GM 4000-D/4010-D DIAGNOSTIC FAULT CODE QUICK REFERENCE TABLE

TORO Count on it.

Fault Number	Fault Title	Controller Affected	Fault Description/ Technical Description	Additional Notes	Service Actions
1	Engine Coolant Temp PTO Kill	Master	This fault is reported when the engine coolant temperature has reached 105 °C.	PTO will be disabled.	1) Test the cooling fan function. 2) Inspect the airflow passages. 3) Check the coolant level.
2	Engine Coolant Temp Engine Kill	Master	This fault is reported when the engine coolant temperature has reached 115 ° C.	Engine will be disabled.	1) Test the cooling fan function. 2) Inspect the airflow passages. 3) Check the coolant level.
3	Fuse Failure	Master/Slave	This fault is reported when the fuse is blown on one of the output circuits on the master TEC.		1) Test the 7.5 amp fuse protecting outputs 1–4 on the master TEC. 2) Test the 7.5 amp fuse protecting outputs 5–8 on the master TEC. 3) Test the 7.5 amp fuse protecting outputs 9–12 on the master TEC. 4) Test the 7.5 amp fuse protecting outputs 1–4 on the slave TEC. 5) Test the 7.5 amp fuse protecting outputs 5–8 on the slave TEC. 6) Test the 7.5 amp fuse protecting outputs 9–12 on the slave TEC.
4	IPE Voltage Too Low	Master	This fault is reported when the inputs or outputs on the master TEC are not working correctly.	This is an internal circuit board fault inside the master TEC.	1) Replace the master TEC controller.
5	Main Power Relay Failure	Master/Slave	This fault is reported when the main power relay on the master TEC has failed.	This fault may also generate Fault 11.	1) Test all of the 7.5 amp fuses. 2) Test the function of the main power relay. 3) Ensure that the master TEC is getting 12 Vdc from the relay.
6	Key Start Timeout	Master	This fault is reported when the ignition key has been stuck or held in the “start” position for more than 30 seconds.	If the ignition key was held in the Start position for more than 30 seconds, returning key to the Run position will clear the fault.	1) Test the ignition key switch function.

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7	Software Incompatible	Master	This fault is reported when either the machine model number is not valid or the master TEC controller received a message from another master TEC controller on the bus circuit.		1) Reprogram the machine using Toro DIAG.
8	Charging Too High	Master and/or Slave	This fault is reported when the alternator is producing more than 16.3 volts.		1) Test the alternator output. 2) If voltage measurement is more than 16.3 volts, replace the alternator.
9	Charging Too Low	Master and/or Slave	This fault is reported when the alternator is producing less than 8.8 volts.		1) Test the alternator output. 2) If voltage measurement is less than 8.8 volts, replace the alternator.
10	Can Bus Timeout Engine	Master	This fault is reported when the master TEC has lost communication with the ECU for at least 10 seconds.		1) Check the CAN connection. 2) Verify power to engine controller. 3) Check resistance of CAN network.
11	Can Bus Timeout Slave	Master	This fault is reported when the master TEC has lost communication with the slave TEC for at least 1 second.		1) Check the CAN connection. 2) Verify power to slave controller. 3) Check resistance of CAN network.
12	Can Bus Timeout InfoCenter	Master	This fault is reported when the master TEC has lost communication with the InfoCenter for at least 3 seconds.		1) Check the CAN connection. 2) Verify power to InfoCenter. 3) Check resistance of CAN network.

Fault Number	Fault Title	Controller Affected	Fault Description/ Technical Description	Additional Notes	Service Actions
13	Key Switch Broken	Master	This fault is reported when the ignition Key Start input is active but the Key Run input is off.		1) Test the key switch function. 2) Check for any loose wires or connectors. 3) Check for corrosion at all connections.
15	Engine Throttle Switch Broken	Master	This fault is reported when the master TEC receives an Increase RPM and Decrease RPM request simultaneously.		1) Test the key switch function. 2) Check all connectors for loose wires or any corrosion.
16	Range High/Low Switch Broken	Master	This fault is reported when the master is receiving a Range High and a Range Low request simultaneously.		1) Test the range high/low switch function. 2) Check all connectors for loose wires or any corrosion.
18	Hydraulic Temp Sensor Out of Range	Master	This fault is reported when the hydraulic temperature sensor reading is not within normal range.	The analog temperature reading is either above or below the limits of the sensor.	1) Check for loose wire or connector. 2) Test the temperature sensor function.
21	Center Deck Switch Broken	Slave	This fault is reported when both the CTR Deck Raise and CTR Deck Lower inputs are active.		1) Test the center deck Raise/Lower switch function. 2) Check the harness/connector for a loose wire or corrosion
22	Left Deck Switch Broken	Slave	This fault is reported when both the LH Deck Raise and LH Deck Lower inputs are active.		1) Test the left deck Raise/Lower switch function. 2) Check the harness/connector for a loose wire or corrosion
23	Right Deck Switch Broken	Slave	This fault is reported when both the RH Deck Raise and RH Deck Lower inputs are active.		1) Test the right deck Raise/Lower switch function. 2) Check the harness/connector for a loose wire or corrosion
25	Cruise Control Switch Broken	Slave	This fault is reported when both the Cruise engage and Cruise Off inputs are active.		1) Test the cruise control switch function. 2) Check the harness/connector for a loose wire or corrosion

