

JOHN DEERE
WORLDWIDE COMMERCIAL & CONSUMER
EQUIPMENT DIVISION

Compact Utility Tractor
2210

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TECHNICAL MANUAL



JOHN DEERE

North American Version
Litho In U.s.a.

INTRODUCTION

Manual Description

This technical manual is written for an experienced technician and contains sections that are specifically for this product. It is a part of a total product support program.

The manual is organized so that all the information on a particular system is kept together. The order of grouping is as follows:

- Table of Contents
- Specifications and Information
- Identification Numbers
- Tools and Materials
- Component Location
- Schematics and Harnesses
- Theory of Operation
- Operation and Diagnostics
- Diagnostics
- Tests and Adjustments
- Repair
- Other

Note: Depending on the particular section or system being covered, not all of the above groups may be used.

The bleed tabs for the pages of each section will align with the sections listed on this page. Page numbering is consecutive from the beginning of the Safety section through the last section.

We appreciate your input on this manual. If you find any errors or want to comment on the layout of the manual please contact us.

Safety

Specifications and Information

Engine

Electrical

Power Train

Hydraulics

Steering

Brakes

Miscellaneous

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

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Previous Editions

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SAFETY

Safety

Recognize Safety Information



MIF

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.

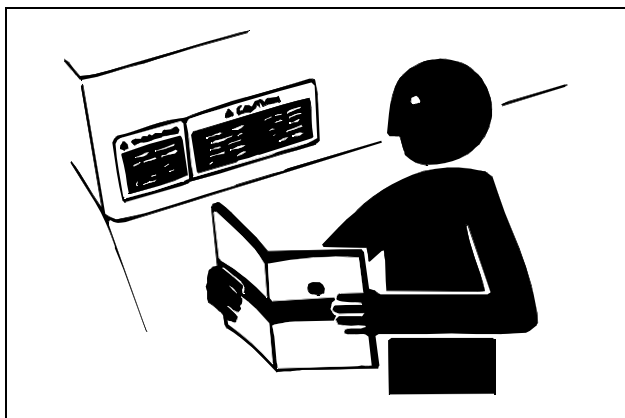
Follow recommended precautions and safe servicing practices.

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.

Replace Safety Signs

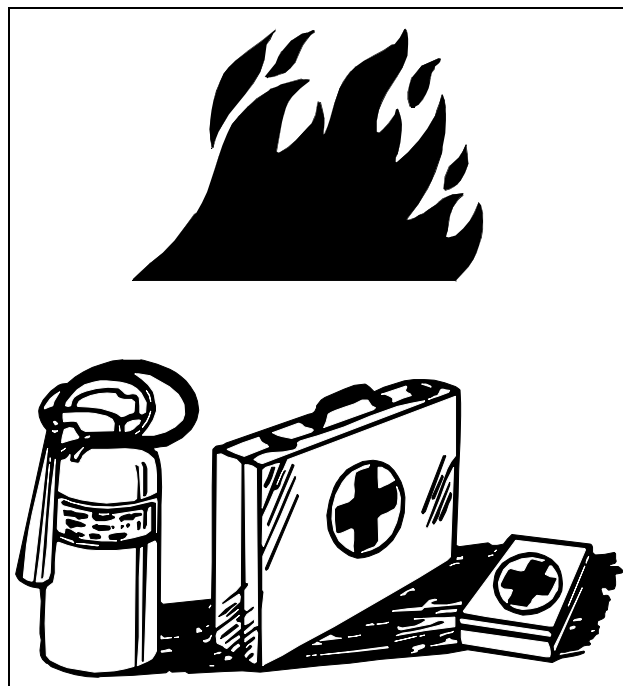


MIF

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

Handle Fluids Safely - Avoid Fires

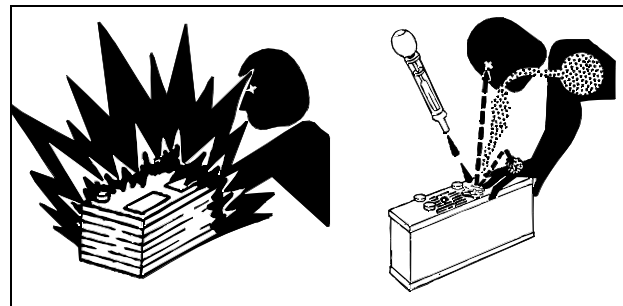
Be Prepared For Emergencies



MIF

- 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.
- 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.

