

# **Tillage Equipment**

**John Deere Des Moines Works  
TM1495 (10JAN95)**

LITHO IN U.S.A.  
ENGLISH

# Introduction

## FOREWORD

This manual is written for an experienced technician. Essential tools required in performing certain service work are identified in this manual and are recommended for use.

Live with safety: Read the safety messages in the introduction of this manual and the cautions presented throughout the text of the manual.



This is the safety-alert symbol. When you see this symbol on the machine or in this manual, be alert to the potential for personal injury.

Technical manuals are divided in two parts: repair and operation and tests. Repair sections tell how to repair the components. Operation and tests sections help you identify the majority of routine failures quickly.

Information is organized in groups for the various components requiring service instruction. At the beginning of each group are summary listings of all applicable essential tools, service equipment and tools, other materials needed to do the job, service parts kits, specifications, wear tolerances, and torque values.

Technical Manuals are concise guides for specific machines. They are on-the-job guides containing only the vital information needed for diagnosis, analysis, testing, and repair.

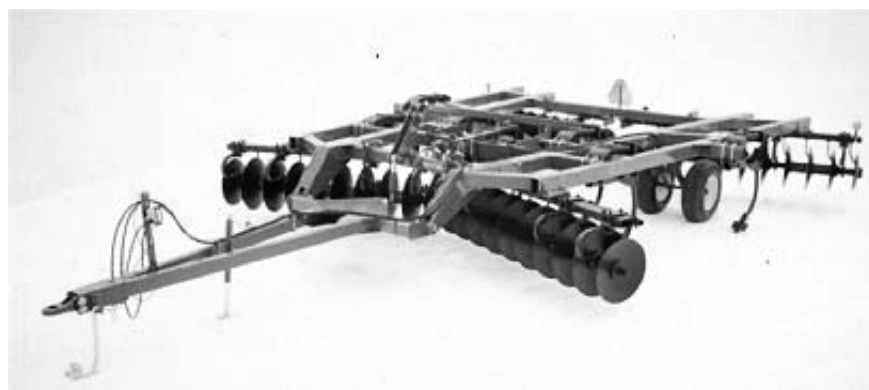
Fundamental service information is available from other sources covering basic theory of operation, fundamentals of troubleshooting, general maintenance, and basic type of failures and their causes.



N78164D1

N78164D1 -JUN-03APR89

400 Series Folding Rotary Hoe



N42150GT -JUN-12APR94

510 Disk Ripper

NXN,T1005A -19-28JUL94

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550 Mulch Master

N42121DA -JUN-19DEC91

NXN,T1005A2 -19-28JUL94



610 Chisel Plow

N38962 -JUN-28SEP88

NXN,T1005AZ -19-28APR92



630 Flexible-Fold Disk

N41011 -JUN-06OCT88



635 Flexible-Fold Disk

N89269AF -JUN-14FEB90

NX,T1005G -19-28JUL94

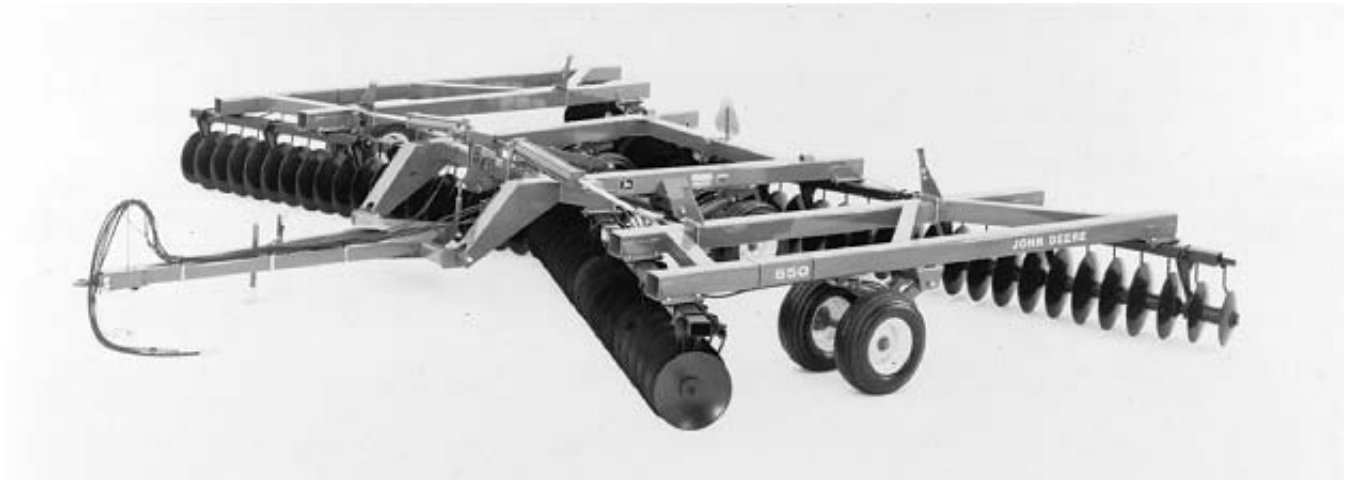
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640 Flexible-Fold Disk

