

WELD *The TIG Welder's Choice* **CRAFT**[®]

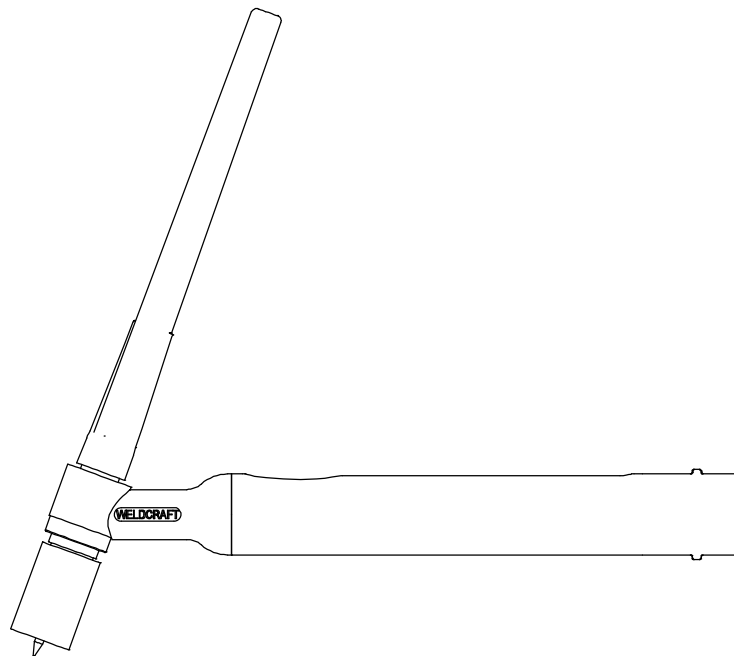
WP-280-12-RM
WP-280-25-RM
WP28012RMD50
WP28025RMD50



*Hand-Held Water-Cooled TIG
(GTAW) Torches*

*Torches manuelles TIG refroidies
par eau*

*Antorchas manuales enfriadas
por agua para TIG (GTAW)*



Owner's Manual
Manuel de L'utilisateur
Manual del Operador



Weldcraft.com

File: TIG (GTAW)



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DECLARATION OF CONFORMITY



for European Community (CE marked) products.

Weldcraft, 2741 N. Roemer Rd., Appleton, WI 54911 U.S.A. declares that the product(s) identified in this declaration conform to the essential requirements and provisions of the stated Council Directive(s) and Standard(s).

Product/Apparatus Identification:

Product	Stock Number
Torch Package, 12.5' (3.8m), Braided	WP-280-12-RM
Torch Package, 25' (7.6m), Braided	WP-280-25-RM
Torch Package, 12.5' (3.8m), Braided, 50mm	WP28012RMD50
Torch Package, 25' (7.6m), Braided, 50mm	WP28025RMD50

Council Directives:

- 2006/95/EC Low Voltage

Standards:

- IEC 60974-7:2005 Arc welding equipment – Part 7: Torches

Signatory:

January 31, 2012

David A. Werba

MANAGER, PRODUCT DESIGN COMPLIANCE

Date of Declaration

SECTION 1 – SAFETY PRECAUTIONS FOR GTAW TORCHES – READ BEFORE USING

WC000038 – 2011-10

 Protect yourself and others from injury — read, follow, and save these important safety precautions and operating instructions.

1-1. Symbol Usage



DANGER! – Indicates a hazardous situation which, if not avoided, will result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.



Indicates a hazardous situation which, if not avoided, could result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.

NOTICE – Indicates statements not related to personal injury.

 Indicates special instructions.



This group of symbols means Warning! Watch Out! ELECTRIC SHOCK, MOVING PARTS, and HOT PARTS hazards. Consult symbols and related instructions below for necessary actions to avoid the hazards.

1-2. Arc Welding Hazards



The symbols shown below are used throughout this manual to call attention to and identify possible hazards. When you see the symbol, watch out, and follow the related instructions to avoid the hazard. The safety information given below is only a summary of the more complete safety information found in the welding power source Owner's Manual. Read and follow all Safety Standards.



Only qualified persons should install, operate, maintain, and repair this unit.



During operation, keep everybody, especially children, away.



ELECTRIC SHOCK can kill.

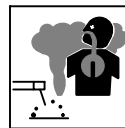
- Always wear dry insulating gloves.
- Insulate yourself from work and ground.
- Do not touch live electrode or electrical parts.
- Before welding, verify torch head is firmly attached to the torch body.
- Do not wrap torch hoses and power cable together with tape or plastic wire ties. Wrapping restricts water flow which may cause power cable to overheat and torch hose to burst.
- Repair or replace worn, damaged, or cracked torch or cable insulation.
- Turn off welding power source before changing tungsten electrode or torch parts.
- Keep all covers and handle securely in place.



ARC RAYS can burn eyes and skin.

Arc rays from the welding process produce intense visible and invisible (ultraviolet and infrared) rays that can burn eyes and skin. Sparks fly off from the weld.

- Wear an approved welding helmet fitted with a proper shade of filter lenses to protect your face and eyes from arc rays and sparks when welding or watching (see ANSI Z49.1 and Z87.1 listed in Safety Standards).
- Wear approved safety glasses with side shields under your helmet.
- Use protective screens or barriers to protect others from flash, glare and sparks; warn others not to watch the arc.
- Wear protective clothing made from durable, flame-resistant material (leather, heavy cotton, or wool) and foot protection.



FUMES AND GASES can be hazardous.

- Keep your head out of the fumes.
- Ventilate area, or use breathing device.
- Read Material Safety Data Sheets (MSDSs) and manufacturer's instructions for material used.



BUILDUP OF GAS can injure or kill.

- Shut off compressed gas supply when not in use.
- Always ventilate confined spaces or use approved air-supplied respirator.



WELDING can cause fire or explosion.

- Do not weld near flammable material.
- Do not weld on containers that have held combustible, or on closed containers such as tanks, drums, or pipes unless they are properly prepared according to AWS F4.1 and AWS A6.0 (see Safety Standards).
- Watch for fire; keep extinguisher nearby.



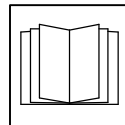
HOT PARTS can burn.

- Allow torch to cool before touching.
- Do not touch hot metal.
- Protect hot metal from contact by others.



NOISE can damage hearing.

- Check for noise level limits exceeding those specified by OSHA.
- Use approved ear plugs or ear muffs if noise level is high.
- Warn others nearby about noise hazard.



READ INSTRUCTIONS.

- Read and follow all labels and the Owner's Manual carefully before installing, operating, or servicing unit. Read the safety information at the beginning of the manual and in each section.
- Use only genuine replacement parts from the manufacturer.
- Perform maintenance and service according to the Owner's Manuals, industry standards, and national, state, and local codes.

1-3. Proposition 65 Warnings

⚠ Welding or cutting equipment produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety Code Section 25249.5 et seq.)

⚠ This product contains chemicals, including lead, known to the state of California to cause cancer, birth defects, or other reproductive harm. *Wash hands after use.*

⚠ This product contains or produces a chemical known to the State of California to cause cancer or birth defects (or other reproductive harm). (California Health & Safety Code Section 25249.5 et seq.)

