

# 9960 Cotton Picker Operation and Tests



## TECHNICAL MANUAL 9960 Cotton Picker Operation and Tests

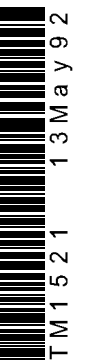
TM1521 (13May92) English

FOR COMPLETE SERVICE INFORMATION ALSO SEE:

9960 COTTON PICKER REPAIR . . . . . TM1448  
6076 ENGINE (P.I.N. -N09960X004000) . . . . . CTM6  
6076 ENGINE (P.I.N. -N09960X004001-) . . . . . CTM42  
RADIAL PISTON PUMP . . . . . CTM7  
ENGINE ACCESSORIES . . . . . CTM11

**TM1521 (13May92)**

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.

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, 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.

**Thanks very much for your reading,  
Want to get more information,  
Please click here, Then get the complete  
manual**



# Dealer Presentation Sheet

**TO: JOHN DEERE DEALER**

**IMPORTANT: Please remove this page and route through your service department.**

TM1521, 9960 Cotton Picker Operation and Test Technical Manual has been revised.

This manual was revised to show:

1. Change in engines at P.I.N. 4001.
2. Section 240, Electrical has been expanded.
3. A diagram for the Operator Presence System has been added in Section 240.
4. Show the change in picking unit speeds.

*Dealer Presentation Sheet*

# Contents

## SECTION 210—GENERAL

- Group 05—Safety
- Group 10—Machine Operational Checkout
- Group 15—Diagnostic/Testing Procedures
- Group 20—Tune-Up and Adjustment

## SECTION 220—ENGINE OPERATION AND TESTS

- Group 05—System Operational Checks
- Group 10—Diagnostic Information
- Group 15—Engine System Operation and Test
- Group 20—System Adjustments
- Group 25—Theory of Operation

## SECTION 230—FUEL/AIR OPERATION AND TESTS

- Group 05—System Operational Checks
- Group 10—Diagnostic Information
- Group 15—System Tests
- Group 20—System Adjustments
- Group 25—Theory of Operation

## SECTION 240—ELECTRICAL OPERATION AND TESTS

- Group 05—System Information
- Group 10—System Diagrams
- Group 15A—Power Circuit Diagnostics
- Group 15B—Start Circuit Diagnostics
- Group 15C—Charging Circuit Diagnostics
- Group 15D—Dome Light Circuit Diagnostics
- Group 15E—Turn Signal Circuit Diagnostics
- Group 15F—Warning Circuit Diagnostics
- Group 15G—Road Lamp Circuit Diagnostics
- Group 15H—Field Lamp Circuit Diagnostics
- Group 15I—Windshield Wiper Circuit Diagnostics
- Group 15J—Pressure Fan Circuit Diagnostics
- Group 15K—Gauge Circuit Diagnostics
- Group 15L—Start Aid Circuit Diagnostics
- Group 15M—Tachometer Circuit Diagnostics
- Group 15N—Operator Presence and Inspection By-Pass Diagnostics
- Group 15O—Monitor Circuit Diagnostics

## SECTION 250—POWER TRAIN OPERATION AND TESTS

- Group 05—System Operational Checks
- Group 10—Diagnostic Information
- Group 15—System Tests
- Group 20—System Adjustments
- Group 25—Theory of Operation

## SECTION 260—STEERING/BRAKES OPERATION AND TEST

- Group 10—Steering/Brakes Diagnostics
- Group 15—Steering/Brakes Systems Test
- Group 20—Steering/Brakes Adjustments
- Group 25—Steering/Brakes Theory Of Operation

## SECTION 270—Hydraulic System Operation and Test

- Group 05—Hydraulic System Operational Checks
- Group 10A—Hydraulic Pump Diagnostic Information
- Group 10B—Main Control Valve Diagnostic Information
- Group 10C—Hydraulic Cylinder Diagnostic Information
- Group 10D—Height Sensing System Diagnostic Information
- Group 15—Hydraulic System Tests
- Group 20—Hydraulic System Adjustments
- Group 25A—Hydraulic System Theory of Operation
- Group 25B—Hydraulic Pump Operation
- Group 25C—Main Control Valve Operation
- Group 25D—Hydraulic Cylinder Operation
- Group 25E—Hydraulic Motors Operation
- Group 25F—Height Control Operation
- Group 25G—Basket Compactor and Conveyor Control Valve

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.*

TM1521-19-13MAY92

COPYRIGHT© 1992  
DEERE & COMPANY  
Moline, Illinois  
All rights reserved  
A John Deere ILLUSTRATION® Manual  
Previous Editions  
Copyright© 1991 Deere & Company

