SERVICE MANUAL

T4.80V
T4.90V
T4.100V
T4.110V
T4.80N
T4.90N
T4.100N
T4.110N
Tractor

PIN ZGLJ04271 and above

Part number 51523366
English
August 2018

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Wiring harnesses - Electrical schematic sheet 36 SH-036_MMV_80/64RIt_commands

T4.100N With cab [ZHLJ01382 -]	ANZ --- APAC --- LA --- MEA --- WE
T4.100V With cab [ZHLJ00619 -]	ANZ --- APAC --- LA --- MEA --- WE
T4.110N With cab [ZHLJ01217 -]	ANZ --- APAC --- LA --- MEA --- WE
T4.110V With cab [ZHLJ01709 -]	ANZ --- APAC --- LA --- MEA --- WE
T4.80N With cab [ZHLJ02071 -]	ANZ --- APAC --- LA --- MEA --- WE
T4.80V With cab [ZGLJ04271 -]	ANZ --- APAC --- LA --- MEA --- WE
T4.90N With cab [ZHLJ01597 -]	ANZ --- APAC --- LA --- MEA --- WE
T4.90V With cab [ZHLJ00171 -]	ANZ --- APAC --- LA --- MEA --- WE

Type	Component	Connector / Link
ECU	**A-004** - MMV 60-80It (ECU)	**X-384** - MMV 60-80It [A-004] (87706495)
Switch	**S-069** - MSX SWITCH (Switch)	**X-483** - MA2 sw connection [S-069] (87745329) **X-483L** - MA2 sw lamp connection [S-069] (84131048)
Switch	**S-070** - MSY SWITCH (Switch)	**X-481** - MA3 sw connection [S-070] (87745329) **X-481L** - MA3 sw lamp connection [S-070] (84131048)
Connector		**X-384** - MMV 60-80It [A-004] (87706495)
Connector		**X-481** - MA3 sw connection [S-070] (87745329)
Connector		**X-481L** - MA3 sw lamp connection [S-070] (84131048)
Connector		**X-483** - MA2 sw connection [S-069] (87745329)
Connector		**X-483L** - MA2 sw lamp connection [S-069] (84131048)

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3827 - Throttle Valve Actuator (TVA) - under-voltage at power stage

Control Module: ECU

Context:
Under voltage error for H bridge.

Cause:
Wide swings in the system voltage have been detected by the engine control unit (ECU).

Possible failure modes:

1. Bad battery or battery connection
2. Alternator fault
3. Faulty engine control unit (ECU)

Solution:

1. Check for active fault codes.

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

   (2) Use the electronic service tool (EST) to clear all fault codes.

   (3) To check for fault codes: Start and operate machine.

   A. Fault code 3827 is not recorded again. OK to return the vehicle to service.

   B. Fault code 3827 is recorded with other fault codes such as FC3051. Continue to test for battery or charging faults with the machine.

   C. Fault code 3827 is active and recorded again. Go to step **2**.

2. Inspect the battery cable connections.

   (1) Verify that the battery terminals and battery cables are free of corrosion, abrasion and incorrect attachment.

   (2) Verify that the battery chassis ground connection is clean and fastened securely to the frame. The chassis connection point should be free of paint, rust, dirt and debris.

   A. The cables and battery connections are secure and free of corrosion, abrasion and incorrect attachment. Go to step **3**.

   B. The battery connections or battery cables are in need of repair.Repair or replace as required.
   Return to step **1** to confirm the elimination of the fault.

3. Verify that the wiring and connectors are free of damage.

   (1) Inspect the ECU connectors **X-937** and **X-939**. All connections should be secure, tight, free of corrosion, abrasion and damage.

   (2) Inspect the wiring from the battery to the ECU **X-937** connector. Check that the wiring is free of damage, corrosion, abrasion and incorrect attachment.

   A. If the connectors are secure and the wiring is free of damage.Temporarily replace the engine control unit (ECU) and repeat the test.
   Return to step **1** to confirm the elimination of the fault.

   B. If the connectors or the wiring has damage.Repair or replace the wiring or the connectors as required.
   Return to step **1** to confirm the elimination of the fault.

