

CHICAGO **welding** **ELECTRIC** **systems**

HEAVY DUTY OXYGEN AND ACETYLENE WELDING KIT

Model 36983

ASSEMBLY AND OPERATING INSTRUCTIONS



3491 Mission Oaks Blvd., Camarillo, CA 93011
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For technical questions, please call 1-800-444-3353.

PRODUCT SPECIFICATIONS

Item	Description
Torch Handle, Oxygen Regulator and Acetylene Regulator Construction	Polished finish, all brass construction.
Cutting Nozzle Construction	Brass and Steel. Chrome plated oxygen lever.
Welding Nozzle and Heating Nozzle Construction	Brass base with a Copper tip.
Welding Hose Size and Construction	15 Ft. Long x 1/4" ID (each Hose). Rubber and brass fittings.
Tip Cleaner Construction	Steel files in an Anodized case.
Safety Glasses Construction	Plastic and Nylon.
Flint Lighter Construction	Chrome plated steel with a Flint tip.
Weight	19 Lbs.

SAVE THIS MANUAL

You will need this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures, parts list and assembly diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep this manual and invoice in a safe and dry place for future reference.

GENERAL SAFETY RULES



WARNING!

READ AND UNDERSTAND ALL INSTRUCTIONS
Failure to follow all instructions listed below may result in electric shock, fire, and/or serious injury.
SAVE THESE INSTRUCTIONS

WORK AREA

1. **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
2. **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Power tools create sparks which may ignite the dust or fumes.

3. **Keep bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control. Protect others in the work area from debris such as chips and sparks. Provide barriers or shields as needed.

PERSONAL SAFETY

4. **Stay alert. Watch what you are doing, and use common sense when operating a power tool. Do not use a power tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
5. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
6. **Avoid accidental starting. Be sure the Power Switch is off before plugging in.** Carrying power tools with your finger on the Power Switch, or plugging in power tools with the Power Switch on, invites accidents.
7. **Remove adjusting keys or wrenches before turning the power tool on.** A wrench or a key that is left attached to a rotating part of the power tool may result in personal injury.
8. **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the power tool in unexpected situations.
9. **Use safety equipment. Always wear eye protection.** Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

TOOL USE AND CARE

10. **Use clamps (not included) or other practical ways to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
11. **Do not force the tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
12. **Do not use the power tool if the Power Switch does not turn it on or off.** Any tool that cannot be controlled with the Power Switch is dangerous and must be replaced.

13. **Disconnect the Power Cord Plug from the power source before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally.
14. **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
15. **Maintain tools with care. Keep cutting tools sharp and clean.** Properly maintained tools with a sharp cutting edge are less likely to bind and are easier to control. Do not use a damaged tool. Tag damaged tools “Do not use” until repaired.
16. **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool’s operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.
17. **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool may become hazardous when used on another tool.

SERVICE

18. **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.
19. **When servicing a tool, use only identical replacement parts. Follow instructions in the “*Inspection, Maintenance, And Cleaning*” section of this manual.** Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electric shock or injury.

SPECIFIC SAFETY RULES

1. **Maintain labels and nameplates on the Heavy Duty Welding Kit.** These carry important information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
2. **Maintain a safe working environment.** Keep the work area well lit. Make sure there is adequate surrounding workspace. Always keep the work area free of obstructions, grease, oil, trash, and other debris.
3. **Prevent eye injury and burns.** Wearing and using personal safety clothing and safety devices reduce the risk for injury. Wear ANSI approved safety impact eye goggles with a welding helmet featuring at least a number 10 shade lens rating. Leather leggings, fire resistant shoes or boots should be worn when using this product. Do not wear pants with cuffs, shirts with open pockets, or any clothing that can catch and hold molten metal or sparks. Keep clothing free of grease, oil, solvents, or any flammable substances. Wear dry, insulating gloves and protective clothing. Wear an approved head covering to protect the head and neck. Use aprons, cape, sleeves, shoulder covers, and bibs designed and approved for welding and cutting procedures. When welding or cutting overhead or in confined spaces, wear flame resistant ear plugs or ear muffs to keep sparks out of ears.
4. **Prevent accidental fires.** Remove any combustible material from the work area. When possible, move the work to a location well away from combustible materials. If relocation is not possible, protect the combustibles with a cover made of fire resistant material. Remove or make safe all combustible materials for a radius of 35 feet (10 meters) around the work area. Use a fire resistant material to cover or block all open doorways, windows, cracks, and other openings. Enclose the work area with portable fire resistant screens. Protect combustible walls, ceilings, floors, etc., from sparks and heat with fire resistant covers. If working on a metal wall, ceiling, etc., prevent ignition of combustibles on the other side by moving the combustibles to a safe location. If relocation of combustibles is not possible, designate someone to serve as a fire watch, equipped with a fire extinguisher, during the welding process and for at least one half hour after the welding is completed. Do not weld or cut on materials having a combustible coating or combustible internal structure, as in walls or ceilings, without an approved method for eliminating the hazard. Do not dispose of hot slag in containers holding combustible materials. Keep a fire extinguisher nearby and know how to use it. After welding or cutting, make a thorough examination for evidence of fire. Be aware that easily visible smoke or flame may not be present for some time after the fire has started. Do not weld or cut in atmospheres containing dangerously reactive or flammable gases, vapors, liquids, and dust. Provide adequate ventilation in work areas to prevent accumulation of flammable gases, vapors, and dust. Do not apply heat to a container that has held an unknown substance or a combustible material whose contents, when heated, can produce flammable or explosive vapors. Clean and purge containers before applying heat. Vent closed containers, including castings, before preheating, welding, or cutting.

5. **Avoid overexposure to fumes and gases.** Always keep your head out of the fumes. Do not breathe the fumes. Use enough ventilation or exhaust, or both, to keep fumes and gases from your breathing zone and general area. Where ventilation is questionable, have a qualified technician take an air sampling to determine the need for corrective measures. Use mechanical ventilation to improve air quality. If engineering controls are not feasible, use an approved respirator. Work in a confined area only if it is well ventilated, or while wearing an air-supplied respirator. Follow OSHA guidelines for Permissible Exposure Limits (PEL's) for various fumes and gases. Follow the American Conference of Governmental Industrial Hygienists recommendations for Threshold Limit Values (TLV's) for fumes and gases. Have a recognized specialist in Industrial Hygiene or Environmental Services check the operation and air quality and make recommendations for the specific welding or cutting situation.

Inhalation Hazard

Welding Produces TOXIC FUMES and GASSES.





