SERVICE MANUAL

L223 / L225 / L230
Tier 4A
200 Series Skid Steer Loader

L223 PIN NDM474381 and above; L225 PIN NDM461085 and above; L230 PIN NCM449907 and above

C232 / C238
Tier 4A
200 Series Compact Track Loader

C232 PIN NDM451672 and above; C238 PIN NCM425510 and above

Part number 47540694
English
April 2014
Replaces part number 47465733

NEW HOLLAND CONSTRUCTION

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SERVICE MANUAL
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47720775 April 2014
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ELECTRICAL SCHEMATIC POSTERS **47686152**
47686156

HYDRAULIC SCHEMATIC POSTER **47551846**

ENGINE SERVICE MANUAL (sold separately) **84496793**

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Torque - Minimum tightening torques for normal assembly

C232	NA
C238	NA
L223	NA
L225	NA
L230	NA

METRIC NON-FLANGED HARDWARE

NOM. SIZE	CLASS 8.8 BOLT and CLASS 8 NUT		CLASS 10.9 BOLT and CLASS 10 NUT		LOCKNUT CL.8 W/CL8.8 BOLT	LOCKNUT CL.10 W/CL10.9 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr		
M4	2.2 N·m (19 lb in)	2.9 N·m (26 lb in)	3.2 N·m (28 lb in)	4.2 N·m (37 lb in)	2 N·m (18 lb in)	2.9 N·m (26 lb in)
M5	4.5 N·m (40 lb in)	5.9 N·m (52 lb in)	6.4 N·m (57 lb in)	8.5 N·m (75 lb in)	4 N·m (36 lb in)	5.8 N·m (51 lb in)
M6	7.5 N·m (66 lb in)	10 N·m (89 lb in)	11 N·m (96 lb in)	15 N·m (128 lb in)	6.8 N·m (60 lb in)	10 N·m (89 lb in)
M8	18 N·m (163 lb in)	25 N·m (217 lb in)	26 N·m (234 lb in)	35 N·m (311 lb in)	17 N·m (151 lb in)	24 N·m (212 lb in)
M10	37 N·m (27 lb ft)	49 N·m (36 lb ft)	52 N·m (38 lb ft)	70 N·m (51 lb ft)	33 N·m (25 lb ft)	48 N·m (35 lb ft)
M12	64 N·m (47 lb ft)	85 N·m (63 lb ft)	91 N·m (67 lb ft)	121 N·m (90 lb ft)	58 N·m (43 lb ft)	83 N·m (61 lb ft)
M16	158 N·m (116 lb ft)	210 N·m (155 lb ft)	225 N·m (166 lb ft)	301 N·m (222 lb ft)	143 N·m (106 lb ft)	205 N·m (151 lb ft)
M20	319 N·m (235 lb ft)	425 N·m (313 lb ft)	440 N·m (325 lb ft)	587 N·m (433 lb ft)	290 N·m (214 lb ft)	400 N·m (295 lb ft)
M24	551 N·m (410 lb ft)	735 N·m (500 lb ft)	762 N·m (560 lb ft)	1016 N·m (750 lb ft)	501 N·m (370 lb ft)	693 N·m (510 lb ft)

NOTE: *M4 through M8 hardware torque specifications are shown in pound-inches. M10 through M24 hardware torque specifications are shown in pound-feet.*

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B. The fault code is still active. There is a problem with UCM. Temporarily replace the UCM and retest. Return to step **1** to confirm elimination of the fault.

Small EH machines F5H engine

Wire harnesses - Electrical schematic sheet 01 (55.100.DP-C.20.E.01)
Wire harnesses - Electrical schematic sheet 02 (55.100.DP-C.20.E.02)
Wire harnesses - Electrical schematic sheet 03 (55.100.DP-C.20.E.03)
Wire harnesses - Electrical schematic sheet 19 (55.100.DP-C.20.E.19)
Wire harnesses - Electrical schematic sheet 20 (55.100.DP-C.20.E.20)

