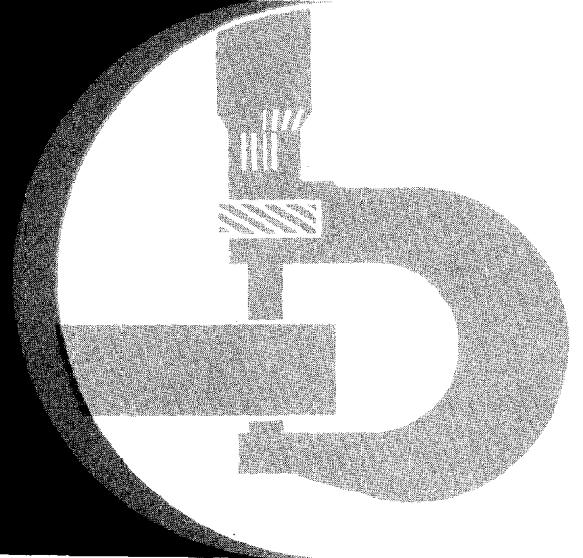


**John Deere
JD855
Crawler Loader**



TECHNICAL MANUAL

TM-1165

Litho in U.S.A. (T) New

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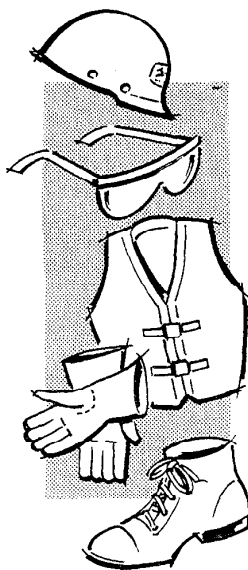
MAINTENANCE WITHOUT ACCIDENT WORK SAFELY



T27999N

! This safety alert symbol is used for important safety messages. When you see this symbol, the possibility of personal injury exists if safety message is not followed.

**EVERY EMPLOYER HAS A
SAFETY PROGRAM. KNOW
WHAT IT IS!**



T27501

Consult your shop supervisor for specific instructions on a job, and the safety equipment required.

For instance, you may need: Hard hat, safety shoes, safety goggles, heavy gloves, reflector vests, ear protectors, respirators.

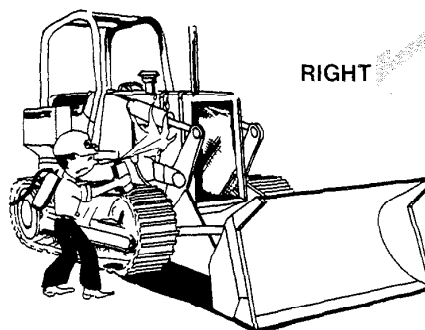
RIGHT



WRONG

T27502

ALWAYS AVOID loose clothing or any accessory—flopping cuffs, dangling neckties and scarves, or rings and wrist watches—that can catch in moving parts and put you out of work.

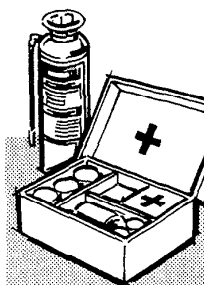


RIGHT

T43865N

BE ALERT!

Plan ahead — work safely — avoid accidental damage and injury. If a careless moment does cause an accident or fire, react quickly with the tools and skills at hand — know how to use a first aid kit and a fire extinguisher — and where to get aid and assistance. In an emergency, split-second action is the key to safety.



T27504N

MAINTENANCE WITHOUT ACCIDENT

Specific safety procedures should always be observed, whether servicing or making repairs on the crawler. Remembering these—in time!—can prevent an injury... or save your life...

AVOID FIRE HAZARDS—

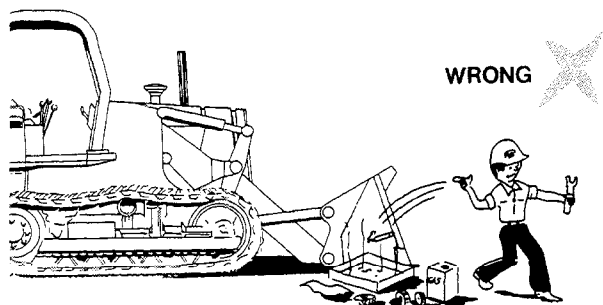
Fuel Is Dangerous!

