I. Operating Instructions

The instructions contained in this booklet are for experienced operators. They assume that the operator knows the general principles of operation and safe practices to be followed in operating oxy-acetylene or fuel gas equipment. If you are not sure that you understand these principles fully, we urge you to read LINDE’S booklet “Precautions and Safe Practices,” in addition to these instructions. You can get a copy of “Precautions and Safe Practices” (F-2035) without charge from any LINDE office. (The same basic information on operating principles and safe practices is in Chapters 5, 6, and 7 of “The Oxy-Acetylene Handbook.” This handbook of more than 500 pages contains many valuable chapters on welding, cutting, and other uses of oxy-acetylene equipment. It may be purchased from any LINDE office or from any LINDE distributor.)

A. To Connect

1. Open the cylinder valve slightly, for only an instant, to blow dust or dirt from the valve outlet.

(NEVER CRACK A FUEL GAS CYLINDER VALVE NEAR WELDING OR CUTTING WORK OR NEAR SPARKS, FLAMES OR ANY POSSIBLE SOURCE OF IGNITION.)

2. Attach the regulator to the cylinder valve.

3. Make sure that regulator pressure-adjusting screw is released by turning it to the left (counter-clockwise) until it spins freely.

4. Open the cylinder valve slowly a fraction of a turn, then open it fully. Do not stand directly in front of the gauges when opening the cylinder valve.

5. Attach the fuel gas hose to the regulator outlet and to the torch. Make sure that all connections are gas-tight.

B. To Adjust Pressure

Open the torch fuel gas valve. This valve should always be open when the pressure-adjusting screw is being turned to adjust pressure. Turn the pressure-adjusting screw to the right (clockwise) to increase pressure, to the left (counter-clockwise) to decrease pressure.

C. To Release Pressure

If work is to be stopped for a half-hour or more, release pressure from the regulator as follows:

1. Close the cylinder valve.

2. Open the torch valve.

3. Release the pressure-adjusting screw.

4. Close the torch valve. Follow the same procedure before removing the regulator from a cylinder.

D. Operating Hints

1. If a regulator is to be out of use for a few weeks or more, turn in the pressure-adjusting screw enough to move the valve stem off the metal seat.

2. Unless cylinders are mounted on a suitable truck, always remove regulators before moving cylinders.

Be sure this information reaches the operator. You can get extra copies through your supplier.
II. Maintenance Instructions

For all repairs and replacements other than those mentioned below, send the apparatus to the nearest Linde repair station or Linde Distributor. The specific repair information shown on the drawing is provided for experienced and qualified persons engaged in the repair of this apparatus. Improperly repaired apparatus may be hazardous. Economical repair service is available through Linde Region Offices or through the nearest Linde Distributor.

A. To Disassemble the Regulator
1. Hold the regulator upright in a vise by means of the flat surfaces on the under side of the body.
2. Turn the pressure-adjusting screw out (counterclockwise) until it spins freely.
3. Unscrew the regulator cap and lift it off. Lift off the spring and spring washer.
4. Lift off the diaphragm assembly and diaphragm rings.
5. Using a socket wrench, unscrew the valve seat locking screw and lift out the parts located within it. Lift out the valve closing spring.
6. Hold the diaphragm assembly in a vise by means of the clamping screw and unscrew the 5/16-in. hex nut. Lift off all parts.

B. To Inspect the Regulator Parts
1. Using a clean cloth, wipe all the parts clean, then examine them for defects or excessive wear. Here is what you look for:
   (a) **Diaphragm:** Should be free from cracks and signs of excessive wear. (It should compare favorably with a new one.)
   (b) **Valve Seat and Stem:** Should be clean, straight and unmarred. Examine especially the seating surface which closes against the valve screw.
   (c) **Valve Seat Screw:** Examine especially the seating corner against which the valve stem seats. It should be clean and unmarred.
   (d) **Valve Closing Spring:** Should not have acquired a permanent set. It should be full length (compare it with a new one).

