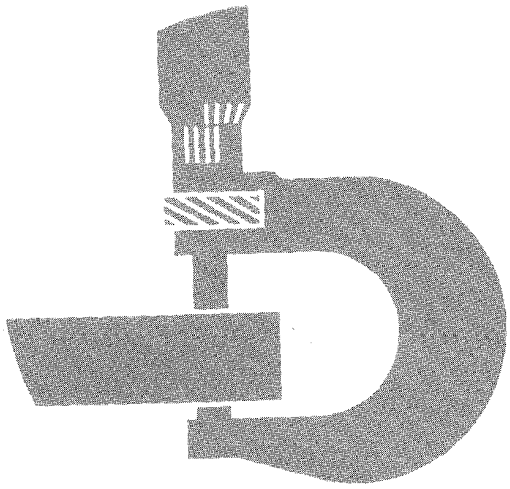
JD743-A
Tree Harvester
JD743-A
Feller-Buncher



TECHNICAL MANUAL

TM-1226
LITHO IN U.S.A.

Hello

Thank you very much for your download.

In the last page of this PDF document.

There is a link.

Please click on that link and return to our website.

Then you can get the complete manual immediately.

No need to wait.

Thanks for continuing to read the documentation.

Best wishes.

SECTION AND GROUP CONTENTS OF THIS MANUAL

The specifications and design information contained in this manual were correct at the time it was printed. It is John Deere's policy to continually improve and update our machines. Therefore, the specifications and design information are subject to change without notice. Wherever applicable, specifications and design information are in accordance with SAE and ICED standards.

Litho in U.S.A.

SECTION AND GROUP CONTENTS OF THIS MANUAL—Continued

Litho in U.S.A.

SECTION AND GROUP CONTENTS OF THIS MANUAL—Continued

Litho in U.S.A.

ALPHABETICAL INDEX

Litho in U.S.A.

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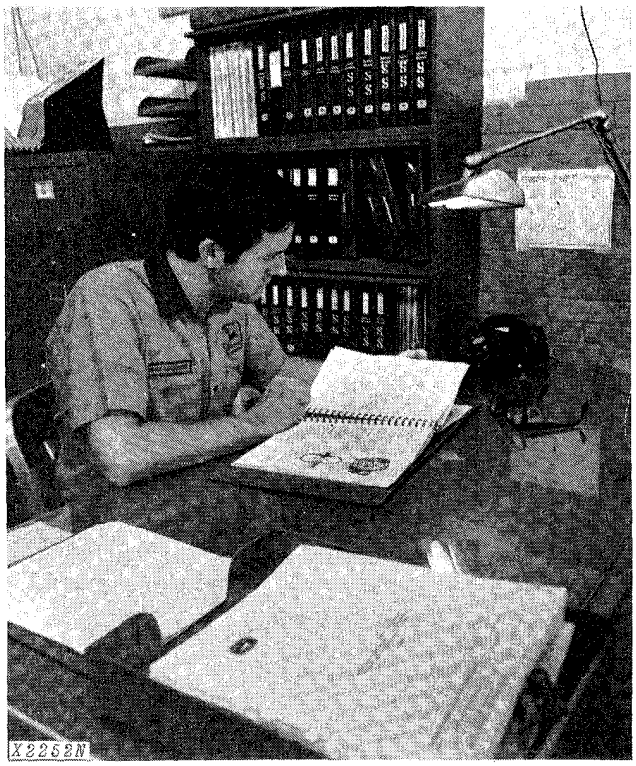
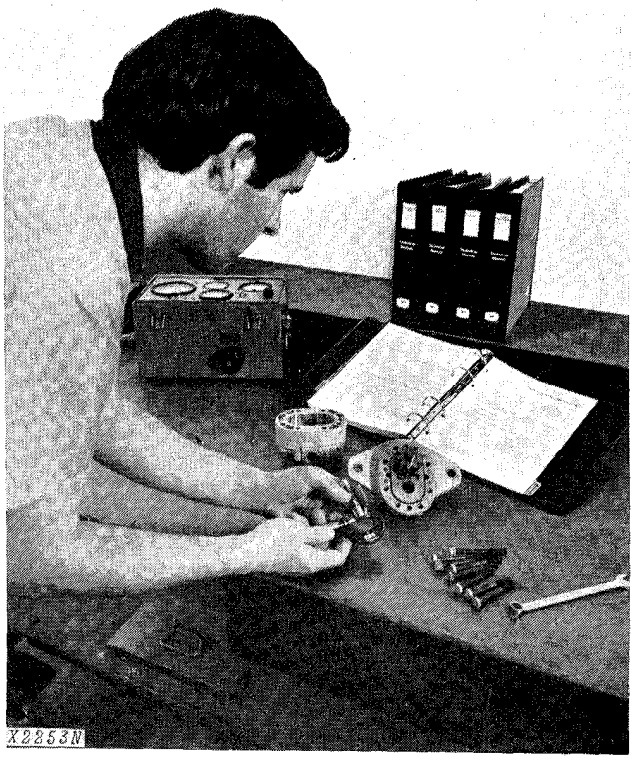
Group II
INTRODUCTION AND SAFETY INFORMATION

INTRODUCTION



Use FOS Manuals for Reference



Use Technical Manuals for Actual Service

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 left is used in the TM to identify 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 vital information needed by an experienced service technician.

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 I - Contents, safety information, general specifications and general services.
- Sections 1 through 44 - 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.

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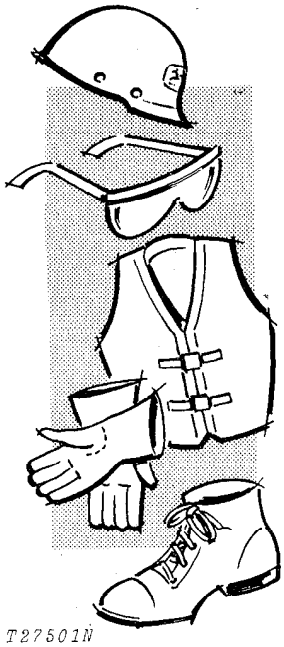
MAINTENANCE WITHOUT ACCIDENT WORK SAFELY

T27999N

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

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



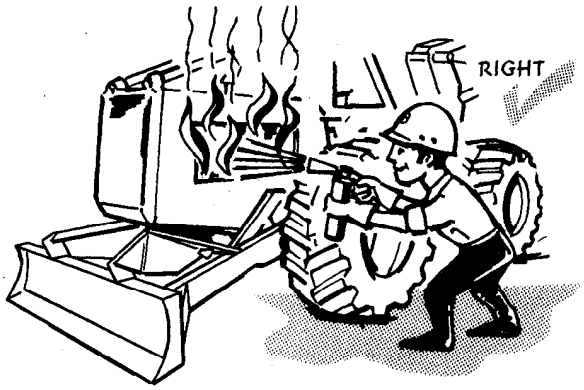
T27501N

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

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

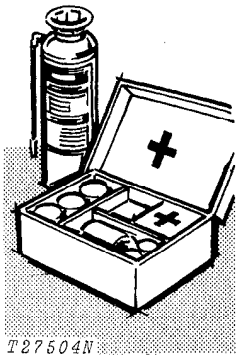
T27502N

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.



T50632N

BE ALERT!



T27504N

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 tree harvester or feller-buncher. Remembering these—in time!—can prevent an injury...or save your life....

AVOID FIRE HAZARDS—

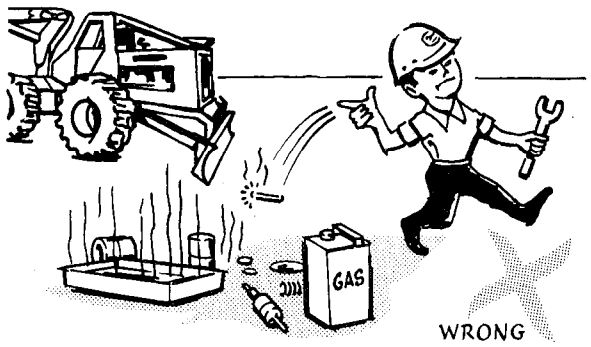
Fuel Is Dangerous!

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 engine is hot.



T50633N

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

Battery Gas Is Highly Flammable!

Provide adequate ventilation when charging batteries.

T27506N

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

Don't allow sparks or open flame near batteries.

Don't smoke near battery.

Flame Is Not a Flashlight!

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

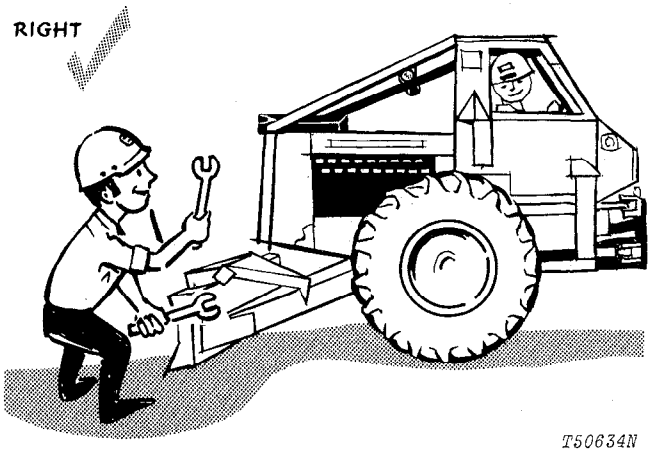
Never use an open flame to look for leaks anywhere on equipment.

Know Where Fire Extinguishers Are Kept!

UNDER ALL MAINTENANCE CONDITIONS—

Do not perform any work on the tree harvester or feller-buncher unless authorized to do so. Then be sure you understand the services required. Follow recommended procedures.

Never service equipment while it is being operated.



T50634N

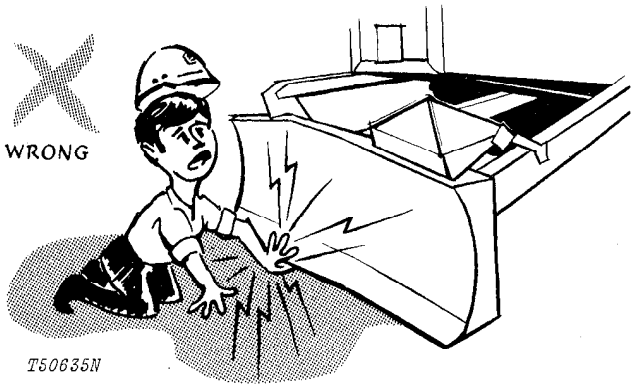
Avoid working on equipment with the engine running. If it is necessary to make checks with the engine running, **ALWAYS USE TWO SERVICE TECHNICIANS**—one, the operator, at the controls, the other checking in view of the operator. Also, put the transmission in neutral, set the brake, and apply any safety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

T27508N

MAINTENANCE WITHOUT ACCIDENT

Before servicing, adjusting, or repairing tree support blade or tree shear—**LOWER** equipment to ground—or, if necessary to raise them for access to certain parts, **SECURELY SUPPORT** by external means. **DO NOT** rely on controls to support or position equipment for maintenance. The tree shear must be lowered to ground or hung on transport peg to prevent mast rotation when engine is shut off.

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

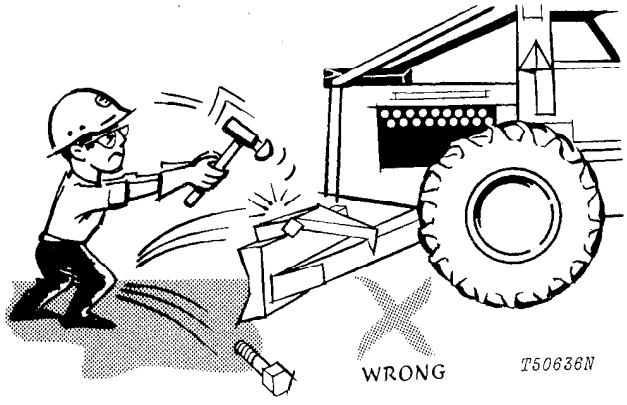


Avoid working directly under raised and blocked equipment unless absolutely necessary.

If tree harvester or feeler-buncher 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 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 engine before cleaning or lubricating the tree harvester or feller-buncher.

Lower tree support blade and shear to the ground *carefully*.

Engine coolant gets hot! Don't remove radiator cap until coolant temperature is below 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 tree support blade and shear and operate tree support blade and boom controls until system fails to respond.

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

The tree harvester or feller-buncher is equipped with brake and hydraulic system accumulators. To discharge brake accumulator depress brake pedal (with engine off) until brake pedal bottoms out and no resistance is felt. To discharge hydraulic system accumulator, turn steering wheel back and forth (with engine off) until no frame movement is observed.

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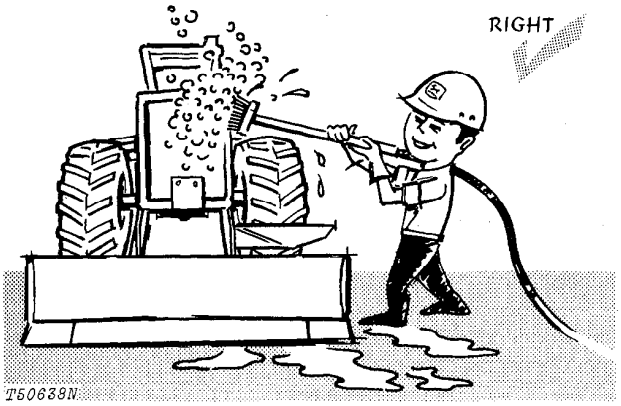
MAINTENANCE WITHOUT ACCIDENT

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

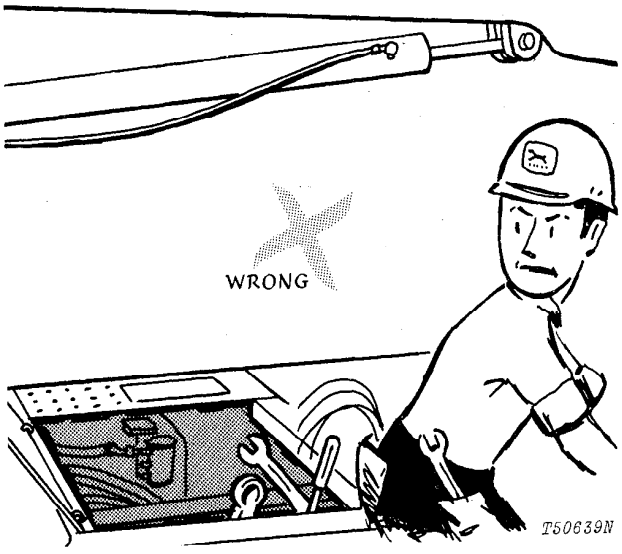


Keep ALL components free of dirt and oil. This attention will minimize fire hazards and facilitate spotting of loose or defective parts.

ADJUSTING PRECAUTIONS

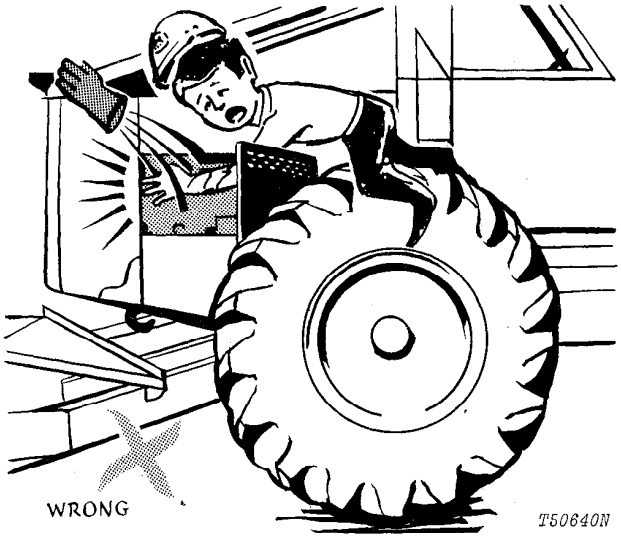
. . . . for Operating Adjustments

Keep clutch and brake control units properly adjusted at all times. Before making adjustments, stop engine.



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

. . . . for Maintenance Adjustments



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

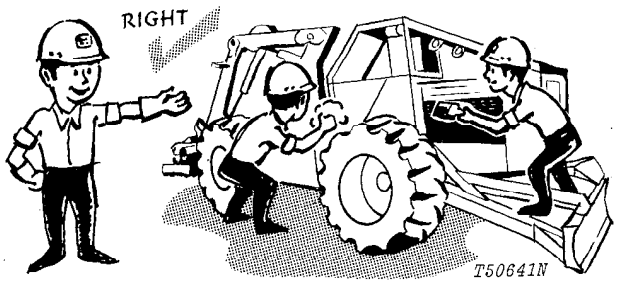
MAINTENANCE WITHOUT ACCIDENT

PRECAUTIONS DURING REPAIR

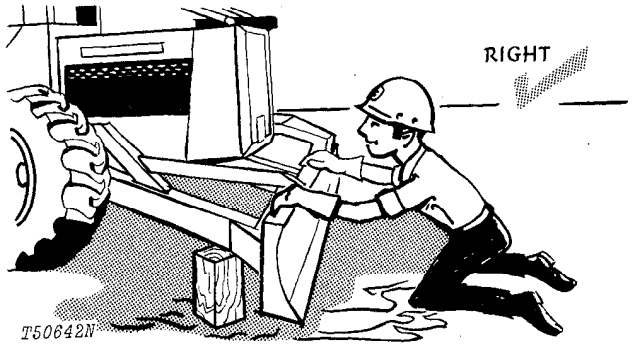
Before working on engine fuel system—close fuel shutoff valve.

