OM-289411E 2024-02

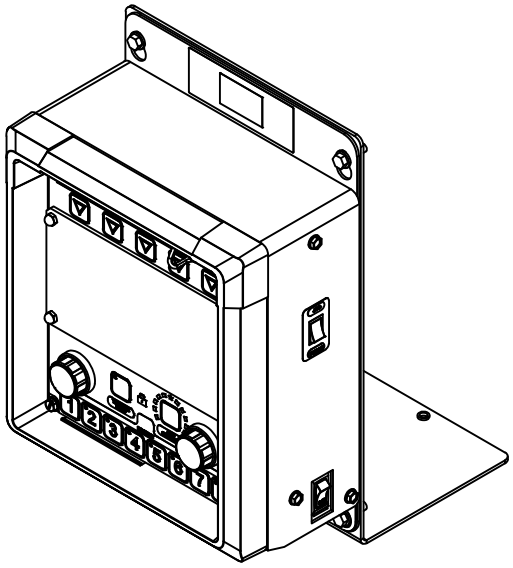
Processes

MIG (GMAW) Welding
Pulsed MIG (GMAW-P) Welding

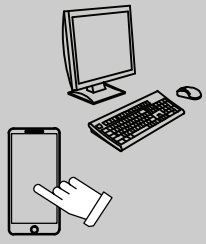
Flux Cored (FCAW) Welding

Description

Intellx™ Elite ROI and Intellx™ Elite Dual ROI



OWNER'S MANUAL



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.

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.**

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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.

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SECTION 1 – SAFETY PRECAUTIONS – READ BEFORE USING

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

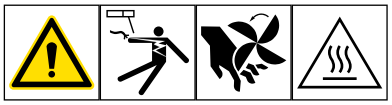
1-1. Symbol Usage

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. 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.

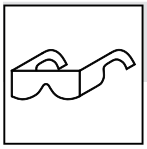
ELECTRIC SHOCK can kill.

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.
- Do not store or use equipment in standing water.
- 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.
- Use only well-maintained equipment. Repair or replace damaged parts at once. Maintain unit according to manual.
- Do not touch electrode holders connected to two welding machines at the same time since double open-circuit voltage will be present.
- 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.

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.



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.

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 watchperson 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.

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.

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 leather or flame-resistant clothing (FRC). 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 (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 leather or flame-resistant clothing (FRC). 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.

NOISE can damage hearing.

Noise from some processes or equipment can damage hearing.

- Wear approved ear protection if noise level is high.

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.

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.

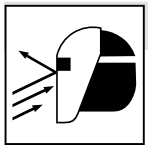
- Do not install or place unit on, over, or near combustible surfaces.
- Do not install unit near flammables.
- Do not overload building wiring — be sure power supply system is properly sized, rated, and protected to handle this unit.

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.

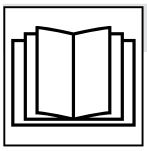
- Do not press gun trigger until instructed to do so.
- Do not point gun toward any part of the body, other people, or any metal when threading welding wire.

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 microprocessors, 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: safetyequipment.org.

Safe Practices for the Preparation of Containers and Piping for Welding and Cutting, American Welding Society Standard AWS F4.1. Website: www.aws.org.

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

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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.**

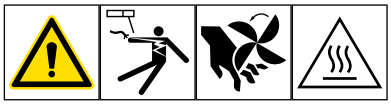
2-1. Symboles utilisés

⚠ **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 ce symbole, prendre garde et suivre les instructions afférentes pour éviter tout risque. Les consignes de sécurité présentées ci-après ne font que résumer l'information contenue dans les Normes de sécurité principales. Lire et suivre 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.**

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

UNE DÉCHARGE ÉLECTRIQUE peut entraîner la mort.

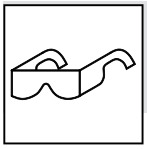
Le contact d'organes électriques sous tension peut provoquer des accidents mortels ou des brûlures graves. Le circuit de l'électrode et de la pièce est sous tension lorsque le courant est délivré à la sortie. Le circuit d'alimentation et les circuits internes de la machine sont également sous tension 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.
- Ne stockez pas et n'utilisez pas l'équipement dans de l'eau stagnante.
- 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).
- Brancher correctement la mise à la terre et utiliser cet appareil conformément à son manuel d'utilisateur et aux codes nationaux, provinciaux et municipaux.
- Toujours vérifier la mise à la terre — vérifier et assurez-vous que le conducteur de mise à la terre du cordon d'alimentation est bien raccordé à la borne de mise à la terre dans le boîtier de déconnexion 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.

LES PIÈCES CHAUDES peuvent provoquer des brûlures.

- Ne pas toucher des parties chaudes à mains nues.
- 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.



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

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

- Porter un casque de soudage approuvé muni de verres filtrants approprié pour protéger visage et yeux pendant le soudage (voir ANSI Z49.1 et Z87.1 énuméré dans les normes de sécurité).
- Porter des lunettes de sécurité avec écrans latéraux même sous votre casque.
- Avoir recours à des écrans protecteurs ou à des rideaux pour protéger les autres contre les rayonnements les éblouissements et les étincelles ; prévenir toute personne sur les lieux de ne pas regarder l'arc.
- Porter une protection corporelle en cuir ou des vêtements ignifuges (FRC). La protection du corps comporte des vêtements sans huile, comme 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 (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 une protection corporelle en cuir ou des vêtements ignifuges (FRC). La protection du corps comporte des vêtements sans huile, comme 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.

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 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.

Si des BOUTEILLES sont endommagées, elles pourront exploser.

Des bouteilles de gaz comprimé protecteur 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 lerégulateur lors de l'ouverture de la vanne.
- Maintenir le chapeau de protection sur la soupape, sauf en cas d'utilisation ou de branchement de la bouteille.
- 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. Symboles de dangers supplémentaires en relation avec l'installation, le fonctionnement et la maintenance

Risque D'INCENDIE OU D'EXPLOSION.

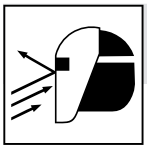
- Ne pas placer l'appareil sur, au-dessus ou à proximité de surfaces inflammables.
- Ne pas installer l'appareil à proximité de produits inflammables
- Ne pas surcharger l'installation électrique – s'assurer que l'alimentation est correctement dimensionné et protégé avant de mettre l'appareil en service.

LA CHUTE DE L'ÉQUIPEMENT peut provoquer des blessures.

- Utiliser l'anneau de levage uniquement pour soulever l'appareil, NON PAS les organes de roulement, 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.

- Laisser l'équipement refroidir ; respecter le facteur de marche nominal.
- Réduire le courant ou le cycle opératoire avant de recommencer 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.

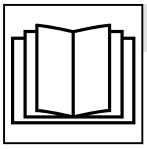
- Ne pas appuyer sur la gachette avant d'en avoir reçu l'instruction.
- Ne pas diriger le pistolet vers soi, d'autres personnes ou toute pièce mécanique en engageant le fil de soudage.

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 des pièces de remplacement provenant du fabricant.
- 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: safetyequipment.org.

Safe Practices for the Preparation of Containers and Piping for Welding and Cutting, American Welding Society Standard AWS F4.1. Website: www.aws.org.

National Electrical Code, NFPA Standard 70 from National Fire Protection Association. Website: www.nfpa.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. csa-group.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.

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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: par exemple, des restrictions d'accès pour les passants ou une évaluation individuelle des risques pour les soudeurs. Tous les soudeurs doivent appliquer les procédures suivantes pour minimiser l'exposition aux CEM provenant du circuit de soudage:

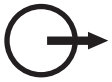
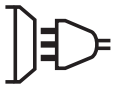
1. Rassembler les câbles en les torsadant ou en les attachant avec du ruban adhésif ou avec une housse.
2. Ne pas se tenir au milieu des câbles de soudage. Disposer les câbles d'un côté et à distance de l'opérateur.
3. Ne pas courber et ne pas entourer les câbles autour de votre corps.
4. Maintenir la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

A	Amperage
V	Voltage
⎓	Direct Current (DC)
IP	Degree Of Protection
	Increase
	Gas Input
	Input
	Output
%	Percent
	Purge By Gas
	Gas Preflow
	Gas Postflow
I_2	Rated Welding Current
	Line Connection
	Wire Diameter
	Cold Jog (Inch) Towards Workpiece
	Trigger Hold On
	Gas Type
	Gas Metal Arc Welding (GMAW) Gun
U_1	Primary Voltage
	Filter
	Wire Type
	Arc Control
	Read Instructions
	Pulse
	Done
	Voltage Sense Input
	Memory

SECTION 4 – SPECIFICATIONS

4-1. 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.

4-2. 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.*

4-3. Specifications

Input Power	Welding Power Source Type	Wire Feed Speed Range*	Wire Diameter Range	Welding Circuit Rating	Overall Dimensions	Weight
50 VDC	Deltaweld 350 Deltaweld 500	Standard: 50-780 ipm (1.3-19.8mpm)	.023 To 5/64 in. (0.6 To 2 mm) Max Spool Capacity: 18 in. (457 mm) Max Spool Weight: 60 lb (27 kg)	113 Volts DC 600 Amperes, 60% Duty Cycle	Height: 13.3 in. (338 mm) Width: 9.2 in. (234 mm) Length: 5.2 in.(132 mm)	Single and Dual ROI 16.4lb (7.4 kg)

4-4. Environmental Specifications

A. IP Rating

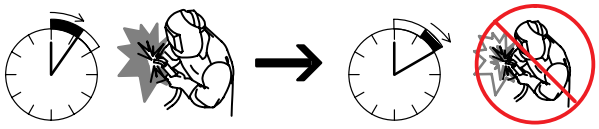
IP Rating
IP2X This equipment is designed for indoor use and is not intended to be used or stored outside.

B. Temperature Specifications

Operating Temperature Range	Storage/Transportation Temperature Range
14 to 104°F (-10 to 40°C)	-4 to 131°F (-20 to 55°C)

4-5. Duty Cycle And Overheating

60% Duty Cycle At 600 Amperes



6 Minutes Welding

4 Minutes Resting

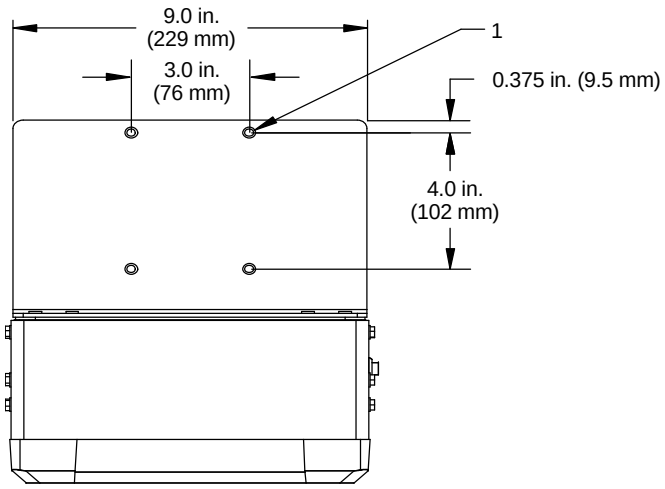
Duty Cycle is percentage of 10 minutes that unit can weld at rated load without overheating.

NOTICE – *Exceeding duty cycle can damage unit and void warranty.*

SECTION 5 – INSTALLATION

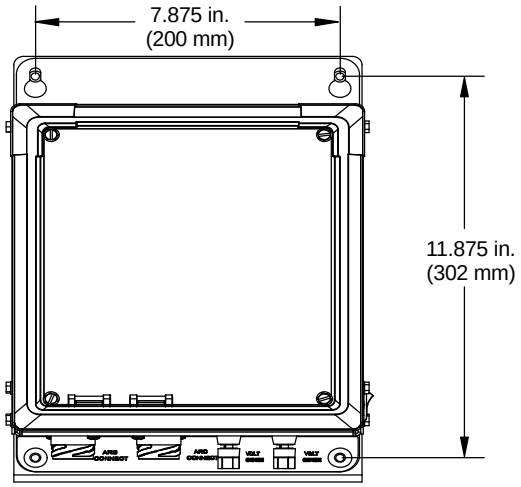
5-1. Remote Operator Interface Mounting Bracket Hole Layout

