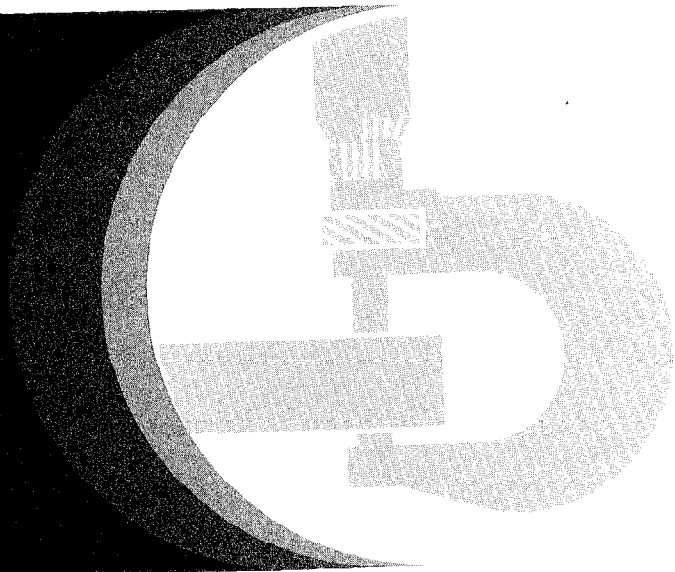


**John Deere  
JD755  
Crawler Loader**



**TECHNICAL MANUAL**

**John Deere Dubuque Works  
TM-1137 (Feb-84)**



LITHO IN U.S.A.

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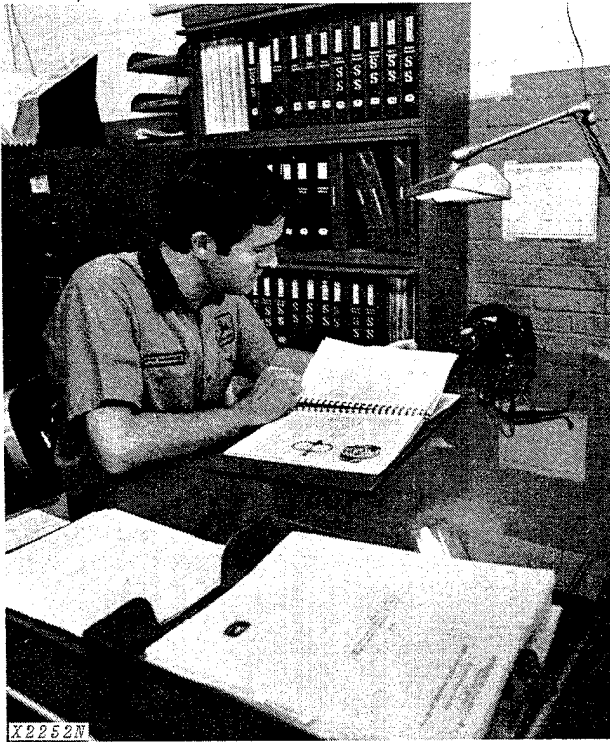
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## Group II INTRODUCTION AND SAFETY INFORMATION

### INTRODUCTION



Use FOS Manuals for Reference

This technical manual is part of a twin concept of service:

The two kinds of manuals work as a team to give you both the general background and technical details of shop service.

#### •FOS Manuals—for reference

*Fundamentals of Service (FOS) Manuals* cover basic theory of operation, *fundamentals* of trouble shooting, *general* maintenance, and *basic* types of failures and their causes. FOS Manuals are for training new personnel and for reference by experienced service technicians.



When a service technician should refer to a FOS Manual for more information, a FOS symbol like the one at the left is used in the TM to identify the reference.

#### •Technical Manuals—for actual service

*Technical Manuals* are concise service guides for a specific machine. Technical manuals are on-the-job guides containing only the vital information needed by an experienced service technician.

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Use Technical Manuals for Actual Service

This technical manual was planned and written for you—an experienced service technician. Keep it in a permanent binder in the shop where it is handy. Refer to it whenever in doubt about correct service procedures or specifications.


Some features of this manual:

- Inside front cover - "Table of Contents".
- Section 1 - Contents, safety information, general specifications and general services.
- Sections 1 through 42 - Removal, repair, testing (components removed), installation, and adjustment.
- Section 90 - Detailed explanation of system operation, diagnosis, visual inspection, testing, and adjustments.
- Specifications grouped and illustrated at the end of each section.

