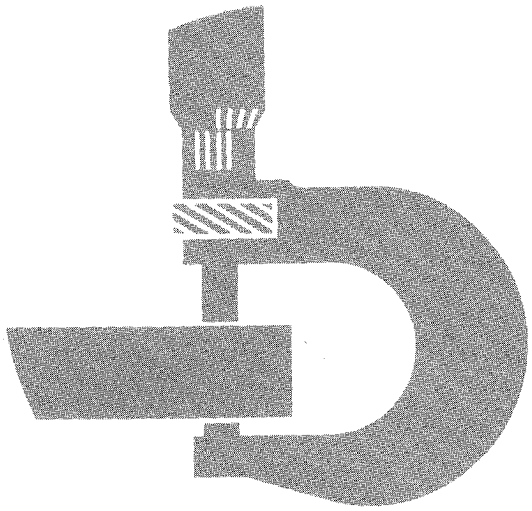
# 755A
# Crawler Loader



# TECHNICAL MANUAL

**TM-1231**

LITHO IN U.S.A.

**755A CRAWLER LOADER**
**Technical Manual**
**TM-1231 (Mar-84)**

## SECTION AND GROUP CONTENTS OF THIS MANUAL



*Litho in U.S.A.*

## SECTION AND GROUP CONTENTS OF THIS MANUAL—Continued



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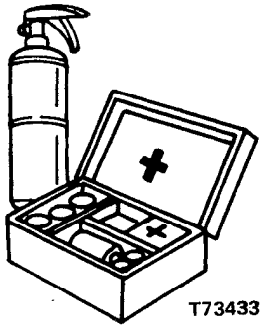
# MAINTENANCE WITHOUT ACCIDENT

## SAFETY AND YOU

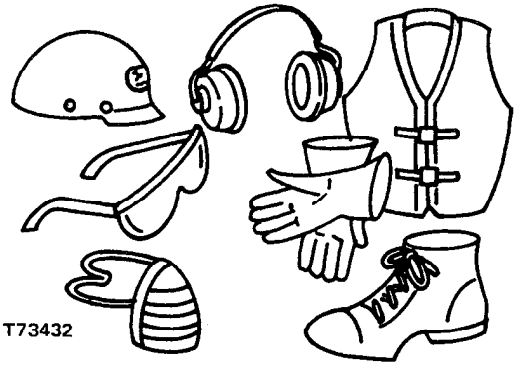
T27999N

**CAUTION: This safety symbol followed by the word "caution" identifies important safety messages in this manual and on the crawler loader. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.**




T73433

Be prepared if an accident or fire should occur. Know where the first aid kit and the fire extinguishers are located - know how to use them.




Wear safety equipment.

T45672

Wear fairly tight clothing.

X981

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.

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# MAINTENANCE WITHOUT ACCIDENT

## KEEP SHOP AND STORAGE AREA CLEAN

T27508N

Maintenance area should be adequately vented.

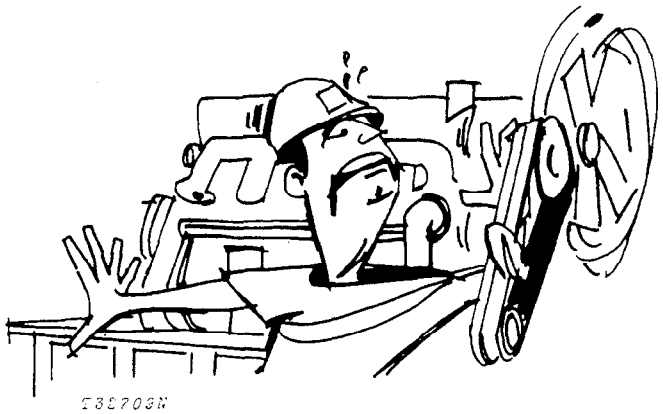
Keep maintenance area clean and dry.

Store flammable materials in a cool and well-vented area out of reach of unauthorized personnel.

## FOLLOW SAFE WORKING CONDITIONS

Perform work on equipment only if authorized to do so.

Follow recommended procedures.


