



973

TRACK-TYPE LOADER

- **Exceptional Production** — natural stability, good visibility, superior breakout force, fast acceleration, fast loading and cycle time.
- **Reliable/Durable** — built to withstand severe working conditions.
- **Operating Comfort and Convenience** — efficient, protected, productive work environment.
- **Total Customer Support System** — unmatched in the industry.

Machine shown may have optional equipment.

Cat® 3306 turbocharged diesel Engine 157 kW/210 HP
Operating weight

up to (Std. Shoes) 28 126 kg/62,007 lb

up to (Wide Shoes) 28 758 kg/63,400 lb

Bucket capacity

(Multi-Purpose) 2.9 m³/3.8 yd³*

(General Purpose) 3.2 m³/4.2 yd³*

*When equipped with teeth and bolt-on edge segments.



FEATURES

Caterpillar® Hydrostatic Drive

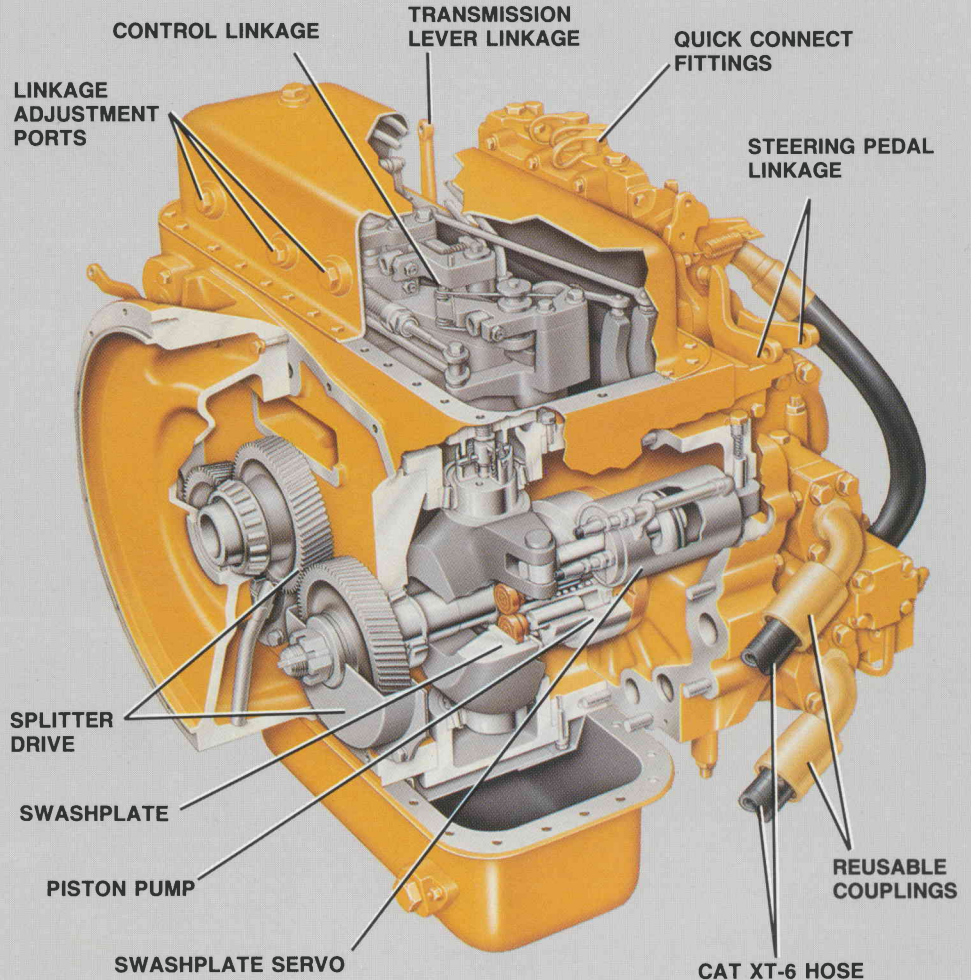
Designed for maneuverability, quick response and acceleration, thus decreasing cycle times, improving efficiency . . . but not at the expense of control. It offers modulated precision.