Exposure to welding gasses can increase the risk of developing certain cancers, such as cancer of the larynx and lung cancer. Also, some diseases that may be linked to exposure to welding gasses or fumes are:

- Early onset of Parkinson's Disease
- Damage to the reproductive organs
- Inflammation of the small intestine or stomach
- Respiratory diseases such as emphysema, bronchitis or pneumonia
- Heart Disease
- Ulcers
- Kidney damage



Safety precautions, such as using natural or forced air ventilation and wearing an ANSI approved respirator, are **ESSENTIAL** to reduce the risk of developing the above illnesses.

6. **Always keep the Welding Hoses (D1A, or D1B) away from moving parts on the tool.** Examine the Welding Hoses for cuts, burns, or worn areas before each use. If any damaged areas are found, replace the Welding Hoses immediately.
7. **Read and understand all instructions and safety precautions as outlined in the manufacturer's manual for the material you will weld or cut.**

8. **Proper cylinder care.** Secure cylinders to a cart, wall, or post, to prevent them from falling. All cylinders should be used and stored in an upright position. Never drop or strike a cylinder. Do not use cylinders that have been dented. Cylinder caps should be used when moving or storing cylinders. Empty cylinders should be kept in specified areas and clearly marked "empty".
9. **Never use oil or grease on any inlet connector, outlet connector, or cylinder valves.**
10. **Always use reverse-flow check valves on the torch and regulator.** This greatly reduces the possibility of mixing gases in the regulator or hose.
11. **Working pressure on the Acetylene Regulator should NEVER be set above 15 PSI.**
12. **There must be TWO O-Rings (C24, C25) on the Connector (C23) end.** The absence of either O-Ring can lead to *flashback* within the Torch Handle or Cutting Attachment.
13. **For the Cutting Attachment, inspect the tampered seating surfaces on the Tip and in the Torch Head.** Have a qualified technician resurface the seat area if it has dents, burrs, or is burned. A poor seating surface may result in *backfire* or *flashback*.
14. **Backfire and flashback.** When the flame goes out with a loud "pop", it is called a *backfire*. Backfire can be caused by (1) operating the Torch at lower pressures than required for the Tip used, (2) touching the Tip against the workpiece, (3) overheating the Tip, or (4) an obstruction in the Tip. If backfire occurs, shut off the Torch Handle Valves (oxygen first) and after remedying the cause, relight the Torch. A *flashback* is a condition that results when the flame flashes back into the Torch and burns inside with a shrill hissing or squealing noise. If flashback occurs, close the Torch Handle Valves (oxygen first), IMMEDIATELY. Flashback generally indicates a problem that should be repaired. A clogged Tip improper functioning of the Valves, or incorrect acetylene/oxygen pressure could lead to flashback. Make sure to find the cause before relighting the Torch.
15.  **WARNING!** This product, when used for welding and similar applications, contains or produces a chemical known to the State of California to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code 25249.5 et seq.)
16.  **WARNING!** The brass components of this product contain lead, a chemical known to the State of California to cause birth defects (or other reproductive harm). (California Health & Safety Code 25249.5 et seq.)

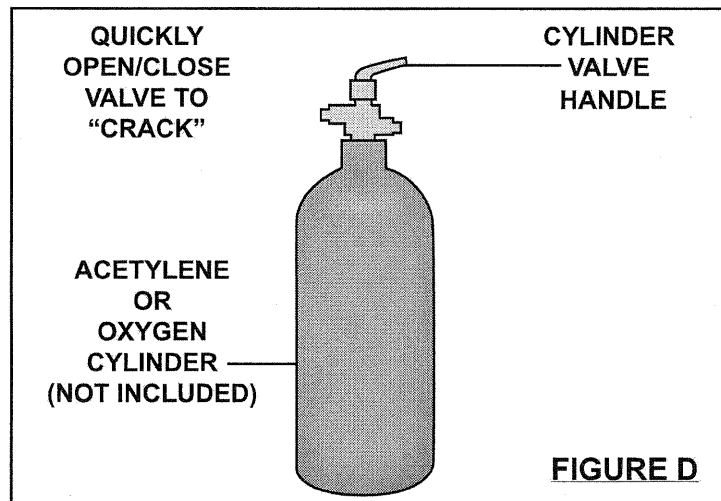
UNPACKING

When unpacking, check to make sure all the parts shown on the **Parts Lists on pages 15-19** are included. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover of this manual as soon as possible.

ASSEMBLY AND OPERATING INSTRUCTIONS

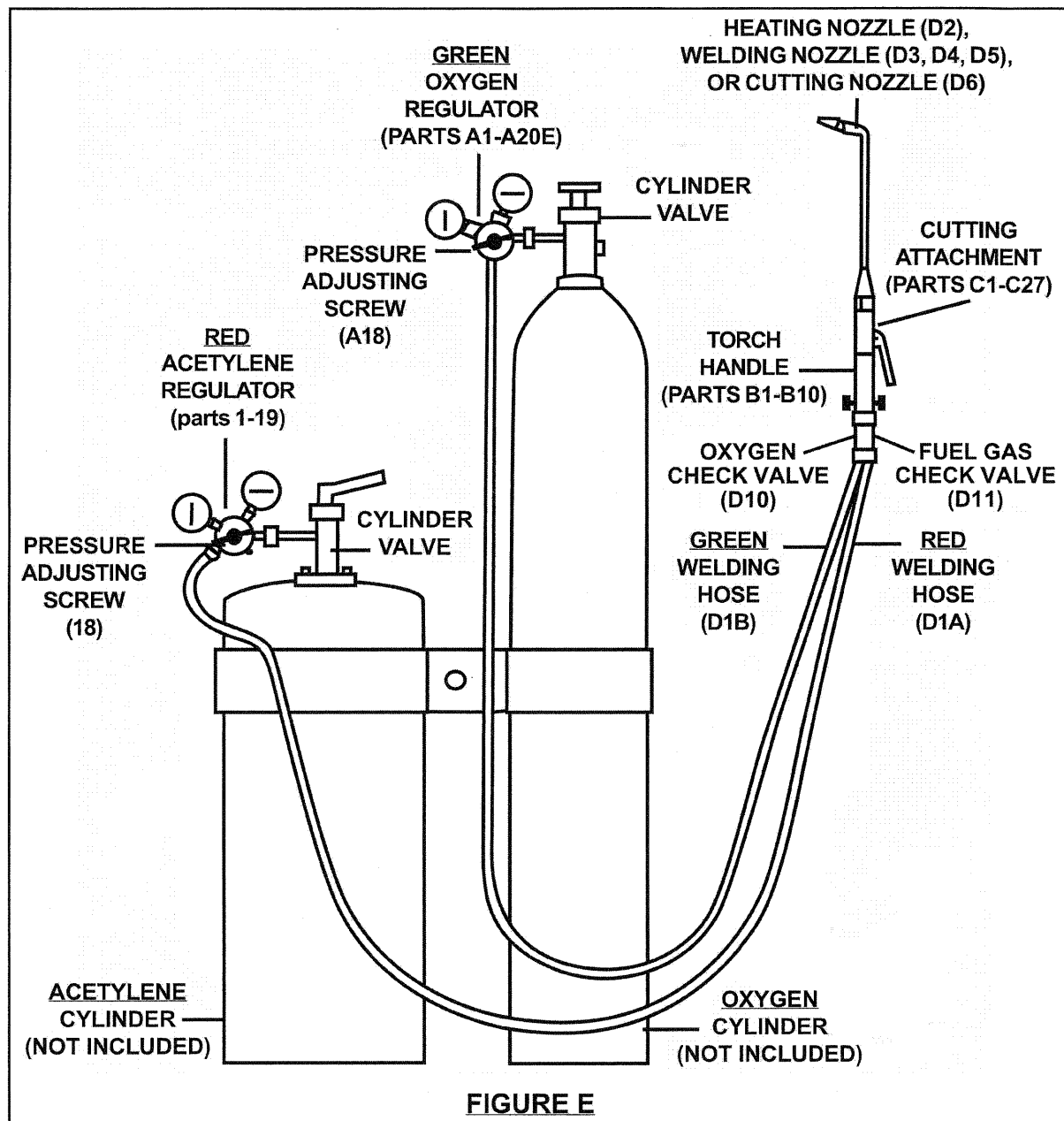
For additional information regarding the parts listed in the following pages, refer to the **Parts Diagrams on pages 15-19**.

