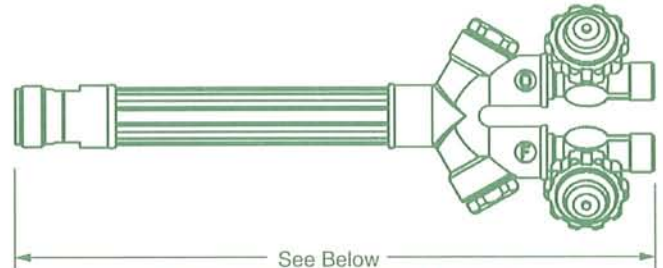


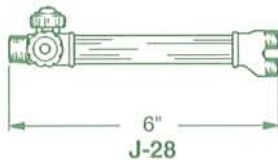
100C, J-100C and 300C SERIES

Torch Length	Model No.
8"	J-100C
8½"	100C
9"	315C
11"	310C
11"	HD310C



100FC, J-100FC and 300FC SERIES

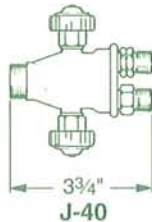
Torch Length	Model No.
8¼"	J-100FC
8⅝"	100FC
9½"	315FC
11½"	310FC
11½"	HD310FC



J-28



320 EXTENSION



J-40

### Table of Contents

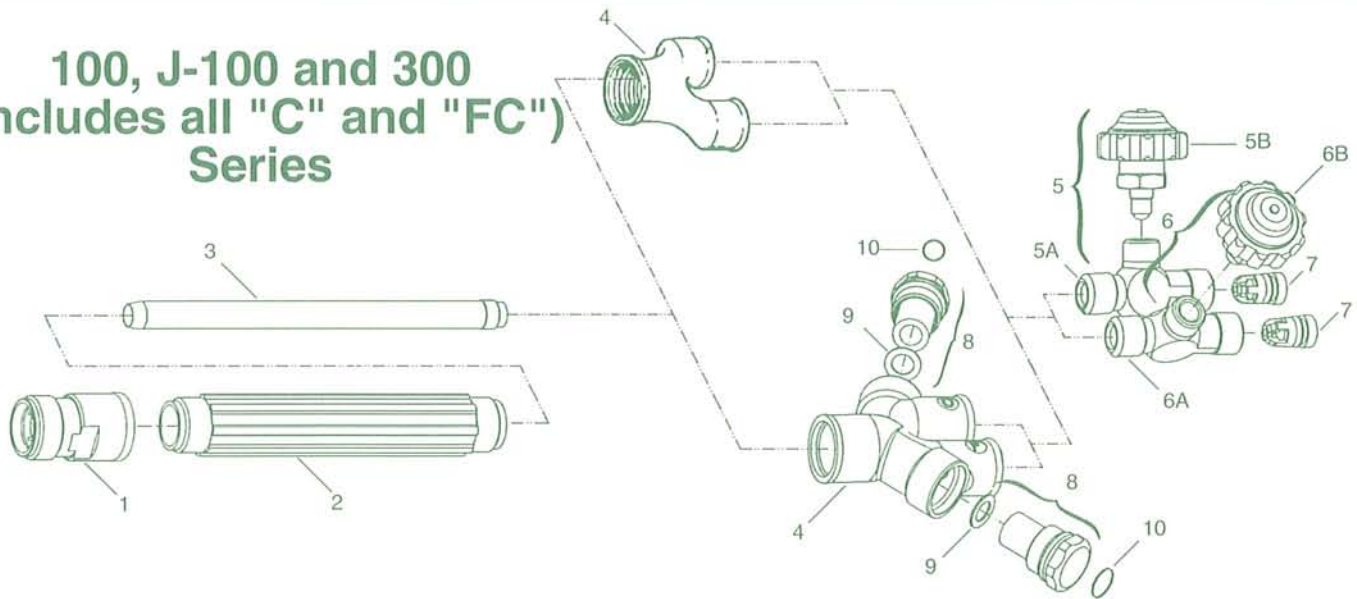
100FC, J-100FC and 300FC Series .....	2
100C, J-100C and 300C Series .....	2
J-28 .....	5
J-40 .....	7
320 Extension .....	8

## ⚠ WARNING ⚠

Welding apparatus improperly operated, maintained or repaired can be dangerous. Some parts and accessories manufactured by others may fit VICTOR apparatus but not conform to VICTOR's exacting standards. For your own protection, specify and use ONLY VICTOR-made parts and accessories with your VICTOR apparatus.

Service or repair of VICTOR apparatus should be performed only by a qualified technician. Improper service, repair or modification of the product could result in damage to the product or injury to the operator.