Hydrostatic transmission — the heart and brains of the system. Features include:

- Underspeed valve — senses engine lugging, signals pumps to increase drawbar pull or bucket hydraulic requirements. Maintains constant engine RPM.
- Synchronizing valve — balances the two track drive systems preventing machine drift.
- Mechanical control linkage — positively controls speed and direction. Requires minimal adjustment, easy to service and operates consistently in cold weather.
- Independent power to each track for speed and maneuverability.
- Turn under power — pushing one steering pedal part way in reduces hydraulic flow to the corresponding track. Power turns add traction and speed, help correct for hard spots when dozing or backfilling.

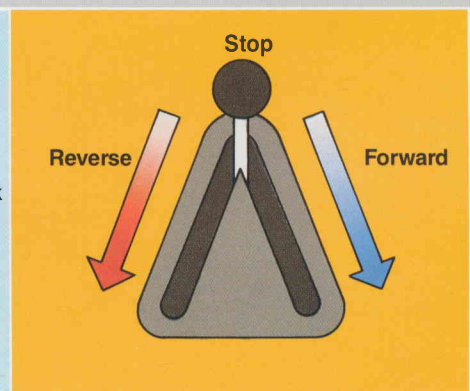
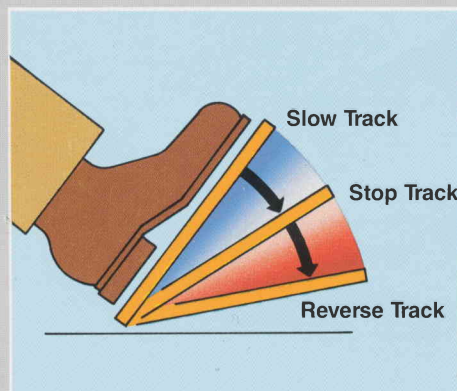
- Sharp turn — pushing pedal down half way stops hydraulic flow and track.

- Counterrotation — pushing pedal all the way down reverses hydraulic flow and track direction for spot-turn in tight situations.



Efficient, infinitely variable travel speeds.

- No gear shifting.
- Precise operating speeds.
- Set governor control and move transmission lever to control direction and speed.
 - Neutral at point of inverted "V".
 - Right-hand slot for forward.
 - Left-hand slot, reverse.
 - Slide lever back to increase speed.



Rear Engine

Is a working counterweight, no need for added dead weight.

- No need for added counterweight.
- Superb forward visibility.
- Bucket-on-the-ground service checks and maintenance.
- Reduced radiator plugging and maintenance.

Fuel Efficient Direct Injection . . .
more material moved per gallon of fuel.

- Reacts instantly to load changes.
- Pumps precisely meter fuel, pressurize, and deliver it to the individual injectors at each cylinder.
- Replace components individually.



Z-Bar Linkage

Multiplies force through its superior geometry.

- Breakout force is exceptionally high, due to . . .
 - Mechanical advantage of Z-bar linkage.
 - Head end tilt cylinder use and pressure increase provide more hydraulic force.
- Straddle mounting supports all lift arm pivot points on both sides of the pin.
 - Two-point load distribution reduces twisting force.
 - Each lift arm anchored between two vertical loader tower plates.
- Sealed Loader Linkage substantially reduces maintenance time and lubrication requirements.
- The bottom bucket pins are sealed, requiring lubrication only every 2000 working hours.



- Faster dump speed . . . dump oil flow is into tilt cylinder rod end rather than head end — provides greater speed and faster response.

- Linkage simplicity reduces number of parts and service points.

FEATURES

Oscillating Undercarriage

Keeps more track on the ground for maximum traction and stability.

