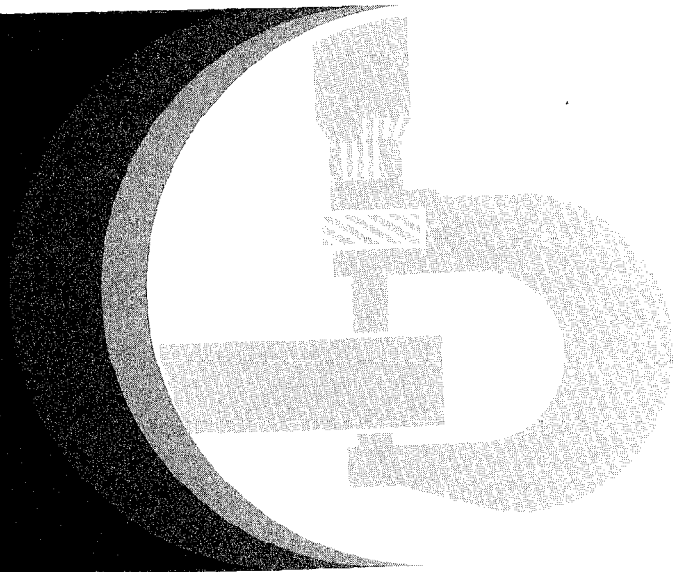


**John Deere
JD755
Crawler Loader**



TECHNICAL MANUAL

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



LITHO IN U.S.A.

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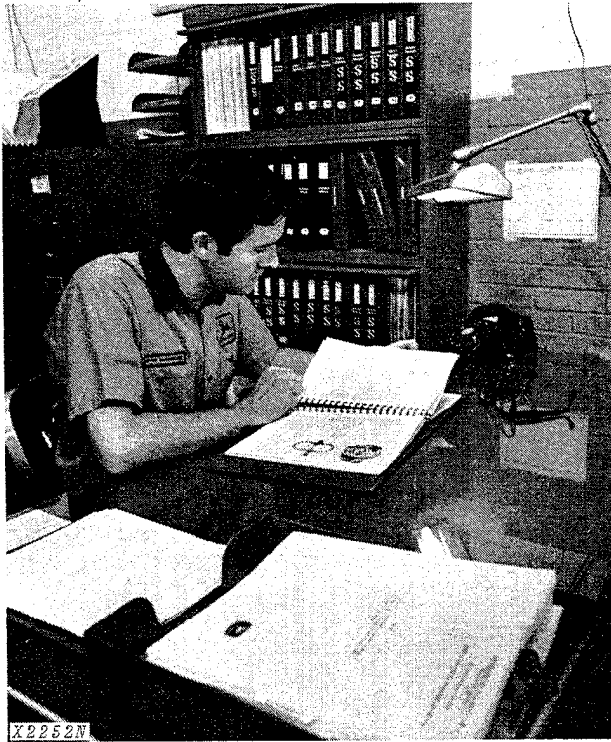
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Group II INTRODUCTION AND SAFETY INFORMATION

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.

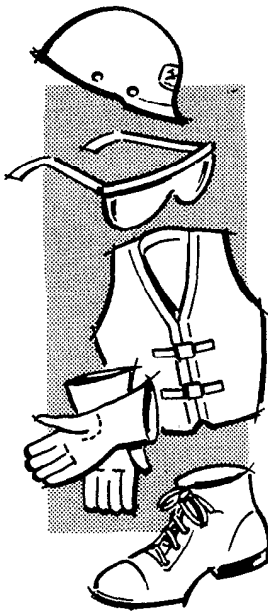
MAINTENANCE WITHOUT ACCIDENT WORK SAFELY



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!

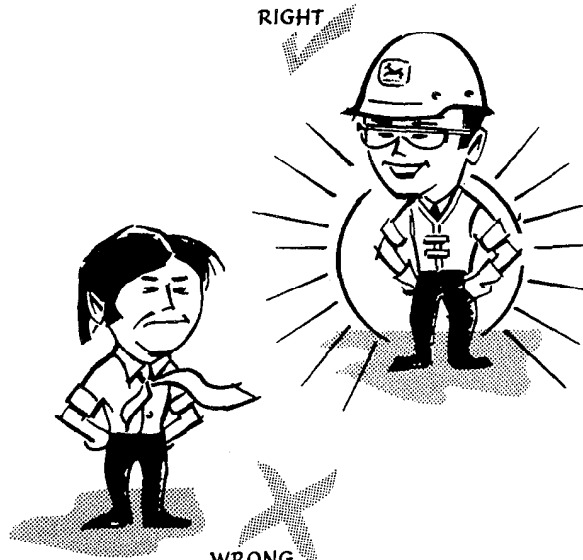


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Consult your shop supervisor for specific instructions on a job, and the safety equipment required.

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

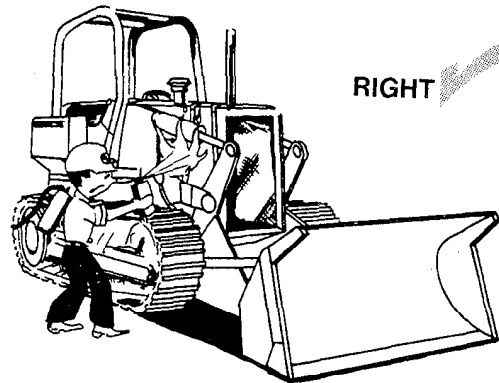
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WRONG

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.

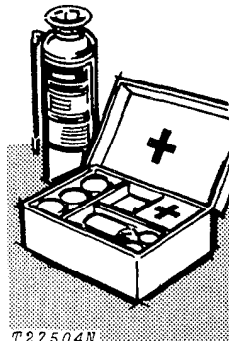


RIGHT

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.



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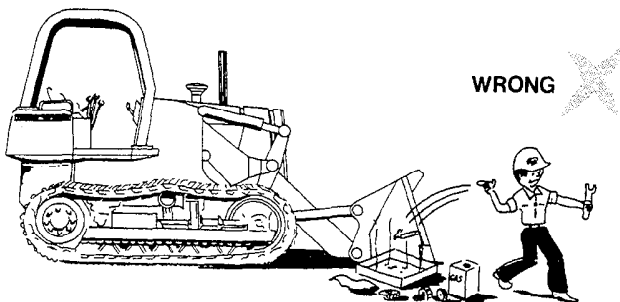
MAINTENANCE WITHOUT ACCIDENT

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.



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.



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.

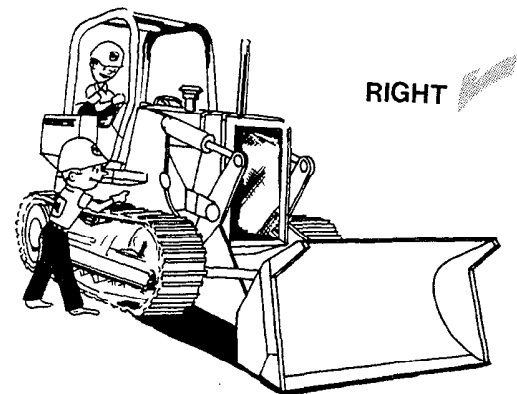
KNOW WHERE FIRE EXTINGUISHERS ARE KEPT!

Litho in U.S.A.

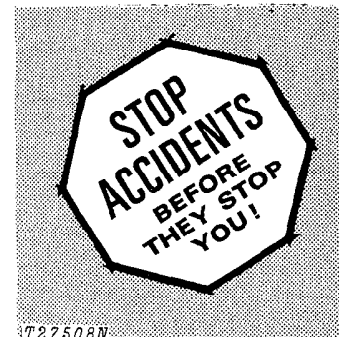
UNDER ALL MAINTENANCE CONDITIONS—

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.



