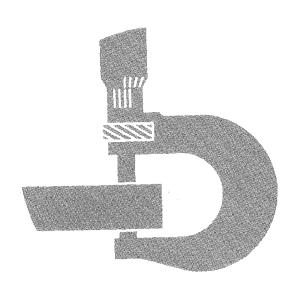
# 610B, 610C Backhoe Loaders Repair



# **TECHNICAL MANUAL**

### 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.

Technicals 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 technicals manuals are written as stand-alone manuals covering multiple machine applications.

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#### **JOHN DEERE DEALERS**

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

This is a complete revision for TM-1447 (Repair), 610B/610C Backhoe Loaders.

The new pages are dated (Mar-89). Listed below is a brief explanation of "WHAT" was changed and "WHY" it was changed.

This manual was revised:

- 1. Include APL 745 Mechanical Front Wheel Drive repair information.
- 2. Correct front wheel toe in specifications.
- 3. Miscellaneous revisions and updates.

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### 610B AND 610C BACKHOE LOADER TECHNICAL MANUAL TM-1447 (Mar-89)

#### **SECTION AND GROUP CONTENTS**

NOTE: This manual covers machine repair. For Operation and Test information, see TM-1446.

#### SECTION I—GENERAL INFORMATION

Group I-Introduction and Safety Information

Group II-General Specifications

Group III-Torque Valves

Group IV-Lubrication

Group V-Inspection Procedure

#### SECTION 01-WHEELS

Group 0110—Powered Wheels and Fastenings Group 0120—Non-Powered Wheels and Fastenings

### SECTION 02—AXLES AND SUSPENSION SYSTEMS

Group 0200-Removal and Installation

Group 0210-Differential or Bevel Drive Gear

Group 0225-Input Drive Shafts and U-Joints

Group 0230-Non-Powered Wheel Axles

Group 0240-Powered Wheel Axles

Group 0250-Axle Shafts, Bearings and

**Reduction Gears** 

Group 0260-Hydraulic System

#### SECTION 03—TRANSMISSION

Group 0300-Removal and Installation

Group 0315-Controls

Group 0325-Input Drive Shafts and U-Joints

Group 0350—Gears, Shafts, Housings, Bearings, Differential Lock, Brake and Park Brake

Group 0360—Hydraulic System Control Valve, Suction Screen, Oil Pump, and Lubrication System, Steering Cylinder

#### **SECTION 04—ENGINE**

Group 0400-Removal and Installation

Group 0413-Fuel Injection System

Group 0414-Intake Manifold

Group 0416—Turbocharger

Group 0417-Water Pump

Group 0418—Thermostats, Housing and Water Piping

Group 0419-Oil Cooler

Group 0420-Fuel Filter

Group 0421—Fuel Transfer Pump

Group 0422-Starting Motor and Fastenings

#### **SECTION 05—ENGINE AUXILIARY SYSTEMS**

Group 0505-Cold Weather Starting Aids

Group 0510—Cooling Systems

Group 0515—Speed Controls

Group 0520-Intake System

Group 0560-External Fuel Supply Systems

#### SECTION 09—STEERING SYSTEM

Group 0960—Hydraulic System Steering Valve and Cylinder

#### **SECTION 10—SERVICE BRAKES**

Group 1011—Active Elements Brake Disks and Control Linkage

Group 1060-Hydraulic System Brake Valve

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#### SECTION AND GROUP CONTENTS—Continued

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Group 1673-Lighting System

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#### **SECTION 18—OPERATOR'S STATION**

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Group 1810—Operator Enclosure

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Group 1830—Heating and Air Conditioning

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Group 2004—Horn and Warning Devices

## SECTION 21—MAIN HYDRAULIC SYSTEM

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Main Hydraulic Filter, Oil Cooler, Oil

Cooler Bypass Valve, and System

Relief Valve

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Group 3115-Controls Linkage

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Control Valve and Cylinders

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Control Valve and Cylinders

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