N41012 -UN-06OCT88



650 Flexible-Fold Disk

N41056 -UN-25OCT88

NX,T1005G2 -19-28JUL94

Introduction Information

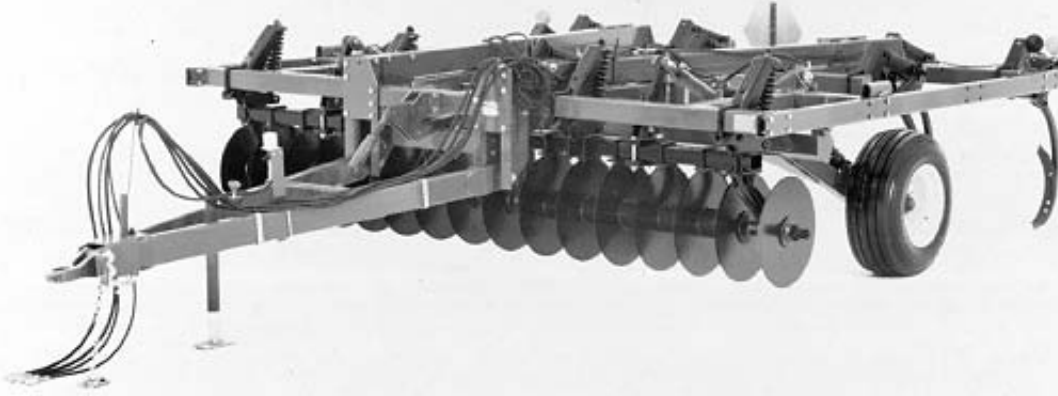


680 Chisel Plow

N42150HR -UN-12APR94

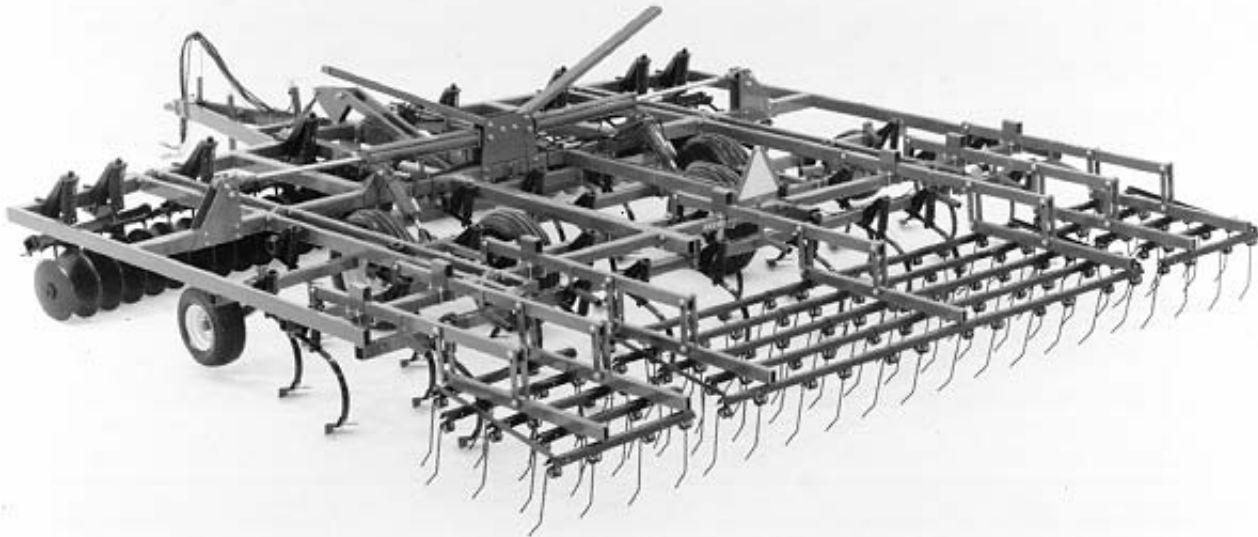
NX,T1005G3 -19-29DEC94

51510



714 Mulch Tiller

N39545 -UN-04OCT88



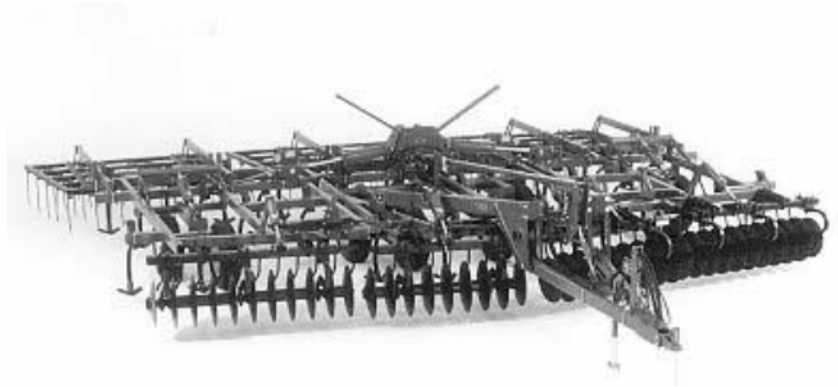
724 Mulch Finisher

N39488 -UN-04OCT88

NX,T1005B -19-28JUL94



Introduction Information



726 Mulch Finisher

N42143AA -JUN-17NOV94

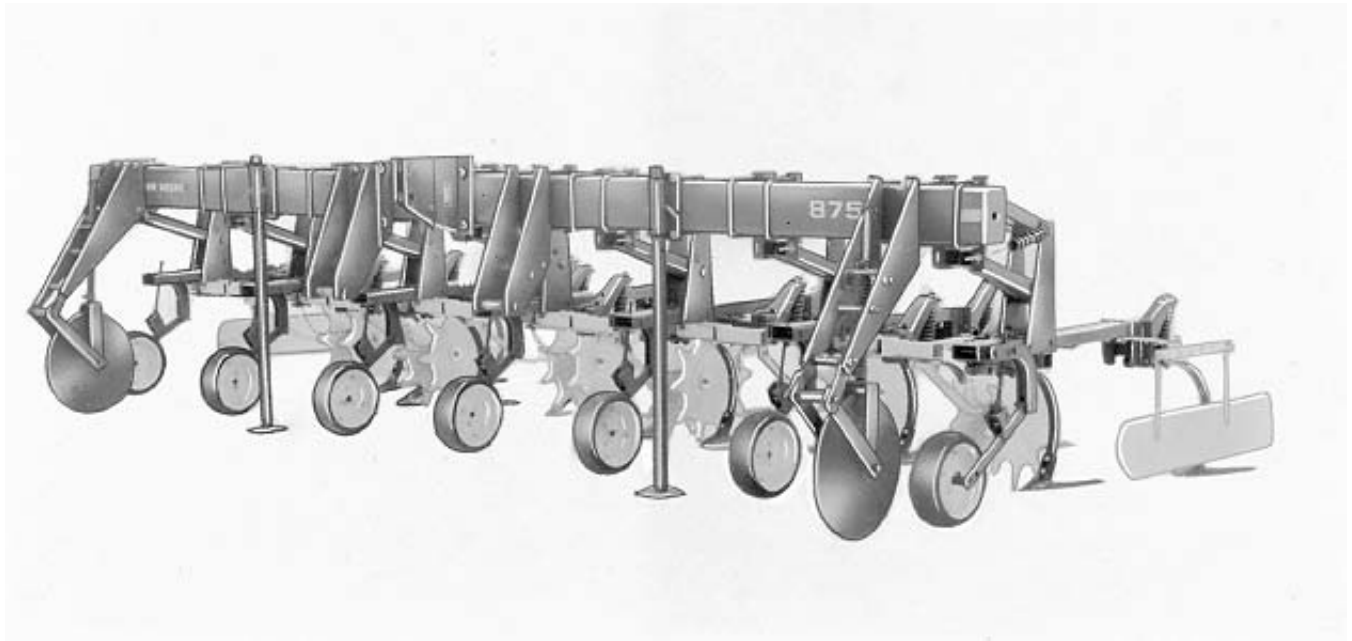