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.**

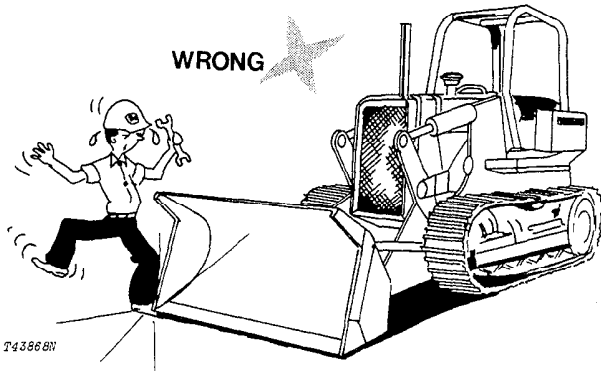


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MAINTENANCE WITHOUT ACCIDENT

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.

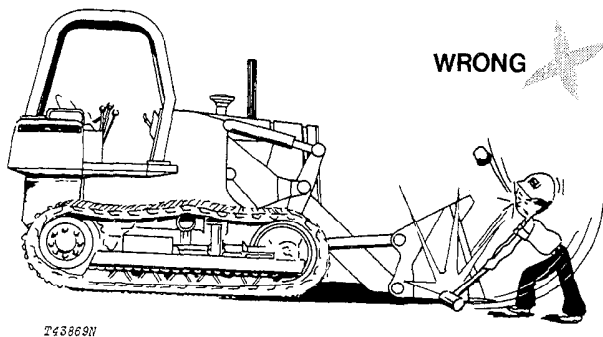


Avoid working directly under raised and blocked equipment unless absolutely necessary.

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.

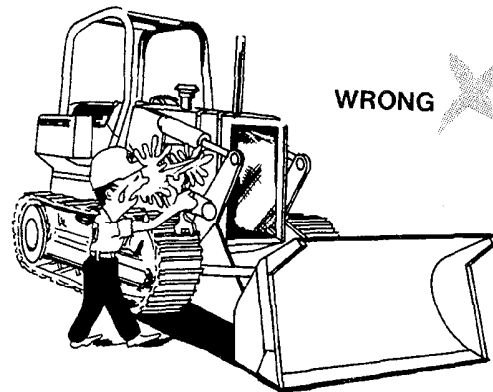
Keep maintenance area **CLEAN AND DRY**. Oily and wet floors are slippery; greasy rags are a fire hazard; wet spots are dangerous when working with electrical equipment.

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 m³) 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 ³)
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/cm²)

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 cm²)

Ground pressure 11.85 psi (0.82 bar) (0.833 kg/cm²)

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 ³)	82.5 in. (2.1 m)
Multipurpose	1-3/4 cu. yd. (1.34 m ³)	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

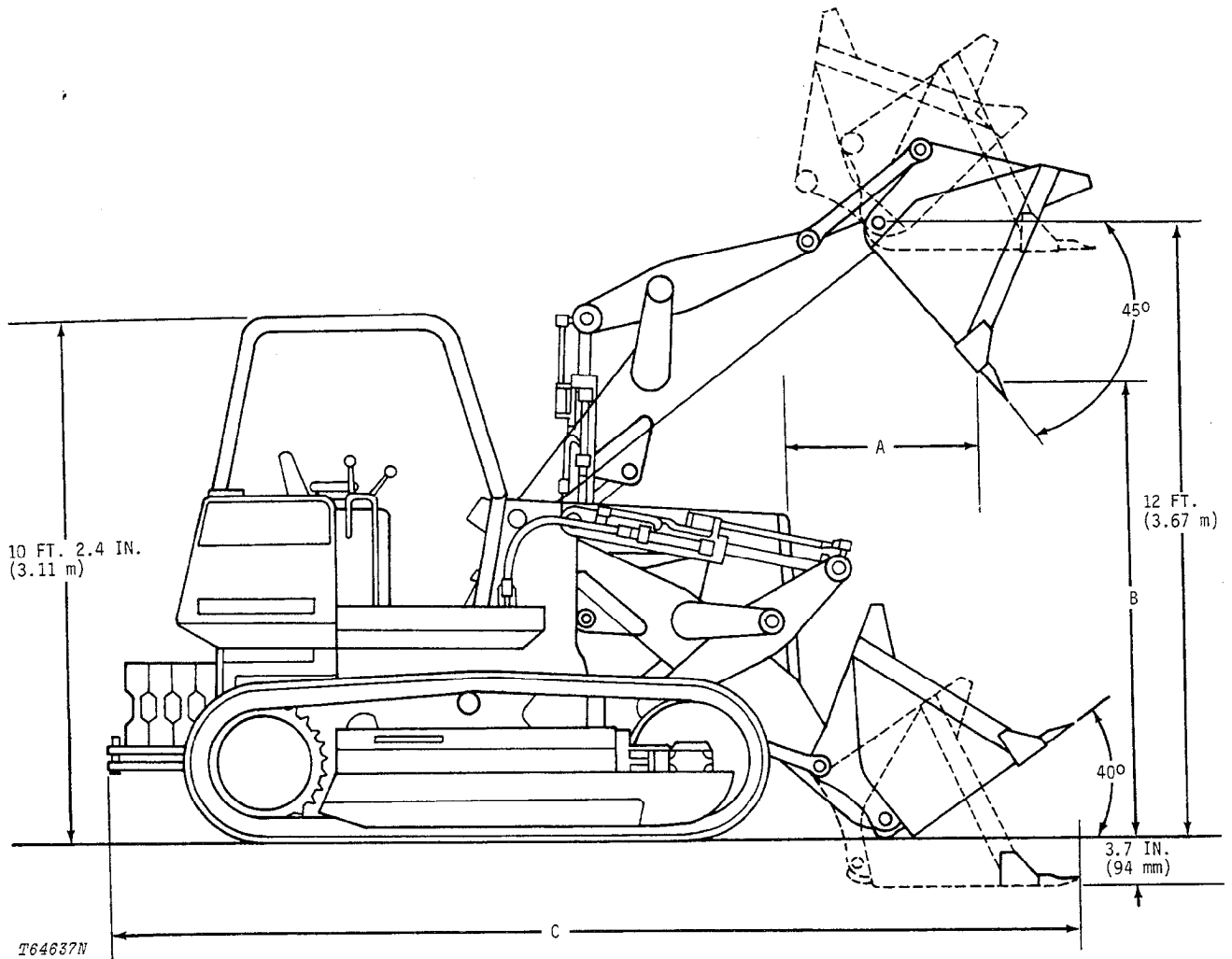
Additional Standard Equipment:

- 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.

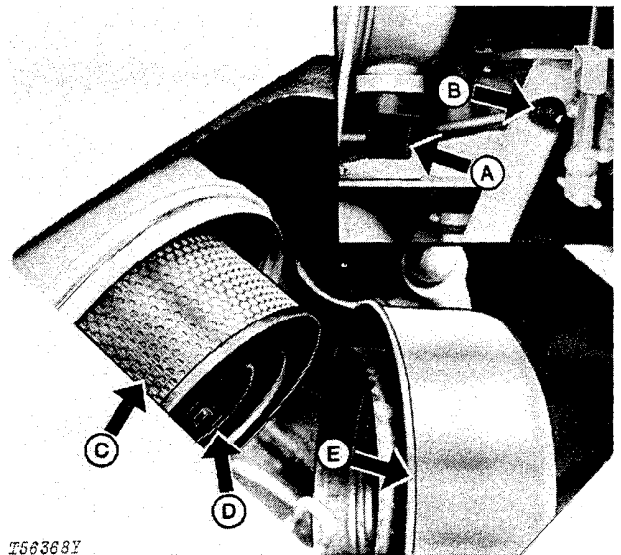
PREDELIVERY SERVICE

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

2. Fuel Filter

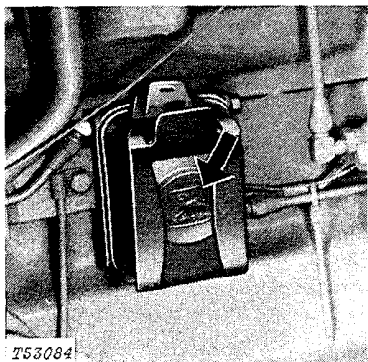


Fig. 2-Fuel Filter

Check fuel filter for sediment. Drain if necessary. To drain:

- 1 - Loosen drain plug.
- 2 - Work fuel pump primer lever until fuel, free of bubbles, flows from filter opening.
- 3 - Tighten drain plug.
- 4 - Bleed fuel system as follows:
 - A - Loosen bleed plug.
 - B - Work fuel pump primer lever until fuel, free of bubbles, flows from filter opening.
 - C - Tighten bleed plug.

