HOBART®
WELDING PRODUCTS

OM-1581 137 532M
March 2001

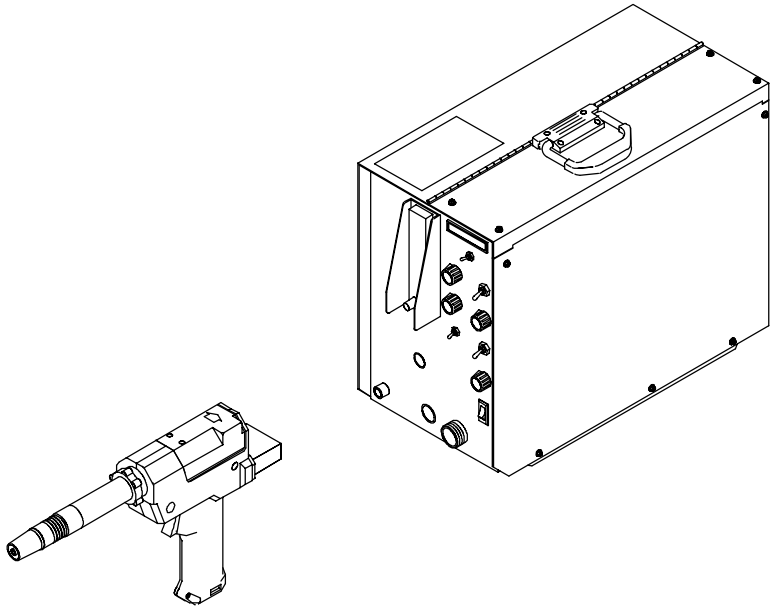
Processes

MIG (GMAW) Welding

Description

Wire Feeder And Feeder Gun

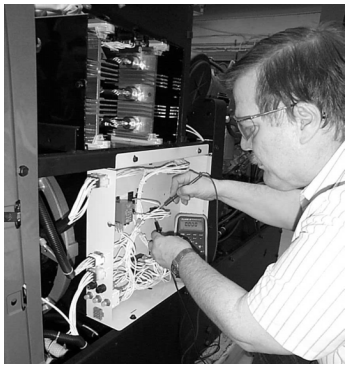
Olympic XR A And XR W



OWNER'S MANUAL

From Hobart to You

Thank you and *congratulations* on choosing Hobart. 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.



This Owner's Manual is designed to help you get the most out of your Hobart 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 Hobart you can count on years of reliable service with proper maintenance. And if for some reason the unit needs repair, there's a Troubleshooting section that will help you figure out what the problem is. The parts list will then help you to decide which exact part you may need to fix the problem. Warranty and service information for your particular model are also provided.

ISO 9001 REGISTERED QUALITY SYSTEM

Hobart is registered to the ISO 9001 Quality System Standard.

Hobart Welders manufactures a full line of welders and welding related equipment. For information on other quality Hobart products, contact your local Hobart distributor to receive the latest full line catalog or individual catalog sheets. **To locate your nearest distributor or service agency call 1-877-Hobart1.**

Hobart offers a Technical Manual which provides more detailed service and parts information for your unit. To obtain a Technical Manual, contact your local distributor. Your distributor can also supply you with Welding Process Manuals such as SMAW, GTAW, GMAW, and GMAW-P.

HOBART®
WELDING PRODUCTS

TABLE OF CONTENTS

SECTION 1 – SAFETY PRECAUTIONS - READ BEFORE USING

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1-1. Symbol Usage

Means Warning! Watch Out! There are possible hazards with this procedure! The possible hazards are shown in the adjoining symbols.

▲ **Marks a special safety message.**

☞ *Means "Note"; not safety related.*

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

1-2. Arc Welding Hazards

▲ **The symbols shown below are used throughout this manual to call attention to and identify possible hazards. When you see the symbol, watch out, and follow the related instructions to avoid the hazard. The safety information given below is only a summary of the more complete safety information found in the Safety Standards listed in Section 1-4. Read and follow all Safety Standards.**

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

▲ **During operation, keep everybody, especially children, away.**

ELECTRIC SHOCK can kill.

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 output in damp areas, if movement is confined, or if there is a danger of falling.
- Use AC output ONLY if required for the welding process.
- If AC output is required, use remote output control if present on unit.
- 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 and ground 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.
- Frequently inspect input power cord for damage or bare wiring – replace cord immediately if damaged – bare wiring can kill.
- Turn off all equipment when not in use.
- Do not use worn, damaged, undersized, or poorly spliced 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.
- 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.

SIGNIFICANT DC VOLTAGE exists after removal of input power on inverters.

- Turn Off inverter, disconnect input power, and discharge input capacitors according to instructions in Maintenance Section before touching any parts.

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.
- If inside, ventilate the area and/or use exhaust at the arc to remove welding fumes and gases.
- If ventilation is poor, use an approved air-supplied respirator.
- Read the Material Safety Data Sheets (MSDSs) and the manufacturer's instructions for metals, consumables, coatings, cleaners, and degreasers.
- Work in a confined space only if it is well ventilated, or while wearing an air-supplied respirator. Always have a trained watch-person nearby. Welding fumes and gases can displace air and lower the oxygen level causing injury or death. Be sure the breathing air is safe.
- Do not weld in locations near degreasing, cleaning, or spraying operations. The heat and rays of the arc can react with vapors to form highly toxic and irritating gases.
- Do not weld on coated metals, such as galvanized, lead, or cadmium plated steel, unless the coating is removed from the weld area, the area is well ventilated, and if necessary, while wearing an air-supplied respirator. The coatings and any metals containing these elements can give off toxic fumes if welded.

ARC RAYS can burn eyes and skin.

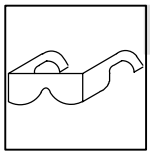
Arc rays from the welding process produce intense visible and invisible (ultraviolet and infrared) rays that can burn eyes and skin. Sparks fly off from the weld.

- Wear a welding helmet fitted with a proper shade of filter to protect your face and eyes 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 and glare; warn others not to watch the arc.
- Wear protective clothing made from durable, flame-resistant material (leather and wool) and foot protection.

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.

- Protect yourself and others from flying sparks and hot metal.
- Do not weld where flying sparks can strike flammable material.
- Remove all flammables within 35 ft (10.7 m) of the welding arc. If this is not possible, tightly cover them with approved covers.
- 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 weld on closed containers such as tanks, drums, or pipes, unless they are properly prepared according to AWS F4.1 (see Safety Standards).
- 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 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 oil-free protective garments 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.



FLYING METAL can injure eyes.

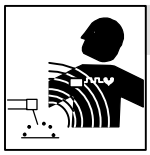
- Welding, chipping, wire brushing, and grinding cause sparks and flying metal. As welds cool, they can throw off slag.
- Wear approved safety glasses with side shields even under your welding helmet.

BUILDUP OF GAS can injure or kill.

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

HOT PARTS can cause severe burns.

- Do not touch hot parts bare handed.
- Allow cooling period before working on gun or torch.



MAGNETIC FIELDS can affect pacemakers.

- Pacemaker wearers keep away.
- Wearers should consult their doctor before going near arc welding, gouging, or spot welding operations.

NOISE can damage hearing.

Noise from some processes or equipment can damage hearing.

- Wear approved ear protection if noise level is high.

CYLINDERS can explode if damaged.

Shielding 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, 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 shielding 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.
- Keep protective cap in place over valve except when cylinder is in use or connected for use.
- Read and follow instructions on compressed gas cylinders, associated equipment, and CGA publication P-1 listed in Safety Standards.

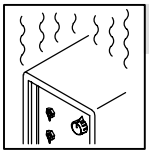
1-3. Additional Symbols For Installation, Operation, And Maintenance

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.

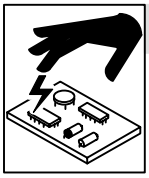
FALLING UNIT can cause injury.

- Use lifting eye to lift unit only, NOT running gear, gas cylinders, or any other accessories.
- Use 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.



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.



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 cause injury.

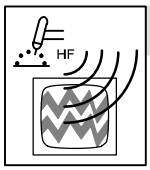
- Keep away from moving parts.
- Keep away from pinch points such as drive rolls.

WELDING WIRE can cause injury.

- 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.

MOVING PARTS can cause injury.

- Keep away from moving parts such as fans.
- Keep all doors, panels, covers, and guards closed and securely in place.



H.F. RADIATION can cause interference.

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

ARC WELDING can cause interference.

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

1-4. Principal Safety Standards

Safety in Welding and Cutting, ANSI Standard Z49.1, from American Welding Society, 550 N.W. LeJeune Rd, Miami FL 33126

Safety and Health Standards, OSHA 29 CFR 1910, from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Recommended Safe Practices for the Preparation for Welding and Cutting of Containers That Have Held Hazardous Substances, American Welding Society Standard AWS F4.1, from American Welding Society, 550 N.W. LeJeune Rd, Miami, FL 33126

National Electrical Code, NFPA Standard 70, from National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

Safe Handling of Compressed Gases in Cylinders, CGA Pamphlet P-1, from Compressed Gas Association, 1235 Jefferson Davis Highway, Suite 501, Arlington, VA 22202.

Code for Safety in Welding and Cutting, CSA Standard W117.2, from Canadian Standards Association, Standards Sales, 178 Rexdale Boulevard, Rexdale, Ontario, Canada M9W 1R3.

Safe Practices For Occupation And Educational Eye And Face Protection, ANSI Standard Z87.1, from American National Standards Institute, 1430 Broadway, New York, NY 10018.

Cutting And Welding Processes, NFPA Standard 51B, from National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

1-5. EMF Information

Considerations About Welding And The Effects Of Low Frequency Electric And Magnetic Fields

Welding current, as it flows through welding cables, will cause electromagnetic fields. There has been and still is some concern about such fields. However, after examining more than 500 studies spanning 17 years of research, a special blue ribbon committee of the National Research Council concluded that: “The body of evidence, in the committee’s judgment, has not demonstrated that exposure to power-frequency electric and magnetic fields is a human-health hazard.” However, studies are still going forth and evidence continues to be examined. Until the final conclusions of the research are reached, you may wish to minimize your exposure to electromagnetic fields when welding or cutting.

To reduce magnetic fields in the workplace, use the following procedures:

1. Keep cables close together by twisting or taping them.
2. Arrange cables to one side and away from the operator.
3. Do not coil or drape cables around your body.
4. Keep welding power source and cables as far away from operator as practical.
5. Connect work clamp to workpiece as close to the weld as possible.

About Pacemakers:

Pacemaker wearers consult your doctor first. If cleared by your doctor, then following the above procedures is recommended.

SECTION 1 – CONSIGNES DE SECURITE – LIRE AVANT UTILISATION

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1-1. Signification des symboles

Signifie Mise en garde ! Soyez vigilant ! Cette procédure présente des risques de danger ! Ceux-ci sont identifiés par des symboles adjacents aux directives.

▲ **Identifie un message de sécurité particulier.**

☞ *Signifie NOTA ; n'est pas relatif à la sécurité.*

Ce groupe de symboles signifie Mise en garde ! Soyez vigilant ! Il y a des risques de danger reliés aux CHOCS ÉLECTRIQUES, aux PIÈCES EN MOUVEMENT et aux PIÈCES CHAUDES. Reportez-vous aux symboles et aux directives ci-dessous afin de connaître les mesures à prendre pour éviter tout danger.

1-2. Dangers relatifs au soudage à l'arc

▲ **Les symboles présentés ci-après sont utilisés tout au long du présent manuel pour attirer votre attention et identifier les risques de danger. Lorsque vous voyez un symbole, soyez vigilant et suivez les directives mentionnées afin d'éviter tout danger. Les consignes de sécurité présentées ci-après ne font que résumer l'information contenue dans les normes de sécurité énumérées à la section 1-4. Veuillez lire et respecter toutes ces normes de sécurité.**

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

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

UN CHOC ÉLECTRIQUE peut tuer.

Un simple contact avec des pièces électriques peut provoquer une électrocution ou des blessures graves. L'électrode et le circuit de soudage sont sous tension dès que l'appareil est sur ON. Le circuit d'entrée et les circuits internes de l'appareil sont également sous tension à ce moment-là. En soudage semi-automatique ou automatique, le fil, le dévidoir, le logement des galets d'entraînement et les pièces métalliques en contact avec le fil de soudage sont sous tension. Des matériels mal installés ou mal mis à la terre présentent un danger.

- Ne jamais toucher les pièces électriques sous tension.
- Porter des gants et des vêtements de protection secs ne comportant pas de trous.
- S'isoler de la pièce et de la terre au moyen de tapis ou d'autres moyens isolants suffisamment grands pour empêcher le contact physique éventuel avec la pièce ou la terre.
- Ne pas se servir de source électrique àcourant électrique dans les zones humides, dans les endroits confinés ou là où on risque de tomber.
- Se servir d'une source électrique àcourant électrique UNIQUEMENT si le procédé de soudage le demande.
- Si l'utilisation d'une source électrique àcourant électrique s'avère nécessaire, se servir de la fonction de télécommande si l'appareil en est équipé.
- 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).
- Installer et mettre à la terre correctement cet appareil conformément à son manuel d'utilisation et aux codes nationaux, provinciaux et municipaux.
- Toujours vérifier la terre du cordon d'alimentation – Vérifier et s'assurer que le fil de terre du cordon d'alimentation est bien raccordé à la borne de terre du sectionneur ou que la fiche du cordon est raccordée à une prise correctement mise à la terre.
- En effectuant les raccordements d'entrée fixer d'abord le conducteur de mise à la terre approprié et contre-vérifier les connexions.
- Vérifier fréquemment le cordon d'alimentation pour voir s'il n'est pas endommagé ou dénudé – remplacer le cordon immédiatement s'il est endommagé – un câble dénudé peut provoquer une électrocution.
- Mettre l'appareil hors tension quand on ne l'utilise pas.
- 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.
- 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 quand on travaille en hauteur.
- Maintenir solidement en place tous les panneaux et capots.
- 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.

Il y a DU COURANT CONTINU IMPORTANT dans les convertisseurs après la suppression de l'alimentation électrique.

- Arrêter les convertisseurs, débrancher le courant électrique, et décharger les condensateurs d'alimentation selon les instructions indiquées dans la partie entretien avant de toucher les pièces.

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.
- A l'intérieur, ventiler la zone et/ou utiliser un échappement au niveau de l'arc pour l'évacuation des fumées et des gaz de soudage.
- Si la ventilation est insuffisante, utiliser un respirateur à alimentation d'air homologué.
- Lire les spécifications de sécurité des matériaux (MSDSs) et les instructions du fabricant concernant les métaux, les consommables, les revêtements, les nettoyants et les dégraisseurs.
- 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 si nécessaire, en portant un respirateur à alimentation d'air. Les revêtements et tous les métaux renfermant ces éléments peuvent dégager des fumées toxiques en cas de soudage.

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

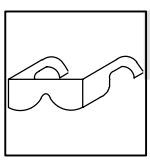
Le rayonnement de l'arc du procédé de soudage génère des rayons visibles et invisibles intenses (ultraviolets et infrarouges) susceptibles de provoquer des brûlures dans les yeux et sur la peau. Des étincelles sont projetées pendant le soudage.

- Porter un casque de soudage muni d'un écran de filtre approprié pour protéger votre visage et vos yeux pendant le soudage ou pour regarder (voir ANSI Z49.1 et Z87.1 énuméré dans les normes de sécurité).
- Porter des protections approuvés pour les oreilles si le niveau sondre est trop élevé.
- Utiliser des écrans ou des barrières pour protéger des tiers de l'éclair et de l'éblouissement; demander aux autres personnes de ne pas regarder l'arc.
- Porter des vêtements de protection constitué dans une matière durable, résistant au feu (cuir ou laine) et une protection des pieds.

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.

- Se protéger et d'autres personnes de la projection d'étincelles et de métal chaud.
- Ne pas souder dans un endroit là où des étincelles peuvent tomber sur des substances inflammables.
- 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.
- 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 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).
- Brancher le câble 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 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 des vêtements de protection dépourvus d'huile tels que des gants en cuir, une chemise en matériau lourd, des pantalons sans revers, des chaussures hautes et un couvre chef.
- Avant de souder, retirer toute substance combustible de vos poches telles qu'un allumeur au butane ou des allumettes.



DES PARTICULES VOLANTES peuvent blesser les yeux.

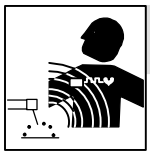
- Le soudage, l'écaillement, le passage de la pièce à la brosse en fil de fer, et le meulage génèrent des étincelles et des particules métalliques volantes. Pendant la période de refroidissement des soudures, elles risquent de projeter du laitier.
- Porter des lunettes de sécurité avec écrans latéraux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

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

- Fermer l'alimentation du gaz protecteur en cas de non utilisation.
- Veiller toujours à bien aérer les espaces confinés ou se servir d'un respirateur d'adduction d'air homologué.

DES PIÈCES CHAUDES peuvent provoquer des brûlures graves.

- Ne pas toucher des parties chaudes à mains nues
- Prévoir une période de refroidissement avant d'utiliser le pistolet ou la torche.



LES CHAMPS MAGNÉTIQUES peuvent affecter les stimulateurs cardiaques.

- Porteurs de stimulateur cardiaque, restez à distance.
- Les porteurs d'un stimulateur cardiaque doivent d'abord consulter leur médecin avant de s'approcher des opérations de soudage à l'arc, de gougeage ou de soudage par points.

LE BRUIT peut affecter l'ouïe.

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

- Porter des protections approuvés pour les oreilles si le niveau sondre est trop élevé.

Si des BOUTEILLES sont endommagées, elles pourront exploser.

Des bouteilles de gaz 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, 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 protecteur, régulateurs, tuyaux et raccords convenables pour cette application spécifique; les maintenir ainsi que les éléments associés en bon état.
- Ne pas tenir la tête en face de la sortie en ouvrant la soupape de la bouteille.
- Maintenir le chapeau de protection sur la soupape, sauf en cas d'utilisation ou de branchement de la bouteille.
- Lire et suivre les instructions concernant les bouteilles de gaz comprimé, les équipements associés et les publications P-1 CGA énumérées dans les normes de sécurité.

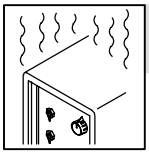
1-3. Dangers supplémentaires en relation avec l'installation, le fonctionnement et la maintenance

Risque D'INCENDIE OU D'EXPLOSION.

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

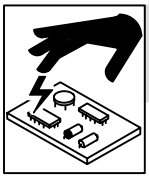
LA CHUTE DE L'APPAREIL peut blesser.

- Utiliser l'anneau de levage uniquement pour soulever l'appareil, NON PAS les chariot, les bouteilles de gaz ou tout autre accessoire.
- Utiliser un engin d'une capacité appropriée pour soulever 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.



L'EMPLOI EXCESSIF peut SURCHAUFFER L'ÉQUIPEMENT.

- Prévoir une période de refroidissement, respecter le cycle opératoire nominal.
- Réduire le courant ou le cycle opératoire avant de recommancer le soudage.
- Ne pas obstruer les passages d'air du poste.



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.

DES ORGANES MOBILES peuvent provoquer des blessures.

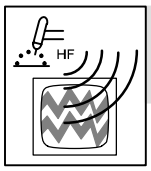
- Ne pas s'approcher des organes mobiles.
- Ne pas s'approcher des points de coincement tels que des rouleaux de commande.

