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Processes



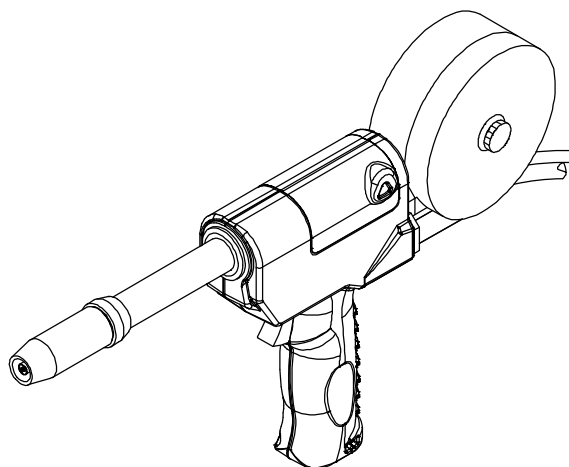
MIG (GMAW) Welding

Description



Feeder Gun

Spoolmatic[®] 15A And 30A



Visit our website at
www.MillerWelds.com

OWNER'S MANUAL

File: MIG (GMAW)



From Miller to You

Thank you and congratulations on choosing Miller. Now you can get the job done and get it done right. We know you don't have time to do it any other way.

That's why when Niels Miller first started building arc welders in 1929, he made sure his products offered long-lasting value and superior quality. Like you, his customers couldn't afford anything less. Miller products had to be more than the best they could be. They had to be the best you could buy.

Today, the people that build and sell Miller products continue the tradition. They're just as committed to providing equipment and service that meets the high standards of quality and value established in 1929.

This Owner's Manual is designed to help you get the most out of your Miller products. Please take time to read the Safety precautions. They will help you protect yourself against potential hazards on the worksite.



Miller is the first welding equipment manufacturer in the U.S.A. to be registered to the ISO 9001 Quality System Standard.

We've made installation and operation quick and easy. With Miller you can count on years of reliable service with proper maintenance. And if for some reason the unit needs repair, there's a Troubleshooting section that will help you figure out what the problem is. The parts list will then help you to decide the exact part you may need to fix the problem. Warranty and service information for your particular model are also provided.



Miller Electric manufactures a full line of welders and welding related equipment. For information on other quality Miller products, contact your local Miller distributor to receive the latest full line catalog or individual specification sheets. **To locate your nearest distributor or service agency call 1-800-4-A-Miller, or visit us at www.MillerWelds.com on the web.**



Working as hard as you do – every power source from Miller is backed by the most hassle-free warranty in the business.



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SECTION 1 –SAFETY PRECAUTIONS FOR GMAW WELDING GUNS – READ BEFORE USING

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 **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.

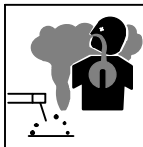


During operation, keep everybody, especially children, away.



ELECTRIC SHOCK can kill.

- Always wear dry insulating gloves.
- Insulate yourself from work and ground.
- Do not touch live electrode or electrical parts.
- Repair or replace worn, damaged, or cracked gun or cable insulation.
- Turn off welding power source before changing contact tip or gun parts.
- Keep all covers and handle securely in place.



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.



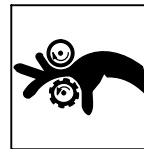
WELDING can cause fire or explosion.

- Do not weld near flammable material.
- Do not weld on containers that have held combustibles, 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.



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.



MOVING PARTS can injure.

- Keep away from moving parts.
- Keep away from pinch points such as drive rolls.



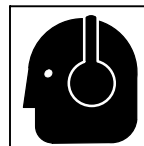
ARC RAYS can burn eyes and skin.

- Wear welding helmet with correct shade of filter.
- Wear correct eye and body protection.
- Cover exposed skin with spatter-resistant clothing.



HOT PARTS can burn.

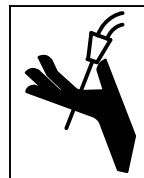
- Allow gun to cool before touching.
- Do not touch hot metal.
- Protect hot metal from contact by others.



NOISE can damage hearing.

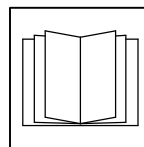
Noise from some processes or equipment can damage hearing.

- 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.



WELDING WIRE can injure.

- Keep hands and body away from gun tip when trigger is pressed.



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.**

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).

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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 – MESURES DE SÉCURITÉ VISANT LES PISTOLETS DE SOUDAGE GMAW – À LIRE AVANT UTILISATION

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! Pour écarter les risques de blessure pour vous-même et pour autrui — lire, appliquer et ranger en lieu sûr ces consignes relatives aux précautions de sécurité et au mode opératoire.

2-1. Signification des symboles



DANGER! – Indique une situation dangereuse qui si on l'évite pas peut donner la mort ou des blessures graves. Les dangers possibles sont montrés par les symboles joints ou sont expliqués dans le texte.



Indique une situation dangereuse qui si on l'évite pas peut donner la mort ou des blessures graves. Les dangers possibles sont montrés par les symboles joints ou sont expliqués dans le texte.

NOTE – Indique des déclarations pas en relation avec des blessures personnelles.

 Indique des instructions spécifiques.



Ce groupe de symboles veut dire Avertissement! Attention! DANGER DE CHOC ELECTRIQUE, PIECES EN MOUVEMENT, et PIECES CHAUDES. Consulter les symboles et les instructions ci-dessous y afférant pour les actions nécessaires afin d'éviter le danger.

2-2. Dangers relatifs au soudage à l'arc



Les symboles présentés ci-après sont utilisés tout au long du présent manuel pour attirer votre attention et identifier les risques de danger. Lorsque vous voyez un symbole, soyez vigilant et suivez les directives mentionnées afin d'éviter tout danger. Les consignes de sécurité présentées ci-après ne font que résumer l'information contenue dans les normes de sécurité énumérées dans le manuel d'utilisation du poste de soudage. Veuillez lire et respecter toutes ces normes de sécurité.



L'installation, l'utilisation, l'entretien et les réparations ne doivent être confiés qu'à des personnes qualifiées.



Au cours de l'utilisation, tenir toute personne à l'écart et plus particulièrement les enfants.



UN CHOC ÉLECTRIQUE peut tuer.

- Porter toujours des gants secs et isolants.
- S'isoler de la pièce et de la terre.
- Ne jamais toucher une électrode ou des pièces électriques sous tension.
- Réparer ou remplacer un pistolet ou la gaine d'isolement d'un câble usée, endommagée ou fissurée.
- Mettre la soudeuse hors tension avant de remplacer un bec contact ou des pièces de pistolet.
- S'assurer que tous les couvercles et poignées sont fermement assujettis.



LES VAPEURS ET LES FUMÉES peuvent être nocives.

- Éloigner sa tête des endroits renfermant des vapeurs.
- Aérer la zone de travail ou porter un appareil respiratoire.
- Consulter les fiches toxicologiques (MSDS) et les notices du fabricant de chaque matériel utilisé.



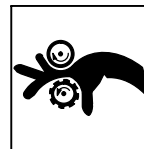
LE SOUDAGE peut causer un incendie ou une explosion.

- Ne pas souder à proximité de matériaux inflammables.
- Ne pas effectuer le soudage sur des contenants fermés tels que des réservoirs, tambours, ou conduites, à moins qu'ils n'aient été préparés correctement conformément à AWS F4.1 et AWS A6.0 (voir les Normes de Sécurité).
- Prendre garde aux incendies et toujours avoir un extincteur à proximité.



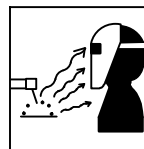
L'ACCUMULATION DE VAPEURS peut causer des lésions ou la mort.

- Quand on n'utilise pas le gaz comprimé de protection, fermer le robinet de la bouteille.
- Assurer toujours la ventilation des zones fermées ou utiliser un appareil respiratoire avec alimentation en air.



Les PIÈCES MOBILES peuvent causer des blessures.

- Ne pas s'approcher des organes mobiles.
- Ne pas s'approcher des points de coincement tels que des rouleaux de commande.



LE RAYONNEMENT DE L'ARC peut brûler les yeux et la peau.

- Porter un casque de soudage muni d'un filtre de protection oculaire approprié.
- Porter une protection oculaire et des vêtements de protection appropriés.
- Protéger la peau nue en portant des vêtements anti-éclaboussures.



LES PIÈCES CHAUDES peuvent provoquer des brûlures.

- Laisser refroidir le pistolet avant de le toucher.
- Ne pas toucher d'objets métalliques chauds.
- Abriter les objets métalliques contre tout contact par les personnes à proximité.



Le BRUIT peut endommager l'ouïe.

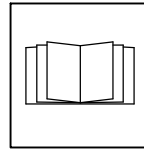
Le bruit des processus et des équipements peut affecter l'ouïe.

- Vérifier si les niveaux de bruit excèdent les limites spécifiées par l'OSHA.
- Utiliser des bouches-oreilles ou des serre-tête antibruit approuvés si le niveau de bruit est élevé.
- Avertir les personnes à proximité au sujet du danger inhérent au bruit.



LES FILS DE SOUDAGE peuvent provoquer des blessures.

- Éloigner les mains et le corps de la buse du pistolet après avoir appuyé sur la gâchette.



LIRE LES INSTRUCTIONS.

- Lire et appliquer les instructions sur les étiquettes et le Mode d'emploi avant l'installation, l'utilisation ou l'entretien de l'appareil. Lire les informations de sécurité au début du manuel et dans chaque section.
- N'utiliser que les pièces de rechange recommandées par le constructeur.
- Effectuer l'entretien en respectant les manuels d'utilisation, les normes industrielles et les codes nationaux, d'état et locaux.

2-3. Proposition californienne 65 Avertissements



Les équipements de soudage et de coupage produisent des fumées et des gaz qui contiennent des produits chimiques dont l'État de Californie reconnaît qu'ils provoquent des malformations congénitales et, dans certains cas, des cancers. (Code de santé et de sécurité de Californie, chapitre 25249.5 et suivants)



Ce produit contient des éléments chimiques, dont le plomb, reconnus par l'État de Californie pour leur caractère cancérigène ainsi que provoquant des malformations congénitales ou autres problèmes de procréation. **Se laver les mains après toute manipulation.**

2-4. Principales normes de sécurité

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2-5. Informations relatives aux CEM

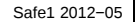
Le courant électrique qui traverse tout conducteur génère des champs électromagnétiques (CEM) à certains endroits. Le courant de soudage crée un CEM autour du circuit et du matériel de soudage. Les CEM peuvent créer des interférences avec certains implants médicaux comme des stimulateurs cardiaques. Des mesures de protection pour les porteurs d'implants médicaux doivent être prises: Limiter par exemple tout accès aux passants ou procéder à une évaluation des risques individuels pour les soudeurs. Tous les soudeurs doivent appliquer les procédures suivantes pour minimiser l'exposition aux CEM provenant du circuit de soudage:

- 1 Rassembler les câbles en les torsadant ou en les attachant avec du ruban adhésif ou avec une housse.
- 2 Ne pas se tenir au milieu des câbles de soudage. Disposer les câbles d'un côté et à distance de l'opérateur.
- 3 Ne pas courber et ne pas entourer les câbles autour de votre corps.

