

**PG Governor Absolute Manifold Pressure
Bias Load Control and Fuel Limiter**

Operation 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

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:

www.woodward.com/publications

The latest version of most publications is available on the *publications* page. If your publication is not there, please contact your customer service representative to get the latest copy.



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 Out-of-date translations are marked with ⚠.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.

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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.

Chapter 1.

Principles of Operation

General

The basic PG governor load control system is described in manual 36630. The basic load control adjusts engine load as a function of governor speed setting and fuel. Turbo-supercharged engines often require governors with a more intricate load control system such as the Absolute Manifold Pressure Bias Load Control. Figure 1-1 is a schematic diagram of the basic load control and the absolute manifold pressure bias load control system.

This system includes, in addition to the basic load control, a pressure sensor to alter the slope of the engine load versus the speed curve as a function of the absolute manifold charging air pressure. The sensor protects the engine, in case the manifold charging air is below normal pressure, by adjusting the load so the air available.

IMPORTANT

Absolute pressure is the gauge pressure plus the atmospheric pressure.

Operation

Bias Load Control

Manifold charging air pressure (see Figure 1-1) enters the upper bellows and pushes the output case end down. The lower bellows has been evacuated. The force at the output case end is proportional to the absolute manifold charging air pressure and is unaffected by atmospheric pressure changes.

The force produced by the absolute manifold charging air pressure is transmitted through the output case end and bellows-to-valve lever to the cone valve. This force is opposed at the cone valve by the force of the spring between the cone valve and the sensor piston.

The unrestricted flow of pressure oil applies constant pressure to the upper side of the sensor piston. A series of orifices restricts the flow of pressure oil to the underside of the piston. Except while changes are occurring in the manifold charging air pressure, the bellows force tending to push the cone valve up is balanced or equaled by the spring force from the opposite direction. The cone valve floats just off its seat and continually bypasses the oil, admitted through the orifice stack to the underside of the sensor piston, to sump. This accounts for the continuous bubbling of oil from the top of the sensor when it is operating.

If the bellows force is greater than the opposing spring force, the cone valve is forced upward, and oil flows out from under the piston at an increased rate. The pressure oil above the piston forces it down, compressing the spring until the spring force again equals the bellows force. If the absolute manifold charging air pressure is decreased, the bellows output force is reduced, and the spring pushes the cone valve onto its seat. The oil pressure under the piston moves the piston up and reduces the spring load on the cone valve until the opposing forces are again equal.