1. **NOTE!** The following instructions are for acetylene gas use only. Contact your gas supplier for instructions on the use of other fuel gases.
2. Make sure to secure the cylinders (as noted in the *Specific Safety Rules* section).
3. While standing to one side, "crack" each cylinder valve. "Cracking" is to quickly open and close the valve, allowing gas to escape and clearing the valve of any foreign material. **WARNING!** If oil or grease is found, discontinue using cylinder and immediately contact your supplier. (See Figure D.)



4. Attach the **GREEN** Oxygen Regulator (parts A1-A20E) to the oxygen cylinder. Then, attach the **RED** Acetylene Regulator (parts 1-19) to the acetylene cylinder. Make sure they are tightened in the correct directions (normally, clockwise for oxygen and counterclockwise for acetylene.)
(See Figure E, next page.)

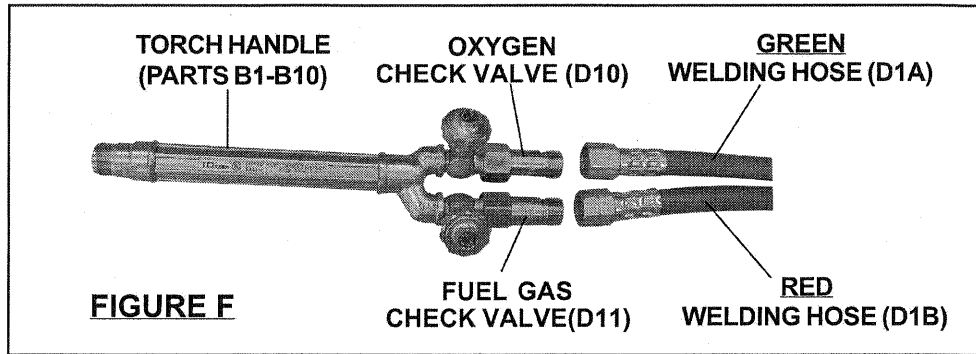
5. **IMPORTANT!** The Pressure Adjusting Screw (18) on the Acetylene Regulator and the Pressure Adjusting Screw (12B) on the Oxygen Regulator should be turned counterclockwise to relieve pressure on the Regulator diaphragms before opening the cylinder valves. If this is not done, pressure from the cylinders may damage the diaphragms and render the Regulators inoperable.



6. Connect the **GREEN** and **RED** Welding Hoses (D1A, or D1B) to the proper connections on the Torch Handle (parts B1-B10).

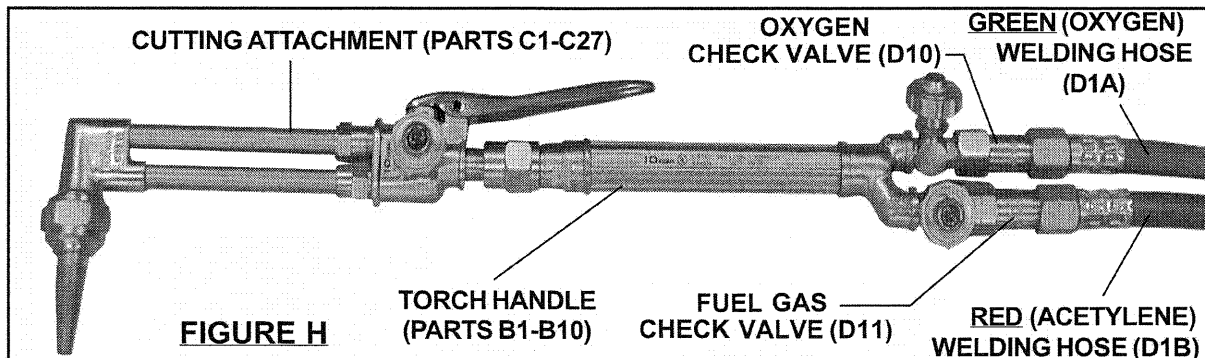
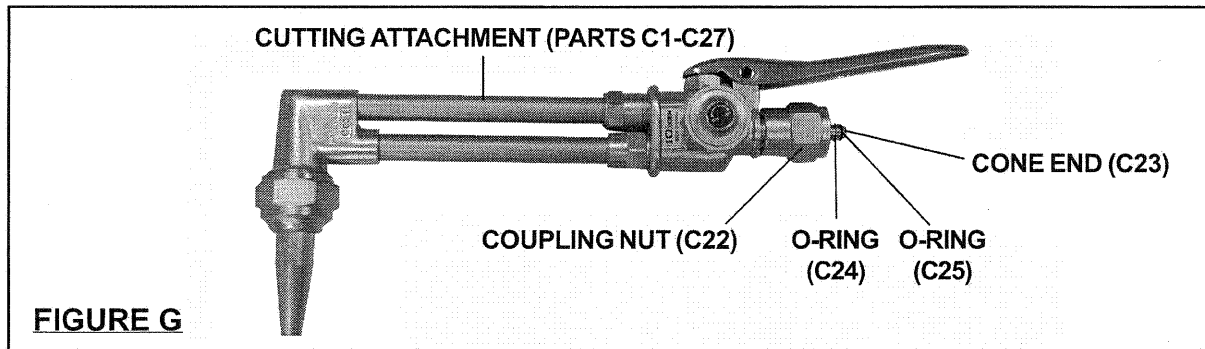
⚠ WARNING! If any traces of oil or grease are found, do not use. Contact

your gas supplier immediately. (See Figure F.)



