

9410, 9510, and 9610 Combines Repairs

For complete service information also see:

9410, 9510, and 9610 Combines	
Diagnosis and Tests	TM1702
Cam Lobe Motors	CTM19
Engine Accessories	CTM67
Electronic Fuel Injection	CTM68
Alternators and Starting Motors	CTM77
6081 Diesel Engines	CTM86
6068 Engine	CTM104

John Deere Harvester Works
TM1701 (31OCT97)


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 operation and tests. Repair sections tell how to repair the components. Operation and tests 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.

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.

DX, TMIFC -19-22MAY92-1/1

Contents

SECTION 10—General

- Group 05—Safety
- Group 10—Identification Number Location
- Group 15—Specifications
- Group 20—Tune Up and Adjustment
- Group 25—Fuels and Lubricants

SECTION 20—Engine

- Group 05—Remove and Install Engine
- Group 10—Cooling System
- Group 15—Lower Engine Repair

SECTION 30—Fuel and Air Repair

- Group 05—Air Intake System
- Group 10—Diesel Fuel System

SECTION 40—Electrical System

- Group 05—Components
- Group 10—Bulbs and Switches
- Group 15—Batteries
- Group 20—Harness and Connector Repair
- Group 25—Gauges and Monitors
- Group 30—Wiper and Radio
- Group 35—Alternator
- Group 40—Starting Motor
- Group 45—Electrical Engine Control

SECTION 50—Power Train Repair

- Group 05—Transmission and Differential
- Group 10—Ring and Pinion Final Drive
- Group 15—Planetary Final Drive
- Group 20—Hydrostatic System
- Group 25—Cam Lobe Motor
- Group 30—Tires and Wheels

SECTION 60—Power Steering and Brakes

- Group 05—Steering
- Group 10—Brakes

SECTION 70—Hydraulic Repair

- Group 05—Hydraulic Reservoir
- Group 10—Hydraulic Pumps
- Group 15—Hydraulic Valves
- Group 20—Hydraulic Cylinders

- Group 25—Motors
- Group 30—Accumulator
- Group 35—Reel/Belt Pickup Pump Drive

SECTION 80—Separator Shell

- Group 05—Gull Wing Doors
- Group 10—Cleaning Fan Shields

SECTION 90—Operator Station Repair

- Group 10—Air Conditioning System (R134a)
- Group 15—System Components
- Group 20—Cab

SECTION 110—Feeder House Repair

- Group 05—Feeder House/Conveyor
- Group 10—Feeder House Conveyor Drum
- Group 15—Conveyor Shaft and Slip Clutch
- Group 20—Feeder House Drives and Reverser Gear Case
- Group 25—Contour Master™ Platform Driveshafts
- Group 30—Contour Master™ Tilt Cylinder
- Group 35—Contour Master™ Tilt Frame

SECTION 120—Separator

- Group 05—Separator Repair
- Group 10—Cylinder Drives
- Group 15—Straw Walkers and Crankshafts
- Group 20—Straw Chopper, Straw Spreader and Chaff Spreader
- Group 25—Shoe Supply Augers, Cleaning Fan and Chaffer and Sieve Frame
- Group 30—Tailings Elevator and Augers
- Group 35—Primary Countershaft Gearcase
- Group 40—Header Electromagnetic Clutch

SECTION 130—Grain Tank and Unloading System Repair

- Group 05—Grain Tank Cross Augers
- Group 10—Unloading Auger System Drives
- Group 15—Vertical Unloading Auger and Lower Gearcase
- Group 20—Horizontal Unloading Auger and Gearcase

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.

COPYRIGHT © 1997
DEERE & COMPANY
Moline, Illinois
All rights reserved
A John Deere ILLUSTRATION® Manual

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

JustClickHere 

NOTE:

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

**Have any questions please write to me:
admin@servicemanualperfect.com**

Contents

10

Group 25—Upper Clean Grain Elevator
Group 30—Grain Tank and Extensions
Group 35—Clean Grain Elevator and Loading Auger
Gear Case

