WOODWARD

Manual 26867 (Revision NEW, 5/2015) 3055 Hydraulic Pump/Servovalve Assembly

See manual 26212 for complete installation, operation, maintenance, and certification information. Publications can be found on our website at www.woodward.com/publications.

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.



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.



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.



This publication may have been revised or updated since this copy was produced. To verify that you have the latest revision, check manual 26455, *Customer Publication Cross Reference and Revision Status & Distribution Restrictions*, 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.



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.

NOTICE

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.

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*. Go to www.woodward.com/publications for complete instructions (manual 26212).

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 phone number of contact person;
- name and location where the control is installed;
- complete Woodward part number(s) and serial number(s);

• description of the problem;

• instructions describing the desired type of repair.

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 <u>www.woodward.com/directory</u>.

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	Products Used In Engine Systems	Products Used In Industrial Turbomachinery Systems
Facility Phone Number	<u>Facility</u> <u>Phone Number</u>	Facility Phone Number
Brazil +55 (19) 3708 4800	Brazil +55 (19) 3708 4800	Brazil +55 (19) 3708 4800
China +86 (512) 6762 6727	China +86 (512) 6762 6727	China +86 (512) 6762 6727
Germany:	Germany +49 (711) 78954-510	India+91 (129) 4097100
Kempen +49 (0) 21 52 14 51	India+91 (129) 4097100	Japan+81 (43) 213-2191
Stuttgart - +49 (711) 78954-510	Japan+81 (43) 213-2191	Korea+82 (51) 636-7080
India+91 (129) 4097100	Korea+82 (51) 636-7080	The Netherlands+31 (23) 5661111
Japan+81 (43) 213-2191	The Netherlands+31 (23) 5661111	Poland+48 12 295 13 00
Korea+82 (51) 636-7080	United States+1 (970) 482-5811	United States+1 (970) 482-5811
Poland+48 12 295 13 00		
United States+1 (970) 482-5811		

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Email and Website—www.woodward.com

Regulatory Compliance & Declarations

The Hydraulic Pump and Servovalve is suitable for use in European Zone 2, Group II environments per compliance with EN50021, Electrical apparatus for explosive atmospheres – Type of protection 'n'.

European Compliance for CE Marking:

These listings are limited only to those units bearing the CE Marking.

ATEX – Potentially	Declared to 94/9/EEC COUNCIL DIRECTIVE
Explosive	of 23 March 1994 on the approximation of the
Atmospheres	laws of the Member States concerning
Directive:	equipment and protective systems intended for use in potentially explosive atmospheres.
	EEx nA II T4 X

Other European and International Compliance:

Compliance with the following European Directives or standards does not qualify this product for application of the CE Marking:

EMC Directive:	Not applicable to this product. Electromagnetically passive devices are excluded from the scope of the 89/336/EEC Directive.
Machinery Directive:	Compliant as a component with 98/37/EC COUNCIL DIRECTIVE of 23 July 1998 on the approximation of the laws of the Member States relating to machinery.
Pressure Equipment Directive:	Compliant as "SEP" per Article 3.3 to Pressure Equipment Directive 97/23/EC of 29 May 1997 on the approximation of the laws of the Member States concerning pressure equipment.

Special Limitations for Safe Use

Wiring must be in accordance with European Zone 2 wiring methods as applicable, and in accordance with the authority having jurisdiction.

Field Wiring must be suitable for at least 121 °C.

Proper grounding shall be applied as part of the final installation in accordance with EN 60079-15, Clause 6.2.5 and EN 50021, Clause 7.2.5.

The final Ingress Protection of the product shall be ensured by the use of a proper mating electrical connector and is the responsibility of the user in accordance with EN 60079-15, Clause 5.1.3 and EN 50021, Clause 6.1.4.

The mating electrical connector provided at the installation must withstand a separating force of at least 15 N (1.5 kgf) or be prevented from loosening or separating in accordance with EN 60079-15, Clause 14.2 and EN50021, Clause 15.2. Do not separate the electrical connection when the product is energized.



EXPLOSION HAZARD—Do not connect or disconnect while circuit is live unless area is known to be non-hazardous.

Substitution of components may impair suitability for Class I, Division or Zone applications.

RISQUE D'EXPLOSION—Ne pas raccorder ni débrancher tant que l'installation est sous tension, sauf en cas l'ambiance est décidément non dangereuse.
La substitution de composants peut rendre ce matériel inacceptable pour les emplacements de Classe I, applications Division ou Zone.
ue to the hazardous location listings associated with this product, oper wire type and wiring practices are critical to operation.
o not connect any cable grounds to "instrument ground", "control ound", or any non-earth ground system. Make all required

DECLARATION OF CONFORMITY According to EN 17050

Manufacturer's Name:	WOODWARD INC
Manufacturer's Address:	1000 E. Drake Rd. Fort Collins, CO, USA, 80525
Model Name(s)/Number(s):	Hydraulic Pump/Servo valve Assemblies: 9902-439, 9902-440, 9902-441 Servo valve: 9902-412, 9902-413, 9902-414 Pump: 9902-428
Conformance to Directive(s):	94/9/EC COUNCIL DIRECTIVE of 23 March 1994 on the approximation of the laws of the Member States concerning equipment and protective systems intended for use in potentially explosive atmospheres
Applicable Standards:	EN60079-15: 2010 Electrical apparatus for potentially explosive atmospheres - Type of protection 'n'
Marking(s):	Category 3 Group II G, EEx nA II T4 X

We, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s).

MANUFACTURER
Subartton
Signature
Suhail Horan
Full Name
Compliance Manager
Position
Woodward Loveland, CO. USA
Place
07 MAY 2012

Date

5-09-1183 Rev 8, 3/25/2011

00323-04-EU-02-02

DECLARATION OF INCORPORATION Of Partly Completed Machinery 2006/42/EC

Manufacturer's Name:	WOODWARD INC	
Manufacturer's Address:	1000 E. Drake Rd. Fort Collins, CO, USA, 80525	3800 N. Wilson Ave. Loveland, CO, USA 80538
Model Name(s)/Number(s):	Hydraulic Pump/Servo valve Assemblies: 9902-439, 9902-440, 9902-441 Servo valve: 9902-412, 9902-413, 9902-414 Pump: 9902-428	
This product complies, where applicable, with the following Essential Requirements of Annex I:	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7	

The relevant technical documentation is compiled in accordance with part B of Annex VII. Woodward shall transmit relevant information if required by a reasoned request by the national authorities. The method of transmittal shall be agreed upon by the applicable parties.

The person authorized to compile the technical documentation:

Name:Ralf Friedrich, Group Director, Quality, EPSAddress:Woodward GmbH, Handwerkstraße 29, 70565 Stuttgart, Germany

This product must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of this Directive, where appropriate.

The undersigned hereby declares, on behalf of Woodward Governor Company of Loveland and Fort Collins, Colorado that the above referenced product is in conformity with Directive 2006/42/EC as partly completed machinery:

MANUFACTURER
Suhaif Hong
Signature
Suhail Horan
Full Name
Quality Manager
Position
Loveland, CO, USA
Place
25-MAR-2011
Date

5-09-1182 (REV. 10)

00323-04-04-EU-02-01