OM-285785G 2021–11

Processes

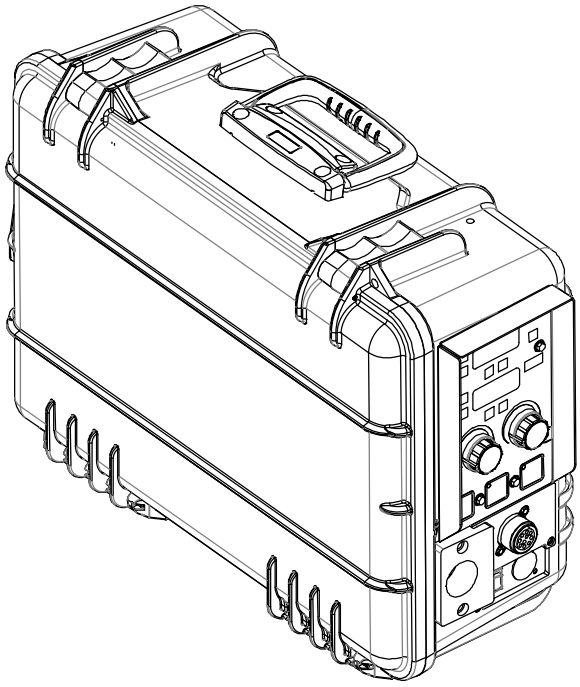
MIG (GMAW) Welding

Description

Wire Feeder And Feeder Gun

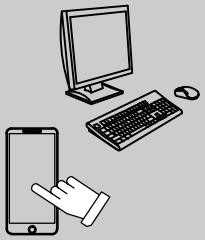
XR™ - AlumaFeed® Suitcase

CE And Non-CE Models



OWNER'S MANUAL

File: MIG (GMAW)



For product information, Owner's Manual translations, and more, visit

www.MillerWelds.com

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.

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, and our extensive service network is there to help fix the problem. Warranty and maintenance information for your particular model are also provided.

Certified System™

ISO 9001 Quality

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

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.**

TRUE BLUE® WARRANTY

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

Miller®

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DECLARATION OF CONFORMITY

for European Community (CE marked) products.

MILLER Electric Mfg. LLC, 1635 Spencer Street, Appleton, WI 54914 U.S.A. declares that the product(s) identified in this declaration conform to the essential requirements and provisions of the stated Council Directive(s), Commission Regulation(s) and Standard(s).

Product/Apparatus Identification:

Product	Stock Number
XR-AlumaFeed SuitCase	301593

Council Directives and Commission Regulations:

- 2014/35/EU Low voltage
- 2014/30/EU Electromagnetic compatibility
- 2011/65/EU and amendment 2015/863 Restriction of the use of certain hazardous substances in electrical and electronic equipment

Standards:

- EN IEC 60974-5:2019 Arc welding equipment – Part 5: Wire feeders
- EN 60974-10:2014/A1:2015 Arc welding equipment – Part 10: Electromagnetic compatibility requirements
- EN IEC 63000:2018 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Signatory:

June 18, 2021

David A. Werba

MANAGER, PRODUCT DESIGN COMPLIANCE

Date of Declaration

288672B

DECLARATION OF CONFORMITY

for United Kingdom (UKCA marked) products.

MILLER Electric Mfg. LLC, 1635 Spencer Street, Appleton, WI 54914 U.S.A. declares that the product(s) identified in this declaration conform to the essential requirements and provisions of the stated Regulation(s) and Standard(s).

Product/Apparatus Identification:

Product	Stock Number
XR-AlumaFeed SuitCase	301593

Regulations:

- S.I. 2016/1101 Electrical equipment (safety) regulations 2016
- S.I. 2016/1091 Electromagnetic compatibility regulations 2016
- S.I. 2012/2032 Restriction of the use of certain hazardous substances in electrical and electronic equipment regulations 2012

Standards:

- EN IEC 60974-5:2019 Arc welding equipment – Part 5: Wire feeders
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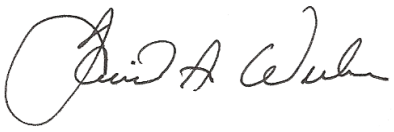


June 18, 2021

David A. Werba

MANAGER, PRODUCT DESIGN COMPLIANCE

Date of Declaration

290514A

SECTION 1 – SAFETY PRECAUTIONS - READ BEFORE USING

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 these 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 Principal Safety Standards listed in Section 1-5. Read and follow all Safety Standards.

Only qualified persons should install, operate, maintain, and repair this equipment. A qualified person is defined as one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated the ability to solve or resolve problems relating to the subject matter, the work, or the project and has received safety training to recognize and avoid the hazards involved.

During operation, keep everybody, especially children, away.

ELECTRIC SHOCK can kill.

Touching live electrical parts can cause fatal shocks or severe burns. The electrode and work circuit is electrically live whenever the output is on. The input power circuit and machine internal circuits are also live when power is on. In semiautomatic or automatic wire welding, the wire, wire reel, drive roll housing, and all metal parts touching the welding wire are electrically live. Incorrectly installed or improperly grounded equipment is a hazard.

- Do not touch live electrical parts.
- Wear dry, hole-free insulating gloves and body protection.
- Insulate yourself from work and ground using dry insulating mats or covers big enough to prevent any physical contact with the work or ground.
- Do not use AC weld output in damp, wet, or confined spaces, or if there is a danger of falling.
- Use AC output ONLY if required for the welding process.
- If AC output is required, use remote output control if present on unit.
- Additional safety precautions are required when any of the following electrically hazardous conditions are present: in damp locations or while wearing wet clothing; on metal structures such as floors, gratings, or scaffolds; when in cramped positions such as sitting, kneeling, or lying; or when there is a high risk of unavoidable or accidental contact with the workpiece or ground. For these conditions, use the following equipment in order presented: 1) a semiautomatic DC constant voltage (wire) welder, 2) a DC manual (stick) welder, or 3) an AC welder with reduced open-circuit voltage. In most situations, use of a DC, constant voltage wire welder is recommended. And, do not work alone!
- Disconnect input power or stop engine before installing or servicing this equipment. Lockout/tagout input power according to OSHA 29 CFR 1910.147 (see Safety Standards).
- Properly install, ground, and operate this equipment according to its Owner's Manual and national, state, and local codes.
- Always verify the supply ground – check and be sure that input power cord ground wire is properly connected to ground terminal in disconnect box or that cord plug is connected to a properly grounded receptacle outlet.
- When making input connections, attach proper grounding conductor first – double-check connections.
- Keep cords dry, free of oil and grease, and protected from hot metal and sparks.
- Frequently inspect input power cord and ground conductor for damage or bare wiring – replace immediately if damaged – bare wiring can kill.
- Turn off all equipment when not in use.
- Do not use worn, damaged, undersized, or repaired cables.
- Do not drape cables over your body.
- If earth grounding of the workpiece is required, ground it directly with a separate cable.
- Do not touch electrode if you are in contact with the work, ground, or another electrode from a different machine.
- Do not touch electrode holders connected to two welding machines at the same time since double open-circuit voltage will be present.
- Use only well-maintained equipment. Repair or replace damaged parts at once. Maintain unit according to manual.
- Wear a safety harness if working above floor level.
- Keep all panels and covers securely in place.
- Clamp work cable with good metal-to-metal contact to workpiece or worktable as near the weld as practical.
- Insulate work clamp when not connected to workpiece to prevent contact with any metal object.
- Do not connect more than one electrode or work cable to any single weld output terminal. Disconnect cable for process not in use.
- Use GFCI protection when operating auxiliary equipment in damp or wet locations.

SIGNIFICANT DC VOLTAGE exists in inverter welding power sources AFTER removal of input power.

- Turn off unit, disconnect input power, and discharge input capacitors according to instructions in Manual before touching any parts.

HOT PARTS can burn.

- Do not touch hot parts bare handed.
- Allow cooling period before working on equipment.
- To handle hot parts, use proper tools and/or wear heavy, insulated welding gloves and clothing to prevent burns.

FUMES AND GASES can be hazardous.

Welding produces fumes and gases. Breathing these fumes and gases can be hazardous to your health.

- Keep your head out of the fumes. Do not breathe the fumes.
- Ventilate the work area and/or use local forced ventilation at the arc to remove welding fumes and gases. The recommended way to determine adequate ventilation is to sample for the composition and quantity of fumes and gases to which personnel are exposed.
- If ventilation is poor, wear an approved air-supplied respirator.
- Read and understand the Safety Data Sheets (SDSs) and the manufacturer's instructions for adhesives, coatings, cleaners, consumables, coolants, degreasers, fluxes, and metals.
- Work in a confined space only if it is well ventilated, or while wearing an air-supplied respirator. Always have a trained watch-person nearby. Welding fumes and gases can displace air and lower the oxygen level causing injury or death. Be sure the breathing air is safe.
- Do not weld in locations near degreasing, cleaning, or spraying operations. The heat and rays of the arc can react with vapors to form highly toxic and irritating gases.
- Do not weld on coated metals, such as galvanized, lead, or cadmium plated steel, unless the coating is removed from the weld area, the area is well ventilated, and while wearing an air-supplied respirator. The coatings and any metals containing these elements can give off toxic fumes if welded.

ARC RAYS can burn eyes and skin.

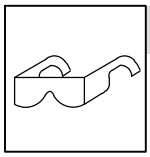
Arc rays from the welding process produce intense visible and invisible (ultraviolet and infrared) rays that can burn eyes and skin. Sparks fly off from the weld.

- 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.

WELDING can cause fire or explosion.

Welding on closed containers, such as tanks, drums, or pipes, can cause them to blow up. Sparks can fly off from the welding arc. The flying sparks, hot workpiece, and hot equipment can cause fires and burns. Accidental contact of electrode to metal objects can cause sparks, explosion, overheating, or fire. Check and be sure the area is safe before doing any welding.

- Remove all flammables within 35 ft (10.7 m) of the welding arc. If this is not possible, tightly cover them with approved covers.
- Do not weld where flying sparks can strike flammable material.
- Protect yourself and others from flying sparks and hot metal.
- Be alert that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas.
- Watch for fire, and keep a fire extinguisher nearby.
- Be aware that welding on a ceiling, floor, bulkhead, or partition can cause fire on the hidden side.
- Do not cut or weld on tire rims or wheels. Tires can explode if heated. Repaired rims and wheels can fail. See OSHA 29 CFR 1910.177 listed in Safety Standards.
- 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).
- Do not weld where the atmosphere can contain flammable dust, gas, or liquid vapors (such as gasoline).
- Connect work cable to the work as close to the welding area as practical to prevent welding current from traveling long, possibly unknown paths and causing electric shock, sparks, and fire hazards.
- Do not use welder to thaw frozen pipes.
- Remove stick electrode from holder or cut off welding wire at contact tip when not in use.
- 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.
- Remove any combustibles, such as a butane lighter or matches, from your person before doing any welding.
- After completion of work, inspect area to ensure it is free of sparks, glowing embers, and flames.
- Use only correct fuses or circuit breakers. Do not oversize or bypass them.
- Follow requirements in OSHA 1910.252 (a) (2) (iv) and NFPA 51B for hot work and have a fire watcher and 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.



FLYING METAL or DIRT can injure eyes.

- Welding, chipping, wire brushing, and grinding cause sparks and flying metal. As welds cool, they can throw off slag.
- Wear approved safety glasses with side shields even under your welding helmet.

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.

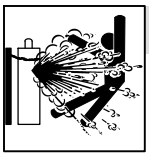
ELECTRIC AND MAGNETIC FIELDS (EMF) can affect Implanted Medical Devices.

- Wearers of Pacemakers and other Implanted Medical Devices should keep away.
- Implanted Medical Device wearers should consult their doctor and the device manufacturer before going near arc welding, spot welding, gouging, plasma arc cutting, or induction heating operations.

NOISE can damage hearing.

Noise from some processes or equipment can damage hearing.

- Wear approved ear protection if noise level is high.



CYLINDERS can explode if damaged.

Compressed gas cylinders contain gas under high pressure. If damaged, a cylinder can explode. Since gas cylinders are normally part of the welding process, be sure to treat them carefully.

- Protect compressed gas cylinders from excessive heat, mechanical shocks, physical damage, slag, open flames, sparks, and arcs.
- Install cylinders in an upright position by securing to a stationary support or cylinder rack to prevent falling or tipping.
- Keep cylinders away from any welding or other electrical circuits.
- Never drape a welding torch over a gas cylinder.
- Never allow a welding electrode to touch any cylinder.
- Never weld on a pressurized cylinder – explosion will result.
- Use only correct compressed gas cylinders, regulators, hoses, and fittings designed for the specific application; maintain them and associated parts in good condition.
- Turn face away from valve outlet when opening cylinder valve. Do not stand in front of or behind the regulator when opening the valve.
- Keep protective cap in place over valve except when cylinder is in use or connected for use.
- Use the proper equipment, correct procedures, and sufficient number of persons to lift, move, and transport cylinders.
- Read and follow instructions on compressed gas cylinders, associated equipment, and Compressed Gas Association (CGA) publication P-1 listed in Safety Standards.

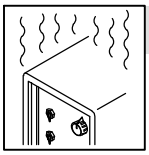
1-3. Additional Hazards For Installation, Operation, And Maintenance

FIRE OR EXPLOSION hazard.

- Do not install or place unit on, over, or near combustible surfaces.
- Do not install unit near flammables.
- Do not overload building wiring – be sure power supply system is properly sized, rated, and protected to handle this unit.

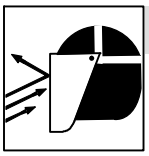
FALLING EQUIPMENT can injure.

- Use lifting eye to lift unit only, NOT running gear, gas cylinders, or any other accessories.
- Use correct procedures and equipment of adequate capacity to lift and support unit.
- If using lift forks to move unit, be sure forks are long enough to extend beyond opposite side of unit.
- Keep equipment (cables and cords) away from moving vehicles when working from an aerial location.
- Follow the guidelines in the Applications Manual for the Revised NIOSH Lifting Equation (Publication No. 94–110) when manually lifting heavy parts or equipment.



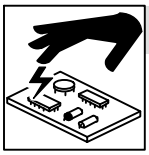
OVERUSE can cause OVERHEATING

- Allow cooling period; follow rated duty cycle.
- Reduce current or reduce duty cycle before starting to weld again.
- Do not block or filter airflow to unit.



FLYING SPARKS can injure.

- Wear a face shield to protect eyes and face.
- Shape tungsten electrode only on grinder with proper guards in a safe location wearing proper face, hand, and body protection.
- Sparks can cause fires — keep flammables away.



STATIC (ESD) can damage PC boards.

- Put on grounded wrist strap BEFORE handling boards or parts.
- Use proper static-proof bags and boxes to store, move, or ship PC boards.

MOVING PARTS can injure.

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

WELDING WIRE can injure.

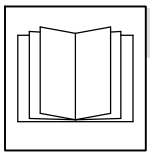
- Do not press gun trigger until instructed to do so.
- Do not point gun toward any part of the body, other people, or any metal when threading welding wire.

BATTERY EXPLOSION can injure.

- Do not use welder to charge batteries or jump start vehicles unless it has a battery charging feature designed for this purpose.

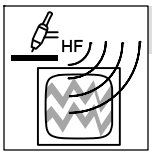
MOVING PARTS can injure.

- Keep away from moving parts such as fans.
- Keep all doors, panels, covers, and guards closed and securely in place.
- Have only qualified persons remove doors, panels, covers, or guards for maintenance and troubleshooting as necessary.
- Reinstall doors, panels, covers, or guards when maintenance is finished and before reconnecting input power.



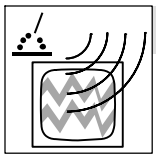
READ INSTRUCTIONS.

- 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 installation, maintenance, and service according to the Owner's Manuals, industry standards, and national, state, and local codes.



H.F. RADIATION can cause interference.

- High-frequency (H.F.) can interfere with radio navigation, safety services, computers, and communications equipment.
- Have only qualified persons familiar with electronic equipment perform this installation.
- The user is responsible for having a qualified electrician promptly correct any interference problem resulting from the installation.
- If notified by the FCC about interference, stop using the equipment at once.
- Have the installation regularly checked and maintained.
- Keep high-frequency source doors and panels tightly shut, keep spark gaps at correct setting, and use grounding and shielding to minimize the possibility of interference.



ARC WELDING can cause interference.

- Electromagnetic energy can interfere with sensitive electronic equipment such as computers and computer-driven equipment such as robots.
- Be sure all equipment in the welding area is electromagnetically compatible.
- To reduce possible interference, keep weld cables as short as possible, close together, and down low, such as on the floor.
- Locate welding operation 100 meters from any sensitive electronic equipment.
- Be sure this welding machine is installed and grounded according to this manual.
- If interference still occurs, the user must take extra measures such as moving the welding machine, using shielded cables, using line filters, or shielding the work area.

1-4. California Proposition 65 Warnings

WARNING: This product can expose you to chemicals including lead, which are known to the state of California to cause cancer and birth defects or other reproductive harm.

For more information, go to www.P65Warnings.ca.gov.

1-5. Principal Safety Standards

Safety in Welding, Cutting, and Allied Processes, American Welding Society standard ANSI Standard Z49.1. Website: www.aws.org.

Safe Practice For Occupational And Educational Eye And Face Protection, ANSI Standard Z87.1 from American National Standards Institute. 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. 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. Website: www.global.ihs.com.

National Electrical Code, NFPA Standard 70 from National Fire Protection Association. Website: www.nfpa.org and www. sparky.org.

Safe Handling of Compressed Gases in Cylinders, CGA Pamphlet P-1 from Compressed Gas Association. Website:www.cganet.com.

Safety in Welding, Cutting, and Allied Processes, CSA Standard W117.2 from Canadian Standards Association. Website: www.csagroup.org.

Standard for Fire Prevention During Welding, Cutting, and Other Hot Work, NFPA Standard 51B from National Fire Protection Association. Website: www.nfpa.org.

OSHA *Occupational Safety and Health Standards for General Industry*, Title 29, Code of Federal Regulations (CFR), Part 1910.177 Subpart N, Part 1910 Subpart Q, and Part 1926, Subpart J. Website: www.osha.gov.

OSHA *Important Note Regarding the ACGIH TLV, Policy Statement on the Uses of TLVs and BEIs.* Website: www.osha.gov.

Applications Manual for the Revised NIOSH Lifting Equation from the National Institute for Occupational Safety and Health (NIOSH). Website: www.cdc.gov/NIOSH.

1-6. 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 can 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 – CONSIGNES DE SÉCURITÉ – LIRE AVANT UTILISATION

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. Symboles utilisés

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.

AVIS *– 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. Reportez−vous aux symboles et aux directives ci−dessous afin de connaître les mesures à prendre pour éviter tout danger.

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

Les symboles représentés ci-dessous sont utilisés dans ce manuel pour attirer l'attention et identifier les dangers possibles. En présence de l'un de ces symboles, prendre garde et suivre les instructions afférentes pour éviter tout risque. Les consignes de sécurité présentées ci−après ne font que résumer les informations contenues dans les principales normes de sécurité énumérées à la section 2-5. Lire et observer toutes les normes de sécurité.

