

**3100, 3200,
3200 X, 3300,
3300 X, 3400
and 3400 X
Tractors**

For complete service information also see:

Engines CTM3274

**DCEO-Mannheim
TM4525 (23JAN01)**

Printed in Germany
ANGLAIS

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.

This technical manual is divided into sections corresponding to the principle functions of the machine. The sections are subdivided into groups dealing with 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.

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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.

TM4525-19-23JAN01

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A John Deere ILLUSTRATION® Manual

Section 05 SAFETY

Contents

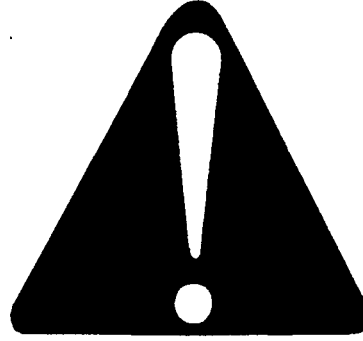
Page

Group 05—Safety Precautions 05-05-1

RECOGNIZE SAFETY INFORMATION

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

Follow recommended precautions and safe operating practices.



DX,ALERT -19-03MAR93

T81389 -UN-07DEC88

“IMPORTANT” - INFORMATION

Information marked as IMPORTANT points out problems that may lead to machine damage. By following the directions given, these problems can be avoided.

LX,CRA05 002885-19-09APR92

“NOTE” - INFORMATION

When marked with NOTE the information given is more detailed or contains restrictions to directions given previously. On the other hand useful information may be given belonging to certain instructions without being directly connected to them.

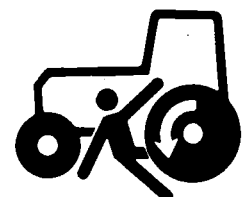
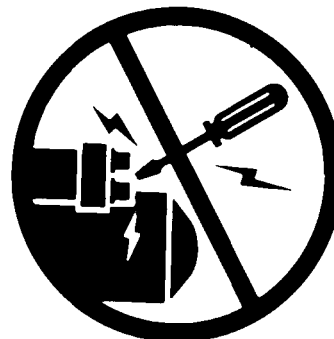
LX,CRA05 002886-19-09APR92

PREVENT MACHINE RUNAWAY

Avoid possible injury or death from machinery runaway.

Do not start engine by shorting across starter terminals. Machine will start in gear if normal circuitry is bypassed.

NEVER start engine while standing on ground. Start engine only from operator's seat, with transmission in neutral or park.



DX,BYPAS1 -19-03MAR93

TS177 -UN-11JAN89

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

-JUN-23AUG88

TS227

PREVENT BATTERY EXPLOSIONS

Keep sparks, lighted matches, and open flame away from the top of battery. Battery gas can explode.

Never check battery charge by placing a metal object across the posts. Use a volt-meter or hydrometer.

Do not charge a frozen battery; it may explode. Warm battery to 16°C (60°F).



DX,SPARKS -19-03MAR93

-JUN-23AUG88

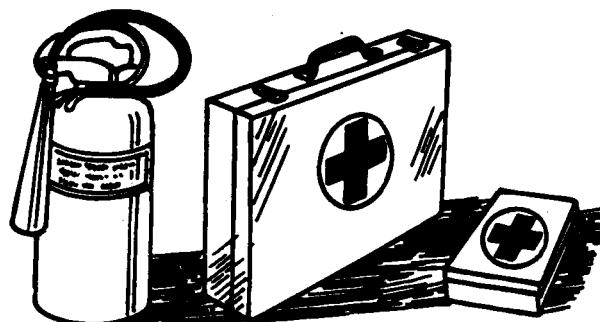
TS204

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

-JUN-23AUG88

TS291

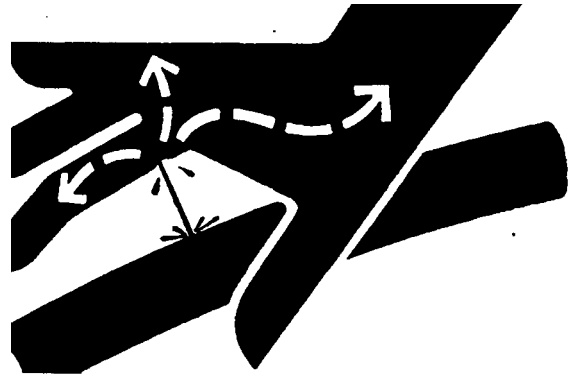
AVOID HIGH-PRESSURE FLUIDS

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.



