

# **710 and 720 Mower-Conditioners**

**John Deere Ottumwa Works  
TM1619 (06FEB01)**

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.

The technical manual contains two types of information: diagnostics and repair. Diagnostic groups help you identify the majority of routine failures quickly. Repair groups tell how to repair the components.

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.

Binders, binder labels, and tab sets can be ordered by John Deere dealers direct from the John Deere Distribution Service Center.

This manual is part of a total product support program.

### FOS MANUALS—REFERENCE

### TECHNICAL MANUALS—MACHINE SERVICE

### COMPONENT MANUALS—COMPONENT SERVICE

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

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

Component Technical Manuals are concise service guides for specific components. Component technical manuals are written as stand-alone manuals covering multiple machine applications.

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*All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.*

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A John Deere ILLUSTRATION® Manual

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### **HANDLE FLUIDS SAFELY—AVOID FIRES**

When you work around fuel, do not smoke or work near heaters or other fire hazards.

Store flammable fluids away from fire hazards. Do not incinerate or puncture pressurized containers.

Make sure machine is clean of trash, grease, and debris.

Do not store oily rags; they can ignite and burn spontaneously.



DX,FLAME -19-04JUN90

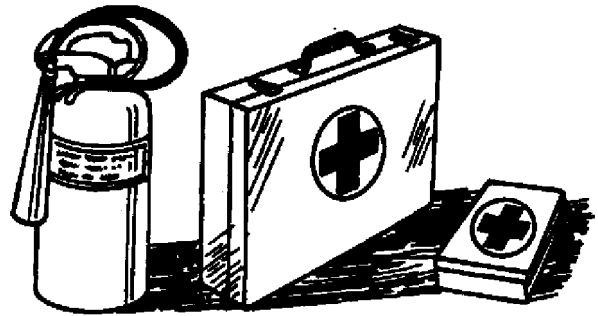
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### **PREPARE FOR EMERGENCIES**

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.



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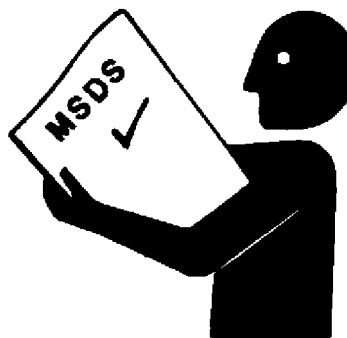
## HANDLE CHEMICAL PRODUCTS SAFELY

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.)



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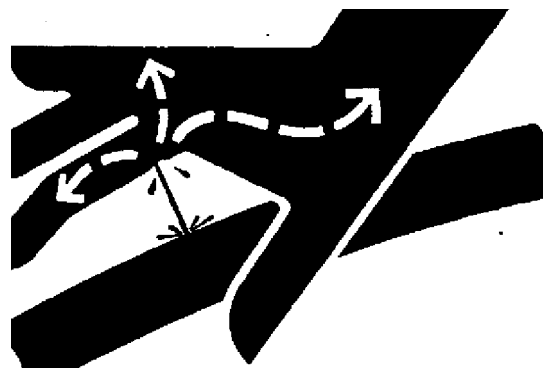
## AVOID HIGH-PRESSURE FLUIDS

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.



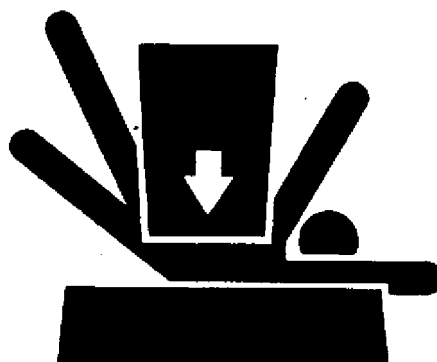
DX,FLUID -19-03MAR93

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### 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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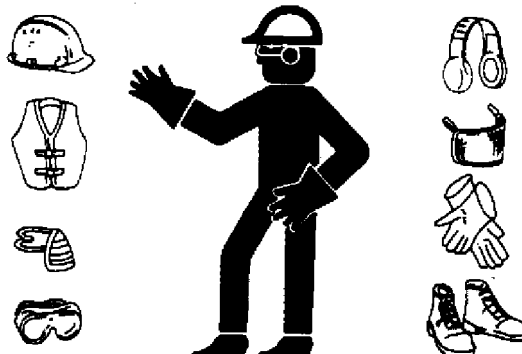
### WEAR PROTECTIVE CLOTHING

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

### STAY CLEAR OF ROTATING DRIVELINES

Entanglement in rotating driveline can cause serious injury or death.

Keep tractor master shield and driveline shields in place at all times. Make sure rotating shields turn freely.

Wear close fitting clothing. Stop the engine and be sure PTO driveline is stopped before making adjustments, connections, or cleaning out PTO driven equipment.



