

### Application Note 51401 (Revision B, 5/2014) Original Instructions

## N-2007 Repair Kit Rebuild Instructions

## 

ASSEMBLY TOOLS

Use proper size and type of tool for assembly and disassembly. Any damaged screws cannot be properly torqued and can cause unexpected hardware problems or gas leakage, which could lead to serious injury or loss of life.

## 

PROTECT THE COMPONENTS FROM CONTAMINATION All disassembled components must be stored in a clean container or area, and be kept absolutely clean, prior to re-assembly. Any contamination on the valve seat, diaphragm, O-ring, or screws can create hardware defects and cause unexpected gas leakage, which could lead to serious injury or loss of life.

#### UNAUTHORIZED CHEMICAL PRODUCTS Do not use unauthorized chemical products to clean the components or elastomeric area. This could damage the components and cause unexpected gas leakage, which could lead to serious injury or loss of life.

	PRODUCT LIFE CYCLE There is no specific life cycle (product duration) for internal components. However, if any problem is suspected or the body, cover, pin, screw, etc., show signs of aging, the product should be repaired or the entire assembly should be replaced.
--	--



#### GAS LEAKAGE TEST

After installation, perform a leakage test, first with an air source, then with gaseous fuel. Be sure to use a special gas detector with snoop testing to confirm that there is no leakage. Any leakage can lead to significant problems, including serious injury or loss of life.

Woodward reserves the right to update any portion of this publication at any time. Information provided by Woodward is believed to be correct and reliable. However, no responsibility is assumed by Woodward unless otherwise expressly undertaken.

Application Note 51264 Copyright © Woodward 2010–2014 All Rights Reserved

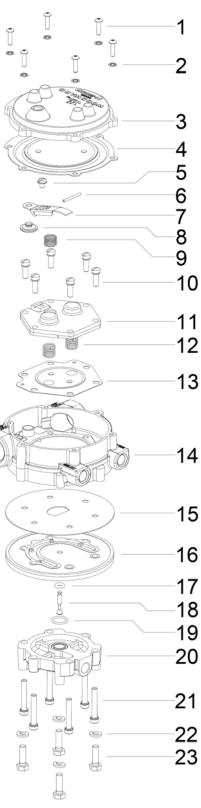
# N-2007 Repair Kit Rebuild Instructions

### Purpose

This revision allows for field repair operation of the LP converter supplied by Woodward.

### **Installation Instructions**

- 1. Remove the six tamper-resistant screws (1) with washers (2) that hold secondary cover (3) in position.
- Remove and discard secondary diaphragm assembly (4).
- 3. Remove screw (5), secondary lever with pin (6 and 7), and secondary spring (9) from primary diaphragm cover (11).
- 4. Remove old secondary seat (8) from lever (7) and discard.
- 5. Remove the six primary diaphragm cover screws (10), primary diaphragm cover (11), and the two primary springs (12).
- 6. Remove and discard primary diaphragm assembly (13) by sliding it sideways off primary valve pin (18).
- 7. Turn the converter over. Remove six fuel inlet cover screws (21) and fuel inlet cover (20). Discard fuel inlet cover O-ring (19).
- 8. Remove and discard primary valve pin (18) and primary O-ring (17).
- 9. Remove heat exchanger cover (16), and discard gasket (15)
- 10. Clean castings and components of dirt and oil, and remove all foreign debris.
- Lubricate new primary O-ring (17) with a small amount of petroleum jelly and install in heat exchanger cover (16). Push the O-ring firmly into the pocket.
- 12. Install alignment pins (1023-2008) into the main body as indicated in Figure 1.
- 13. Place new heat exchanger gasket (15) on the main body in the proper orientation.
- 14. Place heat exchanger cover (16) onto the main body in the proper orientation as shown in Figure 2.
- 15. Insert 11/64" alignment pins (1023-2008) through primary O-ring (17) and into the holes in heat exchanger cover (16) as shown in Figure 2.
- Once centered, firmly hold heat exchanger cover (16) in place and remove the 11/64" alignment pin. Insert primary valve pin (18).
- 17. Install new O-ring (19) into the groove on fuel inlet cover (20). A small amount of petroleum jelly should be used to hold the O-ring in place.