7. Connect the Cutting Attachment (parts C1-C27) to the Torch Handle (parts B1-B10). Always check the Cone End (C23) and Coupling Nut (C22) for damage or oil. If either are found, discontinue use and contact your gas supplier.

WARNING! Make sure the two O-Rings (C24, C25) are not damaged or missing, otherwise gases will mix inside the Torch Handle (parts B1-B10) and result in flashback or backfires. (See Figures G, and H.)



8. Check connections for leaks. Adjust the Acetylene Regulator (parts 1-19) and Oxygen Regulator (parts A1-A20E) to their normal operating pressure. Use an approved leak detection solution to check for leaks at the Welding Hoses (D1A, and D1B) and cylinder valve connections. If leaks are found, tighten the nuts more

securely. If a leak still persists, discontinue use and call your gas supplier.

WARNING! NEVER set the Acetylene Regulator (parts 1-19) to a delivery pressure above **15 PSI**. (See Figures I, J, and K.)

WELDING TIP CHART

Metal Thickness	Tip Size	Oxygen Pressure P.S.I.G.		Acetylene Pressure P.S.I.G.	
		Min.	Max.	Min.	Max.
1/64"-3/64"	00	3	5	3	5
1/32"-5/64"	0	3	5	3	5
3/64"-3/32"	1	3	5	3	5
1/16"-1/8"	2	3	5	3	5
1/8"-3/16"	3	4	7	3	6
3/16"-1/4"	4	5	10	4	7
1/4"-1/2"	5	6	12	5	8

FIGURE I

OXY-ACETYLENE MULTI-FLAME HEATING CHART

Tip Size	Acetylene Pressure Range P.S.I.G.	Oxygen Pressure Range P.S.I.G.	Acetylene Cubic Feet Per Hour		Oxygen Cubic Feet Per Hour	
			Min.	Max.	Min.	Max.
6	4-6	8-11	14	40	15	44
8	8-12	10-18	30	80	33	88

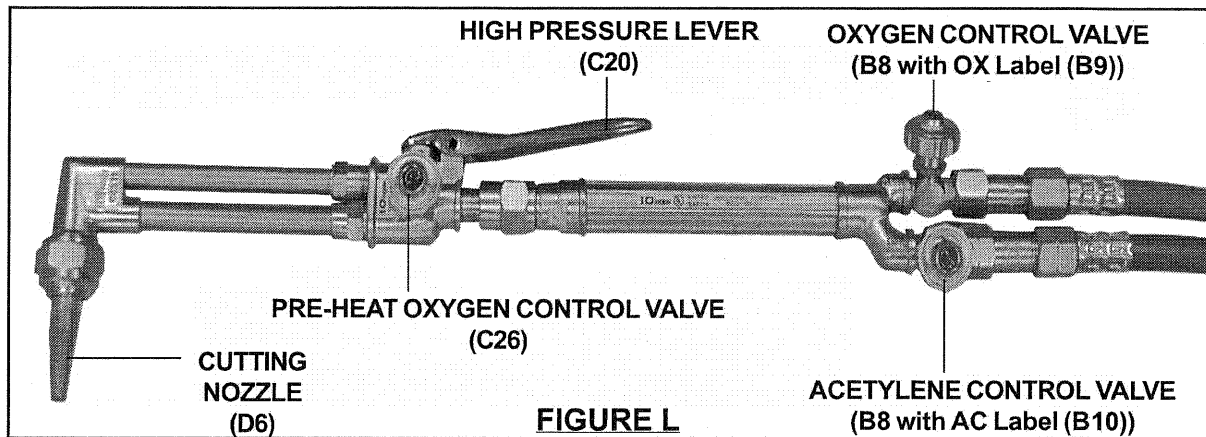
FIGURE J

OXY-ACETYLENE CUTTING NOZZLE CHART

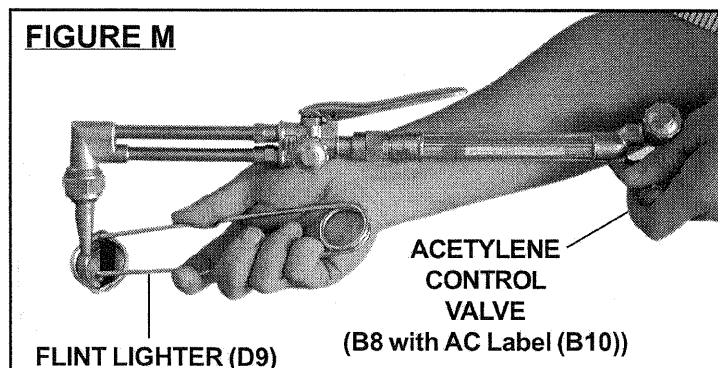
Metal Thickness	Nozzle Size	Oxygen Pressure P.S.I.G.		Acetylene Pressure P.S.I.G.	
		Min.	Max.	Min.	Max.
1/2"	0	30	35	3	5
3/4"	1	30	35	3	5

FIGURE K

9. To determine the proper Acetylene Regulator (parts 1-19) pressure and Oxygen Regulator (parts A1-A20E) pressure for *neutral flame adjusting*, refer to **Figures I, and K.**



10. Depending on use, attach either a Cutting Nozzle (D6), Heating Nozzle (D2), or Welding Nozzle (D3, D4, D5) to the Cutting Attachment (parts C1-C27).
(See Figure L.)
11. Open the Oxygen Control Valve (B8 with label (B9)) on the Torch Handle. Open the Pre-Heat Oxygen Valve (C26) on the Cutting Attachment. Adjust the Oxygen Regulator (parts A1-A20E) to the desired working pressure. Then, close the Oxygen Control Valve on the Torch Handle. **(See Figures E, and L.)**
12. Open the Acetylene Control Valve (B8 with label (B10)) on the Torch Handle. Adjust the Acetylene Regulator (parts 1-19) to the desired working pressure. Then, close the Acetylene Control Valve on the Torch Handle.
(See Figures E, and L.)
13. Hold the Torch Handle (parts B1-B10) in one hand and the Flint Lighter (D9) in the other hand. **(See Figure M.)**



