# F911, F915, F925, F932 and F935 Front Mowers

**Serial No. (010001— )**

# TECHNICAL MANUAL

**John Deere**
**Lawn & Grounds Care Division**

**TM1487 (01OCT95)**
**Replaces TM1487 (15JAN93)**

**Litho in U.S.A**

# 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.

N 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 diagnostics. Repair sections tell how to repair the components. Diagnostic 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, and service parts kits.

Section 10, Group 15—Repair Specifications, consist of all applicable specifications, near tolerances and specific torque values for various components on each individual machine.

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.

MX,TM1487,IFC -19-21NOV90

## NOTES CONCERNING THIS REVISION OF TM1487:

**The 900 Series Front Mowers have three serial number ranges that dictate the correct repair and other procedures to be followed:**

•(S.N. 010001—120000)
Units with a PTO engagement lever, a water-in-fuel indicator (diesel only) and without a Park Lock Switch

•(S.N. 120001—150000)
Units with a PTO engagement lever and a Park Lock Switch

•(S.N. 150001— )
Units with a PTO Solenoid Switch, a PTO Solenoid and Relay, and a Park Lock Switch

**Not all pages have been changed to include references to the F925, please refer to the Contents Page for each Section to find the repair procedures or other information for the F925. Otherwise, for all repair information concerning the F925, use the following as a guide:**

•Same Fuel system as the F915

•All other procedures are the same as the F935

## SERIAL NUMBER RANGES WITH AFFECTED CHANGES

**F911**

•1991—1992 with S.N.'s 10001—120000 have a PTO engagement lever.

•1993—1995 with S.N.'s 120001—150000 have a park lock switch added.

•1995—1996 with S.N.'s 150001—150081 have a wiring harness with integrated diodes and a new PTO actuation system.

•1995—1996 with S.N.'s starting at 150082— have a wiring harness with a diode pack and a new PTO actuation system.

**F915**

•1987—1989 with S.N.'s 420001—750000 are covered by TM1350.

•1990—1992 with S.N.'s 010001—120000 have a PTO engagement lever.

•1993—1995 with S.N.'s 120001—150000 have a park lock switch added.

**F925**

•1993—1995 with S.N.'s 120001—150000 have a park lock switch.

•1995—1996 with S.N.'s 150001—150089 have a wiring harness with integrated diodes and a new PTO actuation system.

•1995—1996 with S.N.'s starting at 150090— have a wiring harness with a diode pack and a new PTO actuation system.

**F932**

•1988—1989 with S.N.'s 475001—750000 have no Technical Manual available.

•1990—1992 with S.N.'s 010001—120000 have a PTO engagement lever.

•1993—1995 with S.N.'s 120001—150000 have a park lock switch added.

•1995—1996 with S.N.'s 150001—150060 have a wiring harness with integrated diodes and a new PTO actuation system.

•1995—1996 with S.N.'s starting at 150061— have a wiring harness with a diode pack and a new PTO actuation system.

**F935**

•1986—1989 with S.N.'s 360001—750000 are covered by TM1350.

•1990—1992 with S.N.'s 010001—120000 have a PTO engagement lever and a water-in-fuel indicator.

•1993—1995 with S.N.'s 120001—150000 have a park lock switch added and no water-in-fuel indicator.

•1995—1996 with S.N.'s 150001—150228 have a wiring harness with integrated diodes and a new PTO actuation system.

•1995—1996 with S.N.'s starting at 150229— have a wiring harness with a diode pack and a new PTO actuation system.

# Contents



**Continued on next page**

*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.*

TM1487-19-01SEP95

Section 10

# GENERAL INFORMATION

## Contents

## 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.

T81389 -UN-07DEC88

DX,ALERT -19-04JUN90

## UNDERSTAND SIGNAL WORDS

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards.

DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.


TS187 -19-30SEP88

DX,SIGNAL -19-04JUN90

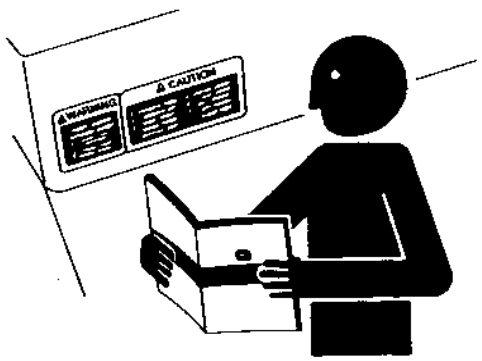
## FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual and on your machine safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from your John Deere dealer.

Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

If you do not understand any part of this manual and need assistance, contact your John Deere dealer.