Top View

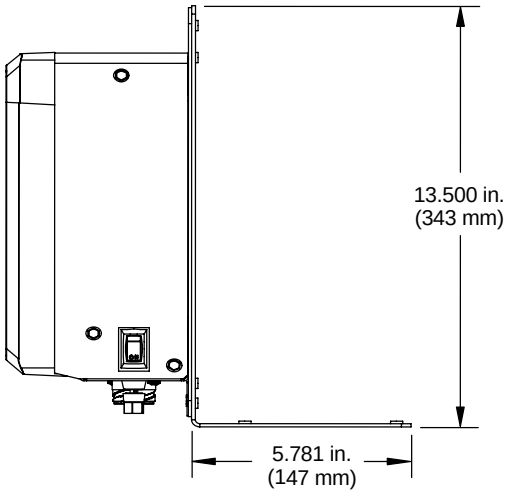


1 Extruded holes in mounting bracket for 1/4 in. self-tapping screws (8).

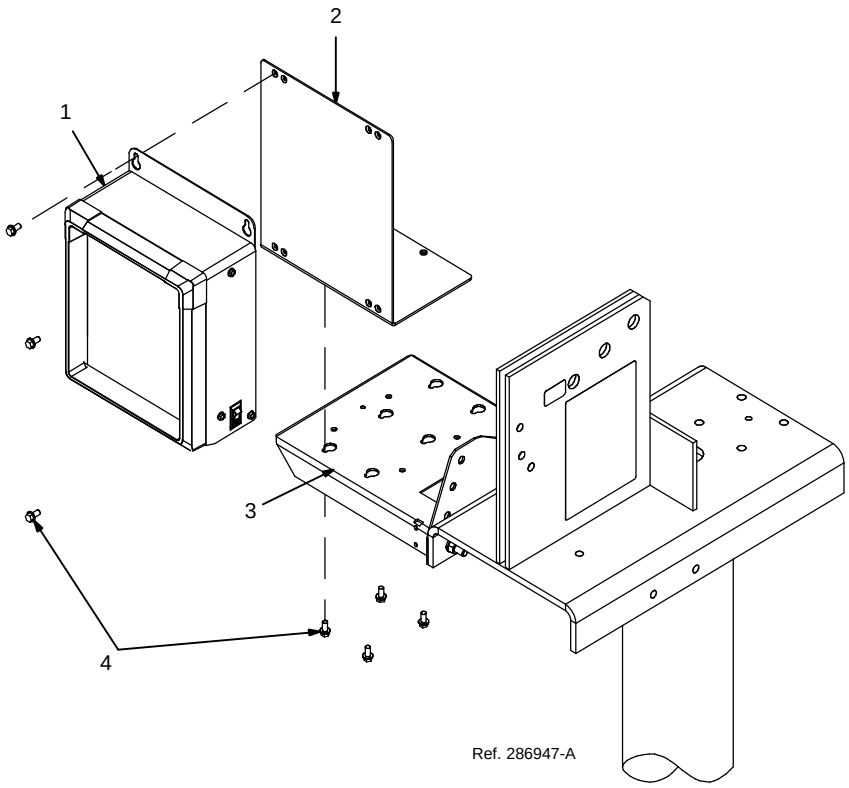
Front View



Side View



5-2. Mounting Remote Operator Interface To Boom



Ref. 286947-A

⚠ **Turn off unit and disconnect input power before making connections.**

1 Remote Operator Interface

2 Mounting Bracket

3 Mounting Plate

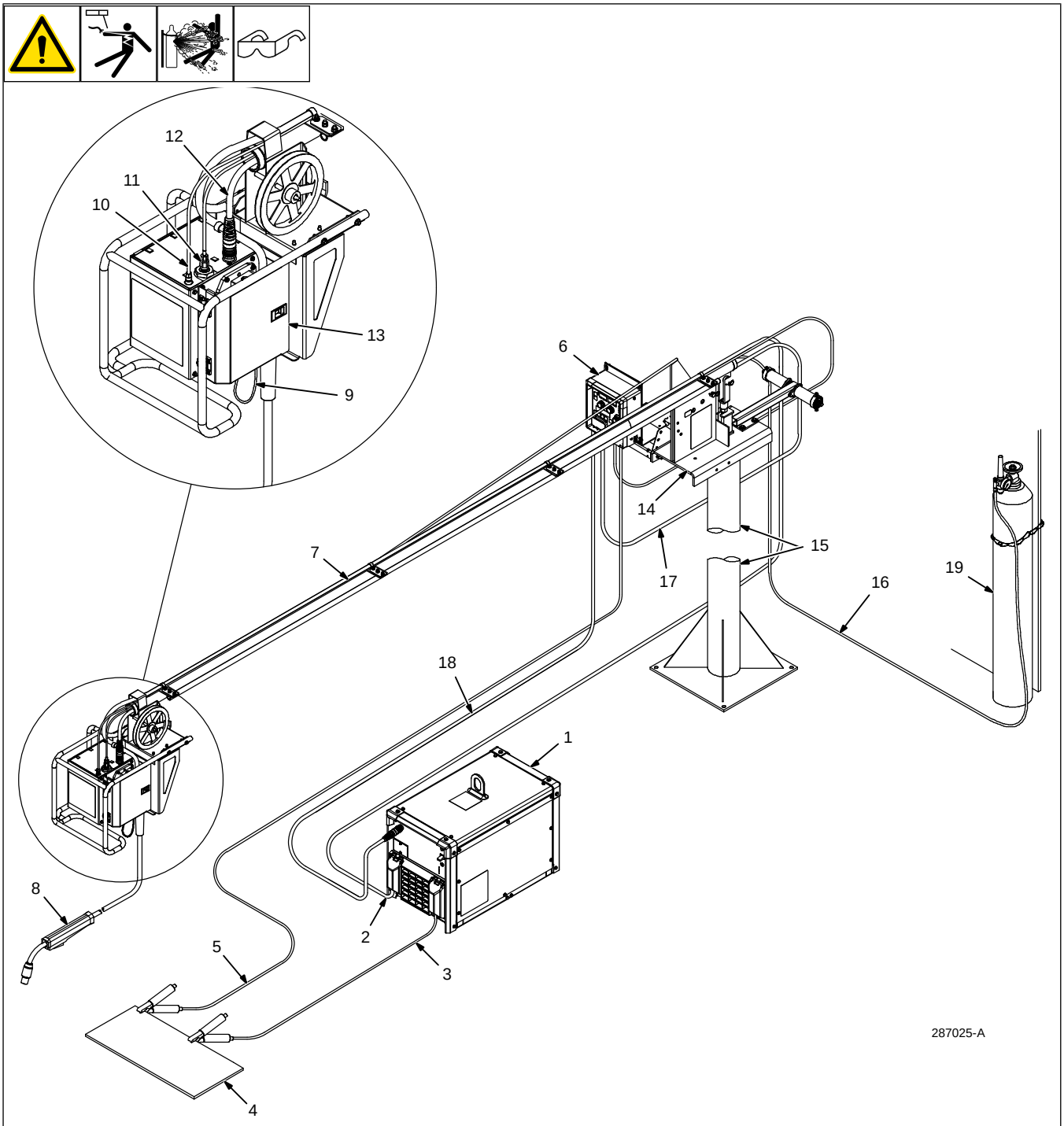
4 0.250-20 x 0.5 in. Screws (8)

Attach mounting bracket to mounting plate using four screws.

Attach control box to mounting bracket using four screws.

Torque to 50 in lb (5.6 N·m).

5-3. Equipment Connection Diagram (Single Boom)



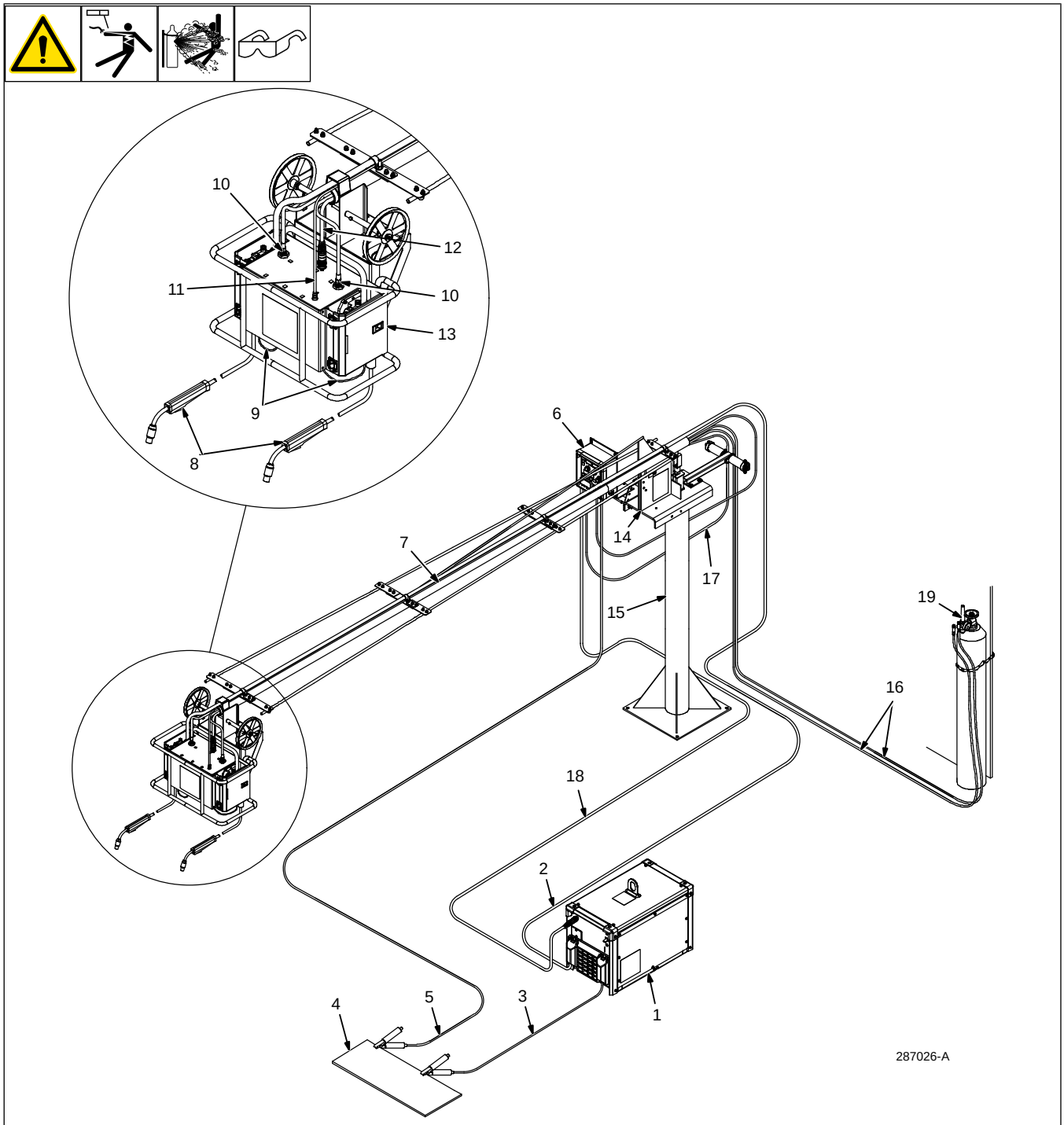
1 Welding Power Source
2 Positive (+) Weld Cable
3 Negative (-) Weld Cable
4 Workpiece
5 Voltage Sensing Lead (Optional)

☞ *Positive (+) voltage sensing lead is contained in the motor cable.*

6 Remote Operator Interface
7 Boom
8 Gun
9 Trigger Connection
10 Voltage Sensing Cable
11 Shielding Gas Valve
12 ArcConnect Cable
13 Wire Drive Assembly
14 Swivel
15 Pipe Post And Base
16 Gas Hose
17 ArcConnect Cable (Wire Drive)
18 ArcConnect Cable (Power Source)
19 Gas Supply And Regulator (Customer Supplied)

Route weld cable and gas hose through opening in panel.

5-4. Equipment Connection Diagram (Dual Boom)



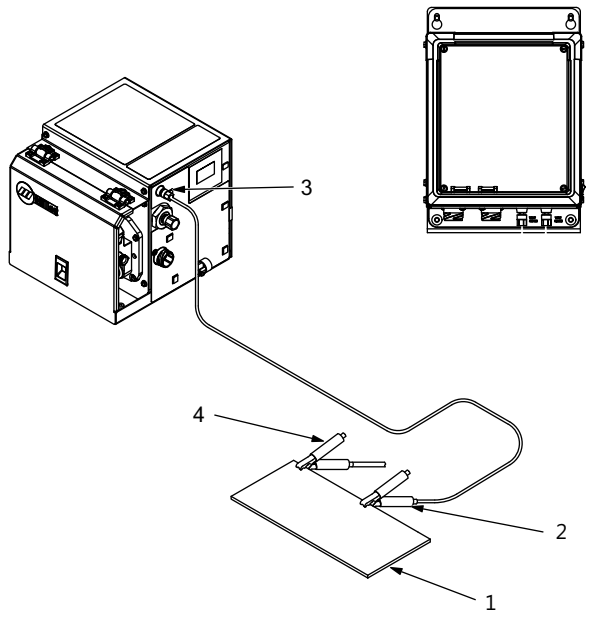
1 Welding Power Source
2 Positive (+) Weld Cable
3 Negative (-) Weld Cable
4 Workpiece
5 Voltage Sensing Lead (Optional)

☞ *Positive (+) voltage sensing lead is contained in the motor cable.*

6 Remote Operator Interface
7 Boom
8 Gun
9 Trigger Connection
10 Shielding Gas Valve
11 Voltage Sensing Cable
12 ArcConnect Cable
13 Wire Drive Assembly
14 Swivel
15 Pipe Post And Base
16 Gas Hose
17 ArcConnect Cable (Wire Drive)
18 ArcConnect Cable (Power Source)
19 Gas Supply And Regulator (Customer Supplied)

Route weld cable and gas hose through opening in panel.

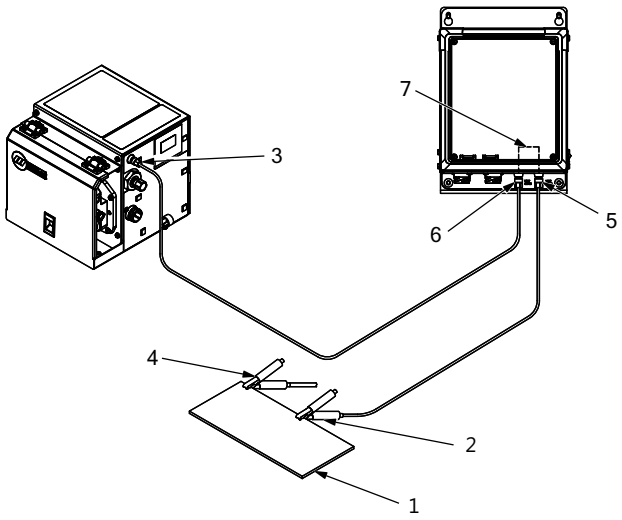
5-5. Connecting Volt Sense Lead



Recommended Set-up

☞ *Connection to ROI is not required.*

Volt sense connected directly from workpiece to feeder.



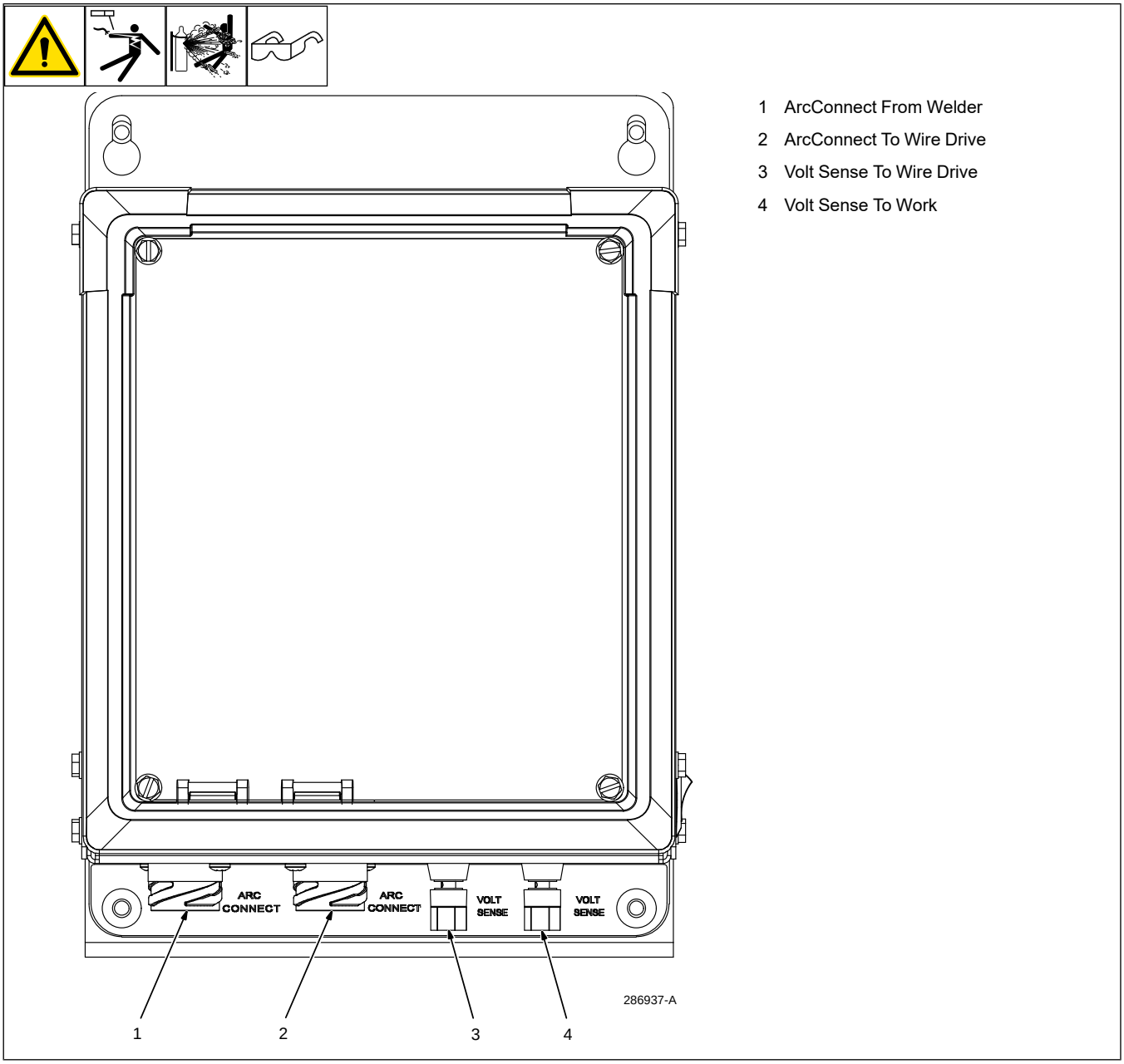
Alternate Configuration

☞ *Use this for cable management when needed*

Volt Sense connected to feeder via pass-through connectors. Allows for 2-piece wire volt sense and ease of replacement.

