FARMALL® 50A
FARMALL® 60A
FARMALL® 70A
Tier 4B (final)
Tractor

SERVICE MANUAL

Part number 47866582
1st edition English
December 2015

CASE IH AGRICULTURE

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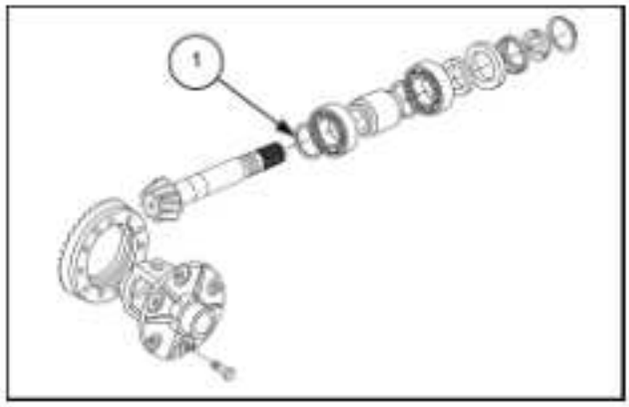
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If necessary, round the value thus obtained up to the nearest **0.05 mm** (**0.002 in**).
Pinion positioning shim **(1)** is located between pinion gear and front bearing.

NOTE: *On completing the adjustment, do not remove the adjustment tool from the bevel drive-differential housing: leave in place for adjustment of the drive pinion position.*



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Available shim sizes	
0.5 mm (0.020 in)	2.7 mm (0.106 in)
2.5 mm (0.098 in)	2.8 mm (0.110 in)
2.6 mm (0.102 in)	2.9 mm (0.114 in)

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Wiring harnesses - Electrical schematic sheet 03 – Engine sensors and fuel injection (engine schematics)

Component identifier	Description
A-9000	Engine Control Unit (ECU)
B-9001	Intake manifold pressure and temperature sensor
B-9002	Fuel temperature sensor
B-9003	Coolant temperature sensor
B-9004	Rail pressure sensor
B-9007	Crankshaft sensor
B-9017	Camshaft sensor
S-9016	Oil pressure switch
Y-9000	Fuel metering unit
Y-9001	Cylinder 1 injector (Bank 1 Injector 1)
Y-9002	Cylinder 2 injector (Bank 1 Injector 2)
Y-9003	Cylinder 3 injector (Bank 2 Injector 1)
Z-9001	Throttle valve actuator

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DTC 60A-04-Lambda sensor heater battery voltage too low

Control Module : ECU

NOTE: *If the Lambda sensor B-9123 is replaced, it is necessary to perform the Replacement of the Lambda Sensor - Reset ECU Data with the Electronic Service Tool (EST) before you return the machine to service. See* ***Lambda sensor - Configure - Reset ECU data (Lambda sensor) (55.989)****, if necessary.*

Context:
The SPI chip, which is internal to the ECU A-9000, controls the Lambda sensor B-9123 device for the measuring or the calibrating of the inner resistance for temperature evaluation, switches on and off the pump current to measure O2 content and monitors the hardware related to the open load and short circuit monitoring devices. If the SPI chip senses a very low battery voltage, less than **9.0 V** this fault will occur. For information regarding the functional operation of the Lambda sensor B-9123 see **Lambda sensor - Overview (55.989)**. For more information regarding the technical specifications of the lambda sensor B-9123, see **Lambda sensor - Technical Data (55.989)**.

Cause:
The ECU has sensed low voltage in the lambda sensor circuit.

Possible failure modes:

1. Low battery voltage.
2. Faulty Lambda sensor B-9123 supply circuit wiring.
3. Faulty Lambda sensor B-9123, failed internally.
4. Faulty ECU A-9000, software.

Solution:

1. Verify that the fault present and active.

   Use the Electronic Service Tool (EST) to check the status of this fault.

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

   B. If the fault is no longer present or in an inactive state, the fault may be intermittent and not currently active. Continue with Step **5**.

2. Check for fault codes related to low battery voltage.

   A. If fault codes are active for low battery voltage, correct other active fault codes first.

   B. If the battery voltage is within specification, continue with Step **3**.

   NOTE: *Normal battery voltage for a* ***12.0 V*** *system is approximately* ***10.0 - 12.5 V****. The low voltage fault range may vary by product.*

3. Check the Lambda sensor B-9123 heater circuit wiring for an open circuit condition.

   Disconnect the vehicle harness (VE) from the Lambda sensor B-9123 at connector **X-9123**.