TS201 -UN-23AUG88

DX,READ -19-04JUN90

## 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

## 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).

TS204 -UN-23AUG88

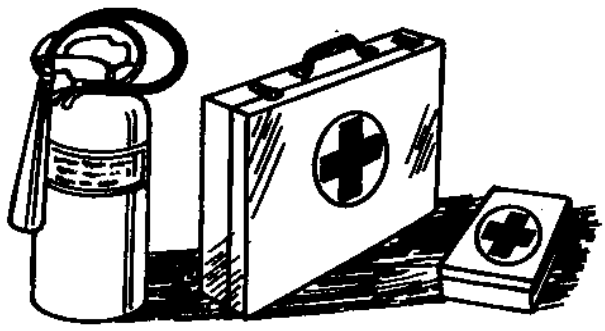
DX,SPARKS -19-04JUN90

## 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 -19-04JUN90

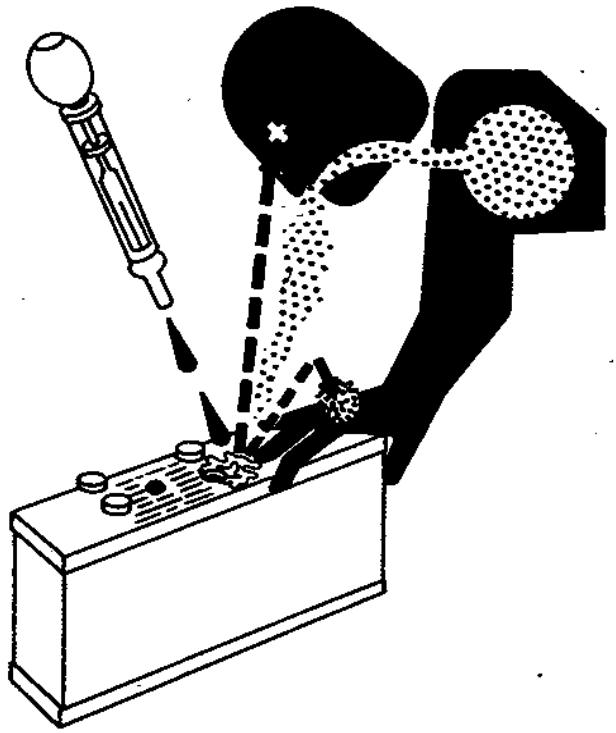
## PREVENT ACID BURNS

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 10—15 minutes. Get medical attention immediately.

If acid is swallowed:
1. Drink large amounts of water or milk.
2. Then drink milk of magnesia, beaten eggs, or vegetable oil.
3. Get medical attention immediately.



TS203 -UN-23AUG88

DX,POISON -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 first stop to relieve pressure before removing completely.

TS281 -UN-23AUG88

DX,RCAP -19-04JUN90

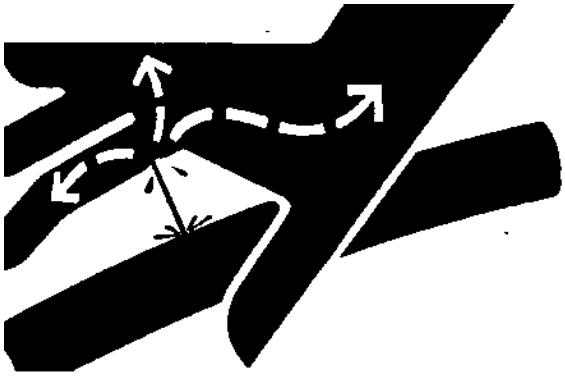
## AVOID HIGH-PRESSURE FLUIDS

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 may call the Deere & Company Medical Department in Moline, Illinois, or other knowledgeable medical source.

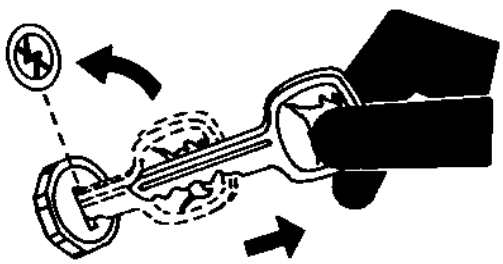


X9811 -UN-23AUG88

DX,FLUID,NA -19-11JUN90

## 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.



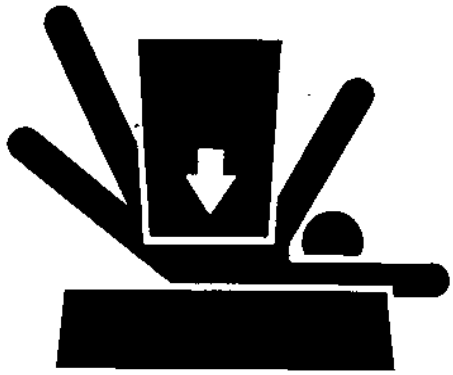
TS230 -UN-24MAY89

DX,PARK -19-04JUN90

## 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

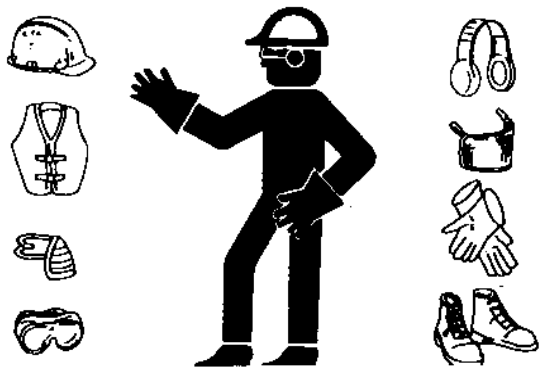
## WEAR PROTECTIVE CLOTHING

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.