#### N-2007 Repair Kit Rebuild Instructions

- 18. Place fuel inlet cover (20) in the proper clock position for your application. Clocking positions can been seen in Figure 3.
- 19. Apply WD-40 to the lower half of the six fuel inlet cover screws (21).
- 20. While continuing to hold the heat exchanger and fuel inlet cover firmly in place, install four screws (21) in the fuel inlet cover snugly. Remove alignment pins (1013-2008) and install the remaining two screws (21).
- Tighten the six fuel inlet cover screws (21) to 1.7-2.0 N⋅m (15–18 lb-in) in the pattern shown in Figure 4. Then tighten screws (21) to 5.4-5.9 N⋅m (48–52 lb-in). Let sit 24 hours, and then re-torque to the final torque setting.
- 22. Without pushing primary valve pin (18) into the casing, carefully install primary diaphragm (13), ensuring it is hooked to the primary valve pin. Gently lift up on primary diaphragm (13) to ensure it is connected to primary fuel pin (18). Ensure the primary diaphragm holes are lined up properly and the diaphragm is hooked onto the locating pins.
- Install the two primary springs (12) onto the dimples of primary diaphragm (13).
- 24. Install primary diaphragm cover (11) and loosely install the six screws (10). Torque screws (10) to 3.8–4.3 N⋅m (34–38 lb-in) in the pattern shown in Figure 5. Let sit 24 hours, and then re-torque to the final torque setting.
- 25. Assemble secondary seat (8) into lever (7). Insert pin (6) into lever (7) and visually center the pin.
- 26. Place spring (9) onto primary diaphragm cover (11). Place the lever assembly over the spring and secure it to the primary cover with screw (5) and torque to 1.7–2.0 N⋅m (15–18 lb-in). Ensure the lever system is working smoothly without binding.
- 27. Install secondary diaphragm (4) and ensure it is hooked to secondary level (7).
- Install secondary cover (3) with the six tamper proof screws (1) and washers (2). Torque screws (1) in a star pattern as shown in Figure 6 to 1.7–2.0 N⋅m (15–18 lb-in).
- 29. Apply compressed air (125 psi max) to the port on fuel inlet cover (20) and check for leaks at the outlet port, along the edge of gasket (15), and the edge of screw heads (21) with a leak-detection solution or soapy water.



Figure 1



Figure 2

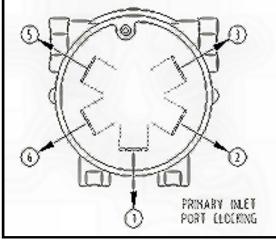


Figure 3

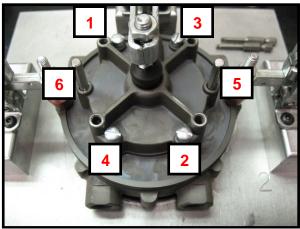


Figure 4

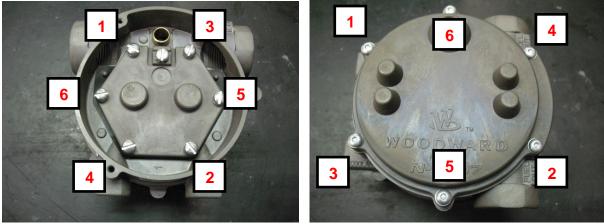


Figure 5

Figure 6

We appreciate your comments about the content of our publications.

Send comments to: <a href="mailto:icinfo@woodward.com">icinfo@woodward.com</a>

Please reference publication **51401B**.



PO Box 1519, Fort Collins CO 80522-1519, USA 1000 East Drake Road, Fort Collins CO 80525, USA Phone +1 (970) 482-5811 • Fax +1 (970) 498-3058

Email and Website—www.woodward.com

Woodward has company-owned plants, subsidiaries, and branches, as well as authorized distributors and other authorized service and sales facilities throughout the world.

Complete address / phone / fax / email information for all locations is available on our website.