

# 973C

Track Loader



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#### Bucket Capacities

General Purpose	3.2 m <sup>3</sup>	4.2 yd <sup>3</sup>
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Multi-purpose	2.9 m <sup>3</sup>	3.8 yd <sup>3</sup>
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#### Operating Weight

G.P. Bucket + Teeth & Seg.	27 006 kg	59,548 lb
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#### Cat® 3306 Engine

Flywheel Power	156.6 kW	210 hp
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# 973C Track Loader

*State-of-the-art design and superior quality allow you to maximize productivity.*

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## Hydrostatic Drive

- ✓ Hydrostatic drive with *electronic control offers modulated precision for quick, smooth operation and superior maneuverability. Two drive system speed modes allow the best match to job conditions. The Electronic Hydrostatic Control (EHC) is self-diagnosing and the two separate hydraulic drive pumps are easy to access for serviceability.*
- pg. 4**

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## Computerized Monitoring System

- ✓ *The Caterpillar Computerized Monitoring System (CMS) serves as the interface between the operator and the Electronic Hydrostatic Control (EHC) of the drive train, as well as providing gauges and indicators of machine functions. The CMS permits quick and simple calibration of the hydrostatic system and diagnostics of the power train and electrical systems.*
- pg. 7**

## Top performance.

*A machine designed to be productive over a wide range of tough applications, from heavy clearing to high volume truck loading, from the slag pits of steel mills to big city landfills. The 973C can not only master the toughest excavation but it can finish grade with delicate precision.*

## Reliable, durable operation.

*Rugged construction, self diagnosis of electrical and power train systems, and easy maintenance help ensure extended service life with low operating costs.*

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## Engine

The Cat 3306 DITA Engine is designed for performance, durability, serviceability, low emissions and fuel economy. **pg. 5**

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## Operator Station and Controls

The Caterpillar® C-Series Track Loader is designed for greater operator productivity. Pilot-operated hydraulic controls for precise, consistent equipment control — together with adjustable magnetic lift kickout and bucket positioner, help reduce operator fatigue. In the cab, *reduced noise level, adjustable armrests, and Cat Contour Series seat* improve operator comfort. ✓ *Large, tinted windows, sun visor, improved front wiper, and defrost capability* improve viewing of work areas. **pg. 6**



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### Structure

The box-section main frame is designed specifically for the work of a track loader. It provides durability, resistance to twisting and a solid base for all components. The Z-bar linkage offers

- ✓ *increased breakout force* and fast dump speed for enhanced productivity.
- pg. 8**

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### Oscillating Undercarriage

Improved traction, increased machine stability, and reduced frame impact are benefits of the Cat oscillating undercarriage. The Cat sealed and lubricated track reduces pin and internal bushing wear, reduces component friction and track noise, extending track life. **pg. 9**

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### Work Tools and Special Application Attachments

A large choice of buckets, Ground Engaging Tools (G.E.T.), as well as various specific attachments, allow configuration of the 973C for maximum performance in virtually any job. In extreme or specialized applications, such as sanitary landfills, steel mills, material handling, demolition, shiphold unloading, or other low ground pressure applications, Cat can provide the needed attachments. **pg. 10-11**

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### Complete Customer Support

The 973C design offers reduced maintenance, convenient access to components, easy diagnostic capabilities, as well as easy and economical component replacement possibilities. Cat Dealers also provide quick parts availability, preventative maintenance programs and flexible financing. **pg. 12**



✓ *New feature*

## Hydrostatic Drive

*The electronically controlled hydrostatic drive helps provide quick response for shorter cycle times and increased productivity.*

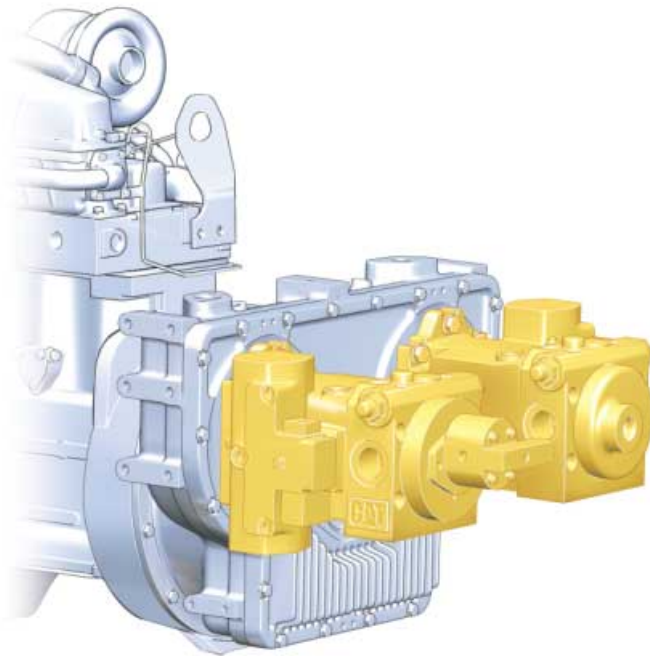
**The Hydrostatic Drive** eliminates the need for transmission shifting, which allows the operator to concentrate on working, maneuvering and production.

**The Electronic Hydrostatic Control (EHC) controls the hydrostatic drive system.**

- Electronic Hydrostatic Control automatically adjusts machine speed to give the equipment hydraulic system priority, while the hydrostatic system takes advantage of all available engine power.
- It maintains engine rpm in optimum operating range and balances the two track drive systems for straight travel without machine drift.
- The Electronic Hydrostatic Control interfaces with the Computerized Monitoring System. It is self-diagnosing, and fully compatible with Electronic Technician (ET) software. This software-hardware interface enables your Caterpillar dealer to quickly and accurately calibrate and troubleshoot a machine.