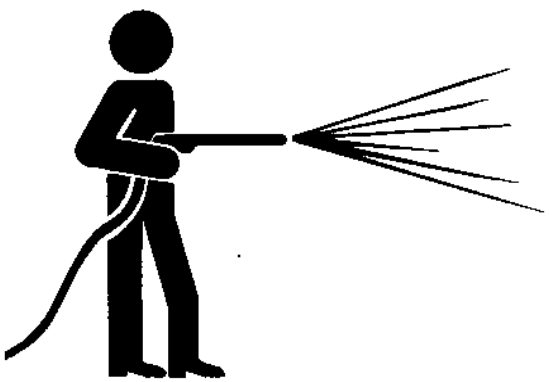


TS206 -UN-23AUG88

DX,WEAR -19-10SEP90

## 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.



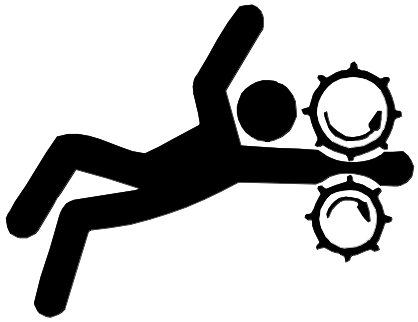
T6642EJ -UN-18OCT88

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.

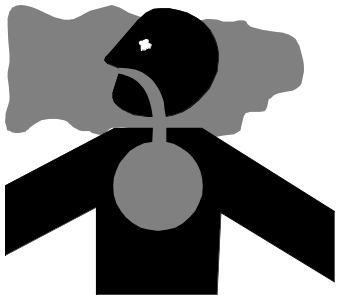


## WORK IN VENTILATED AREA

### WARNING: California Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

Gasoline engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

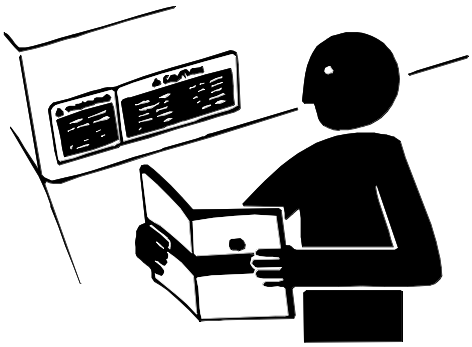


## ILLUMINATE WORK AREA SAFELY

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.

## REPLACE SAFETY SIGNS

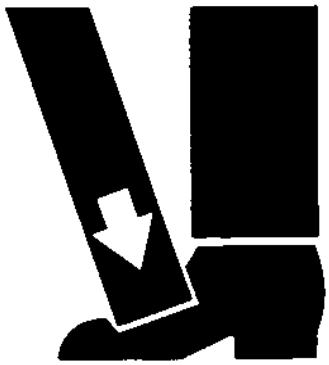
Replace missing or damaged safety signs. See the machine operator's manual for correct safety sign placement.



## 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.



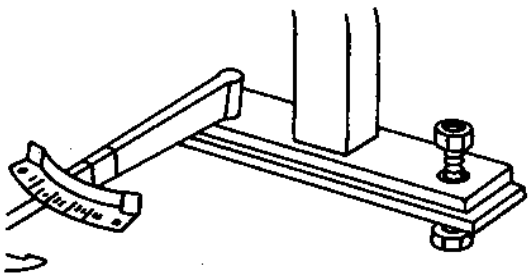
TS226 -UN-23AUG88

DX,LIFT -19-04JUN90

## 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 -UN-23AUG88

DX,ROPS3 -19-04JUN90

## SERVICE TIRES SAFELY

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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.

TS952 -UN-12APR90

DX,TIRECP -19-24AUG90

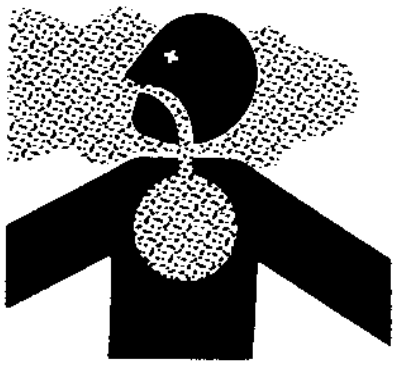
## AVOID HARMFUL ASBESTOS DUST

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 of asbestos containing materials. When servicing, wear an approved respirator. A special vacuum cleaner is recommended to clean asbestos. If not available, wet the asbestos containing materials with a mist of oil or water.

