

**KEEP IN EPD  
HAS COLOR & F.O.**

**Technical  
Manual**

**John Deere  
770A, 770AH,  
772A, AND 772AH  
Motor Graders**

**TM-1361**  
Formerly TM-1187



Litho in U.S.A.

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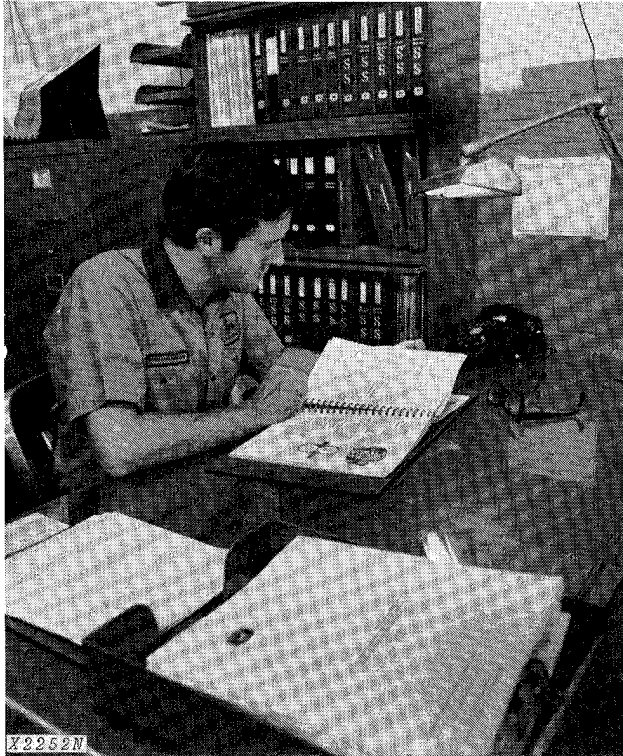
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## Group II

# 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

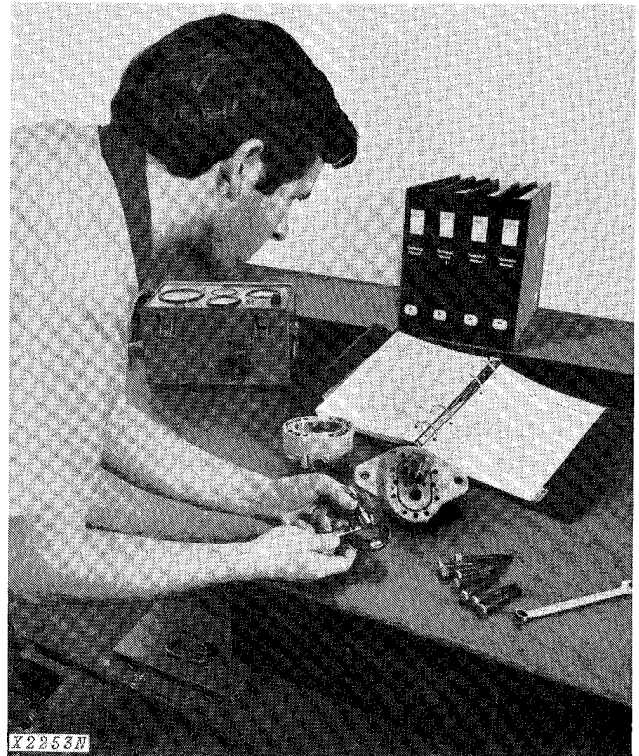
*Fundamentals of Service (FOS) Manuals* cover basic theory of operation, *fundamentals* of trouble shooting, *general* maintenance, and *basic* types of failure and their causes. FOS Manuals are for training new personnel and for reference by experienced service technicians.



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 technical manual.

### •Technical Manuals—for actual service

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



Use Technical Manuals for Actual Service

This technical manual was written for you—an experienced service technician. Keep it in a permanent binder in the shop where it is handy. Read it when you need to know correct service procedures or specifications.


Some features of this manual:

- Inside front cover - "Table of Contents".
- Section I - General specifications and services.
- Sections 1 through 46 - Removal, repair, testing (components removed), installation, and adjustment.
- Section 90 - Detailed explanation of system operation, diagnosis, visual inspection, testing, and adjustments.
- Specifications are listed and illustrated at the end of each section.

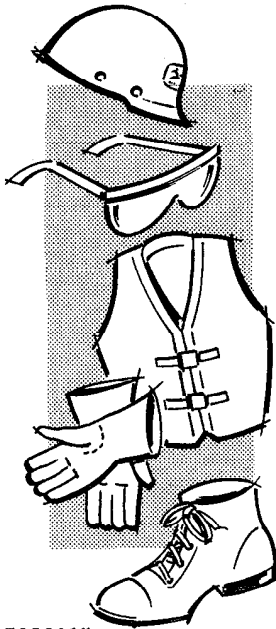
## MAINTENANCE WITHOUT ACCIDENT WORK SAFELY



T27999N

 This safety alert symbol identifies important safety messages in this manual and on the motor grader. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

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



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

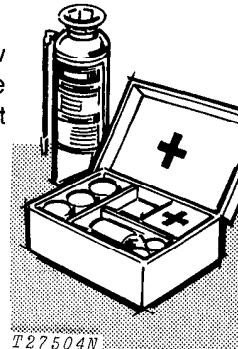
For instance, you may need: Hard hat, safety shoes, safety goggles, heavy gloves, reflector vests, ear protectors, respirators.



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### BE ALERT!

Plan ahead—work safely—know how to use a first-aid kit and a fire extinguisher—and where to get aid and assistance.



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### Maintenance Area

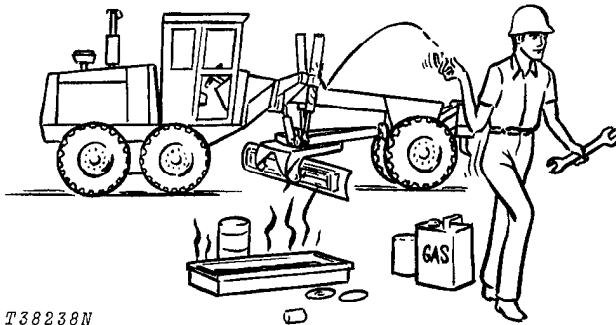
Make sure the maintenance area is adequately vented.

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.

## MAINTENANCE WITHOUT ACCIDENT

### AVOID FIRE HAZARDS - Fuel Is Dangerous!



T38238N

Do not smoke while putting fuel in the fuel tank.

Do not smoke while working with material that will start on fire easily.

Stop the engine before filling the fuel tank.

If the engine is hot, use care when putting fuel in the fuel tank.

Do not use gasoline or diesel fuel for cleaning parts. Use solvents that will not start on fire.

### Battery Gas Is Highly Flammable!

When charging batteries, be sure there is enough ventilation.



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Do not check the battery charge by putting metal objects across the posts.

Do not let sparks or open flame near batteries.

Do not smoke near battery.

### Flame Is Not a Flashlight!

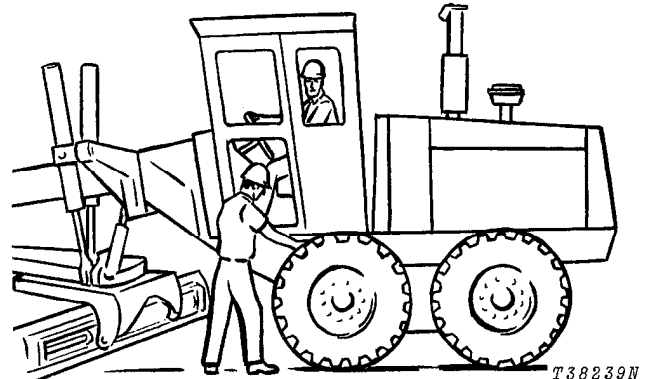
**NEVER USE OPEN FLAME AROUND THE MACHINE.**

**KNOW WHERE FIRE EXTINGUISHERS ARE KEPT!**

### UNDER ALL MAINTENANCE CONDITIONS -

Do not work on the equipment unless you are approved to do so. Then be sure you know the safe and correct procedure.

Never work on equipment while it is being operated.



T38239N

When the engine is running, avoid working on equipment.

If you must work on the machine with the engine running, ALWAYS USE TWO service technicians. One must be at the controls. The other must be within sight of the operator.

### TAKE CARE! WATCH OUT FOR OTHER PEOPLE IN THE AREA.

#### KEEP HANDS AWAY FROM MOVING PARTS.

Put a support under all raised equipment.

Never work under a raised blade, ripper, or scarifier.

Lower all equipment to the ground.

If the machine is on a slope, use blocks to hold it in place.

Do not lift heavy parts by yourself. Use hoisting equipment for this.

When drilling, grinding, or hammering metal, wear safety glasses.

## BE CAREFUL DURING SERVICE AND REPAIR



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T38242N

Keep ALL equipment free of dirt and oil.

Clean oil, grease, mud, ice or snow from the operator's station, steps and hand rails.

When getting the engine ready for storage, remember that inhibitor changes easily into gas and is dangerous. After adding the inhibitor, seal and tape openings. When you are not using the inhibitor, keep the can tightly closed.

Do not remove the radiator cap unless you can hold your hand on the radiator tank. First, loosen the cap slowly to the stop. Then release all pressure in the cooling system before removing the cap.

Check the exhaust system regularly for leaks.

Release hydraulic pressure before working on the hydraulic system. Stop the engine. Lower all equipment to the ground. Move the control levers until the equipment does not move.

When checking hydraulic pressure, be sure to use the correct test gauge.

Before working on the fuel system, close the fuel shut-off valve.

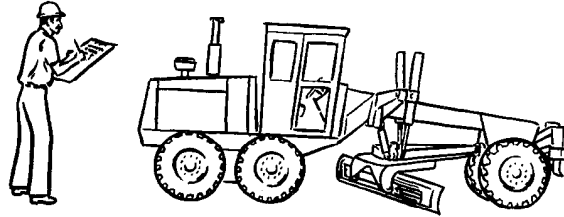
Before working on the electrical system, or making a major overhaul, disconnect the batteries.

## KNOW EQUIPMENT IS READY!

Check all guards, shields, and safety bars. Every one must be in place and tight.