Before working on hydraulic system—make sure engine is not running and system pressure is relieved by working control levers in all directions with engine shut off.

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



Keep ALL components free of dirt and oil. This attention will minimize fire hazards and aid in locating loose or defective parts.



When changing cutting edges on tree support blade, stop engine and securely block blade.

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

MAINTENANCE WITHOUT ACCIDENT

KNOW EQUIPMENT IS READY!

Check guards, safety bars—all protective devices installed on tree harvester or feller-buncher. Every one should be in place and secure.

CHECK IT OUT!

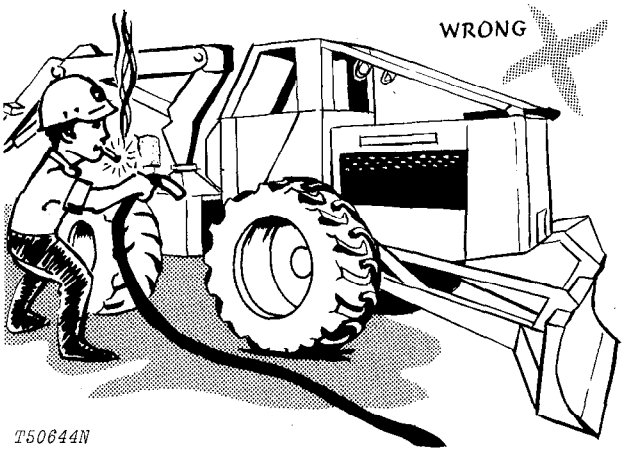
- ☐ GUARDS
- ☐ SHIELDS
- ☐ PROTECTIVE DEVICES
- ☐ ROLL-OVER PROTECTIVE STRUCTURES
- ☐ SEAT BELTS
- ☐ FIRE EXTINGUISHER
- ☐ FIRE SUPPRESSION SYSTEM, ETC.

T50643N

Carefully inspect equipment for visual defects—leaks in fuel, lubrication, and hydraulic systems.

Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes and hoses are not damaged. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.

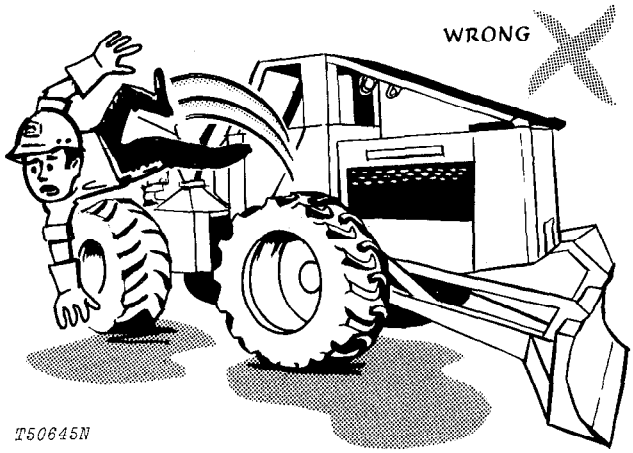
If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.



T50644N

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

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



T50645N

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

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

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

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

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

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Group III
GENERAL SPECIFICATIONS

TREE HARVESTER

(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 30.5-32, 12 ply rating logging tires and standard equipment.)

Power (at 2400 engine rpm): **SAE** **DIN**
Gross .....167 hp (124.6 kW)
Net .....152 hp (113.4 kW) 154 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. altitude and 85°F temperature, and DIN 70 020 conditions (non-corrected). No derating is required up to 10,000 ft. (3000 m) altitude.

Engine: John Deere diesel, vertical 6-cylinder, valve-in-head, 4-stroke cycle—turbocharged and intercooled.
Bore and stroke .....4.56×4.75 in. (116×121 mm)
Piston displacement .....466 cu. in. (7.638 L)
Compression ratio ..... 15.5 to 1
Maximum torque
@ 1200 rpm .....507 lb-ft (687 N·m) (70.1 kg-m)
NACC or AMA (U.S. Tax) horsepower 49.9
Lubrication ..... Pressure system w/full-flow filter
Cooling . Pressurized w/thermostat and fixed bypass
Fan ..... Suction
Air cleaner w/restriction indicator ..... Dry
Electrical system ..... 12 volt w/alternator
Batteries (2) .....Reserve capacity: 360 minutes

Differentials:
Front and rear .. Full differentials with hydraulic lock

Engine Clutch Disconnect:
Hand-operated, spring-loaded, dry-disk. Single plate, 12.88 in. (327 mm).

Transmission:
Power Shift with planetary gears, hydraulically actuated wet-disk clutches and brakes; provides 8 speeds forward—4 reverse. Controlled by single lever. Pressurized lubrication.

Travel Speeds (2200 engine rpm, no tire slip):
Forward: 1.63 to 18.40 mph (2.62 to 29.61 km/h)
Reverse: 2.00 to 5.79 mph (3.22 to 9.32 km/h)

Drive Axles:
Four-wheel drive with inboard planetary gears on all axles. Rear axle oscillates 15 degrees above and below horizontal. 24.9 in. (632 mm) total travel at tire center line at narrowest tread. Oscillation is hydraulically locked when transmission is in neutral.

Brakes:
Service...Hydraulic power-actuated, pedal-controlled, wet-disk on 4 wheels.
Harvesting.....Manually locked service brakes.
Parking.....Foot-operated mechanical disk.

Power Steering:
Articulated frame hydraulically actuated by dual cylinders.
Turning radius..... 18 ft. 10.7 in. (5.75 m)
Curb clearance circle
(w/o braking) ..... 40 ft. 5.5 in. (12.33 m)
Steering wheel rotation, max. left to
max. right ..... 3 turns

Hydraulic System:
Closed-center, constant pressure. Variable-displacement pump driven from crankshaft...72 gpm (4.54 L/s), 2000 psi (13 790 kPa) (140.6 kg/cm²) @ 2200 engine rpm. Oil cooler included in system. Filtration: 10 micron.

Tires:
30.5-32, 12 ply rating, logging, steel-ply, LS-2
30.5-32, 12 ply rating, logging, steel-ply, dual bead, LS-2
30.5-32, 16 ply rating, logging, steel-ply, dual bead, LS-2

Ground pressure (4 in. [102 mm]
penetration)..... 10.7 psi (73.8 kPa) (0.75 kg/cm²)

Cab:
ROPS and FOPS constructed. Steel with urethane sound-proofing. Windows are impact-resistant polycarbonate. Windshield has mar-resistant coating. Cab tilts forward 15 degrees for servicing.

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OPERATING INFORMATION

Boom:

Lift capacity at maximum reach . . 3200 lb. (1451 kg)
Swing speed . . . . . 30 deg. per second
Boom swing torque . . . 24,358 lb-ft (33 025 N·m) (3368 kg-m) at 2250 psi (15 514 kPa) (158.2 kg/cm²)
Maximum cutting radius . . . . . 17 ft. 6 in. (5.33 m)
Minimum cutting radius . . . . . 10 ft. (3 m)
Total cutting area . . . . . 625 sq. ft. (58.1 m²)
Cutting arc . . . . . 270 deg.

Hydraulic Cylinders:	**Bore**	**Rod**	**Stroke**
Main boom . . .	6.25 in. (158.5 mm)	3.25 in. (82.5 mm)	39.08 in. (992.5 mm)
Secondary boom	4.50 in. (114.5 mm)	2.50 in. (63.5 mm)	32.10 in. (815.5 mm)

Delimber:

Controls . . . Automatic or manually selected control of delimbing functions
Feed roll drum diameter . . . . . 18 in. (457 mm)
Spikes per roll 150
Roll speed (forward and reverse) . . . . . 400 ft/min (122 m/min)
Feed force . . . . . 14,000 lb. (62.75 kN) (6350 kg)
Knives (replaceable) . . . . . 2 movable; 1 stationary
Automatic topping at 2.5 in. (64 mm) stem diameter

Feed Roll:

Transmisson . . . Live mechanical drive; hydraulically-actuated clutch and brakes; mechanically-synchronized closure
Maximum input speed . . . . . 928 rpm
Reduction ratio . . . . . 10.94 to 1

Hydraulic Cylinders:	**Bore**	**Rod**	**Stroke**
Feed roll	2.50 in. (63.5 mm)	1.25 in. (32 mm)	10.00 in. (254 mm)
Delimbing knife, right	1.87 in. (47.6 mm)	1.00 in. (25.4 mm)	7.76 in. (197 mm)
Delimbing knife, left	1.87 in. (47.6 mm)	1.00 in. (25.4 mm)	7.76 in. (197 mm)

Shear:

Maximum tree butt diameter . . . . . 18 in. (46 cm)
Blade thickness . . . . . 0.625 in. (16 mm)

Hydraulic Cylinders:	**Bore**	**Rod**	**Stroke**
Shear tilt	4.50 in. (114.5 mm)	2.25 in. (57.2 mm)	31.26 in. (794 mm)
Grapple clamps (2)	4.00 in. (101.5 mm)	1.75 in. (44.5 mm)	5.51 in. (140 mm)
Shear (double acting)	6.50 in. (165 mm)	2.50 in. (63.5 mm)	19.88 in. (505 mm)

Capacities:	**U.S.**	**Imp.**	**Liters**
Fuel tank	50 gal.	41.7 gal.	189.2
Cooling system	9 gal.	7.5 gal.	34.1
Engine lubrication, including filter	20 qt.	16.7 qt.	18.9
Transmission	12.2 gal.	10.2 gal.	46.2
Hydraulic reservoir	24 gal.	20 gal.	90.8
Feed roll drive housing (each)	4 qt.	3.3 qt.	3.8
Delimb gearboxes (each)	4 qt.	3.3 qt.	3.8
Delimber drive transmission	4 qt.	3.3 qt.	3.8
Front differential	26 qt.	21.7 qt.	24.6
Rear differential	26 qt.	21.7 qt.	24.6

SAE Operating Weight . . . . . 41,400 lb. (18 779 kg)

Additional Standard Equipment:

Bottom guards
Cab with ROPS, heater, air conditioner, and protective windows
Cigar lighter
Cushion seat with position adjustment and seat belt
Engine side shields
Cold weather starting aid
Fire extinguisher
Gauges:
- Electric hour meter
- Engine coolant temperature
- Engine oil pressure
- Fuel
- Voltmeter

Hand and foot throttle
Heavy-duty starter
Frame locking bar
Horn
Hydraulic oil warmup switch
Hydraulic pump discharge filter
Indicator lights:
- Hydraulic oil sump level
- Hydraulic oil temperature
- Transmission oil temperature
- Transmission oil pressure

Key switch with pushbutton safety start
Lights
Muffler with rain deflector and protective guard
Parking brake
Transistorized voltage regulator
Vandal protection
Windshield wiper and washer

Special Equipment:

3 in. (76 mm) seat belt
Automatic fire suppression system
Multi-stem shear
Radio
Rear tree accumulator
Steering accumulator

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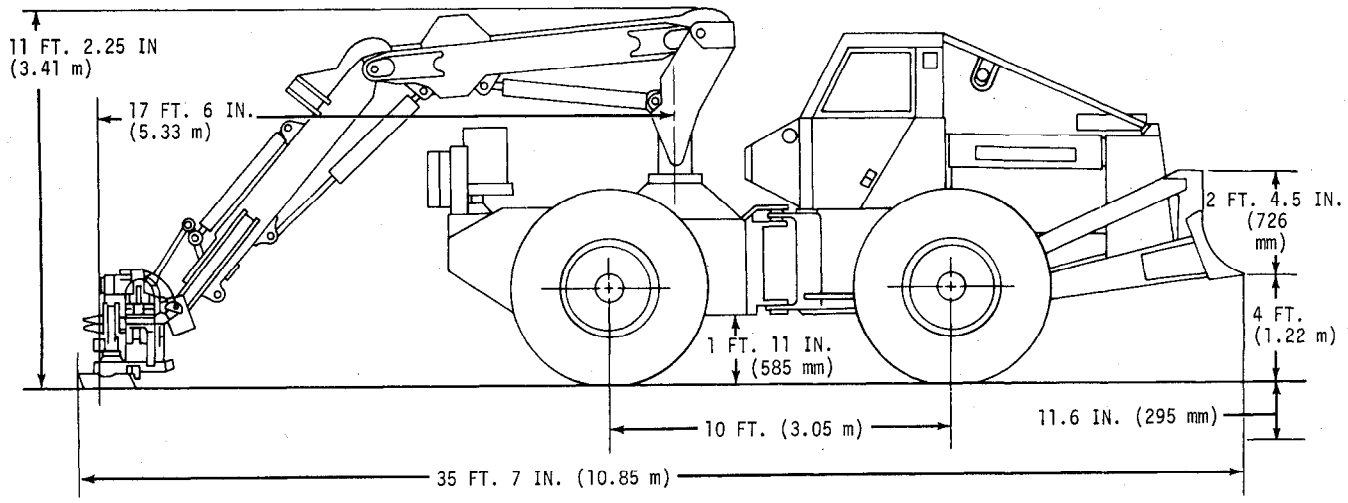

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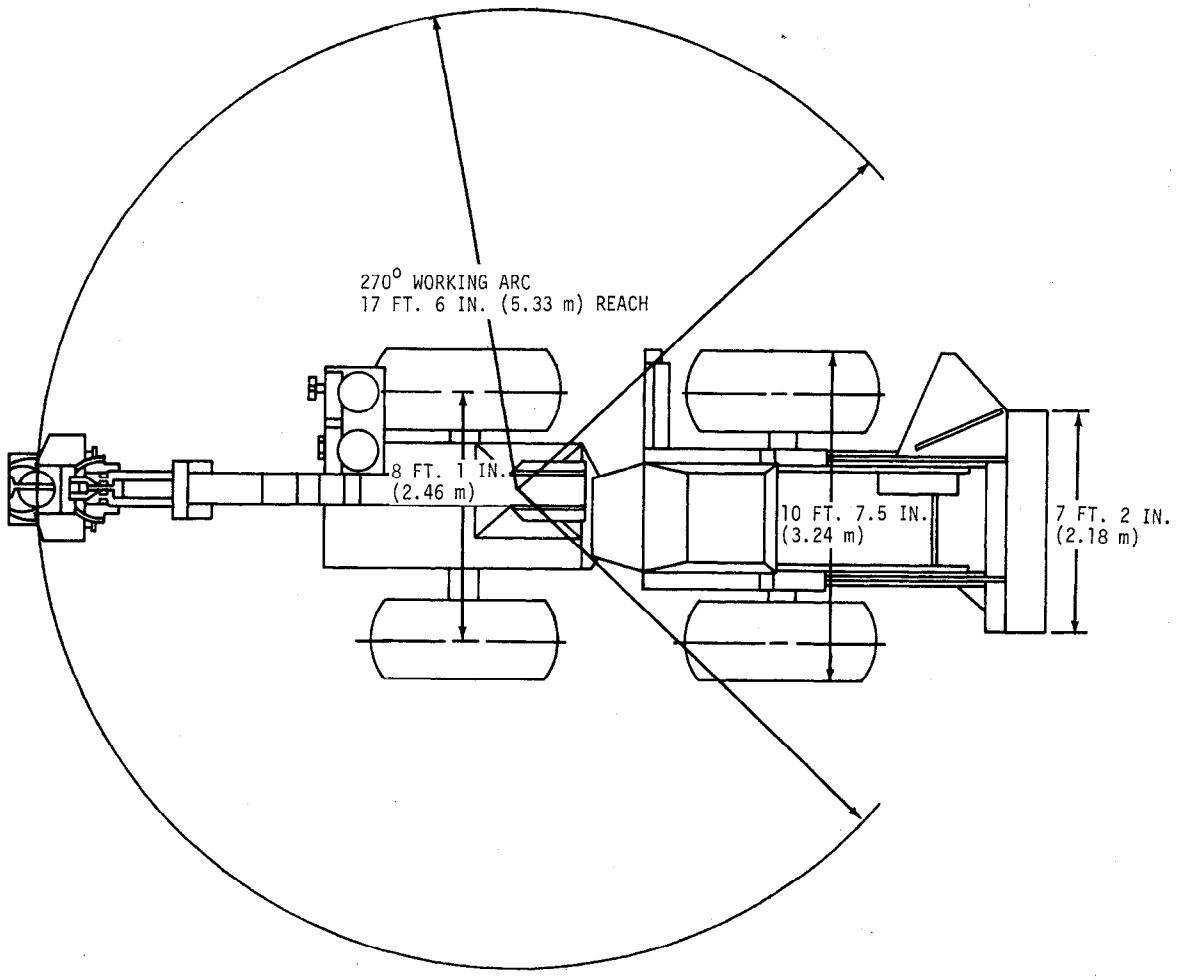


T50646N

FELLER-BUNCHER

(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 30.5-32, 12 ply rating logging tires and standard equipment.)

