



OM-1213

137 531AM

2015-04

Processes



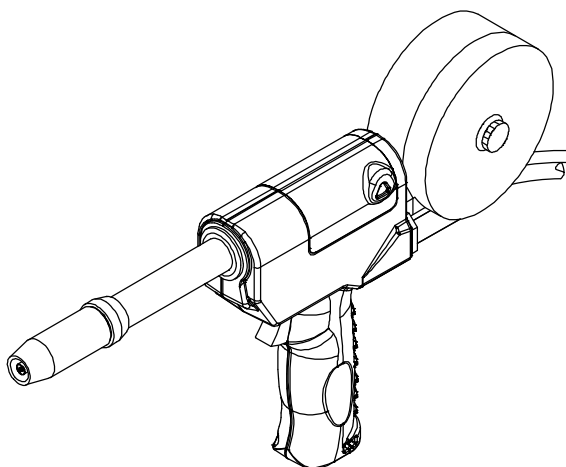
MIG (GMAW) Welding

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.



TABLE OF CONTENTS

SECTION 1 – SAFETY PRECAUTIONS FOR GMAW WELDING GUNS – READ BEFORE USING	1
1-1. Symbol Usage	1
1-2. Arc Welding Hazards	1
1-3. Proposition 65 Warnings	2
1-4. Principal Safety Standards	2
1-5. EMF Information	2
SECTION 2 – MESURES DE SÉCURITÉ VISANT LES PISTOLETS DE SOUDAGE GMAW – À LIRE AVANT UTILISATION	3
2-1. Signification des symboles	3
2-2. Dangers relatifs au soudage à l'arc	3
2-3. Proposition californienne 65 Avertissements	4
2-4. Principales normes de sécurité	4
2-5. Informations relatives aux CEM	4
SECTION 3 – DEFINITIONS	5
3-1. Additional Safety Symbols And Definitions	5
3-2. Miscellaneous Symbols And Definitions	5
SECTION 4 – SPECIFICATIONS	6
4-1. Unit Specifications	6
4-2. Environmental Specifications	6
SECTION 5 – INSTALLATION	6
5-1. Removing Top Cover	6
5-2. Installing Wire Spool And Threading Welding Wire	7
5-3. Rotating Canister	7
5-4. Connecting To 24 Volt Weld Control	8
5-5. Connecting To 115 Volt Weld Control	8
5-6. Installing Gas Supply	9
5-7. Adjusting Drive Roll And Spool Brake Pressure	10
SECTION 6 – OPERATION	11
6-1. Controls	11
6-2. Shielding Gas	11
SECTION 7 – MAINTENANCE & TROUBLESHOOTING	12
7-1. Routine Maintenance	12
7-2. Changing Gun Contact Tip	12
7-3. Replacing Head Tube Liner	13
7-4. Gun Drive Assembly Maintenance	14
7-5. Replacing Canister Inlet Guide	15
7-6. Replacing Spool Canister	15
7-7. Replacing Diffuser	16
7-8. Troubleshooting	16
SECTION 8 – ELECTRICAL DIAGRAM	17
SECTION 9 – PARTS LIST	18
SECTION 10 – PARTS LIST INCLUDING CONSUMABLES	21
WARRANTY	

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

SR7 (MIG) 2013-09

 **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.



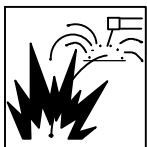
ELECTRIC SHOCK can kill.

- Always wear dry insulating gloves.
- Insulate yourself from work and ground.
- Do not touch live electrode or electrical parts.
- Replace worn, damaged, or cracked guns or cables.
- 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. The recommended way to determine adequate ventilation is to sample for the composition and quantity of fumes and gases to which personnel are exposed.
- Read and understand the Safety Data Sheets (SDSs) and the manufacturer's instructions for adhesives, coatings, cleaners, consumables, coolants, degreasers, fluxes, and metals.



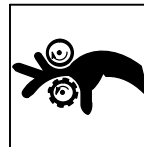
WELDING can cause fire or explosion.

- 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.
- Read and understand the Safety Data Sheets (SDSs) and the manufacturer's instructions for adhesives, coatings, cleaners, consumables, coolants, degreasers, fluxes, and metals.



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.

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 body protection made from durable, flame-resistant material (leather, heavy cotton, wool). Body protection includes oil-free clothing such as leather gloves, heavy shirt, cuffless trousers, high shoes, and a cap.



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.

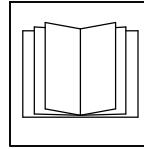
Noise from some processes or equipment can damage hearing.

- 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).

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 5N5 (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). The current from arc welding (and allied processes including spot welding, gouging, plasma arc cutting, and induction heating operations) creates an EMF field around the welding circuit. 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

SR7(MIG)_2013-09 fre

! 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.



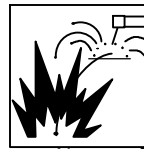
UN CHOC ÉLECTRIQUE peut tuer.

- 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.
- Remplacer les pistolets ou câbles de soudage qui sont endommagés, usés ou craquelés.
- 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. Pour déterminer la bonne ventilation, il est recommandé de procéder à un prélèvement pour la composition et la quantité de fumées et de gaz auxquels est exposé le personnel.
- Lire et comprendre les fiches de données de sécurité et les instructions du fabricant concernant les adhésifs, les revêtements, les nettoyants, les consommables, les produits de refroidissement, les dégraissants, les flux et les métaux.



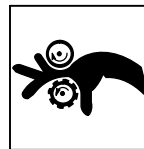
LE SOUDAGE peut causer un incendie ou une explosion.

- Ne pas souder à proximité de matériaux inflammables.
- Ne pas effectuer le soudage sur des conteneurs 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.
- Lire et comprendre les fiches de données de sécurité et les instructions du fabricant concernant les adhésifs, les revêtements, les nettoyants, les consommables, les produits de refroidissement, les dégraissants, les flux et les métaux.



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.

Le rayonnement de l'arc du procédé de soudage génère des rayons visibles et invisibles intenses (ultraviolets et infrarouges) susceptibles de provoquer des brûlures dans les yeux et sur la peau. Des étincelles sont projetées pendant le soudage.

- Porter un casque de soudage approuvé muni de verres filtrants approprié pour protéger visage et yeux pendant le soudage (voir ANSI Z49.1 et Z87.1 énuméré dans les normes de sécurité).
- Porter des lunettes de sécurité avec écrans latéraux même sous votre casque.
- Avoir recours à des écrans protecteurs ou à des rideaux pour protéger les autres contre les rayonnements les éblouissements et les étincelles ; prévenir toute personne sur les lieux de ne pas regarder l'arc.

- Porter un équipement de protection pour le corps fait d'un matériau résistant et ignifuge (cuir, coton robuste, laine). La protection du corps comporte des vêtements sans huile comme par ex. des gants de cuir, une chemise solide, des pantalons sans revers, des chaussures hautes et une casquette.



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.

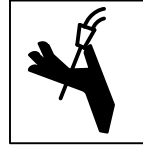


Le BRUIT peut endommager l'ouïe.

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

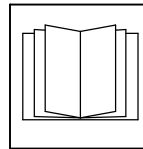
- Vérifier si les niveaux de bruit excèdent les limites spécifiées par l'OSHA.

- Utiliser des bouche-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

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 5N5 (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).

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. Le courant issu d'un soudage à l'arc (et de procédés connexes, y compris le soudage par points, le gougeage, le découpage plasma et les opérations de chauffage par induction) crée un champ électromagnétique (CEM) autour du circuit de soudage. 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.

SECTION 3 – DEFINITIONS

3-1. Additional Safety Symbols And Definitions

 Some symbols are found only on CE products.

	Warning! Watch Out! There are possible hazards as shown by the symbols.	Safe1 2012-05
---	---	---------------

3-2. Miscellaneous Symbols And Definitions

 Some symbols are found only on CE products.