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.

DES ORGANES MOBILES peuvent provoquer des blessures.

- Rester à l'écart des organes mobiles comme le ventilateur.
- Maintenir fermés et fixement en place les portes, panneaux, recouvrements et dispositifs de protection.



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

- Le rayonnement haute frequence 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 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.

LES CHAMPS MAGNÉTIQUES peuvent affecter les stimulateurs cardiaques.

- Porteurs de stimulateur cardiaque, restez à distance.
- Les porteurs d'un stimulateur cardiaque doivent d'abord consulter leur médecin avant de s'approcher des opérations de soudage à l'arc, de gougeage ou de soudage par points.

1-4. Principales normes de sécurité

Safety in Welding and Cutting, norme ANSI Z49.1, de l'American Welding Society, 550 N.W. Lejeune Rd, Miami FL 33126

Safety and Health Sandards, OSHA 29 CFR 1910, du Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Recommended Safe Practice for the Preparation for Welding and Cutting of Containers That Have Held Hazardous Substances, norme AWS F4.1, de l'American Welding Society, 550 N.W. Lejeune Rd, Miami FL 33126

National Electrical Code, NFPA Standard 70, de la National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

Safe Handling of Compressed Gases in Cylinders, CGA Pamphlet P-1, de la Compressed Gas Association, 1235 Jefferson Davis Highway, Suite 501, Arlington, VA 22202.

Règles de sécurité en soudage, coupage et procédés connexes, norme CSA W117.2, de l'Association canadienne de normalisation, vente de normes, 178 Rexdale Boulevard, Rexdale (Ontario) Canada M9W 1R3.

Safe Practices For Occupation And Educational Eye And Face Protection, norme ANSI Z87.1, de l'American National Standards Institute, 1430 Broadway, New York, NY 10018.

Cutting and Welding Processes, norme NFPA 51B, de la National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

1-5. Information sur les champs électromagnétiques

Données sur le soudage électrique et sur les effets, pour l'organisme, des champs magnétiques basse fréquence

Le courant de soudage, pendant son passage dans les câbles de soudage, causera des champs électromagnétiques. Il y a eu et il y a encore un certain souci à propos de tels champs. Cependant, après avoir examiné plus de 500 études qui ont été faites pendant une période de recherche de 17 ans, un comité spécial ruban bleu du National Research Council a conclu: "L'accumulation de preuves, suivant le jugement du comité, n'a pas démontré que l'exposition aux champs magnétiques et champs électriques à haute fréquence représente un risque à la santé humaine". Toutefois, des études sont toujours en cours et les preuves continuent à être examinées. En attendant que les conclusions finales de la recherche soient établies, il vous serait souhaitable de réduire votre exposition aux champs électromagnétiques pendant le soudage ou le coupage.

Afin de réduire les champs électromagnétiques dans l'environnement de travail, respecter les consignes suivantes :

1 Garder les câbles ensembles en les torsadant ou en les attachant avec du ruban adhésif.

2 Mettre tous les câbles du côté opposé de l'opérateur.

3 Ne pas courber pas et ne pas entourer pas les câbles autour de votre corps.

4 Garder le poste de soudage et les câbles le plus loin possible de vous.

5 Relier la pince de masse le plus près possible de la zone de soudure.

Consignes relatives aux stimulateurs cardiaques :

Les personnes qui portent un stimulateur cardiaque doivent avant tout consulter leur docteur. Si vous êtes déclaré apte par votre docteur, il est alors recommandé de respecter les consignes ci–dessus.

SECTION 2 – SPECIFICATIONS

2-1. Wire Feeder Specifications

Specification	Description
Type Of Input Power	115 Volts AC, 3 Amperes At 50/60 Or 100 Hz Power
Control Circuit Voltage Provided At Gun	30 Volts DC
Wire Feed Speed Range	70-875 ipm (1.9-22.2 mpm)
Overall Dimensions	Length: 19 in (483 mm); Width: 9-1/4 in (235 mm); Height: 15-1/4 in (387 mm)
Maximum Spool Capacity	12 in (305 mm)
Cooling Method	Air-Cooled (A Models) Or Water-Cooled (W Models)
Weight (Feeder With Gun)	Models With 15 ft (4.6 m) Cable Assembly Net: 56 lb (25 kg); Ship: 58 lb (26 kg) Models With 30 ft (9.1 m) Cable Assembly Net: 63 lb (29 kg); Ship: 65 lb (30 kg)

2-2. Gun Specifications

Specification	Description
Input Voltage	30 Volts DC
Duty Cycle (Air-Cooled Models)	At 200 Amperes, 100% Using Argon Or Argon Mixture Shielding Gas At 250 Amperes, 60% Using Argon Or Argon Mixture Shielding Gas (See Section 2-3)
Duty Cycle (Water-Cooled Models)	At 400 Amperes, 100% Using Argon Or Argon Mixture Shielding Gas (See Section 2-3)
Wire Size Range	.030 Thru 1/16 in (0.8 Thru 1.6 mm) Aluminum Wire .030 Thru .045 in (0.8 Thru 1.1 mm) Hard Or Cored Wire

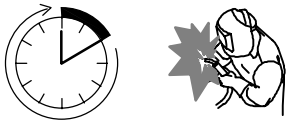
2-3. Duty Cycle And Overheating

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

▲ **Exceeding duty cycle can damage unit and void warranty.**

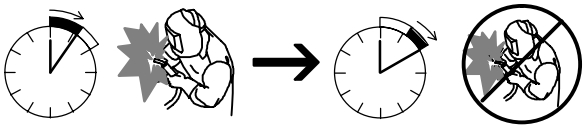
Air-Cooled Models

100% Duty Cycle At 200 Amperes Using Argon



Continuous Welding

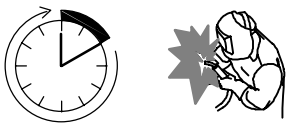
60% Duty Cycle At 250 Amperes Using Argon



6 Minutes Welding 4 Minutes Resting

Water-Cooled Models

100% Duty Cycle At 400 Amperes Using Argon



Continuous Welding

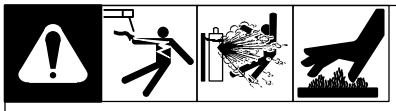
SECTION 3 – INSTALLATION

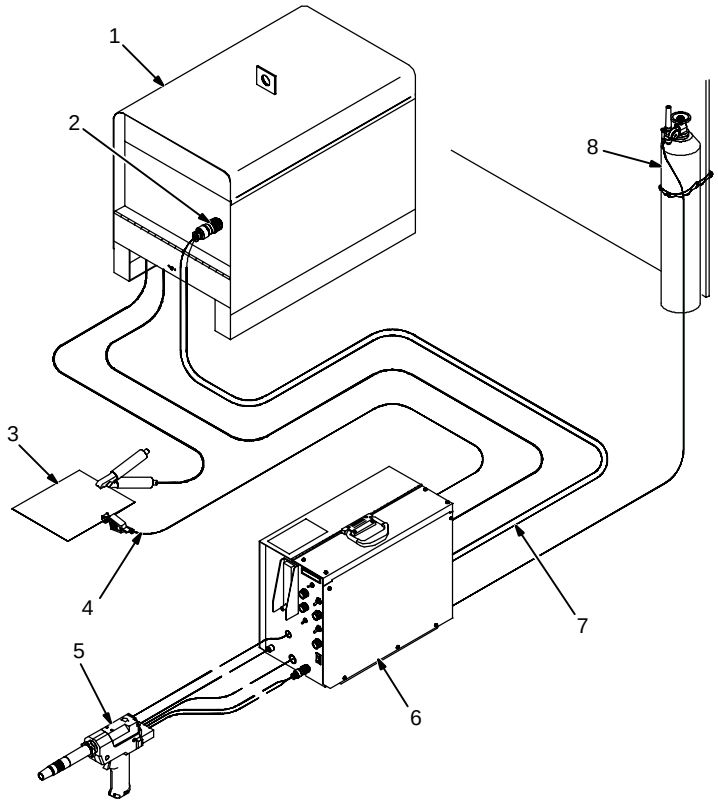
NOTE ☞	*Be sure that contact tip, liner, and drive rolls are correct for wire size and type. See Section 5 to change parts as needed. See Section 7 for list of other available contact tips.*

Review Section 3-1 through Section 3-4 to determine how equipment will be connected. Air-cooled models are shown in Section 3-1 through Section 3-4. For water-cooled models, supplied water hoses must be connected from wire feeder to coolant supply.

Read entire Section 3 before installing equipment.

3-1. Connections With A CC, CV Or CC/CV Voltage Welding Power Source Having A 14-Socket Receptacle





1 Constant Current (CC), Constant Voltage (CV) Or Constant Current/Constant Voltage (CC/CV) Welding Power Source

2 115 VAC/Contactor Control 14-Pin Plug

3 Workpiece

4 Voltage Sensing Lead

Connect lead to workpiece for CC welding only.

5 Gun

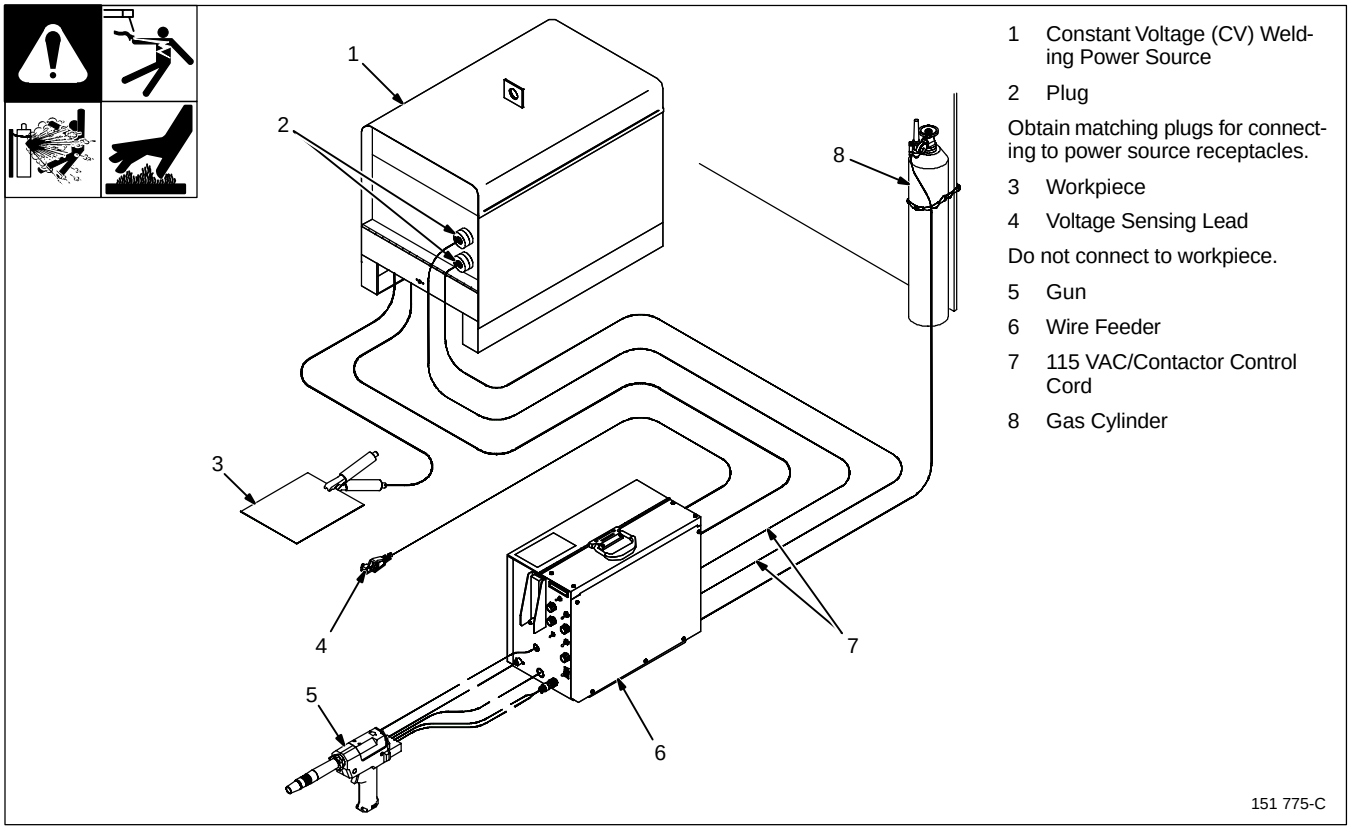
6 Wire Feeder

7 115 VAC/Contactor Control Cord

8 Gas Cylinder

151 774-B

3-2. Connections With A CV Welding Power Source Having Separate 115 VAC And Contactor Control Receptacles



1 Constant Voltage (CV) Welding Power Source

2 Plug

Obtain matching plugs for connecting to power source receptacles.

3 Workpiece

4 Voltage Sensing Lead

Do not connect to workpiece.

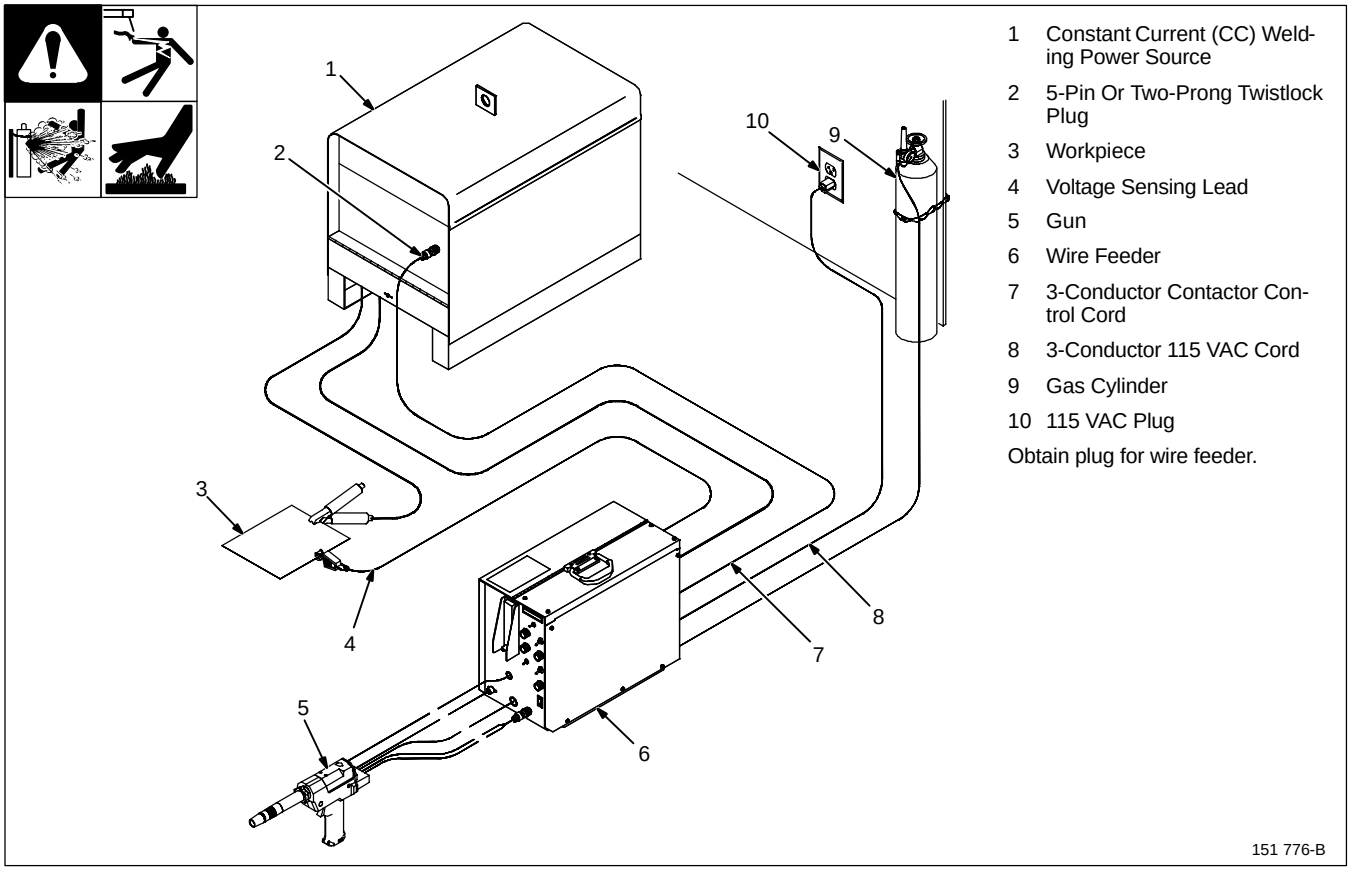
5 Gun

6 Wire Feeder

7 115 VAC/Contactor Control Cord

8 Gas Cylinder

3-3. Connections With A CC Welding Power Source Having A Contactor Control Receptacle



1 Constant Current (CC) Welding Power Source

2 5-Pin Or Two-Prong Twistlock Plug

3 Workpiece

4 Voltage Sensing Lead

5 Gun

6 Wire Feeder

7 3-Conductor Contactor Control Cord

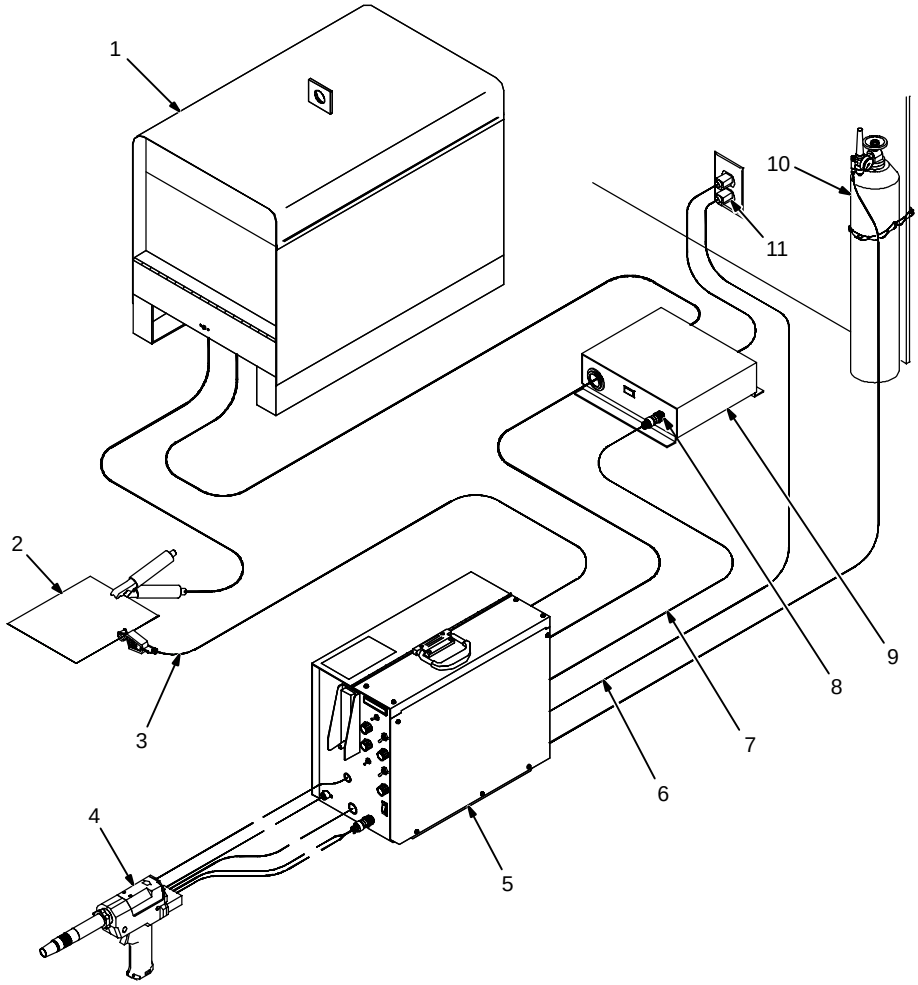
8 3-Conductor 115 VAC Cord

9 Gas Cylinder

10 115 VAC Plug

Obtain plug for wire feeder.