Power (at 2200 engine rpm):

	SAE	DIN
Gross	167 hp (124.6 kW)	
Net	152 hp (113.3 kW)	154 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. altitude and 85°F temperature, and DIN 70 020 conditions (non-corrected). No derating is required up to 10,000 ft. (3000 m) altitude.

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

Bore and stroke ..... 4.56×4.75 in. (116×121 mm)
Piston displacement ..... 466 cu. in. (7.638 L)
Compression ratio ..... 15.5 to 1
Maximum torque
@ 1200 rpm ..... 507 lb-ft (687 N·m) (70.1 kg-m)
NACC or AMA (U.S. Tax) horsepower 49.9
Lubrication ..... Pressure system w/full-flow filter
Cooling . Pressurized w/thermostat and fixed bypass
Fan ..... Suction
Air cleaner w/restriction indicator ..... Dry
Electrical system ..... 12 volt w/alternator
Batteries (2) ..... Reserve capacity: 360 minutes

Differentials:
Front and rear .. Full differentials with hydraulic lock

Engine Clutch Disconnect:
Hand-operated, spring-loaded, dry-disk. Single plate, 12.88 in. (327 mm).

Transmission:
Power Shift with planetary gears, hydraulically actuated wet-disk clutches and brakes; provides 8 speeds forward—4 reverse. Controlled by single lever. Pressurized lubrication.

Travel Speeds (2200 engine rpm, no tire slip):
Forward: 1.63 to 18.40 mph (2.62 to 29.61 km/h)
Reverse: 2.00 to 5.79 mph (3.22 to 9.32 km/h)

Drive Axles:
Four-wheel drive with inboard planetary gears on all axles. Rear axle oscillates 15 degrees above and below horizontal. 24.9 in. (632 mm) total travel at tire center line at narrowest tread. Oscillation is hydraulically locked when transmission is in neutral.

Brakes:
Service . . . Hydraulic power-actuated, pedal-controlled, wet-disk on 4 wheels.
Operating ..... Manually locked service brakes.
Parking ..... Foot-operated mechanical disk.

Power Steering:
Articulated frame hydraulically actuated by dual cylinders.
Turning radius ..... 18 ft. 10.7 in. (5.75 m)
Curb clearance circle
(w/o braking) ..... 40 ft. 5.5 in. (12.33 m)
Steering wheel rotation, max. left to
max. right ..... 3 turns

Hydraulic System:
Closed-center, constant pressure. Variable-displacement pump driven from crankshaft . . . 72 gpm (4.54 L/s), 2000 psi (13 790 kPa) (140.6 kg/cm²) @ 2200 engine rpm. Oil cooler included in system. Filtration: 10 micron.

Tires:
30.5-32, 12 ply rating, logging, steel-ply, LS-2
30.5-32, 12 ply rating, logging, steel-ply, dual bead, LS-2
30.5-32, 16 ply rating, logging, steel-ply, dual bead, LS-2

Ground pressure (4 in. [102 mm] penetration) 9.0 psi (62 kPa) (0.63 kg/cm²)

Cab:
ROPS and FOPS constructed. Steel with urethane sound-proofing. Windows are impact-resistant polycarbonate. Windshield has mar-resistant coating. Cab tilts forward 15 degrees for servicing.

Litho in U.S.A.

OPERATING INFORMATION

Boom:

Lift capacity at maximum reach . . 3200 lb. (1451 kg)
Swing speed . . . . . 30 deg. per second
Boom swing torque . . . 24,358 lb-ft (33 025 N·m) (3368 kg-m) at 2250 psi (15 514 kPa) (158.2 kg/cm²)
Maximum cutting radius . . . . . 17 ft. 6 in. (5.33 m)
Minimum cutting radius . . . . . 10 ft. (3 m)
Total cutting area . . . . . 625 sq. ft. (58.1 m²)
Cutting arc . . . . . 270 deg.

Hydraulic Cylinders:	Bore	Rod	Stroke
Main boom . . .	6.25 in. (158.5 mm)	3.25 in. (82.5 mm)	39.08 in. (992.5 mm)
Secondary boom	4.50 in. (114.5 mm)	2.50 in. (63.5 mm)	32.10 in. (815.5 mm)

Shear:

Maximum tree butt diameter . . . . . 18 in. (46 cm)
Blade thickness . . . . . 0.625 in. (16 mm)

Hydraulic Cylinders:	Bore	Rod	Stroke
Shear tilt	4.50 in. (114.5 mm)	2.25 in. (57.2 mm)	31.26 in. (794 mm)
Grapple clamps (2)	4.00 in. (101.5 mm)	1.75 in. (44.5 mm)	5.51 in. (140 mm)
Shear (double acting)	6.50 in. (165 mm)	2.50 in. (63.5 mm)	19.88 in. (505 mm)

Capacities:	U.S.	Imp.	Liters
Fuel tank	50 gal.	41.7 gal.	189.2
Cooling system	9 gal.	7.5 gal.	34.1
Engine lubrication, including filter	20 qt.	16.7 qt.	18.9
Transmission	12.2 gal.	10.2 gal.	46.2
Hydraulic reservoir	24 gal.	20 gal.	90.8
Front differential	26 qt.	21.7 qt.	24.6
Rear differential	26 qt.	21.7 qt.	24.6

SAE Operating Weight . . . . . 36,900 lb. (16 750 kg)

Additional Standard Equipment:

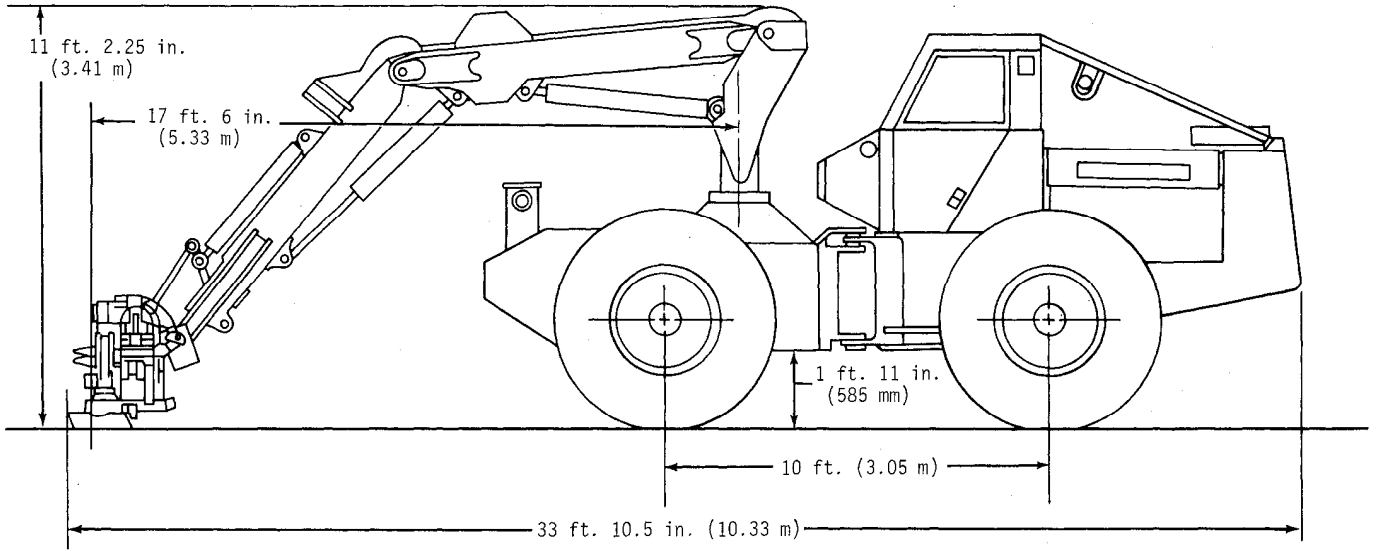
Bottom guards
Cab with ROPS, heater, air conditioner, and protective windows
Cigar lighter
Cushion seat with position adjustment and seat belt
Engine side shields
Cold weather starting aid
Fire extinguisher
Gauges:
- Electric hour meter
- Engine coolant temperature
- Engine oil pressure
- Fuel
- Voltmeter

Hand and foot throttle
Heavy-duty starter
Frame locking bar
Horn
Hydraulic oil warmup switch
Hydraulic pump discharge filter
Indicator lights:
- Hydraulic oil sump level
- Hydraulic oil temperature
- Transmission oil temperature
- Transmission oil pressure

Key switch with pushbutton safety start
Lights
Muffler with rain deflector and protective guard
Parking brake
Transistorized voltage regulator
Vandal protection
Windshield wiper and washer

Special Equipment:

3 in. (76 mm) seat belt
Automatic fire suppression system
Multi-stem shear
Radio
Steering accumulator



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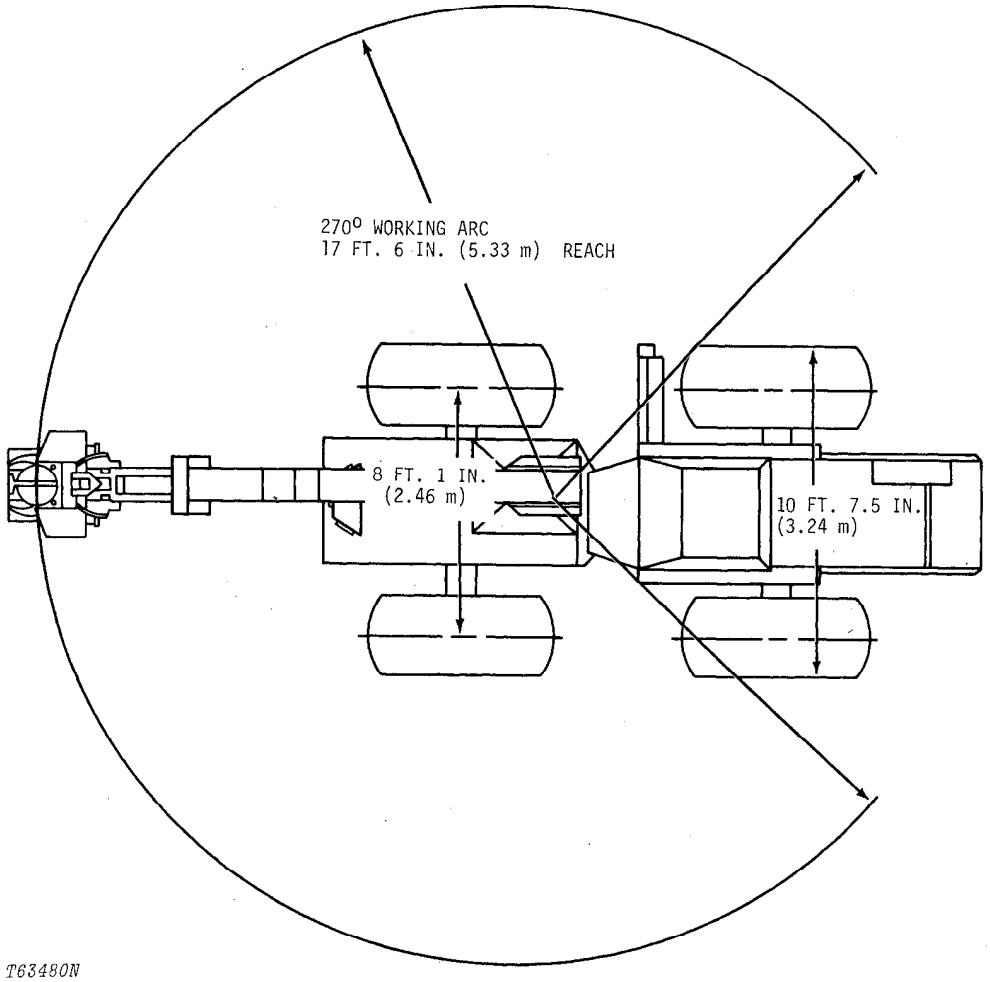

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Group IV
PREDELIVERY, DELIVERY, AND AFTER-SALE SERVICES

TEMPORARY STORAGE

After receiving your tree harvester or feller-buncher from the factory and before putting tree harvester or feller-buncher into temporary storage, perform following checks.

1. Check battery electrolyte level and charge batteries, if necessary.

2. Check coolant level in radiator. Coolant should be maintained at a level midway between radiator core and filler neck.

3. Check crankcase oil level. Oil should be between marks on dipstick after machine has been shut down for 10 minutes.

4. Relieve hydraulic pressure by stopping engine, lowering boom and tree support blade and operating boom and tree support blade control levers until system fails to respond.

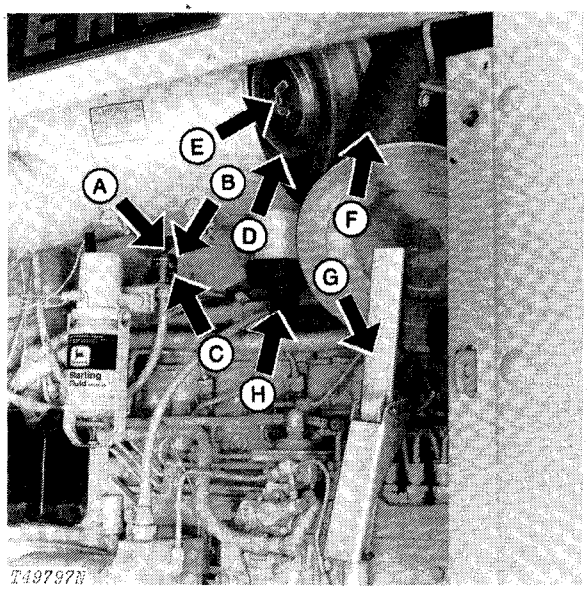
PREDELIVERY SERVICE

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

If adjustments are required, procedures are found in after-sale section.

Use following list when preparing a tree harvester or feller-buncher for delivery to customer.

1. Air Cleaner



A—Reset Button
B—Restriction Indicator
C—Red Signal
D—Safety Element
E—Wing Nut
F—Primary Element
G—Lever
H—Unloader Valve

Fig. 1-Air Cleaner Components

Check air filter 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. Air Intake Hose

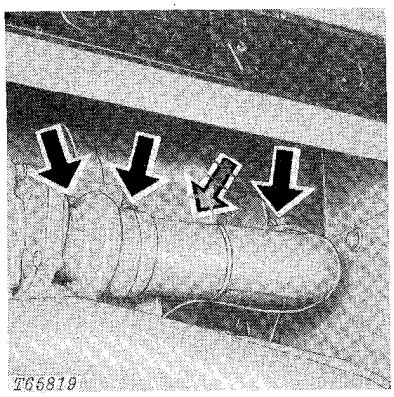


Fig. 2-Hose Clamps

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

Air intake hose checked	*Yes*	*No*
Loose connections	*Yes*	*No*

3. Radiator

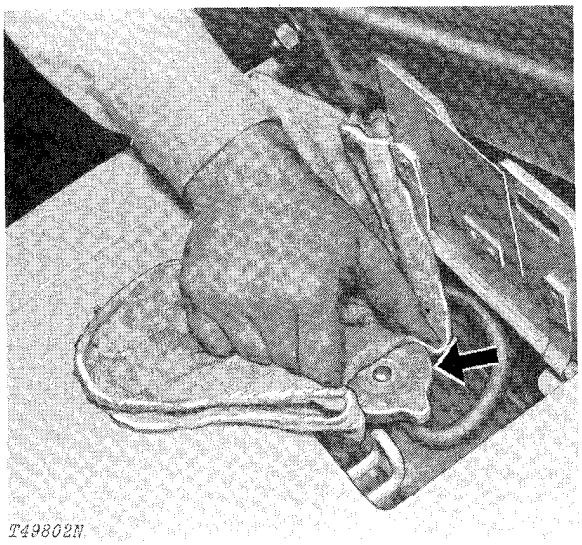


Fig. 3-Radiator Filler Cap

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

Check coolant level in radiator. Coolant should be maintained at a level midway between radiator core and filler neck.

The antifreeze-water ratio is approximately 50 percent each. This protects to at least −34°F (−37°C).

Radiator coolant level checked	*Yes*	*No*

4. Batteries

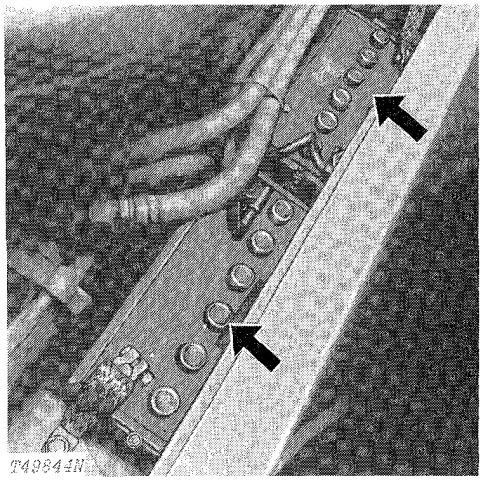


Fig. 4-Batteries

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

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

Check battery connections.

Punch date code on battery.