   With the key switch in the ON position, use a multimeter to check for voltage on the vehicle harness (VE) side :

From	To	Result
X-9123 pin 4	chassis ground	There should be approximately **12.0 V**.

   A. If the voltage reading is incorrect, check the wiring harness between connector **X-9123 pin 4**, and the Main relay K-9102 cavity **X-9129**.

   B. If the voltage reading is correct, continue with Step **4**.

4. Replace the Lambda sensor B-9123.

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B. Lifting phase

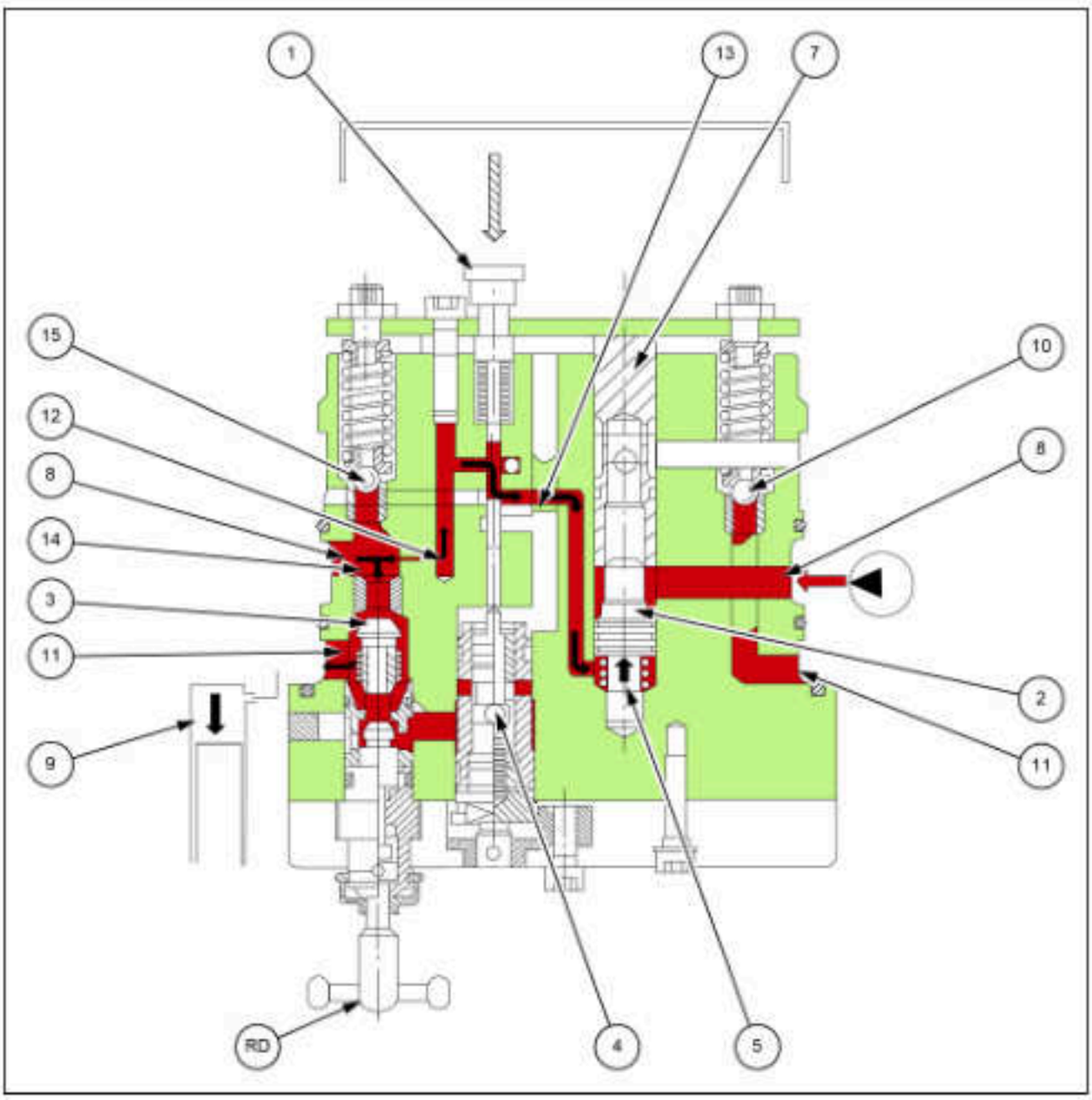
During this phase, the control valve supplies the oil under pressure to the cylinder **(9)** and it consequently lifts the arms.