Don't smoke while refueling.

Don't smoke while handling highly flammable material.

Engine should be shut off when refueling.

Use care in refueling if the engine is hot.



T43866N

Don't use open pans of gasoline or diesel fuel for cleaning parts. Good commercial, nonflammable solvents are preferred.

Battery Gas Is Highly Flammable!

Provide adequate ventilation when charging batteries.



T27506N

Don't check battery charge by placing metal objects across the posts.

Don't allow sparks or open flame near batteries.

Don't smoke near battery.

Flame Is Not a Flashlight!

Never check fuel, battery electrolyte or coolant levels with an open flame.

Never use an open flame to look for leaks anywhere on the equipment.

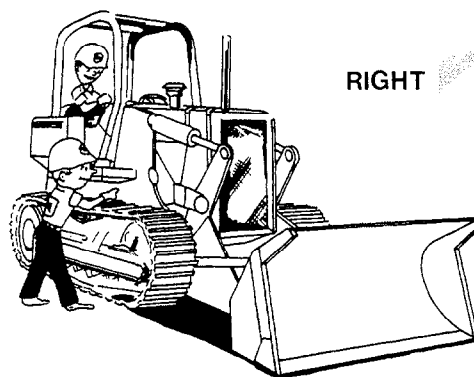
Never use an open flame as a light anywhere on or around the equipment.

KNOW WHERE FIRE EXTINGUISHERS ARE KEPT!

UNDER ALL MAINTENANCE CONDITIONS—

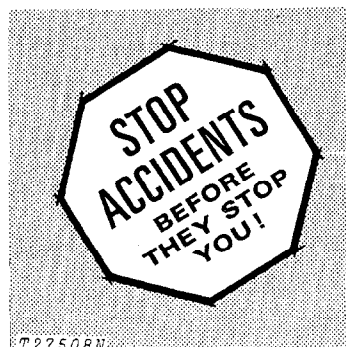
Do not perform any work on the crawler unless authorized to do so. Then be sure you understand the services required. Follow recommended procedures.

Never service the equipment while it is being operated.



T43867N

Avoid working on equipment with the engine running. If it is necessary to make checks with the engine running, **ALWAYS USE TWO SERVICE TECHNICIANS**—one, the operator, at the controls, the other checking in view of the operator. Also, put the forward-reverse speed control lever in neutral, set the park brake, and apply any safety locks provided. **KEEP HANDS AWAY FROM MOVING PARTS.**

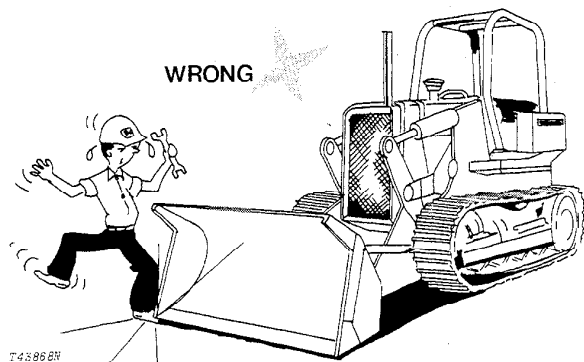


T27508N

MAINTENANCE WITHOUT ACCIDENT

Before servicing, adjusting, or repairing crawlers which have attachments such as buckets, etc—**LOWER** attachments to the ground—or, if necessary to raise them for access to certain parts, **SECURELY SUPPORT** with lift arm locking pin. **DO NOT** rely on controls to support or position attachments for maintenance.

Never allow **ANYONE** to walk under equipment that is raised and not properly blocked.

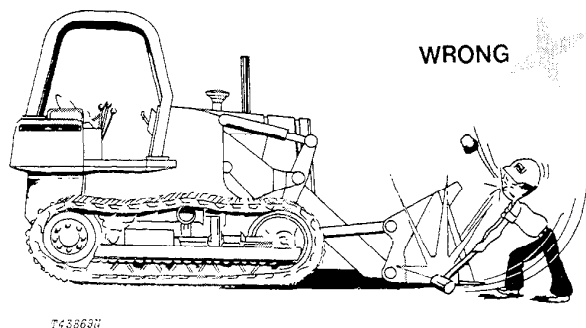


Avoid working directly under raised and blocked equipment unless absolutely necessary.

