

OXWELD® V-24 OXYGEN LANCE VALVE

	<u>w/"C"-Size Inlet</u>	<u>w/"B"-Size Inlet</u>
V-24 Oxygen Lance with 1/8" Pipe Holder	9728D65	2218939
V-24 Oxygen Lance with 1/4" Pipe Holder	9728A65	2218938
V-24 Oxygen Lance with 3/8" Pipe Holder	9728B65	2218937
V-24 Oxygen Lance with 1/2" Pipe Holder	9728C65	—
V-24 Oxygen Lance Valve only	06X78	—

- steel mill and foundry applications include scrap cutting, lancing tap holes, and piercing heavy iron or steel sections

■ available with quick-disconnect pipeholders with neoprene seals sized for 1/8", 1/4", 3/8", or 1/2" NPT schedule 40 black iron pipe

■ lever-operated valve for dependable ease-on and quick-shutoff of oxygen
- equipped with "C"-size oxygen fitting (CGA-024) for connecting 1/2-in. I.D. hose and "B"-size (CGA-022) for use with 3/8-in. I.D. hose

■ recommended regulator: R-52 oxygen regulator and filter combination — P/N 2116015 for "C" size inlet; R-76-150-540 oxygen regulator — P/N 998324 for "B"-size inlet

! CAUTION

These INSTRUCTIONS are for experienced operators. If you are not fully familiar with the principles of operation and safe practices for oxy-fuel gas equipment, we urge you to read our booklet, "Precautions and Safe Practices for Gas Welding, Cutting, and Heating," Form 2035. The same information appears in the "Oxy-Acetylene Handbook" which may be purchased from your distributor. Do NOT permit untrained persons to install, operate, or maintain this equipment. Do NOT attempt to install or operate this equipment until you have read and fully understand these instructions. If you do not fully understand these instructions, contact your supplier for further information.

CONNECTING & OPERATING

1. Connect a suitable length of hose (hose and fittings must be clean and suitable for oxygen service) to the V-24 valve and to the regulator outlet. Tighten the connections firmly with a wrench.
2. Insert a suitable length of **oil and grease free** black iron pipe (10 to 12 ft. is usual) into pipeholder and tighten pipeholder by hand.

! WARNING

Use only schedule 40 black iron pipe. Use of other lance pipes can result in serious injury

3. **Make sure the pipe is fully seated.** If necessary to make up pipe joints, apply a single turn of Teflon tape on all male pipe threads.

LIGHTING

The oxygen lance differs from a standard cutting torch in that there are no preheat flames to maintain the steel at the kindling point. It is also different from the standard torch because once the cutting has started the lance pipe itself burns and helps furnish the heat necessary to sustain the cut.

! WARNING

The pipe continues to burn so long as the oxygen remains ON.

! WARNING

Always start the lance with low oxygen pressure and flow. Excess oxygen can cause uncontrollable molten spatter that can cause serious burns.

There are three basic ways to light the lance and start cutting.

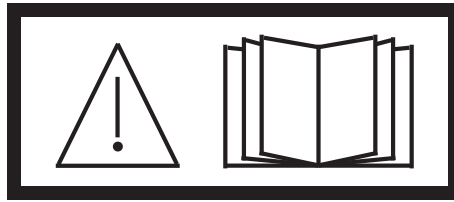
1. Heat the end of the lance pipe until red-hot. Done in a number of ways, a cutting or welding torch being the easiest, or
2. Heat a starting spot red-hot on the metal to be lanced, or
3. Place a piece of red-hot metal over the area to be lanced.

Regardless of the method selected, start with a small stream of oxygen passed through the lance pipe. About 5 psi oxygen set at the supply regulator is all that is needed to start the lancing process. After initiating the cut the oxygen pressure can slowly be increased to nominal flow.

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



ESAB Welding & Cutting Products



READ AND UNDERSTAND INSTRUCTION MANUAL BEFORE INSTALLING OR OPERATING. PROTECT YOURSELF AND OTHERS!