L'installation, l'utilisation, l'entretien et les réparations ne doivent être confiés qu'à des personnes qualifiées. Une personne qualifiée est définie comme celle qui, par la possession d'un diplôme reconnu, d'un certificat ou d'un statut professionnel, ou qui, par une connaissance, une formation et une expérience approfondies, a démontré avec succès sa capacité à résoudre les problèmes liés à la tâche, le travail ou le projet et a reçu une formation en sécurité afin de reconnaître et d'éviter les risques inhérents.

Pendant le fonctionnement, maintenir à distance toutes les personnes, notamment les enfants de l'appareil.

UNE DÉCHARGE ÉLECTRIQUE peut entraîner la mort.

Le contact d'organes électriques sous tension peut provoquer des accidents mortels ou des brûlures graves. Le circuit de l'électrode et de la pièce est sous tension lorsque le courant est délivré à la sortie. Le circuit d'alimentation et les circuits internes de la machine sont également sous tension lorsque l'alimentation est sur Marche. Dans le mode de soudage avec du fil, le fil, le dérouleur, le bloc de commande du rouleau et toutes les parties métalliques en contact avec le fil sont sous tension électrique. Un équipement installé ou mis à la terre de manière incorrecte ou impropre constitue un danger.

- Ne pas toucher aux pièces électriques sous tension.
- Porter des gants isolants et des vêtements de protection secs et sans trous.
- S'isoler de la pièce à couper et du sol en utilisant des housses ou des tapis assez grands afin d'éviter tout contact physique avec la pièce à couper ou le sol.
- Ne pas utiliser de sortie de soudage CA dans des zones humides ou confinées ou s'il y a un risque de chute.
- Se servir d'une source électrique à courant électrique UNIQUEMENT si le procédé de soudage le demande.
- Si l'utilisation d'une source électrique à courant électrique s'avère nécessaire, se servir de la fonction de télécommande si l'appareil en est équipé.
- D'autres consignes de sécurité sont nécessaires dans les conditions suivantes : risques électriques dans un environnement humide ou si l'on porte des vêtements mouillés ; sur des structures métalliques telles que sols, grilles ou échafaudages ; en position coincée comme assise, à genoux ou couchée ; ou s'il y a un risque élevé de contact inévitable ou accidentel avec la pièce à souder ou le sol. Dans ces conditions, utiliser les équipements suivants, dans l'ordre indiqué : 1) un poste à souder DC à tension constante (à fil), 2) un poste à souder DC manuel (électrode) ou 3) un poste à souder AC à tension à vide réduite. Dans la plupart des situations, l'utilisation d'un poste à souder DC à fil à tension constante est recommandée. En outre, ne pas travailler seul !
- Couper l'alimentation ou arrêter le moteur avant de procéder à l'installation, à la réparation ou à l'entretien de l'appareil. Déverrouiller l'alimentation selon la norme OSHA 29 CFR 1910.147 (voir normes de sécurité).
- Installez, mettez à la terre et utilisez correctement cet équipement conformément à son Manuel d'Utilisation et aux réglementations nationales, gouvernementales et locales.
- Toujours vérifier la terre du cordon d'alimentation. Vérifier et s'assurer que le fil de terre du cordon d'alimentation est bien raccordé à la borne de terre du sectionneur ou que la fiche du cordon est raccordée à une prise correctement mise à la terre.
- En effectuant les raccordements d'entrée, fixer d'abord le conducteur de mise à la terre approprié et contre-vérifier les connexions.
- Les câbles doivent être exempts d'humidité, d'huile et de graisse; protégez−les contre les étincelles et les pièces métalliques chaudes.
- Vérifier fréquemment le cordon d'alimentation et le conducteur de mise à la terre afin de s'assurer qu'il n'est pas altéré ou dénudé –, le remplacer immédiatement s'il l'est –. Un fil dénudé peut entraîner la mort.
- L'équipement doit être hors tension lorsqu'il n'est pas utilisé.
- Ne pas utiliser des câbles usés, endommagés, de grosseur insuffisante ou mal épissés.
- Ne pas enrouler les câbles autour du corps.
- Si la pièce soudée doit être mise à la terre, le faire directement avec un câble distinct.
- Ne pas toucher l'électrode quand on est en contact avec la pièce, la terre ou une électrode provenant d'une autre machine.
- Ne pas toucher des porte électrodes connectés à deux machines en même temps à cause de la présence d'une tension à vide doublée.
- N'utiliser qu'un matériel en bon état. Réparer ou remplacer sur-le-champ les pièces endommagées. Entretenir l'appareil conformément à ce manuel.
- Porter un harnais de sécurité si l'on doit travailler au-dessus du sol.
- S'assurer que tous les panneaux et couvercles sont correctement en place.
- Fixer le câble de retour de façon à obtenir un bon contact métal-métal avec la pièce à souder ou la table de travail, le plus près possible de la soudure.
- Isoler la pince de masse quand pas mis à la pièce pour éviter le contact avec tout objet métallique.
- Ne pas raccorder plus d'une électrode ou plus d'un câble de masse à une même borne de sortie de soudage. Débrancher le câble pour le procédé non utilisé.
- Utiliser une protection différentielle lors de l'utilisation d'un équipement auxiliaire dans des endroits humides ou mouillés.

Il reste une TENSION DC NON NÉGLIGEABLE dans les sources de soudage onduleur UNE FOIS l'alimentation coupée.

- Éteignez l'unité, débranchez le courant électrique, et déchargez les condensateurs d'alimentation selon les instructions indiquées dans le manuel avant de toucher les pièces.

LES PIÈCES CHAUDES peuvent provoquer des brûlures.

- Ne pas toucher à mains nues les parties chaudes.
- Prévoir une période de refroidissement avant de travailler à l'équipement.

- Ne pas toucher aux pièces chaudes, utiliser les outils recommandés et porter des gants de soudage et des vêtements épais pour éviter les brûlures.

LES FUMÉES ET LES GAZ peuvent être dangereux.

Le soudage génère des fumées et des gaz. Leur inhalation peut être dangereux pour votre santé.

- Eloigner votre tête des fumées. Ne pas respirer les fumées.
- À l'intérieur, ventiler la zone et/ou utiliser une ventilation forcée au niveau de l'arc pour l'évacuation des fumées et des gaz de soudage. Pour déterminer la bonne ventilation, il est recommandé de procéder à un prélèvement pour la composition et la quantité de fumées et de gaz auxquelles est exposé le personnel.
- Si la ventilation est médiocre, porter un respirateur anti-vapeurs approuvé.
- 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 dégraisseurs, les flux et les métaux.
- Travailler dans un espace fermé seulement s'il est bien ventilé ou en portant un respirateur à alimentation d'air. Demander toujours à un surveillant dûment formé de se tenir à proximité. Des fumées et des gaz de soudage peuvent déplacer l'air et abaisser le niveau d'oxygène provoquant des blessures ou des accidents mortels. S'assurer que l'air de respiration ne présente aucun danger.
- Ne pas souder dans des endroits situés à proximité d'opérations de dégraissage, de nettoyage ou de pulvérisation. La chaleur et les rayons de l'arc peuvent réagir en présence de vapeurs et former des gaz hautement toxiques et irritants.
- Ne pas souder des métaux munis d'un revêtement, tels que l'acier galvanisé, plaqué en plomb ou au cadmium à moins que le revêtement n'ait été enlevé dans la zone de soudure, que l'endroit soit bien ventilé, et en portant un respirateur à alimentation d'air. Les revêtements et tous les métaux renfermant ces éléments peuvent dégager des fumées toxiques en cas de soudage.

LES RAYONS DE L'ARC peuvent provoquer des brûlures dans les yeux et sur la peau.

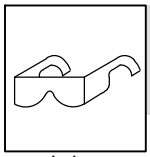
Le rayonnement de l'arc du procédé de soudage génèr des rayons visibles et invisibles intenses (ultraviolets e infrarouges) susceptibles de provoquer des brûlures dans les yeux et sur l peau. Des étincelles sont projetées pendant le soudage.

- Porter un casque de soudage approuvé muni de verres filtrants approprié pour protéger visage et yeux pour protéger votre visage et vos yeux pendant le soudage ou pour regarder (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.

LE SOUDAGE peut provoquer un incendie ou une explosion.

Le soudage effectué sur des conteneurs fermés tels que des réservoirs, tambours ou des conduites peut provoquer leur éclatement. Des étincelles peuvent être projetées de l'arc de soudure. La projection d'étincelles, des pièces chaudes et des équipements chauds peut provoquer des incendies et des brûlures. Le contact accidentel de l'électrode avec des objets métalliques peut provoquer des étincelles, une explosion, un surchauffement ou un incendie. Avant de commencer le soudage, vérifier et s'assurer que l'endroit ne présente pas de danger.

- Déplacer toutes les substances inflammables à une distance de 10,7 m de l'arc de soudage. En cas d'impossibilité les recouvrir soigneusement avec des protections homologués.
- Ne pas souder dans un endroit là où des étincelles peuvent tomber sur des substances inflammables.
- Se protéger et d'autres personnes de la projection d'étincelles et de métal chaud.
- Des étincelles et des matériaux chauds du soudage peuvent facilement passer dans d'autres zones en traversant de petites fissures et des ouvertures.
- Surveiller tout déclenchement d'incendie et tenir un extincteur à proximité.
- Le soudage effectué sur un plafond, plancher, paroi ou séparation peut déclencher un incendie de l'autre côté.
- Ne pas couper ou souder des jantes ou des roues. Les pneus peuvent exploser s'ils sont chauffés. Les jantes et les roues réparées peuvent défaillir. Voir OSHA 29 CFR 1910.177 énuméré dans les normes de sécurité.
- 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).
- Ne pas souder là où l'air ambiant pourrait contenir des poussières, gaz ou émanations inflammables (vapeur d'essence, par exemple).
- Brancher le câble de masse sur la pièce le plus près possible de la zone de soudage pour éviter le transport du courant sur une longue distance par des chemins inconnus éventuels en provoquant des risques d'électrocution, d'étincelles et d'incendie.
- Ne pas utiliser le poste de soudage pour dégeler des conduites gelées.
- En cas de non utilisation, enlever la baguette d'électrode du porte-électrode ou couper le fil à la pointe de contact.
- 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.
- Avant de souder, retirer toute substance combustible de vos poches telles qu'un allumeur au butane ou des allumettes.
- Une fois le travail achevé, assurez–vous qu'il ne reste aucune trace d'étincelles incandescentes ni de flammes.
- Utiliser exclusivement des fusibles ou coupe–circuits appropriés. Ne pas augmenter leur puissance; ne pas les ponter.
- Suivre les recommandations dans OSHA 1910.252(a)(2)(iv) et NFPA 51B pour les travaux à chaud et avoir de la surveillance et 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 dégraisseurs, les flux et les métaux.



DES PIECES DE METAL ou DES SALETES peuvent provoquer des blessures dans les yeux.

- Le soudage, l'écaillement, le passage de la pièce à la brosse en fil de fer, et le meulage génèrent des étincelles et des particules métalliques volantes. Pendant la période de refroidissement des soudures, elles risquent de projeter du laitier.
- Porter des lunettes de sécurité avec écrans latéraux ou un écran facial.

LES ACCUMULATIONS DE GAZ risquent de provoquer des blessures ou même la mort.

- Fermer l'alimentation du gaz comprimé en cas de non utilisation.

- Veiller toujours à bien aérer les espaces confinés ou se servir d'un respirateur d'adduction d'air homologué.

Les CHAMPS ÉLECTROMAGNÉTIQUES (CEM) peuvent affecter les implants médicaux.

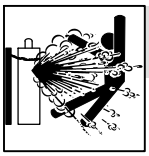
- Les porteurs de stimulateurs cardiaques et autres implants médicaux doivent rester à distance.

- Les porteurs d'implants médicaux doivent consulter leur médecin et le fabricant du dispositif avant de s'approcher de la zone où se déroule du soudage à l'arc, du soudage par points, du gougeage, de la découpe plasma ou une opération de chauffage par induction.

LE BRUIT peut endommager l'ouïe.

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

- Porter des protections approuvées pour les oreilles si le niveau sonore est trop élevé.



LES BOUTEILLES peuvent exploser si elles sont endommagées.

Les bouteilles de gaz comprimé contiennent du gaz sous haute pression. Si une bouteille est endommagée, elle peut exploser. Du fait que les bouteilles de gaz font normalement partie du procédé de soudage, les manipuler avec précaution.

- Protéger les bouteilles de gaz comprimé d'une chaleur excessive, des chocs mécaniques, des dommages physiques, du laitier, des flammes ouvertes, des étincelles et des arcs.
- Placer les bouteilles debout en les fixant dans un support stationnaire ou dans un porte-bouteilles pour les empêcher de tomber ou de se renverser.
- Tenir les bouteilles éloignées des circuits de soudage ou autres circuits électriques.
- Ne jamais placer une torche de soudage sur une bouteille à gaz.
- Une électrode de soudage ne doit jamais entrer en contact avec une bouteille.
- Ne jamais souder une bouteille pressurisée – risque d'explosion.
- Utiliser seulement des bouteilles de gaz comprimé, régulateurs, tuyaux et raccords convenables pour cette application spécifique; les maintenir ainsi que les éléments associés en bon état.
- Tourner le dos à la sortie de vanne lors de l'ouverture de la vanne de la bouteille. Ne pas se tenir devant ou derrière le régulateur lors de l'ouverture de la vanne.
- Le couvercle du détendeur doit toujours être en place, sauf lorsque la bouteille est utilisée ou qu'elle est reliée pour usage ultérieur.
- Utilisez les équipements corrects, les bonnes procédures et suffisamment de personnes pour soulever, déplacer et transporter les bouteilles.
- Lire et suivre les instructions sur les bouteilles de gaz comprimé, l'équipement connexe et le dépliant P-1 de la CGA (Compressed Gas Association) mentionné dans les principales normes de sécurité.

2-3. Dangers supplémentaires en relation avec l'installation, le fonctionnement et la maintenance

Risque D'INCENDIE OU D'EXPLOSION.

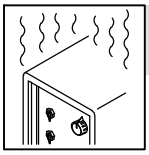
- Ne pas placer l'appareil sur, au-dessus ou à proximité de surfaces inflammables.
- Ne pas installer l'appareil à proximité de produits inflammables.

- Ne pas surcharger l'installation électrique – s'assurer que l'alimentation est correctement dimensionnée et protégée avant de mettre l'appareil en service.

LA CHUTE DE L'ÉQUIPEMENT peut provoquer des blessures.

- Utiliser l'anneau de levage uniquement pour soulever l'appareil, NON PAS les chariots, les bouteilles de gaz ou tout autre accessoire.

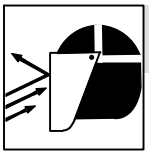
- Utilisez les procédures correctes et des équipements d'une capacité appropriée pour soulever et supporter l'appareil.
- En utilisant des fourches de levage pour déplacer l'unité, s'assurer que les fourches sont suffisamment longues pour dépasser du côté opposé de l'appareil.
- Tenir l'équipement (câbles et cordons) à distance des véhicules mobiles lors de toute opération en hauteur.
- Suivre les consignes du Manuel des applications pour l'équation de levage NIOSH révisée (Publication Nº94–110) lors du levage manuelle de pièces ou équipements lourds.



L'EMPLOI EXCESSIF peut SURCHAUFFER L'ÉQUIPEMENT.

- Prévoir une période de refroidissement ; respecter le cycle opératoire nominal.
- Réduire le courant ou le facteur de marche avant de poursuivre le soudage.

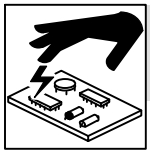
- Ne pas obstruer les passages d'air du poste.



LES ÉTINCELLES PROJETÉES peuvent provoquer des blessures.

- Porter un écran facial pour protéger le visage et les yeux.
- Affûter l'électrode au tungstène uniquement à la meuleuse dotée de protecteurs. Cette manœuvre est à exécuter dans un endroit sûr lorsque l'on porte l'équipement homologué de protection du visage, des mains et du corps.

- Les étincelles risquent de causer un incendie – éloigner toute substance inflammable.



LES CHARGES ÉLECTROSTATIQUES peuvent endommager les circuits imprimés.

- Établir la connexion avec la barrette de terre avant de manipuler des cartes ou des pièces.

- Utiliser des pochettes et des boîtes antistatiques pour stocker, déplacer ou expédier des cartes de circuits imprimes.

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.

LES FILS DE SOUDAGE peuvent provoquer des blessures.

- Ne pas appuyer sur la gâchette avant d'en avoir reçu l'instruction.
- Ne pas diriger le pistolet vers soi, d'autres personnes ou toute pièce mécanique en engageant le fil de soudage.

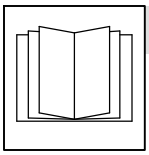
L'EXPLOSION DE LA BATTERIE peut provoquer des blessures.

- Ne pas utiliser l'appareil de soudage pour charger des batteries ou faire démarrer des véhicules à l'aide de câbles de démarrage, sauf si l'appareil dispose d'une fonctionnalité de charge de batterie destinée à cet usage.

Les PIÈCES MOBILES peuvent causer des blessures.

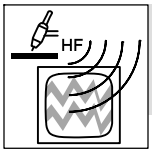
- S'abstenir de toucher des organes mobiles tels que des ventilateurs.
- Maintenir fermés et verrouillés les portes, panneaux, recouvrements et dispositifs de protection.

- Lorsque cela est nécessaire pour des travaux d'entretien et de dépannage, faire retirer les portes, panneaux, recouvrements ou dispositifs de protection uniquement par du personnel qualifié.
- Remettre les portes, panneaux, recouvrements ou dispositifs de protection quand l'entretien est terminé et avant de rebrancher l'alimentation électrique.



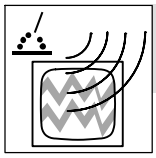
LIRE LES INSTRUCTIONS.

- 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'installation, l'entretien et toute intervention selon les manuels d'utilisateurs, les normes nationales, provinciales et de l'industrie, ainsi que les codes municipaux.



LE RAYONNEMENT HAUTE FRÉQUENCE (H.F.) risque de provoquer des interférences.

- Le rayonnement haute fréquence (H.F.) peut provoquer des interférences avec les équipements de radio−navigation et de communication, les services de sécurité et les ordinateurs.
- Demander seulement à des personnes qualifiées familiarisées avec des équipements électroniques de faire fonctionner l'installation.
- L'utilisateur est tenu de faire corriger rapidement par un électricien qualifié les interférences résultant de l'installation.
- Si le FCC signale des interférences, arrêter immédiatement l'appareil.
- Effectuer régulièrement le contrôle et l'entretien de l'installation.
- Maintenir soigneusement fermés les portes et les panneaux des sources de haute fréquence, maintenir les éclateurs à une distance correcte et utiliser une terre et un blindage pour réduire les interférences éventuelles.



LE SOUDAGE À L'ARC risque de provoquer des interférences.

