Technical Support

Subject

Multifunction Power System Will Not Increase to Higher Speed

SYSTEM OR PARTS AFFECTED

- All Kubota Powered Multifunction Power Systems

OVERVIEW

The following instructions will help to diagnose why the system does not go to the second speed when the accessory is enabled. A Multimeter will be required.

Procedure

☐ Remove the top cover of the MF (Figure 1).

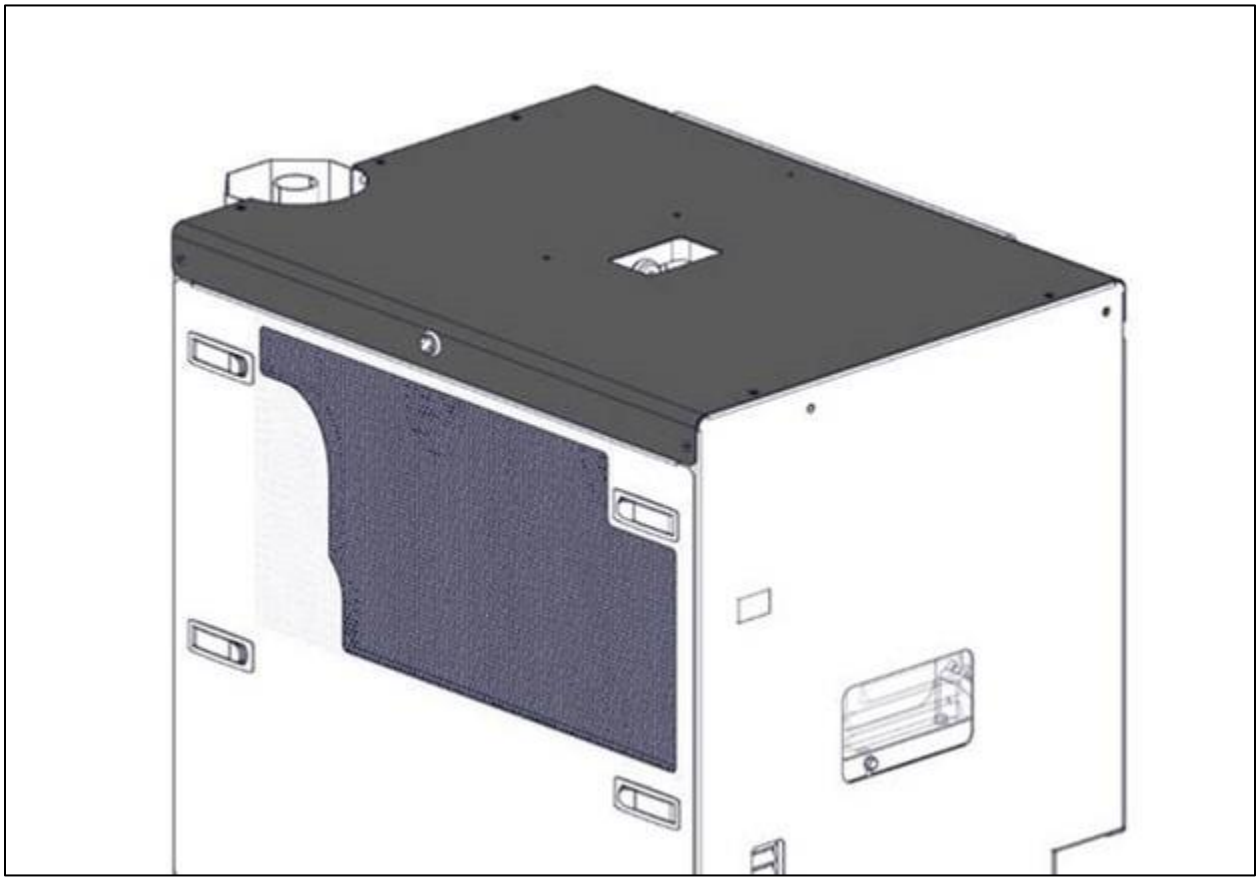

Figure 1

Version	Document	Department	Revision Details	Author	Reviewed by		Implemented
					Tech.	Eng.	
C	EXT-MF-016	Tech	Update from email template	MSP	BDJ	N/A	5 Nov.2024

Knowledge Base: http://kb.vmacair.com/
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☐ Locate the “pull” and “hold” relays (Figure 2**).**

