

# 544G, 544G LL, 544G TC, 624G, 644G Loader Operation and Test

## TECHNICAL MANUAL 544G, 544G LL, 544G TC, 624G, and 644G Loader Operation and Test

TM1529 04NOV03 (ENGLISH)

For complete service information also see:

544G, 544G LL, 544G TC, 624G, and 644G Repair.....	TM1530
6059 and 6068 Engines.....	CTM8
6076 Engine.....	CTM42
6081 Engine.....	CTM86
Alternators and Starting Motors.....	CTM77
1200 and 1400 Series Axles.....	



Worldwide Construction  
And Forestry Division

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# 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.



**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.

See DB1990 Service Publications Catalog to order an Operation and Test Technical Manual (TM). An Operation and Test manual includes the following sections:

- Section 9000 General Information
- Section 9005 Operational Checkout Procedure
- Section 9010 Engine
- Section 9015 Electrical System
- Section 9020 Power Train
- Section 9025 Hydraulics
- Section 9031 Air Conditioning

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## John Deere Dealers

### **IMPORTANT: Please Remove This Page and Route Through Your Service Department.**

This is a complete revision for TM1529, 544G, 544G LL, 544G TC, 624G, 644G Loader—Operation and Test.

Listed below is a brief explanation of "what" was changed and "why" it was changed.

This manual was revised:

- To add general specifications for 644G (S.N. 557739—) in Section 9000.
- To update CTM references to include CTM86 (8.1 L engine) in Section 9010.
- To add the following procedures in Section 9010:
  - Coolant overflow tube check
  - Pressure test radiator cap
  - Pressure test cooling system
  - Compression pressure test
  - Fuel supply pump pressure test
- To include changes to the following illustrations and procedures in Section 9015:
  - Fuse block illustration.
  - Theory of operation for sixth transmission control valve solenoid.
- Revise procedure to isolate whether problem in transmission control system is electrical or hydraulic.
- Theory of operation and specifications for the 9-segment engine coolant temperature display used in 544G (S.N. 555000—) and 644G (S.N. 554491—).
- 15 amp fuses changed to 10 amp circuit breakers in front and rear wiper circuit functional schematic.
- Step 6 in calibrate tachometer —rpm changed to mph.
- To revise transmission shifting and modulation theory for 6-solenoid in section 9020.
- To add alternate method to adjust transmission sensor in Section 9020.
- To add note advising of possible F907 service code appearance on 544G (S.N. 548219—548955), 624G (S.N. 548398—548982), and 644G (S.N. 548303—548887) when performing the following procedures in Section 9020:
  - Transmission oil warm-up procedure.
  - Transmission system pressure, element leakage, and shift modulation test
  - Converter-in pressure test
- To add theory of operation and test procedures for new heavy duty pilot controller used on machines (S.N. 563543—) in Section 9025.



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for your reading.  
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to get more information.