1-4. Principal Safety Standards

Safety in Welding, Cutting, and Allied Processes, ANSI Standard Z49.1, is available as a free download from the American Welding Society at <http://www.aws.org> or purchased from Global Engineering Documents (phone: 1-877-413-5184, website: www.global.ihs.com).

Safe Practice For Occupational And Educational Eye And Face Protection, ANSI Standard Z87.1, from American National Standards Institute, 25 West 43rd Street, New York, NY 10036 (phone: 212-642-4900, website: www.ansi.org).

Safe Practices for the Preparation of Containers and Piping for Welding and Cutting, American Welding Society Standard AWS F4.1, from Global Engineering Documents (phone: 1-877-413-5184, website: www.global.ihs.com).

Safe Practices for Welding and Cutting Containers that have Held Combustibles, American Welding Society Standard AWS A6.0, from Global Engineering Documents (phone: 1-877-413-5184, website: www.global.ihs.com).

National Electrical Code, NFPA Standard 70, from National Fire Protection Association, Quincy, MA 02269 (phone: 1-800-344-3555, website: www.nfpa.org and www.sparky.org).

Safe Handling of Compressed Gases in Cylinders, CGA Pamphlet P-1, from Compressed Gas Association, 14501 George Carter Way, Suite 103, Chantilly, VA 20151 (phone: 703-788-2700, website: www.cganet.com).

Safety in Welding, Cutting, and Allied Processes, CSA Standard W117.2, from Canadian Standards Association, Standards Sales, 5060 Spectrum Way, Suite 100, Ontario, Canada L4W 5NS (phone: 800-463-6727, website: www.csa-international.org).

Safe Practice For Occupational And Educational Eye And Face Protection, ANSI Standard Z87.1, from American National Standards Institute, 25 West 43rd Street, New York, NY 10036 (phone: 212-642-4900, website: www.ansi.org).

Standard for Fire Prevention During Welding, Cutting, and Other Hot Work, NFPA Standard 51B, from National Fire Protection Association, Quincy, MA 02269 (phone: 1-800-344-3555, website: www.nfpa.org).

OSHA, Occupational Safety and Health Standards for General Industry, Title 29, Code of Federal Regulations (CFR), Part 1910, Subpart Q, and Part 1926, Subpart J, from U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954 (phone: 1-866-512-1800) (there are 10 OSHA Regional Offices—phone for Region 5, Chicago, is 312-353-2220, website: www.osha.gov).

1-5. EMF Information

Electric current flowing through any conductor causes localized electric and magnetic fields (EMF). Welding current creates an EMF field around the welding circuit and welding equipment. EMF fields may interfere with some medical implants, e.g. pacemakers. Protective measures for persons wearing medical implants have to be taken. For example, restrict access for passers-by or conduct individual risk assessment for welders. All welders should use the following procedures in order to minimize exposure to EMF fields from the welding circuit:

1. Keep cables close together by twisting or taping them, or using a cable cover.
2. Do not place your body between welding cables. Arrange cables to one side and away from the operator.
3. Do not coil or drape cables around your body.

4. Keep head and trunk as far away from the equipment in the welding circuit as possible.
5. Connect work clamp to workpiece as close to the weld as possible.
6. Do not work next to, sit or lean on the welding power source.
7. Do not weld whilst carrying the welding power source or wire feeder.

About Implanted Medical Devices:

Implanted Medical Device wearers should consult their doctor and the device manufacturer before performing or going near arc welding, spot welding, gouging, plasma arc cutting, or induction heating operations. If cleared by your doctor, then following the above procedures is recommended.



SECTION 2 – SPECIFICATIONS

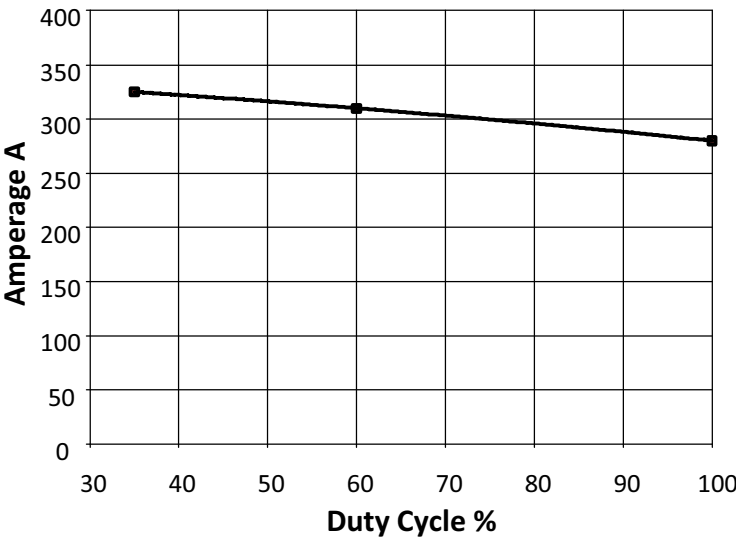
2-1. Specifications

Model				
	WP-280-12-RM	WP28012RMD50	WP-280-25-RM	WP28025RMD50
Max Rating*	280 Amps			
Length	12.5 Ft (3.7 m)	12.5 Ft (3.7 m)	25 Ft (7.6 m)	25 Ft (7.6 m)
Hose/Cable Options	Tri-Flex™ Braided Rubber			
Cooling Method	Liquid (Distilled/Deionized Water or Low Conductivity Coolant, Miller Part No. 043 810)			
Electrode Range	.020 in. Thru 1/8 in. (0.5 Thru 3.2 mm)			
Dimensions	Length 7 in. (178 mm); Handle Diameter 7/8 in. (22.2 mm); Weight 4.1 oz (117 g)			
Method Of Guidance	Manual/Hand Held			
Peak Voltage Rating	113 V			
Peak Striking/Stability Voltage	15 KV			
Min Flow Rate	.25 GPM			
Min And Max Inlet Pressure	.379 MPa (55 psi) Min; .482 MPa (70 psi) Max			
Min Cooling Power	2620 W			

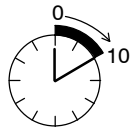
* Max rating based on 25° C (77° F) environment at maximum handle temperature rise of 30° C (86° F) or power cable temperature rise of 40° C (104° F). 100% Argon gas, 100% duty cycle, 1/8 in. (3.2 mm) 2% Ceriated electrode and Miller Coolmate™ 4.

2-2. Duty Cycle



Duty Cycle %	Amperage A
35	330
60	315
100	285





Minutes

Definition

Duty Cycle is percentage of 10 minutes that torch can weld at rated load without overheating.