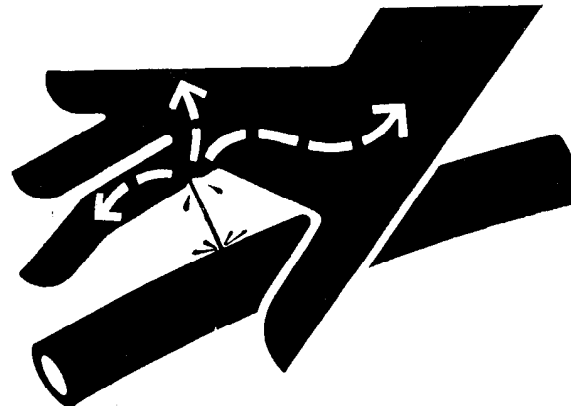
### CHECK IT OUT!

- GUARDS
- SHIELDS
- SAFETY BARS
- ROLL-OVER PROTECTIVE STRUCTURES
- SEAT BELTS, ETC.



T38243N

T38243N



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.

## 1. Engine Crankcase Oil and Filter Element (16 & 17)\*

*NOTE: Check with the customer if oil has been changed and a new filter installed before doing this service.*

Normal sequence of service is as follows:

Oil and filter change - after first 100 hours  
- every 200 hours thereafter

If changed, record information below:

Approximate hours at change \_\_\_\_\_

If not, change as follows:

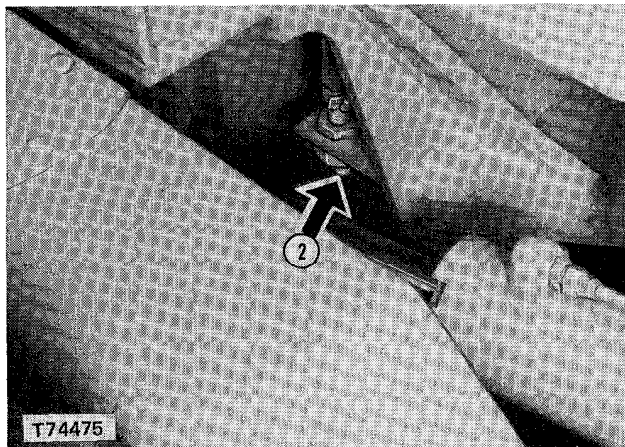


Fig. 71-Engine Crankcase Drain Plug

- 1 - Run engine to heat oil.
- 2 - Drain oil from engine crankcase.
- 3 - While crankcase is draining, install a new filter as follows:

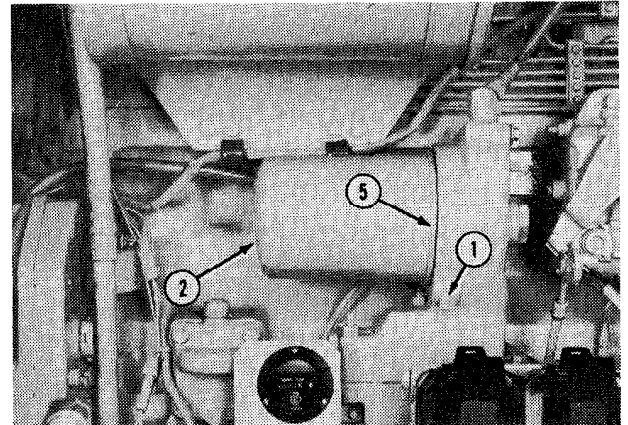


Fig. 72-Crankcase Oil Filter

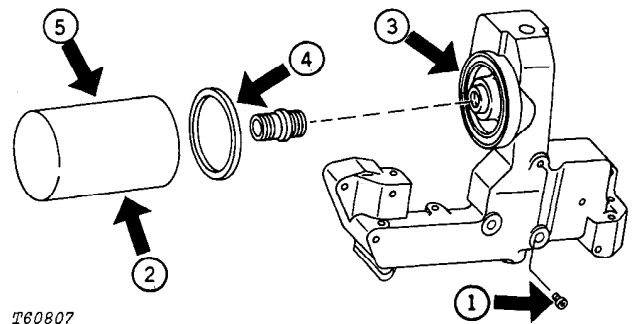
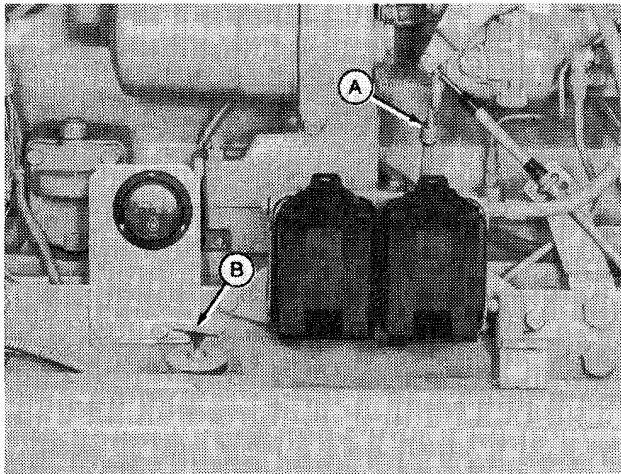


Fig. 73-Crankcase Oil Filter

- 1 - Remove pipe plug. Drain filter. Install the plug.
- 2 - Remove filter (turn counterclockwise).
- 3 - Clean mounting surface.
- 4 - Apply film of oil to packing.
- 5 - Tighten new filter until packing touches mounting surface.
- 6 - Turn an additional 1/2 to 3/4 turn.
- 7 - Install crankcase drain plug.

\* Numbers in parenthesis are the same as item numbers on the periodic maintenance chart on your machine.





A—Dipstick

B—Filler Cap

T92850

Fig. 74-Crankcase Dipstick and Filler Cap

- 8 - Fill crankcase with new oil specified in Group V. Capacity is 20 quarts (19 L) with filter.

**IMPORTANT: Before starting the grader after a filter change, crank the engine for 20 seconds with hand throttle in stop position.**

- 9 - Run engine a short time and check for leaks at filter base, filter housing drain plug, and engine crankcase drain plug. Tighten filter if required. Do not overtighten.
- 10 - Stop engine and check crankcase oil level. Oil must be at top mark on dipstick when dipstick rests on filler tube.

Crankcase oil changed	Yes	No
Oil filter element changed	Yes	No

## 2. Transmission-Hydraulic System Oil Level and Filters

**NOTE:** Before checking oil level find out if customer has changed filters (first 50 hours service).

If changed at an earlier date, record information below:

Approximate hours at change \_\_\_\_\_

If not, change as follows:

### Transmission Oil Filter (21)

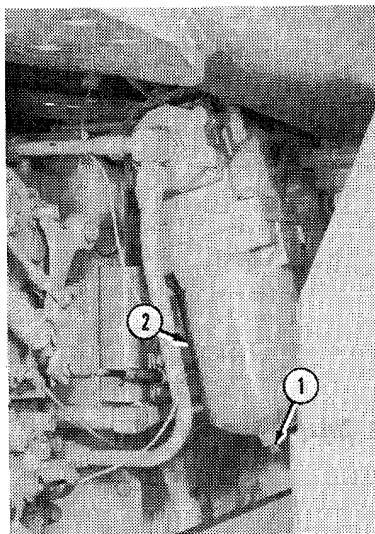
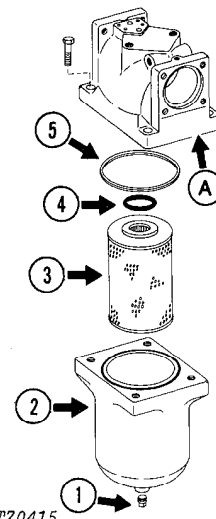


Fig. 75-Transmission Oil Filter

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T70415

T70415

Fig. 76-Transmission Oil Filter

- 1 - Remove pipe plug.
  - 2 - Loosen the filter housing slightly to allow oil to drain. After oil has drained, remove the housing.
  - 3 - Remove filter element. Clean the housing. Install new element.
- IMPORTANT: Be sure O-ring fits correctly in filter head (A) or filter may be damaged when cap screws are tightened.**
- 4 - Install housing seal in the filter housing groove.
  - 5 - Install housing and pipe plug.

**Hydraulic Oil Filter (25)**

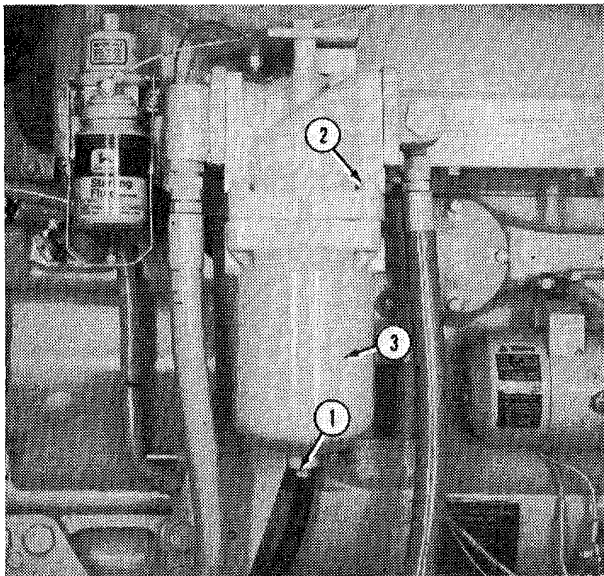


Fig. 77-Hydraulic Oil Filter

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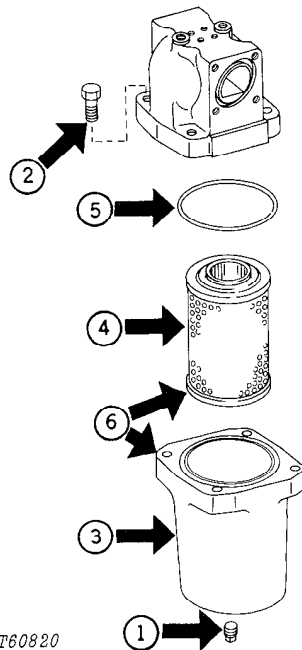


Fig. 78-Hydraulic Oil Filter

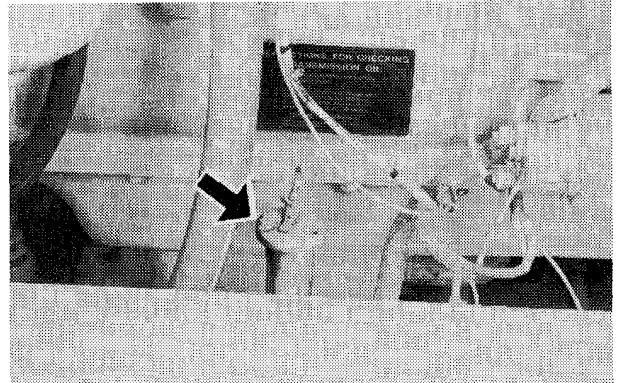
T60820

- 1 - Remove pipe plug.
- 2 - Loosen filter housing slightly.
- 3 - After oil drains, remove filter housing.
- 4 - Remove element and housing seal (5).
- 5 - Install new housing seal. Be sure it's fully seated.

