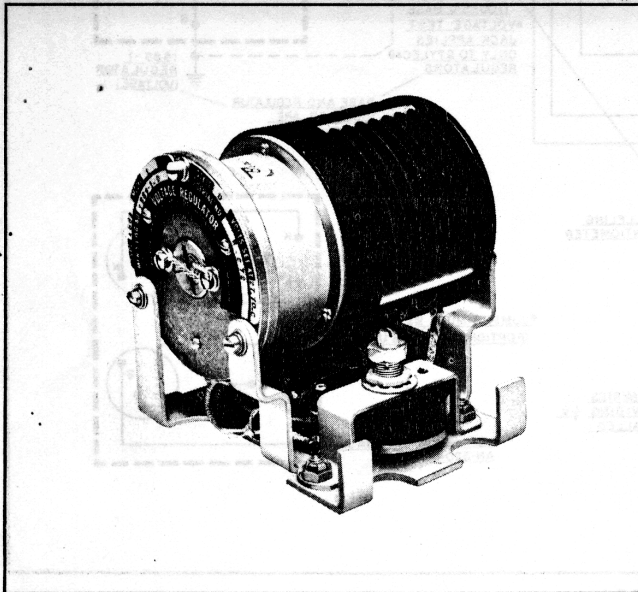


D-C VOLTAGE REGULATOR

RATING

Nominal Voltage Setting: 27.7 Volts, DC
Regulating Resistance Range: 3.5 to 35.0 Ohms
Carbon Pile Dissipation (Max.): 90 Watts



DESCRIPTION

Bendix Red Bank DC Voltage Regulator Type 1589-1 is designed to comply with Drawing E-1597-1 (early issue refers to Specification 17R21—latest issue refers to Specification MIL-R-6809). It is designed for use in aircraft DC electrical systems to maintain a constant generator output voltage and provide equal load distribution in a parallel generator system.

The unit consists essentially of a carbon pile regulator, resistor, and rheostat assembly to which all electrical connections are completed when plugged into one of the mounting bases listed below. (External leads are connected to the mounting base.)

Type 1589-1 Voltage Regulator is recommended for use with Bendix Red Bank DC Generators, Types 901, 1193, 1381, 30E01, 30E02, 30E07, and 30E10. It can also be used with equivalent generators produced by other manufacturers.

The wide acceptance accorded this regulator is attributable to its superior performance and great reliability under even the most severe operating conditions encountered in normal service.

SPECIFICATIONS

PERFORMANCE:

Regulated D-C Voltage:
Setting Range.....26 to 30 Volts
Factory Setting.....27.7 Volts
Regulation: (At factory setting)
At 25°C. (77°F.).....27 Volts ±3%
From -55°C. (-67°F.)
to +71°C. (+160°F.).....27 Volts ±5%

CARBON PILE:

*Operating Resistance Range.....3.5 to 35 Ohms
Power Dissipation (max.).....90 Watts
Under all ambient conditions in free air, the maximum power dissipation in the carbon pile is 90 watts. Maximum wattage is equal to one half of the regulated voltage

*When tested in the manner outlined in MIL-I-6809, the resistance range is from 1.25 to 35 ohms.

(V_R) squared, divided by the resistance of the generator shunt field (R_F).

$$\text{Max. wattage} = \frac{\left(\frac{V_R}{2}\right)^2}{R_F}$$

Parallel operation.....Will divide the system load current among the generators in proportion to their ratings (within ±10%) over the normal load range.

WEIGHT: 2.6 lbs. (approx.)

MOUNTING:

Type 1589-1 Voltage Regulator is designed to plug into Bendix Red Bank Mounting Bases, Types 1700 and 19E04; also, AN3204. Recommended mounting is with the carbon pile axis horizontal, and perpendicular to the direction of maximum base vibration.