- Reduces frame impact and improves traction over a rigid undercarriage design.
- Increases stability in rough terrain.

Sealed and Lubricated Track

- Eliminates pin and internal bushing wear, extends track life, keeps maintenance costs down.
- Reduced component friction for less track noise, greater drive power efficiency.
- Reduces snaky track.
- Extends undercarriage components' life.

Bolt-on sprocket rim segments

- Replace worn sprocket teeth without breaking the track.
- Through-hardened steel forging for long life.

Two-piece master link

- Allows easy track removal and installation.



Swing Link Idler

- Permits horizontal idler movement, absorbing shock loads and maintaining proper track tension.
- No need for shims and wear strips.



Operator's Compartment

Designed for comfort and ease of operation.

Total Climate System

- Heats . . . 10.75 kW/h/37,000+ BTU/Hr capacity . . . protects against biting cold air in winter operation.
- Pressurizes . . . keeps air fresh, seals out dust. (Approximately one quarter of the total air flow is filtered outside air.)
- Optional air conditioner . . . for ultimate climate control.
 - Air conditions . . . 7.93 kW/h/27,000+ BTU/Hr capacity . . . cools and freshens hot, humid cab air.

- Dehumidifies . . . removes excess moisture in the air down to 0°C/32°F. On hot, humid days, operator stays fresh and alert.

- Multiple ducting . . . allows you to direct the air flow. Strategically placed ducts mean more uniform temperature throughout the cab.

Operator's Station

- Sound-suppressed, resiliently mounted ROPS canopy and cab — reduce noise and vibration.

- Adjustable suspension seat — variable suspension tension for greater operator comfort.

- Convenient location of controls . . . easy to operate controls enable operators to work with less effort. Left hand controls speed and direction with a single lever. Right hand controls bucket functions. Pedals control maneuvering. The balance of effort between hands and feet reduces fatigue. The master brake pedal is located between the steering pedals.



SPECIFICATIONS



Caterpillar Engine

Gross power @ 2200 RPM 171 kW/**229 HP**

Rated power @ 2200 RPM 157 kW/**210 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°/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 1500 m/5000 ft. altitude.

These additional ratings also apply at 2200 RPM

ISO 1585 156.6 kW/**210.0 HP**

ISO 3056-1 154.1 kW/**206.7 HP**

EEC 80/1269 156.6 kW/**210.0 HP**

Cat 4-stroke-cycle 3306 turbocharged diesel Engine with six cylinders, 121 mm/**4.75"** bore, 152 mm/**6.0"** stroke and 10.45 liters/**638 cu.in.** displacement.

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

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

Direct electric, 24-volt starting system with 50-amp alternator and ether starting aid.



Drive

Hydrostatic drive provides infinite machine speeds to 10.3 km/h/**6.4 MPH**, forward or reverse.

Each track is driven by a separate hydraulic circuit consisting of one variable-displacement piston pump, connected by Caterpillar's XT-6 hydraulic hose and couplings to a fixed-displacement piston motor.

Drive pumps Two Caterpillar, variable displacement, slipper-axial piston pumps driven from engine flywheel.

Track motors Two Caterpillar link-type, two-speed piston motors mounted inboard of main frame at the sprocket. Pressure summing valve between pumps and motors automatically regulates displacement of both providing increased torque as load increases.

Relief valve setting 38 000 kPa/380 bar/**5510 psi**

Charging pump One gear-type, supplies power to control system.

Full-flow filtering of hydrostatic drive system oil.



Final Drives

Single reduction spur gear set inboard of sprocket and single reduction outboard planetary. Final drive is isolated from machine weight and ground-induced shock loads by track roller frame pivot shafts.



Steering

Steering controlled by foot pedals. Partially depressing left or right pedal slows that track, causing machine to smoothly turn that direction with full power. Full pedal depression causes the track to stop, then reverse for track counterrotation turning within the machine's length.