Water added	*Yes*	*No*
Battery connections checked	*Yes*	*No*

5. Tire Pressure

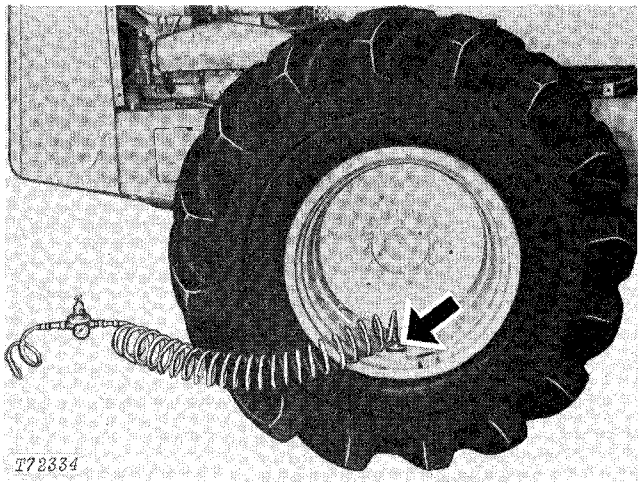


Fig. 5-Correct Tire Filling Procedure

Check air pressure in tires with an accurate gauge having 7 kPa (0.07 bar) 1 psi graduations.

Tire Size	Type	Ply Rating	Operating Pressure
30.5-32	LS-2	12	165 kPa (1.65 bar) (24 psi)
30.5-32	LS-2	16	172 kPa (1.7 bar) (25 psi)
30.5-32*	LS-2	16	172 kPa (1.7 bar) (25 psi)

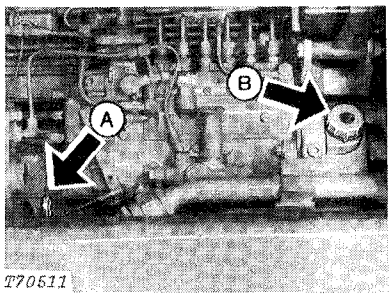
**Kevlar Ply (Canada only)*

CAUTION: Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious bodily injury. DO NOT attempt to mount a tire unless you have proper equipment and experience to perform job safely.

Detailed tire mounting instructions, including necessary safety precautions are contained in John Deere Fundamentals of Service (FOS) Manual 55, **Tires and Tracks.**

Tire pressure checked *Yes* *No*

6. Crankcase Oil Level



A—Dipstick **B—Oil Filler Cap**

Fig. 6-Crankcase Oil Level

Check crankcase oil level with tree harvester or feller-buncher on level ground. (Allow a minimum of 10 minutes for oil to drain down before checking.) If oil level is at or below bottom mark on dipstick, add oil specified on page I-V-2 to bring oil level to between marks on dipstick. Do not operate engine with oil level below bottom mark.

Crankcase oil level checked *Yes* *No*

Oil added, if any _____ *qts (L)*

7. Transmission Oil Level

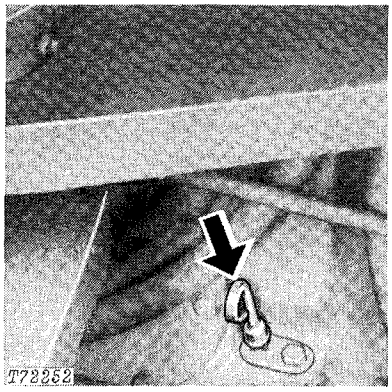


Fig. 7-Dipstick

Check transmission oil level with tree harvester or feller-buncher on level ground and engine off. (Allow a minimum of five minutes for oil to drain down before checking.)

If oil level is at or below bottom mark on dipstick, add oil specified on page I-V-2 to bring oil level to between marks on dipstick. Do not operate with oil level below bottom mark or above top mark.

Transmission oil level checked *Yes* *No*

Oil added, if any _____*qts (L)*

8. Hydraulic System Oil Level

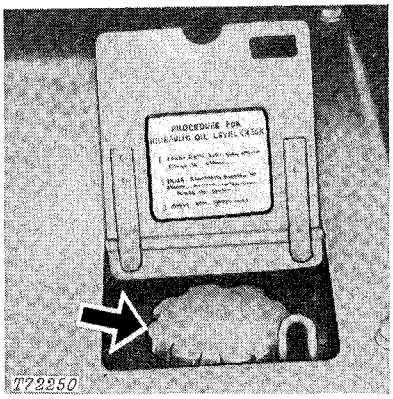


Fig. 8-Filler Cap

Check oil level with:

1 - Machine articulated to the right;
2 - Tree support blade lowered;
3 - Shear closed;
4 - Grapple tongs closed;
5 - Delimber knives closed;
6 - Feed rolls opened;
7 - Shear extended off left-hand front corner of equipment frame with shear upright on ground and secondary boom cylinder fully extended.

Check oil level as follows:

1 - Stop engine. Look at sight glass on reservoir tank. If oil does not cover entire sight glass, proceed to step #2.
2 - Check oil level on bayonet gauge in hydraulic reservoir tank. Oil level should be to FULL mark on bayonet gauge while resting on top of strainer located beneath filler cap.
3 - If oil level is low, add oil specified on page I-V-2.

Oil level checked *Yes* *No*

Oil added, if any _____*qts (L)*

9. Delimber Gearboxes Oil Level

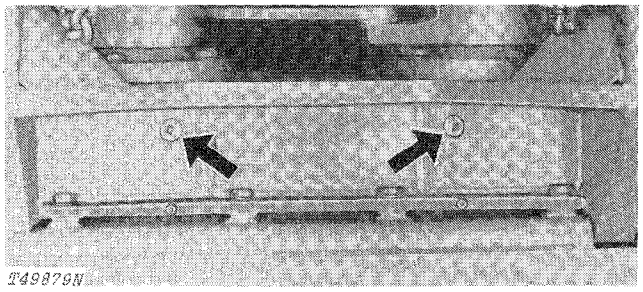


Fig. 9-Check and Fill Plugs

Remove plugs to check oil level in delimb gear boxes. Oil level should be to filler holes.

If oil level is low, add oil specified on page I-IV-2.

Delimber gearboxes oil level checked *Yes* *No*

Oil added, if any _____*qts (L)*

10. Delimber Final Drives Oil Level

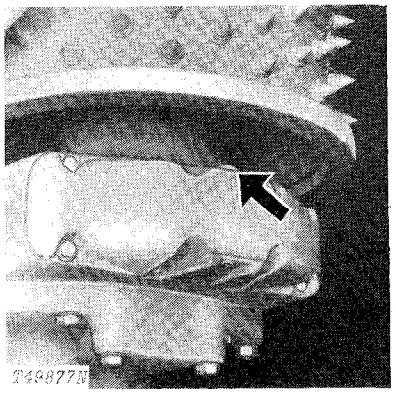


Fig. 10-Left Check and Fill Plug

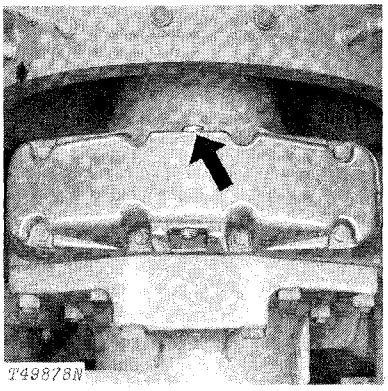


Fig. 11-Right Check and Fill Plug

Remove plugs to check oil level in delimber final drives. Oil level should be to filler holes.

If oil level is low, add oil specified on page I-V-2.

Delimber final drives oil level checked *Yes* *No*

Oil added, if any _____*qts (L)*

11. Differential Housings Oil Level

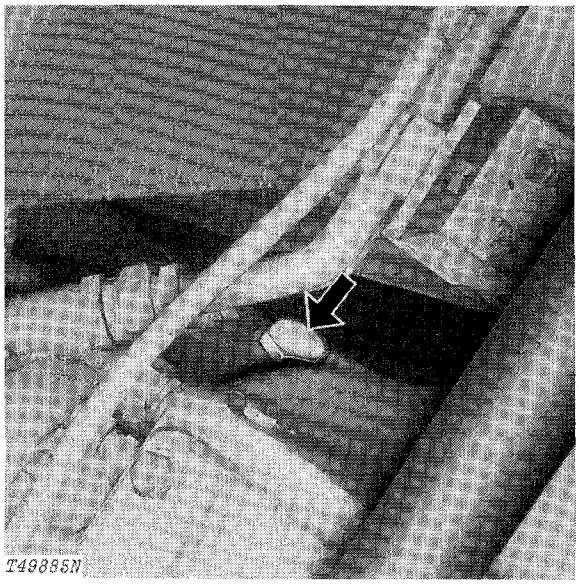


Fig. 12-Front Differential Oil Level and Fill Plug

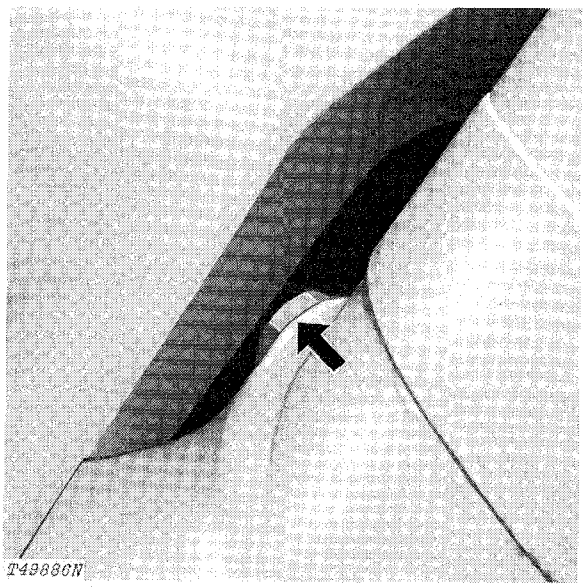


Fig. 13-Rear Differential Oil Level and Fill Plug

Check oil level in front and rear differential housings. If oil level is low, add oil specified on page I-V-2.

Differential housings oil levels checked *Yes* *No*

Oil added, if any _____*qts (L)*

12. Fuel Filters

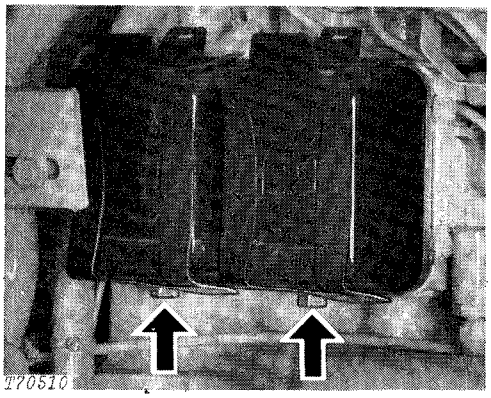


Fig. 14-Drain Plugs

Check fuel filter for sediment. If necessary, drain as follows:

1 - Loosen drain plugs.
2 - Allow all fuel to drain from filters.
3 - Tighten drain plugs.
4 - Drain fuel tank sump if water is present in fuel filters (see page I-IV-7).
5 - Bleed fuel system (see page I-IV-33).

Sediment present in filter *Yes* *No*

13. Fuel Transfer Pump Sediment Bowl

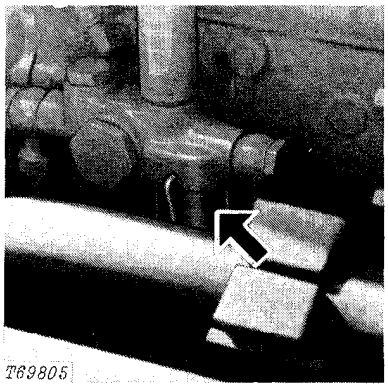
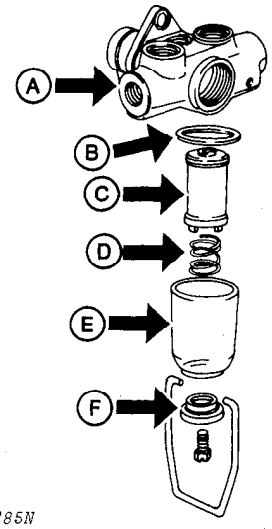


Fig. 15-Filter Screen



A—Housing
B—Gasket
C—Filter
D—Spring
E—Filter Housing
F—Clamping Nut

Fig. 16-Fuel Transfer Pump Sediment Bowl Components

1 - Loosen clamping nut (F, Fig. 16) holding filter housing (E).
2 - Remove filter housing, spring (D), filter (C), and gasket (B).
3 - Clean filter. Replace if necessary.
4 - Install gasket, filter, spring, and filter housing.
5 - Tighten clamping nut tight.
6 - Bleed fuel system (see page I-IV-33).

Fuel transfer pump filter checked *Yes* *No*

Fuel transfer pump filter cleaned *Yes* *No*

14. Fuel Tank Filler Screen

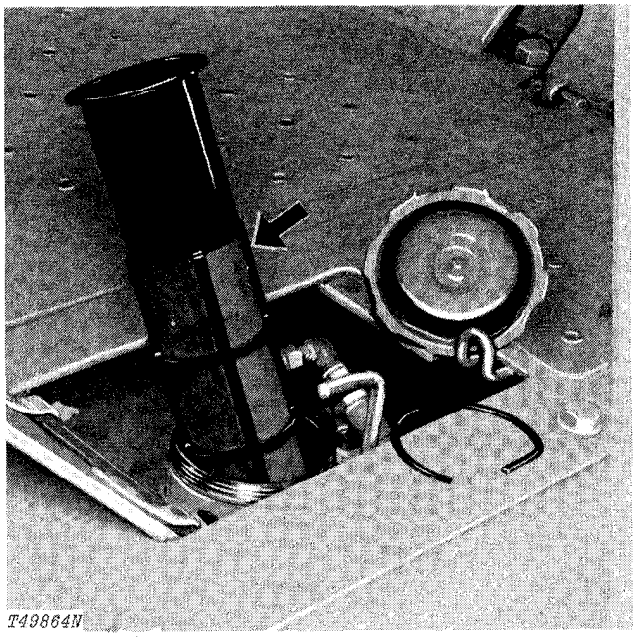


Fig. 17-Filler Screen

To clean screen:

1 - Remove fuel tank cap.
2 - Remove screen.
3 - Clean screen with diesel fuel.
4 - Install screen.
5 - Install fuel tank cap.

Fuel tank filler screen checked *Yes* *No*

Fuel tank filler screen cleaned *Yes* *No*

15. Fuel Tank Sump

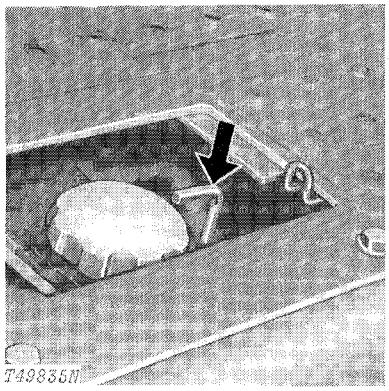


Fig. 18-Drain Handle

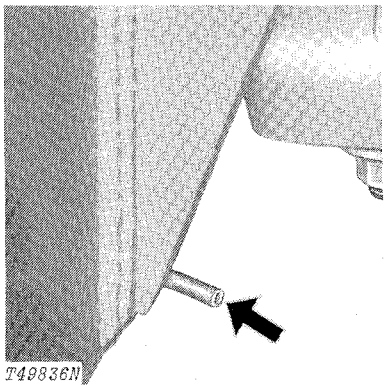


Fig. 19-Sump Drain

Drain fuel tank sump as follows:

1 - Open sump drain valve by turning sump drain handle 90° to the right (clockwise).
2 - Drain for 3 seconds.
3 - Turn sump drain handle back (counterclockwise) to close sump drain valve.

Fuel tank sump checked	*Yes*	*No*
Fuel tank sump drained	*Yes*	*No*

16. Alternator-Fan-Compressor Belt Tension

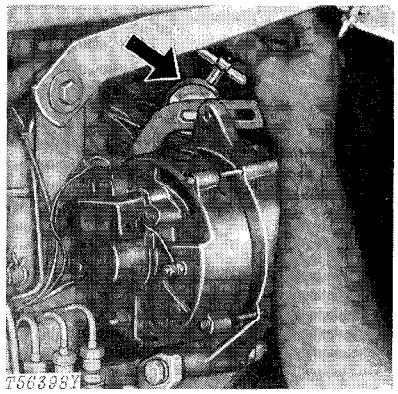


Fig. 20-Tension Tester Gauge

Check alternator belt tension. If tension tester gauge is used, a force of 76 N (17 lb.) midway between pulleys should deflect belt 1/4-inch (6 mm).

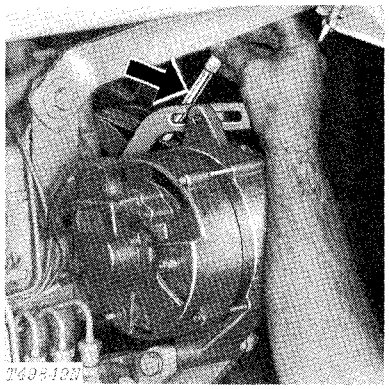


Fig. 21-Strand Tension Gauge

If strand tension gauge is used, it should read 400 N (90 lb. force) strand tension.

If adjustment is required, see page I-IV-34.