DESIGN FEATURES

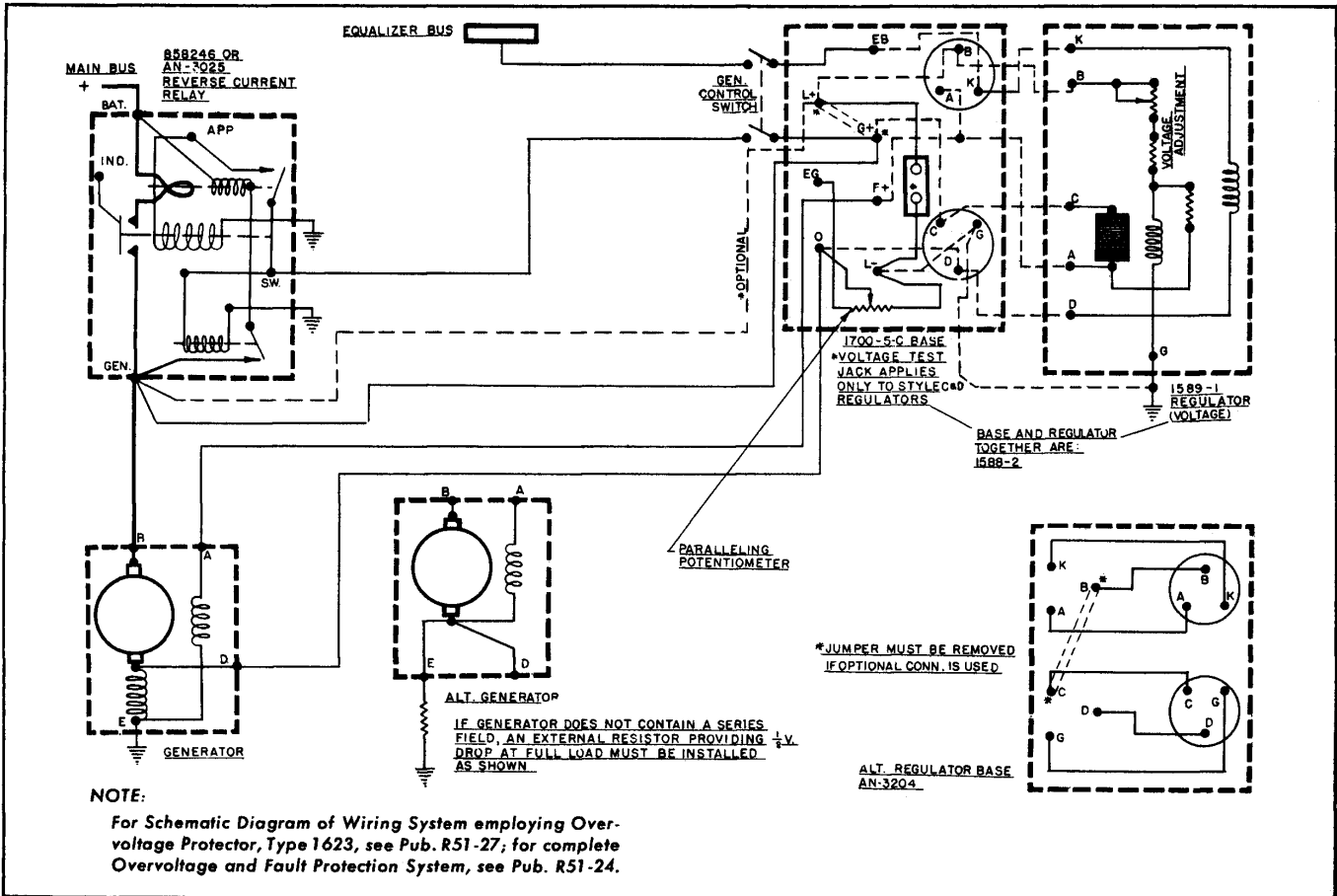
- The regulator assembly plugs into a shock mounted base and is secured to it by a simple spring clip device.
- No tools are required to attach or remove the regulator assembly, thus facilitating routine servicing.
- All external electrical connections are made to the regulator base.
- An easily accessible potentiometer of advanced design is provided for adjustment of the voltage setting and parallel operation in a multi-generator system.
- Smooth increase and decrease of carbon pile resistance assures steady and closely regulated voltage.
- No high voltage or instability throughout the service life of the regulator.
- An adjustable armature readily permits more precise adjustment of the regulator. Removable contact plug cuts down overhaul time.

Bendix RED BANK DIVISION
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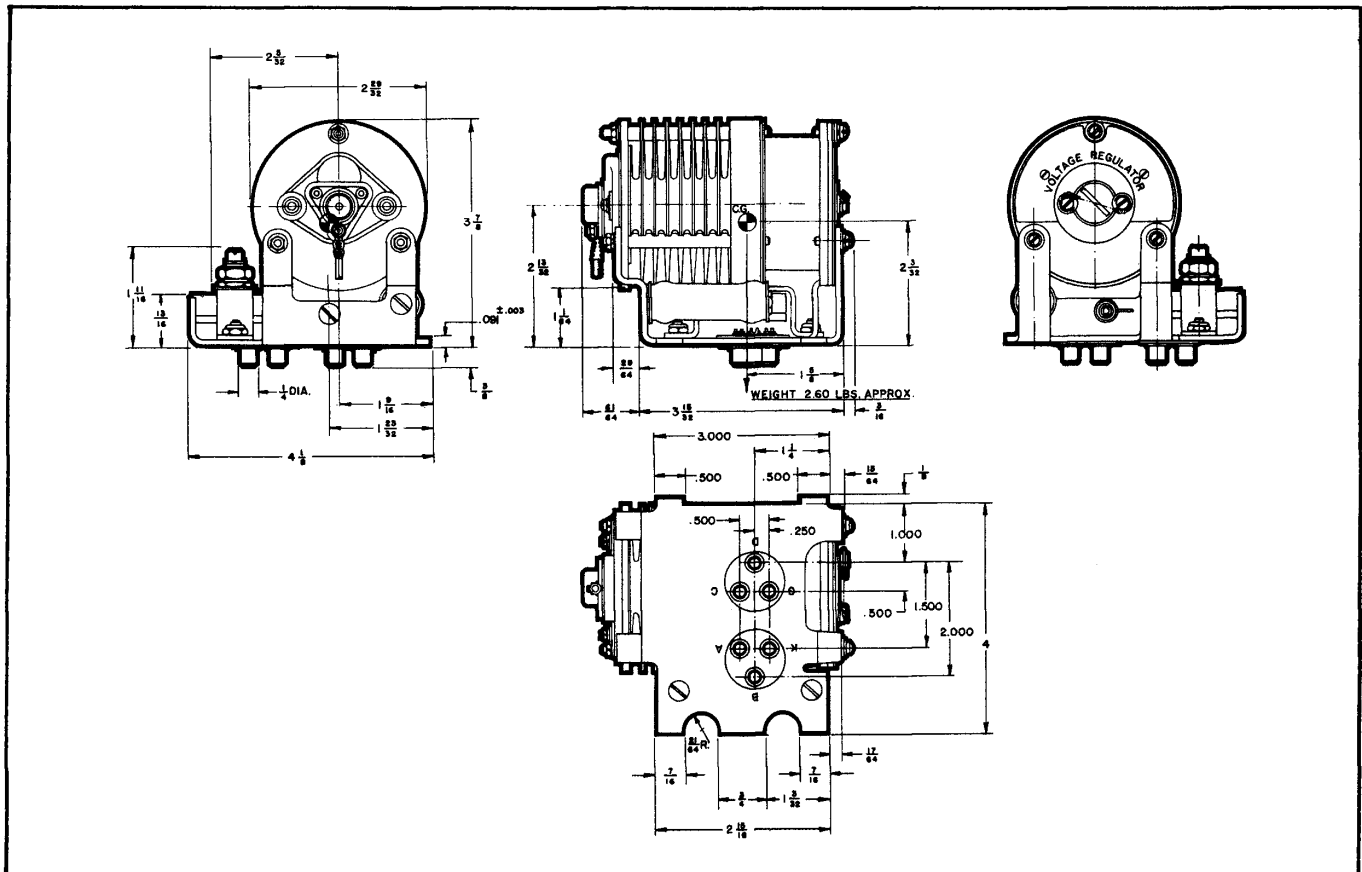


D-C VOLTAGE REGULATOR

Type 1589-1



WIRING DIAGRAM



OUTLINE DRAWING