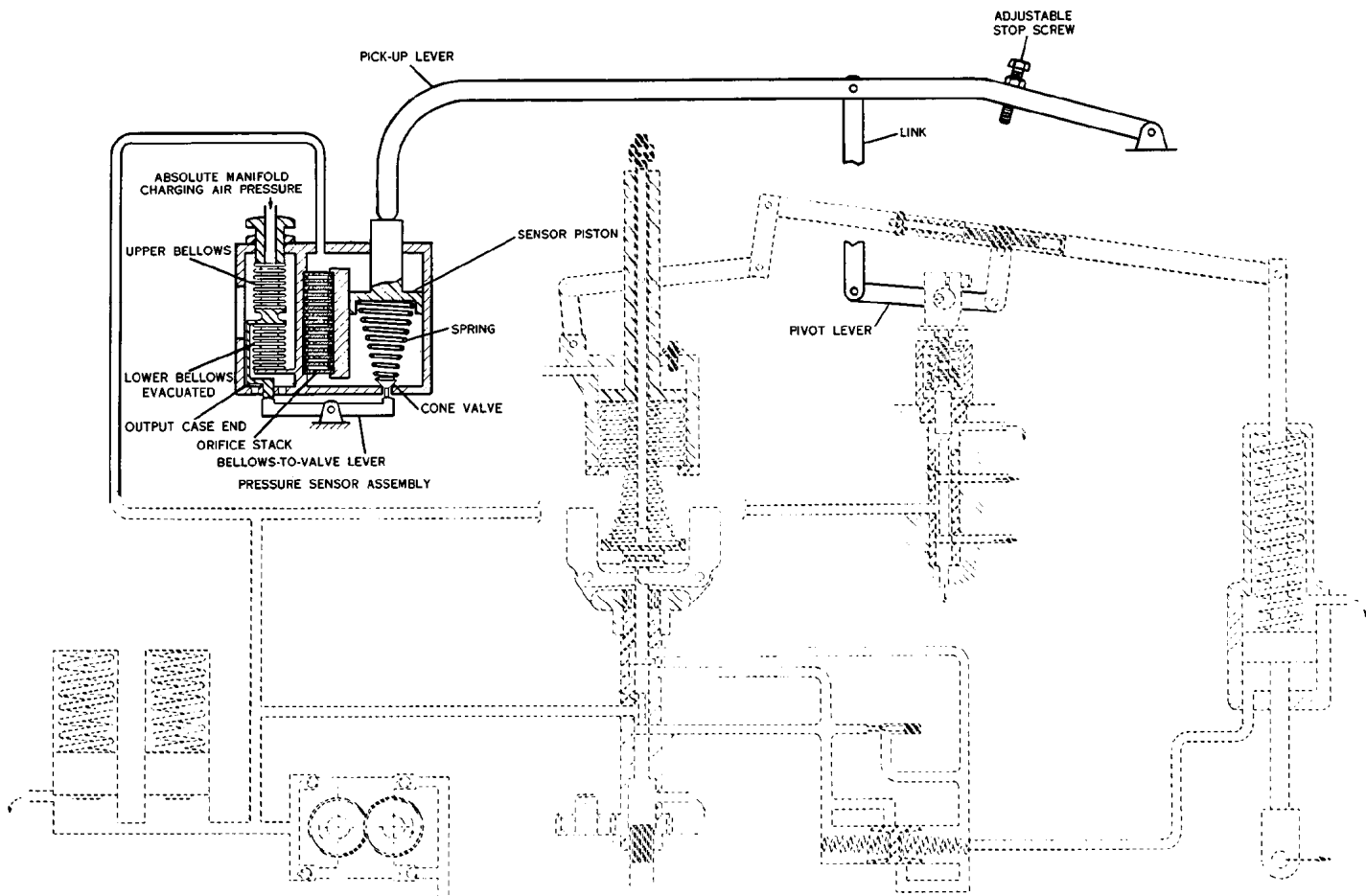


Figure 1-1. Schematic Diagram, Absolute Manifold Pressure Bias Load Control

The load control pilot valve plunger is not connected directly to the floating lever in this arrangement, as it is in the basic load control system. Instead, it is attached to a pivot lever. One end of the pivot lever is connected, through a link, to the floating lever. The other end is attached to a link which takes a position proportional to the sensor piston. A combination of three signals, (1) the governor speed setting, (2) the governor fuel setting, and (3) the absolute manifold charging air pressure, determines the load control pilot valve plunger position and, in turn, engine load.

Figure 1-2 is a graphic view of the effect of the absolute pressure sensor. Curve AB shows a typical load control curve of an engine operating without distress, with no help from a turbo-supercharger. The slope of curve AB is set by the proportioning adjustment of the floating lever. Since curve AB is set up with no air being pumped by the supercharger, the sensor piston is at the top end of its stroke. As the supercharger begins supplying air, the sensor piston moves down and, through the connecting linkage, lowers the load control pilot valve plunger. Pressure oil now flows to the load controller in the direction to increase engine load. Load is thereby increased resulting in a further increase in fuel until the load control pilot valve is again centered.

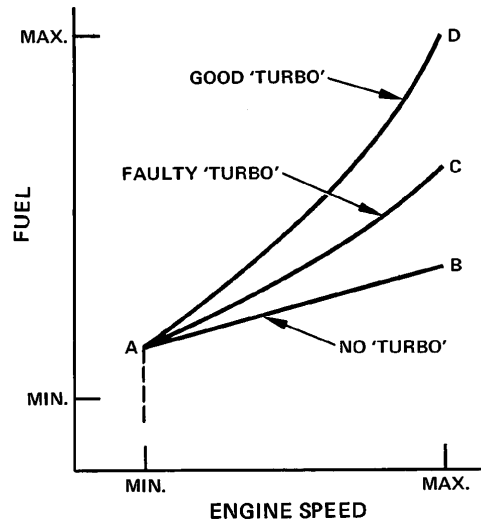


Figure 1-2. Absolute Pressure Sensor Effect

A governor with absolute pressure bias adjusts the engine's load to the air available. The load obtained for a given speed in this control system depends on the fuel programmed by curve AB plus the fuel added by the sensor piston; the latter is a measure of the absolute manifold charging air pressure. With the turbo-supercharger operating at maximum efficiency, a load control curve such as AD might result. If the supercharger becomes inoperative or loses efficiency, or if the air supply is reduced for any reason, the sensor will automatically fit the load to the available air. The resulting load control curve would be somewhere between AD and AB (for example, curve AC).

Fuel Limiter

The fuel limiter consists of a pressure sensor, a cam, and a connecting beam, if the fuel limiter is incorporated in a governor which also has a form of pressure bias load control, a single pressure sensor can serve to fill the needs of each system. Figure 1-3 shows this type of arrangement.

The normal lag of the turbo-supercharger speed to the engine speed during periods of acceleration makes it possible to supply, on large increases in load, more fuel to the engine than can be burned with the air available from the supercharger. The resulting imbalance of fuel and air leads to poor combustion and excessive smoke. This often retards the ability of the engine to return to normal speed after a load change. Restricting the governor power piston in the opening direction limits engine fuel as a function of absolute manifold charging air pressure and ensures that sufficient air is available for proper combustion of fuel.