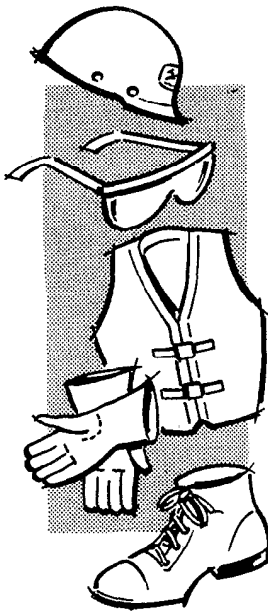
# MAINTENANCE WITHOUT ACCIDENT WORK SAFELY



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!



T27501N

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 

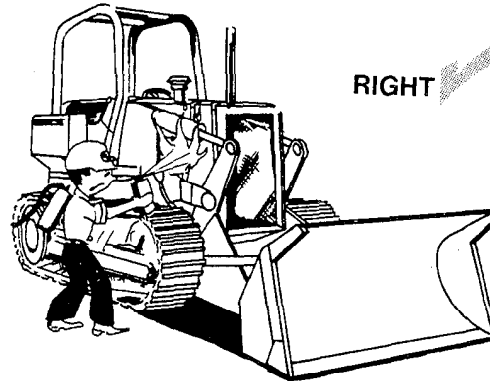


WRONG 

T27502N

**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.

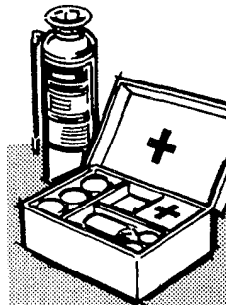
RIGHT 



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

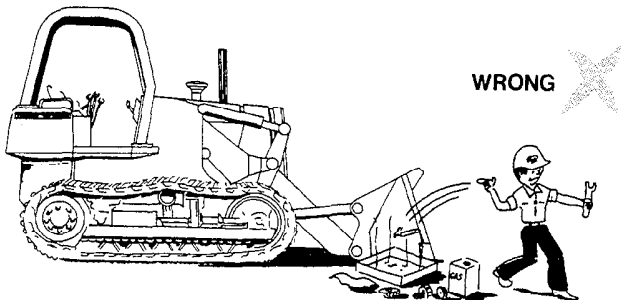
## MAINTENANCE WITHOUT ACCIDENT

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.

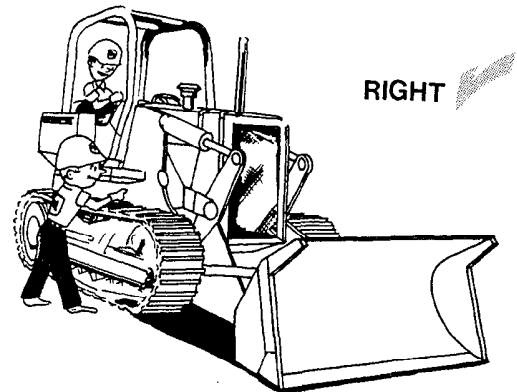
**KNOW WHERE FIRE EXTINGUISHERS ARE KEPT!**

Litho in U.S.A.

### UNDER ALL MAINTENANCE CONDITIONS—

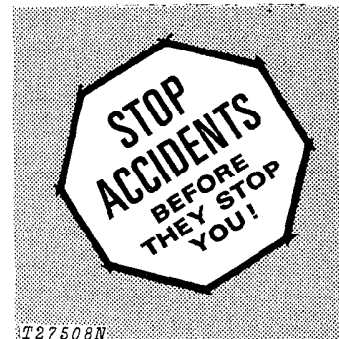
Do not perform any work on the crawler unless authorized to do so. Then be sure you understand the services required. Follow recommended procedures.

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 transmission in neutral, set the parking brake, and apply any safety locks provided. **KEEP HANDS AWAY FROM MOVING PARTS.**

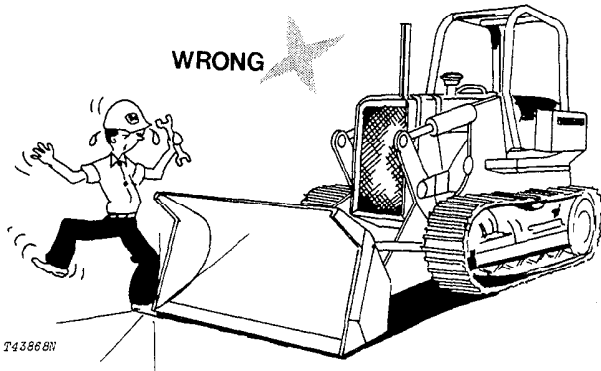


T27508N

## 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 boom safety 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.