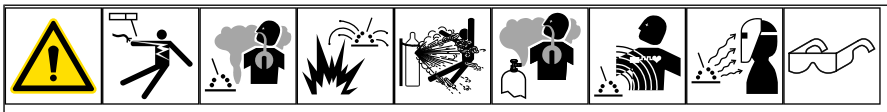
1 Work Piece
2 Volt Sense Clamp
3 Volt Sense Connection To Feeder
4 Ground Clamp Connection To Power Source
5 Volt Sense From Work Piece
6 Volt Sense to Feeder
7 Internal Pass-Through Connection (hidden)

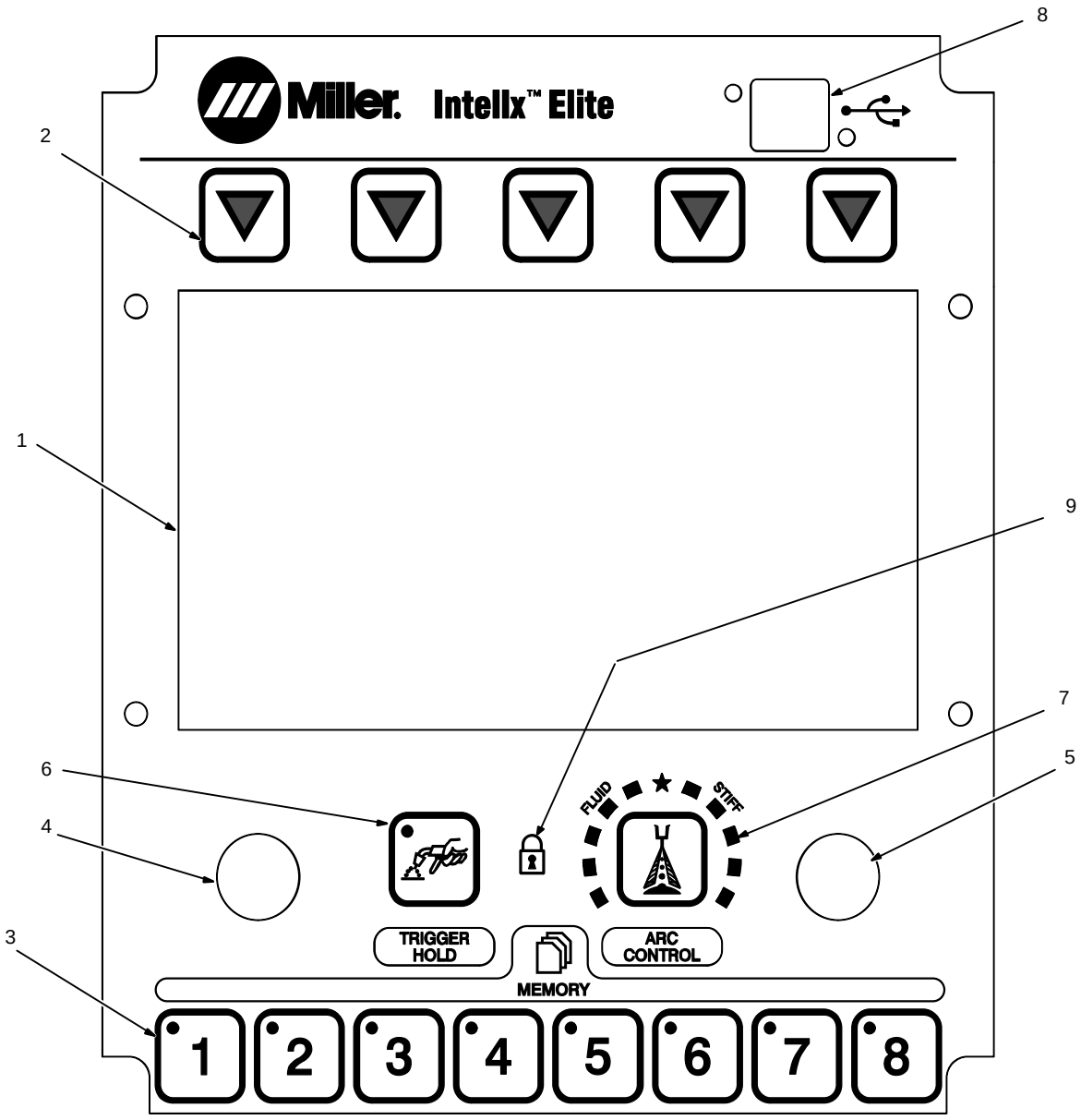
5-6. Remote Operator Interface Connections



1 ArcConnect From Welder
2 ArcConnect To Wire Drive
3 Volt Sense To Wire Drive
4 Volt Sense To Work

6-1. Intellx Elite User Interface





1 LCD Display

The LCD display is used as an interactive screen for setting weld parameters, displaying weld information, and communicating machine status and errors.

2 Menu Select Soft Keys

Use these keys to select functions in the Menu Tabs area.

3 Memory 1–8 Buttons

Allows eight memory selections to recall pre-selected welding processes, wire type, gas, and weld parameters.

4 Left Adjust Control Knob-Voltage/Arc Length

Use control to adjust voltage or arc length as determined by indicator on LCD screen.

5 Right Adjust Control Knob)

Use control to adjust wire feed speed when indicator is lit below right display. Use control to adjust welding gas preflow or postflow time after pressing preflow or postflow buttons.

6 Trigger Hold Button

Use to enable and disable trigger hold function. Indicator is lit when active.

7 Arc Control Button and Light Bar Indicator

Use control to adjust arc characteristics. Rotate to review and adjust desired setting.

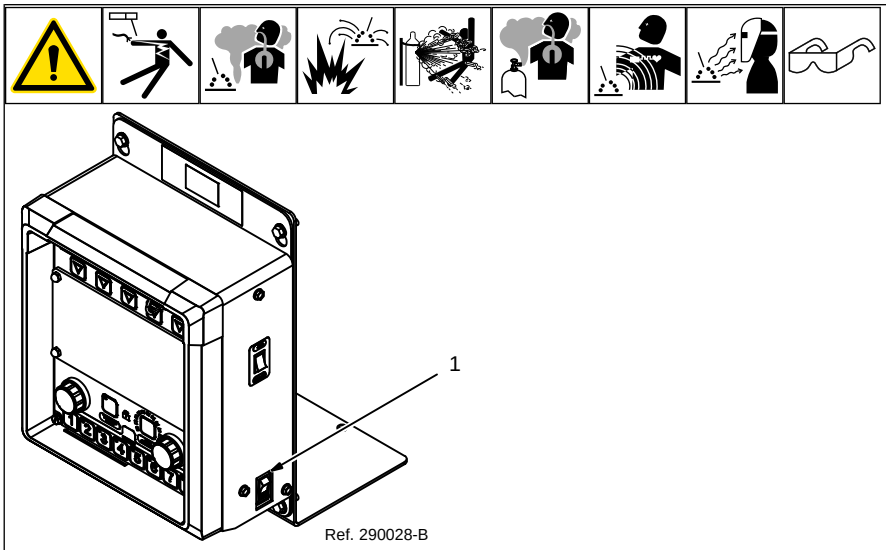
8 USB Port

Use this port for all USB related functions (see Section 6-12).

9 Lock Icon

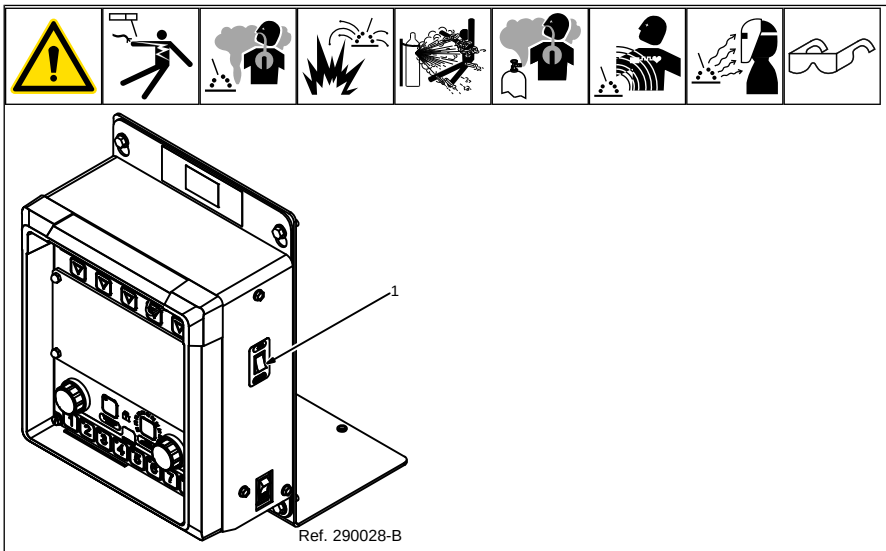
Indicates when the system is in a locked or unlocked state.

6-2. Power Switch



1 Power Switch (Located on side of remote operator interface)

6-3. Jog/Purge Switch (Single ROI)

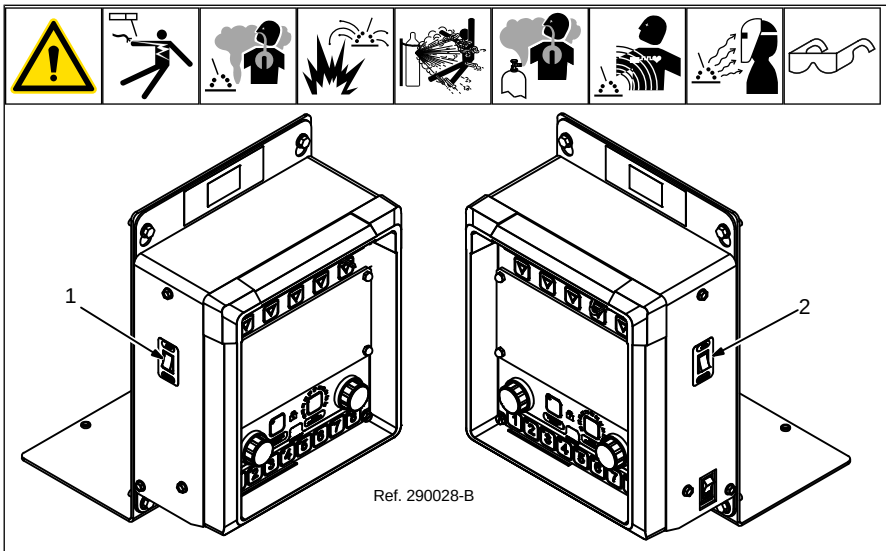


1 Jog/Purge Switch (Located on side of remote operator interface)

Pressing top portion of switch enables wire feeder to feed wire without energizing weld output or gas valve.

Pressing bottom portion of switch enables gas valve to purge gas lines.

6-4. Jog/Purge Switches (Dual ROI)



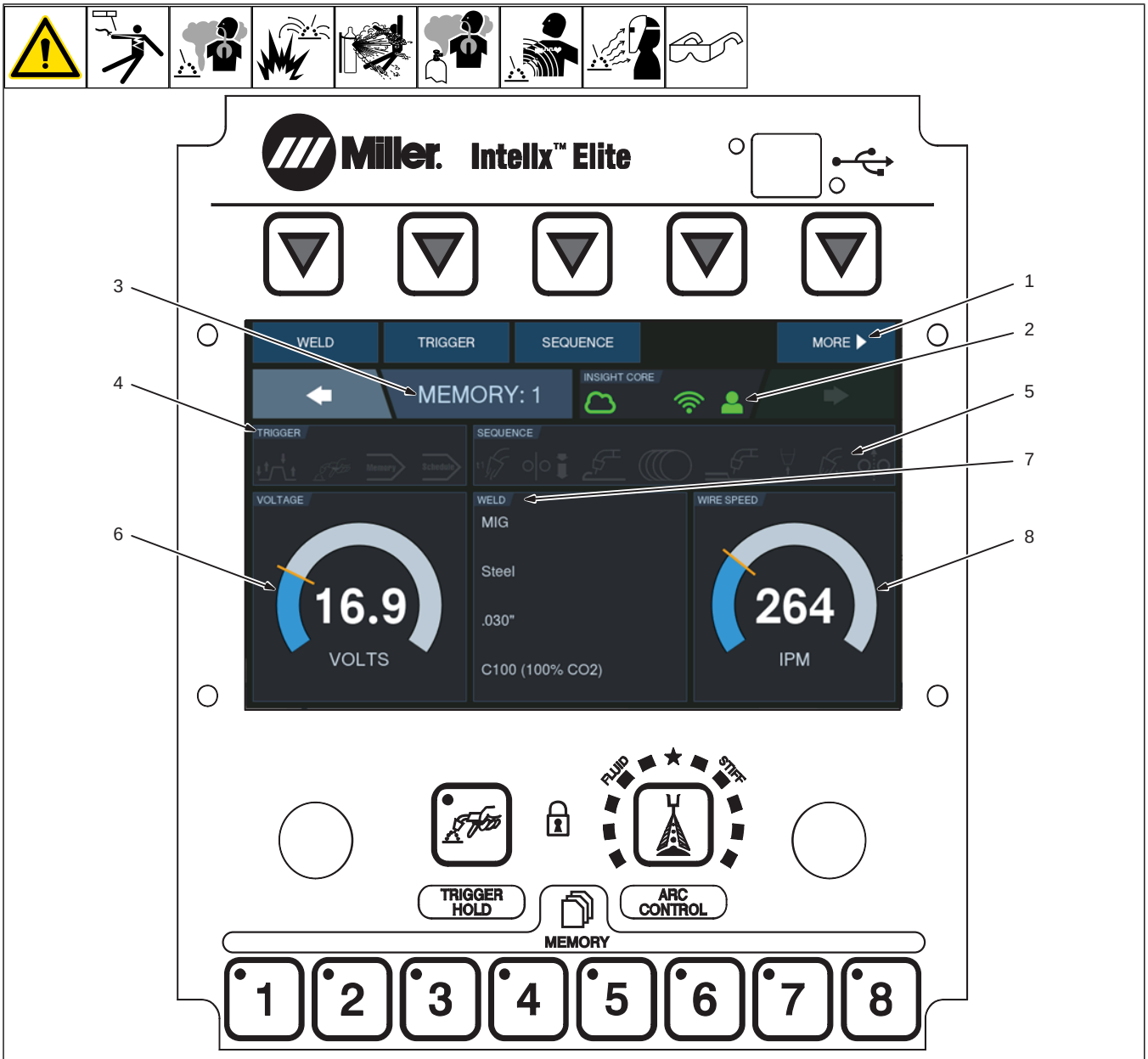
1 Left Jog/Purge Switch

2 Right Jog/Purge Switch

Pressing top portion of switch enables wire feeder to feed wire without energizing weld output or gas valve.

