



8430 and 8630 Tractors



JOHN DEERE

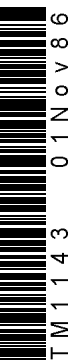
TECHNICAL MANUAL 8430 and 8630 Tractors

TM1143 (01Nov86) English



TM1143 (01Nov86)

LITHO IN U.S.A.
ENGLISH



**8430 AND 8630
TRACTORS
TECHNICAL MANUAL
TM-1143 (Feb-79)**

CONTENTS

SECTION 10—GENERAL

- Group 5 - General Tractor Specifications
- Group 10 - Predelivery, Delivery and After-Sale Services
- Group 15 - Tune-Up
- Group 20 - Lubrication
- Group 25 - Separation
- Group 30 - Specifications and Special Tools

SECTION 20—8430 ENGINE

- Group 5 - General Information, Diagnosis and Tests
- Group 10 - Cylinder Head, Valves and Camshaft
- Group 15 - Cylinder Block, Liners, Pistons and Rods
- Group 20 - Crankshaft, Main Bearings and Flywheel
- Group 25 - Lubrication System
- Group 30 - Cooling System
- Group 35 - Specifications and Special Tools

SECTION 25—8630 ENGINE

- Group 5 - General Information, Diagnosis and Tests
- Group 10 - Cylinder Head, Valves and Camshaft
- Group 15 - Cylinder Block, Liners, Pistons and Rods
- Group 20 - Crankshaft, Main Bearings and Flywheel
- Group 25 - Lubrication System
- Group 30 - Cooling System
- Group 35 - Specifications and Special Tools

SECTION 30—FUEL SYSTEM

- Group 5 - Diagnosing Malfunctions
- Group 10 - Air Intake System
- Group 15 - Diesel Fuel System
- Group 20 - Speed Control Linkage
- Group 25 - Specifications and Special Tools

SECTION 40—ELECTRICAL SYSTEM

- Group 5 - Information and Diagrams
- Group 10 - Electrical Diagnosis
- Group 15 - Delcotron Charging Circuit
- Group 20 - John Deere Charging Circuit
- Group 25 - Delco-Remy Starting Circuit
- Group 30 - John Deere Starting Circuit

- Group 35 - Lighting Circuits
- Group 40 - Instrument and Accessory Circuits
- Group 45 - Remote Electrical Circuits
- Group 50 - Specifications and Special Tools

SECTION 50—POWER TRAIN

- Group 5 - Perma-Clutch[™]
- Group 10 - Quad-Range Planetary
- Group 15 - Independent PTO
- Group 20 - Torque Divider
- Group 25 - Quad-Range[®] Transmission
- Group 30 - Differentials and Drive Shafts
- Group 35 - Final Drives
- Group 40 - Specifications and Special Tools

SECTION 60—STEERING AND BRAKES

- Group 5 - General Information

SECTION 70—HYDRAULIC SYSTEM

- Group 5 - General Information
- Group 6 - Hydraulic System Testing and Diagnosis
- Group 10 - Miscellaneous Hydraulic Components
- Group 15 - Hydraulic Pumps
- Group 20 - Power Steering
- Group 25 - Power Brakes
- Group 30 - Rockshaft and Implement Hitches
- Group 35 - Selective Control Valves, Breakaway Couplers and Remote Cylinders
- Group 40 - Specifications and Special Tools

SECTION 80—SOUND-GARD BODY[®]

- Group 5 - Separation
- Group 10 - Air Conditioning System
- Group 15 - Heating System
- Group 20 - Seat
- Group 25 - Miscellaneous Components
- Group 30 - Specifications and Special Tools