20

**SECTION 140—Engine Gearcase and Control Valve
Repair**

Group 05—Engine Gearcase and Valve

30

40

50

60

70

80

90

110

Contents

120

130

140

INDX

Contents

120

130

140

INDX

Section 10 General

Contents

Page	Page
Group 05—Safety	
Recognize Safety Information	10-05-1
Understand Signal Words	10-05-1
Handle Fluids Safely—Avoid Fires	10-05-1
Prevent Battery Explosions	10-05-2
Prepare for Emergencies	10-05-2
Prevent Acid Burns	10-05-3
Avoid High-Pressure Fluids	10-05-4
Park Machine Safely	10-05-4
Support Machine Properly	10-05-5
Wear Protective Clothing	10-05-5
Service Machines Safely	10-05-5
Work in Ventilated Area	10-05-6
Illuminate Work Area Safely	10-05-6
Replace Safety Signs	10-05-6
Use Proper Lifting Equipment	10-05-6
Service Tires Safely	10-05-7
Avoid Harmful Asbestos Dust	10-05-7
Work in Clean Area	10-05-8
Practice Safe Maintenance	10-05-8
Use Proper Tools	10-05-9
Dispose of Waste Properly	10-05-9
Use Adequate Service Facilities	10-05-10
Live With Safety	10-05-10
Group 10—Identification Number Location	
Identification Plates	10-10-1
Combine Identification Number	10-10-1
Engine Serial Number	
9410 Combines	10-10-1
9510 and 9610 Combines	10-10-2
Hydrostatic Drive Unit Pump	10-10-2
Hydrostatic Drive Unit Motor	10-10-2
Right Cam Lobe Four-Wheel Drive Motor	10-10-2
Left Cam Lobe Four-Wheel Drive Motor	10-10-3
Engine Gearcase	10-10-3
Transmission	10-10-3
Cab	10-10-4
Group 15—Specifications	
Operating Speeds	10-15-1
Grounds Speed (Fast Idle)	10-15-2
Ground Speeds (Fast Idle)	10-15-3
Turning Radius	10-15-3
Specifications	
9410 Combine	10-15-4
9510 Combine	10-15-6
9610 Combine	10-15-8
Dimensions	10-15-10
Dimension Reference Points	10-15-11
Inch Bolt and Cap Screw	10-15-12
Metric Bolt and Cap Screw	10-15-14
O-Ring Boss Fitting Torque Chart	10-15-16
Flat Face O-Ring Seal Fitting Torque Chart	10-15-17
SAE Four Bolt Flange Fitting Torque Chart	10-15-18
Prevent Hydraulic System Contamination	10-15-19
Check Oil Lines and Fittings	10-15-20
Group 20—Tune Up and Adjustment	
Tune-Up and Adjustment	10-20-1
Care and Maintenance of Belts	10-20-2
Defective Belts	10-20-4
Right-Hand Drives and Part Numbers	10-20-6
Left-Hand Drives and Part Numbers	10-20-8
Group 25—Fuels and Lubricants	
Diesel Fuel	10-25-1
Fuel Storage	10-25-2
Engine Coolant	10-25-3
Liquid Coolant Conditioner	10-25-3
Diesel Engine Oil	10-25-4
Hydrostatic Drive System, Main Hydraulic System and Main Engine Gear Case Oils	10-25-5
Transmission, Final Drives, and Drive Gear Cases	10-25-6
Greases	10-25-7
Lubricant Storage	10-25-7
Alternative and Synthetic Lubricants	10-25-8
Filter Part Numbers	10-25-8

Contents

10

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 -19-03MAR93-1/1

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 -19-03MAR93-1/1

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 -19-04JUN90-1/1

10
05
2

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

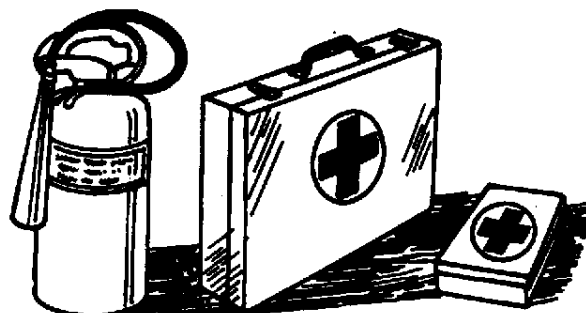
DX,SPARKS -19-03MAR93-1/1

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 -19-03MAR93-1/1

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:

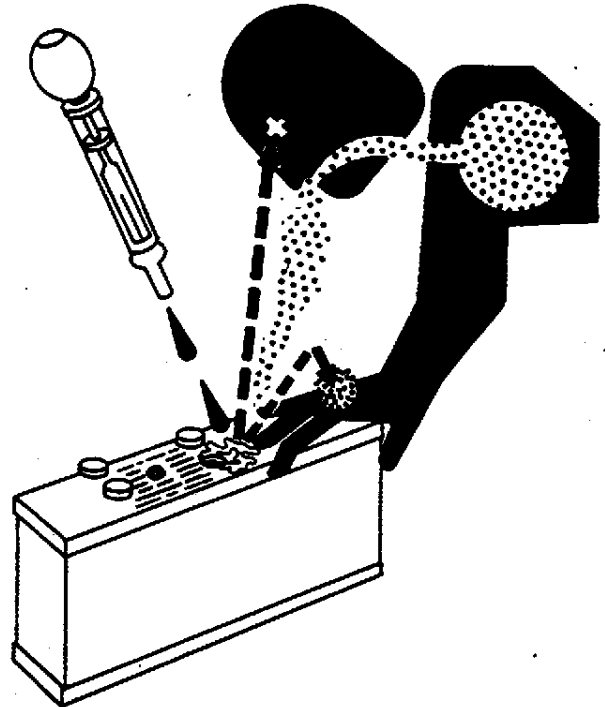
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

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.



TS203 -UN-23AUG88

DX,POISON -19-21APR93-1/1

10
05
4

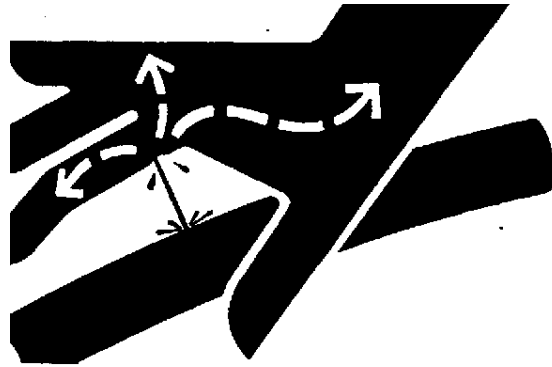
AVOID HIGH-PRESSURE FLUIDS

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.



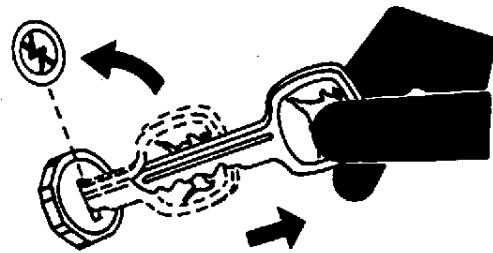
X9811 -JUN-23AUG88

DX,FLUID -19-03MAR93-1/1

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.



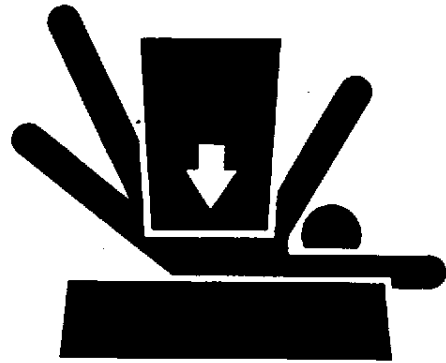
TS230 -JUN-24MAY89

DX,PARK -19-04JUN90-1/1

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 -19-04JUN90-1/1

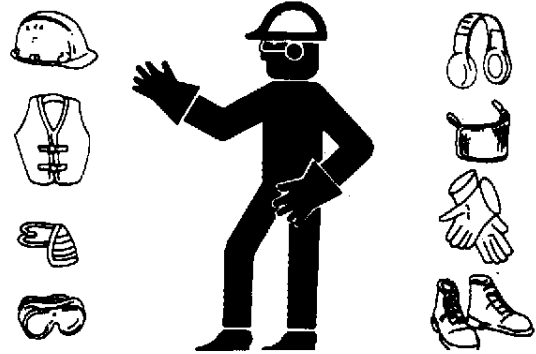
WEAR PROTECTIVE CLOTHING

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.



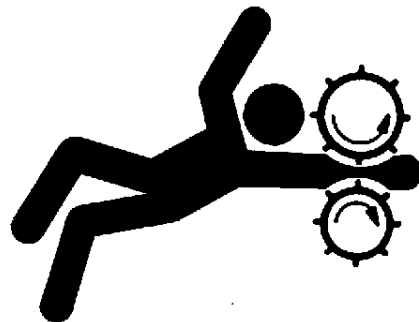
TS206 -UN-23AUG88

DX.WEAR -19-10SEP90-1/1

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

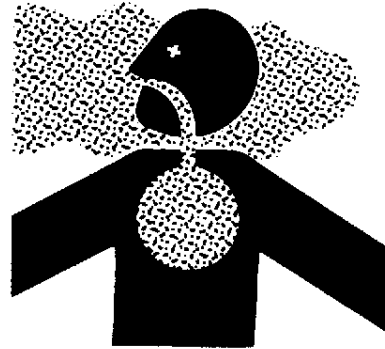
DX.LOOSE -19-04JUN90-1/1

10
05
6

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 -19-04JUN90-1/1

TS220 -UN-23AUG88

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.

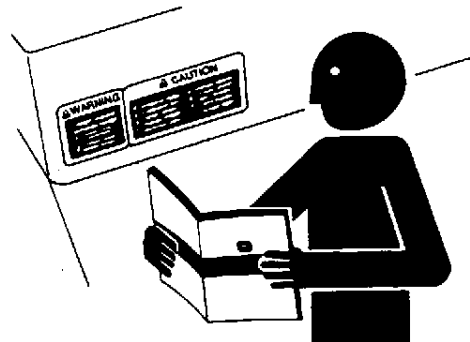


DX,LIGHT -19-04JUN90-1/1

TS223 -UN-23AUG88

REPLACE SAFETY SIGNS

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



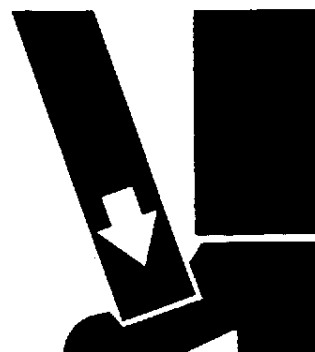
DX,SIGNS1 -19-04JUN90-1/1

TS201 -UN-23AUG88

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.



DX,LIFT -19-04JUN90-1/1

TS226 -UN-23AUG88

SERVICE TIRES SAFELY

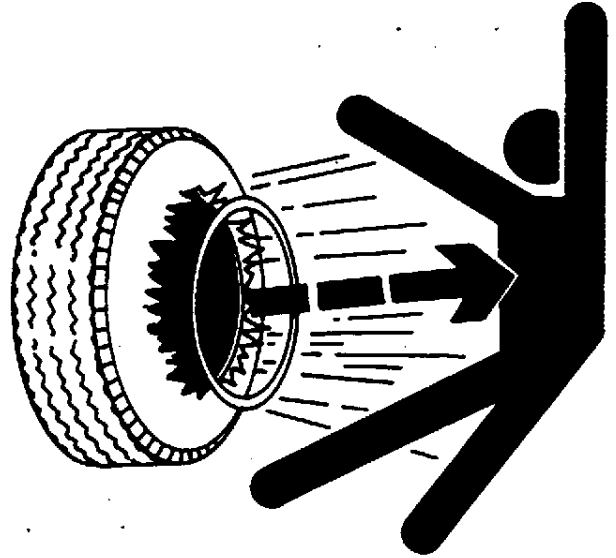
Explosive separation of a tire and rim parts can cause serious injury or death.

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 -19-24AUG90-1/1

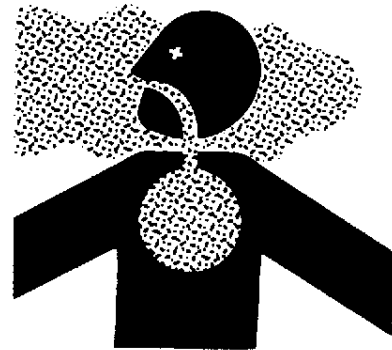
AVOID HARMFUL ASBESTOS DUST

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

Keep bystanders away from the area.



TS220 -UN-23AUG88

DX,DUST -19-15MAR91-1/1