The control spool **(1)** is in such a position to connect the chamber **(5)** of the differential valve **(2)** with the oil coming from the pump through annular duct **(8)** and holes **(12)** and **(13)** making in this way the valve itself to close.

The oil from the pump finding the differential valve **(2)** closed goes to cylinder, pass the hole **(14)** opens the check valve **(3)** enters in the annular duct **(11)** and enters the chamber **(9)**.

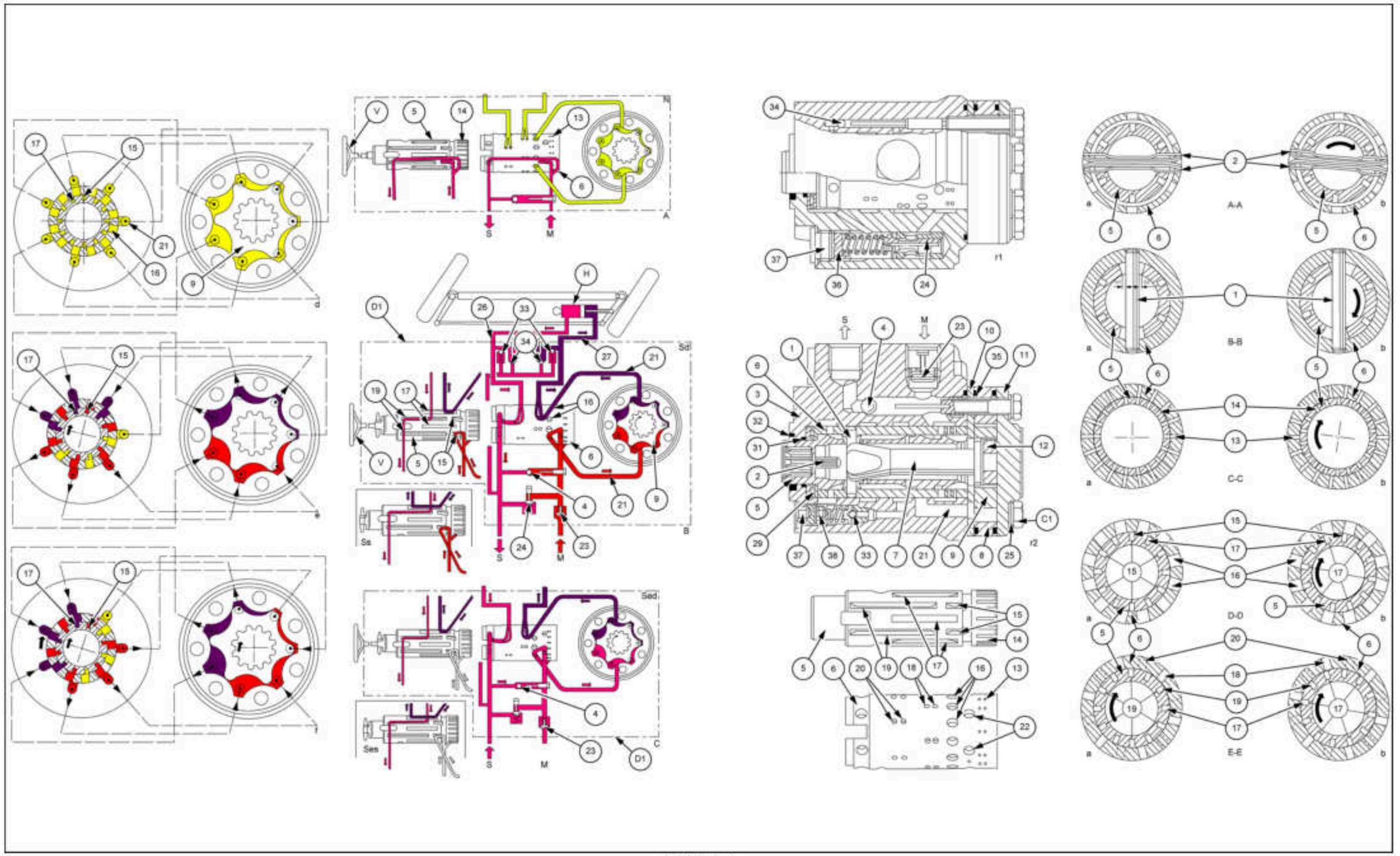
The lifting speed depends on the pump RPM.

In this phase the maximum lifting pressure is controlled by the safety valve **(15)** that is connected to annular duct **(8)** through hole **(14)** and then to the oil inlet.



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