A	Amperes
X	Duty Cycle
U₁	Primary Voltage

V	Volts
I₂	Rated Welding Current
U₂	Conventional Load Voltage

IP	Degree Of Protection
%	Percent
I₁	Primary Current

Notes

SECTION 4 – SPECIFICATIONS

4-1. Unit 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

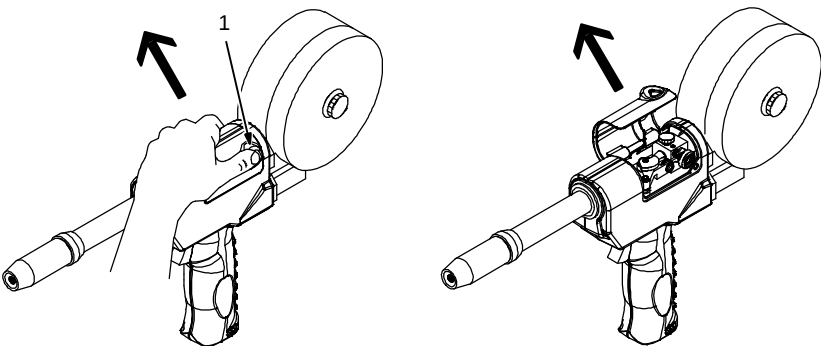
A. IP Rating

IP Rating
IP23 This equipment is designed for outdoor use. It may be stored, but is not intended to be used for welding outside during precipitation unless sheltered. IP23 2014-06

SECTION 5 – INSTALLATION

☞ 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 7 to change parts as needed. See Parts List for other available contact tips.

5-1. Removing Top Cover



1 Top Cover Triangular Boss

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

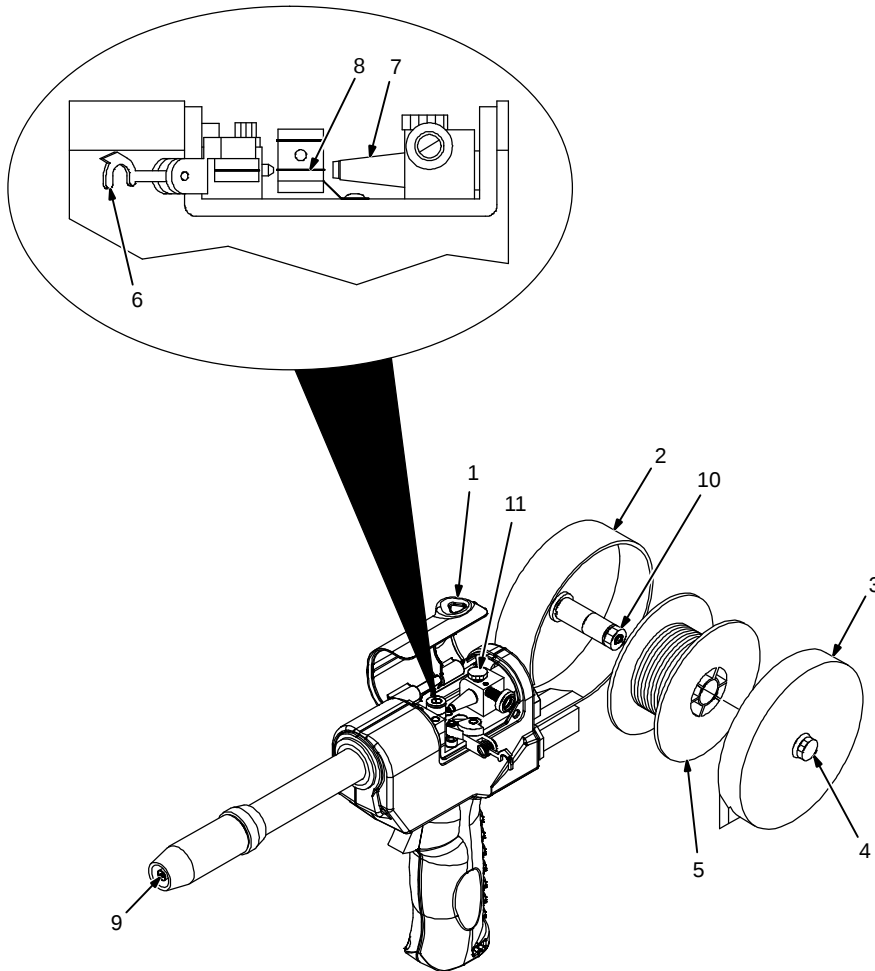
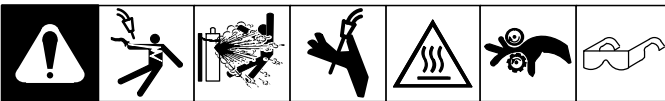
To open door fully, push up on door until it clicks into position.

☞ 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

5-2. Installing Wire Spool And Threading Welding Wire



Tools Needed:



- 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)

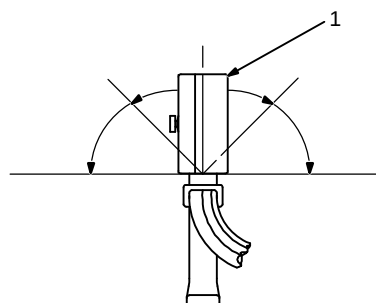
Loosen thumbscrew to rotate canister (see Section 5-3).

Close and secure pressure roll assembly.

Reinstall top cover and canister cover.

150 436-F

5-3. Rotating Canister



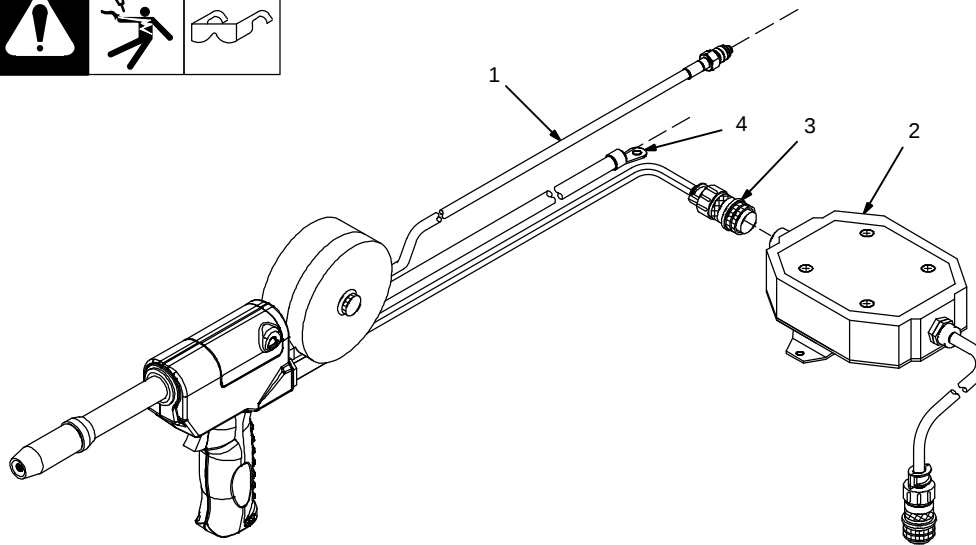
Rear View

- 1 Canister

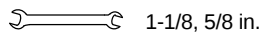
Loosen canister rotation thumbscrew (see Section 5-2). Move canister to desired position. Tighten thumbscrew.

150 433-A

5-4. Connecting To 24 Volt Weld Control



Tools Needed:

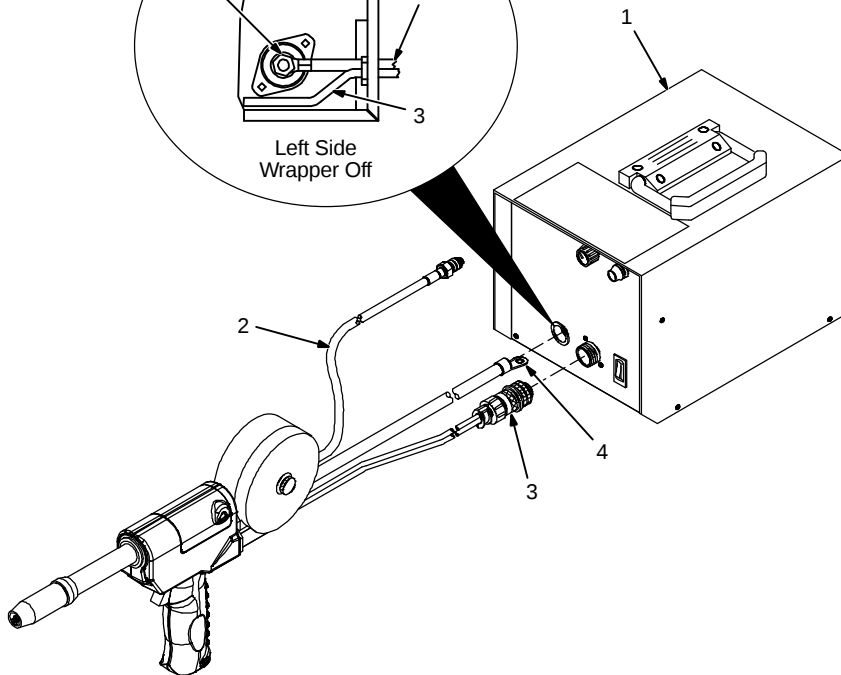
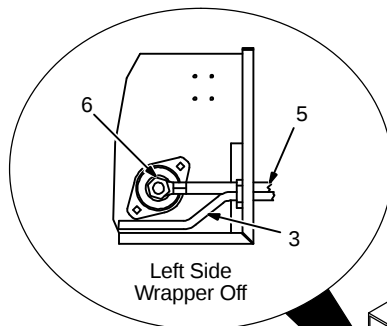


1-1/8, 5/8 in.