-JUN-23AUG88

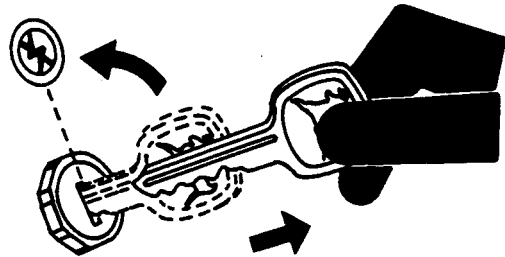
X9811

DX,FLUID -19-03MAR93

PARK MACHINE SAFELY

Before working on the machine:

- Lower all equipment to the ground.
- Stop the engine and remove the key.
- Disconnect the battery ground strap.
- Hang a "DO NOT OPERATE" tag in operator station.



-JUN-24MAY89

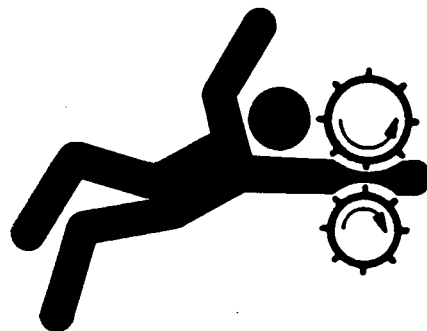
TS230

DX,PARK -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.



-JUN-23AUG88

TS228

DX,LOOSE -19-04JUN90

PREVENT ACID BURNS

Sulfuric acid in battery electrolyte is poisonous. It is strong enough to burn skin, eat holes in clothing, and cause blindness if splashed into eyes.

Avoid the hazard by:

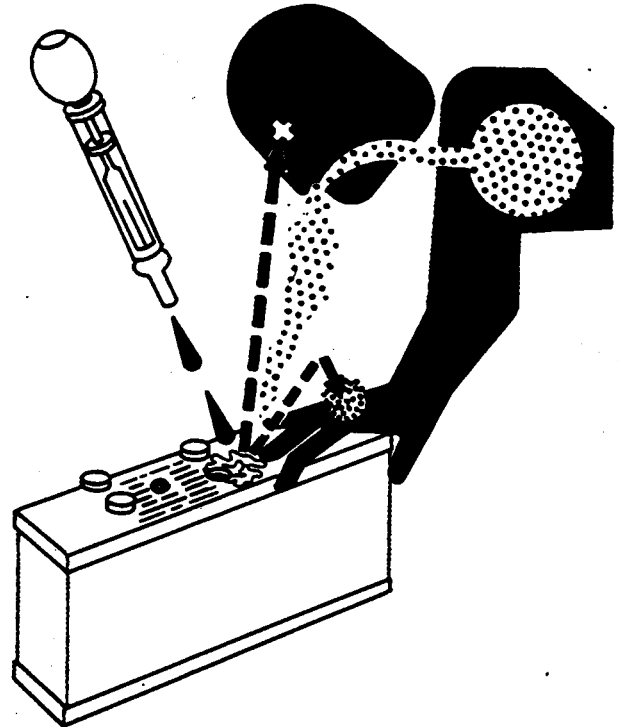
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

If you spill acid on yourself:

1. Flush your skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush your eyes with water for 15—30 minutes. Get medical attention immediately.

If acid is swallowed:

1. Do not induce vomiting.
2. Drink large amounts of water or milk, but do not exceed 2 L (2 quarts).
3. Get medical attention immediately.



-UN-23AUG88

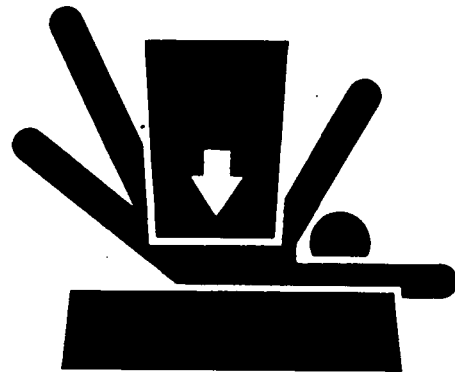
TS203

DX,POISON -19-21APR93

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.