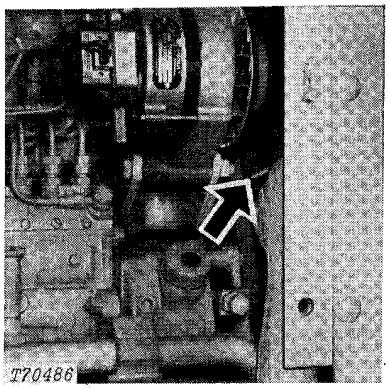


Fig. 22-Tension Tester Gauge

Check fan belt tension. If tension tester gauge is used, a force of 111 N (25 lb.) midway between pulleys should deflect belts 3/4-inch (19 mm).

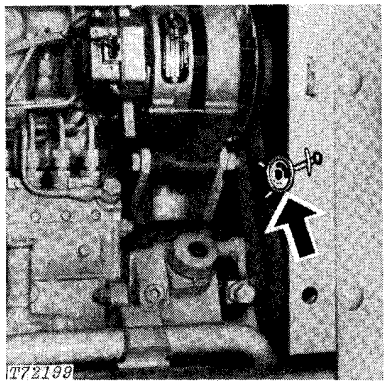


Fig. 23-Strand Tension Gauge

If strand tension gauge is used, it should read 400 N (90 lb. force) strand tension.

If adjustment is required, see page I-IV-35.

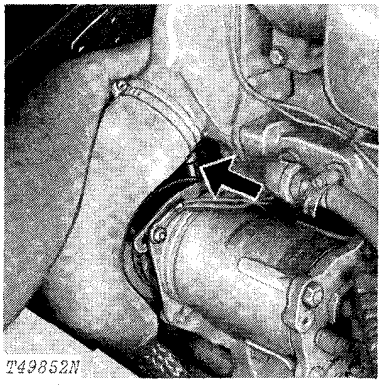


Fig. 24-Tension Tester Gauge

Check compressor belt tension. If tension tester gauge is used, a force of 67 N (15 lb.) midway between pulleys should deflect belt 1/4 inch (6 mm).

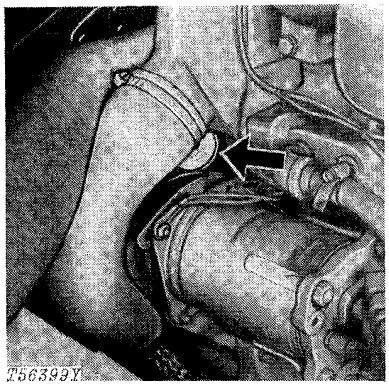


Fig. 25-Strand Tension Gauge

If strand tension gauge is used, it should read 400 N (90 lb. force) strand tension.

If adjustment is required, see page I-IV-35.

Alternator belt tension	_____*N (lb. force) tension*
	_____*inch (mm) flex*
Fan belt tension	_____*N (lb. force) tension*
	_____*inch (mm) flex*
Compressor belt tension	_____*N (lb. force) tension*
	_____*inch (mm) flex*

17. Grease Fittings

The tree harvester or feller-buncher was checked and lubricated before it left the factory. However, to insure customer satisfaction, check each lubrication point shown on following pages. Lubricate with several strokes of John Deere Multi-Purpose Grease or equivalent, if necessary.

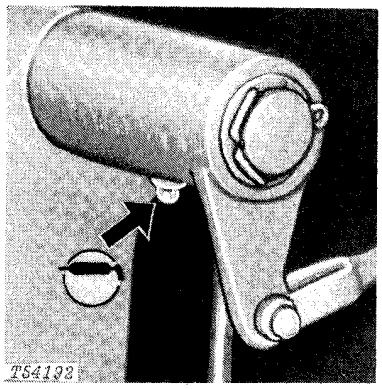


Fig. 26-Parking Brake Bell Crank (1 Point)

Lubricant required	*Yes*	*No*

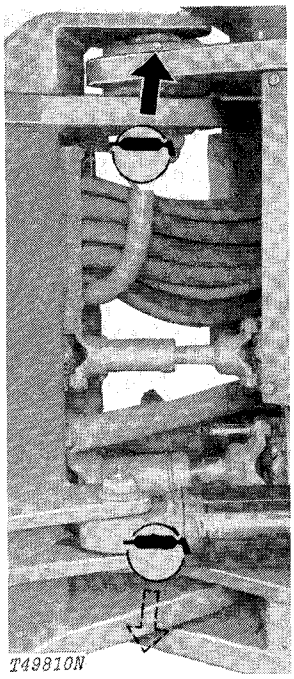


Fig. 27-Frame Hinge Pivots (2 Points)

Lubricant required Yes No

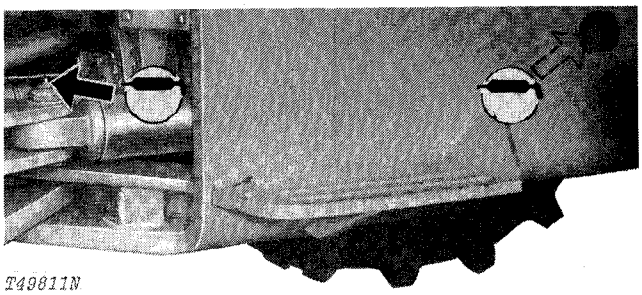


Fig. 28-Steering Cylinder Pivot Pins (4 Points)

Lubricant required Yes No

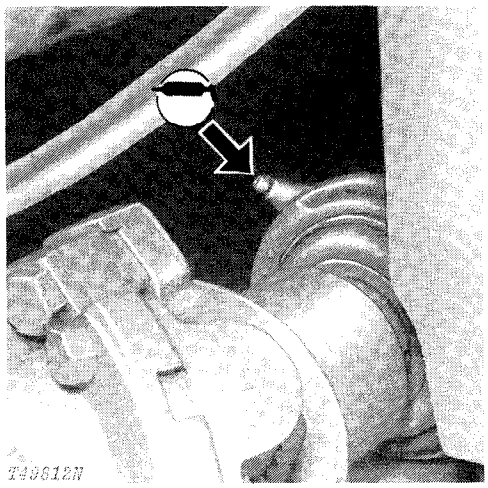


Fig. 29-Lower Drive Shaft Support Bearing (1 Point)

Lubricant required Yes No

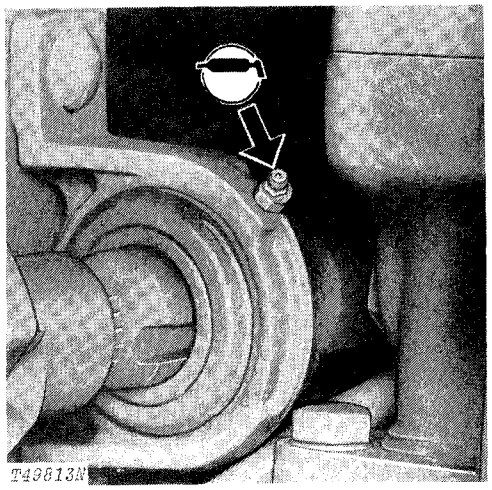


Fig. 30-Delimber Transmission Drive Shaft Support Bearing (1 Point)

Lubricant required Yes No

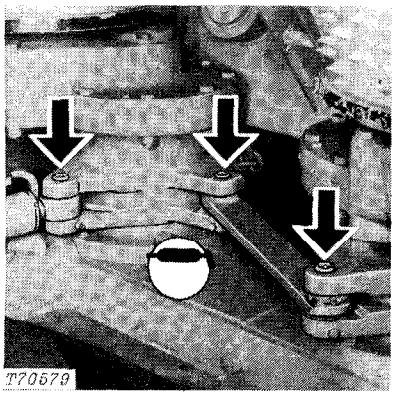


Fig. 31-Feed Roll Cylinder Rod End Pivot and Feed Roll Crosslink (3 Points)

Lubricant required Yes No

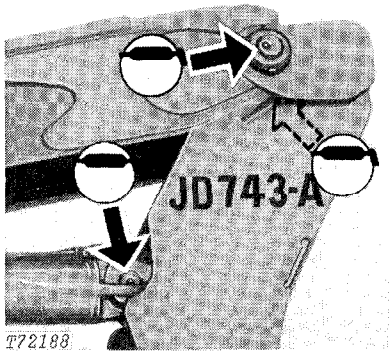


Fig. 32-Booms and Mast (3 Points)

Lubricant required Yes No

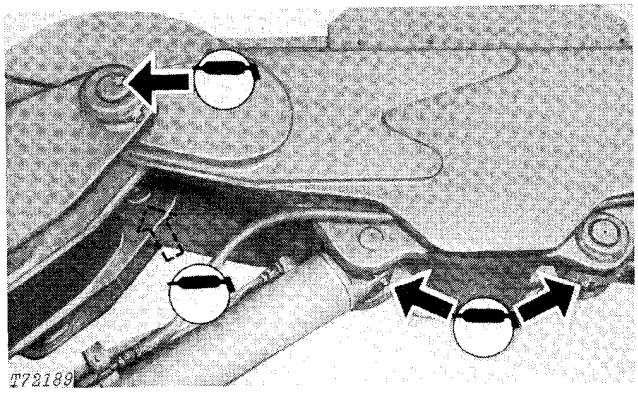


Fig. 33-Booms (4 Points)

Lubricant required Yes No

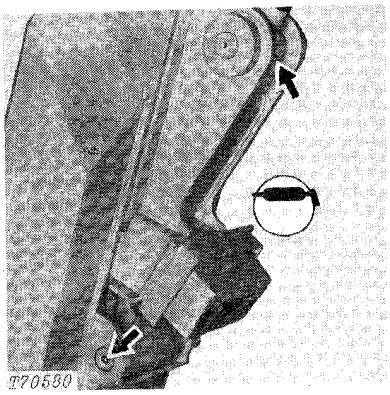


Fig. 34-Secondary Boom Cylinder Rod End and Tilt Linkage (2 Points)

Lubricant required Yes No

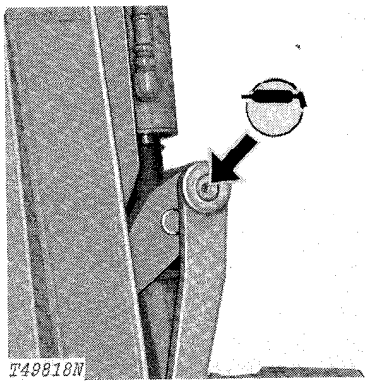


Fig. 35-Tilt Linkage (1 Point)

Lubricant required Yes No

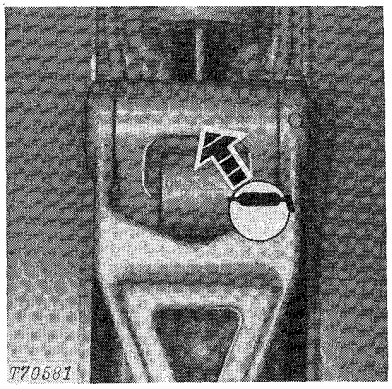


Fig. 36-Tilt Cylinder Rod End (1 Point)

Lubricant required Yes No

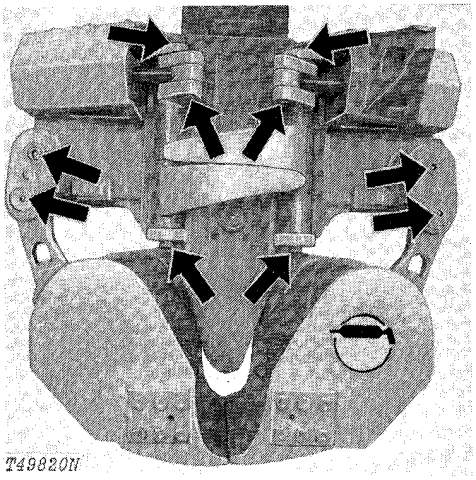


Fig. 37-Tree Shear (10 Points) Standard Grapple Tongs

Lubricant required Yes No

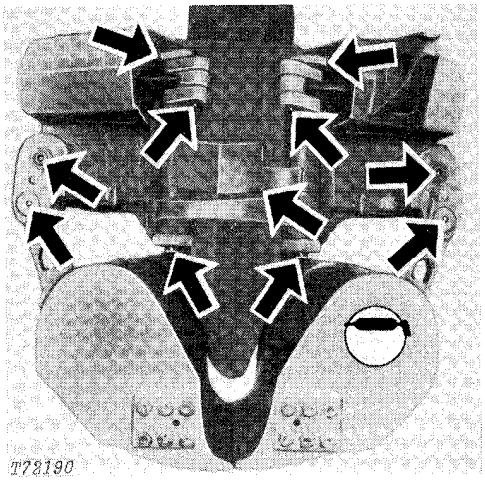


Fig. 38-Tree Shear (11 Points) Multi-Stem Grapple Tongs

Lubricant required Yes No

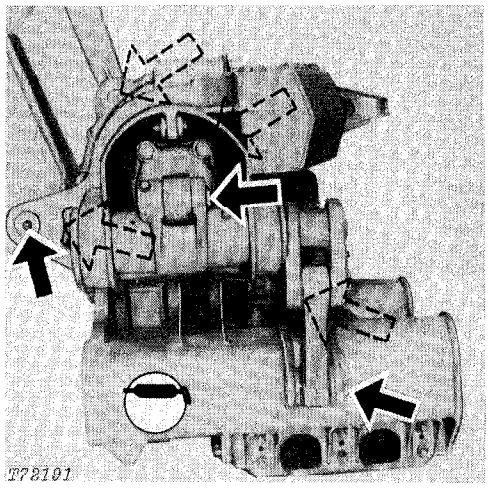


Fig. 39-Tree Shear (7 Points)

Lubricant required Yes No

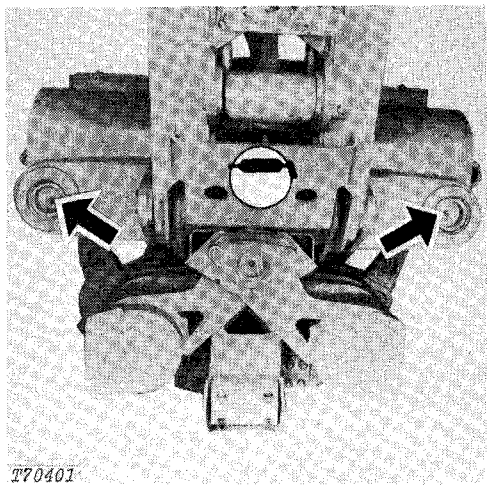


Fig. 40-Tree Shear (2 Points)

Lubricant required Yes No

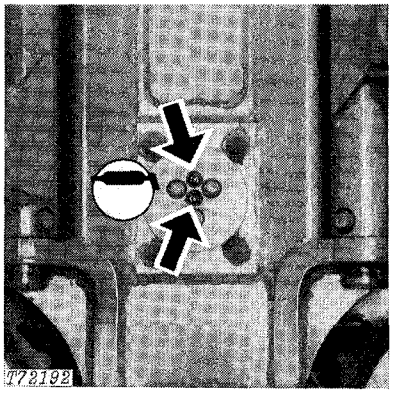


Fig. 41-Shear Blade Pivot Shaft (Front) (2 Points)

Lubricant required Yes No

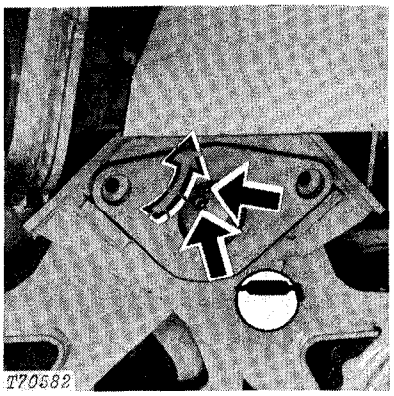


Fig. 42-Shear Blade Pivot Shaft (Rear) (3 Points)

Lubricant required Yes No

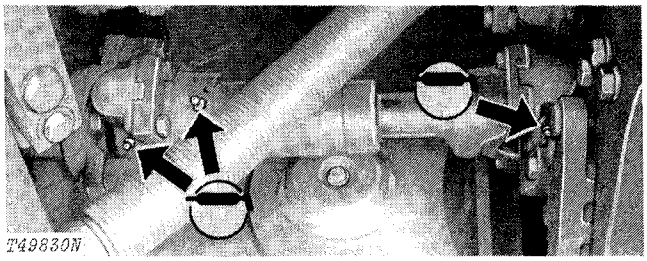


Fig. 43-Lower Telescoping Universal Joints (3 Points)

Lubricant required Yes No

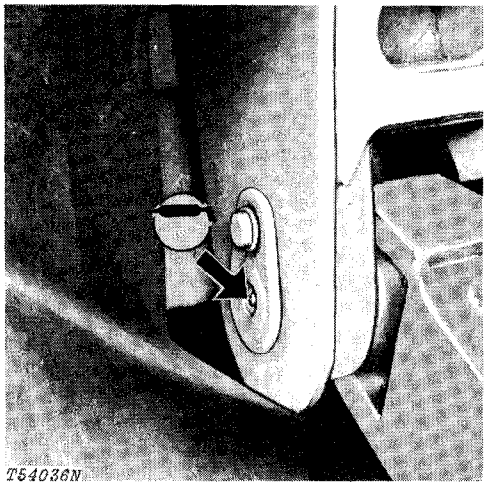


Fig. 44-Rear Tree Support Blade Pivots (2 Points)

Lubricant required Yes No

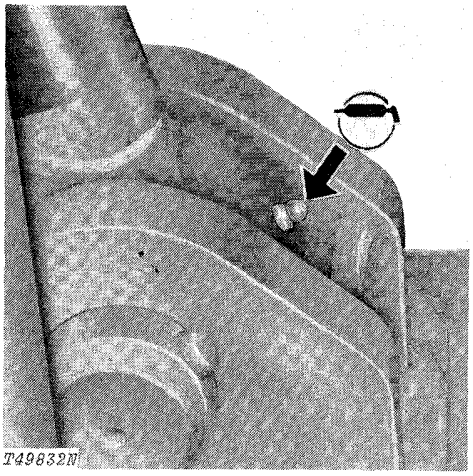


Fig. 45-Axle Stabilizer Cylinder (1 Point)

Lubricant required Yes No

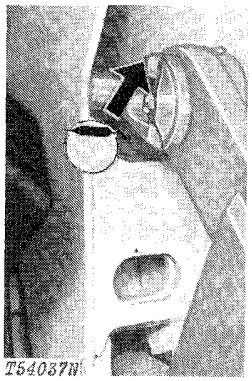


Fig. 46-Tree Support Blade Cylinder (1 Point)

Lubricant required Yes No

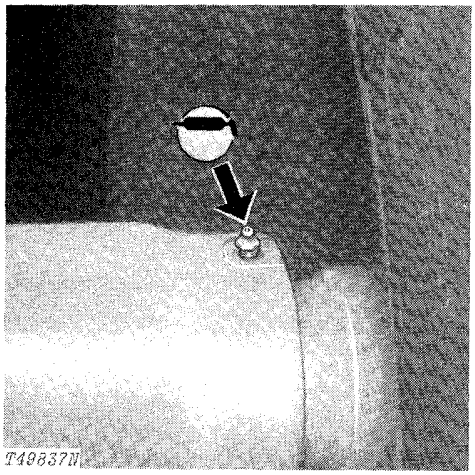


Fig. 47-Axle Bearings (4 Points)

Use John Deere High-Temperature Grease or equivalent.