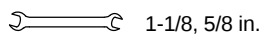
- 1 Gas Hose
Connect fitting to regulator/flowmeter (see Section 5-6).
- 2 24 Volt Weld Control
- 3 Trigger Control Cord
Insert plug into receptacle, and tighten threaded collar.
- 4 Weld Cable
Connect to positive (+) weld output terminal on welding power source according to its Owner's Manual.

150 917-G

5-5. Connecting To 115 Volt Weld Control



Tools Needed:

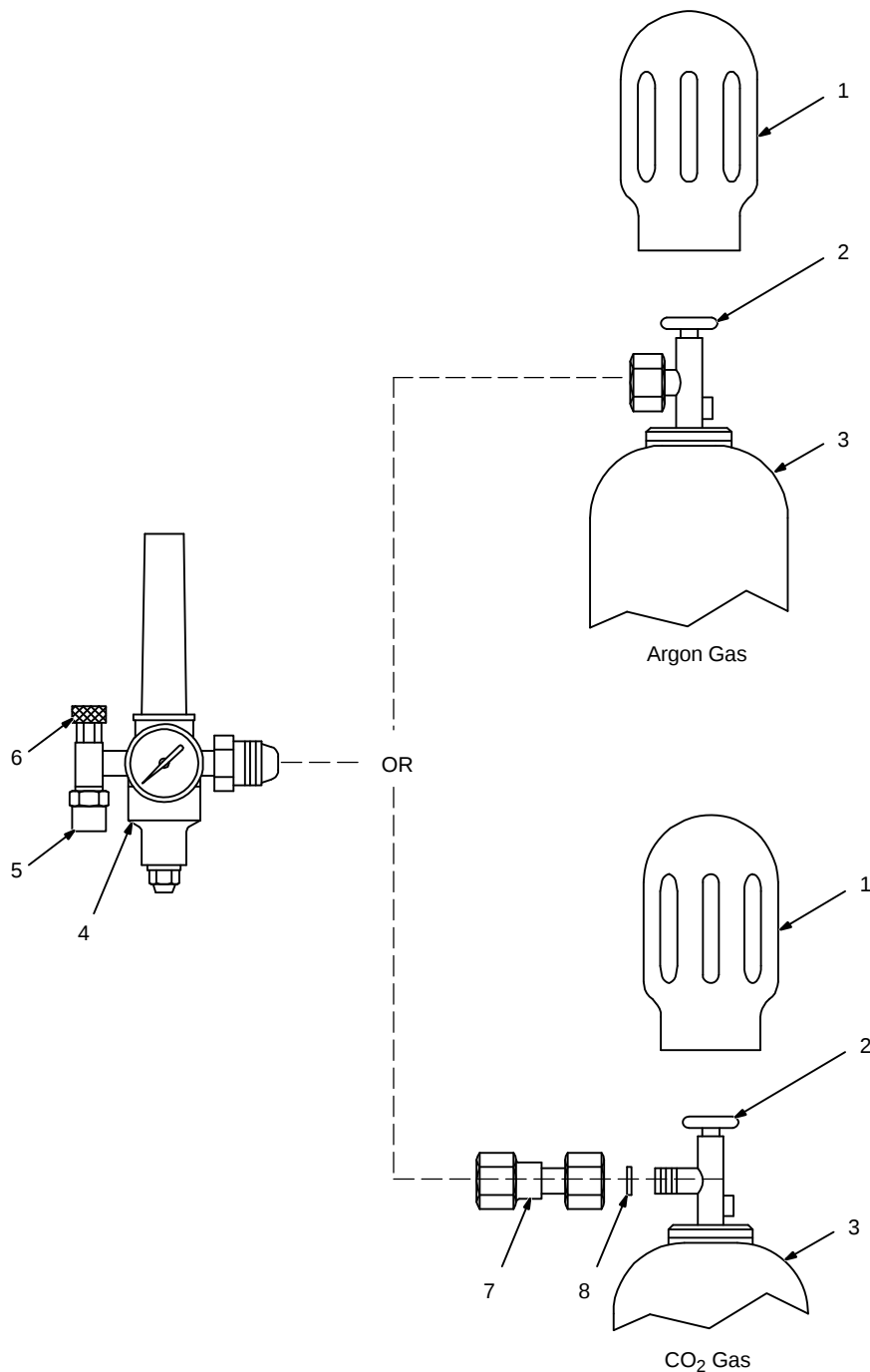


1-1/8, 5/8 in.

- 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.

Ref. 149 549-A / 149 966-J

5-6. 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.

Delivery pressure range must not exceed 60 psi.

- 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.

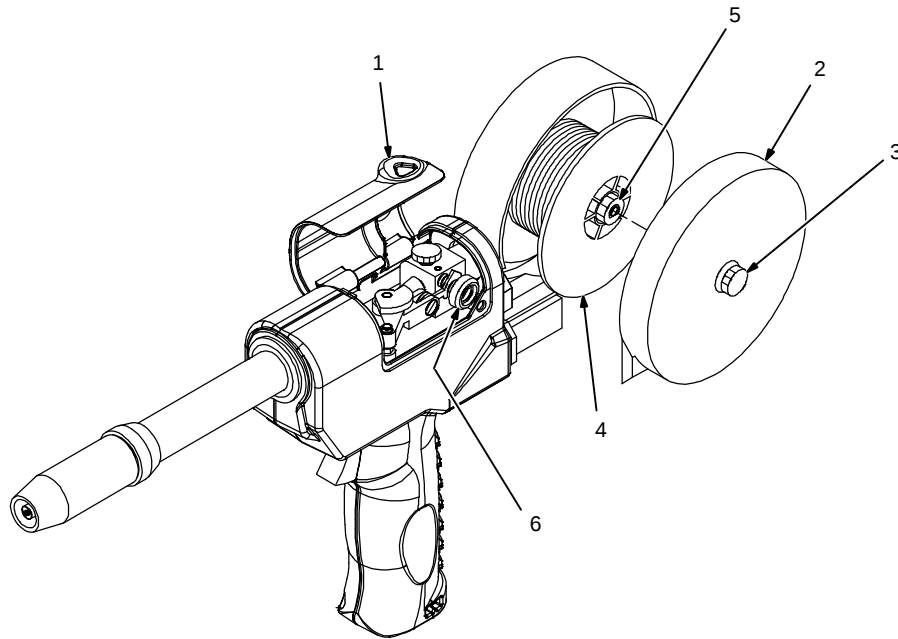
- 7 CO₂ Adapter
- 8 O-Ring

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

Tools Needed:

1-1/8, 5/8 in.

5-7. 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.

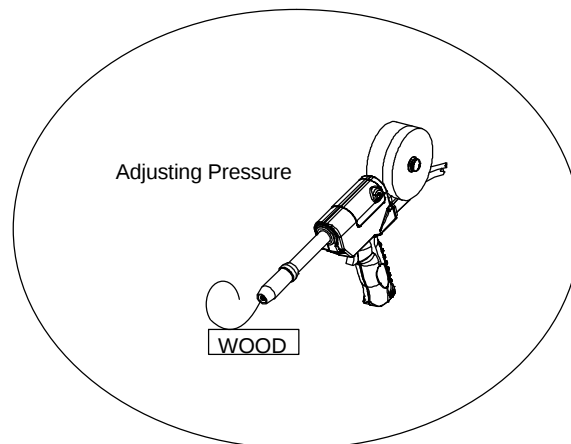
Reinstall canister cover. Thread welding wire (see Section 5-2).