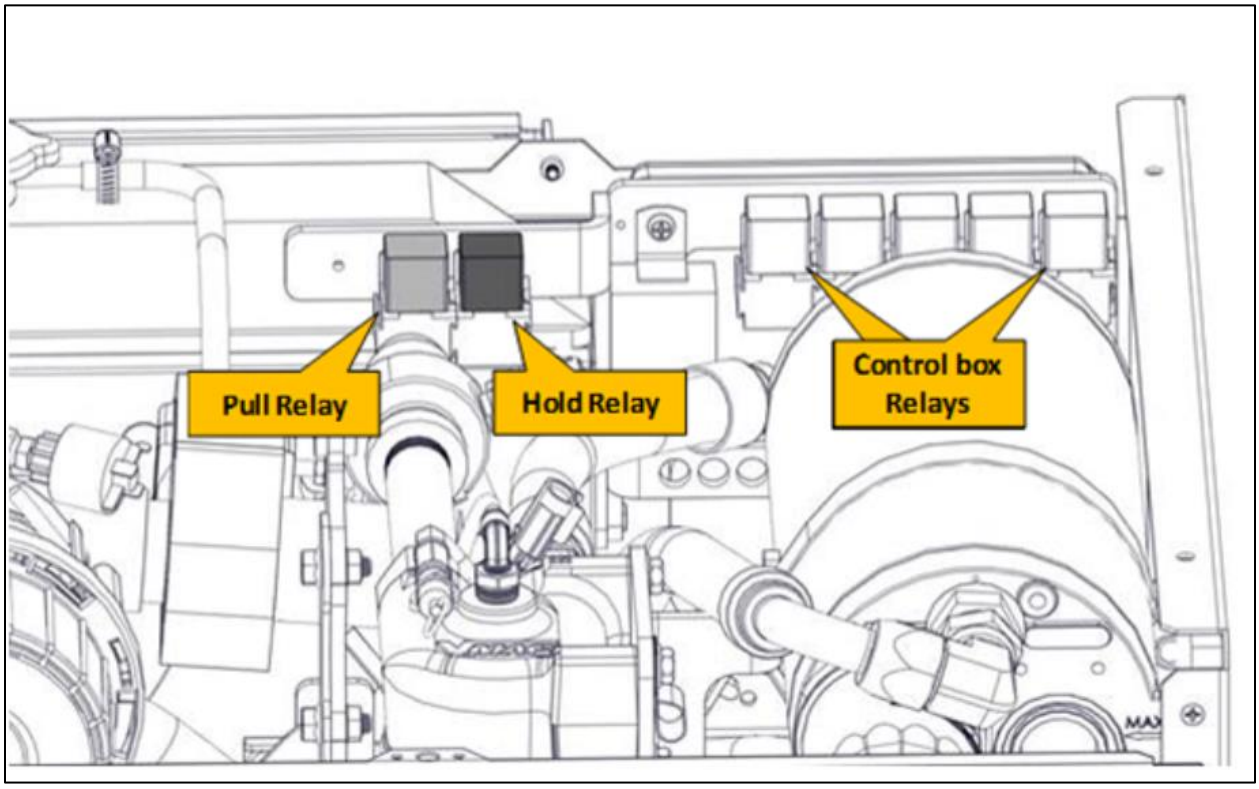

Figure 2

Testing the “Pull” and “Hold” Relays Method 1 (Requires Multimeter)

To prevent pushing the wires out of the relay base, use care when removing or installing the relays. Care must also be used when probing the wires to prevent distorting the spade connector which could prevent proper contact with the relay.

☐ Remove the “Pull” relay from the socket.
☐ Remove any oxidation from the contacts.
☐ With the multimeter set to Ohms (Ω), measure the resistance between pin 30 and pin 87a of the relay. The meter should beep or indicate that there is an electrical connection between the pins. A reading of “OL”, “NA”, or “1” indicates either a bad contact between the meter and the contact on the relay, or that the relay has failed.

The next step requires providing 12 V and ground to the relay.

☐ Apply 12 V and ground to pins 85 and 86, the relay should “click” (polarity does not matter for this test).
☐ With the multimeter set to Ohms (Ω), measure the resistance between pin 30 and pin 87. The meter should beep or indicate that there is an electrical connection between the pins. A reading of “OL”, “NA”, or “1” indicates either a bad contact between the meter and the contact on the relay, or that the relay has failed.
☐ Repeat the above steps with the “Hold” relay.