- 4 Maintenir la tête et le torse aussi loin que possible du matériel du circuit de soudage.
- 5 Connecter la pince sur la pièce aussi près que possible de la soudure.
- 6 Ne pas travailler à proximité d'une source de soudage, ni s'asseoir ou se pencher dessus.
- 7 Ne pas souder tout en portant la source de soudage ou le dévidoir.

En ce qui concerne les implants médicaux :

Les porteurs d'implants doivent d'abord consulter leur médecin avant de s'approcher des opérations de soudage à l'arc, de soudage par points, de gougeage, du coupage plasma ou de chauffage par induction. Si le médecin approuve, il est recommandé de suivre les procédures précédentes.



This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

SECTION 4 – INSTALLATION

4-1. Specifications

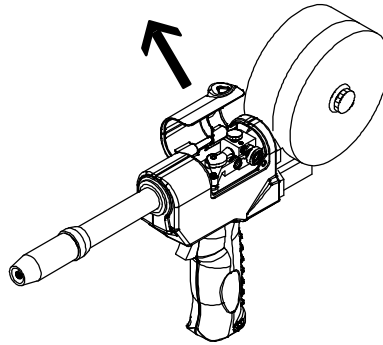
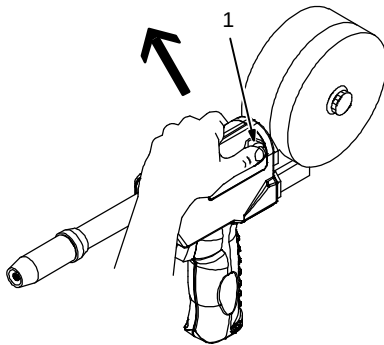
Wire Diameter Range	Approximate Wire Feed Range	Cooling Method	Maximum Spool Size	Weld Circuit Rating	Overall Dimensions	Weight
.025 Thru 1/16 in. (0.6 Thru 1.6 mm) Aluminum Wire .025 Thru .045 in. (0.6 Thru 1.1 mm) Hard Or Cored Wire	70 To 875 ipm (1.7 To 22.2 mpm)	Air Cooled	4 in. (102 mm) Diameter	100 Volts, 200 Amperes, 100% Duty Cycle Using Argon Shielding Gas	Length: 15-3/8 in. (390 mm) Width: 2-1/2 in. (64 mm) Height: 10-3/4 in. (273 mm)	2.9 lb (1.3 kg) Gun Only 15A Model: 9 lb (4.1 kg) Gun With Cable 30A Model: 14 lb (6.4 kg) Gun With Cable

4-2. Environmental Specifications

IP Rating
IP23 This equipment is designed for outdoor use. It may be stored, but is not intended to be used outside during precipitation unless sheltered.

☞ Use weld control or welding power source Owner's Manual during gun installation. If contact tip, liner, and drive roll groove are not correct for wire size and type, see Section 6 to change parts as needed. See Parts List for other available contact tips.

4-3. Removing Top Cover



1 Top Cover Triangular Boss

Push up on triangular boss to open door. Door hinges on handle.

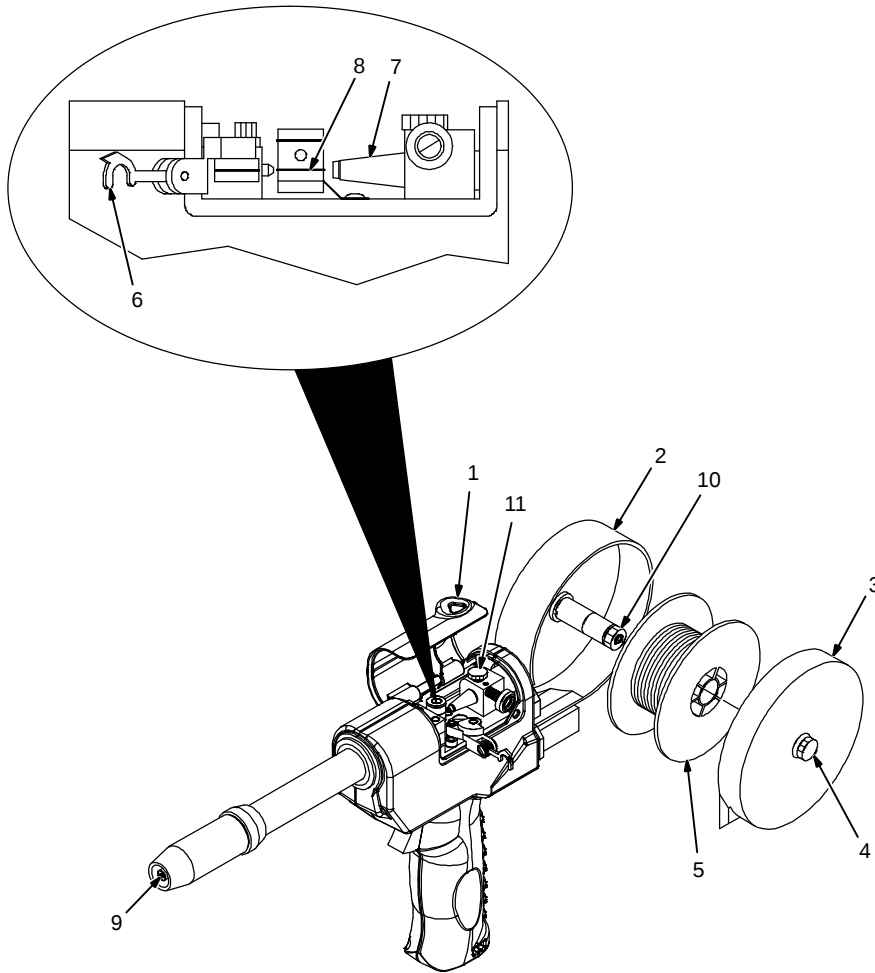
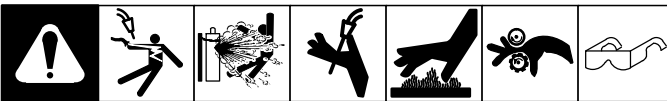
To open door fully, push up on door until it clicks into position.

☞ If door is pushed too far it will separate from handle. If this happens the door can be reinstalled.

Push door back into original position to close.

150 882-G

4-4. Installing Wire Spool And Threading Welding Wire



- 1 Top Cover
- 2 Canister
- 3 Canister Cover
- 4 Thumbscrew (Canister Cover)

Loosen thumbscrew and remove cover.

- 5 Wire Spool

Loosen wire from spool, cut off bent wire, and pull 6 in. (150 mm) of wire off spool.

- 6 Pressure Roll Assembly

Lift arm and open pressure roll assembly.

- 7 Canister Inlet Guide

- 8 Drive Roll Groove

 For wire sizes .035 in. (0.9 mm) and smaller use small groove, and .047 in. (1.2 mm) and 1/16 in (1.6 mm) use large groove.

- 9 Contact Tip

Thread wire through canister inlet guide, along drive roll groove, and out contact tip.

Install spool so wire feeds off bottom.

- 10 Spool Brake Thumbnut

If necessary, turn thumbnut counterclockwise slightly to install spool.

- 11 Thumbscrew (Canister Rotation)

Loosen thumbscrew to rotate canister (see Section 4-5).

Close and secure pressure roll assembly.

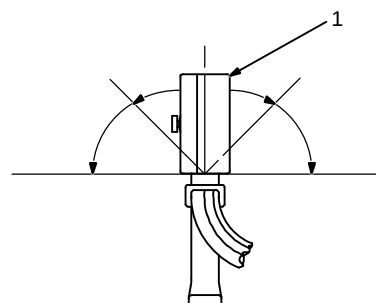
Reinstall top cover and canister cover.

Tools Needed:



150 436-F

4-5. Rotating Canister



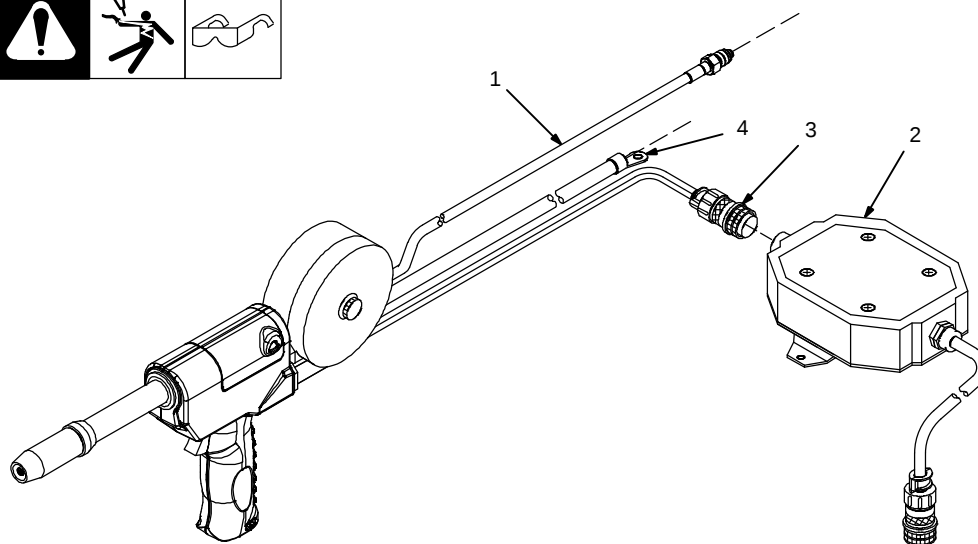
Rear View

- 1 Canister

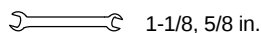
Loosen canister rotation thumbscrew (see Section 4-4). Move canister to desired position. Tighten thumbscrew.