-UN-23AUG88

TS229

DX,LOWER -19-04JUN90

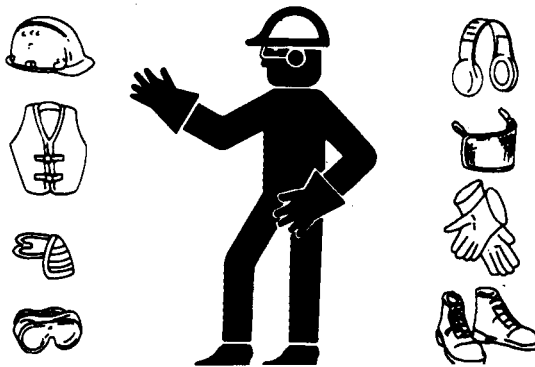
WEAR PROTECTIVE CLOTHING

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.



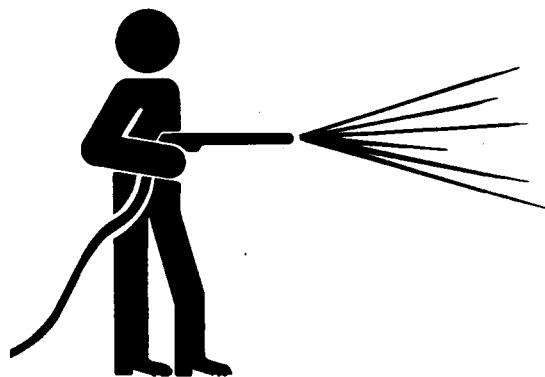
DX,WEAR -19-10SEP90

TS206 -JUN-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 -JUN-18OCT88

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

PROTECT AGAINST NOISE

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.



DX,NOISE -19-03MAR93

TS207 -JUN-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.



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.



-JUN-08NOV89
TS779

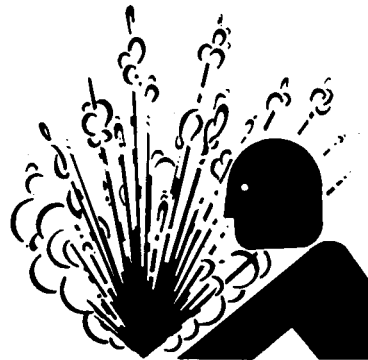
DX,REPAIR -19-04JUN90

SERVICE COOLING SYSTEM SAFELY

Explosive release of fluids from pressurized cooling system can cause serious burns.

Shut off engine. Only remove filler cap when cool enough to touch with bare hands. Slowly loosen cap to relieve pressure before removing completely.

Add coolant only when the engine is shut off.



-JUN-23AUG88
TS281

LX,RCAP -19-01SEP95

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.



-JUN-15MAY90
TS953

DX,TORCH -19-03MAR93

REMOVE PAINT BEFORE WELDING OR HEATING

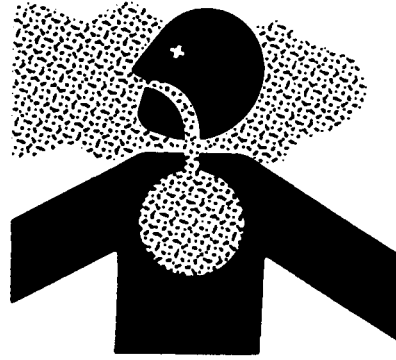
Avoid potentially toxic fumes and dust.

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.



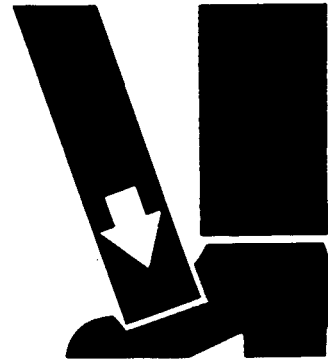
TS220 -JUN-23AUG88

DX,PAINT -19-03MAR93

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.

