WOODWARD

Application Note 51349
(Revision NEW)
Original Instructions

UG-25+
Oil Level Gage Kit

Changing the Oil Sight Glass Window to a Vented Oil Level Gage

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

This publication may have been revised or updated since this copy was produced. To verify that you have the latest revision, check manual *26311* , *Revision Status & Distribution Restrictions of Woodward Technical Publications*, on the *publications page* of the Woodward website:

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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:

The original source of this publication may have been updated since this translation was made. Be sure to check manual *26311* , *Revision Status & Distribution Restrictions of Woodward Technical Publications*, to verify whether this translation is up to date. Out-of-date translations are marked with ⚠. Always compare with the original for technical specifications and for proper and safe installation and operation procedures.

Revisions—Changes in this publication since the last revision are indicated by a black line alongside the text.

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.

UG-25+
Oil Level Gage Kit

Introduction

This application note describes the procedure to change the oil sight glass window to an oil level gage on UG-25+ governors. It also describes the change from the existing 40 µm breather element to a less restrictive breather element. This change is needed to allow the governor vent system to work properly with the new oil level gage, which has its own venting feature.

IMPORTANT **This kit can be used on either side of the governor.**

Sight Glass Change

See Figures 1 through 4.

1. Remove the breather filter plug.
2. Drain the oil from the governor until the level is below the sight glass window.
3. Remove the existing site glass window from the desired side to upgrade using a 7/8” (~22.2 mm) socket wrench.

IMPORTANT **The existing sight glass window is normally factory-torqued to 65 lb-ft (88 N·m), and thus may be difficult to remove.**

NOTICE **It is NOT necessary to torque the new connections. Simply tighten them until there is no leakage. Do NOT overtighten.**

4. Install the reducer into the threaded hole in the governor case.
5. Thread the adapter as shown onto the reducer. Tighten until the adapter is orientated as shown.
6. Install the elbow into the adapter and tighten until the elbow is orientated as shown.
7. Install the oil gage into the elbow and tighten with the glass facing the desired viewing position.

NOTICE **Do not tighten the sight glass using the upper wrench flats as this could cause the glass to break. Instead, tighten by using the lower wrench flats.**

