820
Mower-Conditioner

John Deere Ottumwa Works
TM1547 (19FEB01)
LITHO IN U.S.A.
ENGLISH

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GENERAL

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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.



TS227 -UN-23AUG88

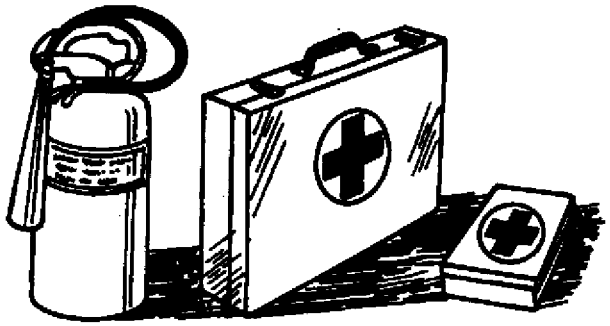
DX,FLAME -19-04JUN90

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.



TS291 -UN-23AUG88

DX,FIRE2 -19-03MAR93

HANDLE CHEMICAL PRODUCTS SAFELY



TS1132 -UN-26NOV90

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.

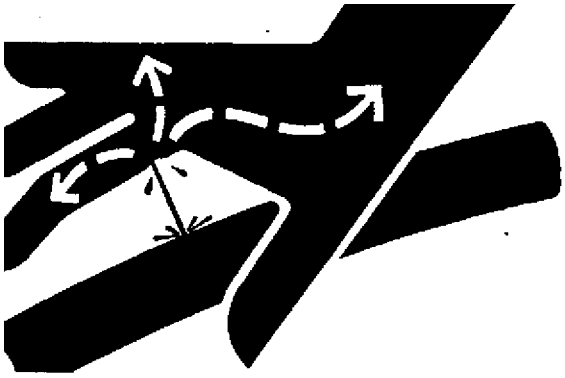
A Material Safety Data Sheet (MSDS) provides specific details on chemical products: physical and health hazards, safety procedures, and emergency response techniques.

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

AVOID HIGH-PRESSURE FLUIDS



X9811 -UN-23AUG88

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.

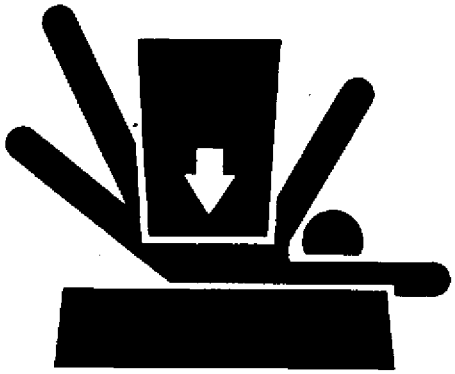
If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere & Company Medical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

DX,FLUID -19-03MAR93

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.



TS229 -UN-23AUG88

DX,LOWER -19-04JUN90

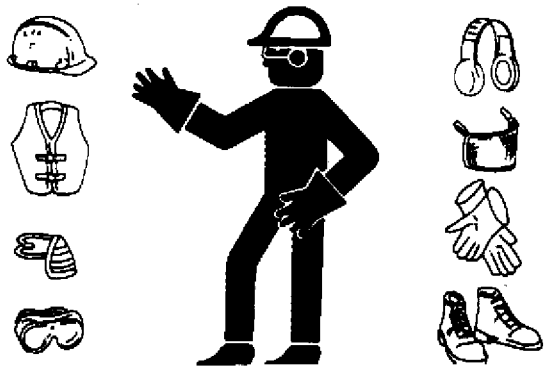
WEAR PROTECTIVE CLOTHING

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.



TS206 -UN-23AUG88

DX,WEAR -19-10SEP90

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.