One end of the connecting beam is attached to the tailrod of the governor power piston. The other end is positioned as a function of the cam position. The beam passes under the shutdown block. If the beam is raised sufficiently, it will raise the shutdown block and with it the shutdown rod. The shutdown rod is an extension of the governor pilot valve plunger. Therefore, lifting the shutdown rod lifts the pilot valve plunger.

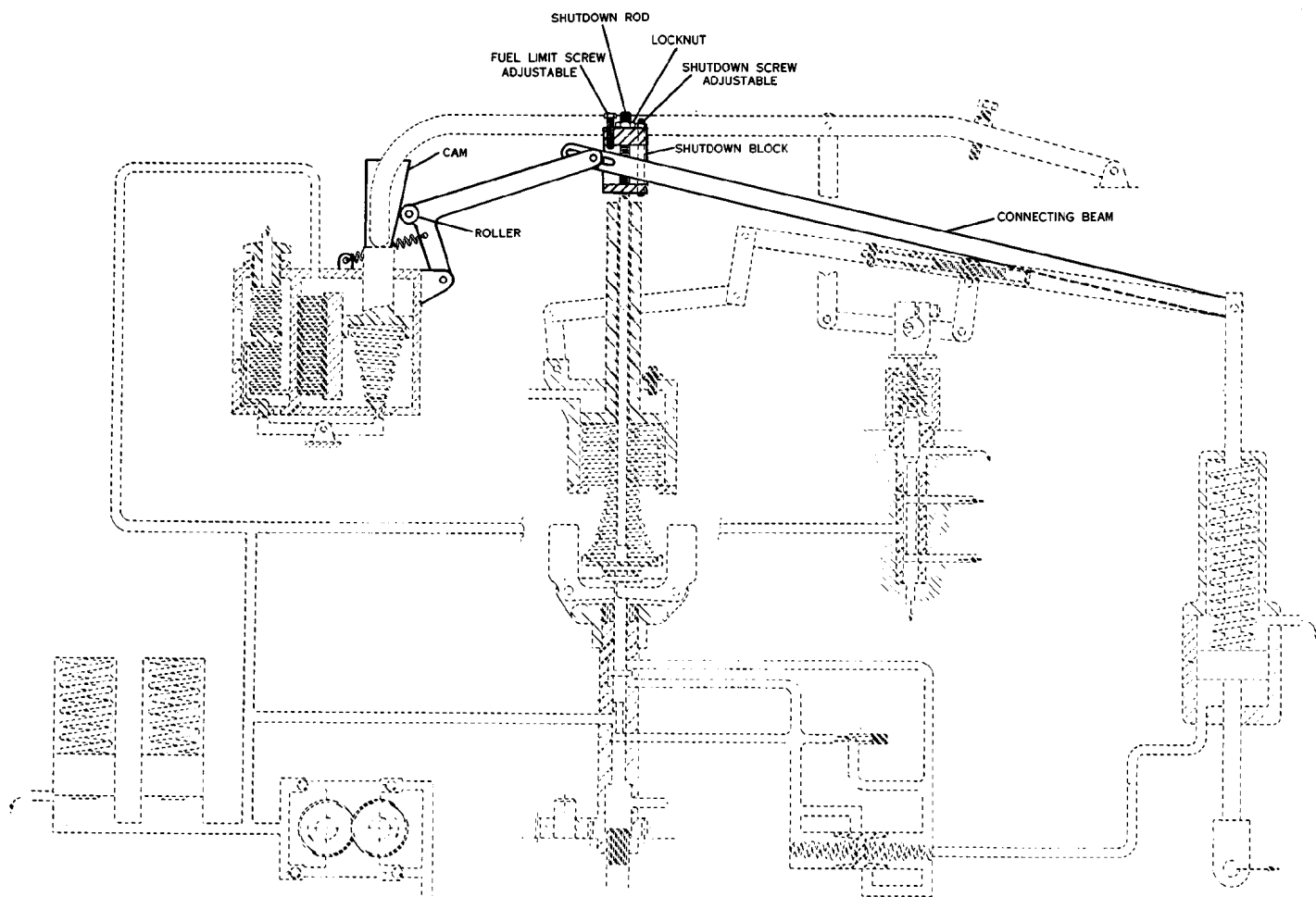


Figure 1 3. Schematic Diagram, Absolute Manifold Pressure Fuel Limiter

The governor power piston moves up, in the increase fuel direction, only when the pilot valve plunger is below its centered position. Fuel is increased only until the upward movement of the power piston and connecting beam returns the pilot valve plunger to its centered position. The cam position establishes the height to which the power piston may rise before the connecting beam lifts the pilot valve plunger. The cam position also determines the maximum fuel allowed to the engine at any instant.

As shown in Figure 1-3, the cam is attached to the hydraulically operated piston in the pressure sensor. The piston takes a position which is proportional to the absolute charging air pressure. The fuel limit at any instant is, therefore, a function of the absolute charging air pressure.

IMPORTANT

Even though using common signals (sensor piston position and power piston position), the fuel limiter and pressure bias load control are separate and independent systems.

Chapter 2.

Maintenance and Adjustments

Maintenance

Replace and lubricate with petrolatum all packings removed during disassembly.

Immerse all parts in solvent and wash ultrasonically or by agitation. Be sure all traces of contaminants in corners, holes, apertures, and threads are removed. Dry the parts with clean wipers or with a jet of clean, dry air.

Adjustments

When setting and adjusting the load control linkage, the objective is to have the load control pilot valve plunger centered when any of several unique sets of conditions relating three independent variables (speed setting, fuel setting, and absolute manifold charging air pressure) exists. Position of the sensor piston is proportional to the absolute manifold charging air pressure. The exact piston position for a given charging air pressure varies from one governor model to another. The piston travel versus charging air pressure relationship is chosen to suit the engine requirements and operating conditions.

It is possible, though extremely difficult even for experienced governor technicians, to adjust this type of load control mechanism on an engine. The linkage can be best set on a test stand equipped with a means of simulating the different air pressures (such as a vacuum pump and manometer) needed to check the linkage adjustments.

It is imperative to have and use the exact sensor piston versus charging air pressure relationship for the particular governor involved. Therefore, it is impractical to outline an adjustment procedure here. Those with the proper test equipment and having occasion to set and adjust this type of linkage should contact Woodward for complete instructions. Include the serial numbers of governors to be serviced with the request.

Chapter 3. Replacement Parts

An illustrated parts breakdown shows all replaceable parts of the double barrel and single barrel models.

Figures 3-1 and 3-2 illustrate and list all the replaceable parts for the double barrel and single barrel models respectively.

When ordering replacement parts, it is essential to include the following information:

- Governor serial number and part number shown on nameplate
- Manual number (this is manual 36601)
- Parts reference number in parts list and description of part or part name

Parts for Figure 3-1

Ref. No.	Part Name	Quantity	Ref. No.	Part Name	Quantity
36601-1	Fuel limiter body assy	1	36601-29	Straight headed pin	1
36601-2	Lever support	1	36601-30	Cotter pin	1
36601-3	Packing, 0.070 x 0.504 OD	1	36601-31	Fuel limit piston	1
36601-4	Bellows to valve lever	1	36601-32	Piston sleeve	1
36601-5	Flanged bearing, 0.250 x 0.125 x 0.1 ..	2	36601-33	Retaining ring 1.456 OD	1
36601-6	Straight pin	1	36601-34	Fuel limiter cam	1
36601-7	Nylok soc. hd. screw, 6-32 x 0.500	1	36601-35	Cam guide bracket	1
36601-8	Sensor assy.	1	36601-36	Hex head screw	1
36601-9	Bellows lock nut	1	36601-37	Hex nut, 6-32	1
36601-10	Banjo fitting body	1	36601-38	Pivot link	1
36601-11	O-ring backing washer	1	36601-39	Drilled straight pin	1
36601-12	Packing, 0.70 x 0.691 OD	1	36601-40	Straight pin	1
36601-13	Packing, 0.625 OD	1	36601-41	Headed pin	1
36601-14	Plug	1	36601-42	Cotter pin, 0.060 x 0.375	1
36601-15	Orifice case	1	36601-43	Ball bearing	1
36601-16	Washer, 0.360 OD	2	36601-44	Grooved straight pin	1
36601-17	Orifice plate	32	36601-45	Spacer, 0.196 ID	2
36601-18	Gasket	33	36601-46	Tension spring	2
36601-19	Oil seal compression spring	1	36601-47	Spring anchor screw	2
36601-20	Washer, 0.375 OD	1	36601-48	Washer, 0.360 OD	2
36601-21	Retaining ring	1	36601-49	Shim	1
36601-22	Check valve assy	1	36601-50	Ball bearing	1
36601-23	Packing, 0.070 x 0.504 OD	2	36601-51	Headed pin	1
36601-24	Screen assy	1	36601-52	Cap screw, 0.250-28 x 0.750	1
36601-25	Retaining ring	1	36601-53	Lock washer, #10	1
36601-26	Valve plunger	1	36601-54	Load control indicator	1
36601-27	Piston spring	1	36601-55	Phillips rd. hd. screw, 10-32 x 0.250 ..	1
36601-28	Spring seat	1	36601-56	Washer, 0.437 OD x 0.203 ID x 0.032	1

