SR270 / SV300
Tier 4B (final)
Alpha Series Skid Steer Loader
SR270 PIN NFM481941 and above; SV300 PIN NFM470295 and above

TR340 / TV380
Tier 4B (final)
Alpha Series Compact Track Loader
TR340 PIN NFM482972 and above; TV380 PIN NFM483044 and above

SERVICE MANUAL

Part number 47685161
1st edition English
June 2015

CASE CONSTRUCTION

MidWestTech | Case SR270, SV300, TR340, TV380, TR340, TV380 Tier 4B Skid Steer Loader Service Manual | Publication 47685161
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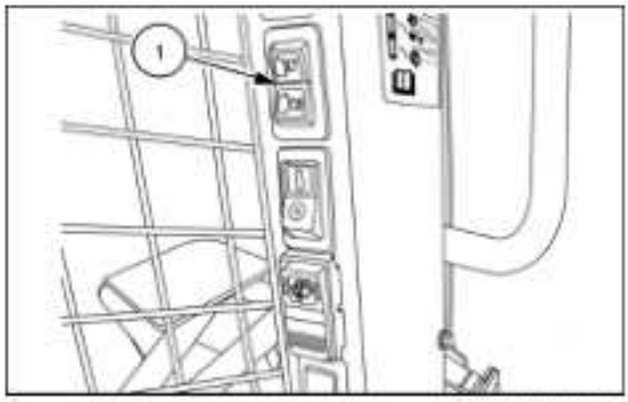
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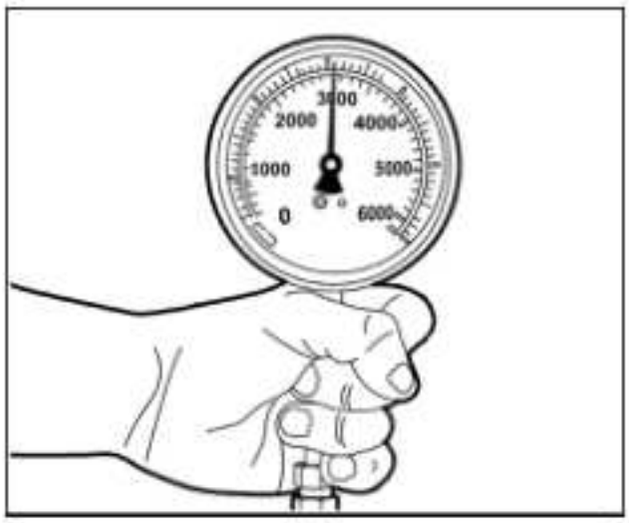
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5. Select High Flow (HF) on the rocker switch **(1)**.



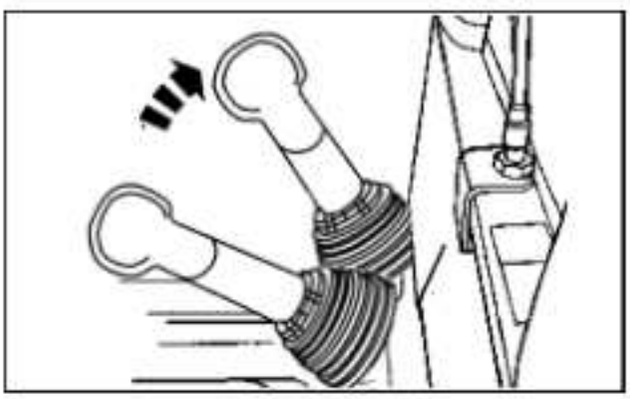
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6. Record the pressure on the pressure gauge.
   Please see **Pilot valve - General specification (35.600)** for specifications on the high flow pilot valve.