150 433-A

4-6. Connecting To 24 Volt Weld Control



Tools Needed:



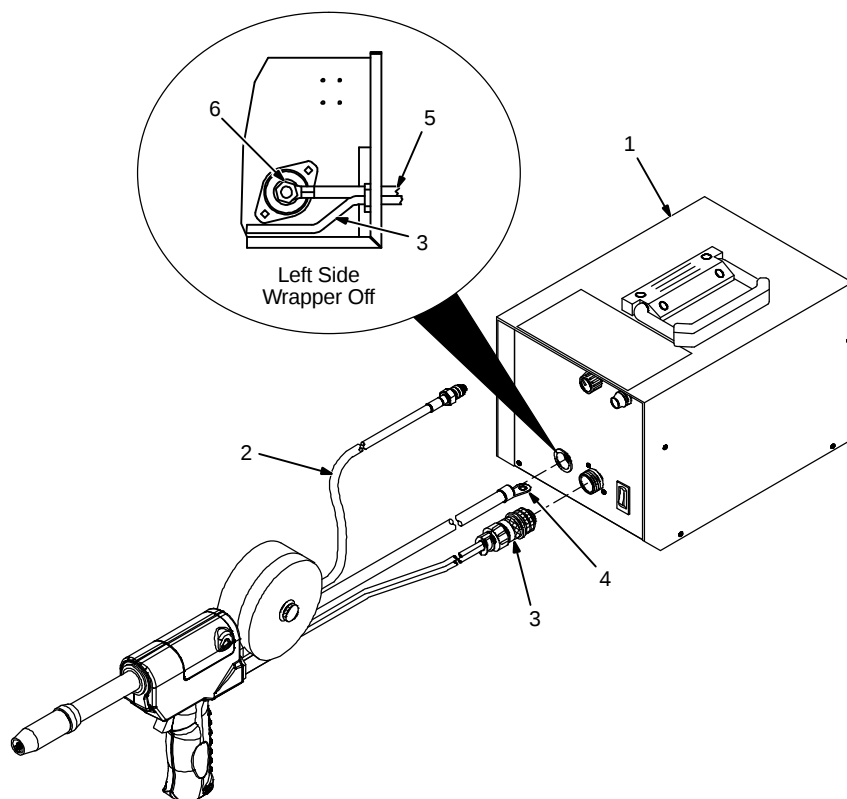
- 1 Gas Hose
Connect fitting to regulator/flowmeter (see Section 4-8).
- 2 24 Volt Weld Control
- 3 Trigger Control Cord

Insert plug into receptacle, and tighten threaded collar.

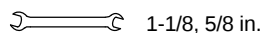
- #### 4 Weld Cable
- Connect to positive (+) weld output terminal on welding power source according to its Owner's Manual.

150 917-G

4-7. Connecting To 115 Volt Weld Control



Tools Needed:



- 1 115 Volt Weld Control
 - 2 Gas Hose
- Connect to regulator/flowmeter.
- 3 Trigger Control Cord
- Insert plug into receptacle, and tighten threaded collar.
- 4 Weld Cable
 - 5 Positive (+) Weld Output Terminal In Control

Connect weld cable to positive (+) weld output terminal in weld control.
Reinstall weld control wrapper.

4-8. Installing Gas Supply



Obtain gas cylinder and chain to running gear, wall, or other stationary support so cylinder cannot fall and break off valve.

- 1 Cap
- 2 Cylinder Valve

Remove cap, stand to side of valve, and open valve slightly. Gas flow blows dust and dirt from valve. Close valve.

- 3 Cylinder
- 4 Regulator/Flowmeter

Install so face is vertical.

- 5 Gas Hose Connection

Fitting has 5/8-18 right-hand threads.

- 6 Flow Adjust

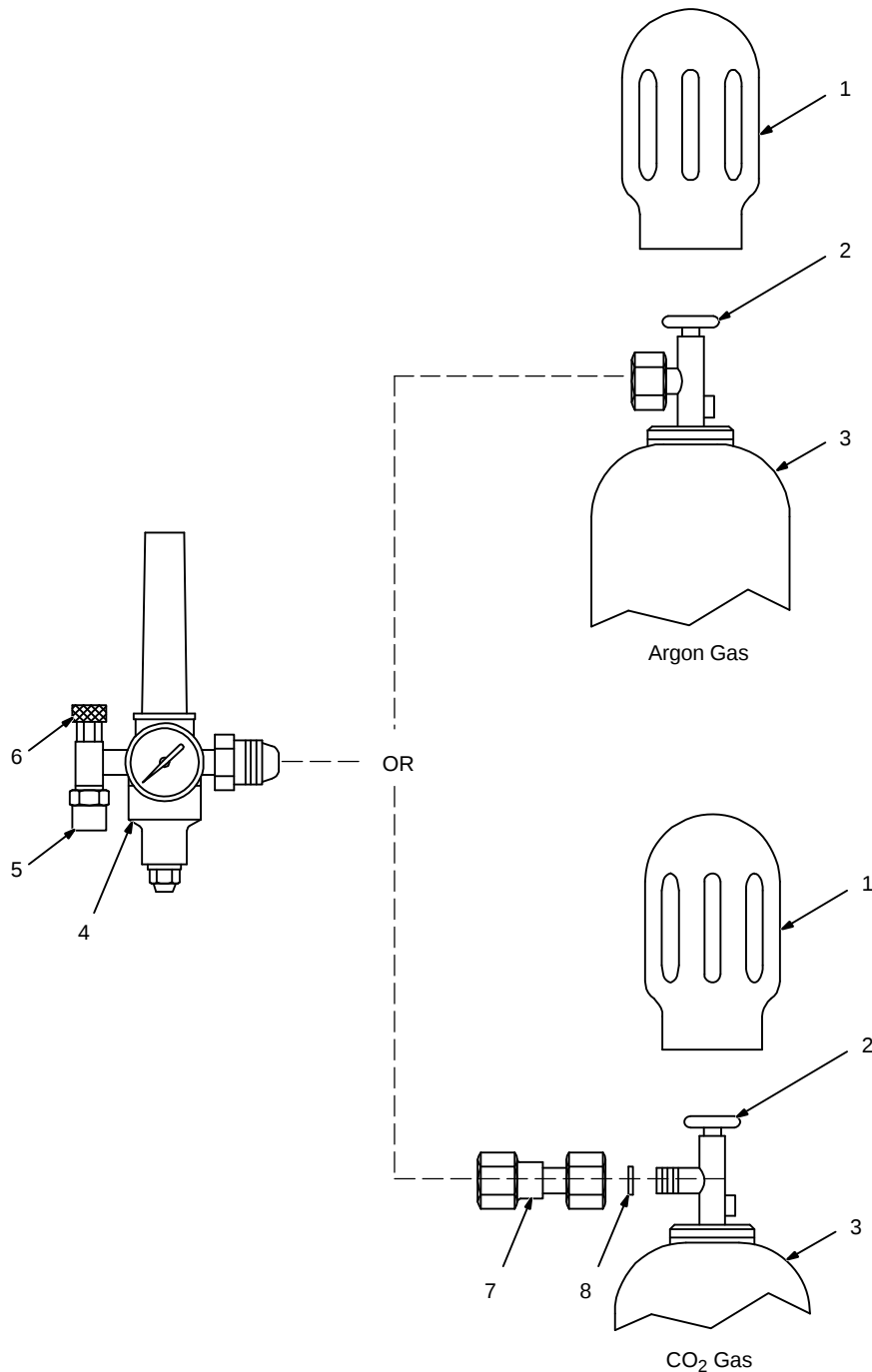
Typical flow rate is 20 cfh (cubic feet per hour). Check wire manufacturer's recommended flow rate.

Make sure flow adjust is closed when opening cylinder to avoid damage to the flowmeter.

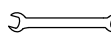
- 7 CO₂ Adapter

- 8 O-Ring

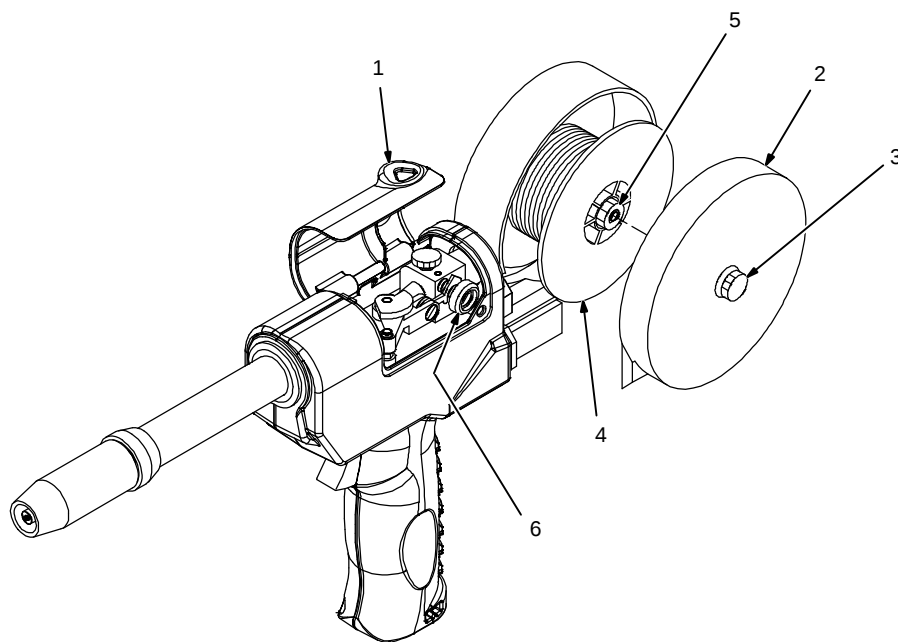
Install adapter with O-ring between regulator/flowmeter and CO₂ cylinder.



Tools Needed:

 1-1/8, 5/8 in.

4-9. Adjusting Drive Roll And Spool Brake Pressure



- 1 Top Cover
- 2 Canister Cover
- 3 Thumbscrew

Loosen thumbscrew and remove cover.

- 4 Spool

Cut welding wire off at contact tip. Retract wire onto spool and secure.

- 5 Spool Brake Thumbnut

Grasp spool in one hand and turn while adjusting spool brake thumbnut. When a slight force is needed to turn spool, tension is set. Do not overtighten.

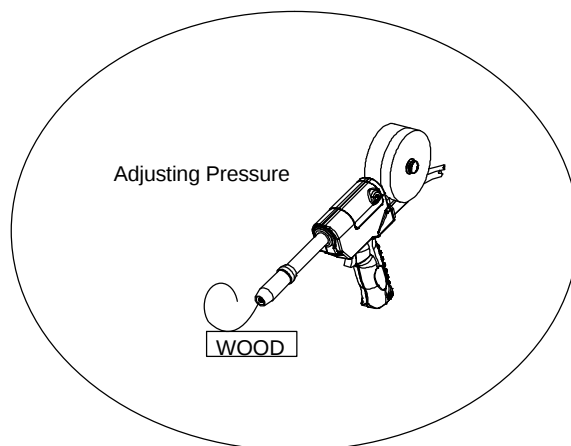
Reinstall canister cover. Thread welding wire (see Section 4-4).

- 6 Drive Roll Tension Thumbnut

Turn On unit and check drive roll pressure by feeding wire against a wood board or concrete surface; wire should feed steadily without slipping.

Adjust drive roll tension thumbnut if necessary. Do not overtighten.

Turn Off unit. Reinstall top cover.