- 6 - Install new element and housing.

**IMPORTANT: Install a John Deere filter element.**

- 7 - Start the engine, operate hydraulic functions, and check for leaks.



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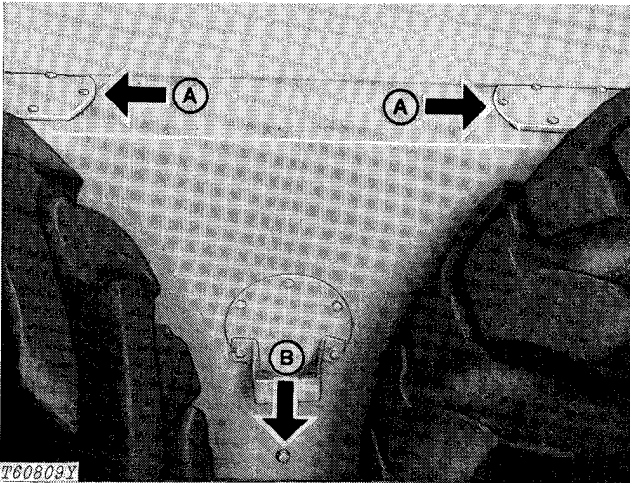
Fig. 79-Transmission Dipstick and Filler Cap

- 8 - Check oil level after engine has been shut off a minimum of 10 minutes. Level should be at top mark on dipstick while resting on filler tube.

- 9 - Add oil specified in Group V, if needed.

Oil level checked	Yes	No
New filter elements installed	Yes	No

### 3. Tandem Drive Oil Level (19)



A—Inspection Plates

B—Oil Level Plug

Fig. 80-Tandem Drive Oil Level

- 1 - Park the grader on a level surface.
- 2 - Check the oil level in each tandem.
- 3 - Remove the oil level plug (B). Oil must be level with the oil level plug hole.
- 4 - If not, remove one of the inspection plates. Add oil specified in Group V.
- 5 - Reinstall the inspection plate.

Tandem drives oil level checked Yes No  
 Oil added \_\_\_\_\_qts. (L)

- 1 - Park the grader on level ground.
- 2 - Lower the blade to the ground.
- 3 - Remove the oil level plug (A). Oil must be level with the hole.
- 4 - When needed, remove filler plug (B) and add oil specified in Group V.
- 5 - Install filler plug and oil level plug.

Circle drive gear box  
 oil level checked Yes No  
 Oil added \_\_\_\_\_qts. (L)

### 5. Pre-Cleaner (1)

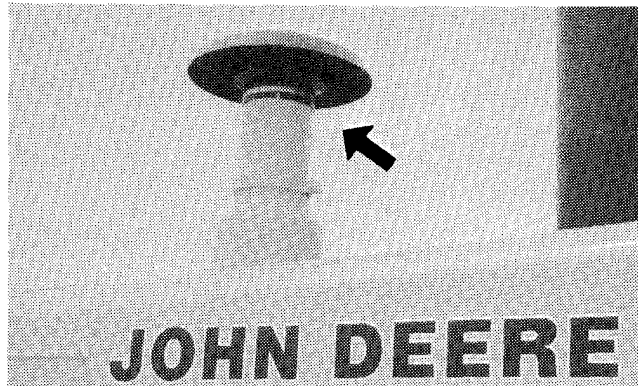


Fig. 82-Pre-Cleaner/Dust Cap

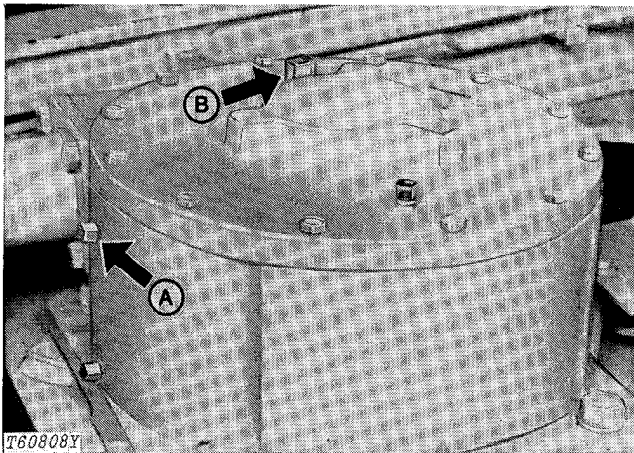
Check and clean dust cap openings.

Pre-cleaner checked and cleaned Yes No

### 6. Air Cleaner (3)

Check air cleaner restriction indicator on instrument panel. If indicator shows red, check and clean both primary and safety elements. Install new elements, if necessary.

Air cleaner checked Yes No  
 New elements installed Yes No



A—Oil Level Plug

B—Filler Plug

Fig. 81-Circle Drive Gearbox

## 7. Radiator (5)

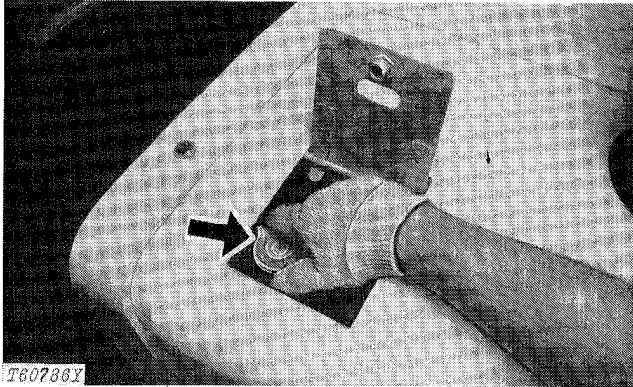


Fig. 83-Removing Radiator Cap

**CAUTION:** Do not remove the radiator filler cap unless you can hold your hand on the radiator tank. First, loosen the cap slowly to the stop. Then release all pressure in the cooling system before removing the cap.

Check the coolant level. Keep coolant 4 inches (102 mm) below the top of the filler neck. Use clean water for warm weather. Use a solution of 50% clean water and 50% permanent antifreeze (ethylene glycol with approved rust inhibitor) for cold weather.

**IMPORTANT:** Do not use methoxy propanol antifreeze (such as Dowtherm 209 antifreeze or its equivalent) in the coolant solution. It may damage the cylinder sleeves and seals.

Check the cooling system for loose connections and leaks. Remove trash from the radiator.

Coolant level checked Yes No

## 8. Batteries (12)

Check electrolyte level of the batteries. If distilled water is not available, use clean soft water. Do not use hard water. Remove dirt from the top of the batteries with a damp cloth. Put petroleum jelly on terminals.

**IMPORTANT:** Never add water to the batteries in freezing weather unless the engine will be run 2 or 3 hours.

Check battery connections.

Batteries checked Yes No

## 9. Tire Pressure (13)

Check the air pressure in all tires with an accurate gauge having 1 psi (0.07 bar) graduations.

When more pressure is needed, use a pressure regulating valve with a tire valve stem locking air chuck.

When adding air to the tire, stand to the front or rear of the grader.

Tire Size	Ply Rating	Type	Inflation Pressure-psi (kPa)
13.00-24	12	G-2	35 (241)
14.00-24	10	G-2	30 (207)
14.00-24	12	G-2	35 (241)
17.5 -25	12	L-2	30 (207)*

\*For sloping and ditching, inflate to 45 psi (208 kPa).

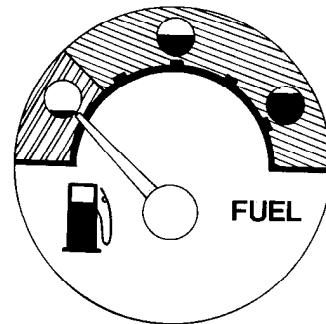
*NOTE:* Be sure that tire inflation pressures are equal for all six tires.

*NOTE:* When adding a new rear tire, inflate rear tires so the rolling radius of all tires is the same.

For maintenance work on established highways, inflation pressure can be increased up to 50% if desired.

Tire pressure checked Yes No

## 10. Fuel Tank



T40227N

Fig. 84-Fuel Level Gauge

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Fuel gauge shows amount of fuel in fuel tank. Add a small amount of correct fuel to tank. Check action of gauge.

Fuel gauge checked Yes No

### 11. Fuel Tank Sump (15)

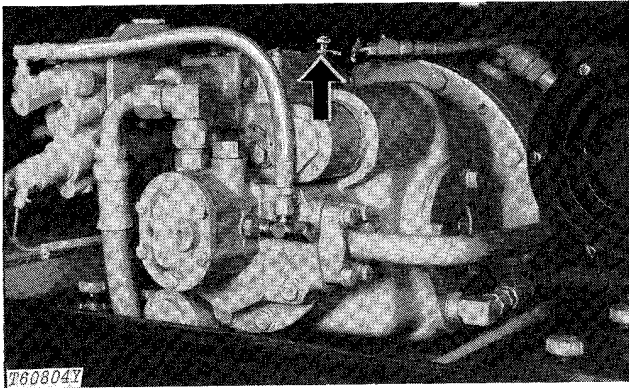
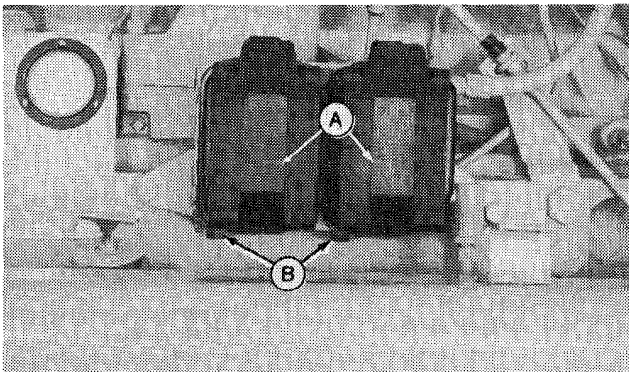


Fig. 85-Fuel Tank Drain Cock

Open fuel tank drain cock. Drain liquid for several seconds. Close drain cock.