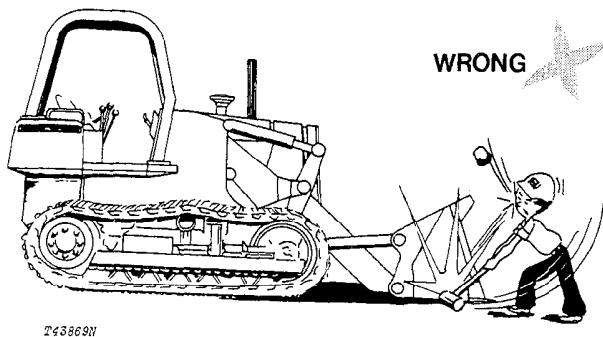


Avoid working directly under raised and blocked equipment unless absolutely necessary.

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.

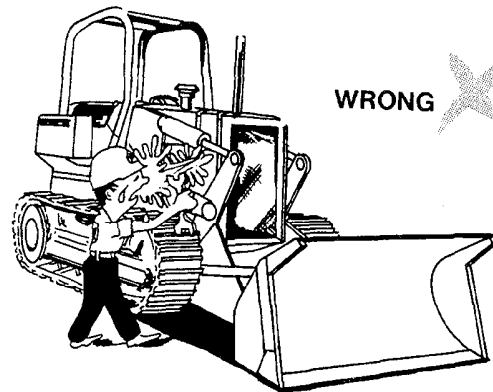
Keep maintenance area **CLEAN AND DRY**. Oily and wet floors are slippery; greasy rags are a fire hazard; wet spots are dangerous when working with electrical equipment.

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.

## 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 cu.yd. (1.53 m<sup>3</sup>) bucket with teeth, roll-over protective canopy, four counterweights, and standard equipment.*

Power (@ 2100 rpm):	SAE	DIN
Gross .....	122 hp (91 kW*)	
Net .....	110 hp (82 kW*)	111.5 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°C) temperature, and DIN 70 020 conditions (non-corrected). No derating is required up to 10,000 feet (3 000 m) altitude.

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

**Engine:**

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

Bore and stroke .....	4.19x5 in. (106.4x127 mm)
Piston displacement .....	414 cu. in. (6 784 cm <sup>3</sup> )
Compression ratio .....	16.2 to 1
Maximum torque @ 1300 rpm .....	345 lb-ft (468 Nm) (48 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
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 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.

**Steering:**

Fully modulated, infinitely variable pedal steering for live power turns and counter-rotation. No need for steering clutches or steering brakes.

**Brakes:**

Service..... Hydrostatic

Parking..... Wet-disk brakes are automatically applied when engine is stopped or can be applied with center pedal during normal operation.



Hydraulic System (open-center):

Control . . . . . Single-lever, two-function control  
 with automatic bucket positioner  
 and float position

Pump . . . . . Vane, 55 gpm (208 l/m)  
 at rated engine speed

Pressure . . . . . 2250 psi (155.1 bar) (158.2 kg/cm<sup>2</sup>)

Oil lines . . . . . Seamless steel tubing;  
 double braided wire

Filter . . . . . 10 micron filter in return line  
 with bypass

Hydraulic Cylinders:                      Bore              Stroke

Boom, two . . . 5.50 in. (140 mm)      32 in. (813 mm)

Bucket, two . . 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 track guides and sprocket  
 guard): . . . . . 15 in. (381 mm)

Track shoes, each side . . . . . 40

Ground contact area . . . . . 2,700 sq. in. (17 419 cm<sup>2</sup>)

Ground pressure 11.85 psi (0.82 bar) (0.833 kg/cm<sup>2</sup>)

Length of track on ground . . . . . 90 in. (2.29 m)

Track gauge . . . . . 64 in. (1.63 m)

Upper idlers . . . . . 1 each side

Adjustment . . . . . Hydraulic

Minimum ground clearance . . . . . 14 in. (356 mm)

Buckets:	Capacity	Width
General purpose . . . . .	2 cu. yd. (1.53 m <sup>3</sup> )	82.5 in. (2.1 m)
Multipurpose . . . . .	1-3/4 cu. yd. (1.34 m <sup>3</sup> )	83.84 in. (2.13 m)

Operating Data:

Breakout force . . . 25,310 lb. (113 125 N) (11 480 kg)

Lifting capacity at  
 full height . . . . . 12,400 lb. (55 180 N) (5 625 kg)

Maximum dumping angle . . . . . 49 deg.