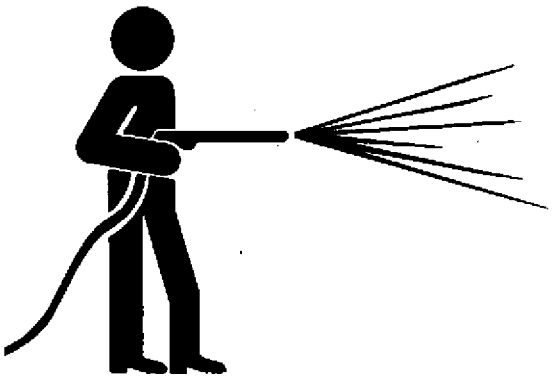


TS1644 -UN-22AUG95

DX,PTO -19-12SEP95

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.



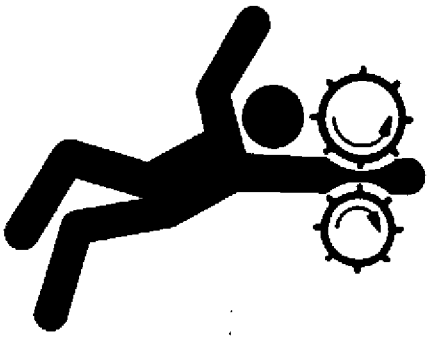
T6642EJ -UN-18OCT88

DX,CLEAN -19-04JUN90

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.



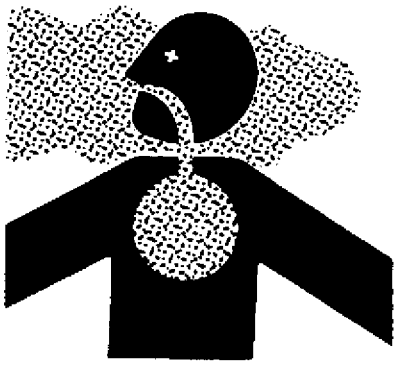
TS228 -UN-23AUG88

DX,LOOSE -19-04JUN90

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.



TS220 -UN-23AUG88

DX,AIR -19-04JUN90

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.

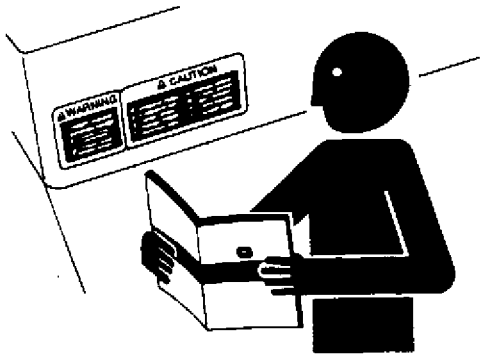


TS223 -UN-23AUG88

DX,LIGHT -19-04JUN90

REPLACE SAFETY SIGNS

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



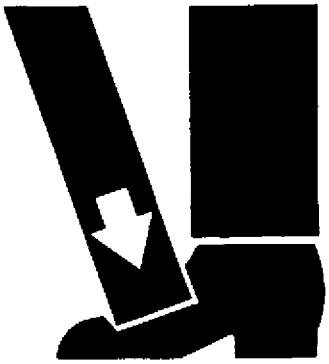
TS201 -UN-23AUG88

DX,SIGNS1 -19-04JUN90

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.



TS226 -UN-23AUG88

DX,LIFT -19-04JUN90

REMOVE PAINT BEFORE WELDING OR HEATING

Avoid potentially toxic fumes and dust.

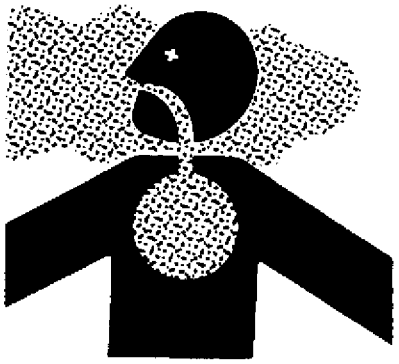
Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

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.



TS220 -UN-23AUG88

DX,PAINT -19-03MAR93

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.



TS953 -UN-15MAY90

DX,TORCH -19-03MAR93

SERVICE TIRES SAFELY

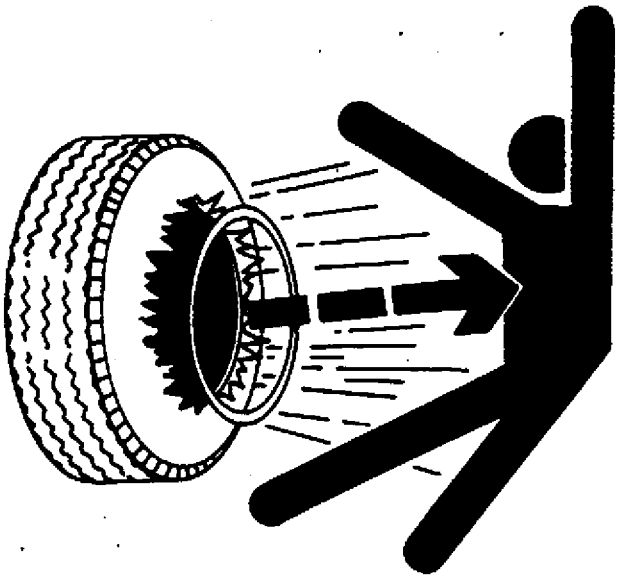
Explosive separation of a tire and rim parts can cause serious injury or death.

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.



TS211 -UN-23AUG88

DX,RIM -19-24AUG90

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.



TS218 -UN-23AUG88

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.

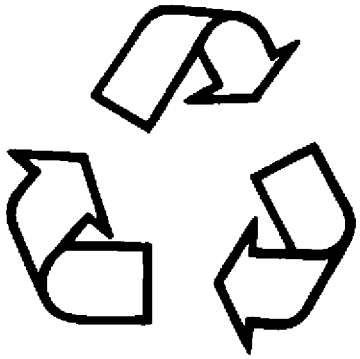
Use only service parts meeting John Deere specifications.



TS779 -UN-08NOV89

DX,REPAIR -19-04JUN90

DISPOSE OF WASTE PROPERLY



TS1133 -UN-26NOV90

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

LIVE WITH SAFETY



TS231 -19-07OCT88

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

DX,LIVE -19-25SEP92

MACHINE SPECIFICATIONS

TRACTOR REQUIREMENTS:
- Horsepower . . . . . 26 kW (35 hp)
- Power TakeOff . . . . . 540 rpm
- Hydraulic Pressure to Lift Platform . . . . . 13,790 kPa (138 bar) (2,000 psi)

MACHINE WIDTH:
- Transport . . . . . 3.7 m (12 ft. 2.0 in.)
- Operating . . . . . 4.6 m (15 ft. 1.25 in.)

MACHINE LENGTH*:
- Transport . . . . . 4.90 m (16 ft. 1.0 in.)
- Operating . . . . . 4.85 m (15 ft.)

MACHINE HEIGHT:
- Transport . . . . . 1.7 m (5 ft. 8 in.)
- Operating . . . . . 1.3 m (4 ft. 3 in.)

MACHINE WEIGHT . . . . . 1,725 kg (3,800 lb.)

PLATFORM:
- Cutting Height . . . . . 32—152 mm (1.25—6.00 in.)
- Width of Cut . . . . . 3.0 m (9.0 ft. 9 in.)
- Windrow Width** . . . . . 0.9—2.3 m (34—90 in.)
- Adjustable Gauge Shoes . . . . . Left and right (standard)
  Center shoe (optional)

