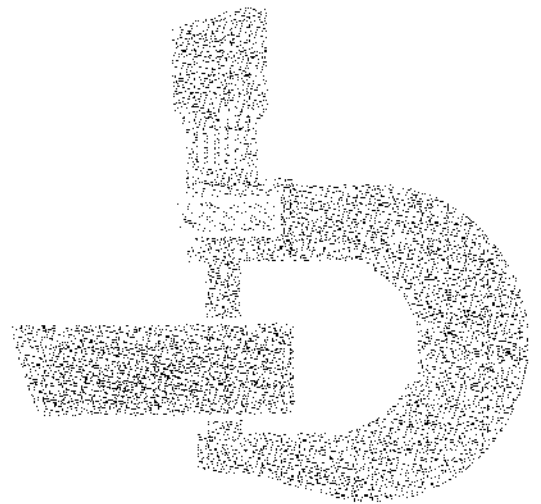


**John Deere
JD640 Skidder-
Grapple Skidder**



TECHNICAL MANUAL

TM-1124

Litho in U.S.A. (T) Revised

JD640 SKIDDER—GRAPPLE SKIDDER TECHNICAL MANUAL TM-1124 (JUN-87)

SECTION AND GROUP CONTENTS

SECTION I—GENERAL INFORMATION

- Group I —Introduction and Safety Information
- Group II —Torque Values
- Group III—General Specifications
- Group IV—Predelivery, Delivery and After-Sale Services
- Group V— Lubrication

SECTION 1—WHEELS

- Group 0110—Powered Wheels and Fastenings
- Group 0149—Weights
- Group 0199—Specifications and Special Tools

SECTION 2—AXLES AND SUSPENSION SYSTEMS

- Group 0201—Drive Axle Housing and Support
- Group 0210—Differential or Bevel Drive
- Group 0225—Input Drive Shafts and U-Joints
- Group 0250—Axle Shaft, Bearings, Reduction Gears
- Group 0299—Specifications and Special Tools

SECTION 3—TRANSMISSION

- Group 0315—Controls
- Group 0341—Housing and Covers
- Group 0350—Gears, Shafts, Bearings and Power Shift Clutch
- Group 0360—Hydraulic System
- Group 0370—Clutch Disconnect and Controls
- Group 0399—Specifications and Special Tools

SECTION 4—ENGINE

- Group 0400—Removal and Installation
- Group 0401—Crankshaft and Main Bearings
- Group 0402—Camshaft and Valve Actuating Means
- Group 0403—Connecting Rods and Pistons
- Group 0404—Cylinder Block
- Group 0407—Oiling System
- Group 0408—Ventilating System
- Group 0409—Cylinder Head and Valves
- Group 0410—Exhaust Manifold
- Group 0413—Fuel Injection System
- Group 0416—Turbocharger
- Group 0417—Water Pump
- Group 0418—Thermostats, Housings, and Water Piping
- Group 0419—Oil Cooler
- Group 0420—Fuel Filter
- Group 0421—Fuel Transfer Pump
- Group 0422—Starting Motor and Fastenings
- Group 0433—Flywheel, Housing and Fastenings
- Group 0499—Specifications and Special Tools

SECTION 5—ENGINE AUXILIARY SYSTEMS

- Group 0505—Cold Weather Starting Aids
- Group 0510—Cooling Systems
- Group 0515—Speed Controls
- Group 0520—Intake System
- Group 0530—External Exhaust Systems
- Group 0540—Mounting Frame
- Group 0560—External Fuels Supply Systems
- Group 0599—Specifications and Special Tools

Continued on next page

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T64;1124 01 020787

SECTION AND GROUP CONTENTS—Continued

SECTION 9—STEERING SYSTEM

- Group 0960—Hydraulic System
- Group 0999—Specifications and Special Tools

SECTION 10—SERVICE BRAKES

- Group 1011—Active Elements
- Group 1015—Controls Linkage
- Group 1060—Hydraulic System
- Group 1099—Specifications and Special Tools

SECTION 11—EMERGENCY BRAKES

- Group 1111—Active Elements
- Group 1115—Controls Linkage
- Group 1199—Specifications and Special Tools

SECTION 16—ELECTRICAL SYSTEM

- Group 1671—Batteries, Supports and Cables
- Group 1672—Alternator, Regulator and Charging System Wiring
- Group 1673—Lighting System
- Group 1674—Wiring Harness and Switches
- Group 1675—Systems Controls
- Group 1676—Instruments and Indicators
- Group 1699—Specifications and Special Tools

SECTION 17—FRAMES, CHASSIS OR SUPPORTING STRUCTURE

- Group 1740—Frame Installation
- Group 1746—Bottom Guards
- Group 1799—Specifications and Special Tools

SECTION 18—OPERATOR'S STATION

- Group 1810—Operator Enclosure
- Group 1821—Seat
- Group 1830—Heating and Air Conditioning
- Group 1899—Specifications and Special Tools

SECTION 19—SHEET METAL

- Group 1910—Hood or Engine Enclosure
- Group 1913—Miscellaneous Shields
- Group 1921—Grille and Grille Housing

SECTION 20—SAFETY, CONVENIENCE AND MISCELLANEOUS

- Group 2003—Fire Extinguisher
- Group 2004—Horn
- Group 2006—Cigar Light
- Group 2099—Specifications and Special Tools

SECTION 21—HYDRAULIC SYSTEM

- Group 2160—Hydraulic System
- Group 2199—Specifications and Special Tools

SECTION 30—WINCH (11-INCH DRUM)

- Group 3015—Controls Linkage
- Group 3041—Winch Housing and Mounting Structure
- Group 3050—Winch Drive and Clutches
- Group 3060—Hydraulic System
- Group 3099—Specifications and Special Tools

SECTION 30A—WINCH (EARLY UNITS 8-INCH DRUM)

- Group 3041A—Winch Housing and Mounting Structure
- Group 3050A—Winch Drive and Clutches
- Group 3060A—Hydraulic System
- Group 3099A—Specifications and Special Tools

SECTION 30B—WINCH (LATER UNITS 8-INCH DRUM)

- Group 3000B—Removal And Installation
- Group 3050B—Drive And Clutches
- Group 3060B—Hydraulic System

SECTION 32—BULLDOZERS

- Group 3201—Blades
- Group 3215—Controls Linkage
- Group 3260—Hydraulic System
- Group 3299—Specifications and Special Tools

SECTION 37—ARCH OR BOOM

- Group 3740—Frames
- Group 3799—Specifications and Special Tools

SECTION 38—GRAPPLE

- Group 3803—Grapple Mechanism
- Group 3860—Hydraulic System
- Group 3899—Specifications and Special Tools

SECTION 38A—GRAPPLE

- Group 3803A—Grapple Mechanism
- Group 3840A—Frames
- Group 3860A—Hydraulic System

