



Celebrating the legacy of
the Feather River Route



Locomotive Troubleshooting



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Introduction

This section covers operational problems that may occur on the road and suggests action that may be taken by the operator in response to the trouble.

Safety devices automatically protect equipment in case of faulty operation of almost any component. In general this protection is obtained by one of the following methods:

1. Complete shutdown of the diesel engine.
2. Unloading of the diesel engine.
3. Unloading of the diesel engine and restriction to idle engine speed.



Condition/Probable Cause/Action - 1

Hot engine light and alarm	Temporary Operating Condition	Check cooling water level. Check that shutters are open and fan is operating.
Hot engine light and alarm followed by low oil light and engine shutdown	Low water Level	Check cooling water level, and check low water detector and governor low oil trip plunger for trip indications. If cooling water level is low, check for leaks. Add water as required. Reset the governor low oil pressure trip plunger and the low water reset button.



Condition/Probable Cause/Action - 2

Low oil light and alarm. Engine shut down.	Low oil pressure.	Check the governor low oil trip plunger and engine oil level. If oil level is satisfactory and no other reason for low oil trip is apparent (engine is not overheated, and the crankcase pressure and low water trip buttons are set) restart the engine. If low oil shutdown occurs again, do not restart the engine.
	Low water pressure.	Check low water detector reset button. If necessary add water to system and restart engine.
	Crankcase (oil pan) over-Pressure	Check crankcase pressure detector reset button. If button protrudes, put locomotive out of service.
Ground Relay Light and Alarm	Ground Relay Action	Wait at least ten seconds, reset ground relay. If two more ground relay actions occur, put locomotive out of service.



Condition/Probable Cause/Action - 3

<p>Engine does not respond to throttle.</p>	<p>Tripped circuit breaker; Control switches improperly positioned.</p>	<p>Check the control circuit breaker and the engine run switch. Verify control switches properly set. Check electrical cable at engine governor.</p>
<p>Engine responds to throttle, but no power is developed.</p>	<p>Blown fuse. Control Breaker tripped. Generator field switch off. Run/start isolation switch in start.</p>	<p>Check fuses. Reset breaker. Turn on generator field switch. Place in run position.</p>



Condition/Probable Cause/Action - 4

PCS (Pneumatic Control Switch) light on	Penalty Brake Application	Move throttle to IDLE. Move brake valve handle to handle-off position, and then to release position.
	Emergency Brake Application	Move throttle to IDLE position. Move brake handle to emergency position and wait two minutes before moving handle to release position.



QRR 1100

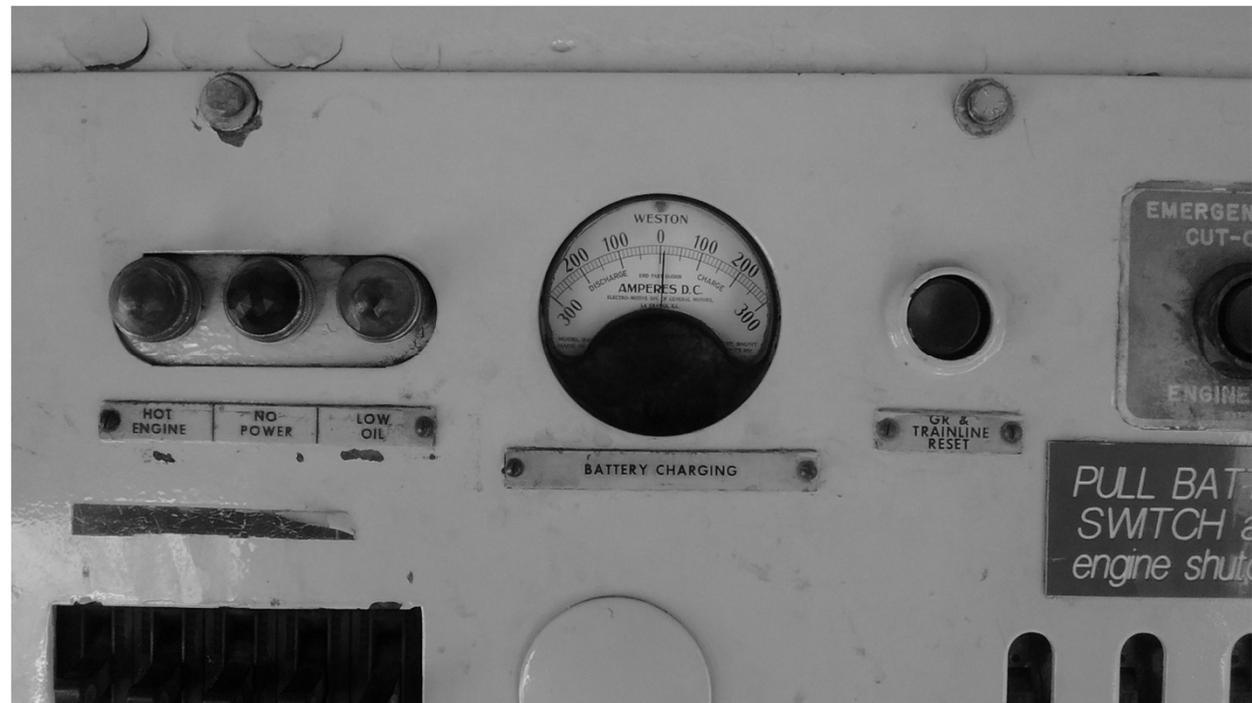
1100 just has the Low Oil light with the alarm bell on the outside of the cabinet. Ground Relay trips sometimes, won't trigger the bell, so if it doesn't load, that's the first check.