Keep bystanders away from the area.



TS220 -UN-23AUG88

DX,DUST -19-27AUG90

## 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 -19-05OCT90

## REMOVE PAINT BEFORE WELDING OR HEATING

Avoid potentially toxic fumes and dust.

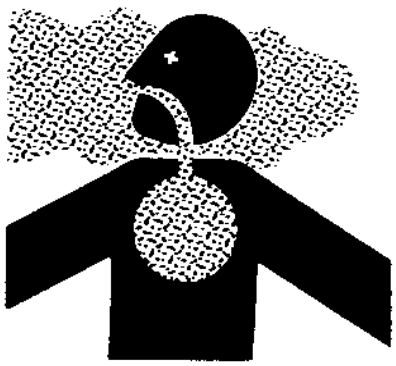
Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

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 -19-04JUN90

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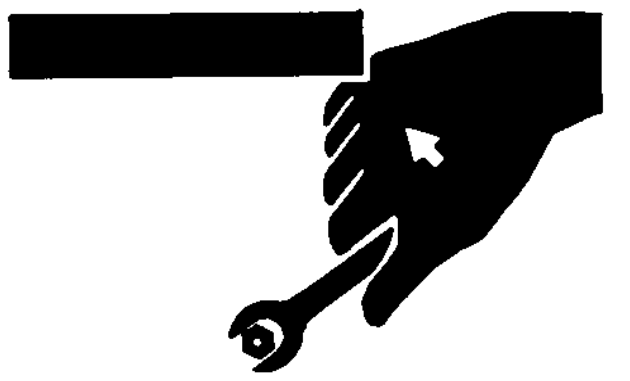
## USE PROPER TOOLS

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

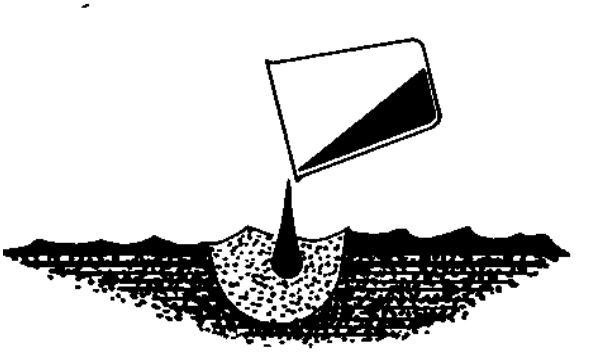
DX,REPAIR -19-04JUN90

## DISPOSE OF FLUIDS PROPERLY

Improperly disposing of fluids can harm the environment and ecology. Before draining any fluids, find out the proper way to dispose of waste from your local environmental agency.

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

DO NOT pour oil into the ground, down a drain, or into a stream, pond, or lake. Observe relevant environmental protection regulations when disposing of oil, fuel, coolant, brake fluid, filters, batteries, and other harmful waste.



TS222 -UN-23AUG88

DX,DRAIN -19-05JUN90

## 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 -19-04JUN90

## MACHINE SPECIFICATIONS—F911 AND F932

| | F911 | F932 |
|---|---|---|
| ENGINE | | |
| Make | Kawaski | Yanmar |
| Type | Liquid Cooled Gasoline | Liquid Cooled Gasoline |
| Model | FD620D-AS00 | 3TG72UJF |
| Horsepower | 16.4 kW (22 hp) | 20.9 kW (28hp) |
| Number of Cylinders | 2 | 3 |
| Cycle | 4 | 4 |
| Displacement | 617 $cm^3$ (37.7 cu in.) | 879 $cm^3$ (53.6 cu in.) |
| Bore | 76 mm (2.99 in.) | 72 mm (2.84 in.) |
| Stroke | 68 mm (2.66 in.) | 72 mm (2.84 in.) |
| Compression Ratio | 10.3:1 | 8.7:1 |
| Speed, Fast (no load) | 3650 rpm | 3400 rpm |
| Speed, Idle (no load) | 1550 rpm | 1700 rpm |
| Lubrication | Full Pressure | Full Pressure |
| Cooling System | Water Pump | Water Pump |
| Oil Filter | Full flow replaceable | Full flow replaceable |
| Air Cleaner | Dry, replaceable primary and secondary elements | Dry, replaceable primary and secondary elements |
| FUEL SYSTEM | | |
| Fuel | Unleaded gasoline with a minimum antiknock index of 87 | Unleaded gasoline with a minimum antiknock index of 87 |
| Fuel Filter | Replaceable in-line filter | Replaceable in-line filter |
| Fuel Pump | Electric | Electric |
| ELECTRICAL SYSTEM | | |
| Type | 12 volt, negative ground | 12 volt, negative ground |
| Charging System | Stator | Alternator |
| Capacity | 16 amp Regulator | 40 amp |
| Battery Size | 491 CCA @ -18° C (0° F) | 491 CCA @ -18° C (0° F) |
| Capacity at 25 amps | 102 min. | 102 min. |
| POWER TRAIN | | |
| Transmission | Hydrostatic U-type | Hydrostatic U-type |
| Manufacturer | Sundstrand 15 series | Sundstrand 15 series |
| Number of Speeds | infinite | Infinite |
| Travel Speeds | | |
| Forward | 0—17 km/h (0—10.6 mph) | 0—17 km/h (0—10.6 mph) |
| Reverse | 0—8.5 km/h (0—5.3 mph) | 0—8.5 km/h (0—5.3 mph) |
| Differential | Peerless Single Speed (with Differential Lock) | Peerless Single Speed (with Differential Lock) |
| PTO Clutch | Electric | Electric |

