

# John Deere 410B, 410C, 510B, 510C Backhoe Loaders Operation and Tests



**TECHNICAL  
MANUAL**



TM-1468 (Oct-88)

# 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 types 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.

## **JOHN DEERE DEALERS**

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

This is a complete revision for TM-1364, 410B/410C and 510B/510C Backhoe Loaders.

TM-1468 (Operation and Test) and TM-1469 (Repair) replace TM-1364.

The new pages are dated (Oct-88). Listed below is a brief explanation of "WHAT" was changed and "WHY" it was changed.

This manual was revised:

1. Update hydraulic cylinder torque-turn specifications.
2. New test procedure for circuit relief valve (9025-25).
3. Update electrical theory (9015).
4. New procedure for repair of APL-745 Mechanical Front Wheel Drive.
5. Update to include unitized pressure compensator on the 3000 series hydraulic pump.



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## SECTION AND GROUP CONTENTS

*NOTE: This manual covers machine Operation and Test. For Repair information, see TM-1469.*

### **SECTION I—GENERAL INFORMATION**

- Group I—Introduction and Safety Information
- Group II—General Specifications
- Group III—Torque Values
- Group IV—Fuels and Lubrication

### **SECTION 9005—OPERATIONAL CHECK-OUT PROCEDURE**

- Group 10—Operation Checkout Procedure

### **SECTION 9010—ENGINE**

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

### **SECTION 9015—ELECTRICAL SYSTEM (410B/510B)**

### **SECTION 9015—ELECTRICAL SYSTEM (410C/510C)**

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

### **SECTION 9020—POWER TRAIN**

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

### **SECTION 9025—HYDRAULIC SYSTEM**

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

### **SECTION 99—DEALER FABRICATED TOOLS**

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