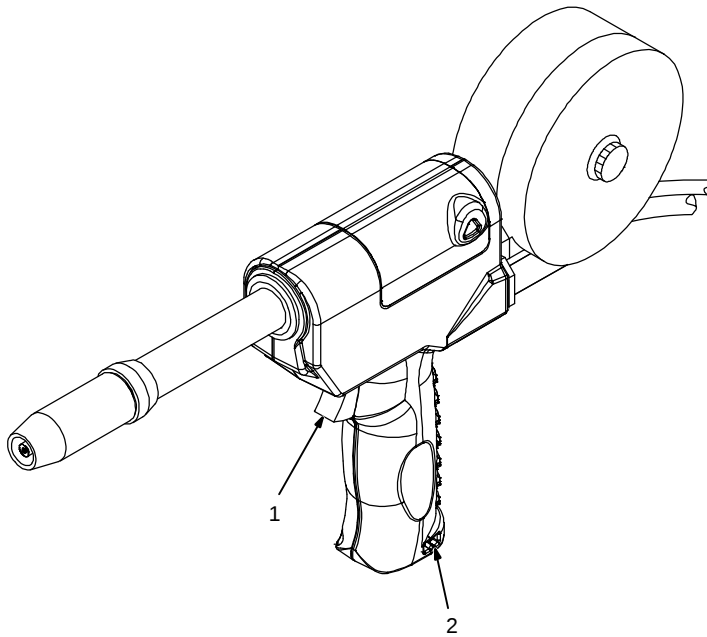
Tools Needed:



Ref. 151 112-F / 147 741-F

SECTION 5 – OPERATION

5-1. Controls



1 Trigger

Press trigger to energize welding power source contactor (if applicable), start shielding gas flow, and begin wire feed.

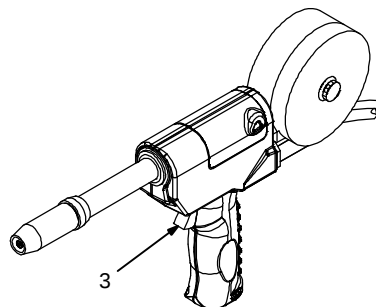
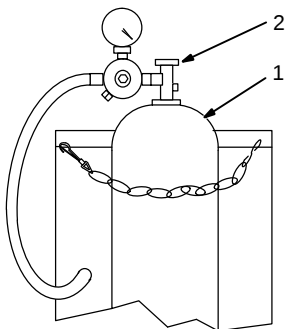
For shielding gas preflow and post-flow, lightly press trigger before and after welding.

2 Wire Speed Control

Use control to adjust wire feed speed. The numbers in the opening are not a wire feed speed and are for reference only.

Ref. 147 741-F

5-2. Shielding Gas



1 Shielding Gas Cylinder

2 Valve

3 Gun Trigger

Open valve on cylinder just before welding.

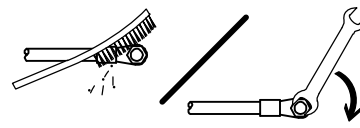
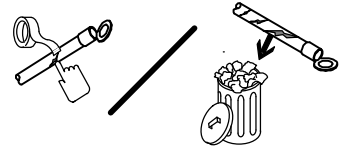
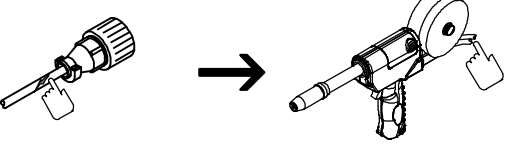
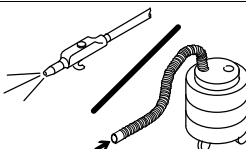
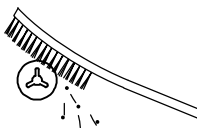
Gun trigger turns weld output and gas flow on and off. For shielding gas preflow and postflow, lightly press trigger before and after welding.

Close valve on cylinder when finished welding.

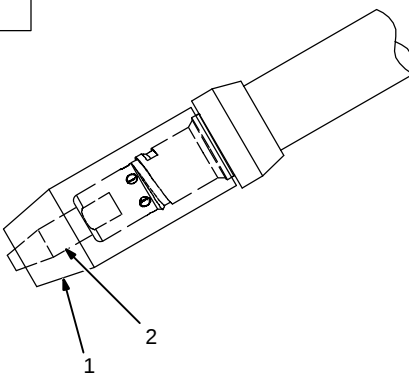
sb5.1* 6/92 – S-0621-C / Ref. 147 741-F

SECTION 6 – MAINTENANCE & TROUBLESHOOTING

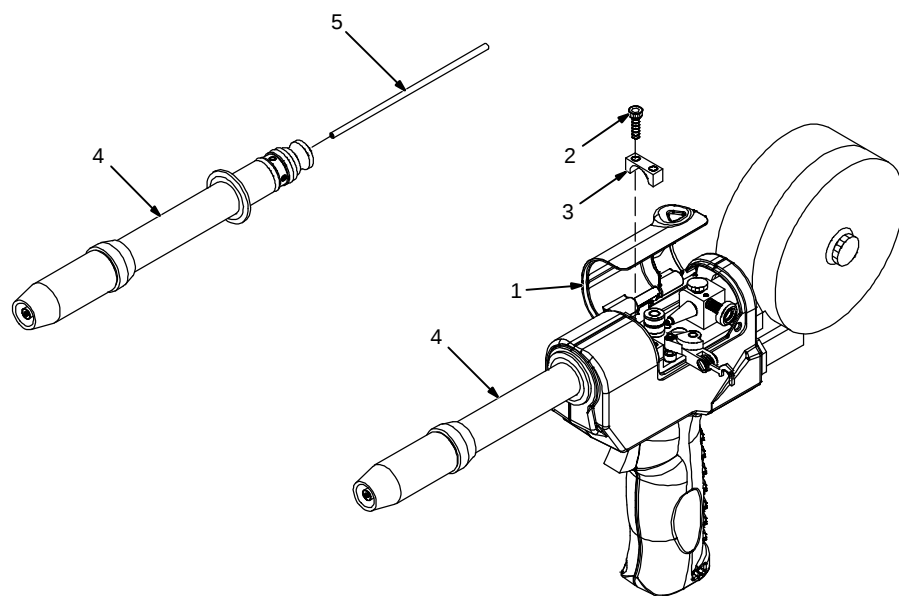
6-1. Routine Maintenance

  Disconnect power before maintaining.  <i>Maintain more often during severe conditions.</i>				
 3 Months				
  Replace Damaged Or Unreadable Labels		 Replace Damage Gas Hose		 Clean And Tighten Weld Terminals
		 Repair Or Replace Cracked Cables And Cords		
 6 Months				
 Blow Out Or Vacuum Inside		 Clean Drive Rolls		

6-2. Changing Gun Contact Tip

		Remove nozzle 1 Nozzle 2 FasTip Unscrew FasTip. Install new FasTip.
		
Ref. 150 437-A		

6-3. Replacing Head Tube Liner



Tool Needed:



5/32 in.

The standard head tube liner will accommodate wire diameters from .030-1/16 wire size.

- 1 Cover
- 2 Screw
- 3 Clamp

Loosen clamp screws and remove clamp.

- 4 Head Tube

Remove head tube from gun.

- 5 Liner

Pull liner out of head tube.

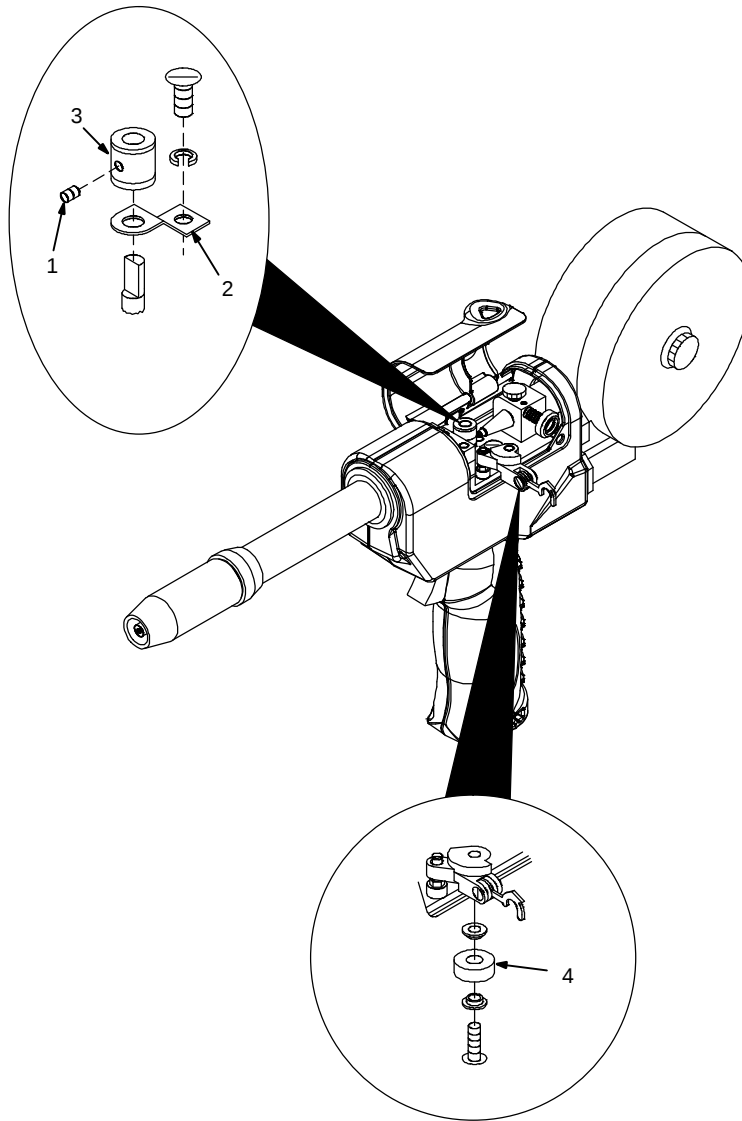
Insert liner into head tube and reinstall head tube onto gun.

 A twisting motion may be needed to feed liner thru head tube.

Ref. 803 551-C

Notes

6-4. Gun Drive Assembly Maintenance



Retract wire onto spool.

1 Setscrew

2 Current Pick-Up Tab

This tab helps prevent burnback caused by welding arcs inside the contact tip. This tab may be removed to provide an insulated drive roll. (If tab is removed, a smaller diameter contact tip is recommended. See options in Parts List.) Lightly grease top of tab before reinstalling.

3 Drive Roll

Use wire brush to clean drive roll. Install drive roll with desired groove down, and turn drive roll so one setscrew faces flat side of shaft.