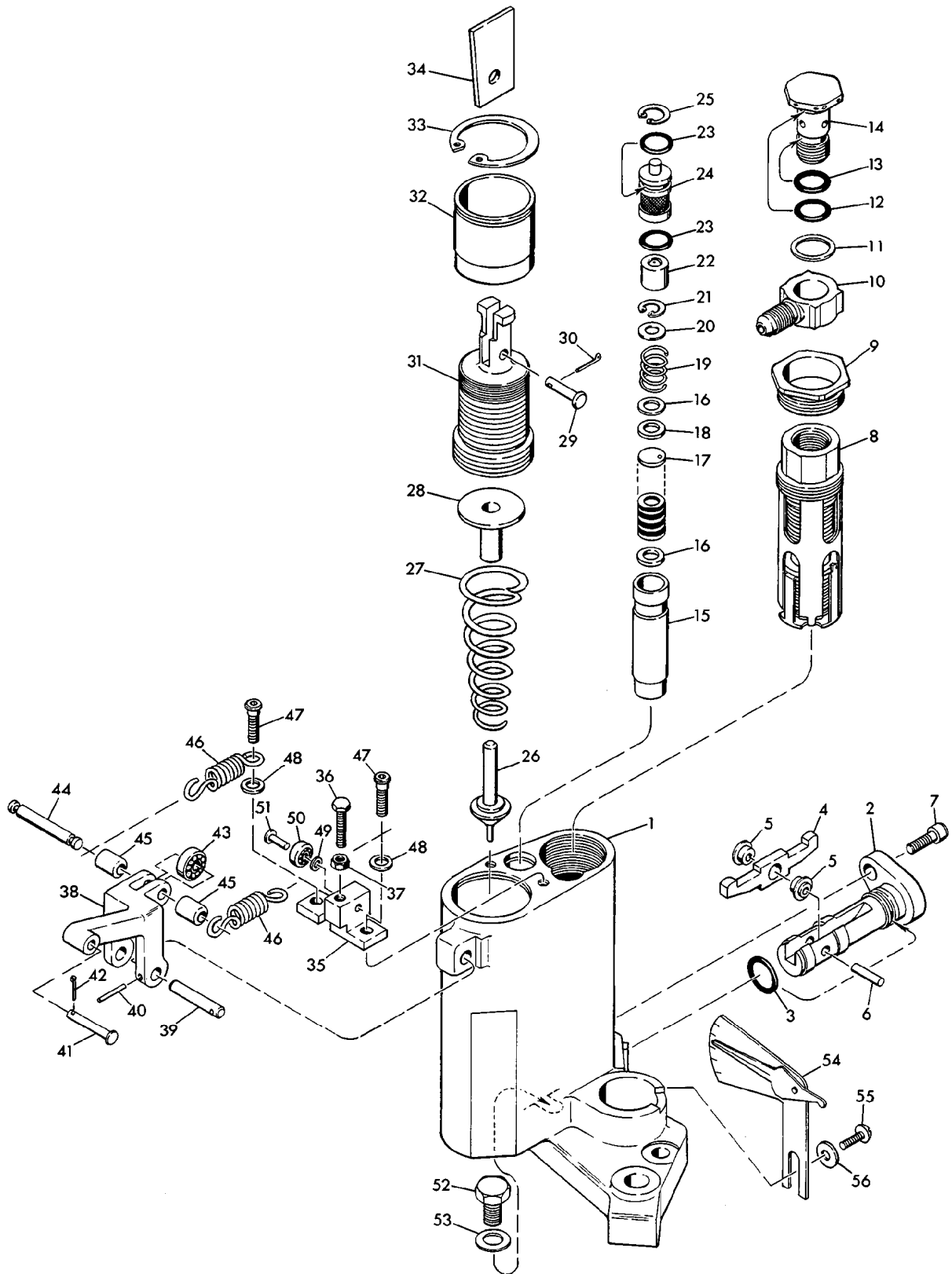


Figure 3-1. Exploded View, Absolute Manifold Pressure Bias Load Control and Fuel Limiter (Double Barrel Model)

