

## **Motor Operated Potentiometer**

**Installation and Operation Manual**

# Motor Operated Potentiometer

**Introduction**—The motor operated potentiometer can be used to adjust the speed setting of an EG governor. A three-position switch controls the direction of motor rotation. This switch is not a part of the motor operated potentiometer and is not supplied by Woodward.

Some speed-setting potentiometers include limit switches and reset switches. This manual describes the type that does *not* have limit switches or reset switches.

**Operation**—When power is applied to the 115 volt ac motor (see Figure 1) at terminals 5 and 6, the potentiometer rotates in the increase-speed direction. Power applied to the motor at terminals 4 and 6 rotates the potentiometer in the decrease-speed direction. A friction clutch assembly protects the motor in the event the potentiometer wiper arm should bind for any reason.

Two diodes are provided to brake the motor the instant power is turned off, by converting the ac voltage to a dc voltage. The diodes should be used where drifting would be a problem, and require wiring from the switch block to terminals 7 and 8.

**Installation**—Connect the motor operated potentiometer in accordance with the wiring diagram furnished.

Check the diodes with an ohmmeter at the time of installation. The reading (positive to anode) should be of a low value of resistance. Reversing the ohmmeter wiring (negative to anode) should produce a reading close to infinity. A defective diode will show either a wide variation from these readings or a low reading both ways or a high reading both ways.

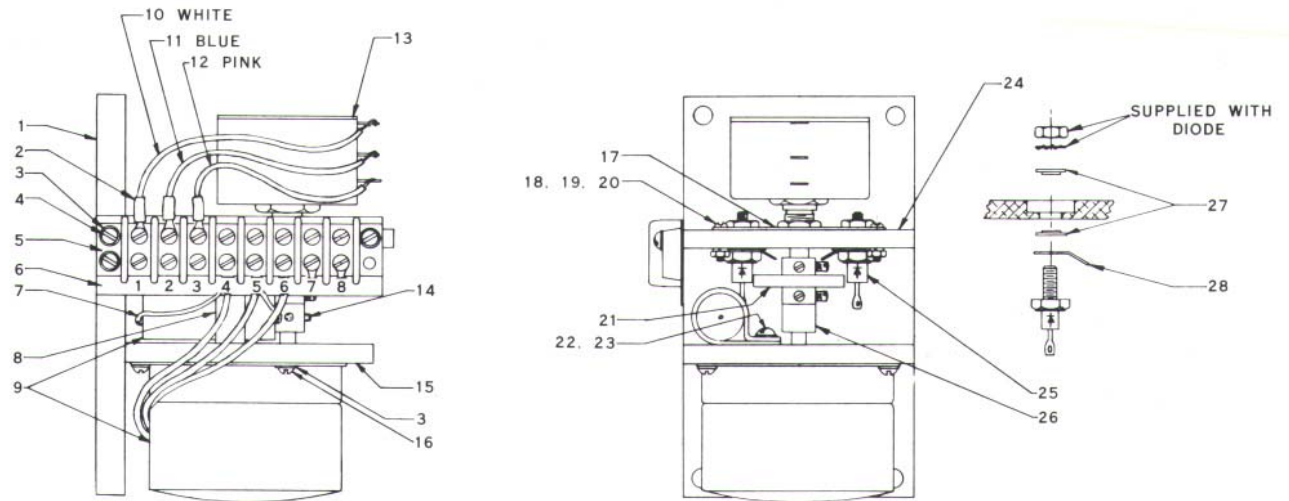
**Parts List and Replacement Information**—When requesting information concerning governor operation, or when ordering repair parts, supply the following information:

- Motor operated potentiometer designation number (shown on nameplate); needed since the manual reference numbers do not identify the exact number required for any one motor operated potentiometer.
- Manual number (this is manual 37717).
- Part reference number, name of part, or description of part.