Pressing bottom portion of switch enables gas valve to purge gas lines.

6-5. Intellx Elite Home Screen



1 Menu Tabs

This menu indicates which action will be selected by the corresponding soft keys.

2 Insight Status Icon Bar

Indicates the status of the Insight peripheral (when available).

3 Active Memory Selection Indicator

Indicates which memory number is currently active.

4 Trigger Icons Status Bar

Indicates trigger hold status

5 Sequence Icons Status Bar

Indicates the status of the weld sequence processes. When a process is enabled, the corresponding icon will be lit.

6 Weld Voltage / Arc Length Display

Displays the weld voltage and arc length setting.

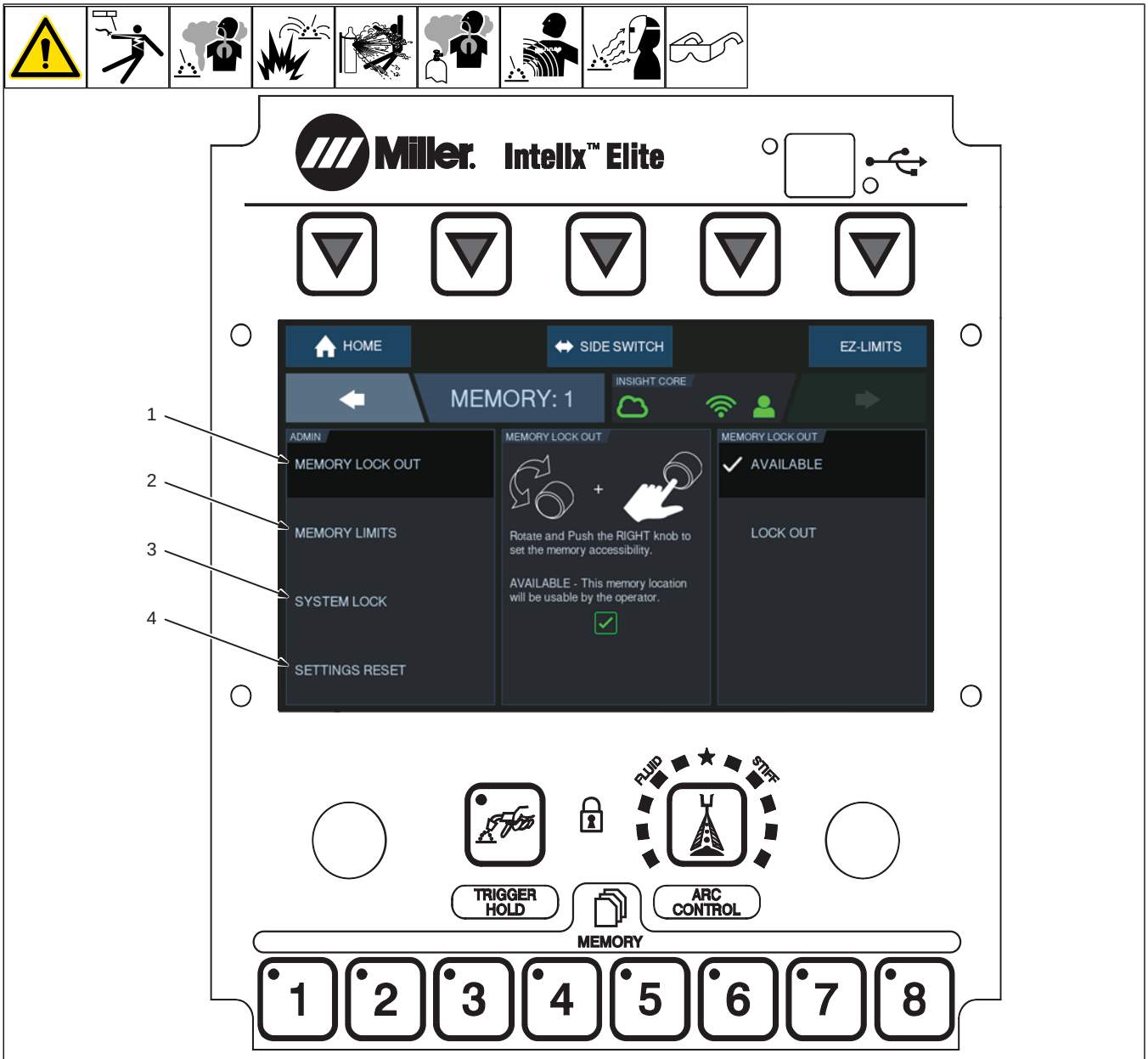
7 Active Weld Program Indicator

The display shows details of the actively loaded weld program (Process, Wire Type, Wire Size, and Gas). When a Profile Pulse program is active, the display shows the settings for Frequency, WFS Change and Arc Length Change.

8 Weld Wire Feed Speed / Amperage Display

This display shows details of the wire feed speed and amperage presets. When EZ-Set is active, the adjustment range for the preset material is displayed. When parameter limits are enabled, the allowable adjustment range is displayed.

6-6. Intellx Elite Administrator Settings



☞ *Administrator settings allow the user to set Voltage/Arc Length upper and lower limits, wire speed upper and lower limits, and Arc Control upper and lower limits. These settings can be locked in place with a Passcode to restrict access to these parameters.*

1 Memory Lockout

Allows the Administrator to lock out or make available a memory slot for operator access.

2 Memory Limits

Allows the Administrator to set and activate weld memory parameters limits in a memory slot

3 System Lock

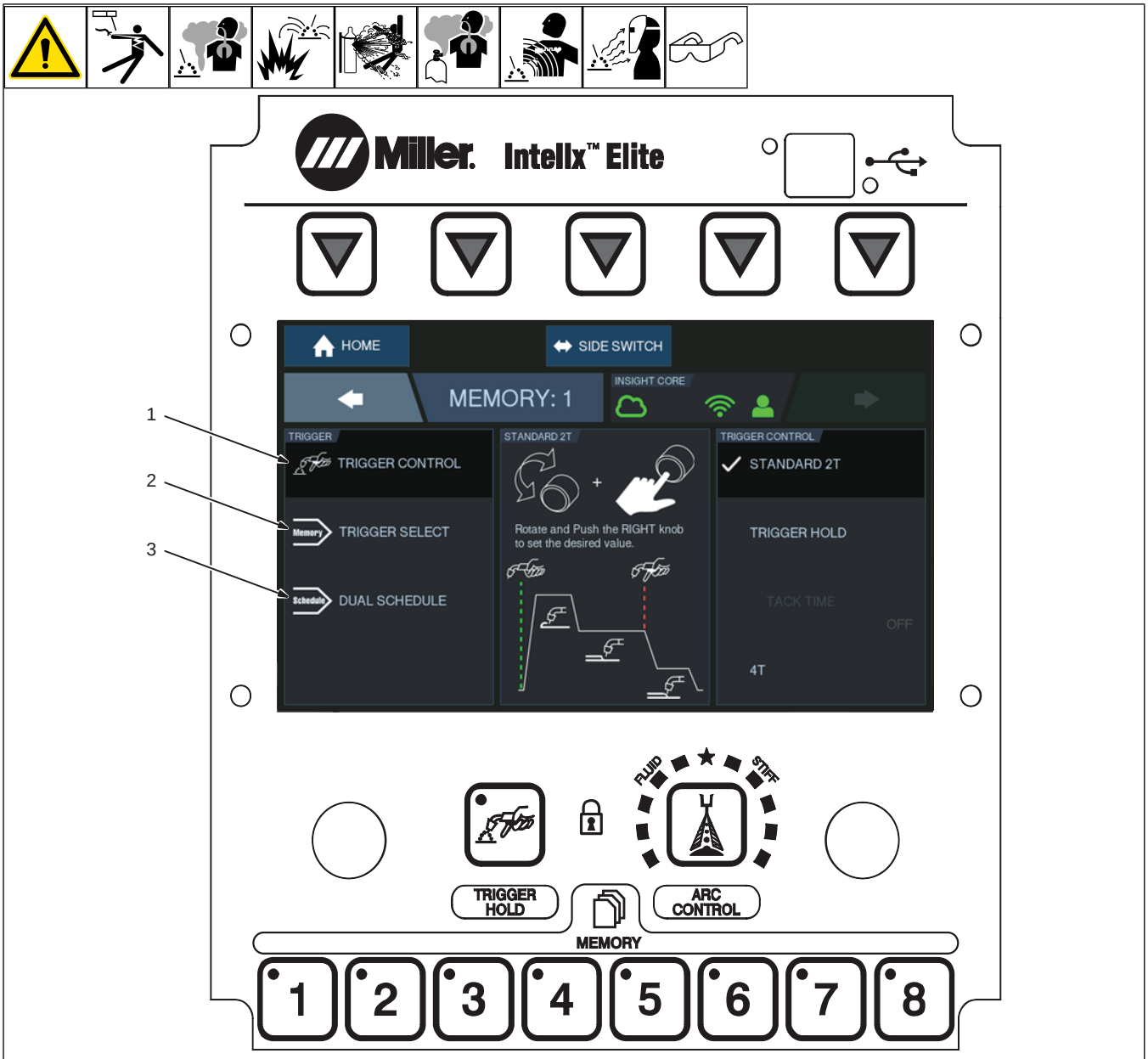
Enter Passcode to lock or unlock the system.

☞ *An authorized user may use the passcode recovery feature to recover a lost passcode. Press the "Recovery" softkey, and follow the on-screen prompts to contact Miller Service.*

4 Settings Reset

Allows the Administrator to reset system settings.

6-7. Intellx Elite Trigger Settings



1 Trigger Control

Allows the operator to select Standard 2T, Trigger Hold, Tack Time and 4T. 4T allows the operator to select between weld parameters and crater parameters using the gun trigger. Preflow and Crater are automatically enabled when 4T is selected, both Preflow and Crater are configurable in the Weld Sequence Configuration menu. If the gun trigger is released during welding, the unit goes into Trigger Hold mode, then pressing and holding the trigger again caused the unit to stay in Crater until the trigger is released and Crater parameter times out. Tack Time Is used to set the minimum hold time before trigger hold takes effect. If this timer is set to 2 seconds, then the trigger must be held for at least 2 seconds before being released to have trigger hold begin. If the trigger is released before 2 seconds, the weld will stop rather than continuing with the hold active.

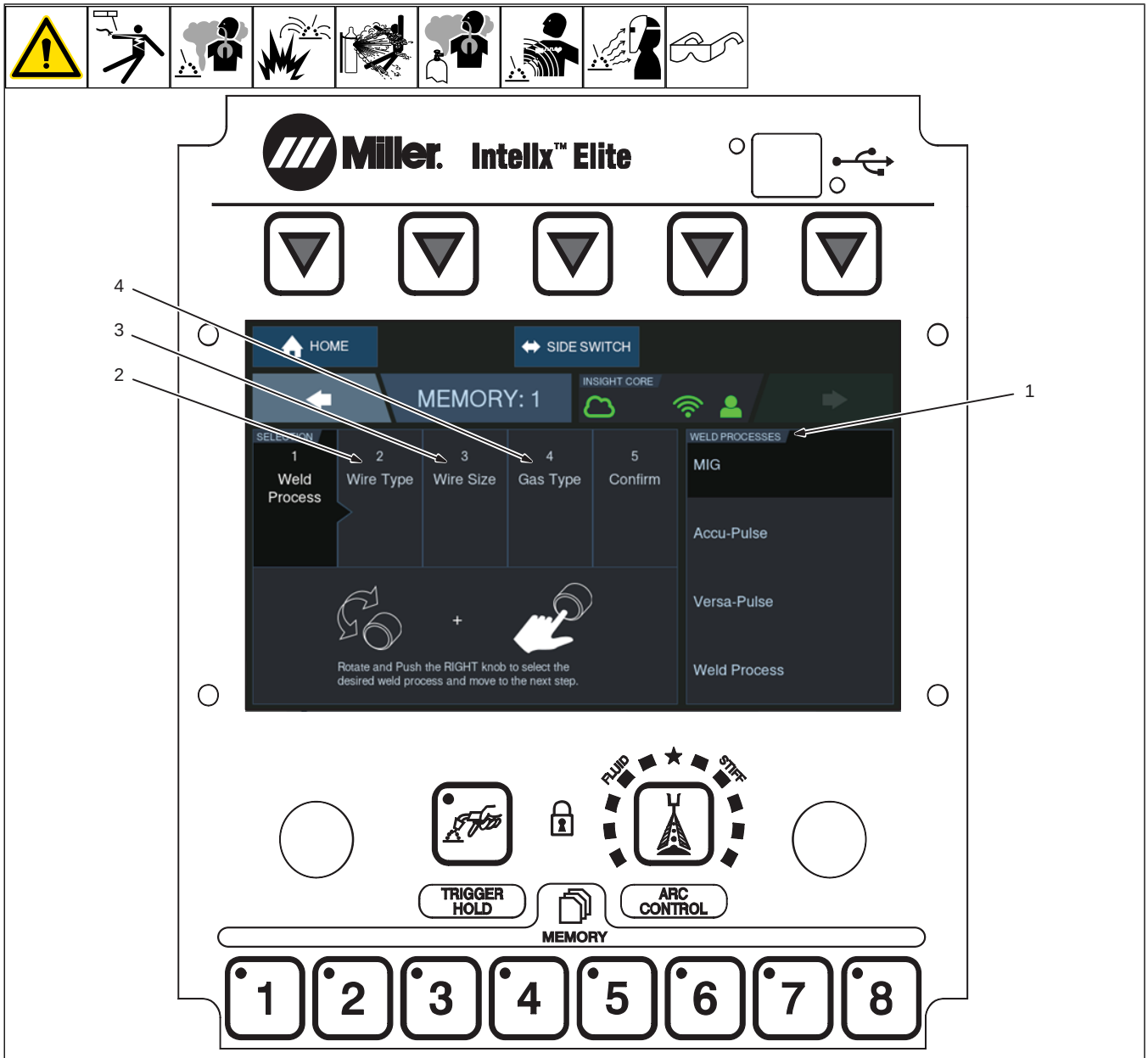
2 Trigger Select

When activated, Trigger Select allows and operator to cycle through memory locations using a quick tap of the trigger. Trigger select will only cycle through memory slots which are activated to be used with the Trigger Select feature.