Small EH machines ISM engine

Wire harnesses - Electrical schematic sheet 19 (55.100.DP-C.20.E.19)
Wire harnesses - Electrical schematic sheet 20 (55.100.DP-C.20.E.20)
Wire harnesses - Electrical schematic sheet 01 (55.100.DP-C.20.E.01)
Wire harnesses - Electrical schematic sheet 02 (55.100.DP-C.20.E.02)
Wire harnesses - Electrical schematic sheet 03 (55.100.DP-C.20.E.03)

Medium EH machines ISM engine

Wire harnesses - Electrical schematic sheet 19 (55.100.DP-C.20.E.19)
Wire harnesses - Electrical schematic sheet 20 (55.100.DP-C.20.E.20)
Wire harnesses - Electrical schematic sheet 01 (55.100.DP-C.20.E.01)
Wire harnesses - Electrical schematic sheet 02 (55.100.DP-C.20.E.02)
Wire harnesses - Electrical schematic sheet 03 (55.100.DP-C.20.E.03)

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4951-Hydraulic Enable (Mechanical Machines) - Hydraulic Interlock Solenoid, Short to Power

C232 TIER 4 [NDM451672 -]	NA Mechanical hydraulic controls
C238 TIER 4 [NCM425510 -]	NA Mechanical hydraulic controls
L223 TIER 4 [NDM474381 -]	NA Mechanical hydraulic controls
L225 TIER 4 [NDM461085 -]	NA Mechanical hydraulic controls
L230 TIER 4 [NCM449907 -]	NA Mechanical hydraulic controls

Context:
Diagnostic Trouble Code 4951 has an error priority of Red.
The vehicle is disabled with Diagnostic Trouble Code 4951.

Cause:
Instrument Cluster has sensed a short to another voltage source in the Hydraulic Interlock circuit. The fault is active when Ignition is On and Hydraulic Enable Commanded state is low and Hydraulic Enable solenoid is energized.

Possible failure modes:

1. Faulty wiring or connectors.
2. Faulty Instrument Cluster.

Solution:

1. Verify that the fault code is still active.
   Prior to clearing fault codes, record all fault codes, number of occurrences, and engine hours at last occurrence.

   (1) Use the Electronic Service Tool to clear all fault codes.

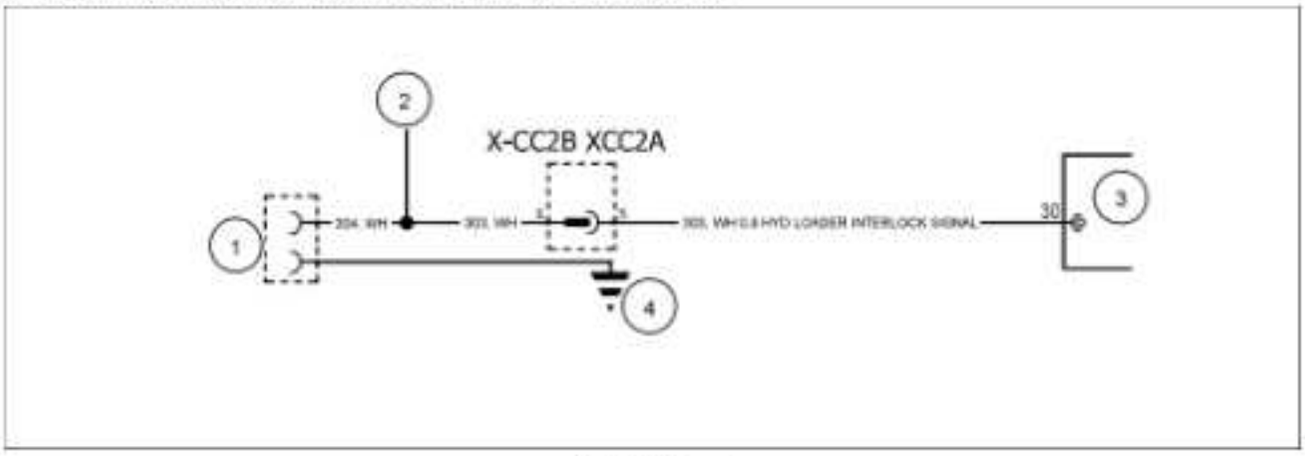
   (2) To check for fault code: Start and operate machine.

