipers, tinted glass, dome light, rear view mirror and floor mat. Air conditioner and heater are available as options.

Reliable Cat power train — power you can depend on.



Cat 3406 diesel Engine packs 275 flywheel horsepower. That's real work power delivered at the flywheel — not a theoretical rating achieved only in a lab. High torque rise gives you strong lugging ability for crowding the bank and penetrating tough materials. Cam-ground and tapered aluminum alloy pistons expand during the heat of combustion to fit snugly in the cylinders for smooth, even power flow. The fully pressurized and filtered lubrication system means long engine life — and spin-on fuel and oil filters make maintenance easy.

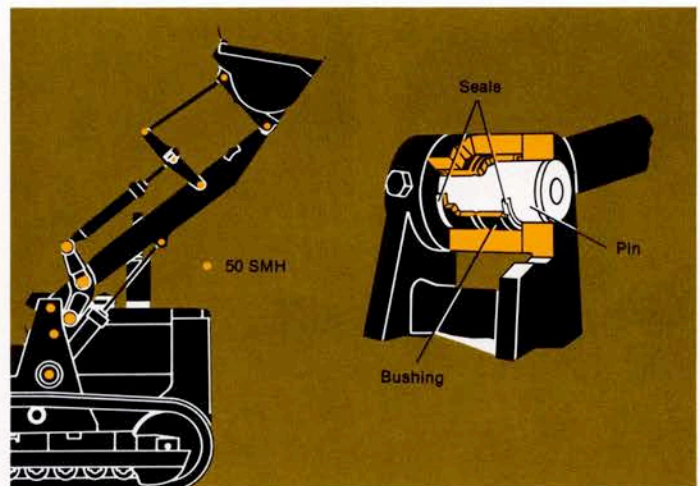


Planetary transmission spreads torque loads through planetary gear sets rather than concentrating them on a single tooth as in a rotating countershaft design. Big clutch packs surround each gear set and engage with special hydraulic modulation for smooth, cushioned shifting. Clutch plates and gears are continuously cooled by oil for dependable performance and long life.

Serviceability — less time on maintenance, more time on the job.



Serviceability is designed into the 983B: the sound-suppressed ROPS cab tilts rearward and out of the way if access to power train components is required. Batteries are located under the seat and are easily accessible. Hinged doors provide access to transmission and power train filter, filler spout and dipstick at the left of the operator's platform and fuel shutoff valve at the rear. Hydraulic filters are easily accessible on the right side of the hydraulic tank. Other maintenance features include: spin-on fuel filters, hydraulic track adjusters, two-piece master link, adjustment-free fuel system, and unit removal of steering clutches and brakes.



Sealed loader linkage substantially reduces maintenance time and lubricant costs. The lift arm pins need lubricating only each 50 Service Meter Hours to replenish lubricant and flush out abrasives. A lip-type seal is used on both sides of each joint. The sturdy plastic lip maintains a constant seal with the pin to keep out wearing grit and keep lubricants in. Cartridge-type bucket hinge pins need lubrication only every 2000 Service Meter Hours.

