



SLC100 - Variable Speed Generator Controller For 3 kW Tactical (TQG) Quiet Gen-Set

1 INTRODUCTION

The SLC100 electronic governor, DOD part number 98-19539, controls the generators electrical load by adjusting engine speed, it controls generator voltage, not speed. This variable speed operation results in low noise, significantly reduces fuel consumption and extends engine life.

The SLC100 governor is paired with GAC ADG150 actuator, DOD part number 98-19580, controlling a Yanmar L70, single cylinder, 0.296L compact, air cooled diesel engine. This 3 kW permanent magnet generator and variable speed technology has exceeded government requirements when subjected to rigorous qualification test-



SLC100 Controller



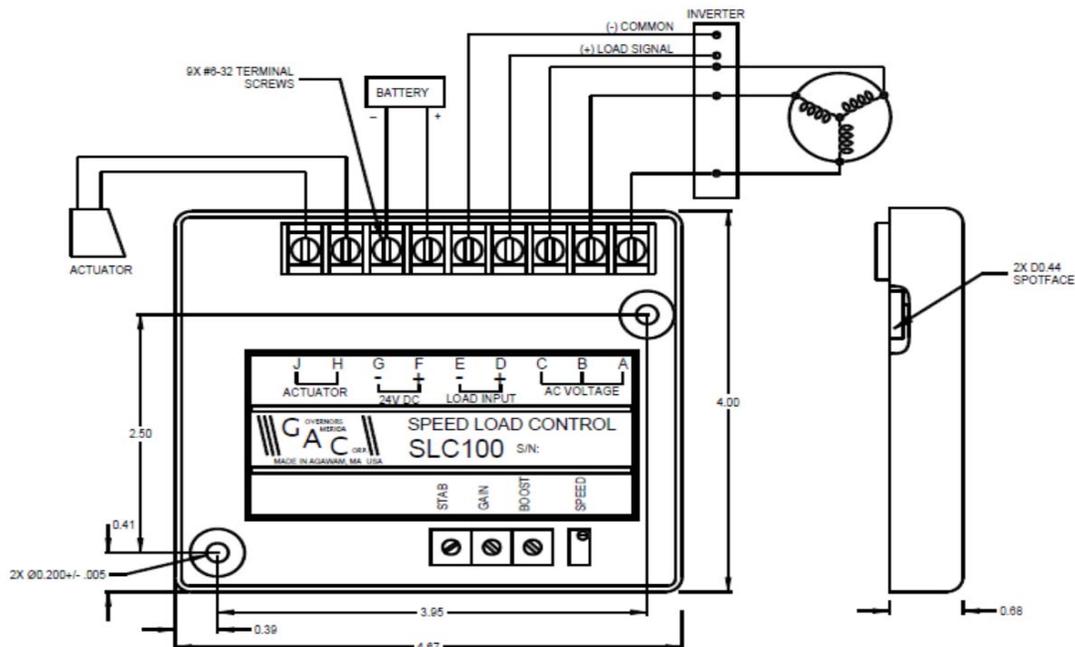
ADG150 Actuator



2 PART NUMBER CROSS REFERENCE

GAC Part Number	DOD Part Number	Description
SLC100	98-19539	Controller
ADG150	98-19580	Actuator

3 DIMENSIONS



4 3 KW GOVERNING SYSTEM SET PROCEDURE

The governor controls generator voltage, not speed.

Determine the best operational input voltage of the inverter, approximately 225VAC (263 Hz)

Actuator GAC - ADG150 / DOD 98-19580:

1. Loosen the lock nut on the bottom of the actuator linkage rod, adjust the spherical nut so that one thread is exposed at the bottom of the spherical nut, as shown. Tighten the lock nut against the spherical nut.
2. Make sure the actuator lever reaches its stop just prior to the engine fuel lever reaching its stop. Adjust by turning the actuator linkage rod in or out of the ball joint at the top of the rod.

Engine operating speed is 3000 to 3600 RPM

Speed / Load Controller GAC - SLC100 / DOD 98-19539:

1. With the set running at no load adjust the SPEED potentiometer (25 turn pot.) on the governor control to obtain a PMA voltage of approximately 178 +/-2 VAC, or approximately 254 Hz (3050 RPM). Adjust the actuator linkage rod length so the gap between the magnet and the target is 5/16". Do not attempt to adjust the magnet, this is a factory setting.
2. Set the GAIN and STABILITY potentiometers to 50%, or to the 12:00 o'clock position, to begin their setting procedure.
3. Turn the GAIN potentiometer (270° pot.) on the governor control clockwise until the engine becomes unstable, then counterclockwise until it stabilizes, then slightly more counterclockwise, an additional 10°.
4. Turn the STABILITY potentiometer (270° pot.) on the governor control clockwise until the engine becomes unstable, then counterclockwise until it stabilizes, then slightly more counterclockwise, an additional 10°.
5. Apply rated load and adjust the BOOST potentiometer on the governor control to obtain a PMA voltage of approximately 193 VAC, or approximately 288 Hz (3450 RPM).
6. Check the no load to rated load and rated load to no load transients by observing the actuator lever. If the magnet grabs the target during transients, reduce the gain.
7. When applying rated load the engine speed should slowly increase without a large initial droop.
8. When removing load, engine speed should decrease without a large initial surge.
9. At no load, lift the actuator lever and lock it in the manual start position and unplug the actuator. The PMA voltage should be approximately 219 VAC, or approximately 317 Hz (3750 RPM). Adjust the "START" position of the external knob as shown for this frequency / RPM.

NOTE: All PMA voltage / frequency readings are taken from Governor Control Unit (A5) terminals A and B.