**Variable displacement pumps and variable displacement drive motors** are electronically controlled by EHC, offering high efficiency and precise travel.

- 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 variable-displacement piston motor.



**Separate hydraulic pumps** offer easy servicing. Pumps are shown in yellow above.

**Independent power to each track** for speed, maneuverability, or sideslope operation.

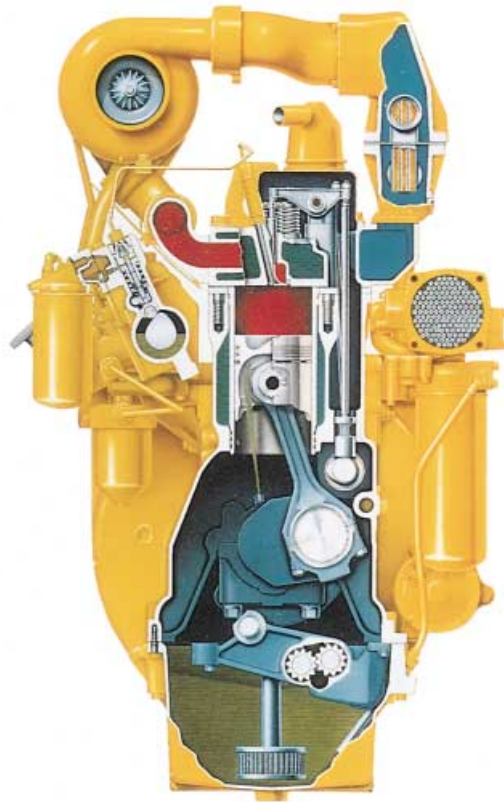
**Power turns** for added control, speed and versatility. The ability to turn under power gives greater productivity when dozing, grading, or backfilling.

**Counter rotation** allows spot turns in tight space conditions.

**Travel speeds** are infinitely variable between zero and top speed. The operator may select one of two operation modes. "Work mode" optimizes the torque characteristics of the power train for maximum productivity and is therefore the appropriate choice for most applications. An operator will choose "travel mode" to optimize the speed characteristics of the power train for applications requiring long travel distances.

## Engine

*Provides power, reliability and acts as a working counterweight in the rear of the machine, for optimum machine balance.*



**The Cat 3306 Diesel Engine is a six cylinder, four-cycle design** that provides long, effective power strokes for high torque and more complete fuel combustion.

**Rear engine location** allows superb forward viewing area while serving as a natural counterweight. It also allows bucket-on-the-ground service checks and maintenance, plus reduced radiator plugging and maintenance.

### **Direct-injection fuel system**

- High-injection pressures and short injection duration provide fast response, clean burning and added fuel savings.
- Adjustment-free unit injectors provide efficient, precise fuel metering.

**Turbocharger** packs more air in the cylinders for excellent combustion and increased engine efficiency.

**Aftercooler** cools the inlet air for more efficient combustion and extended life of the piston rings and bore.

**Extended life coolant**, standard in the engine cooling system, reduces the need for maintenance.

**High displacement-to-power ratio** provides extended engine life and exceptional reliability.

### **Extended life design.**

- Seven main bearings provide a large bearing surface area to distribute force loads in the engine.
- Durable alloy steel valves.
- Easily replaceable crankcase seals.
- Two oil jets per cylinder cool each piston for reduced piston and ring temperatures, increasing the life of cylinders and pistons.

# Operator Station and Controls

*Designed for operator comfort and ease of operation.*



- 1 Caterpillar Contour Series seat** is ergonomically designed and fully adjustable for maximum operator comfort and control — throughout the work day.
- Cushioned side bolsters prevent side-to-side movement.
  - Backrest centerline conforms to the operator's natural spinal curve.
  - Contoured base curves away from lower back to reduce pressure.
  - 76 mm (3 in) wide seat belt is retractable for positive, comfortable restraint.
  - Air suspension option is available for even greater operator comfort.

- 2 Adjustable armrests** can be positioned up or down. The right armrest is adjustable forward and backward. Each armrest can be inclined to different angles for excellent operator comfort and control.

- 3 Improved air circulation system** delivers filtered, pressurized and temperature-controlled air through 10 louvered vents. Integral air conditioning system is available. Heater with controls is standard on both cab and canopy-equipped machines.
- 4 Storage spaces** include a lockable storage box, a lunch box compartment, beverage holder, and coat hook.

**Sound-suppressed Rollover Protective Structure (ROPS)/Falling Objects Protective Structure (FOPS) cab** is resiliently mounted for reduced vibration and a quiet working environment.

**Enhanced viewing area** to the front, sides and rear of the machine. Tinted windows, sun visor, washers and windshield wipers are all standard on cab machine. The front wiper has variable speed, intermittent control.

**Radio installation arrangement**, 24 to 12-volt converter, radio mounting space, and speakers are standard on cab-equipped machines.

**Easy, precise operation of hydrostatic drive system** for quick speed and direction changes and maximum maneuverability.

- 5 Hydrostatic drive control** (see page 4).
- 6 Brake pedal** is supplementary to hydraulic braking provided by hydrostatic system.
- 7 Pedal steering** for precise control of each track independently and on-demand counter-rotation without need to stop machine.

**Speed mode switch** allows operator to choose between “work mode” for fine control or tight truckloading, or “travel mode” for maximum drive speed — to best match machine speed to job conditions (see page 7 for location).

