SERVICE MANUAL

W50C / W60C / W70C / W80C Tier4

Compact Wheel Loader

Part number 47768541B
English
April 2015

NEW HOLLAND CONSTRUCTION

© 2015 CNH Industrial Italia S.p.A. All Rights Reserved.

MidWestTech | New Holland W50C, W60C, W70C, W80C Tier 4 Compact Wheel Loader Se... Order the manual at mid-west-tech.com >

Contents

INTRODUCTION

Engine 10

[10.001] Engine and crankcase 10.1

[10.216] Fuel tanks 10.2

Transmission 21

[21.135] Powershift transmission external controls 21.1

[21.160] Creeper 21.2

Front axle system 25

[25.100] Powered front axle 25.1

[25.102] Front bevel gear set and differential 25.2

[25.108] Final drive hub, steering knuckles, and shafts 25.3

Rear axle system 27

[27.100] Powered rear axle 27.1

[27.106] Rear bevel gear set and differential 27.2

[27.120] Planetary and final drives 27.3

[27.124] Final drive hub, steering knuckles, and shafts 27.4

Brakes and controls 33

[33.202] Hydraulic service brakes 33.1

[33.110] Parking brake or parking lock 33.2

[33.204] Front axle brake 33.3

Hydraulic systems 35

[35.000] Hydraulic systems 35.1

[35.300] Reservoir, cooler, and filters 35.2

[35.104] Fixed displacement pump 35.3

[35.106] Variable displacement pump 35.4

[35.359] Main control valve 35.5

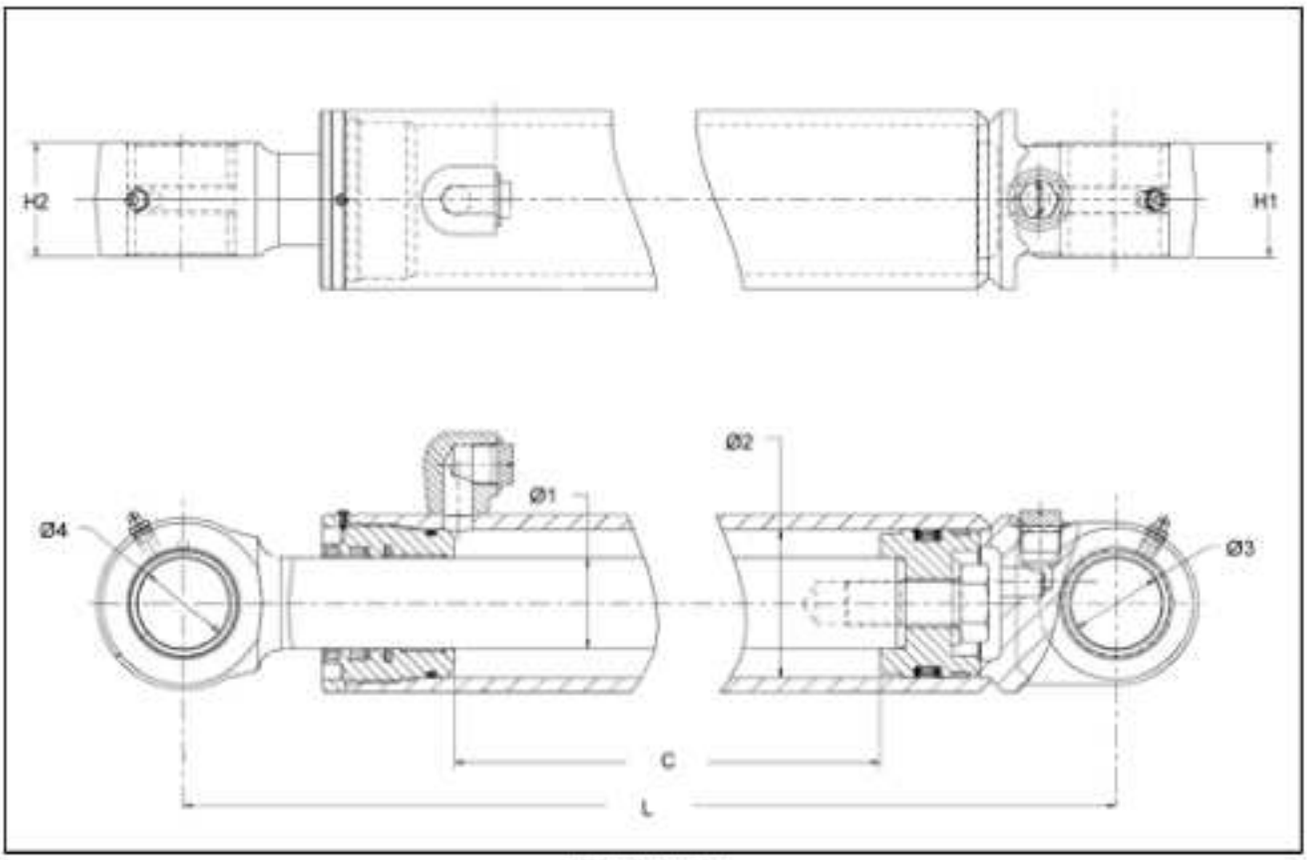
MidWestTech | New Holland W50C, W60C, W70C, W80C Tier 4 Compact Wheel Loade... Order the manual at mid-west-tech.com >