If the crawler is on an incline, block it securely.

Use hoisting equipment for lifting heavy parts. **TAKE CARE! WATCH OUT FOR OTHER PEOPLE IN THE VICINITY.**

Use extreme caution in removing radiator caps, drain plugs, grease fittings, or hydraulic pressure caps.



Wear safety glasses when drilling, grinding, or hammering metal.

Make sure the maintenance area is adequately vented.

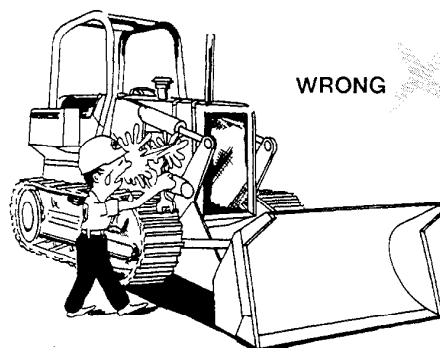
Keep maintenance area **CLEAN AND DRY**. Oily and wet floors are slippery; greasy rags are a fire hazard; wet spots are dangerous when working with electrical equipment.

Store starting aids in a cool and well-ventilated place, out of the reach of unauthorized personnel.

SERVICING PRECAUTIONS

Stop the engine before cleaning or lubricating the crawler.

Lower bucket and ripper to the ground *carefully*.



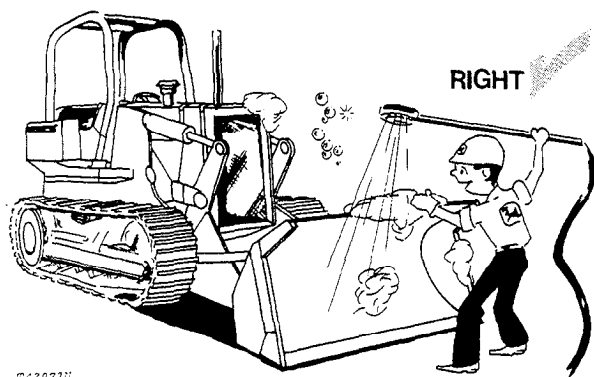
Engine coolant gets hot! Don't remove the radiator cap until coolant temperature is below the boiling point. Then turn cap slightly to relieve pressure before removing.

Exhaust gases are dangerous! Periodically check exhaust system for excessive leakage.

Don't forget a hydraulic system may be pressurized! To relieve system pressure, stop engine, lower bucket and ripper and operate bucket and ripper control levers until system fails to respond.

When checking hydraulic pressure, be sure to use the correct test gauge for the pressure in the particular system.

MAINTENANCE WITHOUT ACCIDENT



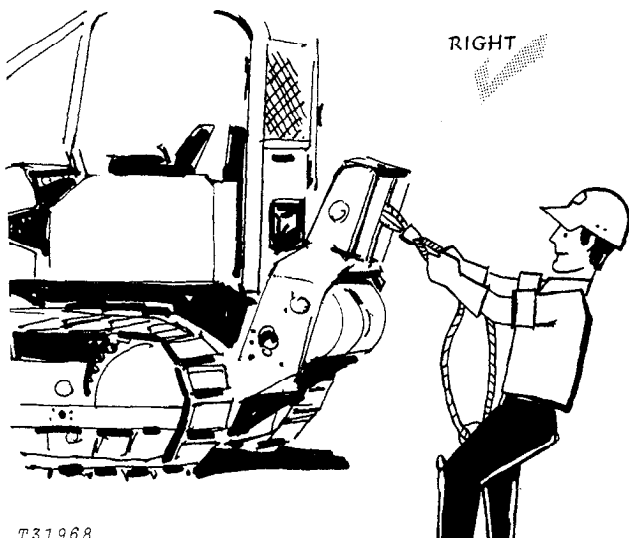
T43871N

Keep ALL components free of dirt and oil. This attention will minimize fire hazards and facilitate spotting of loose or defective parts.