CAUTION

These INSTRUCTIONS are for experienced operators. If you are not fully familiar with the principles of operation and safe practices for gas welding and cutting equipment, we urge you to read our booklet, "Precautions and Safe Practices for Gas Welding, Cutting, and Heating," Form F-2035. Do NOT permit untrained persons to install, operate, or maintain this equipment. Do NOT attempt to install or operate this equipment until you have read and fully understand these instructions. If you do not fully understand these instructions, contact your supplier for further information. Be sure to read the Safety Precautions before installing or operating this equipment.

USER RESPONSIBILITY

This equipment will perform in conformity with the description thereof contained in this manual and accompanying labels and/or inserts when installed, operated, maintained and repaired in accordance with the instructions provided. This equipment must be checked periodically. Malfunctioning or poorly maintained equipment should not be used. Parts that are broken, missing, worn, distorted or contaminated should be replaced immediately. Should such repair or replacement become necessary, the manufacturer recommends that a telephone or written request for service advice be made to the Authorized Distributor from whom it was purchased.

This equipment or any of its parts should not be altered without the prior written approval of the manufacturer. The user of this equipment shall have the sole responsibility for any malfunction which results from improper use, faulty maintenance, damage, improper repair or alteration by anyone other than the manufacturer or a service facility designated by the manufacturer.

IMPORTANT SAFEGUARDS

When using Oxy-Fuel Gas Torches, basic safety precautions should always be followed:

- a. Never use Acetylene gas at a pressure over 15 psig.
- b. Never use damaged equipment.
- c. Never use oil or grease on or around Oxygen equipment.
- d. Never use Oxygen or fuel gas to blow dirt or dust off clothing or equipment.
- e. Never light a torch with matches or a lighter. Always use a striker.
- f. Always wear the proper welding goggles, gloves and clothing when operating Oxy-Acetylene equipment. Pants should not have cuffs.
- g. Do not carry lighters, matches or other flammable objects in pockets when welding or cutting.
- h. Always be aware of others around you when using a torch.
- i. Be careful not to let welding hoses come into contact with torch flame or sparks from cutting.
- j. SAVE THESE INSTRUCTIONS.

**BE SURE THIS INFORMATION REACHES THE OPERATOR.
YOU CAN GET EXTRA COPIES THROUGH YOUR SUPPLIER.**

SAVE THESE INSTRUCTIONS!

OPERATING

When starting operations with the oxygen lance it is desirable to have two workmen, one to operate the lance and the other to slowly bring up the oxygen pressure at the oxygen supply regulator. Only a few psi of oxygen are necessary to start lancing and this pressure is then increased as the lance penetrates the metal. When the lancing process is up to nominal oxygen pressure, only one operator is needed for lance control.

OXYGEN LANCING PRESSURE

NOTE: Pressures at the regulator are given.

After the lancing process is initiated, set the desired oxygen pressure (see table below) at the regulator. Follow all instructions provided by the regulator manufacturer.



WARNING

Proper flow of oxygen is required for safe operation and good performance. Regulators must be set to the correct pressure and the hose must have enough capacity (Hose that is too long, too small or hose connector with a small bore will cause problems.)

Nominal Oxygen Flow, cfh (m³h)
through a 10-ft. length of pipe

Inlet Pressure psig (bars)	Pipe Size (Std. Schedule 40) (with no internal obstructions)			
	1/8"		1/4" or above	
	cfh	(m ³ h)	cfh	(m ³ h)
40 (2.8)	1200	(34)	1900	(53.8)
60 (4.1)	1700	(48.1)	2300	(62.1)
80 (5.5)	2200	(62.3)	3000	(85)
100 (6.9)	2700	(76.5)	3700	(105)

Max. operating pressure — 100 psig (6.9 bars).

Maximum oxygen lancing pressure is largely dependent on thickness and composition of steel being lanced. Medium-carbon steels up to 0.50 per cent carbon - up to 75 psi; Low -carbon (mild) steels - up to 100 psi.

OPERATING PRECAUTIONS

In addition to the precautionary measures in ESAB's booklet, Form 2035, particular attention should be given to the following:

1. All new V-24 lance valves are factory tested for leaks. Valves should be leak tested by users on a periodic basis as follows:
 - a. Seal the exit end of the lance valve pipeholder using a suitable length of pipe with a threaded cap. Then tighten the capped pipe in the pipeholder.