   A. Fault is not recorded again. OK to return the machine to service.

   B. Fault code is recorded again. Go to Step **2**.
2. Verify that the wiring and connectors are free of damage.

   (1) Inspect Instrument Cluster connector X-C23 and the Hydraulic Interlock Solenoid connections. All connections should be secure, tight, free of corrosion, abrasion and/or damage.

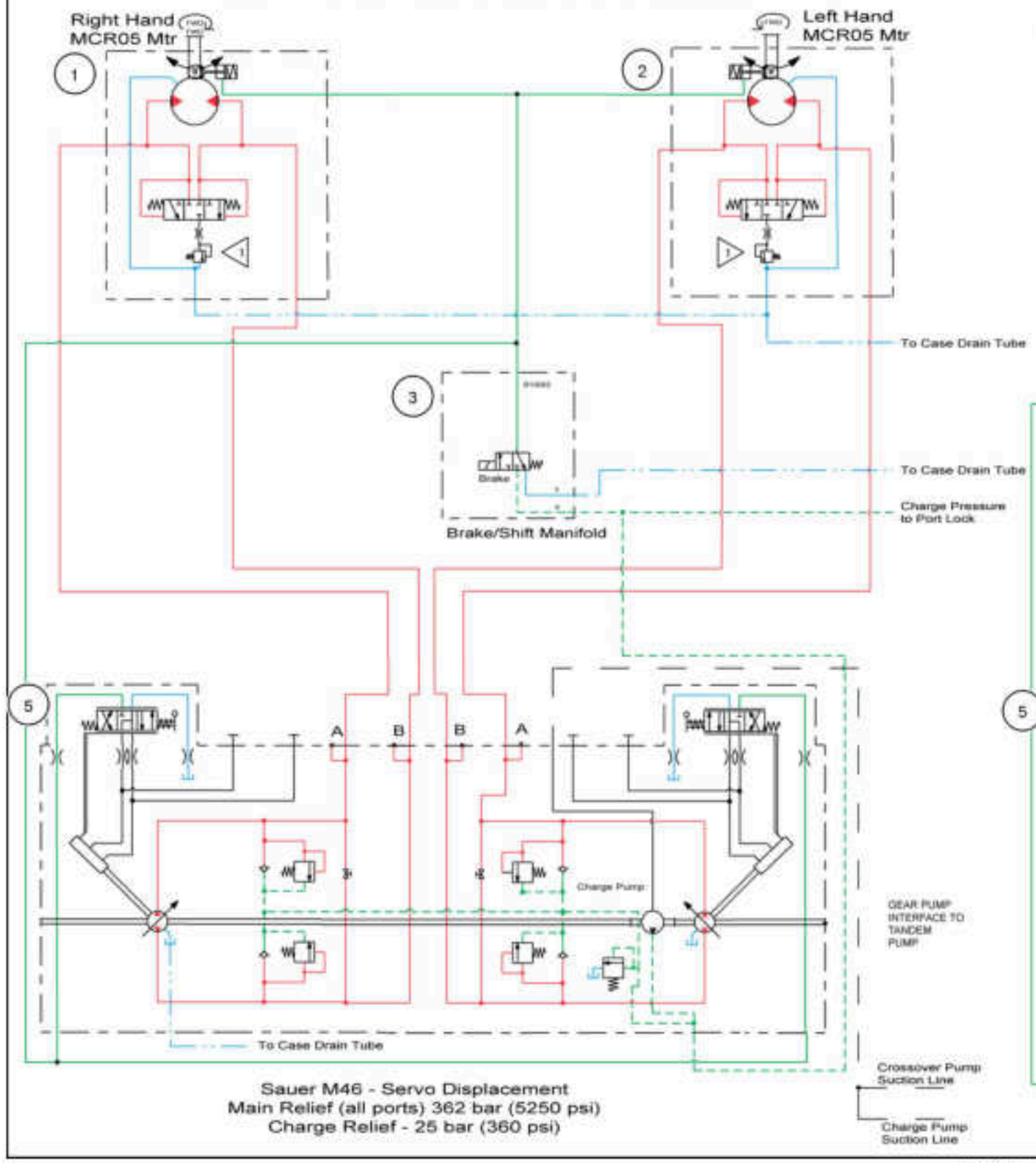
   (2) Inspect the harness from the Instrument Cluster to the Hydraulic Interlock Solenoid. Verify that the harness is free of damage, corrosion, abrasion and incorrect attachment.