C. To Reassemble the Regulator
1. Reassemble the diaphragm and associated parts to the diaphragm attaching screw to form a sub-assembly. To do this:
   (a) Hold the diaphragm screw in a vise.
   (b) Wash the diaphragm in clear water and dry it with a clean cloth.
(c) Assemble the parts to the screw in this order: diaphragm, plate, guide and hex nut. Tighten the hex nut securely — but don't use excessive force.
(d) Lay the sub-assembly aside.
2. Hold the regulator upright in a vise.
3. Place the valve closing spring (large end down) in the regulator.
4. Place the valve seat and stem on the valve closing spring so that the 3/32-in. diameter of the sleeve is located inside the top of the spring.
5. Place the valve screw over the parts so that the valve stem protrudes through the hole in the top of the screw.
6. Press down and screw the valve screw in a few threads. (To start the valve screw into the body, it is necessary to depress the valve spring until the valve screw "catches." )
7. Screw the valve screw home and tighten it securely with a socket wrench.

(Continued on page 4.)

Never test a fuel gas regulator near welding or cutting work, or near sparks, flames, or any possible source of ignition.
Replacement Parts List

FOR
"PUROX" LIQUID PETROLEUM REGULATOR
TYPE R-211 PART NO. 04X67

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>DESCRIPTION</th>
<th>PART NO.</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>1369</td>
<td>Inlet Nut</td>
<td>82Z45</td>
<td>Pressure-Adjusting Spring Washer</td>
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<tr>
<td>58K12</td>
<td>Outlet Connection</td>
<td>92Z02</td>
<td>Cap Bushing</td>
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<tr>
<td>6354</td>
<td>Body Plug</td>
<td>83Z12</td>
<td>Diaphragm Ring (Paper)</td>
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<td>Beveled Gauge Crystal</td>
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<td>652M18</td>
<td>100-lb. Plain Dial Gauge</td>
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<td>Valve Seat and Stem</td>
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<td>Diaphragm Ring</td>
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**ACCESSORIES**
Shatterproof Gauge Crystal
OXWELD Anti-Friction Compound
(for Pressure-Adjusting Screw Threads)

**HARDWARE**
Cap Bushing Retaining Ring, National
Lock Washer Co.'s XRC-330
5/16-24 Hex Steel Nut

*Run in cold with 500 in.lbs. torque.*

NUT-6330-9122

GUAGE CRYSTALS
6868-51455
05Z98 - SHATTERPROOF
8. Before going further, test the valve assembly for leaks. To do this:
   (a) Connect the regulator to a full cylinder of fuel gas. Tighten the connection nut.
   (b) Open the cylinder valve slowly. Stand to one side, not in front of the regulator.
   (c) Using a solution of grease-free soap (such as Ivory brand) and water, test around the valve for leakage.
   (d) Close the cylinder valve and remove the regulator from the cylinder.
9. Place the diaphragm sub-assembly in position.
10. Place the two diaphragm rings in position (the paper slip ring against the diaphragm).
11. Assemble the spring, spring washer, and cap. Tighten the cap securely with a wrench.

D. To Replace the Inlet Nipple Filter
   Never operate the regulator without a filter. It keeps out dust and dirt which might impair the operating characteristics of the regulator. Clogging of the filter is indicated by excessive jump-and-creep on the regulator delivery-pressure gauge. Keep a spare filter on hand, replacement is easy and inexpensive. To replace the filter:
   1. Insert a No. 1 "EZY-CUT" (or a No. 6 wood screw 2 in. long) into the filter and pull it out.
   2. Place the new filter in the nipple and press it down leaving about 1/8-in. clearance between the filter and the end of the nipple.

E. To Test for Leakage
   1. Connect the regulator to a full cylinder of fuel gas.
   2. Fully release the regulator pressure-adjusting screw.
   3. Slowly open the cylinder valve.
   4. Place a film of soapy water over the regulator outlet. If bubbles form and burst, it indicates that the regulator valve stem and valve screw is not forming a perfect seat, and that the regulator should again be disassembled, and one or both parts replaced.
   5. Blank off the regulator outlet. This can be done by connecting the torch to the regulator and closing the torch acetylene valve.
   6. Set the regulator pressure at 50 psi and test for leaks around the regulator cap threads and at the vent holes in the cap.