SECTION 40—PTO OR WINCH DRIVE

- Group 4025—Input Drive Shafts
- Group 4099—Specifications and Special Tools

Continued on next page

T64;1124 02 251084

SECTION AND GROUP CONTENTS—Continued

SECTION 90—SYSTEM TESTING

- Group 9005—General Information
- Group 9010—Engine
- Group 9015—Electrical System
- Group 9020—Power Train
- Group 9025—Hydraulic System (Flow Meter)
- Group 9025A—Hydraulic System (Analyzer)
- Group 9030—Miscellaneous Components
- Group 9035—Specifications and Special Tools

INDEX



Group I INTRODUCTION AND SAFETY INFORMATION INTRODUCTION



Use FOS Manuals for Reference

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

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

•FOS Manuals—for reference

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



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

•Technical Manuals—for actual service

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



Use Technical Manuals for Actual Service

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


Some features of this manual:

- Inside front cover - Section and Group Contents.
- Section I - Introduction and safety information, torque values, general specifications and general services.
- Sections 1 through 40 - Removal, repair, testing (components removed), installation, and adjustment.
- Section 90 - Detailed explanation of system operation, diagnosis, visual inspection, testing, and adjustments.
- Specifications grouped and illustrated at the end of each section.

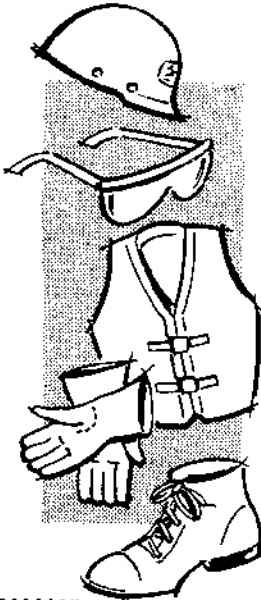
MAINTENANCE WITHOUT ACCIDENT WORK SAFELY



T27999H

 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.

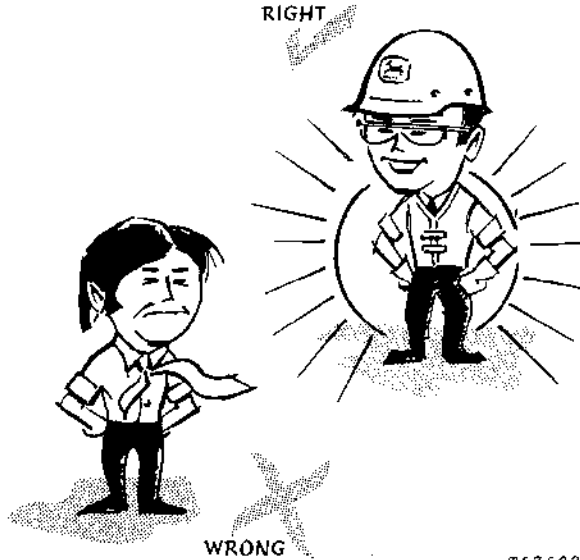
**EVERY EMPLOYER HAS A
SAFETY PROGRAM. KNOW
WHAT IT IS!**



T27501H

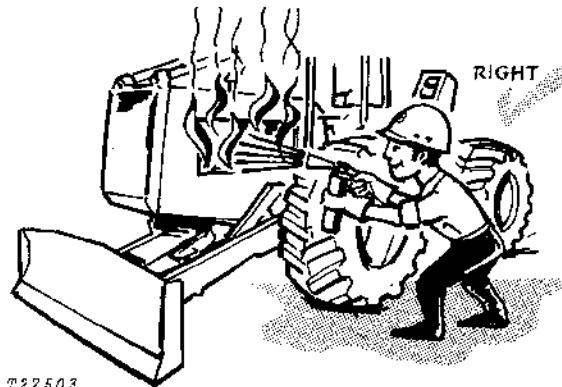
Consult your shop supervisor for specific instructions on a job, and the safety equipment required.

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



T27602H

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.



T27503

BE ALERT!

Plan ahead—work safely—avoid accidental damage and injury. If a careless moment does cause an accident or fire, react quickly with the tools and skills at hand—know how to use a first aid kit and a fire extinguisher—and where to get aid and assistance. In an emergency, split-second action is the key to safety.



T27504H

MAINTENANCE WITHOUT ACCIDENT UNDER ALL MAINTENANCE CONDITIONS—

Specific safety procedures should always be observed, whether servicing or making repairs on the skidder. Remembering these—in time!—can prevent an injury...or save your life....

AVOID FIRE HAZARDS—

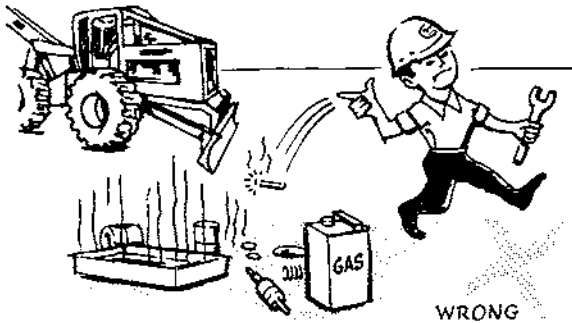
Fuel Is Dangerous!

Don't smoke while refueling.

Don't smoke while handling highly flammable material.

Engine should be shut off when refueling.

Use care in refueling if the engine is hot.



T33267N

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.



T27506R

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

Don't allow sparks or open flame near batteries.

Don't smoke near battery.

Flame Is Not a Flashlight!

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

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

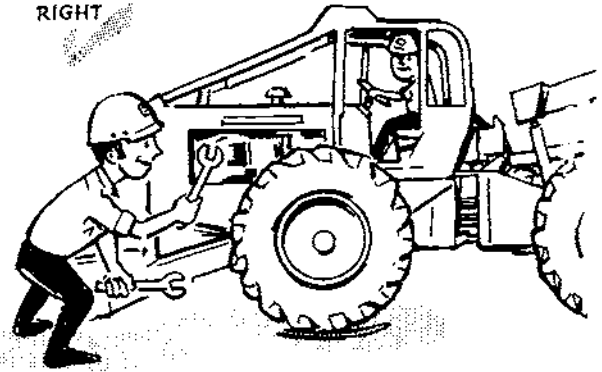
Never use an open flame as a light anywhere on or around the equipment.

KNOW WHERE FIRE EXTINGUISHERS ARE KEPT!

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

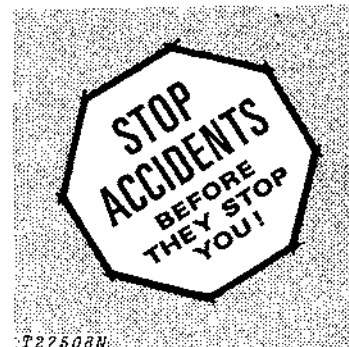
Never service the equipment while it is being operated.