4 Bearing

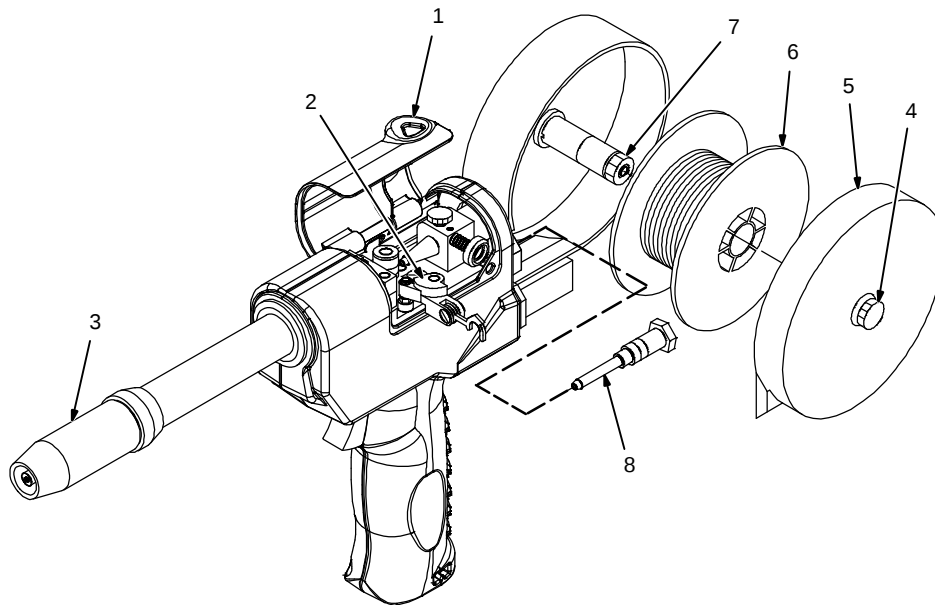
Use wire brush to clean bearing. Line up drive roll groove with bearing groove and liner opening. Tighten setscrews.

Thread welding wire through gun (see Section 4-4). Close and secure pressure roll assembly. Adjust drive roll pressure, if necessary (see Section 4-9). Reinstall top cover.

Tools Needed:



6-5. Replacing Canister Inlet Guide



- 1 Top Cover
- 2 Pressure Roll Assembly

Cut off welding wire where it enters pressure roll assembly area.

- 3 Nozzle

Pull wire out nozzle.

- 4 Thumbscrew

- 5 Canister Cover

Loosen thumbscrew and remove cover.

- 6 Wire Spool

- 7 Spool Brake Thumbnut

Loosen thumbnut, retract wire onto spool, secure, and remove spool.

- 8 Canister Inlet Guide

Turn counterclockwise to remove. Install new guide.

Reinstall spool and thread welding wire (see Section 4-4).

Close pressure roll assembly. Adjust spool brake pressure and drive roll pressure if necessary (see Section 4-9).

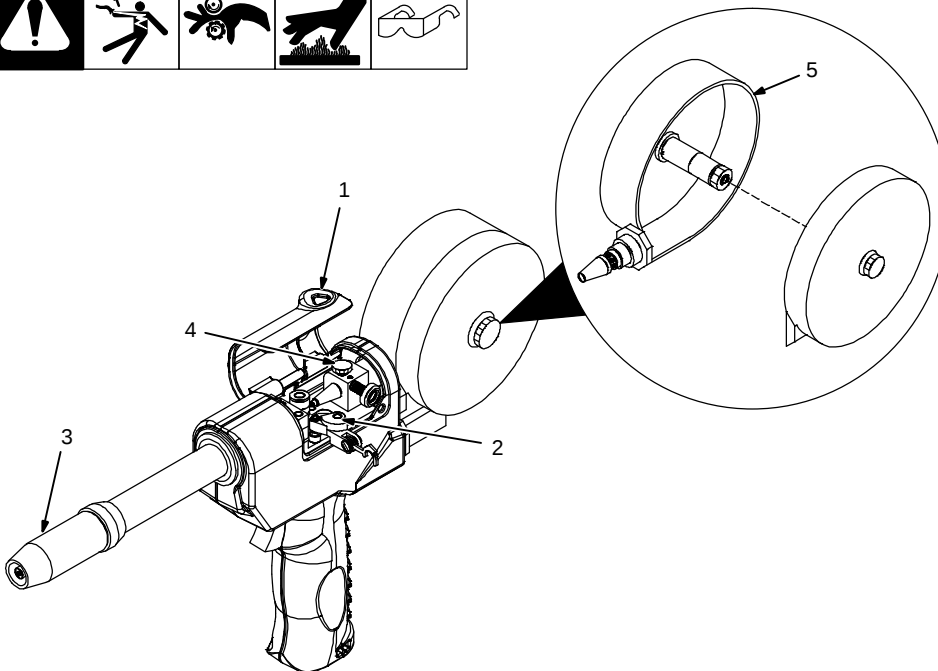
Reinstall covers.

Tools Needed:



Ref. 150 436-D / Ref. 149 967-H

6-6. Replacing Spool Canister



- 1 Top Cover
- 2 Pressure Roll Assembly

Cut off welding wire where it enters pressure roll assembly area.

- 3 Nozzle

Pull wire out nozzle.

- 4 Thumbscrew (Canister Rotation)

Turn thumbscrew counterclockwise three full turns.

- 5 Spool Canister

Remove as shown. Push new canister into wire drive housing until fully seated. Tighten thumbscrew.

Install spool and thread welding wire (see Section 4-4).

Close pressure roll assembly. Adjust spool brake pressure and drive roll pressure as necessary (see Section 4-9).

Reinstall covers.

Tools Needed:



Ref. 149 967-H

6-7. Replacing Diffuser



Turn Off welding power source.

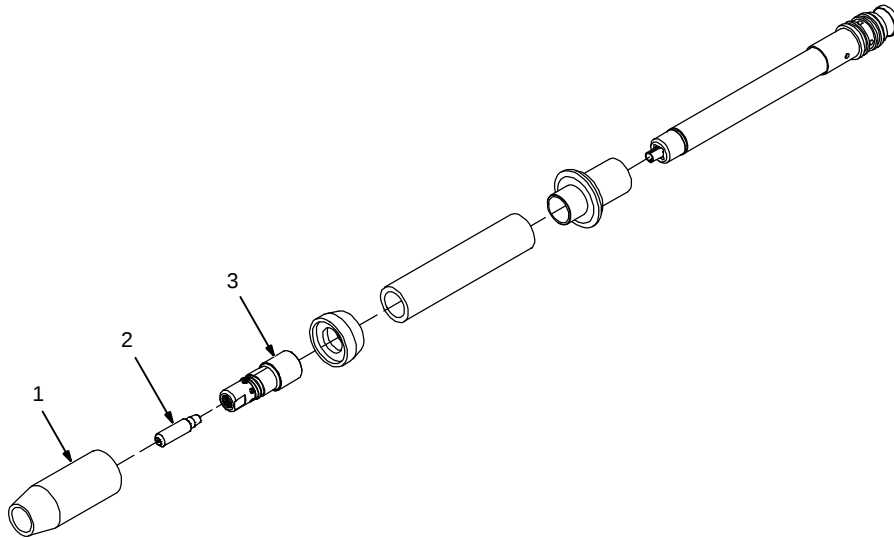
1 Nozzle

2 FasTip

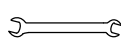
To remove, see Section 6-2.

3 Diffuser

Remove diffuser and replace.



Tools Needed:



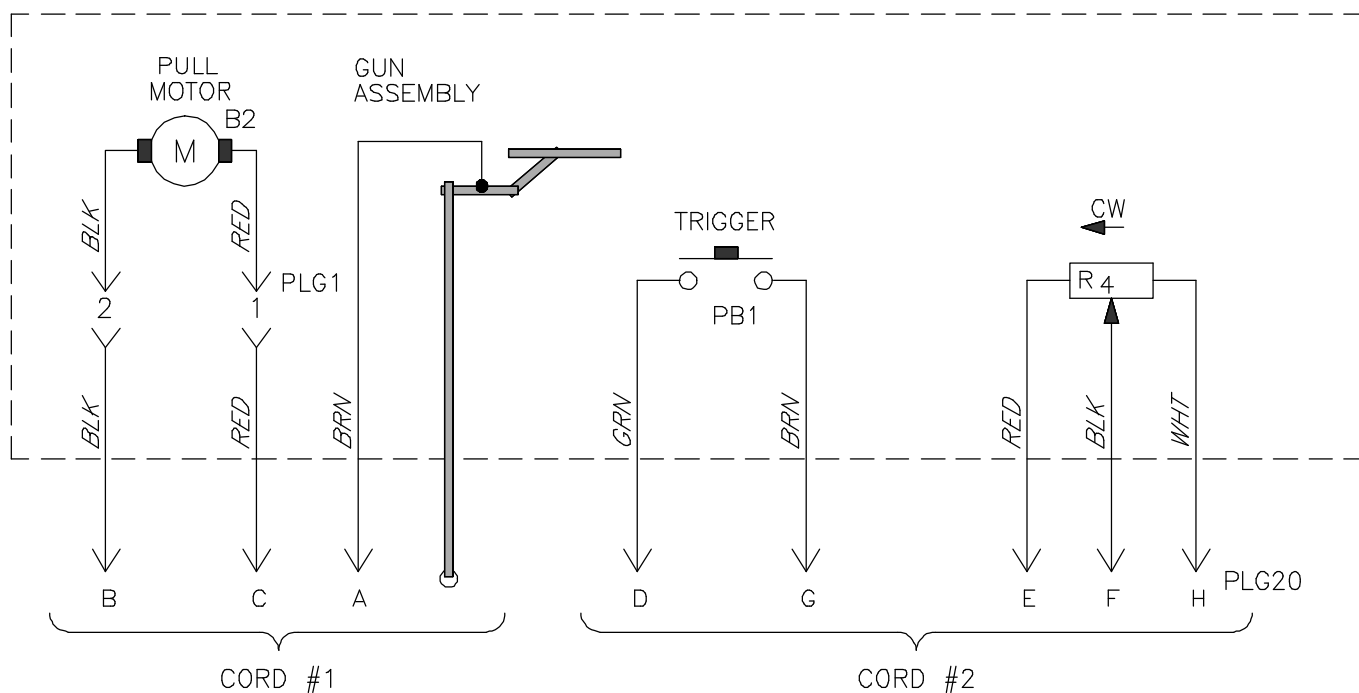
3/8 in.