When preparing engine for storage, remember that inhibitor is volatile and therefore dangerous. Seal and tape openings after adding the inhibitor. Keep container tightly closed when not in use.

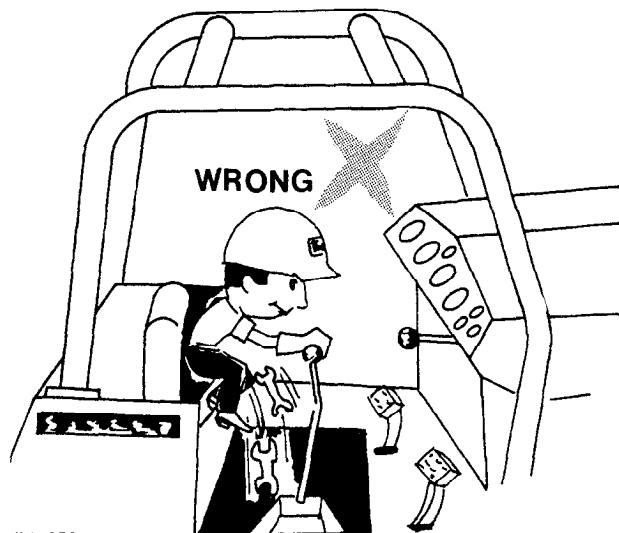
ADJUSTING PRECAUTIONS

...for Operating Adjustments



T31968

Always wear gloves when handling cable.

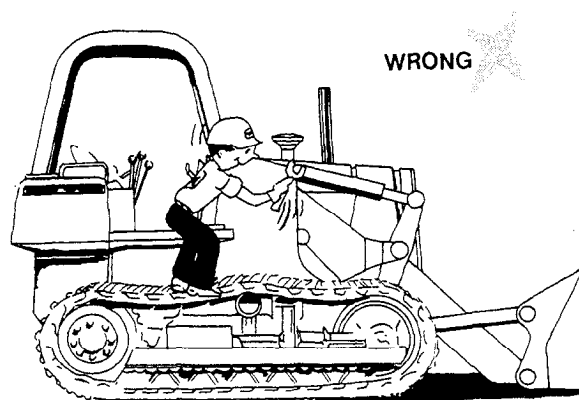


T43872N

Before removing any housing covers, stop engine. Take all objects from your pockets which could fall into the opened housings. Don't let adjusting wrenches fall into opened housings.

...for Maintenance Adjustments

Don't attempt to check belt tension while the engine is running.



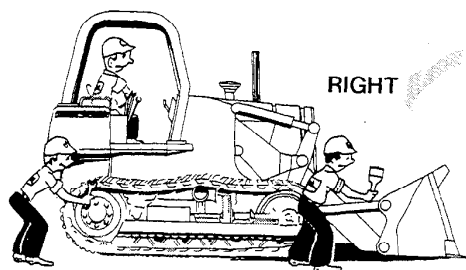
T43873N

Don't adjust the fuel system while the machine is in motion.

MAINTENANCE WITHOUT ACCIDENT

PRECAUTIONS DURING REPAIR

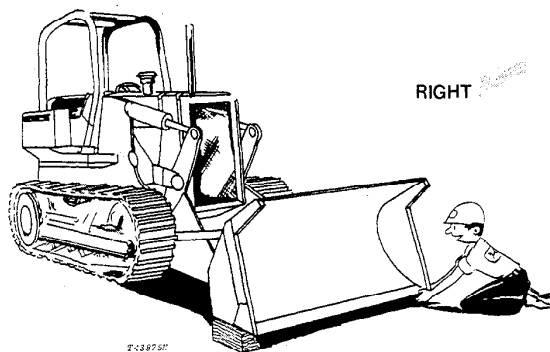
Before working on the engine fuel system—close fuel shutoff valve.



T4387411

Before repairing the electrical system, or performing a major overhaul, make sure the batteries are disconnected.

When changing cutting edges on bucket, stop the engine and securely block the bucket.