T31703N

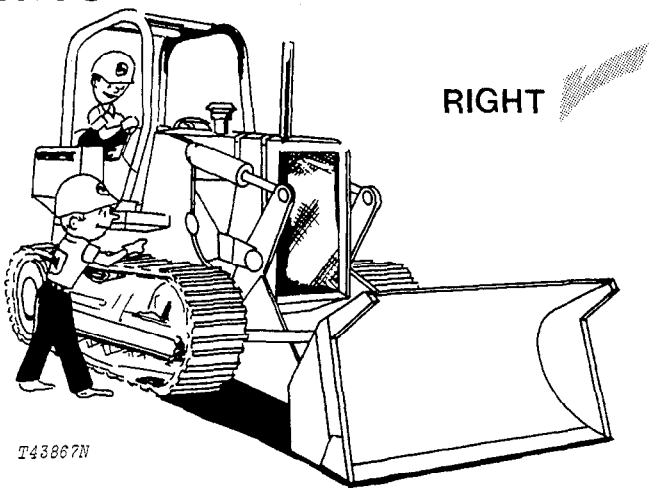
Do not service equipment while it is being operated or engine is running.

Keep hands away from moving parts.

Do not use open flame around machine.

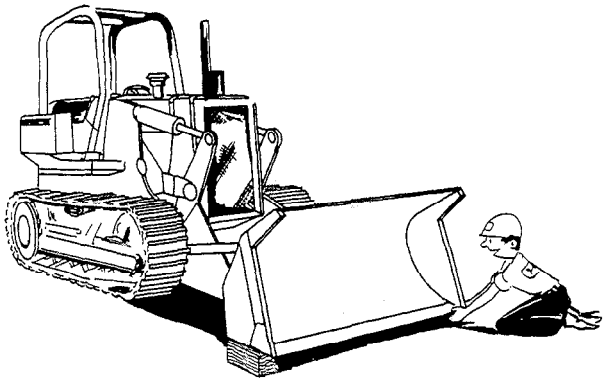
If machine is on an incline, block it securely.

Use hoisting equipment for lifting heavy parts.



T43867N

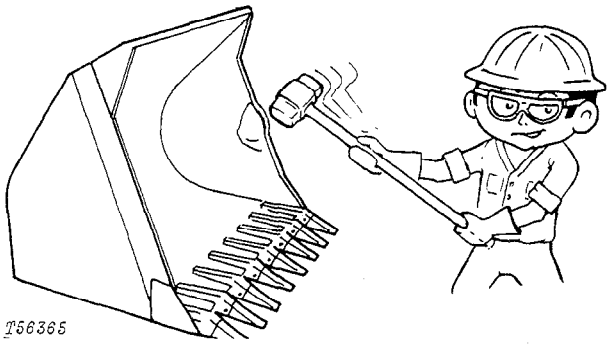
Always use two service technicians - one, the operator at the controls, the other checking within sight of the operator.


T56364

Support all raised equipment.

Do not work under raised bucket.

Always lower bucket before working on it.


T56365

Wear safety glasses when drilling, grinding or hammering metal.

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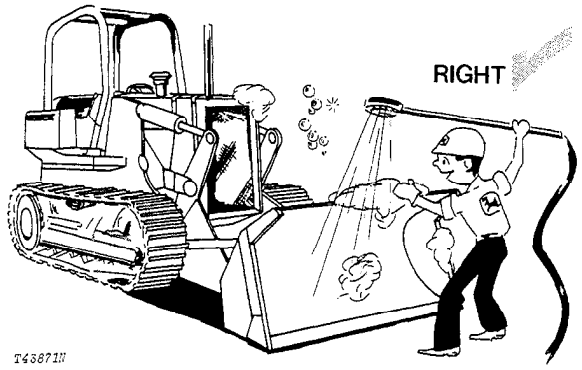
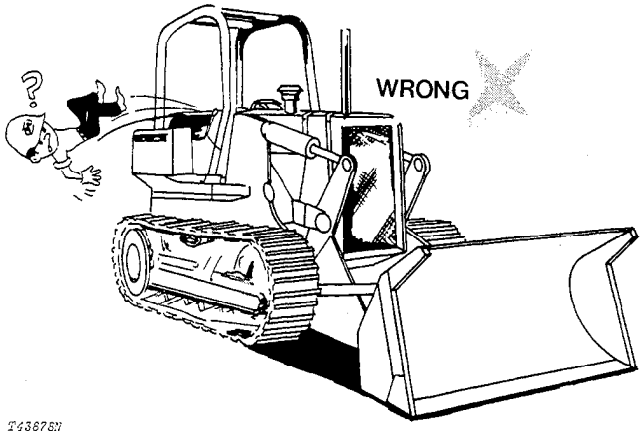
# MAINTENANCE WITHOUT ACCIDENT

## OBSERVE SERVICE PRECAUTIONS




Keep all equipment free of dirt and oil.




Remove oil, grease, mud, ice, or snow from floor of operator's compartment or steps.

Do not remove radiator filler cap unless engine is cool. Then loosen cap slowly to the stop. Release pressure before you remove cap.

