

REELMASTER 5410, 5510, 5610 (Tier 4) DIAGNOSTIC FAULT CODE QUICK REFERENCE TABLE



Directions:

Perform the Service Actions in the order they are presented. Every Service Action has the potential to repair the fault completely. Test the machine after the completion of each Service Action to verify the active fault remains. If the fault is still active, perform the next Service Action step. Continue this process until the fault is no longer reported.

Fault Number	Fault Title	Controller Affected	Fault Condition/ Circuit Description	Additional Notes	Service Actions (Repair or replace any worn or damaged parts)
1	Engine Coolant Temperature High – CRM Stop	Master TEC	This fault is reported when the engine coolant temperature reaches or exceeds 220 °F (104.4 °C) for 10 seconds or longer.	The cutting units will be disabled when this fault is reported.	<ol style="list-style-type: none"> 1) Check the cooling system, including the cooling fan, the radiator airflow passages, and the coolant level. 2) Test the coolant temperature sender.
2	Engine Coolant Temperature High – Engine Shutdown	Master TEC	This fault is reported when the engine coolant temperature reaches or exceeds 240 °F (115 °C) for 10 seconds or longer.	The engine will be shut off to prevent damage when this fault is reported.	<ol style="list-style-type: none"> 1) Check the cooling system, including the cooling fan, the radiator airflow passages, and the coolant level. 2) Test the coolant temperature sender.
3	Fuse Failure	Master TEC	This fault is reported when a 7.5 amp fuse is blown on one of the TEC output circuits		<ol style="list-style-type: none"> 1) Test all 3 of the 7.5 amp TEC output circuit fuses
4	Input Pull-up Enable (IPE) Voltage Too High	Master TEC	This fault is reported when the inputs are not being properly powered within the TEC.	Use Toro DIAG to save the machine timers and counters file.	<ol style="list-style-type: none"> 1) Replace the TEC controller.
5	Main Power Relay Failure	Master TEC	This fault is reported when the TEC detects all 3 of the 12 Vdc battery voltage circuits are open.	If you replace the TEC, use Toro DIAG to save the machine timers and counters file.	<ol style="list-style-type: none"> 1) Check all 3 of the 7.5 amp fuses. 2) Test the main power relay. 3) Test the wiring harness. 4) Replace the TEC controller.

Fault Number	Fault Title	Controller Affected	Fault Condition/ Circuit Description	Additional Notes	Service Actions (Repair or replace any worn or damaged parts)
6	Key Start Timeout	Master TEC	This fault is reported when the ignition key switch is held in the START position for more than 30 seconds.		<ol style="list-style-type: none"> 1) Cycle the ignition switch. 2) Use the InfoCenter to test the ignition switch. 3) Test the ignition switch and circuit wiring manually.
7	Software Incompatible	Master TEC	This fault is reported when a problem exists with the software.		<ol style="list-style-type: none"> 1) Use Toro DIAG to update the software. 2) If the fault remains, contact Toro.
8	12 Vdc Charging System Voltage Too High	Master TEC	This fault is reported when the TEC detects that the 12 Vdc alternator is generating more than 16.3 Vdc.		<ol style="list-style-type: none"> 1) Test the alternator. 2) Test the wiring harness.
9	12 Vdc Charging System Voltage Too Low	Master TEC	This fault is reported when the TEC detects that the 12 Vdc charging system (alternator) is generating less than 8.8 Vdc.		<ol style="list-style-type: none"> 1) Check the alternator drive belt. 2) Test the alternator. 3) Test the wiring harness.
10	Can bus timeout - engine	Master TEC	This fault is reported when the TEC has lost communication with the engine control unit (ECU)		<ol style="list-style-type: none"> 1) Check the CAN connection. 2) Verify power to the ECU.
12	Can bus timeout - InfoCenter	Master TEC	This fault is reported when the TEC has lost communication with the InfoCenter		<ol style="list-style-type: none"> 1) Check the CAN connection. 2) Verify power to the InfoCenter.
13	Ignition key switch malfunction	Master TEC	This fault is reported when the TEC detects the key switch START input is active but the key switch RUN input is off.	The ignition key switch has 2 output pins. Only 1 should be active at any given time. The machine will not run if this fault exists.	<ol style="list-style-type: none"> 1) Use the InfoCenter to test the ignition key switch. 2) Test the ignition key switch manually. 3) Test the ignition key switch circuit wiring and connectors.