3 Dual Schedule

Dual Schedule allows the operator to select between a pair of weld programs by using the gun trigger. In Dual Schedule mode, release and retrigger the MIG gun trigger to cycle between a pair of preselected weld programs while actively welding. The programs are paired as 1/2, 3/4, 5/6 and 7/8.

6-8. Intellx Elite Process Settings



1 Weld Processes

MIG, Accu-Pulse, Profile-Pulse

2 Wire Type

Steel, Metal Core, Flux Core, Stainless Steel, Aluminum 4XXX, Aluminum 5XXX, Nickel, Copper Nickel, Silicon Bronze, Titanium.

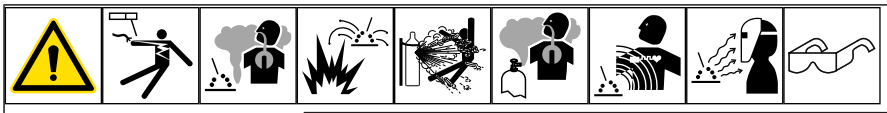
3 Wire Size

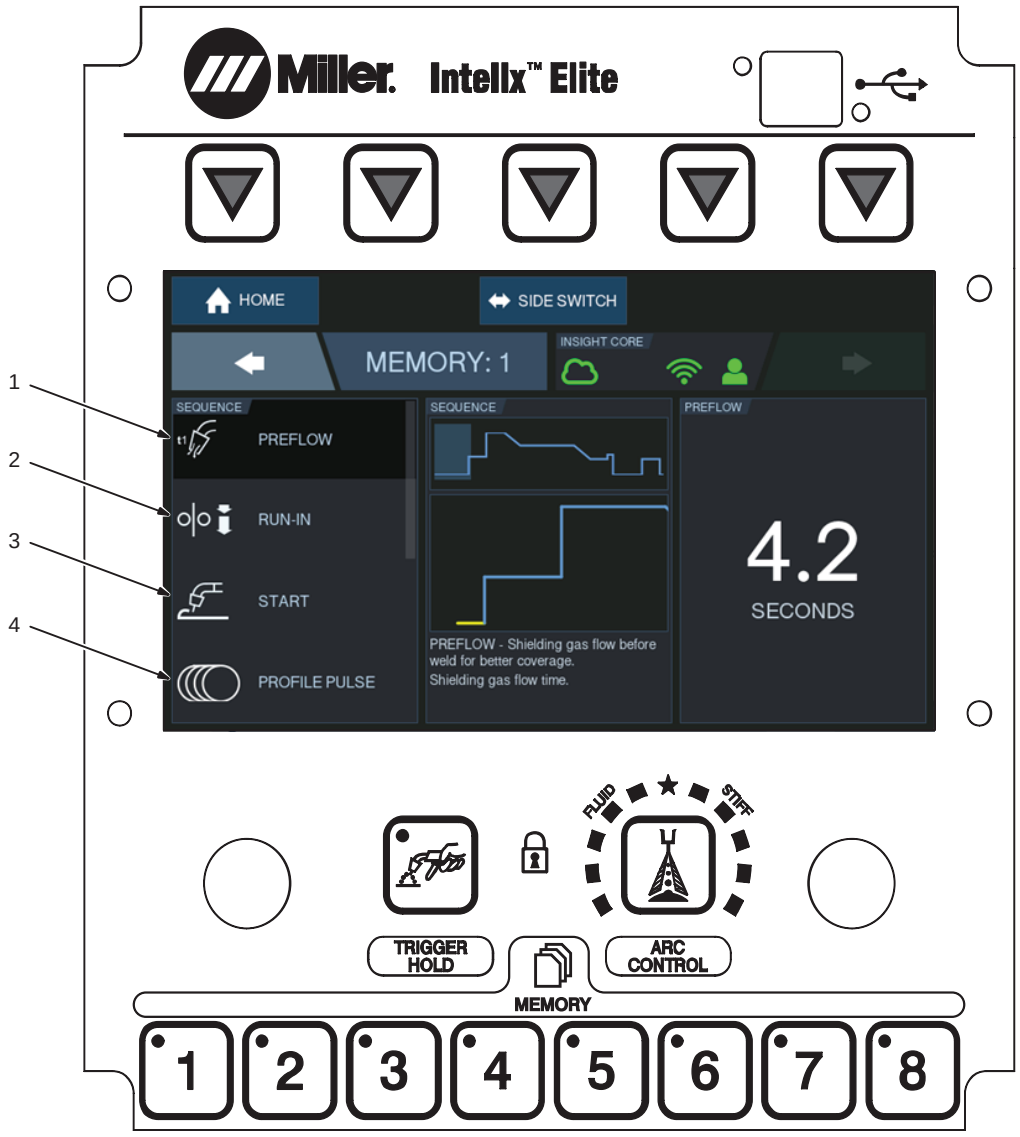
.030", .035", .040", .052", .062".

4 Gas Types

When setting weld process, refer to weld table (see Section).

6-9. Intellx Elite Sequence Settings (Beginning)





At the Home screen, use the memory buttons to select the program number to be changed.

From the Home screen, press the Sequence soft key.

In the Sequence menu, rotate the scroll knob to choose the trigger sequence option to be adjusted.

In the weld sequence configuration section (left side), rotate the scroll knob to desired function.

With the desired function active, use the right scroll knob to adjust the selected function.

1 Preflow

Adjust the length of time gas flows before weld begins.

2 Run-In

Adjust wire speed at start of weld based on percentage of full welding speed.

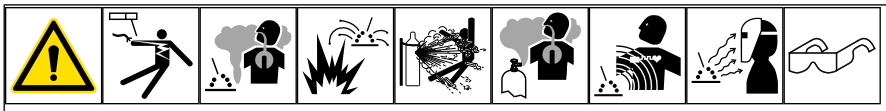
3 Start

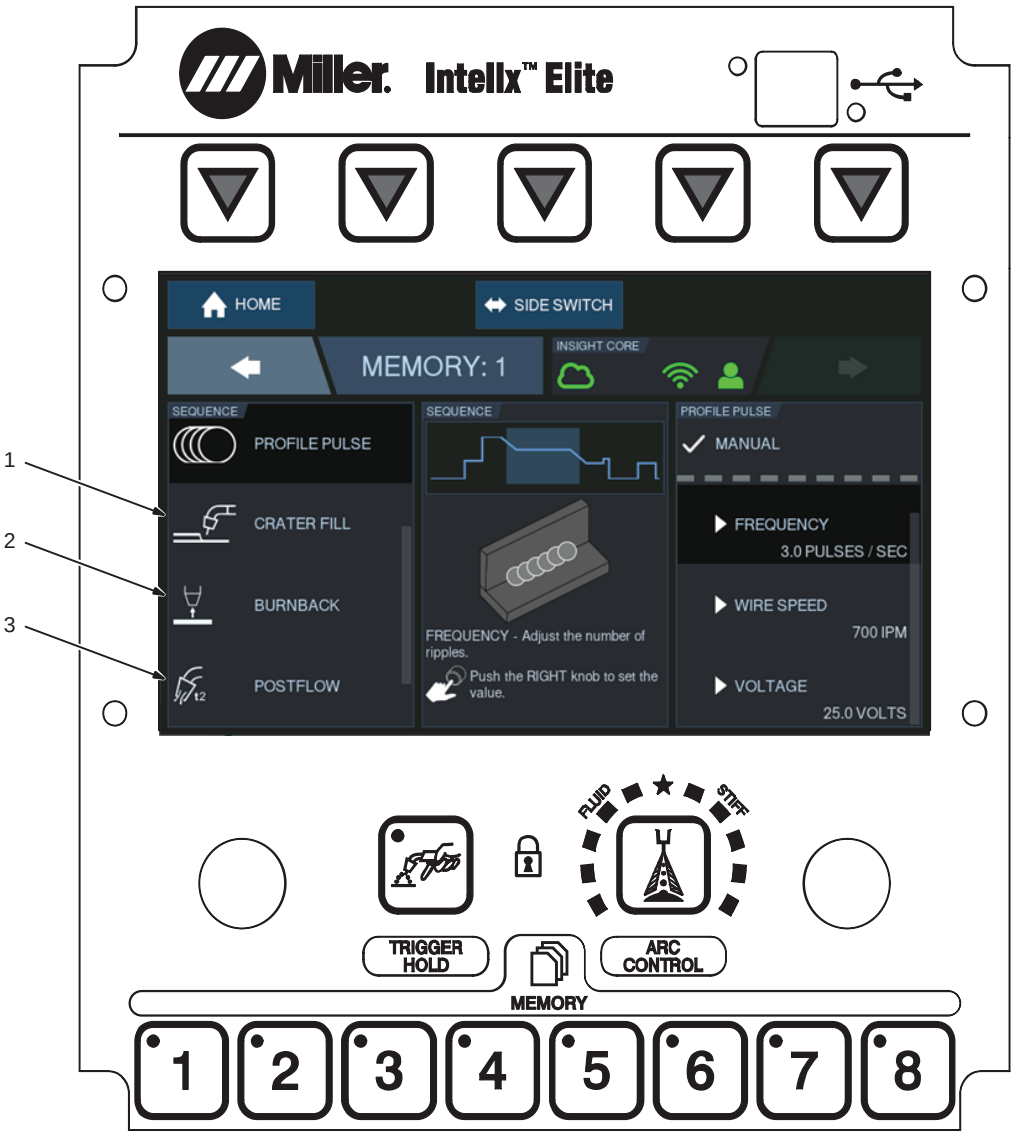
Adjusts starting wire speed, voltage/arc length, time, and ramp time.

4 Profile Pulse

Profile Pulse is used when welding thick or thin aluminum.

6-10. Intellx Elite Sequence Settings (Ending)





At the Home screen, use the memory buttons to select the program number to be changed.

From the Home screen, press the Sequence soft key.

In the Sequence menu, rotate the scroll knob to choose the trigger sequence option to be adjusted.

In the weld sequence configuration section (left side), rotate the scroll knob to desired function.

With the desired function active, use the right scroll knob to adjust the selected function.

1 Crater Fill

Adjusts crater fill wire speed, voltage/arc length, ramp time, fill time, and tack time.

2 Burnback

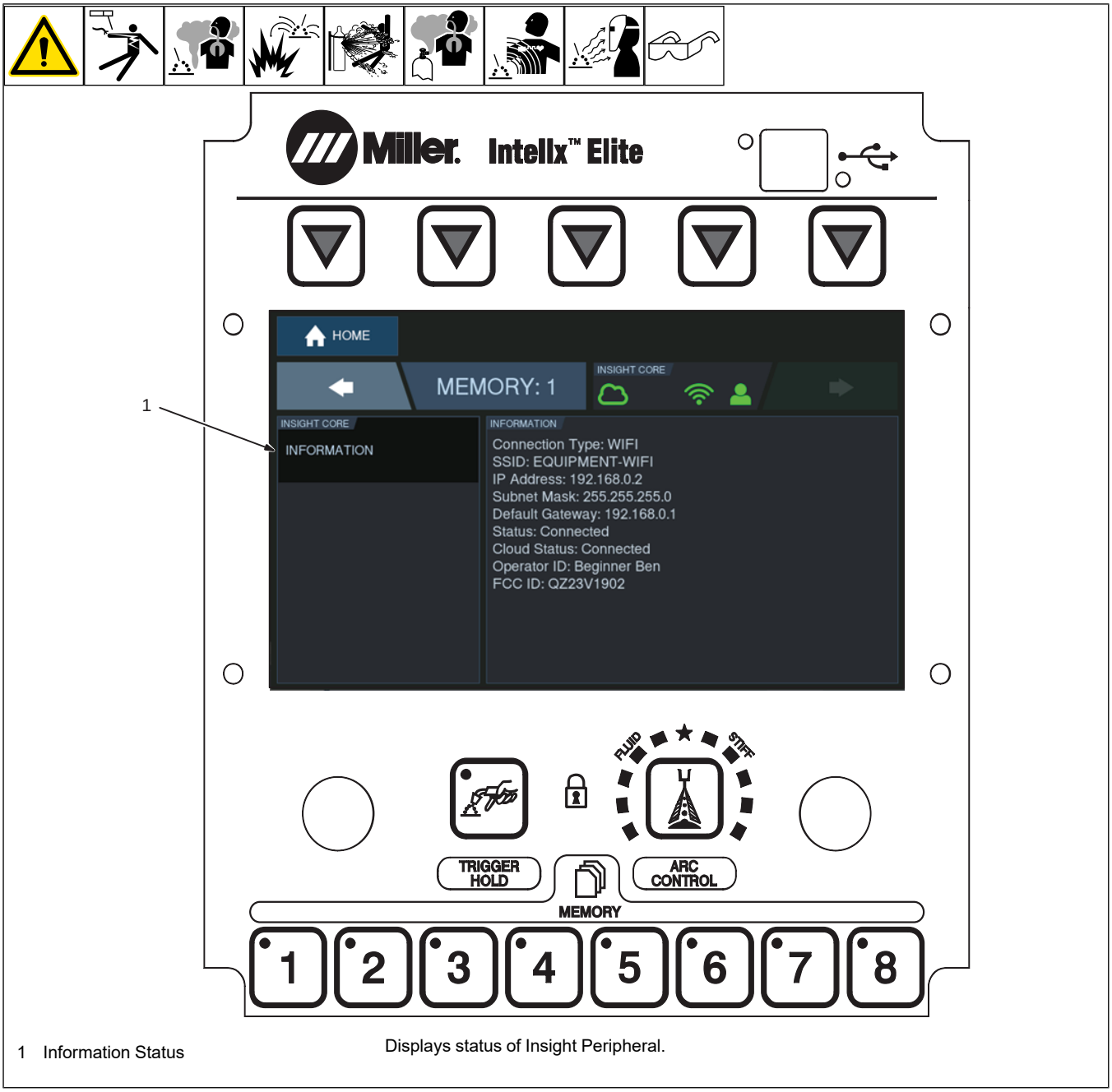
Adjusts burnback time and voltage.

3 Postflow

Adjusts postflow of shielding gas.