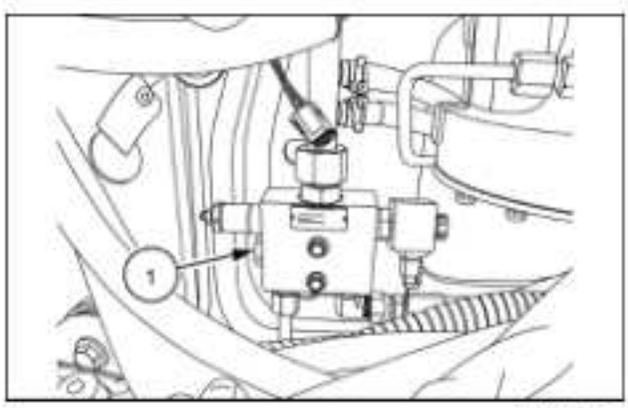
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7. Release the stroked bucket function.
8. Disengage the auxiliary hydraulics.



6

9. If the recorded pressure is not within specification, remove the cap **(1)** on the relief valve and adjust.



7

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1908-VCM - Rail 12VF2 - Bucket Extend Input Power Off

SR270 TIER 4B (FINAL) [NFM481941 -]	NA Electro hydraulic controls
SV300 TIER 4B (FINAL) [NFM470295 -]	NA Electro hydraulic controls
TR340 TIER 4B (FINAL) [NFM482972 -]	NA Electro hydraulic controls
TV380 TIER 4B (FINAL) [NFM483044 -]	NA Electro hydraulic controls

Context:
The UCM has sensed that the voltage on **X-CN4A (Male) pin 1** and **X-CN4A (Male) pin 8** is less than **9 V**. Diagnostic Trouble Code **1908 - VCM - Rail 12VF2 - Bucket Extend Input Power Off** has an error priority of Red.
Bucket functions are disabled while Diagnostic Trouble Code **1908 - VCM - Rail 12VF2 - Bucket Extend Input Power Off** is active.

Cause:
The UCM has sensed that the voltage on **X-CN4A (Male) pin 1** and **X-CN4A (Male) pin 8** is less than **9 V**. The fault is active while the ignition is ON, the engine is not cranking, and Diagnostic Code **1903 - VCM - VCM Supply Voltage Below Operational Limit** is not active.

Possible failure modes:

1. An open circuit in the wiring.
2. A failure of the UCM.

Solution:

1. Verify that the fault code is active.

   Connect the Electronic Service Tool to the service tool connector.

   To check for fault codes: Start and operate the machine.

   A. The fault code is not recorded again. OK to return the machine to service.

   B. Fault code **1908 - VCM - Rail 12VF2 - Bucket Extend Input Power Off** is recorded again. Go to step **2**.

   C. Fault code **1908 - VCM - Rail 12VF2 - Bucket Extend Input Power Off** is recorded along with fault code **1913 - VCM - Rail 12VS1 - Bucket Curl Input Power Off**. Check Fuse F-019. Check splice SP-111. Repair as required. Return to step **1** to confirm elimination of the fault.

2. Verify the harness is not damaged.

   Turn the ignition switch OFF.

   Inspect the UCM connections and the accessory power distribution fuse block #1 connections. All connections should be secure, tight, free of corrosion, abrasion, and damage.

   Inspect the harness from the UCM connector **X-CN4A (Male)** to the accessory power distribution fuse block #1. Verify that the harness is free of damage, corrosion, abrasion, and incorrect attachment.

   A. The wiring harness is not damaged and all connections are secure. Go to step **3**.

   B. The harness is damaged or the connectors are loose or damaged. Repair or replace the harness as required. Return to step **1** to confirm elimination of fault.

3. Test the UCM connection.

   Turn the ignition switch OFF.

   Fabricate a jumper wire that will connect from the positive battery post to UCM connector **X-CN4A (Male) pin 1** and **X-CN4A (Male) pin 8**.

   Connect the jumper from the positive battery post to UCM connector **X-CN4A (Male) pin 1** and **X-CN4A (Male) pin 8**.

