748H Skidder Repair

(Serial No. 630436 -)

TECHNICAL MANUAL

748H Skidder Repair (S.N. 630436—)

TM11813 13OCT10 (ENGLISH)

For complete service information also see:

748H Skidder Operation and Test (S.N. 630436—)	TM11797
H-Series Skidder Operator's Manual (S.N. 630436—)	OMT255825
PowerTech™ 4.5L & 6.8L Diesel Engines - Base Engine	CTM104
PowerTech™ Plus 4.5L & 6.8L Diesel Engines—Level 14 Electronic Fuel System With Denso HPCR	CTM320
TeamMate™ IV Axles 1200 - 1400 Series Inboard Planetary Axles	CTM442
40 and 4000 Winches	CTM25
60 and 6000 Winches	CTM41
DF180 Series Powershift Transmission Repair Manual	CTM308
120 Series Cylinders	CTM114319
125 Series Cylinders	CTM109319
JDLink™ / ZXLink™ Machine Monitoring System	CTM10006
Specifications Manual	SP458

Worldwide Construction And Forestry Division

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.

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.

,0004E4A -19-08SEP08-1/1

Technical Information Feedback Form

We need your help to continually improve our technical publications. Please copy this page and FAX or mail your comments, ideas and improvements.

SEND TO: John Deere Dubuque Works
18600 South John Deere Road
Attn: Publications, Dept. 324
Dubuque, IA 52004-0538
USA

FAX NUMBER: 1-563-589-5800 (USA)

Publication Number:_____

Page Number:_____

Ideas, Comments:_____

Name: _____

Phone: _____

Email Address: _____

THANK YOU!

TX,TM,FAX -19-03JUL01-1/1

Contents

Section 00—General Information
Group 0001—Safety
Group 0003—Torque Values

Section 01—Wheels
Group 0110—Powered Wheels and Fasteners

Section 02—Axles
Group 0200—Remove and Install
Group 0225—Input Drive Shaft and U-Joints
Group 0260—Hydraulic System

Section 03—Transmission
Group 0300—Remove and Install
Group 0315—Controls
Group 0325—Input Drive Shafts and U-Joints
Group 0350—Gears, Shafts, and Power Shift Clutches
Group 0360—Hydraulic System

Section 04—Engine
Group 0400—Removal and Installation

Section 05—Engine Auxiliary Systems
Group 0505—Cold Weather Starting Aids
Group 0510—Cooling System
Group 0520—Intake System
Group 0530—Exhaust System
Group 0560—External Fuel Supply System

Section 07—Dampener Drive
Group 0752—Elements

Section 09—Steering System
Group 0930—Secondary Steering
Group 0960—Hydraulic System
Group 0962—Dual Mode Steering

Section 10—Service Brakes
Group 1015—Controls Linkage
Group 1060—Hydraulic System

Section 11—Park Brake
Group 1111—Active Elements
Group 1160—Hydraulic System

Section 17—Frame, Chassis, or Supporting Structures
Group 1740—Frame Installation
Group 1746—Frame Bottom Guards

Section 18—Operator's Station
Group 1800—Removal and Installation
Group 1810—Operator Enclosure
Group 1821—Seat and Seat Belt
Group 1830—Heating and Air Conditioning

Section 19—Sheet Metal and Styling
Group 1910—Hood or Engine Enclosure

Section 20—Safety, Convenience, and Miscellaneous
Group 2003—Pressurized Water System
Group 2004—Horn and Warning Devises

Section 21—Main Hydraulic System
Group 2160—Hydraulic System

Section 30—Winch
Group 3000—Removal and Installation
Group 3015—Control Linkage
Group 3025—Input Drive Shafts and U-Joints
Group 3050—Drive and Clutch

Section 32—Stacking Blades
Group 3201—Blades
Group 3215—Controls Linkage
Group 3260—Hydraulic System

Section 38—Grapple
Group 3803—Grapple Mechanism
Group 3840—Frames
Group 3860—Hydraulic System