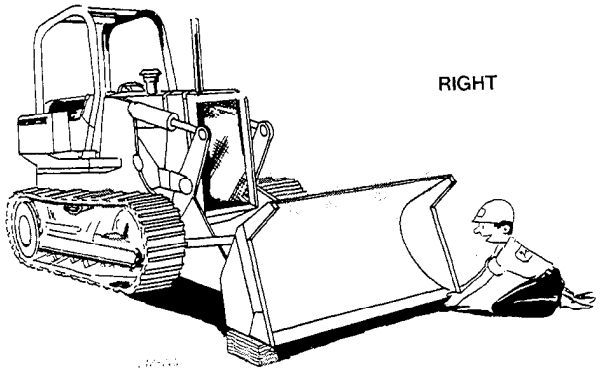
Check exhaust system periodically for excessive leakage.

Relieve hydraulic pressure before working on hydraulic system.

Use the correct test group when checking hydraulic pressure.

Discharge accumulators completely before recharging or servicing.

## OBSERVE REPAIR PRECAUTIONS




Securely block bucket before changing cutting edges. Wear gloves when working with sharp edges.

Relieve hydraulic pressure before working on hydraulic system.

Turn off battery disconnect switch before repairing the electrical system or performing a major overhaul.

Install lift arm locking pin before working in engine area.

## CHECK SAFETY EQUIPMENT ON MACHINE

Check that all protective devices (guards, canopies, shields, ROPS, seat belts, etc.) are installed and secured on machine.

Inspect machine carefully for leakage from lines, hoses, and fittings.

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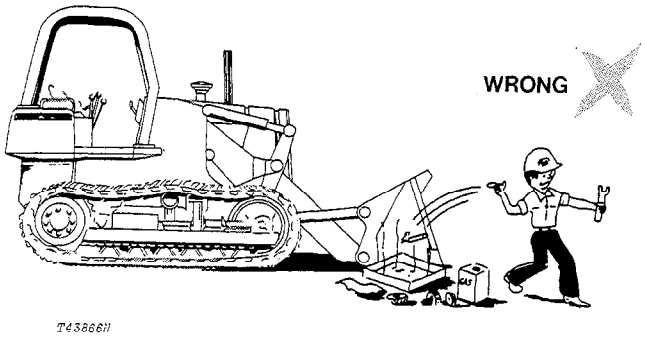
# MAINTENANCE WITHOUT ACCIDENT

## AVOID EXPLOSIONS OR FIRE



T43866N

Do not smoke while refueling.

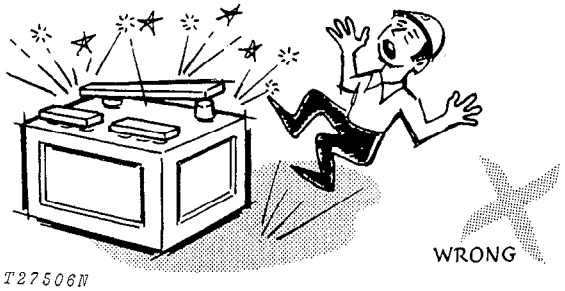
Do not smoke while handling highly flammable materials.

Shut off engine when refueling.

Use care in refueling if engine is hot.

Use good commercial, nonflammable solvents for cleaning parts.

## OBSERVE BATTERY PRECAUTIONS



T27506N

Do not place metal objects across posts to check charge.

Do not smoke near battery.

Do not allow sparks or open flame near battery.

Provide adequate ventilation when charging batteries.

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.

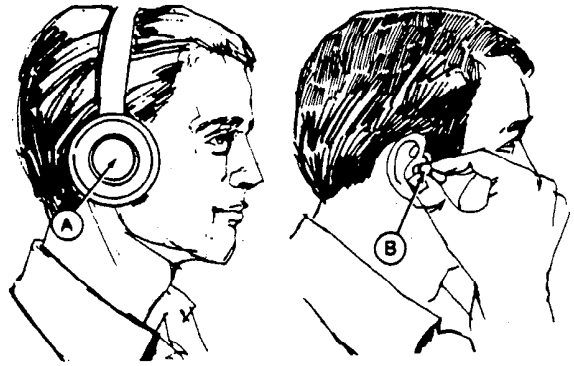
The information contained in this manual is not intended to replace safety codes, insurance requirements, federal, state, and local laws, rules and regulations. In particular, your service area or jobsite activities may be subject to state safety rules and/or federal regulation under the Occupational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

## TEST COOLANT HEATER IN LIQUID ONLY

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 personaly injury.

