

Voltage Regulator Failures - 1992 135 thru 200

1992 Mariner and Mercury

135 thru 200

S/N 0D082000 thru 0D177499*

40 AMP Dual Voltage Regulator System

* Ending serial number is estimated.

Failed voltage regulator p/n 815279T on the models listed have been traced to a diode solder joint that has cracked. Although this same voltage regulator is used on the 75 thru 115 models, we are not experiencing failures on these models.

SYMPTOM:

Either upper or lower voltage regulator failure will cause the charging output to be 1/2 the output throughout the RPM range. If both regulators fail, there will be no charging output.

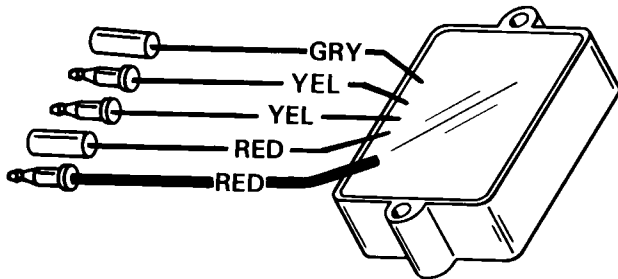


Figure 1. Voltage Regulator P/N 815279T.

A cold voltage regulator will often test good and operate correctly for a short period of time (20 minutes). After warming during normal operation, they cease to function.

An ohms test, preferably when the regulator is warmed, is an accurate test.

OHMS TEST - all leads disconnected from regulator.

NOTE: Due to differences in the manufacturing of ohmmeters, the internal battery polarity may vary from manufacturer to manufacturer. As a result, the test readings may be a direct reversal of the readings listed. If so, reverse meter leads and repeat test.

Diode Test:

R X 10 scale.

Red (+) meter lead to large RED regulator lead.

Black (-) meter lead to one YELLOW regulator lead.

100 - 400 OHMs.

Change black (-) meter lead to the other YELLOW regulator lead.

100 - 400 OHMs.

Diode Test:

R X 1K scale.

Black (-) meter lead to large RED regulator lead.

Red (+) meter lead to one YELLOW regulator lead. Test. Then change Red (+) meter lead to other YELLOW regulator lead.

One reading

40,000 to ∞ OHMs (40K - ∞)

Other reading

∞ OHMs (no needle movement)

SCR Test:

R X 1K scale

Red (+) meter lead to regulator case.

Black (-) meter lead to one YELLOW regulator lead.

10,000 to ∞ OHMs (10K - ∞)

Change black (-) meter lead to other YELLOW regulator lead.

10,000 to ∞ OHMs (10K - ∞)

Tachometer Circuit Test:

R X 1K Scale

Red (+) meter lead to GRAY regulator lead.

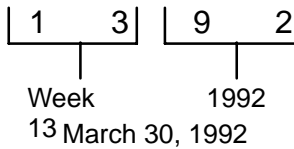
Black (-) meter lead to regulator case.

10,000 - 30,000 OHMs (10K - 30K)

IMPROVED VOLTAGE REGULATOR:

Voltage regulator produced beginning week 13 of 1992 have an improved solder joint.

Code printed on the voltage regulator case:



REPAIR:

Replace defective voltage regulator(s) and check ground wire for tightness and continuity.

Check for:

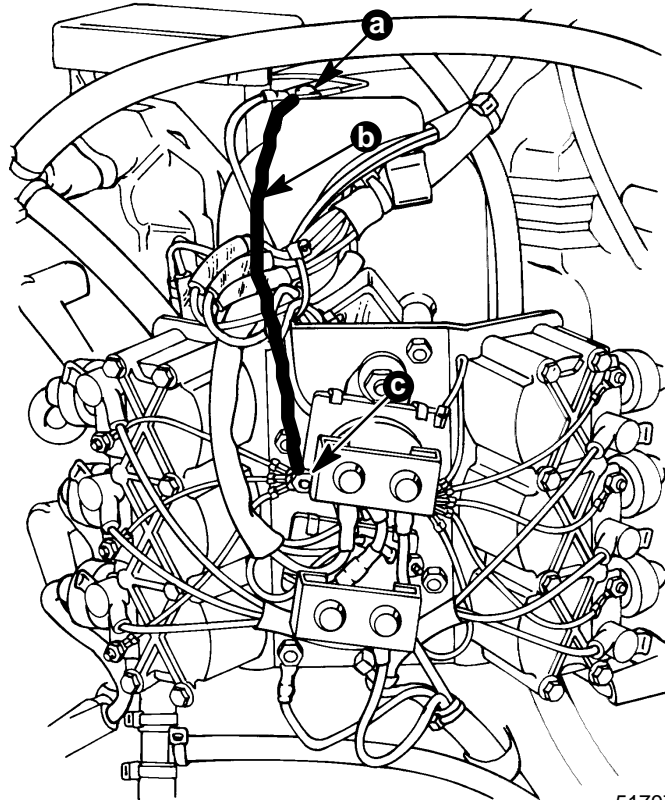
-loose components - especially the ignition coil plate which holds/grounds the voltage regulators to the block.

-poor ground wire connections. Remove paint, clean and tighten wire connections, especially the fasteners with many ground wires attached.

Install:

-stainless steel split lock washer p/n 13-26996 on wire connections to ensure a good contact.

-a separate ground wire from the coil mounting plate to the cylinder block for a positive ground. The wire must be 14 ga. 8 inches (203 mm) long with #10 (3/16 inch/5 mm I.D.) ring terminals on each end.



51797

- a - Cylinder Block Ground
- b - New Ground Wire
- c - Mounting Plate Ground

Figure 2. Install Ground Wire

WARRANTY:

Complete warranty claim listing:

Qty. 1 p/n 815279T voltageregulator.

One half (0.5) hour labor

Warranty labor rate code OE30

Failure code 330 32

US and Canada - Return part with claim.

International - Hold parts for inspection/disposal by a Marine Power International technical representative.