*Continued on next page*

| | F911 | F932 |
|---|---|---|
| STEERING/BRAKES | | |
| Steering | Power, Hydrostatic | Power Hydrostatic |
| Brakes | Independent, shoe and drum | Independent, shoe and drum |
| HYDRAULIC SYSTEM | | |
| Control Valve | 2-Spool (open center) | 2-Spool (open center) |
| Outlets | 1 Set (front) | 1 Set (front) |
| Lift Cylinders | Front-mounted | Front-mounted |
| CAPACITIES | | |
| Fuel Tank | 20.8 L (5.5 U.S. gal) | 41.6 L (11 U.S. gal) |
| Transmission | 4.4 L (4.6 U.S. qt) | 4.4 L (4.6 U.S. qt) |
| Cooling System | 3.5 L (3.7 U.S. qt) | 4.93 L (5.21 U.S. qt) |
| Crankcase (w/filter) | 1.7 L (1.8 U.S. qt) | 3.2 L (3.4 U.S. qt)) |
| Crankcase (w/o filter) | 1.5 L (1.6 U.S. qt) | 2.9 L (3.1 U.S. qt)) |
| TIRES | | |
| Standard Equipment | | |
| Front (Drive) | 23 x 8.5—12, 4PR | 23 x 8.5—12, 4PR |
| Rear (Steering) | 16 x 6.5—8, 4PR | 16 x 6.5—8, 4PR |
| DIMENSIONS | | |
| Overall Height to Top of Steering Wheel | 1.28 m (50.5 in.) | 1.35 m (53.5 in.) |
| Overall Height to Top of Hood | 0.902 m (35.5 in.) | 0.97 m (38.5 in.) |
| Overall Height w/ROPS | 1.92 m (78 in.) | 2.0 m (81 in.) |
| Overall Width | 1.09 m (42.8 in.) | 1.09 m (42.8 in.) |
| Overall Length | 1.92 m (75.6 in.) | 2.16 m (85.2 in.) |
| with 50 in. mower | 2.72 m (107 in.) | N/A |
| with 60 in. mower | 2.68 m (105.5 in.) | 2.87 m (112.9 in.) |
| with 72 in. mower | 2.93 m (115.4 in.) | 2.93 m (115.4 in.) |
| with 76 in. mower | N/A | 3.3 m (129.7 in.) |
| Ground Clearance | 127 mm (5 in.) | 165 mm (6.5 in.) |
| Wheelbase | 1.25 m (49.2 in.) | 1.43 m (56.3 in.) |
| Minimum Turn Radius | | |
| Without Brakes | | |
| -Left-hand | 394 mm (15.5 in.) | 445 mm (17.5 in.) |
| -Right-hand | 686 mm (27 in.) | 737 mm (29 in.) |
| With Brakes | | |
| -Left-hand | 0 | 0 |
| -Right-hand | 0 | 0 |
| Approximate Shipping Weight | 614 kg (1382 lb) | 659 kg (1483 lb) |