[35.357] Pilot system 35.6
[35.600] High flow hydraulics 35.7
[35.353] Hydraulic travel system 35.8
[35.701] Front loader arm hydraulic system 35.9
[35.723] Front loader bucket hydraulic system 35.10
[35.734] Tool quick coupler hydraulic system 35.11
Frames and ballasting 39
[39.140] Ballasts and supports 39.1
Steering 41
[41.101] Steering control 41.1
[41.200] Hydraulic control components 41.2
[41.216] Cylinders 41.3
Electrical systems 55
[55.000] Electrical system 55.1
[55.100] Harnesses and connectors 55.2
[55.045] Front axle control system 55.3
[55.408] Warning indicators, alarms, and instruments 55.4
[55.DTC] FAULT CODES 55.5
Platform, cab, bodywork, and decals 90
[90.150] Cab 90.1

MidWestTech | New Holland W50C, W60C, W70C, W80C Tier 4 Compact Wheel Loade... Order the manual at mid-west-tech.com >

W70C – W80C Models

Ø1	Rod	**50.8 mm (2.0 in)**
Ø2	Bore	**82.6 mm (3.3 in)**
Ø3	Bottom connection	**51 mm (2.0 in)**
Ø4	Rod connection	**51 mm (2.0 in)**
L	Completely retracted	**1032 mm (40.6 in)**
C	Stroke	**751 mm (29.6 in)**
H1		**63.5 mm (2.5 in)**
H2		**63.5 mm (2.5 in)**



LE8,14DWL3212PA 3

MidWestTech | New Holland W50C, W60C, W70C, W80C Tier 4 Compact Wheel Loade... Order the manual at mid-west-tech.com >

Electrical system - Electrical schematic sheet 18 - Work lights jumper harness

ITEM	DESCRIPTION	CODE COMPONENT	SHEET
1	Work lights	X-607A	18
2	To roof harness	X606-1	18
3	Work lights	X-607B	18
4	To roof harness	X-606-3	18

MidWestTech | New Holland W50C, W60C, W70C, W80C Tier 4 Compact Wheel Loader Service Manual | Publication 47768541B
Order the manual at mid-west-tech.com >

3652-CAN Bus: Bus off of CAN node A

NOTE: *it is normal to log Controller Area Network (CAN) fault codes while the control module is being programmed. In this case, clear the fault codes from the modules and retest the system.*

NOTE: *check for multiple CAN fault codes. If there are CAN Bus fault codes, check the entire CAN bus circuit.*

Context:
The Engine Control Unit (ECU) did not receive a Controller Area Network (CAN) message from the main communication system within the allotted time limit. The Controller Area Network (CAN) is made up of a twisted pair of wires, identified as CAN HI (yellow) and CAN LO (green). These two wires are used to form a "linear bus" network, in that the wires run in parallel from one end of the vehicle to the other, and each module is connected to both wires as a "node". These two wires are connected together at each end of the network using a **120 Ω** resistor, which is known as a "termination" resistor. Because there is a **120 Ω** resistor at each end of the network, the resistance should always be **60 Ω** between the CAN HI and CAN LO wires.

Cause:
The primary CAN bus circuit is not communicating between the ECU and vehicle control modules.

Possible failure modes:

1. A failed terminating resistor.
2. A problem in the primary CAN bus wiring.

Solution:

1. Verify the fault is still present and in an active state.

   A. If fault is still present and active, continue with Step **2**.

   B. If the fault is no longer present or inactive, continue with Step **7**.
2. Inspect the wiring and connectors.

   Verify all the connectors to the ECU and vehicle control modules are not damaged and are properly connected.

   Verify the connector locks are not broken and securely hold the connectors in a connected and locked position. Replace the connectors if the locks are broken.

   A. If damaged wiring is found, repair the damaged wiring. Retest the circuit(s).

   B. If there is no damage and the connectors are properly connected, continue to Step **3**.
3. Use the Electronic Service Tool (EST) to check the CAN network.

   Monitor which CAN networks are "Off line".

   A. If multiple CAN networks are "Off line", you will need to troubleshoot the entire CAN network. Use schematics to determine common wiring and terminating resistors to locate starting point.