Lubricant required Yes No

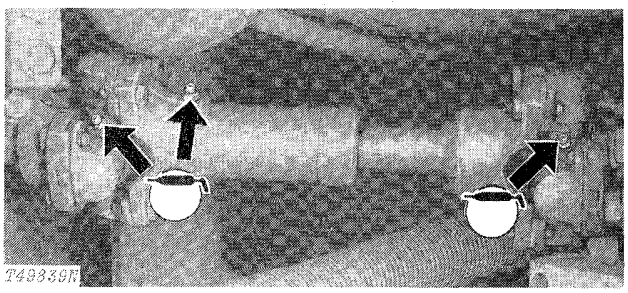
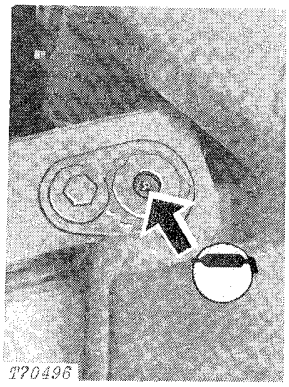
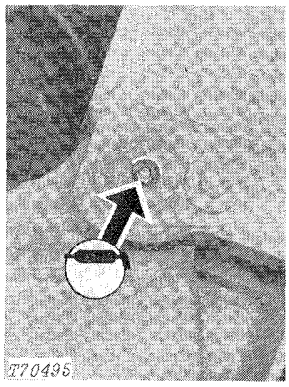


Fig. 48-Delimber Drive Line (3 Points)

Lubricant required Yes No





Left Right

Fig. 49-Delimber Carriage Pivot Pins (2 Points)

Lubricant required Yes No

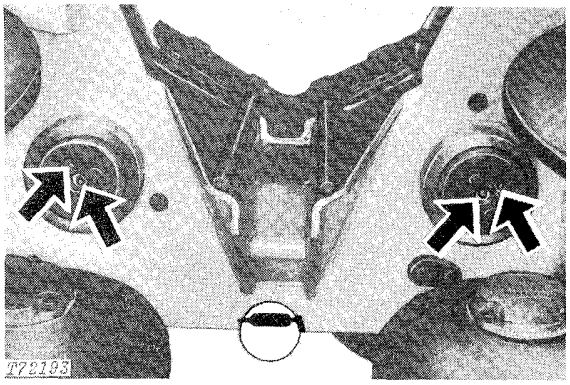


Fig. 50-Knife Bushings (4 Points)

Lubricant required Yes No

Litho in U.S.A.

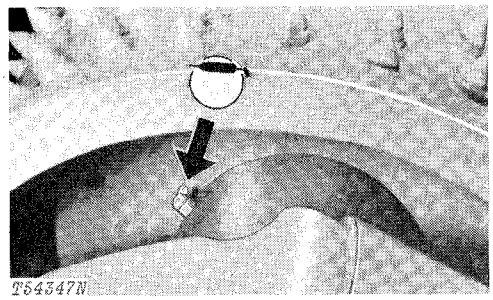


Fig. 51-Feed Roll Final Drive Shaft Upper Bearing (2 Points) (Right Side Shown)

Lubricant required *Yes* *No*

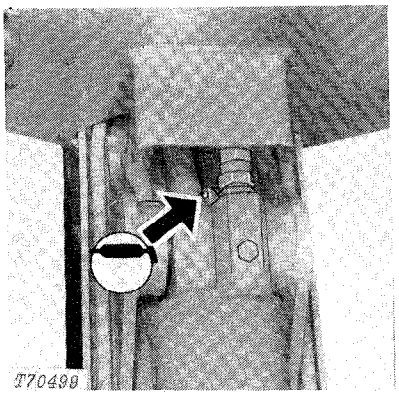
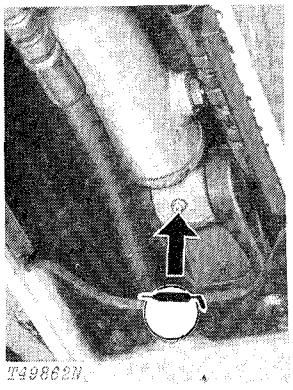
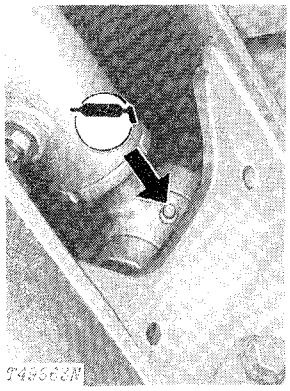


Fig. 52-Tilt Cylinder Head End (1 Point)

Lubricant required *Yes* *No*





Left *Right*

Fig. 53-Delimb Cylinders (2 Points)

Lubricant required *Yes* *No*

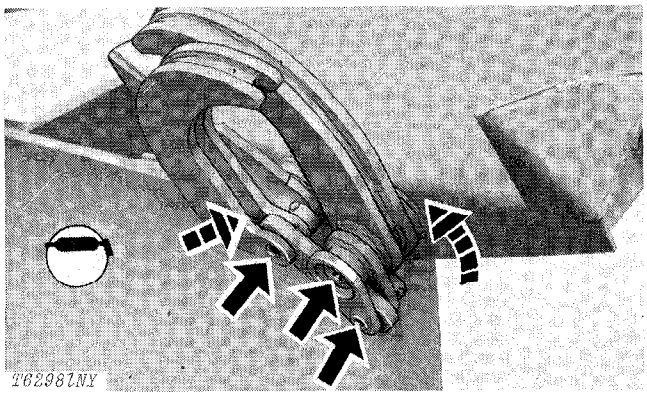


Fig. 54-Log Accumulator (5 Points)

Lubricant required *Yes* *No*

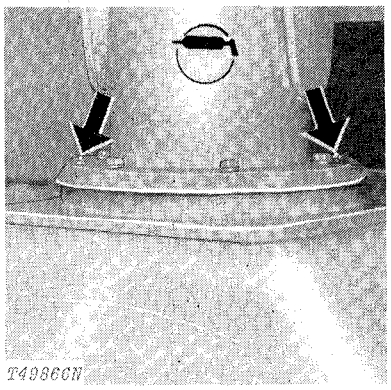


Fig. 55-Upper Swing Bearing (2 Points)

Lubricant required *Yes* *No*

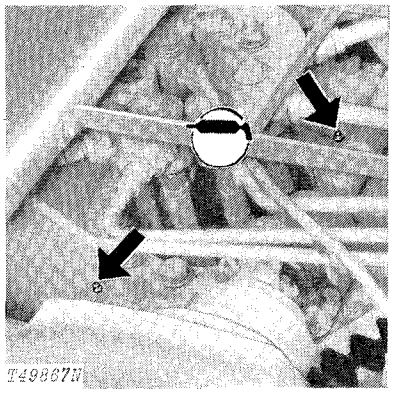


Fig. 56-Lower Swing Bearing (2 Points)

Lubricant required *Yes* *No*

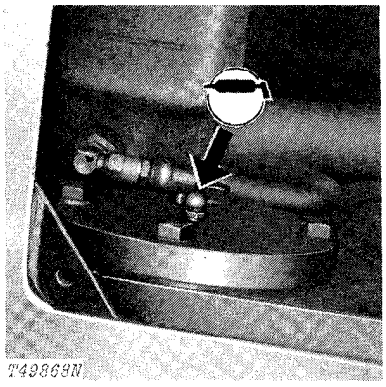


Fig. 57-Upper Cluster Gear Shaft Bearing (1 Point)

Lubricant required Yes No

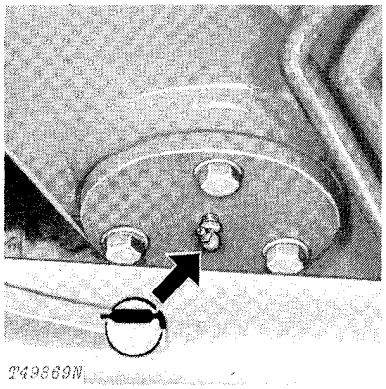


Fig. 58-Lower Cluster Gear Shaft Bearing (1 Point)

Lubricant Required Yes No

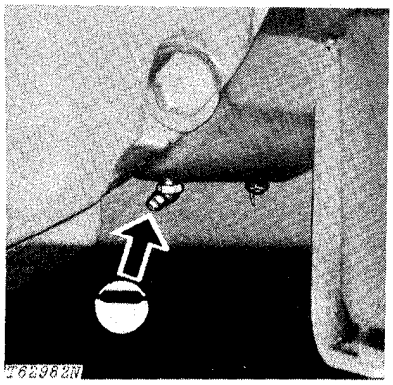


Fig. 59-Rear Axle Pivot Pin (Rear) (1 Point)

Lubricant required Yes No

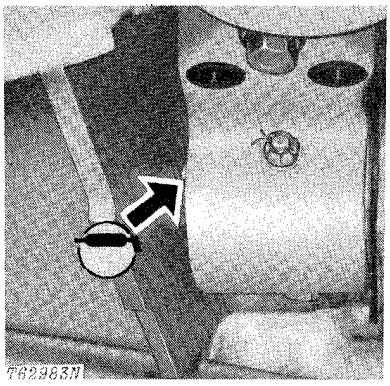


Fig. 60-Rear Axle Pivot Pin (Front) (1 Point)

Lubricant required Yes No

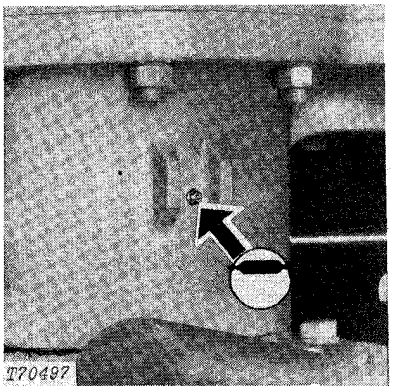


Fig. 61-Left Feed Roll Final Drive Main Housing Pivot (1 Point)

Lubricant required Yes No

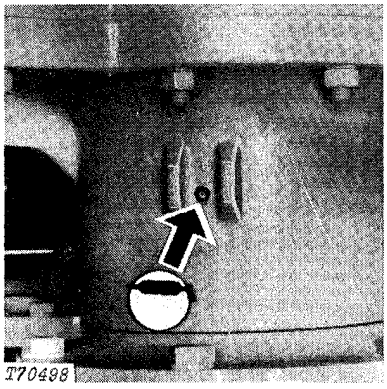


Fig. 62-Right Feed Roll Final Drive Main Housing Pivot (1 Point)

Lubricant required Yes No

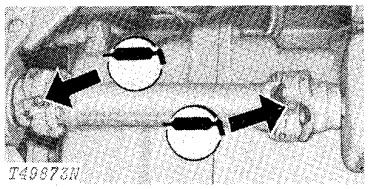


Fig. 63-Rear Axle Universal Joints (2 Points)

Lubricant required *Yes* *No*

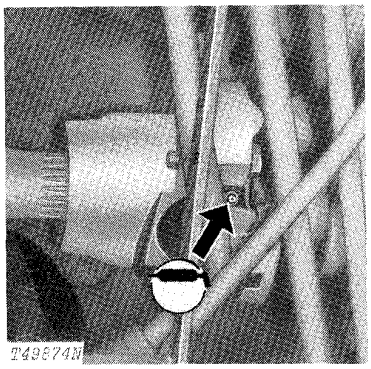


Fig. 64-Front Axle Universal Joint (1 Point)

Lubricant required *Yes* *No*

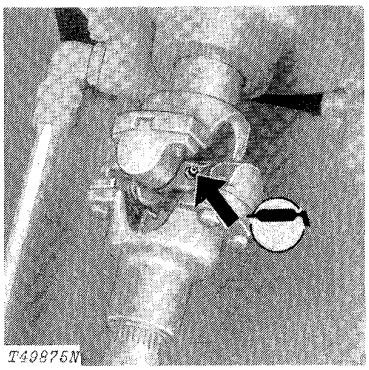


Fig. 65-Delimb Drive Universal Joint (1 Point)

Lubricant required *Yes* *No*

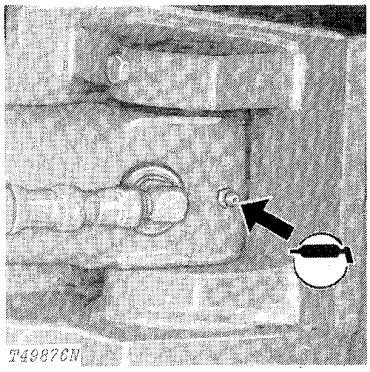


Fig. 66-Feed Roll Cylinder Head End (1 Point)

Lubricant required *Yes* *No*

Fig. 67-Engine-to-Transmission Universal Joint (Transmission End) (1 Point)

Lubricant required *Yes* *No*

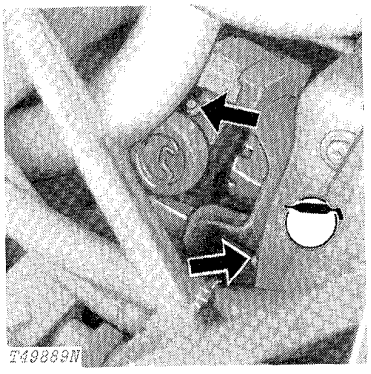


Fig. 68-Engine-to-Transmission Universal Joint (Engine End) and Engine Disconnect Clutch Bearing (2 Points)

Lubricant required *Yes* *No*

18. Engine Speeds

Warm up engine and attach a tachometer in engine rotation tool hole to check engine speeds.

No load, fast idle speed should be 2350 rpm. Slow idle should be 800 rpm.

If engine speeds need adjustment, see page I-IV-44.

Engine speeds checked *Yes* *No*

19. Indicator Lights and Gauges

When operating tree harvester or feller-buncher, check following gauges and indicator lights for correct operation.

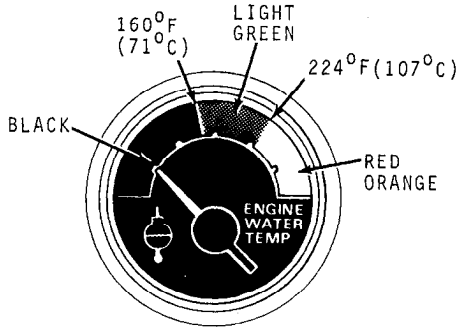


Fig. 69-Engine Coolant Temperature Gauge

Normal operating range is indicated by light green area on gauge face. Check cooling system if indicator hand goes into red-orange zone.

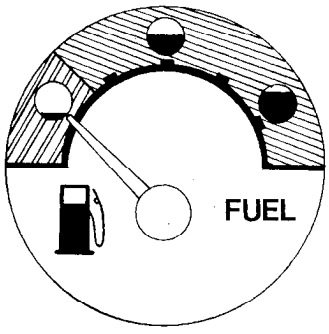


Fig. 70-Fuel Gauge

The fuel gauge indicates amount of fuel remaining in fuel tank.