Sediment present in filter	Yes	No
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3. Air Intake Hose

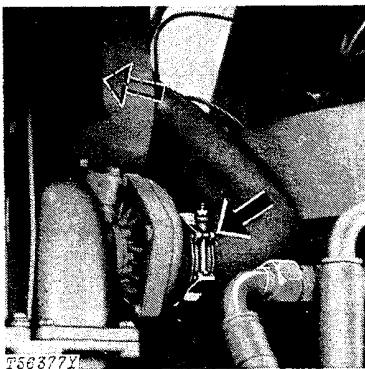


Fig. 3-Air Intake Hose Connections

Check clamps on hose connecting air cleaner and engine. Tighten two hose clamps. Inspect hose for cracks.

Air intake hose checked	Yes	No
Loose connections	Yes	No

4. Batteries

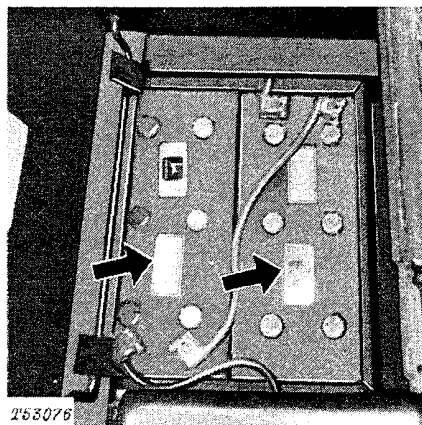


Fig. 4-Batteries

Check battery electrolyte level. If distilled water is not available, use clean soft water. Avoid use of hard water. Remove foreign material from top of battery and coat terminals with petroleum jelly.

IMPORTANT: Never add water to battery in freezing weather unless engine is to be run 2 or 3 hours to assure mixing of water and electrolyte.

Check battery connections

Punch data code on card.

Water added	Yes	No
Batteries checked and serviced	Yes	No

5. Fuel Tank

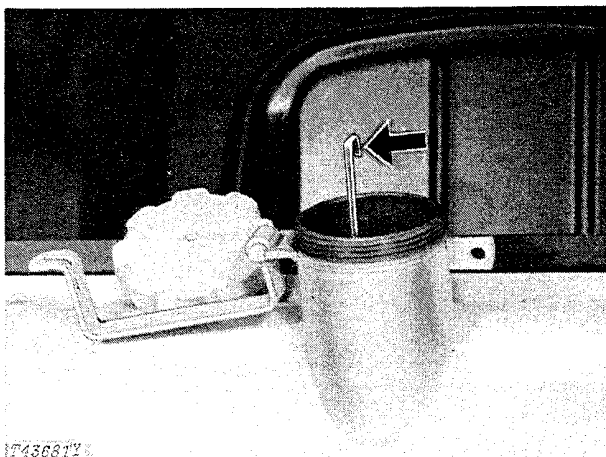


Fig. 5-Fuel Tank

Check fuel tank level. If low, add sufficient fuel to fill the tank. Capacity is 73 gal. (276.7 L). Check fuel system for leaks.

Fuel tank level	Full	1/2-Full	Empty
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6. Fuel Tank Sump

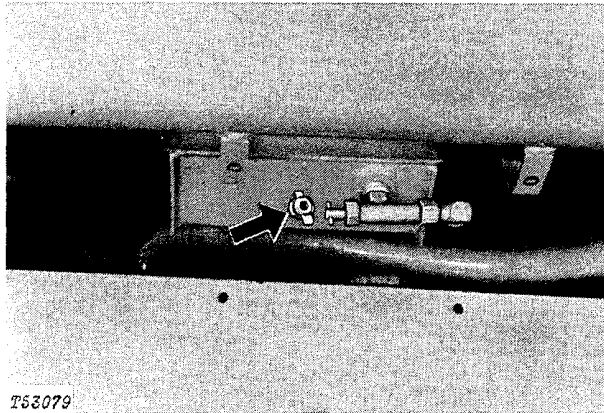


Fig. 6-Fuel Tank Sump

Open drain cock located at bottom of fuel tank. Drain fuel until all sediment drains out. Close and tighten drain cock.

NOTE: Drain sump after crawler has been shut down for at least 2 hours.

Fuel tank sump drained	Yes	No
Filter checked	Yes	No

7. Radiator

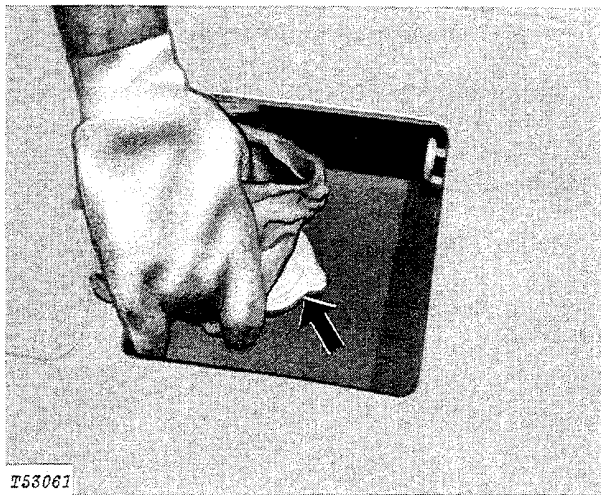


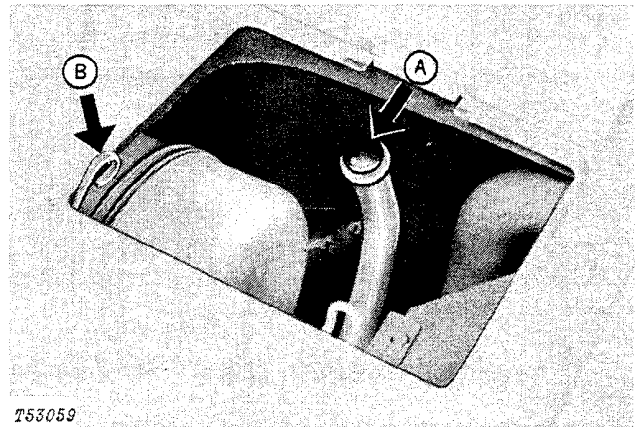
Fig. 7-Radiator Filler Cap

CAUTION: Do not remove radiator filler cap until coolant temperature is below its boiling point. Then loosen cap slowly to the stop to relieve any excess pressure before removing cap completely.

Check coolant level in the radiator. Coolant level should be maintained at a level midway between radiator core filler neck. Add permanent type antifreeze if cold weather is expected. If coolant level is low, check cooling system for leaks.

Radiator coolant level checked	Yes	No
Coolant or antifreeze added	Yes	No

8. Crankcase Oil Level



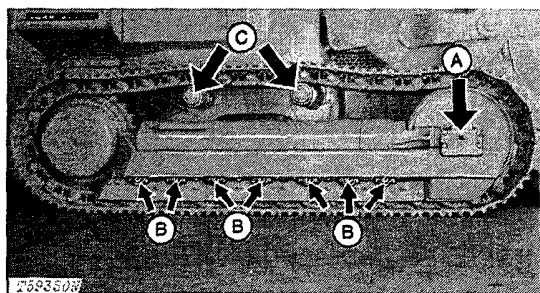
A—Oil Filler Cap B—Dipstick

Fig. 8-Crankcase Oil Level

Check crankcase oil level with unit on level ground. If oil level is at or below bottom mark on dipstick, add sufficient oil of the proper viscosity and type specified on page I-V-2 to bring oil level to between marks on dipstick. Do not operate engine with oil level below the bottom mark.