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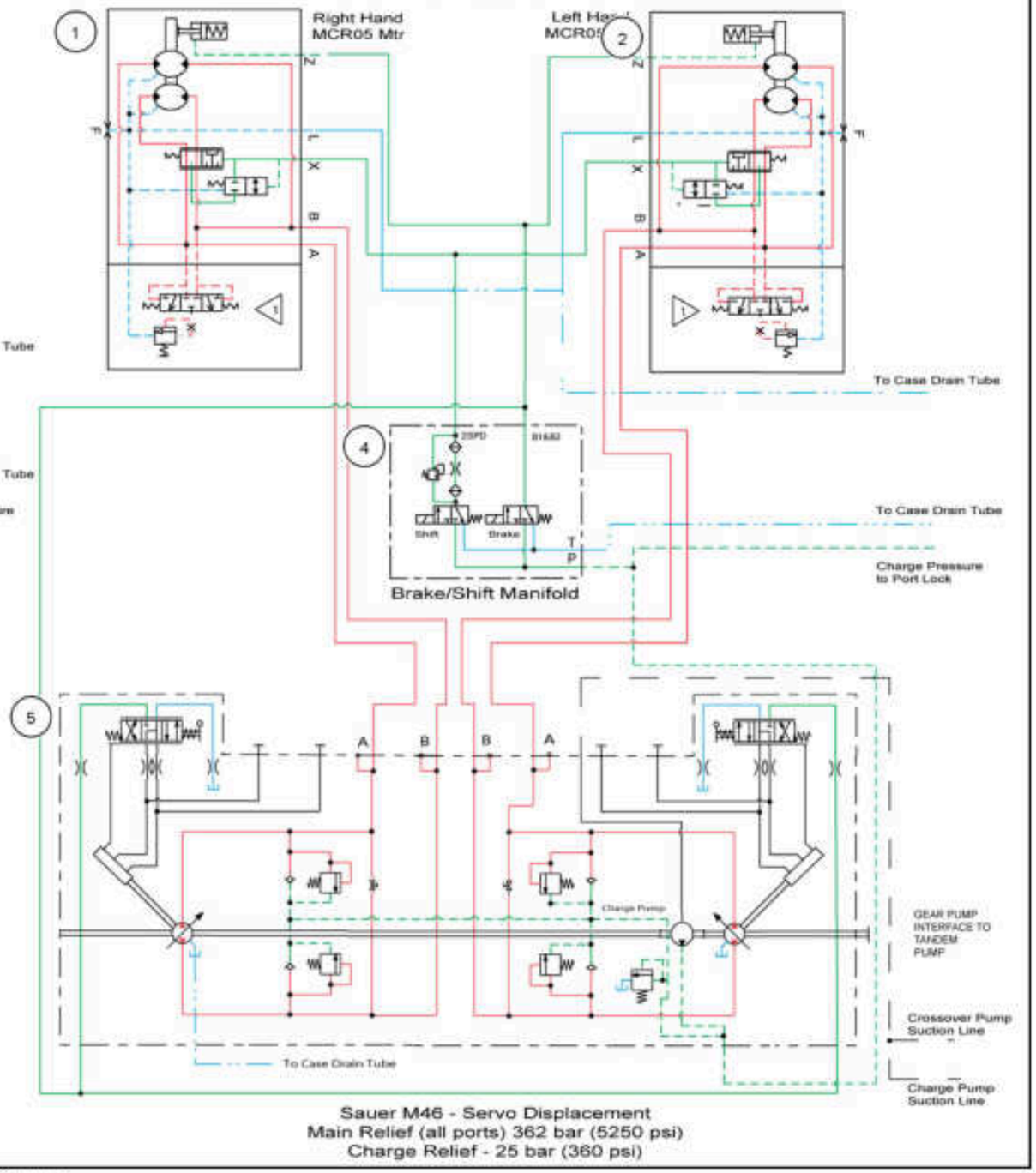
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MECHANICAL SINGLE SPEED DRIVE ASSEMBLY