# 100, J-100 and 300 (Includes all "C" and "FC") Series



Ref. No.	Description	100C	100FC	J-100C	J-100FC	315C	315FC	310C	310FC	HD-310C	HD-310FC
1	Head	0302-0019	0302-0019	0302-0021	0302-0021	0302-0023	0302-0023	0302-0023	0302-0023	0302-0086	0302-0086
2	Barrel	0306-0068	0306-0068	0306-0068	0306-0068	0306-0055	0306-0055	0306-0066	0306-0066	0306-0066	0306-0066
3	Inner Oxygen Tube	0303-0003	0303-0003	0303-0003	0303-0003	0303-0006	0303-0006	0303-0005	0303-0005	0303-0005	0303-0005
4	Body Y	0301-0018	0301-0011	0301-0018	0301-0011	0301-0019	0301-0012	0301-0019	0301-0012	0301-0019	0301-0012
5	Control Valve Assy. (Oxygen)	0660-0236	0660-0236	0660-0236	0660-0236	0660-0229	0660-0229	0660-0229	0660-0229	0660-0229	0660-0229
5A	Valve Body w/Check Valve	0661-0202	0661-0202	0661-0202	0661-0202	0661-0207	0661-0207	0661-0207	0661-0207	0661-0207	0661-0207
5B	Valve Stem Assembly	0662-0016	0662-0016	0662-0016	0662-0016	0662-0014	0662-0014	0662-0014	0662-0014	0662-0014	0662-0014
6	Control Valve Assy. (Fuel)	0660-0237	0660-0237	0660-0237	0660-0237	0660-0233	0660-0233	0660-0233	0660-0233	0660-0243	0660-0243
6A	Valve Body w/Check Valve	0661-0203	0661-0203	0661-0203	0661-0203	0661-0206	0661-0206	0661-0206	0661-0206	0661-0210	0661-0210
6B	Valve Stem Assembly	0662-0016	0662-0016	0662-0016	0662-0016	0662-0014	0662-0014	0662-0014	0662-0014	0662-0017	0662-0017
7	Internal Check Valve Kit*	0690-0027	0690-0027	0690-0027	0690-0027	0690-0027	0690-0027	0690-0027	0690-0027	0690-0027	0690-0027
8	Flashback Arrestor Kit (2 req'd)**	N/A	0657-0036	N/A	0657-0036	N/A	0657-0036	N/A	0657-0036	N/A	0657-0038
9	Gasket	N/A	1408-0133	N/A	1408-0133	N/A	1408-0133	N/A	1408-0133	N/A	1408-0133
10	O-Ring	N/A	1407-0287	N/A	1407-0287	N/A	1407-0287	N/A	1407-0287	N/A	1407-0287

\* Kit includes two check valves and instructions.  
 \*\* Flashback Arrestor Kit includes flashback arrestor assembly, o-ring and gasket.

## 100, J-100 and 300 ("C" and "FC") Series SERVICE PROCEDURES

### Recommended Tools and Supplies:

- Bench Vise
- Holding Fixture RT-129 (100 or J-100 Series)(1420-0198)
- Holding Fixture RT-128 (300 Series) (1420-0197)
- Head Reamer RT-58 (300 Series) (1420-0093)
- Head Reamer RT-60 (100 Series) (1420-0099)
- Head Reamer RT-59 (J-100 Series) (1420-0095)
- Valve Seat Reamer RT-33 (1420-0059)
- 1/2", 5/8" and 3/4" Open-End Wrenches
- Strap Wrench
- 1/4-20 Bolt
- Heavy Copper or Brass Rod
- LOCTITE® #79 (0028-0056)
- Christo-Lube (0034-0021)

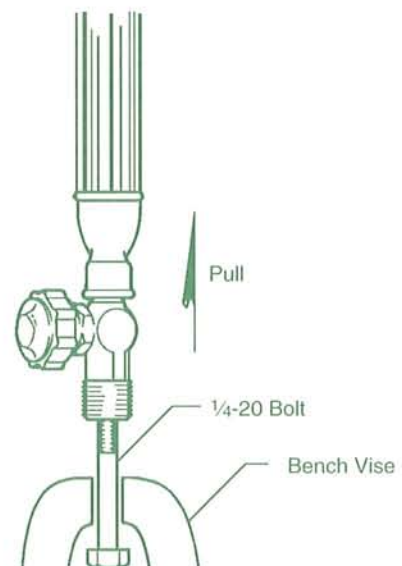


Fig. 1 - Removing the Internal Check Valves

**NOTICE** For additional information, refer to Apparatus Service and Testing Procedures for Cutting Torches, Cutting Attachments and Welding Torches (Form No. 0056-0885) and Repair Tools Manual (Form No. 0056-0121).

## DISASSEMBLY PROCEDURE

### Removing the Internal Check Valves

1. Screw the 1/4-20 bolt, finger tight, into the threaded portion of the Internal Check Valve.
2. Place the shank of the bolt in the Bench Vise with the bolt head shouldered against the vise jaws (see Fig. 1, page 2). **DO NOT** tighten the Bench Vise.
3. Grasp the Torch Handle firmly and pull. The bolt head will catch on the vise jaws. The Internal Check Valve will pull out of the Torch.
4. Repeat Steps 1 through 3 to remove the other Internal Check Valve.

### Disassembling the Torch Handle

5. Place the Head in the Holding Fixture. Align the flats on the Head with the bars in the Holding Fixture. Place the Holding Fixture in the Bench Vise.
6. Remove the Valve Stem Assemblies.  
**FC Models:** Remove Flashback Arrestors and Gaskets. Discard Gaskets. Inspect the condition of the Flashback Arrestors. See WARNING in step 12 of Assembly Procedure.
7. Loosen the Valve Bodies.