RIGHT



T33258N

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.**

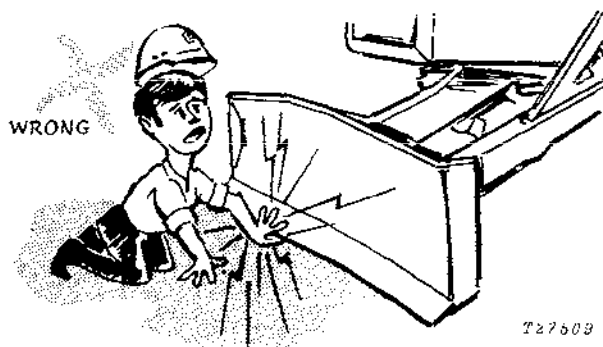


T27508N

MAINTENANCE WITHOUT ACCIDENT

Before servicing, adjusting, or repairing skidders which have attachments such as blades, grapple tongs, etc.—**LOWER** attachments to the 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 attachments for maintenance.

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

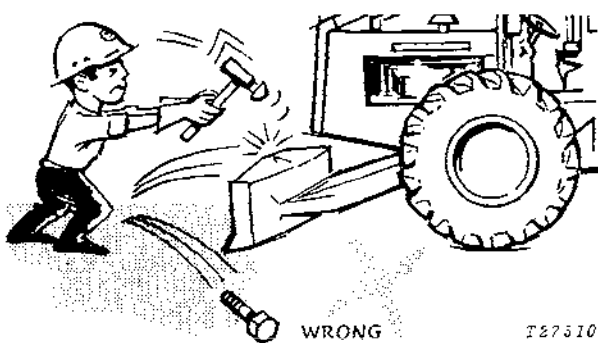


Avoid working directly under raised and blocked equipment unless absolutely necessary.

If the skidder is on an incline, block it securely.

Use hoisting equipment for lifting heavy parts. **TAKE CARE! WATCH OUT FOR OTHER PEOPLE IN THE VICINITY.**

Use extreme caution in removing radiator caps, drain plugs, grease fittings, or hydraulic pressure caps.



Wear safety glasses when drilling, grinding, or hammering metal.

Make sure the maintenance area is adequately vented.

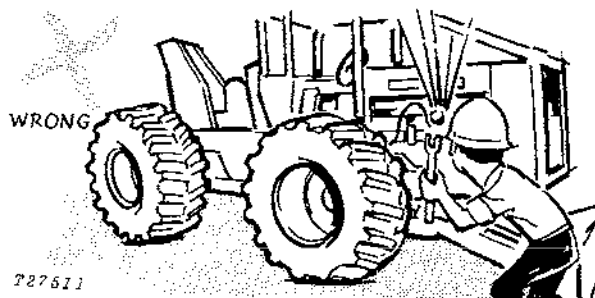
Keep maintenance area **CLEAN AND DRY**. Oily and wet floors are slippery; greasy rags are a fire hazard; wet spots are dangerous when working with electrical equipment.

Store starting aids in a cool and well-ventilated place, out of the reach of unauthorized personnel.

SERVICING PRECAUTIONS

Stop the engine before cleaning or lubricating the skidder.

Lower blade and grapple to the ground *carefully*.



Engine coolant gets hot! Don't remove the radiator cap until coolant temperature is below the boiling point. Then turn cap slightly to relieve pressure before removing.

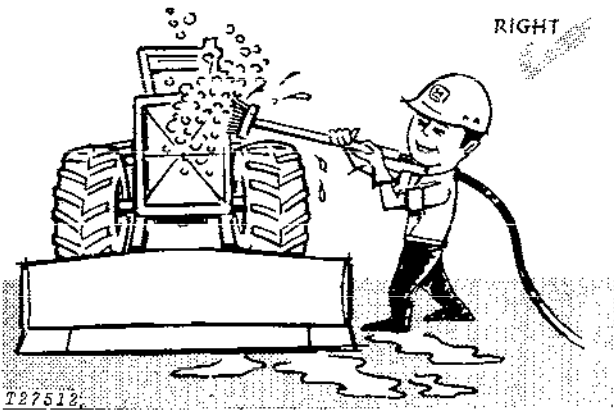
Exhaust gases are dangerous! Periodically check exhaust system for excessive leakage.

Don't forget a hydraulic system may be pressurized! To relieve system pressure, stop engine, lower blade and boom, operate steering wheel and service brakes, and operate blade, boom, and grapple controls until system fails to respond.

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

The skidder is equipped with a brake accumulator—recharge by using only dry nitrogen. To discharge brake accumulator apply the brake pedal about 30 times.

MAINTENANCE WITHOUT ACCIDENT



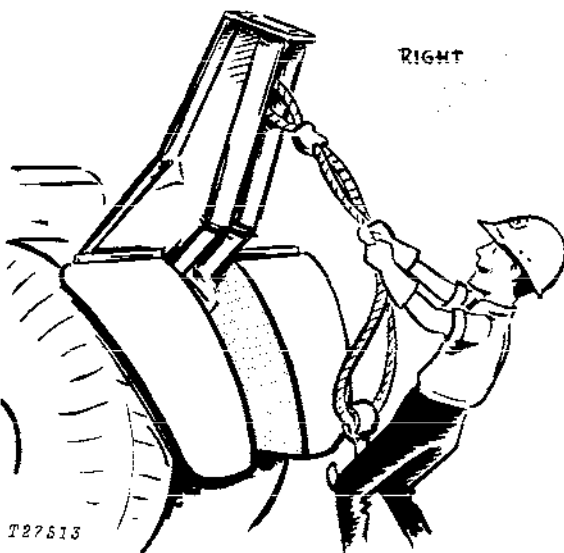
Keep ALL components free of dirt and oil. This attention will minimize fire hazards and facilitate spotting of loose or defective parts.

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.

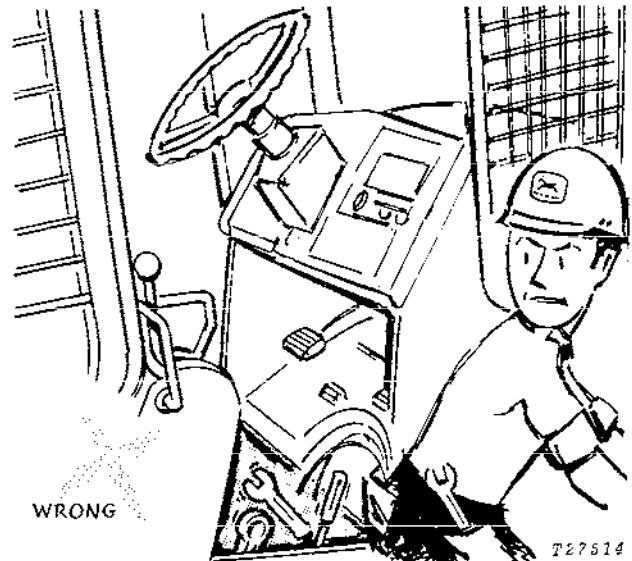
ADJUSTING PRECAUTIONS

.... for Operating Adjustments

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



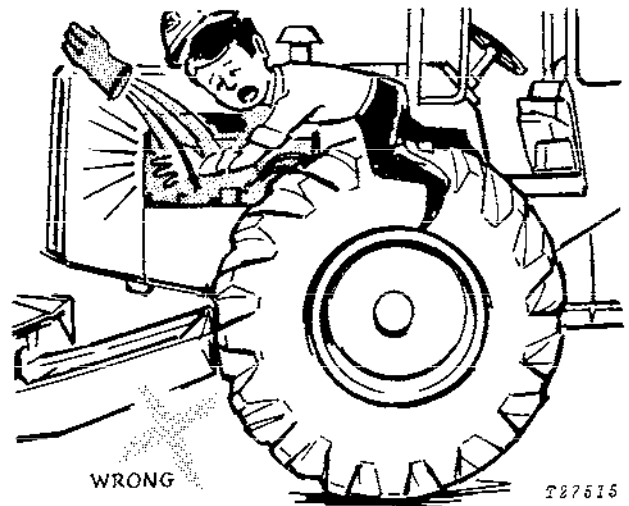
Always wear gloves when handling cable.