Section 99—Dealer Fabricated Tools
Group 9900—Dealer Fabricated Tools

Original Instructions. 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 © 2010
DEERE & COMPANY
Moline, Illinois
All rights reserved.
A John Deere ILLUSTRUCTION ® Manual

Section 00
General Information

Contents

Page

Group 0001—Safety 00-0001-1

Group 0003—Torque Values
Hardware Torque Specifications..... 00-0003-1
Keeping ROPS Installed Properly..... 00-0003-1
Torque Value
Metric Bolt and Cap Screw.....00-0003-2
Additional Metric Cap Screw
Torque Values..... 00-0003-3
Unified Inch Bolt and Cap Screw 00-0003-4
Check Oil Lines And Fittings 00-0003-5
Service Recommendations for
37° Flare and 30° Cone Seat
Connectors 00-0003-5
Service Recommendations for
O-Ring Boss Fittings..... 00-0003-6
Service Recommendations For
Flat Face O-Ring Seal Fittings 00-0003-7
Service Recommendations for
Metric Series Four Bolt Flange
Fitting..... 00-0003-8
Service Recommendations For
Inch Series Four Bolt Flange
Fittings..... 00-0003-9

Recognize Safety Information

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

Follow the precautions and safe operating practices highlighted by this symbol.

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

On your machine, DANGER signs are red in color, WARNING signs are orange, and CAUTION signs are yellow. DANGER and WARNING signs are located near specific hazards. General precautions are on CAUTION labels.



T133555 —UN—28AUG00

T133588 —19—28AUG00

TX03679,00016CC -19-03NOV08-1/1

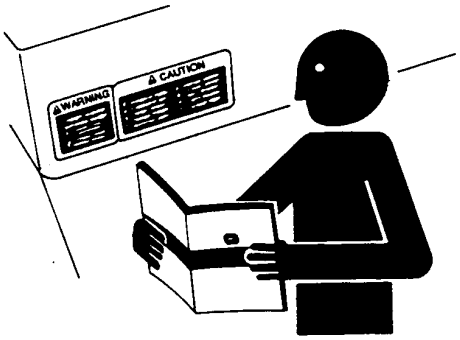
Follow Safety Instructions

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.

There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.

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.



TS201 —UN—23AUG88

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

DX,READ -19-16JUN09-1/1

Operate Only If Qualified

Do not operate this machine unless you have read the operator's manual carefully and you have been qualified by supervised training and instruction.

Familiarize yourself with the job site and your surroundings before operating. Try all controls and machine functions with the machine in an open area before starting to work.

Know and observe all safety rules that may apply to your work situation and your work site.

TX03679,00016FA -19-03NOV08-1/1

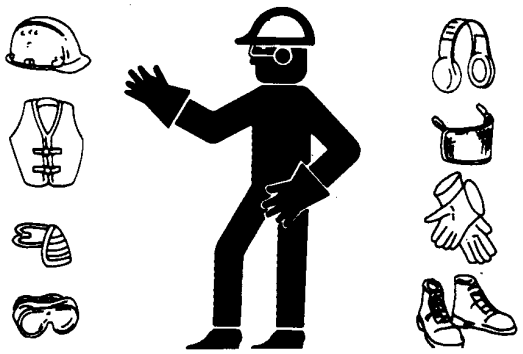
Wear Protective Equipment

Guard against injury from flying pieces of metal or debris; wear goggles or safety glasses.

Wear close fitting clothing and safety equipment appropriate to the job.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.

Prolonged exposure to loud noise can cause impairment or loss of hearing. Wear suitable hearing protection such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises. Radio or music headphones are not suitable to use for hearing protection.



TS206 —UN—23AUG88

OUT4001,0000570 -19-12FEB10-1/1

Avoid Unauthorized Machine Modifications

John Deere recommends using only genuine John Deere replacement parts to ensure machine performance. Never substitute genuine John Deere parts with alternate parts not intended for the application as these can create hazardous situations or hazardous performance. Non-John Deere parts, or any damage or failures resulting from their use are not covered by any John Deere warranty.

Modifications of this machine, or addition of unapproved products or attachments, may affect machine stability or reliability, and may create a hazard for the operator or others near the machine. The installer of any modification which may affect the electronic controls of this machine is responsible for establishing that the modification does not adversely affect the machine or its performance.

Always contact an authorized dealer before making machine modifications that change the intended use, weight or balance of the machine, or that alter machine controls, performance or reliability.

AM40430,00000A9 -19-20AUG09-1/1

Inspect Machine

Inspect machine carefully each day by walking around it before starting.

Keep all guards and shields in good condition and properly installed. Fix damage and replace worn or broken parts immediately. Pay special attention to hydraulic hoses and electrical wiring.



T6607AQ —UN—18OCT88

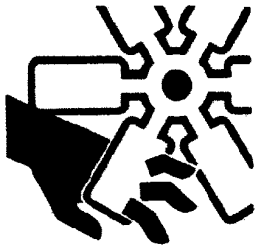
TX03679,0001734 -19-03NOV08-1/1

Stay Clear of Moving Parts

Entanglements in moving parts can cause serious injury.

Stop engine before examining, adjusting or maintaining any part of machine with moving parts.

Keep guards and shields in place. Replace any guard or shield that has been removed for access as soon as service or repair is complete.



T133592 —UN—12SEP01

TX03679,00016D2 -19-03NOV08-1/1

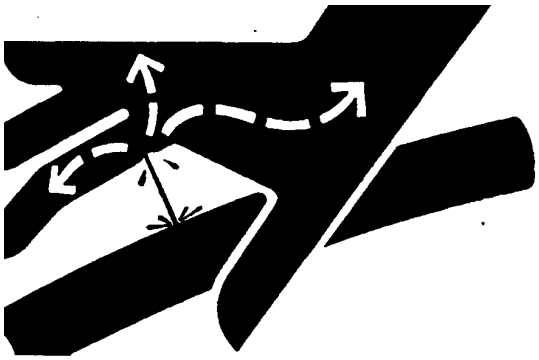
Avoid High-Pressure Fluids

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 in English from Deere & Company Medical Department in Moline, Illinois, U.S.A., by calling 1-800-822-8262 or +1 309-748-5636.



X9811 —UN—23AUG88

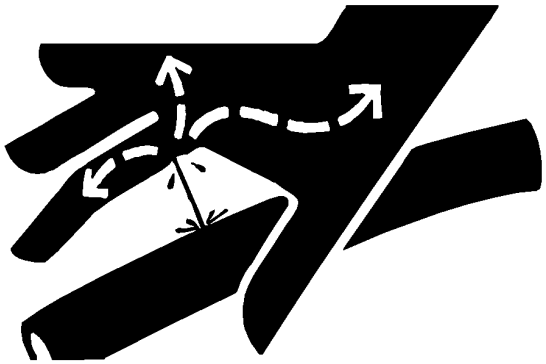
DX,FLUID -19-20AUG09-1/1

Avoid High-Pressure Oils

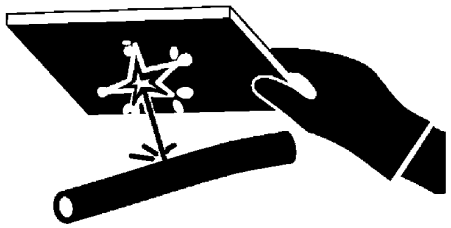
This machine uses a high-pressure hydraulic system. Escaping oil under pressure can penetrate the skin causing serious injury.

Never search for leaks with your hands. Protect hands. Use a piece of cardboard to find location of escaping oil. Stop engine and relieve pressure before disconnecting lines or working on hydraulic system.

If hydraulic oil penetrates your skin, see a doctor immediately. Injected oil must be removed surgically within hours or gangrene may result. Contact a knowledgeable medical source or the Deere & Company Medical Department in Moline, Illinois, U.S.A.