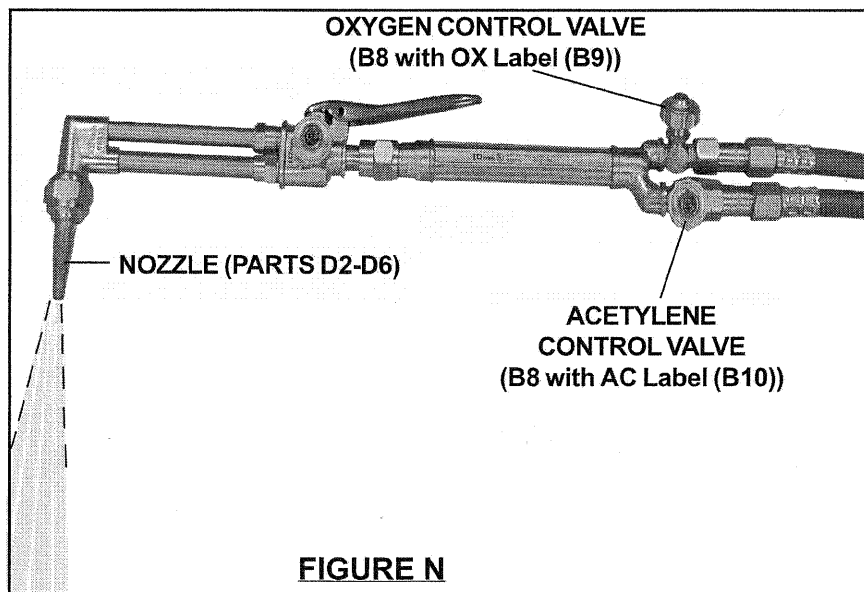
- Open the Acetylene Control Valve (B8 with AC Label (B10)) about 1/4 turn, and ignite the acetylene gas coming out of the Nozzle (part D2-D6).

⚠ WARNING! Always point the Nozzle away from other people when lighting. (See Figures L, and M.)

- Slowly open the Acetylene Control Valve (B8 with AC Label (B10)) further until the smoke subsides and the flame jumps away from the end of the Nozzle (part D2-D6) slightly. (See Figure M.)

- Slowly open the Oxygen Control Valve (B8 with OX Label (B9)) until a brilliant neutral flame is reached. (If the flame has a smooth inner cone, the flame is called *neutral*.) (See Figure N.)

- ⚠ WARNING!** Always use appropriate welding goggles or welding helmet when welding or cutting.




- Once the welding or cutting job is completed, turn off the Oxygen Control Valve (B8 with OX Label (B9)). Then, turn off the Acetylene Control Valve (B8 with AC Label (B10)).

NOTE: Reversal of this procedure may cause damage to the Torch Handle (parts B1-B10). (See Figure N.)

- Shut off both cylinder valves. (See Figure E.)
- Drain the gas from the Oxygen Regulator (parts A1-A20E) by opening the Oxygen Control Valve (B8 with OX Label (B9)). Complete this Step on the acetylene side. (See Figure N.)
- Release the pressure on the Acetylene and Oxygen Regulators by turning their Pressure Adjusting Screws (18, A18) counterclockwise. (See Figure E.)

INSPECTION, MAINTENANCE, AND CLEANING

1.  **WARNING!** Make sure the Welding Kit is cool to the touch and disconnected from its oxygen and acetylene cylinders before performing any inspection, maintenance, or cleaning procedures.
2. **BEFORE EACH USE**, inspect the general condition of the Welding Kit. Check for loose screws, misalignment or binding of moving parts, cracked or broken parts, damaged Welding Hoses (D1A, or D1B), and any other condition that may affect its safe operation. If a problem occurs, have the problem corrected before further use. **Do not use damaged equipment.**
3. **PERIODICALLY**, use the Tip Cleaner (D7) to clean out dirt and debris from the Nozzles (parts D2-D6). Make sure to use the correct size Tip Cleaner for each individual Nozzle. **(See Assy. Diagram E.)**
4. **TO CLEAN**, use a clean cloth. If necessary, a mild detergent may be used. Do not immerse any part of the Welding Kit in liquid. **Do not use solvents or other flammable agents to clean the Welding Kit.**

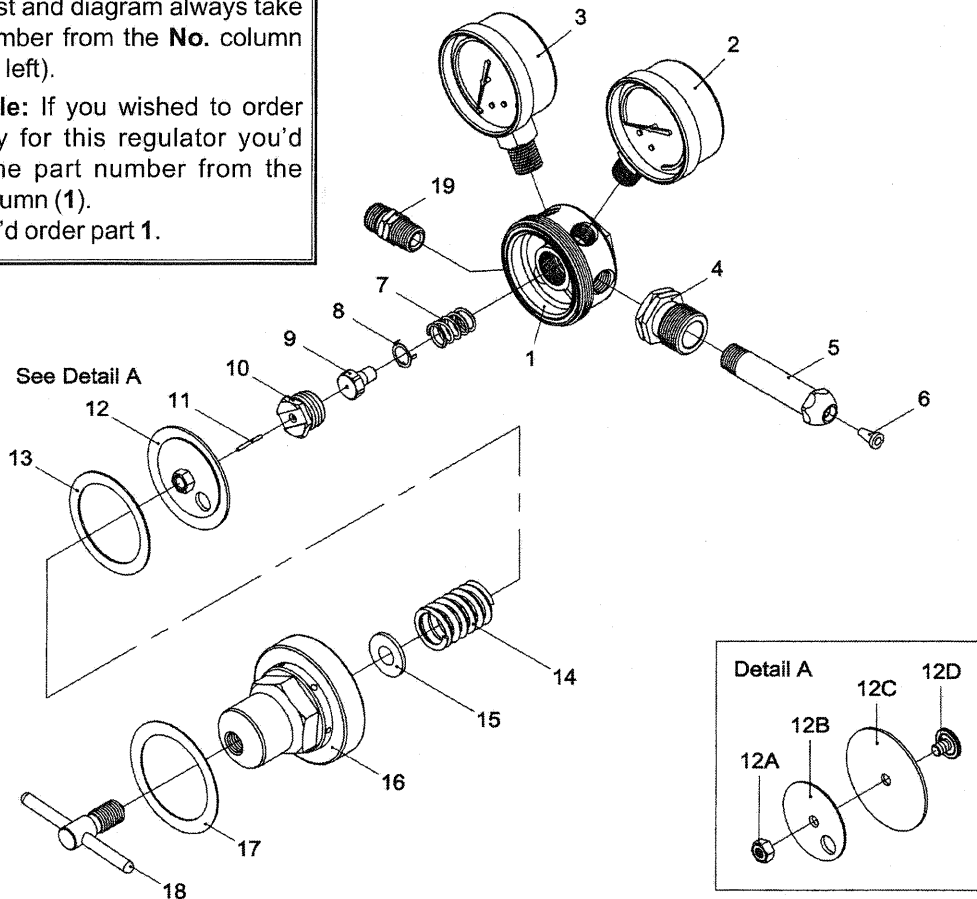
PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

PARTS LIST AND DIAGRAM 1 - ACETYLENE REGULATOR

Note: When ordering parts from this parts list and diagram always take the number from the **No.** column (on the left).

For example: If you wished to order a Body for this regulator you'd take the part number from the **No.** column (1). So you'd order part 1.