Crankcase oil level checked	Yes	No
Oil added	Yes	No

9. Front Idlers, Track Rollers and Upper Idlers Oil Levels



A—Front Idler Check Plug C—Upper Idler Check Plug
 B—Track Roller Check Plug

Fig. 9-Track Area Oil Levels

Check oil level in the upper idler oil level should be at check plug. If low, add enough John Deere TORQ-GARD® SUPREME Engine Oil, SAE-30 or an equivalent to bring level up to check plug.

Check oil level in the front idlers and track rollers as follows:

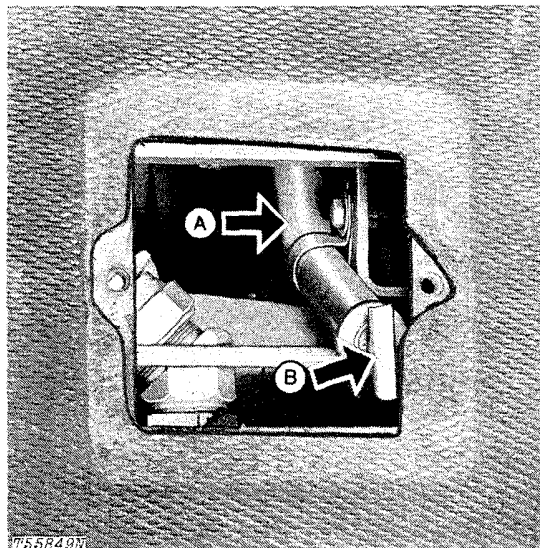
- 1 - Thoroughly clean the nozzle and around the plug end of the shaft.
- 2 - Remove plug and O-ring.
- 3 - Using a JD-313 Lube Nozzle Kit, insert the nozzle in the shaft as far as it will go.
- 4 - Force oil slowly into the shaft until oil is flowing out of roller indicating roller or idler is full.
- 5 - Remove the nozzle and install O-ring and plug.

Front idler, track roller and upper idler
 oil levels checked

Yes No
 Yes No

Oil added

10. Splitter Gearbox Oil Level



A—Filler Tube B—Dipstick

Fig. 10-Splitter Gearbox Oil Level

The filler tube and dipstick are located on the rear of the splitter housing under the floorboard plate.

NOTE: On crawlers without cabs, the access cover on the floorboard plate must be removed. On crawlers with cabs, the floorboard plate must be removed.

Remove dipstick. Oil level should be between marks on the dipstick. If oil level is low, fill with a Multipurpose GL-5 Gear Oil - SAE 80W-90 weight meeting MIL-L-2105C specification or an equivalent.

Replace dipstick. Do not overtighten dipstick.

Splitter gearbox oil level checked

Yes No
 Yes No

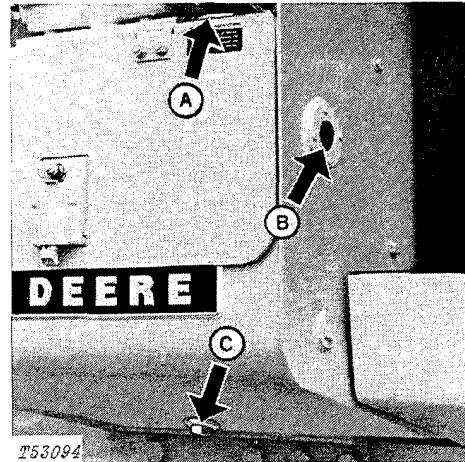
11. Inner and Outer Final Drive Housing Oil Level



A—Level-Filler Plug B—Drain Plug

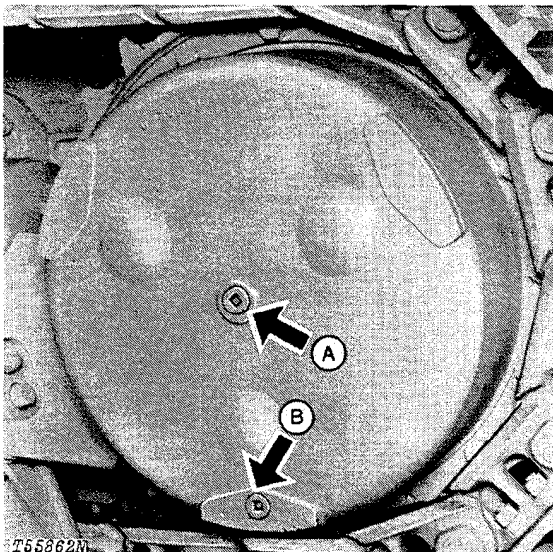
Fig. 11-Inner Final Drive Housing

12. Hydrostatic Transmission Oil Level



A—Fill Plug C—Drain Plug
 B—Oil Level Window

Fig. 13-Transmission Sump



A—Level-Filler Plug B—Drain Plug

Fig. 12-Outer Final Drive Housing

Transmission oil level should be visible in oil level window.

NOTE: The hydrostatic transmission system is a sealed design and has no vent. Remove filler plug slowly to release pressure. When replacing the filler plug, be sure it is screwed down tight and the O-ring is in good condition.

If oil is not visible in window, add enough John Deere All Weather Hydrostatic Fluid to bring up to this level. Check transmission system for leaks if oil level is low.

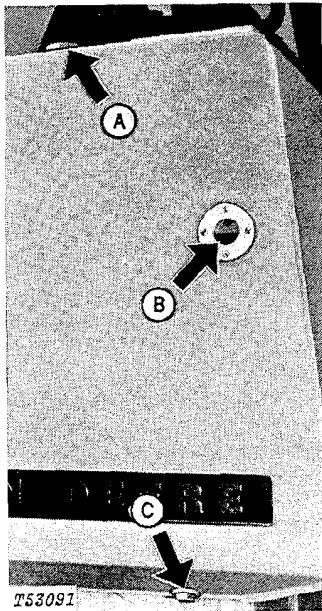
Total capacity is 28 gal. (106 L).

Transmission oil level checked	Yes	No
Oil added	Yes	No

Check the oil levels of the inner and outer final drive housings. Oil level should be at level-filler plug. If low, add enough of a Multi-Purpose GL-5 Gear Oil - SAE 80W-90 weight meeting MIL-L-2105C specifications or an equivalent to bring level up to check and fill plug.

Inner and outer final drive housing oil level checked	Yes	No
Oil added	Yes	No

13. Hydraulic Oil Level



A—Fill Plug
 B—Oil Level Window
 C—Drain Plug

Fig. 14-Hydraulic Reservoir

Hydraulic oil level should be visible in oil level window.

IMPORTANT: The hydraulic reservoir is completely closed and pressurized. Slowly remove the fill plug to relieve the reservoir pressure. When replacing the fill plug, be sure it is screwed down tight and the O-ring is in good condition.

If oil is not visible in window, add enough John Deere Hydraulic Oil (J14C) or an equivalent to bring up to this level. Check hydraulic system for leaks if oil level is low.

Total capacity is 28 gal. (106 L).

Hydraulic oil level checked	Yes	No
Oil added	Yes	No

14. Alternator-Fan-Compressor Belt Tension

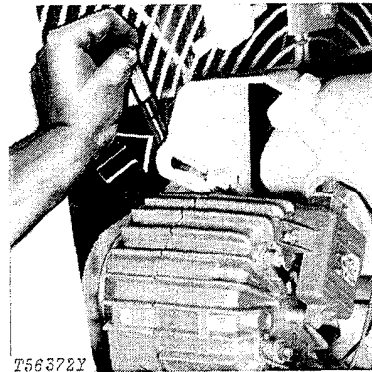


Fig. 15-Checking Belt Tension

Check alternator belt tension. A force of 18 lb (80 N) (8 kg) midway between pulleys should deflect belt 1/2-inch (13 mm).

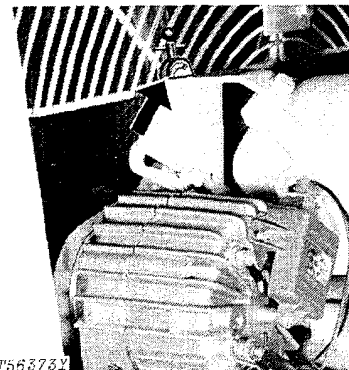


Fig. 16-Checking Strand Tension

If belt gauge is used, tighten used belt to 90 lb (400 N) (41 kg) strand tension. Tighten new belt to 135 lb (600 N).