- L'énergie électromagnétique risque de provoquer des interférences pour l'équipement électronique sensible tel que les ordinateurs et l'équipement commandé par ordinateur tel que les robots.
- Veiller à ce que tout l'équipement de la zone de soudage soit compatible électromagnétiquement.
- Pour réduire la possibilité d'interférence, maintenir les câbles de soudage aussi courts que possible, les grouper, et les poser aussi bas que possible (ex. par terre).
- Veiller à souder à une distance de 100 mètres de tout équipement électronique sensible.
- Veiller à ce que ce poste de soudage soit posé et mis à la terre conformément à ce mode d'emploi.
- En cas d'interférences après avoir pris les mesures précédentes, il incombe à l'utilisateur de prendre des mesures supplémentaires telles que le déplacement du poste, l'utilisation de câbles blindés, l'utilisation de filtres de ligne ou la pose de protecteurs dans la zone de travail.

2-4. Proposition californienne 65 Avertissements

⚠ AVERTISSEMENT : ce produit peut vous exposer à des produits chimiques tels que le plomb, reconnus par l'État de Californie comme cancérigènes et sources de malformations ou d'autres troubles de la reproduction.

Pour plus d'informations, consulter www.P65Warnings.ca.gov.

2-5. Principales normes de sécurité

Safety in Welding, Cutting, and Allied Processes, American Welding Society standard ANSI Standard Z49.1. Website: www.aws.org.

Safe Practice For Occupational And Educational Eye And Face Protection, ANSI Standard Z87.1 from American National Standards Institute. 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. 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. Website: www.global.ihs.com.

National Electrical Code, NFPA Standard 70 from National Fire Protection Association. Website: www.nfpa.org and www. sparky.org.

Safe Handling of Compressed Gases in Cylinders, CGA Pamphlet P-1 from Compressed Gas Association. Website:www.cganet.com.

Safety in Welding, Cutting, and Allied Processes, CSA Standard W117.2 from Canadian Standards Association. Website: www.csagroup.org.

Standard for Fire Prevention During Welding, Cutting, and Other Hot Work, NFPA Standard 51B from National Fire Protection Association. Website: www.nfpa.org.

OSHA *Occupational Safety and Health Standards for General Industry*, Title 29, Code of Federal Regulations (CFR), Part 1910.177 Subpart N, Part 1910 Subpart Q, and Part 1926, Subpart J. Website: www.osha.gov.

OSHA *Important Note Regarding the ACGIH TLV, Policy Statement on the Uses of TLVs and BEIs.* Website: www.osha.gov.

Applications Manual for the Revised NIOSH Lifting Equation from the National Institute for Occupational Safety and Health (NIOSH). Website: www.cdc.gov/NIOSH.

2-6. Informations relatives aux CEM

Le courant électrique qui traverse tout conducteur génère des champs électromagnétiques (CEM) à certains endroits. 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. Les champs électromagnétiques produits peuvent causer interférence à certains implants médicaux, p. ex. les 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:

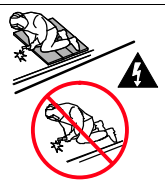
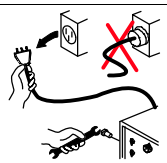
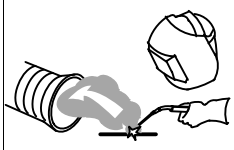
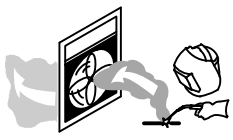
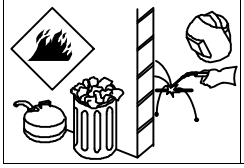
1. Rassembler les câbles en les torsadant ou en les attachant avec du ruban adhésif ou avec une housse.
2. Ne pas se tenir au milieu des câbles de soudage. Disposer les câbles d'un côté et à distance de l'opérateur.
3. Ne pas courber et ne pas entourer les câbles autour de votre corps.
4. Maintenir la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

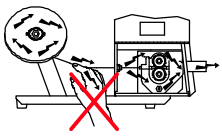
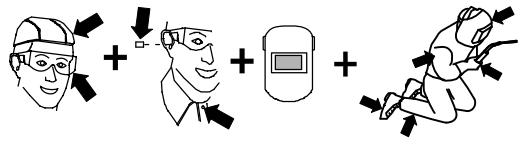
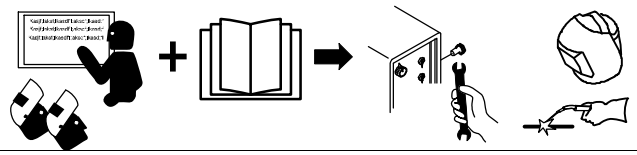
En ce qui concerne les implants médicaux :
Les porteurs d'implants doivent d'abord consulter leur médecin avant de s'approcher des opérations de soudage à l'arc, de soudage par points, de gougeage, du coupage plasma ou de chauffage par induction. Si le médecin approuve, il est recommandé de suivre les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

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
	Do not discard product (where applicable) with general waste. Reuse or recycle Waste Electrical and Electronic Equipment (WEEE) by disposing at a designated collection facility. Contact your local recycling office or your local distributor for further information. Safe37 2017–04
	Wear dry insulating gloves. Do not touch electrode with bare hand. Do not wear wet or damaged gloves. Safe2 2017–04
	Protect yourself from electric shock by insulating yourself from work and ground. Safe3 2017–04
	Disconnect input plug or power before working on machine. Safe5 2017–04
	Keep your head out of the fumes. Safe6 2017–04
	Use forced ventilation or local exhaust to remove the fumes. Safe60 2012–06
	Use ventilating fan to remove fumes. Safe61 2012–06
	Keep flammables away from welding. Do not weld near flammables. Safe62 2012–06

	Welding sparks can cause fires. Have a fire extinguisher nearby, and have a watchperson ready to use it. Safe63 2012–06
	Do not weld on drums or any closed containers. Safe16 2017–04
	Do not remove or paint over (cover) the label. Safe20 2017–04
	Drive rolls can injure fingers. Safe32 2012–05
	Welding wire and drive parts are at welding voltage during operation – keep hands and metal objects away. Safe33 2017–04
	Environmental Protection Use Period (China) Safe123 2016–06
	Wear hat and safety glasses. Use ear protection and button shirt collar. Use welding helmet with correct shade of filter. Wear complete body protection. Safe66 2012–06
	Become trained and read the instructions before working on the machine or welding. Safe65 2012–06

Notes

3-2. Miscellaneous Symbols And Definitions

☞ *Some symbols are found only on CE products.*

A	Amperes
IP	Degree Of Protection
	Jog
	Press To Set
	Purge
t	Burnback Time
I_1	Primary Current
	Water (Coolant) Output
	Locked
V	Volts
Hz	Hertz
	Output

	Increase
t	Spot Weld Time
U_1	Primary Voltage
I_2	Rated Current
	Fuse
	Alternating Current
	Circuit Breaker
	Trigger
	Trigger Hold On
%	Percent
U_2	Load Voltage
	Line Connection

	MIG-Start
	Continuous Spot Welding
	MIG-Crater
X	Duty Cycle
	Wire Feed
	Gun
	Trigger Hold Off
	Run-In
	Read Instructions
	Water (Coolant) Input
	Press
	Gas In

Notes

SECTION 4 – SPECIFICATIONS

4-1. Serial Number And Rating Label Location

The serial number and rating information for this product is located inside the door. Use rating label to determine input power requirements and/or rated output. For future reference, write serial number in space provided on back cover of this manual.

4-2. Software Licensing Agreement

The End User License Agreement and any third-party notices and terms and conditions pertaining to third-party software can be found at https://www.millerwelds.com/eula and are incorporated by reference herein.

4-3. Information About Default Weld Parameters And Settings

NOTICE *– Each welding application is unique. Although certain Miller Electric products are designed to determine and default to certain typical welding parameters and settings based upon specific and relatively limited application variables input by the end user, such default settings are for reference purposes only; and final weld results can be affected by other variables and application-specific circumstances. The appropriateness of all parameters and settings should be evaluated and modified by the end user as necessary based upon application-specific requirements. The end user is solely responsible for selection and coordination of appropriate equipment, adoption or adjustment of default weld parameters and settings, and ultimate quality and durability of all resultant welds. Miller Electric expressly disclaims any and all implied warranties including any implied warranty of fitness for a particular purpose.*

4-4. Unit Specifications

Type of Input Power	Welding Power Source Type	Wire Feed Speed	Wire Diameter Range	Welding Circuit Rating	Overall Dimensions	Weight
24 Volts AC Single-Phase 2.5 Amperes 50/60 Hertz	Constant Voltage (CV) DC For GMAW Or Constant Voltage(CV) / Constant Current (CC) DC For GMAW-P All Need 14-Pin And Contactor Control	50 To 900 ipm ** (1.3 To 22.9 mpm)	0.035 To .062 in. (0.9 To 1.6 mm) Max Spool Capacity: 12 in. (305 mm) Max Weight Of Filler Wire: 22 lb (9.97 kg)	400 A 100% Duty Cycle *	Length: 21-1/4 in. (540 mm) Width: 9-1/2 in. (241 mm) Height: 16 in. (406 mm)	31 lb (14.1 kg)

* System Duty Cycle is Limited to Gun Rating

** See Section 4-5 for Detailed Wire Type, Size and Rated Speed Range

4-5. Wire Type, Size and Feed Speed Table

Motor Speed	Wire Type	Wire Size	Rated Speed Range *
Standard	Aluminum	0.035 To .062 in. (0.9 To 1.6 mm)	50 To 860 ipm (1.3 To 21.8 mpm)
Standard	Other	0.035 To .045 in. (0.9 To 1.2 mm)	50 To 860 ipm (1.3 To 21.8 mpm)

* Rated Speed Range Per IEC 60974-5

4-6. Environmental Specifications

A. IP Rating

IP Rating
IP23S 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. IP23S 2014–06

B. Temperature Specifications

Operating Temperature Range	Storage Temperature Range
14 to 104°F (–10 to 40°C)	–4 to 131°F (–20 to 55°C) Temp_2016-07

C. Information On Electromagnetic Compatibility (EMC)

This Class A equipment is not intended for use in residential locations where the electrical power is provided by the public low–voltage supply system. There can be potential difficulties in ensuring electromagnetic compatibility in those locations, due to conducted as well as radiated disturbances.

ce-emc 3 2014-07

D. China EEP Hazardous Substance Information

中国电器电子产品中有害物质的名称及含量 China EEP Hazardous Substance Information						
部件名称 Component Name (如果适用) (if applicable)	有害物质 Hazardous Substance					
	铅 Pb	汞 Hg	镉 Cd	六价铬 Cr6	多溴联苯 PBB	多溴二苯醚 PBDE
黄铜和铜部件 Brass and Copper Parts	X	O	O	O	O	O
耦合装置 Coupling Devices	X	O	O	O	O	O
开关装置 Switching Devices	O	O	X	O	O	O
线缆和线缆配件 Cable and Cable Accessories	X	O	O	O	O	O
电池 Batteries	X	O	O	O	O	O

本表格依据中国SJ/T 11364的规定编制.
This table is prepared in accordance with China SJ/T 11364.

O:
表示该有害物质在该部件所有均质材料中的含量均在中国GB/T26572规定的限量要求以下.
Indicates that the concentration of the Hazardous Substance in all homogeneous materials of the part is below the relevant threshold of China GB/T 26572.

X:
表示该有害物质至少在该部件的某一均质材料中的含量超出中国GB/T26572规定的限量要求.
Indicates that the concentration of the Hazardous Substance in at least one homogeneous material of the part is above the relevant threshold of China GB/T 26572.

电器电子产品的环保使用期限依据中国SJ/Z11388的规定确定.
The EFUP value of this EEP is defined in accordance with China SJ/Z 11388.

EEP_2016-06

E. EU Ecodesign Information

Do not discard product (where applicable) with general waste.

Reuse or recycle Waste Electrical and Electronic Equipment (WEEE) by disposing at a designated collection facility.

Contact your local recycling office or your local distributor for further information.

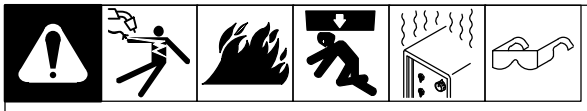
Critical raw materials possibly present in indicative amounts higher than 1 gram at component level

Component	Critical Raw Material
Printed circuit boards	Baryte, Bismuth, Cobalt, Gallium, Germanium, Hafnium, Indium, Heavy Rare Earth, Light Rare Earth, Niobium, Platinum Group Metals, Scandium, Silicon Metal, Tantalum, Vanadium
Plastic components	Antimony, Baryte
Electrical and electronic components	Antimony, Beryllium, Magnesium
Metal components	Beryllium, Cobalt, Magnesium, Tungsten, Vanadium
Cables and cable assemblies	Borate, Antimony, Baryte, Beryllium, Magnesium
Display panels	Gallium, Indium, Heavy Rare Earth, Light Rare Earth,Niobium, Platinum Group Metals, Scandium
Batteries	Fluorspar, Heavy Rare Earth, Light Rare Earth, Magnesium

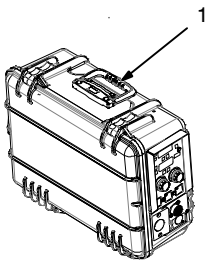
EU Eco 2020-08

SECTION 5 – INSTALLATION

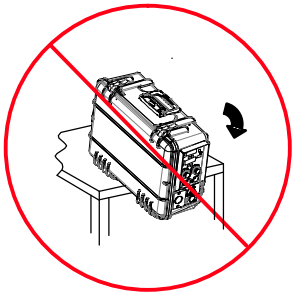
5-1. Selecting a Location



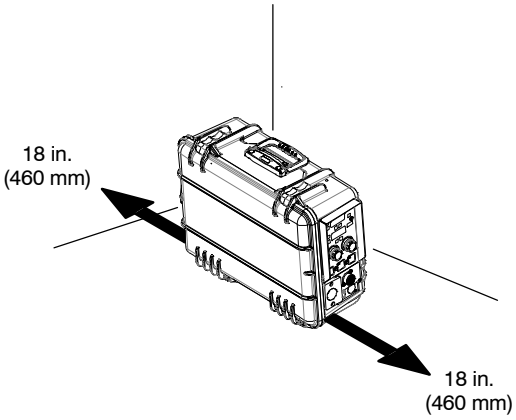
Movement



Do not move or operate unit where it could tip.



Location And Airflow



Special installation may be required where gasoline or volatile liquids are present – see NEC Article 511 or CEC Section 20.

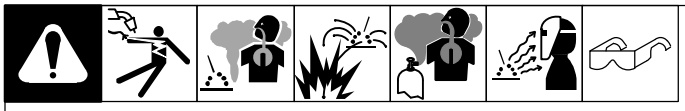
1 Lifting Handle

Use handle to lift and carry unit.

loc_XR AlumaFeed 2017-03

Notes

5-2. XR-AlumaFeed Setup



1 Drive Roll

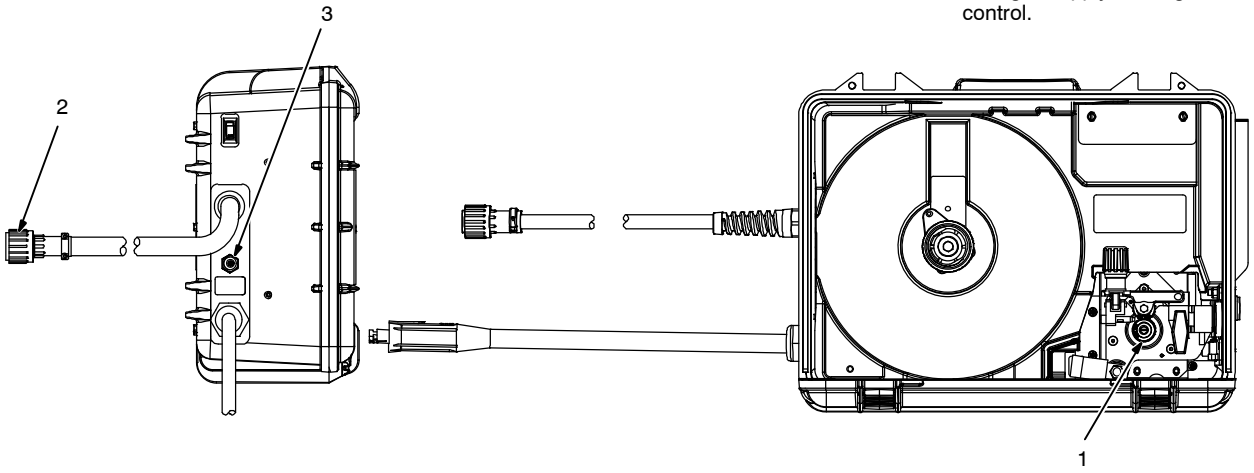
Install proper drive rolls for wire size being used. Wire size is stamped on the face of roll.

2 14 Pin Control Cord

Connect the 14–pin control cord to the welding power source being used.

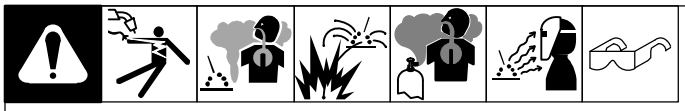
3 Gas Fitting

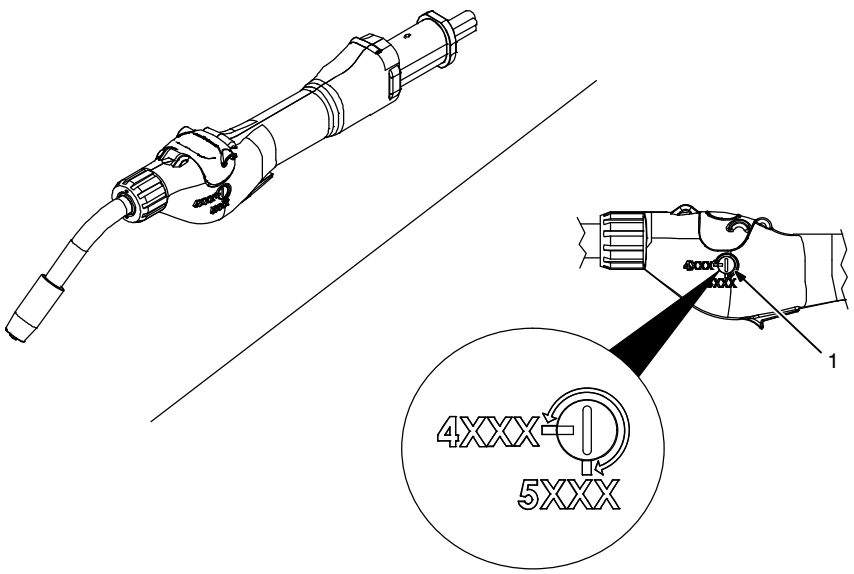
Connect the 10ft. (3m) gas hose from gas supply to fitting on back of control.



Ref. 287261-B

5-3. XR-AlumaPro Setup





Tools Needed:

☞ *Verify head tube liner is the proper size for the weld wire being used.*

Install contact tip for the wire being used.

Set tension setting on side of AlumaPro gun.