**CAUTION** **DO NOT** remove the Valve Bodies at this time.

8. Place the Heavy Copper or Brass Rod in the "Y" of the Body Y. Turn the rod counterclockwise until the Barrel threads break loose.
9. The Barrel threads may break loose at the Head or at the Body Y.
10. If the break is at the Head, perform the following procedures.

**CAUTION** **DO NOT** remove the Head from the Barrel at this time.

- a. Remove the Torch Handle from the Holding Fixture.
  - b. Place the Barrel in the Bench Vise. **DO NOT** deform the Barrel.
  - c. Place the Heavy Copper or Brass Rod in the "Y" of the Body Y. Turn the rod counterclockwise until the Barrel threads break loose.
  - d. Remove the Head and Body Y from the Barrel. Remove the Barrel from the Bench Vise.
11. If the Barrel threads break loose at the Body Y, perform the following procedures:
    - a. Place a Strap Wrench around the Barrel. Turn the Strap Wrench counterclockwise until the Barrel threads break loose.
    - b. Remove the Body Y from the Barrel. Remove the Barrel from the Head.
  12. Clamp the Inner Oxygen Tube in the Holding Fixture.
  13. Place the Heavy Copper or Brass Rod in the "Y" of the Body Y. Remove the Inner Oxygen Tube by turning the Rod counterclockwise.
  14. Remove the Valve Bodies and Inner Oxygen Tube from the Body Y. Remove the Inner Oxygen Tube from the Holding Fixture.

## CLEANING PARTS

**WARNING** **DO NOT** clean Flashback Arrestors. Always replace Flashback Arrestors as noted in WARNING in step 12 of Assembly Procedure.

Clean all metal parts with a cleaner that is safe for use with oxygen. Contact a chemical/cleaning supply distributor for recommended cleaners for use with oxygen. Always use cleaning solvents in accordance with the manufacturer's instructions.

**WARNING** **DO NOT** allow nonmetal parts to come in contact with any cleaning solvent! Cleaning solvents cause elastomeric and plastic parts to swell and stress crack. If these parts require cleaning, use a mild soap solution, followed by thorough rinsing in water. Dry these parts completely before installing in the torch. **REPLACE NONMETAL PARTS THAT HAVE COME IN CONTACT WITH OIL, GREASE OR ANY OTHER PETROLEUM BASED SUBSTANCE!**

## ASSEMBLY PROCEDURE

1. Place the Inner Oxygen Tube in the Holding Fixture with the threaded end up. Place the Holding Fixture in the Bench Vise.
2. Apply 2-3 drops of LOCTITE® #79 to the second and third threads of the Inner Oxygen Tube. Install the Body Y on the Inner Oxygen Tube.
3. Place the Heavy Copper or Brass Rod in the "Y" of the Body Y. Tighten the Body Y.
4. Remove the Inner Oxygen Tube and Body Y from the Holding Fixture.
5. Apply 2-3 drops of LOCTITE® #79 to the second and third threads of both ends of the Barrel and to the tapered end of the Inner Oxygen Tube. Install the Body Y and Head on the Barrel. Complete Steps 6 and 7 before the LOCTITE® #79 sets up.
6. Place the Head in the Holding Fixture. Align the flats on the Head with the bars in the Holding Fixture. Place the Holding Fixture in the Bench Vise.
7. Place the Heavy Copper or Brass Rod in the "Y" of the Body Y. Turn the Rod clockwise. Tighten the assembly to a torque of 45 ft-lbs. **DO NOT** overtighten.
8. Apply 2-3 drops of LOCTITE® #79 to the second and third male pipe threads of the Valve Bodies. Install the Valve Bodies in the Body Y. Tighten to a torque of 10 ft-lbs minimum. Align the Valve Bodies as shown in Fig. 2. **DO NOT** loosen the Valve Bodies after tightening.

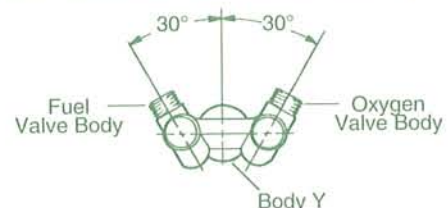


Fig. 2 - Aligning the Valve Bodies

9. Apply a thin film of Christo-Lube to the male threads of the Oxygen Valve Stem Assembly. Install the Oxygen Valve Stem Assembly in the Oxygen Valve Body. Tighten the Oxygen Valve Stem Assembly Nut until it requires 1 1/4 to 2 in-lbs of torque to adjust the Valve Stem Assembly.

**NOTICE** DO NOT install the Fuel Valve Stem Assembly at this time.

10. Press the Internal Check Valve into the Valve Body by hand. Thread a hose connection onto the Valve Body. Tighten the hose connection until the Check Valve is securely seated.
11. The Check Valves are properly installed when the end of the Valve is flush with the end of the Valve Body.
12. FC Models

**WARNING** The Flashback Arrestors must be replaced after a maximum of 5 years of service or whenever there are signs of discoloration caused by heat, poor torch performance caused by restricted flow, signs of carbon soot, or flame damaged or melted Check Valves.