- 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.



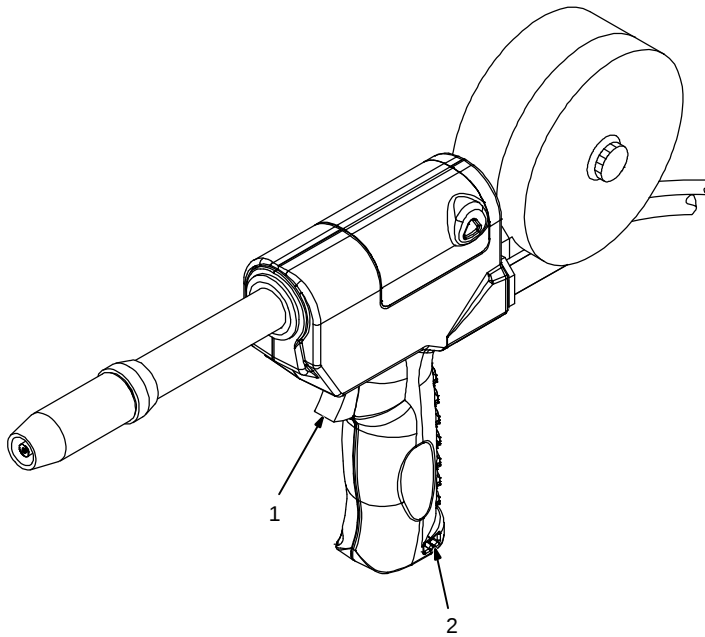
Tools Needed:



Ref. 151 112-F / 147 741-F

SECTION 6 – OPERATION

6-1. Controls



1 Trigger

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

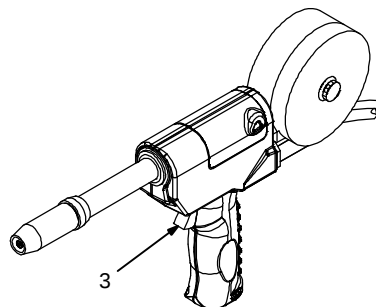
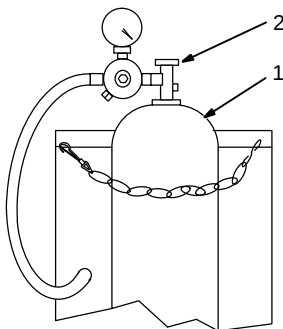
For shielding gas preflow and post-flow, lightly press trigger before and after welding.

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

6-2. 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.

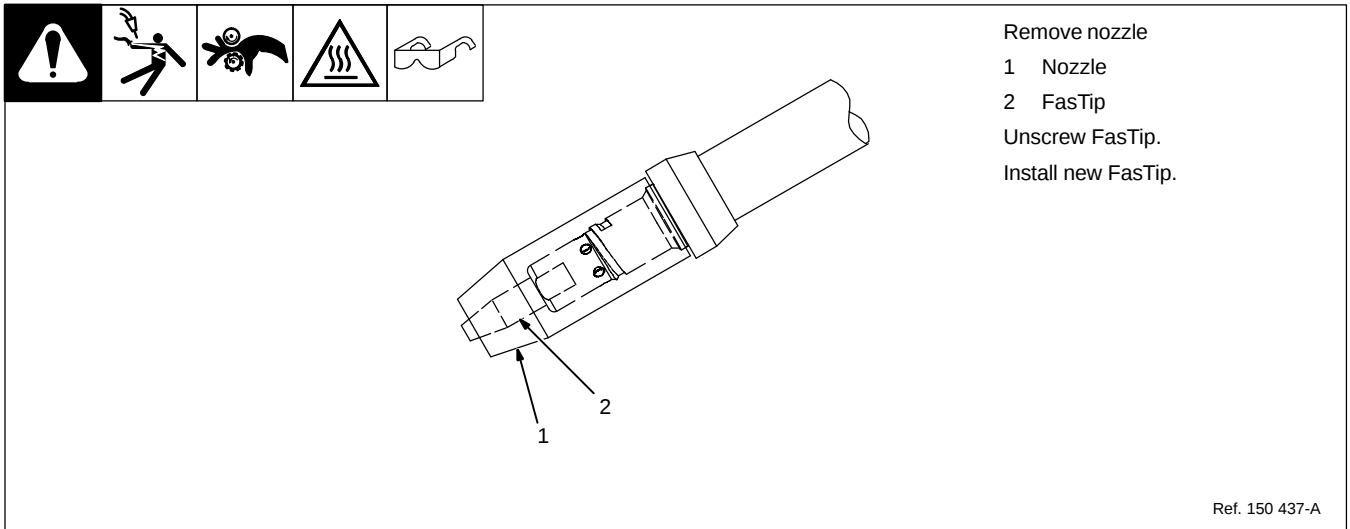
sb5.1* 6/92 – S-0621-C / Ref. 147 741-F

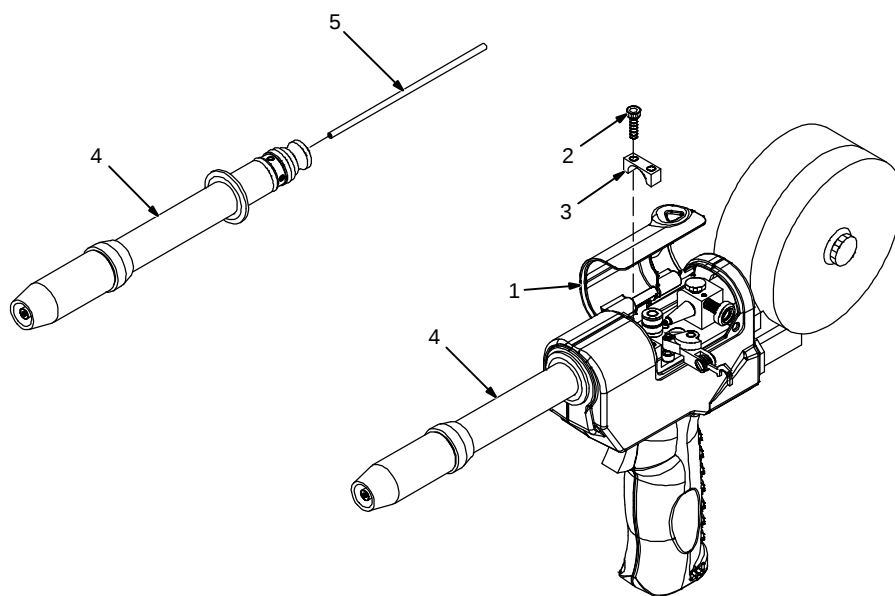
SECTION 7 – MAINTENANCE & TROUBLESHOOTING



⌚	✓ = Check * To be done by Factory Authorized Service Agent	◇ = Change	● = Clean	★ = Replace
Daily	 ✓ Check barrel clamp screws for tightness.	 ★ Repair Or Replace Cracked Weld Cable		
Every Month	 ✓★ Gun Cables	 ● Drive Rolls	 ● Clean and Tighten Weld Terminals	
Every 3 Months	 ★ Damaged Or Unreadable Labels	 ★ Damaged Gas Hose	 ✓★ Cords	
Every 6 Months	 ● Blow out or Vacuum Inside Unit			