**Pilot operated equipment controls** are easy to operate for greater productivity.

- 8 Single lever pilot control** for bucket lift and dump (2-lever control is optional).
- **Simultaneous bucket lift and dump** for fast controlled truck loading, smooth grading, and the ability to meter material from bucket.
  - **Automatic, adjustable magnetic lift kickout and bucket positioner** allow the operator to concentrate on positioning the machine rather than the bucket, resulting in higher efficiency for greater productivity.
- 9 Optional pilot-operated control for ripper or multi-purpose bucket.**



# Computerized Monitoring System (CMS)

*Quickly indicates servicing needs to reduce downtime.*



## The Computerized Monitoring System offers three main functions:

- Quick and simple calibration of the hydrostatic drive system.
- Alerting the operator of particular situations can help prevent damage. For maximum reliability, an automatic self-test is performed by the system during every start.
- By monitoring hydrostatic and electrical systems, the CMS identifies component(s) affected and logs the abnormal values of measured parameters in memory to aid service personnel in troubleshooting and repairs.

### 1 The gauge cluster contains four gauges which monitor the following functions:

- Fuel level.
- Engine coolant temperature.
- Powertrain oil temperature.
- Hydraulic oil temperature.

### 2 The warning cluster groups the individual alert indicators of the following:

- High engine coolant temperature.
- High powertrain oil temperature
- Low engine oil pressure.
- Air inlet heater activated.
- Low hydrostatic system charge pressure.
- High pump drive gear box temperature
- High pump drive oil temperature.
- High hydraulic oil temperature.
- Low alternator output.
- Diagnostic fault detected by EHC (Electronic Hydrostatic Control).
- Low fuel level.

### 3 The digital display can show the operator's choice of hour meter, engine rpm, charge pressure or service codes.

## The Computerized Monitoring System also functions as a warning system with three levels of warning:

- **Operator awareness.** An alert indicator signals a potential, non-critical situation.
- **Operator response required.** In addition to the alert indicator, the action warning light (4) flashes to indicate that continued operation could cause component damage.
- **Immediate safe shutdown.** An alert indicator illuminates the action warning light, flashes, and the action alarm sounds to alert the operator that continued operation will cause immediate component damage or a safety device malfunction.

### 5 Key start/stop switch

### 6 Speed mode switch (see page 6 for description).

## Structure

*Box-section main frame is designed to handle heavy loads, while Z-Bar linkage maximizes breakout force.*

**Strong box-section main frame design**, with continuous, deep-penetration welds resists twisting loads to protect components from excessive wear or damage without adding extra weight to the machine.

- **Four-plate loader tower** distributes forces evenly from the lift arms to the main frame, which eliminates twisting for maximum structural durability.
- **Castings** (in red on the illustration on the right) are used in areas of high stress concentration. Large radius curves dissipate stresses that could cause fatigue and cracking.
- **Mild-steel frame sections along with castings** provide flexibility, durability and excellent resistance to impact loads.
- **Durability designed and built into the structures** provides extended service life and allows for multiple rebuilds.

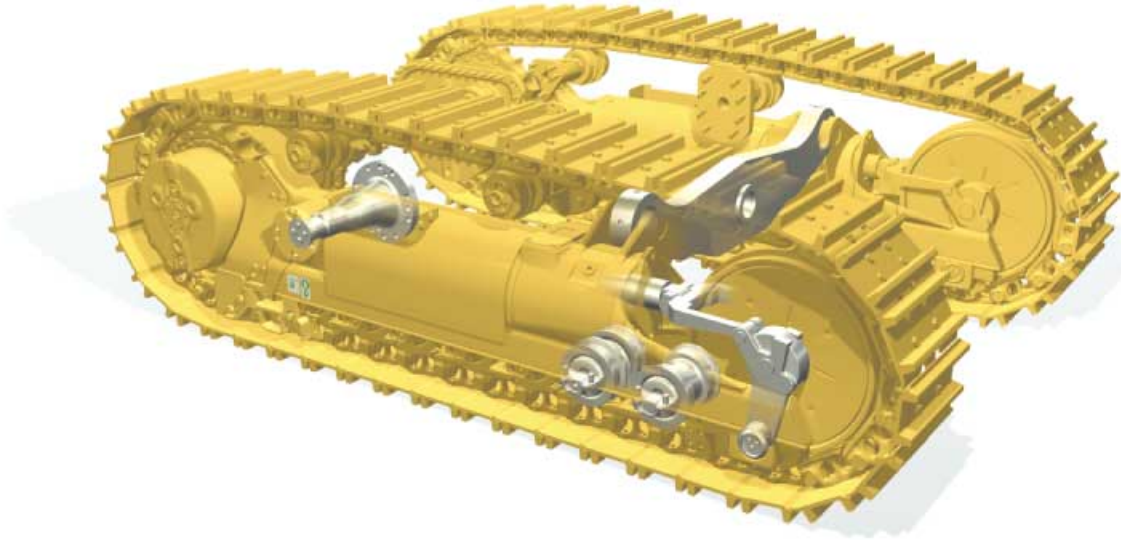
**1 Z-bar linkage.** Breakout force is exceptionally high due to the mechanical advantage of Z-Bar linkage design with hydraulic pressure applied to the head end of the tilt cylinder.

- **Dump speed is faster** because dump oil flows into tilt cylinder rod end.
- **Straddle mounting** supports all lift arm pivot points on both ends of the pin, eliminating twisting forces and enhancing structural durability.
- **Sealed loader linkages**, including low maintenance oil-lubricated lower bucket pins, substantially reduce maintenance time and lubrication requirements.
- **Linkage simplicity** reduces the number of parts and service points.



## Oscillating Undercarriage

*Keeps more track on the ground for maximum traction and stability. Several shoe options provide best match to job conditions.*



**Oscillating Undercarriage** allows movement of each track independent of main frame.

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

**Swing link idler** permits horizontal idler movement, absorbing shock loads and maintaining proper track tension, while eliminating the need for shims and wear strips.