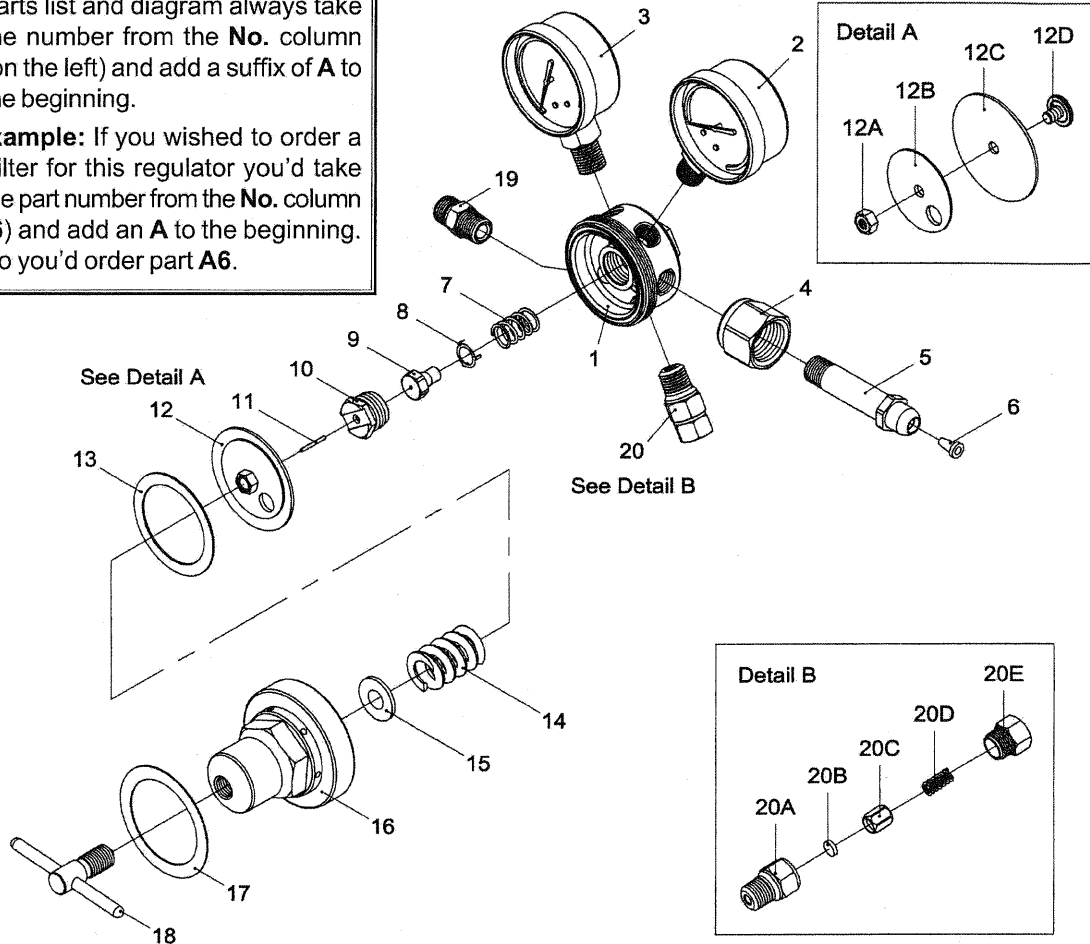
NO.	PART NO.	DESCRIPTION	NO.	PART NO.	DESCRIPTION
1	VMA02	Body	13	VMA09	Slip Ring
2	25A52CD	H.P. Gauge (2.1"x400psi/2800kpa) (UL)	14	76A70A	Adjusting Spring
3	25A52DD	L.P. Gauge (2.1"x30psi/200kpa)	15	101A68	Spring Button
4	25A16AB	Inlet Nut (CGA 510)	16	VMA08	Bonnet
5	25A06	Inlet Spigot	17	VMA15	Label
6	25A22	Filter	18	VMA24	Adjusting Screw " T " Bar
7	101A83	Valve Spring	19	25A76	Outlet Adaptor
8	101A82	Anti-Vibrator			
9	101A81	Valve			
10	101A80	Nozzle			
11	76A74	Plunger			
12	VMA18A	Diaphragm Assembly			
12A	101A73	Nut			
12B	101A74	Diaphragm Plate			
12C	VMA10A	Diaphragm			
12D	101A77	Centralizer			

NOTE: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

PARTS LIST AND DIAGRAM 2 - OXYGEN REGULATOR

Note: When ordering parts from this parts list and diagram always take the number from the **No.** column (on the left) and add a suffix of **A** to the beginning.

For example: If you wished to order a Filter for this regulator you'd take the part number from the **No.** column (6) and add an **A** to the beginning. So you'd order part **A6**.