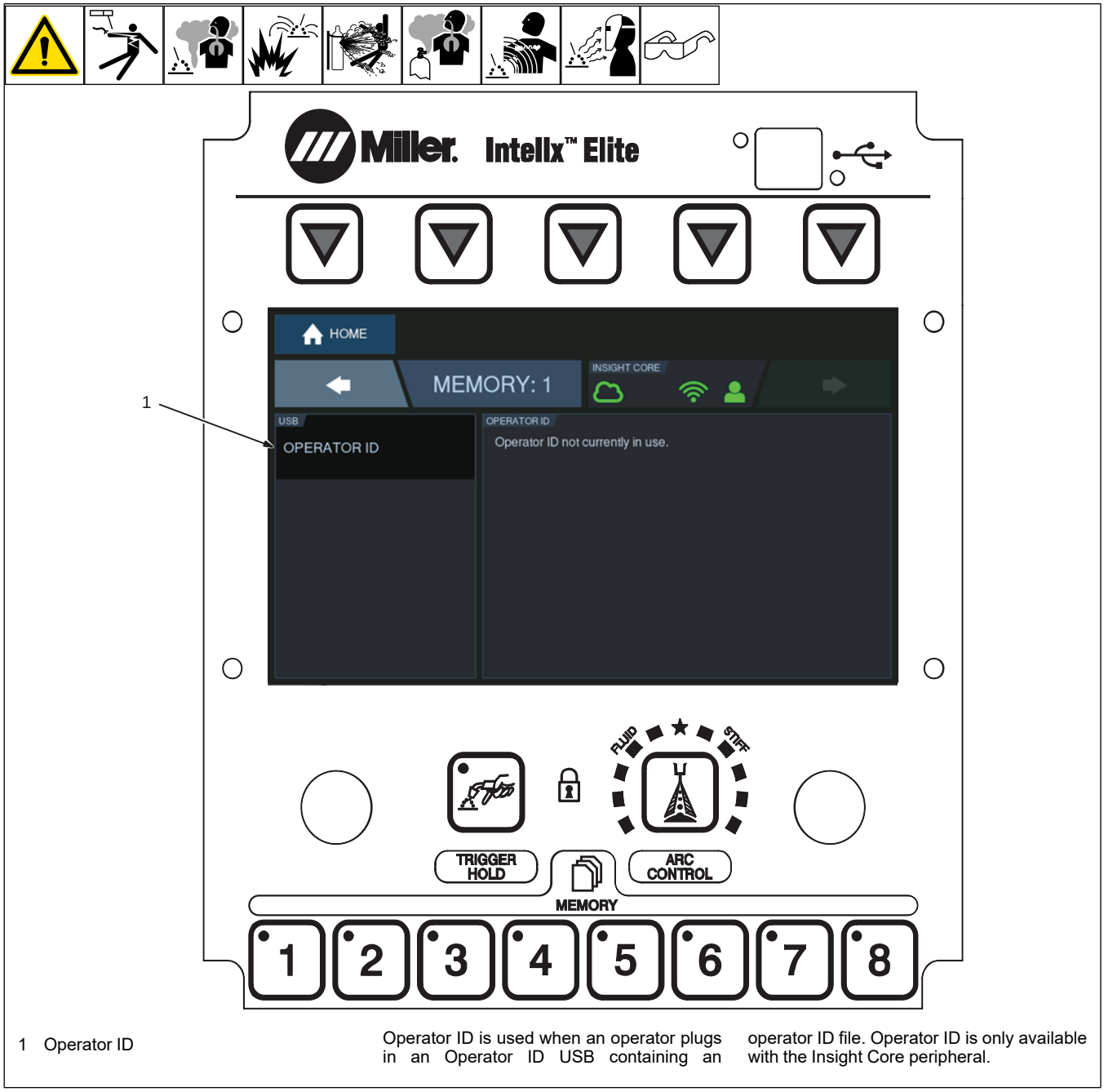
Retract (Not Shown) — Adjusts the distance of wire retract after the weld circuit is complete.

6-11. Intellx Elite Insight Settings



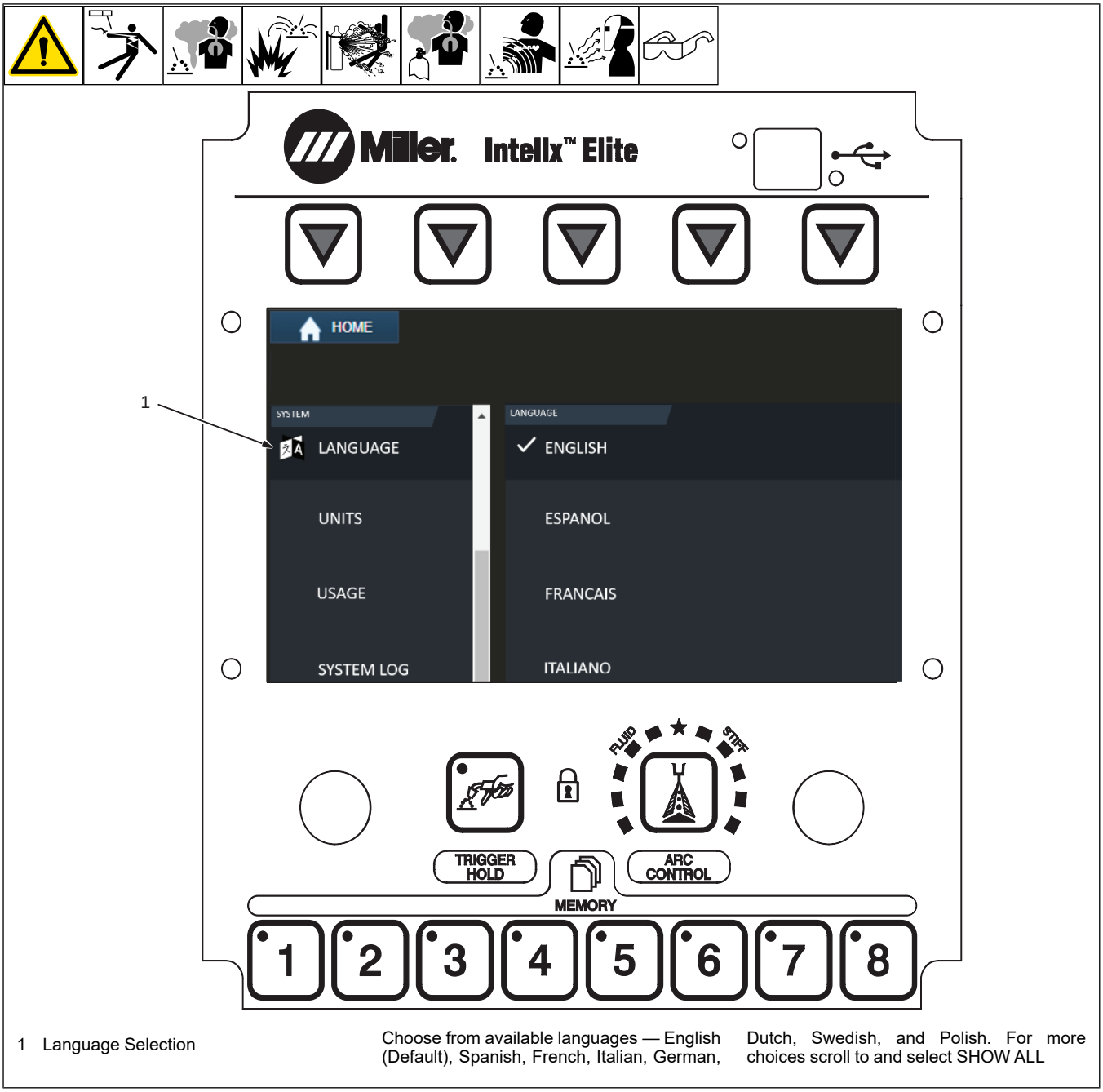
1	Information Status	Displays status of Insight Peripheral.

6-12. Intellx Elite USB Menu



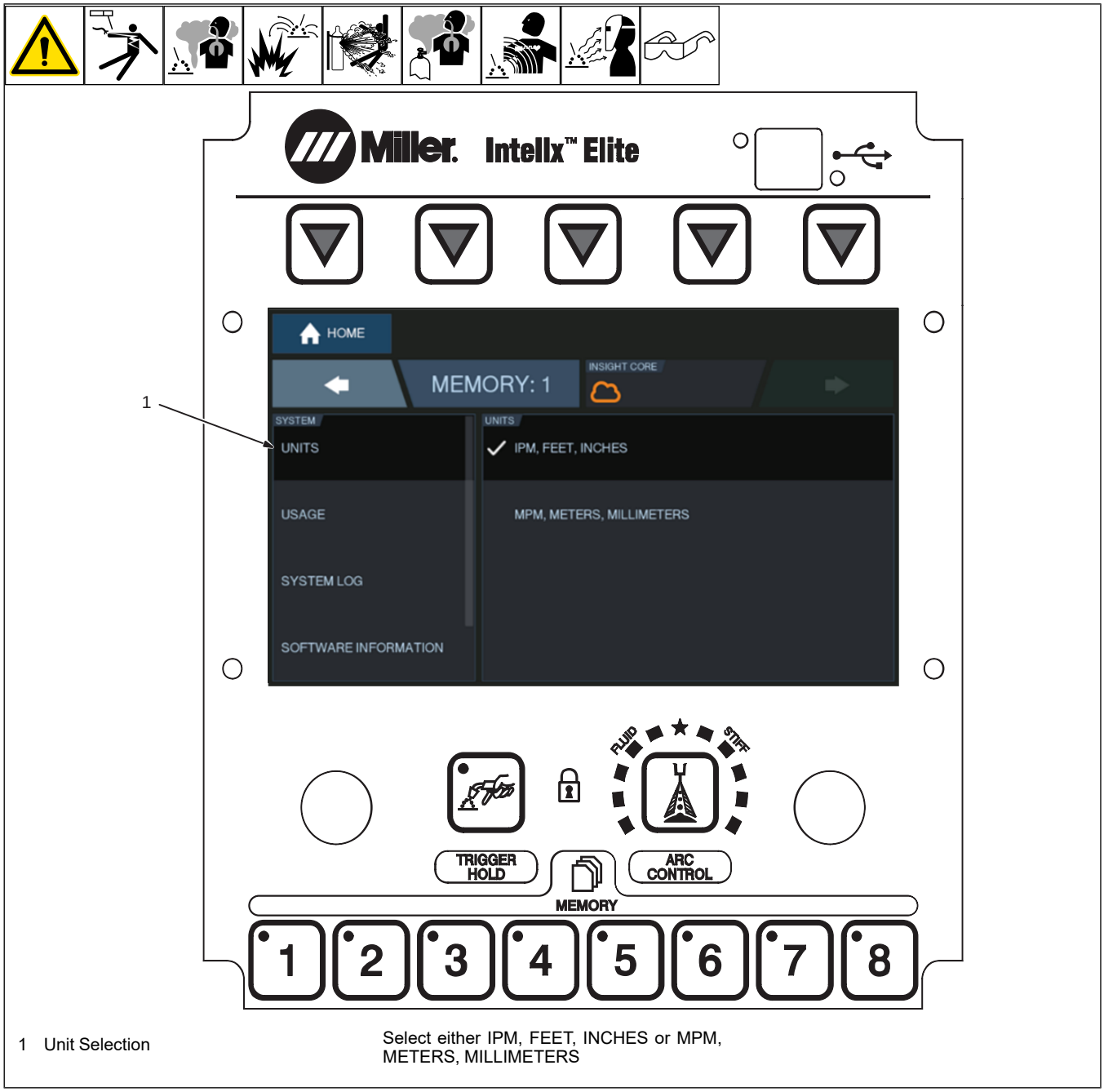
1	Operator ID	Operator ID is used when an operator plugs in an Operator ID USB containing an operator ID file. Operator ID is only available with the Insight Core peripheral.

6-13. Intellx Elite Localization (Language Select)



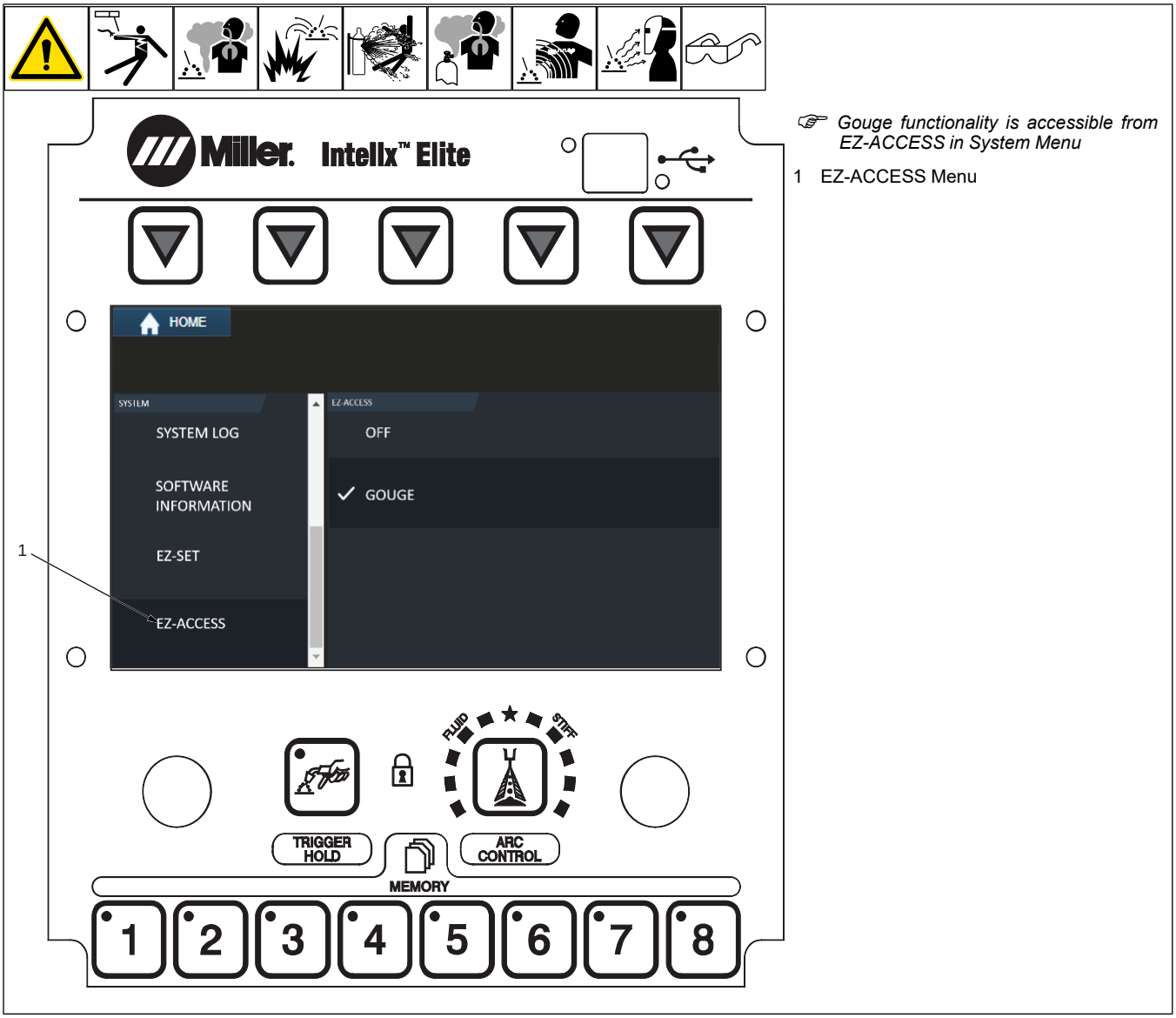
1 Language Selection — Choose from available languages — English (Default), Spanish, French, Italian, German, Dutch, Swedish, and Polish. For more choices scroll to and select SHOW ALL

6-14. Intellx Elite Unit Selection



1	Unit Selection	Select either IPM, FEET, INCHES or MPM, METERS, MILLIMETERS

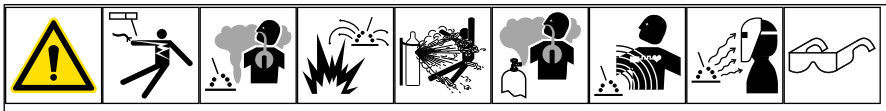
6-15. Intellx Elite Remote Gouge



☞ *Gouge functionality is accessible from EZ-ACCESS in System Menu*

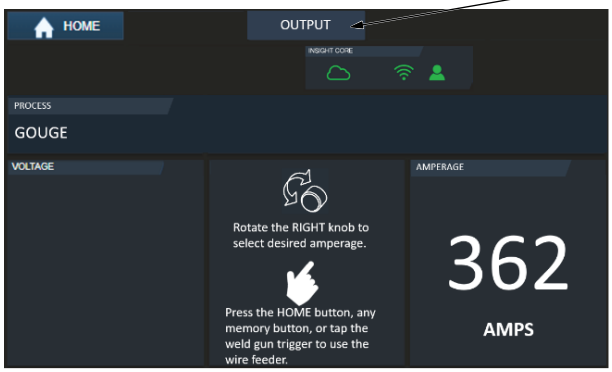
1 EZ-ACCESS Menu

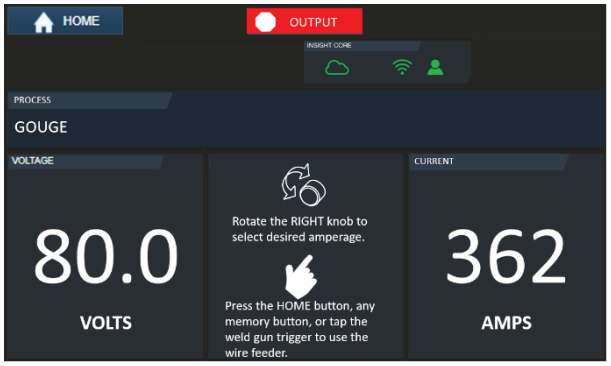
6-16. Intellx Elite Remote Gouge (Continued)



1

2





☞ *Once gouge functionality is enabled in the EZ-ACCESS system menu it is added to the home screen soft key menu. If gouge is disabled from EZ-ACCESS system menu the soft key is removed.*

1 GOUGE Soft Key

2 OUTPUT Soft Key

To activate gouge, select the output soft key. When gouge output is HOT the soft key OUTPUT turns red, visually indicating that the machine is hot, actual voltage and current will be displayed while in operation.

When GOUGE soft key is enabled a secondary gouge screen appears. While in this screen amperage settings can be adjusted from the right adjust/select knob.

To exit the gouge screen and return to standard feeder settings select memory slot 1-8, tap MIG torch trigger, or select top Home soft key.

6-17. Operational Terms

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

Cold-Wire Jog	Feeding wire without contactor or gas valve being energized.
Sequence	A portion of the weld program, such as preflow, run-in, start, weld, crater, burnback, and postflow.
Weld Program	A group of sequences that make up a weld cycle.
MIG	CV weld process with individual settings of voltage and wire feed speed.
Pulsed MIG	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.
RMD	Regulated Metal Deposition. A waveform controlled variation of MIG welding where the weld current is reduced preceding the short-clear in an effort to minimize the explosive energy of the short-clear to reduce spatter generation resulting in a calmer, more controllable puddle.
HD-MIG	High Deposition MIG. A variation of the standard Constant Voltage MIG process where an extended CTWD (Contact Tip to Work Distance) is used. This allows for an increase in WFS (Wire Feed Speed) resulting in higher depositions at the same current. The spray mode of transfer is the only recommended mode of transfer for this process. These recommended settings are available using the EZ-Set function on the Intellx Elite. Extended nozzles for High Deposition Mig are available from Tregaskiss and Bernard.
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 feed 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.
STD	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.
Arc Length	Is the physical distance between the wire electrode and the molten weld puddle. It is a term used to represent adjustments in the Pulsed MIG welding 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 is shut off.
Start	Provides voltage/arc length, wire feed speed and time values for modified arc start.
Profile Pulse	Profile Pulse optimizes aluminum weld bead appearance by producing welds with consistently spaced ripple patterns, similar to GTAW.

6-18. MIG - Wire And Gas Selection Table

WIRE TYPES		SHIELD GAS TYPES
Steel	.030 (0.8)	CO2 (CARBON DIOXIDE) AR CO2 (ARGON / CARBON DIOXIDE)
	.035 (0.9) .045 (1.2) .052 (1.4)	CO2 (CARBON DIOXIDE) AR CO2 (ARGON / CARBON DIOXIDE) AR O2 (ARGON / OXYGEN)
	.062 (1.6)*	AR CO2 (ARGON / CARBON DIOXIDE) AR O2 (ARGON / OXYGEN)
Metal Core	.045 (1.2) .052 (1.4) .062 (1.6) .078 (2.0)*	ARGN CO2 (ARGON / CARBON DIOXIDE)
Flux Core	.045 (1.2) .052 (1.4) .062 (1.6) .078 (2.0)*	CO2 (CARBON DIOXIDE) AR CO2 (ARGON / CARBON DIOXIDE)
Stainless Steel	.035 (0.9) .045 (1.2) .062 (1.6)*	AR CO2 (ARGON / CARBON DIOXIDE) AR HE CO2 (ARGON / HEL CARBON DIOXIDE) AR O2 (ARGON / OXYGEN) HE AR CO2 (HELIUM / ARGON / CARBON DIOXIDE)
Silicon Bronze	.035 (0.9) .045 (1.2)	AR (ARGON)

* Available With Deltaweld 500 only.

6-19. Accu-Pulse - Wire And Gas Selection Table

WIRE TYPES		SHIELD GAS TYPES
Steel	.035 (0.9) .045 (1.2) .052 (1.4)* .062 (1.6)*	AR O2 (ARGON / OXYGEN) AR CO2 (ARGON / CARBON DIOXIDE)
Metal Core	.045 (1.2) .052 (1.4) .062 (1.6)*	AR CO2 (ARGON / CARBON DIOXIDE)
Aluminum	.035 (0.9) 3/64” (1.3) .062 (1.6)*	AR (ARGON) HE AR (HELIUM / ARGON)
Stainless Steel	.035 (0.9) .045 (1.2) .062 (1.6)*	AR CO2 (ARGON / CARBON DIOXIDE) AR HE CO2 (ARGON / HEL CARBON DIOXIDE) AR O2 (ARGON / OXYGEN) HE AR CO2 (HELIUM / ARGON / CARBON DIOXIDE)
Nickel	.035 (0.9) .045 (1.2) .062 (1.6)*	AR (ARGON) AR HE(ARGON / HELIUM)
Copper Nickel	.0545 (1.2)	AR HEL (ARGON / HELIUM)
Silicon Bronze	.035 (0.9) .045 (1.2)	AR (ARGON)
Titanium	.035 (0.9) .045 (1.2) .062 (1.6)*	AR (ARGON) AR HE(ARGON / HELIUM)

6-20. RMD - Wire And Gas Selection Table

WIRE TYPES		SHIELD GAS TYPES
Steel	.035 (0.9) .045 (1.2)	AR CO2 (ARGON / CARBON DIOXIDE)
Stainless Steel	.035 (0.9) .045 (1.2)	AR CO2 (ARGON / CARBON DIOXIDE) AR O2 (ARGON / OXYGEN)

6-21. HD MIG- Wire And Gas Selection Table

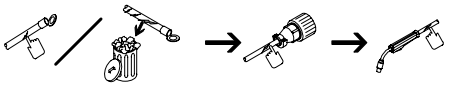
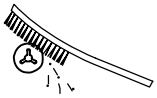
WIRE TYPES		SHIELD GAS TYPES
Steel	.035 (0.9) .045 (1.2) .062 (1.6)*	AR O2 (ARGON / OXYGEN) AR CO2 (ARGON / CARBON DIOXIDE)

SECTION 7 – MAINTENANCE AND TROUBLESHOOTING

7-1. Routine Maintenance

⚠ **Disconnect power before maintaining.**

☞ *Service equipment more often if used in severe conditions.*

	✓ = Check	◇ = Change	❍ = Clean	☆ = Replace	
Every **3** Months	 ☆ Unreadable Labels	 ❍Weld Terminals	 ✓☆Weld Cords And Cables		
	 ☆Damaged Gas Hose	 ✓❍Clean And Tighten Weld Connections			
Every **6** Months	 ❍ Inside Unit	 ❍ Drive Rolls			

*To be done by Factory Authorized Service Agent.

7-2. Diagnostics Table For Fault Codes

Error ID	Help Code Title	Description	Solution
HELP 1XX			
100, 102, 103, 105, 106, 107	Primary Input Circuit Malfunction	Indicates a malfunction in the primary power circuit.	Contact a Factory Authorized Service Agent
101, 104		Indicates a malfunction in the primary power circuit.	Cycle power. If fault remains, contact a Factory Authorized Service Agent.
HELP 2XX			
201, 202, 204, 208, 216, 232, 248	Thermistor Sensor Issue	Indicates a malfunction in the thermal protection circuitry.	Contact a Factory Authorized Service Agent.
HELP 3XX			
300	Secondary Heatsink Over Temperature	Indicates the left side (secondary) of the unit has overheated.	The unit has shut down to allow the fan to cool it. Operation will continue when the unit has cooled. Ensure adequate space around power source for cooling. Ensure ambient temperature is within rating. Verify that cooling fan is operating and free of dust and debris.
HELP 4XX			
400	Control Transformer Over Temperature	Indicates the auxiliary circuit has overheated.	The unit has shut down to allow the fan to cool it. Operation will continue when the unit has cooled. Ensure adequate space around power source for cooling. Ensure ambient temperature is within rating. Verify that cooling fan is operating and free of dust and debris. If present, check for excessive load on 115VAC aux power outlet.
HELP 5XX			
500	Primary Heatsink Over Temperature	Indicates the right side (primary) of the unit has overheated. A potential cause is exceeding the duty cycle rating.	The unit has shut down to allow the fan to cool it. Operation will continue when the unit has cooled. Ensure adequate space around power source for cooling. Ensure ambient temperature is within rating. Verify that cooling fan is operating and free of dust and debris.
HELP 6XX			
600, 602	Primary Undervoltage	Indicates machine has sensed a primary power circuit fault.	Turn off unit for five minutes, verify mains voltage, and try again. If fault remains, contact a Factory Authorized Service Agent.
601, 603, 605	Primary Power Circuit Issue	Indicates machine has sensed a primary power circuit fault.	
604	Input Power Sag	Indicates machine has sensed a primary power circuit fault.	
606, 607	Single Phase Input	Indicates machine has sensed a primary power circuit fault.	Turn off unit for five minutes, verify mains voltage has all three phases, and try again. If fault remains, contact a Factory Authorized Service Agent.
HELP 7XX			
700, 702	Primary Overvoltage	Indicates machine has sensed a primary power circuit fault.	Turn off unit for five minutes, verify mains voltage, and try again. If fault remains, contact a Factory Authorized Service Agent.
701, 703	Primary Power Circuit Issue	Indicates machine has sensed a primary power circuit fault.	
704	Input Power Spike	Indicates machine has sensed a primary power circuit fault.	
HELP 8XX			
800	Secondary (weld) Circuit Issue	Indicates a malfunction in the secondary power circuit of the unit.	Verify welding connections and setup. If fault remains, contact a Factory Authorized Service Agent.
801	Invalid Weld Current Feedback	Indicates a malfunction in the secondary power circuit of the unit.	Contact a Factory Authorized Service Agent.

Error ID	Help Code Title	Description	Solution
802	Invalid Weld Voltage Feedback	Indicates a malfunction in the secondary power circuit of the unit.	Verify weld voltage sense lead is connected correctly. If fault remains, contact a Factory Authorized Service Agent.
803	Secondary Current Above Limit	Indicates a malfunction in the secondary power circuit of the unit.	Check external weld circuit configuration of multiple power sources connected to the common work piece. If fault remains, contact a Factory Authorized Service Agent.
804	Invalid ID Bit Configuration	Indicates a malfunction in the secondary power circuit of the unit.	Contact a Factory Authorized Service Agent.
805	Secondary Weld Output Short Detected	Indicates a malfunction in the secondary power circuit of the unit.	Verify welding wire or carbon arc electrode is not touching work piece when Gouge mode is enabled. Press the Gouge button twice to clear the fault message. Repair as necessary. If fault remains, contact a Factory Authorized Service Agent.
HELP 9XX			
900	Incorrect Linking - Set for 230V, 460V Detected	Indicates relink board PC8 is not configured correctly for the input voltage.	Consult power source Owner's Manual section Selecting Input Voltage to configure unit.
901	Incorrect Linking - Set for 460V, 230V Detected	Indicates relink board PC8 is not configured correctly for the input voltage.	
HELP 10XX			
1000 - 1006	Weld Program Issue	Indicates an issue with the weld program library, or the wire feeder attempted to use an invalid memory.	Select a different memory. Update the system firmware. If the problem persists, contact a Factory Authorized Service Agent.
1097 - 1099	Internal Software Error	Indicates an issue with a internal system software.	Update the system firmware. If the problem persists, contact a Factory Authorized Service Agent.
HELP 11XX			
1124, 1134	Power Source Communication Error	Indicates a communication failure between two of the circuit boards within the system.	Cycle power. Inspect and replace the ArcConnect cable between the power source and wire feeder. If the problem persists, contact a Factory Authorized Service Agent.
1128, 1131, 1132, 1133	Wire Feeder Communication Error	Indicates a communication failure between two of the circuit boards within the system.	
1129	Remote Operator Interface Communication Error	Indicates a communication failure between two of the circuit boards within the system.	
1151, 1159	Communication Error	Indicates a communication failure between two of the circuit boards within the system.	Cycle power. If the problem persists, contact a Factory Authorized Service Agent.
HELP 13XX			
1300	Main Motor Error	Indicates a motor issue.	Contact a Factory Authorized Service Agent.
HELP 14XX			
1401, 1410, 1411	Feeder Power Issue	Indicates input power to the wire feeder is outside specifications.	Verify the power source is operating within its rated supply voltages. If the problem persists, contact a Factory Authorized Service Agent.
1402	Main Motor Over-Current	Indicates the motor experienced an overcurrent.	Check the drive rolls, spool tension, gun liner, wire guides and contact tip for anything that could cause excessive drag on the wire feeding. Wait 5 minutes to allow the unit to cool.
1403	Pull Motor Over-Current	Indicates the gun motor experienced an overcurrent.	
1404	Main Motor Error	Indicates a motor issue.	Contact a Factory Authorized Service Agent.
1405	Pull Motor Error		
1412, 1413	Feeder Power Issue	Indicates input power to the wire feeder is outside specifications.	Cycle Power. If the problem persists, contact a Factory Authorized Service Agent.