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4843 - Sensor supply signal: open circuit, towards ground

T4.100N With cab [ZHLJ01382 -]	ANZ — APAC — LA — MEA — WE
T4.100V With cab [ZHLJ00619 -]	ANZ — APAC — LA — MEA — WE
T4.110N With cab [ZHLJ01217 -]	ANZ — APAC — LA — MEA — WE
T4.110V With cab [ZHLJ01709 -]	ANZ — APAC — LA — MEA — WE
T4.80N With cab [ZHLJ02071 -]	ANZ — APAC — LA — MEA — WE
T4.80V With cab [ZGLJ04271 -]	ANZ — APAC — LA — MEA — WE
T4.90N With cab [ZHLJ01597 -]	ANZ — APAC — LA — MEA — WE
T4.90V With cab [ZHLJ00171 -]	ANZ — APAC — LA — MEA — WE

Control Module: MMV

NOTE: *When the cause of the error code has been rectified, clear the error code and test the system for normal operation.*

NOTE: *Check for other error codes that may be related.*

Cause:
The mid mount control unit MMV **A-004** has detected an open circuit at connector **X-384** pin 10 .

Possible failure modes:

1. Faulty connector
2. Faulty wiring harness
3. Faulty mid mount control unit

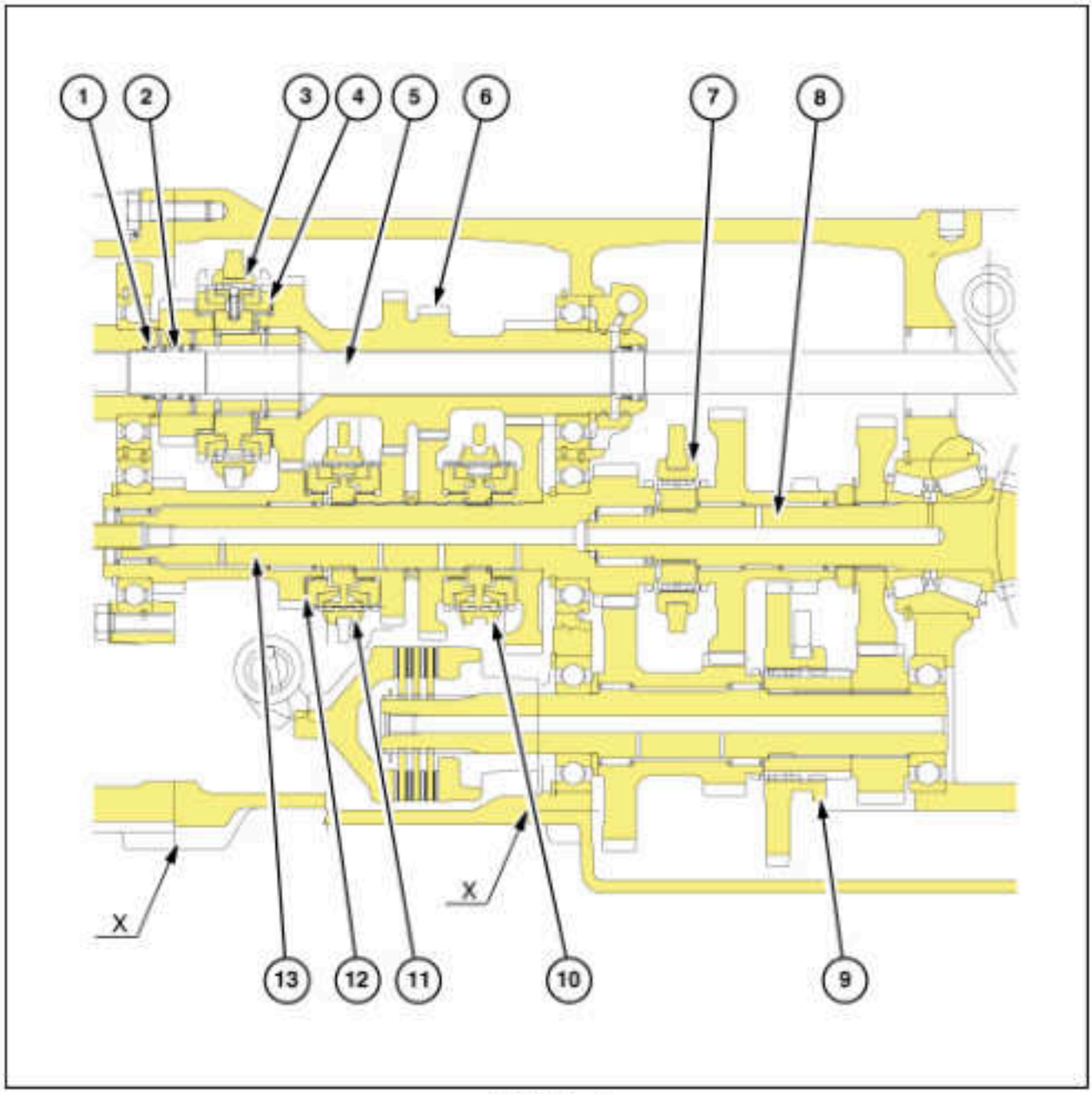
Solution:

1. Check the joystick, **S-060**, connector **X-388**, hydraulic motor potentiometer, **S-061**, connector **X-386** and the mid mount control unit connector **X-384**.
   A. Ensure the connectors are connected, not damaged, the pins are in the correct position and that the fit is tight. Repair or replace as required.
   B. If the connectors are okay, continue to step **2**
2. Check for an open ground circuit.
   A. Turn the ignition key switch to OFF. Disconnect connectors **X-388**, **X-386**, and **X-384**. Measure the resistance between the connectors:
   X-388 pin 4 and ground;
   X-386 pin 7 and ground;
   X-384 pin 10 and ground.
   If an pen circuit is not indicated, download the correct level of software. If the error code occurs again, remove and replace the mid mount control unit MMV **A-004**.
   B. If an open circuit is indicated on one or more circuits, continue to step **3**
3. Check for an open circuit.
   A. Disconnect connector **X-384**. Measure the resistance between the connectors:
   X-384 pin 10 and **X-388** pin 4;
   X-384 pin 10 and **X-386** pin 7;
   If an open circuit is indicated, repair or replace the harness as required.
   B. If no wiring harness problems are indicated, download the correct version of software. If the error code occurs again, remove and replace the mid mount control unit MMV **A-004**.

Wiring harnesses - Electrical schematic sheet 21 (55.100)
Wiring harnesses - Electrical schematic sheet 35 (55.100)

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Transmission internal parts - Sectional view