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

.... for Maintenance Adjustments

Don't attempt to check belt tension while the engine is running.

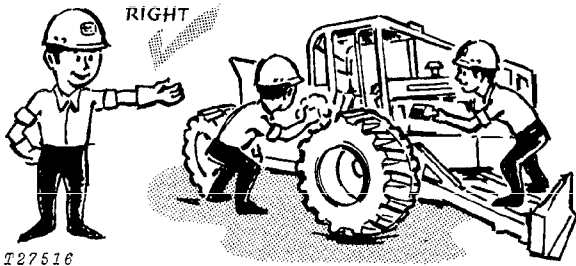


Don't adjust the fuel system while the machine is in motion.

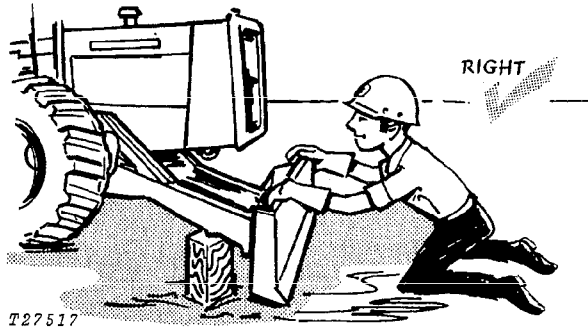
MAINTENANCE WITHOUT ACCIDENT

PRECAUTIONS DURING REPAIR

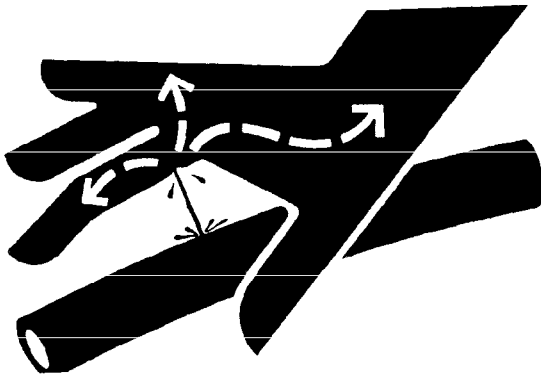
Before working on the engine fuel system—close fuel shutoff valve.



When changing cutting edges on blade—
Stop the engine and securely block the blade.



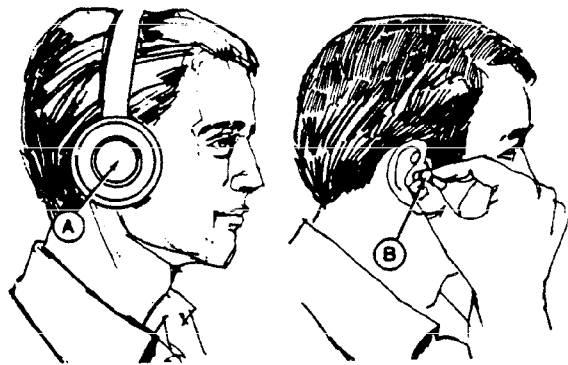
Before repairing the electrical system, or performing a major overhaul, make sure the batteries are disconnected.



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.

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



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

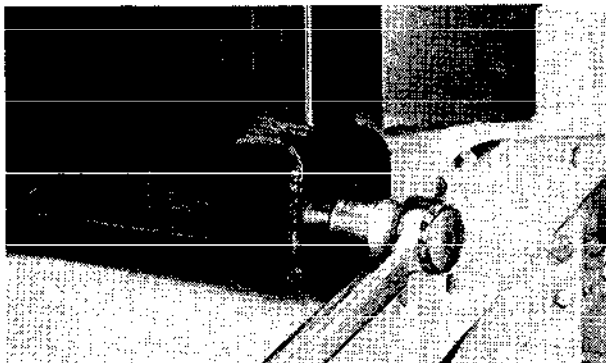


T87099

TEST COOLANT HEATER IN LIQUID ONLY

Use a heavy-duty grounded cord to connect coolant heater to electrical power.

Do not plug into electrical power unless heating element is immersed in coolant. Sheath could burst and result in personal injury.



T89081

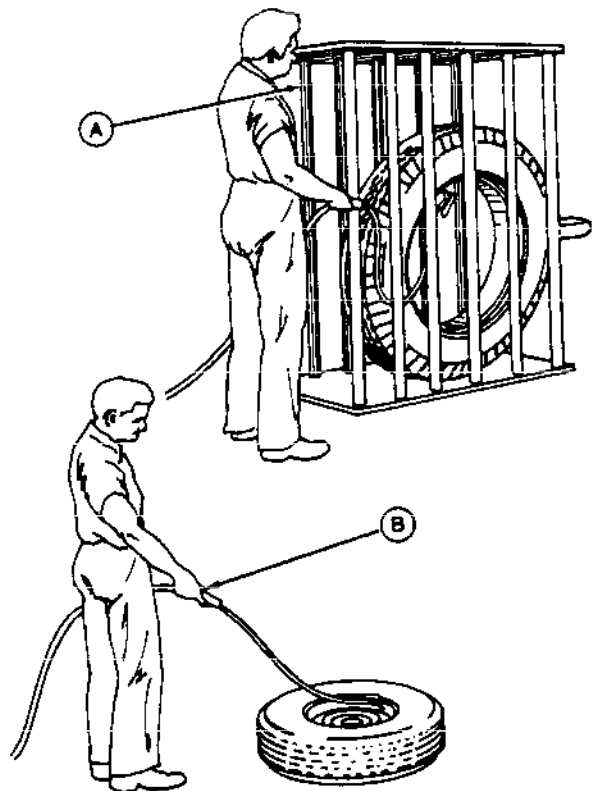
KEEP ROPS INSTALLED PROPERLY

If ROLL-OVER protective equipment is loosened or removed for any reason, make certain all parts are reinstalled correctly. Tighten mounting bolts to proper torque. The protection offered by ROPS will be impaired if the ROPS is subject to structural damage, has been involved in an overturn incident or is in anyway altered. Damaged ROPS should be replaced, not reused.

SERVICE TIRES SAFELY

Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death. Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job. Have it done by your John Deere dealer or a qualified repair service.