NX,T1005B1 -19-29DEC94

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N81041L1 -JUN-01JAN94

825 Series Row Crop Cultivator



N38053 -JUN-01JAN94

875 Series Rigid Min. Till Cult.

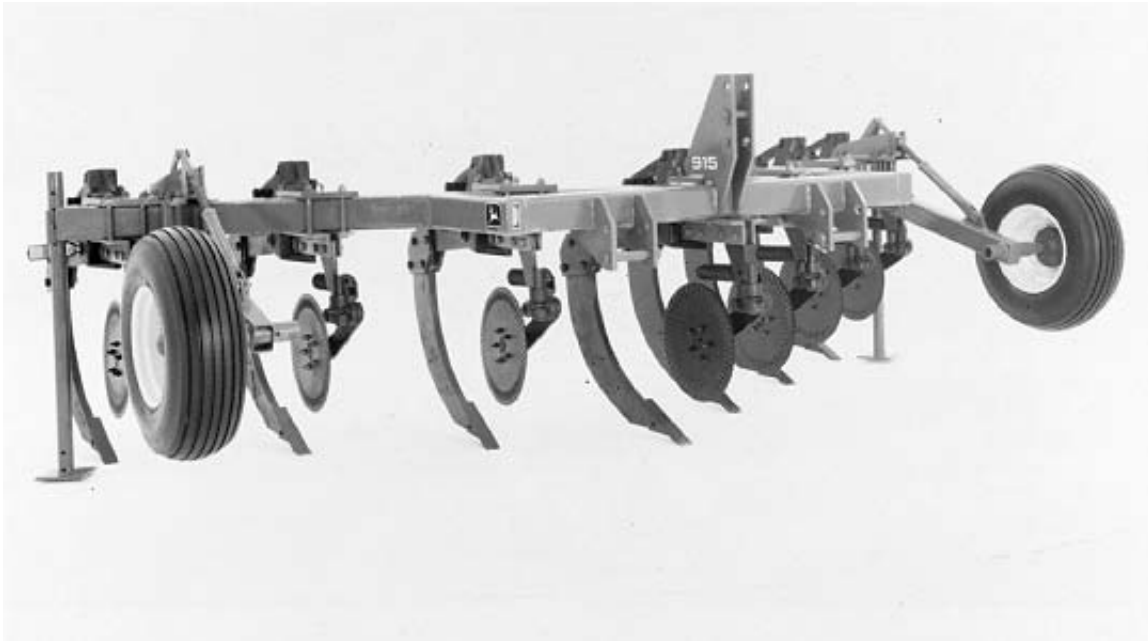
NX,T1005B2 -19-15AUG94

Introduction Information



N42124NO -JUN-27APR92

885 Row-Crop Cultivator

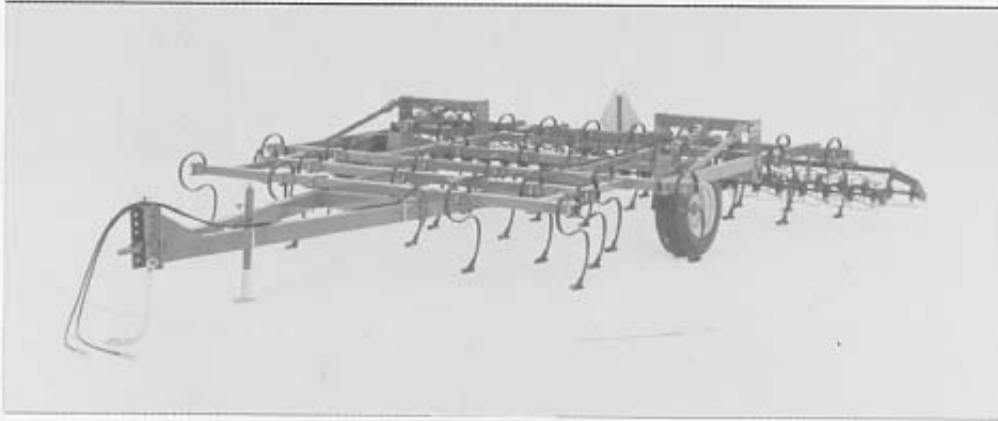


N39565 -JUN-04OCT88

915 V-Ripper

NXN,T1005B2Z -19-20APR92

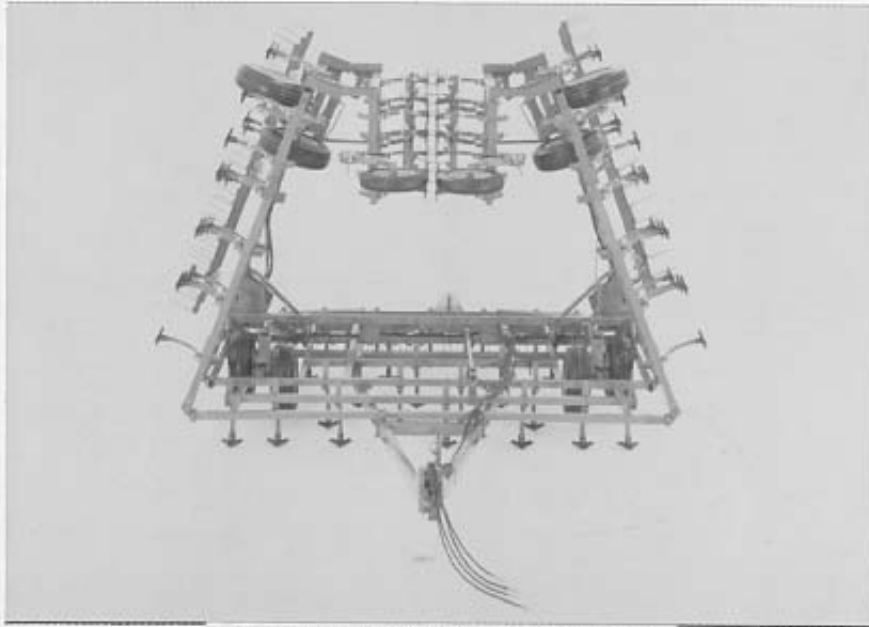
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Rigid