## PROTECT AGAINST NOISE




X7662

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

## UNDERSTAND CORRECT SERVICE

Be sure you understand a service procedure before you work on the machine.

Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

## PREPARE MACHINE FOR REPAIR

Lower all equipment to the ground.

Put forward and reverse speed control lever in neutral position. Move neutral lock lever to locked position.

Stop the engine.

Operate all hydraulic control levers to release hydraulic pressure in the system.

Disconnect negative (−) battery cable.

## KEEP ROPS INSTALLED PROPERLY

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.

## START ENGINE FROM OPERATOR'S SEAT ONLY

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 circutry is bypassed.

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

# Group III
# General Specifications

(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 2.25 cu. yd. [1.72 m³] bucket with teeth, roll-over protective canopy, four counterweights, fuel tank, 175 lb. [79 kg] operator and standard equipment.)

| **Power** (@ 2100 rpm): | **SAE** | **DIN** |
|---|---|---|
| Gross | 142 hp (106 kW) | |
| Net | 30 hp (97 kW) | 132 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. (152.4 m) altitude and 85°F (29°C) temperature, and DIN 6270 conditions (non-corrected). No derating is required up to 10,000 feet (3000 m) altitude.

**Engine:** John Deere 6-cylinder turbocharged diesel, valve-in-head, 4-stroke cycle.

Bore and stroke .... 4.19 × 5 in. (106.4 × 127 mm)
Piston displacement ..... 414 cu. in. (6.785 L)
Compression ratio ..... 16.2 to 1
Maximum torque @ 1300 rpm .. 400 lb-ft (542 N·m) (55.3 kg-m)
NACC or AMA (U.S. Tax) horsepower ..... 42
Lubrication ..... Pressure system with full flow filters
Main bearings ..... 7
Cooling ..... Pressurized with thermostat and controlled bypass
Fan ..... Blower
Dual-stage aspirated air cleaner with restriction indicator ..... Dry
Electrical system ..... 24 volt with alternator
Batteries (two 12-volt)..... Reserve capacity: 180 minutes each

**Transmission:**

Cold weather starting ..... Disconnect clutch completely disengages splitter drive, 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 6.7 mph (0 to 10.8 km/h) forward or reverse.
Control ..... Single-lever, variable speed, forward and reverse.

**Steering:**
Fully modulated, infinitely variable pedal 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 foot 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, 55 gpm (3.4 L/s) @ rated engine speed
Pressure..... 2500 psi (17 237 kPa) (175.7 kg/cm²)
Oil lines ..... Seamless steel tubing; double-wire-braid hose
Filter ..... 10 micron filter in return line with bypass

| **Hydraulic Cylinders:** | **Bore** | **Stroke** |
|---|---|---|
| Boom (2) ..... | 5.50 in. (140 mm) | 32 in. (813 mm) |
| Bucket (2) ..... | 4.50 in. (114 mm) | 21.52 in. (547 mm) |

Cylinder rods.. Ground, heat-treated, chrome-plated, polished
Boom cylinder rods ..... 3.75 in. (95 mm) dia.
Bucket cylinder rods ..... 2.25 in. (57 mm) dia.

**Tracks** (6-roller track frame with front and rear track guides and sprocket guard):

Two bar grouser width ..... 17 in. (432 mm)
Track shoes, each side ..... 36
Ground contact area ..... 3173 sq. in. (20 472 cm²)
Ground pressure.. 11.0 psi (75.8 kPa) (0.773 kg/cm²)
Length of track on ground ..... 93.5 in. (2.37 m)
Track gauge ..... 66 in. (1.68 m)
Carrier roller ..... 1 each side
Adjustment..... Hydraulic
Minimum ground clearance ..... 15.3 in. (389 mm)