SECTION 90—MISCELLANEOUS

- Group 5 - Wheels
- Group 10 - Specifications

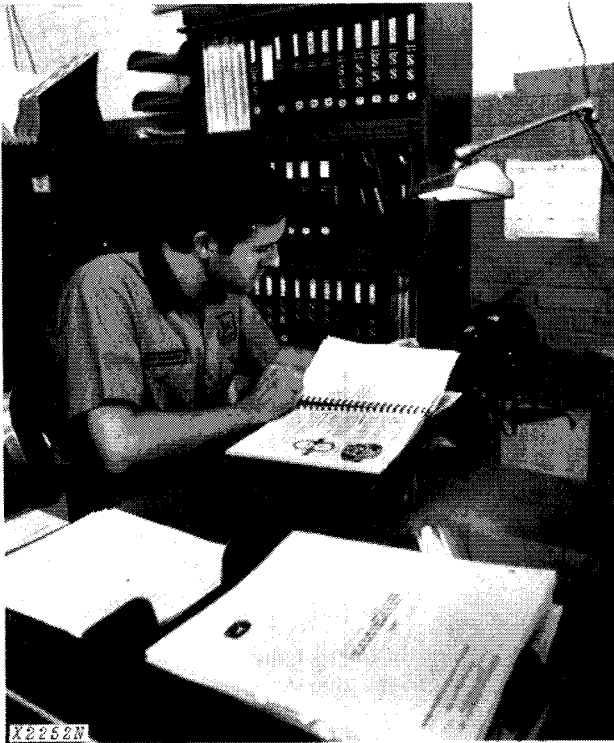
**Copyright© 1979
DEERE & COMPANY
Moline, Illinois
All rights reserved**

All information, illustrations and specifications contained in this technical 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.

A-00

Litho in U.S.A.

INTRODUCTION



Use FOS Manuals for Reference



Use Technical Manuals for Actual Service

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 personnel 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.



When a service person should refer to a FOS Manual for more information, a FOS symbol like the one at the left is used in the TM to identify the reference.

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.

Section 10 GENERAL

CONTENTS OF THIS SECTION

| | Page | |
|---|------|---|
| GROUP 5 - GENERAL TRACTOR SPECIFICATIONS | 5-1 | GROUP 25 - SEPARATION |
| GROUP 10 - PREDELIVERY, DELIVERY, AND AFTER-SALE SERVICES | | General Information |
| Predelivery Services | 10-1 | Drive Assembly |
| Delivery Services | 10-3 | With Front Drive Support |
| After-Sale Services | 10-4 | Without Front Drive Support |
| GROUP 15 - TUNE-UP | | Engine |
| Preliminary Engine Testing | 15-1 | General Information |
| Engine Tune-Up | 15-1 | Method "A" Separation |
| Engine Final Testing | 15-3 | Method "B" Separation |
| Tractor Tune-Up | 15-3 | Clutch Housing |
| GROUP 20 - LUBRICATION | | Hinge |
| Lubrication Chart | 20-1 | General Information |
| Engine Lubricating Oils | 20-2 | Between Hinges |
| Transmission-Hydraulic Oil | 20-2 | Front Hinge |
| Greases | 20-2 | Rear Hinge |
| Storing Lubricants | 20-2 | Torque Divider |
| | | Transmission |
| | | GROUP 30 - SPECIFICATIONS AND SPECIAL TOOLS |
| | | Specifications |
| | | Special Tools |

Group 5 GENERAL TRACTOR SPECIFICATIONS

Horsepower:*

| | |
|-------------------------|--------------|
| Maximum observed at PTO | |
| 8430 | 175 (130 kW) |
| 8630 | 225 (168 kW) |

Engine:

Type 6-cylinder, in-line, valve-in-head, diesel, turbocharged, and intercooled

Engine Speeds:

| | |
|-------------------------------|------------------|
| Slow idle | 800 rpm |
| Working range | 1500 to 2100 rpm |
| Maximum transport speed | 2300 rpm |

Bore and stroke

| | |
|------------|----------------------------------|
| 8430 | 4.56 x 4.75 in. (11.6 x 12.1 cm) |
| 8630 | 5.12 x 5 in. (13.0 x 12.7 cm) |

Displacement

| | |
|------------|---------------------------------------|
| 8430 | 466 cu. in. (7636 cm ³) |
| 8630 | 619 cu. in. (10 143 cm ³) |

Compression ratio

| | |
|------------|-----------|
| 8430 | 15.5 to 1 |
| 8630 | 15.4 to 1 |

| | |
|-----------------------------|-------------|
| Firing order | 1-5-3-6-2-4 |
| Valve clearance | 8430 |
| | 8630 |
| Injection pump timing | TDC |

Lubrication System Force-feed pressurized with full-flow oil filter and by-pass

Fuel System:

| | |
|---------------------------|------------------------------|
| Type | Direct injection |
| Injection pump type | Multiple plunger, in-line |
| Air cleaner | Dry type with safety element |

Cooling System:

| | |
|--|-----------------------------------|
| Type | Pressurized with centrifugal pump |
| Temperature controlled by heavy-duty thermostats | |
| 8430 | 2 thermostats |
| 8630 | 3 thermostats |



Thank you very much
for your reading.
Please click here
to get more information.