Rigid Horizontal Fold

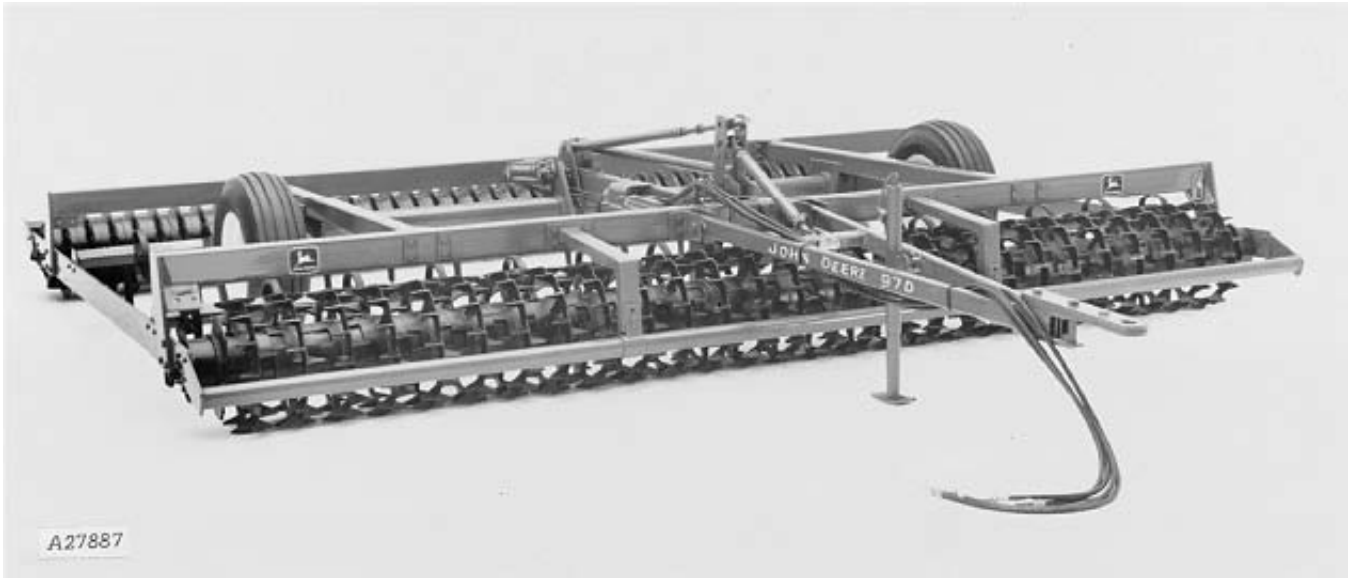


Flexible Fold with Low Transport Attachment

960 Field Cultivator

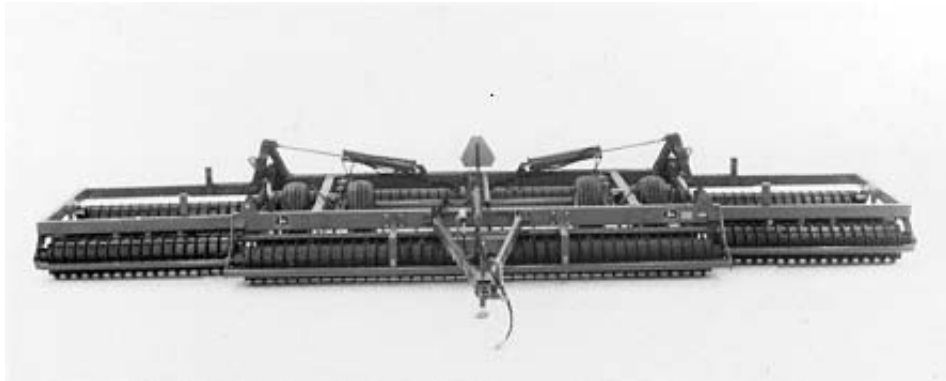
N38628 -19-28FEB89

NX,T1005C -19-05NOV90



A27887 -UN-07OCT88

970 Roller Harrow With Fixed Frame



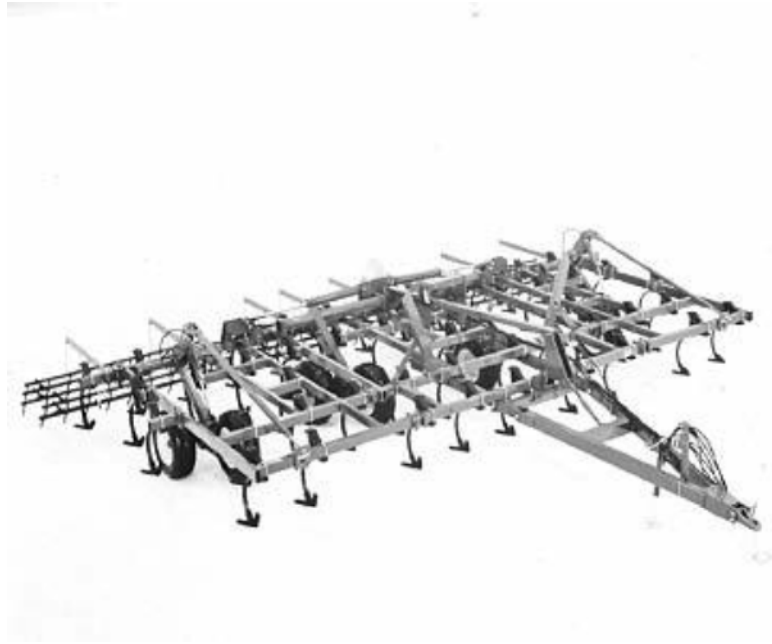
N89190AG -UN-26SEP89

970 Roller Harrow With Folding Frame

NX,T1005D -19-05NOV90

Introduction Information

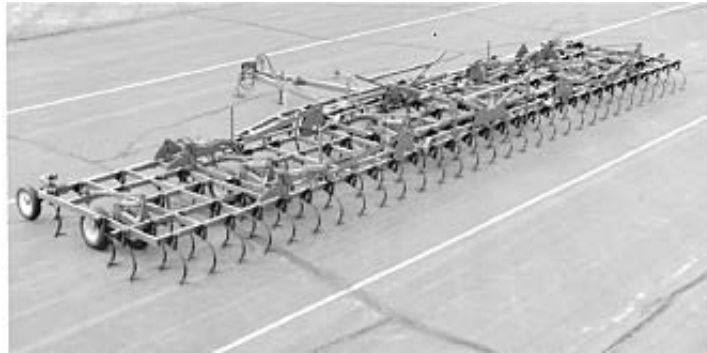
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980 Flexible Cultivator