8. Remove the oil bleed plug on top of the adapter.

9. Add oil to the governor until oil comes to the top of the oil bleed plug hole in the adapter.

10. Install the oil bleed plug.

11. Add oil to the governor to the oil fill level on the sight glass.

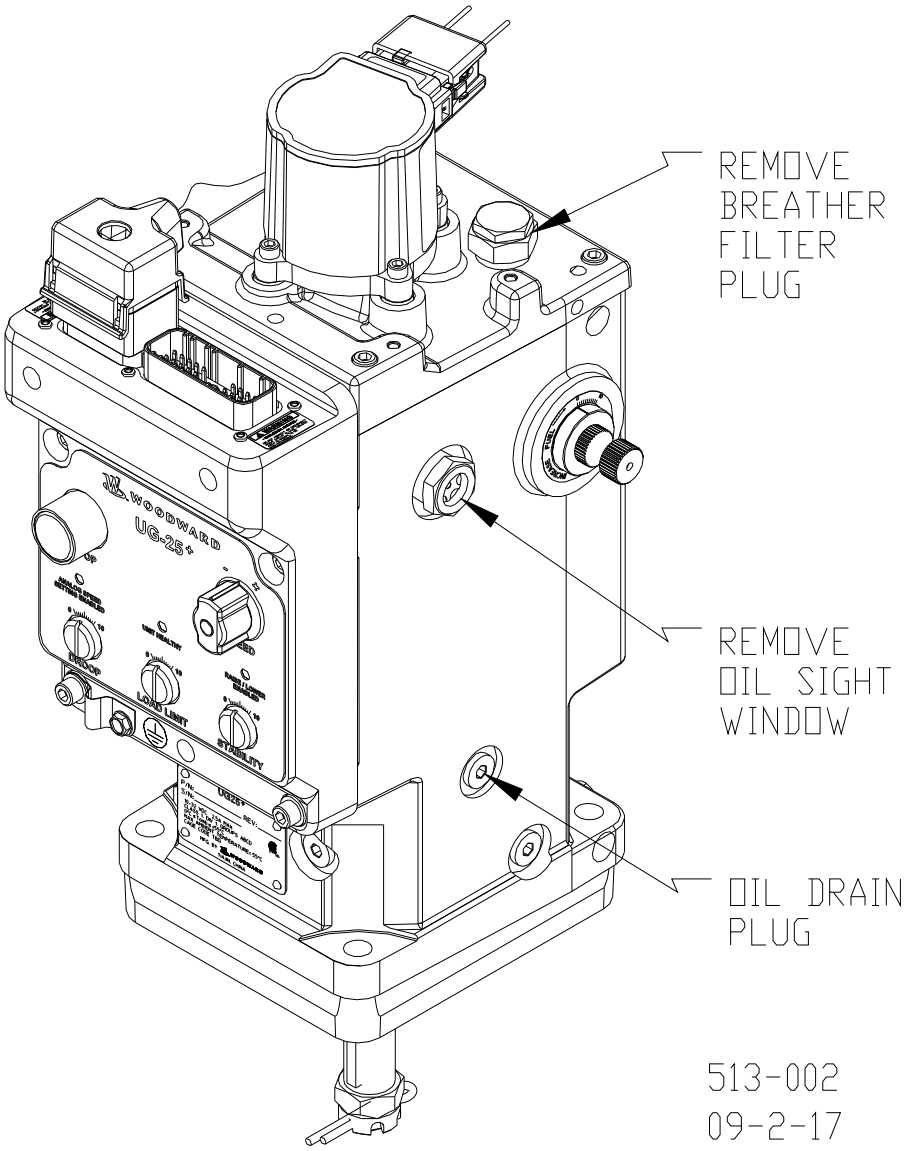

Figure 1. Governor with Previous Components

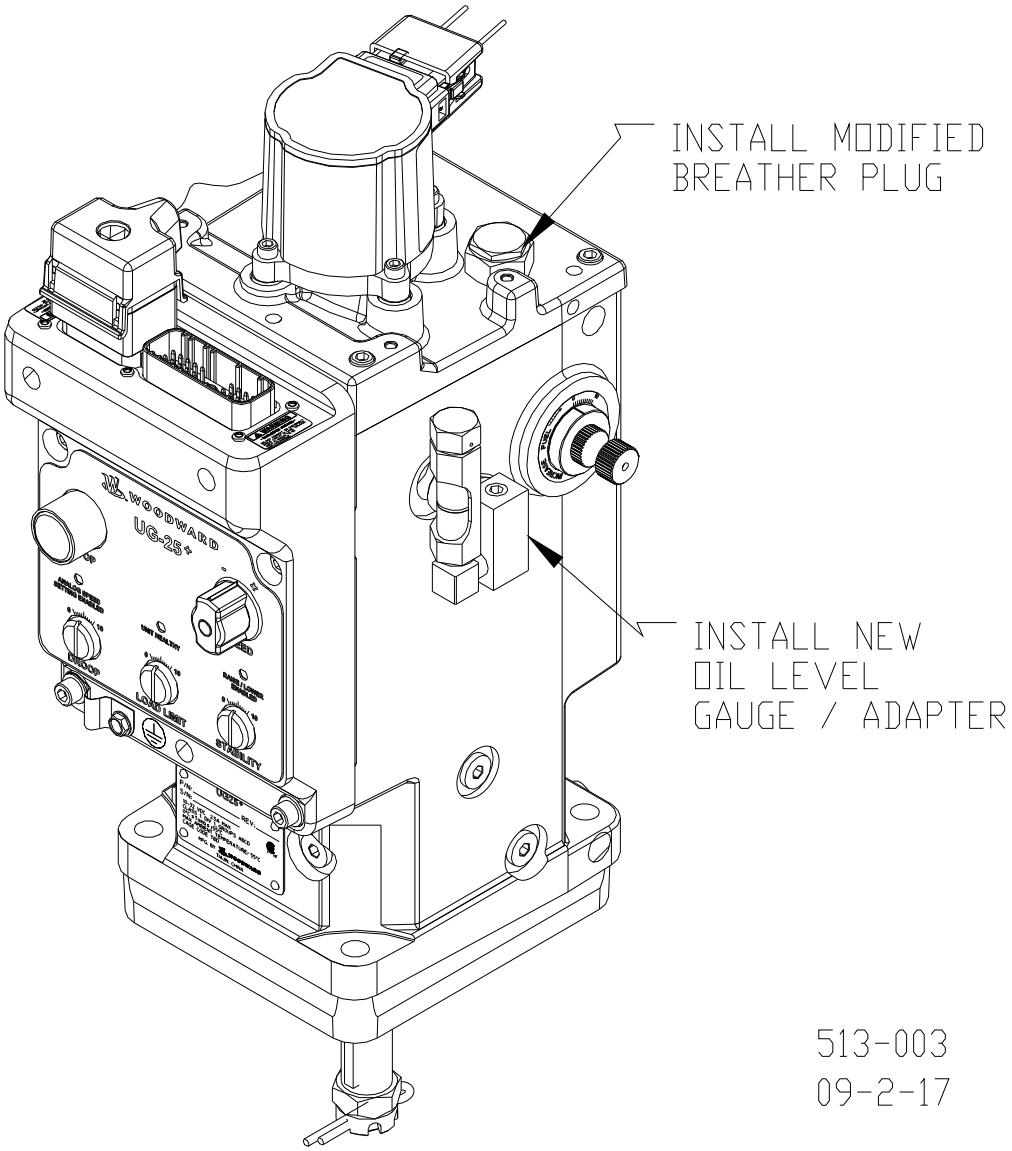

Figure 2. Governor with New Components Installed

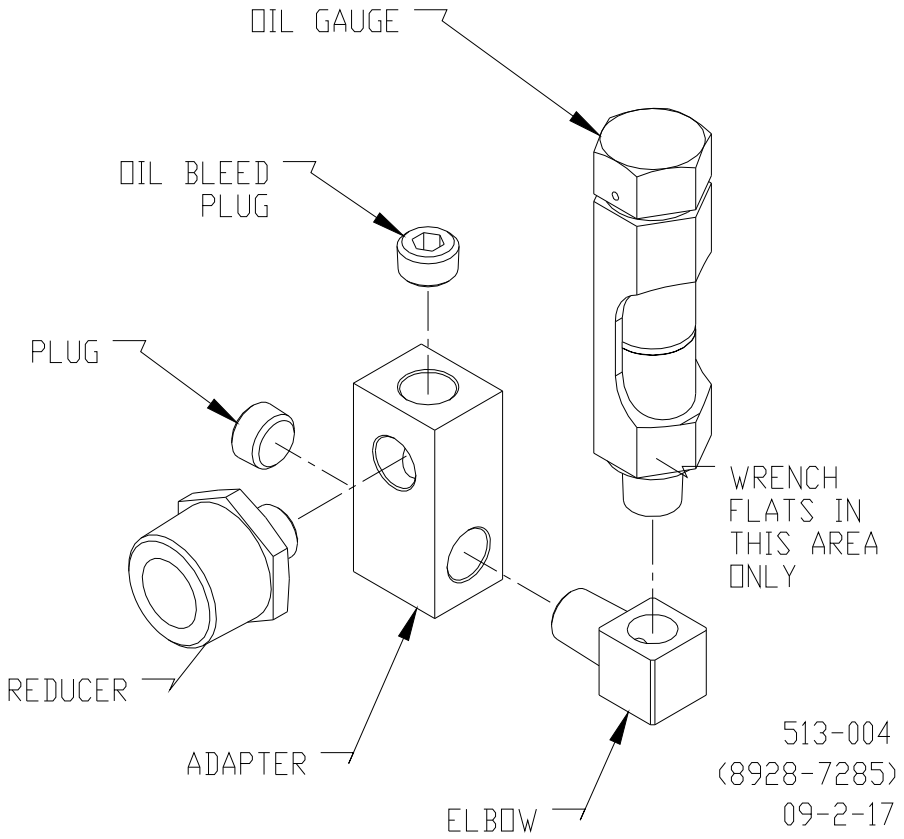

Figure 3. Oil Level Gage Components

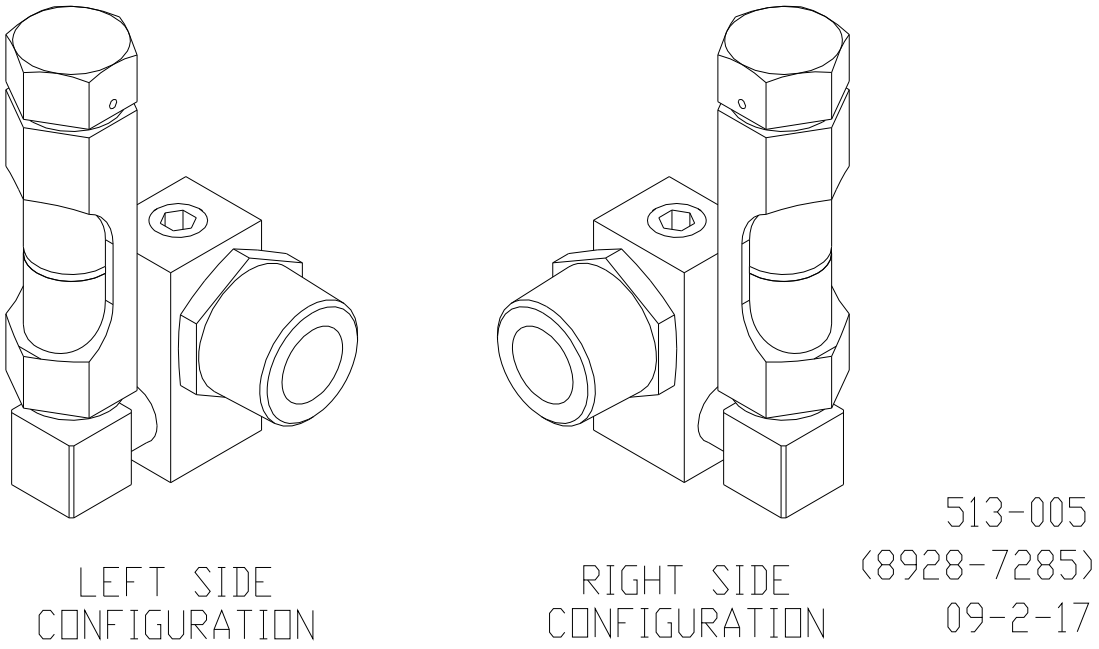

Figure 4. Oil Level Gage Configurations

Breather Filter Plug Modification

See Figure 5.

1. Disassemble the cap from the breather plug base.
2. Remove the bronze filter element and discard.