Relay is just to left of cabinet center.



SP 2873

Also has a Ground Relay (GR) reset on cab wall.



USA 1857

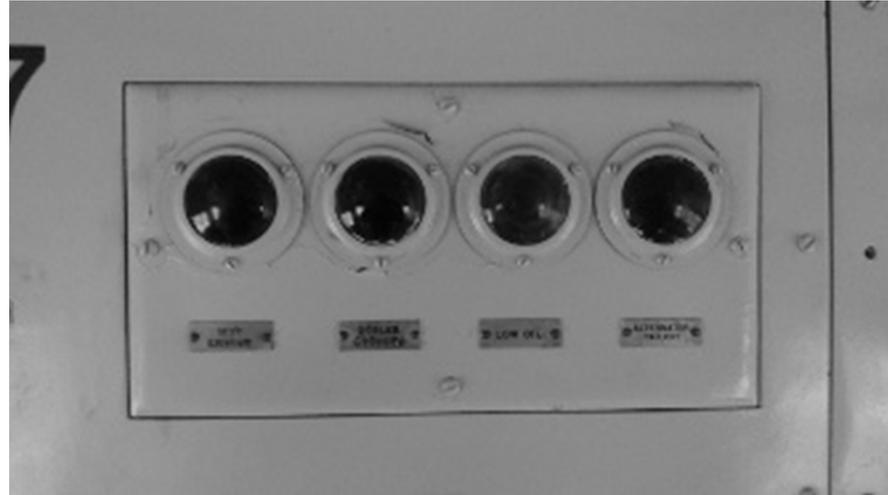
1857's is on the control stand tucked up against the wall, and a little different being an FM. It has a light for the Ground Relay, and the Blower Failure.

Ground Relay reset is TBD



WP 707

- Hot Engine, Boiler Stopped, Low Oil, Alternator Failure lights
- Ground relay reset through doors under lights



Hot Engine, Boiler Stopped, Low Oil, Alternator Failure

WP 917

- Fireman side of cab, Engine Room on the electrical cabinet
- Ground relay reset through doors under lights



Hot Engine, Boiler Stopped, Low Oil, Alternator Failure



WP 1503

All the failure indicator lights, GR Reset, Stop are all on one panel at the front of the cab.



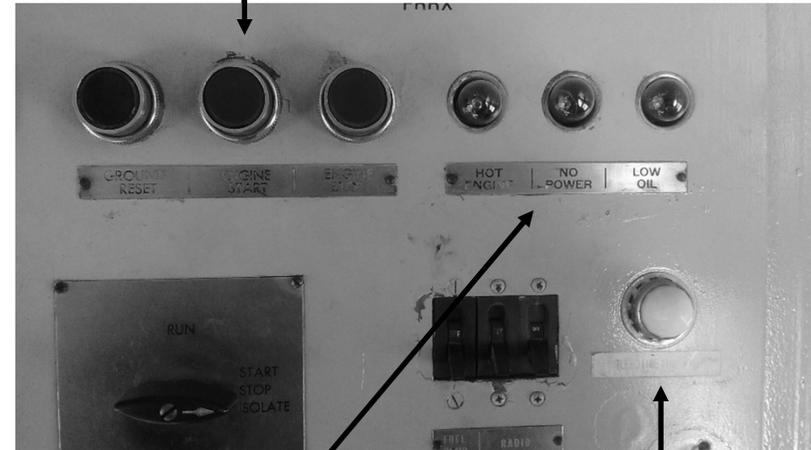
WP 2001

Non colored bulbs.

Ground Relay Reset is on cab wall.

The turbo light is not a failure, it just indicates that the pump is running, usually just for startup and after shut down; will not trigger alarm bell.

Ground Reset, Engine Start, Engine Stop



Hot Engine, No Power, Low Oil

Turbo Light

Revision History

2018-03-23 Paul Finnegan – new. Photos by Ethan Doty.

2023-01-30 Paul Finnegan – added photo of WP 1503 control panel

