EGB-29P and 58P

Governor/Actuator

- Electronic Hydraulic Actuator
- Backup Ballhead Governor
- Single or Parallel Operation in Droop or Isochronous Modes
- External Droop and Load Limit Adjustments
- Self-Contained Oil Supply
- Output Depends on Pump Pressure

APPLICATIONS

Use with Woodward analog or digital electronic controls that provide a proportional 20-160 mA signal to control dual fuel, diesel, and gasoline engines and gas and steam turbines driving electrical or mechanical loads.

The governor/actuator provides 29 or 58 ft-lbs work capacity to position fuel racks or linkage.

During normal operation the electronic control and actuator section of the EGB regulates fuel to the prime mover.

Upon loss of electronic control signal the standard EGB is adjusted to cause prime mover shutdown. An electronic, pneumatic, or manual starting device is then used to allow prime mover starting and operation under ballhead control. The ballhead section also regulates fuel if the control fails in such a manner as to call for maximum fuel.

The EGB Governor/Actuator can also be factory set to give maximum fuel (reverse action) on loss of electronic control signal.

The self-contained hydraulic oil supply makes the governor easily maintained in almost any installation environment.

DESCRIPTION

Under electronic control, speed and droop adjustments are made to the electronics. Most electronic controls provide features for isochronous load sharing between engines. The electronics must be able to function in droop mode for units that are paralleled with an infinite bus or to dissimilar governors.

The ballhead portion of the EGB can be operated isochronously or with droop for single-unit or parallel applications. A droop-adjustment knob provides droop adjustment for the ballhead governor in parallel applications.

The load-limit control knob is used to adjust the maximum output position of the governor/actuator.

OUTPUT

	Useful Work (ft-lb)	Max Work (ft-lb)	Stalled Torque (lb-ft)	Oil Pump (psi)
EGB -29P	20.0 27 J	29.0 39J	56 76 NM	136 937 kPa
EGB -58P	35 47 J	52 71 J	100 135 NM	243 1674 kPa

SPECIFICATIONS - EGB-29P AND EGB-58P

Terminal Shaft ..... 1.00 inch 48 SAE serration. Shaft extends from both sides of the servo. Rack indicator can be located on either side of the servo.

Terminal Shaft Travel ..... 30° maximum travel. Use about 20° travel between no load and full fuel. Relationship between engine torque output and terminal shaft travel must be nearly linear.

HYDRAULIC SYSTEM

Sump capacity ..... 1.9 liters (2.0 quarts) petroleum based lubricating oil. Most synthetic oils are acceptable. Contact Woodward if in doubt. 20-65 CST (100 to 300 SUS) at operating temperature is recommended.

Operating temperature ..... -29°C to 93°C (-20°F to 200°F) with proper viscosity oil.

TRANSDUCER COIL

..... 400 mA maximum allowable current. 20 to 160 mA normal operating signal.

..... 10 or 14 pin connector, depending on governor options.

CONTROL CHARACTERISTICS

Steady state speed band ..... ±0.25% of rated speed.

Droop ..... adjustable 0% to 12% through the full 30° of terminal shaft travel in the ballhead section.

GOVERNOR DRIVE

Rotation ..... CW, CCW, or both.

Drive Shaft ..... 3/4 hp at rated speed at normal operating temperature.

Rated Drive Speed ..... 900 to 1100 rpm is recommended .

Operating Speed Range ..... 300 to 1200 rpm. (High drive speed may require an oil cooler.)

CONSTRUCTION

Case and Base ..... cast iron

Column ..... cast aluminum.

Weight and Installation Configuration ..... about 70 kg (155 lbs) depending on options. Install vertically.

Mounting Base and Drive Shaft ..... standard UG40 extended base with 1.125-48 serrated or 0.188 x .094 keyway drive shaft.

OPTIONS

BALLHEAD ASSEMBLIES

Solid (standard) or spring driven-oil damped. Available in undamped natural frequencies of none, 180, 290, 400, 550 cpm.

SOLENOID VALVE SHUTDOWN

The optional solenoid valve can be used for prime mover shutdown. Energize or de-energize to shutdown versions are available.

SPEED ADJUSTING MOTOR

Permits remote, electric speed adjustment of the ballhead governor. The motor is series wound, split field, and available in most standard voltages. Optional switch contacts are useful for maximum and minimum indicator lights and/or motor limit switches.

MODE SWITCH

Indicates electric governor in control.