N45130 -JUN-16APR93

NX,T1005D1 -19-28JUL94



985 Field Cultivator

N42126F -JUN-02DEC92

NX,T1005D2 -19-17DEC92

Introduction Information



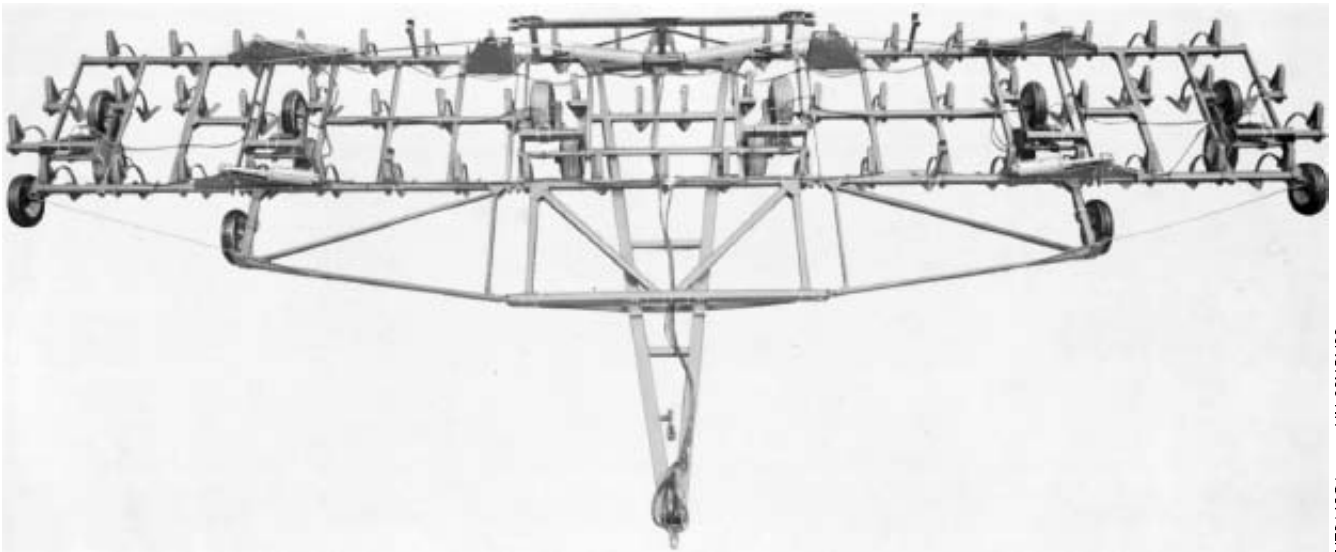
1060 Series Drawn Field Cultivator

N88267A -JUN-07DEC88

N88267A

NX,T1005E2 -19-15APR92

10-05-13



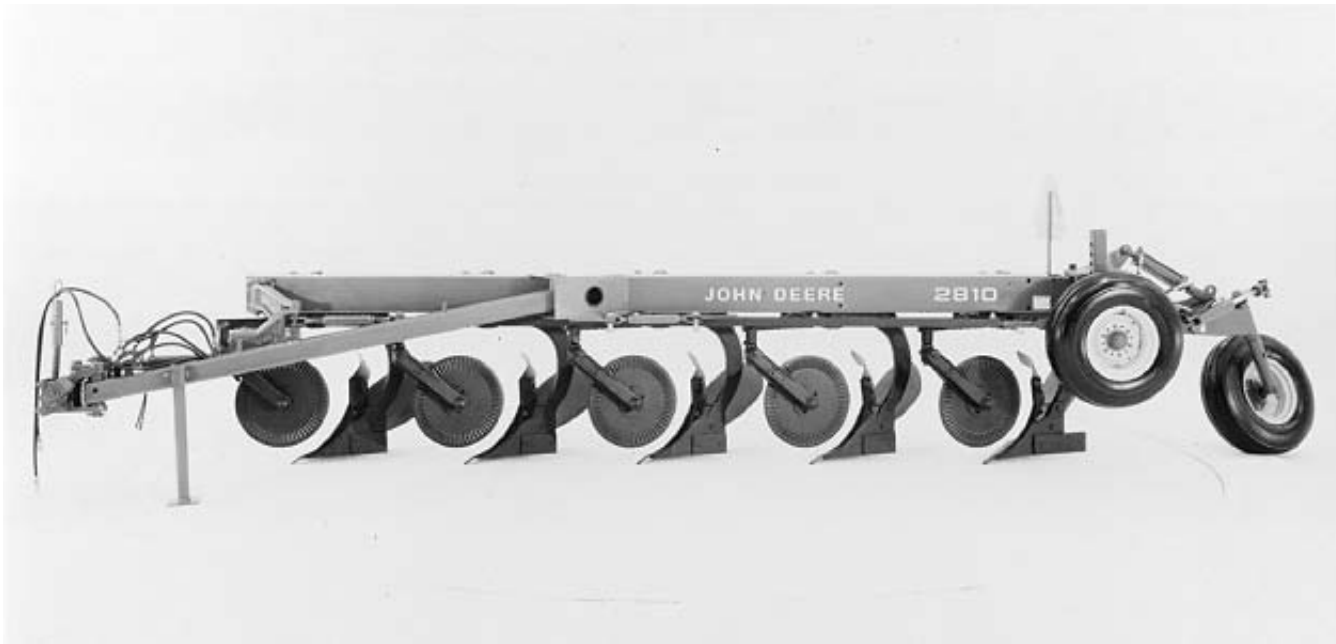
1650 Series Drawn Chisel Plow

N78142C1 -JUN-03NOV88

NX,T1005E2A -19-17DEC92

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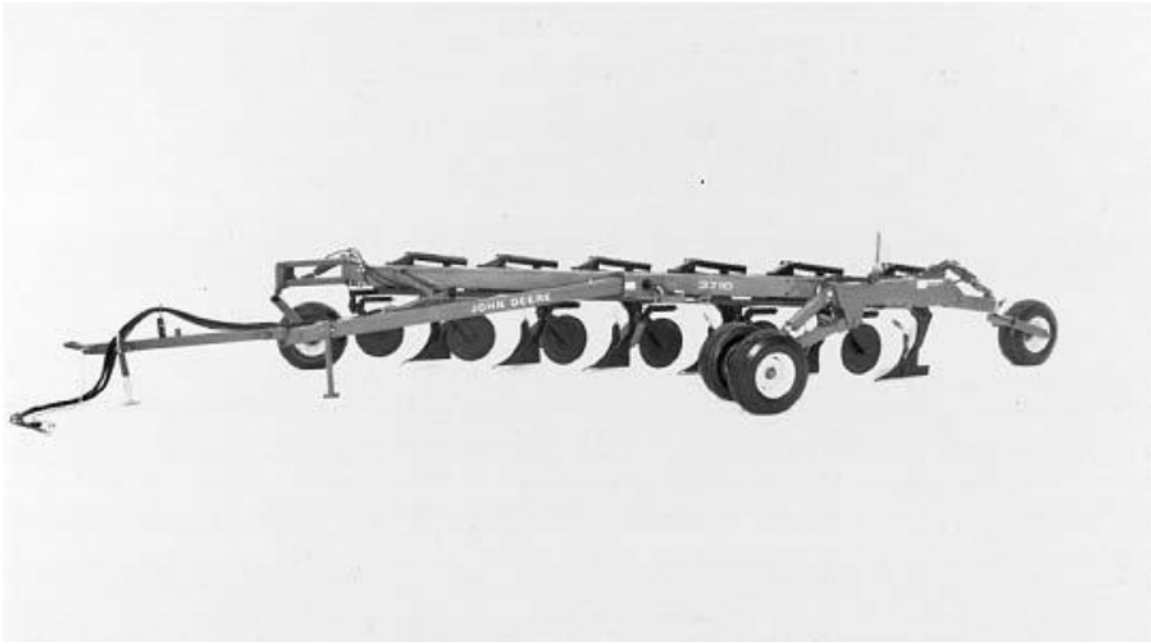