100% Duty Cycle At 280 Amperes Using Argon Gas For 12 Ft Models
100% Duty Cycle At 280 Amperes Using Argon Gas For 25 Ft Models



Continuous Welding

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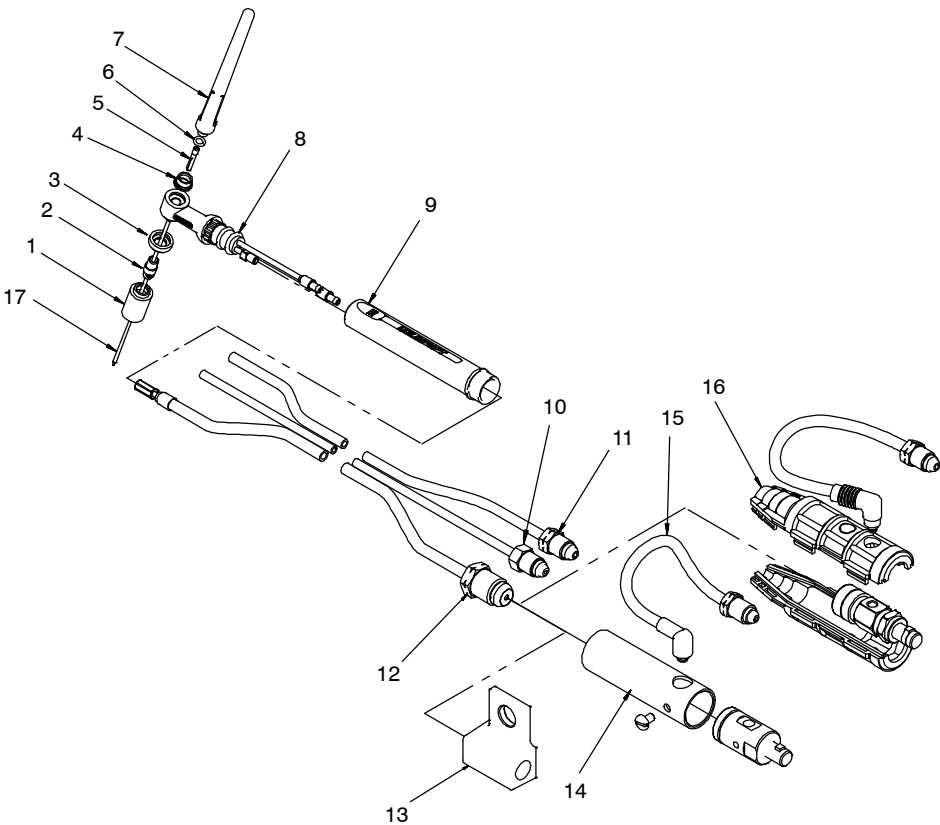
NOTICE – Exceeding rated amperage can damage torch and void warranty (see Section 2-1).

SECTION 3 – INSTALLATION

3-1. Required Torch Parts And Torch Assembly

Assembling Torch Parts



- 1 Cup
- 2 Collet Body
- 3 Insulator
- 4 Back Cap Insulator
- 5 Collet
- 6 O-Ring
- 7 Backcap
- 8 Torch Body
- 9 Handle
- 10 Gas Hose
- 11 Water Hose
- 12 Power Cable
- 13 Power Cable Adapter
- 14 International Style Adapter
- 15 Water Hose For International Style Adapter
- 16 Weldcraft QCS (Optional)

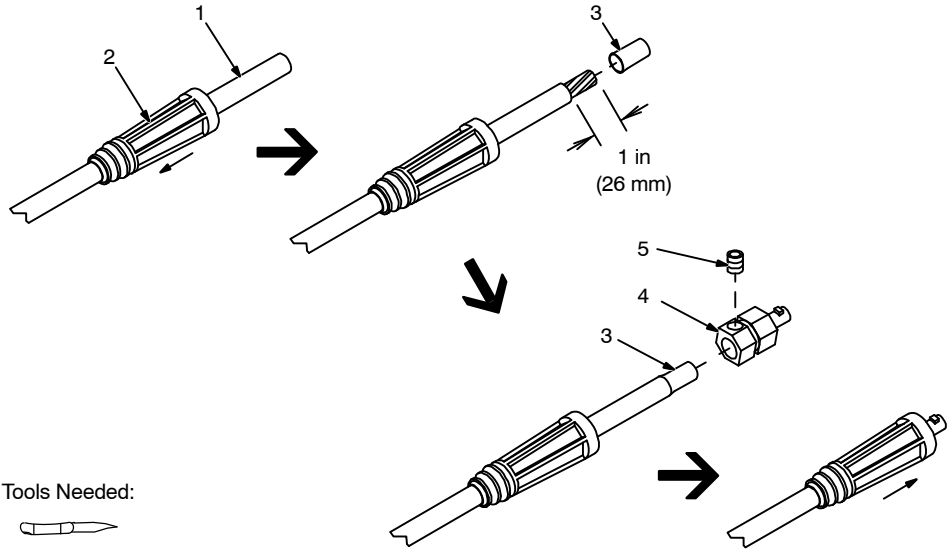
Assembling Torch Body
Keep connections tight. Replace cup, heat shield, and backcap as needed.

17 Tungsten Electrode (See Section 6)

Installing Tungsten
To adjust tungsten position, loosen backcap.

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3-2. International Style Connector Assembly



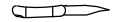
- 1 Weld Output Cable
- 2 Insulating Boot
- 3 Sleeve

Slide insulating boot on cable; strip cable and install sleeve.

- 4 Connector Body
- 5 Setscrew

Insert cable with sleeve fully into connector body, tighten setscrew, and slide insulating boot over connector.







Tools Needed:



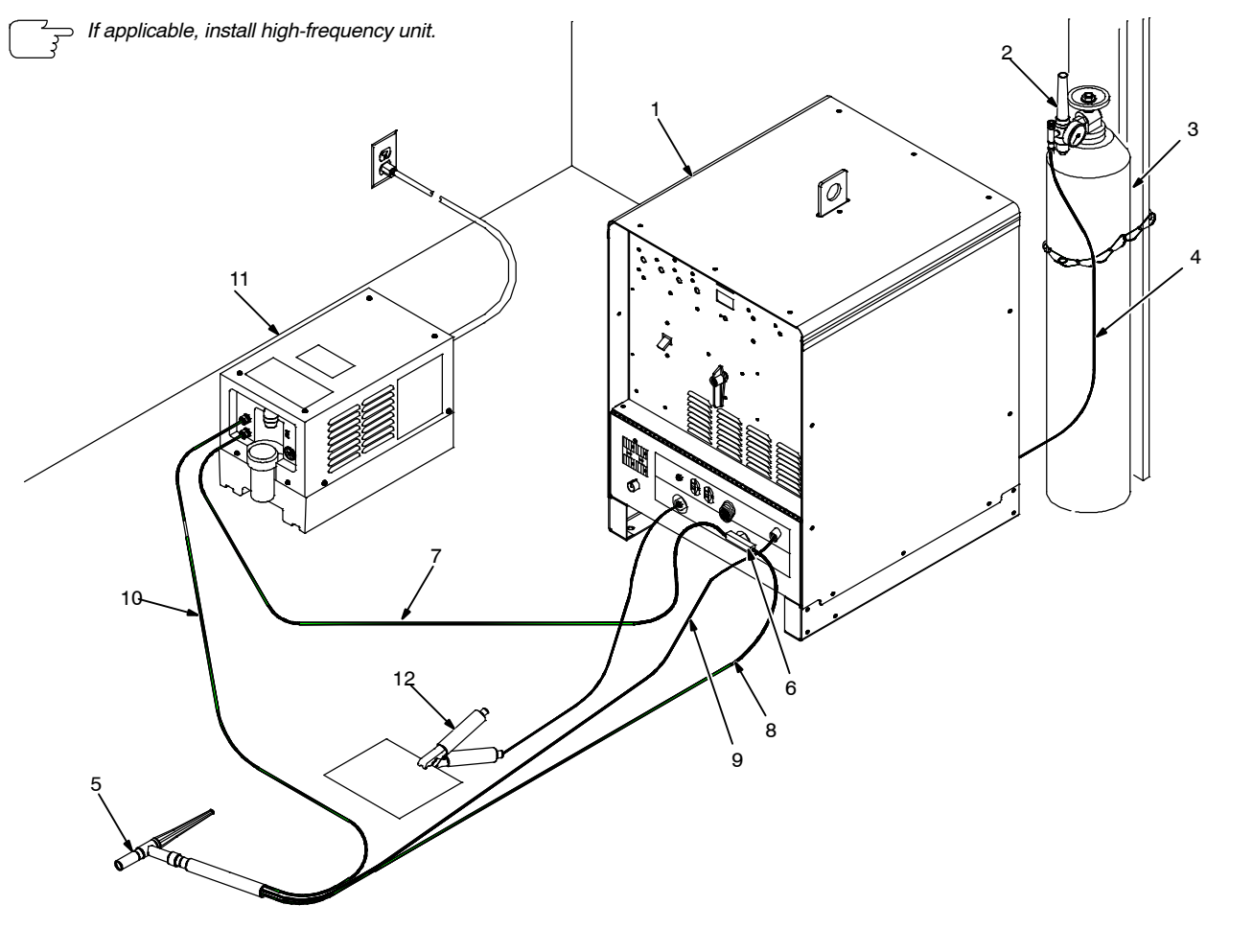
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3-3. Connecting Torch