Parts for Figure 3-2

Ref. No.	Part Name	Quantity	Ref. No.	Part Name	Quantity
36601-101	Pressure sensor body	1	36601-133	Soc. hd. cap screw, 10-32 x 1.500	1
36601-102	Orifice case	1	36601-134	Lock washer, #10	1
36601-103	Washer, 0.360 OD	2	36601-135	Limiter bellcrank	1
36601-104	Orifice plate	32	36601-136	Needle bearing	1
36601-105	Gasket	33	36601-137	Drilled pin	1
36601-106	Oil seal compression spring	1	36601-138	Cotter pin, 1/16 x 5/8	1
36601-107	Washer, 0.375 OD	1	36601-139	Bellcrank pivot pin	1
36601-108	Retaining ring	1	36601-140	Cotter pin, 1/16 x 5/8	1
36601-109	Check valve assy	1	36601-141	Floating lever	1
36601-110	Packing, 0.500 OD	2	36601-142	Pivot assy	1
36601-111	Screen assy	1	36601-143	Retaining ring, 0.103 OD	1
36601-112	Retaining ring	1	36601-144	Lever adjusting screw	1
36601-113	Limiter valve seat	1	36601-145	Feedback lever	1
36601-114	Washer, 0.567 x 0.745 x .030-.034	1	36601-146	Limit lever	1
36601-115	Eccentric	1	36601-147	Limit lever pivot pin	1
36601-116	Washer, 0.250 x 0.500 x 0.031	1	36601-148	Cotter pin, 1/16 x 5/8	1
36601-117	Cap screw, 0.250-28 x 0.750	1	36601-149	Limiter linkage load spring	1
36601-118	Pin, 0.059 & 0.082 dia. x 0.782 OAL	1	36601-150	Bellows spacer	1
36601-119	Diaphragm assy	1	36601-151	Packing, 0.070 x 1.254 OD	1
36601-120	Sensor spring seat	1	36601-152	Bellows output strap	1
36601-121	Spring	1	36601-153	Bellows assy	1
36601-122	Sensor spring seat	1	36601-154	Nylok button hd. screw	2
36601-123	Fuel limiter piston	1	36601-155	Cylinder head	1
36601-124	Piston sleeve	1	36601-156	Load control indicator	1
36601-125	Fuel limiter cam	1	36601-157	Screw	1
36601-126	Nylok screw	1	36601-158	Washer	1
36601-127	Roll pin, 0.125 dia. x 0.375	1	36601-159	Taper screw	9
36601-128	Pilot valve loading spring	1	36601-160	Soc. hd. cap screw, 0.250-28 x 1.750	1
36601-129	Shutdown pilot valve	1	36601-161	High collar lock washer, 0.250 ID	1
36601-130	Shutdown piston	1	36601-162	High collar lock washer, 0.250 ID	1
36601-131	Fuel limiter linkage bracket	1	36601-163	Soc. hd. cap screw, 0.250-28 x 1.125	1
36601-132	Soc. hd. cap screw	1	36601-164	Tailrod pin	1