*(Specifications and design subject to change without notice.)*

## MACHINE SPECIFICATIONS—F915, F925 AND F935

| | F915 | F925 | F935 |
|---|---|---|---|
| ENGINE | | | |
| Make | Yanmar | Yanmar | Yanmar |
| Type | Diesel | Diesel | Diesel |
| Model | 3TN66UJF | 3TNA72UJ2F | 3TNA72UJ2F |
| Horsepower | 11.9 kW (16 hp) | 16.4 kW (22 hp) | 16.4 kW (22 hp) |
| Number of Cylinders | 3 | 3 | 3 |
| Cycle | 4 | 4 | 4 |
| Displacement | 658 $cm^3$ (40.2 cu in.) | 879 $cm^3$ (53.6 cu in.) | 879 $cm^3$ (53.6 cu in.) |
| Bore | 66 mm (2.60 in.) | 72 mm (2.84 in.) | 72 mm (2.84 in.) |
| Stroke | 64.2 mm (2.53 in.) | 72 mm (2.84 in.) | 72 mm (2.84 in.) |
| Compression Ratio | 23.0:1 | 22.3:1 | 22.3:1 |
| Speed, Fast (no load) | 3650 rpm | 3625 rpm | 3625 rpm |
| Speed, Idle (no load) | 1300 ± 50 rpm | 1450 rpm | 1450 rpm |
| Lubrication | Full Pressure | Full Pressure | Full Pressure |
| Cooling System | Water Pump | Water Pump | Water Pump |
| Oil Filter | Full flow replaceable | Full flow replaceable | Full flow replaceable |
| Air Cleaner | Dry, replaceable primary and secondary elements | Dry, replaceable primary and secondary elements | Dry, replaceable primary and secondary elements |
| FUEL SYSTEM | | | |
| Type | Indirect injection, precombustion chamber | Indirect injection, precombustion chamber | Indirect injection, precombustion chamber |
| Injection-Pump Type | In-line multi-plunger with electric shut-off | In-line multi-plunger with electric shut-off | In-line multi-plunger with electric shut-off |
| Fuel Consumption | | | |
| Full Load | 4.2 L/hr (1.1 gal/hr) @ 3200 rpm | 6 L/hr (1.6 gal/hr) @ 3200 rpm | 6 L/hr (1.6 gal/hr) @ 3200 rpm |
| One-half Load | 2.3 L/hr (0.6 gal/hr) @ 3200 rpm | 3 L/hr (0.8 gal/hr) @ 3200 rpm | 3 L/hr (0.8 gal/hr) @ 3200 rpm |
| Fuel | No. 1 or No. 2 Diesel | No. 1 or No. 2 Diesel | No. 1 or No. 2 Diesel |
| Fuel/Water Separator | Replaceable paper element | Replaceable filter element | Replaceable filter element |
| Fuel Pump | Electric | Electric | Electric |
| ELECTRICAL SYSTEM | | | |
| Type | 12 volt, negative ground | 12 volt, negative ground | 12 volt, negative ground |
| Charging System | Alternator | Alternator | Alternator |
| Capacity | 20 amp | 40 amp | 40 amp |
| Battery Size | 491 CCA @ -18° C (0° F) | 491 CCA @ -18° C (0° F) | 491 CCA @ -18° C (0° F) |
| Capacity at 25 amps | 102 min. | 102 min. | 102 min. |
| POWER TRAIN | | | |
| Transmission | Hydrostatic U-type | Hydrostatic U-type | Hydrostatic U-type |
| Manufacturer | Sundstrand 15 series | Sundstrand 15 series | Sundstrand 15 series |
| Number of Speeds | infinite | Infinite | Infinite |
| Travel Speeds | | | |
| Forward | 0—16 km/h (0—10 mph) | 0—17 km/h (0—10.5 mph) | 0—17 km/h (0—10.5 mph) |
| Reverse | 0—8 km/h (0—5 mph) | 0—8.5 km/h (0—5.3 mph) | 0—8.5 km/h (0—5.3 mph) |

*Continued on next page*

| | **F915** | **F925** | **F935** |
|---|---|---|---|
| Differential | Peerless Single Speed (with Differential Lock) | Peerless Single Speed (with Differential Lock) | Peerless Single Speed (with Differential Lock) |
| PTO Clutch | Electric | Electric | Electric |
| STEERING/BRAKES | | | |
| Steering | Power, Hydrostatic | Power Hydrostatic | Power Hydrostatic |
| Brakes | Independent, shoe and drum | Independent, shoe and drum | Independent, shoe and drum |
| HYDRAULIC SYSTEM | | | |
| Control Valve | 2-Spool (open center) | 2-Spool (open center) | 2-Spool (open center) |
| Outlets | 1 Set (front) | 1 Set (front) | 1 Set (front) |
| Lift Cylinders | Front-mounted | Front-mounted | Front-mounted |
| CAPACITIES | | | |
| Fuel Tank | 20.8 L (5.5 U.S. gal) | 20.8 L (5.5 U.S. gal) | 41.6 L (11 U.S. gal) |
| Transmission | 4.4 L (4.6 U.S. qt) | 4.4 L (4.6 U.S. qt) | 4.4 L (4.6 U.S. qt) |
| Cooling System | 2.8 L (3.0 U.S. qt) | 4.7 L (5.0 U.S. qt) | 4.7 L (5.0 U.S. qt) |
| Crankcase (w/filter) | 2.8 L (3.0 U.S. qt) | 3.1 L (3.3 U.S. qt) | 3.1 L (3.3 U.S. qt) |
| Crankcase (w/o filter) | 2.5 L (2.6 U.S. qt) | 2.8 L (3.3 U.S. qt) | 2.8 L (3.3 U.S. qt) |
| TIRES | | | |
| Standard Equipment | | | |
| Front (Drive) | 20 x 8.00—10, 4PR | 23 x 8.50—12, 4PR | 23 x 8.50—12, 4PR |
| Rear (Steering) | 16 x 6.00—6, 4PR | 16 x 6.50—8, 4PR | 16 x 6.50—8, 4PR |
| DIMENSIONS | | | |
| Overall Width | 1.09 m (42.8 in.) | 1.09 m (42.8 in.) | 1.09 m (42.8 in.) |
| Overall Length | 2.16 m (85 in.) | 2.16 m (85 in.) | 2.16 m (85 in.) |
| with 50 in. mower | 2.72 m (107 in.) | N/A | N/A |
| with 60 in. mower | 2.87 m (113 in.) | 2.87 m (113 in.) | 2.87 m (113 in.) |
| with 72in. mower | N/A | 2.93 m (115.4 in.) | 2.93 m (115.4 in.) |
| with 76in. mower | N/A | 3.3 m (129.7 in.) | 3.3 m (129.7 in.) |
| Wheelbase | 1246 mm (49.5 in.) | 1.43 m (55.1 in.) | 1.43 m (55.1 in.) |
| Minimum Turn Radius | | | |
| Without Brakes | | | |
| -Left-hand | 394 mm (15.5 in.) | 394 mm (15.5 in.) | 394 mm (15.5 in.) |
| -Right-hand | 686 mm (27 in.) | 737 mm (29 in.) | 737 mm (29 in.) |
| With Brakes | | | |
| -Left-hand | 0 | 0 | 0 |
| -Right-hand | 0 | 0 | 0 |
| Approximate Shipping Weight | 544 kg (1266 lb.) | 646 kg (1400 lb.) | 646 kg (1400 lb.) |