Error ID	Help Code Title	Description	Solution
1414	Bus Fault Condition	Indicates input power to the wire feeder is outside specifications.	Verify the power source is operating within its rated supply voltages. If the problem persists, contact a Factory Authorized Service Agent.
1420, 1421	Communication Error	Indicates a communication failure between two of the circuit boards within the system.	Cycle power. Inspect and replace the ArcConnect cable between the power source and wire feeder. If the problem persists, contact a Factory Authorized Service Agent.
HELP 25XX			
2500	Power Source Over Duty-Cycle	Indicates the machine has reached Duty Cycle limit.	The machine must be left on for up to 10 minutes to power the fan for cooling. The fault will automatically clear when the machine has cooled.
2501	Main Feeder Motor Over Duty-Cycle	Indicates the wire feeder motor(s) are operating at too high of a current over a period of time.	Check the drive rolls, spool tension, gun liner, wire guides and contact tip for anything that could cause excessive drag on the wire feeding. The machine must be left on for up to 10 minutes for cooling. The fault will automatically clear when the machine has cooled.
2502	Pull Motor Over Duty-Cycle	Indicates the gun motor is operating at too high of a current over a period of time.	
HELP 26XX			
2600	User Interface Button Held	Indicates a button is held for too long or is stuck.	Verify no buttons are held down on the wire feeder. If the problem persists, contact a Factory Authorized Service Agent.
2601, 2602	Trigger, Jog, or Purge Button Held	Indicates a switch or trigger is held for too long or is stuck.	Verify no switches or triggers are held down on the wire feeder or gun. Unplug the gun trigger. If the problem goes away, there is an issue with the gun trigger. If the problem persists, contact a Factory Authorized Service Agent.
2603	Right Side Action on Single Feeder	Indicates a right side button or trigger input has been detected.	Cycle power. If the problem persists, contact a Factory Authorized Service Agent.
2604	Trigger, Jog, or Purge Button Still Held After Fault Clear	Indicates a switch or trigger is held for too long or is stuck.	Verify no switches or triggers are held down on the wire feeder or gun. Unplug the gun trigger. If the problem goes away, there is an issue with the gun trigger. If the problem persists, contact a Factory Authorized Service Agent.
2605	Trigger, Jog, or Purge Button Held After Welding		
2611	Trigger Held Too Long	Indicates a trigger is held for too long or is stuck.	Verify no triggers are held down on the wire feeder or gun. Unplug the gun trigger. If the problem goes away, there is an issue with the gun trigger. If the problem persists, contact a Factory Authorized Service Agent.
2612	Jog Held Too Long	Indicates a switch is held for too long or is stuck.	Verify no switches are held down on the wire feeder. If the problem persists, contact a Factory Authorized Service Agent.
2613	Retract Held Too Long		
2614	Purge Held Too Long		
HELP 28XX			
2801	Field Trial Time Expired	Indicates the field trial time has ended.	Please contact Miller Electric Service or a Factory Authorized Service Agent.

☞ *The last two digits in the right display (shown with XX in the table) will indicate a specific fault a Factory Authorized Service Agent can use to troubleshoot the wire feeder.*

7-3. Troubleshooting

Trouble	Remedy
Wire feeds, shielding gas flows, but electrode wire is not energized.	Check and secure weld cable connections (see Section 5-3 or 5-4).
Electrode wire feeding stops or feeds erratically during welding.	Check welding gun trigger and connection. See gun Owner's Manual.
	Readjust hub tension and drive roll pressure. See wire drive assembly Owner's Manual.
	Change to correct size drive roll.
	Clean or replace dirty or worn drive roll.
	Incorrect size or worn wire guides.
	Replace contact tip or liner. See welding gun Owner's Manual.
	Remove weld spatter or foreign matter from around nozzle opening.
Wire feeder power is on, displays light up, but unit is inoperative.	Check welding gun trigger connection at wire feeder.
	Check welding gun trigger leads and trigger switch. See welding gun Owner's Manual.
Unit completely inoperative- no display.	Turn Power switch On (see Section 6-2).
	Check ArcConnect cable connection at wire feeder and power source.
	Check supplementary protector at power source. See welding power source Owner's Manual.
Wire feeds when Jog switch is pressed but not when gun trigger is pressed.	Check welding gun trigger connection at wire feeder. Check gun trigger leads and trigger switch. See gun Owner's Manual.
Wire does not feed until trigger is pressed but continues to feed after trigger is released. Wire feeds as soon as power is applied	Check for short between gun trigger leads and weld cable. Repair or replace gun trigger leads.
Gas does not flow; wire feeds.	Check gas supply.
	Check gas flowmeter.
	Check gas hose for damage or loose connections.
	Check for blockage in gas filter. See wire drive assembly Owner's Manual.
	Check for blockage in welding gun.
Erratic or improper weld output.	Use proper size and type of weld cable.
	Clean and tighten all weld connections.
	Check for correct polarity or welding circuit.
	Poor weld cable layout. See welding power source Owner's Manual for recommended cable arrangement.
	If using weld voltage sense lead, verify cable and connections. Repair or replace as needed. ☞ *Do not leave unused lead connected to the weld voltage sense terminal.*

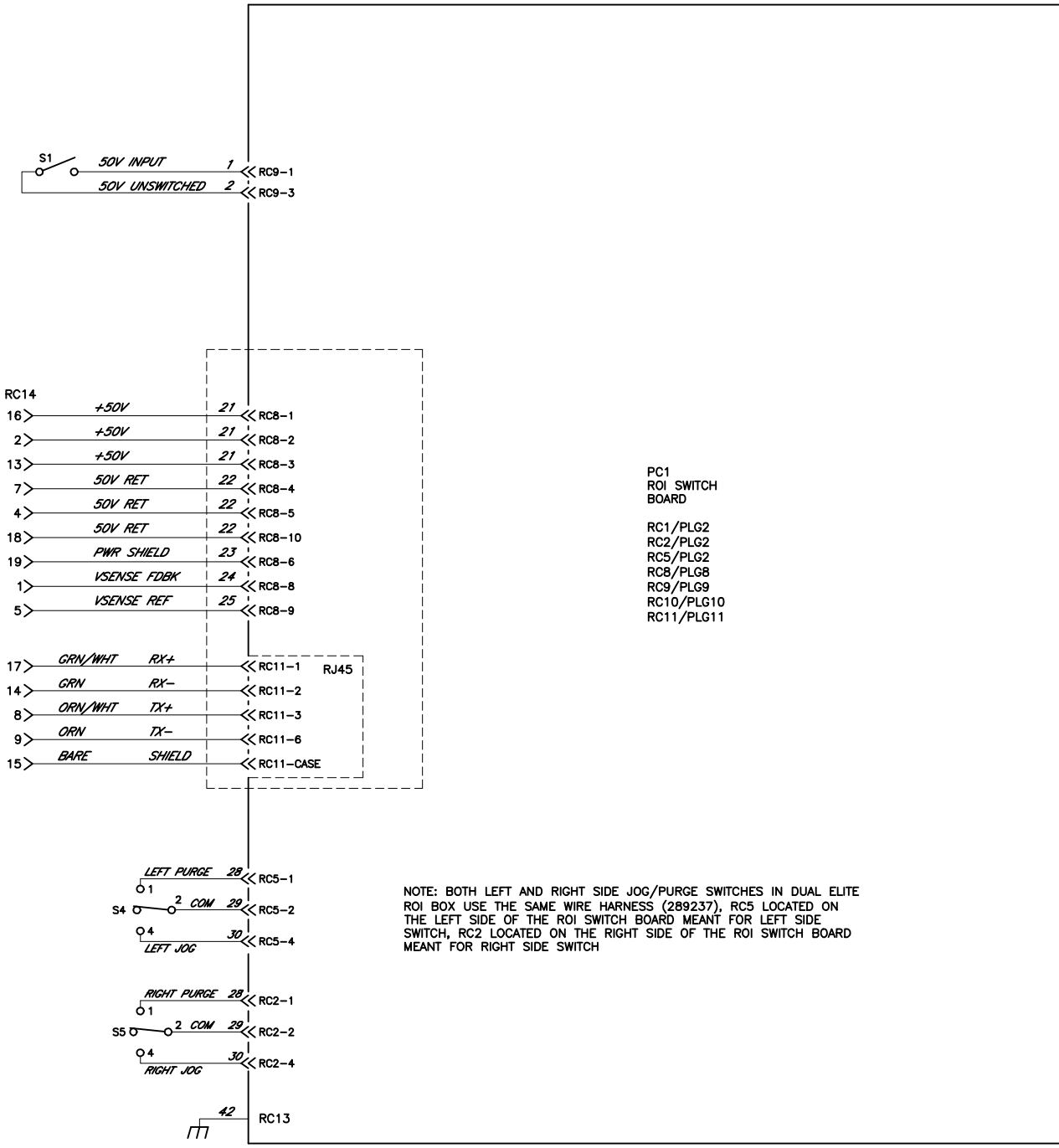
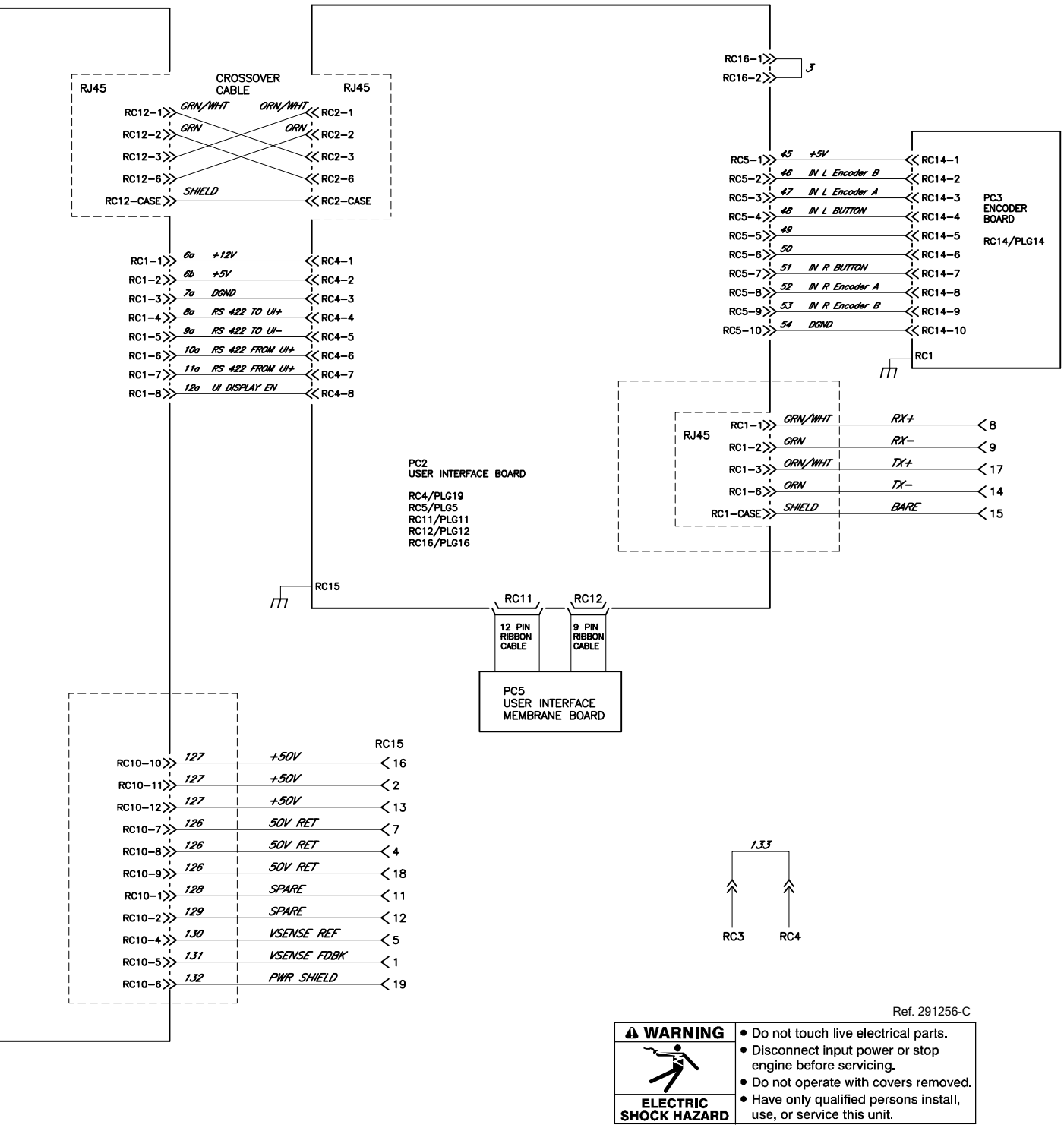


Figure 8-1. Circuit Diagram



Ref. 291256-C

⚠ 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	

TRUE BLUE® WARRANTY

Miller

Effective January 1, 2024 (Equipment with a serial number preface of NE 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. 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.

1 5 Years Parts — 3 Years Labor

- Original Main Power Rectifiers Only to Include SCRs, Diodes, and Discrete Rectifier Modules in non-inverter products

2 4 Years Parts (No Labor)

- Auto-Darkening ClearLight 2.0 Helmet Lenses

3 3 Years — Parts and Labor Unless Specified

- Auto-Darkening Helmet Lenses (No Labor)
- Copilot Collaborative Welding Systems
- Engine Driven Welder/Generators (Including EnPak) **(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

4 2 Years — Parts and Labor

- Auto-Darkening Weld Masks (No Labor)
- Fume Extractors - Filtair 215, Capture 5, and Industrial Collector Series

5 1 Year — Parts and Labor Unless Specified

- ArcReach Heater
- AugmentedArc, LiveArc, and MobileArc Welding Systems
- Automatic Motion Devices
- Bernard BTB Air-Cooled MIG Guns (No Labor)
- CoolBelt, PAPR Blower, and PAPR Face Shield (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, Standard, Telescopic, and ZoneFlow Extraction Arms and Motor Control Box
- HF Units
- XT Plasma Cutting Torches (No Labor)
- Induction Heating Power Sources, Coolers **(NOTE: Digital Recorders are Warranted Separately by the Manufacturer.)**
- Insight Sensors
- Load Banks
- MDX Series MIG Guns (No Labor)
- Motor-Driven Guns
- Positioners and Controllers
- Racks (For Housing Multiple Power Sources)
- Running Gear/Trailers
- Spoolmate Spoolguns (No Labor)
- 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)

6 6 Months — Parts

- 12 Volt Automotive-Style Batteries

7 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
- M-Guns
- MIG Guns, Subarc (SAW) Torches, and External Cladding Heads
- Remote Controls and RFCS-RJ45
- Replacement Parts (No labor)

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.

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? The expertise of the distributor and Miller is there to help you, every step of the way.

Owner's Record

Please complete and retain with your personal records.

Model Name | Serial/Style Number

Purchase Date (Date which equipment was delivered to original customer.)

Distributor

Address

City

State | Zip

For Service

Contact a DISTRIBUTOR or SERVICE AGENCY near you.

Always provide Model Name and Serial/Style Number.

Contact your Distributor for:

- Welding Supplies and Consumables
- Options and Accessories
- Personal 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.

Miller Electric Mfg. LLC
An Illinois Tool Works Company
1635 West Spencer Street
Appleton, WI 54914 USA

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

For International Locations Visit
www.MillerWelds.com

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