



Product Manual 36702
(Revision A)
Original Instructions

Weatherproofing Kit
for PG-PL and PGA Governors

Kit Installation Manual



General Precautions

Read this entire manual and all other publications pertaining to the work to be performed before installing, operating, or servicing this equipment.

Practice all plant and safety instructions and precautions.

Failure to follow instructions can cause personal injury and/or property damage.



Revisions

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Proper Use

Any unauthorized modifications to or use of this equipment outside its specified mechanical, electrical, or other operating limits may cause personal injury and/or property damage, including damage to the equipment. Any such unauthorized modifications: (i) constitute "misuse" and/or "negligence" within the meaning of the product warranty thereby excluding warranty coverage for any resulting damage, and (ii) invalidate product certifications or listings.



Translated Publications

If the cover of this publication states "Translation of the Original Instructions" please note:

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Warnings and Notices

Important Definitions



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

- **DANGER**—Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
- **WARNING**—Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
- **CAUTION**—Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
- **NOTICE**—Indicates a hazard that could result in property damage only (including damage to the control).
- **IMPORTANT**—Designates an operating tip or maintenance suggestion.

WARNING

**Overspeed /
Overtemperature /
Overpressure**

The engine, turbine, or other type of prime mover should be equipped with an overspeed shutdown device to protect against runaway or damage to the prime mover with possible personal injury, loss of life, or property damage.

The overspeed shutdown device must be totally independent of the prime mover control system. An overtemperature or overpressure shutdown device may also be needed for safety, as appropriate.

WARNING

**Personal Protective
Equipment**

The products described in this publication may present risks that could lead to personal injury, loss of life, or property damage. Always wear the appropriate personal protective equipment (PPE) for the job at hand. Equipment that should be considered includes but is not limited to:

- Eye Protection
- Hearing Protection
- Hard Hat
- Gloves
- Safety Boots
- Respirator

Always read the proper Material Safety Data Sheet (MSDS) for any working fluid(s) and comply with recommended safety equipment.

WARNING

Start-up

Be prepared to make an emergency shutdown when starting the engine, turbine, or other type of prime mover, to protect against runaway or overspeed with possible personal injury, loss of life, or property damage.

WARNING

**Automotive
Applications**

On- and off-highway Mobile Applications: Unless Woodward's control functions as the supervisory control, customer should install a system totally independent of the prime mover control system that monitors for supervisory control of engine (and takes appropriate action if supervisory control is lost) to protect against loss of engine control with possible personal injury, loss of life, or property damage.

NOTICE**Battery Charging
Device**

To prevent damage to a control system that uses an alternator or battery-charging device, make sure the charging device is turned off before disconnecting the battery from the system.

Electrostatic Discharge Awareness

NOTICE**Electrostatic
Precautions**

Electronic controls contain static-sensitive parts. Observe the following precautions to prevent damage to these parts:

- Discharge body static before handling the control (with power to the control turned off, contact a grounded surface and maintain contact while handling the control).
- Avoid all plastic, vinyl, and Styrofoam (except antistatic versions) around printed circuit boards.
- Do not touch the components or conductors on a printed circuit board with your hands or with conductive devices.

To prevent damage to electronic components caused by improper handling, read and observe the precautions in Woodward manual **82715**, *Guide for Handling and Protection of Electronic Controls, Printed Circuit Boards, and Modules*.

Follow these precautions when working with or near the control.

1. Avoid the build-up of static electricity on your body by not wearing clothing made of synthetic materials. Wear cotton or cotton-blend materials as much as possible because these do not store static electric charges as much as synthetics.
2. Do not remove the printed circuit board (PCB) from the control cabinet unless absolutely necessary. If you must remove the PCB from the control cabinet, follow these precautions:
 - Do not touch any part of the PCB except the edges.
 - Do not touch the electrical conductors, the connectors, or the components with conductive devices or with your hands.
 - When replacing a PCB, keep the new PCB in the plastic antistatic protective bag it comes in until you are ready to install it. Immediately after removing the old PCB from the control cabinet, place it in the antistatic protective bag.

Weatherproofing Kit for PG-PL and PGA Governors

New PG-PL and PGA governors may be equipped with a weatherproofing kit to reduce internal governor contamination.

Governors installed “out of doors” or in moist dirty environments, including corrosive atmospheres, are especially vulnerable to contamination and should have the protection provided by the weatherproofing kit.

Installation of the weatherproof kit on governors that are in service requires disassembly of the governor for machining of parts. This work should be done at Woodward or at an authorized service shop. If the installation of the kit must be done in the field, refer to Figures 1, 2, 3, and 4 for dimensions to machine parts for the weatherproofing kits. Part of the kit provides a connection for a purge system. If this is used, a maximum of 0.24 psig (1.65 kPa) purging pressure is recommended.