13. FC Models: Install a new Gasket in the oxygen Flashback Arrestor part of the Body Y. Make sure the Gasket is laying flat in the bottom of port. Install a Flashback Arrestor Assembly. Tighten to a torque of 10-14 ft-lbs. Repeat the same installment procedure for the fuel Flashback Arrestor.

## Test Procedure

### Recommended Tools and Supplies:

- 80 PSIG Source of Oil-Free air or Dry Nitrogen
- A plugged Welding Nozzle with both seats intact (See Fig. 3)
- A plugged Welding Nozzle with the small O-ring removed (See Fig. 4)
- Christo-Lube (0034-0021)

**WARNING** For your safety and the safety of the operator, always perform the following test procedure after assembling a Torch. Test with oil-free air or dry nitrogen ONLY! Always wear eye protection when testing a Torch Handle. Always test a Torch Handle in a well ventilated area. If the Torch Handle does not perform properly during testing, refer to Apparatus Service and Testing Procedures for Cutting Torches, Cutting Attachments and Welding Torches (Form No. 0056-0885).

1. Attach the Fuel and Oxygen Hoses to the Torch Handle.
2. Install the plugged Welding Nozzle in the Head (See Fig. 3).

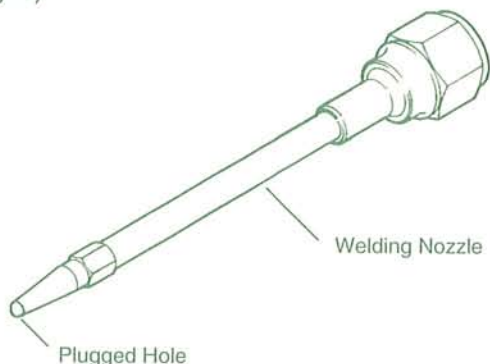


Fig. 3 - Plugged Welding Nozzle for Leak Testing

3. Close the Oxygen Valve Stem Assembly. Pressurize the oxygen side of the Torch Handle to 80 PSIG with oil-free air or dry nitrogen.

4. Completely submerge the Torch Handle in water.
5. Open the Oxygen Control Valve.
  - a. Observe the open Fuel Valve Body port. If there is an internal leak, bubbles will pass through the port.
  - b. Observe the Valve Stem Assembly Packing Nut. There should be zero leakage past the Valve Stem Packing in five (5) seconds. Tighten the Valve Stem Assembly Packing Nut until 1 1/4 to 2 in-lbs of torque is required to adjust the Valve Stem.
6. Close the Oxygen Control Valve.
7. Apply a thin film of Christo-Lube to the male threads of the Fuel Valve Stem Assembly. Install the Fuel Valve Stem Assembly in the Fuel Valve Body. Tighten the Packing Nut until 1 1/4 to 2 in-lbs of torque is required to adjust the Valve Stem Assembly.
8. Close the Fuel Valve Stem Assembly. Pressurize the fuel side of the Torch Handle to 80 PSIG with oil-free air or dry nitrogen.
9. Completely submerge the Torch Handle in water.
10. Open the Oxygen and Fuel Control Valves.
  - a. There should be zero leakage (no bubbles) past the Valve Stem Packing in five (5) seconds. Tighten the Packing nut until 1 1/4 to 2 in-lbs of torque is required to adjust the Valve Stem.
  - b. Check for leaks (bubbles) around all external connections.
11. Close the Oxygen and Fuel Control Valves. Tighten to 7 to 8 in-lbs of torque.
12. Remove the plugged nozzle. Submerge the Torch Handle and observe the Head. If bubbles appear at the Head, one or both of the Valve Stem Assembly Seats is leaking. If leak is evident, Valve Seat may require reseating. Use the Valve Seat Reamer to repair the Valve Seat. Retest for leak.

## Testing the Internal Check Valves

**WARNING** The 100, J-100 and 300 "C" and "FC" Series Torch Handles are equipped with Internal Check Valves to reduce the probability of gases mixing in the Hoses or Regulators. Mixed gases can result in fire or explosion. Such explosions or fires can result in serious injury to anyone in the area or serious property damage. To ensure that Internal Check Valves are working properly, test them for leaks at least every six months. Test more often if hoses are frequently disconnected from the Torch.

13. Install a Welding Nozzle that is plugged and altered as shown in Fig. 4, page 5. Remove the small seating surface as shown. This ensures that, for testing purposes only, back pressure will reach the Internal Check Valves.
14. Connect the Fuel and Oxygen Hoses to the Torch handle.
15. Disconnect either the Fuel Hose from the Fuel Regulator or the Oxygen Hose from the Oxygen Regulator.
16. Open both Torch Valve Stem Assemblies (fuel and oxygen.)
17. Open the Cylinder or Manifold Valve. Adjust the Regulator that is still connected to deliver 2-5 PSIG.
18. Place the loose end of the disconnected Hose under water for at least ten (10) seconds.
19. Examine the Hose-end for bubbles. If there is more than one bubble in five (5) seconds, replace the Internal Check Valve.