Gun Pressure Roll Tension Setting

☞ *Gun Pressure Roll Tension is factory set to 4XXX.*

1 Pressure Roll Adjustment Screw (Aluminum Series Specific)

Wire tension should be set to 4XXX for 4000 series aluminum wire.

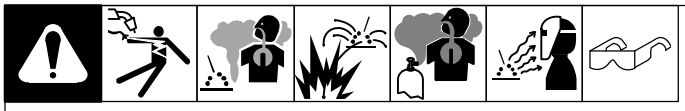
Rotate Pressure Roll Adjustment screw fully counterclockwise until indicator line on adjustment knob lines up with indicator line on handle in the 4XXX position.

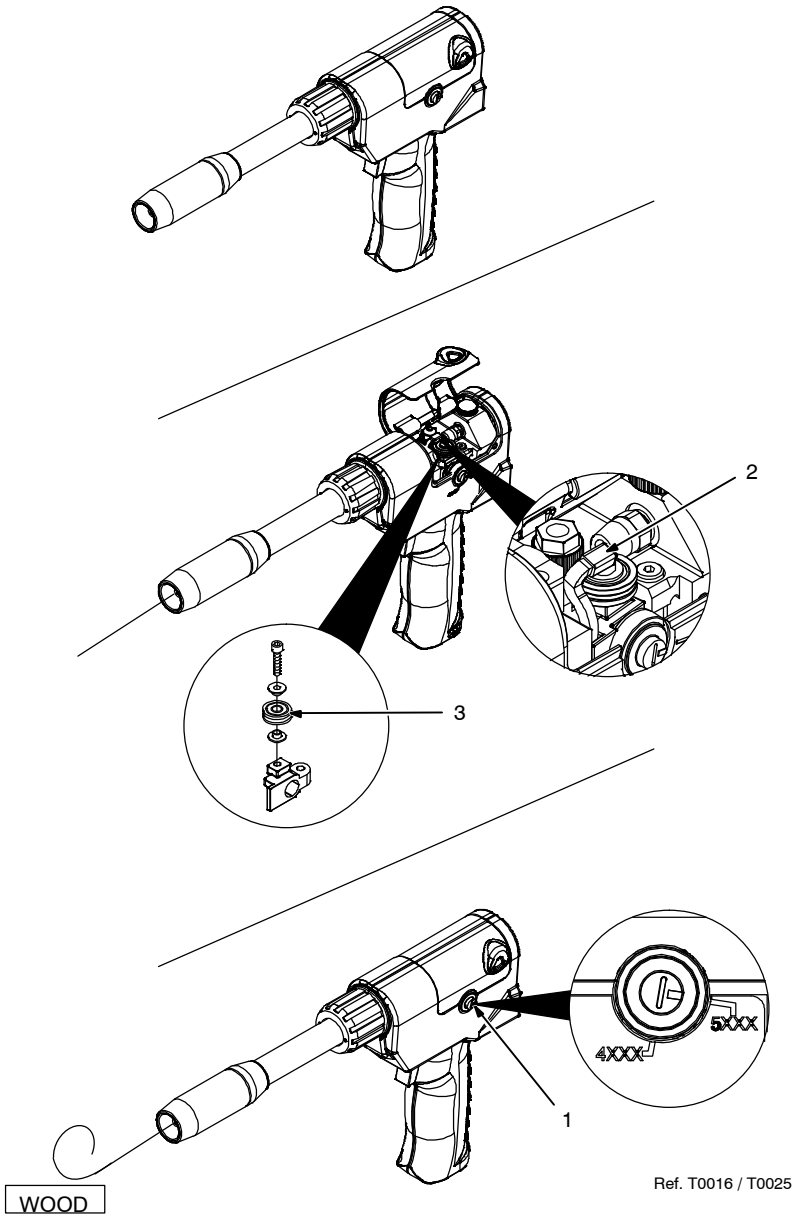
Set wire tension to 5XXX for 5000 series aluminum and stainless wire.

Rotate Pressure Roll Adjustment screw fully clockwise until indicator line on adjustment knob lines up with indicator line on handle in the 5XXX position.

Ref. 804545-B

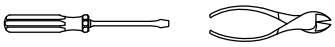
5-4. XR-Pistol Grip Gun Setup





Ref. T0016 / T0025

Tools Needed:



Install contact tip for the wire being used.

Install proper drive roll for the wire size being used. Refer to the consumable chart for dedicated drive roll size information. Line up drive roll groove with bearing groove and liner opening. Tighten set screws.

Wire Loading And Threading

Install spool retaining ring.

Remove lead end of wire and unspool approximately 7 to 10 in. (187 to 254 mm) and cut off bent or kinked end. To eliminate inside scarring of the liner, use a file to remove sharp end and burrs.

Using finger and thumb, straighten (remove cast) approximately 6 to 8 in. (152 to 203 mm) of welding wire. Open drive roll pressure arm on push feeder and insert wire through inlet guide and into gun liner. Close pressure arm.

Adjust drive roll pressure in the push feeder to match the wire size being used.

⚠ **Welding wire is electrically live when gun trigger is used to jog wire.**

Adjust mechanical brake in hub assembly. Turn wire feed speed and run–in speed to maximum. Using the jog switch, run a few feet of wire and stop. Repeat the process several times. Only adjust brake if wire does not remain taut on spool. Over–tightening brake will affect wire feeding performance. Reset wire feed speed and run–in speed to approximate operating conditions.

Lay gun cable assembly as straight as possible on floor. Using the jog switch or gun trigger, continue to feed wire through gun. If wire does not feed completely through gun, open drive roll pressure arm and remove head tube. Retrigger to feed wire out gun and install head tube.

1 Pressure Roll Adjustment Screw

2 Lever Arm

3 Pressure Roll

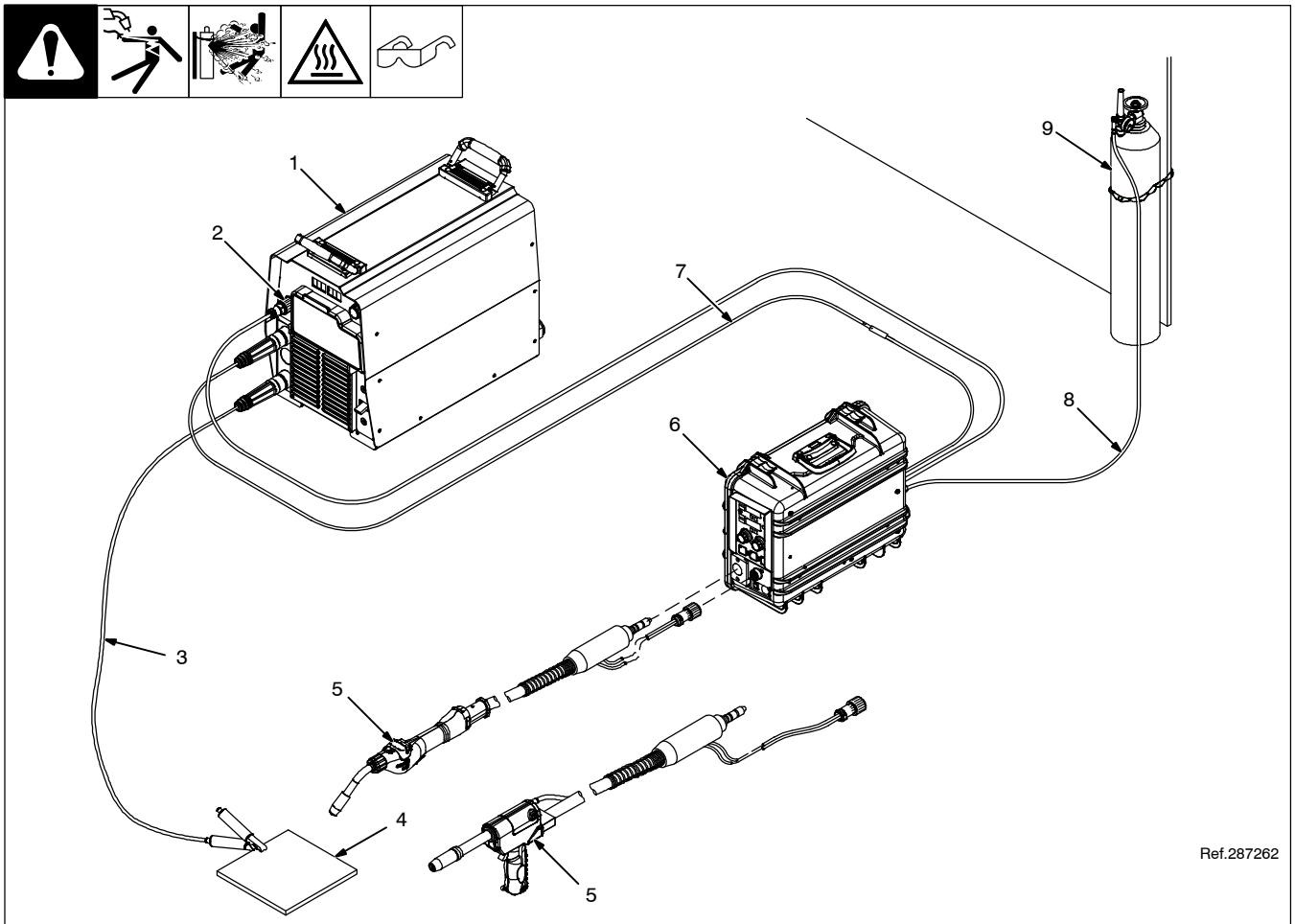
To adjust pistol gun drive roll pressure, roll over end of wire at nozzle. Using the gun trigger, feed wire against a block of wood or the floor at a 45 degree angle and adjust pressure until wire feeds smoothly.

☞ *Over–tightening will deform the welding wire and may cause wire feeding problems.*

5-5. Drive Roll Tension Settings

Wire Size	Welding
0.035 in. (0.9 mm)	1 - 2
0.040 in. (1.0 mm)	3 - 4
3/64 in. (1.2 mm)	
1/16 in. (1.6 mm)	

5-6. Connections With A Constant Voltage (CV) Or Constant Current/Constant Voltage (CC/CV) Welding Power Source Having A 14-Socket Receptacle



⚠ **Turn Off wire feeder and welding power source. Stop engine on welding generator.**

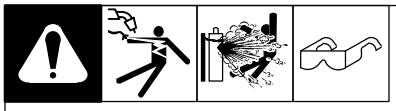
⚠ **Do not move or operate equipment where it could tip.**

1 CV Or CC/CV Welding Power Source
2 24 VAC/Contactor Control 14-Pin Plug
3 Negative (–) Weld Cable
4 Workpiece
5 Welding Gun
6 Wire Feeder
7 Positive (+) Weld Cable
8 Gas Hose
9 Gas Cylinder

☞ *Shielding gas pressure not to exceed 100 psi (689 kPa).*

Notes

5-7. Air-Cooled Feeder Connections



Turn off power before connecting to weld terminal or receptacle.

Failure to properly connect weld cables may cause excessive heat and start a fire, or damage your machine.

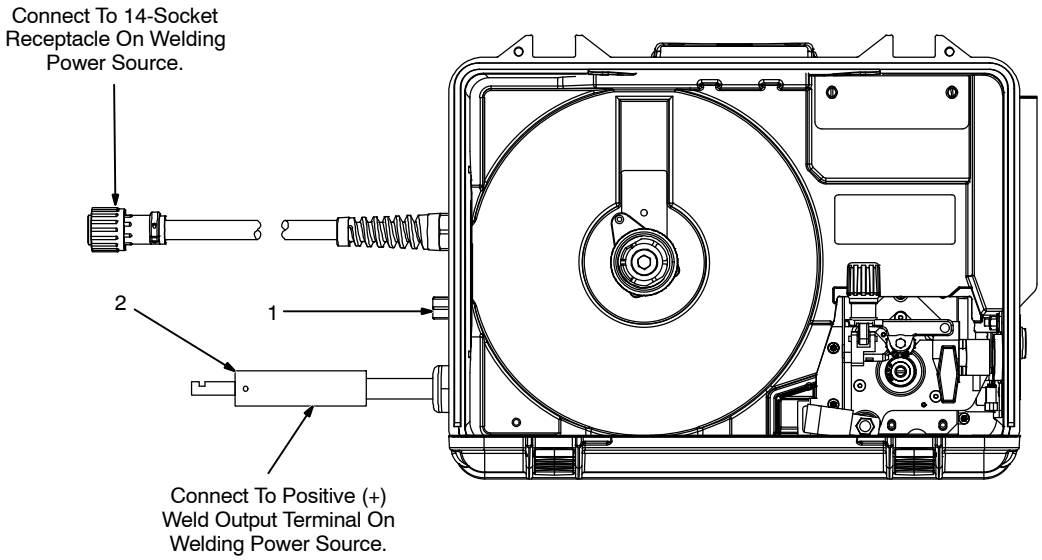
1 Gas Fitting

Connect one end of 10 ft (3 m) gas hose to rear of unit, gas solenoid fitting. Connect remaining end of hose to regulator/flowmeter.

☞ *Shielding gas pressure not to exceed 100 psi (689 kPa).*

2 Weld Cable To Welding Power Source

Select and prepare weld cable according to welding power source manual.

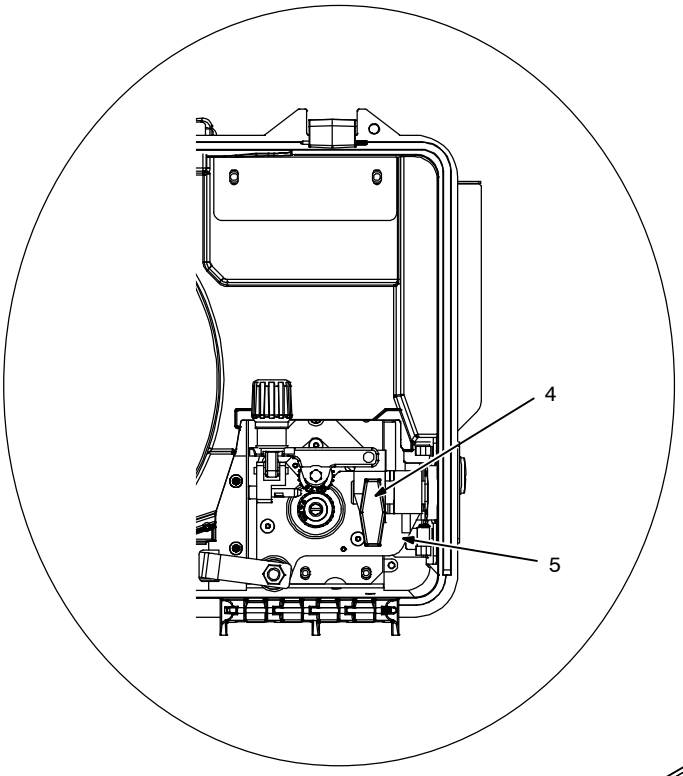


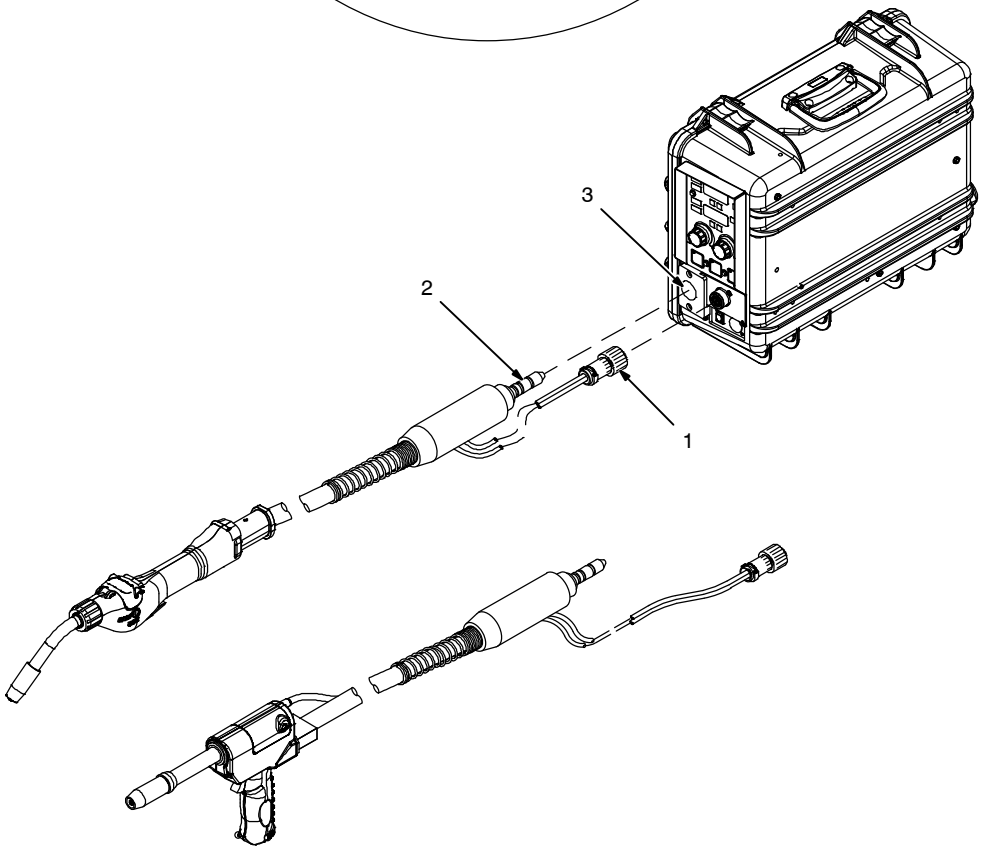
Tools Needed:

9/16 in.

Ref.287261-B

5-8. Air-Cooled Gun Connections





Ref.287262 / 287261

1 Gun Control Cable

Insert plug into Gun Control receptacle, and tighten threaded collar.

