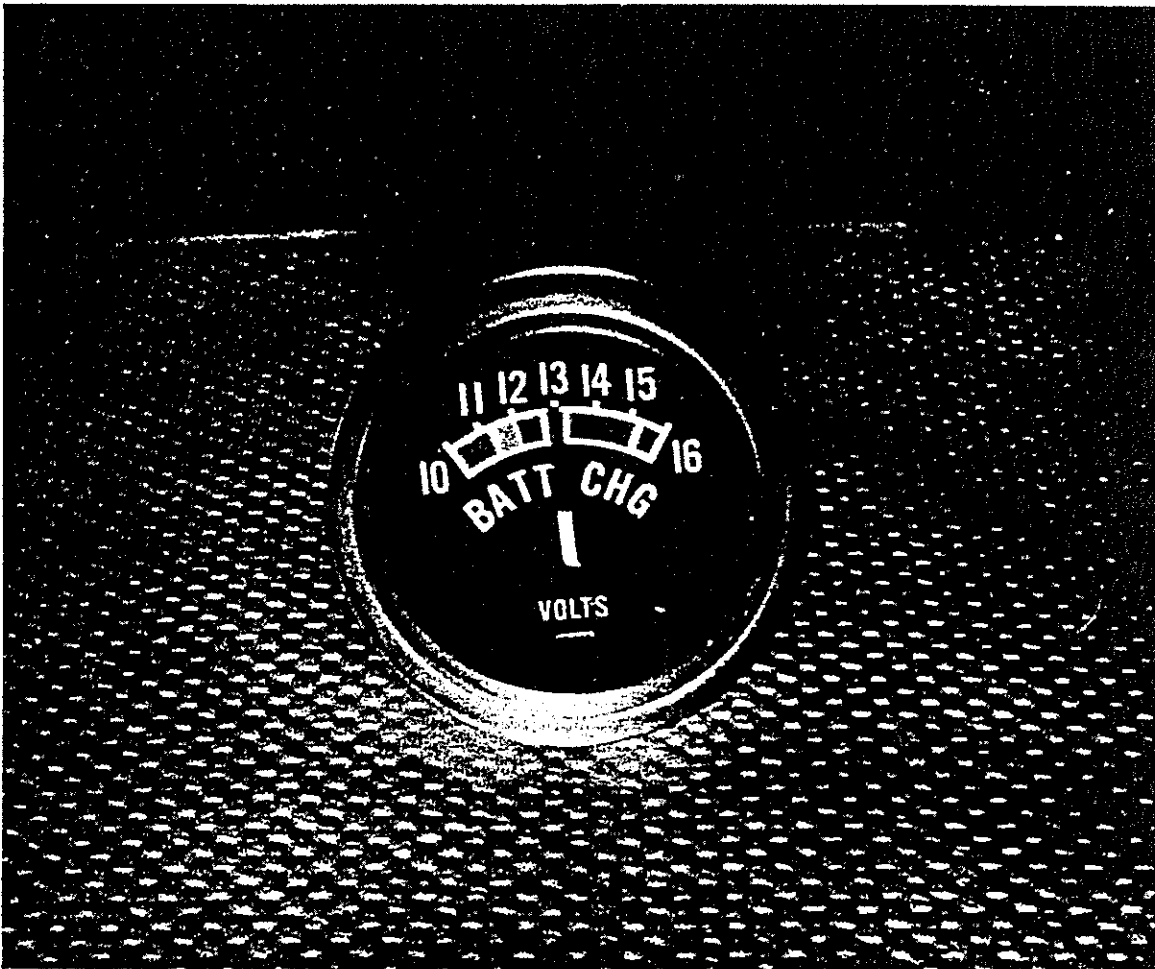


VOLT-GUARD
OPERATION



VOLT-GUARD OPERATION

Here is how the Volt-Guard tells you the condition of your units Battery - Generator/Alternator and Voltage Regulator. Note: The word Generator refers to both Generator and Alternator, since both require the same instrumentation. Paragraph (1) refers to the unit when the engine is "not running" or running at a slow idle. Paragraph (2) refers to the unit when the engine "is running" at an RPM high enough to produce voltage. Operation indicated by the gauge pointer is as follows:

REFER TO FIGURE 1:

- (1) A dead or disconnected battery. A disconnected or badly connected volt-guard.
- (2) More likely to be a disconnected or faulty volt-guard as the engine would not run with a dead battery unless the gauge circuit has been by-passed.

REFER TO FIGURE 2:

- (1) Very low battery charge, engine might not start.
- (2) When the volt-guard pointer stays below the (13) position with engine RPM high enough to generate, it shows that the generator is "not" operating, or that the current being drawn from the battery by lights, heater fan, etc., exceeds the generator output.

REFER TO FIGURE 3:

- (1) Low battery charge. Constant reading in this area would indicate need for a generator and a voltage regulator check.
- (2) When the volt-guard pointer stays below the (13) position with engine RPM high enough to generate, it shows that the generator is "not" operating, or that the current being drawn from the battery by lights, heater fan, etc., exceeds the generator output.

REFER TO FIGURE 4:

- (1) The gauge needle in this position indicates a well charged battery, a good battery, and that the generator and voltage regulator are operating properly.
- (2) When engine is started, needle may stay in this area temporarily, but with the generator producing, the needle should gradually rise above 13.3 as the generator reaches normal output.

REFER TO FIGURE 5:

- (1) The needle may remain in this position temporarily when the engine has been stopped after considerable use. This reaction is caused by a "surface charge" in the battery. To get a correct reading put a load on the battery for a few minutes, such as turning on the lights.
- (2) When engine is started, needle may stay in this area temporarily, but with the generator producing the needle should gradually rise above 13.3 as the generator reaches normal output.

REFER TO FIGURE 6:

- (1) Under normal conditions a 12-volt battery will be fully charged at 12.8 volts. A slightly higher reading may occur under the conditions outlined in five, but generally speaking, any reading above 12.8 volts when the engine is stopped is not a true reading.
- (2) FIGURE 6 illustrates the area in which the gauge pointer should be when generator, voltage regulator and battery are all in good condition and working properly.

REFER TO FIGURE 7:

- (1) Under normal conditions a 12-volt battery will be fully charged at 12.8 volts. A slightly higher reading may occur under the conditions outlined in five, but generally speaking, any reading above 12.8 volts when the engine is stopped is not a true reading.
- (2) When the pointer goes above 15.2 the voltage regulator is set too high or is jammed, and continued operation of the engine at a charging rate will burn out the battery.

A new type voltmeter has eliminated the gauge FIGURES (11)-(13) and (15). The green band of operation extends from (12) to the former position of number (15). In operation the actual battery voltage is read before or after engine operation. If the needle reads above 15-volts, or below 11-volts a check of the battery or generator system is indicated. Refer to preceding paragraphs.