TIRES . . . . . 9.5 L-14, 6 Ply

continued on next page

**Measured from center of hitch pin hole.*

***Depending on crop conditions.*

EX,1547,1010,A -19-14DEC95

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POWER TRAIN

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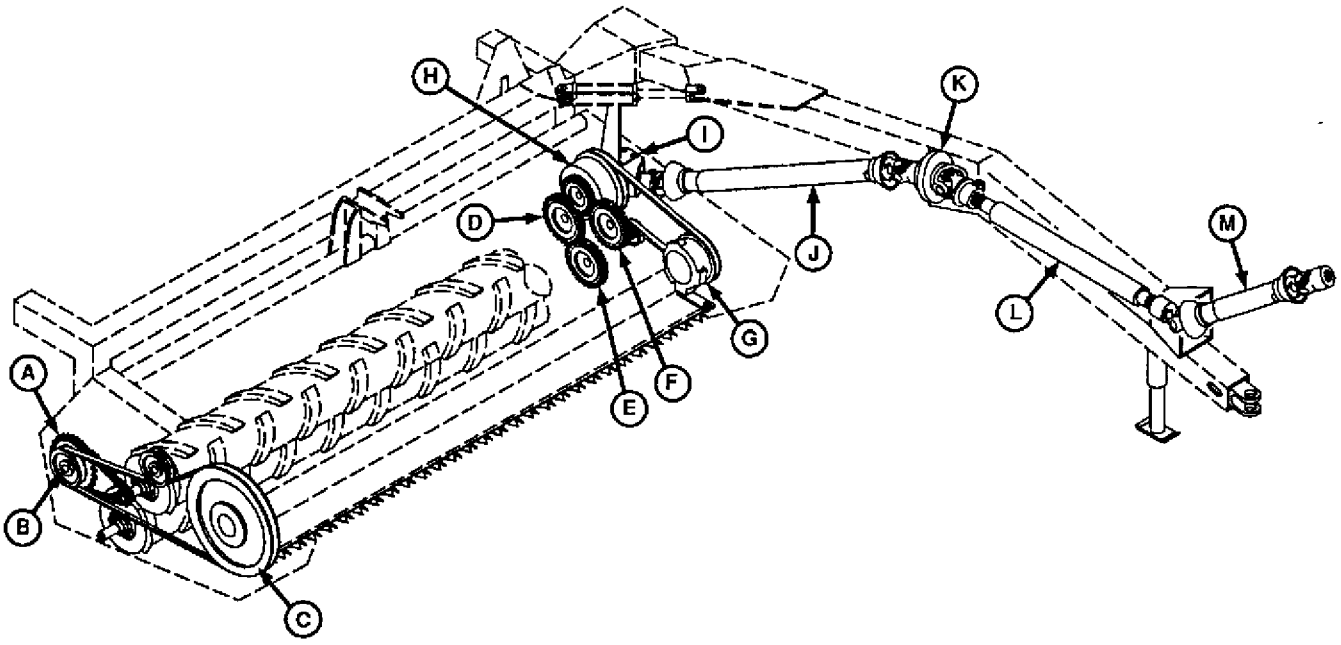
POWER TRAIN OPERATION



-UN-23MAR94

E37890

E37890 520 X 316

A—Sprocket and Chain
B—Adjustable Sheave
C—Reel Sheave
D—Idler Gear
E—Lower Roll Drive Gear
F—Upper Roll Drive Gear
G—Cutterbar Drive Gear Case
H—Slip Clutch (with drive gear)
I—Main Drive Gear Case
J—Rear Drive Shaft
K—CV-Joint
L—Power-Cushion
M—PTO Hookup

The PTO driveline consists of a PTO hookup (M), a spring-loaded midshaft called the Power-Cushion (L) and a telescoping rear drive shaft (J). The rear drive shaft contains a CV-Joint (K) that compensates for the angle of the tongue.

Power from the tractor PTO is transferred through the PTO driveline to main drive gear case (I), and on to slip clutch (H). The slip clutch provides protection to the cutterbar and conditioner components.

From the slip clutch, power is transmitted to the rolls through external drive gears (D—F). A V-belt transmits the power to the cutterbar drive gear case (G).

The cutterbar drive gear case utilizes an eccentric shaft and yoke arrangement to transform power from a rotary motion to a reciprocating motion, causing the cutterbar knife to move back and forth. The gear case is fully enclosed with the internal components lubricated with gear oil.

Power is transferred to the right side of platform through the upper conditioner roll. Power is then transmitted through a sprocket and chain arrangement (A). Attached to the driven sprocket is an adjustable sheave (B). From the adjustable sheave, a V-belt transfers power to reel sheave (C), which drives the reel.

Because sheave (B) is adjustable, reel speed can be varied. Adding shims between the sheave halves decreases the reel speed, while removing shims increases reel speed.

If reel speed needs to be increased beyond what the adjustable sheave can adjust to, an optional 16-tooth drive sprocket is available.

EX,1547,2005,A -19-14DEC95

Click on the image link below for the full version of the service manual