Ref. 803 348-G

6-8. Troubleshooting

Trouble	Remedy
No weld output; gun/feeder does not work.	Secure weld control plug in 115 volts AC receptacle (see weld control Owner's Manual).
	Place Power switch on welding power source in the On position (see welding power source Owner's Manual).
Erratic weld output.	Tighten and clean all connections.
Pressing gun/feeder trigger does not energize weld control; welding wire is not energized; shielding gas does not flow.	Secure plug from gun/feeder trigger cord into 10-socket receptacle on weld control (see Sections 4-6 and 4-7).
Wire feeds, shielding gas flows, but welding wire is not energized.	Secure control cable leads in weld control (see weld control Owner's Manual).
	See Troubleshooting section in welding power source Owner's Manual.
Wire feeds erratically.	Check and correct drive roll pressure (see Section 4-9).
	Clean drive roll or replace drive roll (see Section 6-4).
	Decrease spool brake pressure (see Section 4-9).

SECTION 7 – ELECTRICAL DIAGRAM



⚠ WARNING	- Do not touch live electrical parts. - Disconnect input power or stop engine before servicing. - Do not operate with covers removed. - Have only qualified persons install, use, or service this unit.
	
ELECTRIC SHOCK HAZARD	

195 712-B

Figure 7-1. Circuit Diagram For Gun/Feeder

SECTION 8 – PARTS LIST

 Hardware is common and not available unless listed.

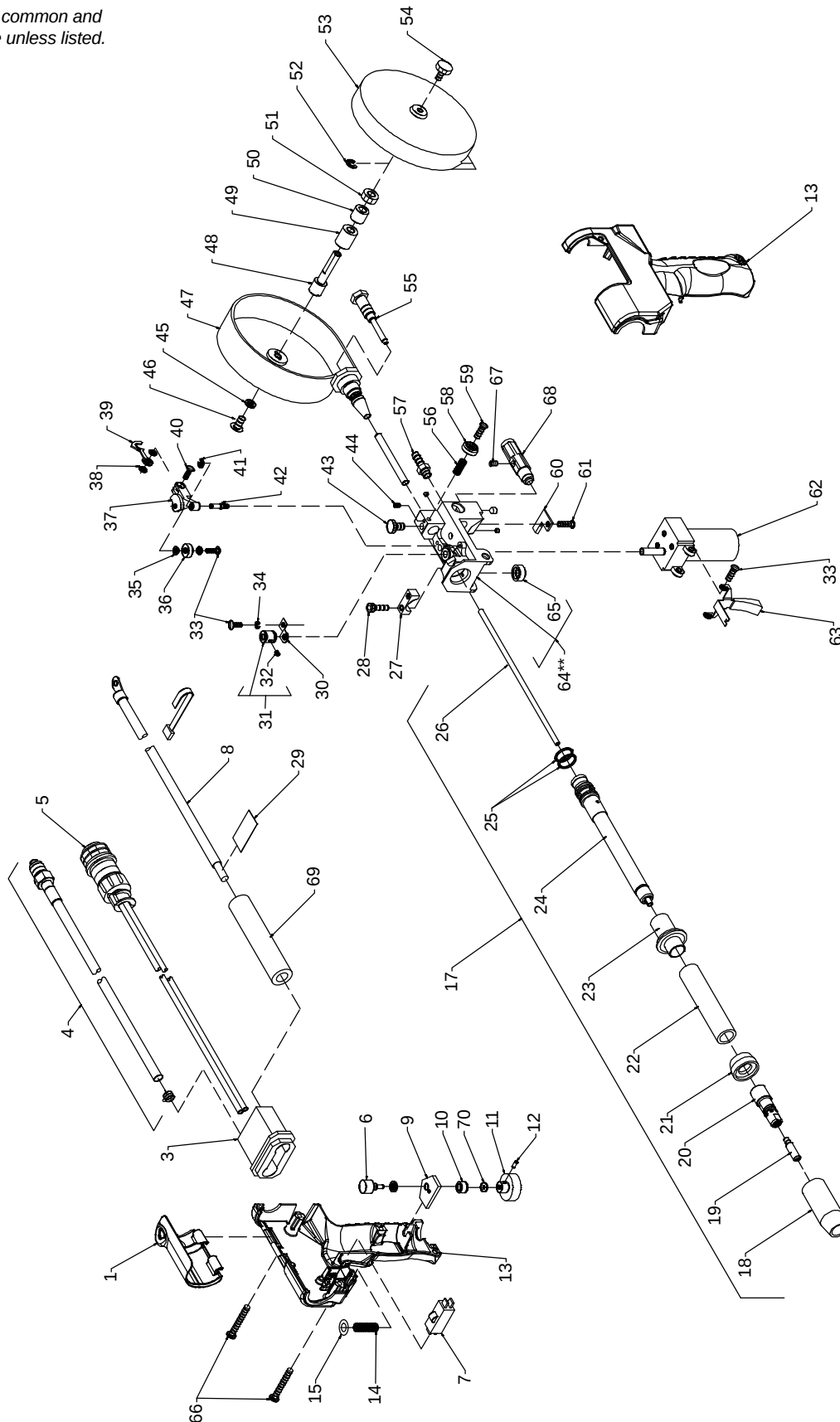


Figure 8-1. Complete Assembly

Ref. 803 348-J

Item No.	Dia. Mkgs.	Part No.	Description	Quantity	
				Model	
				15A	30A

Figure 8-1. Complete Assembly

1		214 745	Cover (Included With Item 13)	1	1
2		Deleted			
3		133 362	Strain Relief, Cable	1	1
4		210 417	Hose, Gas In	1	
4		182 824	Hose, Gas In		1
5		210 418	Cable, Control 15 Ft (Includes)	1	
5		204 605	Cable, Control 30 Ft (Includes)		1
6	R4	200 096	Potentiometer, C Slt'd Sft 1/T .5W 10K Ohm	1	1
7	PB1	000 369	Switch, Lim 10A 125/250VAC Dpst Plgr	1	1
		190 294	Conn, Circ Ms/Cpc 10 Pin	1	1
		143 922	Conn, Circ Cpc Clamp Str Rlf	1	1
8		235 689	Cable, Power	1	
8		235 690	Cable, Power		1
9		144 861	Washer, Anti-turn	1	1
10		135 127	Lock, Shaft Pot .250-32 X .125Dia Shaft	1	1
11		134 856	Knob, Speed Control 1-10 .140 Shaft X 1.125 Od	1	1
12		602 169	Screw, Set Stl Sch 8-32 X .187 Cup Pt	1	1
13		220 658	Case, Gun Lh/Rh (Molded Halves)	1	1
14		183 884	Spring, Cprsn .240 Od X .026 Wire X 1.000	1	1
15		184 101	Washer, Shldr .140 Id X .250 Od	1	1
16		Deleted			
17		231 531	Head Tube Assy, Air Cooled Pistol (Includes)	1	1
18		199 613	Nozzle, Brass 5/8 In Orifice Tapered	1	1
19			Tip, Fastip (See Section 9)	1	1
20		227 749	Diffuser, .281/.312 Od Collar Fastip 1/8 Rec	1	1
21		232 284	Insulator, Nozzle Collared Diffuser	1	1
22		219 794	Jacket, Outer Insulating	1	1
23		219 795	Insulator, Barrel Pistol	1	1
24		219 796	Head Tube, Air Pistol (Brazed)	1	1
25		134 800	O-ring, .614 Id X .070Cs	2	2
26		212 156	Liner, Phos Bronze .030-1/16 Wire X 7.313	1	1
27		133 365	Clamp, Head Tube	1	1
28		000 417	Screw, 10-24 X1.000Sochd Hex	2	2
29		235 225	Strip, Cop .010 X 1.500 X .750	1	1
		604 638	Screw, 6-32 X .375Sochd Hex	3	3
30		209 342	Kit, Current Pick-up (Units W/Bearing Block)	1	1
31		136 135	Roll, Drive Vk Groove .023-1/16 Wire (Includes)	1	1
31		183 357	Roll, Drive Vk Groove .030/.035 Wire (Includes)	1	1
31		183 358	Roll, Drive Vk Groove .047/.062 Wire (Includes)	1	1
32		604 612	Screw, Set Stl Sch 8-32 X .125 Cup Point	2	2
33		206 576	Screw, 006-32x .50 Btn Hd-Soc Stl Pld	3	3
34		602 198	Washer, Lock .141 Id Stl Split	1	1
35		134 624	Washer, Shldr.140Id 0.187odx.094T .375odx.031T Nyl	2	2
36		134 623	Bearing, Idler Roll	1	1
37		132 852	Arm, Pressure	1	1
38		605 798	Washer, Shldr Nyl .375 Od X .168 Id X .080	2	2
39		133 083	Spring, Tension Adj Drive Roll	1	1
40		144 860	Screw, 8-32 X .437Flatd Slt Stl	1	1
41		058 968	Ring, Retainer E	1	1
42		135 474	Pin, Hinge	1	1
43		155 565	Screw, Thumb	1	1
		134 799	O-ring, .176 Id X .070Cs (Used W/Thumbscrew)	1	1
44		135 126	Screw, Set 6-32 X .125 Cup Point Sch Stl	1	1
45		602 209	Washer, Tooth .256 Id Stl Intl	1	1

