

# John Deere 320G, 324G Skid Steer Loader Operation & Test Technical Manual - TM14290X19

## 320G, 324G Skid Steer Loader Diagnostic

PIN: 1T0320G\_\_J328658—  
(EH CONTROLS)  
PIN: 1T0324G\_\_J328658—  
(EH CONTROLS)



JOHN HARE



COLLECTION

**OPERATION & TEST TECHNICAL MANUAL 320G,  
324G Skid Steer Loaders with EH Controls**  
(PIN: 1T0320G\_\_J328658— ; PIN: 1T0324G\_\_J328658— )

TM14290X19 01DEC19 (ENGLISH)

For complete service information also see:

4TNV98C and 4TNV98C  
Stage IV platform) Techni  
320G, 324G Skid Steer L  
JDLink™ (MTG) 4G LTE Techn  
Hydraulic Cylinders.....



Worldwide Construction and  
Forestry Division

Covers: 320G,1T0320G\_\_,J328658,324G,1T0324G\_\_,J328658

**Type:** Service Manual

**Language:** English

**Pages:** 596

**Format:** PDF

**Features:** Bookmarked, searchable, printable

**Compatibility:** Windows/Mac/Tablet/Mobile

This service manual contains important information for the maintenance, troubleshooting and servicing of the **John Deere 320G, 324G Skid Steer Loader Operation & Test Technical Manual - TM14290X19**

In this manual you will find detailed specifications, illustrations, schematics, diagrams and step-by-step procedures to properly service and diagnose the machine to the manufacturer's standards.

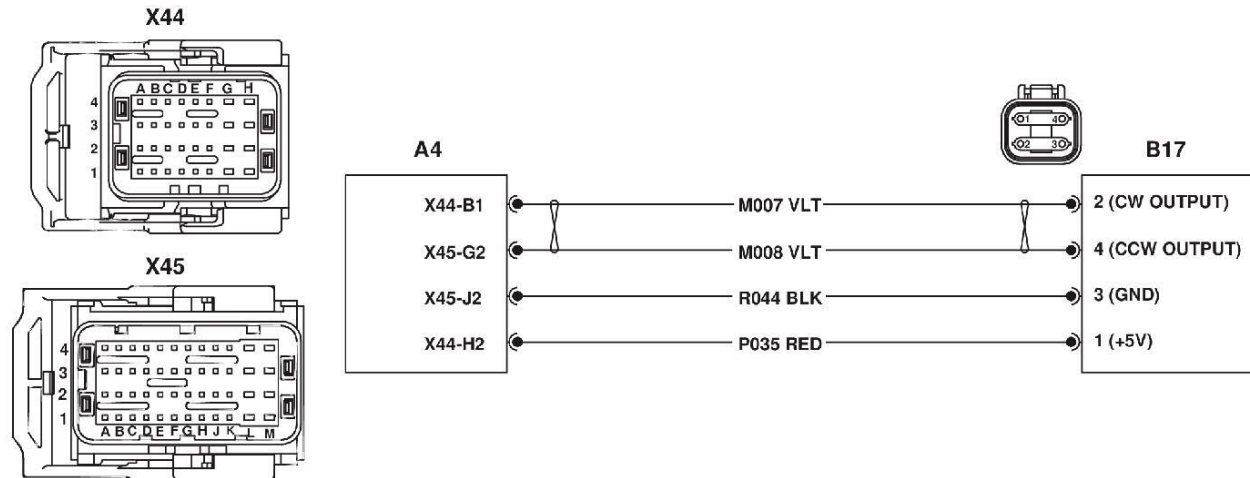
**Contents:**

- General Information
- Specifications
- Serial Number Location
- Engine Specifications
- Engine Diagnostics
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- Engine Repair
- Power Train
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- and much more...

Please note this manual is in **downloadable PDF format only**. If you have any questions about this product or would like to request sample pages, please contact us and reference the product name or SKU.

## 001595.00— Right Speed In Very High

Right motor speed sensor (B17) input is higher than commanded pump output.



### TX1252531

TX1252531-UN: Right Motor Speed Sensor (B17) Circuit Schematic

#### LEGEND:

A4-Hydraulic Control Unit (HCU)

B17-Right Motor Speed Sensor

X44-Hydraulic Control Unit (HCU) 32-Pin  
Connector 1

X44—B1-Signal (clockwise rotation)

X44—H2-Supply

X45-Hydraulic Control Unit (HCU) 48-Pin  
Connector 2

X45—G2-Signal (counterclockwise rotation)

X45—J2-Return

#### Alarm Level:

No Warning Indicator

#### Code-Induced Condition:

None

#### Circuit Information:

[See Hydrostatic System Control Circuit Theory of Operation.](#) (Group 9015-05.)

