

Application Note 51264 (Revision B, 5/2014) Original Instructions

N-RK2001-RSA (N-2001 Red Spring) Repair Kit

Installation 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.

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Purpose

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

Installation Instructions

- 1. Remove the four screws (1) and two tamper-resistant screws (2) with washers (3) that hold the secondary cover (4) in position.
- 2. Remove and discard secondary diaphragm assembly (5).
- 3. Remove screw (6), secondary lever with pin (7 and 9) and secondary spring (10) from primary diaphragm cover (15). Discard secondary spring.
- 4. Remove old secondary seat (8) from lever (7) and discard.
- 5. Remove the six primary diaphragm cover screws (14), primary diaphragm cover (15), and the two primary springs (16).
- 6. Remove and discard the primary diaphragm assembly (17) by sliding it sideways off the primary valve pin (24).
- Turn converter over, remove six vaporization chamber cover screws (25) and vaporization chamber cover (22).
 Discard vaporization chamber gasket (21) and O-ring (20).
- 8. Remove inlet plug (27) and discard inlet plug O-ring (26), primary valve pin (24), and primary O-ring (23).
- 9. Clean castings and components of dirt and oil and remove all foreign debris.
- 10. Install new primary O-ring (23) in the vaporization chamber cover (22). Push the O-ring firmly into the pocket.
- 11. Insert new primary valve pin (24) through primary O-ring (23) and into the hole in vaporization chamber cover plate (22).
- 12. Install new inlet plug O-ring (26) and inlet plug (27) in the vaporization chamber cover (22). Tighten the inlet plug to 15.2–16.4 Nm (135–145 lb-in).
- 13. Install new O-ring (20) in converter body (19).
- 14. Place new gasket (21) on vaporization chamber cover plate (22), and position cover plate and gasket on converter body (19), guiding primary valve pin (24) into hole in body.
- 15. Secure vaporization chamber cover plate (22) to converter body (19) with six vaporization chamber cover screws (25). Tighten the screws to 5.4–5.8 N·m (48–52 lb-in) in a crossing pattern to ensure proper seating of the gasket. After tightening screws, verify that primary valve pin (24) moves freely. If not, loosen screws and re-align the vaporization chamber cover plate (22). Let sit for 24 hours, and then re-torque to 5.4–5.8 N·m (48–52 lb-in).

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- 17. Turn converter over and install new primary diaphragm assembly (17) by hooking the diaphragm plate on the end of the primary valve pin (24).
- 18. Place the two primary diaphragm springs (16) on top of the primary diaphragm assembly (17).
- 19. Place the primary diaphragm cover (15) over the primary springs (16). Press down firmly on the cover to seat the diaphragm and secure the cover to the body (19) with six primary diaphragm cover screws (14). Tighten the screws to 3.8–4.3 N·m (34–38 lb-in) in a crossing pattern to ensure proper seating of the diaphragm. Let sit for 24 hours, and then re-torque to 3.8–4.3 N·m (34–38 lb-in).
- 20. Install new secondary seat (8) into lever (7) by pushing seat projection into lever opening until it snaps into place.
- 21. Flip lever (11) up and install new secondary spring (10) and secondary lever assembly with fulcrum pin (9) in positioning channel on primary diaphragm cover (15). Retain lever by installing screw (6). Tighten screw to 2.3–2.8 N·m (20–25 lb-in). Flip lever (11) down so that it rests on top of secondary lever.
- 22. Install new secondary diaphragm assembly (5) on converter body (19).
- 23. Position secondary cover (4) over secondary diaphragm assembly (5). Secure cover to body with four screws (1) and two tamper-resistant screws (2) with washers (3). Tighten screws to 1.7–2.0 N·m (15–18 lb-in) in a crossing pattern to ensure proper seating of the diaphragm gasket.
- 24. Apply compressed air (2200 kPa / 320 psi maximum) to converter inlet port and check with leak detecting solution (or soapy water) for leaks at the outlet port, around the inlet plug (27), along the edge of vaporization chamber gasket (21) and around vaporization chamber cover screw heads (25).

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