Brakes

Service — hydrostatic, through machine drive system resistance using transmission lever.

Secondary and Parking — splash-lubricated disc brakes located between each hydraulic track motor and final drive. Each set consists of six steel discs splined to final drive input pinion, and seven friction discs splined to brake housing. Spring applied when transmission lever is in zero speed position; hydraulically released by oil pressure from hydrostatic control system. Also actuated by center pedal, automatically applied in event of transmission hydraulic oil pressure loss.



Undercarriage

Sealed and Lubricated Track surrounds track pins with lubricant to virtually eliminate wear inside the bushing. Two-piece master link for easy track removal and installation. All rollers and idlers have Duo-Cone Floating Ring Seals and are Lifetime Lubricated.

	NARROW SHOES	WIDE SHOES
Track rollers (each side)	7	7
Carrier rollers (each side)	2	2
Number of shoes (each side)	40	40
Width of track shoes . .	500 mm/ 19.7"	675 mm/ 26.6"
Length of track on ground	2917 mm/ 9'7"	2917 mm/ 9'7"
Ground contact area . .	2.92 m ² 4522 in²	3.94 m ² 6104 in²
Ground pressure83 bar/ 83.0 kPa/ 12.0 psi	.63 bar/ 63.0 kPa/ 9.1 psi
Grouser height (double grouser)	38 mm/ 1.5"	38 mm/ 1.5"
Gauge	2080 mm/ 82"	2080 mm/ 82"



Track Roller Frames

Roller frames use pinned equalizer bar and pivot shafts for $\pm 1.5^\circ$ oscillation. Equalizer bar is pinned to each roller frame and center of main frame to maintain a stable working platform. Rubber pads between equalizer bar and main frame dampen shocks. Pivot shafts press fit into loader frame ahead of planetary final drives and support vehicle's weight. Roller frames are box-section with full-length welds.



ROPS

ROPS (Rollover Protective Structure) offered by Caterpillar for this machine meets ROPS criteria SAE J395, SAE J1040 APR88 and ISO 3471-1986. It also meets FOPS (Falling Object Protective Structure) criteria SAE J231 JAN81 and ISO 3449-1984.



Cab (Standard ROPS cab)

When properly installed and maintained, cab meets OSHA and MSHA requirements when tested according to ANSI/SAE J1166 JUN86.

Operator's compartment features Electronic Monitoring System (EMS) for check of important machine systems with three types of warning.

- I. Operator Awareness: LED light indicates a potential non-critical problem.
- II. Operator Response Required: A main warning light indicates continued operation could cause eventual component failure.
- III. Immediate Shutdown: Flashing warning light and horn warn that operation will cause immediate failure of a component or a safety device malfunction.

A circuit test switch verifies system reliability.

The warning light, plus a coolant temperature gauge and transmission oil temperature gauge, are located on the main dash in front of the operator. The EMS panel, on the operator's right, monitors the status of:

- coolant temperature
- engine oil pressure
- transmission oil temperature
- alternator output



Lift Arms

Solid-steel lift arms are straddle mounted to a fabricated single unit main frame. Integral loader tower features wide base, "A" frame profile.



Implement Hydraulics

Large-capacity one section vane-type pump, mounted on engine flywheel housing. Increase in implement loads or tractive effort sufficient to drop engine speed below rated RPM causes a load sensor to reduce power to machine drive and increase power available to implement. Operating valves are double spool-type, spring-centered, and located under loader frame cross-member for easier access. Lines are steel tubing and high pressure XT-3 hose with flared fittings at connections. System sealed to keep out wear-causing dirt and protected by full-flow filter on return line, helping to prevent foreign material from entering reservoir. Pilot-operated control valve requires little operator effort while retaining delay free bucket control.