210 **SECTION 290—Operator's Station Operation and Test**

Group 05—Operator's Station Operational Checks

Group 10—Operator's Station Diagnostic Information

220 Group 15—Operator's Station Tests

Group 20—Operator Station Adjustments

Group 25—Operator Station Theory of Operation

230 **SECTION 300—PICKING UNIT OPERATION AND TESTS—CONVENTIONAL UNIT**

Group 05—Picking Unit Diagnostic Information

Group 10—Picking Unit Adjustments

Group 15—Picking Unit Theory of Operation

240 **SECTION 305—PICKING UNIT OPERATION AND TESTS—IN-LINE UNIT**

Group 05—Picking Unit Diagnostic Information

Group 10—Picking Unit Adjustments

Group 15—Picking Unit Theory of Operation

250 **SECTION 310—PICKING UNIT LUBRICATION SYSTEM OPERATION & TESTS**

Group 05—Lubrication System Operational Checks

Group 10—Lubrication System Diagnostic Information

260 Group 15—Lubrication System Tests

Group 20—Lubrication System Adjustments

Group 25—Lubrication System Theory Of Operation

270 **SECTION 320—MOISTENER SYSTEM OPERATION AND TESTS**

Group 05—Moistener System Diagnostic Information

Group 10—Moistener System Adjustments

290 Group 15—Moistener System Theory Of Operation

**SECTION 330—AIR SYSTEM OPERATION AND TESTS**

Group 05—Air System Diagnostic Information

Group 10—Air System Adjustments

Group 15—Air System Theory Of Operation

**Index**

305

*Contents*

310

320

330

INDX



*Contents*

310

320

330

NDX

# Section 210 GENERAL

## Contents

Page

### Group 05—Safety

### Group 10—Machine Operational Checkout

Introduction . . . . . 210-10-1

### Group 15—Diagnostic/Testing Procedures

Troubleshooting . . . . . 210-15-1

### Group 20—Tune-Up and Adjustment

Tune-Up and Adjustment . . . . . 210-20-1

*Contents*

### 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

210  
05  
1  
-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 -19-04JUN90

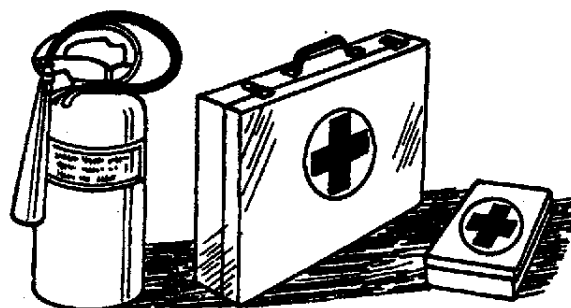
-JUN-23AUG88  
TS204

### 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 -19-04JUN90

-JUN-23AUG88  
TS281

210  
05  
2

## 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:

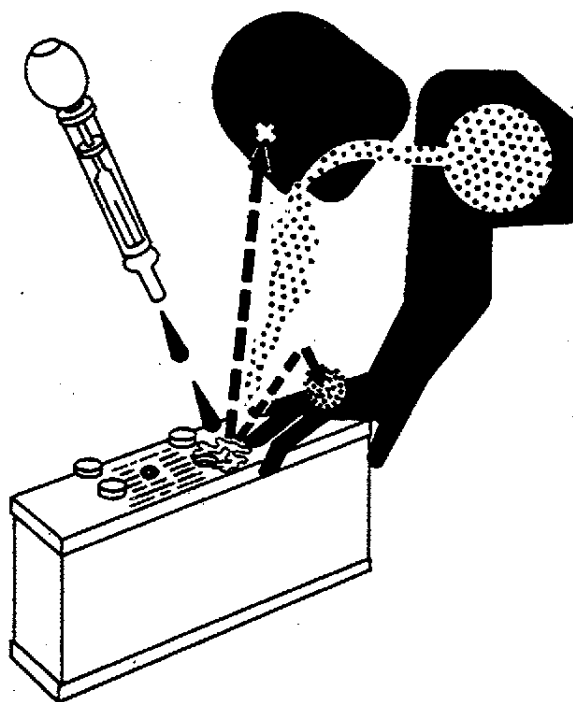
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

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.



-UN-23AUG88

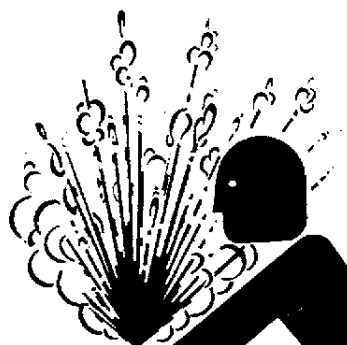
TS203

DX,POISON -19-04:UN90

## 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.



-UN-23AUG88

TS281

DX,RCAP -19-04JUN90

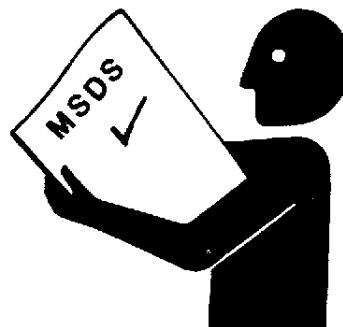
## HANDLE CHEMICAL PRODUCTS SAFELY

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.)