Use Care In Handling and Servicing Batteries



MIF

SAFETY

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).

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 acid burns 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.

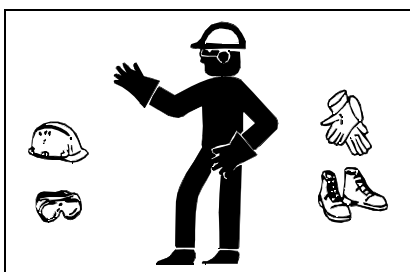
If you spill acid on yourself:

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.
4. 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.

Wear Protective Clothing



MIF

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.

Use Care Around High-pressure Fluid Lines

Avoid High-Pressure Fluids



MIF

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

Avoid injury from escaping fluid under pressure by stopping the engine and relieving pressure in the system before disconnecting or connecting 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.

Avoid Heating Near Pressurized Fluid Lines



MIF

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.

SPECIFICATIONS & INFORMATION COOLANT SPECIFICATIONS

Coolant Specifications

Engine Coolant

The engine cooling system, when filled with a proper dilution mixture of anti-freeze and deionized or distilled water, provides year-round protection against corrosion, cylinder or liner pitting, and winter freeze protection down to -37°C (-34°F).

The following John Deere coolant is **PREFERRED**:

- PRE-DILUTED DIESEL ENGINE ANTI-FREEZE/SUMMER COOLANT™ (TY16036).

This coolant satisfies specifications for “Automobile and Light Duty Engine Service” and is safe for use in John Deere Lawn and Grounds Care/Golf and Turf Division equipment, including aluminum block gasoline engines and cooling systems.

The above preferred pre-diluted anti-freeze provides:

- adequate heat transfer
- corrosion-resistant chemicals for the cooling system
- compatibility with cooling system hose and seal material
- protection during extreme cold and extreme hot weather operations
- chemically pure water for better service life
- compliance with ASTM D4656 (JDM H24C2) specifications

If above preferred pre-diluted coolant is not available, the following John Deere concentrate is **recommended**:

- DIESEL ENGINE ANTI-FREEZE/SUMMER COOLANT CONCENTRATE™ (TY16034).

If either of above recommended engine coolants are not available use any Automobile and Light Duty Engine Service **ethylene glycol base coolant**, meeting the following specification:

- ASTM D3306 (JDM H24C1).

Read container label completely before using and follow instructions as stated.

Important: Avoid Damage! To prevent engine damage, DO NOT use pure anti-freeze or less than a 50% anti-freeze mixture in the cooling system. DO NOT mix or add any additives/conditioners to the cooling system in Lawn and Grounds Care/Golf and Turf Division equipment. Water used to dilute engine coolant concentrate must be of high quality—clean, clear, potable water (low in chloride and hardness—Table 1) is generally acceptable. DO NOT use salt water. Deionized or distilled water is ideal to use. Coolant that is not mixed to these specified levels and water purity can cause excessive scale, sludge deposits, and increased corrosion potential.

Property	Requirements
Total Solids, Maximum	340 ppm (20 grns/gal)
Total Hardness, Max.	170 ppm (10 grns/gal)
Chloride (as Cl), Max.	40 ppm (2.5 grns/gal)
Sulfate (as SO ₄), Max.	100 ppm (5.8 grns/gal)

Mix 50 percent anti-freeze concentrate with 50 percent distilled or deionized water. This mixture and the prediluted mixture (TY16036) will protect the cooling system down to -37°C (-34°F) and up to 108°C (226°F).

Certain geographical areas may require lower air temperature protection. See the label on your anti-freeze container or consult your John Deere dealer to obtain the latest information and recommendations.

Engine Coolant Drain Interval

When using **John Deere Pre-Diluted (TY16036)** Automobile and Light Duty Engine Service coolants, drain and flush the cooling system and refill with fresh coolant mixture every **36 months or 3,000 hours** of operation, whichever comes first.

When using **John Deere Concentrate (TY16034)** Automobile and Light Duty Engine Service coolants, drain and flush the cooling system and refill with fresh coolant mixture every **24 months or 2,000 hours** of operation, whichever comes first.

If above John Deere Automobile and Light Duty Engine Service coolants **are not** being used, drain, flush, and refill the cooling system according to instructions found on product container or in equipment operator’s manual or technical manual.

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