2 Gun Power Pin

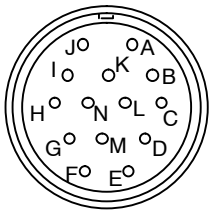
3 Gun Bushing

4 Gun Securing Knob

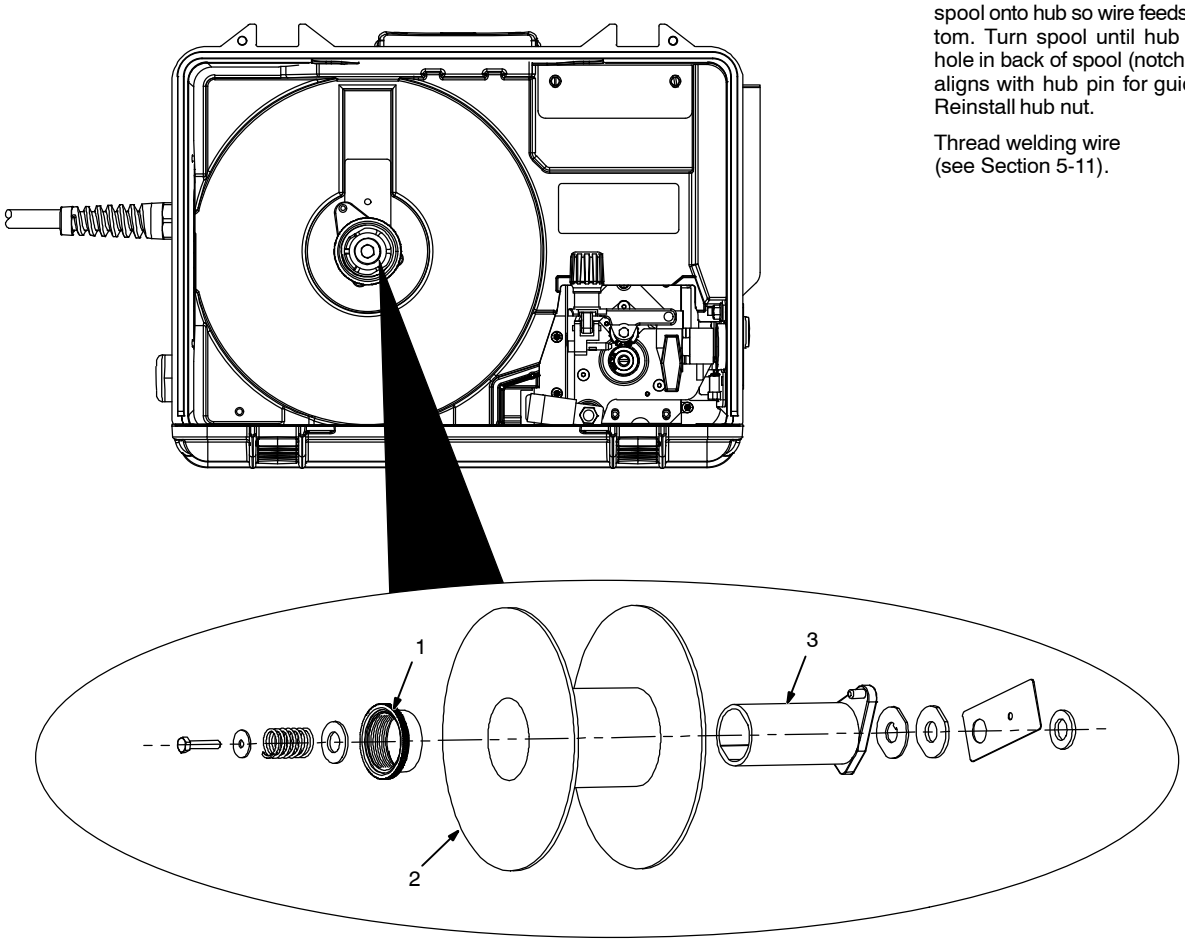
5 Drive Casting

Loosen gun securing knob and insert gun power pin through gun bushing until it bottoms against drive casting. Tighten knob.

5-9. 14-Pin Plug Information

REMOTE 14	Pin*	Pin Information
	A	24 volts AC with respect to socket G.
	B	Contact closure to A completes 24 volts AC contactor control circuit.
	G	Circuit common for 24 volts AC circuit.
	C	+10 volts DC input from power source to wire feeder with respect to socket D.
	D	Remote control circuit common.
	E	0 to +10 volts DC output signal from wire feeder to power source with respect to socket D.
	H	Voltage feedback; 0 to +10 volts DC, 1 volt per 10 arc volts.
	F	Current feedback; 0 to +10 volts DC, 1 volt per 100 amperes.
	L	0 to +10 volts DC output signal from wire feeder to power source with respect to socket N.
	N	Feeder common.
	M	0 to +10 volts DC output signal from wire feeder to power source with respect to socket N.
*The remaining pins are not used.		

5-10. Installing Wire Spool



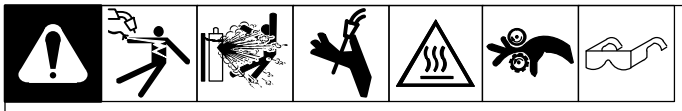
1 Hub Nut
2 Spool
3 Hub

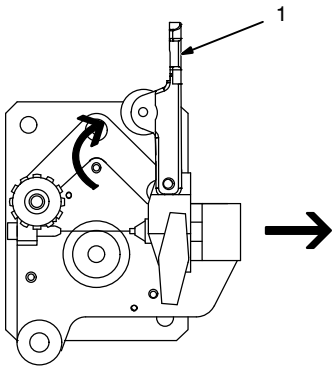
Remove hub nut from hub. Slide spool onto hub so wire feeds off bottom. Turn spool until hub pin fits hole in back of spool (notch on hub aligns with hub pin for guidance). Reinstall hub nut.

Thread welding wire (see Section 5-11).

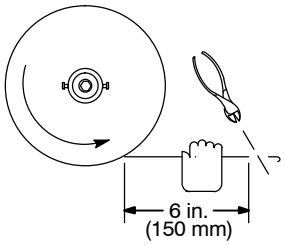
Ref.287261-B

5-11. Threading Welding Wire Through Feeder





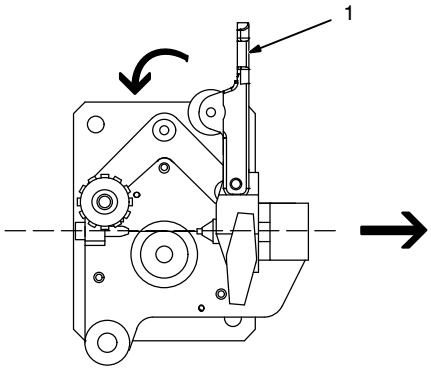
☞ *Hold wire tightly to keep it from unraveling.*



1 Tension Arm

Open tension arm.

Pull and hold wire; cut off end.

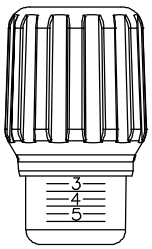


Install proper size drive rolls.

Thread wire thru inlet guide, along drive roll groove, and into wire conduit. Close tension arm. **Adjust tension as follows:**

Tension Settings

Wire Size	Welding	Gun Calibration
0.035 in.	1–2	3–4
0.040 in.	3–4	
3/64 in.		
1/16 in.		

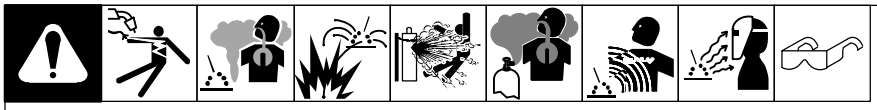


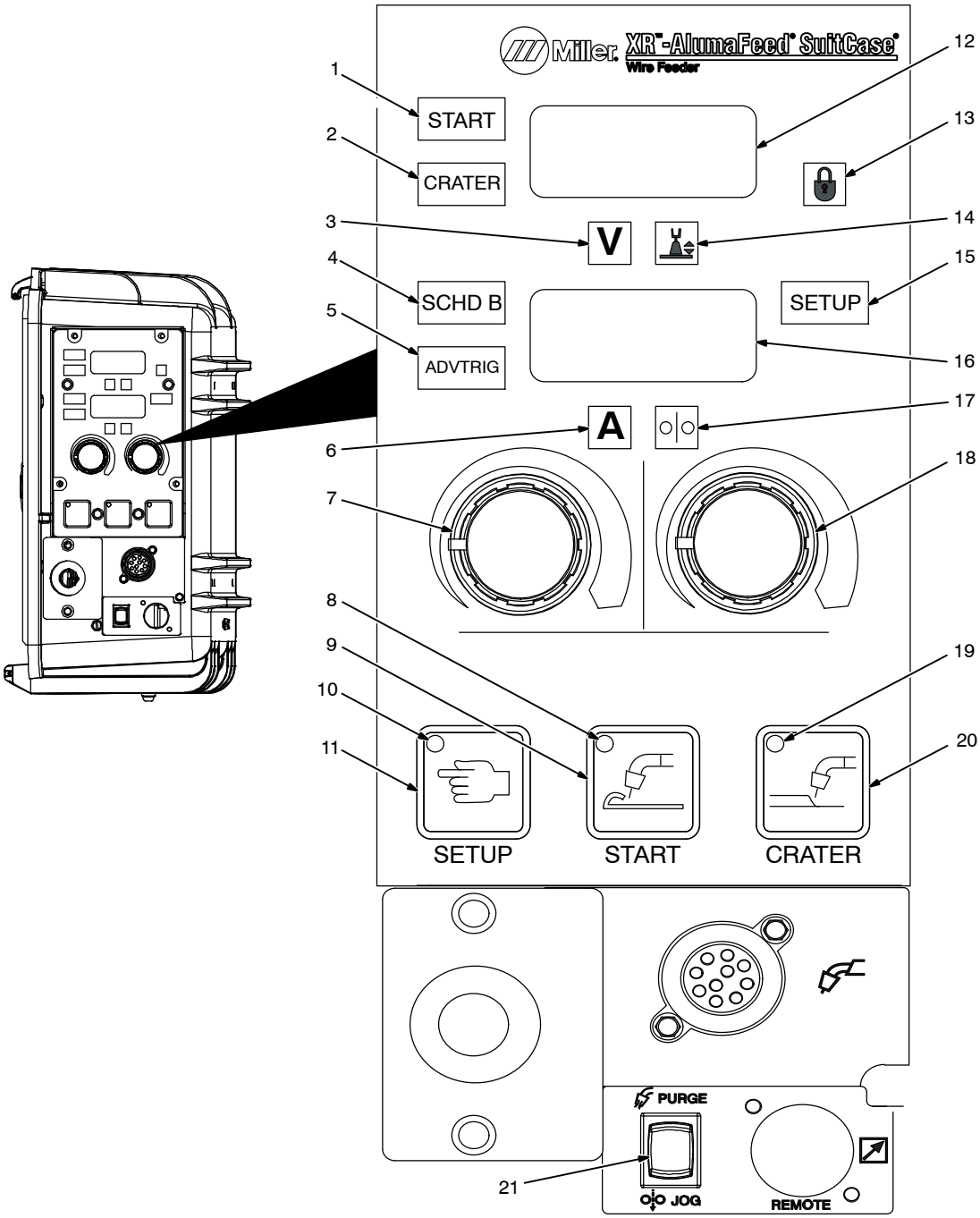
Tools Needed:

Ref. 805350-A / 242517-A

SECTION 6 – OPERATION

6-1. Controls

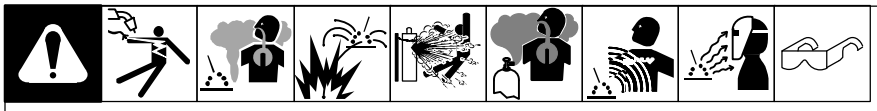


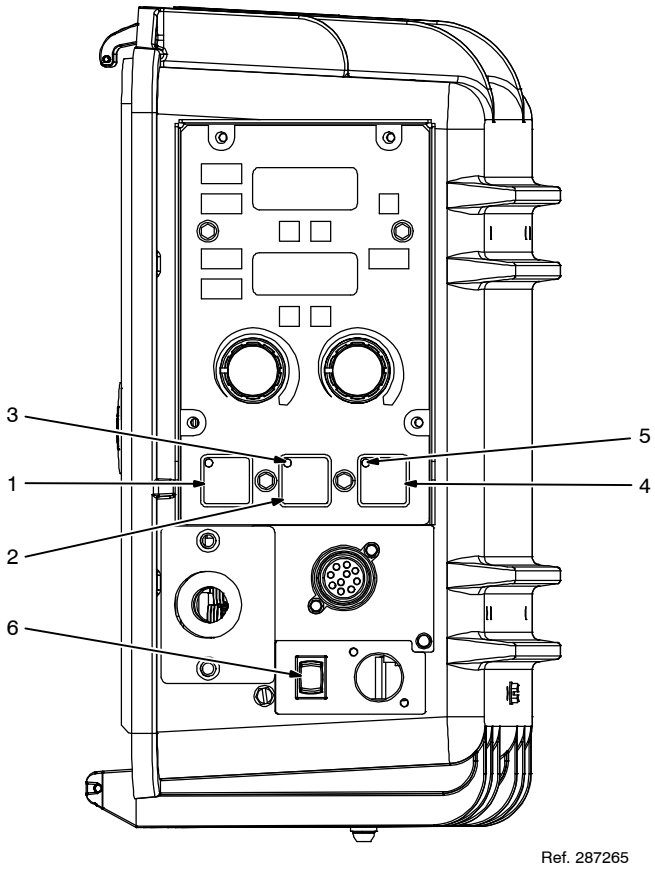


Ref. 287265

1 Start Menu Indicator
2 Crater Menu Indicator
3 Volts Indicator
4 Schedule B Indicator
5 Advanced Trigger Indicator
6 Amps Indicator
7 Left Adjust Knob
8 Start On Indicator
9 Start Button
10 Setup Indicator
11 Setup Button
12 Upper Display
13 Lock Indicator
14 Arc Length Indicator
15 Setup Menu Indicator
16 Lower Display
17 Wire Speed Indicator
18 Right Adjust Knob
19 Crater On Indicator
20 Crater Button
21 Jog/Purge Switch

6-2. Controls (Continued)





Ref. 287265

1 Setup Button

Press and release the setup button allows Preflow, Post flow, Trigger Type and Run–in Control.

2 Start Button

Press the start button to turn the start sequence on/off or press and hold to change the start variables.

3 Start On Indicator

Indicator is lit when the start is active.

4 Crater Button

Press crater button to turn the crater sequence on/off or press and hold to change the crater variables.

5 Crater On Indicator

Indicator is lit when the crater is active.

6 Jog/Purge Switch

Operation

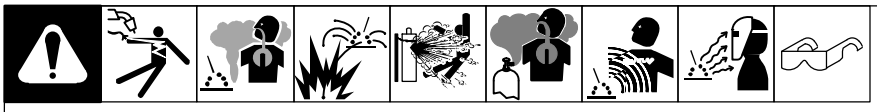
Press and hold the SETUP button. Release the SETUP button when SETUP is shown. Confirm the menu item values listed in the table below are set accordingly for the welding process and wire size being used. Additional menu items appear but only apply to advanced operations. Press the SETUP button to exit the menu.

Menu Item	Menu Item Values	Description
Wire	0.035, 0.040 3/64, 1/16 in.	Wire size setting
PWR.S	MAN	MIG or Non-Synergic Pulsed MIG
	AUTO	Synergic Pulsed MIG

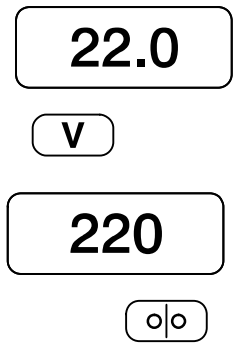
Press and release the SETUP button to select the desired weld process, MIG or PULS (Pulsed MIG). The active weld process can only be changed at the wire feeder. The wire and gas program selection must be made at the power source.

Notes

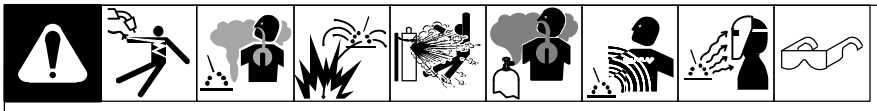
6-3. MIG Operation



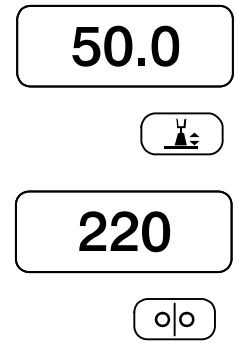
The voltage is adjusted using the Left Adjust knob. The wire speed is adjusted using the potentiometer in the gun handle.



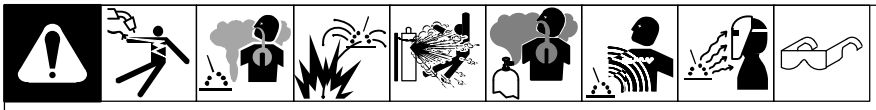
6-4. Non-Synergic Pulsed MIG Operation



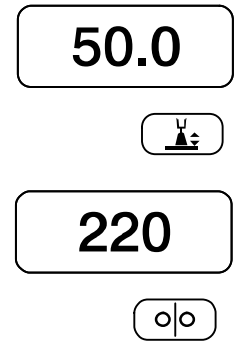
The Arc Length setting is adjusted using the Left Adjust knob. The wire speed is adjusted using the potentiometer in the gun. Arc Length corresponds to the amount of energy required to burn off the wire. As wire speed increases, a higher arc length setting is required to burn off the additional wire. Likewise, a lower arc length setting is required when a lower wire speed is used.



6-5. Synergic Pulsed MIG Operation



The Arc Length setting is adjusted using the Left Adjust knob. The wire speed is adjusted using the potentiometer in the gun. The pulse programs have been developed at an arc length setting of 50. Increasing the arc length setting increases the actual arc length, and decreasing the setting decreases the actual arc length. It is not necessary to change the arc length setting when changing wire feed speed.



6-6. Operational Terms

The following is a list of terms and their definitions as they apply to the wire feeder:

General Terms:

MIG	CV weld process with individual settings of voltage and wire speed.
Pulsed MIG	CC weld process with factory taught data using peak and background current, pulse width and pulses per second. Adaptive pulse control methods modulate one or more of the taught data parameters to regulate or maintain a fixed arc length.
Synergic	Refers to the system's ability to match the power setting to the set wire feed speed using a single knob control. In synergic Pulsed MIG, the pulse parameters are automatically increased or decreased to match the power output to the set wire speed.
Non- Synergic	Refers to independent control of wire feed speed and power output. In non–synergic mode, increasing or decreasing the set wire feed speed requires corresponding adjustment of the arc length or voltage setting.
2T	Basic trigger function, weld sequence starts when the trigger is pressed and ends when the trigger is released.
Trigger Hold	Trigger function allowing the operator to weld without continuously pressing the gun trigger. In Trigger Hold mode, momentarily press the gun trigger until an arc is established, and welding will continue until the gun trigger is momentarily pressed again.
4T	Trigger function enabling selection between Start, Weld and Crater parameters using the gun trigger. Start and Crater are automatically active and cannot be turned off in 4T mode. In 4T mode, press and hold the gun trigger to begin welding at the Start parameter settings. Release the gun trigger, and welding will continue at the Weld parameter settings. Press and hold the gun trigger again, and welding continues at the Crater parameter settings. The Crater sequence ends when the gun trigger is released and the Crater parameter times out. If the gun trigger is pressed again before the Crater parameter times out, the Crater time is reset and welding continues at the Weld parameter settings until the gun trigger is released. When the trigger is released, welding continues at the Crater parameter settings until the Crater parameter times out.
Spot	Trigger function that automatically shuts the weld off after a set amount of time. The weld will end when the set time has expired or the trigger has been released, which ever occurs first. The spot time is reset when the trigger is released.
Arc Length	Refers to physical distance between wire electrode and molten puddle. Term also used to represent adjustments in the Pulsed MIG weld process.
Dual Schedule	Allows selecting a pair of weld parameter settings that can be used together.
Preflow	The amount of time that the shielding gas will flow after the trigger is pressed and before the welding arc will be allowed to be active.
Postflow	The amount of time that the shielding gas will flow after the arc has been shut off.
Start	Provides voltage/arc length, wire feed speed and time values for modified arc start.
Crater	Provides voltage/arc length, wire feed speed and time values for modified arc end.