T4387511

Never let your bare hands come in contact with sharp edges. WEAR GLOVES.

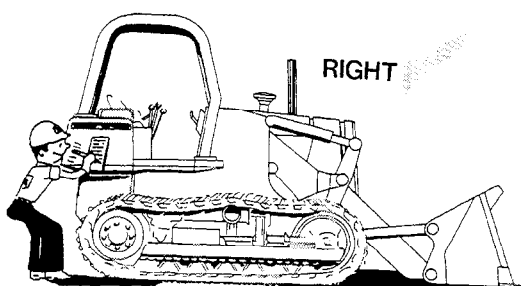
MAINTENANCE WITHOUT ACCIDENT

KNOW EQUIPMENT IS READY!

Check guards, ROPS, safety bars—all protective devices installed on the crawler. Every one should be in place and secure.

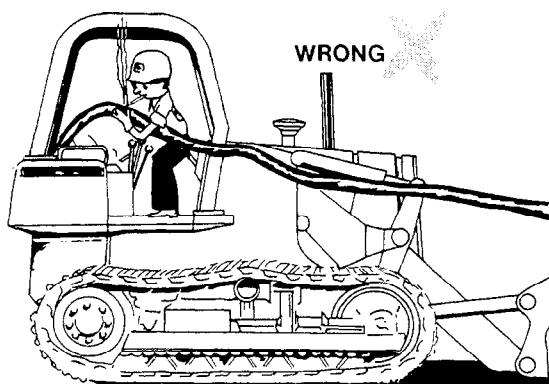
CHECK IT OUT!

- ☐ GUARDS
- ☐ SHIELDS
- ☐ PROTECTIVE DEVICES
- ☐ ROLL-OVER PROTECTIVE STRUCTURES
- ☐ SEAT BELTS
- ☐ FIRE EXTINGUISHER, ETC.



T43876H

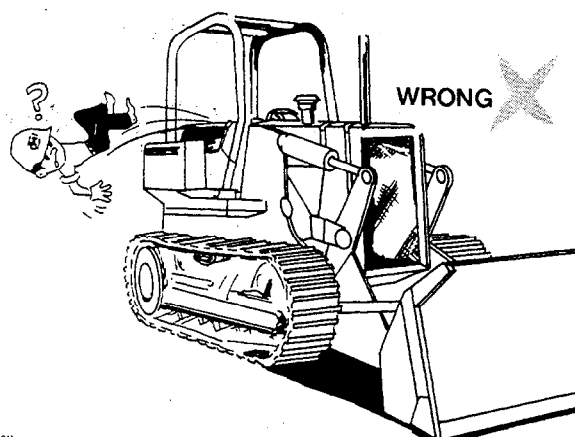
Carefully inspect equipment for visual defects—leaks in fuel, lubrication, and hydraulic systems. Do not search for pressurized fluid leaks with your hands. Use cardboard or wood to search for leaks.



T43877H

Check levels of fuel, coolant, hydraulic fluid, and lubricating oil. If fuel must be added—**FIRST, PUT OUT THAT CIGARET.**

Check and secure all caps and filler plugs for fuel, oils, radiator, etc.



T43878H

Be sure to clean any oil, grease or mud accumulation from floor of operator's compartment, stepping points, and grab rails to minimize the danger of slipping.

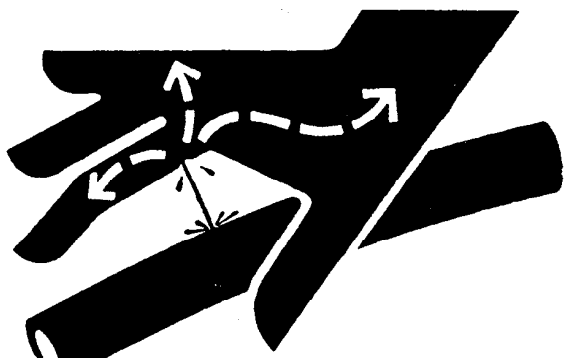
In freezing weather beware of snow or ice deposits on stepping points, grab rails, and floor.

Remove loose bolts, tools, or other objects from floor of operator's compartment.

