

# 490 Excavator Repair Operation and Tests



**TECHNICAL  
MANUAL**



TM1302 (20MAR90)



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 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 type 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  
though your service department.**

This is a complete revision for TM1302, 490  
Excavator Repair, and Operation and Tests.

Listed below is a brief explanation of "WHAT" was  
changed and "WHY" it was changed.

This manual was revised:

1. To include additional information on disassembly  
and assembly of track recoil spring using ST4920  
Track Recoil Spring Disassembly and Assembly Tool  
and DFT1087 Track Recoil Spring Disassembly and  
Assembly Guard Tool.



## SECTION AND GROUP CONTENTS

### SECTION I—GENERAL

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

### SECTION 01—TRACKS

- Group 0130—Track Systems

### SECTION 02—AXLES AND SUSPENSION SYSTEMS

- Group 0250—Axle Shafts, Bearings and Reduction Gears
- Group 0260—Hydraulic System

### SECTION 04—ENGINE

- Group 0401—Crankshaft and Main Bearings
- Group 0402—Camshaft and Valve Actuating Means
- Group 0403—Connecting Rods and Pistons
- Group 0404—Cylinder Block
- Group 0407—Oiling System
- Group 0409—Cylinder Head and Valves
- Group 0413—Fuel Injection System
- Group 0414—Intake Manifold
- Group 0415—Engine Balancer
- Group 0416—Turbocharger
- Group 0417—Water Pump
- Group 0418—Thermostats, Housings and Water Piping
- Group 0419—Oil Cooler
- Group 0420—Fuel Filter
- Group 0421—Fuel Transfer Pump
- Group 0422—Starting Motor and Fastenings
- Group 0433—Flywheel, Housing and Fastenings

### SECTION 33—EXCAVATOR

- Group 3302—Buckets, Teeth, Shanks and Sidecutters
- Group 0460—Hydraulic System

### SECTION 43—SWING, ROTATION OR PIVOTING SYSTEM

- Group 4350—Mechanical Drive Elements
- Group 4360—Hydraulic System

### SECTION 90—SYSTEM TESTING

- Group 9005—Operational Checkout Procedure
- Group 9010—Engine
- Group 9015—Electrical System
- Group 9020—Power Train
- Group 9025—Hydraulic System
- Group 9030—Miscellaneous Components

### SECTION 99—SPECIAL TOOLS

*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.*

COPYRIGHT © 1990  
DEERE & COMPANY  
Moline, Illinois  
All rights reserved  
A John Deere ILLUSTRATION™ Manual  
Previous Editions  
Copyright © 1987, 1986, 1984 Deere & Company



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