Fuel tank sump drained Yes No

### 12. Fuel Filters



A—Fuel Filters

B—Drain Screws

Fig. 86-Fuel Filters

Check fuel filters for sediment. Open drain screws. Drain for several seconds. Tighten drain screws. Open bleed screw until fuel flows free from bubbles. Tighten bleed screw.

Sediment present in filters Yes No  
 Air removed from filters Yes No

### 13. Lubrication

Check each lubrication point shown in the following pages. Lubricate with several strokes of John Deere Multi-Purpose Grease or equivalent, if necessary.

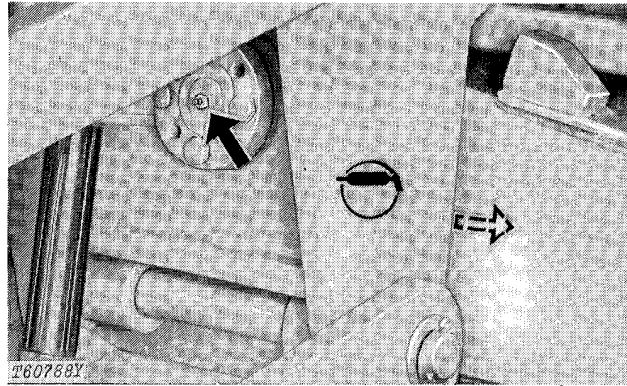


Fig. 87-Front Axle (2 points)

Lubrication required Yes No

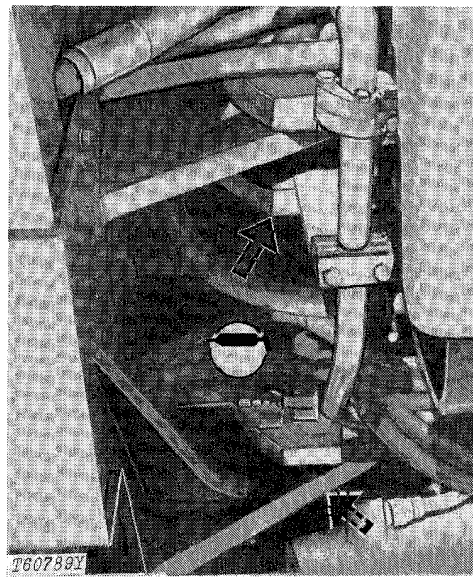
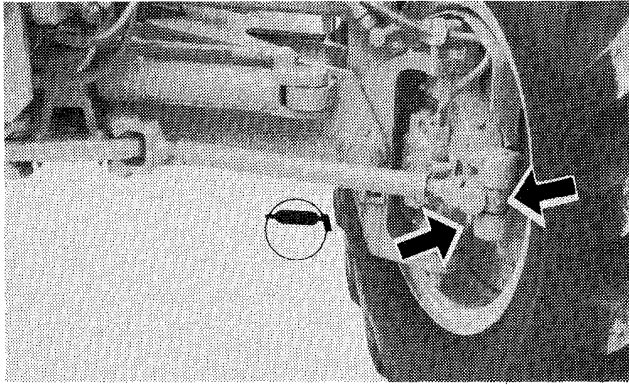


Fig. 88-Frame Pivots (2 points)

Lubrication required Yes No

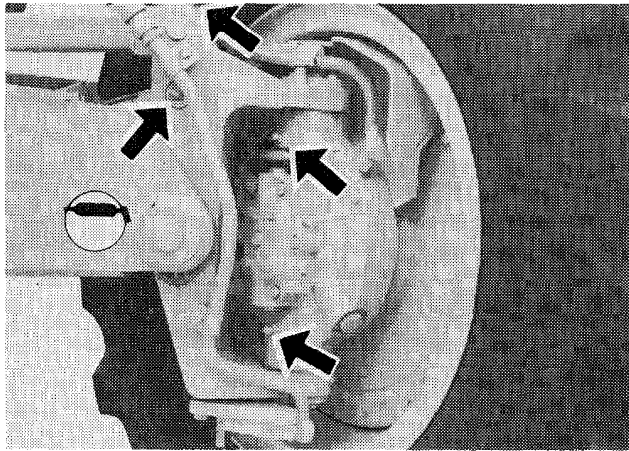


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Fig. 89-Tie Rod Connector - Right (R.H.) Side Shown  
 (4 points total)

Lubrication required

Yes No

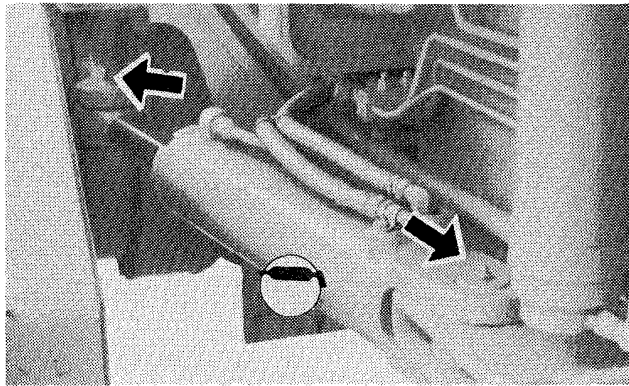


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Fig. 90-Front Axle and Wheel Lean Pivots - Left (L.H.) Side Shown  
 (11 points total)

Lubrication required

Yes No

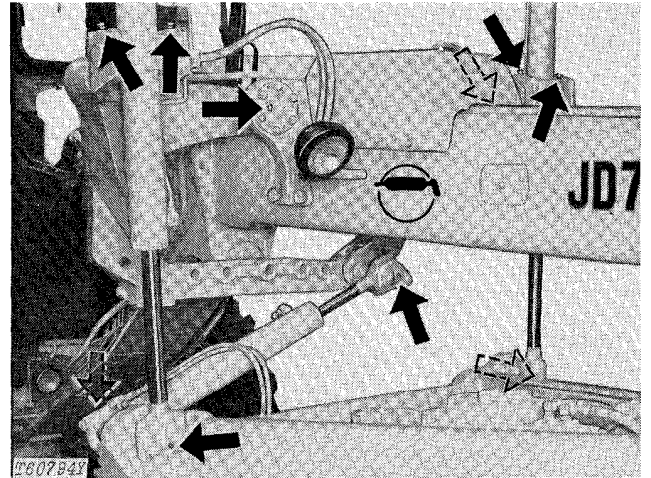


T5928BL

Fig. 91-Frame Steering Cylinder - Right (R.H.) Side Shown  
 (4 points total)

Lubrication required

Yes No

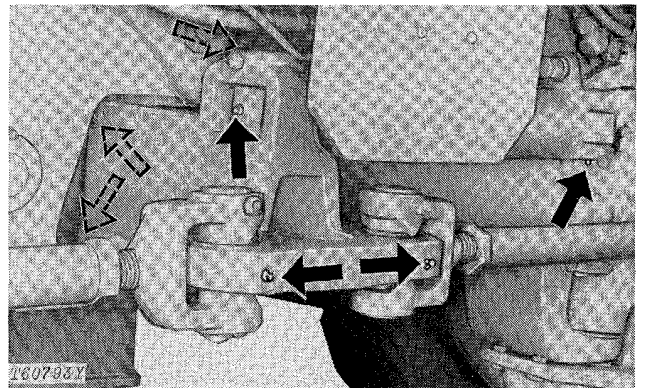


T60794Y

Fig. 92-Ball Joints and Trunnions (10 points)

Lubrication required

Yes No

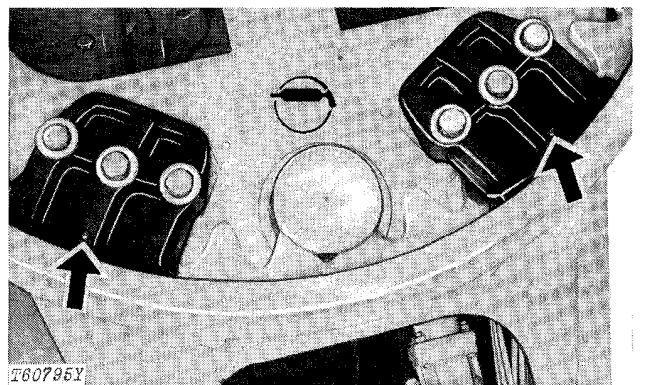


T60793Y

Fig. 93-Steering, Yoke and Cylinder (7 points)

Lubrication required

Yes No



T60795Y

Fig. 94-Circle Supports (4 points total)

Lubrication required

Yes No

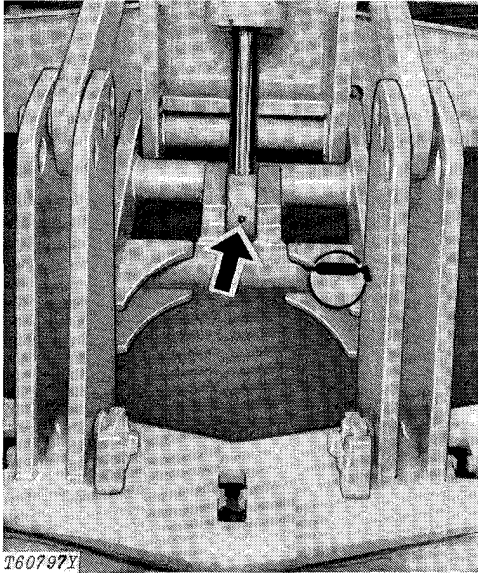


Fig. 95-Scarifier (1 point)