6900 kPa/69 bar/**1000 psi** . . . 318 liters/min/84 gpm
Relief valve setting
(main) 19 000 kPa/190 bar/**2750 psi**

Cylinders:

Lift—bore and stroke (2) 165 x 935 mm/**6.5" x 36.8"**

Tilt—bore and stroke (2) 139.7 x 632.9 mm/**5.5" x 24.9"**

Pilot system — gear-type pump:

Output @ rated engine speed and

2400 kPa/24 bar/**348 psi** . . 12.2 liters/min/3.2 gpm

Relief valve setting 2400 kPa/24 bar/**348 psi**

HYDRAULIC CYCLE TIME, in seconds:

RAISE	DUMP	FLOAT DOWN	TOTAL
7.4	1.4	2.6	11.4

Bucket Controls

Lift circuit Raise, lower, hold, float (Automatic kickout)

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



Service Refill Capacities

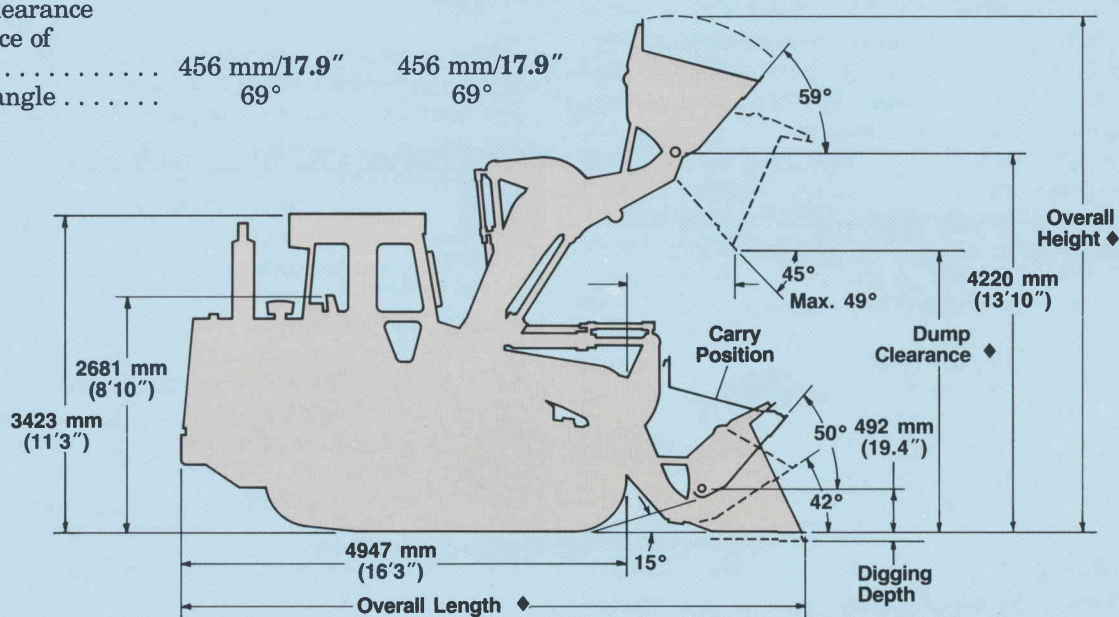
	Liters	U.S. Gallons
Fuel tank	356	94
Cooling system	51	13.5
Lubricating systems:		
Crankcase	28	7.25
Final drives (each)	29	7.5
Implement hydraulic system	60	15.8
Hydraulic tank	60	15.8
Hydrostatic drive system (including reservoir)	62	16
Transmission Drive	3	0.8

SPECIFICATIONS



Dimensions (approximate)