Operating Specifications

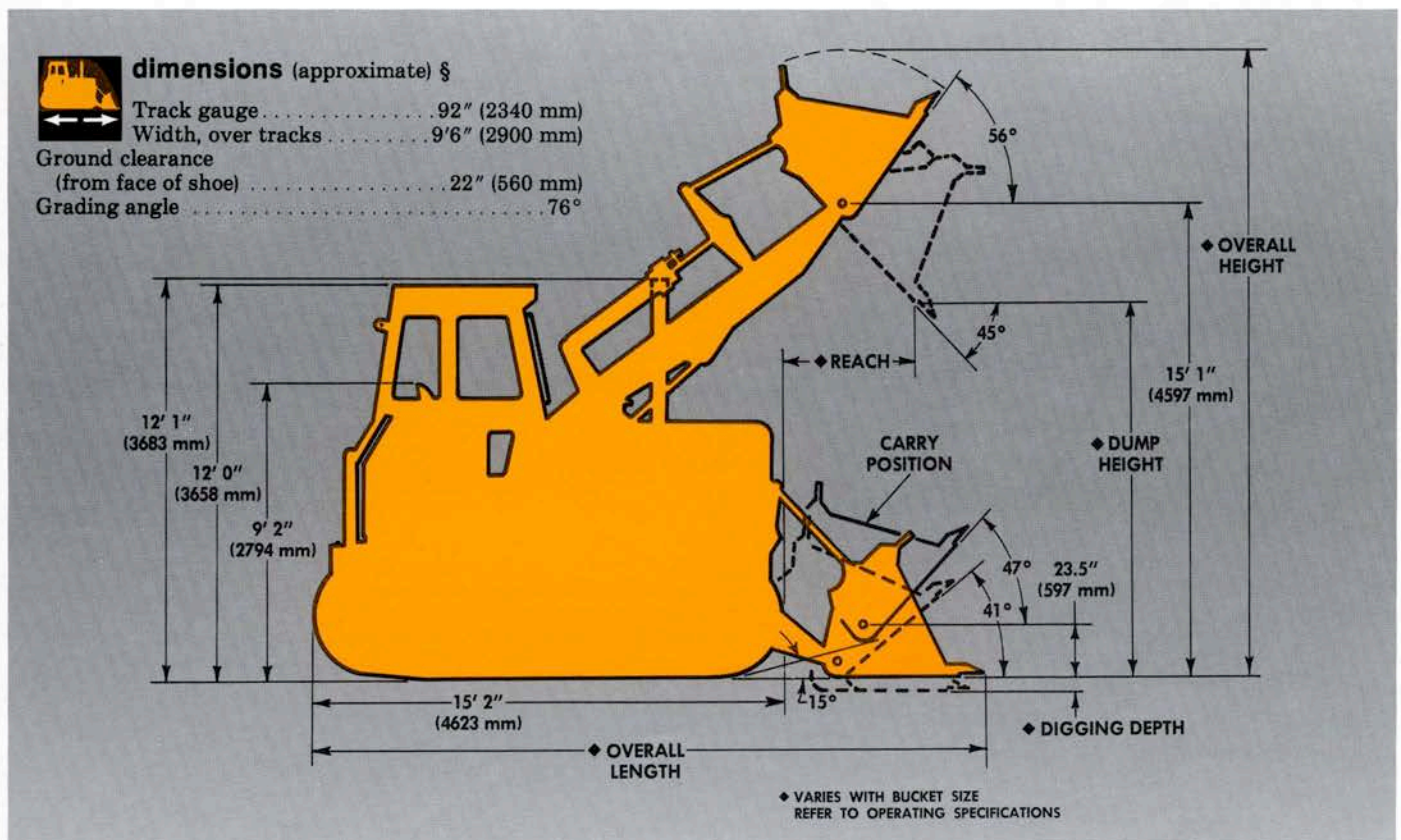
Bucket Type		General Purpose	General Purpose	Rock	Slag
Capacity, Rated § nominal heaped	cu yd m ³	4.5 3.44	5.0 3.82	5.0 3.82	4.5 3.44
Capacity, struck	cu yd m ³	3.74 2.86	4.16 3.18	4.06 3.10	3.91 2.99
Cutting edge, type		Straight	Straight	Modified "V"	Straight
Width §	in mm	122.0 3099	129.5 3289	129.0 3277	119.5 3035
Dump height @ full lift and 45° discharge §	ft mm	12' 3660	12' 3660	11'3" 3430	12' 3660
Reach @ 45° discharge angle, 7' (2130 mm) height §	ft mm	6'8" 2030	6'8" 2030	7'1" 2160	6'8" 2030
Reach @ full lift and 45° discharge §	ft mm	3'10" 1170	3'10" 1170	4'5" 1350	3'10" 1170
Digging depth §	in mm	6.3 160	6.3 160	7.8 198	6.8 172
Overall length §	ft mm	22'3" 6780	22'3" 6780	23'3" 7090	21'4" 6500
Overall height §	ft mm	20'5" 6220	20'8" 6300	21'5" 6530	21'3" 6480
Static tipping load** §	lb kg	52,530 23 824	52,400 23 767	51,540 23 377	49,710 22 548
Breakout force* §	lb kg	46,680 21 170	46,610 21 140	34,560 15 680	42,230 19 160
Operating weight**	lb kg	78,530 35 620	78,930 35 800	79,370 36 000	80,800 36 650