If adjustment is required, see page I-IV-23.

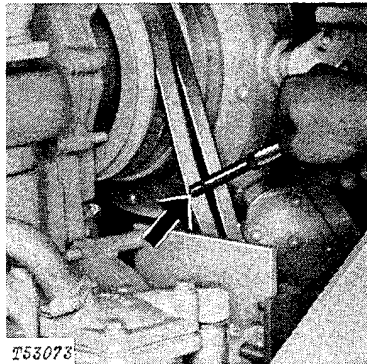


Fig. 17-Checking Belt Tension

Check fan belt tension. A force of 12 lb (53 N) (5 kg) midway between pulleys should deflect belt 1/2-inch (13 mm).

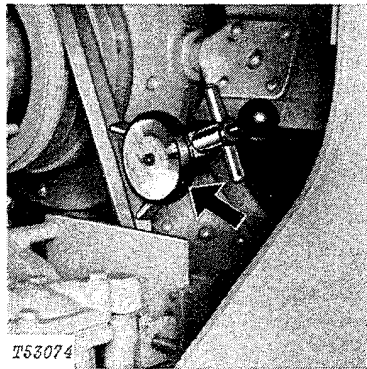


Fig. 18-Checking Strand Tension

If belt gauge is used, tighten used belt to 90 lb (400 N) (41 kg) strand tension. Tighten new belt to 100 lb (445 N) (45 kg).

If adjustment is required, see page I-IV-23.

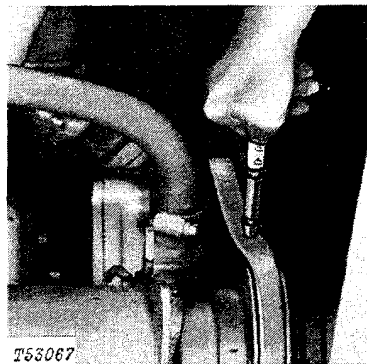


Fig. 19-Checking Belt Tension

Check compressor belt tension. A force of 15 lb (67 N) (7 kg) midway between pulleys should deflect belt 1/4-inch (6 mm).

Litho in U.S.A.

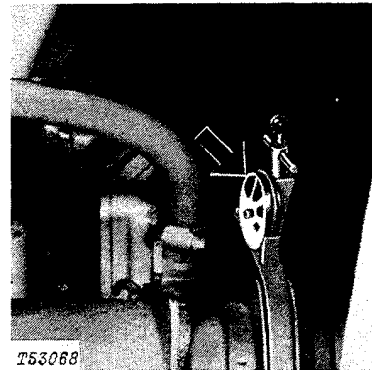


Fig. 20-Checking Strand Tension

If belt gauge is used, tighten used belt to 90 lb (400 N) (41 kg) strand tension. Tighten new belt to 135 lb (600 N) (61 kg).

If adjustment is required, see page I-IV-24.

Alternator belt tension	_____ lbs. (N) (kg) tension
	_____ inch (mm) flex
Fan belt tension	_____ lbs. (N) (kg) tension
	_____ inch (mm) flex
Compressor belt tension	_____ lbs. (N) (kg) tension
	_____ inch (mm) flex

15. Engine Speeds

Warm up engine and use tachometer to check engine speeds.

No-load, fast-idle speed should be 2300 - 2320 rpm. Slow idle should be 975 - 1025 rpm.

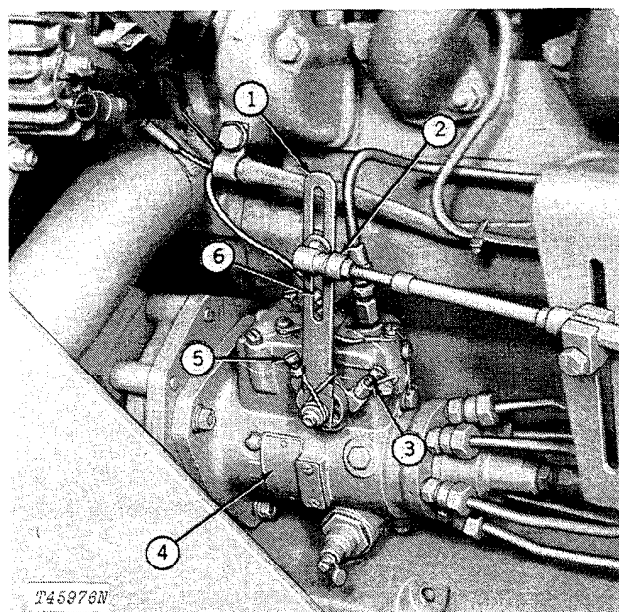
If engine speeds need adjustment, proceed as follows:

**Thank you very much for
your reading. Please Click
Here. Then Get COMPLETE
MANUAL. NO WAITING**



NOTE:

**If there is no response to
click on the link above,
please download the PDF
document first and then
click on it.**



- | | |
|------------------------|----------------------------|
| 1—Injection Pump Lever | 4—Fuel Injection Pump |
| 2—Speed Control Cable | 5—Slow Idle Override Screw |
| 3—Fast Idle Stop | 6—Slow Idle Stop |

Fig. 21-Engine Speed Adjustment

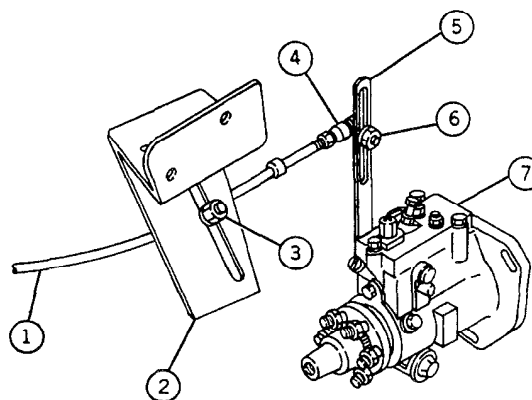
- Engage engine cold weather disconnect clutch.
- Disconnect engine speed control cable quick disconnect end (2, Fig. 21) from injection pump lever (1).
- Check injection pump throttle lever for proper operation. Check to see that there is no debris between the fast and slow idle stop screws and stops, and that lever override works freely.
- Run engine and rotate injection pump throttle lever fully to the rear until it touches the fast idle stop (3). Record engine speed. It should read 2300 to 2320 rpm. If not correct, adjust injection pump fast idle stop screw to obtain specified speed.
- Back out the slow idle override screw (5) on the injection pump lever far enough to make sure the slow idle stop screw (6) in the injection pump cover is being contacted.
- Rotate the injection pump lever fully forward until the slow idle stop screw in the injection pump cover is contacted. Record the engine speed. It should read 975 to 1025 rpm. If not correct, adjust slow idle stop screw (6) to obtain the specified speed.

7. With the injection pump lever held against the slow idle stop, adjust the slow idle override screw (5) until the engine speed just begins to raise above the slow idle speed set in Step 6. At this point, tighten the override screw lock nut.

8. Reconnect the engine speed control cable (2).

NOTE: Whenever either the fast or slow idle speeds are adjusted on the injection pump, the engine speed control lever to injection pump cable adjustment and engine speed control lever to automatic control valve variable orifice lever linkage adjustment should be checked.

Adjust engine speed control lever to injection pump cable linkage as follows:



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- | | |
|-------------------------------|-----------------------------|
| 1—Fuel Injection Pump Cable | 5—Fuel Injection Pump Lever |
| 2—Cable Support Bracket | 6—Cable End |
| 3—Cable Clamp | 7—Fuel Injection Pump |
| 4—Quick Disconnect Ball Joint | |

Fig. 22-Fuel Injection Pump Cable Adjustment

- Place the throttle lever parallel to the forward and reverse speed control lever, with the forward and reverse speed control lever locked in the neutral position.
- Adjust the injection pump cable to cross shaft lever quick disconnect ball joint so there is 5/8 inch (16 mm) of thread showing between the quick disconnect ball joint and the end of thread on the cable. Secure the lock nut and connect the cable to cross shaft lever.
- Move the throttle lever against the fast idle stop in the console.

