OPERATION

KOHLER

Relay Controller Operation

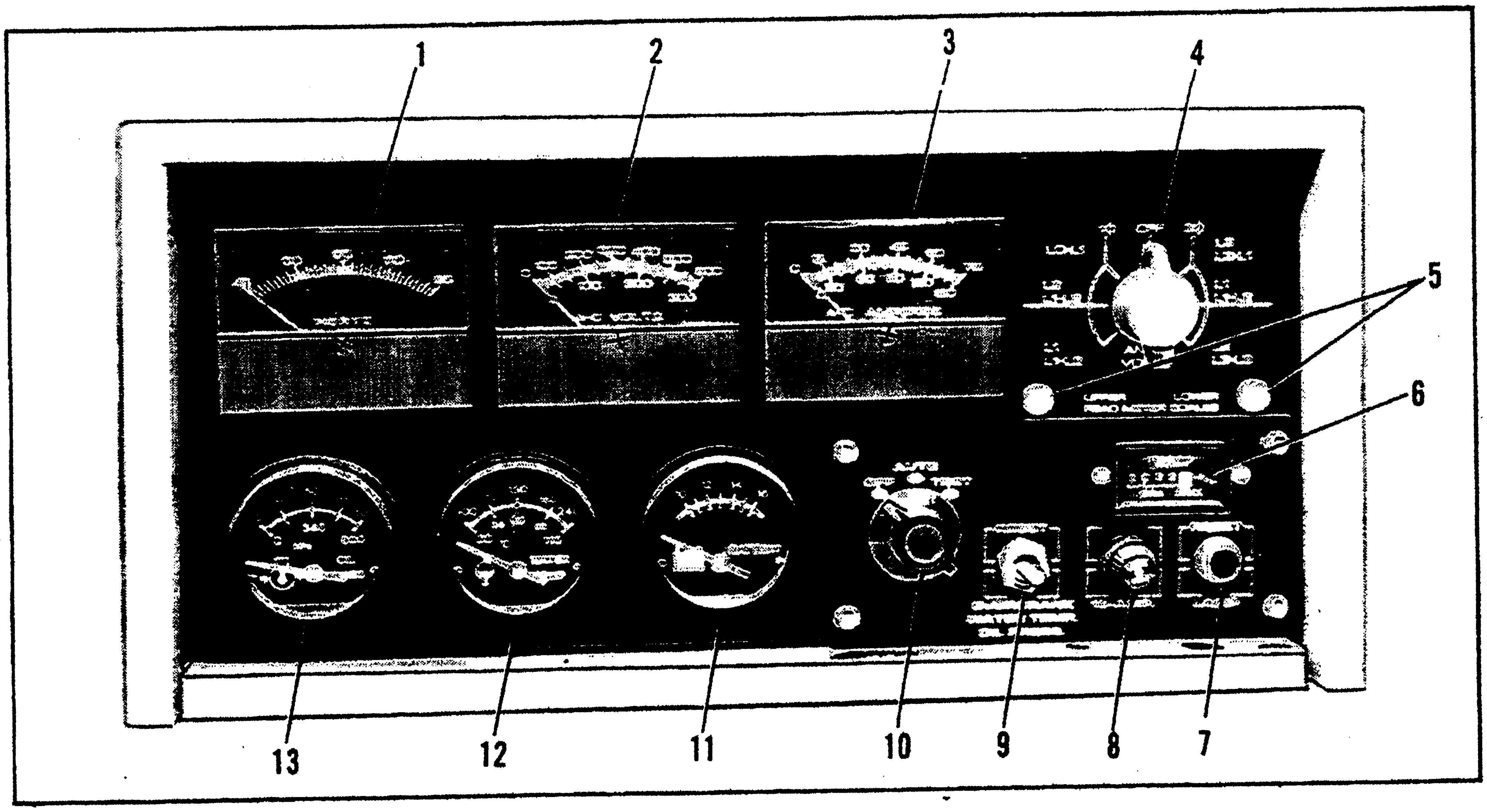

Figure 2-1. Relay Controller - Meter Equipped

For identification of components on each of these controllers, See Figure 2-1; for an explanation of their function refer to the following paragraphs.

1. **Frequency Meter** - measures frequency (Hz) of generator output voltage.
2. **AC Voltmeter** - measures voltage across output leads indicated by selector switch.
3. **AC Ammeter** - measures amperage from output leads indicated by selector switch.
4. **Selector Switch (Voltmeter-Ammeter)** - selects generator output circuits to be measured. If switched to a point with three circuit lead labels, voltage is measured between the lower two leads and amperage on the upper lead. With switch in OFF position, AC voltmeter and ammeter will not register.
5. **Scale Lamps (upper and lower)** - indicate voltmeter and/or ammeter scales to be read.
6. **Hourmeter** - records total generator set operating hours for reference in maintenance scheduling.
7. **Reset Lamp** - lights to indicate that the engine protection circuit has stopped the engine due to:
   - *Overcrank*, if engine fails to start in 30 to 60 *seconds.*
   - *Low coolant level (if equipped)*, if engine stops due to low coolant level in radiator.
   - *Oil Pressure*, if engine loses oil pressure.

   See "Resetting" following.
8. **Fuse**—protects DC controller and engine circuits.
9. **Reset Switch**—see "Resetting" following.
10. **Generator Master Switch**—refer to "Testing, Starting and Stopping" following.
11. **DC Voltmeter**—measures voltage of starting battery(ies)/charging system.
12. **Water Temperature**—measures engine coolant temperature.
13. **Oil Pressure**—measures engine oil pressure.

