

BASIC OPERATION (continued)

D. Proper utilization of the receptacles located on the control panel is necessary to prevent damage to either the receptacles or the generator. The generator is a limited source of electrical power, therefore pay special attention to the receptacle and generator ratings. The nameplate rating can be obtained through a combination of receptacles or a single receptacle as long as the receptacle amperage rating is not exceeded. Both the 120 and 240 volt receptacles can be utilized at the same time. See section B for proper load separation.

2. Grounding - All units must be grounded.

A. Drive a 3/4 or 1" copper pipe or rod into the ground close to the engine-generator set. The pipe must penetrate moist earth. Connect an approved ground clamp, to the pipe. Run a no. 10 Awg wire from clamp to the generator ground lug or the battery negative terminal. Do not connect to a water pipe or to a ground used by a radio system.

ELECTRONIC CONSERVER - Note: this feature is factory installed only on the 3600 rpm high performance series

The electronic conserver is a gas saving, solid state system, designed to reduce engine speed whenever the electrical load is removed from the generator. Without an slow down control, the engine would run at full speed at all times, regardless of the electrical load. With the conserver switch in the conserve position, the throttle control lever is electrically released when the load is turned on so it in no way interferes with the normal governor operation. When the load is turned off, it energizes and reduces the engine speed. It does not cause incorrect operation of the carburetor or governor, but neither does it correct them.

2. The electronic conserver system consists of a switch, resistor, and transformer located in the generator control box, a solid state module mounted on the brush rack assembly, and the electromagnet, mounted on the engine. The conserver system is only offered as a factory installed feature on the high performance generators. It cannot be installed in the field.

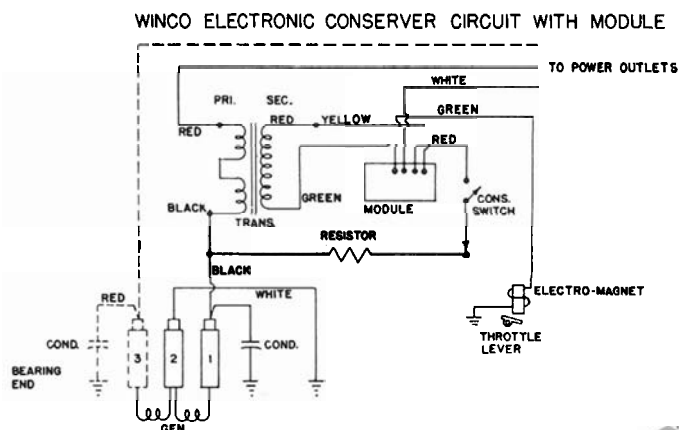
With the conserver switch in the "automatic" position, the system operates as follows:

- A. After the engine has been started, and no electrical load is applied, the transformer senses and signals the solid state module to allow current to flow to the electromagnet. This will pull the throttle lever up, closing the throttle on the carburetor and the engine will then run at reduced speed.
- B. When a load is applied to the generator, the transformer senses it and sends a signal to the solid state module to cut off the current to the electromagnet. This allows the throttle to drop

down and opens the throttle in the carburetor which allows the engine to come up to governed speed (3600 rpm.)

- C. When the electrical load is turned off, no current will flow through the transformer, as a result the conserver system will once again cause the engine to slow down.

When the conserver switch is in the "manual" position, the engine will run at full governed speed regardless of generator load.



LOW OIL LEVEL SHUTDOWN SYSTEM

1. BRIGGS & STRATTON Powered Generators - These engine generator sets come equipped standard with the Briggs & Stratton OILGARD warning system.
 - A. This low oil warning system will automatically stop the engine well before the oil level reaches an operational danger point. This feature is designed to prevent costly repairs and downtime.
 - B. The OILGARD system uses a float in the engine crankcase to sense the oil level. If a low oil level condition should occur during operation, the float will ground out the magneto impulse, "killing" the engine. In addition, there is an indicator light mounted on the engine shroud near the recoil starter. This light will blink on and off to indicate a low oil level condition when you are attempting to start the unit. To get the engine started, you must add the required amount of oil to the engine crankcase.
 - C. Use of the OILGARD system on applications that are subject to shock, bumping or severe angles of operation (in excess of 15 degrees) should be avoided. This is especially true if an unexpected shutdown would cause a safety hazard or serious inconvenience for the operator. To disable the OILGARD, remove the wire attached to the sensor unit mounted on the engine crankcase. The wire should be insulated with a connector or tape.