The weatherproof boot kits listed in this manual are for the 12, 17, and 29 ft-lb (16, 23, and 39 J) linear acting servos. PG-PL and PGA governors with 12 and 29 ft-lb (16 and 39 J) servos with threaded stainless steel rod ends do not require a weatherproof boot.

Parts may be ordered in kit form for complete weatherproof modification, or individual parts may be ordered for governors being repaired. When ordering weatherproofing kits or parts, provide the following information:

- Manual number 36702
- Governor designation and serial number
- Part reference number and name of part

Ref. No.	Part Name	Quantity
36702-1	Weatherproofing kit for PG-PL and PGA governors with linear output servos	1
	This kit includes the following parts:	
36702-2	Weatherproof oil gauge	1
36702-3	Connector - 0.250 x 0.125 NPTF	1
36702-4	Tube assembly	1
36702-5	Oil filler cap assembly	1
36702-6	Bracket gasket	1
36702-7	Fiber washer - #6	4
36702-8	Tapered plug	1
36702-9	Knob	1
36702-10	Plug assembly	1
36702-11	Preformed packing - 0.739 x 0.070	1
36702-12	Preformed packing - 0.989 x 0.070	1
36702-13	Dial plate assembly	1
36702-14	Seal - 0.304 I.D.	4
36702-15	Weatherproof boot kit for 12 ft-lb and 29 ft-lb linear output servo	1
	This kit includes the following parts:	
36702-16	Spring clamp ring	1
36702-17	Accordion boot	1
36702-18	Screw - 5.40 x 0.375	3
36702-19	Lockwasher - #5 x 0.125 I.D.	3
36702-20	Washer	1
36702-21	Weatherproof boot kit for 17 ft-lb linear output servo	1
	This kit includes the following parts:	
36702-22	Spring clamp ring	1
36702-23	Accordion boot	1
36702-24	Screw - 8.32 x 0.375	3
36702-25	Lockwasher - #8 x 0.164 ID.	3
36702-26	Washer	1