6-7. Jog/Purge

Pressing the Jog/Purge switch allows the operator to jog wire without energizing the weld power or gas valve circuit.

• The feeder provides the ability to jog the wire by means of the gun trigger or the Jog/Purge switch. If the welding arc does not initiate in 3 seconds after the gun trigger is activated, the feeder will perform a jog operation for a maximum of 2 minutes. If the gun trigger is still activated after 2 minutes, the jog operation is terminated to prevent complete unspooling of the wire, in the case of a damaged gun (see Section 8-3).

• Jog speed is the wire feed speed the unit is set to for welding.

• Jogging can also be accomplished by pressing the Jog/Purge button.

• Pressing the Jog/Purge button also allows the operator to purge gas lines before welding and to preset gas pressure at the regulator.

6-8. Quick Setup Guide

Menu Item	Menu Item Values	Description
WIRE	0.035. 0.040, 3/64, 1/16 in.	Wire size setting
PWR.S	MAN	MIG or Non-Synergic Pulsed MIG
	AUTO	Synergic Pulsed MIG
PULS	VOLT	Set to match power source display for Non-Synergic or Synergic Pulsed MIG
	ARC.L	

Press and hold the Setup button. Release the Setup button when SETUP is shown.

Rotate the **LEFT ADJUST knob** to select the menu items and use the **RIGHT ADJUST knob** to change menu item values.

Confirm the menu item values listed in the table above, set accordingly for the welding process and wire size being used.

Press the Setup button to exit the menu.

Press the release Setup button. Rotate Left Adjust knob until Left Display is blank and Right Display has MIG or PULS. Use Right Adjust knob to select process that is needed. Press the Setup button to exit the menu.

MIG Operation

To setup for MIG welding, press and release the Setup button. Rotate Left Adjustment knob until Left Display is blank and Right Display shows MIG. Press the Setup button to exit the menu. Volts indicator is lit under the Left Display and the Wire Speed indicator is lit under the Right Display. The voltage is adjusted using the Left Adjust knob and the wire speed is adjusted using the potentiometer in the gun handle.

Non–Synergic Pulsed MIG Operation

To setup for Non–synergic Pulsed MIG welding, press and release the Setup button. Rotate Left Adjustment knob until Left Display is blank and Right Display shows PULS. Press the Setup button to exit the menu. The selected PULS parameter (ARC.L or VOLT) is lit under the Left Display and the Wire Speed indicator is lit under the Right Display. The arc length or voltage is adjusted using the Left Adjust knob and the wire speed is adjusted using the potentiometer in the gun handle. The Arc Length or Voltage setting corresponds to the amount of energy required to burn off the welding electrode. As wire feed speed increases, a higher arc length or voltage setting is required to burn off the additional wire. Likewise, a lower arc length or voltage setting is required as wire feed speed is decreased. In Non–Synergic Pulsed MIG, the arc length adjustment range is 0.0 to 100.0 and the voltage adjustment range is dependent on the pulse program selection at the power source.

Synergic Pulsed MIG Operation

To setup for Synergic Pulsed MIG welding, press and release the Setup button. Rotate Left Adjustment knob until Left Display is blank and Right Display shows PULS. Press the Setup button to exit the menu. The selected PULS parameter (ARC.L or VOLT) is lit under the Left Display and the Wire Speed Indicator is lit under the Right Display. The arc length or voltage is adjusted using the Left Adjust knob and the wire speed is adjusted using the potentiometer in the gun handle. In Synergic Pulsed MIG, the Arc Length adjustment range is 0 – 100. The pulse programs have been developed at an arc length setting of 50. Increasing the arc length setting increases the actual arc length, and decreasing the setting decreases the actual arc length. It is not necessary to change the arc length setting when changing wire feed speed.

SECTION 7 – PROGRAMMING

7-1. Setup Menu

To enter the **SETUP MENU** press and release the **SETUP** button. The **SETUP MENU INDICATOR** and the **SETUP BUTTON INDICATOR** will illuminate.

Rotate the **LEFT ADJUST KNOB** to select different menu items shown in the **LEFT DISPLAY**. Rotate the **RIGHT ADJUST KNOB** to change menu item values shown in the **RIGHT DISPLAY**.

To exit the **SETUP MENU** press and release the **SETUP** button.

Items that can be adjusted in this menu are:

Trigger Control (TRIG) – Sets the gun trigger control. The trigger control can be configured as (2T, HOLD, 4T, SPOT). See Section 6-6.

Remote Process Select – For MIG operation the Left Display always show voltage. For pulsed MIG (PULS) operation the second level setup menu display (PULS) option selects whether Voltage (VOLT) or Arc Length (ARC.L) is shown in the Left Display.

☞ *A Remote Process Select capable power source automatically switches to the selected weld process when this option is changed at the wire feeder. The wire and gas program selections for each weld process must be set at the power source.*

☞ *When Trigger Schedule Select (see Section 7-2) is enabled , the weld process option can be set independently for each schedule. This allows the operator to remotely change the weld process at the wire feeder and power source with a single tap of the welding gun trigger.*

Trigger Hold Delay (HOLD) – Additional trigger setting only appearing in the menu when the trigger control is set to (TRIG HOLD). Trigger hold delay time is the minimum amount of time the trigger must be held for trigger hold to become active. There is a built in maximum trigger hold time which the trigger must be released within for trigger hold to become active. The maximum trigger hold time is always 4.0 seconds after the trigger hold delay time. For Example, if the trigger hold delay time is set to 2.0 seconds, the trigger must be held for at least 2.0 seconds and released within 6.0 seconds for trigger hold to become active. Once the trigger hold function is active, the wire feeder will continue feeding wire until the trigger is pressed and released again.

Trigger Spot Time (SPOT) – Additional trigger setting only appearing in the menu when the trigger control is set to (TRIG SPOT). The SPOT time is the length of combined time for the start (if applicable) and the weld sequence. The weld will end when the set time has expired or the trigger has been released, whichever occurs first. The spot time is reset when the trigger is released.

Preflow (PRE) – The amount of time that the shielding gas will flow after the trigger is pressed and before the welding arc will be allowed to be active. Range of this setting is from (0.0 to 30.0) seconds.

Postflow (POST) – The amount of time that the shielding gas will flow after the arc has been shut off. Range of this setting is from (0.0 to 30.0) seconds.

Run–In Speed (R–IN) – The wire feed speed prior to the welding arc being struck. This setting is a percentage of the wire feed speed the unit is set to for welding. Range of this setting is from (X0.10 to X0.99 to OFF). Example: If the weld wire feed speed is 200 and R–IN is X0.50, the run–in wire feed speed is 100.

☞ *Additional PROFILE PULSE menu items may appear in the **SETUP MENU** when PROFILE PULSE is active. See Section 7-7.*

Notes

7-2. Setup Menu Level 2

To enter the **SETUP MENU LEVEL 2** press and hold the **SETUP** button. The **SETUP MENU INDICATOR** and the **SETUP BUTTON INDICATOR** will illuminate.

Rotate the **LEFT ADJUST KNOB** to select different menu items shown in the **LEFT DISPLAY**. Rotate the **RIGHT ADJUST KNOB** to change menu item values shown in the **RIGHT DISPLAY**.

To exit the **SETUP MENU LEVEL 2** press and release the **SETUP** button.

Items that can be adjusted in this menu are:

Parameter Lock (LOCK) – When set to (ON), the Trigger, Process, Preflow, Postflow, Run–In, Start, and Crater parameters are locked and cannot be adjusted. Attempting to change a locked parameter causes the display to momentarily display (LOCK).

Range Limits (LMTS) – When set to (ON), the wire feed speed and arc length or voltage weld settings are limited to minimum and maximum adjustable ranges. The minimum and maximum range settings appear next in the menu when (LMTS) is set to (ON). When set to (OFF), range limits are inactive and do not appear in the menu.

Wire Feed Range Limit (MIN) – Indicated in the LEFT DISPLAY with the WIRE FEED SPEED INDICATOR illuminated. Sets the minimum wire feed speed. Range of this setting is from 70 to 780 IPM.

Wire Feed Range Limit (MAX) – Indicated in the LEFT DISPLAY with the WIRE FEED SPEED INDICATOR illuminated. Sets the maximum wire feed speed. Range of this setting is from (MIN) setting to 780 IPM.

Arc Length Range Limit (MIN) – Indicated in the LEFT DISPLAY with the ARC LENGTH INDICATOR illuminated. Sets the minimum arc length. Range of this setting is from 0 to 100.

Arc Length Range Limit (MAX) – Indicated in the LEFT DISPLAY with the ARC LENGTH INDICATOR illuminated. Sets the maximum arc length. Range of this setting is from (MIN) setting to 100.

☞ *When the DISP option in the SETUP MENU LEVEL 2 is set to (VOLT), the Arc Length Range Limits are replaced by Voltage Range Limits.*

Voltage Range Limit (MIN) – Indicated in the LEFT DISPLAY with the VOLTS INDICATOR illuminated. Sets the minimum voltage. Range of this setting is dependent on the power source voltage range in the MIG process, and varies with the selected wire and gas program in the PULSED MIG process. If the power source weld process is set to PULSED MIG, the minimum voltage range limit setting will change if the wire and gas program selection is changed.

Voltage Range Limit (MAX) – Indicated in the LEFT DISPLAY with the VOLTS INDICATOR illuminated. Sets the maximum voltage. Range of this setting is dependent on the power source voltage range in the MIG process, and varies with the selected wire and gas program in the PULSED MIG process. If the power source weld process is set to PULSED MIG, the maximum voltage range limit setting will change if the wire and gas program selection is changed.

Wire Size (Wire) – Set to the appropriate wire size being used for optimal wire feed consistency and speed accuracy.

Gun Type (GUN) – Indicates the gun type detected. This setting is for information only and cannot be adjusted.

Power Source Synergic Mode (PWR.S) – Sets the synergic mode to (AUTO) or manual (MAN). When set to (AUTO), the wire feeder and a synergic capable power source function as a synergic Pulsed MIG system. When set to (MAN), the power source and wire feeder function as a non–synergic MIG or Pulsed MIG welding system.

• For proper operation, this setting should be set to match the power source pulse (PULS) mode setting.

Pulse Display (PULS) – Allows the preset weld parameter adjustment to be set as voltage or arc length. This setting affects only the display appearance and will not affect operation. The (PULS) setting should be set to match the power source display. When set to (VOLT), the preset voltage set point will be shown in the Left Display with the VOLTS INDICATOR illuminated. When set to (ARC.L), the preset arc length will be shown in the Left Display with the ARC LENGTH INDICATOR illuminated.

Trigger Schedule Select (SCHD) – Allows the operator to select the alternative schedule by quickly tapping the gun trigger when not welding. When set to (OFF), trigger schedule select is disabled. When set to (TRIG), the schedule is selected by tapping the gun trigger when not welding. The pulling and release of the gun trigger must happen within 0.2 seconds for the schedule to change.

☞ *The SCHD B INDICATOR is illuminated when schedule B is active. Setup, Start, Crater and parameter settings can all be set independently within each schedule.*

☞ *When using Schedule B, wire feed speed can only be set at the feeder using the Right Adjust Knob. Wire feed speed adjustment at the gun works only for Schedule A.*

Profile Pulse Menu (PROF) – Allows Profile Pulse to appear in the Setup Menu. When set to (NO), (PROF) will not appear in the Setup Menu. When set to (YES), (PROF) will appear in the Setup Menu. Profile Pulse parameters cannot be adjusted when Parameter Lock is set to (ON).

Menu Lock Code (CODE) – Allows setting a numerical password code to obstruct access to the Setup Menu Level 2. By default, (CODE) is (OFF) allowing access to the menu without entering a password. The password can be programmed to values between 0 and 999. Once programmed, the password must be re–entered each time the menu is accessed. A failed password attempt causes the display to momentarily show (DENY). (CODE) will continue to show on the display until the correct password is entered or the power is cycled.

☞ *Anytime the menu is exited with (CODE OFF), a special sequence is required before a new password can be set. With (CODE OFF) shown on the display, press and hold the SETUP button and rotate the RIGHT ADJUST KNOB to set the password to (0123). Release the SETUP button, the display should read (CODE 0000). The password can now be set to a new value.*

Product Version Information (INFO) – Provides information about the firmware revision levels for the Motor Control and the User Interface PCB's. The default value is (INFO NONE). To read the firmware versions rotate the Right Adjust Knob until the display reads (INFO MOTR) or (INFO FRNT). The corresponding firmware revision level will momentarily appear following a short delay.

7-3. Setting A Start Sequence In Synergic Pulse

To turn on a Start sequence, press the **START** button. The **START ON INDICATOR** will illuminate indicating Start is active.

To turn off the Start sequence, press the **START** button**.** The **START ON INDICATOR** will turn off indicating Start is inactive.

☞ *The factory default mode for Start is (AUTO). The (AUTO) setting has preset parameters. Start can also be set to (MAN) for manual settings. The Start mode can be changed in the* ***START MENU****.*

To enter the **START MENU** press and hold the **START** button until the **START MENU INDICATOR** illuminates.

Rotate the **LEFT ADJUST Knob** to select different menu items shown in the **LEFT DISPLAY**. Rotate the **RIGHT ADJUST Knob** to change menu item values shown in the **RIGHT DISPLAY**.

To exit the **START MENU,** press and release the **START** button.

Items that can be adjusted in this menu are:

Start Mode (STRT) – Sets the Start Mode to (AUTO or MAN). When the Start mode is set to (AUTO), factory default parameters are used. The (AUTO) parameter values appear in the menu but are not adjustable. When the Start Mode is set to (MAN), each of the parameters are adjustable.

Start Wire Feed Speed (WFS) – Sets the wire feed speed used during the Start Time. This setting is a percentage of the wire feed speed the unit is set to for welding. Range of this setting is from (X0.5 to X2.50). Example: If the weld wire feed speed is 200 and WFS is X1.50, the Start wire feed Speed is 300.

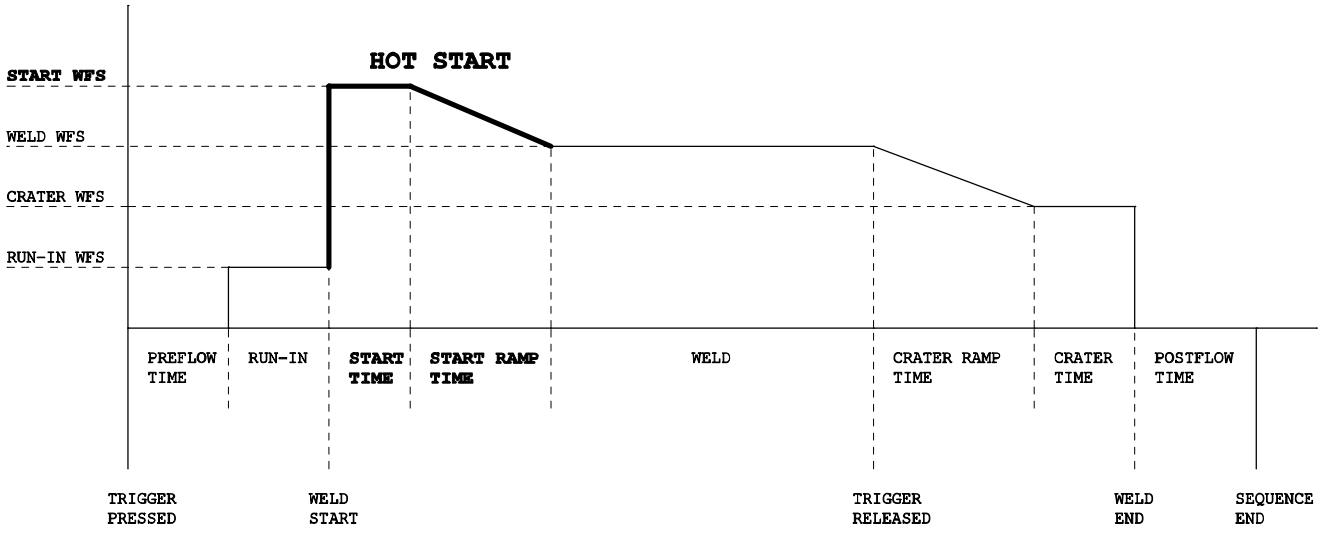
Start Arc Length (ARC.L) – Sets the arc length longer or shorter during the Start Time. This setting is a percentage of the arc length the unit is set to for welding. Range of this setting is from (X0.50 to X1.50). Example: If the weld arc length is set to 50 and ARC.L is X0.50, the Start Arc Length is 25.

☞ *When the PULS option in the* ***SETUP MENU LEVEL 2*** *is set to VOLT, the Start Arc length setting will be replaced by the Start Voltage (VOLT) setting.*

Start Voltage (VOLT) – Sets the voltage during the Start Time. Range of this setting varies with the selected wire and gas program in the PULSED MIG process. With the weld process set to PULSED MIG, the Start Voltage setting will change if the wire and gas program selection is changed.

Start Time (TIME) – The amount of time the wire feed speed is active at the Start setting. Range of this setting is from (0.1 to 0.5) seconds.

Start Ramp Time (RAMP) – The amount of time it takes to transition from the Start to the weld wire feed speed setting. Range of this setting is from (0.1 to 5.0) seconds.



7-4. Setting A Start Sequence In Non–Synergic Pulse Or MIG

To turn on a Start sequence, press the **START** button. The **START ON INDICATOR** will illuminate indicating Start is active.

To turn off the Start sequence, press the **START** button**.** The **START ON INDICATOR** will turn off indicating Start is inactive.

To enter the **START MENU** press and hold the **START** button until the **START MENU INDICATOR** illuminates.

Rotate the **LEFT ADJUST Knob** to select different menu items shown in the **LEFT DISPLAY**. Rotate the **RIGHT ADJUST Knob** to change menu item values shown in the **RIGHT DISPLAY**.

To exit the **START MENU,** press and release the **START** button.

Items that can be adjusted in this menu are:

Start Wire Feed Speed (WFS) – Sets the wire feed speed used during the Start Time. Range of this setting is from (70 to 780 IPM).