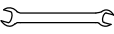
A. Connecting Torch When Using A Freestanding Coolant System

If applicable, install high-frequency unit.



Tools Needed:

5/8, 7/8, 1-1/8 in.

⚠ Turn Off welding power source and cooling system power before installing torch.

- 1 Welding Power Source
- 2 Regulator/Flowmeter
- 3 Gas Cylinder
- 4 Gas Hose (Customer Supplied)

Obtain correct length with 5/8-18 right-hand fittings.

- 5 Torch
- 6 Power Cable Adapter
- 7 Coolant Hose (Customer Supplied)

Obtain correct length with 5/8-18 left-hand fittings.

- 8 Coolant-Out Of Torch/Power Cable (Red)

Connect coolant-out of torch/power cable to power cable adapter, and connect adapter to weld output terminal.

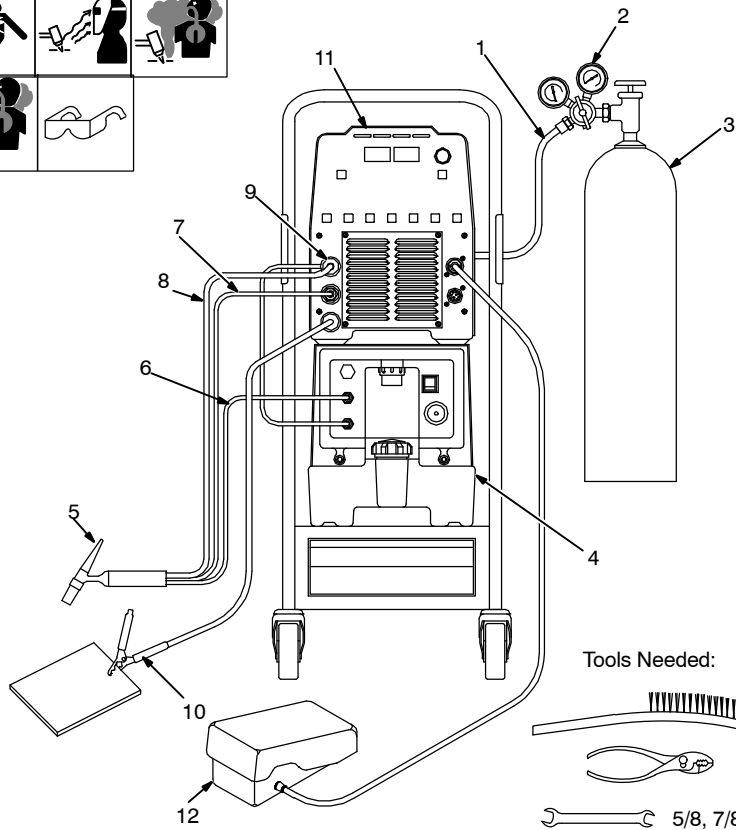
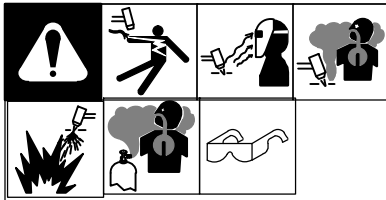
- 9 Torch Gas Hose
- 10 Coolant-Into Torch Hose (Blue)
- 11 Cooling System
- 12 Work Clamp

Connect work clamp to a clean, paint-free location on workpiece, close to the weld.

Use wire brush or sandpaper to clean weld joint area.

802 560

B. Connecting Torch To A Dynasty™ 300 DX Or Maxstar® 300 DX TIGRunner™ Unit



⚠ Turn Off welding power source power before installing torch.

- 1 Gas Hose With 5/8-18 Right-Hand Fittings (Customer Supplied)

Connections:

- 2 Regulator/Flowmeter
- 3 Gas Cylinder
- 4 Coolant System
- 5 Torch
- 6 Coolant-Into Torch Hose (Blue)
- 7 Torch Gas Hose
- 8 Coolant-Out Of Torch/Power Cable (Red)
- 9 International Style Adapter

Connect coolant-out of torch/power cable to power cable to power cable adapter, and connect adapter to weld output terminal.

- 10 Work Clamp

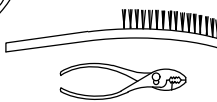
Connect work clamp to a clean, paint-free location on workpiece, close to the weld.

Use wire brush or sandpaper to clean weld joint area.

- 11 Welding Power Source

- 12 Foot Control

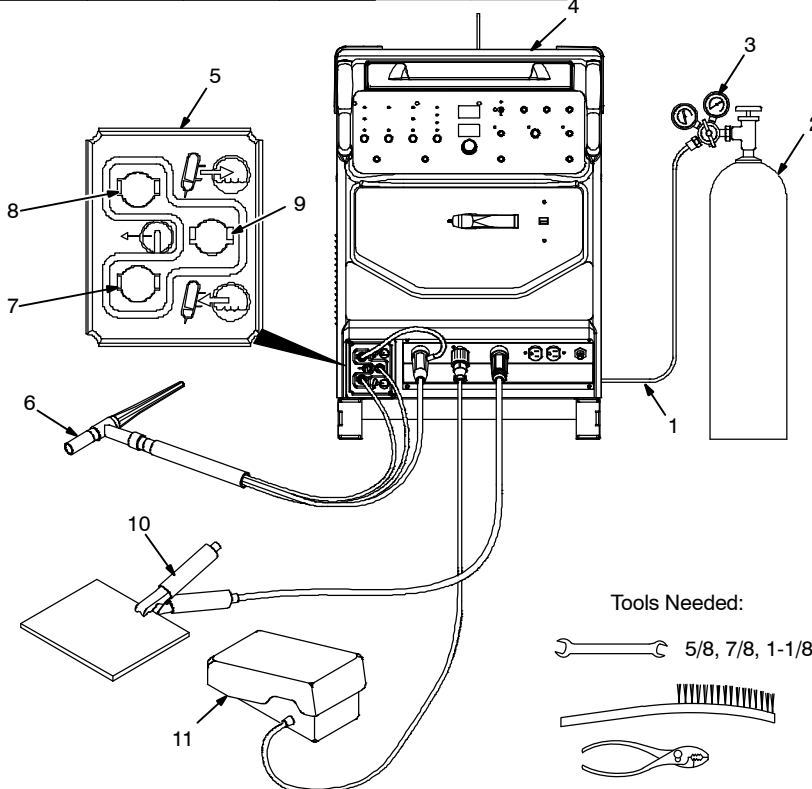
Tools Needed:



5/8, 7/8, 1-1/8 in.