**Tracks are sealed and lubricated** to keep abrasives out and virtually eliminate pin and internal bushing wear to keep maintenance costs down. These tracks also reduce component friction for less track noise and greater power train efficiency.

**Bolt-on sprocket rim segments** allow replacement of worn sprocket teeth without opening the track chain. Through-hardened steel forging provides extended service life.

**Two-piece split master link** allows easy track chain removal and installation.

**Caterpillar brand undercarriage** components are well-matched to each other and the machine for superior life and cost-effective operation.

### Shoe options:

- 1 **Double grouser shoes**, standard, are designed for good traction, easy turns, and reduced bending.
  - 2 **Trapezoidal center hole shoes** let the sprocket push out dirt and debris, reducing packing between the shoe and the bushing.
  - 3 **Single grouser shoes** increase penetration and traction in lower impact and lower abrasion conditions.
  - 4 **Chopper shoes** are single grouser shoes with additional diagonal side grousers for increased chopping ability. Recommended for landfills, transfer stations and demolition applications.
- **Extreme service shoes** are available which have more hardened wear material for longer wear life and higher impact applications.
  - **Wider shoes** are also available to reduce ground pressure in soft underfoot conditions.

Other shoe options are available. Consult a Caterpillar Dealer for more information.

### ① Double Grouser Shoes



### ② Trapezoidal Center Hole Shoes



### ③ Single Grouser Shoes



### ④ Chopper Shoes



## Work Tools

A variety of attachments and Ground Engaging Tools (GET) are available to maximize performance in any application.



**1 General Purpose (GP) bucket** is designed for excellent loadability and long life in applications such as hard bank excavating, stripping, and stock pile loading.

- High-strength, low-alloy steel for resistance to dents and abrasions.
- Shell-tine reinforcements support rear of bucket for increased structural strength.

**2 Multi-purpose (MP) buckets** are designed for a broad range of applications, such as: loading, stripping, clearing, bulldozing, picking up debris, and fine grading.

- Bucket clamps hydraulically to grip logs or handle other tough-to-grasp materials.
- Extreme-service version available for special applications.

**3 Ripper-Scarifier** adds extra versatility to expand the application of the machine.

- Hinged-type, with three shanks, beam 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.

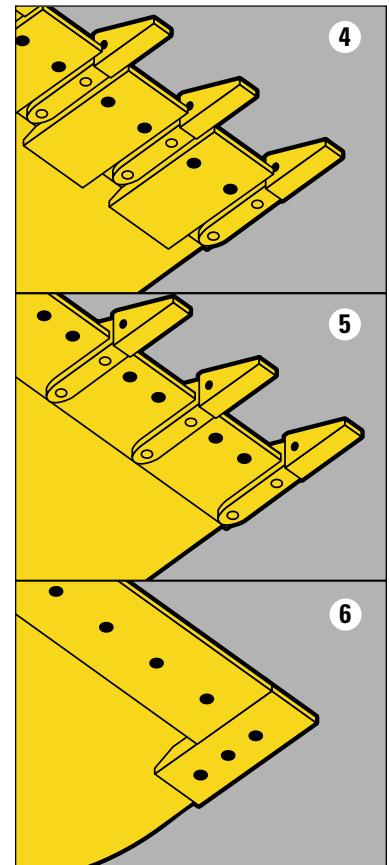
### Bucket base edge protection options:

**4 Bolt-on adapters, tips and bolt-on reversible edge segments** provide a clean working floor and increase bucket capacity. Heavy-duty segments are available (with 62 percent more wear material than on standard segments).

**5 Bolt-on, 2-strap adapters and tips, including corner adapters,** offer excellent penetration.

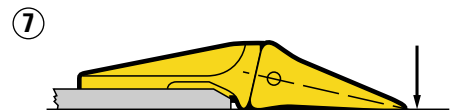
**6 Bolt-on cutting edges, reversible,** are ideal when penetration is not a consideration, such as in clean-up work or stockpiling applications.

**7 Weld-on, top-strap adapters are also available with a GP bucket.** They are flush-mounted with the bottom of the cutting edge to provide a smooth bucket bottom and unrutted work surface. These adapters can be used with any of the tip options (not with a bolt-on protection system).



### Tip options:

- **Short:** extremely strong — use in high impact and pry-out work such as rock.
- **Long:** use in most general applications where breakage is not a concern.
- **Heavy-duty, long:** use in general loading and excavation work. Thirty-six percent more wear material than on standard. Provides increased strength, extended service life, and low cost-per-hour.



These and other G.E.T. options are available from Caterpillar Dealers.

## Special Application Attachments

*Special attachments are available or can be designed on request to allow the 973C to work in special applications.*



### **Waste handling/demolition**

**attachments** provide added versatility and are designed to make the 973C perform well in landfills, waste handling or demolition applications where the machine spreads, compacts, sorts, shreds and crushes materials.

- **Bucket trash racks** increase bucket capacity. Increases productivity when handling low density material and protects machine linkage from debris.
- **Extensive guarding, various protections, and heavy-duty components** protect the machine from debris in the very severe conditions of waste handling or demolition.
- **Easy servicing** is designed into every component design such as the following features:
  - Heavy-duty radiator grill can swing out for quick access to maintain radiator.
  - Turbine-type pre-cleaner removes large particles from incoming air and prevents them from reducing air filter life.

**Shiphold attachments** allow the 973C to work in the confined and harsh shiphold environment where the machine assists in the off-loading of bulk materials, such as iron ore, steel scrap, coal, minerals and grain.

- **Lifting hooks, reinforced lift-arm and a locking group** ensure well-balanced and secured lifting of the machine into shipholds.
- **Heavy-duty rear bumper** provides extra protection to the radiator and rear of the machine.