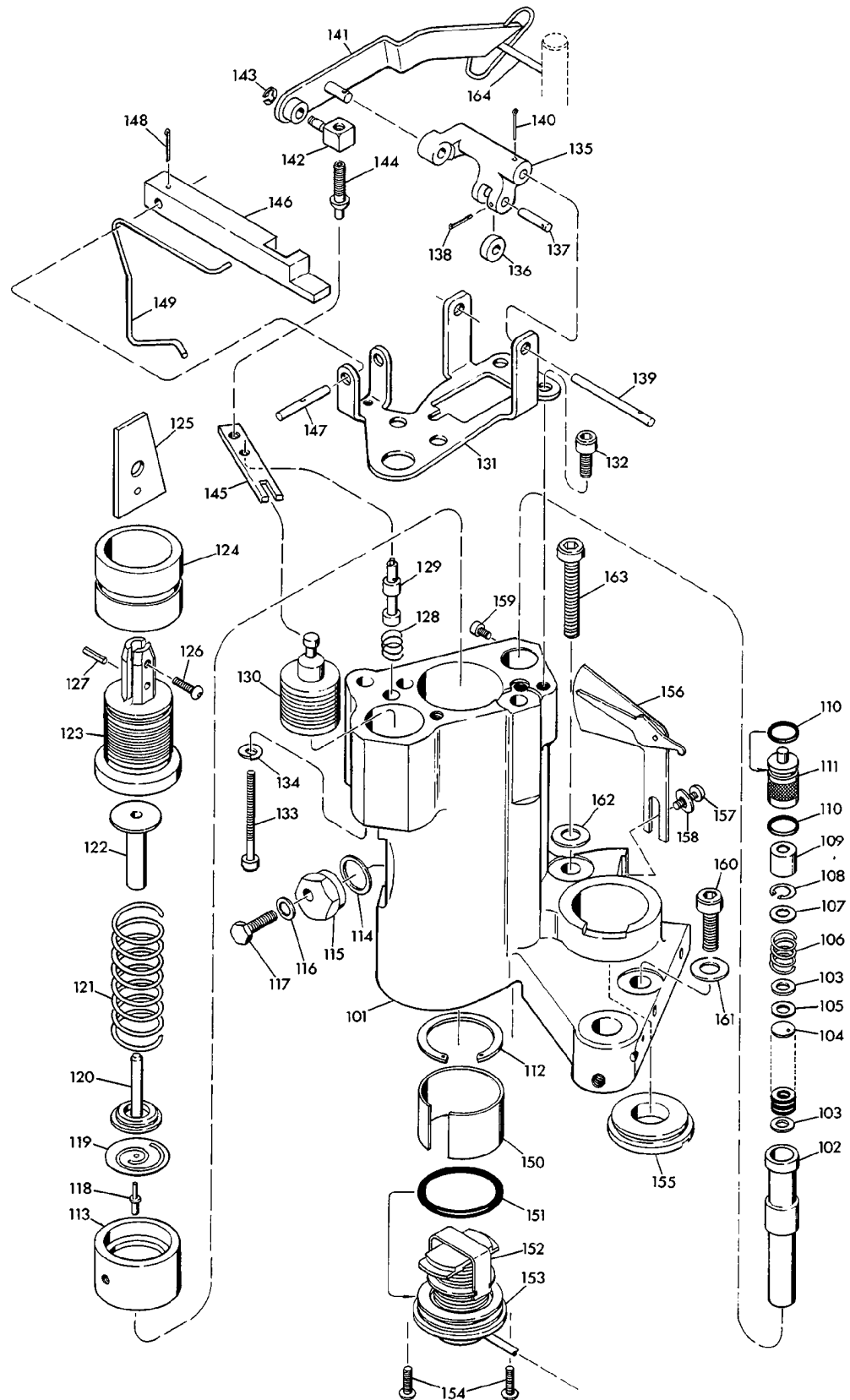


Figure 3-2. Exploded View, Absolute Manifold Pressure Bias Load Control and Fuel Limiter (Single Barrel Model)

Chapter 4.

Product Support and Service Options

Product Support Options

If you are experiencing problems with the installation, or unsatisfactory performance of a Woodward product, the following options are available:

1. Consult the troubleshooting guide in the manual.
2. Contact the **OE Manufacturer or Packager** of your system.
3. Contact the **Woodward Business Partner** serving your area.
4. Contact Woodward technical assistance via email (EngineHelpDesk@Woodward.com) with detailed information on the product, application, and symptoms. Your email will be forwarded to an appropriate expert on the product and application to respond by telephone or return email.
5. If the issue cannot be resolved, you can select a further course of action to pursue based on the available services listed in this chapter.

OEM or Packager Support: Many Woodward controls and control devices are installed into the equipment system and programmed by an Original Equipment Manufacturer (OEM) or Equipment Packager at their factory. In some cases, the programming is password-protected by the OEM or packager, and they are the best source for product service and support. Warranty service for Woodward products shipped with an equipment system should also be handled through the OEM or Packager. Please review your equipment system documentation for details.

Woodward Business Partner Support: Woodward works with and supports a global network of independent business partners whose mission is to serve the users of Woodward controls, as described here:

- A **Full-Service Distributor** has the primary responsibility for sales, service, system integration solutions, technical desk support, and aftermarket marketing of standard Woodward products within a specific geographic area and market segment.
- An **Authorized Independent Service Facility (AISF)** provides authorized service that includes repairs, repair parts, and warranty service on Woodward's behalf. Service (not new unit sales) is an AISF's primary mission.
- A **Recognized Engine Retrofitter (RER)** is an independent company that does retrofits and upgrades on reciprocating gas engines and dual-fuel conversions, and can provide the full line of Woodward systems and components for the retrofits and overhauls, emission compliance upgrades, long term service contracts, emergency repairs, etc.

A current list of Woodward Business Partners is available at www.woodward.com/directory.

Product Service Options

Depending on the type of product, the following options for servicing Woodward products may be available through your local Full-Service Distributor or the OEM or Packager of the equipment system.

- Replacement/Exchange (24-hour service)
- Flat Rate Repair
- Flat Rate Remanufacture

Replacement/Exchange: Replacement/Exchange is a premium program designed for the user who is in need of immediate service. It allows you to request and receive a like-new replacement unit in minimum time (usually within 24 hours of the request), providing a suitable unit is available at the time of the request, thereby minimizing costly downtime.

This option allows you to call your Full-Service Distributor in the event of an unexpected outage, or in advance of a scheduled outage, to request a replacement control unit. If the unit is available at the time of the call, it can usually be shipped out within 24 hours. You replace your field control unit with the like-new replacement and return the field unit to the Full-Service Distributor.

Flat Rate Repair: Flat Rate Repair is available for many of the standard mechanical products and some of the electronic products in the field. This program offers you repair service for your products with the advantage of knowing in advance what the cost will be.

Flat Rate Remanufacture: Flat Rate Remanufacture is very similar to the Flat Rate Repair option, with the exception that the unit will be returned to you in “like-new” condition. This option is applicable to mechanical products only.