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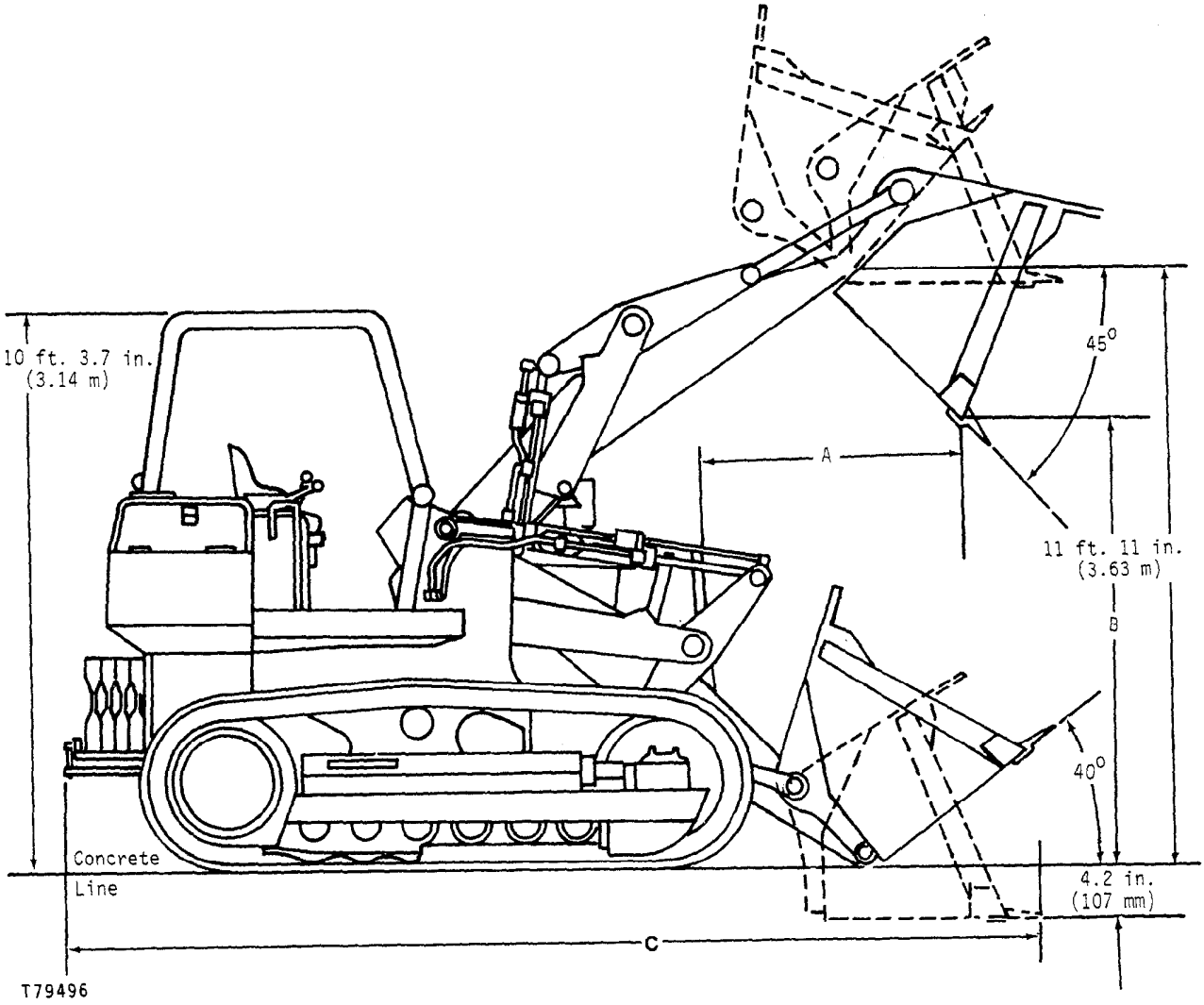
**SAE Operating Weight with ROPS** ..... 35,000 lb.
(15 900 k)

| **Capacities:** | **U.S.** | **Liters** |
|---|---|---|
| Cooling system | 7 gal. | 26.5 |
| Fuel tank | 73 gal. | 276.3 |
| Crankcase | 18 qt. | 17.0 |
| Crankcase, including filter | 20 qt. | 18.9 |
| Splitter drive | 1.5 gal. | 5.7 |
| Final drive each: | | |
| 1st reduction | 6.25 gal. | 23.6 |
| 2nd reduction | 3.5 gal. | 13.2 |
| Loader hydraulic system | 37 gal. | 140.1 |
| Hydrostatic drives | 33 gal. | 124.9 |

**SAE Operating Weight with ROPS** ..... 35,000 lb.
(15 900 kg)

**SAE Operating Weight with ROPS**
**Cab** ..... 35,400 lb.
(16 060 kg)

# LOADER DIMENSIONS




T79496

| BUCKET CAPACITIES | DIMENSIONS | | |
|---|---|---|---|
| | A | B | C |
| **2.25 cu. yd. (1.72 m³) bucket** | 47 in. (1194 mm) | 9 ft. 4 in. (2.84 m) | 18 ft. 3 in. (5.56 m) |
| **2 cu. yd. (1.53 m³) multipurpose** | 47.4 in. (1.20 m) | 9 ft. 3.6 in. (2.83 m) | 18 ft. 3.5 in. (5.58 m) |