OIL HEAT EXCHANGER

A heat exchanger is used with the EGB Governor/ Actuator if high ambient temperatures or high drive speed cause oil operating temperatures greater than the oil manufacturer's temperature recommendation. Either integral or separate mounting is available. An oil cooler is generally recommended for EGB-29P with drive speed greater than 1200 rpm and EGB-58P with drive speed greater than 900 rpm.

BOOSTER SERVOMOTOR

To save starting air, an air operated Booster Servomotor is available and can be connected to the governor/actuator for quick starting.

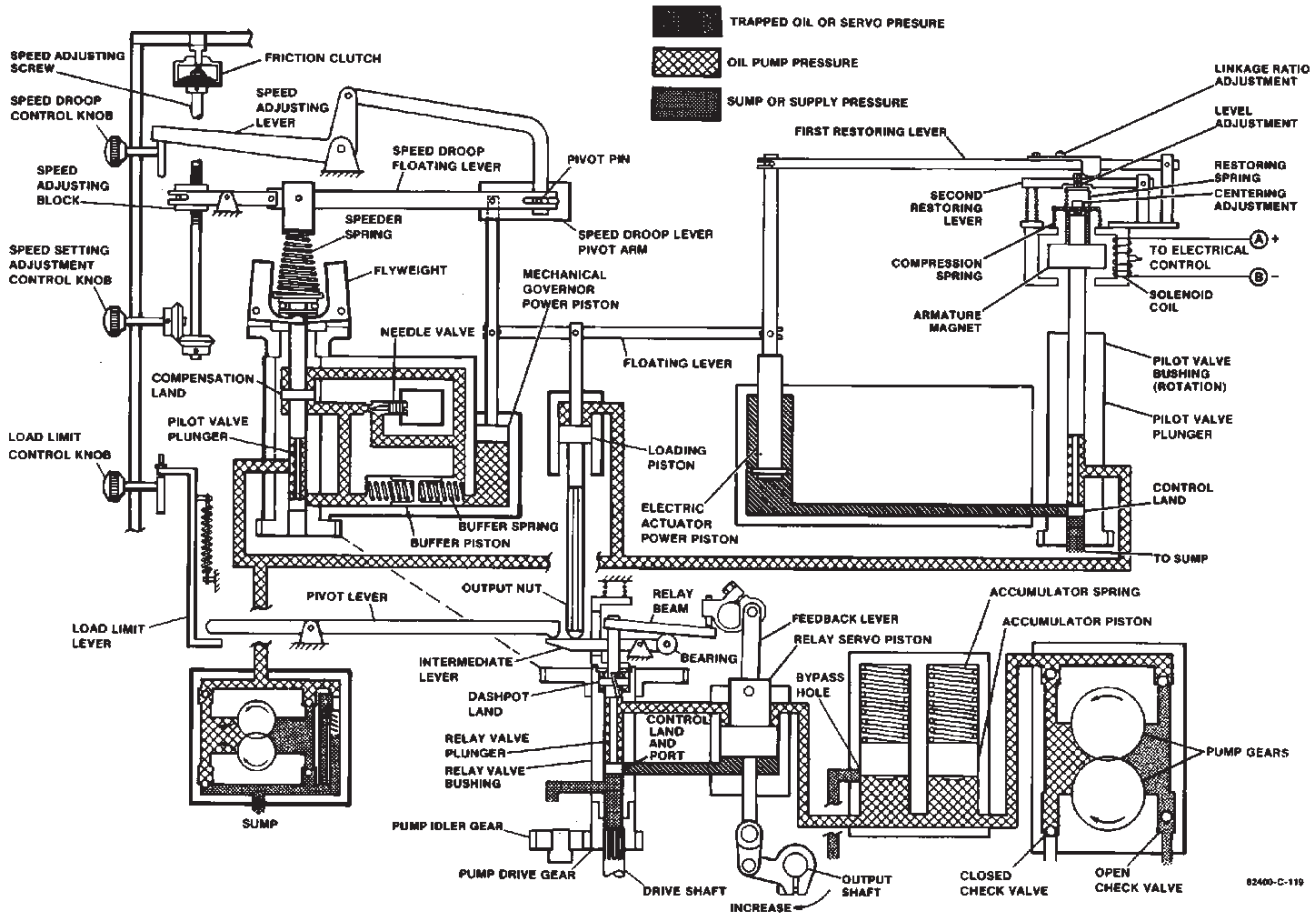
PNEUMATIC, MANUAL STARTING DEVICES

A pneumatic or manually operated plunger lowers the actuator pilot valve. Oil pressure generated at cranking speed is allowed to move the terminal shaft in the increase direction so the engine can start.

