

4310 and 4310A Beet Harvesters



TECHNICAL MANUAL 4310 and 4310A Beet Harvesters

TM1166 (01JUL82) English

Des Moines Works
TM1166 (01JUL82)

LITHO IN U.S.A.
ENGLISH



4310 AND 4310A BEET HARVESTERS

TECHNICAL MANUAL
TM-1166 (Jul-82)

CONTENTS

INTRODUCTION

SAFETY

SECTION 10 - GENERAL

- Group 5 - Description
- Group 10 - Specifications
- Group 15 - Lubrication
- Group 20 - Diagnosing Malfunctions

SECTION 20 - DRIVE TRAIN

- Group 5 - General Information and Diagram
- Group 10 - Powershaft
- Group 15 - Main Gear Case
- Group 20 - L.H. Drive Components
- Group 25 - R.H. Drive Components
- Group 30 - Specifications and Torque Values

SECTION 30 - HYDRAULIC SYSTEM

- Group 5 - General Information and Flow Diagrams
- Group 10 - Hydraulic Motor and Drive System
- Group 15 - Hydraulic Row Finder
- Group 20 - Specifications and Torque Values

SECTION 40 - MISCELLANEOUS

- Group 5 - Cleaning Beds
- Group 10 - Grab Rolls
- Group 15 - Electromagnetic Clutch
- Group 20 - Pedestal and Lifter Wheels
- Group 25 - Rear Wheels
- Group 30 - Rotary Conveyor
- Group 35 - Truck and Tank Conveyor
- Group 40 - R. H. Diversion Roll
- Group 45 - Specification and Torque Values

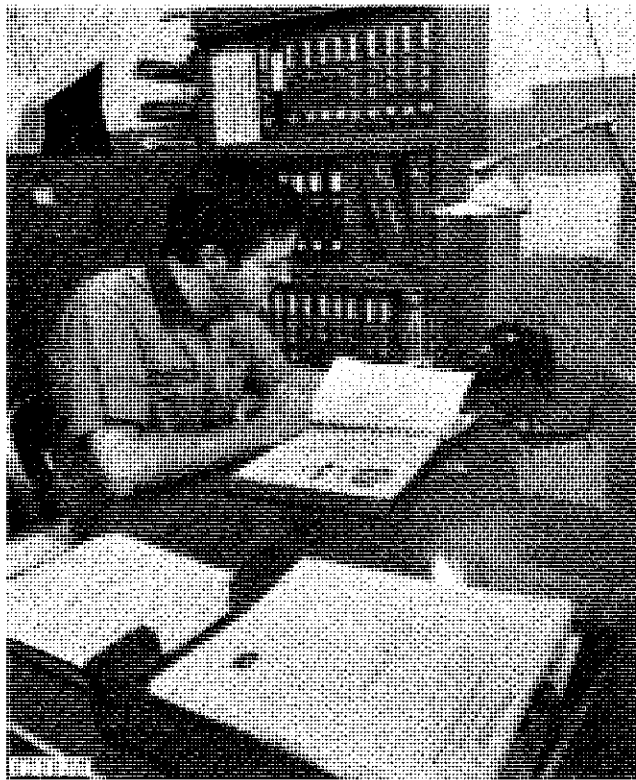
SECTION 50 - ALPHABETICAL INDEX

The specifications and design information contained in this manual were correct at the time this machine was manufactured. It is John Deere's policy to continually improve and update our machines. Therefore, the specifications and design information are subject to change without notice. Wherever applicable, specifications and design information are in accordance with SAE and IEMC standards.

Because John Deere sells its products world-wide, U.S. units of measure are shown with their respective Metric equivalents throughout this technical manual. These equivalents are the SI (International System) Units of Measure.

Copyright © 1982 DEERE & COMPANY
Moline, Illinois All rights reserved
Previous Editions
Copyright © 1981 DEERE & COMPANY
Copyright © 1978 DEERE & COMPANY
Copyright © 1978 DEERE & COMPANY

INTRODUCTION



Use FOS Manuals for Reference

This technical manual is part of a twin concept of service:

- **FOS Manuals**—for reference
- **Technical Manuals**—for actual service

The two kinds of manuals work as a team to give you both the general background and technical details of shop service.

Fundamentals of Service (FOS) Manuals cover basic theory of operation fundamentals of trouble shooting, general maintenance, and basic types of failures and their causes. FOS Manuals are for training new people and for reference by experienced technicians.

Technical Manuals are concise service guides for a specific machine. Technical Manuals are on-the-job guides containing only the vital information needed by an experienced technician for a specific machine.

NOTE: Whenever the service technician should refer to a FOS Manual for more information, a specific reference is provided.



X2253N

Use Technical Manuals for Actual Service

Some features of this technical manual:

- *Table of contents at front of manual*
- *Exploded views showing parts relationship*
- *Photos showing service techniques*
- *Specifications grouped for easy reference*

This technical manual was planned and written for you—an experienced technician. Keep it in a permanent binder in the shop where it is handy. Refer to it whenever in doubt about correct service procedures or specifications.

Using the technical manual as a guide will reduce error and costly delay. It will also assure you the best in finished service work.



This safety alert symbol identifies important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

FOR YOUR CONVENIENCE


Vertical lines appear in the margins of many of the pages. These lines identify new material and revised information that affects specifications, procedures, and other important instructions.

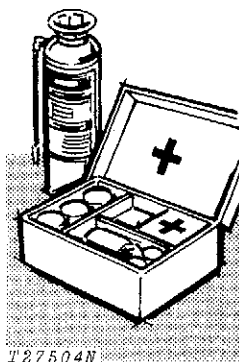
SAFETY AND YOU



T27999

INTRODUCTION

 This safety alert symbol identifies important safety messages in this manual and on the harvester. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.



T27504N

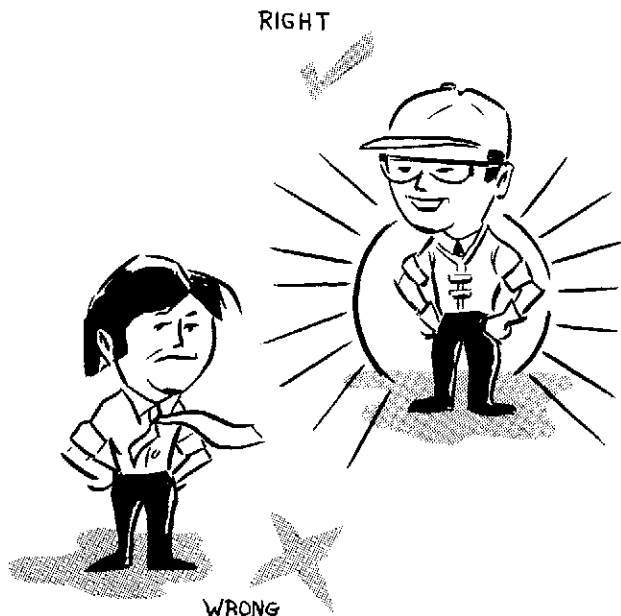
Be prepared if an accident or fire should occur. Know where the first aid kit and the fire extinguishers are located—know how to use them.

PERSONAL SAFETY

Shut off tractor engine and remove switch key before working on the beet harvester.

If it is necessary to make checks with the engine running. **ALWAYS USE TWO PEOPLE**—with the operator at the controls able to see the person checking the machine. **KEEP HANDS AWAY FROM MOVING PARTS.**

Don't attempt to check roller chain tension while the tractor engine is running.



H23440N

Always avoid loose clothing or any accessory—flopping cuffs, dangling neckties and scarves—that might catch in moving parts and cause an injury.

Always wear your safety glasses while on the job.

Before removing any housing covers, stop engine. Take all objects from your pockets which could fall into the opened housings. Don't let adjusting wrenches fall into opened housings.

FLUIDS UNDER PRESSURE

Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes and hoses are not damaged.

Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.

If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

Section 10 GENERAL

CONTENTS OF THIS SECTION

| | Page | | Page |
|---|------|--|------|
| GROUP 5 - DESCRIPTION | | GROUP 15 - LUBRICATION | |
| Description..... | 5-1 | General Lubrication..... | 15-1 |
| Beet Flow..... | 5-2 | Row Finder..... | 15-2 |
| GROUP 10 - GENERAL SPECIFICATIONS | | Greases..... | 15-2 |
| General Specifications..... | 10-1 | Storing Lubricants..... | 15-2 |
| Dimension View and Torque Value Chart.. | 10-3 | GROUP 20 - DIAGNOSING MALFUNCTIONS | |
| Serial Number..... | 10-4 | Diagnosing and Testing Procedures..... | 20-1 |
| | | Possible Problems and Remedies..... | 20-2 |

Group 5 DESCRIPTION

The basic components of the harvester include the frame and wheels, lifter wheels, lifter wheel paddles, potato chain primary conveyor or optional star wheel cleaning bed, grab rolls, rotary conveyor, loading conveyor and tank with bottom unloading conveyor.

The tank has an 8,000 pound (3 629 kg) storage capacity, providing maximum storage time between unloading functions in high-yield beet crop conditions.

The 3- or 4-row harvester can be used with tractors having 100-180 HP (75-134 kW); the 6-row harvester can be used with 130-180 HP (97-134 kW). All tractors must be equipped with 1000 rpm power take-off. Three remote cylinder outlets and controls are required, with power beyond outlets required for hydraulic override when row finder is installed. A 12-volt electrical system is required to operate the electromagnetic clutch.

Attachments include an auxiliary hydraulic system for the truck conveyor. The hydraulic system should be used when ambient temperatures during digging are 85°F. (29°C.) or more, or if tractor Power Front Wheel Drive is used, or if the tractor is not capable of supplying 14 gallons (53 L) per minute of hydraulic oil flow continuously. The need for a third selective control valve and outlet is eliminated when the auxiliary hydraulic system is used.

Thank you so much for reading.
Please click the “Buy Now!”
button below to download the
complete manual.



After you pay.

You can download the most
perfect and complete manual in
the world immediately.

Our support email:

ebooklibonline@outlook.com