Although it is impractical to try to cover every possible maintenance situation, the safety precautions recommended here should serve to develop and promote safe maintenance procedures.

The information contained in this manual is not intended to replace safety codes, insurance requirements, federal, state, and local laws, rules and regulations. In particular, your service area or jobsite activities may be subject to state safety rules and/or federal regulation under the Occupational Safety and Health Act (OSHA). Familiarize yourself with all regulations applicable to your situation in order to avoid possible safety violations.

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X9811

Escaping fluid under pressure can penetrate the skin causing serious injury. Relieve pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Keep hands and body away from pinholes and nozzles which eject fluids under high pressure. Use a piece of cardboard or paper to search for leaks. Do not use your hand.

If ANY fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type injury or gangrene may result.

High pressure may be present in track cylinder. If grease does not immediately escape from vent hole, drive crawler loader forward and backward slowly, then tighten check valve.

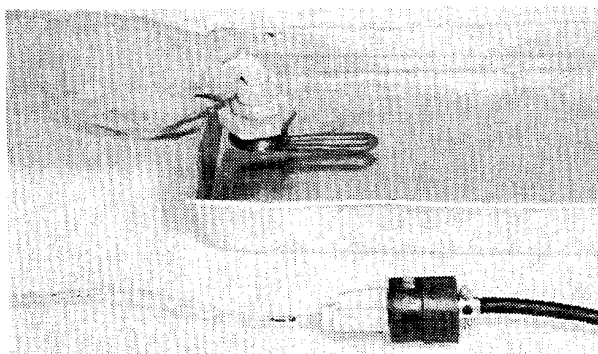
Use extreme care when servicing area of track adjuster and recoil spring. Do not attempt to disassemble without proper tools and knowledge of disassembly procedure.

If ROLL-GARD® protective frame or ROLL-OVER protective equipment is loosened or removed for any reason, make certain all parts are reinstalled correctly. Tighten mounting bolts to proper torque. The protection offered by ROPS will be impaired if the ROPS is subject to structural damage, has been involved in an overturn incident or is in anyway altered. Damaged ROPS should be replaced, not reused.

Avoid possible injury or death from machinery runaway.

Do not start engine by shorting across starter terminals. Machine will start in gear and will move if normal circuitry is bypassed.

NEVER start engine while standing on ground. Start engine only from operator's seat, with transmission in neutral, neutral lock engaged, and park brake applied.



T87098

Use a heavy-duty grounded cord to connect coolant heater to electrical power.

Do not plug into electrical power unless heating element is immersed in coolant. Sheath could burst and result in personal injury.

Prolonged exposure to loud noise can cause impairment or loss of hearing. Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noise.

Starting fluid is highly flammable. Do not puncture or incinerate starting fluid containers.

Group III GENERAL SPECIFICATIONS CRAWLER LOADER

Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with ICED and SAE Standards. Except where otherwise noted, these specifications are based on a unit equipped with 3-1/4 cu. yd. (2.48 m³) bucket with teeth, roll-over protective canopy, three counterweights, full fuel tank, 175 lb. (79 kg) operator and standard equipment.

Power (@ 1800 rpm):	SAE	DIN
Gross	220 hp (164 kW*)	
Net	200 hp (149 kW)	203 PS

Net engine flywheel power is for an engine equipped with fan, air cleaner, water pump, lubricating oil pump, fuel pump, alternator and muffler. The gross engine power is without fan. Flywheel power ratings are under SAE standard conditions of 500 ft. (150 m) altitude and 85°F (29.5°C) temperature, and DIN 6270 conditions (non-corrected). No derating is required up to 7500 feet (2 266 m) altitude.

* In the international System of units (SI), power is expressed in kilowatts (kW).

Engine:

John Deere 6-cylinder turbocharged and intercooled diesel, valve-in-head, 4-stroke cycle.