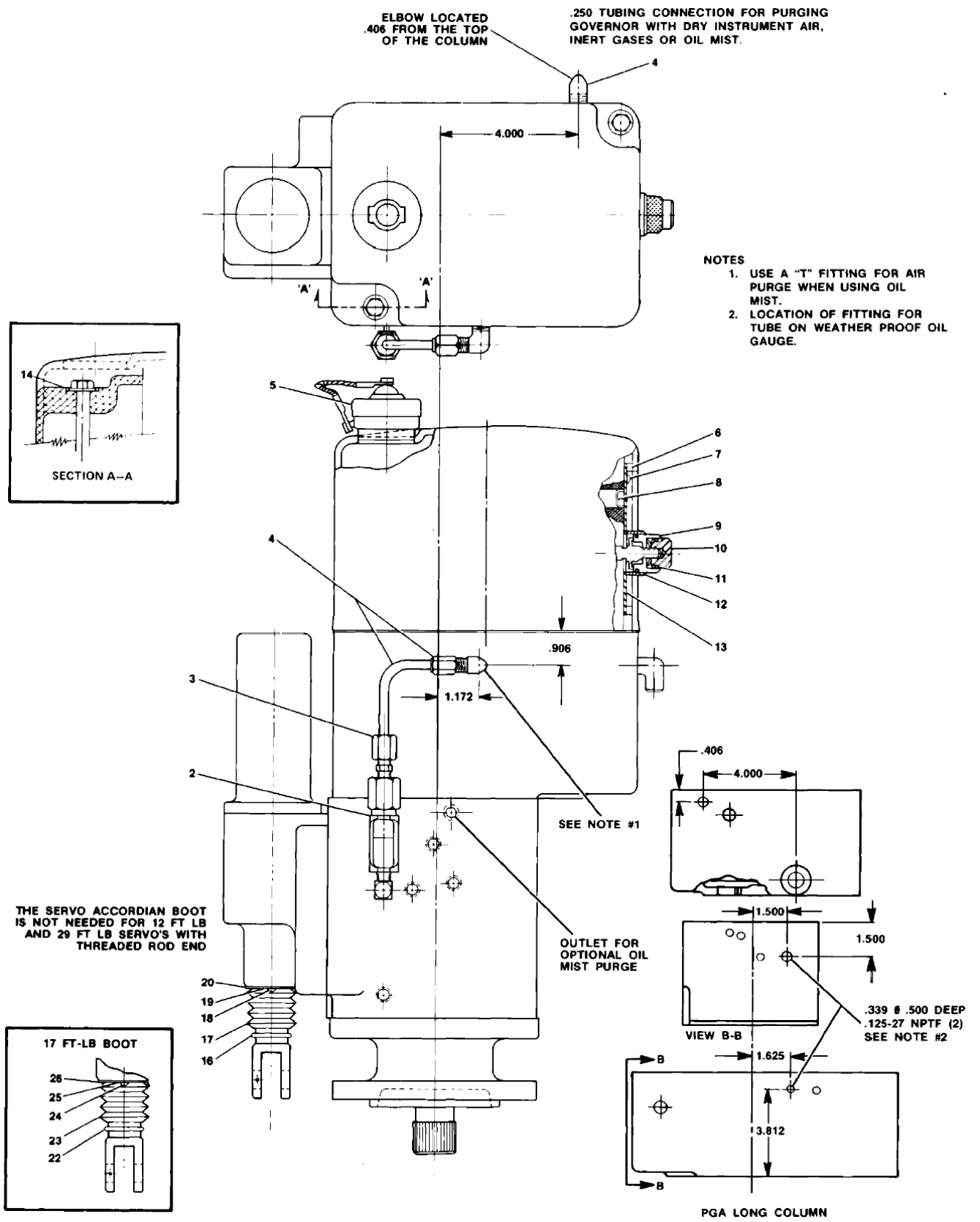


Figure 1. Outline Drawing for PG-PL Governor Showing Location of Weatherproof Fittings

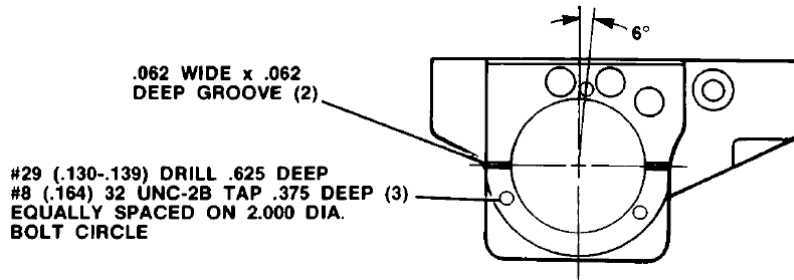


Figure 2. Dimensions for Machining 17 ft-lb Servo Cylinder for Weatherproof Boot

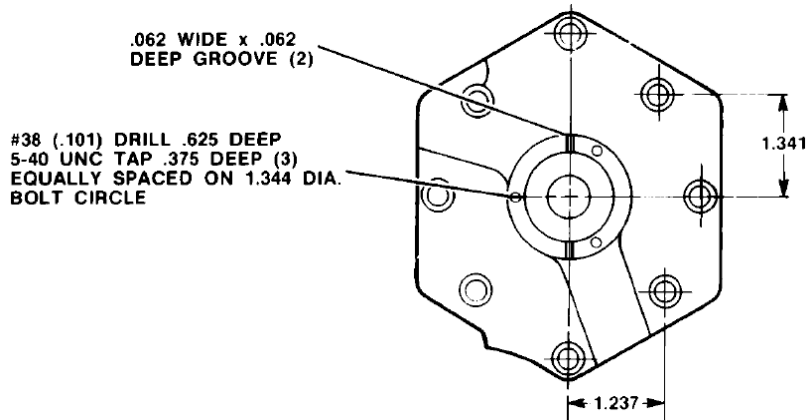


Figure 3. Dimensions for Machining 29 ft-lb Servo Cylinder for Weatherproof Boot

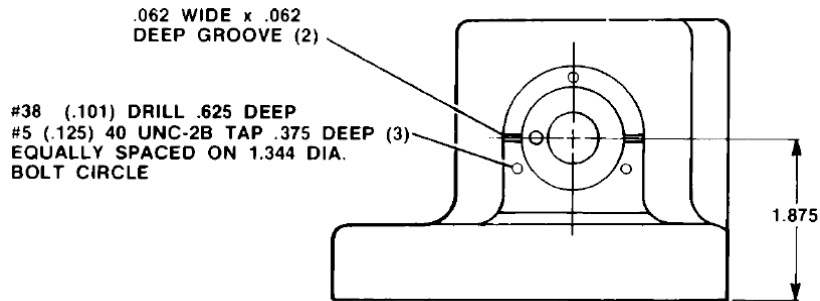


Figure 4. Dimensions for Machining 12 ft-lb Servo Cylinder for Weatherproof Boot

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Please reference publication **36702A**.



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