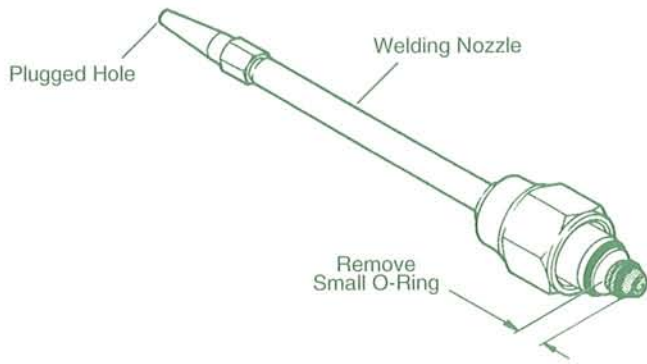


Fig. 4 - Plugged Welding Nozzle with Small O-Ring Removed

20. Repeat Steps 15 through 19 to test the other Internal Check Valve.

### Testing the Flashback Arrestors

#### 21. FC Models

**WARNING** The Flashback Arrestors cannot be field tested or repaired! They must be replaced after a maximum of 5 years of service or whenever there are signs of discoloration caused by heat, poor torch performance caused by restricted flow, signs of carbon soot in the inlet, or flame damaged or melted Check Valves.

### Purging the System

#### 22. FC Models

**CAUTION** Flow restriction and torch over-heating will result if dirt or "oily" LPG residuals are allowed to flow into the Flashback Arrestors.

**NOTICE** For maximum service life of the Flashback Arrestors and Check Valves, purge all supply lines/hoses before installing. This removes loose material that could restrict flow through the Flashback Arrestors and/or cause the Check Valves to leak.

23. **ALL MODELS: ALWAYS** purge the system as described below after testing the Internal Check Valves.

Purging removes dangerous mixed gases from the system.

**CAUTION** For your safety, **ALWAYS** purge the system in a well ventilated area.

- Adjust both Regulators to deliver 10 PSIG.
- Open the Fuel Valve Stem Assembly for 10 seconds. Close the Cylinder or Manifold Valve. When all fuel pressure is released from the system, close the Fuel Valve Stem Assembly. Turn the Fuel Regulator Adjusting Screw counterclockwise until all spring pressure is released.
- Repeat Step b, using the Oxygen Valve Stem Assembly and Oxygen Cylinder or Manifold.

## J-28 SERVICE PROCEDURES

### Recommended Tools and Supplies:

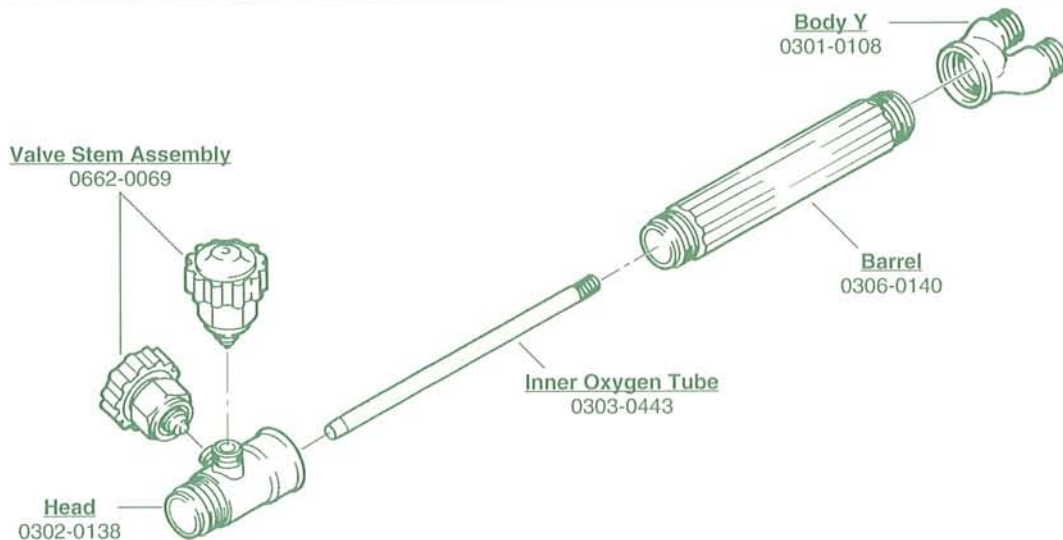
Bench Vise  
 Head Reamer RT-59 (1420-0095)  
 Valve Seat Reamer RT-33 (1420-0059)  
 Holding Fixture RT-62 (1420-0105)  
 7/16" and 3/8" Open-End Wrenches  
 Strap Wrench  
 Heavy Copper or Brass Rod  
 LOCTITE® #79 (0028-0056)  
 Christo-Lube (0034-0021)

**NOTICE** For additional information, refer to Apparatus Service and Testing Procedures for Cutting Torches, Cutting Attachments and Welding Torches (Form No. 0056-0885) and Repair Tools Manual (Form No. 0056-0121).

### Disassembly Procedure

- Place the Barrel in the Holding Fixture. Place the Holding Fixture in the Bench Vise. **DO NOT** deform the Barrel.
- Remove the Valve Stem Assemblies.
- Remove the Head.
- Place a protective cover over the threads of the Body Y.