Part Number	Part Name.....	Number Required	Part Number	Part Name .....	Number Required
37717-1	Motor Operated Potentiometer Base ..	1	37717-15	Motor Mounting Plate .....	1
37717-2	Amp. Wire Terminal.....	10	37717-16	Screw (#6.32 x .312 Rd. Hd.) .....	3
37717-3	Shakeproof Washer (#6).....	6	37717-17	Nameplate.....	1
37717-4	Screw (#6-32 x .500 Rd. Hd.) .....	3	37717-18	Screw (#4-40 x .500).....	2
37717-5	8 Terminal Block.....	1	37717-19	Washer (#4 Split Lock) .....	2
37717-6	Marker Strip.....	1	37717-20	Hex Nut (#4-40).....	2
37717-7	Plastic Tube.....	1	37717-21	Flexible Coupling.....	1
37717-8	Clamp (.750 Plastic) .....	1	37717-22	Screw (#10-32 x .375 Rd. Hd.).....	1
37717-9	Synchronous Motor .....	1	37717-23	Shakeproof Washer (#10) .....	1
37717-10	#20 White Nylon Wire .....	1	37717-24	Potentiometer Mounting Plate.....	1
37717-11	#20 Blue Nylon Wire .....	1	37717-25	Diode.....	3
37717-12	#20 Pink Nylon Wire .....	1	37717-26	Coupling.....	1
37717-13	Potentiometer (200 $\Omega$ 3 W 3T).....	1	37717-27	Washer (#10 Nylon Step).....	4
37717-14	Screw (#5-40 x .188 Socket Set) .....	1	37717-28	Solder Terminal.....	4

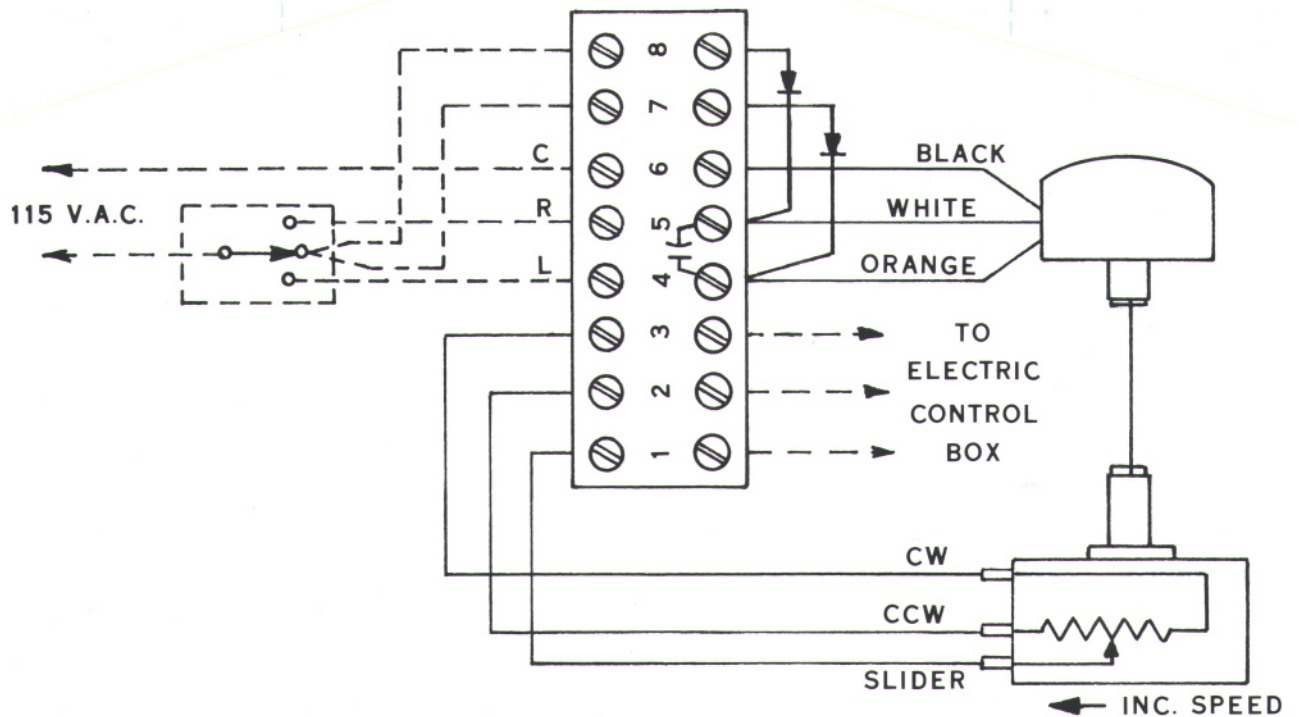
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When power is applied to terminals 4 and 6, the potentiometer should rotate in a clockwise direction—viewed from the shaft end of the potentiometer.

Figure 1. Motor Operated Potentiometer Components



When power is applied to motor at terminals 5 and 6, the potentiometer should rotate in the direction to increase speed.

Figure 2. Wiring Diagram

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