

# **Z997R Mid-Mount Z-Trak Diagnostic and Repair**

## **TECHNICAL MANUAL**

**Mid-Mount ZTRAK Mower models Z997R (SN: 010001-)**

**TM132819 28APR15 (ENGLISH)**

**For complete service information also see:**

**CTM441 - Machine Connection  
Information**

**CTM441**

**3TNV86, 4TNV86, 3TNV88, and 4TNV88  
Diesel Engines(Final Tier 4/Stage IV  
platform)**

**CTM120419**



**John Deere Commercial and Consumer Equipment Lawn and Garden**

## Table of contents

### **FOREWORD**

#### **Section 05 - SAFETY**

Group 05 - Safety

#### **Section 10 - GENERAL INFORMATION**

Group 10 - General Specifications

Group 15 - Fuel and Lubricants

Group 20 - Machine Specifications

#### **Section 20 - ENGINE REPAIR**

Group 10 - Engine Repair—3TNV82A

Group 20 - Engine Repair—3TNV88C

#### **Section 30 - ELECTRICAL REPAIR**

Group 10 - Wiring Harnesses

Group 20 - Battery, Starter, and Alternator

#### **Section 40 - POWER TRAIN REPAIR**

Group 10 - Remove and Install Drive Shaft

Group 20 - Remove and Install Hydrostatic Pump

Group 30 - Hydrostatic Pump Disassembly

Group 40 - Hydrostatic Pump Assembly

Group 50 - Hydrostatic Pump Controls Repair

Group 60 - Hydrostatic Pump Service

Group 70 - Wheel Motor Repair

#### **Section 50 - BRAKES REPAIR**

Group 10 - Parking Brake Repair

#### **Section 60 - ATTACHMENTS REPAIR**

Group 10 - Mower Deck Repair

Group 20 - Material Collection System (MCS) Repair

#### **Section 70 - MISCELLANEOUS REPAIR**

Group 20 - Repair

#### **Section 220 - ENGINE DIAGNOSIS, TESTS, AND ADJUSTMENTS**

Group 10 - Theory of Operation 3TNV82A

Group 20 - Theory of Operation 3TNV88C

Group 30 - Diagnosis—3TNV82A

Group 40 - Diagnosis—3TNV88C

Group 50 - Tests and Adjustments

#### **Section 230 - ELECTRICAL DIAGNOSIS, TESTS, AND ADJUSTMENTS**

Group 10 - Component Location

Group 20 - Theory of Operation, Non-T4

Group 25 - Theory of Operation, T4

Group 30 - Diagnosis, Non-T4

Group 40 - Connectors

Group 50 - Schematics

Group 60 - Tests and Adjustments

#### **Section 235 - CONTROL UNITS OPERATION, TESTS, AND ADJUSTMENTS**

Group 10 - Adjustments

Group 15 - DPF Functions and DTCs

Group 20 - Set Up, PDU

Group 25 - Set Up, VCU

Group 30 - Theory of Operation

Group 35 - Checks, Tests, and Procedures

Group 40 - Diagnose DTCs, PDU

Group 45 - Diagnose DTCs, VCU

Group 50 - Diagnose DTCs, ECU 000001 - 000199

Group 51 - Diagnose DTCs, ECU 000200 - 000699

Group 52 - Diagnose DTCs, ECU 000700 - 001999

Group 53 - Diagnose DTCs, ECU 002000 - 002999

Group 54 - Diagnose DTCs, ECU 003000 - 003999

Group 55 - Diagnose DTCs, ECU 004000 - 529999

#### **Section 240 - POWER TRAIN DIAGNOSIS, TESTS, AND ADJUSTMENTS**

Group 10 - Specifications

Group 20 - Component Location

Group 30 - Hydraulic Schematic

Group 40 - Theory of Operation

Group 50 - Diagnostics

Group 60 - Tests and Adjustments

#### **Section 250 - BRAKES DIAGNOSIS, TESTS, AND ADJUSTMENTS**

Group 10 - Theory of Operation

Group 20 - Component Location

Group 30 - Diagnostics

Group 40 - Tests and Adjustments

#### **Section 260 - ATTACHMENTS DIAGNOSIS, TESTS, AND ADJUSTMENTS**

Group 10 - Theory of Operation

Group 20 - Component Location

Group 30 - Diagnostics

Group 40 - Tests and Adjustments

#### **Section 270 - MISCELLANEOUS DIAGNOSIS, TESTS, AND ADJUSTMENTS**

Group 10 - Component Location

Group 20 - Tests and Adjustments

#### **Section 299 - TOOLS**

Group 10 - Tools



## 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.



### **CAUTION:**

---

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 operation and tests. Repair sections tell how to repair the components. Operation and tests 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.

Technical Manuals are concise guides for specific machines. They are on-the-job guides containing only the vital information needed for diagnosis, analysis, testing, and repair.

Fundamental service information is available from other sources covering basic theory of operation, fundamentals of troubleshooting, general maintenance, and basic type of failures and their causes.



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