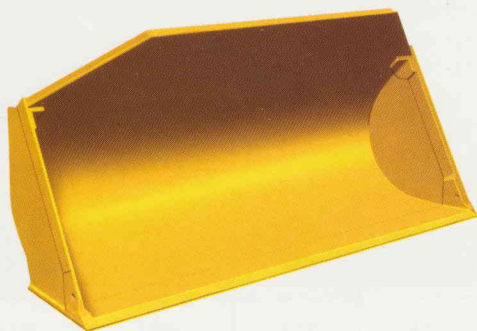
	STANDARD TRACK	WIDE TRACK
Width, without bucket	2580 mm/8'6"	2755 mm/9'
Ground clearance (from face of shoe)	456 mm/17.9"	456 mm/17.9"
Grading angle	69°	69°



◆ Varies with bucket size-Refer to operating specifications

Machine stability can be affected by the addition of other attachments. Add or subtract the following to/from machine operating weight and static tipping load:

	CHANGE IN OPERATING WEIGHT	CHANGE IN STATIC TIPPING LOAD
Remove ROPS and cab	-485 kg/-1070 lb	-545 kg/-1202 lb
ROPS canopy only (cab removed)	-175 kg/-385 lb	-208 kg/-459 lb
Ripper with three shanks	+1228 kg/+2707 lb	+2843 kg/+6268 lb
Air conditioner	+107 kg/+236 lb	+166 kg/+366 lb
Bumper	+151 kg/+332 lb	+345 kg/+761 lb
Wide Track Shoes	+632 kg/+1394 lb	+476 kg/+1050 lb
Bolt-on bucket cutting edge	+215 kg/+475 lb	-396 kg/-873 lb



General Purpose bucket features high-strength, low-alloy steel plate for resistance to dents and abrasions. Shell tine assembly in bucket floor increases structural strength. Integral spill plates improve load retention.

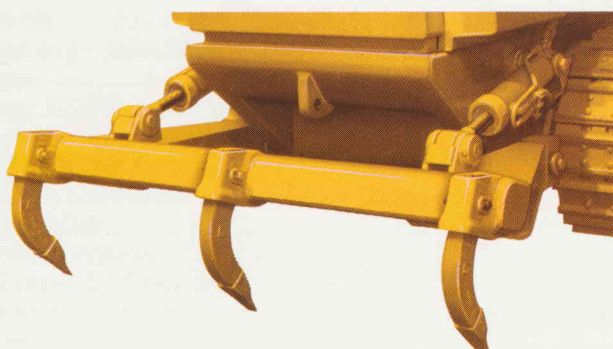
General Purpose buckets can be equipped with edge protection to meet job requirements. These systems are available: Bolt-on teeth with Corner Guard System, bolt-on reversible cutting edge group or bolt-on teeth and edge segments.



Multi-Purpose bucket gives versatility with strength. It loads, strips topsoil, bulldozes and cleans up debris. The bucket clamps hydraulically to grip logs, carry pipe or handle other tough-to-grasp materials. Options: teeth with Corner Guard System, bolt-on reversible cutting edge group, or bolt-on teeth and edge segments.

Rock Bucket

Designed for toughest application with excellent wear life in abrasive condition. V-shaped cutting edge with weld on teeth which accommodate long or short tooth tips.



Ripper-Scarifier

Optional. Hinged-type with three-shank beam (one shank supplied). Mounted with two pins pressed into each side of main frame; raised and lowered with two wide-mounted cylinders. Six-pin linkage requires no lubrication.

Penetration (from face of shoe)	410 mm/16"
Ground Clearance (under tip, from face of shoe)	693 mm/27.2"
Ripping Width	2000 mm/78.7"
Cylinders (2)	127 mm/5" bore with 365 mm/14.3" stroke
Overall Width/beam	2172 mm/85.5"