**Steel Mill attachments** enable the 973C to perform in the most adverse conditions.

- **Heavy-duty components** ensure durability and reliability in slag-handling applications.
- **High temperature seals** are incorporated into final drives, idlers, track rollers and carrier rollers.
- **Sealed track** is non-lubricated and equipped with Belleville washer-type seals to meet the demands of the hot steel mill environment.
- **Hydrostatic drive** provides excellent maneuverability in tight mill conditions.

## Complete Customer Support

*Caterpillar's total commitment to customer support and simplified service is part of every Cat machine.*

### Reduced maintenance.

- Batteries are maintenance-free.
- Caterpillar Extended Life Coolant allows extended change intervals (6,000 hours).
- Sealed electrical connectors lock out dust and moisture.
- Cat sealed and lubricated tracks minimize pin and internal bushing wear and reduce maintenance costs.
- Caterpillar XT hydraulic hose, in medium and high pressure circuits, offers high abrasion resistance and far exceeds industry standards.
- O-Ring Face Seal (ORFS) hydraulic couplings help eliminate fluid leaks, provide positive coupling head seals and are reusable for low operating costs.
- Lower bucket pins are low-maintenance and oil-lubricated.
- S•O•S Fluids Analysis helps avoid unnecessary downtime and maintains the machine value.

### Easy access to components.

- Hydraulic and fuel filters are located close to each other for easy maintenance.
- Rear engine location allows bucket-on-the-ground service checks and maintenance.
- Ground-level access to lubrication points.
- Hinged doors allow quick access to the engine, hydrostatic system along with the battery and tool boxes.

### Easy diagnosis.

- The Computerized Monitoring System and self-diagnosing EHC work together to warn against both occurring and impending faults to reduce downtime.
- Rapid, easy calibration and troubleshooting of hydrostatic and electrical systems are performed through CMS and EHC systems.



- Electronic Technician (ET) software is fully compatible with the EHC and provides further diagnostic capabilities.
- Quick-disconnect hydraulic pressure taps allow quick diagnosis of the hydraulic system. More commonly used pressure taps are clustered inside the left engine door for easy access.

### Easy component servicing.

- Removable cab floor-panels for easy access to internal components.
- Hydrostatic drive system with separate pumps and motors for low replacement or rebuild cost.
- Color-coded and numbered electrical wiring for easy repair.
- Split master link to easily open the track chain.
- Segmented drive sprocket for easy repair without splitting the track, as well as reduced replacement costs and less downtime.
- Caterpillar XT hydraulic hoses offer excellent flexibility for easy installation.
- Bolted grab irons are easily replaceable.

### Low cost components replacement.

Economical Caterpillar Remanufactured parts are available for economical component replacement. Many Remanufactured parts are available for use in the 973C engine and hydraulic system.

### Preventive maintenance programs.

Ask your Cat Dealer for help with managing machine service.

**Parts availability.** Most Cat parts are immediately available from any Cat Dealer. Cat Dealers rely on a worldwide computer network to find parts instantly, minimizing machine downtime.

**Flexible financing.** Cat Dealers can arrange affordable financing for the entire Caterpillar line. Contact your Dealer to learn how terms can be structured to match cash flows.

## Engine

Four-stroke cycle, six cylinder Cat 3306 turbocharged aftercooled diesel engine.

Ratings at 2200 RPM*	kW	HP
Gross power	171	229

The following ratings apply at 2200 RPM when tested under the specified standard conditions for the specified standard:

Net power	kW	HP
ISO 9249	156.6	210
SAE J1349	—	207.6
EEC 80/1269	156.6	210

### Dimensions

Bore	121 mm	4.75"
Stroke	152 mm	6.00"
Displacement	10.45 liters	638 cu in

### \*Power rating conditions

- net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler, and alternator
- no derating required up to 2250 m altitude
- Exhaust emissions: The Caterpillar 3306 T engine meets non-road regulatory emission requirements worldwide, including US Environmental Protection Agency (EPA), European Union (EU) and Japan Ministry Of Construction (JMOC).

### Features

- direct-injection fuel system with individual adjustment-free injectors for each cylinder
- 3-ring, aluminum-alloy pistons, cam-ground, tapered and cooled by oil spray
- steel-backed aluminum bearings
- tapered connecting rods
- pressure lubrication with full-flow filtered and cooled oil
- dry air cleaner with primary and secondary elements
- induction-hardened, forged crankshaft
- direct-electric 24-volt starting and charging system with 12-volt, 100 amp-hour batteries
- standard ether starting aid
- standard oil cooler
- heavy duty battery group optional

## Undercarriage

Two-piece master link for easy track removal and installation. All rollers and idlers have Duo-Cone Floating Ring Seals and are Lifetime Lubricated.

	500 mm (19.7")		675 mm (26.6")	
	Shoe		Shoe	
Track rollers (each side)	7		7	
Number of shoes (each side)	40		40	
Length of track on ground	2917 mm	115"	2917 mm	115"
Ground contact area	2.92 m <sup>2</sup>	4522 in <sup>2</sup>	3.94 m <sup>2</sup>	6104 in <sup>2</sup>
Ground pressure	.889 bar	12.9 psi	.659 bar	9.57 psi
Grouser height (double grouser)	49 mm	1.93"	49 mm	1.93"
Gauge	2080 mm	82"	2080 mm	82"

## Drive

Hydrostatic drive provides infinite machine speeds up to 9.0 km/h (5.6 mph), forward or reverse.

### Features

- drive pumps: two variable-displacement, over-center, slipper-type axial piston pumps
- track motors: two variable-displacement, bi-directional, piston-slipper-type motors
- full flow filtering of hydrostatic drive system oil
- relief valve settings: 42 000 kPa/420 bar/6,090 psi
- charging pumps: two gear-type, mounted on the drive pumps, supply fluid to control system and drive pumps
- Electronic Hydrostatic Control (EHC) system controls each pump and motor for maximum machine performance
- Two speed modes to vary top speed electronically

## Equipment Hydraulics

Open-centered, interrupted series system with full-flow filtering. System is completely sealed and features simultaneous lift and dump as well as pilot-operated controls.