Detailed tire mounting instructions, including necessary safety precautions are contained in John Deere Fundamentals of Service (FOS) Manual 55, Tires and Tracks, available through your John Deere dealer. Such information is also available from the Rubber Manufacturers Association and from tire manufacturers.



- A—Use a Safety Cage if available.
B—DO NOT Stand Over Tire. Use a Clip-On Chuck and Extension Hose.

T50123

MAINTENANCE WITHOUT ACCIDENT

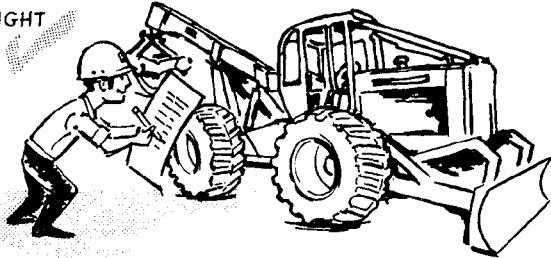
KNOW EQUIPMENT IS READY!

Check guards, canopies, safety bars—all protective devices installed on the skidder. Every one should be in place and secure.

CHECK IT OUT!

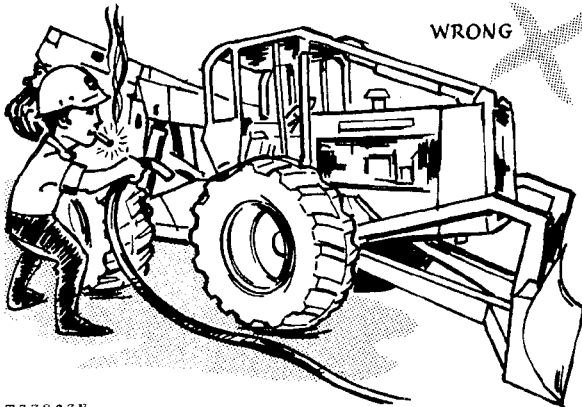
- GUARDS
- CANOPIES
- SHIELDS
- PROTECTIVE DEVICES
- ROLL-OVER PROTECTIVE STRUCTURES
- SEAT BELTS
- FIRE EXTINGUISHER
- FIRE SUPPRESSION SYSTEM, ETC.

RIGHT



T 33262N

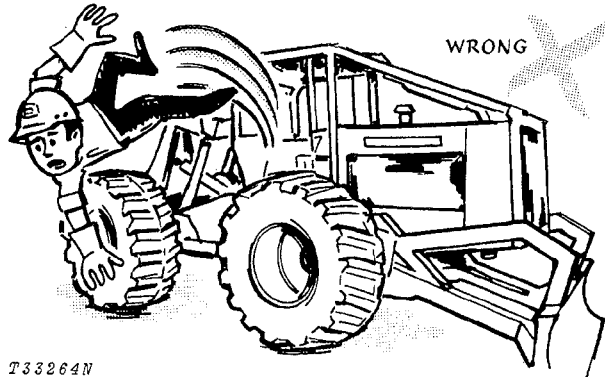
Carefully inspect equipment for visual defects—leaks in fuel, lubrication, and hydraulic systems. Do not search for pressurized fluid leaks with your hands. Use cardboard or wood to search for leaks.



T 33263N

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.



T 33264N

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, the safety precautions recommended here should serve to develop and promote safe maintenance procedures.

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

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**COMPLETE PAGE LISTING
 WITH LATEST DATE LINES**

I-I-1,2	(Nov-77)	2-0210-1,2	(Apr-80)	3-0360-7,8	(Apr-80)
I-I-3,4	(Nov-77)	2-0210-3,4	(Apr-80)	3-0360-9,10	(Apr-80)
I-I-5,6	(Nov-77)	2-0210-5,6	(Apr-80)	3-0360-11,12	(Nov-78)
I-I-7,8	(Apr-80)	2-0210-7,8	(Apr-80)	3-0360-13,14	(Apr-80)
I-I-9,10	(Apr-80)	2-0210-9,10	(Apr-80)	3-0370-1,2	(Nov-77)
I-I-11,12	(Apr-80)	2-0210-11,12	(Apr-80)	3-0370-3,4	(Nov-77)
I-I-13,14	(Apr-80)	2-0210-13,14	(Apr-80)	3-0370-5,6	(Nov-77)
I-I-15,16	(Apr-80)	2-0210-15,16	(Apr-80)	3-0399-1,2	(Nov-77)
I-I-17,18	(Apr-80)	2-0210-17,18	(Apr-80)	3-0399-3,4	(Apr-80)
I-I-19,20*	(Nov-78)	2-0225-1,2	(Nov-77)	3-0399-5,6	(Nov-78)
I-I-21,22*	(Nov-78)	2-0225-3,4	(Apr-80)	3-0399-7,8	(Nov-77)
I-I-23,24*	(Nov-78)	2-0250-1,2	(Apr-80)	3-0399-9,10	(Nov-77)
I-II-1,2	(Nov-77)	2-0250-3,4	(Apr-80)	3-0399-11,12	(Apr-80)
I-II-3,4	(Nov-77)	2-0299-1,2	(Apr-80)	3-0399-13,14	(Apr-80)
I-II-5,6	(Nov-77)	2-0299-3,4	(Apr-80)	3-0399-15,16	(Nov-77)
I-II-7,8	(Apr-80)	2-0299-5,6	(Apr-80)		
I-III-1,2	(Nov-78)	2-0299-7,8	(Nov-78)	4-0400-1,2	(Apr-80)
I-III-3,4	(Nov-78)			4-0400-3,4	(Apr-80)
I-III-5,6	(Nov-78)	3-0315-1,2	(Apr-80)	4-0401-1,2	(Apr-80)
I-IV-1,2	(Apr-80)	3-0315-3,4	(Nov-78)	4-0401-3,4	(Apr-80)
I-IV-3,4	(Apr-80)	3-0315-5,6	(Apr-80)	4-0401-5,6	(Apr-80)
I-IV-5,6	(Apr-80)	3-0341-1,2	(Nov-78)	4-0402-1,2	(Nov-77)
I-IV-7,8	(Apr-80)	3-0341-3,4	(Nov-78)	4-0402-3,4	(Nov-77)
I-IV-9,10	(Apr-80)	3-0341-5,6	(Apr-80)	4-0402-5,6	(Nov-78)
I-IV-11,12	(Apr-80)	3-0350-1,2	(Nov-77)	4-0403-1,2	(Apr-80)
I-IV-13,14	(Apr-80)	3-0350-3,4	(Nov-77)	4-0403-3,4	(Apr-80)
I-IV-15,16	(Apr-80)	3-0350-5,6	(Apr-80)	4-0404-1,2	(Nov-77)
I-IV-17,18	(Apr-80)	3-0350-7,8	(Apr-80)	4-0407-1,2	(Apr-80)
I-IV-19,20	(Apr-80)	3-0350-9,10	(Apr-80)	4-0407-3,4	(Nov-77)
I-IV-21,22	(Apr-80)	3-0350-11,12	(Apr-80)	4-0408-1,2	(Nov-77)
I-IV-23,24	(Apr-80)	3-0350-13,14	(Apr-80)	4-0409-1,2	(Apr-80)
I-IV-25,26	(Apr-80)	3-0350-15,16	(Apr-80)	4-0409-3,4	(Apr-80)
I-IV-27,28	(Apr-80)	3-0350-17,18	(Apr-80)	4-0409-5,6	(Nov-77)
I-IV-29,30	(Apr-80)	3-0350-19,20	(Apr-80)	4-0410-1,2	(Apr-80)
I-IV-31,32	(Apr-80)	3-0350-21,22	(Apr-80)	4-0413-1,2	(Nov-78)
I-IV-33,34	(Apr-80)	3-0350-23,24	(Apr-80)	4-0413-3,4	(Nov-78)
I-IV-35,36	(Apr-80)	3-0350-25,26	(Apr-80)	4-0413-5,6	(Nov-78)
I-IV-37,38	(Apr-80)	3-0350-27,28	(Apr-80)	4-0416-1,2	(Nov-77)
I-V-1,2	(Apr-80)	3-0350-29,30	(Apr-80)	4-0416-3,4	(Nov-77)
I-V-3,4	(Apr-80)	3-0350-31,32	(Apr-80)	4-0416-5,6	(Apr-80)
		3-0350-33,34	(Apr-80)	4-0416-7,8	(Nov-77)
1-0110-1,2	(Apr-80)	3-0350-35,36	(Apr-80)	4-0417-1,2	(Apr-80)
1-0110-3,4	(Apr-80)	3-0350-37,38	(Apr-80)	4-0418-1,2	(Nov-77)
1-0110-5,6	(Apr-80)	3-0350-39,40	(Apr-80)	4-0419-1,2	(Nov-78)
1-0149-1,2	(Apr-80)	3-0350-41,42	(Apr-80)	4-0420-1,2	(Nov-77)
1-0199-1,2	(Nov-78)	3-0360-1,2	(Apr-80)	4-0421-1,2	(Apr-80)
		3-0360-3,4	(Apr-80)	4-0422-1,2	(Nov-77)
2-0201-1,2	(Apr-80)	3-0360-5,6	(Apr-80)	4-0422-3,4	(Nov-77)
2-0201-3,4	(Apr-80)			4-0422-5,6	(Nov-77)