#### Component Location:

[See Right Main Harness \(W4\) Component Location.](#) (Group 9015-10.)

#### Diagnostic Test Box Information:

Not Applicable

#### Additional References:

Intermittent DTCs: [See Intermittent Diagnostic Trouble Code \(DTC\) Diagnostics.](#) (Group 9015-15.)

#### Possible Causes:

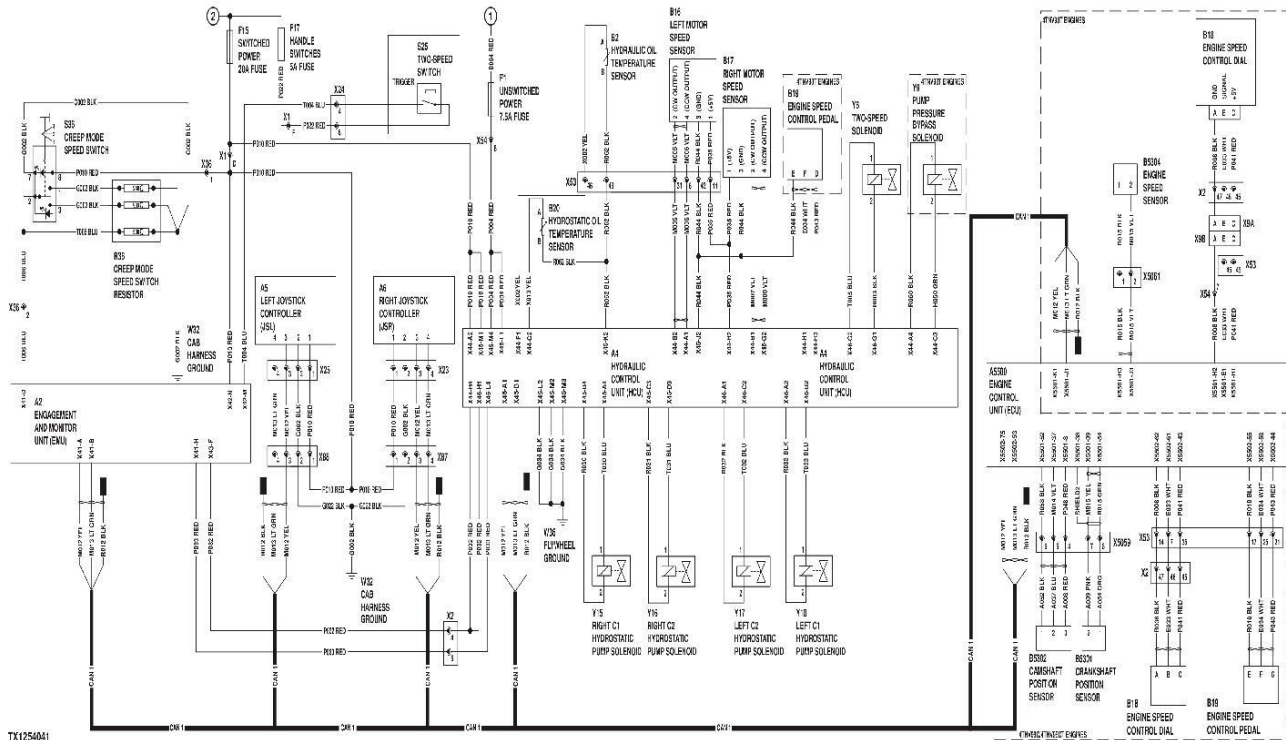
Component malfunction. Perform left and right motor speed sensor check. [See Electrical Component Checks.](#) (Group 9015-25.)

Circuit is short to power.

Software malfunction. Program controller.