SPECIFICATIONS

Bucket Type	General Purpose			Rock	Multi-Purpose		
	Bolt-on Teeth	Bolt-on Teeth & Segments	Bolt-on Cutting Edge	Weld-on Flush Teeth	Bolt-on Teeth	Bolt-on Teeth & Segments	Bolt-on Cutting Edge
Capacity, Rated § (Nominal heaped) m ³ yd ³	2.8 3.75	3.2 4.2	3.2 4.2	2.8 3.75	2.6 3.40	2.9 3.8	2.9 3.8
Capacity, Struck § m ³ yd ³	2.41 3.16	2.77 3.62	2.77 3.62	2.46 3.21	2.19 2.87	2.56 3.34	2.56 3.34
Bucket width*** mm in	2854 112"	2854 112"	2854 112"	2705 106.5"	2710 107"	2710 107"	2710 107"
Dump clearance @ full lift and 45° discharge § mm ft	3340 10'11"	3266 10'9"	3266 10'9"	3014 9'10"	3044 9'11"	2965 9'9"	2965 9'9"
Reach @ 45° discharge angle 2133 mm/7' clearance § . . . mm ft	2006 6'7"	2029 6'8"	2029 6'8"	2023 6'8"	1859 6'1"	1861 6'1"	1861 6'1"
Reach @ full lift and 45° discharge § mm ft	1328 4'4"	1375 4'6"	1375 4'6"	1464 4'9"	1287 4'2"	1324 4'4"	1324 4'4"
Digging Depth § mm in	118 4.6"	148 5.8"	148 5.8"	118 4.6"	211 8.3"	241 9.5"	241 9.5"
Machine overall length mm ft	7123 23'4"	7123 23'4"	6942 22'9"	7296 23'11"	7318 24'1"	7318 24'1"	7221 23'8"
Machine overall height § . . . mm ft	5785 19'0"	5785 19'0"	5785 19'0"	5726 18'9"	5894 19'4"	5894 19'4"	5894 19'4"
Static tipping load § kg lb	16 788 37,010	16 503 36,383	16 696 36,809	16 678 36,768	14 120 31,130	13 930 30,711	14 114 31,116
Breakout force §* kN lb	213.4 47,981	196.6 44,188	198.0 44,507	183 41,223	173.6 39,026	161.4 36,281	162.8 36,591
Operating weight** kg lb	24 902 54,899	25 037 55,196	24 894 54,882	24 908 54,912	26 086 57,510	26 205 57,772	26 067 57,467

*Measured 100 mm/3.94" behind tip of cutting edge with bucket hinge pin as pivot point.

**Includes coolant, lubricants, full fuel tank, ROPS cab, bucket and 80 kg/176 lb operator.

***Bucket width with bolt-on cutting edge add 17 mm/.67". For bolt-on teeth add 52 mm/2".

Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers. SAE Standard J732 FEB80 and SAE Standard J742 OCT79 govern loader ratings, denoted in the text by §.



Standard Equipment

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

General Arrangement:

Alternator, 24-volt, 50-amp.
Automatic bucket positioner and lift kickout.
Back-up alarm.
Cab, ROPS, sound-suppressed with air pressurization.
Cloth covered suspension seat.
Crankcase guard.
24-volt direct electric starting motor.
Blower fan.
Ether starting aid.
Floor mat.
Forward warning horn.
Fuel priming pump.
Front retrieval hitch.
Gauge package (coolant and transmission oil temperature).

Heater/defroster.
Hydraulic track adjuster.
Hydrostatic transmission.
Low Maintenance, High Output, Heavy Duty Batteries.
Literature compartment in seat back.
Muffler.
Operator panel includes:
Illumination lights, electric hour-meter and EMS operator warning system.
Rearview mirror.
Segmented sprocket rims.
Sealed and Lubricated Track with two-piece master link.
Radiator guard (heavy duty, perforated).
Seat belt.
500 mm/19.7" double bar grouser track shoes.

Sprocket guards.
Track guiding guards.
Windshield and back window washers and wipers.
Single lever bucket control.
Vandalism protection:
For use with cab — consists of lockable fuel tank cap with padlock, and two padlocks to lock front service doors.