- b. Pressurize the lance valve to 100 psig using nitrogen or clean, oil free air.
- c. Slowly depress lance valve lever so that the valve is completely pressurized. Do NOT point or direct lance valve toward any part of body.
- d. Using Leak Test Solution, P/N 998771, check for leaks at all joints and fittings and at the lever valve assembly. Bubbling of the solution indicates leakage. Do NOT operate until leakage has been corrected. Operating with leaking equipment is a potential fire hazard.
- e. Remove the cap.



WARNING

Protect body, face, and head from sparks and spatter. Use fire and heat resistance protective clothing, face shields, head gear and other protective equipment made particularly for scarfing and lancing operations.



WARNING

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

REPLACING VALVE ASSEMBLY

If leakage develops around the valve stem or between the valve guide and the V-24 body, or if the valve fails to shut off completely, refer to Fig.1 and proceed as follows:

1. Remove valve lever by merely driving out the fulcrum roll-pin, using a drill or piece of rod (7/32-in. diam. or smaller).
2. Unscrew valve guide and lift out entire valve assembly: guide (with external and internal O-rings), valve stem, spring, and O-ring retaining washer.
3. Install new valve assembly (2119322), and tighten firmly with a wrench.
4. Reinstall the lever assembly.

REPLACEMENT PARTS



WARNING

- Maintain lance assembly in good condition.
- Use ONLY replacement parts shown. Use of other parts can result in serious injury.

Replacement parts are illustrated in Figs. 1 and 2. Please supply both description and part number when ordering. Do not order by part number alone.

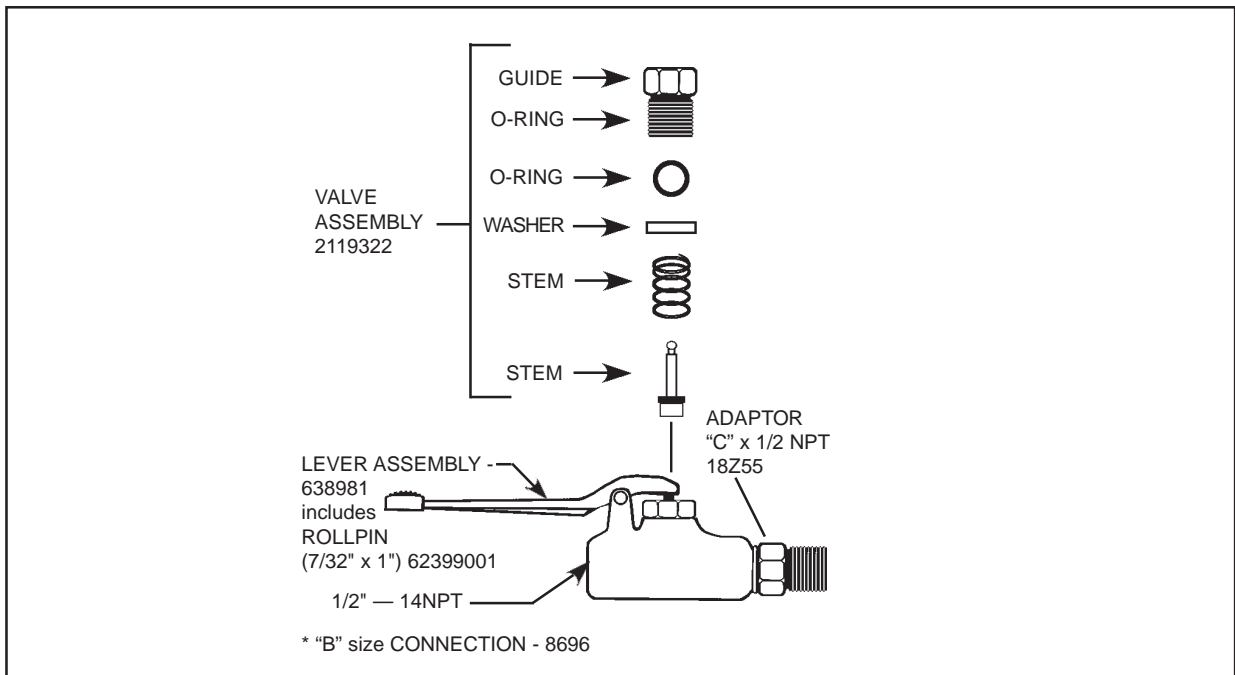
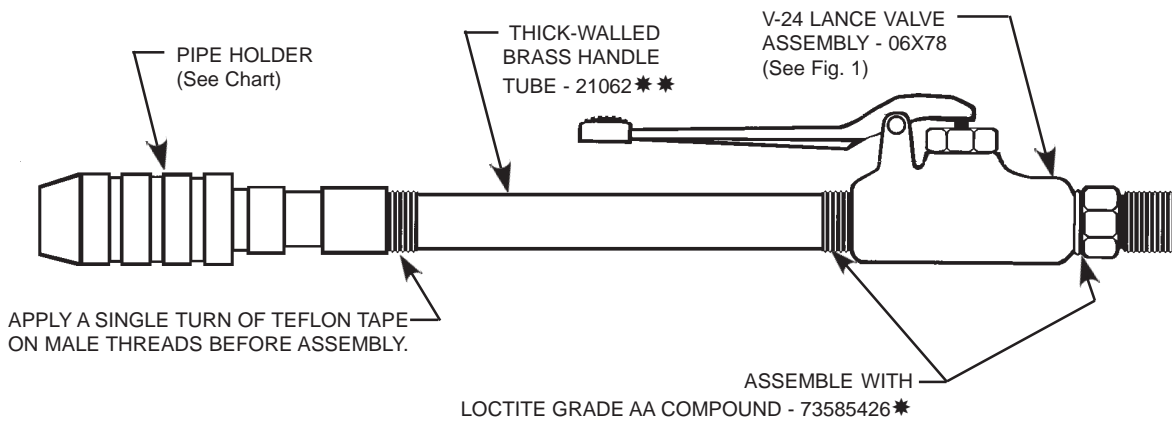