4. Loosely connect the cable clamp and cable (1, Fig. 22) to the engine cable support bracket (2). Separate the two parts of the quick disconnect ball joint (4). Attach the ball portion of the quick disconnect ball joint to the injection pump lever (5). Attach the remaining portion of the ball joint to the cable so there is 5/8 inch (16 mm) of thread showing between quick disconnect ball joint and the end of the thread on the cable. Secure cable end lock nut and attach the cable to the injection pump lever (5).

5. With the throttle lever firmly against the fast idle stop on the console, slide the cable (1) up or down in the injection pump lever (5) and cable support bracket (2) slots, so that the cable makes approximately a 90 degree angle with the injection pump lever (5) when the lever is just contacting the fast idle stop on the injection pump (7), ie., just touching the override spring. Secure the cable end (6) on the injection pump lever (5) and cable clamp (3) on the support bracket (2).

6. Move the throttle lever toward slow idle until the automatic control valve variable orifice lever just contacts the low variable orifice stop on the transmission control valve (lever rotated to the rear). Now adjust the throttle lever slow idle stop in the console, so the stop just contacts the lever.

7. With the throttle lever against the slow idle stop in the console, check that the injection pump lever is also just contacting the slow idle stop on the injection pump (7). If the lever is just contacting the stop, the cable adjustment is correct. If it is not just contacting the stop, proceed as follows:

Loosen the quick disconnect ball joint end (6) in the injection pump lever (5) slot. Slide the cable end up or down as necessary so the lever (5) just contacts the slow idle stop on the injection pump (7). Secure cable end on injection pump lever.

8. Recheck the fast idle setting. Do this by moving the throttle lever until the injection pump lever (5, Fig. 22) just contacts the fast idle stop. Check to see that the automatic control valve variable orifice lever also is just contacting the stop. Do this at both fast and slow idle positions.

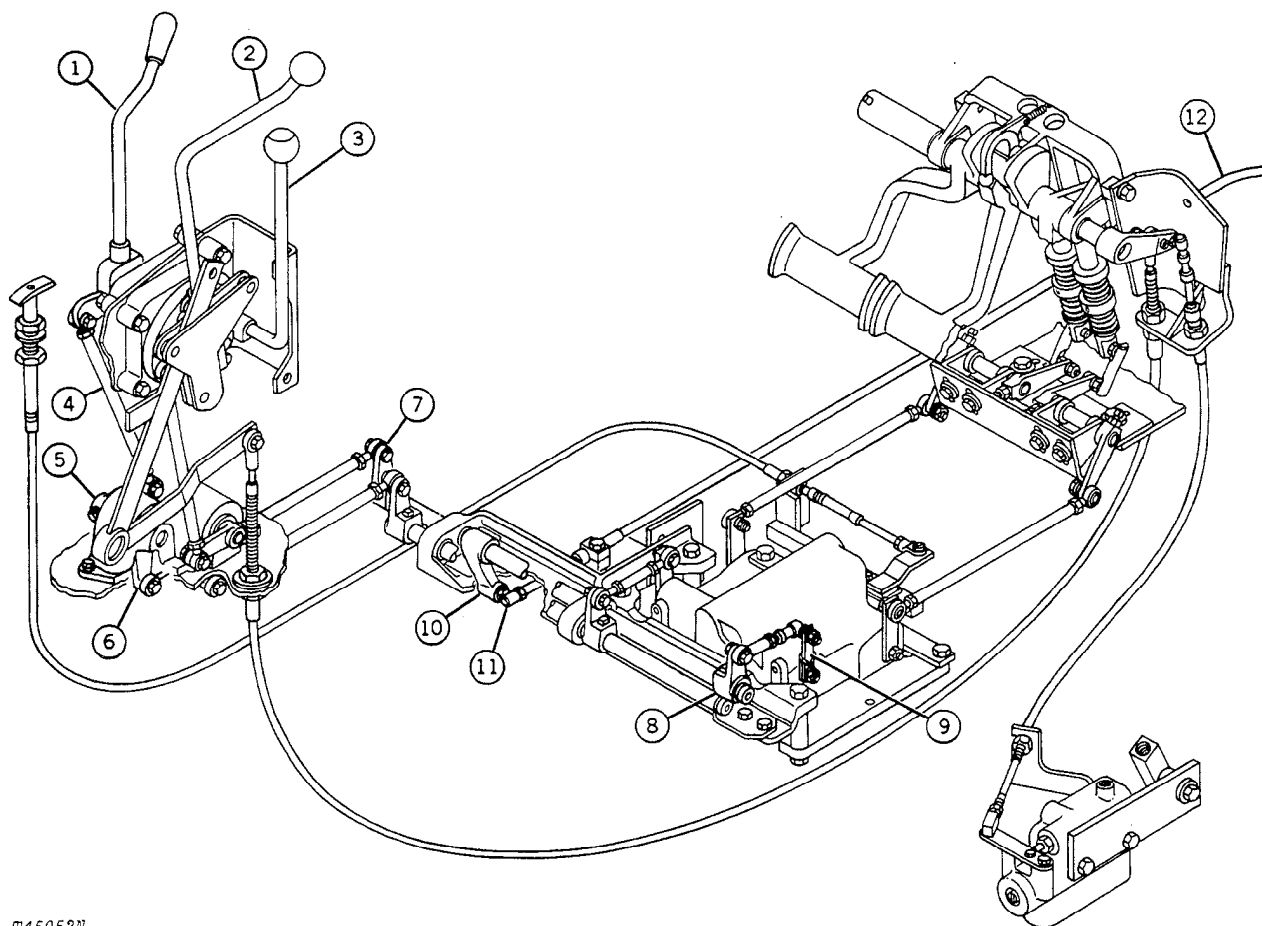
9. If both the slow and fast idle positions cannot be obtained in Step 8 above, or overtravel exists at the fast idle position, the procedure from Step 5 to Step 8 must be repeated beginning with a new cable clamp position (3, Fig. 22) in the slotted cable clamp support bracket (2).

NOTE: It may also be necessary to adjust the threaded portion of the quick disconnect ball joint at the injection pump lever to obtain the approximate 90 degree angle at the fast idle position.

10. Adjust the throttle lever stops in the console, so there is 1/2 inch (12.7 mm) of over travel at both the fast and slow idle positions. If this cannot be obtained, adjust the stops so that the lever strikes the stops just before reaching the end of the slot in the console panel.

Adjust engine speed control lever to automatic control orifice lever linkage adjustment as follows:

- 1 - Place the throttle lever (1, Fig. 23) parallel to the forward and reverse speed control lever (2), with the forward and reverse speed control lever locked in the neutral (3) position.
- 2 - Adjust link (4) between the throttle lever pivot and pivot casting upper lever (5), so the pivot casting lower lever (6) is in the vertical straight down position.
- 3 - Adjust link from pivot casting lower lever (6) to cross shaft lever (7), so the cross shaft lever (7) is in the vertical straight up position. The cross shaft lever (8) will also be in the vertical straight up position.
- 4 - Place the throttle lever so the front of the lever is approximately 7/8 inch (22 mm) from the front end of the slot in the console panel. Adjust the fast idle throttle lever stop screw in the console to just contact the throttle lever.
- 5 - Connect the quick disconnect end of link to the automatic control valve variable orifice lever (9) on the transmission control valve.
- 6 - Adjust the monoball end of link so the attaching hole of the monoball is exactly aligned with the attaching hole in cross shaft lever (8), when the automatic control valve variable orifice lever (9) is just contacting the high variable orifice stop (lever rotated forward).