REFERENCES

Manual	Title
25071	Oils for Hydraulic Controls
36641	Governor Oil Heat Exchanger
36684	Booster Servomotor
36693	PG Base Assemblies
82340	EGB-Proportional Governor/Actuator with Hydraulic Systems

Product Specification	Title
82414	2500 Speed Control
82390	2301A Load Sharing and Speed Controls
82021	2301A Speed Control
02701	701 Digital Speed Control



SCHEMATIC DIAGRAM EGB-29P/58P GOVERNOR/ACTUATOR

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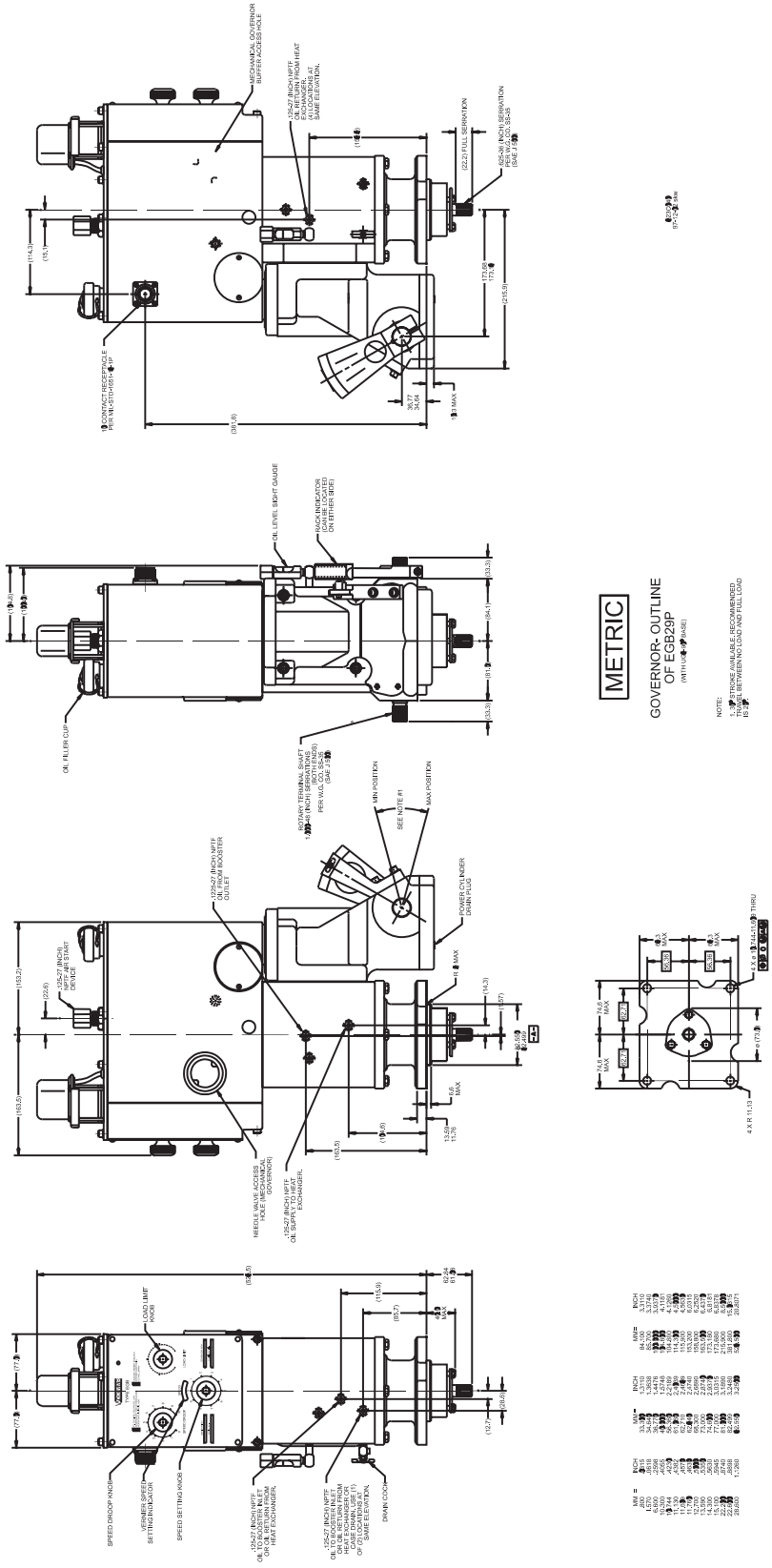
OUTLINE DRAWING EGB-29P/58P GOVERNOR/ACTUATOR



For more information contact: