

SERVICE BULLETIN

Original Issue Date: **10/96**

Model: **4/5CKMR, 7CCKMR, 10/12CZ, 13.5/14/18.5/20/21/24CCOZ, 32ROZ, 6.5RMY, 6/10/15ROZ, and 10/12/18RZ**

Market: **Mobile, Marine, and Small Standby**

Subject: **Kohler PowerBoostä V Voltage Regulators (A- and B-258296)**

Kohler Generator Division published this bulletin to better inform customers of the differences between the A- and B-258296 version PowerBoostä V voltage regulators. Consult the generator set Service Manual for adjustment procedures not found in this bulletin.

To determine what version voltage regulator is installed on your unit, see Figure 1 and Figure 5. The visual differences include terminal strip identification and assembly part number identification.



Accidental starting.
Can cause severe injury or death.


Disconnect battery cables before working on generator set (disconnect negative lead first and reconnect it last).

Disabling generator set. Accidental starting can cause severe injury or death. Disconnect battery cables (remove negative lead first and reconnect it last) to disable generator set before working on the generator set or connected equipment. The generator set can be started by the remote start/stop switch unless this precaution is followed.

⚠ WARNING



Hazardous voltage.



Moving rotor.

Can cause severe injury or death.

Operate generator set only with all guards and electrical enclosures in place.

Grounding generator set. Hazardous voltage can cause severe injury or death. Electrocution is possible whenever electricity is present. Open main circuit breakers of all power sources before servicing equipment. Configure the installation to electrically ground the generator set and electrical circuits when in use. Never contact electrical leads or appliances when standing in water or on wet ground, as the chance of electrocution is increased under such conditions.

PowerBoostä V (A-258296 Version)

The Kohler PowerBoostä V is a versatile volts per hertz voltage regulator for use on both single- and three-phase, 50- and 60-Hz generators.

The power circuit consists of a diode/SCR full-wave bridge to provide the generator field excitation.

Power requirements: 140-300 vac.
Sensing: 190-277 vac, 240 nominal.

The voltage regulator provides both a plug connector and terminal strip for input and output connections.

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LEDs offer a visual indication of sensing, input power, and field output availability.

The regulator provides a volts/hertz feature which reduces generator output voltage if frequency drops below a preset level. This drop would usually occur because of a heavy-load application and allows the engine to recover speed.

The regulator output voltage, stability, and volts/Hz cut-in can be field adjusted.

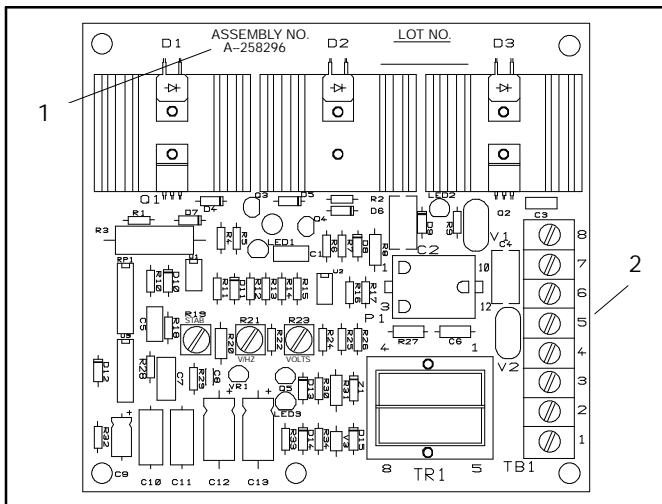
The voltage adjustment allows a generator output range of 190 to 277 volts. (Line-to-line.) The terminal strip includes terminals for an optional remote rheostat to allow for a 5-vac remote voltage adjustment (10K-1/2W.)

The stability potentiometer fine tunes the regulator circuit for minimum light flicker and waveform distortion caused by nonlinear loads.

The volts/hertz adjustment is factory set at 57.5-58 Hz for 60-Hz applications and 47.5-48 Hz for 50-Hz units.