3-4. Connections With A CC Welding Power Source And A 115 VAC/12 VDC Secondary Contactor

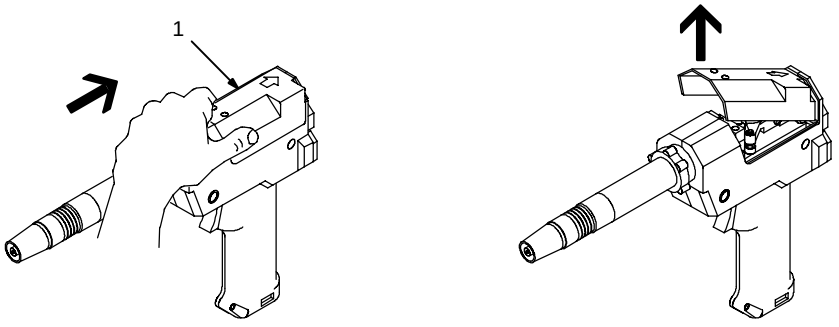


1 Constant Current (CC) Welding Power Source
2 Workpiece
3 Voltage Sensing Lead
4 Gun
5 Wire Feeder
6 3-Conductor 115 VAC Cord
7 3-Conductor Contactor Control Cord
8 5-Pin Plug
9 Secondary Contactor
10 Gas Cylinder
11 115 VAC Plug

Obtain plug for wire feeder.

151 777-B

3-5. Removing Top Cover Of Gun



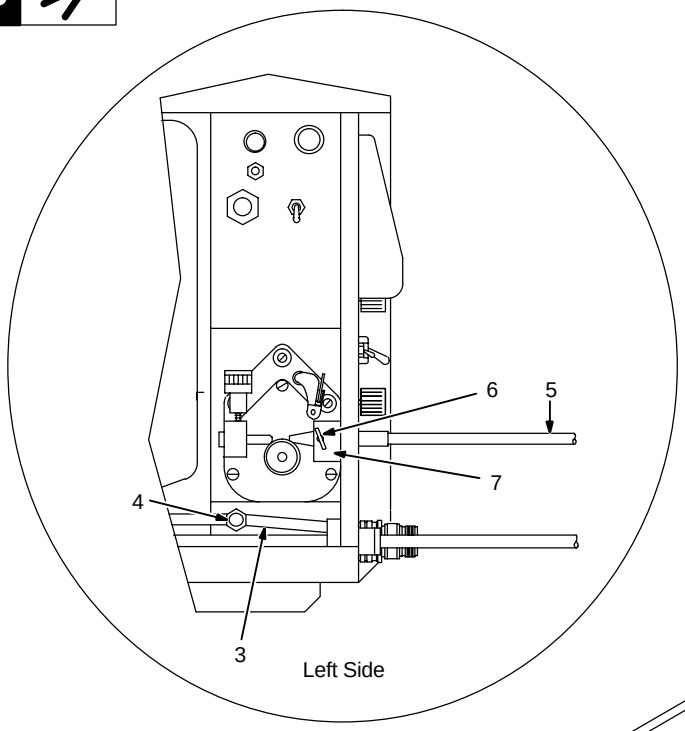
1 Top Cover

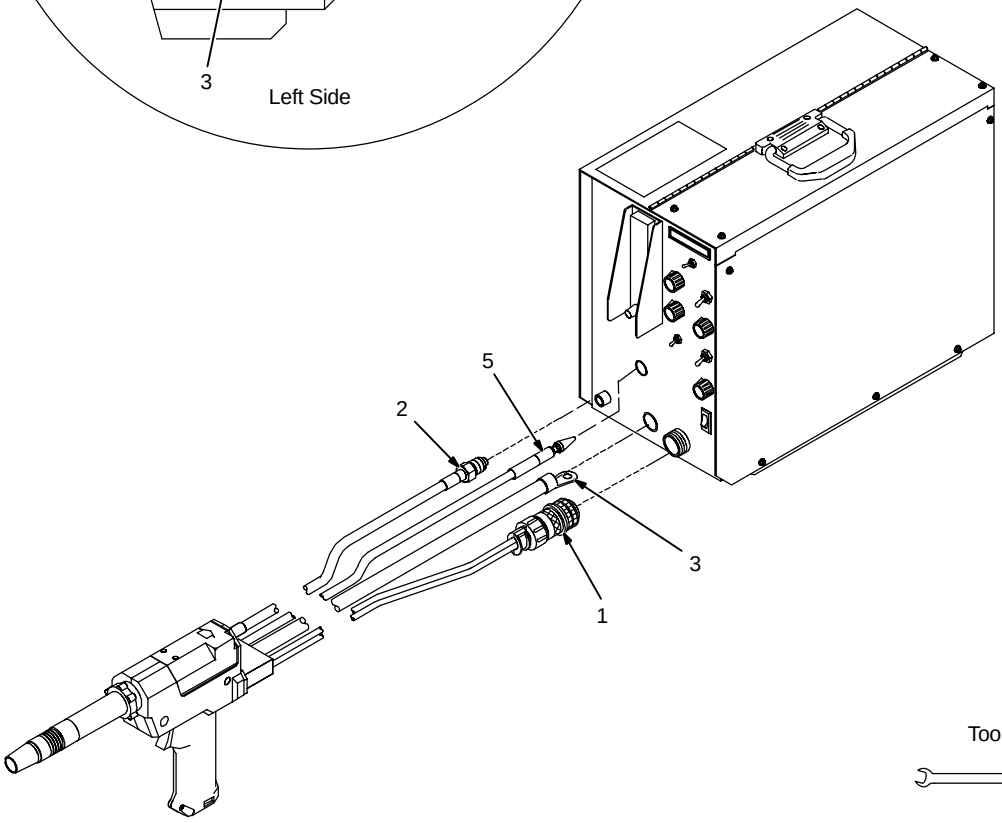
Push back and lift off as shown.

To reinstall cover, set rear of cover in gun, and push cover back, down, and forward until it clicks into position.

802 528

3-6. Air-Cooled Gun Connections





1 Gun Control Cable

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

2 Gas Hose

Connect to Gas fitting on feeder.

3 Weld Cable

4 Weld Cable Terminal In Feeder

Connect gun weld cable to weld cable terminal in feeder.

5 Wire Conduit

6 Thumbscrew

7 Wire Conduit Block

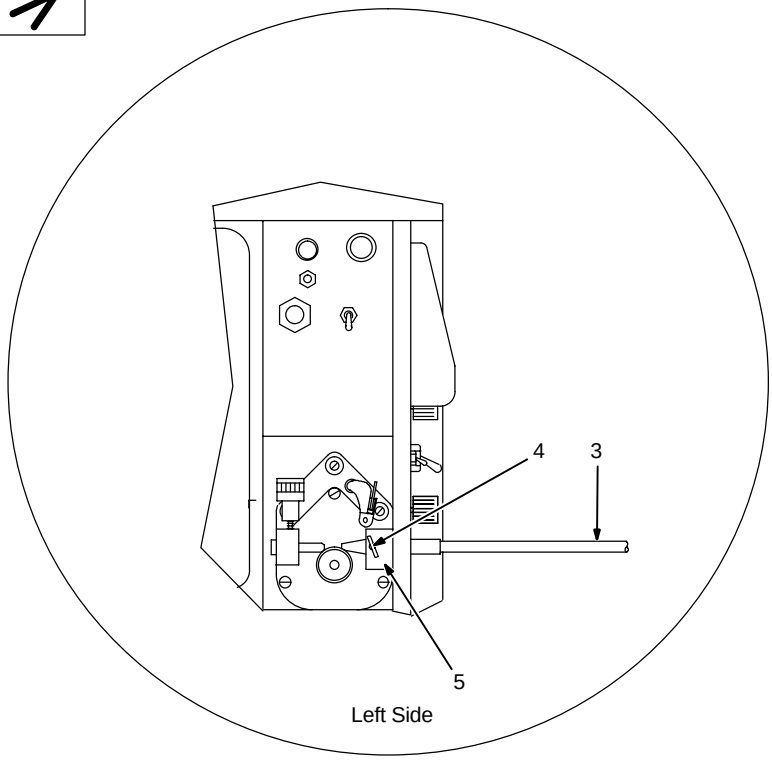
Loosen thumbscrew, and insert conduit through Wire opening until it bottoms against block. Tighten thumbscrew. Close and latch door.

Tools Needed:

5/8, 3/4 in

145 432-B / Ref. 802 536 / Ref. 151 778-B

3-7. Water-Cooled Gun Connections



Left Side

1 Gas Hose

Connect to Gas fitting on feeder.

2 Water Hose

Connect to Water To Gun fitting on feeder (left-hand threads).

3 Wire Conduit

4 Thumbscrew

5 Wire Conduit Block

Loosen thumbscrew, and insert conduit through Wire opening until it bottoms against block. Tighten thumbscrew.

6 Gun Control Cable

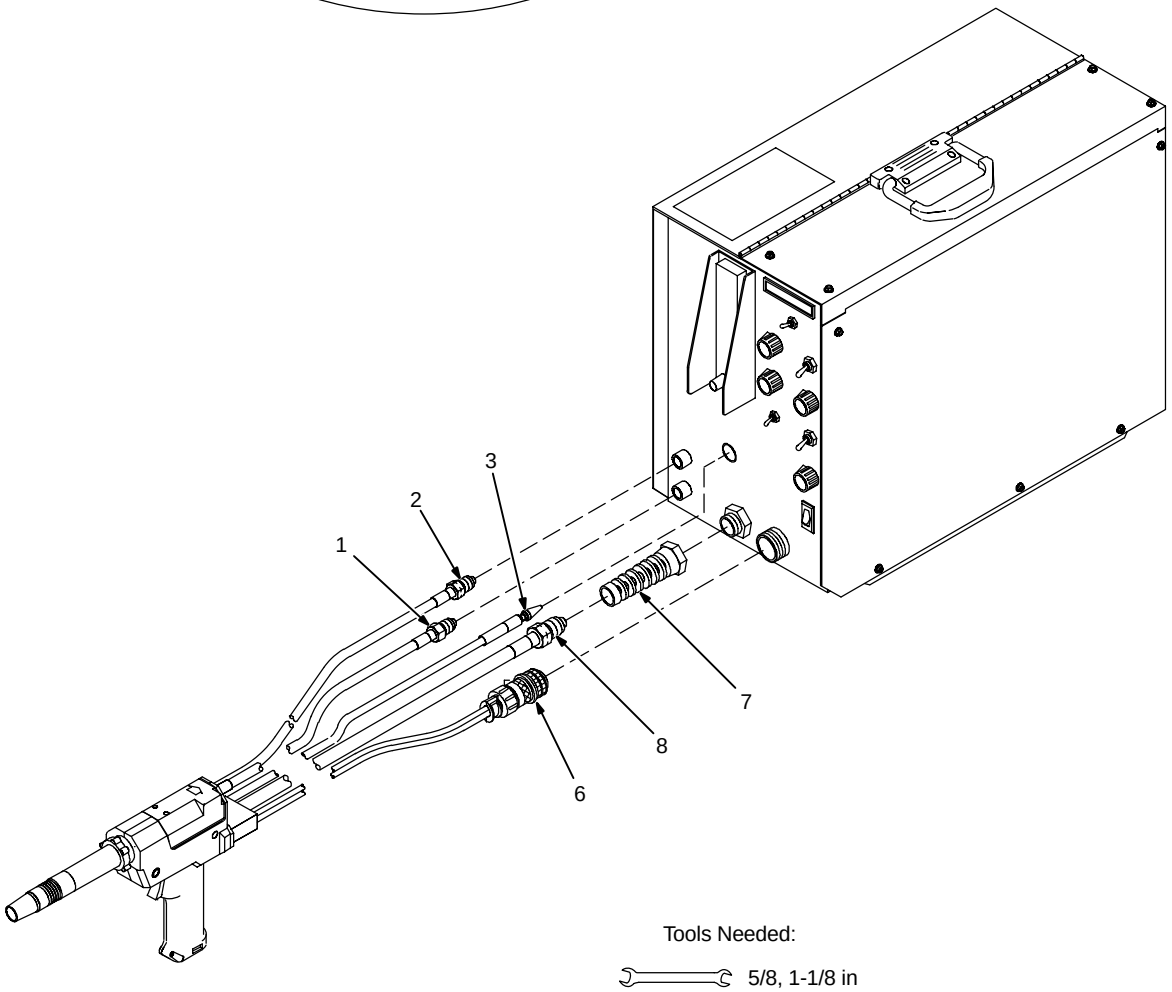
Insert plug into Gun Control receptacle, and tighten threaded collar.

7 Strain Relief

Remove strain relief as shown.

8 Power/Water Cable

Route cable through strain relief and connect to Weld/Water From Gun outlet on feeder. Reinstall strain relief. Close and latch door.

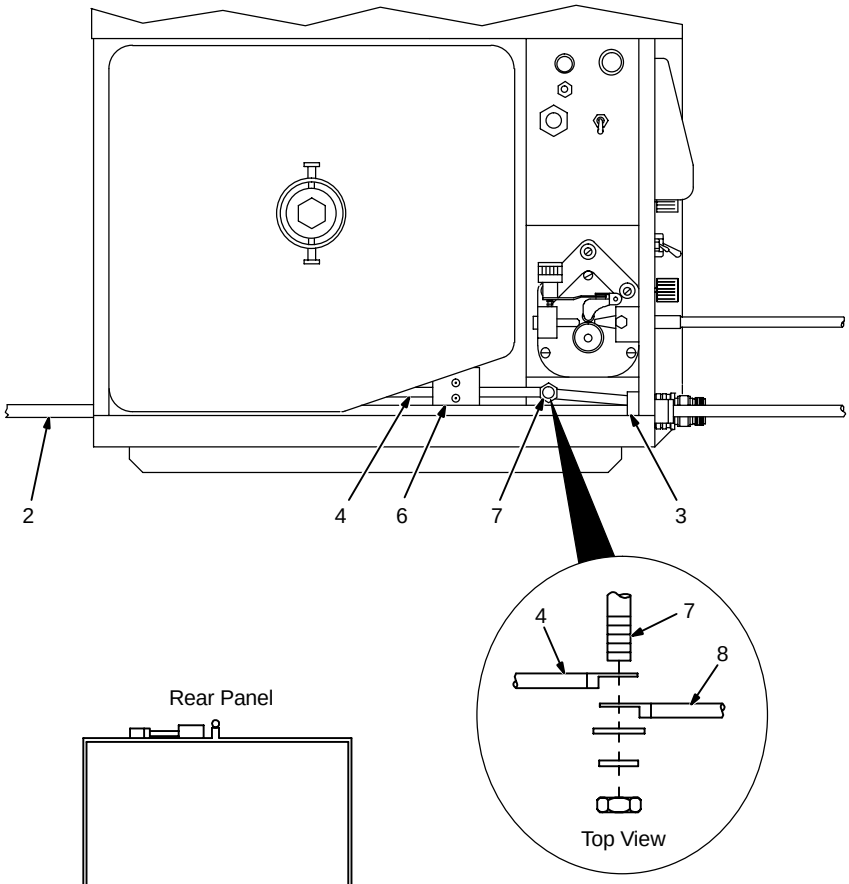


Tools Needed:

5/8, 1-1/8 in

Ref. 151 778-B / 152 456-A

3-8. Air-Cooled Feeder Connections



1 Gas Hose Grommet

2 10 ft (3 m) Gas Hose

3 Rear Of Gas Fitting

Route one end of gas hose through grommet, and connect hose to rear of Gas fitting in feeder. Connect remaining end of hose to regulator/flowmeter

4 Weld Cable To Welding Power Source

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

5 Weld Cable Grommet

6 Current Sensing (Reed) Relay

7 Weld Cable Terminal In Feeder

Route one end of weld cable through grommet, through reed relay, and connect to weld cable terminal in feeder. Connect remaining end of cable to positive (+) weld output terminal on welding power source.

8 Gun Weld Cable

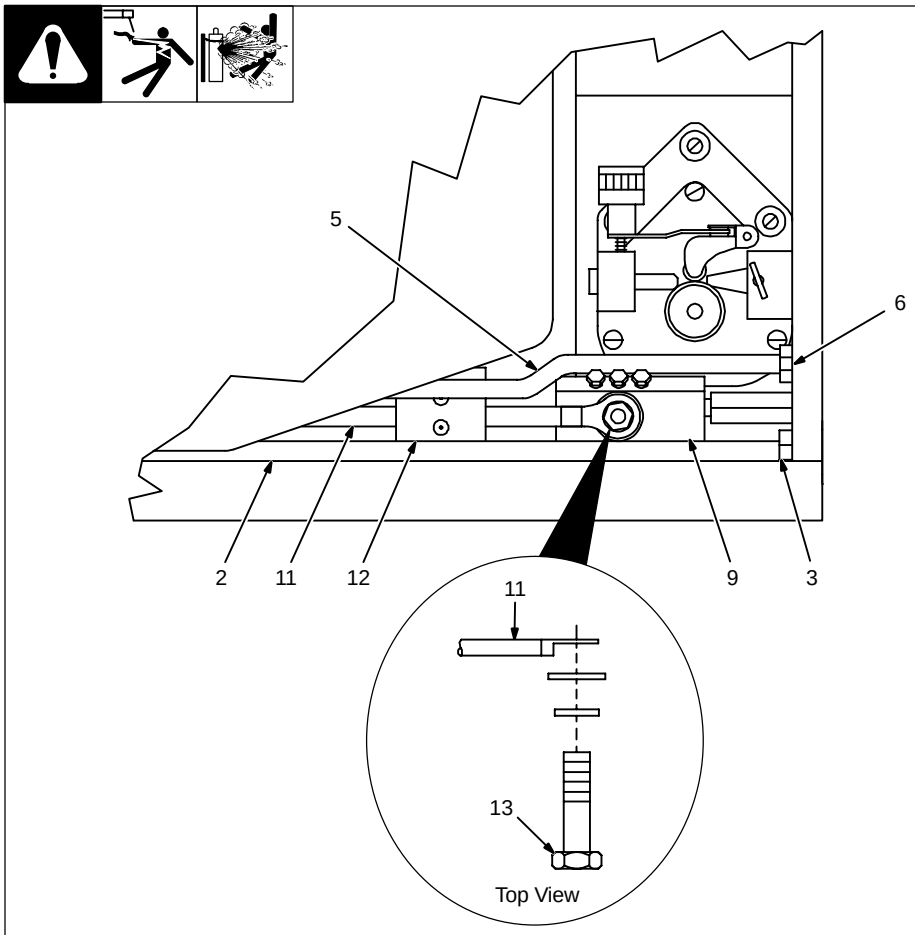
Be sure that terminal of welding power source weld cable is in direct contact with terminal from gun weld cable. Close and latch door.