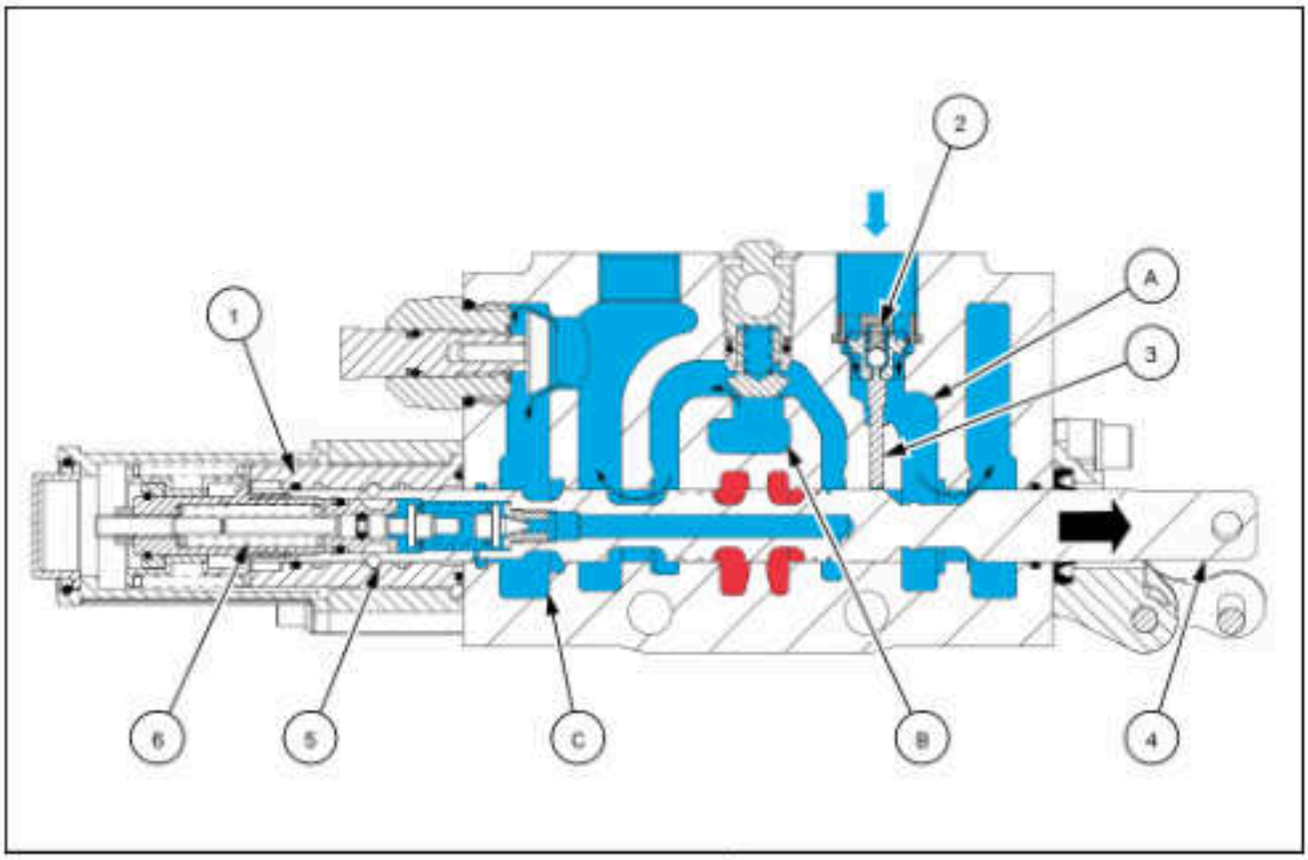


Longitudinal cross-sectional view of gearbox and gear range

1. Seal
2. Power take-off shaft support roller bearings
3. Reverser control synchroniser
4. Gearbox driving gear clearance adjusting thickness
5. Power take-off shaft
6. Gearbox driving gear
7. Selector sleeve for high or medium-low speeds
8. Bevel pinion shaft
9. Selector sleeve for low or medium-high speeds
10. Synchroniser for 1st and 2nd speed
11. Synchroniser for 3rd and 4th speed
12. Gearbox driven shaft gear clearance adjusting thickness
13. Gearbox driven shaft

NOTE: *On assembly apply a bead of sealing compound to the surfaces X as indicated on* ***Transmission drive housing - Reseal (21.114)****.*

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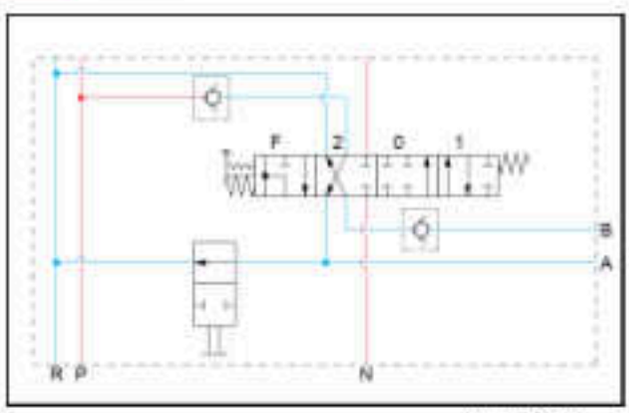
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Control valve phase - Lever in position "2"

Pressurized oil (**190 bar** (**2755 psi**)

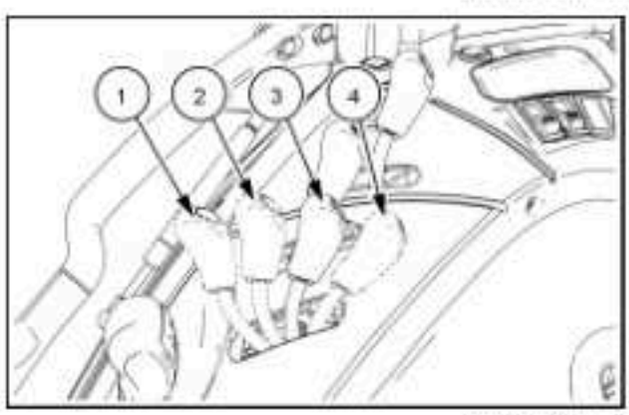
Exhaust oil

Pushing the control lever in the cab the control valve spool **(4)** moves in the direction of the arrow: the locking balls **(5)** enter in the stop point in the support **(1)**, remaining locked by the thrust of the spring **(6)**, and hold the spool. The spool displacement connects the oil supply line **(B)** directly to the exhaust in transmission through the line **(C)**. The pin **(3)**, pressed by the spool **(4)**, keeps the non-return valve **(2)** open, allowing the oil to be exhausted in the transmission through the "+" port and the line **(A)**.
At the end of the operation manually return the spool **(4)** in the neutral position operating on the control lever in the cab.