7-1. Changing Gun Contact Tip

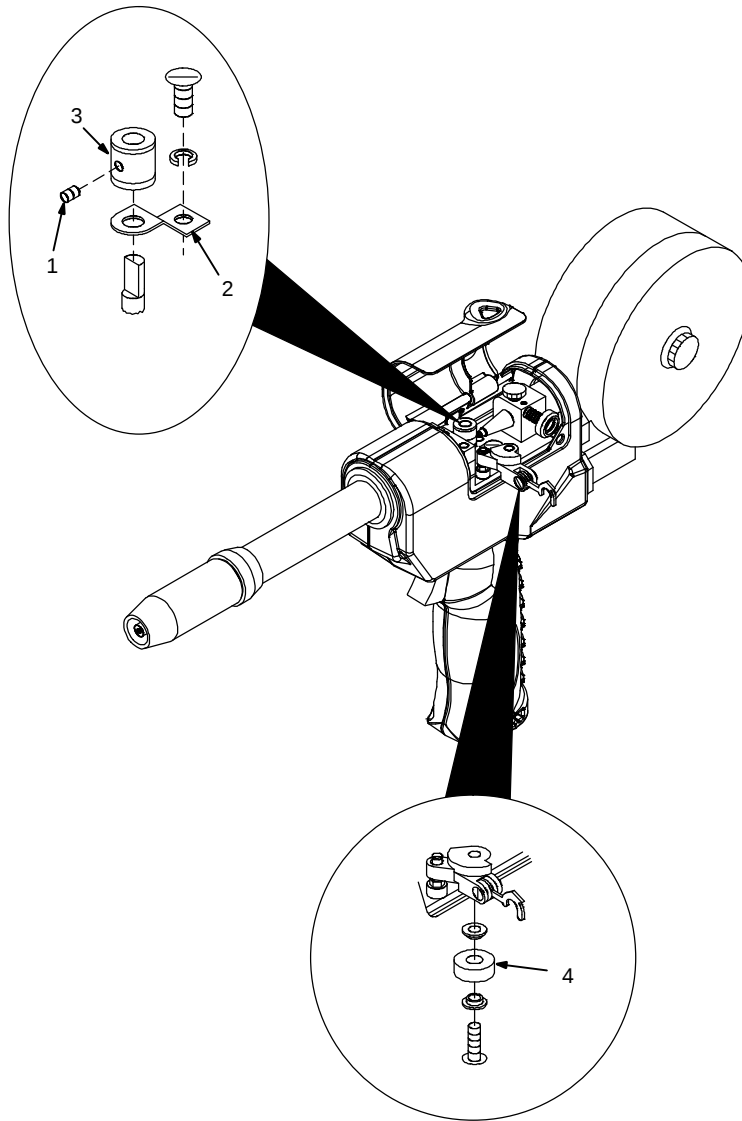


 5/32 in.

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

Notes

7-3. 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

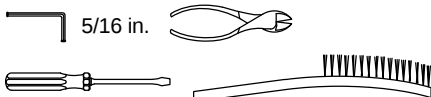
Use wire brush to clean drive roll. Install drive roll with desired groove down, and turn drive roll so one setscrew faces flat side of shaft.

4 Bearing

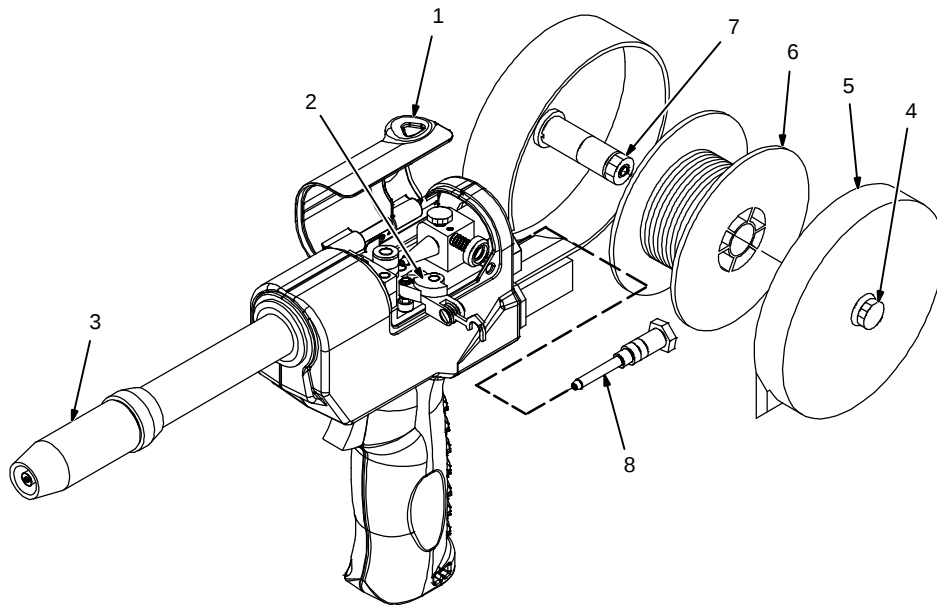
Use wire brush to clean bearing. Line up drive roll groove with bearing groove and liner opening. Tighten setscrews.

Thread welding wire through gun (see Section 5-2). Close and secure pressure roll assembly. Adjust drive roll pressure, if necessary (see Section 5-7). Reinstall top cover.

Tools Needed:



7-4. 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 5-2).

Close pressure roll assembly. Adjust spool brake pressure and drive roll pressure if necessary (see Section 5-7).

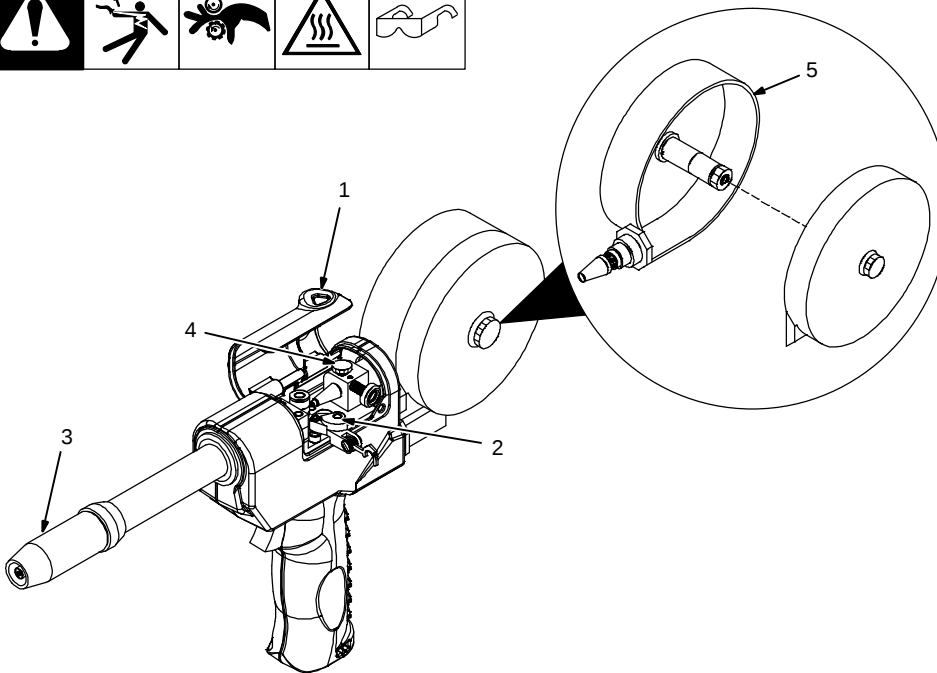
Reinstall covers.

Tools Needed:



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

7-5. 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 5-2).

Close pressure roll assembly. Adjust spool brake pressure and drive roll pressure as necessary (see Section 5-7).

Reinstall covers.

Tools Needed:



Ref. 149 967-H

7-6. Replacing Diffuser



Turn Off welding power source.

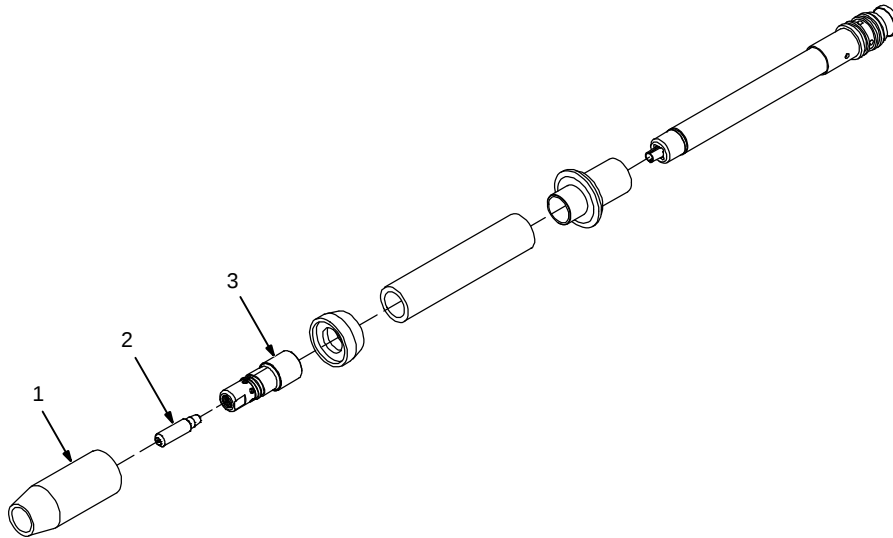
1 Nozzle

2 FasTip

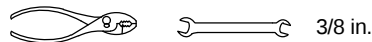
To remove, see Section 7-1.