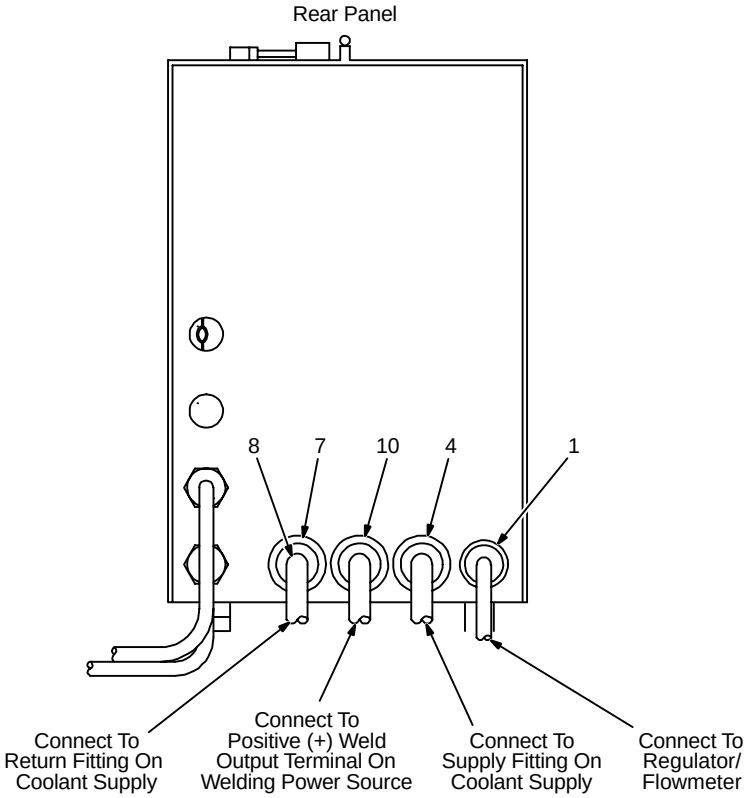
Tools Needed:

5/8, 1-1/8 in

Ref. 151 771-A

3-9. Water-Cooled Feeder Connections





Obtain coolant supply.

1 Gas Hose Grommet

2 10 ft (3 m) Gas Hose

3 Rear Of Gas Fitting

Route one end of gas hose through grommet, and connect hose to rear of Gas fitting in feeder. Connect remaining end of hose to regulator/flowmeter.

4 Coolant Supply Hose Grommet

5 10 ft (3 m) Water Supply Hose With 5/8 in Adapter Fitting

6 Rear Of Water Fitting (Left-Hand Threads)

Remove 5/8 in adapter fitting from hose. Route one end of a water hose through grommet, and connect to rear of Water To Gun fitting in feeder. Connect remaining end to supply fitting on coolant supply.

7 Coolant Return Hose Grommet

8 10 ft (3 m) Water Return Hose

9 Connection Block (Left-Hand Threads)

Route one end of remaining water hose through grommet, and connect to rear of connection block (not shown). Connect remaining end of hose to return fitting on coolant supply.

10 Weld Cable Grommet

11 Weld Cable To Welding Power Source

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

12 Current Sensing (Reed) Relay

13 Weld Cable Screw In Feeder

Route one end of weld cable through grommet, through reed relay, and connect to block in feeder using hardware shown. Connect remaining end of cable to positive (+) weld output terminal on welding power source.

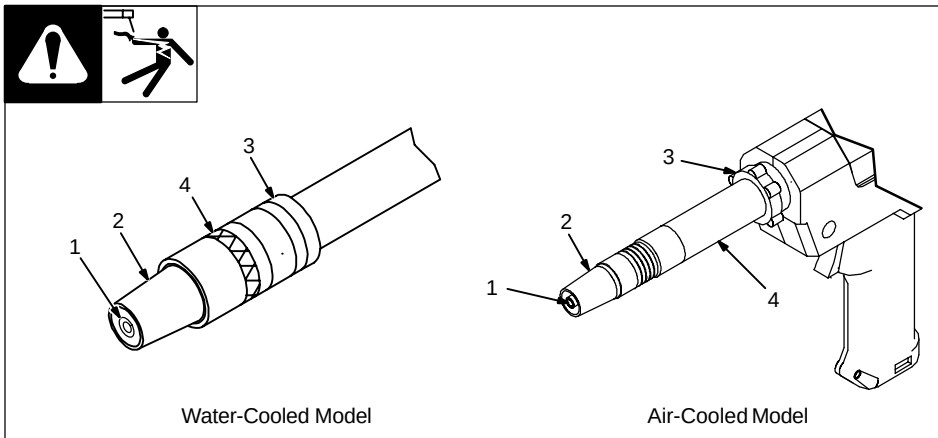
Close and latch door.

Tools Needed:

5/8, 1-1/8 in

Ref. 152 431-A

3-10. Adjusting Contact Tip Position



Water-Cooled Model

Air-Cooled Model

1 Contact Tip

2 Nozzle

Adjusting barrel changes contact tip location from 1/16 in (1.6 mm) out beyond end of nozzle to 1/4 in (6.3 mm) inside nozzle.

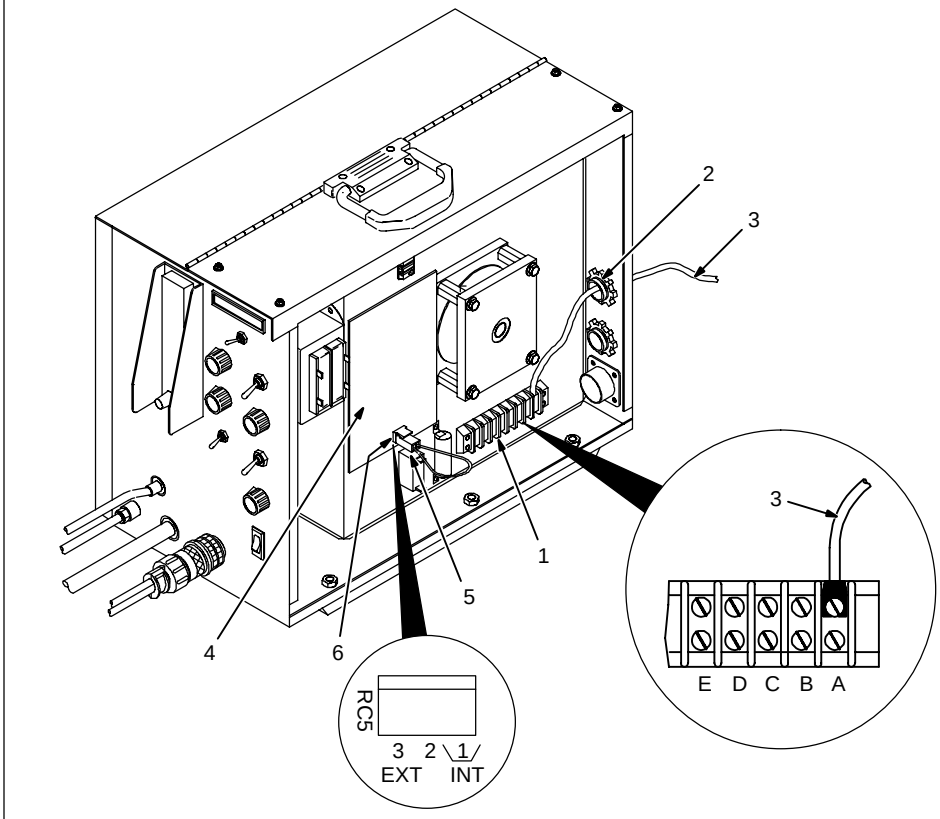
3 Jam Nut

4 Barrel

To change contact tip location, loosen jam nut, and turn barrel. Tighten jam nut.

150 434 / Ref. 150 431

3-11. Voltage Sensing Lead Connections



Tools Needed:

1/4 in

Unit is factory set for constant voltage (CV) welding. To set unit for constant current (CC) welding, proceed as follows:

1 Terminal Strip 2T

2 Strain Relief

Loosen screws of strain relief.

3 Voltage Sensing Lead

Route ring terminal end of lead through strain relief, and connect ring terminal to terminal A of terminal strip 2T. Tighten screws on strain relief.

4 Motor Speed Control Board PC1

5 Jumper Plug

6 Receptacle RC5

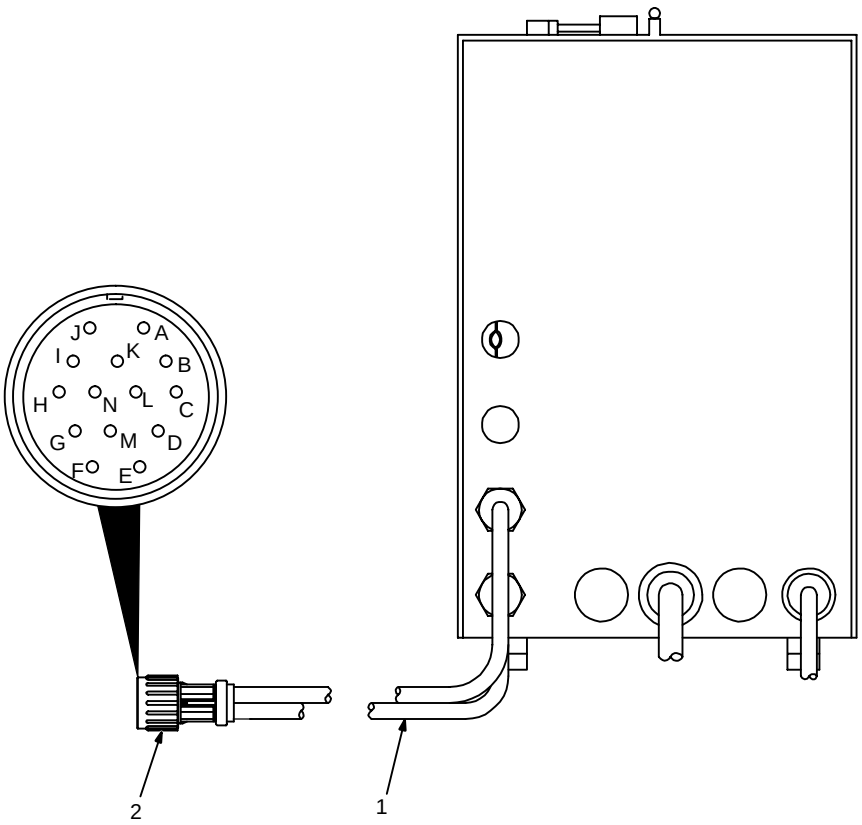
For constant voltage (CV) welding, place jumper plug in INT. position. Do not connect voltage sensing lead clamp to workpiece.

For constant current (CC) welding, place plug in EXT. position. Connect clamp end of voltage sensing lead to workpiece.

Reinstall right side panel.

Ref. 151 772-A

3-12. 115 VAC/Contactor Control Plug Information



1 Interconnecting Cord

2 115 VAC/Contactor Control Plug PLG5

If CC or CC/CV welding power source is equipped with matching 14-socket receptacle, insert plug, and tighten threaded collar. Proceed to Section 3-14.

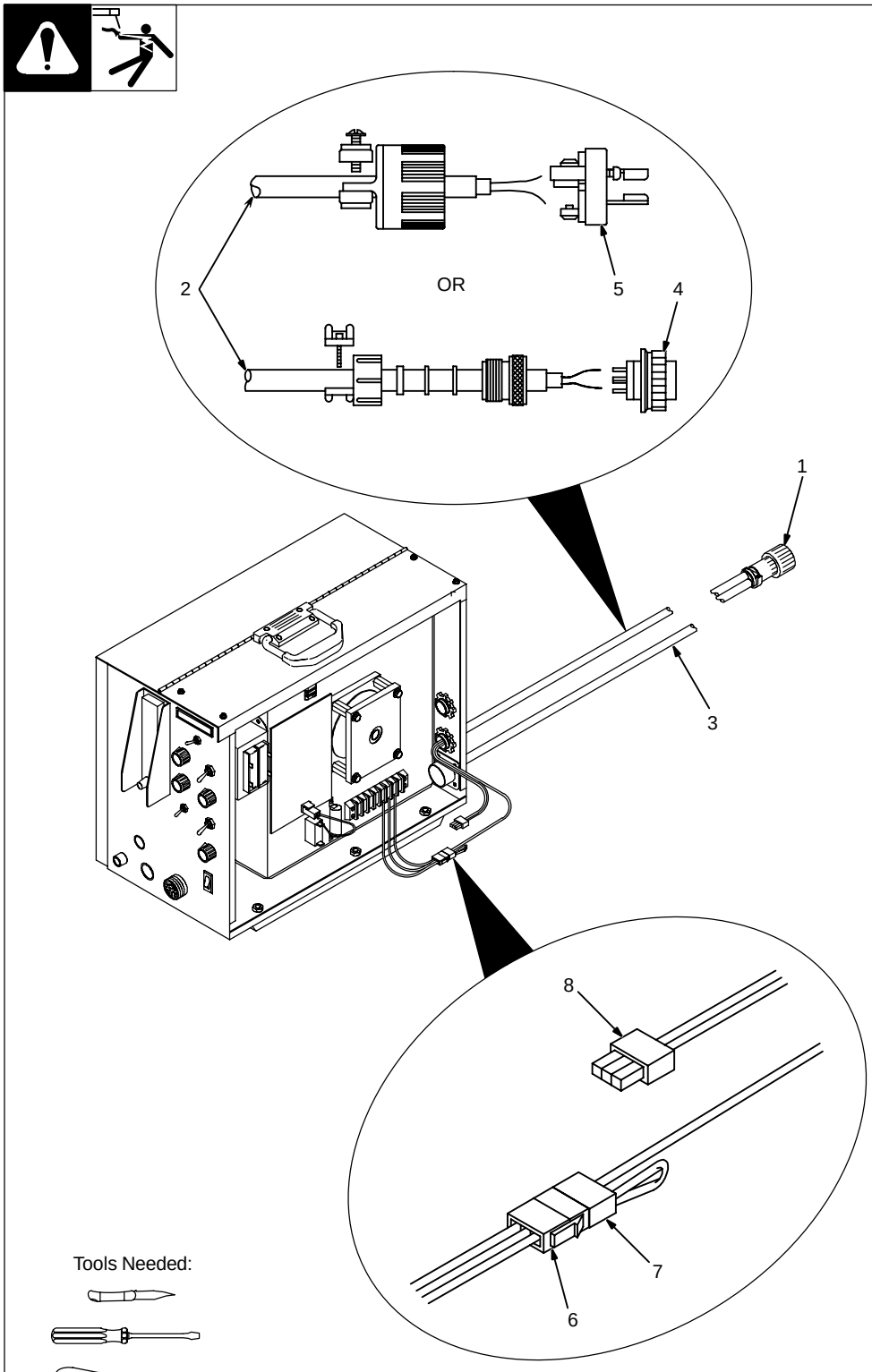
If plug PLG5 will not connect to CC welding power source receptacle, use the following pin information and Section 3-13 to replace PLG5 with a suitable plug.

	Pin*	Pin Information
Remote Contactor	A, B	Contact closure to A completes contactor control circuit.
	I	115 volts ac.
	J	Contact closure to I completes 115 volts ac contactor control circuit.
	G	Circuit common for 115 volts ac circuit.
Remote Voltage Control	C	+10 volts dc output to remote control.
	D	Remote control circuit common.
	E	0 to +10 volts dc input command signal from remote control.
	K	Chassis common.

*The remaining pins are not used.

Ref. S-0004-A / Ref. 151 772

3-13. Replacing 115 VAC/Contactor Control Plug With Customer-Supplied 5-Pin Or Twistlock Plug



1 115 VAC/Contactor Control Plug PLG5

2 Contactor Control Cord

3 115 VAC Cord

Find and label cords by following leads to back of PLG5:

Contactor control cord connects to pins A & B of PLG5

115 VAC cord connects to pin J of PLG5.

Cut off plug PLG5.

4 5-Pin Plug

5 Two-Prong Twistlock Plug

For connections shown in Figure 3-3 or Figure 3-4, install 5-pin or twistlock plug onto contactor control cord.

For Figure 3-2 connection, obtain plug to match contactor control receptacle on welding power source, and install plug onto contactor control cord.

Obtain 115 VAC plug and connect to 115 VAC cord as follows:

green lead to ground

white lead to 115 VAC common

black lead to 115 VAC hot.

6 Plug PLG50

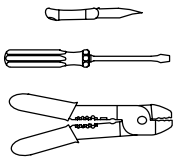
7 Plug PLG51

8 Plug PLG52

Unit shipped with PLG50 connected to PLG51 to provide 115 VAC for contactor.

If contact closure needed for contactor, connect PLG50 to PLG52.

Tools Needed:



151 773-C

3-14. Installing Wire Spool

Turn Off wire feeder and welding power source.

1 Wire Spool

2 Top Cover

3 Pressure Roll Assembly

4 Gun Contact Tip

If wire spool is being replaced, open pressure roll assembly in gun, and cut welding wire off at contact tip.

For welding power sources without contactor, retract wire onto spool.

For welding power sources with a contactor, energize power source, turn On feeder, press Brake Release button (see Section 4-11), and retract wire onto spool.

Close gun pressure roll assembly and reinstall top cover.

5 Hub

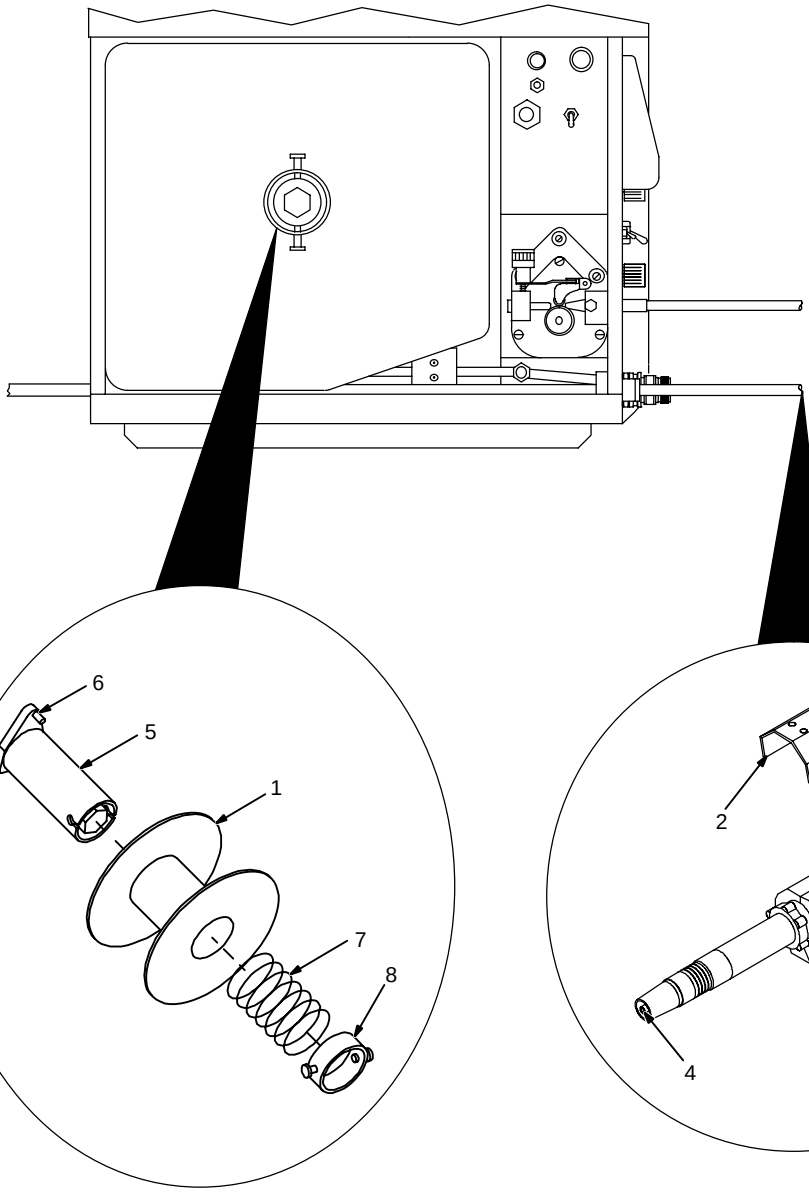
6 Hub Pin

7 Compression Spring (Optional For 8 in Spool)

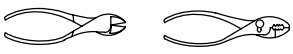
8 Retaining Ring

Slide spool onto hub so wire feeds off bottom. Turn spool until hub pin fits hole in back of spool. Reinstall retaining ring.