Fault Number	Fault Title	Controller Affected	Fault Condition/ Circuit Description	Additional Notes	Service Actions (Repair or replace any worn or damaged parts)
15	Engine Speed Switch Broken	Master TEC	This fault is reported when the TEC detects an engine speed increase signal and an engine speed decrease signal at the same time.	The engine speed (throttle) switch may be shorted internally, or the outputs of the switch may be shorted together. Engine rpm will not vary when this fault exists.	<ol style="list-style-type: none"> 1) Test the engine speed switch. 2) Test the engine speed switch wiring.
24	Joystick Broken	Master TEC	This fault is reported when the joystick switch is broken or shorted internally.	The rear switch under the joystick is used to lower (and engage) the cutting units. The front switch is used to raise (and disengage) them.	<ol style="list-style-type: none"> 1) Test the joystick switches. 2) Test the joystick circuit wiring.
26	Engine Start Output Signal Current is Too High	Master TEC	This fault is reported when the current from the TEC (that is used to energize the starter relay coil) is higher than 5 amps.	<ul style="list-style-type: none"> • If the fusible link connected to the starter motor is faulty, all electrical power to the machine (including the InfoCenter) is shut off. • If you replace the TEC, use Toro DIAG to save the machine timers and counters file. 	<ol style="list-style-type: none"> 1) Use the InfoCenter to test the engine start output signal. 2) Test the start relay. 3) Test the engine start output signal wiring at OUT 1. 4) Replace the TEC controller.
27	Engine Run Output Circuit Fault to Fuel Actuator	Master TEC	This fault is reported when the engine run output circuit from the TEC is supplying more than 5 amps to the fuel actuator.	<ul style="list-style-type: none"> • If a problem occurs with the fuel actuator, the engine mechanical governor will control engine speed above high idle (3,150 rpm). • If you replace the TEC, use Toro DIAG to save the machine timers and counters file. 	<ol style="list-style-type: none"> 1) Test the fuel actuator. 2) Test the wiring for the fuel actuator and the fuel pump. 3) Test the engine start output signal wiring at OUT 2. 4) Replace the TEC controller.
37	TEC Output Current to Glow Plug Relay is Excessive	Master TEC	This fault is reported when the TEC output current to energize the glow plug relay exceeds 5 amps.	If you replace the TEC, use Toro DIAG to save the machine timers and counters file.	<ol style="list-style-type: none"> 1) Test the glow relay. 2) Test the glow relay wiring harness at OUT 3. 3) Replace the TEC controller.

Fault Number	Fault Title	Controller Affected	Fault Condition/ Circuit Description	Additional Notes	Service Actions (Repair or replace any worn or damaged parts)
53	SV1 Out	Master TEC	This fault is reported when the output current exceeds 5 amps from the TEC to the SV1 hydraulic lift/lower solenoid.	If you replace the TEC, use Toro DIAG to save the machine timers and counters file.	<ol style="list-style-type: none"> 1) Measure the resistance of the SV1 coil. 2) Test the wiring harness for SV1 at OUT 11. 3) Replace the TEC controller.
54	SV2 Out	Master TEC	This fault is reported when the output current exceeds 5 amps from the TEC to the SV2 hydraulic lift/lower solenoid.	If you replace the TEC, use Toro DIAG to save the machine timers and counters file.	<ol style="list-style-type: none"> 1) Measure the resistance of the SV2 coil. 2) Test the wiring harness for SV2 at OUT 12. 3) Replace the TEC controller.
55	SV3 Out	Master TEC	This fault is reported when the output current exceeds 5 amps from the TEC to the SV3 hydraulic lift/lower solenoid.	If you replace the TEC, use Toro DIAG to save the machine timers and counters file.	<ol style="list-style-type: none"> 1) Measure the resistance of the SV3 coil. 2) Test the wiring harness for SV3 at OUT 13. 3) Replace the TEC controller.
56	SVRV Out	Master TEC	This fault is reported when the output current exceeds 5 amps from the TEC to the SVRV (SV4) hydraulic lift/lower solenoid.	If you replace the TEC, use Toro DIAG to save the machine timers and counters file.	<ol style="list-style-type: none"> 1) Measure the resistance of the SVRV coil. 2) Test the wiring harness for SVRV at OUT 14. 3) Replace the TEC controller.
57	MSV1 Out	Master TEC	This fault is reported when the output current exceeds 5 amps from the TEC to the MSV1 hydraulic solenoid.		<ol style="list-style-type: none"> 1) Measure the resistance of the MSV1 coil. 2) Test the wiring harness for MSV1 at OUT 5. 3) Replace the TEC controller.
58	MSV2 Out	Master TEC	This fault is reported when the output current exceeds 5 amps from the TEC to the MSV2 hydraulic solenoid.	If you replace the TEC, use Toro DIAG to save the machine timers and counters file.	<ol style="list-style-type: none"> 1) Measure the resistance of the MSV2 coil. 2) Test the wiring harness for MSV2 at OUT 6. 3) Replace the TEC controller.