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Measure the resistance between **X-13 (Female) pin 1** and chassis ground. The resistance should be greater than **20,000 Ω**. Wiggle the harness during measurement to reveal an intermittent condition.

Measure the resistance between **X-13 (Female) pin 2** and chassis ground. The resistance should be greater than **20,000 Ω**. Wiggle the harness during measurement to reveal an intermittent condition.

A. All resistance measurements are greater than **20,000 Ω**. Go to step **4**.

B. One or more resistance measurements are less than **20,000 Ω**. There is an short circuit to chassis ground. Repair or replace the harness as required. Return to step **1** to confirm elimination of fault.

4. Test the UCM.

Turn the ignition switch OFF.

Reconnect UCM connectors **X-CN2B (Male)** and **X-CN3B (Female)** . Leave connectors **X-17 (Female)** and **X-13 (Female)** disconnected.

Turn the ignition switch ON.

Activate the hydraulics while monitoring the fault code screen. Fault code **4082 - Forward Pump Control Valves (Directional) - Pumps Forward Solenoids Short to Ground** should no longer be active. Fault code **4083 - Forward Pump Control Valves (Directional) - Common Solenoid Return Open Circuit** should become active.

A. Fault code **4083 - Forward Pump Control Valves (Directional) - Common Solenoid Return Open Circuit** is active and fault code **4082 - Forward Pump Control Valves (Directional) - Pumps Forward Solenoids Short to Ground** is no longer active. Temporarily replace both solenoids and retest. Return to step **1** to confirm elimination of the fault.

B. Fault code **4082 - Forward Pump Control Valves (Directional) - Pumps Forward Solenoids Short to Ground** is still active. Fault code **4083 - Forward Pump Control Valves (Directional) - Common Solenoid Return Open Circuit** did not become active. Temporarily replace the UCM and retest. Return to step **1** to confirm elimination of the fault.

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SR130 / SR150 / SR160 / SR175 / SV185 / SR200
SR210 / SR220 / SR240 / SR250 / SV250 / SR270
SV280 / SV300 / TR270 / TR310 / TR320 / TR340
TV380
SINGLE SPEED AND TWO SPEED
ELECTRO-HYDRAULIC (EH) VALVE ASSEMBLY
RAC 47886234

NOTES:

1. FLUSHING VALVE
   -10 BAR SPRINGS
   -2 mm FLUSHING ORIFICE
   -290 PSI (20BAR) CUTOFF RELIEF
2. LOAD CHECK REMOVED IF HIGH FLOW INSTALLED.
3. IN-LINE ORIFICE AT MANIFOLD BLOCK FOR VERTICAL MACHINES ONLY.
4. LIFT CYLINDERS ARE CUSHIONED FOR VERTICAL FRAME MACHINES ONLY.