Vertical lines indicate pages included in this revision.
 *Remove these pages from manual.

4-0422-7,8	(Nov-77)	10-1011-1,2	(Nov-78)	18-1810-9,10	(Nov-77)
4-0422-9,10	(Nov-77)	10-1011-3,4	(Nov-78)	18-1810-11,12	(Nov-77)
4-0433-1,2	(Apr-80)	10-1011-5,6	(Nov-77)	18-1810-13,14	(Nov-78)
4-0499-1,2	(Apr-80)	10-1015-1,2	(Nov-78)	18-1821-1,2	(Apr-80)
4-0499-3,4	(Nov-77)	10-1060-1,2	(Nov-77)	18-1821-3,4	(Nov-77)
4-0499-5,6	(Nov-77)	10-1060-3,4	(Nov-77)	18-1830-1,2	(Nov-77)
4-0499-7,8	(Apr-80)	10-1060-5,6	(Apr-80)	18-1830-3,4	(Nov-77)
4-0499-9,10	(Apr-80)	10-1060-7,8	(Apr-80)	18-1899-1,2	(Nov-77)
4-0499-11,12	(Apr-80)	10-1099-1,2	(Apr-80)		
4-0499-13,14	(Apr-80)	10-1099-3,4	(Apr-80)	19-1910-1,2	(Apr-80)
4-0499-15,16	(Nov-77)			19-1910-3,4	(Apr-80)
4-0499-17,18	(Apr-80)	11-1111-1,2	(Apr-80)	19-1910-5,6	(Apr-80)
4-0499-19,20	(Nov-77)	11-1111-3,4	(Apr-80)	19-1913-1,2	(Nov-77)
4-0499-21,22	(Apr-80)	11-1115-1,2	(Apr-80)	19-1921-1,2	(Apr-80)
4-0499-23,24	(Apr-80)	11-1199-1,2	(Apr-80)		
4-0499-25,26	(Apr-80)			20-2003-1,2	(Apr-80)
4-0499-27,28	(Apr-80)	16-1671-1,2	(Nov-77)	20-2003-3,4	(Nov-78)
4-0499-29,30	(Apr-80)	16-1671-3,4	(Nov-78)	20-2003-5,6	(Nov-78)
4-0499-31,32	(Apr-80)	16-1671-5,6	(Apr-80)	20-2003-7,8	(Nov-78)
4-0499-33,34	(Apr-80)	16-1671-7,8	(Nov-78)	20-2003-9,10	(Nov-78)
4-0499-35,36	(Apr-80)	16-1672-1,2	(Nov-77)	20-2003-11,12	(Apr-80)
4-0499-37,38	(Apr-80)	16-1672-3,4	(Nov-77)	20-2003-13,14	(Apr-80)
4-0499-39,40	(Apr-80)	16-1672-5,6	(Nov-77)	20-2004-1,2	(Nov-77)
4-0499-41,42	(Apr-80)	16-1672-7,8	(Apr-80)	20-2006-1,2	(Nov-77)
		16-1673-1,2	(Nov-77)	20-2099-1,2	(Nov-78)
5-0505-1,2	(Nov-78)	16-1674-1,2	(Nov-77)		
5-0505-3,4	(Nov-77)	16-1674-3,4	(Apr-80)	21-2160-1,2	(Apr-80)
5-0510-1,2	(Apr-80)	16-1675-1,2	(Nov-77)	21-2160-3,4	(Apr-80)
5-0515-1,2	(Nov-77)	16-1676-1,2	(Nov-77)	21-2160-5,6	(Apr-80)
5-0520-1,2	(Nov-77)	16-1676-3,4	(Nov-77)	21-2160-7,8	(Apr-80)
5-0530-1,2	(Nov-77)	16-1699-1,2	(Apr-80)	21-2160-9,10	(Apr-80)
5-0540-1,2	(Nov-77)	16-1699-3,4	(Apr-80)	21-2160-11,12	(Apr-80)
5-0560-1,2	(Nov-78)	16-1699-5,6	(Apr-80)	21-2160-13,14	(Apr-80)
5-0599-1,2	(Nov-78)	16-1699-7,8	(Nov-77)	21-2160-15,16	(Apr-80)
				21-2160-17,18	(Apr-80)
9-0960-1,2	(Nov-78)	17-1740-1,2	(Apr-80)	21-2160-19,20	(Apr-80)
9-0960-3,4	(Nov-77)	17-1740-3,4	(Apr-80)	21-2160-21,22	(Apr-80)
9-0960-5,6	(Nov-77)	17-1740-5,6	(Apr-80)	21-2160-23,24	(Apr-80)
9-0960-7,8	(Nov-78)	17-1740-7,8	(Apr-80)	21-2160-25,26	(Apr-80)
9-0960-9,10	(Nov-78)	17-1741-1,2*	(Nov-77)	21-2160-27,28	(Apr-80)
9-0960-11,12	(Nov-78)	17-1741-3,4*	(Nov-77)	21-2160-29,30	(Apr-80)
9-0960-13,14	(Nov-78)	17-1741-5,6*	(Nov-77)	21-2160-31,32	(Apr-80)
9-0960-15,16	(Apr-80)	17-1742-1,2*	(Nov-77)	21-2160-33,34	(Apr-80)
9-0960-17,18	(Apr-80)	17-1742-3,4*	(Nov-77)	21-2160-35,36	(Apr-80)
9-0960-19,20	(Apr-80)	17-1746-1,2	(Apr-80)	21-2160-37,38	(Apr-80)
9-0960-21,22	(Apr-80)	17-1799-1,2	(Apr-80)	21-2160-39,40	(Apr-80)
9-0999-1,2	(Nov-77)			21-2160-41,42	(Apr-80)
9-0999-3,4	(Nov-78)	18-1810-1,2	(Apr-80)	21-2160-43,44	(Apr-80)
9-0999-5,6	(Apr-80)	18-1810-3,4	(Apr-80)	21-2160-45,46	(Apr-80)
9-0999-7,8	(Apr-80)	18-1810-5,6	(Apr-80)	21-2160-47,48	(Apr-80)
		18-1810-7,8	(Nov-77)		