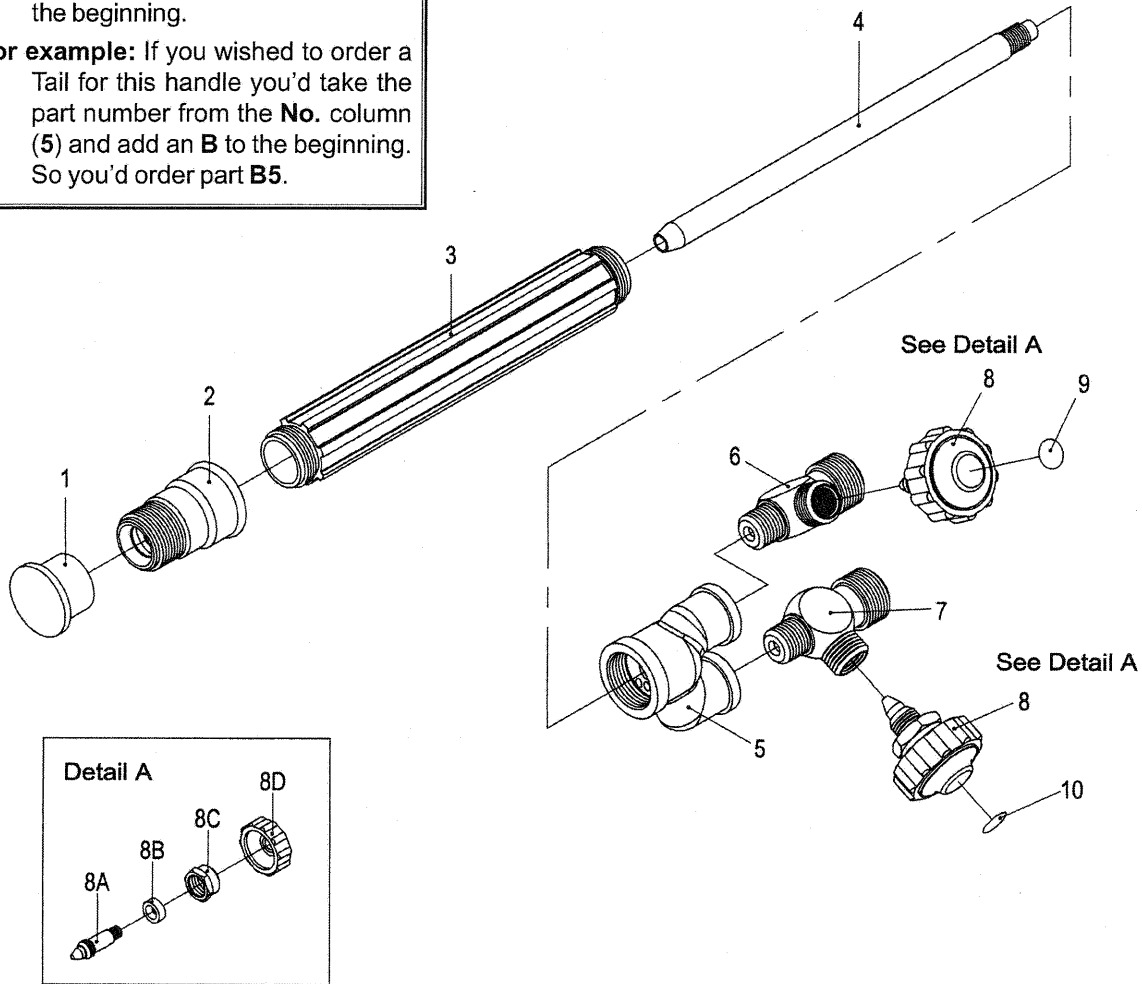
NO.	PART NO.	DESCRIPTION	NO.	PART NO.	DESCRIPTION
1	VMA01	Body	13	VMA09	Slip Ring
2	25A52AD	H.P. Gauge (2.1"x4000psi/28000kpa) (UL)	14	76A69	Adjusting Spring
3	25A52BD	L.P. Gauge (2.1"x200psi/1400kpa)	15	101A68	Spring Button
4	76A09AB	Inlet Nut (CGA 540)	16	VMA08	Bonnet
5	25A04	Inlet Spigot	17	VMA14	Label
6	25A22	Filter	18	VMA24	Adjusting Screw " T " Bar
7	101A83	Valve Spring	19	25A75	Outlet Adaptor
8	101A82	Anti-Vibrator	20	VHA19C	Safety Valve
9	101A81C	Valve	20A	VHA19B	Safety Body
10	101A80	Nozzle	20B	56A29	Safety Rubber
11	76A74	Plunger	20C	VHA22A	Safety Seat
12	VMA18A	Diaphragm Assembly	20D	VHA24	Safety Spring
12A	101A73	Nut	20E	VHA25A	Safety Cap
12B	101A74	Diaphragm Plate			
12C	VMA10A	Diaphragm			
12D	101A77	Centralizer			

NOTE: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

PARTS LIST AND DIAGRAM 3 - TORCH HANDLE

Note: When ordering parts from this parts list and diagram always take the number from the **No.** column (on the left) and add a suffix of **B** to the beginning.

For example: If you wished to order a Tail for this handle you'd take the part number from the **No.** column (5) and add an **B** to the beginning. So you'd order part **B5**.



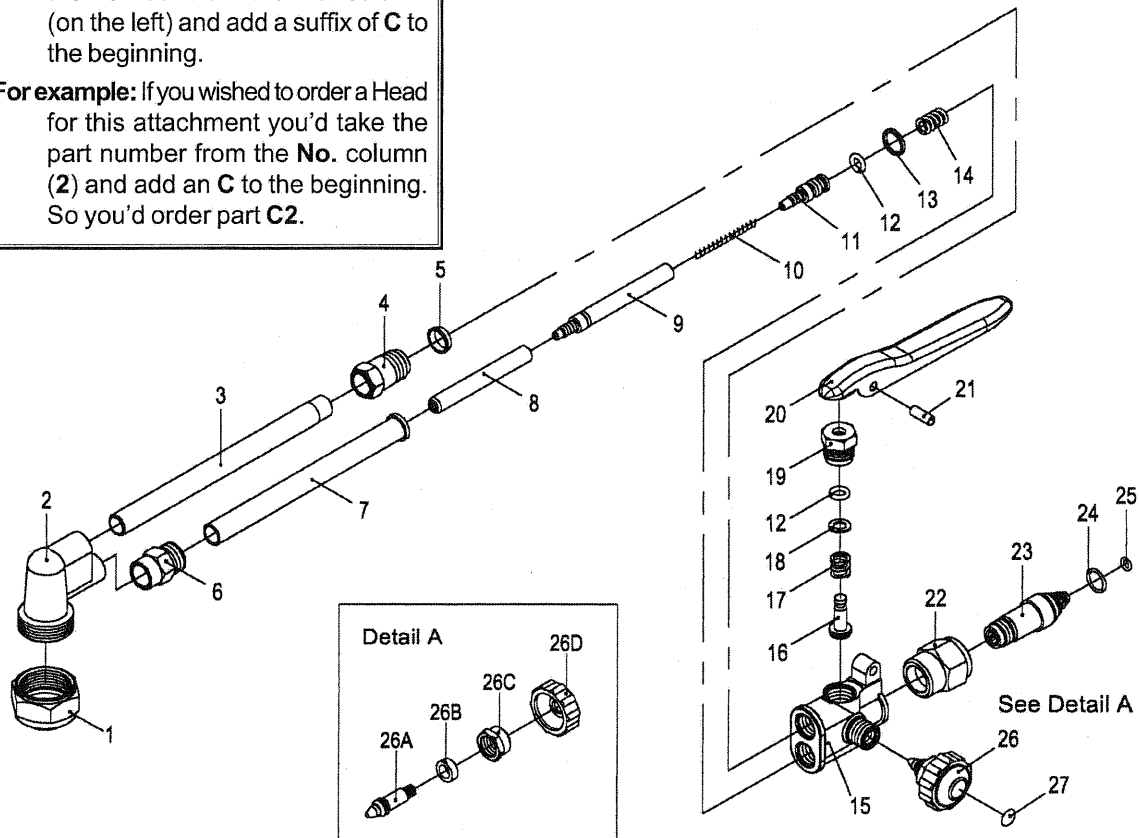
NO.	PART NO.	DESCRIPTION	NO.	PART NO.	DESCRIPTION
1	VMCWA49	Cover	8	VMCWA16C	Valve Stem Assembly
2	VMCWA30	Torch Head	8A	VMCWA16	Valve
3	VMCWA31	Handle	8B	VMCWA17	Washer
4	VMCWA32	Inner Tube	8C	VMCWA18	Nut
5	VMCWA33	Tail	8D	VMCWA19A	Adjusting Knob
6	VMCWA34	Oxygen Valve Body	9	VMCWA19B	Label (OX)
7	VMCWA35	Gas Valve Body	10	VMCWA19C	Label (AC)

NOTE: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

PARTS LIST AND DIAGRAM 4 - CUTTING ATTACHMENT

Note: When ordering parts from this parts list and diagram always take the number from the **No.** column (on the left) and add a suffix of **C** to the beginning.