Thread welding wire (see Section 3-15). Close and latch door or go on to Section 3-15.

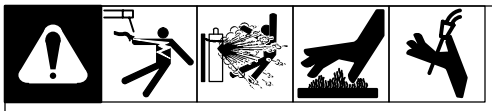


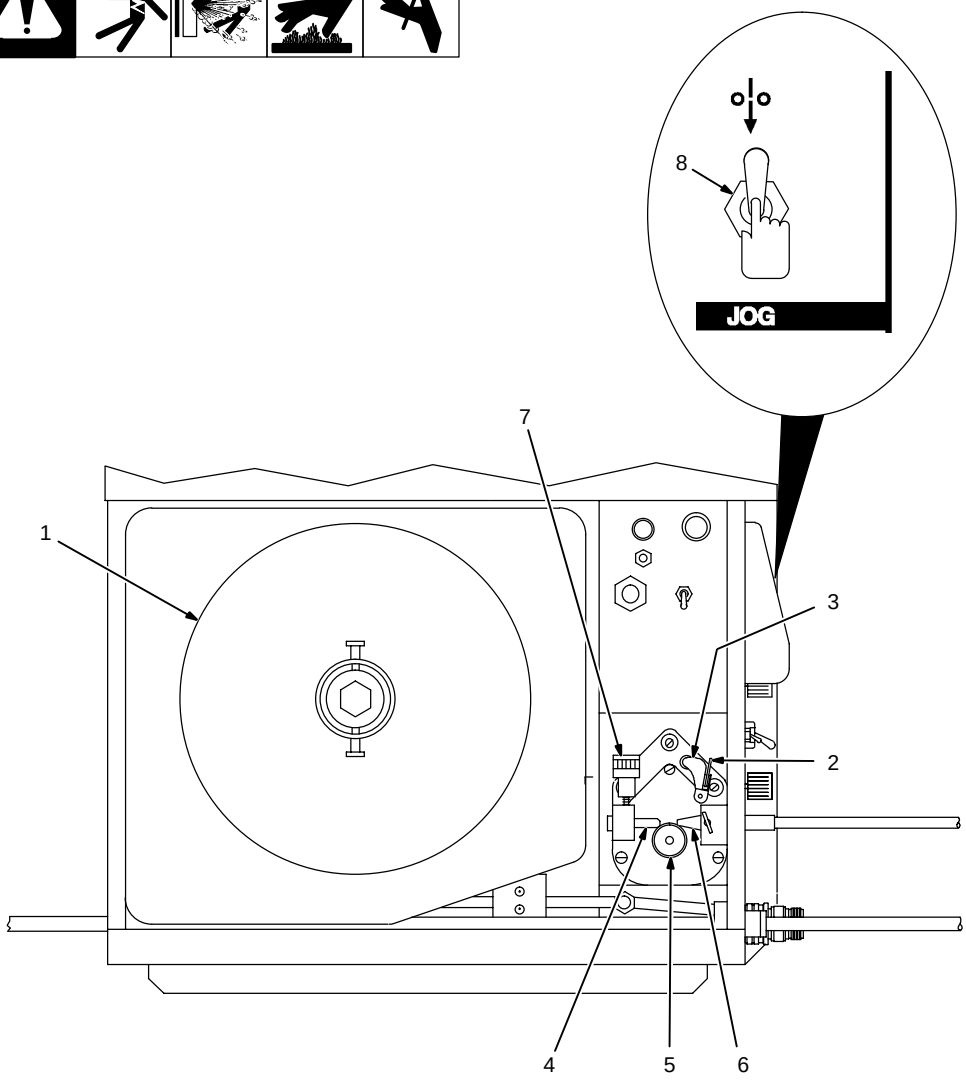
Tools Needed:



Ref. 151 771-A / Ref. 072 573-B / Ref. 151 599-C

3-15. Threading Welding Wire Through Feeder





1 Wire Spool

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

2 Tension Arm

3 Mounting Arm

To open pressure roll assembly, open tension arm and lift mounting arm.

4 Wire Inlet Guide

5 Drive Roll

6 Wire Conduit Fitting

Thread wire through wire inlet guide, along drive roll groove, and into fitting.

Close and secure pressure roll assembly.

7 Tension Thumbnut

8 Jog Switch

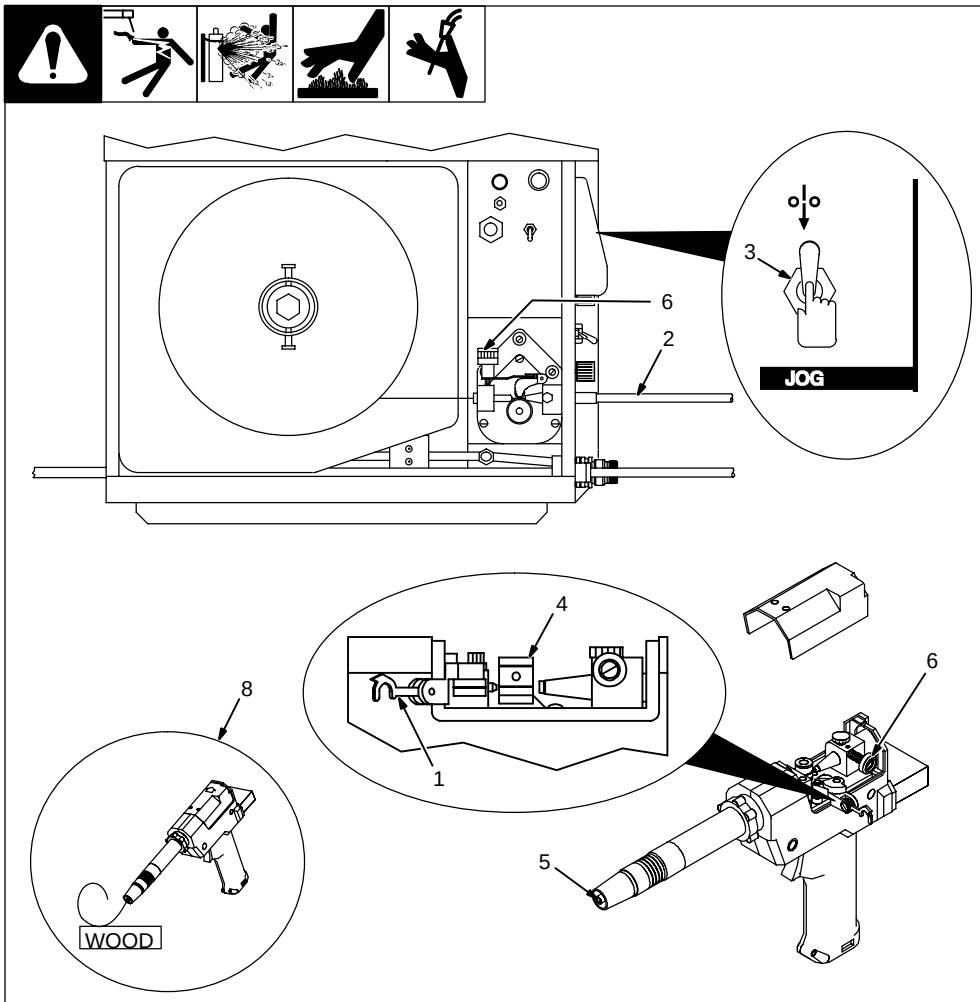
Turn On wire feeder. For proper adjustment, loosen thumbnut until drive roll slips when Jog switch is pushed up. Grasp spool with one hand, and turn thumbnut clockwise until motor stalls when Jog switch is pushed up.

Feed welding wire through gun (see Section 3-16). Turn Off wire feeder. Close and latch door.

Tools Needed:

151 778-B / Ref. 176 700-A

3-16. Threading Welding Wire Through Gun



1 Pressure Roll Assembly

Lift arm and open pressure roll assembly.

2 Wire Conduit

Lay wire conduit out straight.

3 Jog Switch

Push Jog switch up to feed wire through wire conduit.

4 Drive Roll

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

5 Contact Tip

Manually thread wire along drive roll groove and out contact tip 2 in (51 mm). Close pressure roll assembly.

6 Tension Thumbnut

7 Pressure Adjustment Knob

8 Final Pressure Adjustment

Turn On feeder and check drive roll pressure by feeding wire against a piece of wood or concrete surface; wire should feed steadily without slipping. If necessary, adjust pressure adjustment knob in gun.

Turn Off feeder and welding power source. Reinstall gun cover. Close and latch feeder door.

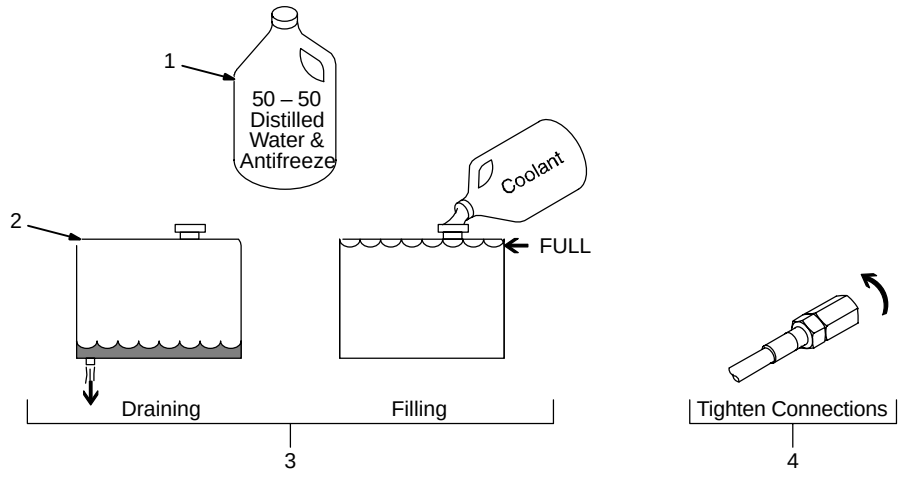
Ref. 157 779-A / Ref. 176 700-A / Ref. S-0651

3-17. Coolant Guidelines

⚠ CAUTION

INCORRECT COOLANT OR COOLANT CONTAINING STOP-LEAK ADDITIVES can corrode and/or plug gun/feeder cooling passages.

- Use only a mix of 50% distilled water and 50% high quality automotive antifreeze as proper coolant for this product.
- Do not use antifreeze containing stop-leak additives.
- Use of other coolant voids warranty.



Follow these guidelines to decrease corrosion in gun/feeder and cooling system:

1 Coolant

Mix distilled water and high quality automotive antifreeze. Use anti-freeze which does not contain stop-leak additives.

Use of other coolant voids warranty.

2 Coolant System Tank

3 Changing Coolant

Change coolant only if dirty.

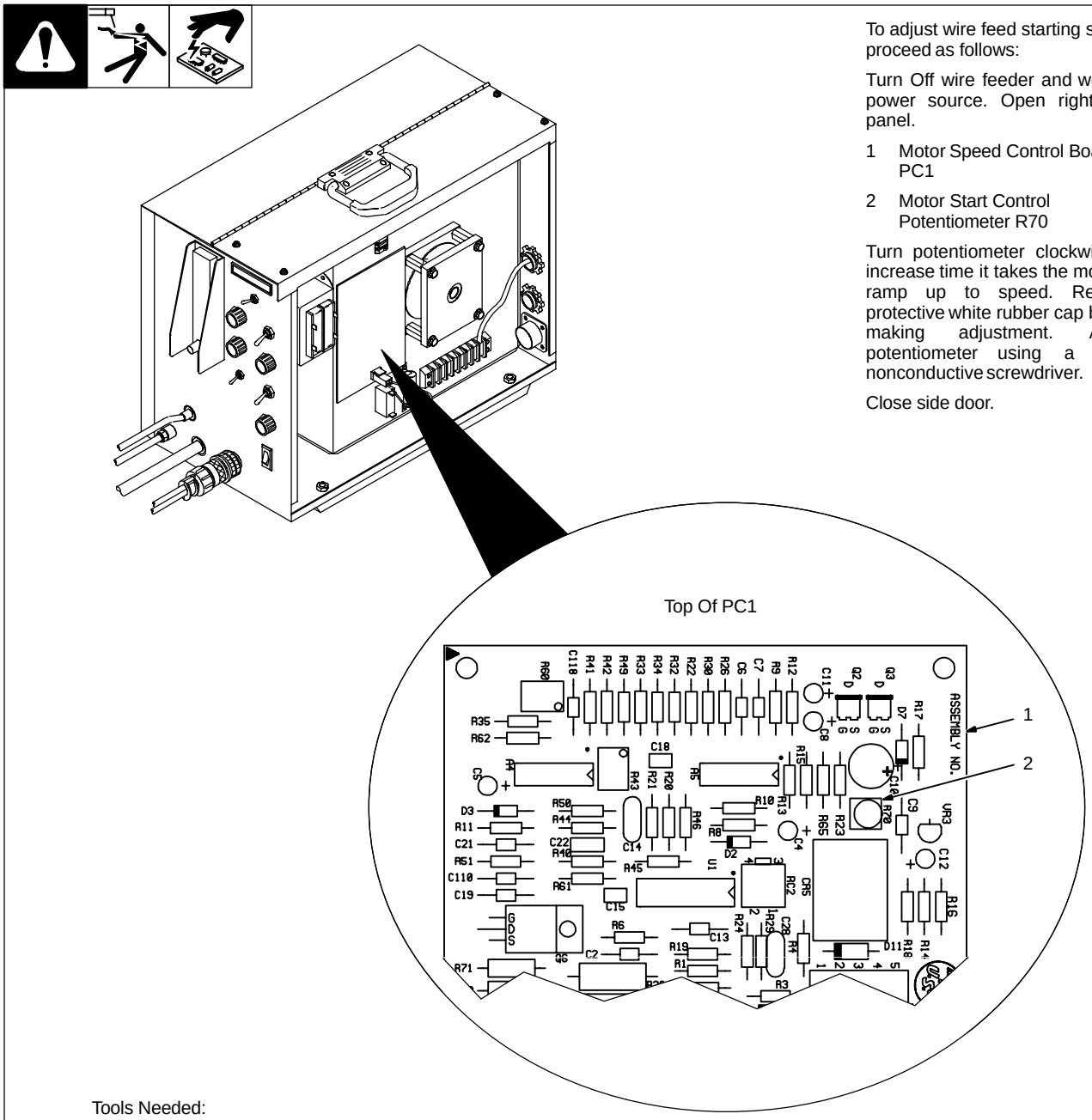
Add coolant to keep level full.

4 Tighten Connections

Keep gun connections tight.

S-0760

3-18. Adjusting Wire Feed Starting Speed



To adjust wire feed starting speed, proceed as follows:

Turn Off wire feeder and welding power source. Open right side panel.

1 Motor Speed Control Board PC1

2 Motor Start Control Potentiometer R70

Turn potentiometer clockwise to increase time it takes the motor to ramp up to speed. Remove protective white rubber cap before making adjustment. Adjust potentiometer using a small nonconductive screwdriver.

Close side door.

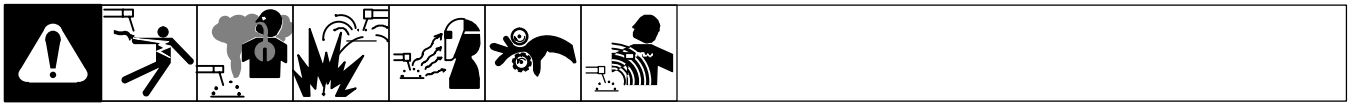
Tools Needed:

Nonconductive

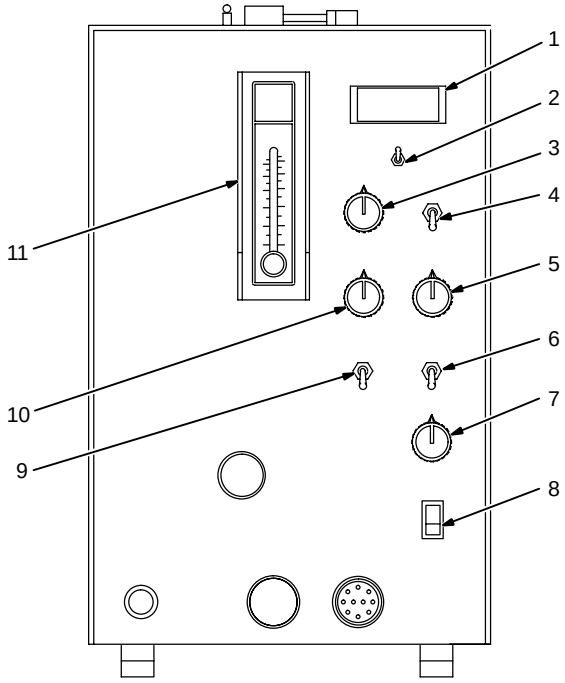
1/4 in

Ref. 151 772-A / Ref. 142 054-B

SECTION 4 – OPERATION



4-1. Front Panel Controls Of Feeder (Air-Cooled Model Shown)



1 Voltage/Wire Speed Meter (Optional)

2 Voltage/Wire Speed Switch (Optional)

3 Run-In Speed Control

4 Jog Switch

5 Burnback Time Control (Optional)

6 Spot/Continuous Switch (Optional)

7 Remote Voltage Control (Optional)

8 Power Switch

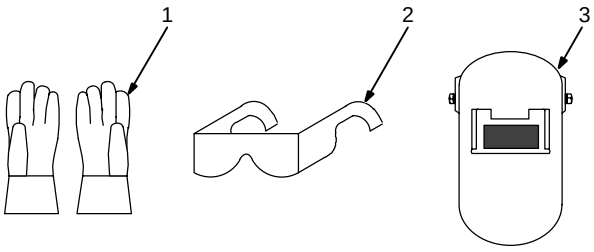
9 Time Range Switch (Optional)

10 Spot Time Control (Optional)

11 Flowmeter (Optional)

151 780–A

4-2. Safety Equipment



Wear the following while welding:

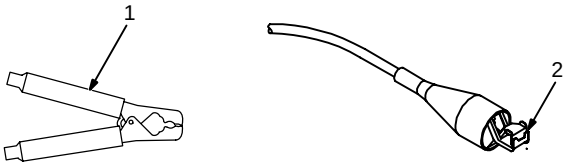
1 Dry, Insulating Gloves

2 Safety Glasses With Side Shields

3 Welding Helmet With Correct Shade Of Filter (See ANSI Z49.1)

sb3.1 1/94

4-3. Work And Voltage Sensing Cable Clamps



Tools Needed:

1 Work Clamp

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

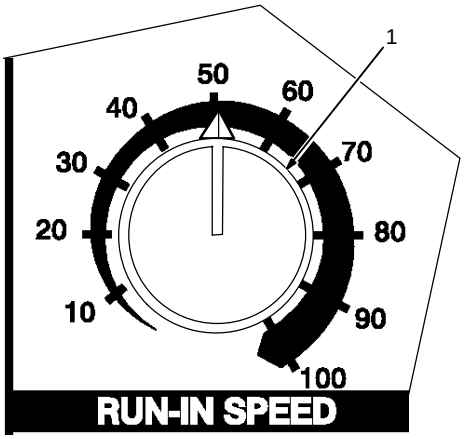
Use wire brush or sandpaper to clean metal at weld joint area.

2 Voltage Sensing Cable Clamp

Connect voltage sensing cable clamp to workpiece for constant current (CC) operations (see Section 3-11).

sb4.1* 2/93 – Ref. 144 451-A

4-4. Run-In Speed Control



1 Run-In Speed Control

Use control to set wire feed speed before arc initiation.

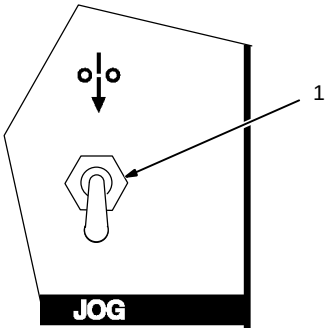
After arc initiation, wire feed speed is controlled by the Wire Speed Control on the welding gun (see Section 4-12).

The scale around the control is percent of full range, not wire speed. As a general rule, set run-in speed lower than welding wire feed speed.

Set control at 0 (zero) for scratch start.

Ref. 176 700-A

4-5. Jog Switch

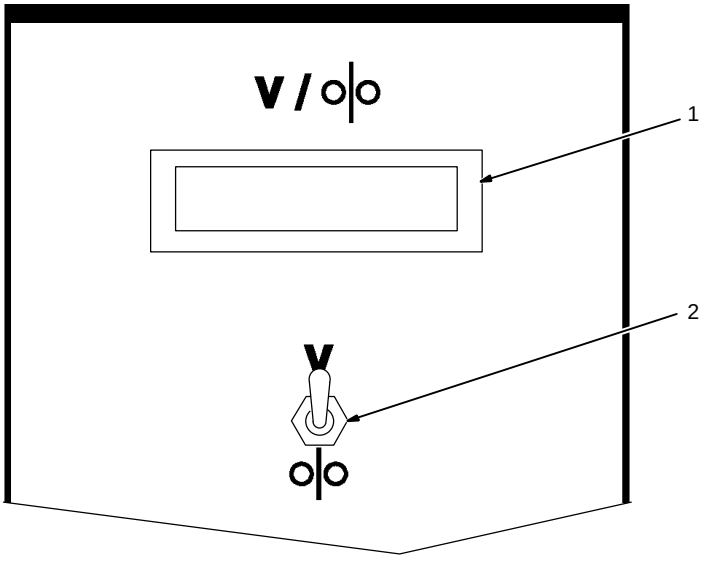


1 Jog Switch

Use switch to energize drive motors in feeder and gun without energizing welding power source contactor. When switch is held up in Jog position, wire speed is set by Wire Speed Control on gun.

4-6. Voltage/Wire Speed Switch And Meter (Optional)

Volt sensing lead must be connected to workpiece for meters to operate.



1 Voltage/Wire Speed Meter

2 Voltage/Wire Speed Switch

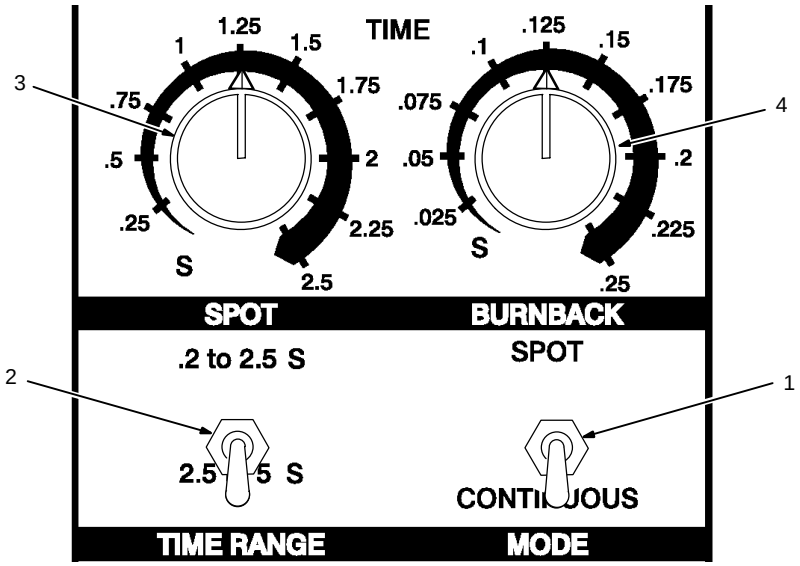
When switch is in Voltage position, and operator is welding, meter displays arc voltage. Cable resistance and poor connections may cause displayed voltage to vary slightly from actual voltage at welding arc.

When switch is in Wire Speed position and operator is welding, meter displays preset wire speed in inches per minute. This wire speed is set by Wire Speed Control on the gun.

During run-in portion of weld cycle, meter displays run-in speed as selected on Run-In Speed control on feeder (see Section 4-4).

When welding Direct Current Electrode Negative (DCEN), meter does not display accurate output voltages; however, meter displays accurate wire speed values.

4-7. Spot Controls (Optional)



1 Spot/Continuous Switch

Use switch to select either an untimed continuous weld cycle or a timed spot weld cycle. Both weld cycles consist of the following steps: run-in, weld (untimed or spot time), and burnback.

2 Time Range Switch

Use switch to select spot weld time range.

3 Spot Time Control

Use control to set spot weld time. Welding wire feeds at speed selected on the gun Wire Speed Control. Spot time starts at arc initiation.

The scale around the control is marked in seconds.

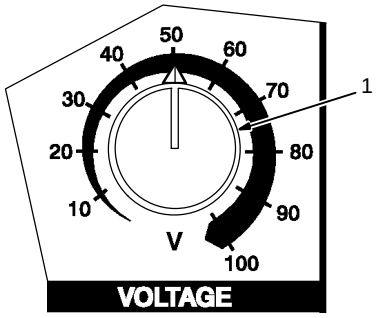
4 Burnback Time Control

Use control to adjust time (up to 0.25 seconds) that the welding wire is electrically energized after the wire stops feeding.

If welding wire sticks in the weld puddle, increase burnback time. If wire burns back into the gun contact tip, decrease burnback time.

The scale around the control is marked in fractions of a second.

4-8. Remote Voltage Control (Optional)

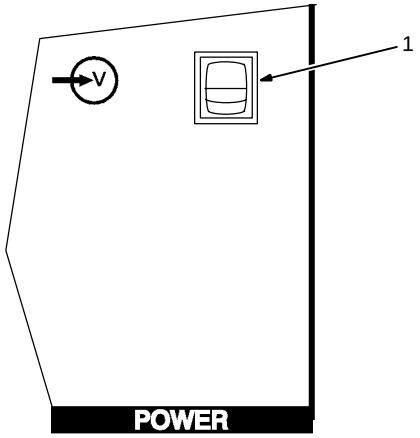


1 Voltage Control

Use control to adjust arc voltage at the wire feeder.

The scale around the control is marked in percent.

4-9. Power Switch



1 Power Switch

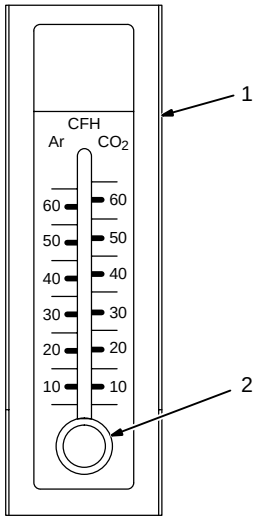
Use switch to turn unit On and Off.

4-10. Flowmeter (Optional)

⚠ CAUTION

Wire feeding system is designed for maximum of 50 psi (345 kPa) gas pressure.

- Be sure that regulator/flowmeter has preset conditions of no more than 50 psi (345 kPa) gas pressure.



1 Flowmeter

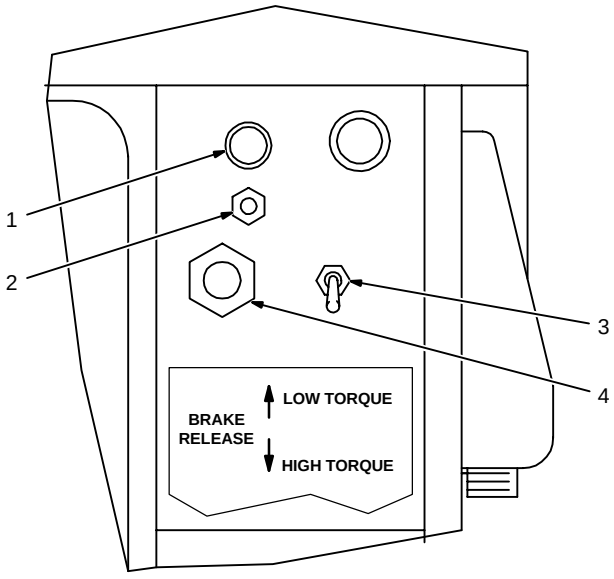
2 Valve

Use flowmeter to control shielding gas flow at the feeder. The scale on the flowmeter is in cubic feet per hour (CFH). Read gas flow at the widest part of the float in the meter. Rotate valve to change gas flow as necessary.

A regulator is still required on shielding gas supply with this option.

S-0659

4-11. Internal Controls



Open left side door.

1 Fuse F1

See Section 5-11.

2 Circuit Breaker CB1

See Section 5-11.

3 Motor Torque Switch

Use switch to select the force used to push wire. The up position is for low force, or torque. The down position is for high force, or torque.

If welding wire appears to be kinked, nicked, or damaged, place switch in low torque position.

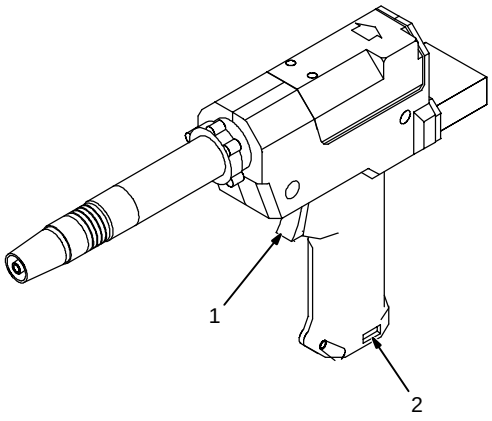
4 Brake Release Button

Whenever power is On and the welding power source is energized, button may be pressed to release spool brake so wire spool can turn freely.

Close and latch door.

Ref. 151 779 / Ref. S-120 552-A

4-12. Gun Controls



1 Trigger

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

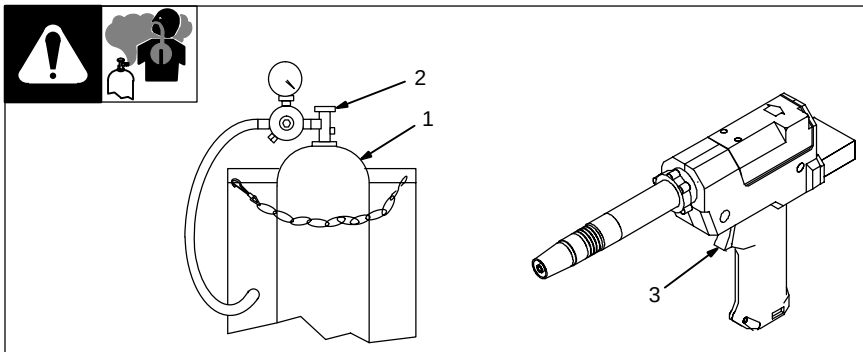
For shielding gas preflow and postflow, partially press trigger before and partially release after welding.

2 Wire Speed Control

Use control to adjust wire feed speed. The numbers around the control are for reference only.

Ref. 802 536

4-13. Shielding Gas



1 Shielding Gas Cylinder

2 Valve

3 Gun Trigger

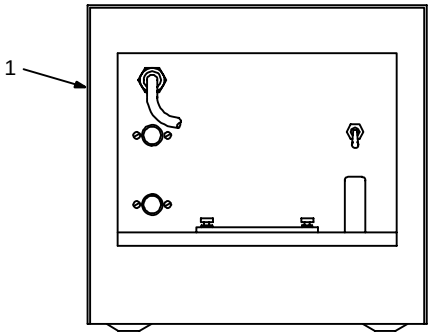
Open valve on cylinder just before welding.

Gun trigger turns weld output and gas flows on and off (see Section 4-12).

Close valve on cylinder when finished welding.

sb5.1 6/92 – S-0621-C / Ref. 802 536

4-14. Coolant Supply For Water-Cooled Models Only



1 Coolant Supply

See Section 3-17 for coolant guidelines.

Turn On coolant supply before welding.

Turn Off coolant supply when finished welding.

Ref. 150 755-A

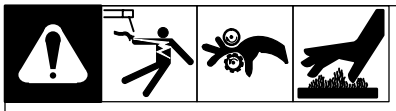
4-15. Sequence Of Gas Metal Arc Welding (GMAW) – Continuous Or Spot

Install & Connect Equipment → Put On Personal Safety Equipment → Set Controls → Turn On Gas And Water (If Applicable) → Turn On Feeder And Welding Power Source → Begin Welding

ssb6.1* 9/92

SECTION 5 – MAINTENANCE & TROUBLESHOOTING

5-1. Routine Maintenance

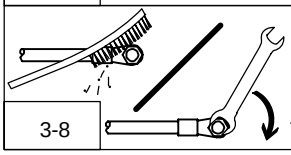


Turn Off all power before maintaining.

3 Months

See Section 7

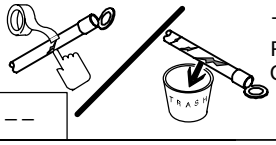
Replace Unreadable Labels



3-8

Clean And Tighten Weld Terminals

3 Months

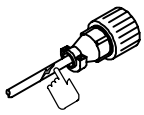


– –

Tape Or Replace Cracked Weld Cable

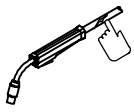
– –

Replace Cracked Parts



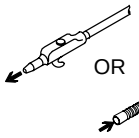
14-Pin Cord

Gas Hose

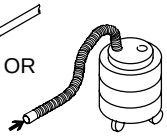


Gun Cable

6 Months



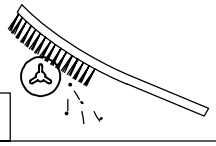
OR



Blow Out Or Vacuum Inside

During Heavy Service, Clean Monthly

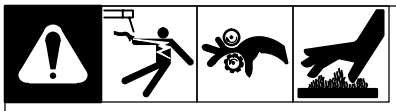
– –

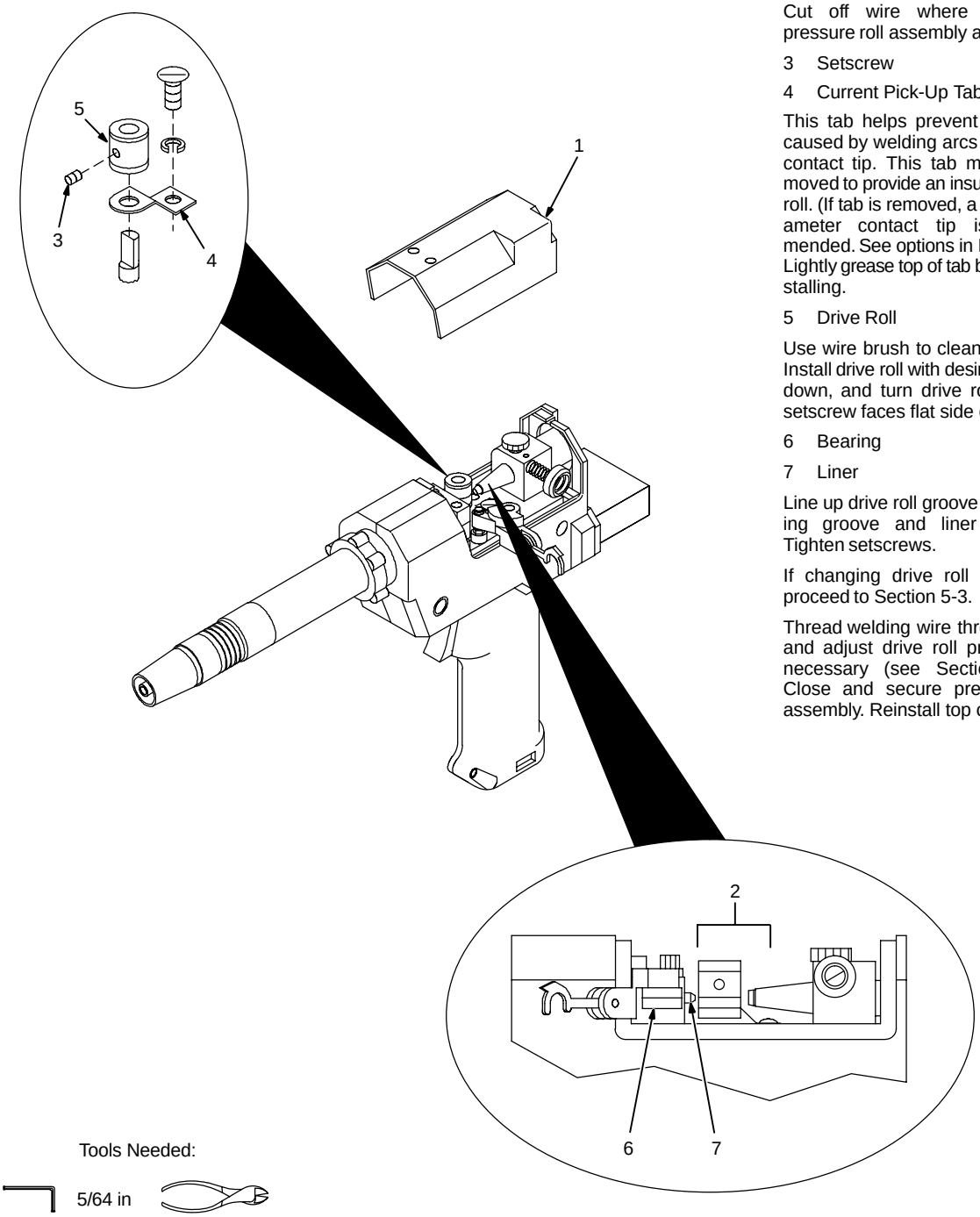


5-2

Clean Drive Rolls

5-2. Changing Or Cleaning Gun Drive Roll





Turn Off wire feeder and welding power source.