803 311

C. Connecting Torch To A Syncrowave® 250 DX Or 350 LX w/Integrated Cooler



⚠ Turn Off welding power source power before installing torch.

- 1 Gas Hose With 5/8-18 Right-Hand Fittings (Customer Supplied)

Connections:

- 2 Gas Cylinder
- 3 Regulator/Flowmeter
- 4 Power Source
- 5 Coolant System
- 6 Torch
- 7 Coolant-Into Torch Hose (Blue)
- 8 Coolant-Out Of Torch/Power Cable (Red)
- 9 Torch Gas Hose

Connect torch coolant-out of torch/power cable to power cable adapter, and connect adapter to weld output terminal.

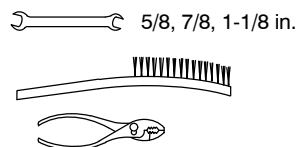
- 10 Work Clamp

Connect work clamp to a clean, paint-free location on workpiece, close to the weld.

Use wire brush or sandpaper to clean weld joint area.

- 11 Foot Control

Tools Needed:



5/8, 7/8, 1-1/8 in.

803 601-B

4-3. Troubleshooting

☞ Before using troubleshooting table, check selection and preparation of tungsten electrode according to Section 6.

Trouble	Remedy
Arc will not start. High frequency present and visible at the torch.	<p>Check cable and work connections. Be sure weld circuit is complete (see Section 3-3).</p> <p>Check and be sure shielding gas is present.</p>
Lack of high frequency; difficulty in establishing arc.	<p>Select proper size and type tungsten. Properly prepare tungsten according to Section 6.</p> <p>Check cables and torch for cracks or bad connections. Be sure that torch cables are not close to any grounded metal. Repair or replace necessary parts.</p> <p>Check torch consumables. Be sure collet and collet body are correctly installed and tightened (see Section 3-1).</p> <p>Check welding power source High Frequency control, and if necessary, check and adjust spark gaps.</p>
Torch gas valve not working properly (if applicable).	<p>Have Factory Authorized Service Station/Service Distributor check valve.</p>
No shielding gas flow from torch.	<p>Be sure valves on gas supply are open.</p> <p>Check cable for kinks or blockage.</p> <p>Check and tighten all gas supply fittings.</p> <p>Check cables and torch for cracked insulation or bad connections. Repair or replace (see Section 4-1).</p>
Tungsten electrode oxidizing and not remaining bright after conclusion of weld.	<p>Shield weld zone from drafts.</p> <p>Increase postflow time.</p> <p>Increase gas flow rate. Check manufacture's recommendations.</p> <p>Check and tighten all gas fittings.</p> <p>Check gas valve and flow meter/regulator.</p> <p>Select proper size and type tungsten. Properly prepare tungsten (see Section 6).</p>
Excessive tungsten electrode consumption.	<p>Select proper size and type tungsten. Properly prepare tungsten according to Section 6.</p> <p>Check polarity setting on welding power source (see welding power source Owner's manual).</p> <p>Check for proper gas flow rate. Check manufacture's recommendations.</p> <p>If torch is water cooled, check torch and cables for water leaks. Repair or replace if necessary (see Section 4-1).</p>
Wandering arc	<p>Shield weld zone from drafts.</p> <p>Reduce gas flow rate.</p> <p>Select proper size and type tungsten. Properly prepare tungsten according to Section 6.</p> <p>When using AC, check welding power source High Frequency control setting, and increase setting if necessary.</p>
Yellow powder or smoke on cup.	<p>Use proper type shielding gas.</p> <p>Check for proper gas flow rate. Check manufacture's recommendations.</p> <p>Increase postflow time.</p> <p>Check torch cup size. Match cup size to joint being welded.</p>
Erratic arc	<p>When using DC, check polarity, and/or polarity of welding cables.</p> <p>When using AC, check welding power source High Frequency control setting, and be sure it is operating continuously.</p> <p>Select proper size and type tungsten. Properly prepare tungsten according to Section 6.</p> <p>Use proper arc length. Arc length may be too long or too short.</p> <p>Make sure base material is clean and free of contaminates.</p> <p>When using AC, slow travel speed can cause erratic arc. Adjust travel speed.</p>

SECTION 5 – SELECTING AND PREPARING A TUNGSTEN FOR DC OR AC WELDING WITH INVERTER MACHINES

gtaw_Inverter_2011-06



Whenever possible and practical, use DC weld output instead of AC weld output.

5-1. Selecting Tungsten Electrode (Wear Clean Gloves To Prevent Contamination Of Tungsten)

☞ Not all tungsten electrode manufacturers use the same colors to identify tungsten type. Contact the tungsten electrode manufacturer or reference the product packaging to identify the tungsten you are using.

Electrode Diameter	Amperage Range - Gas Type♦ - Polarity	
	(DCEN) – Argon Direct Current Electrode Negative (For Use With Mild Or Stainless Steel)	AC – Argon Balance Control @ 65% Electrode Negative (For Use With Aluminum)
2% Ceria, 1.5% Lanthanum, Or 2% Thorium Alloy Tungstens		
.010 in. (1 mm)	Up to 25	Up to 20
.020 in. (1 mm)	15-40	15-35
.040 in. (1 mm)	25-85	20-80
1/16 in. (1.6 mm)	50-160	50-150
3/32 in. (2.4 mm)	130-250	135-235
1/8 in. (3.2 mm)	250-400	225-360
5/32 in. (4.0 mm)	400-500	300-450
3/16 in. (4.8 mm)	500-750	400-500
1/4 in. (6.4 mm)	750-1000	600-800

♦Typical argon shielding gas flow rates are 11 to 35 CFH (cubic feet per hour).

Figures listed are a guide and are a composite of recommendations from American Welding Society (AWS) and electrode manufacturers.

5-2. Preparing Tungsten Electrode For DC Electrode Negative (DCEN) Welding Or AC Welding With Inverter Machines



Grinding the tungsten electrode produces dust and flying sparks which can cause injury and start fires. Use local exhaust (forced ventilation) at the grinder or wear an approved respirator. Read MSDS for safety information. Consider using tungsten containing ceria, lanthana, or yttria instead of thoria. Grinding dust from thoriated electrodes contains low-level radioactive material. Properly dispose of grinder dust in an environmentally safe way. Wear proper face, hand, and body protection. Keep flammables away.