DX,PTO -19-12SEP95

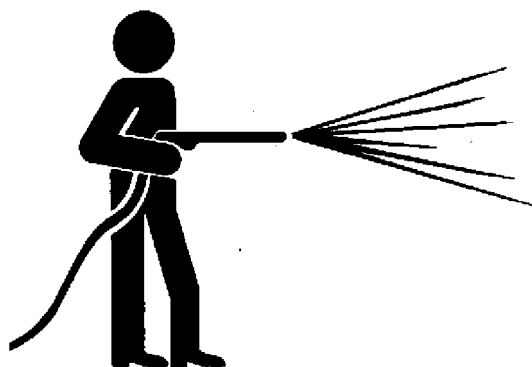
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### WORK IN CLEAN AREA

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.



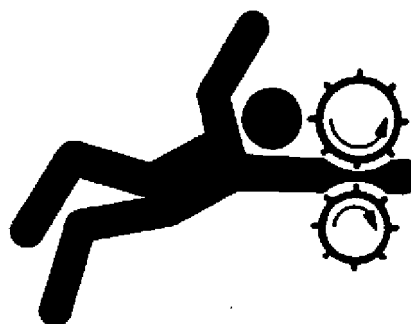
DX,CLEAN -19-04JUN90

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### 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.



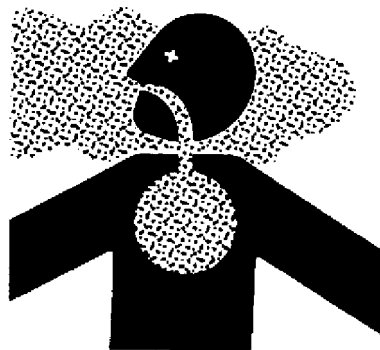
DX,LOOSE -19-04JUN90

TS228 -UN-23AUG88

### 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 -UN-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.

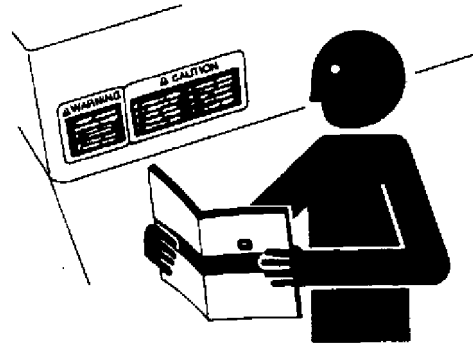


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### REPLACE SAFETY SIGNS

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



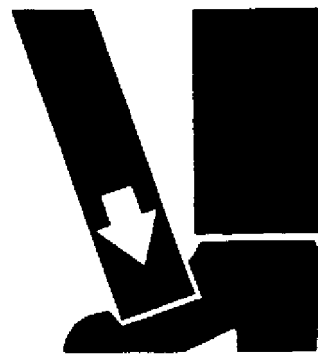
DX,SIGNS1 -19-04JUN90

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### 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.



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### REMOVE PAINT BEFORE WELDING OR HEATING

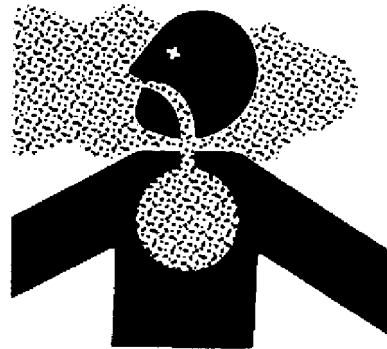
Avoid potentially toxic fumes and dust.

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

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TS220

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### 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

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### SERVICE TIRES SAFELY

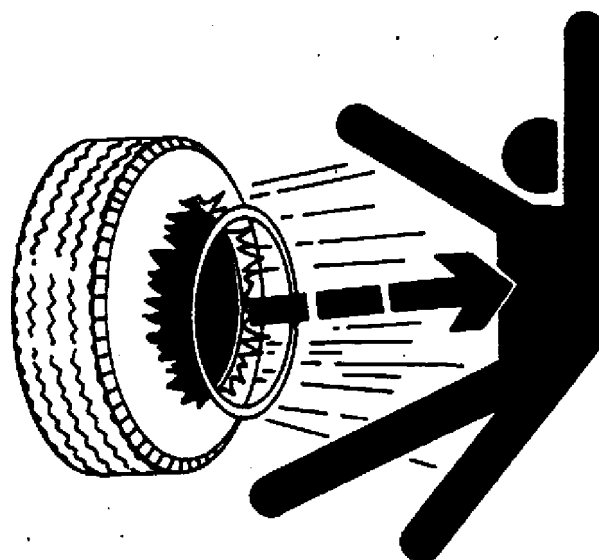
Explosive separation of a tire and rim parts can cause serious injury or death.

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.