3 Diffuser

Remove diffuser and replace.



Tools Needed:

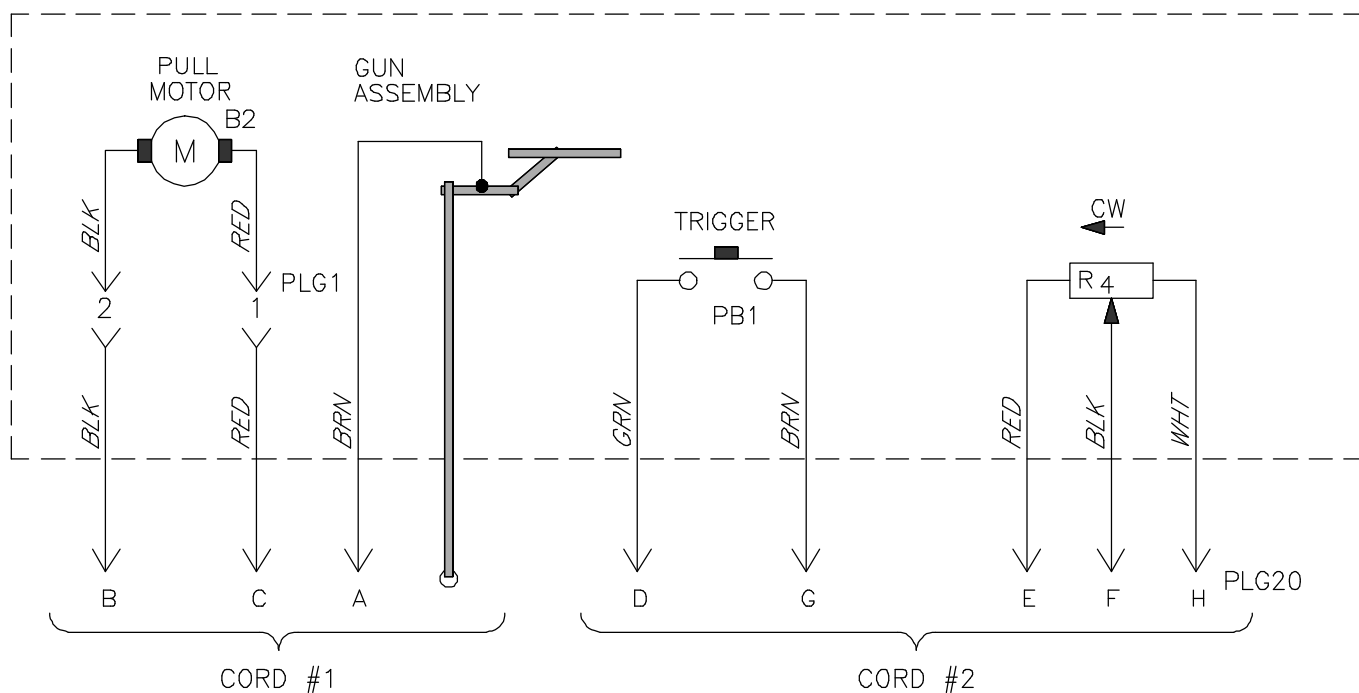


Ref. 803 348-G

7-7. 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 5-4 and 5-5).
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 5-7).
	Clean drive roll or replace drive roll (see Section 7-3).
	Decrease spool brake pressure (see Section 5-7).

SECTION 8 – 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 8-1. Circuit Diagram For Gun/Feeder

SECTION 9 – PARTS LIST

 Hardware is common and not available unless listed.