Radial Grinding Causes Wandering Arc

Wrong Tungsten Preparation

2-1/2 Times Electrode Diameter

1 Grinding Wheel

2 Tungsten Electrode

3 Flat

4 Straight Ground

Ideal Tungsten Preparation – Stable Arc

Grind end of tungsten on fine grit, hard abrasive wheel before welding. Do not use wheel for other jobs or tungsten can become contaminated causing lower weld quality.

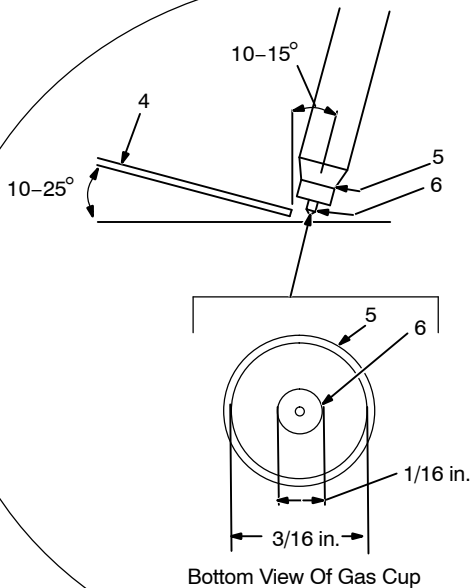
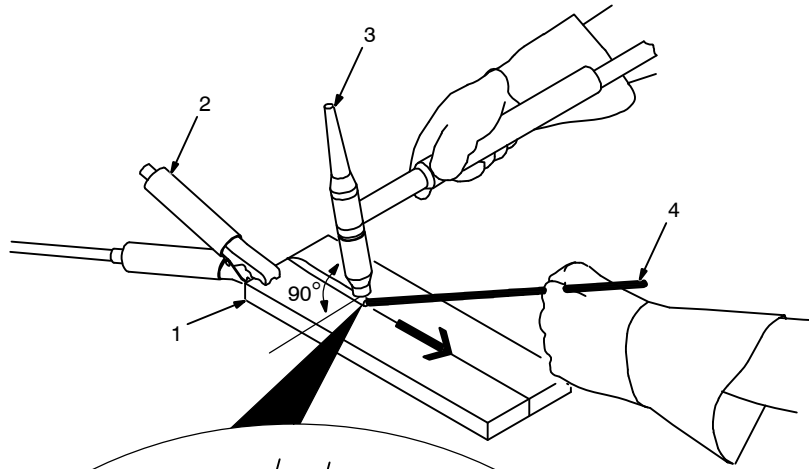
A 2% ceriated tungsten is recommended.

Diameter of this flat determines amperage capacity.

Grind lengthwise, **not radial**.

SECTION 6 – GUIDELINES FOR TIG WELDING (GTAW)

6-1. Positioning The Torch



⚠ Grinding the tungsten electrode produces dust and flying sparks which can cause injury and start fires. Use local exhaust (forced ventilation) at the grinder or wear an approved respirator. Read MSDS for safety information. Consider using cerium or lanthanum based tungsten instead of thoriated. Thorium dust contains low-level radioactive material. Properly dispose of grinder dust in an environmentally safe way. Wear proper face, hand, and body protection. Keep flammables away.

- 1 Workpiece
Make sure workpiece is clean before welding.
- 2 Work Clamp
Place as close to the weld as possible.
- 3 Torch
- 4 Filler Rod (If Applicable)
- 5 Gas Cup
- 6 Tungsten Electrode

Select and prepare tungsten according to Section 5.

Guidelines:

The inside diameter of the gas cup should be at least three times the tungsten diameter to provide adequate shielding gas coverage. (For example, if tungsten is 1/16 in. diameter, gas cup should be a minimum of 3/16 in. diameter.)

Tungsten extension is the distance the tungsten extends out gas cup of torch.

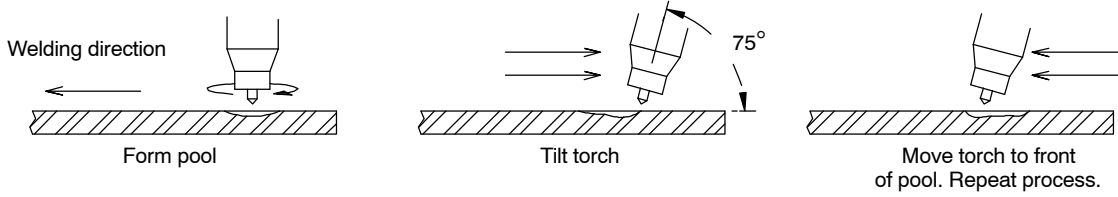
The tungsten extension should be no greater than the inside diameter of the gas cup.

Arc length is the distance from the tungsten to the workpiece.