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26	Engine Start Out	Master	This fault is reported when current through the Engine Start output is too high.		1) Test the engine starter for proper resistance. 2) Test the engine start output circuit (master TEC pin 08) voltage. 3) Replace the master TEC.
28	Range High Out	Master	This fault is reported when current through Range High output is too high.		1) Test the component connected to the output for proper resistance. 2) Test the range high output circuit (master TEC pin 06) voltage. 3) Replace the master TEC.
29	Right Turn Warning Light Out	Master	This fault is reported when current through the Right Turn Warning Light is too high.		1) Test the component connected to the output for proper resistance. 2) Test the right turn warning light output circuit (master TEC pin 03) voltage. 3) Replace the master TEC.
30	Left Turn Warning Light Out	Master	This fault is reported when current through the Left Turn Warning Light is too high.		1) Test the component connected to the output for proper resistance. 2) Test the left turn warning light output circuit (master TEC pin 05) voltage. 3) Replace the master TEC.
31	Right Turn Brake Light Out	Master	This fault is reported when current through the Right Turn Brake Light is too high.		1) Test the component connected to the output for proper resistance. 2) Test the right turn/brake light output circuit (master TEC pin 04) voltage. 3) Replace the master TEC.
32	Left Turn Brake Light Out	Master	This fault is reported when current through the Left Turn Brake Light is too high.		1) Test the component connected to the output for proper resistance. 2) Test the left turn/brake light output circuit (master TEC pin 02) voltage. 3) Replace the master TEC.

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33	Hydro Forward Out	Master	This fault is reported when current through the traction Forward coil is too high.		1) Test the component connected to the output for proper resistance. 2) Test the hydrostat forward output circuit (master TEC pin 44) voltage. 3) Replace the master TEC.
34	Hydro Reverse Out	Master	This fault is reported when current through the Traction Reverse coil is too high.		1) Test the component connected to the output for proper resistance. 2) Test the hydrostat reverse output circuit (master TEC pin 46) voltage. 3) Replace the master TEC.
35	Fan Reverse Out	Master	This fault is reported when current through the Fan Reverse output is too high.		1) Test the component connected to the output for proper resistance. 2) Test the fan direction output circuit (master TEC pin 45) voltage. 3) Replace the master TEC.
36	Disable Dual Fan Out	Master	This fault is reported when current through the Disable Dual Fan output is too high.		1) Test the component connected to the output for proper resistance. 2) Test the disable dual fan output circuit (master TEC pin 43) voltage. 3) Replace the master TEC.
42	Left Raise S2 Out	Slave	This fault is reported when current through LH Deck Raise output is too high.		1) Test the component connected to the output for proper resistance. 2) Test the left deck raise output circuit (slave TEC pin 07) voltage. 3) Replace the slave TEC.
43	Left Lower S3 Out	Slave	This fault is reported when current through LH Deck Lower output is too high.		1) Test the component connected to the output for proper resistance. 2) Test the left deck lower output circuit (slave TEC pin 06) voltage. 3) Replace the slave TEC.

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45	Center Raise S5 Out	Slave	This fault is reported when current through CTR Deck Raise output is too high.		1) Test the component connected to the output for proper resistance. 2) Test the center deck raise output circuit (slave TEC pin 08) voltage. 3) Replace the slave TEC.
46	Center Float S6 Out	Slave	This fault is reported when current through CTR Deck Lower/Float output is too high.		1) Test the center deck float output circuit (slave TEC pin 10) voltage. 2) Test the component connected to the output for proper resistance. 3) Replace the slave TEC.
47	Right Raise S7 Out	Slave	This fault is reported when current through RH Deck Raise output is too high.		1) Test the component connected to the output for proper resistance. 2) Test the right deck raise output circuit (slave TEC pin 05) voltage. 3) Replace slave TEC.
48	Right Lower S8 Out	Slave	This fault is reported when current through RH Deck Lower output is too high.		1) Test the component connected to the output for proper resistance. 2) Test the right deck lower output circuit (slave TEC pin 04) voltage. 3) Replace slave TEC
63	POT Voltage Out of Range	Master	This fault is reported when the pedal potentiometer is reading a voltage outside the range it was designed to operate.		1) Test the traction pedal potentiometer function. 2) Inspect the harness wiring and connection points to both the potentiometer and the master TEC controller.
64	POT Analog Digital Conflict	Master	This fault is reported when the potentiometer's analog and digital signals conflict with one another.		1) Test the traction pedal potentiometer function. 2) Inspect the harness wiring and connection points to the potentiometer and the master TEC controller.

Fault Number	Fault Title	Controller Affected	Fault Description/ Technical Description	Additional Notes	Service Actions
65	POT Forward Reverse Digital Conflict	Master	This fault is reported when the master TEC receives both Neutral Forward and Neutral reverse inputs simultaneously.		1) Check the traction pedal potentiometer function. 2) Inspect the harness wiring and connection points to the potentiometer and the master TEC controller.
67	Traction Current Validation Failure	Master	This fault is reported when the master TEC measures an unexpected variance between the traction pedal position and the measured level of current to the traction coil.	An open or short in the circuit will generate this fault. This fault disables the traction pedal. The machine will come to a sudden stop when fault 67 reports.	1) Verify continuity in the traction circuit, including the coil, harness wiring, and controller. 2) Replace the master TEC controller.