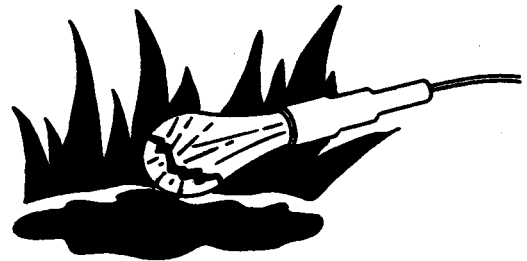


TS226 -JUN-23AUG88

DX,LIFT -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 -JUN-23AUG88

DX,LIGHT -19-04JUN90

SERVICE TIRES SAFELY

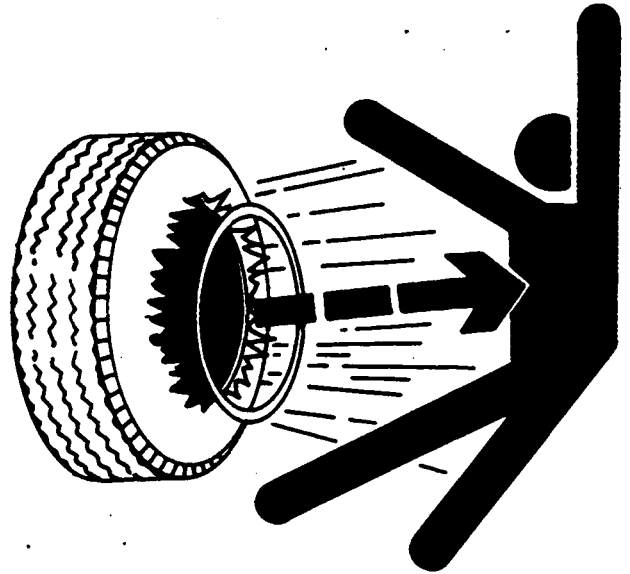
Explosive separation of a tire and rim parts can cause serious injury or death.

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.



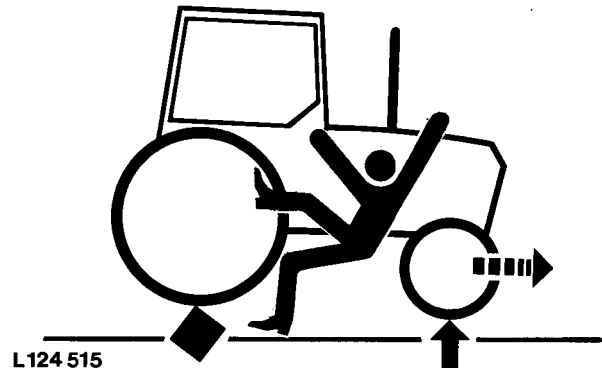
-JUN-23AUG88

TS211

DX,RIM -19-24AUG90

SERVICE FRONT-WHEEL DRIVE TRACTOR SAFELY

When servicing front-wheel drive tractor with the rear wheels supported off the ground and rotating wheels by engine power, always support front wheels in a similar manner. Loss of electrical power or transmission/hydraulic system pressure will engage the front driving wheels, pulling the rear wheels off the support if front wheels are not raised. Under these conditions, front drive wheels can engage even with switch in disengaged position.



L124 515

-JUN-06AUG94

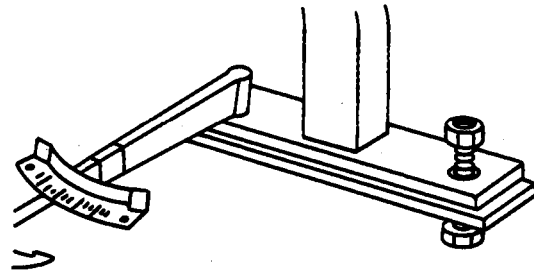
L124515

LX,MFWD2 -19-01MAY91

KEEP ROPS INSTALLED PROPERLY

Make certain all parts are reinstalled correctly if the roll-over protective structure (ROPS) is loosened or removed for any reason. Tighten mounting bolts to proper torque.

The protection offered by ROPS will be impaired if ROPS is subjected to structural damage, is involved in an overturn incident, or is in any way altered by welding, bending, drilling, or cutting. A damaged ROPS should be replaced, not reused.