Fig. 1 - V-24 Oxy. Lance Valve - 06X78



Lance Pipe Size	Pipe Holder	Replacement Neoprene Grommet	Locking Collet
1/8	67Z28	186W99	2119980
1/4	05Z94	85W74	2119981
3/8	05Z95	85W75	2119982
1/2	05Z96	85W76	2119983

* Apply one drop of Loctite compound on 2nd or 3rd thread from lead end of male pipe threads. Do NOT allow the liquid compound to flow to lead end of threads.

** Use ONLY 21062. Other parts may fail and cause serious burn injury.

Fig. 2 — V-24 Oxygen Lance Assemblies (see front page for assembly part number)

Pipe Sizes for use with V-24 Oxygen Lances

use black iron sch 40 pipe

Pipe Size	O.D.	I.D.
1/8"	.405	.269
1/4"	.540	.364
3/8"	.675	.493
1/2"	.840	.622

**ESAB Welding & Cutting Products, Florence, SC Welding Equipment
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Telephone: (800) 235-4012/ Fax: (888) 586-4670

B. ENGINEERING SERVICE: Telephone: (843) 664-4416 / Fax: (800) 446-5693

Welding Equipment Troubleshooting	Hours: 7:30 AM to 5:00 PM EST
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C. TECHNICAL SERVICE: Telephone: (800) ESAB-123/ Fax: (843) 664-4452

Part Numbers	Technical Applications	Hours: 8:00 AM to 5:00 PM EST
Performance Features	Technical Specifications	Equipment Recommendations

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Hours: 7:30 AM to 4:00 PM EST

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Repair Estimates	Repair Status	Hours: 7:30 AM to 3:30 PM EST
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F. WELDING EQUIPMENT TRAINING:

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G. WELDING PROCESS ASSISTANCE:

Telephone: (800) ESAB-123 / Fax: (843) 664-4454	Hours: 7:30 AM to 4:00 PM EST
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H. TECHNICAL ASST. CONSUMABLES:

Telephone : (800) 933-7070	Hours: 7:30 AM to 5:00 PM EST
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IF YOU DO NOT KNOW WHOM TO CALL

Telephone: (800) ESAB-123/ Fax: (843) 664-4452/ Web:<http://www.esab.com>

Hours: 7:30 AM to 5:00 PM EST



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