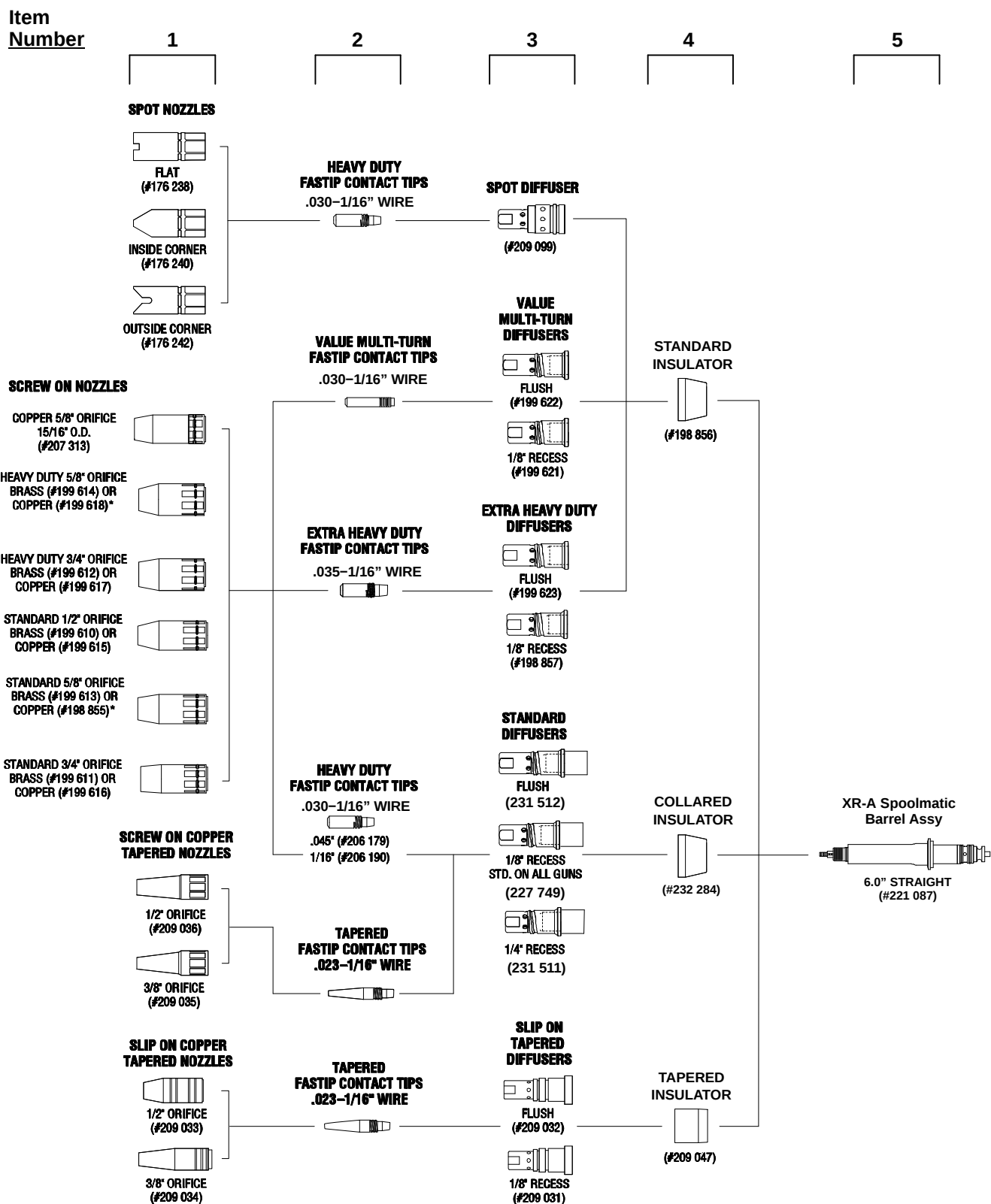
Item No.	Dia. Mkgs.	Part No.	Description	Quantity
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Figure 8-1. Complete Assembly (Continued)

... 46		602 154	.. Screw, .250-20 X .500Hexhd Stl Slffmg	1 1
... 47		132 527	.. Canister, Spool	1 1
... 48		148 488	.. Post, Support Spool	1 1
... 49		132 529	.. Pad, Brake	1 1
... 50		148 489	.. Washer, Anti-turn .380 Id	1 1
... 51		132 524	.. Nut, .375-24 .56Knrl Alum	1 1
... 52		000 364	.. Ring, Retainer Ext .145 Shaft Grv X .025Thk	1 1
... 53		132 526	.. Cover, Spool	1 1
... 54		132 528	.. Screw, Thumb Canister	1 1
... 55		132 521	.. Guide, Inlet Canister	1 1
... 56		112 896	.. Spring, Cprsn .240 Od X .020 Wire X .437	1 1
... 57		135 580	.. Fitting, Gas	2 2
...		146 555	.. Screw, Set 8-32 X .125 Cup Sch	1 1
... 58		135 773	.. Nut, 8-32 .56Knrl Stl	1 1
... 59		143 360	.. Screw, 8-32 X .500Panhd Phl Stl	1 1
... 60		136 679	.. Clamp, Strain Relief	1 1
... 61		129 351	.. Screw, 8-32 X .500Hexwhd Sit Stl Slffmg	1 1
... 62	B2	230 947	.. Motor, Gear Pm 24 VDC 420 RPM 10.2:1 Ratio W/Conn	1 1
... 63		164 592	.. Trigger	1 1
... 64		236 149	.. Kit, Replacement Drive Housing/Spool (Includes)	1 1
... 64		239 754	.. Kit, Housing W/Handles (Includes)	1 1
... 65		058 262	.. Cap, Valve	1 1
...		162 038	.. Bearing, Ball Rdl Sgl Row 8mm X 16mm X 5mm Wide Sh	1 1
...		162 039	.. Bushing, Nylatron .252id X .315 Od X .250 Lg .500 X	1 1
... 66		217 934	.. Screw, K40x 20 Pan Hd-trx Stl Pld Pt Thread Forming	4 4
... 67		005 464	.. Screw, Set 250-20x .37 Ovl Pt Sch Stl Pln Nylok	1 1
... 68		235 753	.. Ftg, Connection Power Weld	1 1
... 69		235 751	.. Tubing, Silicone Rbr .500 Id X Spool Black	1 1
... 70		M1460	.. O-Ring, .143 Id X .349 Od X .103 Cs, Buna-N	1 1

To maintain the factory original performance of your equipment, use only Manufacturer's Suggested Replacement Parts. Model and serial number required when ordering parts from your local distributor.

SECTION 9 – PARTS LIST INCLUDING CONSUMABLES



Ref. 803 909-A / 803 932 / 803 933 / 803 934

Figure 9-1. Consumables Flowchart

Item No.	Part No.	Description	Quantity
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Figure 9-1. Consumables Flowchart

Table 9-1. Nozzles

... 1	◆176238	.. Nozzle, Spot Flat (Requires Diffuser 209099, Used With Any Heavy Duty FasTip™ Contact Tip)	1
... 1	◆176240	.. Nozzle, Spot Inside Corner (Requires Diffuser 209099, Used With Any Heavy Duty FasTip™ Contact Tip)	1
... 1	◆176242	.. Nozzle, Spot Outside Corner (Requires Diffuser 209099, Used With Any Heavy Duty FasTip™ Contact Tip)	1
... 1	◆199 610	.. Nozzle, Screw On Brass 1/2 in Orifice	1
... 1	◆199 611	.. Nozzle, Screw On Brass 3/4 in Orifice Straight	1
... 1	◆199 612	.. Nozzle, Screw On Brass 3/4 in Orifice Straight Heavy Duty	1
... 1	◆199 613	.. Nozzle, Screw On Brass 5/8 in Orifice	1
... 1	◆199 614	.. Nozzle, Screw On Brass 5/8 in Orifice Heavy Duty	1
... 1	◆199 615	.. Nozzle, Screw On Copper 1/2 in Orifice	1
... 1	◆199 616	.. Nozzle, Screw On Copper 3/4 in Orifice	1
... 1	◆199 617	.. Nozzle, Screw On Copper 3/4 in Orifice Heavy Duty	1
... 1	198 855	.. Nozzle, Screw On Copper 5/8 in Orifice	1
... 1	199 618	.. Nozzle, Screw On Copper 5/8 in Orifice Heavy Duty	1
... 1	◆207 313	.. Nozzle, Screw On Copper 5/8 in Orifice 15/16 OD	1
... 1	◆209 033	.. Nozzle, Slip On Copper 1/2 in Orifice Tapered (Requires Diffuser 209031 Or 209032 And Insulator 209047, Used With Any Tapered FasTip™ Contact Tip)	1
... 1	◆209 034	.. Nozzle, Slip On Copper 3/8 in Orifice Tapered (Requires Diffuser 209031 Or 209032 And Insulator 209047, Used With Any Tapered FasTip™ Contact Tip)	1
... 1	◆209 035	.. Nozzle, Screw On Copper 3/8 in Orifice Tapered (Requires Diffuser 227 747, 231 511 Or 231 512, Used With Any Tapered FasTip™ Contact Tip)	1
... 1	◆209 036	.. Nozzle, Screw On Copper 1/2 in Orifice Tapered (Requires Diffuser 227 747, 231 511 Or 231 512, Used With Any Tapered FasTip™ Contact Tip)	1

Table 9-2. Heavy Duty FasTip™ Contact Tips*

... 2	◆206 185	.. .030 in (0.8 mm)	1
... 2	◆206 186	.. .035 in (0.9 mm)	1
... 2	◆206 187	.. .040 in (1.0 mm) or .035 in (0.9 mm) Aluminum Wire	1
... 2	206 188	.. .045 in (1.2 mm)	1
... 2	◆206 189	.. .052 in (1.3 mm) or 3/64 in (1.2 mm) Aluminum Wire	1
... 2	206 190	.. 1/16 in (1.6 mm)	1
... 2	◆206 191	.. .068 in (1.7 mm) or 1/16 in (1.6 mm) Aluminum Wire	1

Table 9-3. Extra Heavy Duty FasTip™ Contact Tips*

... 2	◆199 605	.. .035 in (0.9 mm)	1
... 2	◆199 606	.. .040 in (1.0 mm) or .035 in (0.9 mm) Aluminum	1
... 2	◆198 851	.. .045 in (1.2 mm)	1
... 2	◆198 852	.. .052 in (1.3 mm) or 3/64 in (1.2 mm) Aluminum Wire	1
... 2	◆198 853	.. 1/16 in (1.6 mm)	1
... 2	◆198 854	.. .068 in (1.7 mm) or 1/16 in (1.6 mm) Aluminum Wire	1

Table 9-4. Tapered FasTip™ Contact Tips*

... 2	◆209025	.. .030 in (0.8 mm)	1
... 2	◆209026	.. .035 in (0.9 mm)	1
... 2	◆209027	.. .045 in (1.2 mm)	1
... 2	◆209028	.. 3/64 in (1.2 mm)	1
... 2	◆209029	.. .052 in (1.3 mm)	1
... 2	◆209030	.. 1/16 in (1.6 mm)	1

Item No.	Part No.	Description	Quantity
----------	----------	-------------	----------

Figure 9-1. Consumables Flowchart (Continued)

Table 9-5. Value Multi-Turn Contact Tips*

... 2	♦071 825	.. .030 in (0.9 mm)	1
... 2	♦054 202	.. .035 in (0.9 mm)	1
... 2	♦054 201	.. .045 in (1.2 mm)	1
... 2	♦199 593	.. .3/64 in (1.2 mm) Aluminum Wire	1
... 2	♦044 006	.. .052 in (1.3 mm)	1
... 2	♦047 566	.. 1/16 in (1.6 mm)	1
... 2	♦202 933	.. 1/16 in (1.6 mm) Aluminum Wire	1

Table 9-6. Gas Diffusers

... 3	♦198 857	.. 1/8 in Tip Recess – For Extra Heavy Duty FasTip Contact Tips	1
... 3	♦199 623	.. Flush Tip – For Extra Heavy Duty FasTip Contact Tips	1
... 3	♦199 621	.. 1/8 in Tip Recess – For Value Multi-Turn Contact Tips	1
... 3	♦199 622	.. Flush Tip – For Value Multi-Turn Contact Tips	1
... 3	227 749	.. 1/8 in Tip Recess – For Heavy Duty FasTip Contact Tips (Standard On All Guns)	1
... 3	♦231 511	.. 1/4 in Tip Recess – For Heavy Duty FasTip Contact Tips	1
... 3	♦231 512	.. Flush Tip – For Heavy Duty FasTip Contact Tips	1
... 3	♦209 031	.. Slip On Recessed Diffuser (Requires Nozzle 209033 Or 209034 And Insulator 209047, Used With Any Tapered FasTip Contact Tip)	1
... 3	♦209 032	.. Slip On Flush Diffuser (Requires Nozzle 209033 Or 209034 And Insulator 209047, Used With Any Tapered FasTip Contact Tip)	1
... 3	♦209 099	.. Spot Diffuser (Requires Spot Nozzle 176238 Or 176240 Or 176242)	1

Table 9-7. Insulators

... 4	232 284	.. Insulator, Nozzle Collared Diffuser	1
... 4	198 856	.. Insulator, Rubber	1
... 4	209 047	.. Insulator, Teflon (Required When Using Diffuser 209031 Or 209032 With Nozzle 209033 Or 209034)	1

Table 9-8. Barrel Assemblies

... 5	221 087	.. Barrel Assy, Air Cooled Pistol	1
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Table 9-9. Head Tube Assemblies

...	231 523	.. Kit, Head Tube Assy Air Cooled Pistol	1
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♦ OPTIONAL

*All contact tips are packaged in bags of 25.