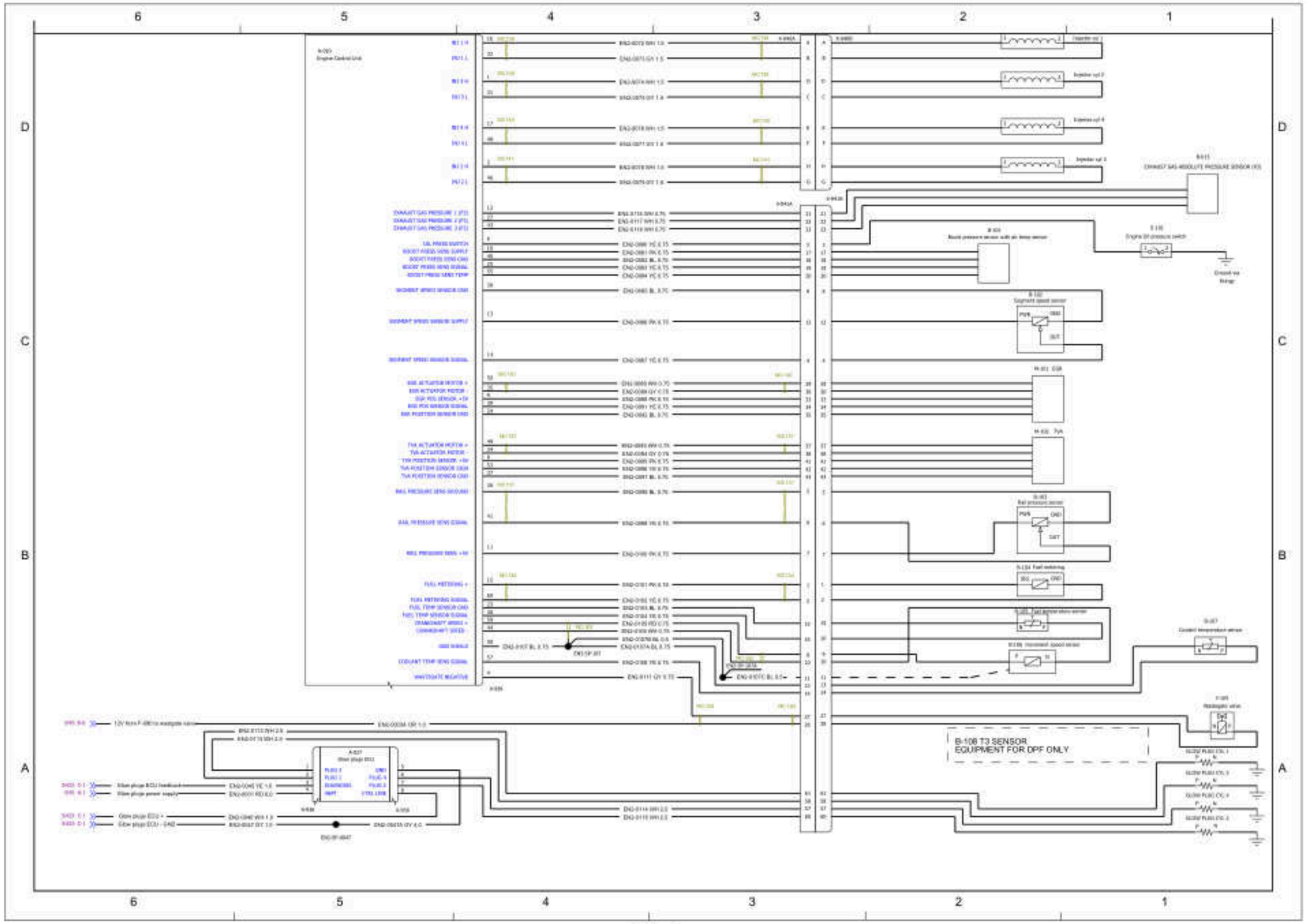
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- Floating position **(1)** (not available with single-acting control valve)
- Lowering or retraction position **(2)**
- Neutral position **(3)**
- Lifting or extension position **(4)**



M01L15TR03058AA 7

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