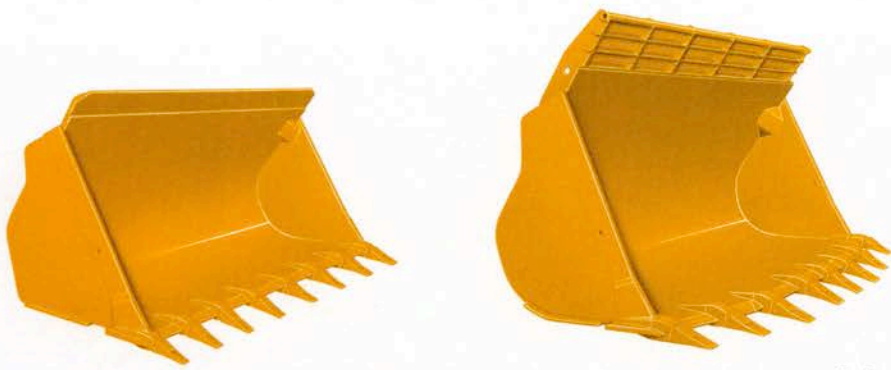
*Measured 4" (102 mm) behind tip of cutting edge with bucket hinge pin as pivot point.

**Includes lubricants, full fuel tank, ROPS cab and operator.

Machine stability can be improved through the addition of counterweight or rear attachment. Add the following to machine operating weight and static tipping load:

	Change in Operating Weight		Change in Static Tipping Load	
	Lb	Kg	Lb	Kg
Remove ROPS cab	-1950	-885	-3995	-1812
Replace cab with ROPS canopy	-650	-295	-1391	-631
Counterweights	+1285	+583	+1879	+852
	+2294	+1040	+3325	+1508
Counterweight for use without ROPS	+3489	+1582	+4988	+2262
Ripper-Scarifier	+3821	+1733	+5886	+2669





General Purpose Bucket is made from thick, wear-resistant steel plate and bracing joined by deep, continuous welds. The through cutting edge, side plates, bottom replaceable wear plates and hinge guards are heat-treated to last longer. Eight welded adapters with replaceable tips are standard. Corner teeth improve bucket penetration and help reduce corner wear.

Rock Bucket gives long life in rugged shot rock loading. The extended, beveled-V cutting edge and bottom wear plates are replaceable. Corner teeth improve bucket penetration and help reduce corner wear.



ripper

- Shanks Three (4th and 5th, optional)
- Shank spacing 23" (580 mm)
- Tips Replaceable, heat-treated, alloy steel
- Maximum penetration ... 18.75" (476 mm)
- Installed weight 3821 lb (1733 kg)

standard equipment

35-amp alternator. 24-volt direct electric starting. Abrasion resistant radiator core. Automatic lift kick-out. Automatic bucket positioner. Backup alarm. Forward warning horn. Fuel priming pump. Muffler. Hood side doors. Air cleaner service indicator. Blower fan. Hinged crankcase guard. Radiator guard. ROPS sound-suppressed cab, seat belt, adjustable suspension seat. Disconnect switch with key. Counterweight. Hydraulic track adjusters. Steel final drive cases. Final drive guards. Track guiding guards. Tool compartment. Rigid hitch. Extreme service idlers. 22 in. (560 mm) double grouser tracks (43-section). Sealed and Lubricated Track. Two-piece master link. Bolt-on sprocket rim segments. Power shift transmission.



optional equipment

(with approximate change in operating weight)

	Lb	Kg
Air conditioning system (for cab only):		
Heats only	25	11
Heat and cools	250	113
Alternator, 50-amp	10	5
Buckets	see operating specifications	
Canopy, ROPS	-650	-295
Counterweights, for use with ROPS	1285	583
	2294	1040
Counterweight, for use without		
ROPS and mounting	3489	1582
Fan, reversible blade	30	14
Guards:		
Hydraulic lift cylinder lines	238	108
Radiator, hinged	10	5
Special application		
(includes radiator cap lock)	460	209
Track guiding, center section	230	104
Track roller, for use with		
end track-guiding guards	817	371
Heater, engine coolant	3	1
Hook, front pull	72	33

Hydraulic system:			
For Ripper-Scarifier or MP bucket	153	69	
Lighting system, six lights	38	17	
Ripper/scarifier with 3 teeth	3821	1733	
Starting motor with receptacle	15	7	
Steel Mill Arrangement	see 983B Steel Mill specifications sheet		
Tool kit	15	7	
Tracks, pair, Sealed (non-lubricated):			
22" (560 mm) double grouser	0	0	
Sealed and Lubricated or Sealed (non-lubricated):			
19" (483 mm) flat shoe	1310	594	
Vandalism protection:			
Instrument panel guard	6	3	
Cap locks for:			
Fuel tank	1	0.5	
Hydraulic tank	1	0.5	
Oil filler	2	1	
Radiator	4	2	

Materials and specifications are subject to change without notice.