Vertical lines indicate pages included in this revision.
*Remove these pages from manual.

21-2199-1,2	(Apr-80)	30A-3060A-1,2	(Apr-80)	38-3860-37,38	(Apr-80)
21-2199-3,4	(Apr-80)	30A-3060A-3,4	(Apr-80)	38-3860-39,40	(Apr-80)
21-2199-5,6	(Apr-80)	30A-3060A-5,6	(Apr-80)	38-3899-1,2	(Apr-80)
21-2199-7,8	(Apr-80)	30A-3099A-1,2	(Apr-80)	38-3899-3,4	(Apr-80)
21-2199-9,10	(Apr-80)	30A-3099A-3,4	(Apr-80)	38-3899-5,6	(Apr-80)
21-2199-11,12	(Apr-80)	30A-3099A-5,6	(Apr-80)		
21-2199-13,14	(Apr-80)	30A-3099A-7,8	(Apr-80)	40-4025-1,2	(Nov-77)
21-2199-15,16	(Apr-80)			40-4025-3,4	(Nov-77)
21-2199-17,18	(Apr-80)	32-3201-1,2	(Nov-77)	40-4025-5,6	(Nov-77)
		32-3201-3,4	(Nov-77)	40-4099-1,2	(Nov-77)
		32-3201-5,6	(Nov-77)		
30-3015-1,2	(Apr-80)	32-3215-1,2	(Nov-77)	90-9005-1,2	(Nov-78)
30-3015-3,4	(Apr-80)	32-3215-3,4	(Apr-80)	90-9010-1,2	(Nov-77)
30-3041-1,2	(Apr-80)	32-3260-1,2	(Apr-80)	90-9010-3,4	(Nov-77)
30-3041-3,4	(Apr-80)	32-3260-3,4	(Apr-80)	90-9010-5,6	(Nov-77)
30-3050-1,2	(Apr-80)	32-3260-5,6	(Apr-80)	90-9010-7,8	(Nov-78)
30-3050-3,4	(Apr-80)	32-3260-7,8	(Apr-80)	90-9010-9,10	(Apr-80)
30-3050-5,6	(Apr-80)	32-3260-9,10	(Apr-80)	90-9010-11,12	(Apr-80)
30-3050-7,8	(Apr-80)	32-3260-11,12	(Apr-80)	90-9010-13,14	(Apr-80)
30-3050-9,10	(Apr-80)	32-3299-1,2	(Apr-80)	90-9010-15,16	(Apr-80)
30-3050-11,12	(Apr-80)	32-3299-3,4	(Apr-80)	90-9015-1,2	(Apr-80)
30-3050-13,14	(Apr-80)			90-9015-3,4	(Nov-77)
30-3050-15,16	(Apr-80)	37-3740-1,2	(Nov-77)	90-9015-5,6	(Nov-77)
30-3050-17,18	(Apr-80)	37-3740-3,4	(Apr-80)	90-9015-7,8	(Apr-80)
30-3050-19,20*	(Nov-78)	37-3740-5,6	(Nov-77)	90-9015-9,10	(Apr-80)
30-3050-21,22*	(Nov-77)	37-3740-7,8	(Nov-77)	90-9015-11,12	(Nov-77)
30-3060-1,2	(Apr-80)	37-3740-9,10	(Nov-77)	90-9015-13,14	(Apr-80)
30-3060-3,4	(Nov-77)	37-3799-1,2	(Apr-80)	90-9015-15,16	(Nov-77)
30-3060-5,6	(Apr-80)			90-9015-17,18	(Apr-80)
30-3099-1,2	(Apr-80)	38-3803-1,2	(Apr-80)	90-9015-19,20	(Apr-80)
30-3099-3,4	(Apr-80)	38-3803-3,4	(Nov-77)	90-9015-21,22	(Apr-80)
30-3099-5,6	(Apr-80)	38-3803-5,6	(Nov-77)	90-9015-23,24	(Apr-80)
30-3099-7,8	(Apr-80)	38-3860-1,2	(Nov-77)	90-9015-25,26	(Apr-80)
30-3099-9,10	(Apr-80)	38-3860-3,4	(Nov-77)	90-9015-27,28	(Apr-80)
		38-3860-5,6	(Nov-77)	90-9015-29,30	(Apr-80)
30A-3041A-1,2	(Apr-80)	38-3860-7,8	(Apr-80)	90-9015-31,32	(Apr-80)
30A-3041A-3,4	(Apr-80)	38-3860-9,10	(Apr-80)	90-9015-33,34	(Apr-80)
30A-3041A-5,6	(Apr-80)	38-3860-11,12	(Apr-80)	90-9015-35,36	(Apr-80)
30A-3041A-7,8	(Apr-80)	38-3860-13,14	(Apr-80)	90-9015-37,38	(Nov-77)
30A-3041A,9,10	(Apr-80)	38-3860-15,16	(Apr-80)	90-9015-39,40	(Nov-77)
30A-3041A-11,12	(Apr-80)	38-3860-17,18	(Apr-80)	90-9015-41,42	(Nov-77)
30A-3041A-13,14	(Apr-80)	38-3860-19,20	(Apr-80)	90-9015-43,44	(Nov-77)
30A-3050A-1,2	(Apr-80)	38-3860-21,22	(Apr-80)	90-9015-45,46	(Nov-77)
30A-3050A-3,4	(Apr-80)	38-3860-23,24	(Apr-80)	90-9015-47,48	(Apr-80)
30A-3050A-5,6	(Apr-80)	38-3860-25,26	(Apr-80)	90-9015-49,50	(Nov-77)
30A-3050A-7,8	(Apr-80)	38-3860-27,28	(Apr-80)	90-9015-51,52	(Apr-80)
30A-3050A-9,10	(Apr-80)	38-3860-29,30	(Apr-80)	90-9015-53,54	(Apr-80)
30A-3050A-11,12	(Apr-80)	38-3860-31,32	(Apr-80)	90-9020-1,2	(Nov-77)
30A-3050A-13,14	(Apr-80)	38-3860-33,34	(Apr-80)	90-9020-3,4	(Nov-77)
30A-3050A-15,16	(Apr-80)	38-3860-35,36	(Apr-80)	90-9020-5,6	(Nov-77)
30A-3050A-17,18	(Apr-80)				

Vertical lines indicate pages included in this revision.
 *Remove these pages from manual.