T133509 —UN—17MAR06



T133840 —UN—20SEP00

TX03679,00016D3 -19-03NOV08-1/1

Do Not Use Starting Fluid

IMPORTANT: Avoid an explosion or fire. Machine is equipped with electrical cold start assist system. Do not use starting fluid of any type on the machine.

This machine is equipped with a Tier III engine. Fire, explosion or engine damage will result from using starting fluids of any type on this machine.



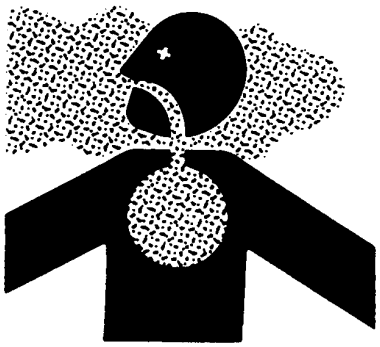
T145705 —UN—18SEP01

OUO1065,00001B7 -19-09JUN08-1/1

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.



TS220 —UN—23AUG88

DX,AIR -19-17FEB99-1/1

Prevent Fires

Handle Fuel Safely: Store flammable fluids away from fire hazards. Never refuel machine while smoking or when near sparks or flame.

Clean Machine Regularly: Keep trash, debris, grease and oil from accumulating in engine compartment, around fuel lines, hydraulic lines, exhaust components, and electrical wiring. Never store oily rags or flammable materials inside a machine compartment.

Maintain Hoses and Wiring: Replace hydraulic hoses immediately if they begin to leak, and clean up any oil spills. Examine electrical wiring and connectors frequently for damage.

Keep A Fire Extinguisher Available: Always keep a multipurpose fire extinguisher on or near the machine. Know how to use extinguisher properly.



T133552 —UN—14SEP00

T133553 —UN—07SEP00



T133554 —UN—07SEP00



TX03679,00016F5 -19-03NOV08-1/1

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

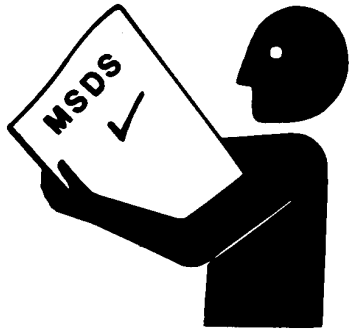
Handle Chemical Products Safely

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.)



TS1132 —UN—26NOV90

DX,MSDS,NA -19-03MAR93-1/1

Dispose of Waste Properly

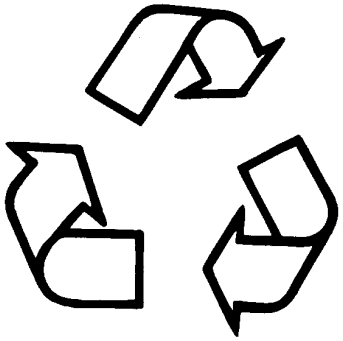
Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

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 —UN—26NOV90

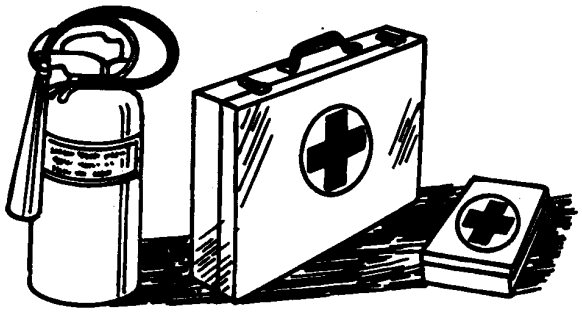
DX,DRAIN -19-03MAR93-1/1

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

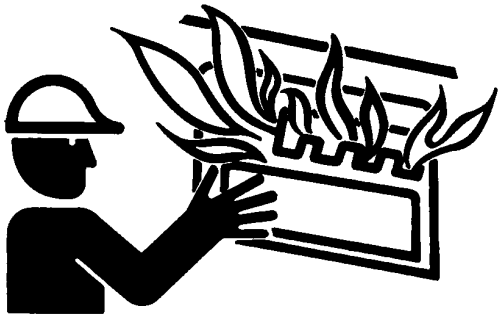
Clean Debris from Machine

Keep engine compartment, radiator, batteries, hydraulic lines, exhaust components, fuel tank, and operator's station clean and free of debris.