BB07533, 0000236-19-20171219

# Theory of Operation



TX1254041-UN: Hydrostatic System Control Circuit Schematic

**LEGEND:**

- 1-Unswitched Power
- 2-Switched Power
- A2-Engagement and Monitor Unit (EMU)
- A4-Hydraulic Control Unit (HCU)
- A5-Left Joystick Controller (JSL)
- A6-Right Joystick Controller (JSR)
- A5500-Engine Control Unit (ECU)
- B2-Hydraulic Oil Temperature Sensor
- B16-Left Motor Speed Sensor
- B17-Right Motor Speed Sensor
- B18-Engine Speed Control Dial
- B19-Engine Speed Control Pedal
- B20-Hydrostatic Oil Temperature Sensor
- B5301-Crankshaft Position Sensor
- B5302-Camshaft Position Sensor
- B5304-Engine Speed Sensor
- F1-Unswitched Power 7.5 A Fuse
- F15-Switched Power 20 A Fuse
- F17-Handle Switches 5 A Fuse
- R36-Creep Mode Speed Switch Resistor
- S25-Two-Speed Switch
- S36-Creep Mode Speed Switch
- W32-Cab Harness Ground
- W36-Flywheel Ground
- X1-Cab Harness-to-Right Main Harness 14-Pin Connector
- X2-Cab Harness-to-Right Main Harness 47-Pin Connector
- X9A-Service Engine Speed Control Connector A
- X9B-Service Engine Speed Control Connector B
- X23-Right Joystick Controller (JSR) 6-Pin Connector
- X24-Left Joystick 8-Pin Connector
- X25-Left Joystick Controller (JSL) 6-Pin Connector
- X36-Cab Harness-to-Creep Mode Speed Switch Harness 4-Pin Connector
- X41-Engagement and Monitor Unit (EMU) 16-Pin Connector 1
- X42-Engagement and Monitor Unit (EMU) 14-Pin Connector 2
- X43-Engagement and Monitor Unit (EMU) 12-Pin Connector 3
- X44-Hydraulic Control Unit (HCU) 32-Pin Connector 1
- X45-Hydraulic Control Unit (HCU) 48-Pin Connector 2
- X46-Hydraulic Control Unit (HCU) 32-Pin Connector 3
- X53-Right Main Harness-to-Left Main Harness Connector 1
- X54-Right Main Harness-to-Left Main Harness Connector 2
- X87-Cab Harness-to-Right Joystick Jumper Harness 6-Pin Connector
- X88-Cab Harness-to-Left Joystick Jumper Harness 6-Pin Connector
- X5059-Left Main Harness-to-Engine Harness Connector 3
- X5061-Left Main Harness-to-Engine Harness 2-Pin Connector
- X5501-Engine Control Unit (ECU) Connector 1
- X5502-Engine Control Unit (ECU) Connector 2
- Y6-Two-Speed Solenoid
- Y9-Pump Pressure Bypass Solenoid
- Y15-Right C1 Hydrostatic Pump Solenoid
- Y16-Right C2 Hydrostatic Pump Solenoid
- Y17-Left C2 Hydrostatic Pump Solenoid
- Y18-Left C1 Hydrostatic Pump Solenoid

**Hydrostatic System Operation**

**Hydraulic Control Unit (HCU) (A4)**—The HCU is supplied with unswitched power at pins L1 and M4 of HCU connector 2 (X45) through unswitched power 7.5 A fuse (F1). HCU receives switched power at pin M1 of HCU connector (X45) and pin A2 of HCU connector (X44) through switched power 20 A fuse (F15).

The EMU supplies switched power for hydrostatic system control to HCU from pin F of EMU connector 3 (X43) to pin H4 of HCU connector 1 (X44) and pin H1 of HCU connector 3 (X46).

Ground is provided to the HCU at pins L2, M2, and M3 of the HCU connector 2 (X45).

**Hydrostatic Pump Solenoids (Y15—Y18)**—The HCU controls hydrostatic pump swash angle (which controls hydrostatic motor speed and direction) by energizing hydrostatic pump solenoids (Y15—Y18). The right (front) hydrostatic pump is controlled by solenoids (Y15 and Y16). Solenoids (Y17 and Y18) control the left (rear) hydrostatic pump.

The two solenoids for each hydrostatic pump are located on each side of a three-position, four-way hydraulic spool. When energized, the solenoid applies a force to move hydraulic spool, directing hydraulic fluid to either side of a servo piston. Differential pressure across servo piston rotates swash plate, changing pump displacement and direction of flow as needed. For more information on hydrostatic operation, [see Hydrostatic Pump Operation](#). (Group 9026-05.)

HYDROSTATIC SYSTEM SOLENOID ACTIVATION				
	Y15	Y16	Y17	Y18



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