Bore and stroke	5.12 x 5 in. (130 x 127 mm)
Piston displacement	619 cu. in. (10 147 cm ³)
Compression ratio	15.2 to 1
Maximum torque @ 1300 rpm ..	730 lb-ft (990 N·m) (101 kg-m)
NACC or AMA (U.S. Tax) horsepower	62.9
Lubrication	Pressure system with full flow filters
Main bearings	7
Cooling	Pressurized with thermostat and controlled bypass
Fan	Blower
Dual stage aspirated air cleaner	Dry
Electrical system	24 volt with alternator
Batteries, (2 12-volt)	Reserve capacity: 180 minutes each

Transmission:

Cold weather starting . . . disconnect clutch completely disengages hydrostatic drive and all hydraulics.

Splitter drive . . . Pressure-lubricated helical gears drive both hydrostatic transmissions, main hydraulic pump, winch drive shaft and auxiliary pump drive.

Drive . . . Dual-path, fully automatic, infinitely variable hydrostatic transmissions.

Speeds . . Infinite from 0 to 6.5 mph (0 to 10.5 km/h) forward or reverse.

Control . . . Single-lever, variable speed, forward and reverse.

Cooling Oil to air cooler

Steering:

Fully modulated infinitely variable lever steering for live power turns and counterrotation. No need for steering clutches or steering brakes.

Brakes:

Service Hydrostatic
Parking Wet-disk brakes are automatically applied when engine is stopped, or manually applied with center pedal during normal operation.

Hydraulic System (open-center):

Control . . . Single-lever bucket control with automatic bucket positioner and float position. Three-function valve.

Pump Vane, 70 gpm (4.42 L/s)
@ rated engine speed

Pressure 2600 psi (174 bar) (183 kg/cm²)

Oil lines Seamless steel tubing;
double-wire-braid hose

Filter 10 micron filter in return line with bypass

Cooling Oil to air cooler

Hydraulic Cylinders:	Bore	Stroke
Boom, (2) . . .	6.25 in. (159 mm)	38 in. (965 mm)
Bucket (2) . .	5.50 in. (140 mm)	26.1 in. (663 mm)
Cylinder rods . . Ground, heat-treated, chrome-plated, polished		
Boom cylinder rods	4.00 in. (102 mm) dia.	
Bucket cylinder rods	3.75 in. (95 mm) dia.	

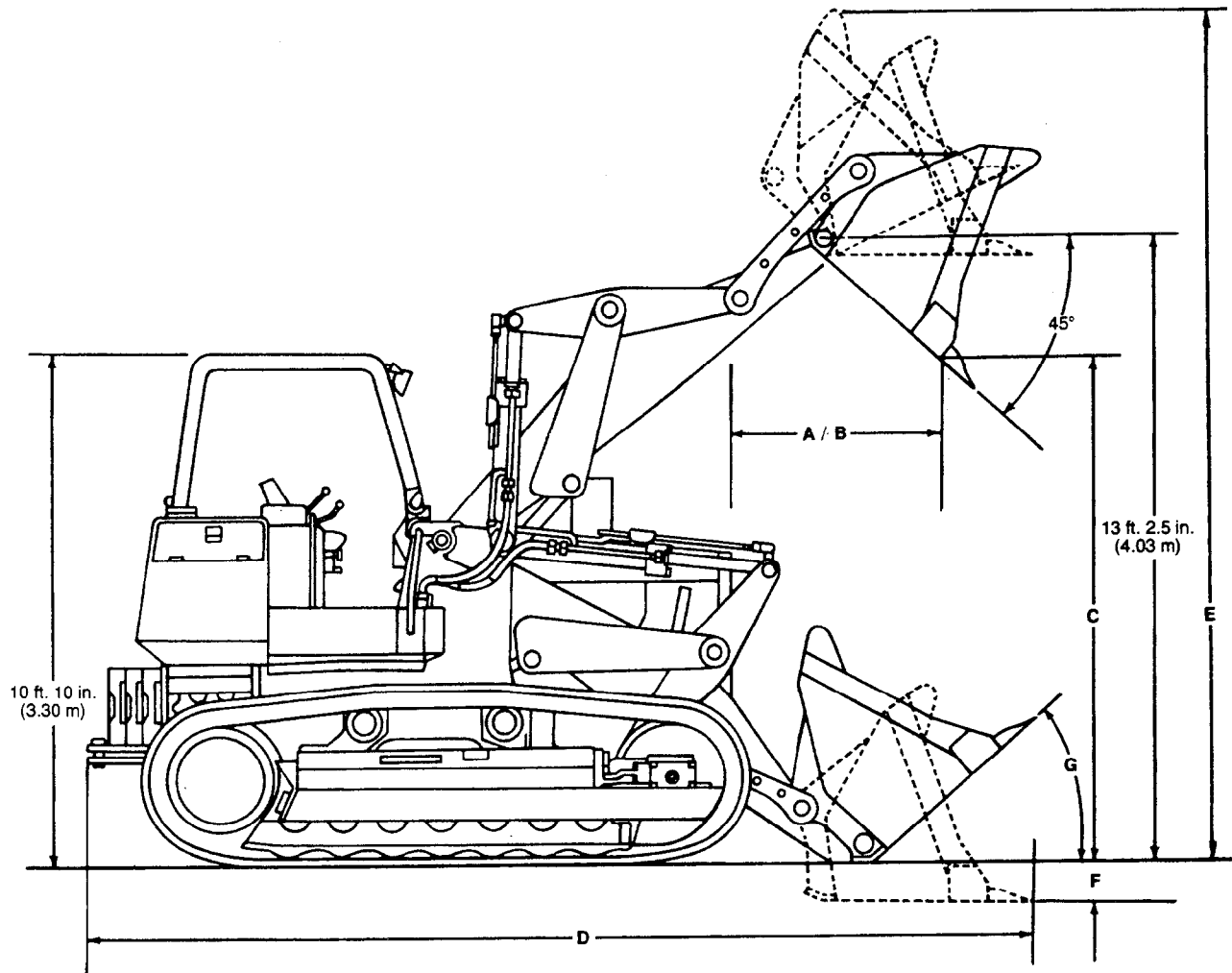
Tracks: 7-roller track frame with front and rear track guides and sprocket guard. DURA-TRAX™ deep-heat treated sealed track links and through-hardened sealed rollers provide maximum wear resistance.