*(Specifications and design subject to change without notice.)*

## F911 FRONT MOWER REPAIR SPECIFICATIONS

**SECTION 20—ENGINE REPAIR**

| Item | Measurement | Specification |
|---|---|---|
| For all repair specifications—Use CTM39 | | |
| Engine-to-Frame Cap Screw | Torque | 18 N·m (160 lb-in.) |
| Drive Shaft-to-Engine Cap Screw | Torque | 35 N·m (27 lb-ft) |
| PTO Belt Tension Spring Adjustment<br>New Belts | Spring Length | 19 mm (0.750 in.) |
| After One Hour of Operation | Spring Length | 21 mm (0.800 in.) |
| Cylinder Head Cap Screw | Torque | 21 N·m (186 lb-in.) |
| Outer Sheave Half-to-Flywheel Cap Screw | Torque | 13 N·m (115 lb-in.) |
| Spark Plugs | Torque | 20 N·m (177 lb-in.) |

**SECTION 30—FUEL AND AIR REPAIR**

| Item | Measurement | Specification |
|---|---|---|
| For all repair specifications—Use CTM39 | | |

**SECTION 40—ELECTRICAL REPAIR**

| Item | Measurement | Specification |
|---|---|---|
| For all repair specifications—Use CTM39 | | |
| PTO Clutch-to-Engine Cap Screw | Torque | 73 N·m (54 lb-ft) |
| PTO Belt Tension Spring Adjustment<br>New Belts | Spring Length | 19 mm (0.750 in.) |
| After One Hour of Operation | Spring Length | 21 mm (0.800 in.) |

*Continued on next page*

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**SECTION 50—POWER TRAIN REPAIR**

10
15
2

| Item | Measurement | Specification |
|---|---|---|
| Transmission | | |
| Swashplate | Full movement | 25 mm (1 in.) |
| Meter Shaft Bearing Race | Mounting surface to bearing race | 5 mm (0.187 in.) |
| Spring Pin-to-Swashplate | Depth | 6 mm (0.250 in.) |
| Valve Plate Needle Bearings | Top of bearing to cover surface | 3 mm (0.109 in.) |
| Cover-to-Housing Cap Screws | Torque | 35 N·m (28 lb-ft) |
| Hydraulic Fittings-to-Housing | Torque | 24 N·m (215 lb-in.) |
| Transmission-to-Differential Cap Screws | Torque | 45 N·m (35 lb-ft) |
| Hydraulic Line Fittings | Torque | 50 N·m (37 lb-ft) |
| Charge Pump | | |
| Pump-to-Transmission Cap Screws | Torque | 70 N·m (50 lb-ft) |
| Differential | | |
| Carrier-to-Holder Cap Screw | Torque | 52 N·m (37 lb-ft) |
| Cover-to-Case Cap Screw | Torque | 22 N·m (192 lb-in.) |
| Axle-to-Differential Cap Screw | Torque | 81 N·m (60 lb-ft) |
| Hydraulic Line Fitting | Torque | 24 N·m (215 lb-in.) |
| Differential-to-Frame Cap Screw | Torque | 106 N·m (78 lb-ft) |
| Axles | | |
| Axle-to-Differential Seal | Depth | 3 mm (0.125 in.) |
| Axle-to-Differential Cap Screw | Torque | 80 N·m (60 lb-ft) |
| Hydraulic Line Connector | Torque | 24 N·m (215 lb-in.) |
| Brake Plate-to-Axle Cap Screw | Torque | 68 N·m (50 lb-ft) |
| Brake Drum-to-Axle Shaft Nut | Torque | 115—156 N·m (85—115 lb-ft) |
| Wheel-to-Brake Drum Cap Screw | Torque | 99 N·m (70 lb-ft) |
| Differential-to-Frame Cap Screw | Torque | 106 N·m (78 lb-ft) |
| Drive Shaft | | |
| Drive Shaft-to-Engine Cap Screw | Torque | 35 N·m (28 lb-ft) |