### Hydraulic system, vane-type pump

Output at rated engine rpm and 6900 kPa (1,000 psi)	335 L/min	89 gpm
Relief valve setting (main)	19 000 kPa/190 bar	2755 psi
Cylinders, double acting, bore and stroke		
Lift	165 x 935 mm	6.5 x 36.8"
Tilt	140 x 633 mm	5.5 x 24.9"

### Pilot system, gear-type pump

Output at rated engine speed and 2400 kPa/24 bar (348 psi)	12 L/min	3.2 gpm
Relief valve setting	2850 kPa/28 bar	413 psi

### Hydraulic cycle time

Raise	6.4 seconds
Dump	1.7 seconds
Lower, empty, float down	2.5 seconds
Total*	8.9 seconds

### Bucket controls

- lift circuit (raise, lower, hold, float): automatic kickout in raise is adjustable to desired height
- tilt circuit (tilt back, hold, dump): automatic bucket positioner is adjustable to desired digging angle

\* With simultaneous raise and dump, dump time is included in raise time.

### Features

- large capacity, one-section, vane-type pump, mounted on hydrostatic pump drive housing
- double-spool, spring-centered operating valves, located under loader frame crossmember for easy access
- lines are steel tubing and high pressure hose (XT-3 hose for the lift and tilt lines; XT-5 hose for the MP bucket and ripper lines) with flared fittings at connections
- system sealed to keep out wear-causing dirt
- protected by full-flow filter on return line, helping prevent foreign material from entering reservoir
- pilot-operated control valves require low operator effort while retaining delay free bucket control
- permits simultaneous lift and dump for fast truck loading and smooth grading
- O-Ring face seals

## Lift Arms

### Features

- solid-steel lift arms are straddle mounted to a fabricated single unit main frame
- integral loader tower features wide base, "A" frame profile
- straddle mounted pins are supported on both ends to eliminate twisting forces
- Caterpillar cartridge pins at the bucket – lift arm joints eliminate routine maintenance

## Brakes

Meets ISO standard ISO10265 1998.

### Service brake features

- hydrostatic, through machine drive system using transmission lever or center brake pedal

### Secondary and Parking brake features

- oil-disc brakes located between each hydraulic track motor and final drive
- each set has 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 or center brake pedal is fully depressed
- hydraulically released by oil pressure from hydrostatic drive system
- spring automatically applied in the event of transmission hydraulic oil pressure loss

## Final Drives

### Features

- planetary gears
- isolated from machine weight and ground-induced shock loads by track roller frame pivot shafts
- externally mounted for easy maintenance and service

## Cab

Caterpillar cab and Rollover Protective Structure (ROPS) are standard.

### Features

- meets OSHA and MSHA limits for operator and sound exposure with doors and windows closed (according to ANSI/SAE J1166 MAY90)
- when equipped with sound-suppression attachment, meets the following operator and spectator dynamic dB(a) sound requirements:
  - operator: 81 per ISO 6396, 95/27/EEC
  - spectator: 111 per ISO 6395, 95/27/EEC
- ROPS/FOPS meet the following criteria:
  - SAE J1040 (APRIL88)
  - ISO 3471 (1994)
  - SAE J231 JAN81
  - ISO 3449-1984
- operator's compartment features a Computerized Monitoring System (CMS) to monitor important machine systems
- the Computerized Monitoring System is self-diagnosing and easy to understand. It provides information modes to quickly localize mechanical or electrical problems

## Attachments

### General purpose bucket

- high-strength, low-alloy steel plate for resistance to dents and abrasions
- shell tine assembly in bucket floor for increased structural strength
- can be equipped with the following systems: edge protection, bolt-on teeth with Corner Guard System, bolt-on reversible cutting-edge group, or bolt-on teeth and edge segments
- also available with welded-on teeth which are flush mounted to the cutting edge

### Multi-purpose bucket

- loads, strips topsoil, bulldozes and cleans up debris
- bucket clamps hydraulically to grip logs 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 applications
- additional steel provides added life
- V-shaped cutting edge for improved penetration
- weld-on tooth adaptors accommodate long or short teeth

### Ripper-Scarifier

- hinged-type with three-shank beam 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

## Track Roller Frames

### Features

- roller frames use pinned equalizer bar and pivot shafts for limited 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
- roller frames are box-section with full-length welds

## Steering

### Features

- steering controlled by foot pedals
- partially depressing left or right pedal slows that track, causing machine to turn smoothly in that direction with full power to both tracks
- full pedal depression causes track to stop, then reverse direction resulting in counter rotation of the machine
- spot turns within machine length

## Service Refill Capacities

	L	Gallons
Fuel tank	415	110
Cooling system	51	13.5
Crankcase	28	7.3
Powertrain system	38	10.1
Final drives (each)	29	7.5
Hydraulic system (including tank)	159	42
Hydraulic tank	60	15.8
Pump-drive gear box	3.8	1.0

## Electrical

### Features

- wiring harnesses wrapped with braided, vinyl-coated nylon shielding for maximum protection
- connectors are self-sealing, yet still provide easy service access
- 24 to 12 volt radio converter standard
- key start and stop
- color coded wires for improved serviceability