DX,RIM -19-24AUG90

TS211 -UN-23AUG88

### 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.



-UN-23AUG88

TS218

DX,SERV -19-03MAR93

### 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.



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DX,REPAIR -19-04JUN90

## DISPOSE OF WASTE PROPERLY

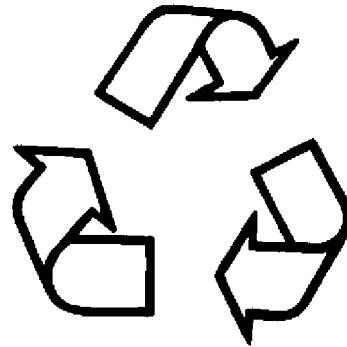
Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

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.



DX,DRAIN -19-03MAR93

TS1133 -JUN-26NOV90

## LIVE WITH SAFETY

Before returning machine to customer, make sure machine is functioning properly, especially the safety systems. Install all guards and shields.



DX,LIVE -19-25SEP92

TS231 -19-07OCT88

**MACHINE SPECIFICATIONS**

	710 Machine	720 Machine
<b>TRACTOR REQUIREMENTS:</b>		
Power TakeOff .....	540 rpm .....	540 rpm
Horsepower .....	22 kW (30 hp) or larger .....	26 kW (35 hp) or larger
Hydraulic Pressure To Lift Platform .....	8274 kPa (83 bar) (1200 psi)	8274 kPa (83 bar) (1200 psi)
<b>MACHINE LENGTH*:</b>		
Transport .....	4.47 m (14 ft. 8 in.) .....	4.49 m (14 ft. 9 in.)
Operating .....	4.54 m (14 ft. 10.75 in.) .....	4.55 m (14 ft. 11-1/4 in.)
<b>MACHINE WIDTH:</b>		
Operating* .....	3.92 m (12 ft. 10 in.) .....	4.50 m (14 ft 9 in.)
Transport** .....	3.35 m (10 ft. 11.75 in.) .....	3.93 m (12 ft. 10-5/8 in.)
<b>MACHINE HEIGHT:</b>		
Operating .....	1.60 m (5 ft. 3 in.) .....	1.62 m (5 ft. 3-3/4 in.)
Transport .....	1.60 m (5 ft. 3 in.) .....	1.62 m (5 ft. 3-3/4 in.)
<b>WEIGHT</b> .....	1442 kg (3180 lb) .....	1667 kg (3675 lb)
<b>PLATFORM:</b>		
Cutting Height .....	32—152 mm (1-1/4—6 in.) .....	32—152 mm (1-1/4—6 in.)
Width of Cut .....	2.4 m (7 ft. 9 in.) .....	3.0 m (9 ft. 9 in.)
Windrow Width*** .....	864—1676 mm (34—66 in.) .....	864—2286 mm (34—90 in.)
Float Range .....	—51 to +203 mm (—2 to +8 in.)	—51 to +203 mm (—2 to +8 in.)
<b>WHEELS</b> .....	6.7 L-15, 6 Ply .....	9.5L-14, 6 Ply

continued of next page

\* Measured from center of hitch pin hole.

\*\* Includes tractor with 16.9 x 30 tires and 76 inch center-to-center wheel spacing.

\*\*\* Depending on crop conditions.

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**MACHINE SPECIFICATIONS (CONTINUED)**

	710 Machine	720 Machine
<b>CUTTERBAR:</b>		
Standard Guards . . . . .	2-tine, narrow-throat, . . . . . double-hardened	2-tine, narrow-throat, double-hardened
Optional Guards . . . . .	Non-clog . . . . .	Non-clog
Guard Angle . . . . .	3-Position . . . . .	3-Position
Knife Type . . . . .	Bolt on; chrome, . . . . . overserrated	Bolt on; chrome, overserrated
Knife Speed . . . . .	1,650 strokes per minute . . . . .	1,650 strokes per minute
Knife Drive Type . . . . .	Enclosed, runs in oil . . . . .	Enclosed, runs in oil
Knife Stroke . . . . .	76 mm (3 in.) . . . . .	76 mm (3 in.)
Adjustable Gauge Shoes . . . . .	Left & right (standard) . . . . . Center shoe (optional)	Left & right (standard) Center shoe (optional)
<b>REEL:</b>		
Type . . . . .	4-bar . . . . .	4-bar
Diameter . . . . .	1067 mm (42 in.) . . . . .	1067 mm (42 in.)
Drive . . . . .	V-Belt . . . . .	V-Belt
Speed . . . . .	47—58 rpm . . . . .	47—58 rpm
<b>CONDITIONER:</b>		
Length . . . . .	2.21 m (87 in.) . . . . .	2.8 m (110 in.)
Diameter . . . . .	254 mm (10 in.) . . . . .	254 mm (10 in.)
Speed . . . . .	660 rpm . . . . .	660 rpm
Construction . . . . .	Urethane, intermeshing, . . . . . recessed cleat	Urethane, intermeshing, recessed cleat
Drive . . . . .	Direct gear . . . . .	Direct gear

EX.1619,1010,B -19-13NOV95