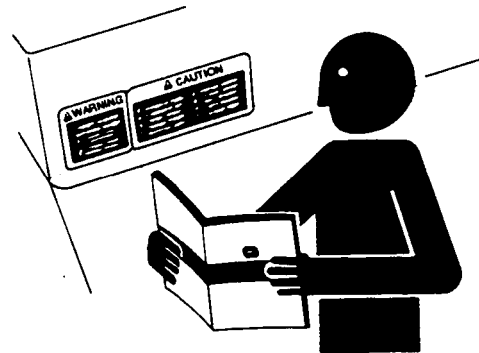


TS212 -JUN-23AUG88

DX,ROPS3 -19-03MAR93

REPLACE SAFETY SIGNS

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



TS201 -JUN-23AUG88

DX,SIGNS1 -19-04JUN90

DISPOSE OF WASTE PROPERLY

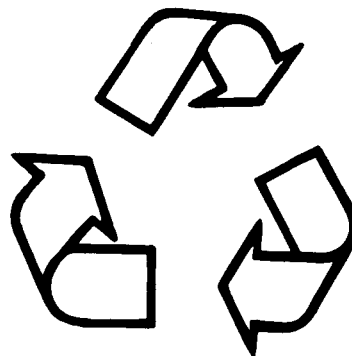
Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

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

LIVE WITH SAFETY

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



TS231 -19-07OCT88

DX,LIVE -19-25SEP92

Safety Precautions

Section 10 GENERAL INFORMATION

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SPECIFICATIONS

Engine

Type

- 3100, 3200, 3200 X, 3300 and 3300 X tractors naturally aspirated diesel engine
- 3400 and 3400 X tractors turbocharged diesel engine

Number of cylinders

- 3100 tractor 3
- 3200 to 3400 X tractors 4

Bore 106.5 mm (4.19 in)

Stroke

- 3100, 3200, 3200 X, 3400 and 3400 X tractors 110.0 mm (4.33 in)
- 3300 and 3300 X tractors 127.0 mm (5.00 in)

Displacement

- 3100 tractor 2940 cm³ (179 cu in)
- 3200, 3200 X, 3400 and 3400 X tractors 3920 cm³ (239 cu in)
- 3300 and 3300 X tractors 4530 cm³ (276 cu in)

Firing order

- 3100 tractor 1-2-3
- 3200, 3200 X, 3300, 3300 X, 3400 and 3400 X tractors 1-3-4-2

Valve clearance (engine hot or cold)

- Intake valve 0.35 mm (0.014 in)
- Exhaust valve 0.45 mm (0.018 in)

Slow idle 850 rpm

Fast idle 2550 rpm

Rated engine speed 2350 rpm

Working speed range 1500 - 2350 rpm

Power, ECE-R24 at rated speed

- 3100 tractor 40 kW (55 hp)
- 3200 and 3200 X tractors 48 kW (65 hp)
- 3300 and 3300 X tractors 55 kW (75 hp)
- 3400 and 3400 X tractors 63 kW (85 hp)

FD, 000803-19-05OCT95

Engine (continued)

Max. torque

- 3100 tractor at 1500 rpm 189 N·m (139 lb-ft)
- 3200 and 3200 X tractors at 1500 rpm 239 N·m (176 lb-ft)
- 3300 and 3300 X tractors at 1500 rpm 280 N·m (206 lb-ft)
- 3400 and 3400 X tractors at 1600 rpm 305 N·m (225 lb-ft)

Speed for PTO operation

- 540 rpm rear PTO 2110 rpm
- 540E rpm rear PTO 1662 rpm
- 1000 rpm rear PTO 2120 rpm
- 1000 rpm front PTO 2268 rpm

Cooling Circuit

Type pressurized system with centrifugal pump and expansion tank

Temperature control thermostat

Fuel System

Type direct injection

Fuel injection pump timing at TDC

Fuel injection pump type two-piston distributor pump

Automatic switch-off electrical

Air Intake

Air cleaner dry-type air cleaner with secondary (safety) element

FD, 000804-19-05OCT95

Electrical System

Battery 12 V, 105 Ah

Alternator 65 A, 3 kW

Starting motor 12 V, 3.1 kW (4.2 hp)