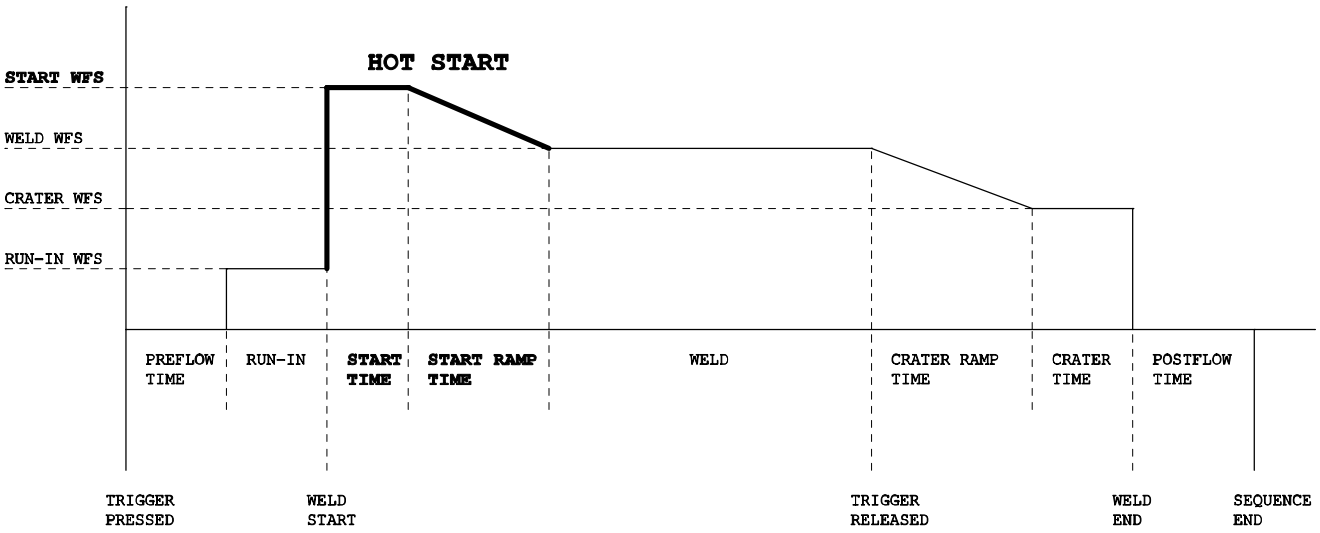
Start Arc Length (ARC.L) – Sets the arc length during the Start Time. Range of this setting is from (0.0 to 100.0) and the level is set to match start WFS.

☞ *When MIG is selected in Setup Menu Level 1 the start arc length setting will be replaced by Start Voltage (VOLT).*

Start Voltage (VOLT) – Sets the voltage during the Start Time. Range of this setting is dependent on the power source voltage range or voltage range of the selected pulse program.

Start Time (TIME) – The amount of time the wire feed speed is active at the Start setting. Range of this setting is from (0.1 to 0.5) seconds.

Start Ramp Time (RAMP) – The amount of time it takes to transition from the Start to the weld wire feed speed setting. Range of this setting is from (0.1 to 5.0) seconds.



7-5. Setting A Crater Fill Sequence In Synergic Pulse

To turn on Crater Fill, press the **CRATER** button. The **CRATER ON INDICATOR** will illuminate indicating Crater Fill is active.

To turn off Crater Fill, press the **CRATER** button. The **CRATER ON INDICATOR** will turn off indicating Crater Fill is inactive.

☞ *The factory default mode for Crater Fill is (AUTO). The (AUTO) setting has preset parameters. Crater Fill can also be set to (MAN) for manual settings. The Crater mode setting can be changed in the CRATER MENU.*

☞ *The Crater Tack Time (TACK) is adjustable in both AUTO and MAN modes.*

To enter the **CRATER MENU** press and hold the **CRATER** button until the **CRATER MENU INDICATOR** illuminates.

Rotate the **LEFT ADJUST Knob** to select different menu items shown in the **LEFT DISPLAY**. Rotate the **RIGHT ADJUST Knob** to change menu item values shown in the **RIGHT DISPLAY**.

To exit the **CRATER MENU** press and release the **CRATER** button.

Items that can be adjusted in this menu are:

Crater Mode (CRTR) – Sets the Crater mode to (AUTO or MAN). When the Crater mode is set to (AUTO), factory default parameters are used. The (AUTO) parameter values appear in the menu but are not adjustable. When the Crater mode is set to (MAN), each of the parameters are adjustable.

Crater Wire Feed Speed (WFS) – Sets the Crater Fill wire feed speed. This setting is a percentage of the wire feed speed the unit is set to for welding. Range of this setting is from (X0.30 to X1.00). Example: If the weld wire feed speed is 200 and WFS is X0.50, the Crater Wire Feed Speed is 100.

Crater Arc Length (ARC.L) – Sets the arc length longer or shorter during the Crater Fill Time. This setting is a percentage of the arc length the unit is set to for welding. Range of this setting is from (X0.50 to X1.50). Example: If the weld arc length is set to 50 and ARC.L is X0.50, the Crater Arc Length is 25.

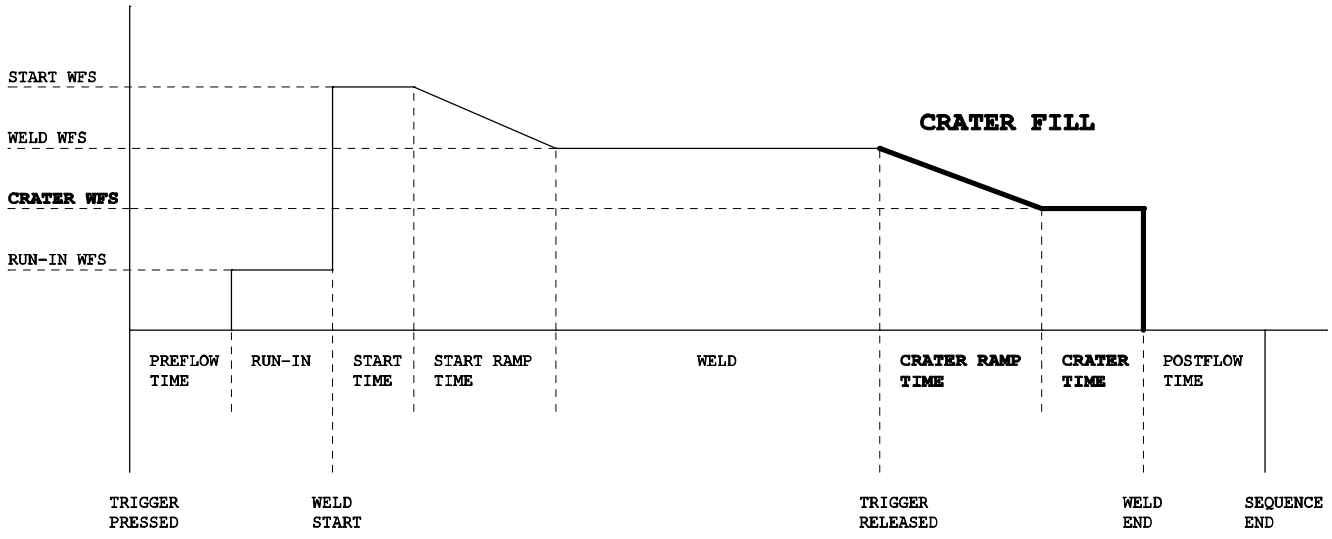
☞ *When the PULS option in the **SETUP MENU LEVEL 2** is set to VOLT, the Crater Arc Length setting will be replaced by the Crater Voltage (VOLT) setting.*

Crater Voltage (VOLT) – Sets the voltage during the Crater Fill time. Range of this setting is dependent on the power source in the MIG process, and varies with the selected wire and gas program in the PULSED MIG process. If the power source weld process is set to PULSED MIG, the Crater Voltage setting will change if the wire and gas program selection is changed.

Crater Ramp Time (RAMP) – The amount of time it takes to transition from the weld to the Crater wire feed speed setting. Range of this setting is from (0.1 to 5.0) seconds.

Crater Fill Time (TIME) – The amount of time the wire feed speed is active at the Crater setting. Range of this setting is from (0.1 to 5.0) seconds.

Crater Tack Time (TACK) – This setting is for tack welding without crater fill. The Crater fill will not be active if the arc time is less than the set time. Range of this setting is from (0.1 to 5.0) seconds.



7-6. Setting A Crater Fill Sequence In Non−Synergic Pulse Or MIG

To turn on Crater Fill, press the **CRATER** button. The **CRATER ON INDICATOR** will illuminate indicating Crater Fill is active.

To turn off Crater Fill, press the **CRATER** button. The **CRATER ON INDICATOR** will turn off indicating Crater Fill is inactive.

To enter the **CRATER MENU** press and hold the **CRATER** button until the **CRATER MENU INDICATOR** illuminates.

Rotate the **LEFT ADJUST Knob** to select different menu items shown in the **LEFT DISPLAY**. Rotate the **RIGHT ADJUST Knob** to change menu item values shown in the **RIGHT DISPLAY**.

To exit the **CRATER MENU** press and release the **CRATER** button.

Items that can be adjusted in this menu are:

Crater Wire Feed Speed (WFS) – Sets the Crater Fill wire feed speed.

Crater Arc Length (ARC.L) – Sets the arc length during the crater time. Range of this setting is from (0.0 to 100.0) and the level is set to match crater WFS.

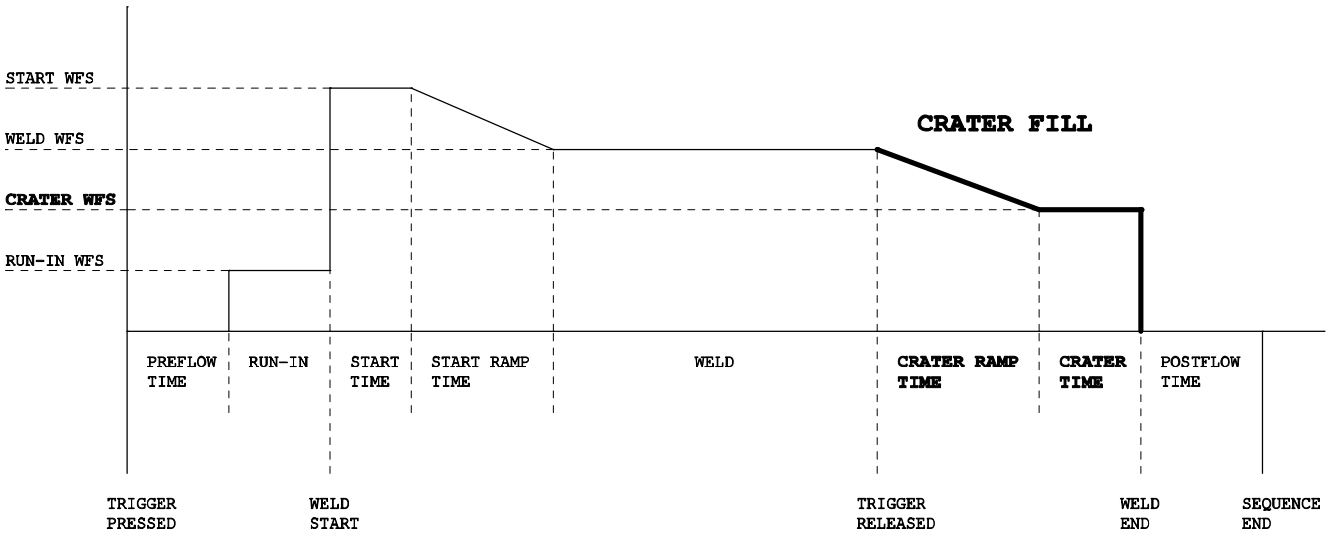
☞ *When MIG is selected in Setup Menu Level 1 the crater arc length setting will be replaced by Crater Voltage (VOLT).*

Crater Voltage (VOLT) – Sets the voltage during the Crater Fill time. Range of this setting is dependent on the power source or voltage range of selected power source.

Crater Ramp Time (RAMP) – The amount of time it takes to transition from the weld to the Crater wire feed speed setting. Range of this setting is from (0.1 to 5.0) seconds.

Crater Fill Time (TIME) – The amount of time the wire feed speed is active at the Crater setting. Range of this setting is from (0.1 to 5.0) seconds.

Crater Tack Time (TACK) – This setting is for tack welding without crater fill. The Crater fill will not be active if the arc time is less than the set time. Range of this setting is from (0.1 to 5.0) seconds.



7-7. Profile Pulse

Profile Pulse optimizes Aluminum weld bead appearance by producing welds with consistently spaced ripple patterns, similar to GTAW. This feature has been designed to operate in a Synergic Pulsed MIG system. The consistent ripple pattern is achieved by periodically changing both the wire feed speed and power level. The average wire feed speed is determined by the value the unit is set to for welding.

☞ *By default, Profile Pulse parameters are hidden from the Setup Menu. To view the parameters, the (PROF) setting in the Setup Menu Level 2 must be set to (YES). See section 7-2.*

Profile Pulse Items that can be adjusted in the Setup Menu are:

Profile Pulse ON/OFF (PROF) – Allows Profile Pulse to be turned on or off.

Profile Pulse Frequency (P.FRQ) – Sets the spacing between ripples in the weld bead. Range of this setting is from (0.1 to 5.0) pulses per second. See Figures 1 and 2 below.

Profile Pulse Wire Feed Speed Change (P.WFS) – Sets the percentage of change above and below the wire feed speed the unit is set to for welding. Range of this setting is (X0.00 to X0.30). Example: If the wire feed speed is 200 and (P.WFS) is set to (X0.10), the wire feed speed will alternate between 180 and 220 ipm.

Profile Pulse Arc Length (P.AL) – Sets an arc length correction factor for the lower wire feed speed. This setting is a percentage of the arc length the unit is set to for welding. Range of this setting is from (X0.5 to X1.5). Example: If the arc length for welding is set to 50 and (P.AL) is set to (X1.1), the arc length setting for the lower wire feed speed is 55.

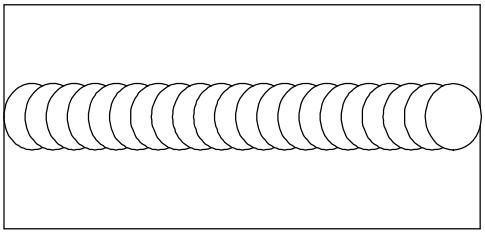


Figure 1
Constant travel speed with P.FRQ set to 0.1

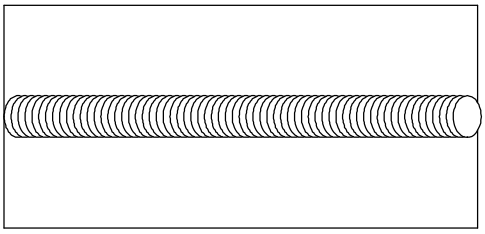


Figure 2
Constant travel speed with P.FRQ set to 5.0

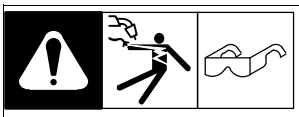
7-8. Factory Reset Procedure

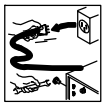
☞ *Start with the wire feeder on.*

1 Press and hold the Setup button until SET UP appears in display.
2 Rotate left Adjust knob until INFO NONE appears.
3 Press Setup button and hold again until FACTORY appears. The first menu is FACT DFLT. For AlumaFeed - turn left knob until FACT DFLT displays.
4 Turn the Adjust knob to the right one click, and a 5 second timer will start counting down in the right display.
5 After timer reaches zero, FACT DONE will appear.
6 Press and release Setup button one last time, and the front display will illuminate as if it were turned on. SET UP will be exited back to the normal voltage and wire feed speed display.

Reset is now complete.

SECTION 8 – MAINTENANCE & TROUBLESHOOTING



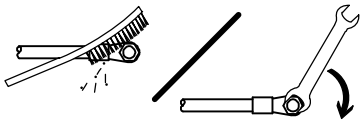


Disconnect power before maintaining.

☞ *Maintain more often during severe conditions.*

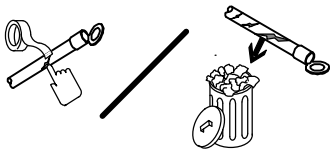
3 Months

Replace Damaged Or Unreadable Labels



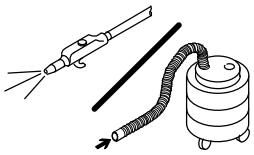
Clean And Tighten Weld Terminals

Replace Damaged Gas Hose

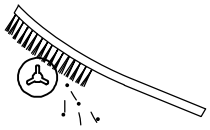


Repair Or Replace Cracked Cables And Cords

6 Months

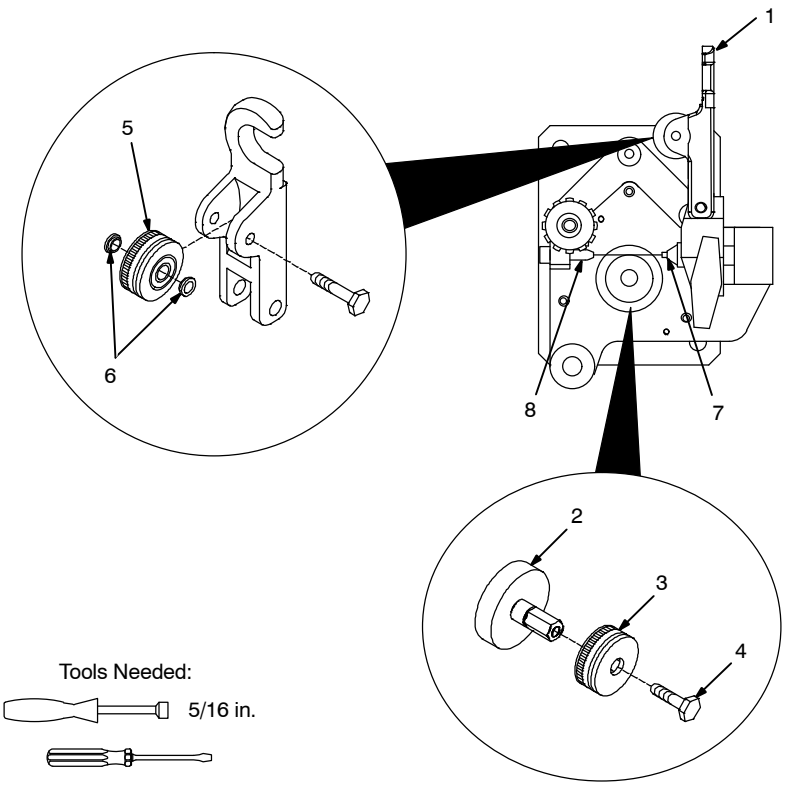


Blow Out Or Vacuum Inside

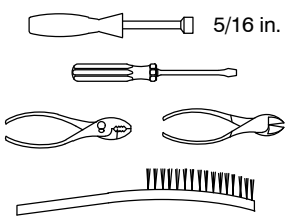


Clean Drive Rolls

8-1. Feeder Drive Assembly Maintenance



Tools Needed:



Retract wire onto spool.

1 Pressure Roll Assembly
2 Drive Motor Shaft
3 Drive Roll
4 Screw

Use wire brush to clean drive roll.

5 Drive Roll Idler
6 Shoulder Washers

Use wire brush to clean idler.

7 Outlet Guide
8 Wire Inlet Guide

Pull guide toward rear of feeder to remove. Install new guide.

Thread welding wire and adjust drive roll pressure, if necessary (see Section 5-11).