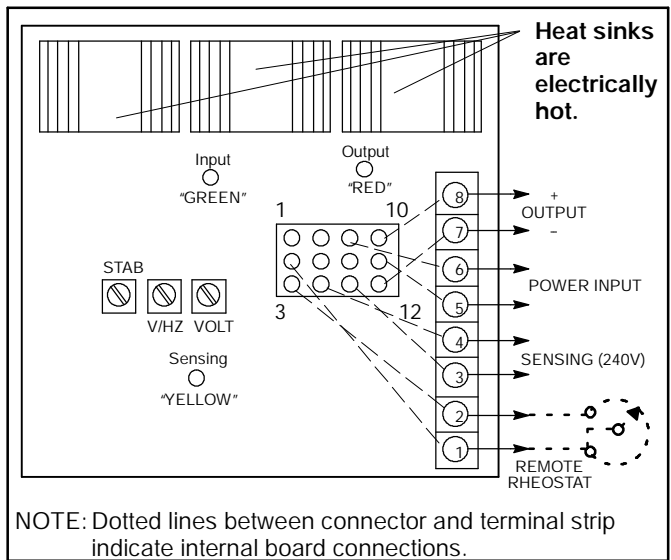
V/Hz Adjustment Procedure: (Requires AC voltmeter and frequency or RPM indicator.)

1. Rotate the V/Hz potentiometer (pot) fully counterclockwise.
2. Adjust the voltage to the desired output and the stability for minimum light flicker.
3. Reduce the engine speed to the desired cut-in frequency.
4. Adjust the V/Hz pot clockwise until the voltage just begins to drop.
5. Return engine speed to normal and recheck voltage and stability adjustments.



1. Part number identification
2. Terminal strip identification

Figure 1. A-258296 Voltage Regulator



NOTE: Dotted lines between connector and terminal strip indicate internal board connections.

Figure 2. A-258296 Voltage Regulator Connections

Terminal Strip	Plug Connector
1	2, 10
2	3
3	9
4	6
5	11
6	7
7	12
8	10, 2

Figure 3. A-258296 Voltage Regulator Connections

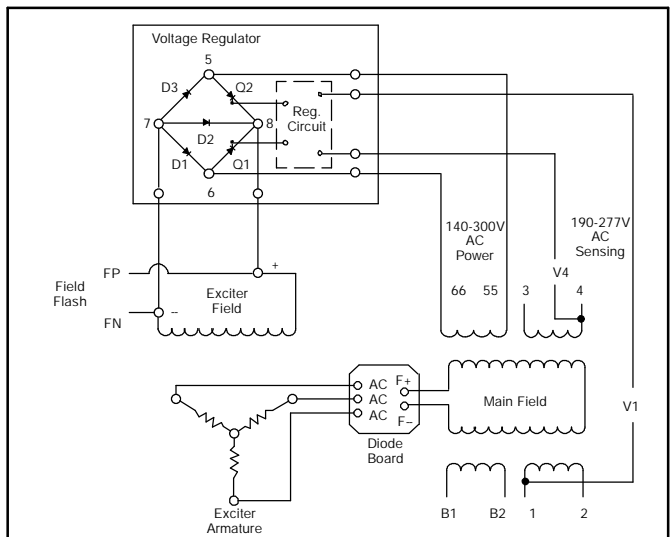
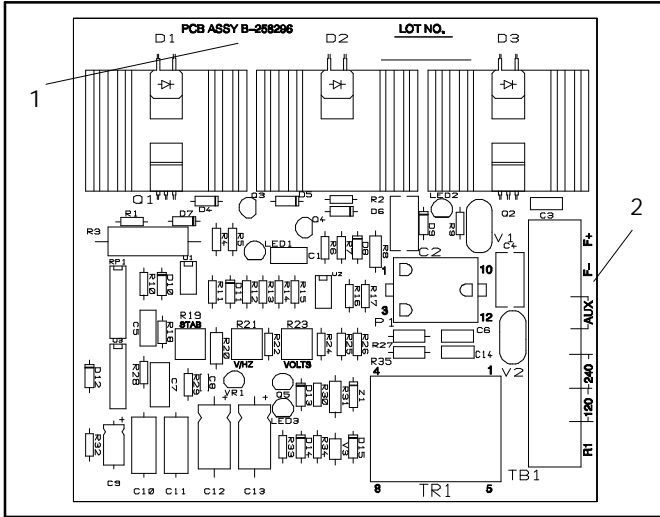


Figure 4. A-258296 Voltage Regulator Wiring

PowerBoostä V (B-258296 Version)

The B-version voltage regulator includes all the features of the A-version voltage regulator plus provisions for both 120- and 240-volt sensing. This allows the regulator to be used on 100 to 120 volt or 200 to 240 volt, 1-phase models as well as all 3-phase models.