1 Top Cover

2 Pressure Roll Assembly

Cut off wire where it enters pressure roll assembly area.

3 Setscrew

4 Current Pick-Up Tab

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

5 Drive Roll

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

6 Bearing

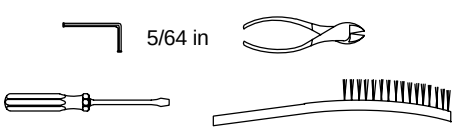
7 Liner

Line up drive roll groove with bearing groove and liner opening. Tighten setscrews.

If changing drive roll in feeder, proceed to Section 5-3.

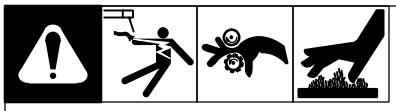
Thread welding wire through gun, and adjust drive roll pressure, if necessary (see Section 3-16). Close and secure pressure roll assembly. Reinstall top cover.

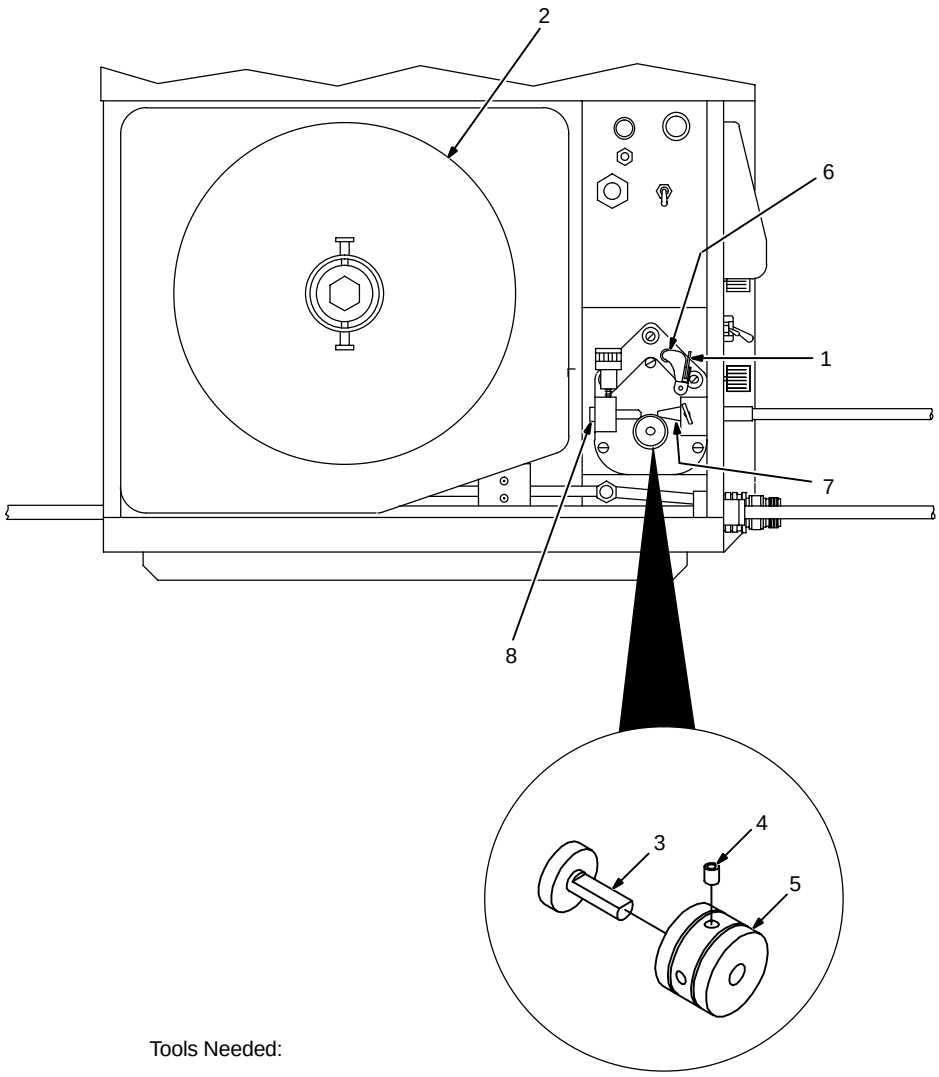
Tools Needed:



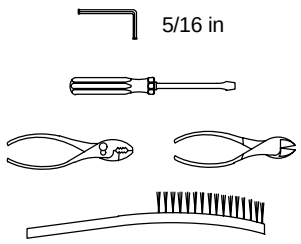
Ref. 151 599-C

5-3. Changing Feeder Drive Roll And Wire Inlet Guide





Tools Needed:



Turn Off wire feeder and welding power source. Lay wire conduit out straight.

Open gun pressure roll assembly, and cut welding wire off at contact tip.

1 Pressure Roll Assembly

2 Wire Spool

For welding power sources without contactor, retract wire onto spool.

For welding power sources with a contactor, energize power source, turn On feeder, press Brake Release button, and retract wire onto spool.

3 Shaft

4 Setscrew

5 Drive Roll

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

6 Bearing

7 Wire Conduit Fitting

Line up drive roll groove with bearing groove and opening in conduit fitting. Tighten setscrews.

8 Wire Inlet Guide

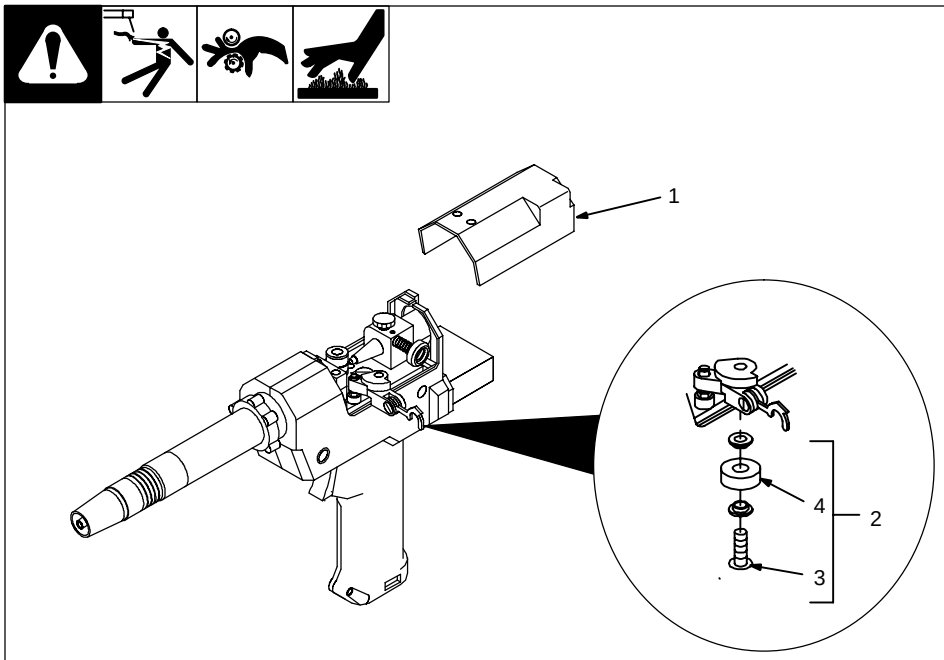
Pull guide toward rear of feeder to remove. Install new guide.

Thread welding wire and adjust drive roll pressure, if necessary (see Section 3-15). Close and secure pressure roll assembly. Close and latch door.

Close gun pressure roll assembly, and reinstall gun cover.

151 778 / Ref. 151 781-B

5-4. Replacing Or Cleaning Gun Drive Roll Bearing



Turn Off wire feeder and welding power source.

1 Top Cover

2 Pressure Roll Assembly

3 Screw

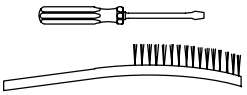
4 Pressure Roll

Remove as shown.

Use a wire brush to clean bearing. Reinstall with washers, and tighten screw.

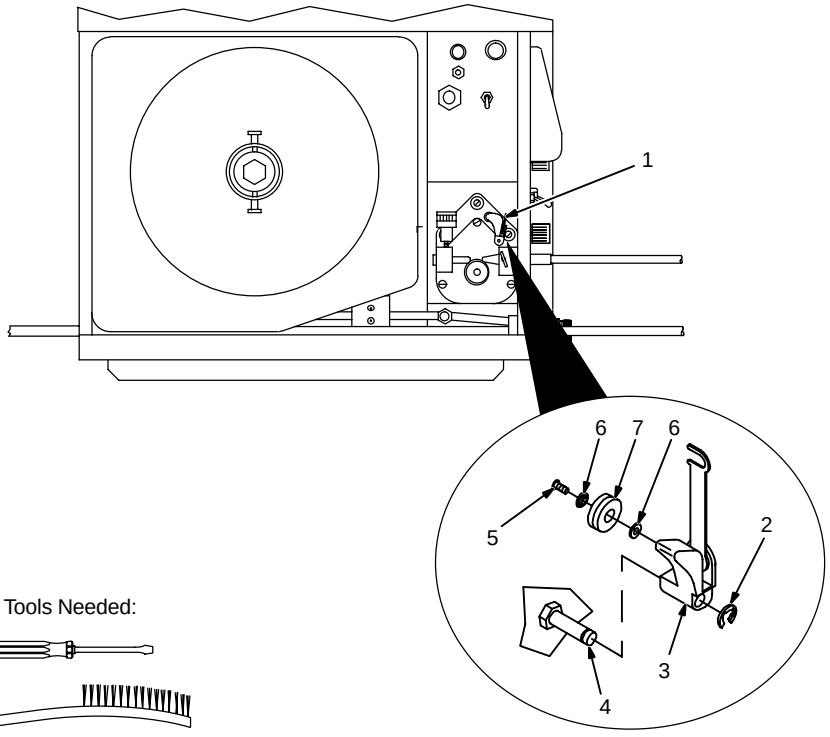
Close pressure roll assembly. Reinstall top cover.

Tools Needed:



Ref. 151 599–C

5-5. Replacing Or Cleaning Feeder Drive Roll Bearing



Turn Off wire feeder and welding power source.

1 Pressure Roll Assembly

2 Retaining Ring

3 Mounting Arm

4 Hinge Pin

5 Screw

6 Shoulder Washer

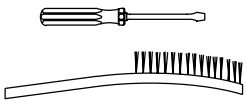
7 Drive Roll Bearing

Remove as shown.

Use a wire brush to clean bearing. Reinstall, and tighten screw.

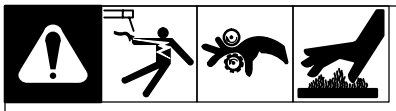
Close pressure roll assembly. Close and latch door.

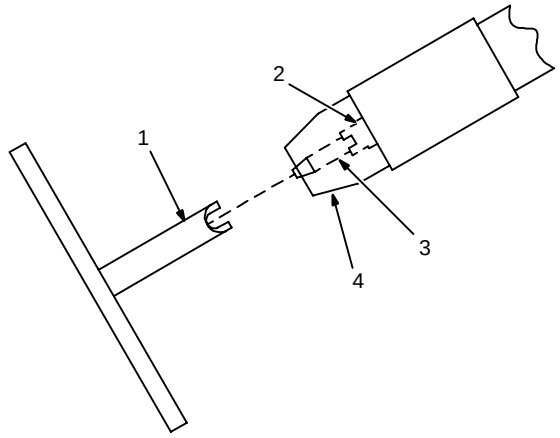
Tools Needed:



151 778 / Ref. 151 781-B

5-6. Changing Gun Contact Tip And Liner





Turn Off wire feeder and welding power source.

Remove top cover and open pressure roll assembly as shown in Section 5-4.

1 Contact Tip Wrench

Insert wrench into nozzle over contact tip.

2 Compression Nut

Loosen nut. Pull out contact tip.

3 Contact Tip

4 Nozzle

Pull wire out nozzle and liner should slide out. If necessary, tilt nozzle down to remove liner.

Close pressure roll assembly. Reinstall top cover.

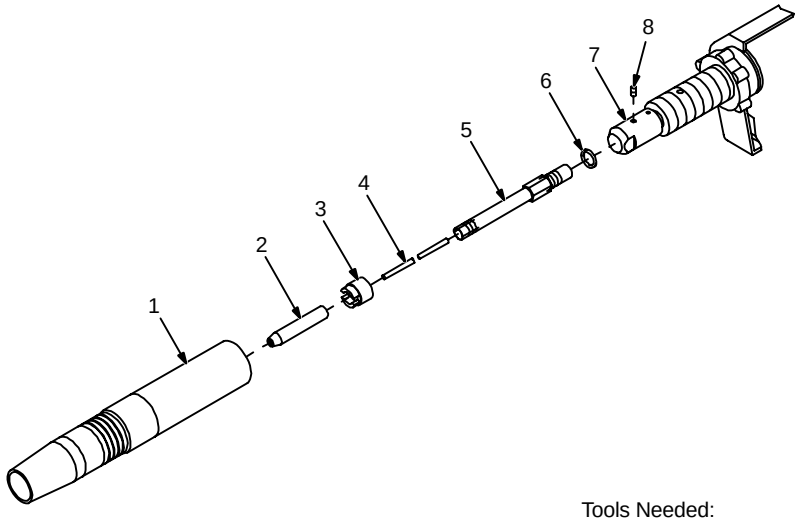
Install new liner and contact tip over wire. Cut off wire at end of contact tip.

Tighten nut just until contact tip is secure. Overtightening nut will damage adapter.

Tools Needed:

150 437

5-7. Removing Contact Tip Adapter In Air-Cooled Models



Turn Off wire feeder and welding power source.

1 Nozzle Extension

Remove as shown.

2 Contact Tip

3 Compression Nut

To remove, see Section 5-6.

4 Liner

5 Contact Tip Adapter

6 Washer

7 Extension Adapter

8 Setscrew

Loosen setscrew and remove adapter. Install new adapter and tighten setscrew. Reinstall liner, contact tip, compression nut, and nozzle.

Tools Needed:

5/64, 3/32 in

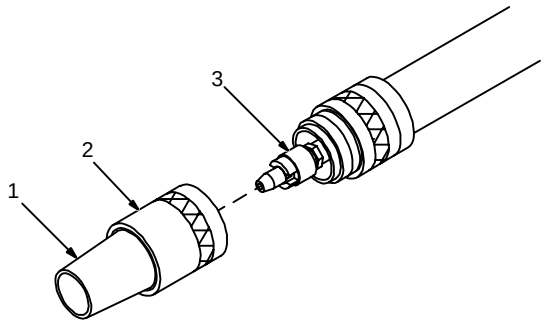
150 430-B

5-8. Removing Contact Tip Adapter In Water-Cooled Models

⚠ WARNING

WATER IN GUN PARTS can cause ELECTRIC SHOCK and can lower weld quality.

- Turn Off welding power source and water supply before working on gun. Stop engine on welding generators.
- Always point gun downward when removing water-cooled barrel to keep water out of gun parts.
- Wipe gun dry before putting it back together.



Turn Off weld control and welding power source.

1 Nozzle

2 Nozzle Adapter

Remove as shown.

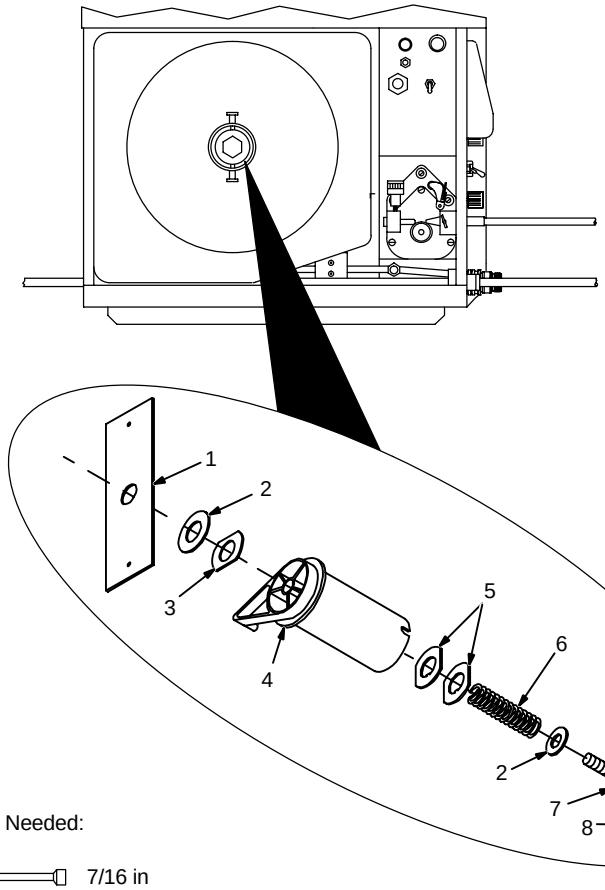
3 Contact Tip Adapter

Use supplied 3/32 in allen wrench to remove adapter.

Coat new adapter with threadlocking compound (such as Loctite No. 242), and install.

150 431

5-9. Replacing Hub Assembly



Tools Needed:

7/16 in

Turn Off wire feeder and welding power source. Remove gun top cover and open pressure roll assembly as shown in Section 5-4.

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

1 Metal Brake Washer

2 Flat Washer

3 Brake Washer

4 Hub

5 Keyed Washer

6 Spring

7 Cap Screw

8 Retaining Ring

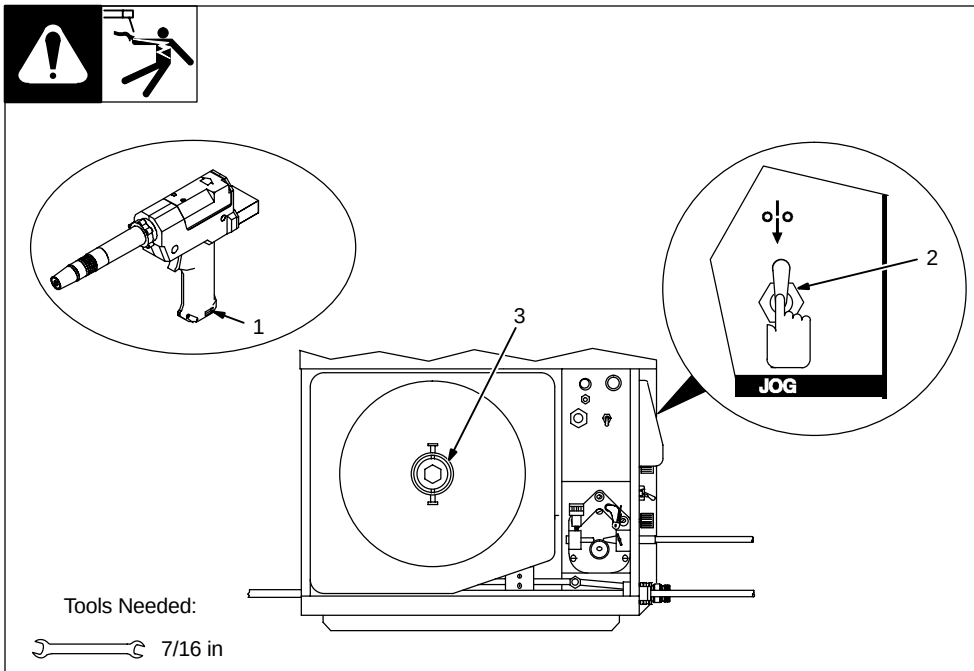
Replace broken or worn parts and slide parts onto shaft as shown.