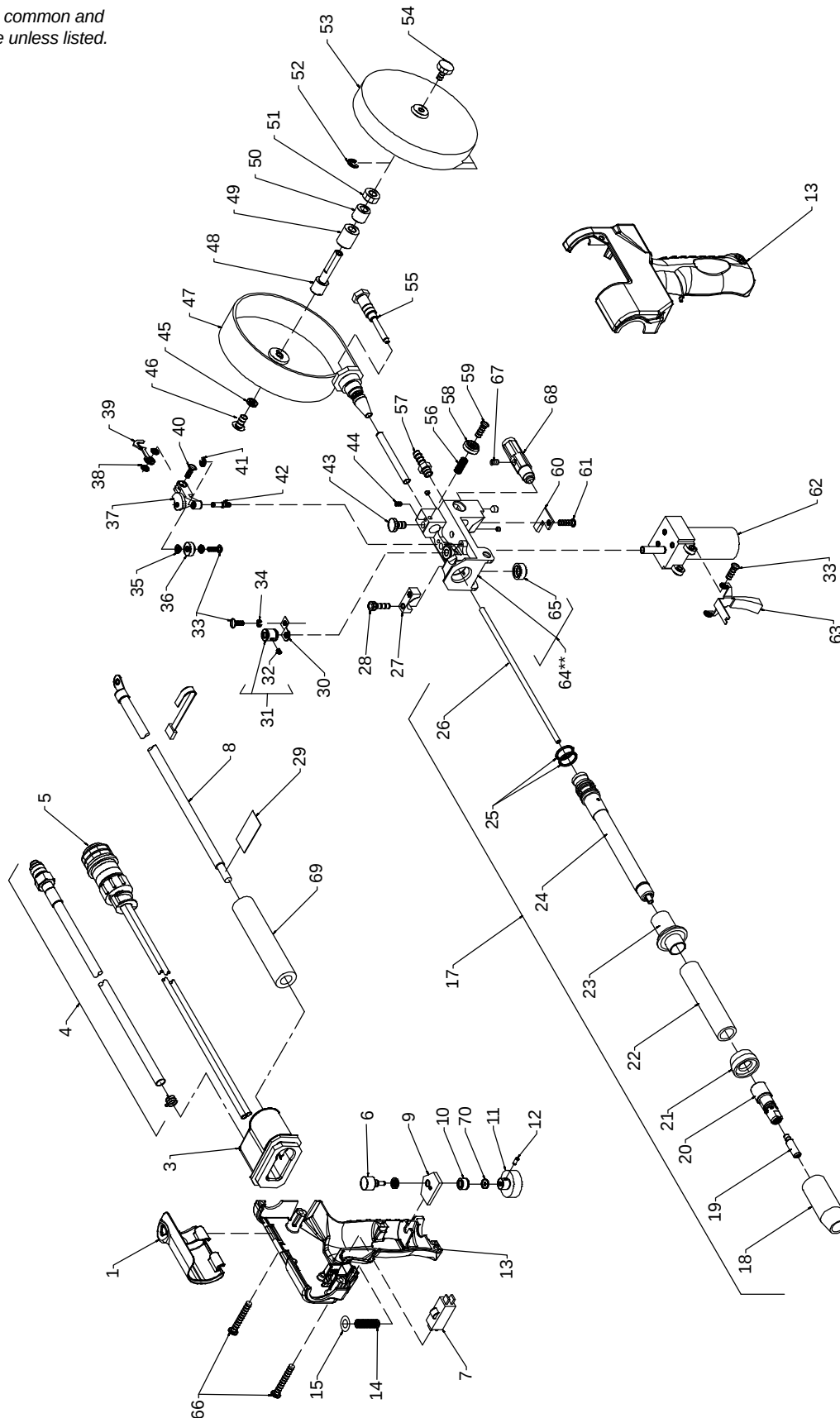


Figure 9-1. Complete Assembly

Ref. 803 348-K

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

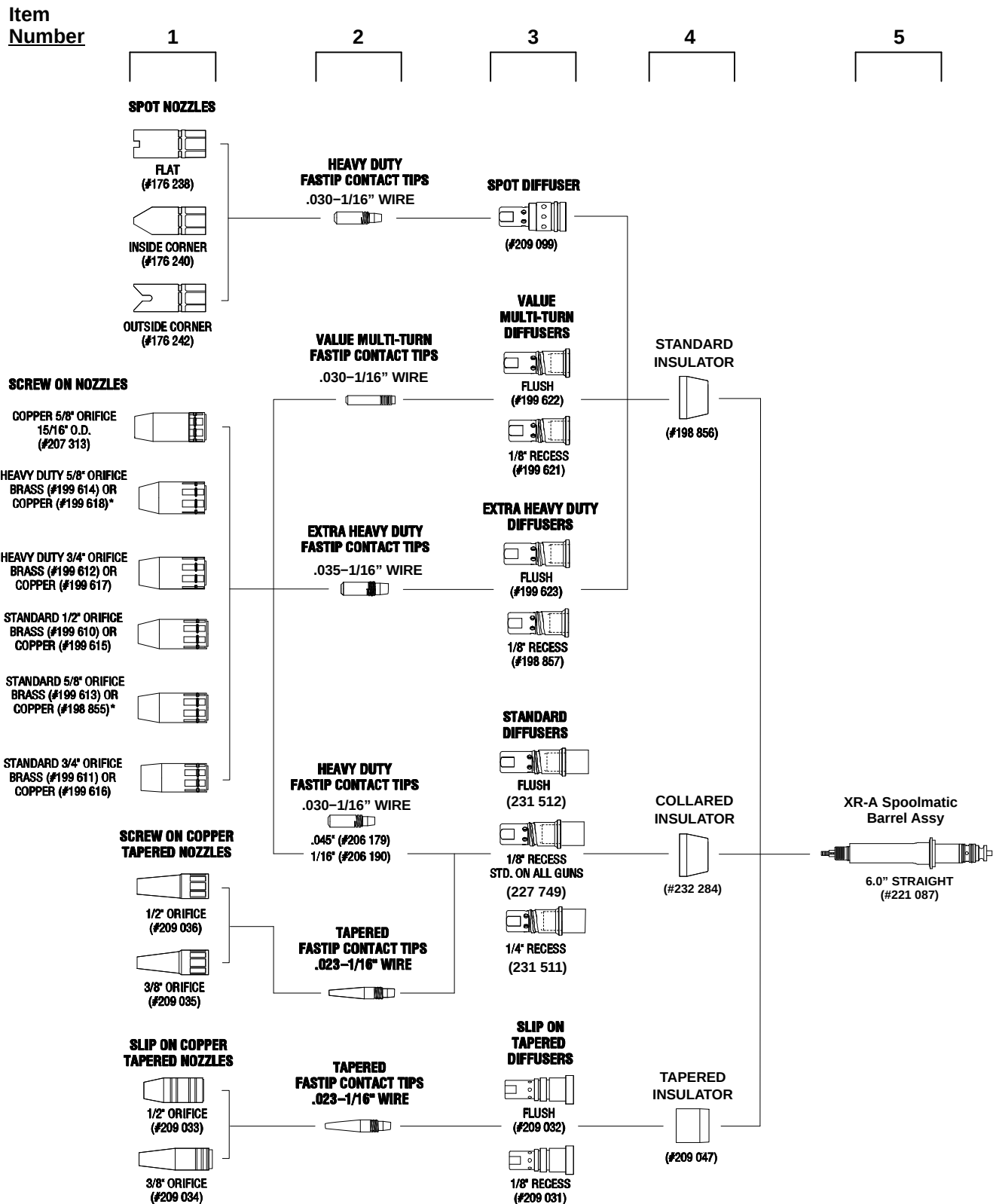
Figure 9-1. Complete Assembly

...	1	214745	Cover (Included With Item 13)	1	1
...	2	Deleted			
...	3	M1570	Strain Relief, Cable	1	1
...	4	210417	Hose, Gas In	1	
...	4	182824	Hose, Gas In		1
...	5	210418	Cable, Control 15 Ft (Includes)	1	
...	5	204605	Cable, Control 30 Ft (Includes)		1
...	6	R4 200096	Potentiometer, C Slt'd Sft 1/T .5W 10K Ohm	1	1
...	7	PB1 000369	Switch, Lim 10A 125/250VAC Dpst Plgr	1	1
...		190294	Conn, Circ Ms/Cpc 10 Pin	1	1
...		143922	Conn, Circ Cpc Clamp Str Rlf	1	1
...	8	235689	Cable, Power	1	
...	8	235690	Cable, Power		1
...	9	144861	Washer, Anti-turn	1	1
...	10	135127	Lock, Shaft Pot .250-32 X .125Dia Shaft	1	1
...	11	134856	Knob, Speed Control 1-10 .140 Shaft X 1.125 Od	1	1
...	12	602169	Screw, Set Stl Sch 8-32 X .187 Cup Pt	1	1
...	13	220658	Case, Gun Lh/Rh (Molded Halves)	1	1
...	14	183884	Spring, Cprsn .240 Od X .026 Wire X 1.000	1	1
...	15	184101	Washer, Shldr .140 Id X .250 Od	1	1
...	16	Deleted			
...	17	231531	Head Tube Assy, Air Cooled Pistol (Includes)	1	1
...	18	199613	Nozzle, Brass 5/8 In Orifice Tapered	1	1
...	19		Tip, Fastip (See Section 10)	1	1
...	20	227749	Diffuser, .281/.312 Od Collar Fastip 1/8 Rec	1	1
...	21	232284	Insulator, Nozzle Collared Diffuser	1	1
...	22	219794	Jacket, Outer Insulating	1	1
...	23	219795	Insulator, Barrel Pistol	1	1
...	24	219796	Head Tube, Air Pistol (Brazed)	1	1
...	25	134800	O-ring, .614 Id X .070Cs	2	2
...	26	212156	Liner, Phos Bronze .030-1/16 Wire X 7.313	1	1
...	27	133365	Clamp, Head Tube	1	1
...	28	000417	Screw, 10-24 X1.000Sochd Hex	2	2
...	29	235225	Strip, Cop .010 X 1.500 X .750	1	1
...		604638	Screw, 6-32 X .375Sochd Hex	3	3
...	30	209342	Kit, Current Pick-up (Units W/Bearing Block)	1	1
...	31	136135	Roll, Drive Vk Groove .023-1/16 Wire (Includes)	1	1
...	31	183357	Roll, Drive Vk Groove .030/.035 Wire (Includes)	1	1
...	31	183358	Roll, Drive Vk Groove .047/.062 Wire (Includes)	1	1
...	32	604612	Screw, Set Stl Sch 8-32 X .125 Cup Point	2	2
...	33	206576	Screw, 006-32x .50 Btn Hd-Soc Stl Pld	3	3
...	34	602198	Washer, Lock .141 Id Stl Split	1	1
...	35	134624	Washer, Shldr.140Id 0.187odx.094T .375odx.031T Nyl	2	2
...	36	134623	Bearing, Idler Roll	1	1
...	37	132852	Arm, Pressure	1	1
...	38	605798	Washer, Shldr Nyl .375 Od X .168 Id X .080	2	2
...	39	133083	Spring, Tension Adj Drive Roll	1	1
...	40	144860	Screw, 8-32 X .437Flatd Slt Stl	1	1
...	41	058968	Ring, Retainer E	1	1
...	42	135474	Pin, Hinge	1	1
...	43	155565	Screw, Thumb	1	1
...		134799	O-ring, .176 Id X .070Cs (Used W/Thumbscrew)	1	1
...	44	135126	Screw, Set 6-32 X .125 Cup Point Sch Stl	1	1
...	45	602209	Washer, Tooth .256 Id Stl Intl	1	1