N39409 -UN-28SEP88

2810 In-Furrow Moldboard Plow

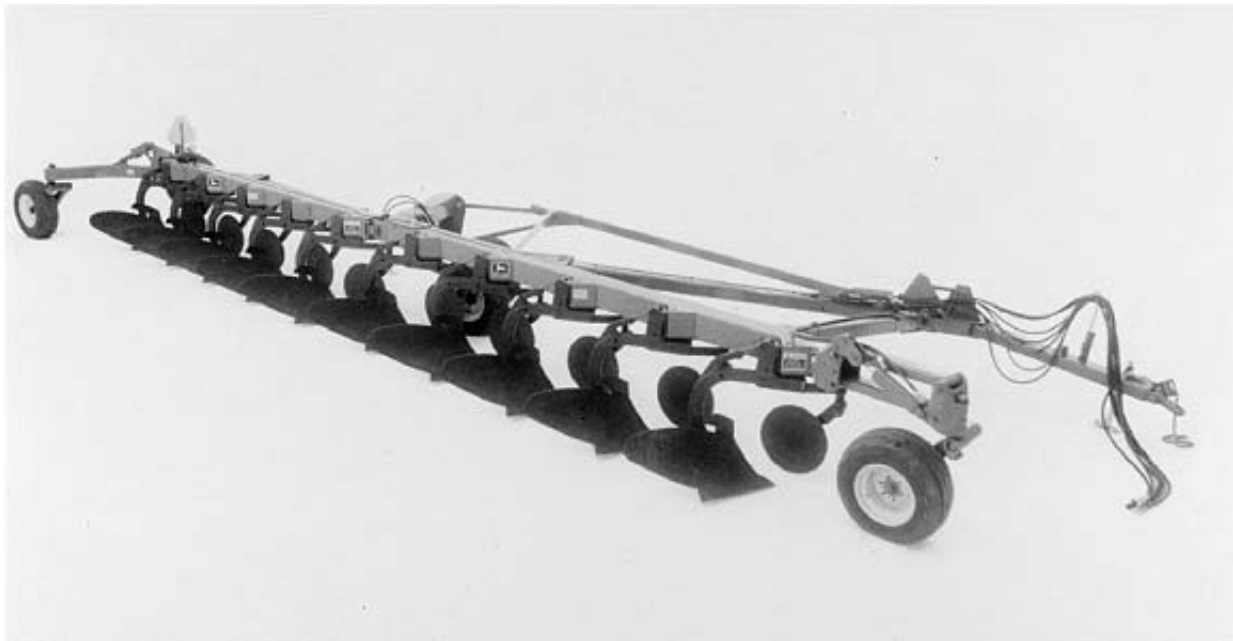
NX,T1005E3 -19-15APR92





N39493 -UN-28SEP88

3710 Drawn Rigid Moldboard Plow



N88245A1 -UN-06OCT88

3710 Drawn Flex Moldboard Plow

NX,T1005E4 -19-16APR92

## METRIC AND CUSTOMARY DESIGN

Specifications are given in metric with the US-customary equivalent following. Some specifications, like hardware, can not be converted and appear as they were designed in metric or in customary. When replacing hardware, replace it with the same strength and measurement. Never replace metric hardware with customary or customary with metric.



**CAUTION: Use only metric tools on metric hardware. Otherwise, the tool will not fit properly and may slip, causing injury.**

NX,T1005E -19-05NOV90

## UNAUTHORIZED MODIFICATIONS

Unauthorized modifications to the machine may impair the function of the machine and affect machine service life.



**CAUTION: Unauthorized modifications to the machine can impair the function of the machine causing serious injury or death to you or others. Only have authorized modifications performed on your machine.**

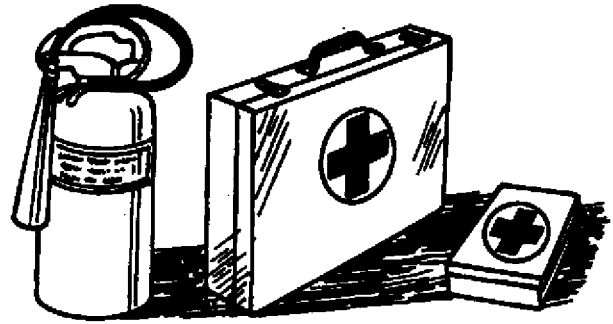
NX,T1005F -19-28JUL94

## PREPARE FOR EMERGENCIES

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.



DX,FIRE2 -19-03MAR93

TS291 -JUN-23AUG88

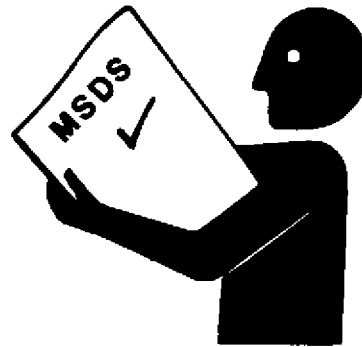
## HANDLE CHEMICAL PRODUCTS SAFELY

Direct exposure to hazardous chemicals can cause serious injury. Potentially hazardous chemicals used with John Deere equipment include such items as lubricants, coolants, paints, and adhesives.

A Material Safety Data Sheet (MSDS) provides specific details on chemical products: physical and health hazards, safety procedures, and emergency response techniques.

Check the MSDS before you start any job using a hazardous chemical. That way you will know exactly what the risks are and how to do the job safely. Then follow procedures and recommended equipment.

(See your John Deere dealer for MSDS's on chemical products used with John Deere equipment.)



DX,MSDS,NA -19-03MAR93

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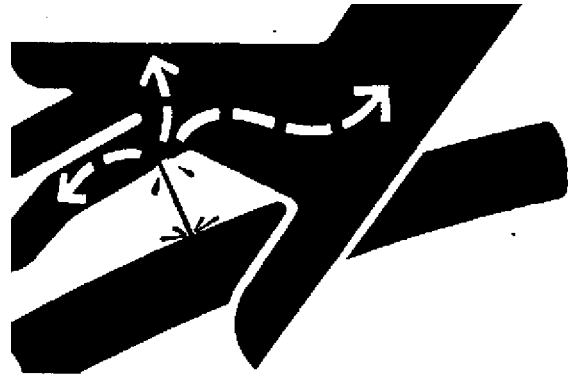
## AVOID HIGH-PRESSURE FLUIDS

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A.