For example: If you wished to order a Head for this attachment you'd take the part number from the **No.** column (2) and add an **C** to the beginning. So you'd order part **C2**.



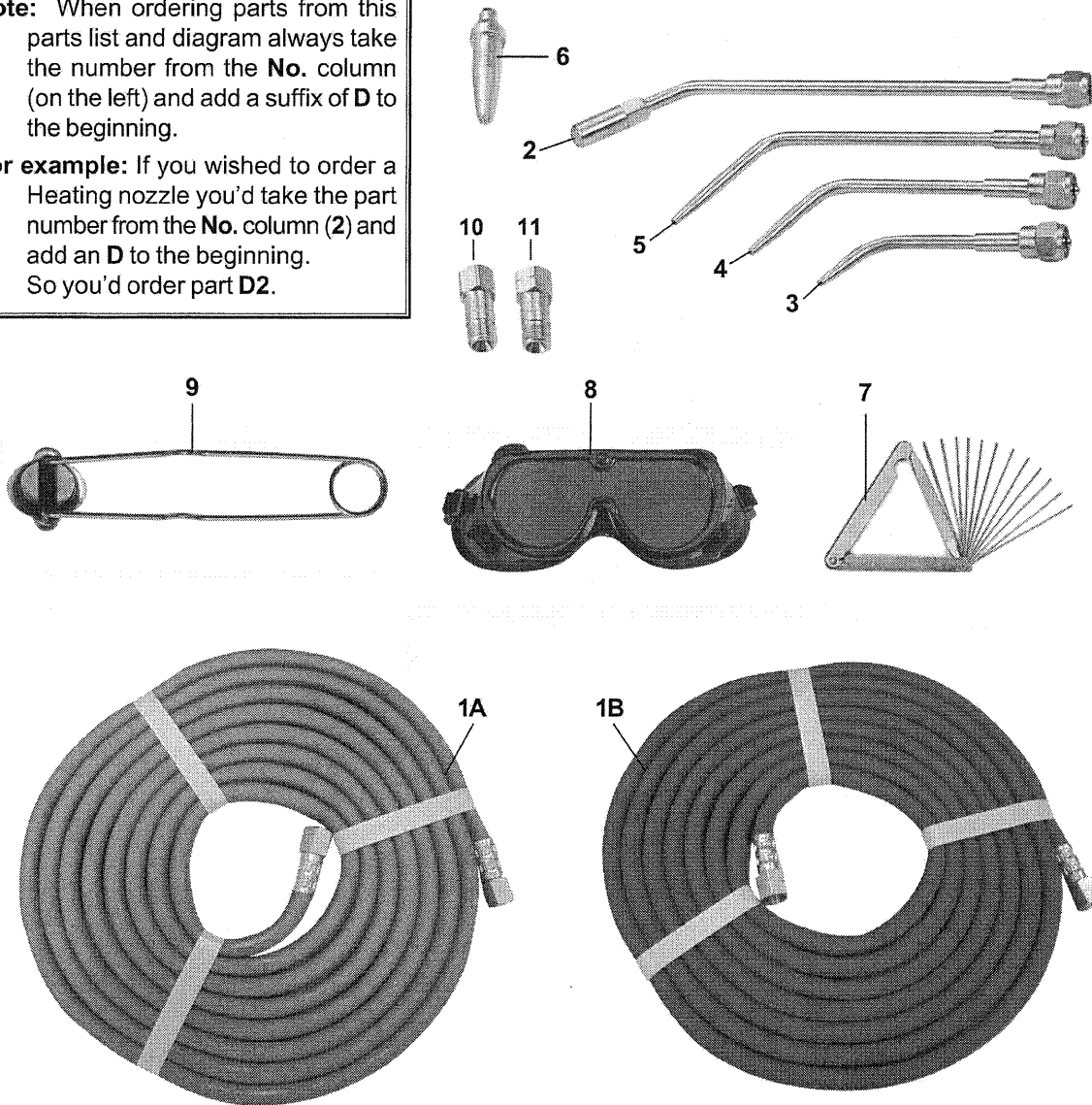
NO.	PART NO.	DESCRIPTION	NO.	PART NO.	DESCRIPTION
1	VMCWA02	Tip Nut	17	VMCWA21	HP Spring
2	VMCWA01	Head	18	VMCWA22	Washer
3	VMCWA03	Oxygen Tube	19	VMCWA23	Valve Cap
4	VMCWA05	Nut	20	VMCWA24	Lever
5	VMCWA04	Ferrule	21	VMCWA25	Spiral Pin
6	VMCWA08	Nut	22	VMCWA27	Coupling Nut
7	VMCWA06A	Fuel Tube	23	VMCWA26	Cone End
8	VMCWA10	Inner Tube (A)	24	VMCWA28	O-Ring (Big)
9	VMCWA11	Inner Tube (B)	25	VMCWA29	O-Ring (Small)
10	VMCWA13	Spiro	26	VMCWA16C	Valve Stem Assembly
11	VMCWA12	Inner Tube (C)	26A	VMCWA16	Valve
12	CMA17	O-Ring	26B	VMCWA17	Washer
13	VMCWA09	Washer (Teflon)	26C	VMCWA18	Nut
14	VMCWA14	Spring	26D	VMCWA19A	Adjusting Knob
15	VMCWA15	Body	27	VMCWA19B	Label (OX)
16	VMCWA20	Valve			

NOTE: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

PARTS LIST AND DIAGRAM 5 - ACCESSORY PARTS

Note: When ordering parts from this parts list and diagram always take the number from the **No.** column (on the left) and add a suffix of **D** to the beginning.

For example: If you wished to order a Heating nozzle you'd take the part number from the **No.** column (2) and add an **D** to the beginning. So you'd order part **D2**.



No.	Description	Qty.	No.	Description	Qty.
1A	Green (OX) Welding Hose	1	6	Cutting Nozzle	1
1B	Red (AC) Welding Hose	1	7	Tip Cleaner	1
2	Heating Nozzle	1	8	Safety Glasses	1
3	Welding Nozzle (#0)	1	9	Flint Lighter	1
4	Welding Nozzle (#2)	1	10	Oxygen Check Valve	1
5	Welding Nozzle (#4)	1	11	Fuel Gas Check Valve	1

NOTE: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.



CHICAGO **welding**
ELECTRIC **systems**

LIMITED 90 DAY WARRANTY

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of ninety days from the date of purchase. This warranty does not apply to damage due directly or indirectly to misuse, abuse, negligence or accidents; repairs or alterations outside our facilities; or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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