## J-28



5. Place the Heavy Copper or Brass Rod in the "Y" of the Body Y. Remove the Body Y by turning the Body Y counterclockwise.
6. Place the Inner Oxygen Tube in the Bench Vise.
7. Place the Rod in the "Y" of the Body Y. Remove the Inner Oxygen Tube by turning the Body Y counterclockwise.
8. Remove the Inner Oxygen Tube from the Bench Vise.

## Cleaning Parts

Clean all metal parts with a cleaner that is safe for use with oxygen. Contact a chemical/cleaning supply distributor for recommended cleaners for use with oxygen. Always use cleaning solvents in accordance with the manufacturer's instructions.

**⚠WARNING** DO NOT allow nonmetal parts to come in contact with any cleaning solvent! Cleaning solvents cause elastomeric and plastic parts to swell and stress crack. If these parts require cleaning, use a mild soap solution, followed by thorough rinsing in water. Dry these parts completely before installing in the torch. **REPLACE NONMETAL PARTS THAT HAVE COME IN CONTACT WITH OIL, GREASE OR ANY OTHER PETROLEUM BASED SUBSTANCE!**

## Assembly Procedure

1. Place the Inner Oxygen Tube in the Bench Vise with the threaded end up.
2. Apply 2-3 drops of LOCTITE® #79 to the second and third threads of the Inner Oxygen Tube. Install the Body Y on the Inner Oxygen Tube.
3. Remove the Inner Oxygen Tube and Body Y from the Holding Fixture.
4. Apply 2-3 drops of LOCTITE® #79 to the second and third threads of both ends of the Barrel and to the tapered end of the Inner Oxygen Tube. Install the Barrel on the Body Y. Install the Head on the Barrel. Complete Steps 5 through 8 before the LOCTITE® #79 sets up.
5. Place the Barrel in the Holding Fixture. Place the Holding Fixture in the Bench Vise.
6. Place a protective cover over the threads of the Body Y.
7. Place the Heavy Copper or Brass Rod in the "Y" of the Body Y. Tighten the Body Y to a torque of 25 ft-lbs.
8. Tighten the Head to a torque of 25 ft-lbs.
9. Apply a thin film of Christo-Lube to the male threads of the Oxygen Valve Stem Assembly. Install the Oxygen Valve Stem Assembly in the Oxygen Valve Body. Tighten the Oxygen Valve Stem Assembly Nut until it requires 1¼ to 2 in-lbs of torque to adjust the Valve Stem Assembly.

**NOTICE** DO NOT install the Fuel Valve Stem Assembly at this time.

## Test Procedure

### Recommended Tools and Supplies:

80 PSIG Source of Oil-Free air or Dry Nitrogen  
 A plugged Welding Nozzle with both seats intact  
 (See Fig. 5)  
 Christo-Lube (0034-0021)

**⚠WARNING** For your safety and the safety of the operator, always perform the following test procedure after assembling a Torch. Test with oil-free air or dry nitrogen ONLY! Always wear eye protection when testing a Torch Handle. Always test a Torch Handle in a well ventilated area. If the Torch Handle does not perform properly during testing, refer to Apparatus Service and Testing Procedures for Cutting Torches, Cutting Attachments and Welding Torches (Form No. 0056-0885).

1. Attach the Fuel and Oxygen Hoses to the Torch Handle.
2. Install the plugged Welding Nozzle in the Head (See Fig. 5).

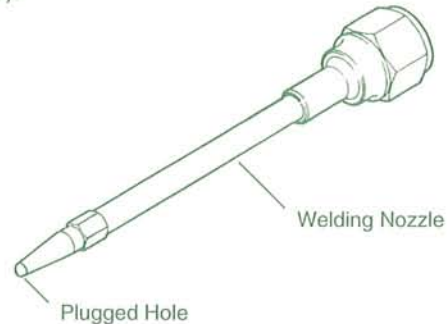
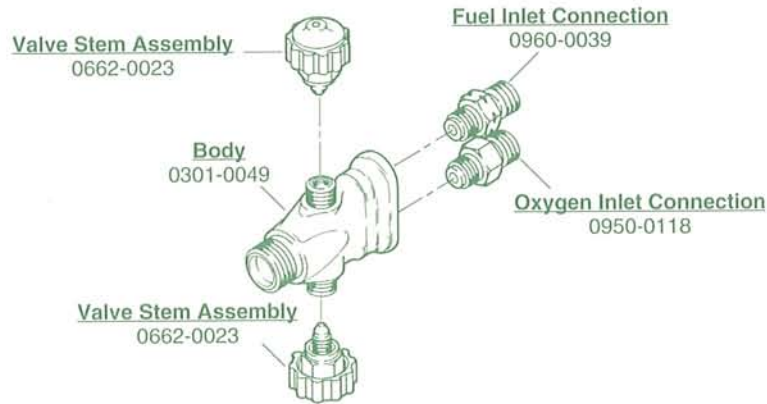