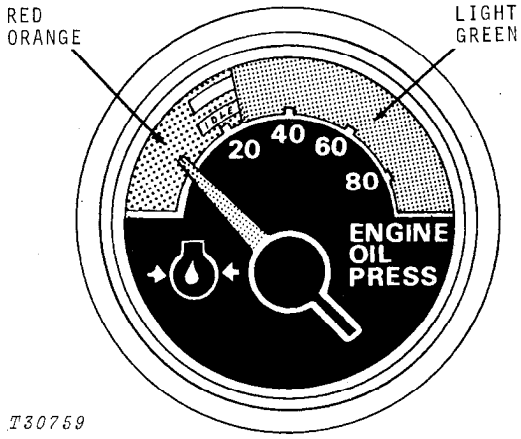


Fig. 71-Engine Oil Pressure Gauge

Normal operating range is indicated by green zone on gauge face.

If engine oil pressure indicator hand is not in green zone, stop engine and check oil level.

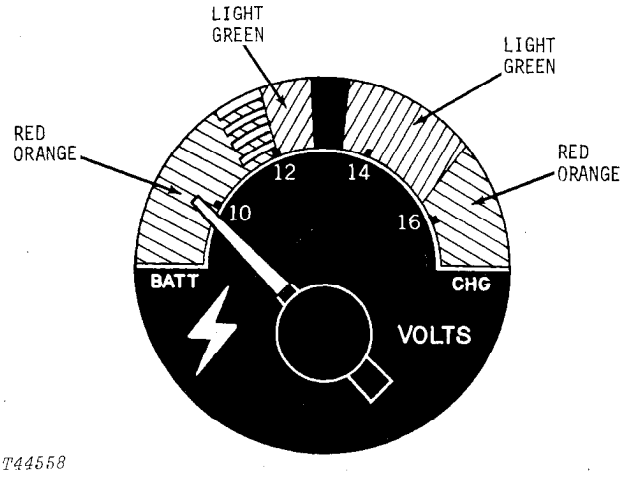


Fig. 72-Voltmeter

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

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

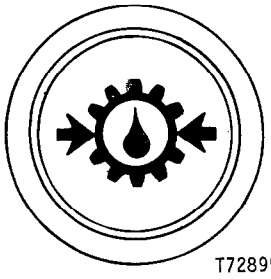


Fig. 73-Transmission Oil Pressure Indicator Light

When engine is running, transmission oil pressure indicator light should go out. If light glows while engine is running, stop engine and check transmission oil level or for restricted filter.

NOTE: Light should glow, if operative, with key switch in start position and engine off.

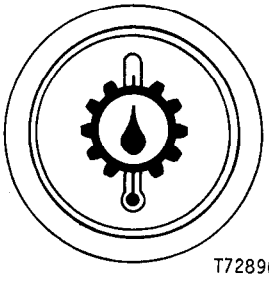


Fig. 74-Transmission Oil Temperature Indicator Light

When engine is running, transmission oil temperature indicator light should go out. If light glows while engine is running, stop engine and check transmission oil level or for restricted filter.

NOTE: Light should glow, if operative, with key switch in start position and engine off.

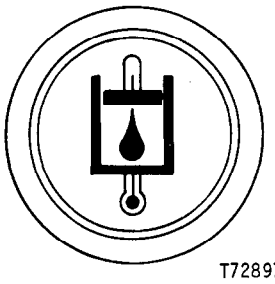


Fig. 75-Hydraulic Oil Temperature Indicator Light

When engine is running, hydraulic oil temperature indicator light should go out. If light glows when engine is running, stop engine and check hydraulic oil level for restricted filters.

NOTE: Light should glow, if operative, with key switch in start position and engine off.

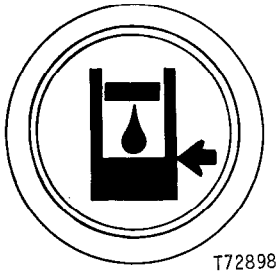


Fig. 76-Hydraulic Oil Level Indicator Light

When engine is running, hydraulic oil level indicator light should go out. If light glows while engine is running, stop engine and check hydraulic oil level.

NOTE: Light should glow, if operative, with key switch in start position and engine off.

Indicator lights and gauges operational *Yes* *No*

20. Transmission Shifting

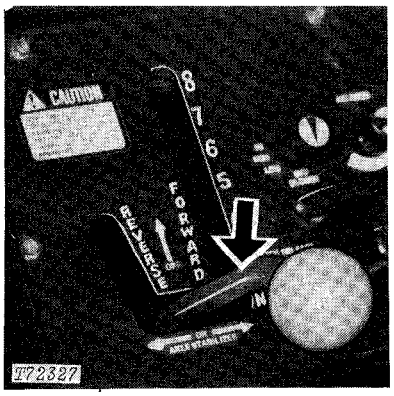


Fig. 77-Transmission Control Lever

Check operation of tree harvester or feller-buncher in all gears.

Transmission checked *Yes* *No*

21. Axle Stabilizer Operation

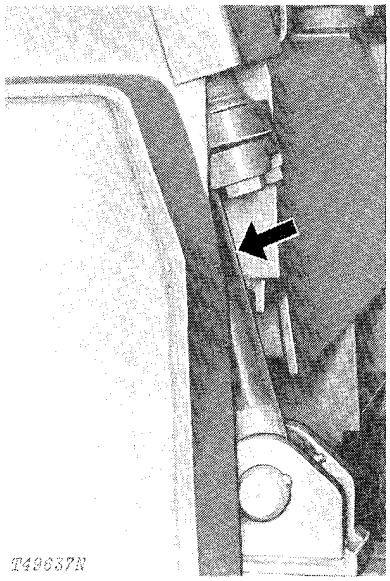


Fig. 78-Axle Stabilizer Cylinder

Check operation of axle stabilizer for stability of rear axle.

Move transmission control lever to neutral position. The axle stabilizer automatically engages with engine running.

Move transmission control lever out of neutral position. The axle stabilizer will automatically disengage with engine running.

Axle stabilizer operational *Yes* *No*

22. Fire Extinguisher

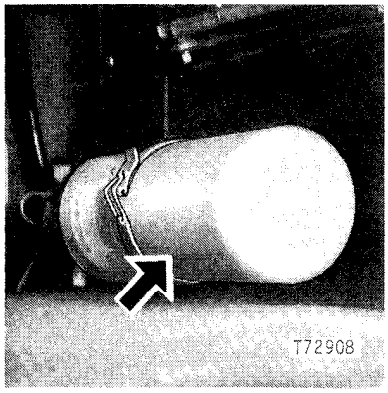


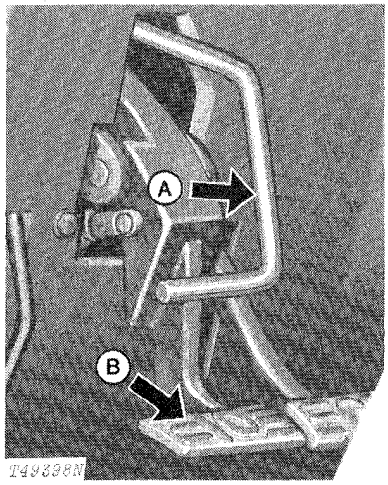
Fig. 79-Fire Extinguisher

Check gauge for proper charge. If not fully charged, recharge extinguisher.

Replace if corrosion or damage is present.

Fire extinguisher operational *Yes* *No*

23. Hydraulic Brakes



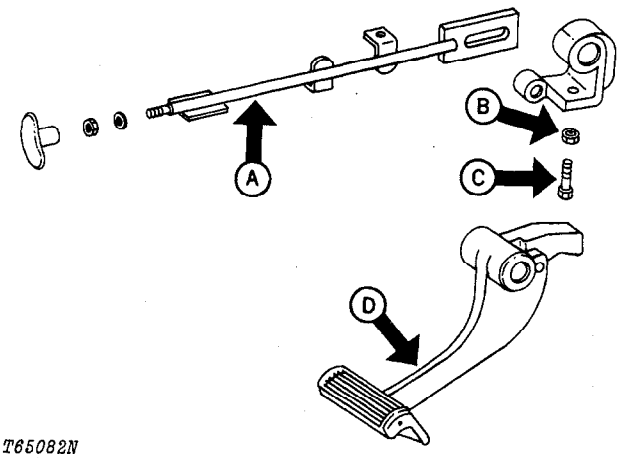
A—Brake Lock Pedal **B—Service Brake Pedal**

Fig. 80-Brake and Lock Pedals

Check brake system for leaks or improper operation.

Put tree harvester or feller-buncher in gear and depress brake pedal. Moderate pedal force should hold tree harvester or feller-buncher in place.

If pedal force does not hold tree harvester or feller-buncher in place, pedal feels spongy or bottoms out, repair is required, or system may require bleeding (see page I-IV-45).



T65082N
A—Brake Lock Rod **C—Cap Screw**
B—Nut **D—Brake Pedal**

Fig. 81-Service Brake Lock Adjustment

Shift to neutral and run engine at 1/2 throttle. Depress brake pedal with 445-534 N (100-120 lb.) force. Shift to third speed forward. Slowly release clutch pedal until engine speed lugs down to slow idle. Tree harvester or feller-buncher should not move while engine lugs down to slow idle or slower.

IMPORTANT: Do not continue above check for more than five seconds at reduced engine rpm.

CAUTION: Tree harvester or feller-buncher will move forward if service brake linkage is not properly adjusted.

If tree harvester or feller-buncher moves, adjust as follows:

1 - Place brake lock rod (A, Fig. 81) in extended position.

2 - Adjust cap screw (C) to just contact brake pedal boss.

3 - Lock in place with nut (B).

4 - With lock in this position and no force on pedal, move brake lock rod to disengage the locking feature.

5 - The brake lock rod should return only part way to the normally disengaged position.

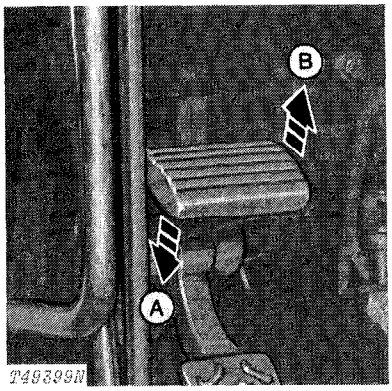
6 - Depress brake pedal with more than 445 N (100 lb.) force.

7 - The brake lock rod should return to the normally disengaged position with a very definite snap.

Brakes operational *Yes* *No*

Service brake lock checked *Yes* *No*

24. Parking Brake



T49399N
A—Engage **B—Disengage**

Fig. 82-Parking Brake Pedal

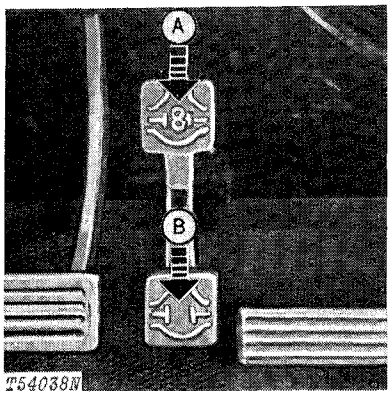
Check parking brake adjustment.

Push parking brake pedal down and slide parking brake lock to left to engage parking brake.

If adjustment is required, see page I-IV-45.

Parking brake operational *Yes* *No*

25. Differential Lock



T54038N
A—Engaged **B—Disengaged**

Fig. 83-Differential Lock Pedal

Check differential lock operation.

With engine off and differential lock engaged, steering wheel cannot be rotated more than approximately 20° in each direction.

With engine off and differential lock disengaged, steering wheel can be rotated approximately 40° in each direction.

Differential lock checked *Yes* *No*

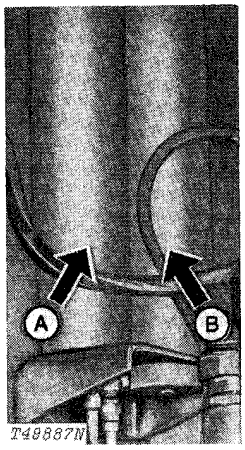
26. Power Steering

Check power steering. Tree harvester or feller-buncher should turn to left and right with ease.

Check lines and cylinders for leakage.

Power steering checked *Yes* *No*

27. Accumulator Action



A—Hydraulic System Accumulator **B—Brake Accumulator**

Fig. 84-Accumulators

Check accumulator action as follows:

Hydraulic System:
1 - Start engine and run for one minute.
2 - Stop engine.
3 - Turn steering wheel. Only slight frame movement should be observed.

NOTE: Differential lock must be disengaged.

NOTE: A significant amount of frame movement would indicate system accumulator pre-charge is low.

Brake:
4 - With engine off, depress brake pedals 20 times.

NOTE: This must be done slowly

If either or both of above checks indicate that accumulators are not functioning properly, they should be serviced immediately.

Accumulators checked *Yes* *No*

28. Seat Operation

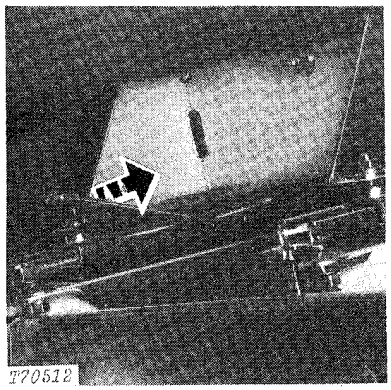


Fig. 85-Seat Release Lever

Check seat operation as follows:

1 - Move seat release lever to left.

2 - Slide seat to desired position.

3 - Release lever. Seat should lock in place.

Seat operation checked *Yes* *No*

29. Operation of All Lights

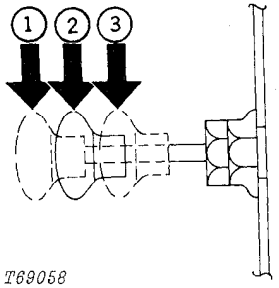
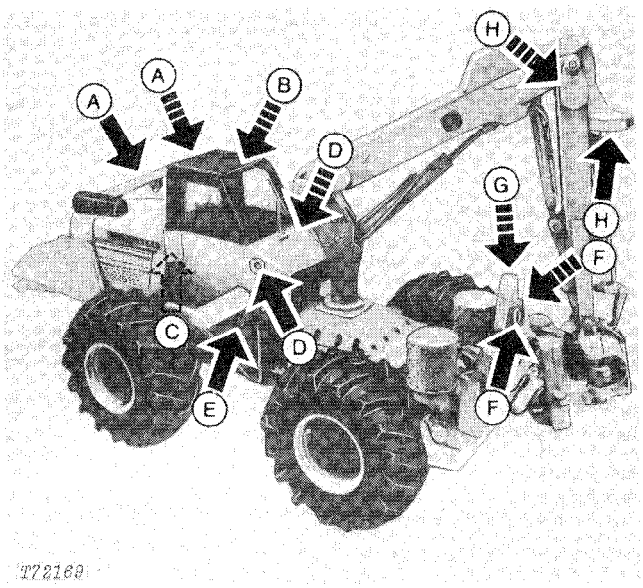


Fig. 86-Switch Positions

All lights are controlled by light switch located on right side of instrument panel. The light switch has three positions.

Litho in U.S.A.

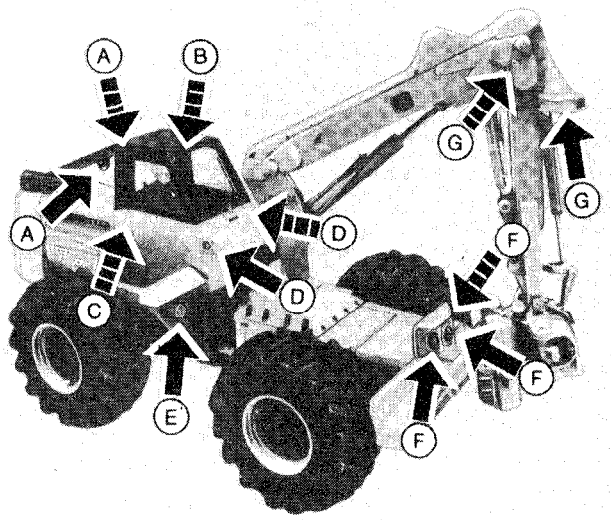
Switch Position	Tree Harvester Lights On
1	All lights on.
2	Frame (F) (G), Cab (A) (B) (C), and panel lights on.
3	All lights off



A—Right Side Work Lights
B—Left Rear Cab Light
C—Right Rear Cab Light
D—Front Cab Lights
E—Tree Support Light
F—Left and Right Front Delimber Frame Lights
G—Left Frame Side Light
H—Boom Lights

Fig. 87-Tree Harvester Lights

Switch Position	Feller-Buncher Lights On
1	All lights on.
2	Frame (F), Cab (A) (B) (C), and panel lights on.
3	All lights off



A—Riser Side Work Lights
B—Left Rear Cab Light
C—Right Rear Cab Light
D—Front Cab Lights
E—Tree Support Light
F—Left, Center, and Right Front Frame Lights
G—Boom Lights

Fig. 88-Feller-Buncher Lights

All lights checked *Yes* *No*

30. Heater Operation

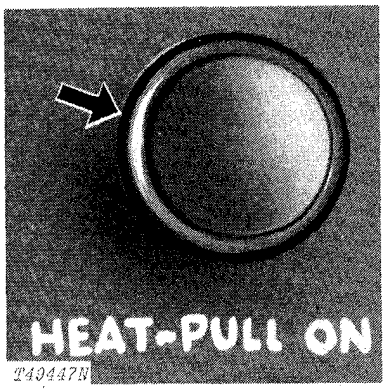


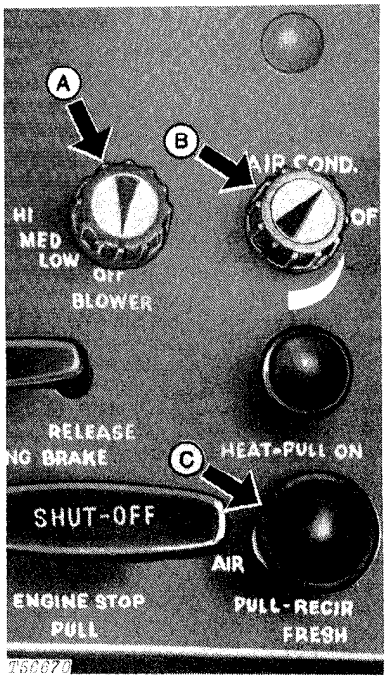
Fig. 89-Control Knob

Pull knob out for maximum heat. Push knob inward to reduce temperature. Push knob all the way in to shut off heater.

