

NUMBER: 83-8

A. Troubleshooting the Charging System - MCM/MIE 470, MCM 485/488

CIRCULATE TO:  
SERVICE MANAGER   
PARTS MANAGER   
MECHANICS   
"Place in a Service  
Bulletin Binder"

## A. TROUBLESHOOTING THE CHARGING SYSTEM - MCM/MIE 470, MCM 485/488

### ▲WARNING

When performing the following procedure, be sure to observe the following:

Be sure that engine compartment is well ventilated and that no gasoline vapors are present, to avoid the possibility of a fire.

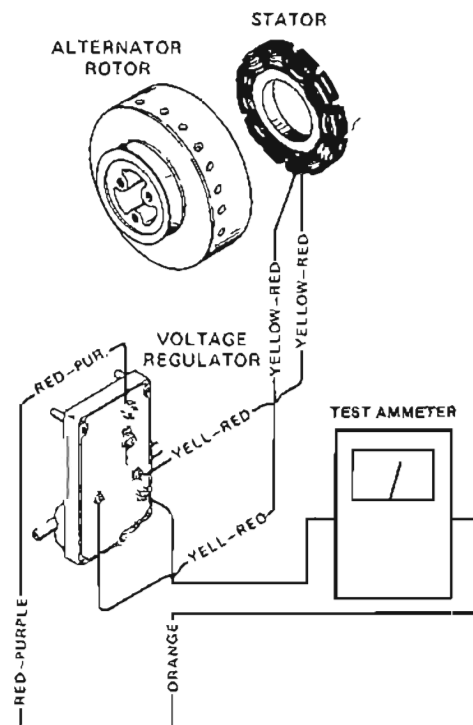
Before connecting or disconnecting any electrical connection, battery cables **MUST BE REMOVED** from battery to prevent possible personal injury or damage to equipment.

- The charging system may be connected to one or more batteries during these tests, however, these batteries must not be connected to any other charging source.
- Check that all connections are tight prior to starting tests. Insure that the battery posts and terminals are clean and making good contact. Verify with test equipment that wiring harnesses are not at fault.
- Examine the pins and sockets of the engine harness connector for burned, loose or dirty connections. Using a knife blade, spread the slot (in the male pins of this connector) slightly to insure good contact.
- Make sure alternator rotor is magnetized.

- Temporarily install ammeter in series with the orange output lead from the regulator. This meter is required only for these tests, following:

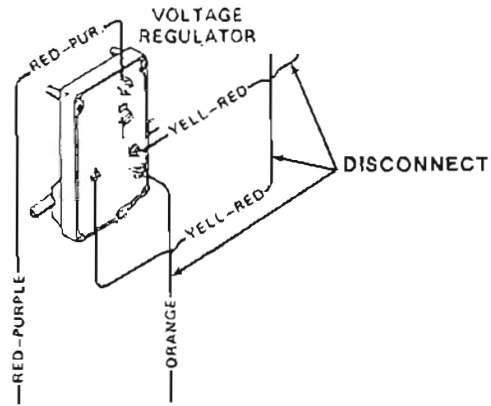
#### CONSTANT HIGH OUTPUT

1. Remove one yellow-red wire from its regulator terminal and tape back temporarily. Run engine at 1000 RPM. Any output current indicates a stator short to ground.
2. Reconnect the yellow-red lead and repeat test with the other yellow-red lead.
3. If there is no output with either yellow-red lead in the above test, the regulator is bad.

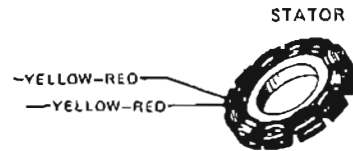


## NO OUTPUT

1. Remove the 2 yellow and the orange leads from the regulator.
2. Check the resistance between the regulator case and either yellow/red stud. A near zero reading from either stud to the case - replace regulator.

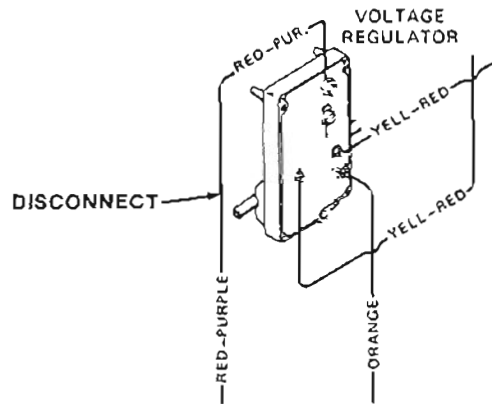


3. Check the resistance between the yellow/red leads. Resistance greater than 1 ohm - replace the stator.



If Steps 2 and 3 tests show both parts to be good, proceed.

4. With all leads on the regulator, except the sense lead, run the engine at 1000 RPM and observe ammeter. Any charging current indicates a low voltage set point - replace regulator.



If there isn't any output, proceed;

5. With all leads reconnected, use a jumper lead (with "alligator clips" at both ends). Clip one end of jumper lead to ground and the other end of the lead to one yellow-red terminal (on regulator). Run the engine at 1000 RPM and observe ammeter. Repeat this same test with the other yellow-red terminal. Both of these tests should indicate an output of at least 10 amps. If output is less - replace regulator.