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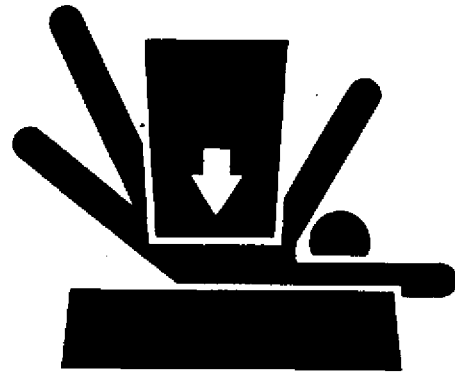
X9811

DX,FLUID -19-03MAR93

## SUPPORT MACHINE PROPERLY

Always lower the attachment or implement to the ground before you work on the machine. If you must work on a lifted machine or attachment, securely support the machine or attachment.

Do not support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load. Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.



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TS229

DX,LOWER -19-04JUN90

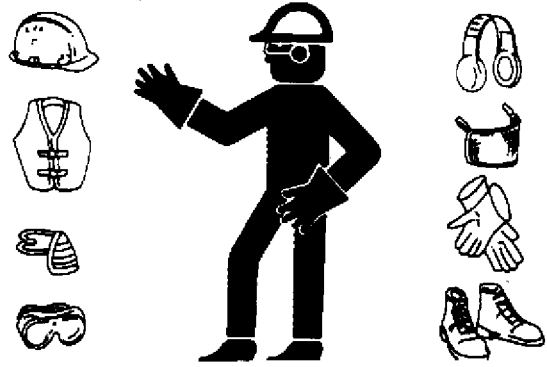
### WEAR PROTECTIVE CLOTHING

Wear close fitting clothing and safety equipment appropriate to the job.

Prolonged exposure to loud noise can cause impairment or loss of hearing.

Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.



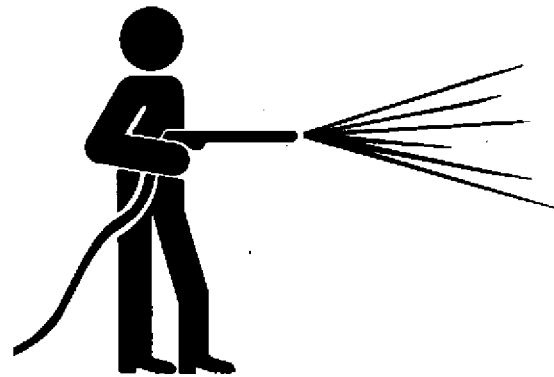
DX,WEAR -19-10SEP90

TS206 -UN-23AUG88

### WORK IN CLEAN AREA

Before starting a job:

- Clean work area and machine.
- Make sure you have all necessary tools to do your job.
- Have the right parts on hand.
- Read all instructions thoroughly; do not attempt shortcuts.



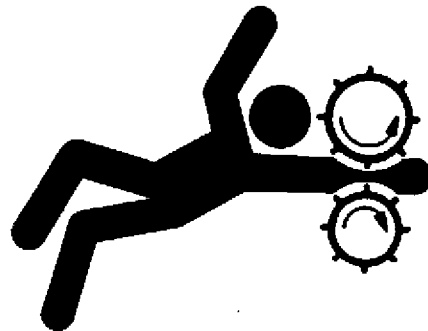
DX,CLEAN -19-04JUN90

T6642EJ -UN-18OCT88

### SERVICE MACHINES SAFELY

Tie long hair behind your head. Do not wear a necktie, scarf, loose clothing, or necklace when you work near machine tools or moving parts. If these items were to get caught, severe injury could result.

Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.



DX,LOOSE -19-04JUN90

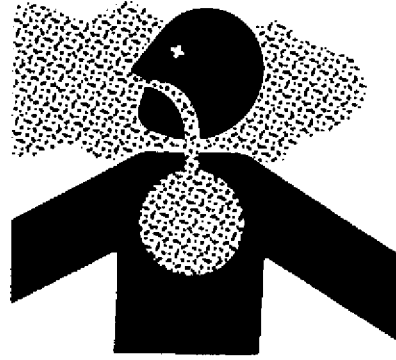
TS228 -UN-23AUG88

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### WORK IN VENTILATED AREA

Engine exhaust fumes can cause sickness or death. If it is necessary to run an engine in an enclosed area, remove the exhaust fumes from the area with an exhaust pipe extension.

If you do not have an exhaust pipe extension, open the doors and get outside air into the area.



DX,AIR -19-04JUN90

TS220 -JUN-23AUG88

### ILLUMINATE WORK AREA SAFELY

Illuminate your work area adequately but safely. Use a portable safety light for working inside or under the machine. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.

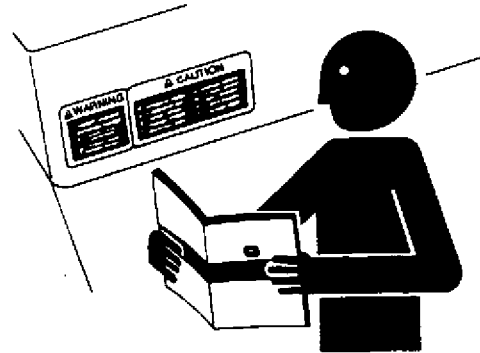


DX,LIGHT -19-04JUN90

TS223 -JUN-23AUG88

### REPLACE SAFETY SIGNS

Replace missing or damaged safety signs. See the machine operator's manual for correct safety sign placement.



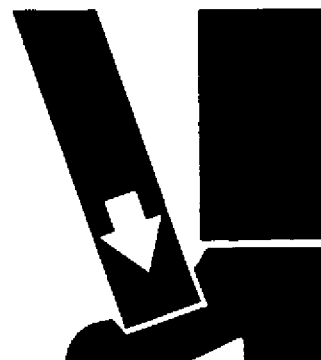
DX,SIGNS1 -19-04JUN90

TS201 -JUN-23AUG88

### USE PROPER LIFTING EQUIPMENT

Lifting heavy components incorrectly can cause severe injury or machine damage.

Follow recommended procedure for removal and installation of components in the manual.