Drive roll and idler are available for the following wire size ranges:

.035 wire size

.040 wire size

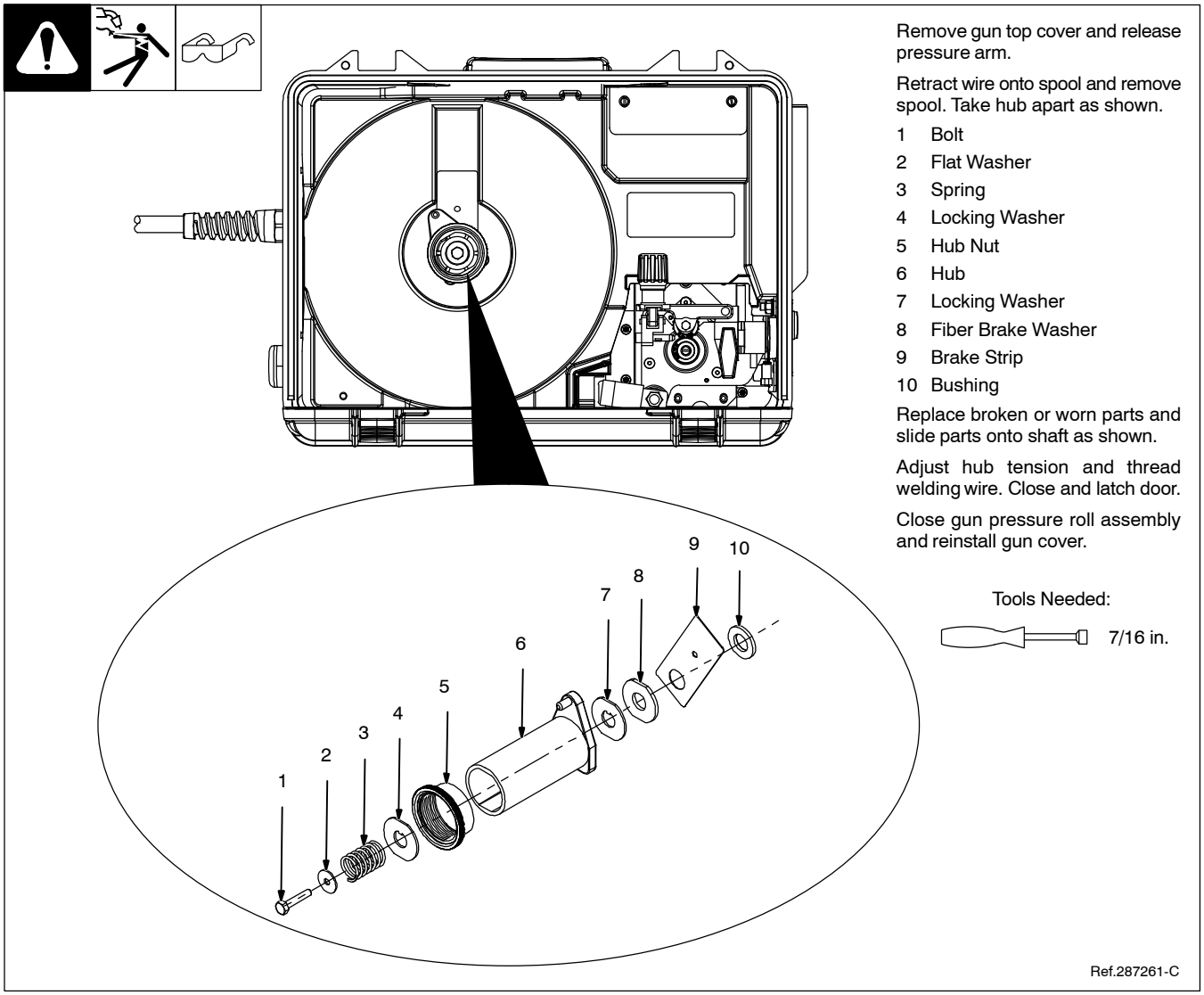
.047 wire size

.062 wire size

When changing wire size, change control box drive roll and idler, gun pressure roll and drive roll.

805350-A

8-2. Replacing Hub Assembly



Remove gun top cover and release pressure arm.

Retract wire onto spool and remove spool. Take hub apart as shown.

1 Bolt
2 Flat Washer
3 Spring
4 Locking Washer
5 Hub Nut
6 Hub
7 Locking Washer
8 Fiber Brake Washer
9 Brake Strip
10 Bushing

Replace broken or worn parts and slide parts onto shaft as shown.

Adjust hub tension and thread welding wire. Close and latch door.

Close gun pressure roll assembly and reinstall gun cover.

Tools Needed:

7/16 in.

8-3. Diagnostics

The following error messages are shown on the upper and lower displays to indicate specific errors. Explanations are in the text below:

TRIG	**ERR**	Indicates a trigger error. A trigger error occurs if the user has the trigger held for more than two minutes without striking an arc. This error also occurs if the trigger is held when the feeder is powered up. The error may be cleared by releasing the trigger.
JOG	**ERR**	Indicates a jog switch error. A jog switch error occurs if the user has the jog switch held for more than two minutes. This error also occurs if the jog switch is held when the feeder is powered up. The error may be cleared by releasing the jog switch.
PURG	**ERR**	Indicates a purge switch error. A purge switch error occurs if the user has the purge switch held for more than one minute. This error also occurs if the purge switch is held when the feeder is powered up. The error may be cleared by releasing the purge switch.
COOL	**ERR**	Indicates a water flow switch error. A water flow switch error occurs if no water flow is detected while the trigger is pressed. Jog and purge switches will behave normally even if no water flow is detected. Dip switch 2 on motor control PCB must be set to enable this error. The error is cleared when water flow is detected or when the error is disabled.
TEST	**ERR.1**	Indicates a power on self diagnostic test error. The number provides information regarding the error. If this error occurs, contact a Factory Authorized Service Agent.
COMM	**ERR**	Indicates a serial communication error. A communication error occurs 2 seconds after a loss of communication between the motor control pcb and the front panel pcb.
1234	**ERR.M**	Indicates a motor control pcb error. If this error occurs, contact a Factory Authorized Service Agent.
1234	**ERR.F**	Indicates a front panel pcb error. If this error occurs, contact a Factory Authorized Service Agent.

8-4. Troubleshooting

Disconnect power before troubleshooting.

Trouble	Remedy
Pressing gun trigger does not energize feeder. Shielding gas does not flow and wire feeder does not feed.	Secure plug from gun control cable into Gun Control receptacle on feeder (see Section 5-8).
	Have nearest Factory Authorized Service Agent check optional water flow switch, if applicable.
Wire feeds, shielding gas flows, but welding wire is not energized.	Check to see if ground clamp or weld cable is connected.
Wire feeds erratically.	Verify proper wire size is selected (see Section 7-2).
	Check drive roll pressure in wire feeder and gun (see Section 5-11).
	Clean or replace drive rolls as necessary.
	Check and replace liner if necessary.
Arc varies and welding wire is kinked when feeding out gun.	Verify proper wire size is selected (see Section 7-2).
No weld output; gun/feeder does not work.	Check gun control cable connection on wire feeder front panel (see Section 5-8).
Erratic weld output.	Tighten and clean all connections.
	Replace contact tip.
	Verify proper wire size is selected (see Section 7-2).
	Check drive roll pressure in wire feeder and gun (see Section 5-11).
	Check and replace liner if necessary.
Wire does not feed; burnback in contact tip.	Verify drive roll size is correct.
	Check drive roll pressure in wire feeder and gun (see Section 5-11).
	Check and replace liner if necessary.
Motor does not run.	Check drive roll pressure in wire feeder and gun (see Section 5-11).
	Check and replace liner if necessary.
	Have Factory Authorized Service Agent check feeder.

Notes

Notes

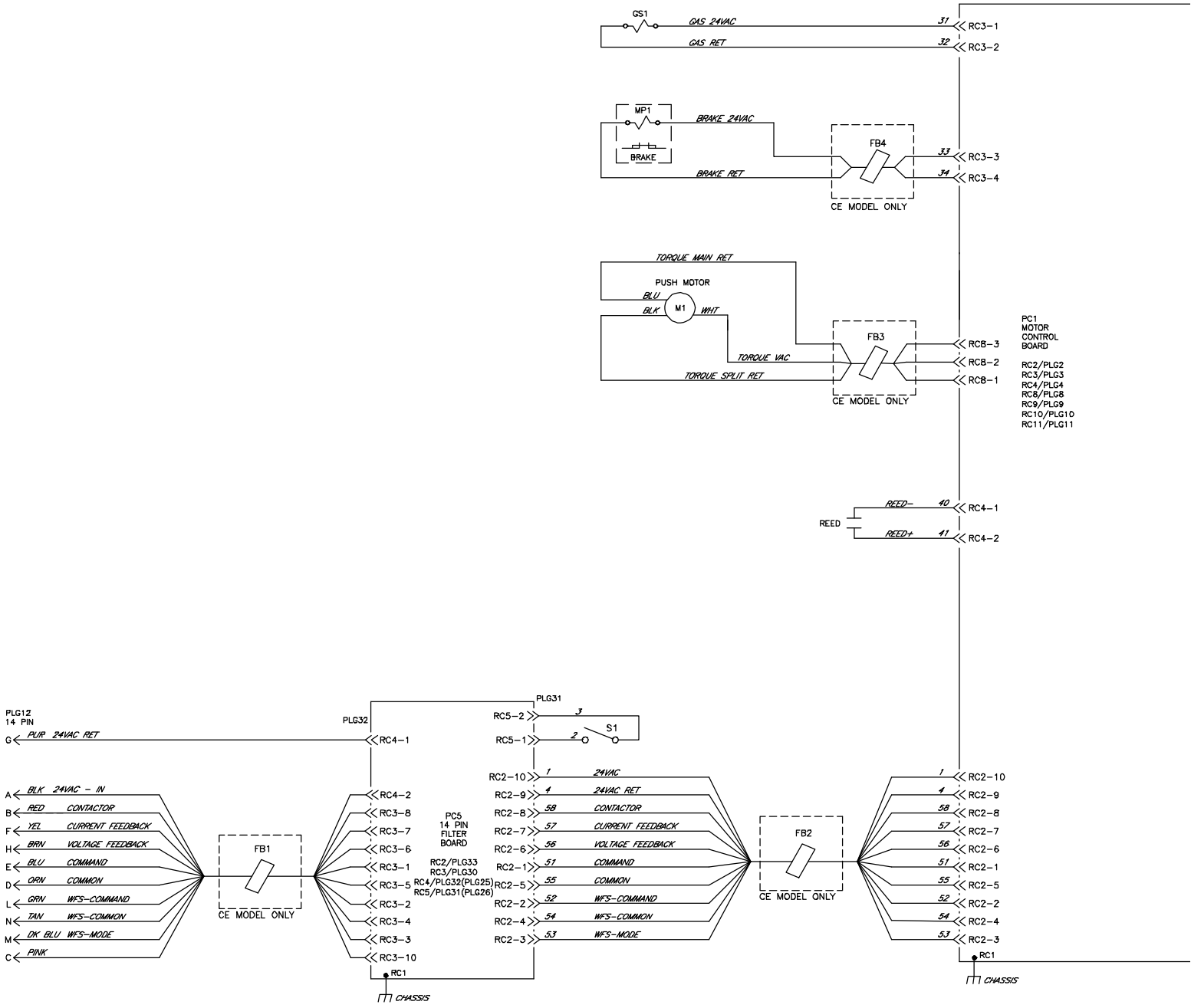
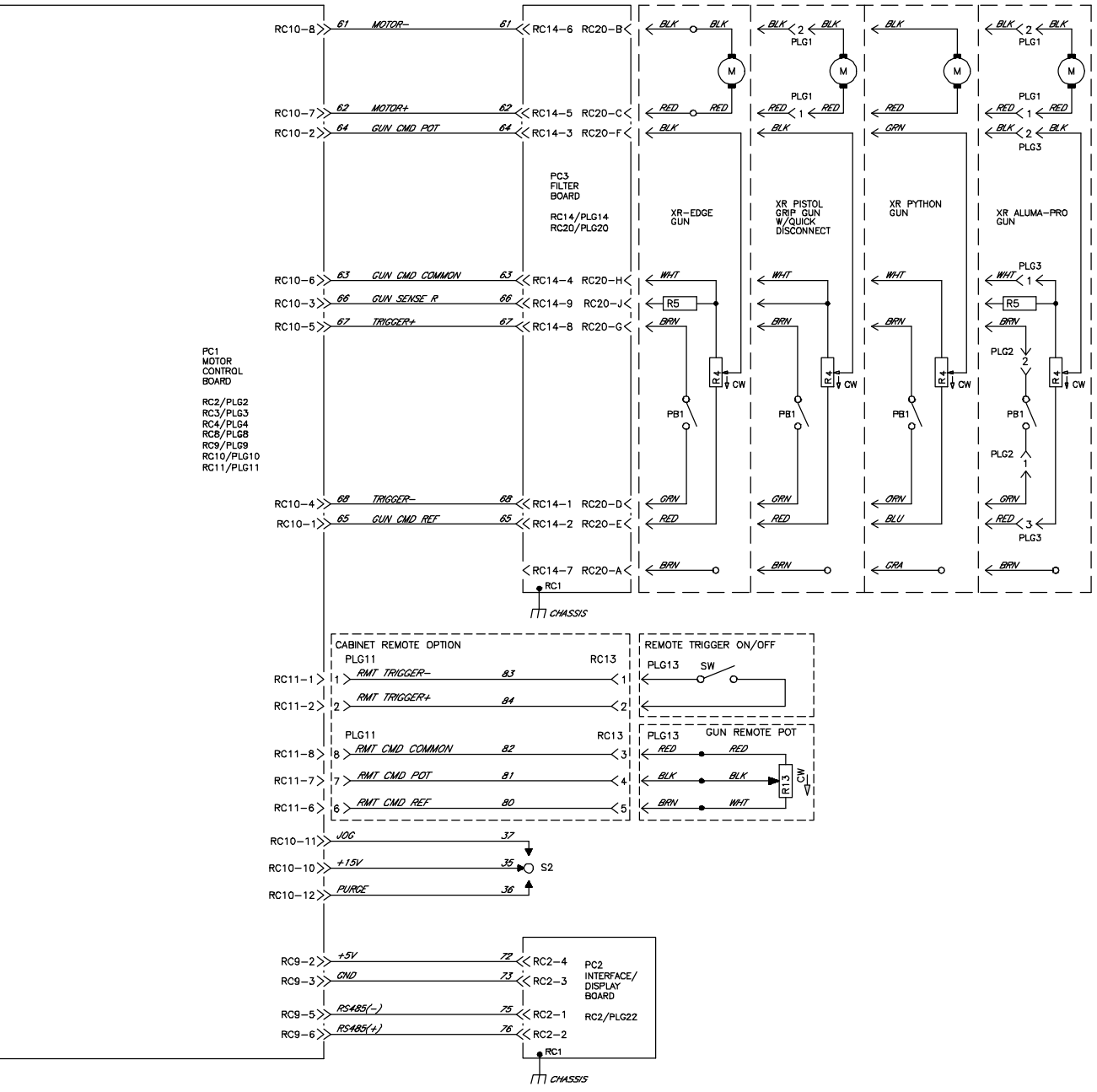


Figure 9-1. Circuit Diagram For Wire Feeder



⚠ 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	

285819-B

Notes

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.

Miller

TRUE BLUE® WARRANTY

Effective January 1, 2021
(Equipment with a serial number preface of NB or newer)

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

LIMITED WARRANTY – Subject to the terms and conditions below, Miller Electric Mfg. LLC, Appleton, Wisconsin, warrants to authorized distributors 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. Notifications submitted as online warranty claims must provide detailed descriptions of the fault and troubleshooting steps taken to diagnose failed parts. Warranty claims that lack the required information as defined in the Miller Service Operation Guide (SOG) may be denied by Miller.

Miller shall honor warranty claims on warranted equipment listed below in the event of a defect within the warranty coverage time periods listed below. Warranty time periods start on the delivery date of the equipment to the end-user purchaser, or 12 months after the equipment is shipped to a North American distributor, or 18 months after the equipment is shipped to an international distributor, whichever occurs first.

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 Unless Specified
   * Auto-Darkening Helmet Lenses (No Labor)
   * Engine Driven Welder/Generators **(NOTE: Engines are Warranted Separately by the Engine Manufacturer.)**
   * Insight Welding Intelligence Products (Except External Sensors)
   * Inverter Power Sources
   * 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 Weld Masks (No Labor)
   * Fume Extractors – Capture 5, Filtair 400 and Industrial Collector Series
4. 1 Year — Parts and Labor Unless Specified
   * ArcReach Heater
   * AugmentedArc and LiveArc Welding Systems
   * Automatic Motion Devices
   * Bernard BTB Air-Cooled MIG Guns (No Labor)
   * CoolBelt (No Labor)
   * Desiccant Air Dryer System
   * 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, ZoneFlow Extraction Arms and Motor Control Box
   * 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 (except Spoolmate Spoolguns)
   * PAPR Blower Unit (No Labor)
   * Positioners and Controllers
   * Racks (For Housing Multiple Power Sources)
   * Running Gear/Trailers
   * Subarc Wire Drive Assemblies
   * Supplied Air Respirator (SAR) Boxes and Panels
   * TIG Torches (No Labor)
   * Tregaskiss Guns (No Labor)
   * Water Cooling Systems
   * Wireless Remote Foot/Hand Controls and Receivers
   * Work Stations/Weld Tables (No Labor)
5. 6 Months — Parts
   * 12 Volt Automotive-Style Batteries
6. 90 Days — Parts
   * Accessories (Kits)
   * ArcReach Heater Quick Wrap and Air Cooled Cables
   * Canvas Covers
   * Induction Heating Coils and Blankets, Cables, and Non-Electronic Controls
   * MDX Series MIG Guns
   * M-Guns
   * MIG Guns, Subarc (SAW) Torches, and External Cladding Heads
   * Remote Controls and RFCS-RJ45
   * Replacement Parts (No labor)
   * 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.
4. Defects caused by accident, unauthorized repair, or improper testing.

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

The exclusive remedies for warranty claims are, at Miller's option, either: (1) repair; or (2) replacement; or, if approved in writing by Miller, (3) the pre-approved 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 use). Products may not be returned without Miller's written approval. Return shipment shall be at customer's risk and expense.

The above remedies are F.O.B. Appleton, WI, or Miller's authorized service facility. Transportation and freight are the customer's responsibility. TO THE EXTENT PERMITTED BY LAW, THE REMEDIES HEREIN ARE THE SOLE AND EXCLUSIVE REMEDIES REGARDLESS OF THE LEGAL THEORY. IN NO EVENT SHALL MILLER BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING LOSS OF PROFIT) REGARDLESS OF THE LEGAL THEORY. ANY WARRANTY NOT PROVIDED HEREIN AND ANY IMPLIED WARRANTY, GUARANTY, OR REPRESENTATION, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE, ARE EXCLUDED AND DISCLAIMED BY MILLER.

Some US states do not allow limiting the duration of an implied warranty or the exclusion of certain damages, so the above limitations may not apply to you. This warranty provides specific legal rights, and other rights may be available depending on your state. In Canada, some provinces provide additional warranties or remedies, and to the extent the law prohibits their waiver, the limitations set out above may not apply. This Limited Warranty provides specific legal rights, and other rights may be available, but may vary by 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

Register your product at www.millerwelds.com/support/product-registration

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 Protective Equipment (PPE)
- Service and Repair
- Replacement Parts
- Training (Schools, Videos, Books)
- 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.

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

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