   B. If only CAN networks between the ECU and vehicle control modules are "Off line", continue with Step **4**.
4. Measure the resistance of the CAN bus circuit.

   Place the key switch OFF.

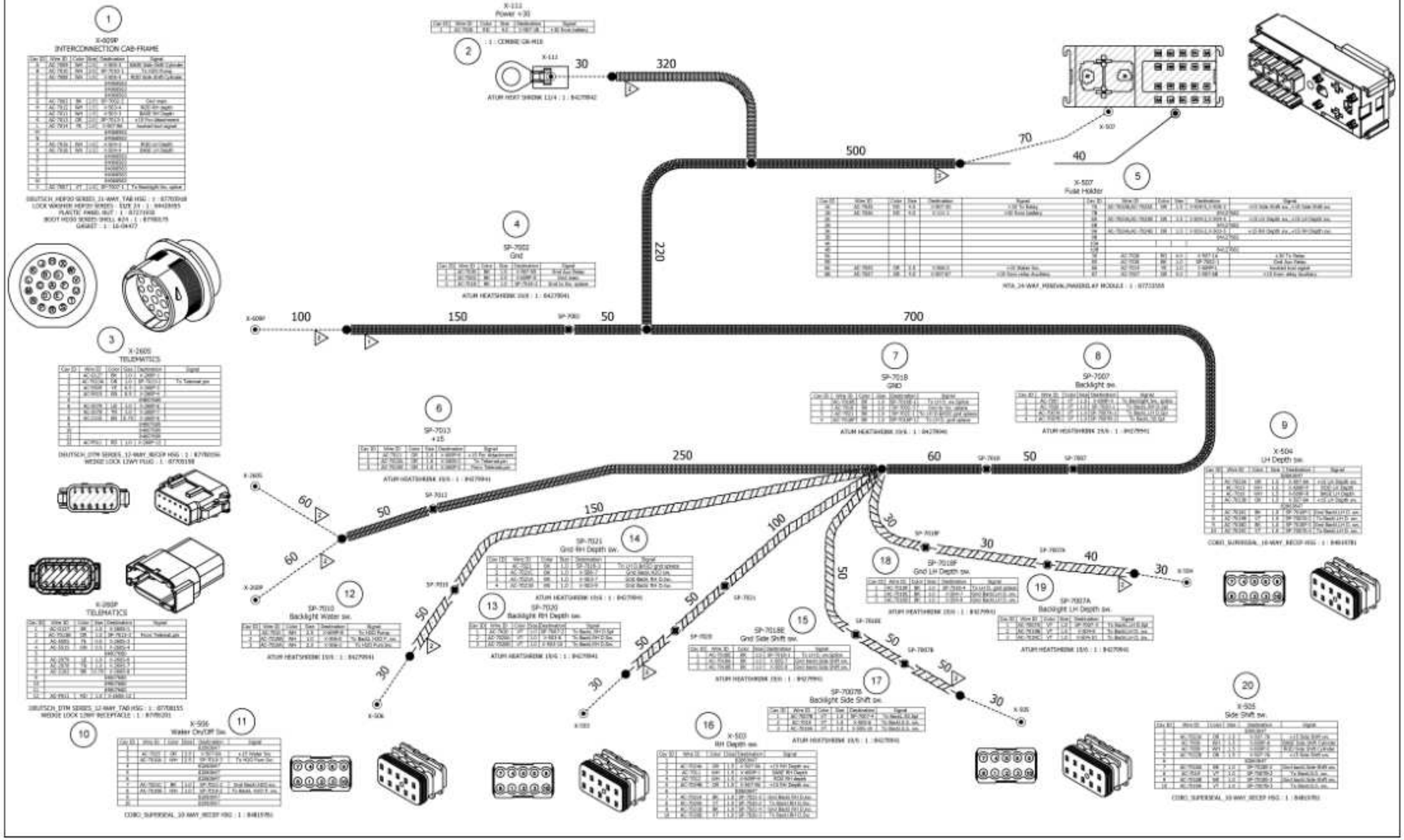
   Use a multimeter to measure the resistance of the CAN bus circuit from the diagnostic connector X-DIAG between pin C to pin D.

   There should be approximately **54 - 66 Ω**.

   A. If the CAN bus readings are incorrect, continue with Step **5**.

   B. If the CAN bus readings are correct, continue with Step **7**.

MidWestTech | New Holland W50C, W60C, W70C, W80C Tier 4 Compact Wheel Loade... Order the manual at mid-west-tech.com >



MidWestTech | New Holland W50C, W60C, W70C, W80C Tier 4 Compact Wheel Loader Service Manual | Publication 47768541B
Order the manual at mid-west-tech.com >