DX,MSDS,NA -18-15MAR91

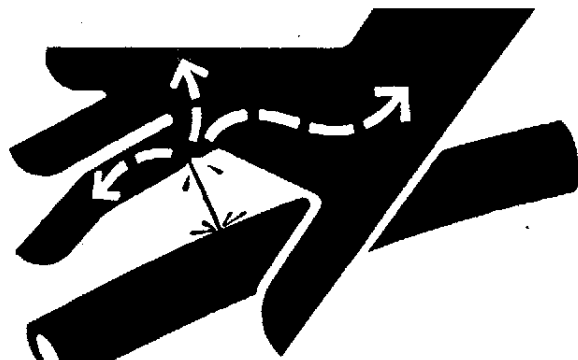
## AVOID HIGH-PRESSURE FLUIDS

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.

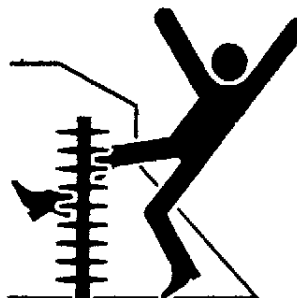


DX,FLUID -18-09AUG91

210  
05  
4

### AVOID CONTACT WITH ENGAGED PICKING UNIT

If service is required with engaged picking units, avoid contact with moving parts. Moving parts can puncture or dismember body parts, or cause death.



N01,1000,K -19-04MAY90

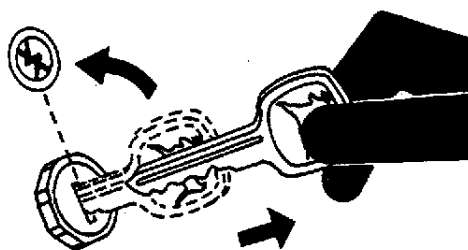
-UN-07OCT88

N39513

### 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.

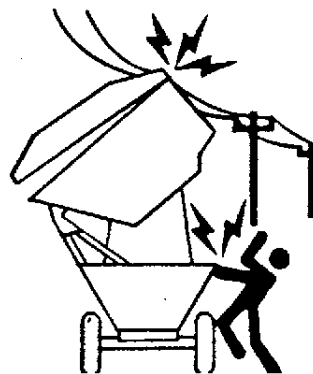


DX,PARK -19-04JUN90

-UN-24MAY89

TS230

- Look overhead for electric lines or low ceiling.



N01,1000,L -19-04MAY90

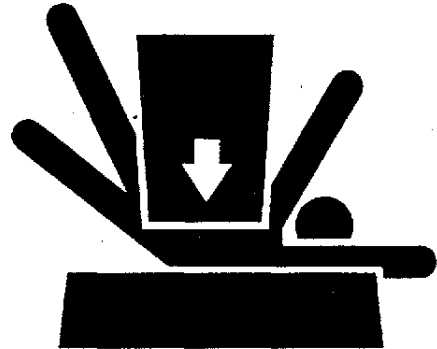
-UN-30NOV88

N39571

### 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.



JUN-23AUG88  
TS229

DX,LOWER -19-04JUN90

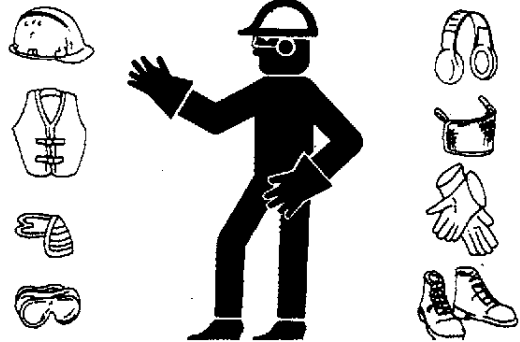
### WEAR PROTECTIVE CLOTHING

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.



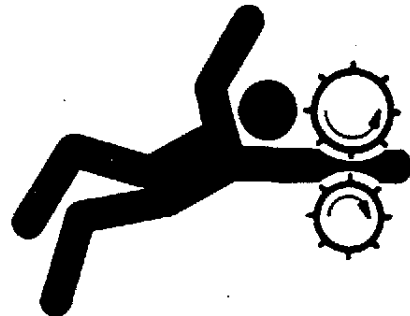
JUN-23AUG88  
TS206

DX,WEAR -19-10SEP90

### 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