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**SECTION 50—POWER TRAIN REPAIR—CONTINUED**

| Item | Measurement | Specification |
|---|---|---|
| PTO Shaft | | |
| Rear Bearing Quill Stud Bolts | Torque | 81 N·m (60 lb-ft) |
| Rear Sheave-to-PTO Shaft Cap Screw | Torque | 73 N·m (54 lb-ft) |
| Belt Tension Springs | Adjustment | 21 mm (0.8 in.) |

**SECTION 60—STEERING AND BRAKE REPAIR**

| Item | Measurement | Specification |
|---|---|---|
| Steering | | |
| Steering Wheel-to Column Nut | Torque | 14 N·m (132 lb-in.) |
| Steering Valve | | |
| Rotor-to-Stator | Maximum Clearance | 0.08 mm (0.003 in.) |
| Steering Column Tube | | |
| Bushing | Depth below top of steering tube | 2.5 mm (0.100 in.) |
| Metering Assembly-to-Valve | | |
| Screw | Torque | 1.4 N·m (12 lb-in.) |
| Steering Valve Nuts | Torque | 30 N·m (22 lb-ft) |
| Relief Valve Plug | Torque | 14 N·m (124 lb-in.) |
| Implement Relief Valve | Torque | 14 N·m (124 lb-in.) |
| Steering Link-to-Axle Nut | Torque | 75 N·m (55 lb-ft) |
| Brakes | | |
| Brake Plate-to-Frame Cap Screw | Torque | 68 N·m (50 lb-ft) |
| Brake Drum-to-Axle Shaft Nut | Torque | 115—156 N·m (85—115 lb-ft) |
| Wheel-to-Drum Cap Screws | Torque | 95 N·m (70 lb-ft) |
| Rear Axle | | |
| Steering Link-to-Axle Nut | Torque | 75 N·m (55 lb-ft) |
| Rear Wheel Cap Screws | Torque | 81-95 N·m (60—70 lb-ft) |
| Axle-to-Tie Rod End Nut | Torque | 61 N·m (45 lb-ft) |

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**SECTION 70—HYDRAULIC REPAIR**

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15
4

| Item | Measurement | Specification |
|---|---|---|
| Hydraulic Control Valve | | |
| Hydraulic Line Fittings | Torque | 50 N·m (37 lb-ft) |
| Small Plugs and Screws | Torque | 3.5 N·m (30 lb-in.) |
| Large Plugs | Torque | 24 N·m (215 lb-in.) |
| Hydraulic Lift Cylinders | | |
| Hydraulic Line Fittings | Torque | 24 N·m (215 lb-in.) |

**SECTION 80—MISCELLANEOUS REPAIR**

| Item | Measurement | Specification |
|---|---|---|
| Mower Gearbox | | |
| Sheave-to-Gearbox Set Screw | Torque | 20 N·m (180 lb-in.) |
| Gearbox-to-Deck Cap Screw | Torque | 55 N·m (40 lb-ft) |
| Gearbox seals | Depth | 250 mm (0.100 in.) |
| Cover-to-Gear Case Cap Screw | Torque | 23 N·m (200 lb-in.) |
| Output Shaft | Rolling Drag Torque | 0.4—1.0 N·m (5—15 oz-in.) |
| Spindle Assembly | | |
| 50 in. Mower Blade Cap Screw | Torque | 73 N·m (54 lb-ft) |
| 60/72/76 in. Mower Blade Cap Screw | Torque | 113 N·m (83 lb-ft) |
| 50 in. Mower Spindle | | |
| Sheave-to-Spindle Shaft Nut | Torque | 140 N·m (103 lb-ft) |
| 60 and 72 in. Mower Spindle | | |
| Sheave-to-Spindle Shaft Nut | Torque | 164 N·m (120 lb-ft) |
| Drive Belt | | |
| Gearbox Assembly-to-Deck Cap Screw | Torque | 55 N·m (40 lb-ft) |
| Spindle Sheave-to-Shaft Cap Screw | Torque | 164 N·m (120 lb-ft) |
| ROLL-GARD | | |
| Rear Mount-to-Frame Cap Screw | Torque | 65 N·m (40 lb-ft) |
| Front Posts-to-Frame Cap Screw | Torque | 80 N·m (60 lb-ft) |
| Rear Post-to-Rear Mount Cap Screw | Torque | 108 N·m (80 lb-ft) |

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