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- 1—Throttle Lever
- 2—Forward and Reverse Speed Control Lever
- 3—Neutral Lock Lever
- 4—Control Link

- 5—Pivot Casting Upper Lever
- 6—Pivot Casting Lower Lever
- 7—Cross Shaft Lever
- 8—Cross Shaft Lever

- 9—Automatic Control Valve Variable Orifice Lever
- 10—Cross Shaft Lever
- 11—Cable Quick Disconnect Ball Joint
- 12—Cable to Fuel Injection Pump

Fig. 23-Transmission Control Valve Linkage

NOTE: Care must be taken that the automatic control valve variable orifice lever (9) is just contacting the stop, but the override spring on the lever is not compressed.

Secure the link lock nut and monoball to cross shaft lever (8) cap screw.

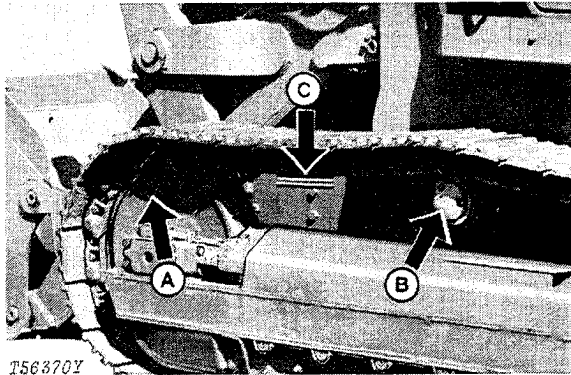
- 7 - To check for correct adjustment, move the throttle lever (1) to slow idle. Then move the lever back to fast idle, until the fast idle stop screw is contacted on the console. At this point the automatic control valve variable orifice lever (9) should just contact the high variable orifice stop. If not correct, readjust per Step 6.

NOTE: If either the forward and reverse speed control lever or the throttle lever does not operate smoothly (requires excessive effort to move), adjust the set screws evenly on the side of each control head until the feeling of lever movement is acceptable. Do not back set screws all the way out. Adjust the forward and reverse speed control lever so that a force of 6 ± 1 lbs. (27 ± 5 N) with a spring gauge hooked under knob will move lever smoothly. Adjust the throttle lever so that a force of 19 ± 2 lbs. (86 ± 9 N) with a spring gauge hooked under handle will move lever smoothly.

Engine speeds checked
Adjustment required

Yes	No
Yes	No

16. Track Tension Adjustment



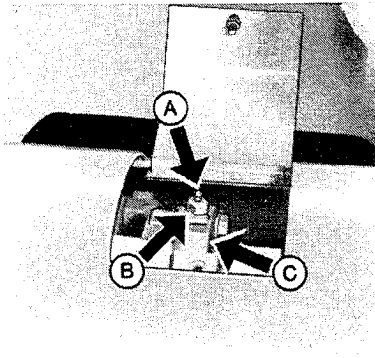
A—Fast Idler
 B—Upper Idler

C—1 to 1-1/2 in.
 (25.4 to 38 mm)

Fig. 24—Measuring Track Tension

Measure amount of sag in center of track between upper idler and front idler. Sag should be 1 to 1-1/2 inches (25.4 to 38 mm).

NOTE: A pin and bushing must be lined up over the upper idler.



A—Grease Fitting
 B—Check Valve

C—Vent Hole

Fig. 25—Adjusting Track Tension

Loosen screw and open access cover.

To increase track tension:

- 1 - Attach a grease gun (8000 psi [552 bar] [562 kg/cm²] max.) to the grease fitting on the track adjuster.
- 2 - Apply grease until the proper track tension is achieved.

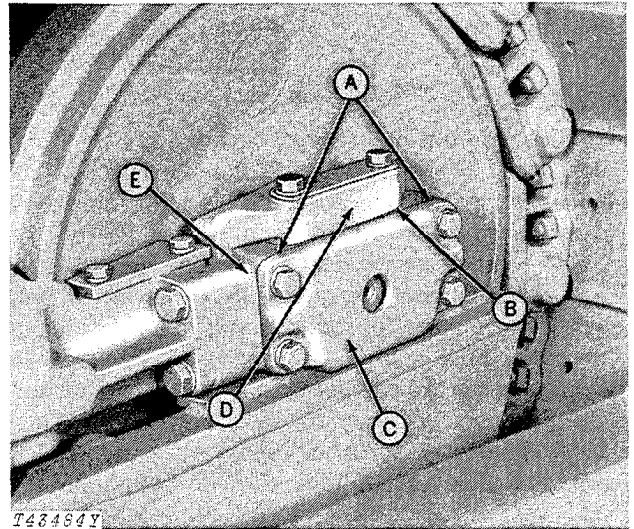
To decrease track tension:

- 1 - Turn check valve 1 to 3 turns counterclockwise. This will allow grease to escape through the vent hole.
- 2 - Turn check valve clockwise to close valve.

CAUTION: High pressure may be present in the track adjuster cylinder. If grease does not immediately escape from the vent hole, drive the unit forward and backwards slowly, then tighten the check valve.

IMPORTANT: Never lubricate fitting on hydraulic track adjusting cylinder except when track is in need of adjustment.

IMPORTANT: When forward edge of track adjuster stop contacts plate on track frame (block is approximately 1 inch [25.4 mm] from the end of the track frame), track bushings and pins should be inspected for excessive wear.



A—Horizontal Adjusting Shims
 B—Vertical Adjusting Shims

C—Outer Guide
 D—Inner Guide
 E—Block

Fig. 26—Track Wear Adjustment Components

Shims are designed to eliminate looseness due to wear. If joint is loose, add shims as required to eliminate looseness.

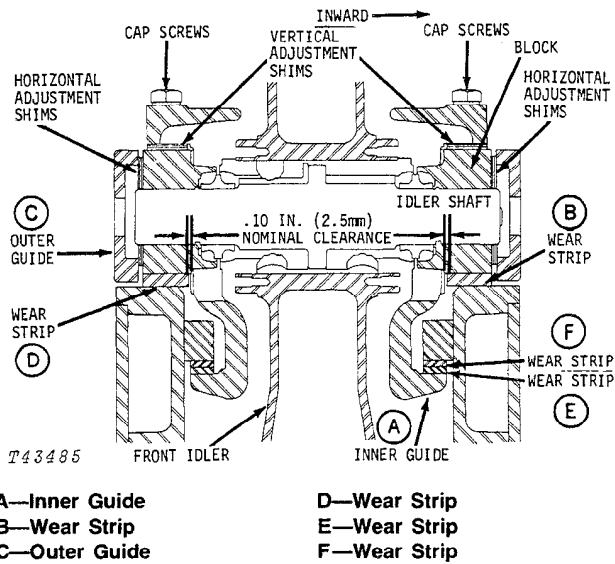


Fig. 27-Track Wear Shim Adjustments

Slide the front idler inward. If inner guide (A, Fig. 27) does not contact inward side of wear strip (B), additional shims must be added. To add shims, remove outer guide (C). Add shims as required until outer guide contacts outward edge of wear strip (D) at the same time that the inner guide (A) contacts the inward side of wear strip (B). Replace and tighten cap screws on outer guide (C).

Loosen the two cap screws on the top of inner guide (A). Pry inner guide up between the inner guide and block. If inner guide (A) is free to move up, additional shims must be added. Remove the two cap screws and add vertical adjustment shims as required. When shimming is completed, there should be .00 to .04 (1 mm) maximum gap vertical movement between inner guide (A) and block.

The previous adjustment has eliminated the clearance between the wear strip on the inner guide (A) and the wear slip (F) on the track frame.

Replace and tighten cap screws on inner guide (A).

The same procedure applies when checking the shim adjustment on the opposite side of the front idler. Repeat both procedures for checking front idler vertical adjustment on opposite side of the crawler.