Fig. 5 - Plugged Welding Nozzle for Leak Testing

3. Close the Oxygen Valve Stem Assembly. Pressurize the oxygen side of the Torch Handle to 80 PSIG with oil-free air or dry nitrogen.
4. Completely submerge the Torch Handle in water.
5. Open the Oxygen Control Valve.
  - a. Observe the Head fuel port. If there is an internal leak, bubbles will pass through the port.
  - b. Observe the Oxygen Valve Stem Assembly. There should be zero leakage past the Valve Stem Packing in five (5) seconds. Tighten the Valve Stem Assembly Packing Nut until 1¼ to 2 in-lbs of torque is required to adjust the Valve Stem.
6. Close the Oxygen Control Valve.
7. Apply a thin film of Christo-Lube to the male threads of the Fuel Valve Stem Assembly. Install the Fuel Valve Stem Assembly in the Fuel Valve Body. Tighten the Packing Nut until 1¼ to 2 in-lbs of torque is required to adjust the Valve Stem Assembly.
8. Close the Fuel Valve Stem Assembly. Pressurize the fuel side of the Torch Handle to 80 PSIG with oil-free air or dry nitrogen.
9. Completely submerge the Torch Handle in water.
10. Open the Oxygen and Fuel Control Valves.
  - a. Observe the Fuel Valve Stem Assembly. There should be zero leakage (no bubbles) past the Valve Stem Packing in five (5) seconds. Tighten the Packing Nut until 1¼ to 2 in-lbs of torque is required to adjust the Valve Stem.
  - b. Check for leaks (bubbles) around all external connections.
11. Close the Oxygen and Fuel Control Valves. Tighten to 7 to 8 in-lbs of torque.
12. Remove the plugged nozzle. Submerge the Torch Handle and observe the Head. If bubbles appear at the Head, one or both of the Valve Stem Assembly Seats is leaking. If leak is evident, Valve Seat may require reseating. Use the Valve Seat Reamer to repair Valve Seat. Retest for leaks.

# J-40



## J-40 SERVICE PROCEDURES

### Recommended Tools and Supplies

Bench Vise  
Head Reamer RT-59 (1420-0095)  
Valve Seat Reamer RT-35 (1420-0063)  
5/16" Box-end Wrench  
3/8" Open-end Wrench

**NOTICE** For additional information, refer to Apparatus Service and Testing Procedures for Cutting Torches, Cutting Attachments and Welding Torches (Form No. 0056-0885) and Repair Tools Manual (Form No. 0056-0121).

### Disassembly Procedure

Remove the Valve Stem Assemblies and Inlet Connections as shown in the illustration above.

### Cleaning Parts

Clean all metal parts with a cleaner that is safe for use with oxygen. Contact a chemical/cleaning supply distributor for recommended cleaners for use with oxygen. Always use cleaning solvents in accordance with the manufacturer's instructions.

**WARNING** DO NOT allow nonmetal parts to come in contact with any cleaning solvent! Cleaning solvents cause elastomeric and plastic parts to swell and stress crack. If these parts require cleaning, use a mild soap solution, followed by thorough rinsing in water. Dry these parts completely before installing in the torch. **REPLACE NONMETAL PARTS THAT HAVE COME IN CONTACT WITH OIL, GREASE OR ANY OTHER PETROLEUM BASED SUBSTANCE!**

### Assembly Procedure

1. Apply 2-3 drops of LOCTITE® #79 to the second and third male threads of the Inlet Connections immediately prior to installation.
2. Apply a thin film of Christo-Lube to the male threads of the Valve Stem Assemblies.
3. Install the Valve Stem Assemblies in the Body. Tighten the Packing Nut of each Valve Stem Assembly until 1 1/4 to 2 in-lbs of torque is required to adjust the Valve Stem Assembly.

## Test Procedure

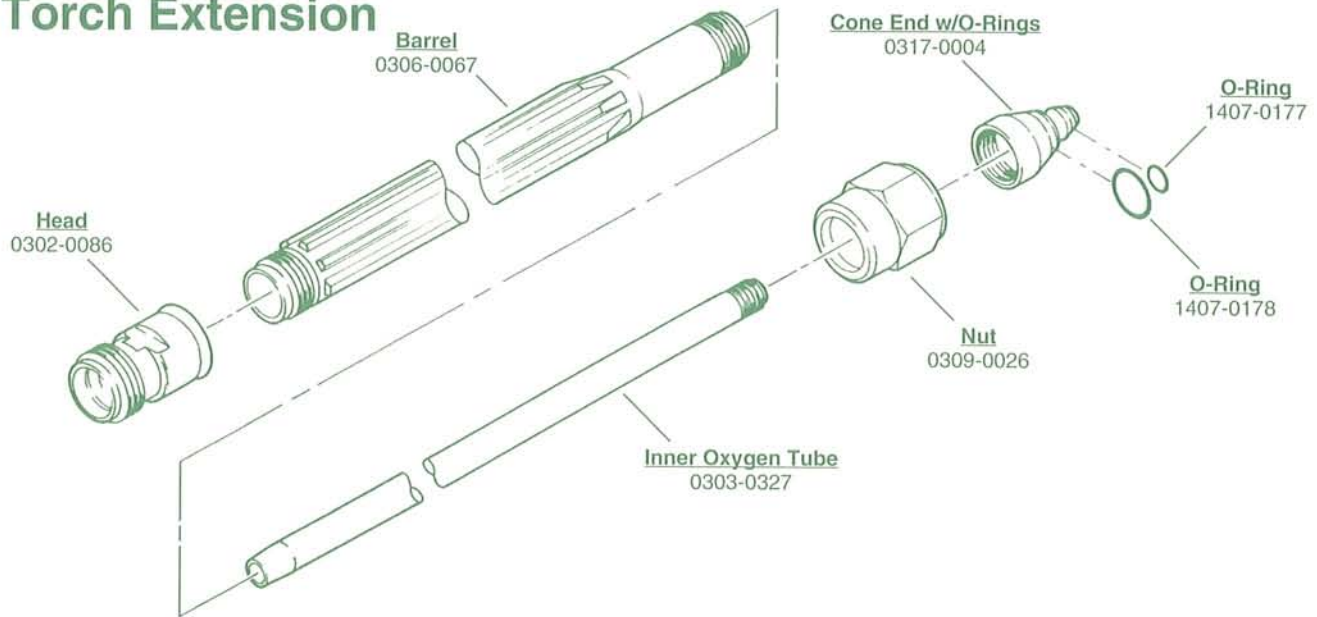
### Recommended Tools and Supplies:

80 PSIG Source of Oil-Free air or Dry Nitrogen  
A plugged Welding Nozzle with both seats intact  
(See Fig. 5)  
Christo-Lube (0034-0021)

**WARNING** For your safety and the safety of the operator, always perform the following test procedure after assembling a Torch. Test with oil-free air or dry nitrogen ONLY! Always wear eye protection when testing a Torch Handle. Always test a Torch Handle in a well ventilated area. If the Torch Handle does not perform properly during testing, refer to Apparatus Service and Testing Procedures for Cutting Torches, Cutting Attachments and Welding Torches (Form No. 0056-0885).

1. Attach the Fuel and Oxygen Hoses to the Torch Handle.
2. Install the plugged Welding Nozzle in the Body Head.
3. Close the Oxygen Valve Stem Assembly. Pressurize the oxygen side of the Torch Handle to 80 PSIG with oil-free air or dry nitrogen.
4. Completely submerge the Torch Handle in water.
5. Open the Oxygen Control Valve.
  - a. Observe the Head fuel port. If there is an internal leak, bubbles will pass through the port.
  - b. Observe the Oxygen Valve Stem Assembly. There should be zero leakage past the Valve Stem Packing in five (5) seconds.
6. Close the Oxygen Control Valve.
7. Close the Fuel Valve Stem Assembly. Pressurize the fuel side of the Torch Handle to 80 PSIG with oil-free air or dry nitrogen.
8. Completely submerge the Torch Handle in water.
9. Open the Oxygen and Fuel Control Valves.
  - a. Observe the Fuel Valve Stem Assembly. There should be zero leakage (no bubbles) past the Valve Stem Packing in five (5) seconds.
  - b. Check for leaks (bubbles) around all external connections.
10. Close the Oxygen and Fuel Control Valves. Tighten to 7 to 8 in-lbs of torque.
11. Remove the plugged nozzle. Submerge the Torch Handle and observe the Head. If bubbles appear at the Head, one or both of the Valve Stem Assembly Seats is leaking. If leak is evident, Valve Seat may require reseating. Use the Valve Seat Reamer to repair the Valve Seat. Retest for leaks.

# 320 Torch Extension



## 320 Torch Extension SERVICE PROCEDURES

**NOTICE** For additional information, refer to Apparatus Service and Testing Procedures for Cutting Torches, Cutting Attachments and Welding Torches (Form No. 0056-0885) and Repair Tools Manual (Form No. 0056-0121).

### Disassembly Procedure

Disassemble the 320 Torch Extension as shown in the illustration above.

### Cleaning Parts

Clean all metal parts with a cleaner that is safe for use with oxygen. Contact a chemical/cleaning supply distributor for recommended cleaners for use with oxygen. Always use cleaning solvents in accordance with the manufacturer's instructions.

**WARNING** DO NOT allow nonmetal parts to come in contact with any cleaning solvent! Cleaning solvents cause elastomeric and plastic parts to swell and stress crack. If these parts require cleaning, use a mild soap solution, followed by thorough rinsing in water. Dry these parts completely before installing in the torch. **REPLACE NONMETAL PARTS THAT HAVE COME IN CONTACT WITH OIL, GREASE OR ANY OTHER PETROLEUM BASED SUBSTANCE!**

## Assembly Procedure

1. Apply 2-3 drops of LOCTITE® #79 to the second and third male threads of the Barrel and Inner Oxygen Tube prior to installation.
2. Apply 2-3 drops of LOCTITE® #79 to the taper of the Inner Oxygen Tube prior to installation.
3. Tighten the assembly to a torque of 45 ft-lbs.

## Test Procedure

**WARNING** For your safety and the safety of the operator, always perform the following test procedure after assembling a Torch. Test with oil-free air or dry nitrogen ONLY! Always wear eye protection when testing a Torch Handle. Always test a Torch Handle in a well ventilated area. If the Torch Handle does not perform properly during testing, refer to Apparatus Service and Testing Procedures for Cutting Torches, Cutting Attachments and Welding Torches (Form No. 0056-0885).

Assemble the 320 Torch Extension onto a 300 Series Torch Handle. Test per 300 Series Torch Handle test procedure as shown on pages 3-4.

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