Lubrication required

Yes No

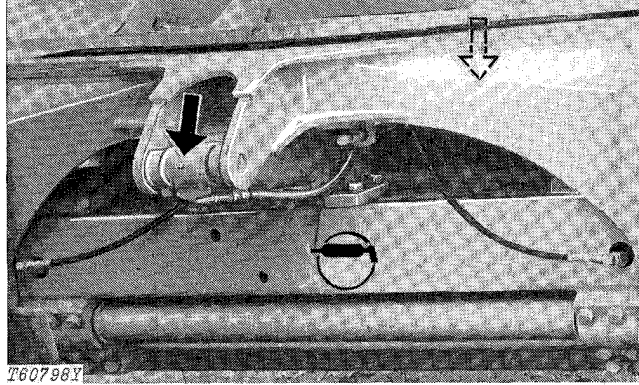


Fig. 97-Blade Tilt Cylinder (2 points)

Lubrication required

Yes No

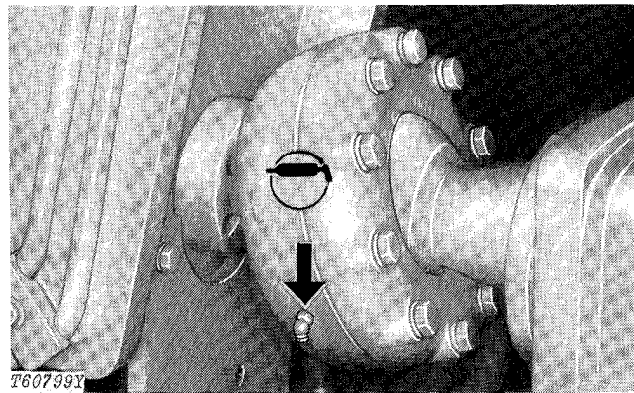


Fig. 98-Draft Ball Pivot (1 point)

Lubrication required

Yes No

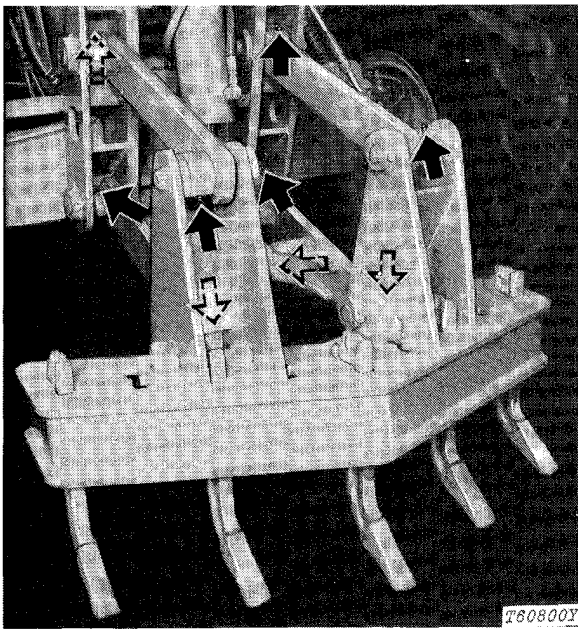


Fig. 96-Heavy Duty Scarifier (9 points)

Lubrication required

Yes No

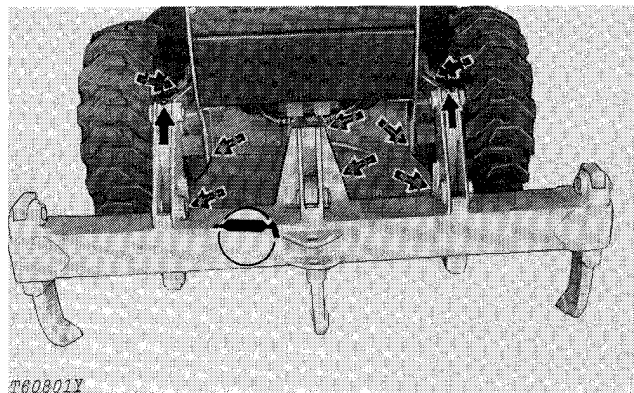


Fig. 99-Ripper (10 points)

Lubrication required

Yes No

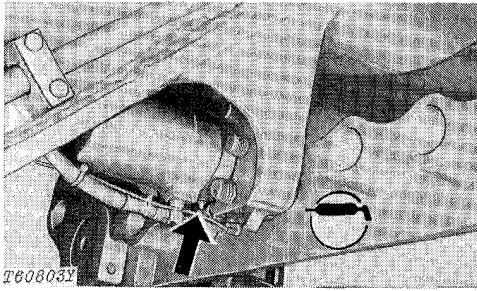


Fig. 100-Lift Arm Locking Pin Housing (1 point)

Lubrication required Yes No

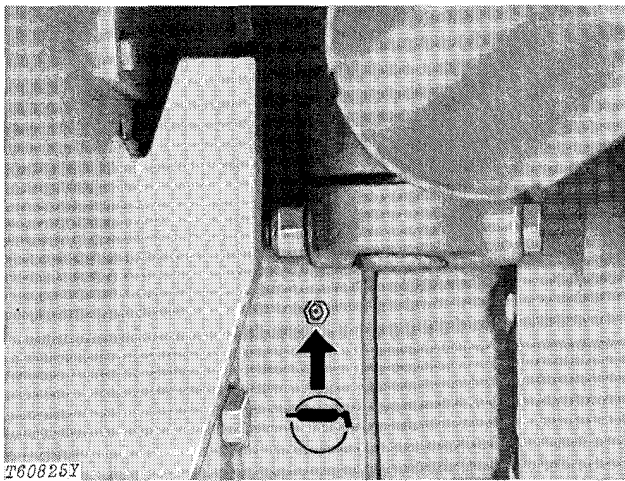


Fig. 101-Tandem Pivot - Right (R.H.) Side  
 (2 points)

Lubrication required Yes No

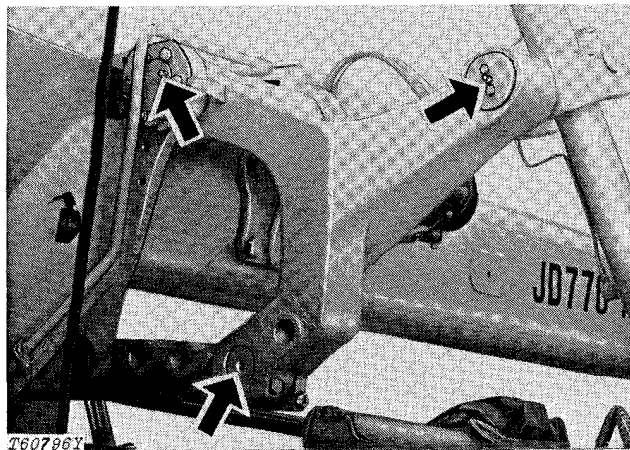


Fig. 102-Lift Arm Pivots and Stub Shaft -  
 Right (R.H.) Side Shown (6 points total)

Lubrication required Yes No

### 14. Check Air Intake Hose

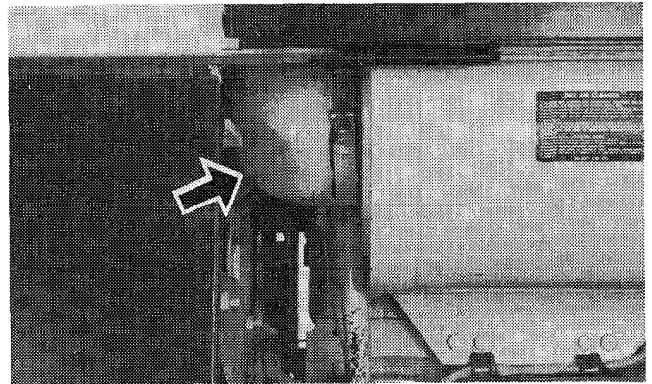


Fig. 103-Air Intake Hose Clamps

Check clamps on hose which connects air cleaner, turbocharger, and turbocharger tube. Tighten hose clamps, if necessary. Inspect hose for cracks.

Air intake hose checked Yes No

### 15. Belt Tension (20)

Change tension, if necessary. Check front belt tension only.

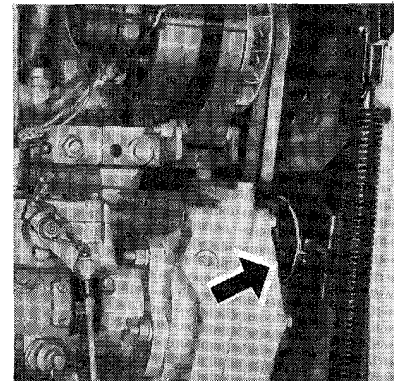


Fig. 104-Strand Tension Gauge



Tension gauge: Immediately after stopping the engine (run the engine 5 minutes or more), check the belt tension. If tension is less than 60 lb. (270 N), wait ten minutes. Then change tension to 75 lb. (336 N).

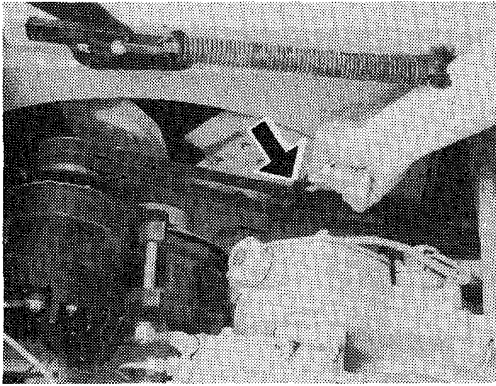


Fig. 105-Tension Tester

Strand tension tester: A 20 lb. (90 N) force halfway between the pulleys must move the belt 3/4 in. (19 mm).

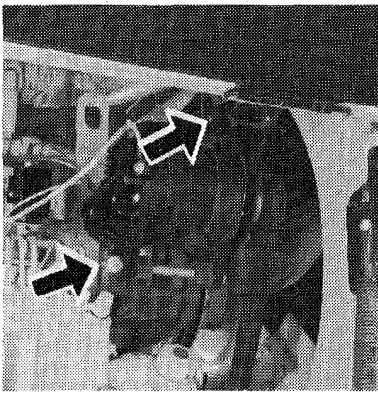
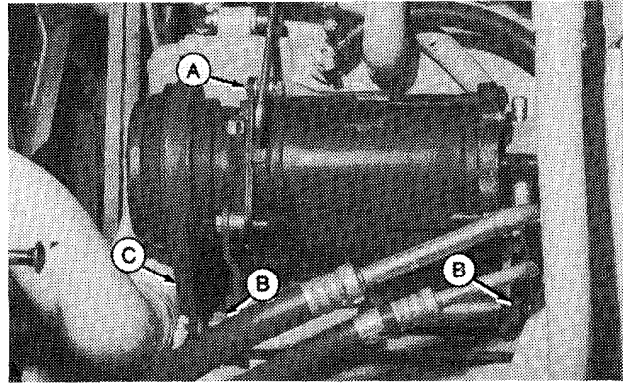


Fig. 106-Adjusting Tension

Adjusting tension: Loosen cap screws.