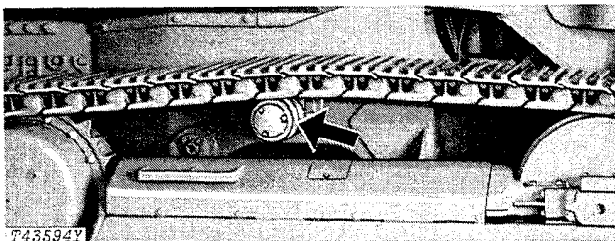
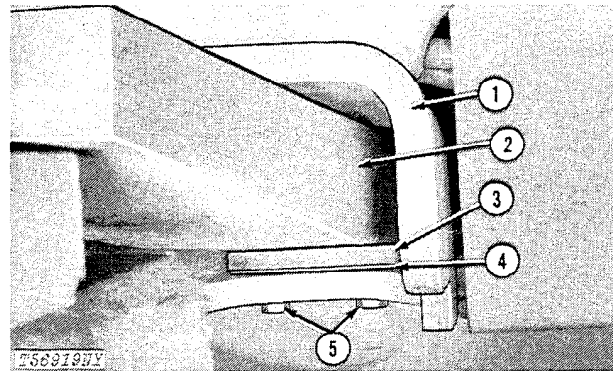


Fig. 28-Movable Upper Idler Support

The upper idler support is movable to compensate for uneven track wear. To adjust, remove the four cap screws and the support and add or delete shims (in pairs), as required, until center of track is aligned with center of upper idler. Tighten cap screws to idler support.

IMPORTANT: Do not adjust the upper idler support until all of the track tension and shim adjustments have been completed.

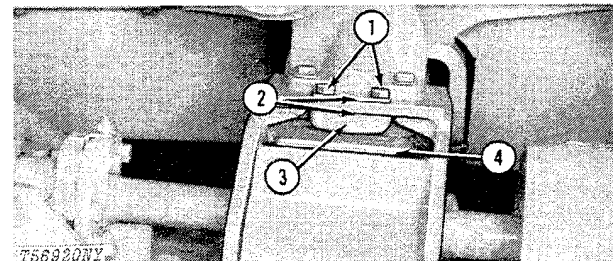


1—Saddle Frame
2—Front Crossbar
3—Block Pad
4—Shim
5—Cap Screws

Fig. 29-Front Crossbar Shim Adjustment

Install shims (4, Fig. 13) under block pad (3) until there is zero clearance between block pad and front crossbar (2).

Remove shims (4) to obtain 0.060 inch (1.52 mm) minimum clearance between block pad and front crossbar.



1—Cap Screw
2—Shim
3—Hold-Down Pad
4—Front Crossbar

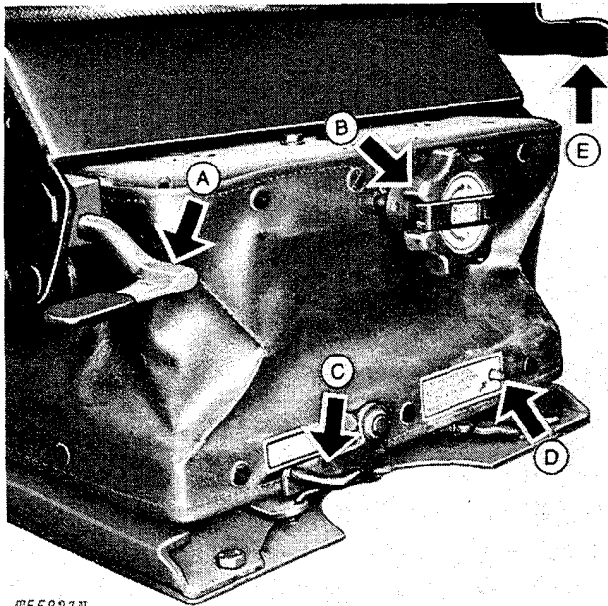
Fig. 30-Hold-Down Pad Shim Adjustment

NOTE: A minimum of 3 shims (4, Fig. 29 and 2, Fig. 30) must be used to keep cap screws from protruding through the block pad (3, Fig. 29) and hold-down pad (3, Fig. 30). Store the excess shims under the cap screw heads if required.

Use shims (2, Fig. 30) to obtain 0.24 in. (6 mm) minimum clearance between hold-down pad (3) and crossbar (4).

Track tension checked	Yes	No
Front idler and upper idler wear checked	Yes	No
Front crossbar and hold-down shims checked	Yes	No
Adjustment required	Yes	No

17. Seat Operation



T55821N

- A—Height Adjustment
- B—Weight Adjustment
- C—Forward/Rearward Adjustment
- D—Weight Adjustment Indicator
- E—Tilt Adjustment

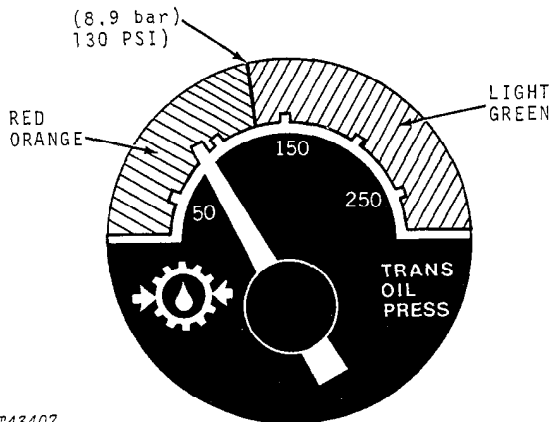
Fig. 31-Seat Adjustments

To adjust height, push down on lever (A) to move seat to the desired position. Release lever. To adjust weight, turn knob (B) until indicator (D) is flush with tube when seated. Use flip-out handle on the knob for rapid adjustment. To adjust forward or rearward, lift up on lever (C) and slide seat to the desired position. Release lever. To adjust tilt, lift up on lever (E) to flip seat backward or push down to tilt seat forward. Release lever.

Seat operational Yes No

18. Indicator Lights and Gauges

When operating the crawler, check the following gauges for correct operation.



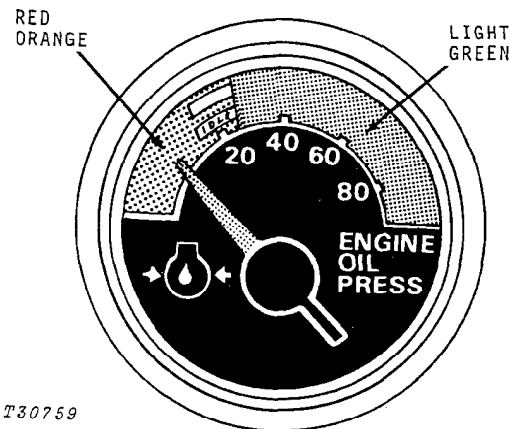
T43407

Fig. 32-Transmission Oil Pressure Gauge

Normal operating range is in the light green zone.

Check transmission oil pressure gauge during operation. If transmission oil pressure is not in the light green zone, shut off engine. Check transmission oil level. If oil is at proper level, troubleshoot the transmission system, checking for bent or broken lines and hoses. Also check for excessive leakage.

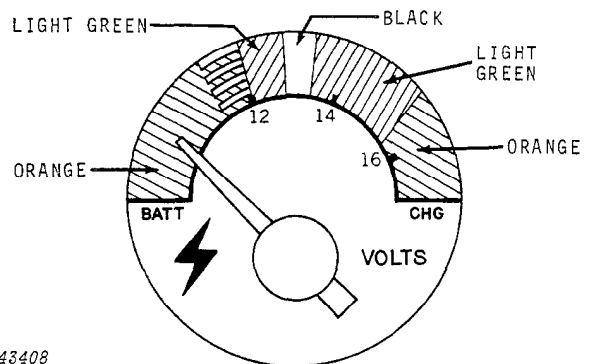
Transmission oil pressure may register slightly above the green zone in neutral or at full engine speed.



T30759

Fig. 33-Engine Oil Pressure Gauge

If the indicator hand of the engine oil pressure gauge drops into the red-orange zone, stop the crawler and check engine oil level. If oil level is not low, check for restrictions in oil lines or incorrect viscosity oil.



T43408

Fig. 34-Voltmeter

With key switch on and engine off, the indicator should be in the lower left light green zone.

When cranking the engine, the indicator will fall into the left-hand orange zone. When the engine starts, the indicator should move to stay in the right-hand light green zone.