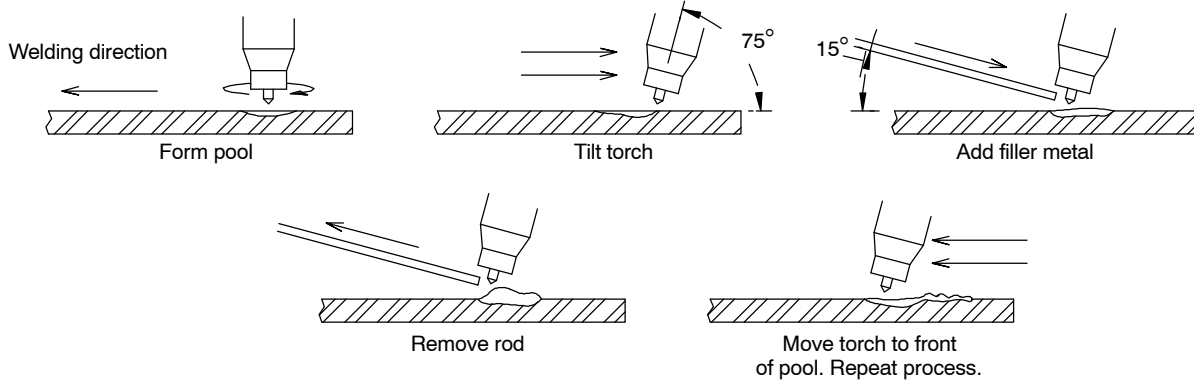
Ref. ST-161 892

6-2. Torch Movement During Welding

Tungsten Without Filler Rod



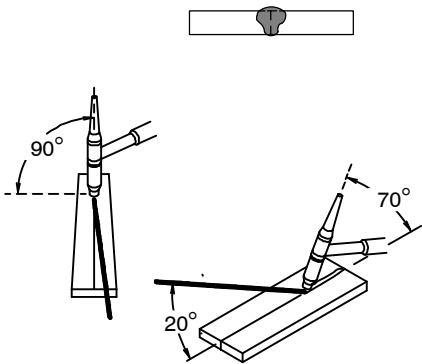
Tungsten With Filler Rod



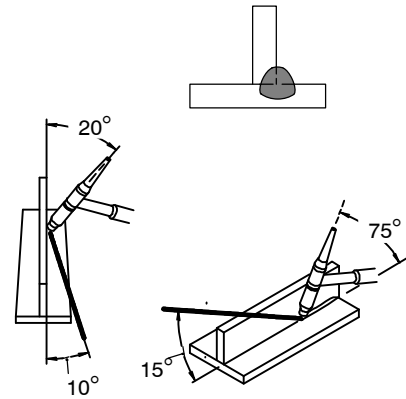
ST-162 002-B

6-3. Positioning Torch Tungsten For Various Weld Joints

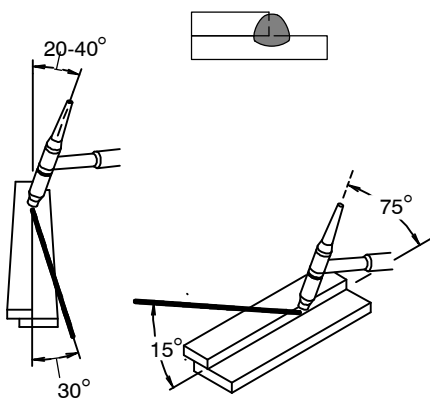
Butt Weld And Stringer Bead



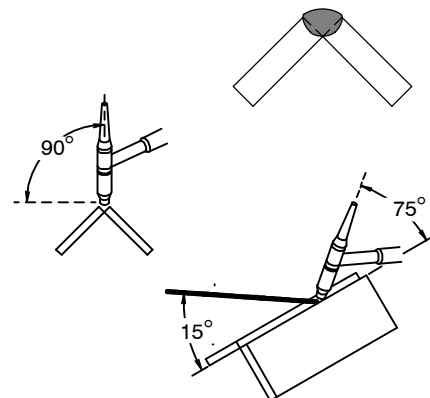
"T" Joint



Lap Joint

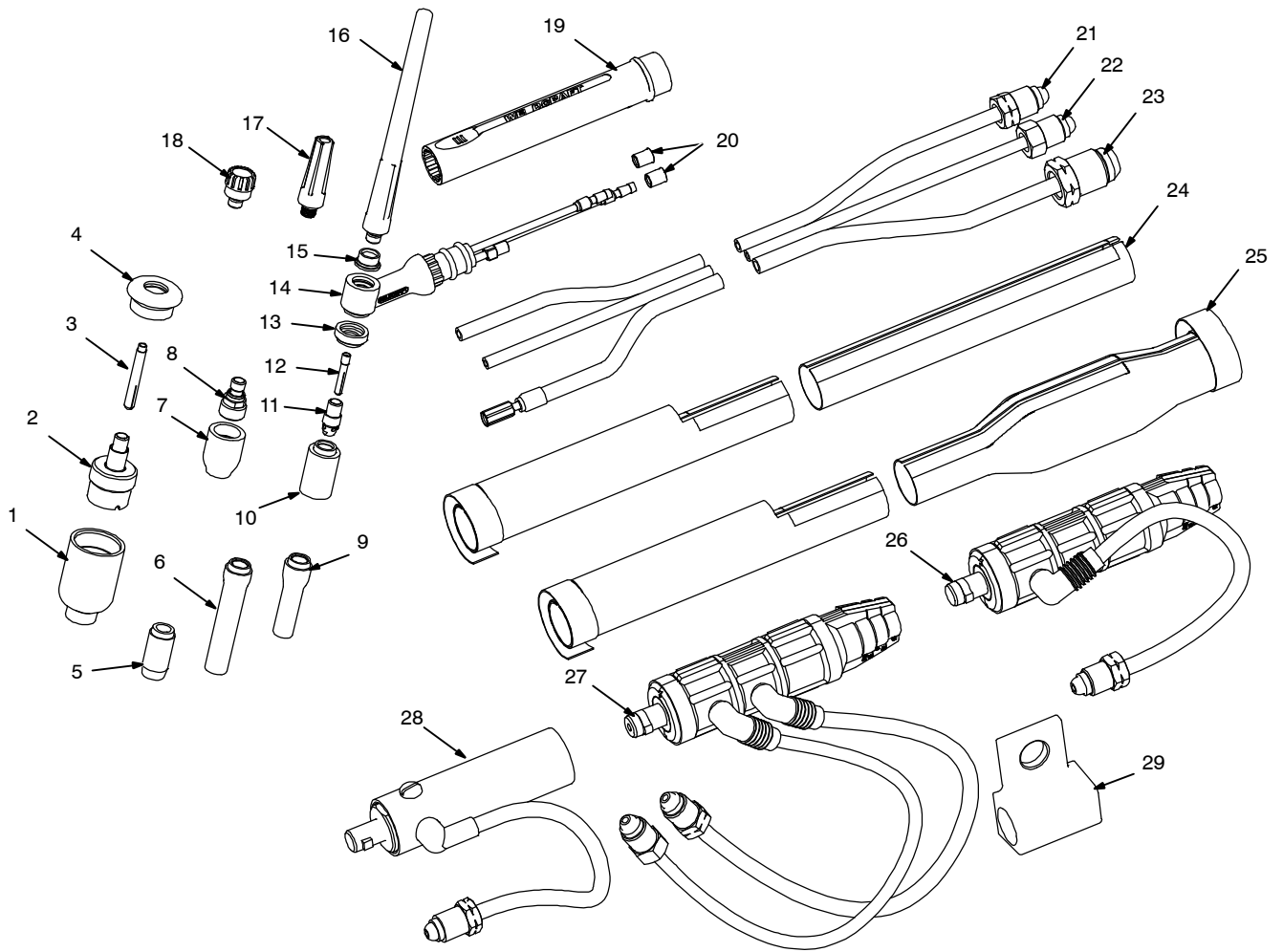


Corner Joint



ST-162 003 / S-0792

SECTION 7 – PARTS LIST



WC0175-A

Figure 7-1. Complete Torch Assembly

Item No.	Dia. Mkgs.	Part No.	Description	Quantity			
				12-RM	25-RM	12	25
						RMD50	RMD50