BE SURE TO PROVIDE MODEL WHEN ORDERING REPLACEMENT PARTS.

To maintain the factory original performance of your equipment, use only Manufacturer's Suggested Replacement Parts. Model is required when ordering parts from your local distributor.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



SOCKET/WRENCH SELECTION TABLE (METRIC)

Specifications		Socket or Wrench Size			Specifications		Socket or Wrench Size	
Bolt Diameter	Decimal Equivalent	Bolt	Nut		Bolt Diameter	U.S. Decimal Equivalent	Bolt	Nut
1/4 in.	.250 in.	3/8 in.	7/16 in.		6 mm	.2362 in.	10 mm	10 mm
5/16 in.	.3125 in.	1/2 in.	9/16 in.		8 mm	.3150 in.	14 mm	14 mm
3/8 in.	.375 in.	9/16 in.	5/8 in.		10 mm	.3937 in.	17 mm	17 mm
7/16 in.	.4375 in.	5/8 in.	3/4 in.		12 mm	.4724 in.	19 mm	19 mm
1/2 in.	.500 in.	3/4 in.	13/16 in.		14 mm	.5512 in.	22 mm	22 mm
9/16 in.	.5625 in.	7/8 in.	7/8 in.		16 mm	.6299 in.	24 mm	24 mm
5/8 in.	.625 in.	15/16 in.	1 in.		18 mm	.7087 in.	27 mm	27 mm
3/4 in.	.750 in.	1-1/8 in.	1-1/8 in.		22 mm	.8661 in.	32 mm	32 mm
7/8 in.	.875 in.	1-5/16 in.	1-5/16 in.		24 mm	.9449 in.	36 mm	36 mm
1 in.	1.000 in.	1-1/2 in.	1-1/2 in.					

This image shows a full page of blank, lined paper. It features approximately 28 horizontal grey lines spaced evenly apart, typical of standard notebook paper. The lines extend across the entire width of the page, leaving small margins at the top and bottom. There are no vertical lines, text, or other markings present.

Notes

TRUE BLUE[®]

WARRANTY

Effective January 1, 2012

(Equipment with a serial number preface of MC or newer)

This limited warranty supersedes all previous Miller warranties and is exclusive with no other guarantees or warranties expressed or implied.

Warranty Questions?

Call
1-800-4-A-MILLER
for your local
Miller distributor.

Your distributor also gives
you ...

Service

You always get the fast,
reliable response you
need. Most replacement
parts can be in your
hands in 24 hours.

Support

Need fast answers to the
tough welding questions?
Contact your distributor.
The expertise of the
distributor and Miller is
there to help you, every
step of the way.

LIMITED WARRANTY – Subject to the terms and conditions below, Miller Electric Mfg. Co., Appleton, Wisconsin, warrants to its original retail purchaser that new Miller equipment sold after the effective date of this limited warranty is free of defects in material and workmanship at the time it is shipped by Miller. **THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.**

Within the warranty periods listed below, Miller will repair or replace any warranted parts or components that fail due to such defects in material or workmanship. Miller must be notified in writing within thirty (30) days of such defect or failure, at which time Miller will provide instructions on the warranty claim procedures to be followed.

Miller shall honor warranty claims on warranted equipment listed below in the event of such a failure within the warranty time periods. All warranty time periods start on the delivery date of the equipment to the original end-user purchaser, and not to exceed one year after the equipment is shipped to a North American distributor or eighteen months after the equipment is shipped to an International distributor.

1. 5 Years Parts — 3 Years Labor
 - * Original Main Power Rectifiers Only to Include SCRs, Diodes, and Discrete Rectifier Modules
2. 3 Years — Parts and Labor
 - * Engine Driven Welding Generators
(NOTE: Engines are Warranted Separately by the Engine Manufacturer.)
 - * Inverter Power Sources (Unless Otherwise Stated)
 - * Plasma Arc Cutting Power Sources
 - * Process Controllers
 - * Semi-Automatic and Automatic Wire Feeders
 - * Smith 30 Series Flowgauge and Flowmeter Regulators (No Labor)
 - * Transformer/Rectifier Power Sources
 - * Water Coolant Systems (Integrated)
3. 2 Years — Parts
 - * Auto-Darkening Helmet Lenses (No Labor)
4. 1 Year — Parts and Labor Unless Specified
 - * Automatic Motion Devices
 - * CoolBelt and CoolBand Blower Unit (No Labor)
 - * External Monitoring Equipment and Sensors
 - * Field Options
(NOTE: Field options are covered for the remaining warranty period of the product they are installed in, or for a minimum of one year — whichever is greater.)
 - * Flowgauge and Flowmeter Regulators (No Labor)
 - * RFCS Foot Controls (Except RFCS-RJ45)
 - * Fume Extractors
 - * HF Units
 - * ICE/XT Plasma Cutting Torches (No Labor)
 - * Induction Heating Power Sources, Coolers
(NOTE: Digital Recorders are Warranted Separately by the Manufacturer.)
 - * Load Banks
 - * Motor Driven Guns (w/exception of Spoolmate Spoolguns)
 - * PAPR Blower Unit (No Labor)
 - * Positioners and Controllers
 - * Racks
 - * Running Gear/Trailers
 - * Spot Welders
 - * Subarc Wire Drive Assemblies
 - * Water Coolant Systems (Non-Integrated)
 - * Weldcraft-Branded TIG Torches (No Labor)
 - * Wireless Remote Foot/Hand Controls and Receivers
 - * Work Stations/Weld Tables (No Labor)
5. 6 Months — Parts
 - * Batteries
 - * Bernard Guns (No Labor)
 - * Tregaskiss Guns (No Labor)

6. 90 Days — Parts
 - * Accessory (Kits)
 - * Canvas Covers
 - * Induction Heating Coils and Blankets, Cables, and Non-Electronic Controls
 - * M-Guns
 - * MIG Guns and Subarc (SAW) Guns
 - * Remote Controls and RFCS-RJ45
 - * Replacement Parts (No labor)
 - * Roughneck Guns
 - * Spoolmate Spoolguns

Miller's True Blue[®] Limited Warranty shall not apply to:

1. **Consumable components; such as contact tips, cutting nozzles, contactors, brushes, relays, work station table tops and welding curtains, or parts that fail due to normal wear. (Exception: brushes and relays are covered on all engine-driven products.)**
2. Items furnished by Miller, but manufactured by others, such as engines or trade accessories. These items are covered by the manufacturer's warranty, if any.
3. Equipment that has been modified by any party other than Miller, or equipment that has been improperly installed, improperly operated or misused based upon industry standards, or equipment which has not had reasonable and necessary maintenance, or equipment which has been used for operation outside of the specifications for the equipment.

MILLER PRODUCTS ARE INTENDED FOR PURCHASE AND USE BY COMMERCIAL/INDUSTRIAL USERS AND PERSONS TRAINED AND EXPERIENCED IN THE USE AND MAINTENANCE OF WELDING EQUIPMENT.

In the event of a warranty claim covered by this warranty, the exclusive remedies shall be, at Miller's option: (1) repair; or (2) replacement; or, where authorized in writing by Miller in appropriate cases, (3) the reasonable cost of repair or replacement at an authorized Miller service station; or (4) payment of or credit for the purchase price (less reasonable depreciation based upon actual use) upon return of the goods at customer's risk and expense. Miller's option of repair or replacement will be F.O.B., Factory at Appleton, Wisconsin, or F.O.B. at a Miller authorized service facility as determined by Miller. Therefore no compensation or reimbursement for transportation costs of any kind will be allowed.

TO THE EXTENT PERMITTED BY LAW, THE REMEDIES PROVIDED HEREIN ARE THE SOLE AND EXCLUSIVE REMEDIES. IN NO EVENT SHALL MILLER BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING LOSS OF PROFIT), WHETHER BASED ON CONTRACT, TORT OR ANY OTHER LEGAL THEORY.

ANY EXPRESS WARRANTY NOT PROVIDED HEREIN AND ANY IMPLIED WARRANTY, GUARANTY OR REPRESENTATION AS TO PERFORMANCE, AND ANY REMEDY FOR BREACH OF CONTRACT TORT OR ANY OTHER LEGAL THEORY WHICH, BUT FOR THIS PROVISION, MIGHT ARISE BY IMPLICATION, OPERATION OF LAW, CUSTOM OF TRADE OR COURSE OF DEALING, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE, WITH RESPECT TO ANY AND ALL EQUIPMENT FURNISHED BY MILLER IS EXCLUDED AND DISCLAIMED BY MILLER.

Some states in the U.S.A. do not allow limitations of how long an implied warranty lasts, or the exclusion of incidental, indirect, special or consequential damages, so the above limitation or exclusion may not apply to you. This warranty provides specific legal rights, and other rights may be available, but may vary from state to state.

In Canada, legislation in some provinces provides for certain additional warranties or remedies other than as stated herein, and to the extent that they may not be waived, the limitations and exclusions set out above may not apply. This Limited Warranty provides specific legal rights, and other rights may be available, but may vary from province to province.





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 Name and Serial/Style Number.

Contact your Distributor for:

Welding Supplies and Consumables

Options and Accessories

Personal Safety Equipment

Service and Repair

Replacement Parts

Training (Schools, Videos, Books)

Technical Manuals (Servicing Information and Parts)

Circuit Diagrams

Welding Process Handbooks

To locate a Distributor or Service Agency visit
www.millerwelds.com or call 1-800-4-A-Miller

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.

Miller Electric Mfg. Co.

An Illinois Tool Works Company
1635 West Spencer Street
Appleton, WI 54914 USA

International Headquarters—USA

USA Phone: 920-735-4505 Auto-Attended
USA & Canada FAX: 920-735-4134
International FAX: 920-735-4125

For International Locations Visit
www.MillerWelds.com