Clean any oil spills or fuel spills on machine surfaces.

Temperature in engine compartment may go up immediately after engine is stopped. BE ON GUARD FOR FIRES DURING THIS PERIOD.

Open access door(s) to cool the engine faster, and clean engine compartment.



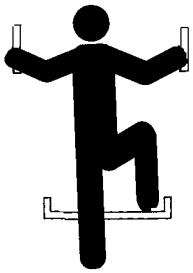
T6669AG —UN—18OCT88

OUT4001,00000E3 -19-20AUG09-1/1

Use Steps and Handholds Correctly

Prevent falls by facing the machine when you get on and off. Maintain 3-point contact with steps and handrails. Never use machine controls as handholds.

Use extra care when mud, snow, or moisture present slippery conditions. Keep steps clean and free of grease or oil. Never jump when exiting machine. Never mount or dismount a moving machine.



T133468 —UN—30AUG00

TX03679,00016F2 -19-03OCT07-1/1

Start Only From Operator's Seat

Avoid unexpected machine movement. Start engine only while sitting in operator's seat. Ensure all controls and working tools are in proper position for a parked machine.

Never attempt to start engine from the ground. Do not attempt to start engine by shorting across the starter solenoid terminals.



T133715 —UN—07SEP00

TX03679,0001799 -19-03OCT07-1/1

Use and Maintain Seat Belt

Use seat belt when operating machine. Remember to fasten seat belt when loading and unloading from trucks and during other uses.

Examine seat belt frequently. Be sure webbing is not cut or torn. Replace seat belt immediately if any part is damaged or does not function properly.

The complete seat belt assembly should be replaced every three years, regardless of appearance.



T133716 —19—14SEP00

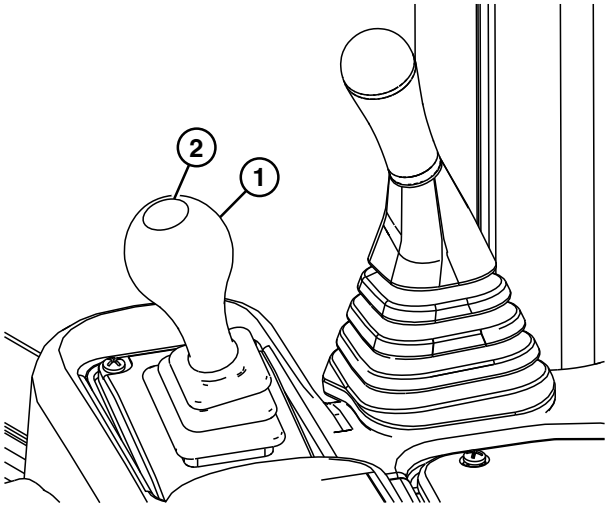
TX03679,00016DD -19-03OCT07-1/1

Prevent Unintended Machine Movement

Be careful not to accidentally actuate controls. Move transmission out of gear and lower all equipment to the ground during work interruptions. Follow these steps before allowing coworkers to approach the machine, before standing up, leaving the operator's seat, or exiting the machine:

- Lower equipment to the ground
- Move transmission gear selector to neutral position
- Engage park brake by pressing park brake switch. Verify park brake indicator light on the standard display monitor comes on.
- Stop the engine

1— Gear Selector
2— Gear Enable/Differential Lock Switch
3— Park Brake Switch



TX1076184 —UN—16APR10

Gear Enable/Differential Lock Switch



TX1076187A —UN—16APR10

Park Brake Switch

OU90V02,000042C -19-25MAY10-1/1

Click on the image link below for the full version of the service manual