Sauer M46 - Servo Displacement
Main Relief (all ports) 362 bar (5250 psi)
Charge Relief - 25 bar (360 psi)

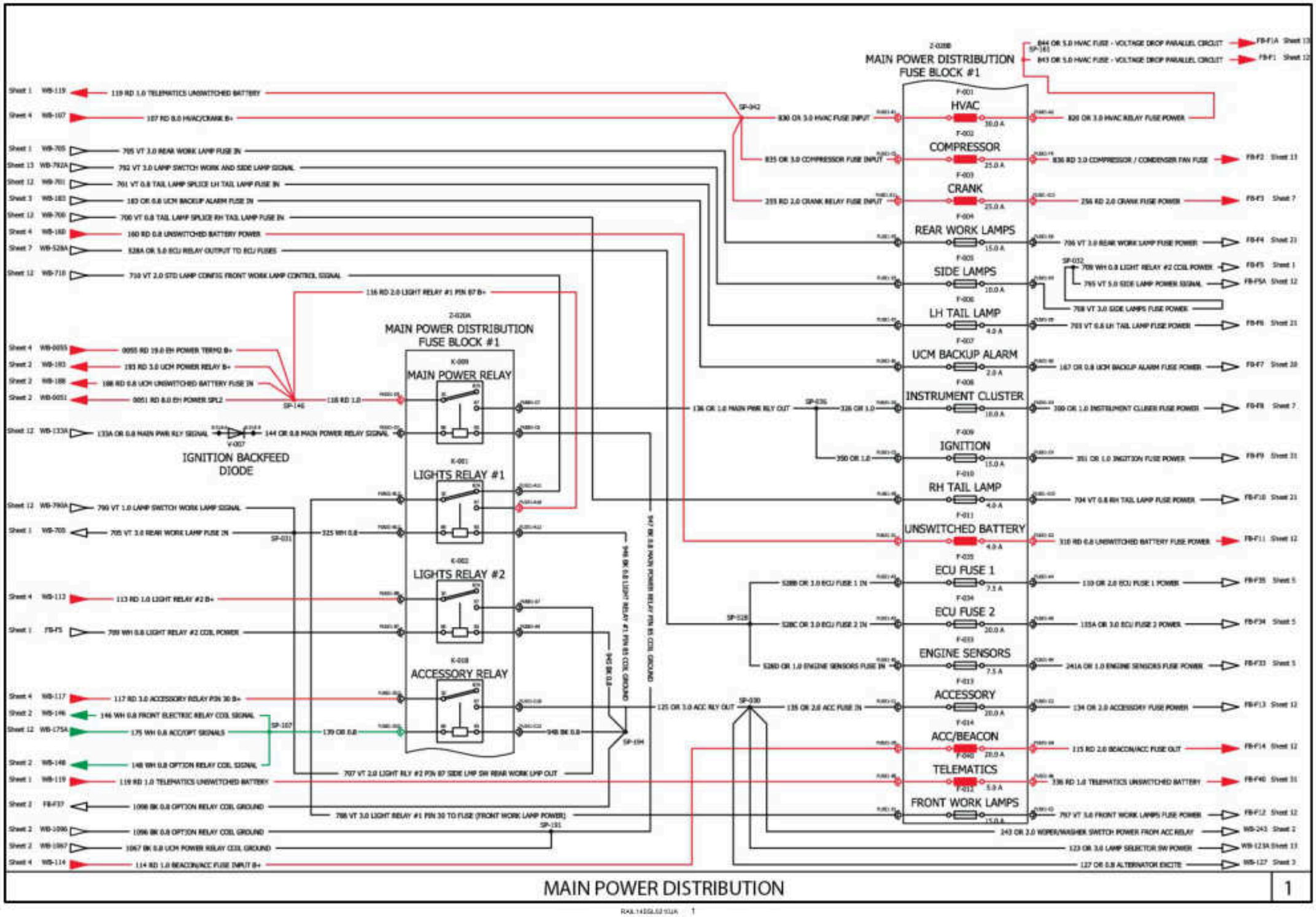
MECHANICAL TWO SPEED DRIVE ASSEMBLY