Battery terminal grounded negative

FD, 000805-19-05OCT95

Clutch

Type single-disk dry clutch

Operation mechanical

Gear Transmission

Type mechanically controlled

Range shifting mechanical, high range synchronized, medium and low ranges changed when tractor is stationary

Number of ranges 2 or 3 (low range is optional)

Gear shifting mechanical, synchronized

Number of gears

— 40 km/h (25 mph) transmissions 5 gears in each range

— 30 km/h (18.5 mph) transmissions 5 gears in medium range and low range (if equipped), 4 gears in high range

Changing direction of travel (fwd/rev.) mechanical, tractor stationary

Range Splitter

— Mechanical splitter

Speed reduction 17%

— Twinshift

Type planetary gear type

Speed reduction 18%

Actuation under load, without de-clutching

Control electro-hydraulic

FD, 000806-19-05OCT95

Differential

Type helical bevel gear drive

Differential Lock

Operation mechanical, lever-operated
Disengaged by depressing a brake pedal

Final Drives

Type straight gears

Front-Wheel Drive Axle

Type operated under load, hydraulically controlled
drive with disk clutch
Control magnetic switch, electro-hydraulic
Engagement with pre-tensioned Belleville springs or by
actuating the brake pedals/handbrake lever
Disengagement hydraulically

FD, 000808-19-05OCT95

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



NOTE:

**If there is no response to
click on the link above,
please download the PDF
document first and then
click on it.**

Rear PTOs

Type independent
Clutch mechanical, single-disk
hydraulic assistance on version "X"
Engine speed for rear PTO operation see "Engine Specifications"
Number of splines 6 (21-spline stub shaft available
through parts channels)

Front PTO

Operation Electro-hydraulic
Direction of rotation anti-clockwise
Number of splines 6
Engine speed for front PTO operation see "Engine Specifications"

FD, 000807-19-06OCT95

Hydrostatic Steering

Type fully hydraulic

Foot Brakes

Type wet multi-disk brakes
individually acting in field operation to assist
steering
Control mechanical on Standard tractors,
hydrostatic on version "X"

Handbrake

Control mechanical, with lever acting on the foot brakes
Lock via pawl and toothed quadrant

FD, 000809-19-05OCT95

Hydraulic System

Type open-center system
Pump double pump, gear-type
Operating pressure 16200 kPa (162 bar; 2350 psi)
Maximum pressure 18000 kPa (180 bar; 2610 psi)

Rockshaft

Type three-point hitch activated by distributor valve
Control types load, depth, load-and-depth control, float position
Control mechanical via draft links

FD, 000810-19-05OCT95

Ground Speeds

Ground speeds see Operator's Manual

Front and Rear Wheels

Tires, wheel treads and tire pressure see Operator's Manual

Dimensions and Weights

Dimensions and weights see Operator's Manual

FD, 000811-19-05OCT95

Capacities

Fuel tank

- Standard tractors 115 l (30.4 US gal)
- Version “X” 145 l (38.3 US gal)

Cooling circuit

- 3100 tractor 11 l (2.9 US gal)
- 3200, 3200 X, 3300, 3300 X, 3400 and 3400 X tractors . 13.5 l (3.6 US gal)

Engine crankcase

- 3100 tractor 7 l (1.8 US gal)
- 3200, 3200 X, 3300 and 3300 X tractors 9 l (2.4 US gal)
- 3400 and 3400 X tractors 11 l (2.9 US gal)

Transmission/hydraulic circuit

- 3100, 3200 and 3200 X tractors
 - without front-wheel drive 53 l (14.0 US gal)
 - with front-wheel drive 56 l (14.8 US gal)
- 3300, 3300 X, 3400 and 3400 X tractors
 - without front-wheel drive 57 l (15.1 US gal)
 - with front-wheel drive 60 l (15.9 US gal)

Front-wheel drive axle*

- Axle housing 5.5 l (1.45 US gal)
- Final drives (each) 0.6 l (20.3 US fl oz)

Front PTO** 0.5 l (16.9 US fl oz)

* FWD axle oil (see Group 10, this Section)

** Transmission/hydraulic oil (see Group 10, this Section)