An optional remote rheostat (10K-1/2 watt) can be connected across terminals R1 and F+.



- 1. Part number identification
- 2. Terminal strip identification

Figure 5. B-258296 Voltage Regulator

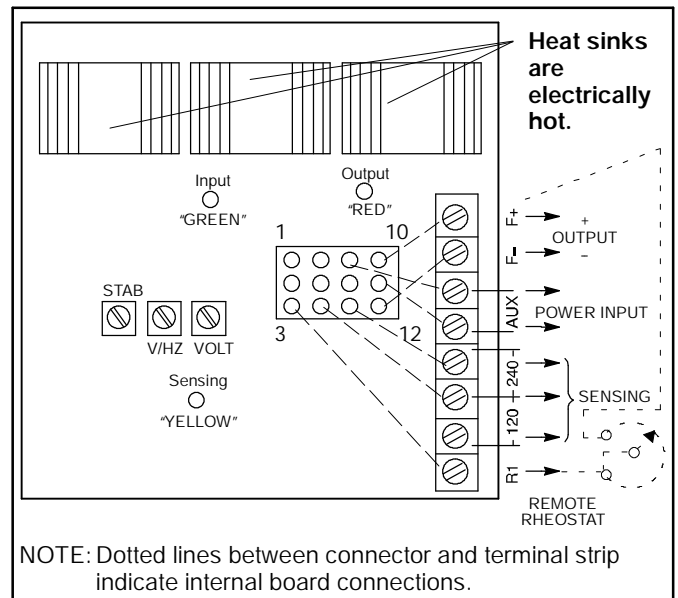


Figure 6. B-258296 Voltage Regulator Connections

Terminal Strip	Plug Connector
1	3
2	N/C
3	6
4	9
5	11
6	7
7	12
8	10, 2

NOTE: To use plug connector, use terminal Kohler part number 241619.

Figure 7. B-258296 Voltage Regulator Connections

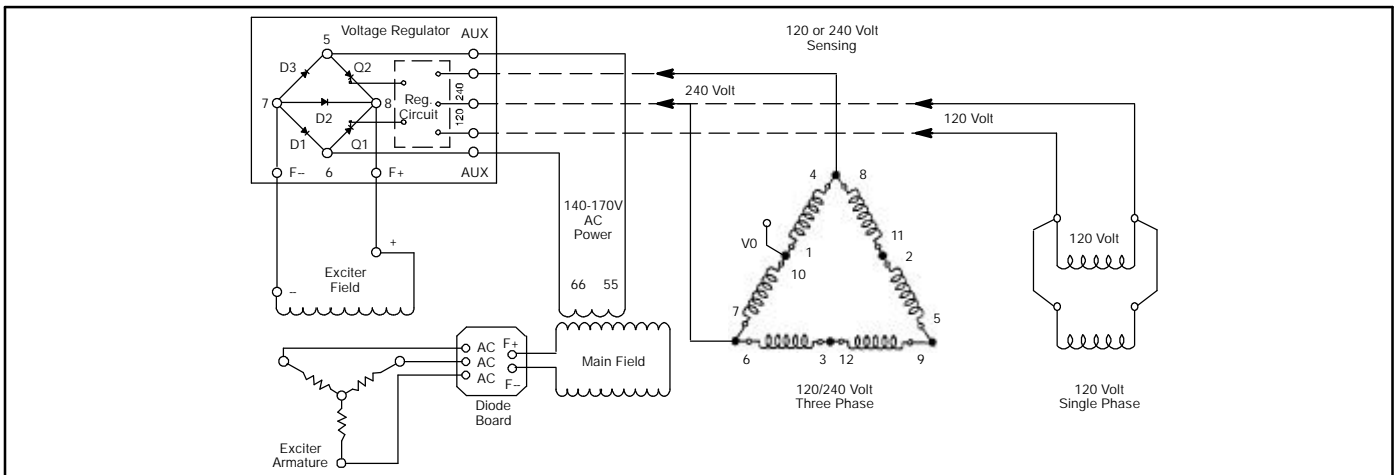


Figure 8. B-258296 Voltage Regulator Wiring