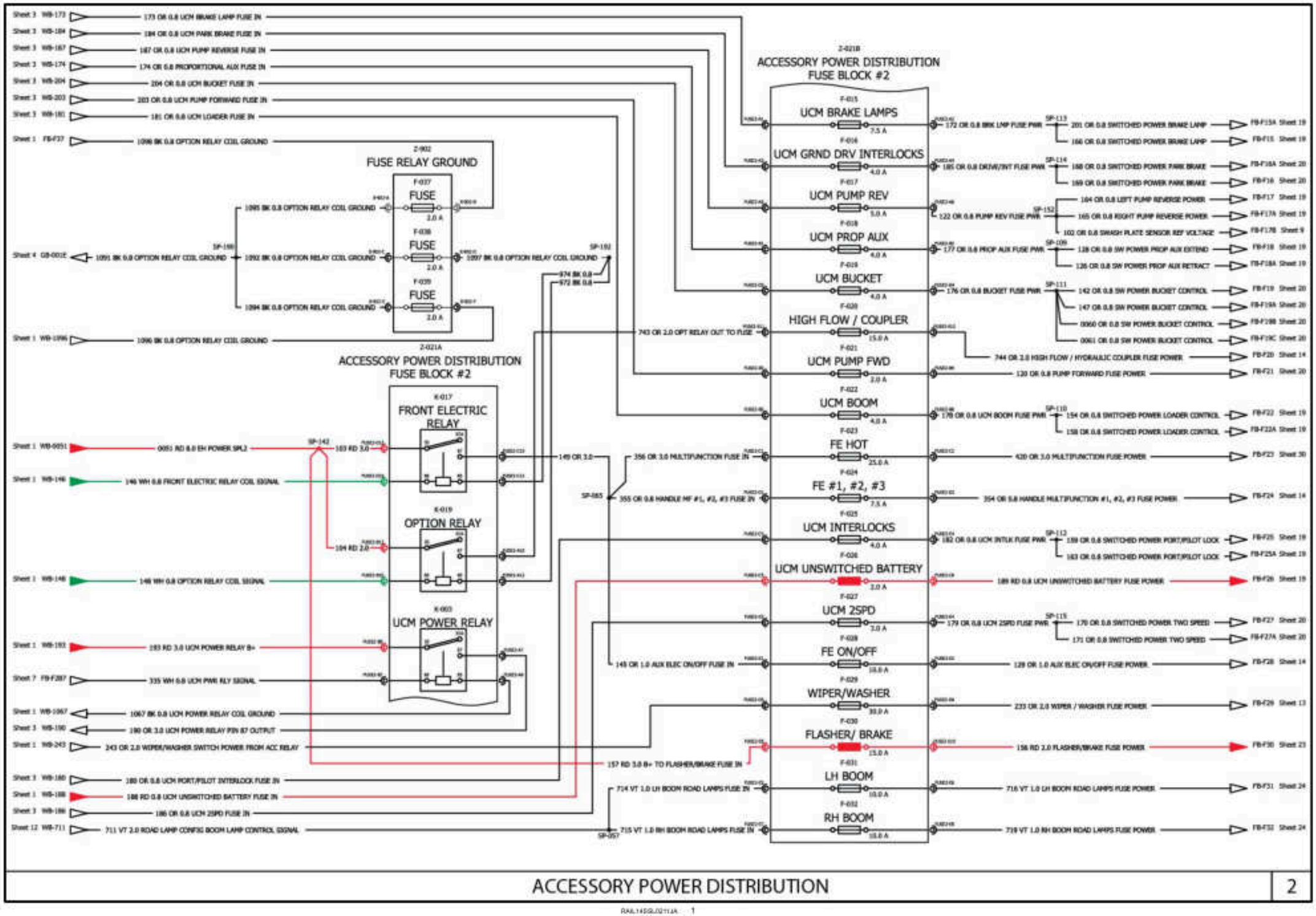
Sauer M46 - Servo Displacement
Main Relief (all ports) 362 bar (5250 psi)
Charge Relief - 25 bar (360 psi)

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