Main Control Valve Pressure Relief

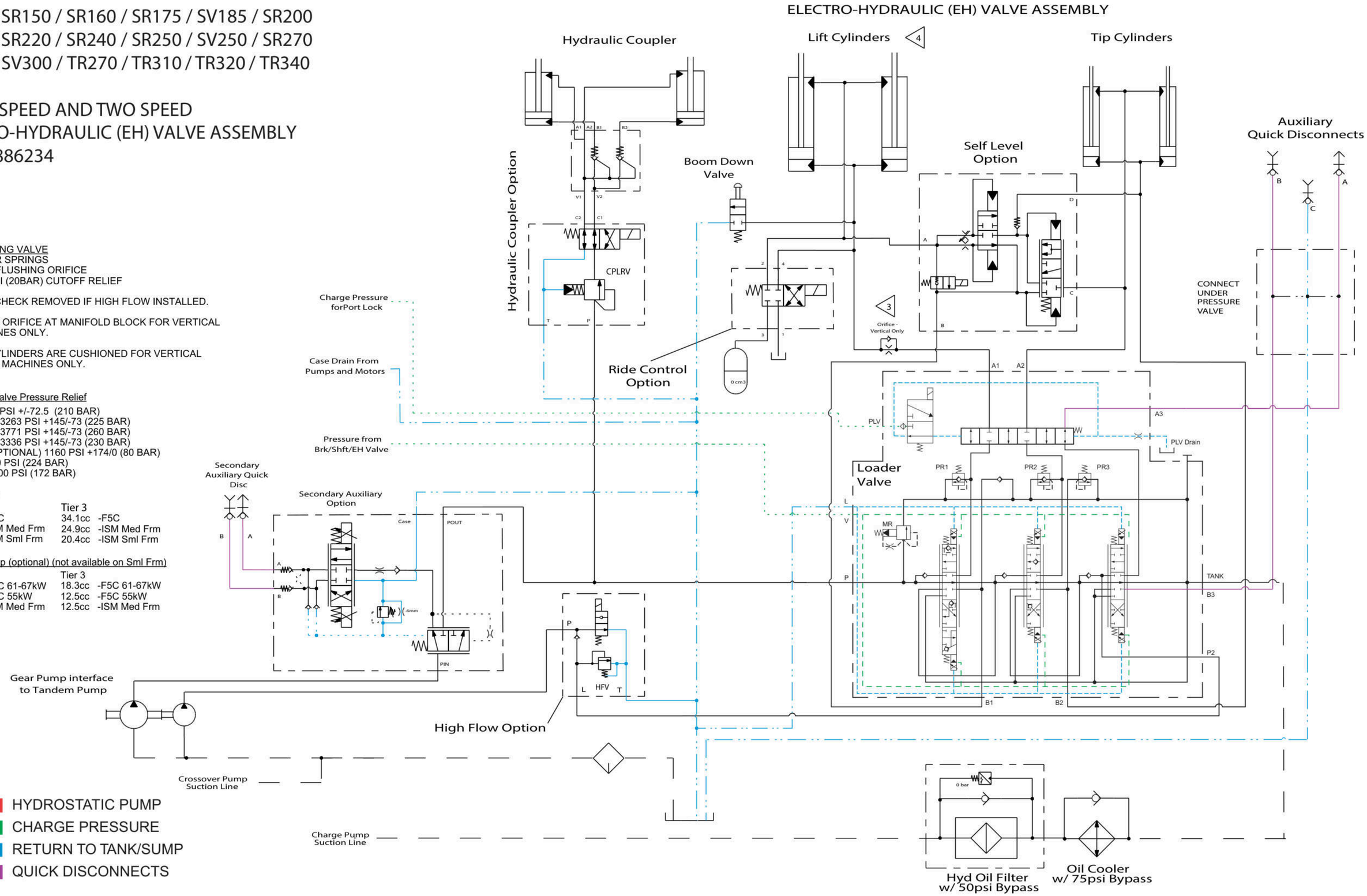
MR- 3046 PSI +/-72.5 (210 BAR)
A1 (PR1) - 3263 PSI +145/-73 (225 BAR)
A2 (PR2) - 3771 PSI +145/-73 (260 BAR)
B2 (PR3) - 3336 PSI +145/-73 (230 BAR)
B2 (PR3- OPTIONAL) 1160 PSI +174/0 (80 BAR)
HFV - 3250 PSI (224 BAR)
CPLRV - 2500 PSI (172 BAR)

Auxiliary Pump

Tier 4		Tier 3	
36.6cc	-F5C	34.1cc	-F5C
27.8cc	-ISM Med Frm	24.9cc	-ISM Med Frm
23.7cc	-ISM Sml Frm	20.4cc	-ISM Sml Frm

High Flow Pump (optional) (not available on Sml Frm)

Tier 4		Tier 3	
20.4cc	-F5C 61-67kW	18.3cc	-F5C 61-67kW
13.7cc	-F5C 55kW	12.5cc	-F5C 55kW
13.7cc	-ISM Med Frm	12.5cc	-ISM Med Frm



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