90-9020-7,8	(Nov-77)	90-9025A-15,16	(Nov-78)
90-9020-9,10	(Nov-77)	90-9025A-17,18	(Nov-78)
90-9020-11,12	(Nov-77)	90-9025A-19,20	(Nov-78)
90-9020-13,14	(Nov-77)	90-9025A-21,22	(Nov-78)
90-9020-15,16	(Apr-80)	90-9025A-23,24	(Apr-80)
90-9020-17,18	(Nov-78)	90-9025A-25,26	(Apr-80)
90-9025-1,2	(Apr-80)	90-9025A-27,28	(Nov-78)
90-9025-3,4	(Apr-80)	90-9025A-29,30	(Nov-78)
90-9025-5,6	(Apr-80)	90-9025A-31,32	(Nov-78)
90-9025-7,8	(Apr-80)	90-9025A-33,34	(Nov-78)
90-9025-9,10	(Apr-80)	90-9025A-35,36	(Nov-78)
90-9025-11,12	(Apr-80)	90-9030-1,2	(Nov-77)
90-9025-13,14	(Apr-80)	90-9030-3,4	(Apr-80)
90-9025-15,16	(Nov-77)	90-9035-1,2	(Apr-80)
90-9025-17,18	(Nov-77)	90-9035-3,4	(Apr-80)
90-9025-19,20	(Nov-78)	90-9035-5,6	(Apr-80)
90-9025-21,22	(Nov-77)	90-9035-7,8	(Apr-80)
90-9025-23,24	(Nov-78)	90-9035-9,10	(Apr-80)
90-9025-25,26	(Apr-80)	90-9035-11,12	(Apr-80)
90-9025-27,28	(Nov-77)	90-9035-13,14	(Apr-80)
90-9025-29,30	(Nov-77)	90-9035-15,16	(Apr-80)
90-9025-31,32	(Nov-77)	90-9035-17,18	(Apr-80)
90-9025-33,34	(Nov-77)	90-9035-19,20	(Apr-80)
90-9025-35,36	(Nov-77)	90-9035-21,22	(Apr-80)
90-9025-37,38	(Nov-77)	90-9035-23,24*	(Nov-78)
90-9025-39,40	(Nov-77)		
90-9025-41,42	(Apr-80)		
90-9025-43,44	(Apr-80)		
90-9025-45,46	(Apr-80)		
90-9025-47,48	(Apr-80)		
90-9025-49,50	(Apr-80)		
90-9025-51,52	(Apr-80)		
90-9025-53,54	(Nov-78)		
90-9025-55,56	(Nov-78)		
90-9025-57,58	(Nov-78)		
90-9025-59,60	(Nov-78)		
90-9025-61,62	(Nov-78)		
90-9025-63,64	(Apr-80)		
90-9025-65,66	(Nov-78)		
90-9025-67,68	(Apr-80)		
90-9025-69,70	(Nov-78)		
90-9025-71,72	(Apr-80)		
90-9025-73,74	(Nov-78)		
90-9025A-1,2	(Nov-78)		
90-9025A-3,4	(Nov-78)		
90-9025A-5,6	(Nov-78)		
90-9025A-7,8	(Nov-78)		
90-9025A-9,10	(Nov-78)		
90-9025A-11,12	(Nov-78)		
90-9025A-13,14	(Nov-78)		

Vertical lines indicate pages included in this revision.

*Remove these pages from manual.

INDEX

A	
Accumulator, brake	1060-5
Accumulator, emergency steering	0960-18
Adjustable log arch	3740-3
After sale inspection	I-IV-20
Air cleaner	0520-1
Air restriction indicator	1676-2
Alternator and regulator	1672-1
Alternator indicator light	1676-2
Automatic controls	1675-1
Axle housing	0201-3
Axle shafts, bearings and gears	0250-1

B	
Batteries	1671-3
Blade control valve	3260-1
Blade controls linkage, (stacking blade)	3215-1
Blade controls linkage, (trailbuilding blade)	3215-3
Blade, dozer	3201-3
Blade lift cylinder	3260-5
Blade tilt cylinder	3260-9
Boom	3740-5
Boom, arch and grapple cylinders	3860-35
Boom guard and cover	1913-1
Bottom guards	1746-1
Brake accumulator	1060-5
Brake active elements (parking brake)	1111-3
Brake active elements (service brakes)	1011-3
Blade controls linkage (parking brake)	1115-1
Brake controls linkage (service brakes)	1015-1
Brake hydraulics (service brakes)	1060-1
Brake valve	1060-1

C	
Cab and canopy	1810-3
Camshaft and rocker arms	0402-1
Cigar lighter	2006-1
Circuit breaker, main	1674-1
Cold weather starting aid	0505-3

Connecting rods and pistons	0403-1
Controls, automatic	1675-1
Cooling systems, engine	0510-1
Cowl	1910-4
Crankshaft and main bearings	0401-1
Cylinder, blade lift	3260-5
Cylinder, blade tilt	3260-9
Cylinder block and liners	0404-1
Cylinder head and valves	0409-1
Cylinder liners	0404-1
Cylinders, boom, arch and grapple	3860-26
Cylinders, steering	0960-12

D	
Dash	1910-4
Delivery service	I-IV-20
Diagnosis and testing	9005-3
Differential lock valve	0210-14
Differentials	0210-1
Dozer blade	3201-3
Drive axle housing and support	0201-3
Drive shafts and U-joints	0225-1
Drive shafts, winch	4025-3

E	
Electrical system testing	9015-1
Block diagram	9015-4, 9015-20
Component location	9015-10
Inspection	9015-6
Malfunctions	9015-7
Precautions	9015-4
Schematics	9015-4, 9015-22
Tests and adjustments	9015-30
Theory of operation	9015-1
Emergency steering accumulator	0960-18
Emergency steering low pressure warning switch	0960-20
Engine auxiliary systems:	
Cold weather starting aids	0505-3
Cooling systems	0510-1
External exhaust systems	0530-1
External fuel supply system	0560-1
Intake system	0520-1
Mounting frame	0540-1
Speed controls	0515-1

Please click here and go
back to our website.

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