Testing

To test run the generator set at the controller, move the Generator Master Switch to the TEST position.

Starting

Move Generator Master Switch to AUTO position to allow start-up by automatic transfer switch or remote start-stop switch. If set is not connected to an automatic transfer or remote start-stop switch, move the Generator Master Switch to the TEST position for normal start-up.

Stopping

1. Run the generator set at no load for 5 minutes to allow engine cool down.

NOTE

Run the generator at no load for 5 minutes prior to stopping to insure adequate cooling of the set.

2. Move Generator Master Switch or remote start-stop switch to OFF position.

Fault Shut-downs

The generator set will shut down automatically, and RESET lamp will light if one of the malfunctions below occurs.

OVERCRANK: Shutdown occurs if engine does not start after 30-60 seconds of cranking.

HIGH TEMPERATURE: Shutdown occurs 5 seconds after fault.

LOW COOLANT LEVEL (if equipped): Shutdown occurs 5 seconds after fault.

LOW OIL PRESSURE: Shutdown occurs 5 seconds after fault; 5.5 to 10.5 psi (38 to 72 kPa) on diesel models, 11.5 to 18.5 psi (79 to 126 kPa) on gasoline models.

CAUTION

High temperature and low oil pressure shut-down will not function due to low oil or coolant level only! Check for proper oil and coolant levels at engine.

Resetting

NOTE

The reset switch (1TS) is a free-floating toggle.

1. Move Generator Master Switch to OFF position and push reset switch up.
2. Disconnect generator set from load with line circuit breaker or automatic transfer switch.
3. Refer to "Troubleshooting" following; determine cause of fault shutdown.
4. Make necessary repairs to correct problem. Follow "Safety Precautions."
5. Move Generator Master Switch to necessary position (AUTO or TEST) for start-up.
6. Reclose line circuit breaker.

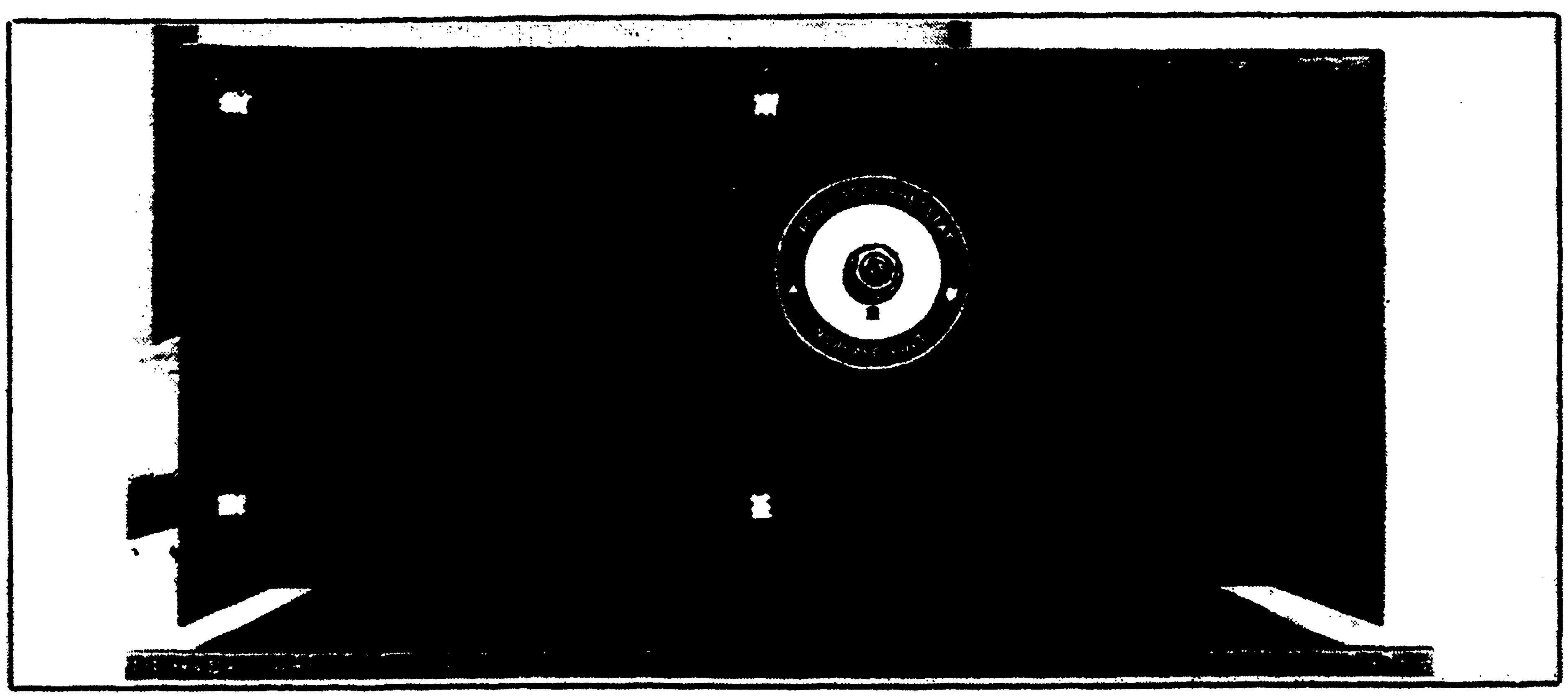

Figure 2-2. Voltage Adjustment

Voltage Adjustment

Use the rheostat mounted on back of controller to adjust generator output voltage (Figure 2-2).