Figure 7-1. Complete Torch Assembly

...	1	◆57N75	NOZZLE, large gas lens alumina #6	1	1	1	1
...	1	◆57N74	NOZZLE, large gas lens alumina #8	1	1	1	1
...	1	◆53N88	NOZZLE, large gas lens alumina #10	1	1	1	1
...	1	◆53N87	NOZZLE, large gas lens alumina #12	1	1	1	1
...	2	◆45V0204S	GAS LENS COLLET BODY, large .020 & .040 (0.5 & 1.0 mm)	1	1	1	1
...	2	◆45V116S	GAS LENS COLLET BODY, large 1/16 (1.6 mm)	1	1	1	1
...	2	◆45V64S	GAS LENS COLLET BODY, large 3/32 (2.4 mm)	1	1	1	1
...	2	◆995795S	GAS LENS COLLET BODY, large 1/8 (3.2 mm)	1	1	1	1
...	3	◆13N20L	GAS LENS COLLET, large .020 (0.5 mm)	1	1	1	1
...	3	◆13N21L	GAS LENS COLLET, large .040 (1.0 mm)	1	1	1	1
...	3	◆13N22L	GAS LENS COLLET, large 1/16 (1.6 mm)	1	1	1	1
...	3	◆13N23L	GAS LENS COLLET, large 3/32 (2.4 mm)	1	1	1	1
...	3	◆13N24L	GAS LENS COLLET, large 1/8 (3.2 mm)	1	1	1	1
...	4	◆54N63-20	INSULATOR, cup large diameter	1	1	1	1
...	5	◆13N14	NOZZLE, lava #4	1	1	1	1
...	5	◆13N15	NOZZLE, lava #5	1	1	1	1
...	5	◆13N16	NOZZLE, lava #6	1	1	1	1
...	5	◆13N17	NOZZLE, lava #7	1	1	1	1
...	5	◆13N18	NOZZLE, lava #8	1	1	1	1
...	5	◆13N19	NOZZLE, lava #10	1	1	1	1
...	6	◆796F74	NOZZLE, lava long #3XL	1	1	1	1
...	6	◆796F75	NOZZLE, lava long #4XL	1	1	1	1
...	6	◆796F76	NOZZLE, lava long #5XL	1	1	1	1
...	6	◆796F77	NOZZLE, lava long #6XL	1	1	1	1
...	7	◆53N58	NOZZLE, small alumina #4	1	1	1	1
...	7	◆53N59	NOZZLE, small alumina #5	1	1	1	1
...	7	◆53N60	NOZZLE, small alumina #6	1	1	1	1
...	7	◆53N61	NOZZLE, small alumina #7	1	1	1	1
...	7	◆53N61S	NOZZLE, small alumina #8	1	1	1	1
...	8	◆45V41	GAS LENS, small, .020 (0.5 mm)	1	1	1	1
...	8	◆45V42	GAS LENS, small, .040 (1.0 mm)	1	1	1	1
...	8	◆45V43	GAS LENS, small, 1/16 (1.6 mm)	1	1	1	1
...	8	◆45V44	GAS LENS, small, 3/32 (2.4 mm)	1	1	1	1
...	8	◆45V45	GAS LENS, small, 1/8 (3.2 mm)	1	1	1	1
...	9	◆796F70	NOZZLE, lava long #3L	1	1	1	1
...	9	◆796F71	NOZZLE, lava long #4L	1	1	1	1
...	9	◆796F72	NOZZLE, lava long #5L	1	1	1	1
...	9	◆796F73	NOZZLE, lava long #6L	1	1	1	1
...	9	◆A796F70	NOZZLE, alumina long #3L	1	1	1	1
...	9	◆A796F71	NOZZLE, alumina long #4L	1	1	1	1
...	9	◆A796F72	NOZZLE, alumina long #5L	1	1	1	1
...	9	◆A796F73	NOZZLE, alumina long #6L	1	1	1	1
...	10	13N11	NOZZLE, #7 alumina	1	1	1	1
...	10	◆13N13	NOZZLE, #10 alumina	1	1	1	1
...	10	◆13N12	NOZZLE, #8 alumina	1	1	1	1
...	10	◆13N10	NOZZLE, #6 alumina	1	1	1	1
...	10	◆13N09	NOZZLE, #5 alumina	1	1	1	1
...	10	◆13N08	NOZZLE, #4 alumina	1	1	1	1
...	11	13N28	COLLET BODY, 3/32 (2.4 mm)	1	1	1	1
...	11	◆13N25	COLLET BODY, .020 (0.5 mm)	1	1	1	1
...	11	◆13N29	COLLET BODY, 1/8 (3.2 mm)	1	1	1	1
...	11	◆13N26	COLLET BODY, .040 (1.0 mm)	1	1	1	1
...	11	◆13N27	COLLET BODY, 1/16 (1.6 mm)	1	1	1	1

Item No.	Dia. Mkgs.	Part No.	Description	Quantity			
				WP-280			
				12-RM	25-RM	12 RMD50	25 RMD50

Figure 7-1. Complete Torch Assembly (continued)

... 12	13N23	COLLET, 3/32 (2.4 mm)	1	1	1	1
... 12	◆13N20	COLLET, .020 (0.5 mm)	1	1	1	1
... 12	◆13N21	COLLET, .040 (1.0 mm)	1	1	1	1
... 12	◆13N22	COLLET, 1/16 (1.6 mm)	1	1	1	1
... 12	◆13N24	COLLET, 1/8 (3.2 mm)	1	1	1	1
... 13	598 882	INSULATOR, cup	1	1	1	1
... 14	WP-280	TORCH BODY	1	1	1	1
... 15	9-4	INSULATOR, Back Cap	1	1	1	1
... 16	41V24	BACK CAP, long (includes)	1	1	1	1
... 17	◆41V35	BACK CAP, medium (includes)	1	1	1	1
... 18	◆41V33	BACK CAP, button (includes)	1	1	1	1
...	98W77	O-Ring	1	1	1	1
... 19	WP-280-H	HANDLE, Knurled	1	1	1	1
... 20	20-10N	MECHANICAL NUTS	1	1	1	1
... 21	WP-280-12W	HOSE, water 14 ft (4.2 m), Braided	1			
... 21	WP-280-25W	HOSE, water 26.5 ft (8.0 m), Braided		1		
... 22	WP-280-12G	HOSE, gas 13.25 ft (4.0 m), Braided	1			
... 22	WP-280-25G	HOSE, gas 25.75 ft (7.8 m), Braided			1	
... 23	WP-280-12PC	CABLE, power 12.5 ft (3.8 m), Braided	1			
... 23	WP-280-25PC	CABLE, power 25 ft (7.6 m), Braided		1		
... 24	WC0183	CABLE COVER, 10 ft (3.0 m)	1			
... 24	WC0182	CABLE COVER, 22 ft (6.7 m)		1		
... 25	WC0185	CABLE COVER, 12.75 ft (3.9 m)			1	
... 25	WC0184	CABLE COVER, 25.25 ft (7.7 m)				1
... 26	◆Q5W	CONN, Quick, 350A, 50 mm, W/C (Includes)	1	1		
...	◆PCA-5-17	HOSE, water 18 in. (0.2 m) RH	1	1		
... 27	◆Q5WGT	CONN, Quick, 350A, 50 mm, W/C (Includes)	1	1		
...	◆PCA-5-16	HOSE, Gas 18 in. (0.2 m) RH	1	1		
... 28	◆195 377	ADAPTER, torch-intl style water(#18, 20) (Includes)			1	1
...	◆222 809	HOSE, water 18Lh (intl style water #18, 20)			1	1
... 29	◆45V11	ADAPTER, power cable	1	1	1	1
...	◆AK4C	ACCESSORY KIT (cerium)	1	1	1	1

◆OPTIONAL

BE SURE TO PROVIDE MODEL AND STYLE NUMBER WHEN ORDERING REPLACEMENT PARTS.



Owner's Record

Please complete and retain with your personal records.

Model Name

Serial/Style Number

Purchase Date

(Date which equipment was delivered to original customer.)

Distributor

Address

City

State

Zip



For Service

Contact a DISTRIBUTOR or SERVICE AGENCY near you.

Always provide Model Number.

Contact your Distributor for:

Welding Supplies and Consumables

Options and Accessories

Personal Safety Equipment

Service and Repair

Replacement Parts

Welding Process Handbooks

Weldcraft

An Illinois Tool Works Company
2741 N. Roemer Rd
Appleton, WI 54911 USA

1-800-752-7620 Toll Free

1-920-882-6800 Phone

1-920-882-6844 FAX

www.Weldcraft.com

To locate a Distributor or Service Agency call 1-800-752-7620 or 920-882-6800

Contact the Delivering Carrier to:

File a claim for loss or damage during shipment.

For assistance in filing or settling claims, contact your distributor and/or equipment manufacturer's Transportation Department.