Optional Equipment

	Kg	Lb		
Air conditioner	107	236	Lighting systems:	
Buckets,			Four lights (machine-mounted,	
General Purpose 2.8m ³ /3.75 yd ³	1719	3790	2 forward, 2 rear)	13 28
Multi-Purpose, 2.6 m ³ /3.40 yd ³	2829	6237	Two lights (ROPS-mounted	
Rock 2.8 m ³ /3.75 yd ³	1895	4177	forward)	2 5
Bucket control, two lever	—	—	Ripper-scarifier (with three	
Bucket cutting edge, reversible,			ripper shanks)	1228 2707
sharpened, bolt-on (for G.P. bucket)	215	475	Tool kit	7 15
(for M.P. bucket)	204	449	Track shoes — 675 mm/26.6"	
Bucket teeth, 8 bolt-on (includes			double grouser	632 1394
corner teeth)			Vandalism protection:	
Long	223	492	For use with canopy — consists of	
Short	219	482	cab vandalism package plus padlock	
Bucket edge segments, bolt-on type	122	270	to prevent movement of the	
Bumper	151	332	implement and transmission control	
Canopy, ROPS (includes			lever, and an instrument panel	
rearview mirror and heater)	—183	—404	guard group with padlock	3 6
Drawbar hitch	30	67	NOTE: All weights were originally measured in	
Guards, track roller	289	638	pounds. Kilograms were converted from pounds and	
Guards, idler	121	267	rounded off.	
Hydraulic system:				
3rd valve for front or				
rear attachments	55	122		
Diverter valve for use when both				
required on same machine	66	145		

The Competitive Edge

Performance

- **Rear engine** location provides natural stability as a "working" counterweight, and excellent visibility for increased production.
- **Hydrostatic drive** train features power turn and counterrotation capabilities, infinitely variable speed control, fast acceleration and quick response for increased production.
- **Z-bar linkage** increases breakout force and reduces dump time.
- **Full implement power** available for maximum breakout force, results in fast loading and cycle time.
- **Oscillating undercarriage** with pinned shock absorbing equalizer bar improves machine stability, and reduces ground-induced shock loads to machine and operator.
- **Wide shoes** available for increased stability and flotation in soft underfoot conditions.

Reliability/Durability

- **Sealed and Lubricated Track** eliminates internal pin and bushing wear as a critical maintenance consideration . . . extending undercarriage component life.
- **Shocks and loads** to sprocket or final drive are reduced — these components carry only torque.
- **Long loader linkage** pin and bushing life.
- **Reduced fuel consumption**, more material moved per gallon of fuel.
- **Ground-induced impact** loads to machine minimized.
- **Straddle-mounted loader linkage** and four-plate "A" frame loader tower reduce the effects of twisting forces.

Maintenance/Repair

- **Lubricated pins** greatly reduce undercarriage maintenance expense.
- **Replace worn sprocket** teeth without breaking track.
- **Electronic Monitoring System (EMS)** monitors important machine functions — informs the operator where a problem is and the severity of the problem.
- **Remove planetary final drive gears** without pulling the sprocket or using special lifting tools.
- **Grouped ground-level** check points for easy maintenance, can be done with bucket on the ground.
- **Radiator plugging** and maintenance reduced.
- **Cab tilts 90°** for removal of engine, transmission, plus access to track motors and final drive components.

- **13 quick-connect** fittings allow rapid diagnosis of malfunctions in implement or drive hydraulic systems.
- **Swing-open access doors** give quick access to grouped service points.
- **Modular components** allow quick replacement.

Operating Ease/Comfort

- **Single lever controls** machine speed, direction and parking brake.
- **Sound-suppressed**, air-pressurized, resiliently-mounted integral ROPS cab for superior working environment.
- **Engine/transmission** resiliently mounted to reduce vibration and shocks.
- **Full doors** for either side entry.
- **Superb forward** visibility.

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 Cat Remanufactured Products or dealer 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 Caterpillar product to your special application.

CATERPILLAR®

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