# Operating Specifications

		General purpose bucket			Rock	Multi-purpose bucket		
		Bare	Bolt-on teeth & segments	Bolt-on cutting edge	Weld-on flush teeth	Bare	Bolt-on teeth & segments	Bolt-on cutting edge
Rated bucket capacity § (Nominal heaped)	m <sup>3</sup>	2.8	3.2	3.2	2.8	2.6	2.9	2.9
	yd <sup>3</sup>	3.75	4.2	4.2	3.75	3.4	3.8	3.8
Struck capacity §	m <sup>3</sup>	2.41	2.77	2.77	2.46	2.19	2.56	2.56
	yd <sup>3</sup>	3.16	3.62	3.62	3.21	2.87	3.34	3.34
Bucket width*	mm	2854	2854	2854	2705	2710	2710	2710
	in	112	112	112	106.5	107	107	107
Dump clearance at full lift and 45° discharge §	mm	3340	3266	3266	3014	3044	2965	2965
	in	131	129	129	118	119	117	117
Reach at 45° discharge angle and 2133 mm (7'0") clearance §	mm	2006	2029	2029	2023	1859	1861	1861
	in	79	80	80	80	73	73	73
Reach at full lift and 45° discharge	mm	1329	1375	1375	1464	1287	1324	1324
	in	52	54	54	57	50	52	52
Digging depth §	mm	118	148	148	118	211	241	241
	in	4.6	5.8	5.8	4.6	8.3	9.5	9.5
Overall machine length	mm	7078	7362	7182	7569	7337	7619	7439
	in	279	290	283	298	289	300	293
Overall machine height with bucket at full raise	mm	5785	5785	5785	5726	5894	5894	5894
	in	228	228	228	225	232	232	232
Static tipping load	kg	19 774	19 272	19 471	19 541	18 647	18 167	18 344
	lb	43,602	42,495	42,934	43,088	41,117	40,058	40,449
Breakout force**	kN	215.6	196.6	198.0	183.2	175.8	161.4	162.8
	lb	48,510	44,188	44,507	41,223	39,555	36,281	36,591
Operating weight***	kg	26 648	27 006	26 864	26 877	27 758	28 100	27 962
	lb	58,759	59,548	59,235	59,264	61,206	61,961	61,656

\* Bucket width with bolt-on cutting edge add 17 mm (.67"). For bolt-on teeth add 52 mm (2.0").

\*\* 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.

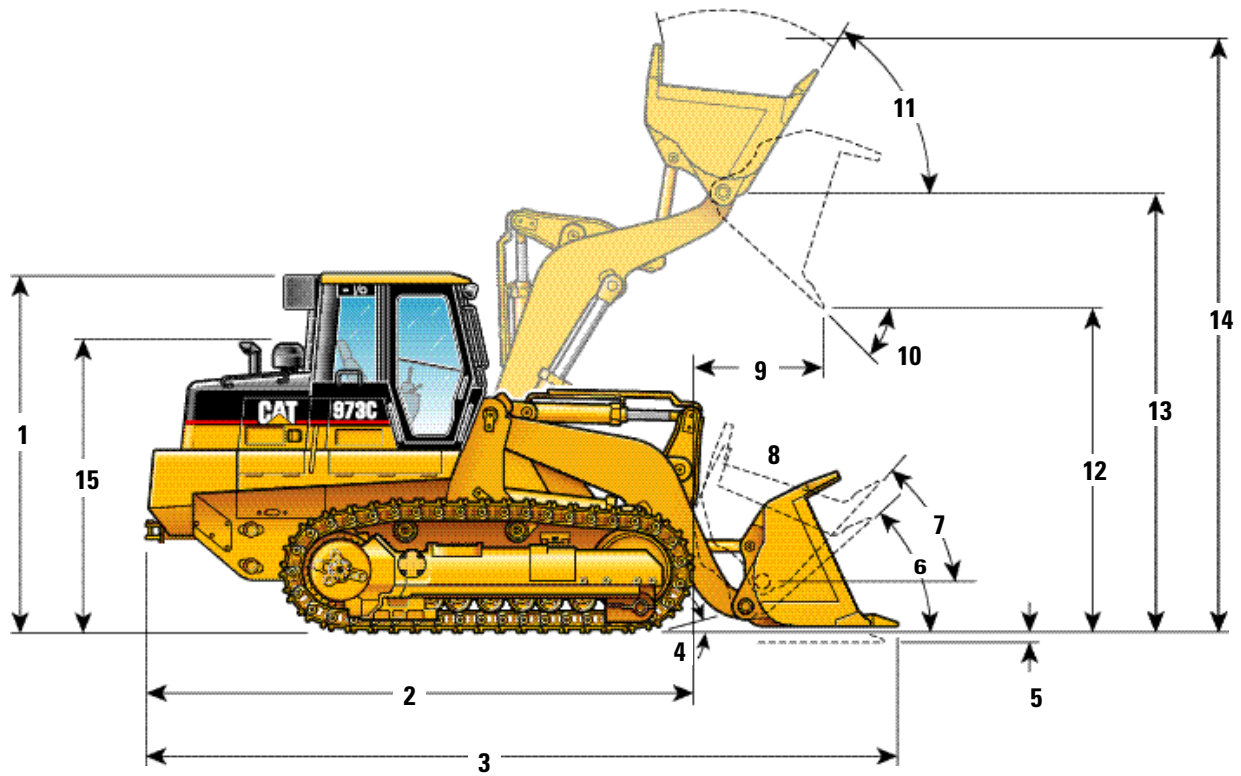
§ Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers. SAE Standard J732 FEB80 and SAE Standard J742 OCT79 govern loader ratings.

	Change In Operating Weight		Change In Static Tipping Load	
ROPS canopy (cab removed)	-149 kg	-329 lb	-175 kg	-386 lb
Ripper with 3 shanks (bumper removed)	+971 kg	+2,141 lb	+2257 kg	+4,977 lb
Air conditioner	+95 kg	+209 lb	+160 kg	+353 lb
Wide track shoes, 675 mm (26.6")	+632 kg	+1,394 lb	+476 kg	+1,050 lb

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

# Dimensions

All dimensions are subject to change without notice.