**IMPORTANT:** Apply pressure **ONLY** to front alternator housing.

Tighten cap screws.



A—Adjusting Strap Cap Screw  
 B—Cap Screw

C—Compressor Belt

Fig. 107-Compressor Belt

Check compressor belt (C) tension. Tighten new belt to 135 lb. (600 N) and used belt to 90 lb. (400 N).

To change tension, loosen cap screws B and A. Apply outward force to compressor. Tighten cap screws B and A.

Alternator-fan belt tension  
 checked

Yes No  
 Yes No

Compressor belt tension checked

## 16. Cab Equipment

Check operation of doors, windows, seat belt, heater, air conditioner, etc.

Check air conditioner filters. Clean as necessary.

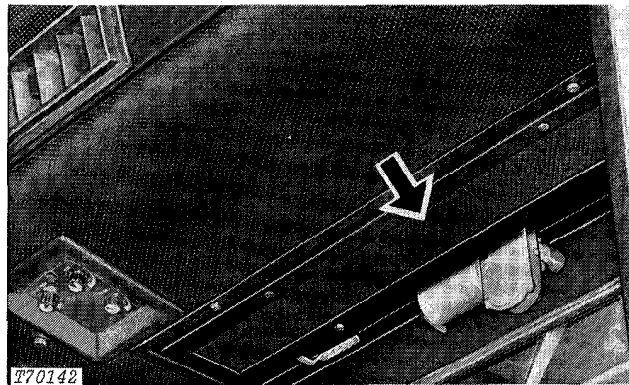


Fig. 108-Recirculating Filter

Recirculating filter: Remove cover and element. Wash filter in warm, soapy water. Rinse and dry.

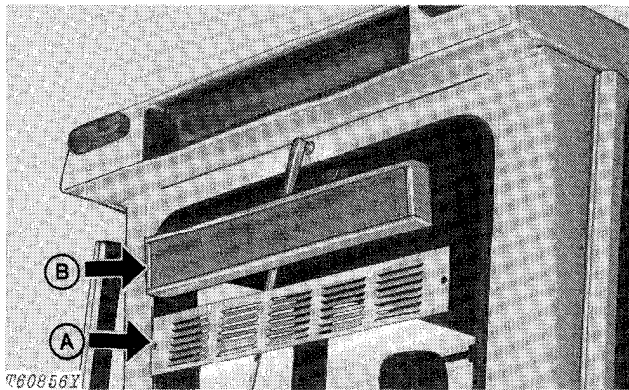


Fig. 109-Outside Air Filter

Outside air filter: Remove two screws. Remove cover (A). Remove filter element (B).

Clean the element one of these ways:

1. Tap it on a flat surface, dirty side down.
2. Blow low pressure compressed air (under 30 psi [2.1 bar]) through the element opposite normal air flow.
3. Wash the element in warm, soapy water. Rinse and dry.

Cab equipment checked Yes No

### 17. Cold Weather Starting Aid

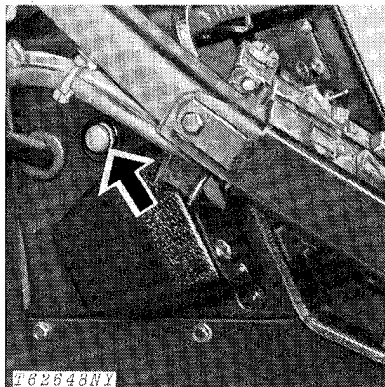


Fig. 110-Starting Aid Button

Remove starting aid can from engine. Push starting aid button. The solenoid must click. Install starting aid can.

Starting aid checked Yes No

### 18. Seat

Check operation of seat controls.

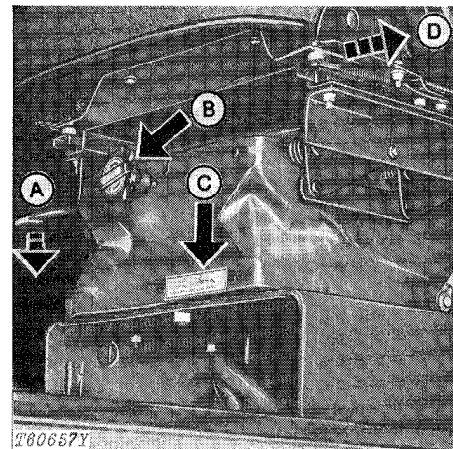


Fig. 111-Controls for Cab Seat and Seat without Cab

- A - Height adjustment lever - Push down lever. Move seat to desired position. Release lever.
- B - Weight adjustment knob - Turn clockwise for firm ride. Turn counterclockwise for soft ride. Use flip handle to crank knob.
- C - Weight adjustment tube - Sit on seat. Turn knob until yellow pointer inside tube is flush with tube.
- D - Forward and rearward adjustment lever - Move lever outward to left (L.H.). Move seat forward or rearward to desired position. Release lever.

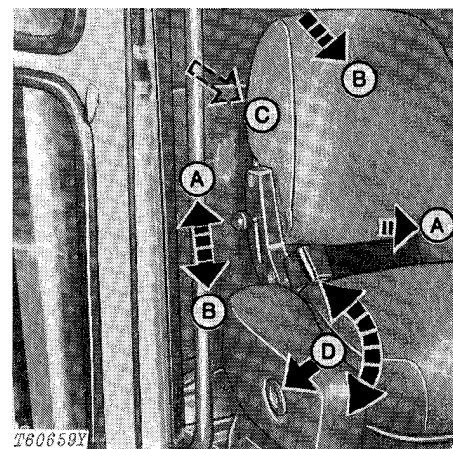
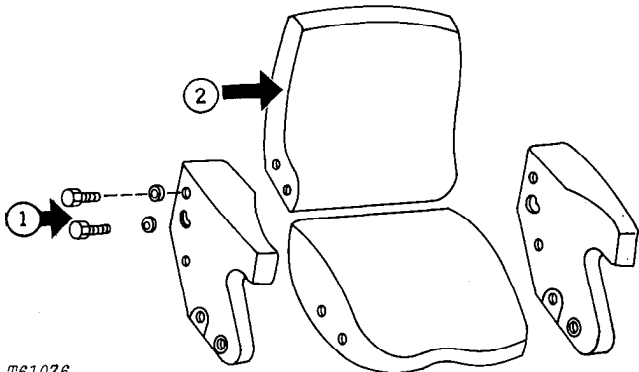


Fig. 112-Cab Seat Controls

- A - Backrest tilt knob - Lift knob to tilt bottom of backrest forward.
- B - Lower knob to tilt top of backrest forward.
- C - Backrest knob - Lift knob for soft backrest. Lower knob for firm backrest.

D - Armrest button - Hold button in. Move armrest up or down to desired position. Release button. Armrest will latch in four different positions.



T61076

Fig. 113-Adjustment for Seat without Cab

T60176

Adjust backrest tilt as follows:

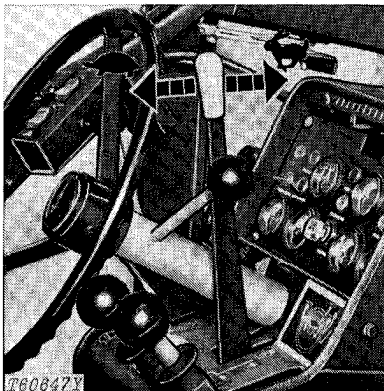
- 1 - Loosen two cap screws (each side).
- 2 - Move backrest to desired position.
- 3 - Tighten cap screws.

Seat controls checked

Yes No

## 19. Engine Speed Controls

Check controls for correct operation.

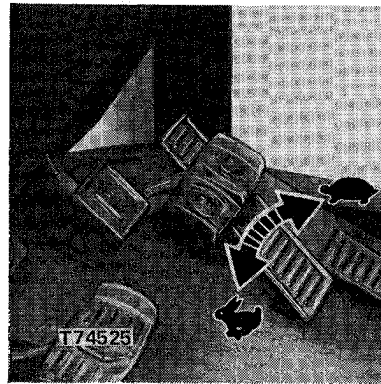


T60842Y

T60647Y

Fig. 114-Hand Throttle

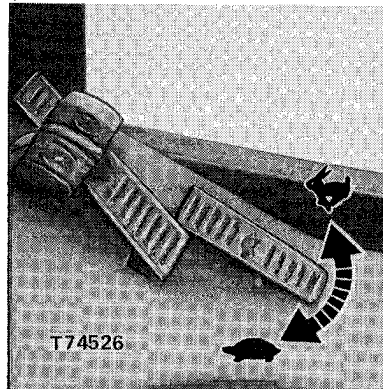
Use hand throttle to operate at constant speed.



T74525

Fig. 115-Foot Throttle

Push down to increase speed momentarily. When you release pedal, throttle will return to hand throttle setting.



T74526

T74526

Fig. 116-Decelerator

Push down to decrease speed momentarily. When you release pedal, decelerator will return to hand throttle setting.

Speed controls checked

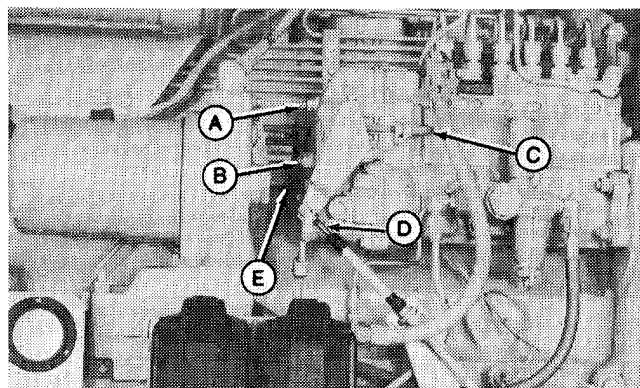
Yes No

## 20. Check Engine Speeds

Check the engine speeds. Make adjustments if necessary.