Returning Equipment for Repair

If a control (or any part of an electronic control) is to be returned for repair, please contact your Full-Service Distributor in advance to obtain Return Authorization and shipping instructions.

When shipping the item(s), attach a tag with the following information:

- return number;
- name and location where the control is installed;
- name and phone number of contact person;
- complete Woodward part number(s) and serial number(s);
- description of the problem;
- instructions describing the desired type of repair.

Packing a Control

Use the following materials when returning a complete control:

- protective caps on any connectors;
- antistatic protective bags on all electronic modules;
- packing materials that will not damage the surface of the unit;
- at least 100 mm (4 inches) of tightly packed, industry-approved packing material;
- a packing carton with double walls;
- a strong tape around the outside of the carton for increased strength.

NOTICE

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*.

Replacement Parts

When ordering replacement parts for controls, include the following information:

- the part number(s) (XXXX-XXXX) that is on the enclosure nameplate;
- the unit serial number, which is also on the nameplate.

Engineering Services

Woodward's Full-Service Distributors offer various Engineering Services for our products. For these services, you can contact the Distributor by telephone or by email.

- Technical Support
- Product Training
- Field Service

Technical Support is available from your equipment system supplier, your local Full-Service Distributor, or from many of Woodward's worldwide locations, depending upon the product and application. This service can assist you with technical questions or problem solving during the normal business hours of the Woodward location you contact.

Product Training is available as standard classes at many Distributor locations. Customized classes are also available, which can be tailored to your needs and held at one of our Distributor locations or at your site. This training, conducted by experienced personnel, will assure that you will be able to maintain system reliability and availability.

Field Service engineering on-site support is available, depending on the product and location, from one of our Full-Service Distributors. The field engineers are experienced both on Woodward products as well as on much of the non-Woodward equipment with which our products interface.

For information on these services, please contact one of the Full-Service Distributors listed at www.woodward.com/directory.

Contacting Woodward's Support Organization

For the name of your nearest Woodward Full-Service Distributor or service facility, please consult our worldwide directory published at www.woodward.com/directory.

You can also contact the Woodward Customer Service Department at one of the following Woodward facilities to obtain the address and phone number of the nearest facility at which you can obtain information and service.

Products Used In Electrical Power Systems

<u>Facility</u> -----	<u>Phone Number</u>
Brazil -----	+55 (19) 3708 4800
China -----	+86 (512) 6762 6727
Germany:	
Kempen----	+49 (0) 21 52 14 51
Stuttgart--	+49 (711) 78954-510
India -----	+91 (129) 4097100
Japan-----	+81 (43) 213-2191
Korea -----	+82 (51) 636-7080
Poland-----	+48 12 295 13 00
United States----	+1 (970) 482-5811

Products Used In Engine Systems

<u>Facility</u> -----	<u>Phone Number</u>
Brazil -----	+55 (19) 3708 4800
China -----	+86 (512) 6762 6727
Germany-----	+49 (711) 78954-510
India -----	+91 (129) 4097100
Japan-----	+81 (43) 213-2191
Korea -----	+82 (51) 636-7080
The Netherlands-	+31 (23) 5661111
United States----	+1 (970) 482-5811

Products Used In Industrial Turbomachinery Systems

<u>Facility</u> -----	<u>Phone Number</u>
Brazil -----	+55 (19) 3708 4800
China -----	+86 (512) 6762 6727
India -----	+91 (129) 4097100
Japan-----	+81 (43) 213-2191
Korea -----	+82 (51) 636-7080
The Netherlands-	+31 (23) 5661111
Poland-----	+48 12 295 13 00
United States----	+1 (970) 482-5811

For the most current product support and contact information, please visit our website directory at www.woodward.com/directory.

Technical Assistance

If you need to contact technical assistance, you will need to provide the following information. Please write it down here before contacting the Engine OEM, the Packager, a Woodward Business Partner, or the Woodward factory:

General

Your Name _____

Site Location _____

Phone Number _____

Fax Number _____

Prime Mover Information

Manufacturer _____

Engine Model Number _____

Number of Cylinders _____

Type of Fuel (gas, gaseous, diesel,
dual-fuel, etc.) _____

Power Output Rating _____

Application (power generation, marine,
etc.) _____

Control/Governor Information

Control/Governor #1

Woodward Part Number & Rev. Letter _____

Control Description or Governor Type _____

Serial Number _____

Control/Governor #2

Woodward Part Number & Rev. Letter _____

Control Description or Governor Type _____

Serial Number _____

Control/Governor #3

Woodward Part Number & Rev. Letter _____

Control Description or Governor Type _____

Serial Number _____

Symptoms

Description _____

If you have an electronic or programmable control, please have the adjustment setting positions or the menu settings written down and with you at the time of the call.

We appreciate your comments about the content of our publications.

Send comments to: icinfo@woodward.com

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