Adjust volume of air flow with blower switch.

Heater operation checked *Yes* *No*

31. Air Conditioner Operation



A—Blower Control Knob **C—Air Selection Knob**
B—Air Conditioner Switch

Fig. 90-Air Conditioner Controls

Check for proper refrigerant charge before using air conditioner.

With key switch "on", operate blower knob in all positions. Observe fan speeds and air volume from air ducts.

With key and blower switches "on", turn air conditioner knob toward maximum cooling and listen for audible "click" from compressor clutch. Heater control knob should be pushed all the way in (heater valve shut off).

With blower switch at "high speed" and air conditioner switch at maximum cooling, operate engine at 2000 rpm.

After 5 minutes, observe sight glass for bubbles.

NOTE: Bubbles may be present immediately after compressor cycles "on". If occasional bubbles or a constant stream of bubbles are observed under any other condition, refer to Group 9031 of this manual.

Check temperature of discharge air from air ducts. Hold thermometer in air duct until lowest reading is obtained.

a) If ambient temperature is above 80°F (27°C), the duct air temperature must be 25 to 30°F (14 to 17°C) below ambient temperature.

b) If ambient temperature is below 80°F (27°C), the duct air temperature must be less than 50°F (10°C).

If unit does not operate as described above, refer to Group 9031 of this manual.

Pull air selection knob out to recirculate inside air. Push knob in to draw in fresh air. A middle position will provide both fresh and recirculated air.

Air conditioner operation checked *Yes* *No*

32. Articulation Operation

Check articulation switch adjustment.

Turn steering wheel to align frames.

Place mode select switch in automatic mode.

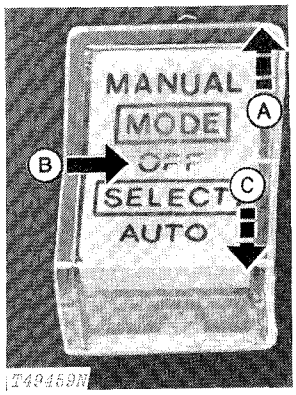
Turn key switch to ON and manually depress switch on frame.

The green frame-in-line light should come on, indicating the equipment and engine frames are in line.

If adjustment is required, see page I-IV-50.

Articulation switch operational *Yes* *No*

33. Auto-Manual Mode Operation



A—Manual **C—Automatic**
B—Off

Fig. 91-Mode Select Switch

Check operation of automatic and manual mode functions.

To check manual mode:

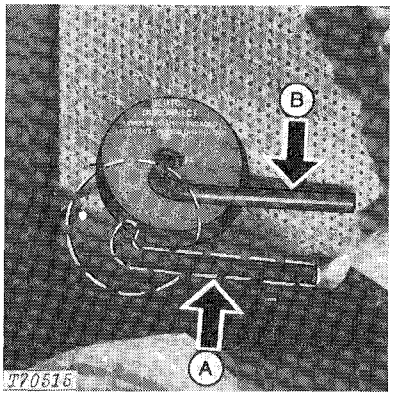
1 - Start engine.
2 - Press mode select switch to manual position.
3 - Press delimb knives close, feed rolls close and delimb transmission forward switches. The delimb knives should close, the feed rolls should close and start turning.
4 - Release delimb transmission switch to off position. The feed rolls should stop turning.
5 - Press delimb knives switch open and feed rolls switch open. The delimb knives and feed rolls should open.

To check automatic mode:

1 - Start engine.
2 - Steer vehicle until green articulation light is illuminated.
3 - Press mode select switch to auto position.
4 - Lift set-start switch up. Auto on light should glow red, indicating automatic panel is operational.
5 - Push stop-reset switch down to open delimb knives and feed rolls.
6 - Press set-start switch down to start automatic delimbing operations. The delimbing knives should close, feed rolls should close and start turning.
7 - Push down stop-reset switch. The delimber knives and feed rolls should return to open position and stop turning.

Auto-manual mode operation checked *Yes* *No*

34. Engine Disconnect Clutch



A—Lever Up **B—Lever Down**

Fig. 92-Engine Disconnect

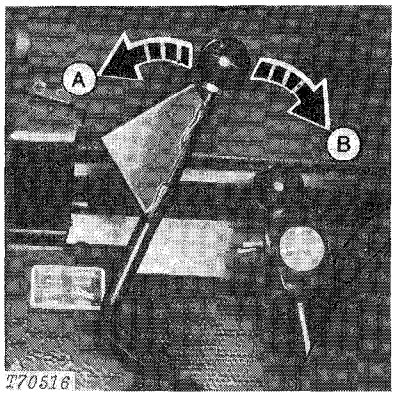
Check operation of engine disconnect lever.

Pull engine disconnect up until stop is above floor. Slide engine disconnect rearward in slot. The engine should be disengaged from transmission.

If adjustment is required, see page I-IV-52.

Engine disconnect operational *Yes* *No*

35. Tree Support Blade Control Lever



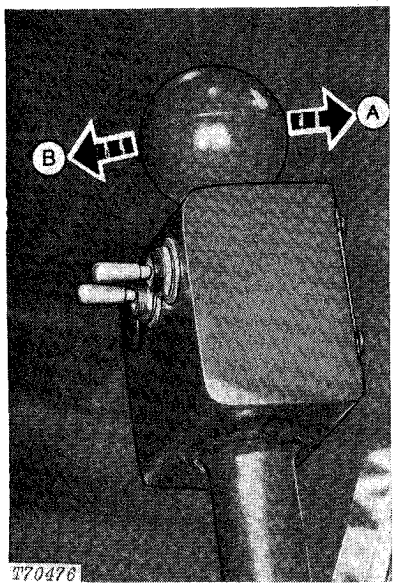
A—Lower **B—Raise**

Fig. 93-Tree Support Blade Control Lever

Operate tree support blade control lever. When pulled rearward, tree support blade should raise. When pushed forward, tree support blade should lower. When released, tree support blade control lever should return to the neutral position.

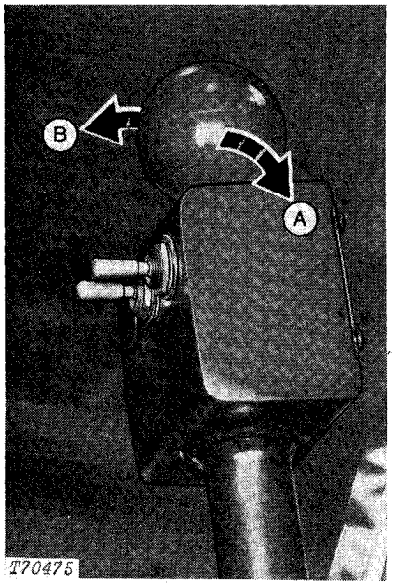
Tree support blade control lever checked *Yes* *No*

36. Main Boom and Swing Control



A—Raise Boom **B—Lower Boom**

Fig. 94-Main Boom Control



A—Left Swing **B—Right Swing**

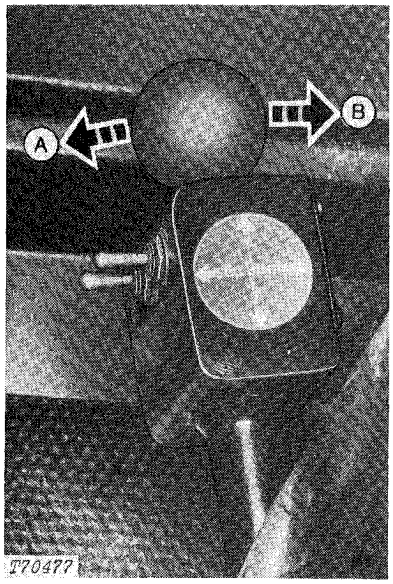
Fig. 95-Swing Control

Operate main boom control on main boom and swing control lever. When pushed forward, main boom should lower. When pulled rearward, main boom should raise. When released, control lever should return to neutral position.

Operate swing boom control on main boom and swing control lever. When pushed outward, boom should swing left. When pulled inward, boom should swing right. When released, control lever should return to neutral position.

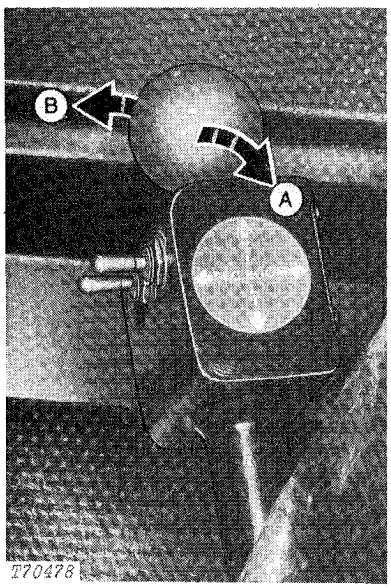
Main boom and swing control lever checked *Yes* *No*

37. Secondary Boom and Tilt Control



A—Boom Out **B—Boom In**

Fig. 96-Secondary Boom Control



A—Tilt Up **B—Tilt Down**

Fig. 97-Tilt Control

Operate secondary boom control on secondary boom and shear tilt control lever. When pushed forward, secondary boom should extend out. When pulled rearward, secondary boom should retract in. When released control lever should return to neutral position.

Operate shear tilt control on secondary boom and shear tilt control lever. When pushed outward, shear should tilt down. When pulled inward, shear should tilt up. When released, control lever should return to neutral position.

Secondary boom and shear tilt control lever checked *Yes* *No*

38. Cab Rear Window Operation

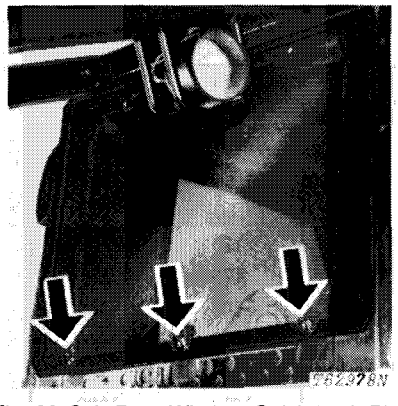


Fig. 98-Cab Rear Window Quick-Lock Pins

Check cab rear window. The locking bar should hold window securely.

Check all edges of window to insure they are sealing tightly.

Check position of quick-lock pins on both sides of window.

To remove cab rear window from inside:

1 - Remove three quick-lock pins at bottom of window.
2 - Push out bottom of window and bend tabs holding top.
3 - Pull window down and out.

To remove cab rear window from outside:

1 - Remove three quick-lock pins at bottom of window.
2 - Pull out bottom of window and bend tabs holding top.
3 - Pull window down and out.

Cab rear window operations checked *Yes* *No*

39. Shear Blade Cap Screws

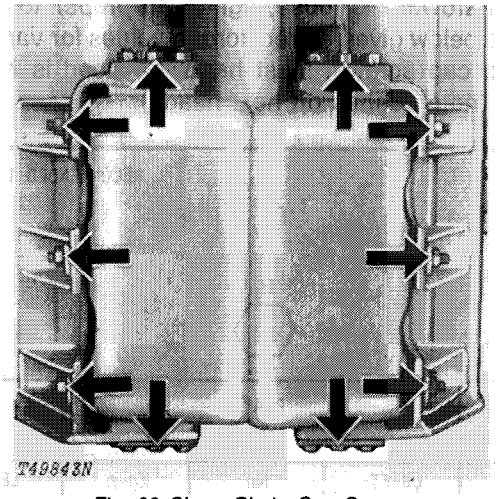


Fig. 99-Shear Blade Cap Screws

Tighten nuts on six side mounting cap screws first, then six rear mounting cap screws and then six front mounting cap screws on each blade to 928 N·m (685 lb-ft).

Shear blade cap screws torqued *Yes* *No*

40. Wheel Cap Screws

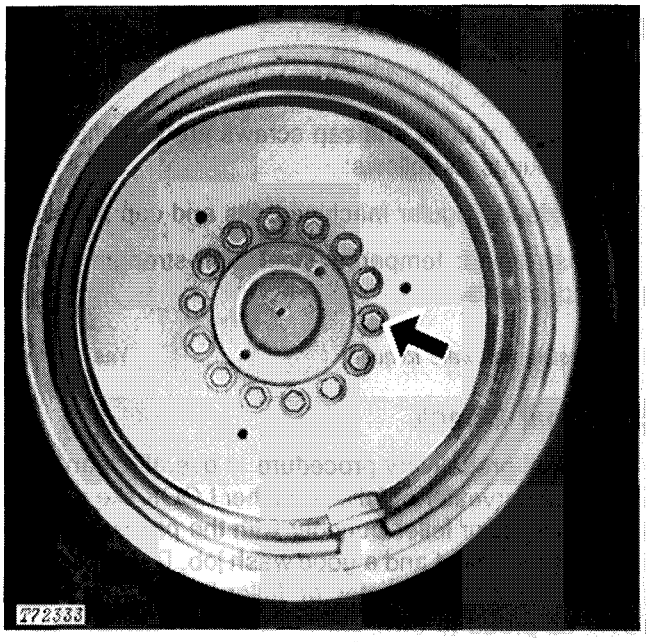


Fig. 100-Wheel Cap Screws

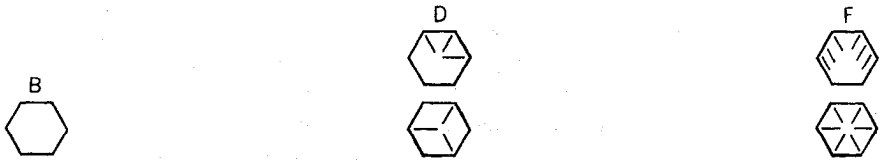
Tighten all wheel cap screws to 766 N·m (565 lb-ft).

Wheel cap screw torque checked *Yes* *No*
Wheel cap screw tightened *Yes* *No*

41. Accessible Hardware Torque Values

Check all accessible bolts and nuts for proper tightness. If hardware is loose, tighten to proper torque. The table below gives correct torque values for various bolts and cap screws. Most hardware used is high-strength (note dashes on hex. heads).

RECOMMENDED TORQUE - COARSE AND FINE THREADS



BOLT DIAMETER	PLAIN HEAD			THREE DASHES			SIX DASHES		
	LB-FT	Nm	Kg-m	LB-FT	Nm	Kg-m	LB-FT	Nm	Kg-m
1/4	NOT USED	NOT USED	NOT USED	10	14	1	14	19	2
5/16	NOT USED	NOT USED	NOT USED	20	27	3	30	41	4
3/8	NOT USED	NOT USED	NOT USED	35	47	5	50	68	7
7/16	35	47	5	55	75	8	80	108	11
1/2	55	75	8	85	115	12	120	163	17
9/16	75	102	10	130	176	18	175	237	24
5/8	105	142	15	170	230	24	240	325	33
3/4	185	251	26	300	407	42	425	576	59
7/8	160	217	22	445	603	62	685	929	95
1	250	339	35	670	908	93	1030	1396	142
1-1/8	330	447	46	910	1234	126	1460	1979	202
1-1/4	480	651	66	1250	1695	173	2060	2793	285

T43720

Fig. 101-Torque Chart

The types of bolts and cap screws are identified by head markings as follows:

Plain Head: regular machine bolts and cap screws.

3-Dash Head: tempered steel high-strength bolts and cap screws.

6-Dash Head: tempered steel extra high-strength bolts and cap screws.

Machine bolts and cap screws 7/8-inch (22 mm) and larger are sometimes formed hot rather than cold, which accounts for lower torque.

All accessible hardware torqued *Yes* *No*

42. Final Check

The final predelivery procedure is overall clean-up. Make tree harvester or feller-buncher LOOK like a new tree harvester or feller-buncher with the proper touch-up of chipped paint and a good wash job. Deliver to the customer a tree harvester or feller-buncher anyone would be proud to own.

Final check performed *Yes* *No*