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 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.

To Connect

There are two inlet and two outlet standard pipe threaded holes located on the side of the valve body. These make it easy to connect pipe nipples or hose fitting adapters to the valve.

To Reverse Shut-Off Sequence

The V-21 valve when received, is assembled in accordance with the average requirement for delayed action shutoff of the acetylene gas flow.

The sequence of operation may be altered, since it is controlled by a set screw and jam nut in the top of each valve. (See parts picture on Page 3.) To change the sequence of shutoff proceed as follows:

1. Loosen the two jam nuts by inserting an open-end wrench in the rectangular openings in the side of the valve.
2. Adjust the set screws and check the operation of the valve.
3. After adjusting the screws to the exact position desired, tighten the jam nuts.

Maintenance Instructions

For all repairs and replacements other than those which follow, send the regulator to the nearest Linde repair station or your Linde Distributor. The specific repair information shown on the parts drawing is provided only for experienced and qualified persons engaged in the repair of this type of apparatus. Improperly repaired apparatus may be hazardous. Linde offers economical repair service through its region offices and through its Distributors.

Leakage Through the Valve

Periodically test the valve for leakage around the valve stems and through the valves. Use an Ivory soap and water solution. Apply it to all connections and possible points of leakage.

In the event it is necessary to disassemble either of the valves or valve stem assemblies for repair and replacement of worn parts, the following instructions should apply.

If oxygen or acetylene leakage occurs through the valves when the operating lever is in an "off" position, it may be due to dirt present on the valve seats or a worn-out valve seat. To correct either of these conditions, follow the instructions given below:

1. Remove the cover by removing the four cap-screws which secure the cover to the body of the valve.
2. Remove the operating spring.
3. With a suitable wrench, remove the oxygen or acetylene hex head screw depending on which gas is involved.

Be sure this information reaches the operator. You can get extra copies through your supplier.
4. With a spanner-type screwdriver, remove the nut which secures the packing bushing in position.

5. Hold the hex head screw in a vise or similar stationary position.

6. Grasp the valve stem and valve seat assembly and remove it from the hex head screw.

7. Remove the seat slip washer and the rubber valve seat from the valve stem.

8. Examine the rubber valve seat and if dirt particles are present, wipe off the faces of the valve seat with a clean cloth.

9. If the valve seat appears worn or distorted, replace with a new valve seat.

10. If the valve stem appears marred or bent, replace with a new valve stem.


**Leakage Around the Valve Stem**

If leakage occurs around the valve stem, at the top of the valve, tighten the nut. If leakage persists, the packing bushing must be replaced. To replace the valve packing bushing, follow the procedure as outlined above for disassembling.

**Flow Capacity**

**OXYGEN**

<table>
<thead>
<tr>
<th>Capacity (cu. ft. per hr.)</th>
<th>at Inlet Pressures of</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(lb. per sq. in.)</td>
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<tr>
<td></td>
<td>25</td>
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<tr>
<td></td>
<td>50</td>
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<table>
<thead>
<tr>
<th>ACETYLENE</th>
<th>Capacity (cu. ft. per hr.)</th>
<th>at Inlet Pressures of</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(lb. per sq. in.)</td>
</tr>
<tr>
<td></td>
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<td>1,400</td>
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<td></td>
<td>2</td>
<td>3,300</td>
</tr>
</tbody>
</table>

*Do not use oil on this apparatus. Oil and grease are easily ignited and burn violently in the presence of oxygen under pressure.*