Raising time . . . . . 5.86 sec.

Lowering time . . . . . 3.23 sec.

Dumping time . . . . . 1.27 sec.

SAE Operating Weight with ROPS 32,005 lb. (14 517 kg)

\*Includes approximately 9 U.S. gallons (34 L) for oil in hydraulic cylinders, lines, filters, etc.

\*\*Includes approximately 5 U.S. gallons (18.9 L) for oil in lines, cooler, filter, etc.

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 . . . . .	5.4 gal.	20.3
2nd reduction . . . . .	3.5 gal.	13.2
Loader hydraulics system . . . . .	37 gal.*	140.2
Hydrostatic drives . . . . .	33 gal.**	125.1

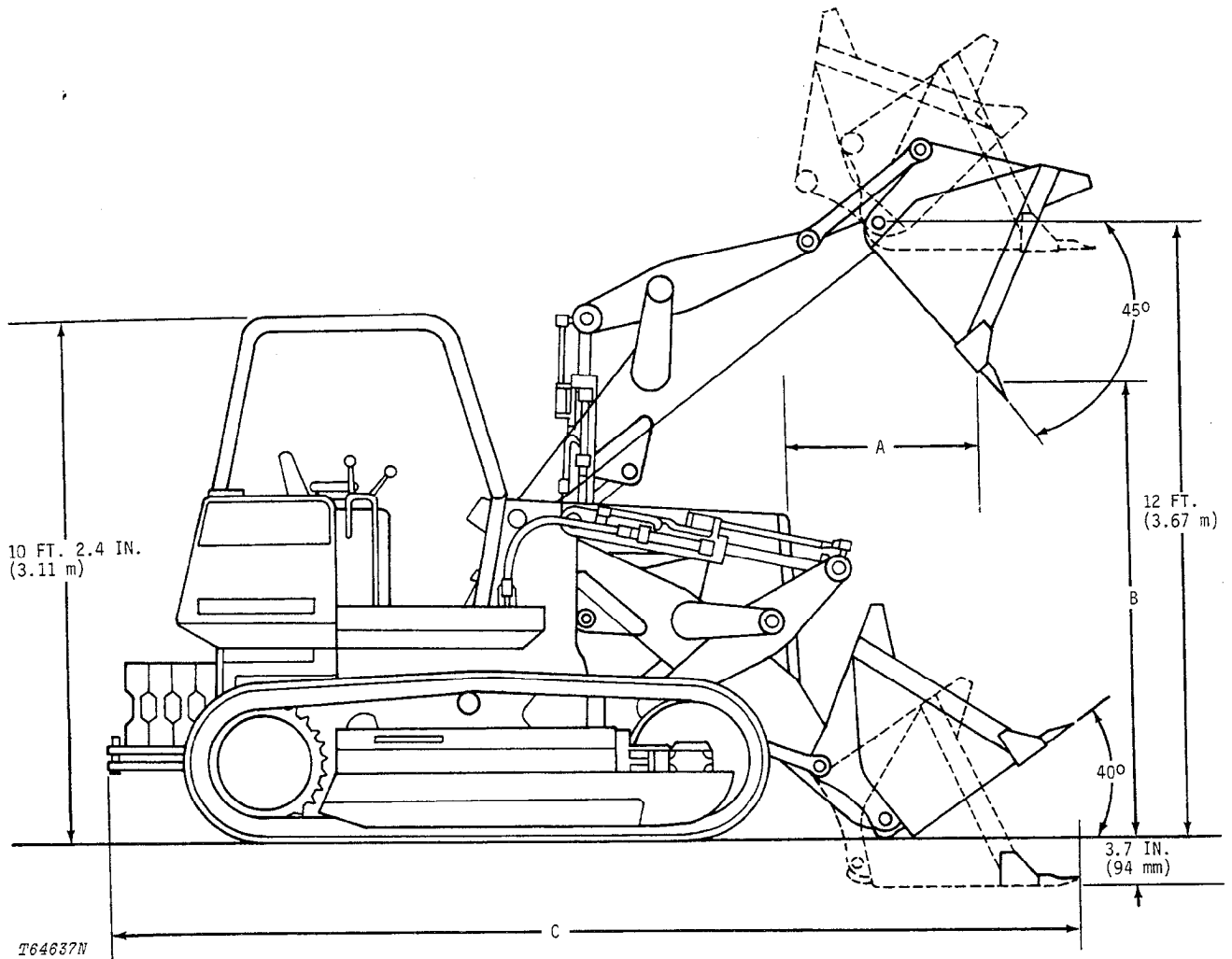
Additional Standard Equipment:

- Enclosed alternator with solid state regulator
- Bottom guards
- Cushioned seat with armrests
- Key switch
- Pushbutton starting
- Electric hour meter
- Cigaret lighter
- Vandal protection
- Boom safety lock bar
- Muffler
- Cold weather starting aid
- Front idler shields
- Master electrical disconnect switch
- Fan guard
- Toolbox
- Handholds and foot steps
- Transmission neutral lock with starter safety switch
- Horn
- Air cleaner restriction indicator
- ROPS canopy with seat belt
- Rear hand hold

Special Equipment:

- Additional counterweights
- Hydraulics for rear-mounted equipment
- Limb risers for ROPS canopy
- Fire extinguisher
- Front pull hook
- Cab with front and rear windshield wiper and windshield washer
- Winch
- Ripper
- Multi-purpose bucket
- Hydraulics for front-mounted equipment
- Selector valve
- Air conditioner
- Suspension seat with armrests
- Brush screens
- Bucket teeth
- Oil sampling test kit
- Backup alarm
- Lift cylinder guards
- Engine coolant heater

**LOADER DIMENSIONS**



BUCKET CAPACITIES	DIMENSIONS		
	A	B	C
2 cu. yd. bucket	47.7 in. (1.21 m)	9 ft. 5 in. (2.87 m)	17 ft. 9 in. (5.41 m)
1-3/4 cu. yd. multipurpose	53.2 in. (1.35 m)	9 ft. 6.5 in. (2.91 m)	18 ft. 0.75 in. (5.51 m)

## Group IV PREDELIVERY, DELIVERY, AND AFTER-SALE SERVICES

### TEMPORARY STORAGE

After receiving your crawler from the factory and before putting the machine into temporary storage perform the following checks:

For long term storage (over 30 days) information, consult your JD755 Operator's Manual.

1. Check battery electrolyte level and charge the battery, if necessary.
2. Check coolant level in the radiator. Coolant level should be maintained at a level midway between the radiator core and filler neck.
3. Fill the fuel tank.
4. Check crankcase oil level. Oil should be at top mark of dipstick after crawler has been shut down for 10 minutes.
5. Relieve hydraulic pressure by stopping engine, lowering all equipment and operating control levers until system fails to respond.

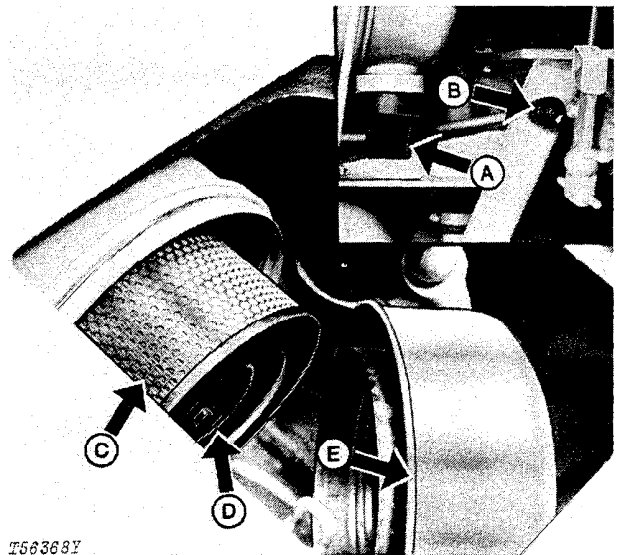
### PREDELIVERY SERVICE

Because of the shipping factors involved, plus extra finishing touches that are necessary to promote customer satisfaction, proper predelivery service is of prime importance to the dealer and the customer.

If adjustments are required, procedures are found in the After-Sale section.

Use the following list when preparing a unit for delivery to the customer.

#### 1. Air Cleaner



T56368Y

A—Dust Unloader Valve  
B—Restriction Indicator  
C—Primary Element

D—Safety Element  
E—Air Cleaner Cover

Fig. 1-Air Cleaner

Check air cleaner restriction indicator. If red signal locks in full view, look for restriction or blockage in air intake system.

Air cleaner elements checked	Yes	No
Restriction in system	Yes	No



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