WINCO ELECTRONIC CONSERVER WITH MODULE

TROUBLE SHOOTING GUIDE FOR THE ELECTRONIC CONSERVER WITH MODULE

PRINCIPLES OF OPERATION:

Refer to Fig. 14. With the conserver switch in the "Automatic Idle" position, the operation of the Electronic Conserver Control is as follows:

1. After the engine has been started, and if there is no electrical load applied, the Electronic Conserver module will sense this and will allow a current to flow to the electro magnet which will pull the throttle lever up, closing the throttle on the carburetor allowing the engine to run at idling speed.
2. When a load is applied to the generator, the Electronic Conserver will sense this and will cut off the current to the electro magnet, thus allowing the throttle lever to drop down, opening the throttle on the carburetor and allowing the engine to come up to governed speed.

The module itself cannot be properly tested in the field, however, it can be determined if a module is defective by checking out the balance of the components in the Electronic Conserver circuit.

1. If the unit does not idle when no load is applied, connect a jumper wire across the terminals of the conserver switch to determine if it is open.
2. Examine the resistor of the conserver circuit. This resistor is located in the control box. The resistor should be checked for continuity, and the lead wires should be securely connected at each end.
3. Apply a load of approximately 100 watts (a light bulb is satisfactory) to the A.C. outlet and take a reading of the secondary winding (the two small wires) of the transformer located in the control box. With a 100 watt load, a reading of 12 to 16 volts A.C. should be obtained.
4. Examine the electro magnet to determine that the lead wire is properly connected to it. Check the core of the magnet to determine if it is magnetized when no load is applied to the generator. If it is magnetized, check the throttle lever arm to determine if it or any of the governor parts are binding or sticking because of dirt or paint. Take a resistance reading on the coil which should be approximately 70 Ohms. resistance from the core of the magnet to the lead wire.
5. If all of the above components check satisfactorily, then the conserver module is evidently defective and requires replacement.

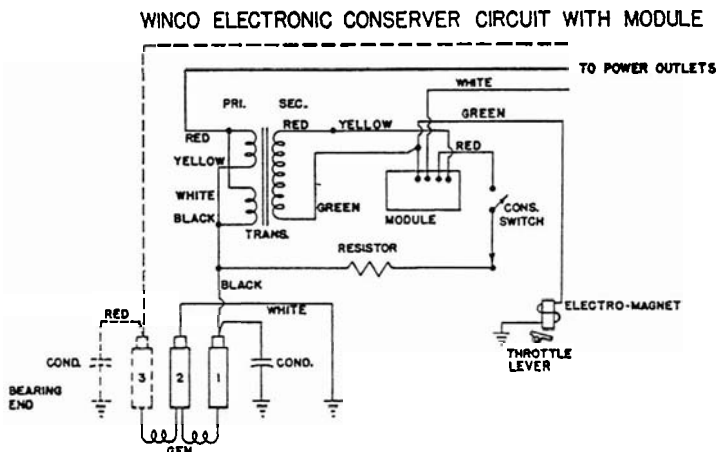


Figure 14

3. When the electrical load is turned off, no current will flow through the transformer; as a result the Electronic Conserver will once again cause the engine to slow down to idling speed as in 2.
4. When the switch is turned to the "Continuous Full Speed" position, the engine will retain full governed speed regardless of whether or not any load is applied.
5. If it is found that the engine will not come up to speed when a full load is applied at once, remove the load and set the Conserver Control to "Continuous" position and then reapply the load.