

This document applies to all ROOTS B31 R and N regulators.



Warning Follow your company's standard operating procedures regarding the use of personal protection equipment (PPE). Adhere to guidelines issued by your company in addition to those contained in this document when installing or repairing natural gas regulators.

This product, as of the date of manufacture, is designed and tested to conform to all governmental and industry safety standards as they may apply to the manufacturer. The purchaser/user of this product must comply with all fire control, building codes, and other safety regulations governing the application, installation, operation, and general use of this regulator to avoid leaking gas hazards resulting from improper installation, startup or use of this product.

To ensure safe and efficient operation of this product, ROOTS strongly recommends installation by a qualified professional.

Recommended Tools and Materials

| Tool Description | Part Number | Part Description | Part Number |
|--------------------------------|-------------|-------------------|-------------|
| 7/8" Regulator adjustment tool | 799017 | Orifice | As required |
| Socket | N/A | Loading ring | 761753 |
| Torque wrench | N/A | Valve body gasket | 765753 |

To change the orifice

1. Locate and remove the two bolts holding the diaphragm case to the valve body. Remove the bolts using a 7/16-inch socket.
2. Carefully pull the diaphragm case away from the valve body. Inspect the valve seat, valve body and valve body gasket for any debris or damage. Replace the valve body gasket.
3. Note the loading ring's position. The loading ring must be replaced in the same position. Use a marker to note the position of the loading ring's notch on the valve body (see the following image).



- Place your thumbs in the neck of loading ring. As you gently open and remove the loading ring, take note of the indentations in the bottom of the loading ring.



- Remove the orifice using a 7/8-inch thin wall socket wrench.
- The orifice seals with the O-ring. Begin threading the orifice by hand, using the ratchet to finish tightening. Torque to 300 inch-pounds. Do not over-tighten the orifice.

Warning Over tightening the orifice can cause irreparable damage. Torque to 450 to 500 inch-pounds.

- Replace the loading ring to its original position. Verify the orifice ridge seats against the orifice (see the following Loading Ring Position table).



- Reattach the diaphragm case to the valve body. Tighten the bolts in an alternating fashion; tighten each bolt one-half way. Tighten both screws completely; torque to 85 to 115-inch pounds.
- Slowly pressurize the system. Verify the regulator locks up and regulates properly.

Loading Ring Position Table

| Inlet Pressure | Outlet Pressure | Setting |
|----------------|-----------------|-----------|
| Various | Various | 0 degrees |

ROOTS Regulators

16240 Port Northwest Drive

Houston, TX 77041

T: 1-800-521-1114

F: 1-800-335-5224

© 2021 Natural Gas Solutions North America, LLC – All rights reserved. Dresser Utility Solutions reserves the right to make changes in specifications and features shown herein, or discontinue the product described at any time without notice or obligation. Contact your Dresser Utility Solutions representative for the most current information. The Dresser Logo and all Trademarks containing the term "Dresser" are the property of Dresser, LLC, a subsidiary of Baker Hughes.



www.dresserutility.com

*ROOTS Regulators Changing a Regulator Orifice B31 R & N Models
DUS.ROOTS.008
04.22*