

Diagnostic Real-Time Codes (Z900M and Z900R Series)

NOTE: For further assistance with all Diagnostic Codes, refer to the Technical Manual and/or consult your John Deere dealer.

Electrical System “Interlock” Violations			
Real-Time Diagnostic Trouble Code Description	Diagnostic Code	Notes	Action Required to Remove Code:
Brake Not Locked	1 - 2	This code can occur under the following conditions: 1. When the engine is trying to be started without the brake pedal locked. NOTE: Machine will automatically shut down if the following occurs: 2. When the engine is running and operator gets out of seat without the brake locked.	• Verify the Park brake is locked.
PTO/Mow Engaged	1 - 3	NOTE: This will cause the PTO to be disabled. This code will occur only when getting out of the seat while operating the machine with the PTO engaged.	NOTE: For Safety, the PTO can not be engaged with the park brake locked or with the operator out of the seat. • Turn key switch to the OFF position.
Crank Time Exceeded (20 second limit)	2 - 4	This code will let the operator know the maximum cranking time of 20 seconds per crank has been exceeded.	• Return the key to the OFF or RUN
Starter Thermal Protect Mode, 60-second Cool-Down Needed	2 - 5	This code indicates that the module has started a 60- second cool-down period to prevent the starter from overheating.	• Turn the key switch to the OFF position and let the starter cool down for at least 60 seconds before making another attempt to start the engine.
Engine Oil Pressure Low, PTO Disabled	2 - 7	This code indicates that the internal engine oil pressure is low and to eliminate any extra load on the engine, the vehicle control unit will shut down the PTO circuit. For Z900R models, the PTO will be disabled and not engage if the key switch is in the RUN and/or START position for 10 seconds or longer and the engine has not been started. Turn the key switch to the OFF position and then to the START position and start the engine within 10 seconds to allow the PTO to engage.	• Turn key switch to the OFF position • Check oil level in the engine. • Check oil pressure sender on the engine. • Check the harness wires from the oil pressure sender to the vehicle control unit, insure good connections.

Electrical System 'Fault' Violations

NOTE: For All “Fault” codes it is important to first check battery, starter, and ground connections.

- Codes and instructions as follows.

Electrical System	Diagnostic Code	Notes	Action Required to Remove Code:
Diagnostic Trouble Code			
Description			
Over Voltage	3 - 1	This code indicates that the vehicle control unit has detected a voltage higher than normal in the electrical charging system.	Inspect the electrical harness for loose connections, specifically the battery positive and negative, starter, and frame ground (on engine block).
Low Voltage	3 - 2	This code will let the operator know that the battery is being depleted.	Check charging system connections.
Weak Battery OR Starter System Issue	3 - 3	This code indicates that the battery may have become too weak to turn the starter or that the vehicle control unit has detected an excessive current draw.	- Recharge the battery. - Check starter system connections and harness.
Starter or PTO Output Circuit is Shorted to Battery	3 - 4	This code indicates that the output circuit from the vehicle control unit for the start circuit or the PTO circuit is shorted to the battery.	Inspect electrical harness for pinched, chafed, or frayed wires.
PTO Output Over-Current	3 - 5	This code indicates that there is excessive current through the PTO circuit.	Inspect electrical harness for pinched, chafed, or frayed wires.
Output Fault Detected	3 - 7	This code indicates that the vehicle control unit has detected an electrical problem in the engine wiring harness and the vehicle control unit's internal resettable fuse has tripped to protect the system.	Inspect engine harness for pinched or chafed wires.
PTO Circuit Open	5 - 6	This code indicates that an open circuit exists between the PTO output from the module and the clutch coil ground.	- Turn key switch to the OFF position. - Inspect for a poor connection between switch contacts in the PTO switch, or an intermittent/open circuit in the harness connections between the module and the PTO clutch, or an open circuit in the PTO clutch coil winding.

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