Overall machine width without bucket:

with standard track – 500 mm (19.7" shoes)	2580 mm (102")
with wide track – 675 mm (26.6" shoes)	2755 mm (108")
Ground clearance from face of shoe	456 mm (17.9")
Grading angle	69°
<b>1</b> Machine height to top of cab	3450 mm (136")
<b>2</b> Length to front of track	5163 mm (203")
<b>3</b> Overall machine length	◆
<b>4</b> Carry position approach angle	15°
<b>5</b> Digging depth	◆
<b>6</b> Maximum rollback at ground	GP 43°/MP 46°
<b>7</b> Maximum rollback at carry position	GP 50°/MP 52°
<b>8</b> Bucket in carry position	—
<b>9</b> Reach at full lift height	◆
<b>10</b> S.A.E. specified dump angle	45° (46° max.)
<b>11</b> Maximum rollback, fully raised	59°
<b>12</b> Dump clearance at full lift height and 45° discharge	◆
<b>13</b> Height to bucket hinge pin	4220 mm (166")
<b>14</b> Overall machine height, bucket fully raised	◆
<b>15</b> Height to top of seat with headrest	2701 mm (106")

◆ Dimensions vary with bucket. Refer to Operation Specifications chart on page 16.

GP = General Purpose Bucket

MP = Multi-Purpose Bucket

## Standard Equipment

Standard and optional equipment may vary. Consult a Caterpillar Dealer for specifics.

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Alarm, back-up	Engine enclosure with lockable doors	Seat, fabric-covered Cat Contour Series, suspended and adjustable
Alternator (24-volt, 70-amp)	Fuel priming pump	Seat belt, retractable
Armrests, adjustable	Gauge package for:	Speed mode switch
Ashtray, cigarette lighter (24V)	– fuel level	Sprocket guards
Batteries, high-output, maintenance free, 925CCA	– engine coolant temperature	Sprocket rims, segmented
Blower fan	– hydraulic oil temperature	Starting motor, 24-volt electric
Bucket positioner, automatic	– Power train oil temperature	Storage compartments under armrests (lockable on right armrest)
Bumper, rear	Heater/defroster with temperature control (also standard on canopy machines)	Track, Caterpillar sealed and lubricated (40 section)
Cab, sound suppressed with tinted glass, air pressurization, Rollover Protective Structure (ROPS) and Falling Objects Protective Structure (FOPS)	Hitch, front retrieval	Track adjuster, hydraulic
Coat hook	Horn	Track guiding guards, end section
Computerized Monitoring System (CMS)	Key start	Track idlers, lifetime lubricated
Controls (for equipment), single lever control, two-valve hydraulic, pilot operated	Lift kickout, automatic	Track rollers (7), lifetime lubricated
Coolant: extended life coolant	Lights (2), ROPS mounted, forward facing (halogen)	Track shoes, 500 mm (19.7"), double-bar grouser
Cooler, oil equipment	Mirror, rearview, inside	Vandalism protection: Consists of lockable fuel tank cap with padlock, three padlocks to lock front service doors and radiator cap access door, and a ball valve to disconnect the control lever (see additional items included in canopy)
Crankcase guard, full	Muffler	Windshield and back window washers and wipers (variable intermittent front wiper)
Electronic Hydrostatic Control (EHC)	Operator panel, including: Computerized Monitoring System and hydrostatic information/hour meter display	
Engine: Caterpillar 3306TA Diesel Engine, direct injection, turbocharged and aftercooled, net 210 hp	Pedal steering	
Engine air filter, radial seal	Pre-cleaner, air intake	
	Radiator guard, HD, perforated	
	Radio installation arrangement for 12-volt radio, with speakers (2)	

## Optional Equipment

With approximate changes in operating weights.

	kg	lb		kg	lb
Air conditioner	95	209	Controls (for equipment hydraulic system)		
Antifreeze (for temperatures below -34° F/ -37° C down to -58° F/-50° C)	0	0	Two-lever control	0	0
Buckets:			3rd valve with or without lines for front and rear attachments	76	168
General purpose 2.8 m <sup>3</sup> (3.75 yd <sup>3</sup> )	1719	3,790	Diverter valve for use when both front and rear lines are required	69	152
General purpose with weld-on flush- mounted adapters 2.8 m <sup>3</sup> (3.75 yd <sup>3</sup> )	1895	4,177	Low maintenance, high output, heavy duty batteries	25	55
Multi-purpose 2.6 m <sup>3</sup> (3.4 yd <sup>3</sup> )	2929	6,237	Lighting systems (halogen):		
Bucket cutting edge, reversible, sharpened, bolt-on:			Four lights (machine-mounted, 2 forward, 2 rear)	13	28
G.P. bucket	215	475	Ripper-scarifier (with three ripper shanks) bumper removed	971	2141
M.P. bucket	204	449	Track shoes – 675 mm (26.6") double grouser	632	1394
Bucket teeth, 8 bolt-on (includes corner teeth)					
Long	223	492			
Short	219	482			
Bucket edge segments, bolt-on	122	270			
Canopy, ROPS (cab removed), includes rearview mirror, 2 forward facing lights, heater, vinyl seat and vandalism protection consisting of cab vandalism package plus instrument panel guard group with padlock	-221	-487			
Drawbar hitch	30	67			
Guards, track roller	289	638			
Guards, idler	121	267			

# 973C Track Loader

AEHQ5369 (04-00)  
(Replaces AEHQ3843)

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Featured machines may include additional equipment only for special applications.

See your authorized Caterpillar Dealer for available options.

Materials and specifications are subject to change without notice.

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