Remove cap from tachometer drive. Install tachometer. Fast idle must be  $2400 \pm 25$  rpm. Slow idle must be  $900 \pm 25$  rpm.

**NOTE:** The engine must be at operating temperature for the following adjustments.



A—Slow Idle Stop Screw      D—Speed Control Cable  
B—Supplementary Idle Screw    E—Engine Stop Cable  
C—Fast Idle Stop Screw

Fig. 117-Injection Pump Idle Adjustment

### Slow Idle Adjustment

Run engine until it is at normal operating temperature. Stop engine.

Remove tachometer drive cap and install on accurate tachometer.

Detach speed control cable (D, Fig. 117) from injection pump. Start engine.

Loosen supplementary idle screw lock nut. Turn supplementary idle screw (B) counterclockwise until engine rpm stops decreasing. Turn screw counterclockwise two more turns.

Loosen slow idle screw lock nut. Turn slow idle screw (A) clockwise to increase rpm or counterclockwise to decrease rpm. Adjust rpm to 880. Tighten lock nut.

Turn supplementary idle screw (B) clockwise until rpm is 900. Tighten lock nut.

### Fast Idle Adjustment

Remove seal wire and seal cap from fast idle screw (C).

Loosen fast idle screw lock nut. Turn fast idle screw counterclockwise to increase rpm or clockwise to decrease rpm. Adjust rpm to 2400. Tighten lock nut. Stop engine.

Install seal cap and wire. Use JDF-10 Sealing Wire Pliers to seal fast idle screw.

Connect speed control cable to injection pump.

### Speed Control Lever Adjustment

Remove the left (L.H.) and right (R.H.) console covers and right (R.H.) shield (bolted to the front of right [R.H.] footrest).

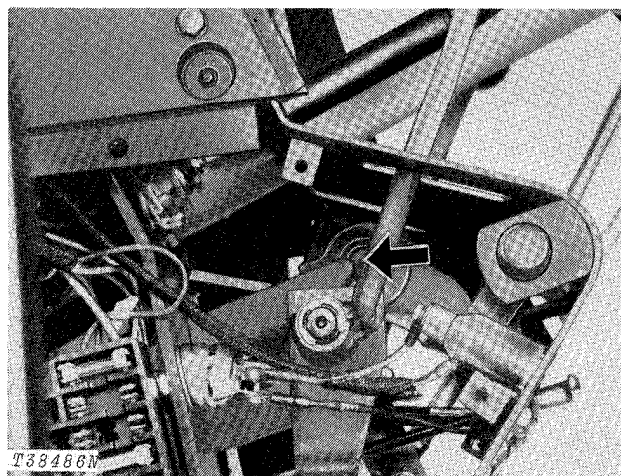


Fig. 118-Speed Control Lever Adjustment

Disconnect the swivel to the cable of the injection pump throttle lever. Disconnect the rod to the accelerator pedal and the outer arm.

Check the force needed to move the speed control lever. No less than 8 lbs. (36 N) (3.6 kg) on the end of the lever must move it. If the force is less than this amount, turn the special cap screw on the speed control lever pivot (Fig. 118). (Accessible from left [L.H.] side only.)

Connect the swivel to the cable at injection pump throttle lever. Fasten the rod to the accelerator pedal and the outer arm.

Turn the fast idle stop screw in the control console to get fast idle.

*NOTE: Put the lever in position to get enough hand clearance in both extreme lever positions. Put the throttle stop in position so that the speed control lever contacts the rear surface of the throttle stop at slow idle.*

### Foot Throttle-Decelerator Pedal Adjustment

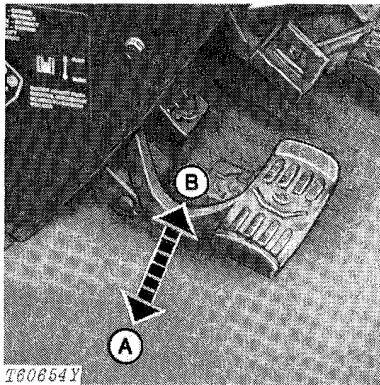
All adjustments for pedal positions must be made at the yoke at the lower end of the throttle linkage rod. Move the foot throttle pedal to fast idle. Turn the decelerator stop screw in the footrest to get slow idle.

Inspect the linkage for correct operation.

Install the left (L.H.) and right (R.H.) console covers and the right (R.H.) shield.

## 21. Inching Pedal

Check operation of inching pedal.



A—Disengaged B—Engaged

Fig. 119-Inching Pedal

Use the inching pedal for precise control of the grader when you hitch equipment to the grader, or when you need a slow, smooth start. Push down the pedal (A) to disengage the clutch. Release the pedal (B) to engage the clutch.

To check adjustment of pedal, stop the grader and push down the pedal fully. If the grader moves ahead, pedal needs adjustment. See page I-IV-47.

**IMPORTANT:** Do not “ride” the inching pedal. Do not use this pedal for normal transmission shifting. Do not push down the pedal for an emergency stop unless the engine is running.

Inching pedal checked Yes No

## 22. Lights

Check operation of all lights, switches, and turn signal lever.

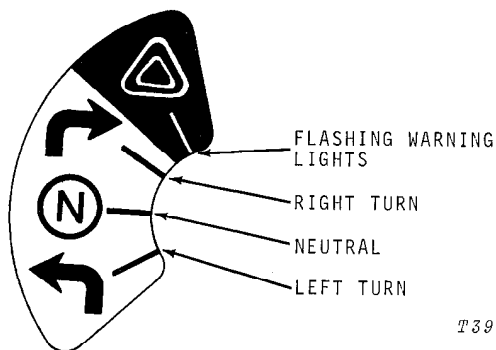
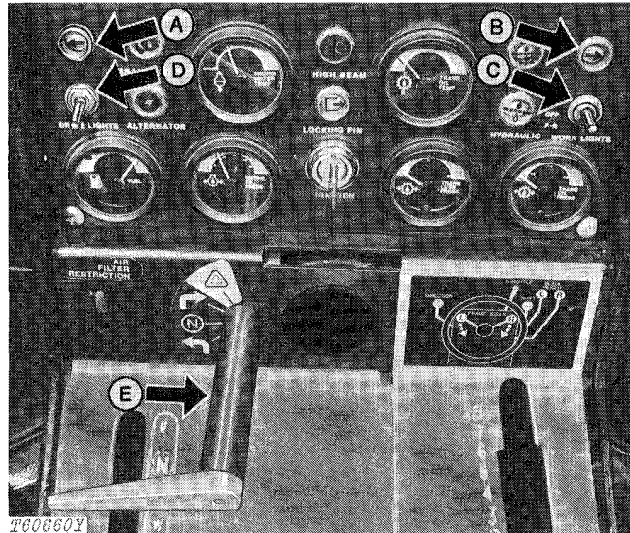


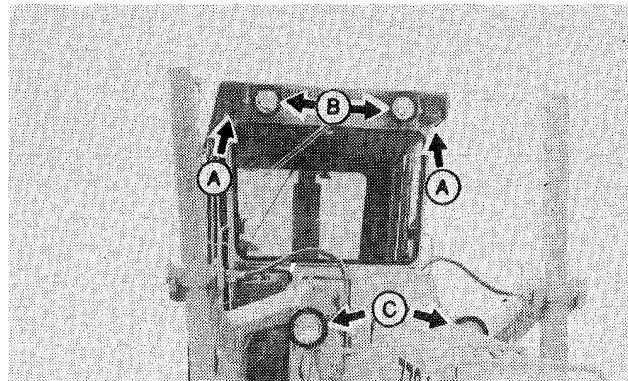
Fig. 120-Turn Signal Label

Move the turn signal lever to the desired position. Four amber lights flash as warning lights. Move the lever to neutral after a turn.



A—Left (L.H.) Turn Signal Indicator Light  
 B—Right (R.H.) Turn Signal Indicator Light  
 C—Work Lights Switch  
 D—Driving Lights Switch and Dimmer Switch (on floor)  
 E—Turn Signal Lever

Fig. 121-Light Switches and Indicator Lights



A—Turn Signal Lights B—Driving Lights C—Work Lights

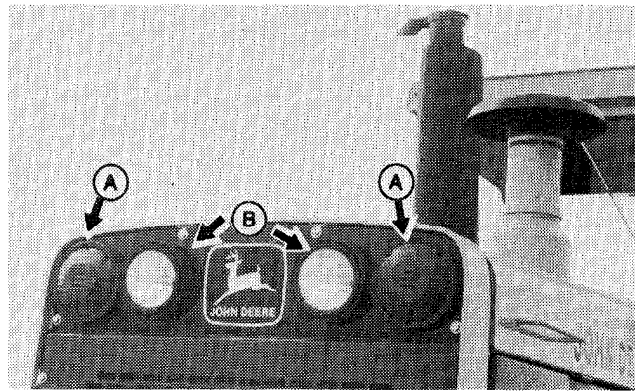
Fig. 122-Front Lights

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A—Brake Lights, Tail Lights and Turn Signal Lights  
 B—Working Lights

Fig. 123-Rear Lights

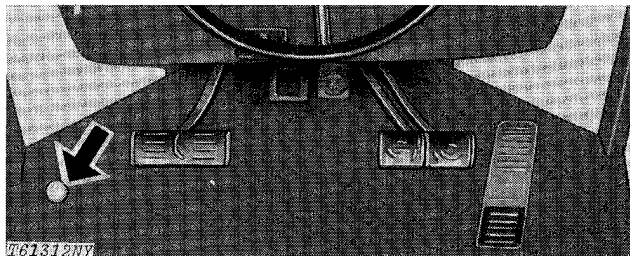


Fig. 124-Dimmer Switch

Lights and switches checked Yes No

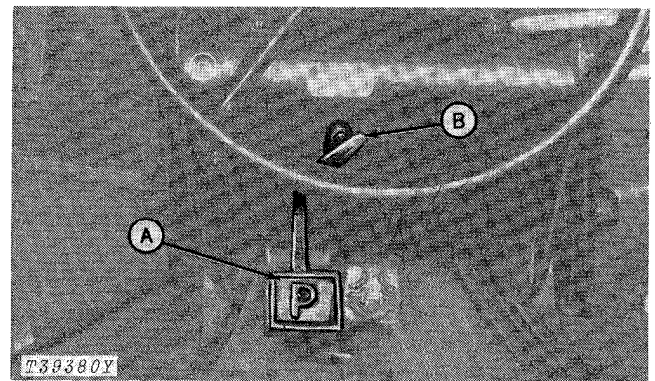
### 23. Steering

Start the engine. Operate the steering wheel. Steering must be free and easy.