3. Leave the O-ring in place.
4. Install the aluminum insert.
5. Reinstall the cap.
6. Install the modified breather plug into the governor top cover.

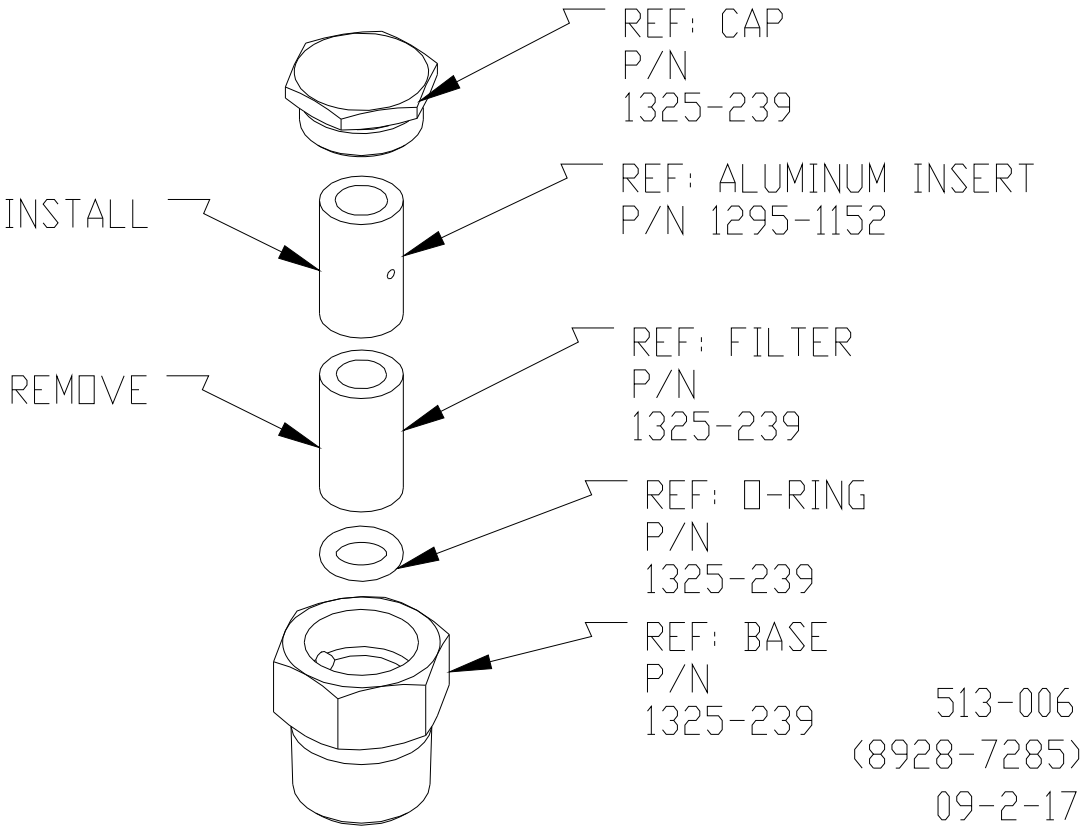

Figure 5. Breather Plug

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Please reference publication 51349.

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