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Testing the "Pull" and "Hold" Relays Method 2

- ☐ Start the engine and allow it to warm up.
- ☐ Temporarily remove one of the relays from above the control box, and plug it in to the "Pull" relay receptacle.
- ☐ Enable one of the accessories (compressor, generator, or PTO) to see if the system goes to high idle.
  - If the system goes to high idle and operates normally, the "Pull" relay is faulty and must be replaced.
  - If the engine briefly elevates rpm but returns to idle, switch off the accessory and remove the "Hold" relay. Temporarily remove one of the relays from above the control box and plug it in to the "Hold" relay receptacle. Switch on the accessory again and observe the result.
  - If the engine elevates rpm to second speed and operates as normal, the Hold Relay is faulty. Replace it.
- ☐ Replace any relays "borrowed" from the control box relays as these are required for normal operation of the engine.

Testing the throttle solenoid and harness

- ☐ Inspect the harness running between the "Pull" and "Hold" relays and the throttle solenoid; check for broken/frayed wires and ensure the pins in the connectors are seated and making good contact.
- ☐ Test the throttle solenoid (Figure 3).
  - With the multimeter set to Ohms (Ω), the resistance between the green wire with yellow stripe and red wire should be 11.9 Ohms.
  - With the multimeter set to Ohms (Ω), the resistance between the green wire with yellow stripe and white wire should be 0.5 Ohms.

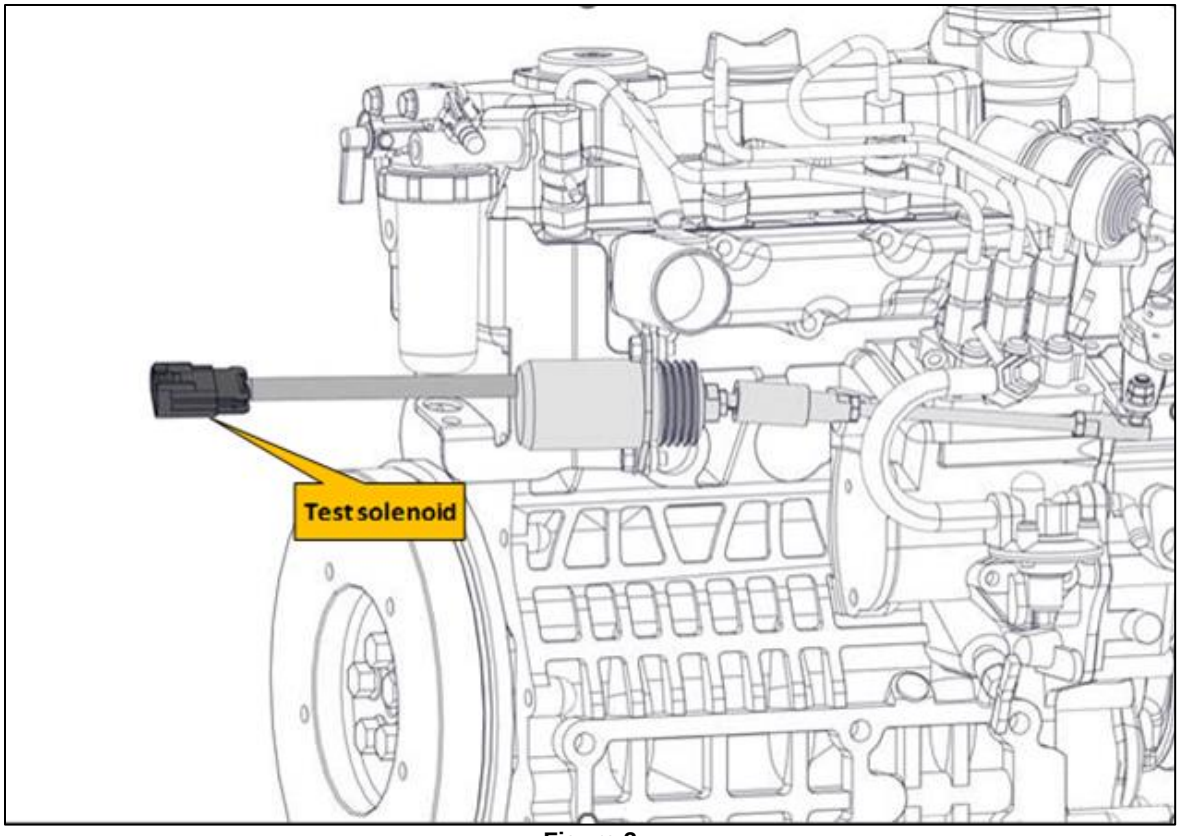

Figure 3

If you are still unable to determine the fault, contact VMAC Technical Support at 1-888-241-2289.

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