Steering checked Yes No

### 24. Parking Brake

Push down parking brake. When pedal uses over 3/4 total travel to fully apply the brake, the brake needs adjustment.



A—Engage Pedal B—Disengage Handle

Fig. 125-Parking Brake

**NOTE:** To release the parking brake, pull handle B, while holding down pedal A.

To change parking brake adjustment, proceed as follows:

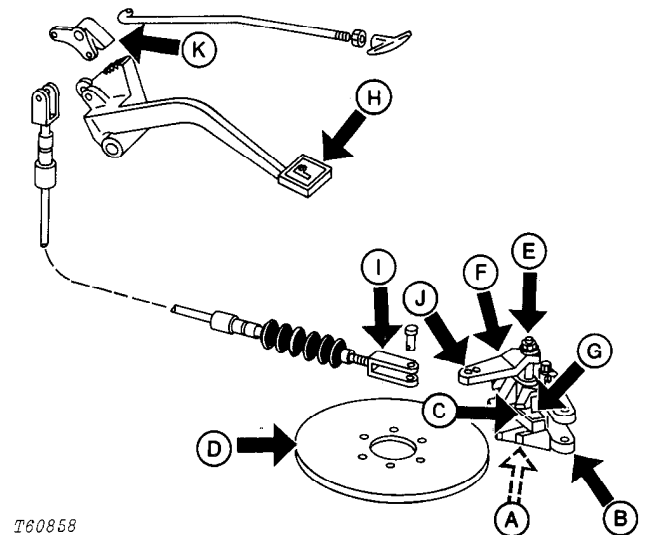
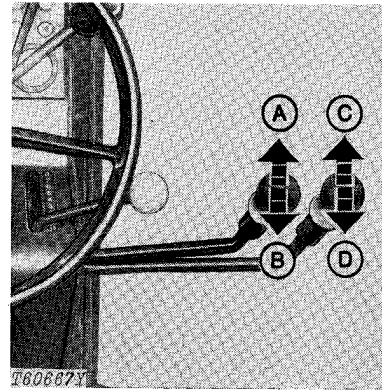


Fig. 126-Adjusting Parking Brake

- 1 - Remove pin from yoke (I). Adjust cap screw (A) in transmission cover under caliper (B), until bottom friction pad (C) clears bottom of brake disk (D) by approximately 0.010 in. (0.25 mm).
- 2 - Push parking brake pedal to first notch. Adjust lock nut (E) on top of caliper lever (F) until top friction pad (G) clears brake disk (D) by approximately 0.010 in. (0.25 mm).
- 3 - With parking brake pedal (H) in full raised position and caliper lever (F) in center position, adjust brake cable end yoke (I).

- 4 - Turn yoke, at caliper, until holes in yoke are in line with outside hole (J) in caliper lever. Install pin in yoke.
- 5 - Apply parking brake. Brake should be tight when locking pawl (K) reaches first or second notch on pedal ratchet with 70 lb. (311 N) force applied to brake pedal.
- 6 - Release brake. Pedal should return to top of slot in dash. Brake disk should turn freely.
- 7 - Lubricate linkage.
- 8 - Install new brake pads when friction material measures less than 0.10 inch (2.5 mm).



A—Lower Left (L.H.) End of Blade  
 B—Raise Left (L.H.) End of Blade  
 C—Lower Right (R.H.) End of Blade  
 D—Raise Right (R.H.) End of Blade

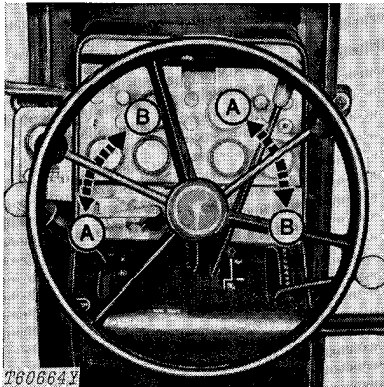
Fig. 128-Blade Lift Levers

Move one lever at a time or both levers together.

Parking brake checked	Yes	No
Parking brake adjustment changed	Yes	No

## 25. Control Levers and Switches

Check operation of all control levers and switches.



A—Frame Steer Left (L.H.)      B—Frame Steer Right (R.H.)

Fig. 127-Frame Steering Levers

Move either lever to aid turning. Frame will articulate 25 degrees left (L.H.) or right (R.H.).

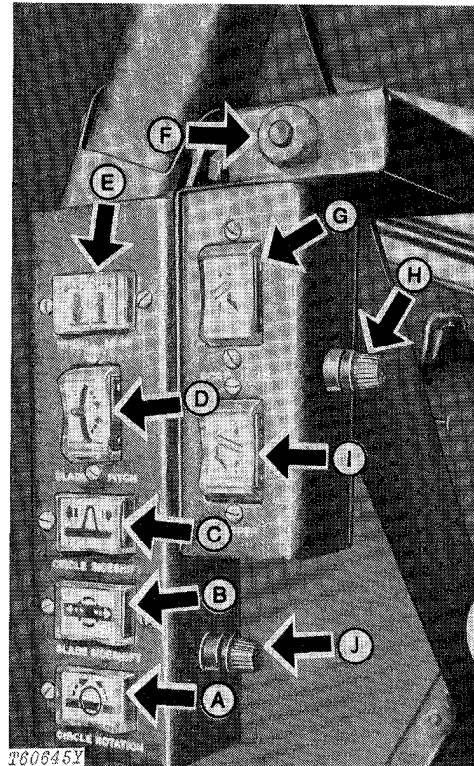


Fig. 129-Main Control Box and Auxiliary Control Box

**NOTE:** Label on each switch shows direction of functional movement.

A - Circle Rotation Switch: Rotates circle clockwise or counterclockwise.

B - Blade Side-Shift Switch: Shifts blade left (L.H.) or right (R.H.)



C - Circle Side-Shift Switch: Shifts the circle left (L.H.) or right (R.H.).

D - Blade Pitch Switch: Sets pitch of blade forward or rearward.

E - Wheel Lean Switch: Leans front wheels left (L.H.) or right (R.H.).

F - Scarifier Float Switch: Push button to put scarifier into float. Push scarifier switch to take out of float.

G - Scarifier Switch: Raises and lowers scarifier.

H - Auxiliary Controls Fuse - 5 amp.

I - Ripper Switch: Raises and lowers ripper.

J - Main Controls Fuse - 5 amp.

### Front Wheel Drive - JD772-A Only

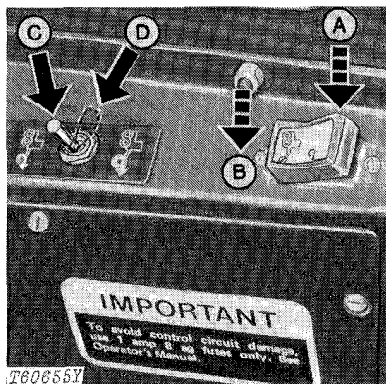


Fig. 130-Hydraulic Front Wheel Drive Controls

A - Front Wheel Drive ON: Operate in 1st to 4th gear, forward and reverse.

B - Front Wheel Drive OFF.

C - Front Wheel Action NORMAL: Front wheel drive engages only when rear wheels slip. Front wheels turn slightly slower than rear wheels.

D - Front Wheel Action AGGRESSIVE: Front wheels turn slightly faster than rear wheels. For use in difficult conditions on side slopes and in wet or slippery spots.

**IMPORTANT: Switch OFF (B) hydraulic front wheel drive system before charging batteries or using booster batteries or welding on the grader.**

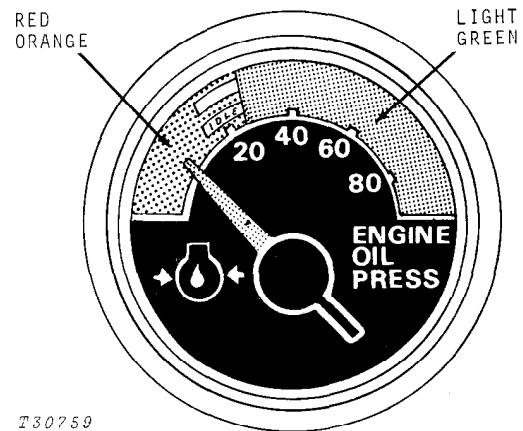
Check hydraulic front wheel drive on dry surface, forward and reverse. Turn hydraulic front wheel drive ON (A). Set aggressiveness switch NORMAL (C). Then turn aggressiveness switch to AGGRESSIVE. Surge must be noticeable.

Control levers and switches checked  Yes  No

## 26. Gauges, Switches, and Indicator Lights

Check operation of all gauges, switches, and indicator lights.

### Gauges

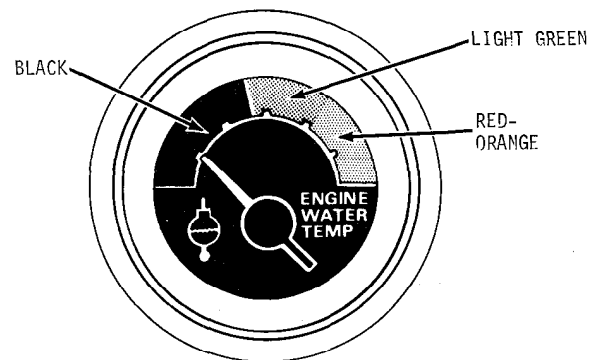


T30759

Fig. 131-Engine Oil Pressure Gauge

Normal operating range is shown by the green zone (25 to 80 psi [1.7 to 5.5 bar]).

If the indicator hand goes into the red-orange zone, stop the grader. Check the engine oil level. If oil level is not low, check for restrictions in the oil lines or wrong viscosity oil.



T50859

Fig. 132-Engine Coolant Temperature Gauge

The green light zone shows the normal operating temperatures, 160-224°F (71-107°C).

**IMPORTANT: If the indicator hand goes into the RED-ORANGE ZONE, stop the engine and find the cause.**