DX,LIFT -19-04JUN90

TS226 -JUN-23AUG88

## REMOVE PAINT BEFORE WELDING OR HEATING

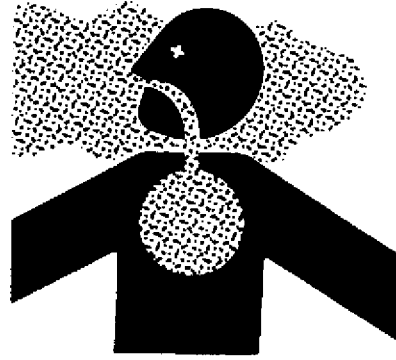
Avoid potentially toxic fumes and dust.

Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

Do all work outside or in a well ventilated area. Dispose of paint and solvent properly.

Remove paint before welding or heating:

- If you sand or grind paint, avoid breathing the dust. Wear an approved respirator.
- If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.



DX,PAINT -19-03MAR93

10-10-5  
-JUN-23AUG88  
TS220

## AVOID HEATING NEAR PRESSURIZED FLUID LINES

Flammable spray can be generated by heating near pressurized fluid lines, resulting in severe burns to yourself and bystanders. Do not heat by welding, soldering, or using a torch near pressurized fluid lines or other flammable materials. Pressurized lines can be accidentally cut when heat goes beyond the immediate flame area.



DX,TORCH -19-03MAR93

-JUN-15MAY90  
TSS953

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



**NOTE:**

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click on the link above,  
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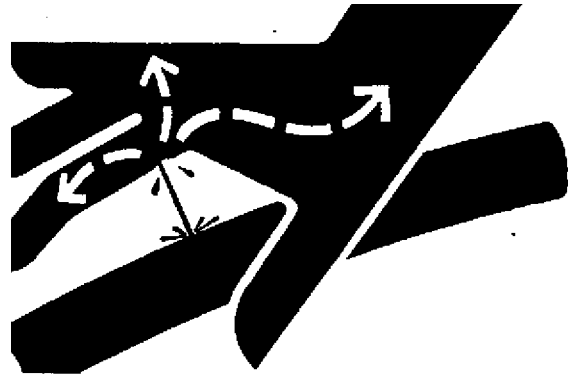


## CHECK HYDRAULIC HOSES

Hydraulic hoses can fail due to physical damage, kinks, age, and exposure. Check hoses regularly. Replace damaged hoses.

Escaping fluid under pressure can penetrate the skin causing serious injury. Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere and Company Medical Department in Moline, Illinois, U.S.A.



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X9811

NXN,9930,HYD -19-28FEB94

## SERVICE TIRES SAFELY

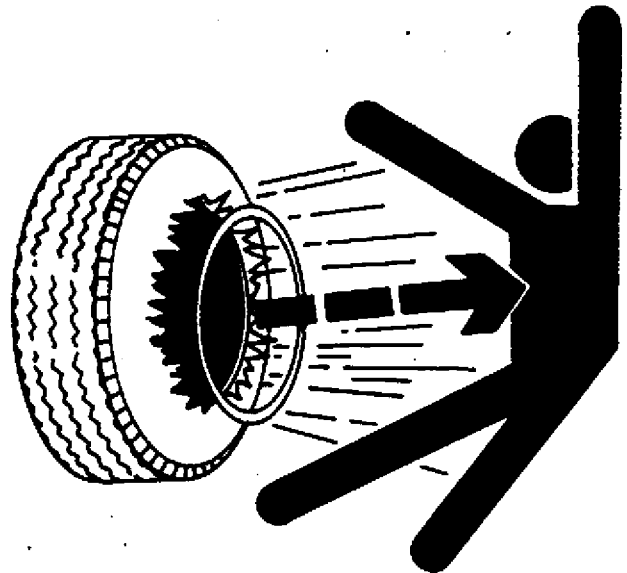
Explosive separation of a tire and rim parts can cause serious injury or death.

Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure. Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.

When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

Check wheels for low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.



-UN-23AUG88

TS211

DX,RIM -19-24AUG90

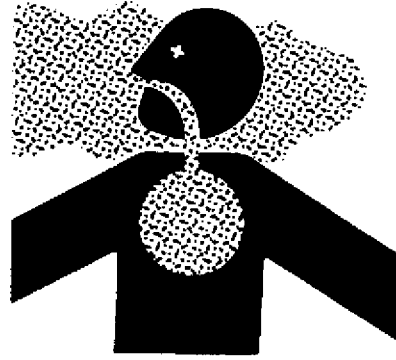
## AVOID HARMFUL ASBESTOS DUST

Avoid breathing dust that may be generated when handling components containing asbestos fibers. Inhaled asbestos fibers may cause lung cancer.

Components in products that may contain asbestos fibers are brake pads, brake band and lining assemblies, clutch plates, and some gaskets. The asbestos used in these components is usually found in a resin or sealed in some way. Normal handling is not hazardous as long as airborne dust containing asbestos is not generated.

Avoid creating dust. Never use compressed air for cleaning. Avoid brushing or grinding material containing asbestos. When servicing, wear an approved respirator. A special vacuum cleaner is recommended to clean asbestos. If not available, apply a mist of oil or water on the material containing asbestos.

Keep bystanders away from the area.



DX,DUST -19-15MAR91

TS220 -JUN-23AUG88

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## PRACTICE SAFE MAINTENANCE

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate, service, or adjust machine while it is moving. Keep hands, feet, and clothing from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

Disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.



DX,SERV -19-03MAR93

TS218 -JUN-23AUG88

### USE PROPER TOOLS

Use tools appropriate to the work. Makeshift tools and procedures can create safety hazards.

Use power tools only to loosen threaded parts and fasteners.

For loosening and tightening hardware, use the correct size tools. DO NOT use U.S. measurement tools on metric fasteners. Avoid bodily injury caused by slipping wrenches.

Use only service parts meeting John Deere specifications.



TS779 -JUN-08NOV89

DX,REPAIR -19-04JUN90

### DISPOSE OF WASTE PROPERLY

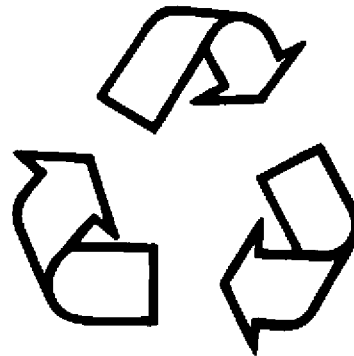
Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

Use leakproof containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

Do not pour waste onto the ground, down a drain, or into any water source.

Air conditioning refrigerants escaping into the air can damage the Earth's atmosphere. Government regulations may require a certified air conditioning service center to recover and recycle used air conditioning refrigerants.

Inquire on the proper way to recycle or dispose of waste from your local environmental or recycling center, or from your John Deere dealer.



TS1133 -JUN-26NOV90

DX,DRAIN -19-03MAR93