Two bar grouser	18 in. (457 mm)
Track shoes, each side	39
Ground contact area	3996 sq. in. (25 780 cm ²)
Ground pressure	12.4 psi (0.85 bar) (0.87 kg/cm ²)
Length of track on ground	111 in. (2.82 m)
Track gauge	76 in. (1.93 m)
Carrier rollers	2 each side
Adjustment	Hydraulic
Minimum ground clearance	16.6 in. (422 mm)

Capacities:	U.S.	Liters
Cooling system	10.5 gal.	39.8
Fuel tank	106 gal.	401.2
Crankcase, including filters	36.5 qt.	34.5
Splitter drive	1.5 gal.	5.7
Final drive, each:		
1st reduction	5.25 gal.	20.0
2nd reduction	3.5 gal.	13.2
Loader hydraulic system	40 gal.	151.4
Hydrostatic drives	46 gal.	174.1

SAE Operating Weight 49,600 lb. (22 499 kg)

CRAWLER LOADER DIMENSIONS



BUCKET CAPACITIES	DIMENSIONS						Rollback Angle	
	A	B	C	D	E	F	G	
	Reach at Max. Height (45° Discharge)	Reach at 7 ft. (2.13 m) Clearance (45° Discharge)	Clearance Max. Height (45° Discharge)	Overall Length	Maximum Height	Dig Below Ground	Concrete Level	Carry Position
2¼ cu. yd. (2.10 m³)	47.68 in. (1.21 m)	67 in. (1.70 m)	126 in. (3.20 m)	236 in. (5.98 m)	212 in. (5.38 m)	5 in. (127 mm)	40°	48°
3¼ cu. yd. (2.48 m³)	51.46 in. (1.31 m)	65 in. (1.80 m)	122 in. (3.10 m)	240 in. (6.10 m)	218 in. (5.54 m)	5 in. (127 mm)	40°	48°
2¼ cu. yd. (2.10 m³) Multipurpose	47.02 in. (1.19 m)	67 in. (1.70 m)	121 in. (3.07 m)	238 in. (6.05 m)	206 in. (5.23 m)	9 in. (229 mm)	34°	48°

T93383

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