Item No.	Dia. Mkgs.	Part No.	Description	Quantity
Figure 9-1. Complete Assembly (Continued)				
... 46		602154	Screw, .250-20 X .500Hexhd Stl Slffmg	1 1
... 47		132527	Canister, Spool	1 1
... 48		148488	Post, Support Spool	1 1
... 49		132529	Pad, Brake	1 1
... 50		148489	Washer, Anti-turn .380 Id	1 1
... 51		132524	Nut, .375-24 .56Knrl Alum	1 1
... 52		000364	Ring, Retainer Ext .145 Shaft Grv X .025Thk	1 1
... 53		132526	Cover, Spool	1 1
... 54		132528	Screw, Thumb Canister	1 1
... 55		269554	Guide, Inlet Canister	1 1
... 56		112896	Spring, Cprsn .240 Od X .020 Wire X .437	1 1
... 57		135580	Fitting, Gas	2 2
...		146555	Screw, Set 8-32 X .125 Cup Sch	1 1
... 58		135773	Nut, 8-32 .56Knrl Stl	1 1
... 59		143360	Screw, 8-32 X .500Panhd Phl Stl	1 1
... 60		136679	Clamp, Strain Relief	1 1
... 61		129351	Screw, 8-32 X .500Hexwhd Sit Stl Slffmg	1 1
... 62	B2	230947	Motor, Gear Pm 24 VDC 420 RPM 10.2:1 Ratio W/Conn	1 1
... 63		164592	Trigger	1 1
... 64		236149	Kit, Replacement Drive Housing/Spool (Includes)	1 1
... 64		239754	Kit, Housing W/Handles (Includes)	1 1
... 65		058262	Cap, Valve	1 1
...		162038	Bearing, Ball Rdl Sgl Row 8mm X 16mm X 5mm Wide Sh	1 1
...		162039	Bushing, Nylatron .252id X .315 Od X .250 Lg .500 X	1 1
... 66		217934	Screw, K40x 20 Pan Hd-trx Stl Pld Pt Thread Forming	4 4
... 67		005464	Screw, Set 250-20x .37 Ovl Pt Sch Stl Pln Nylok	1 1
... 68		235753	Ftg, Connection Power Weld	1 1
... 69		235751	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 10 – PARTS LIST INCLUDING CONSUMABLES



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

Figure 10-1. Consumables Flowchart

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

Figure 10-1. Consumables Flowchart

Table 10-1. 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	◆199610	.. Nozzle, Screw On Brass 1/2 in Orifice	1
... 1	◆199611	.. Nozzle, Screw On Brass 3/4 in Orifice Straight	1
... 1	◆199612	.. Nozzle, Screw On Brass 3/4 in Orifice Straight Heavy Duty	1
... 1	◆199613	.. Nozzle, Screw On Brass 5/8 in Orifice	1
... 1	◆199614	.. Nozzle, Screw On Brass 5/8 in Orifice Heavy Duty	1
... 1	◆199615	.. Nozzle, Screw On Copper 1/2 in Orifice	1
... 1	◆199616	.. Nozzle, Screw On Copper 3/4 in Orifice	1
... 1	◆199617	.. Nozzle, Screw On Copper 3/4 in Orifice Heavy Duty	1
... 1	198855	.. Nozzle, Screw On Copper 5/8 in Orifice	1
... 1	199618	.. Nozzle, Screw On Copper 5/8 in Orifice Heavy Duty	1
... 1	◆207313	.. Nozzle, Screw On Copper 5/8 in Orifice 15/16 OD	1
... 1	◆209033	.. 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	◆209034	.. 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	◆209035	.. 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	◆209036	.. 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 10-2. Heavy Duty FasTip™ Contact Tips*

... 2	◆206185	.. .030 in (0.8 mm)	1
... 2	◆206186	.. .035 in (0.9 mm)	1
... 2	◆206187	.. .040 in (1.0 mm) or .035 in (0.9 mm) Aluminum Wire	1
... 2	206188	.. .045 in (1.2 mm)	1
... 2	◆206189	.. .052 in (1.3 mm) or 3/64 in (1.2 mm) Aluminum Wire	1
... 2	206190	.. 1/16 in (1.6 mm)	1
... 2	◆206191	.. .068 in (1.7 mm) or 1/16 in (1.6 mm) Aluminum Wire	1

Table 10-3. Extra Heavy Duty FasTip™ Contact Tips*

... 2	◆199605	.. .035 in (0.9 mm)	1
... 2	◆199606	.. .040 in (1.0 mm) or .035 in (0.9 mm) Aluminum	1
... 2	◆198851	.. .045 in (1.2 mm)	1
... 2	◆198852	.. .052 in (1.3 mm) or 3/64 in (1.2 mm) Aluminum Wire	1
... 2	◆198853	.. 1/16 in (1.6 mm)	1
... 2	◆198854	.. .068 in (1.7 mm) or 1/16 in (1.6 mm) Aluminum Wire	1

Table 10-4. 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 10-1. Consumables Flowchart (Continued)

Table 10-5. Value Multi-Turn Contact Tips*

... 2	♦071825	.. .030 in (0.9 mm)	1
... 2	♦054202	.. .035 in (0.9 mm)	1
... 2	♦054201	.. .045 in (1.2 mm)	1
... 2	♦199593	.. .3/64 in (1.2 mm) Aluminum Wire	1
... 2	♦044006	.. .052 in (1.3 mm)	1
... 2	♦047566	.. 1/16 in (1.6 mm)	1
... 2	♦202933	.. 1/16 in (1.6 mm) Aluminum Wire	1

Table 10-6. Gas Diffusers

... 3	♦198857	.. 1/8 in Tip Recess – For Extra Heavy Duty FasTip Contact Tips	1
... 3	♦199623	.. Flush Tip – For Extra Heavy Duty FasTip Contact Tips	1
... 3	♦199621	.. 1/8 in Tip Recess – For Value Multi-Turn Contact Tips	1
... 3	♦199622	.. Flush Tip – For Value Multi-Turn Contact Tips	1
... 3	227749	.. 1/8 in Tip Recess – For Heavy Duty FasTip Contact Tips (Standard On All Guns)	1
... 3	♦231511	.. 1/4 in Tip Recess – For Heavy Duty FasTip Contact Tips	1
... 3	♦231512	.. Flush Tip – For Heavy Duty FasTip Contact Tips	1
... 3	♦209031	.. Slip On Recessed Diffuser (Requires Nozzle 209033 Or 209034 And Insulator 209047, Used With Any Tapered FasTip Contact Tip)	1
... 3	♦209032	.. Slip On Flush Diffuser (Requires Nozzle 209033 Or 209034 And Insulator 209047, Used With Any Tapered FasTip Contact Tip)	1
... 3	♦209099	.. Spot Diffuser (Requires Spot Nozzle 176238 Or 176240 Or 176242)	1

Table 10-7. Insulators

... 4	232284	.. Insulator, Nozzle Collared Diffuser	1
... 4	198856	.. Insulator, Rubber	1
... 4	209047	.. Insulator, Teflon (Required When Using Diffuser 209031 Or 209032 With Nozzle 209033 Or 209034)	1

Table 10-8. Barrel Assemblies

... 5	221087	.. Barrel Assy, Air Cooled Pistol	1
-------	--------	-----------------------------------	---

Table 10-9. Head Tube Assemblies

.....	231523	.. Kit, Head Tube Assy Air Cooled Pistol	1
-------	--------	--	---

♦ 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.					

[illegible]

Notes

TRUE BLUE[®]

WARRANTY

Effective January 1, 2015

(Equipment with a serial number preface of MF 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. If notification is submitted as an online warranty claim, the claim must include a detailed description of the fault and the troubleshooting steps taken to identify failed components and the cause of their failure.

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 twelve months 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
 - * Auto-Darkening Helmet Lenses (Except Classic Series) (No Labor)
 - * Engine Driven Welder/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
 - * Transformer/Rectifier Power Sources
3. 2 Years — Parts and Labor
 - * Auto-Darkening Helmet Lenses – Classic Series Only (No Labor)
 - * Fume Extractors – Capture 5, Filtair 400 and Industrial Collector Series
4. 1 Year — Parts and Labor Unless Specified
 - * Automatic Motion Devices
 - * CoolBelt and CoolBand Blower Unit (No Labor)
 - * Desiccant Air Dryer System
 - * 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.)
 - * RFCS Foot Controls (Except RFCS-RJ45)
 - * Fume Extractors – Filtair 130, MWX and SWX Series
 - * HF Units
 - * ICE/XT Plasma Cutting Torches (No Labor)
 - * Induction Heating Power Sources, Coolers
(NOTE: Digital Recorders are Warranted Separately by the Manufacturer.)
 - * LiveArc Welding Performance Management System
 - * Load Banks
 - * Motor-Driven Guns (except Spoolmate Spoolguns)
 - * PAPR Blower Unit (No Labor)
 - * Positioners and Controllers
 - * Racks
 - * Running Gear/Trailers
 - * Spot Welders
 - * Subarc Wire Drive Assemblies
 - * Water Coolant Systems
 - * 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) Torches
 - * 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.

miller_warr 2015-01





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