Adjust hub tension (see Section 5-10). Thread welding wire (see Section 3-15). Close and latch door.

Close gun pressure roll assembly and reinstall gun cover.

151 778-B / Ref. 143 223-A

5-10. Adjusting Hub Tension



Tools Needed:

7/16 in

Turn On welding power source and wire feeder to make this adjustment.

1 Wire Speed Control

Adjust control to wire speed for welding.

2 Jog Switch

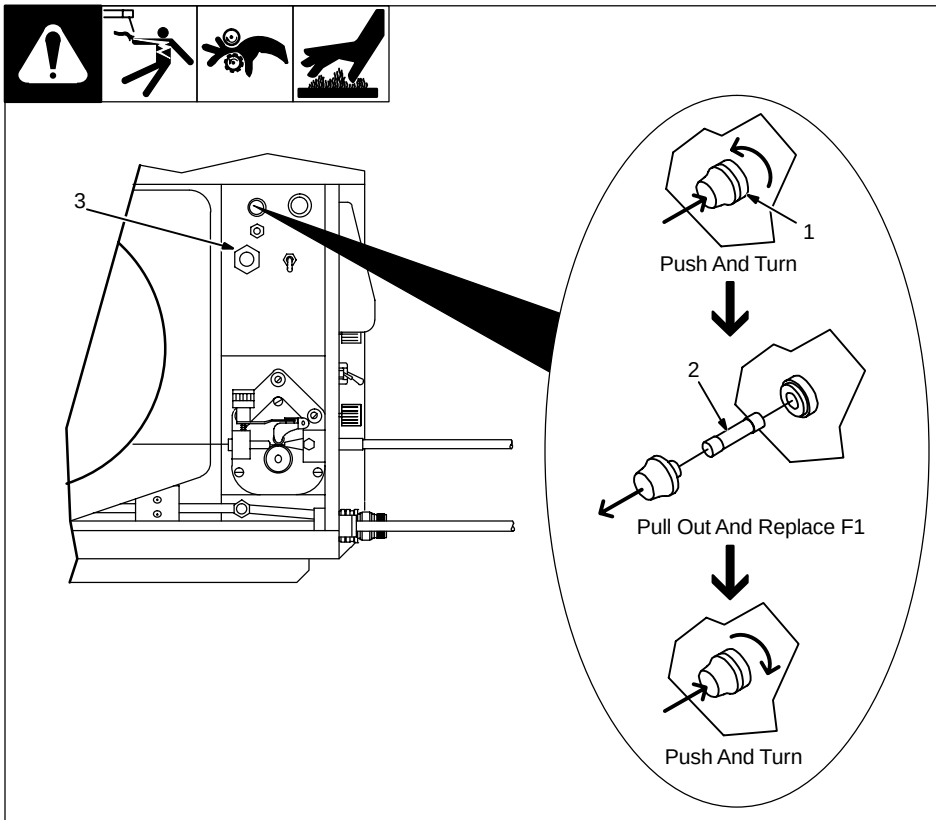
Push up, and then release Jog switch. Hub tension is okay if wire unwinds freely, but wire does not backlash when Jog switch is released.

3 Cap Screw

Turn cap screw to adjust hub tension. Do not overtighten. Turn Off welding power source and wire feeder. Close and latch door.

151 778 / Ref. 802 536 / Ref. 176 700-A

5-11. Overload Protection



Turn Off wire feeder and welding power source.

If F1 opens, the unit shuts down. To check or change F1, proceed as follows:

1 Fuse Holder Cover

2 Fuse F1 (See Parts List For Rating)

Insert new fuse into cover, and install fuse with cover by pressing and turning cover clockwise.

3 Circuit Breaker CB1

If CB1 opens, the gun drive motor and contactor will not operate, but gas flows when trigger is pulled. The gun drive motor operates in the Jog mode with CB1 open.

Check for blocked gun liner.

Check for jammed wire, binding drive gear or misaligned drive rolls in feeder. Correct problem.

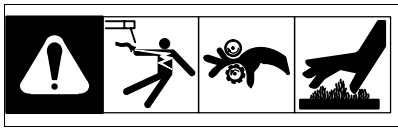
Allow cooling period and manually reset breaker. Close and latch door.

Ref. 151 779-A / Ref. 800 185-A

5-12. Water Flow Switch (Optional For Water-Cooled Models)

The water flow switch protects the gun from overheating. If coolant flow rate drops below 1 qt/min, the water flow switch opens and stops the welding wire from feeding. See Section 5-13 for remedies to this trouble.

5-13. Troubleshooting

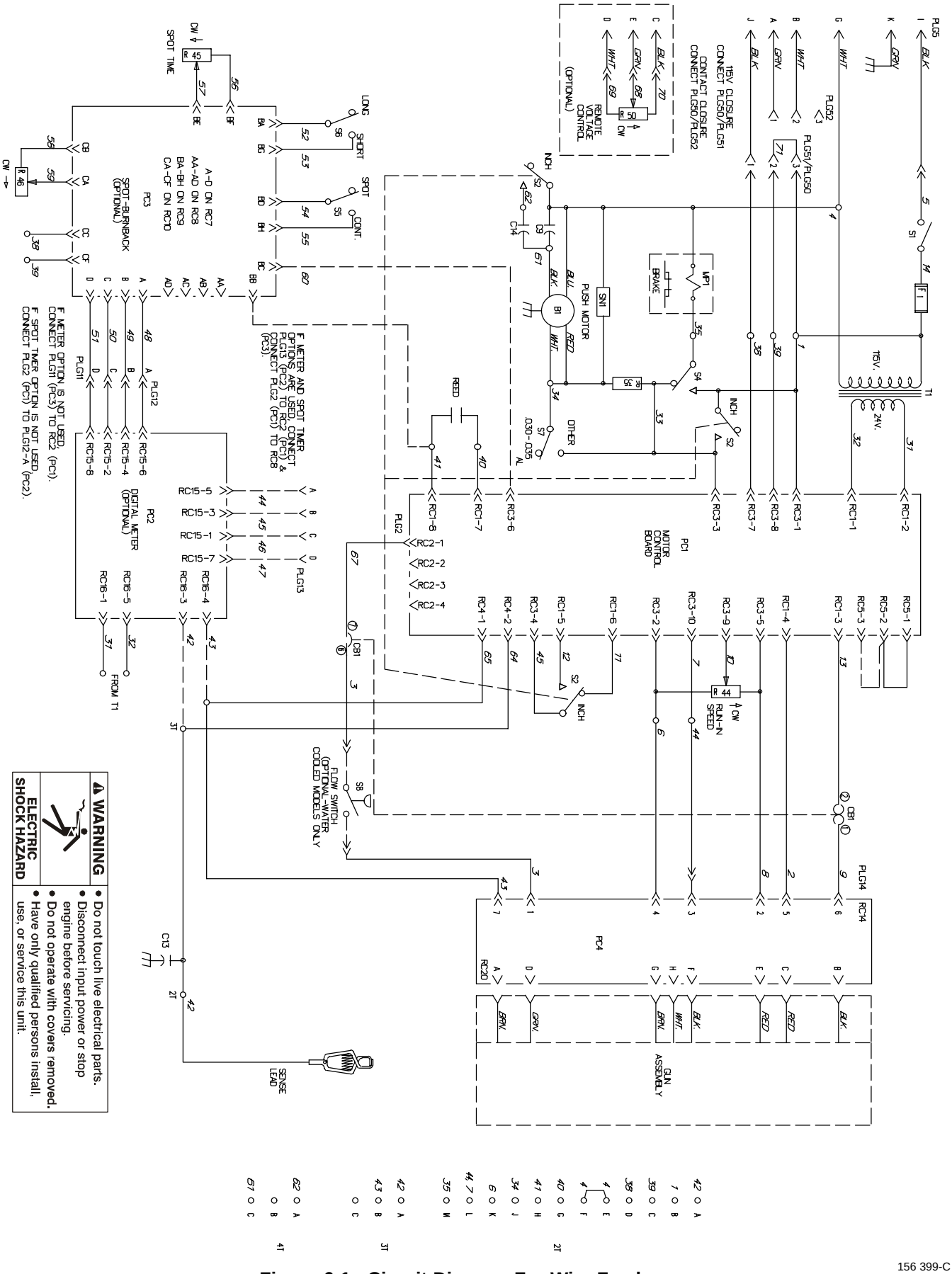


A. Wire Feeder Trouble

Trouble	Remedy
Pressing gun trigger does not energize feeder. Welding wire is not energized. Shielding gas flows.	Secure plug from gun control cable into Gun Control receptacle on feeder (see Section 3-6).
	Secure 115 VAC input plug connection (see Section 3-12).
	Check fuse F1 (see Section 5-11).
	Check water connection to feeder or gun (see Sections 3-6 and 3-8).
	Check for kinks in water hose.
	Be sure coolant supply is turned On (see Section 4-14).
	Have nearest Factory Authorized Service Station/Service Distributor check optional water flow switch, if applicable (see Section 5-12).
Wire feeds, shielding gas flows, but welding wire is not energized.	Secure 115 VAC/contactor control plug connection (see Section 3-12).
	See Troubleshooting section in welding power source manual.
	Check plug PLG50, PLG51 and PLG52 connections (see Section 3-13).
Wire feeds erratically.	Check position of Motor Torque switch (see Section 4-11).
	Adjust drive roll pressure if necessary (see Section 3-15).
	Replace or clean drive rolls as necessary (see Sections 5-2 and 5-3).
	Align drive roll with opening in gun conduit fitting and groove in bearing (see Section 5-3).
Arc varies and welding wire is kinked when feeding out gun.	Place Motor Torque switch in low torque position if welding with .030 (0.8 mm) aluminum welding wire (see Section 4-11).
Pressing gun trigger will not feed wire, wire is not energized, shielding gas flows, and Jog switch activates motor.	Reset circuit breaker CB1 (see Section 5-11).
Feeder feeds wire but remains in run-in mode after arc initiation.	Route weld cable through current sensing relay (see Section 3-8).
	If constant current (CC) welding, be sure PLG5 is in EXT. position on PC1, and voltage sensing lead is connected (see Section 3-11).
	If constant voltage (CV) welding, be sure PLG5 is in INT. position on PC1, and that voltage sensing lead is not connected (see Section 3-11).
Feeder feeds wire, but switches from weld mode to run-in mode while CV welding with voltage sensing lead installed.	Be sure PLG5 is in INT. position on PC1. Disconnect voltage sensing clamp from workpiece (see Section 3-11).
Shielding gas leak through gas valve in gun.	Reduce shielding gas pressure at regulator flowmeter. Do not exceed 50 psi (345 kPa).

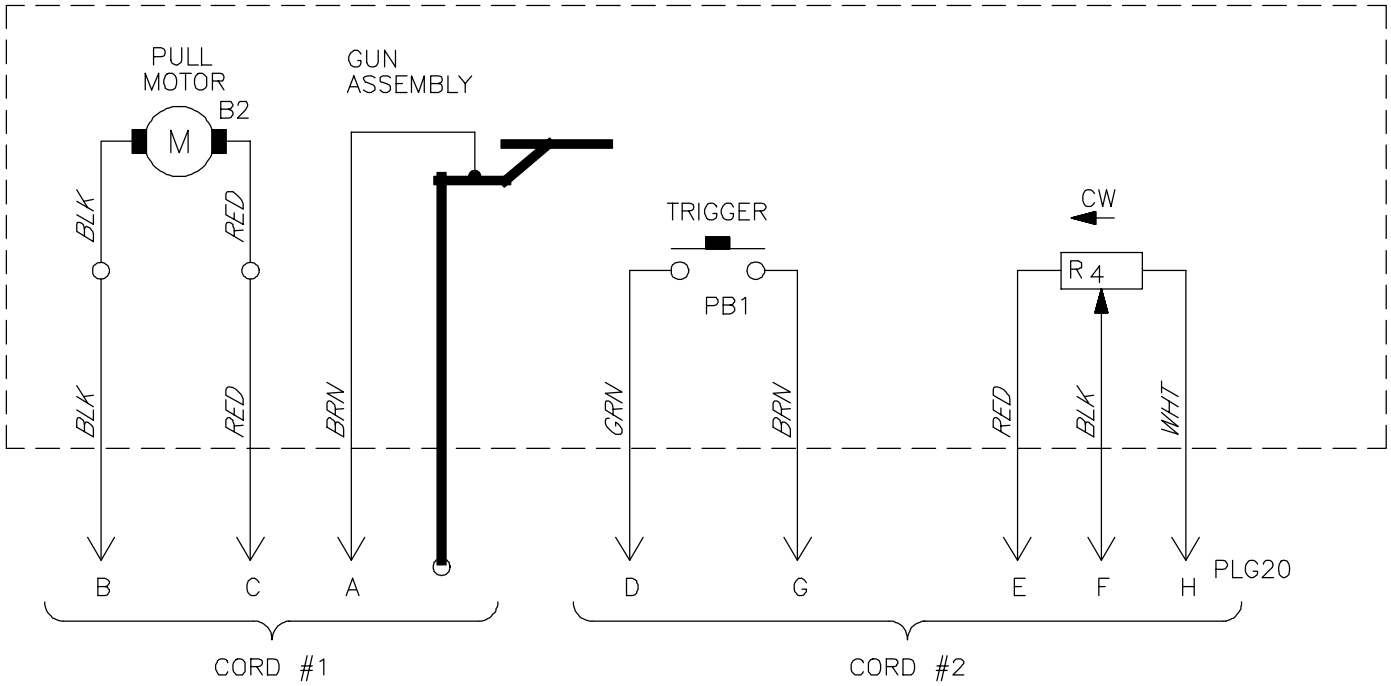
B. Gun Trouble

Trouble	Remedy
No weld output; gun/feeder does not work.	Secure 115 VAC input plug in 115 volts ac receptacle (see Section 3-12).
	Place Power switch on welding power source in the On position.
Erratic weld output.	Tighten and clean all connections.
Pressing gun/feeder trigger does not energize weld control; welding wire is not energized; shielding gas does not flow.	Secure plug from gun control cable into 10-socket receptacle on wire feeder (see Section 3-6).
Wire does not feed; burnback in contact tip.	Reinstall current pick-up tab if applicable (see Section 5-2).
Wire feeds, shielding gas flows, but welding wire is not energized.	Clean or replace drive rolls. See Troubleshooting section in welding power source Owner's Manual (see Sections 5-2 and 5-3).
Wire feeds erratically.	Check and correct drive roll pressure (see Section 3-15).
	Clean drive roll or replace drive roll (see Sections 5-2 and 5-3).
Gun overheating (water-cooled models).	Be sure coolant flowrate is at least 1 qt/min (0.95 L/min).
	Corrosion buildup in gun decreasing coolant flowrate. Backflush coolant system, clean coolant system filter, and clean fittings (see Section 3-17).



156 399-C

Figure 6-1. Circuit Diagram For Wire Feeder

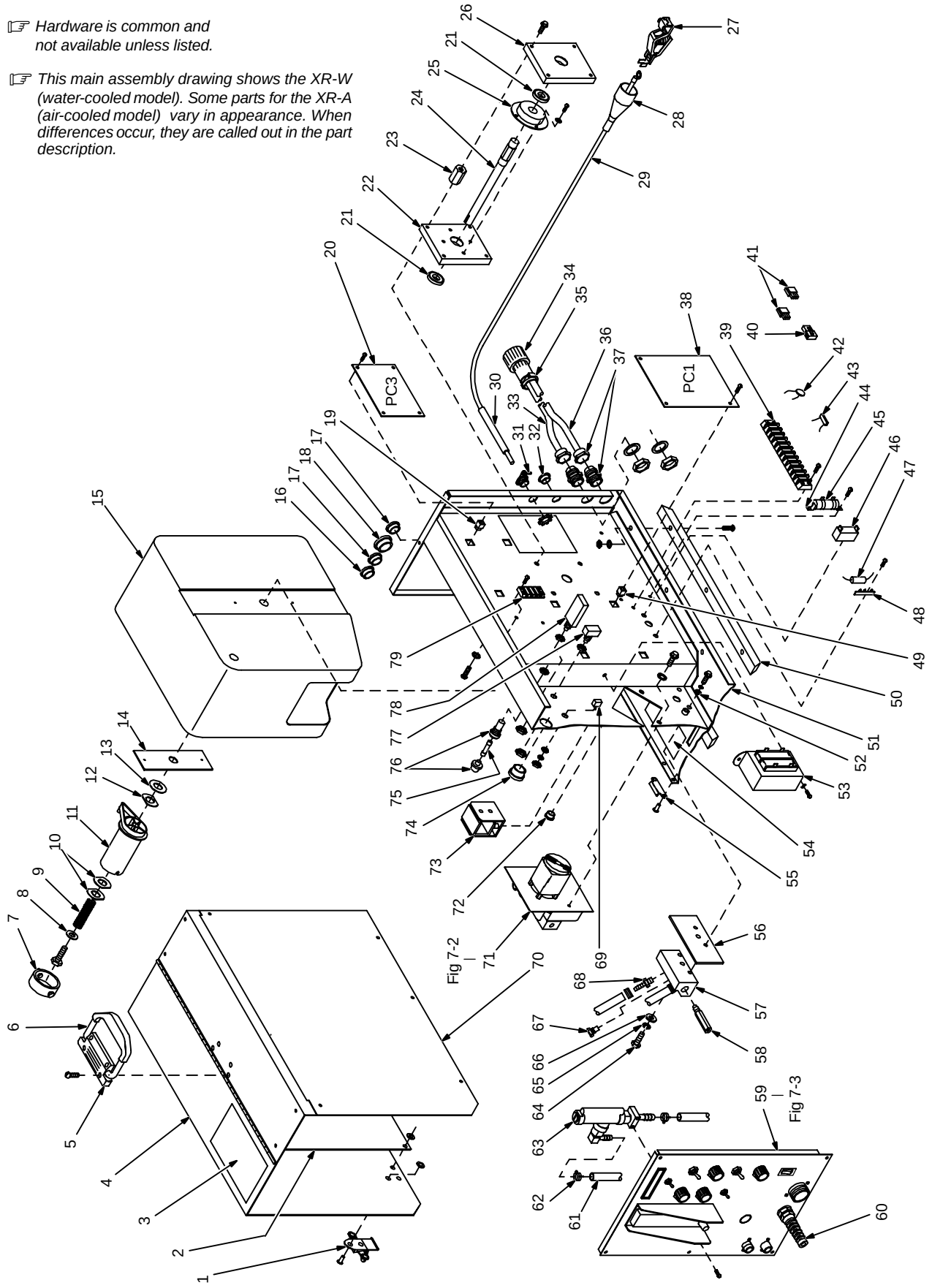


⚠ WARNING	• Do not touch live electrical parts. • Disconnect input power or stop engine before servicing. • Do not operate with covers removed. • Have only qualified persons install, use, or service this unit.
ELECTRIC SHOCK HAZARD	

Figure 6-2. Circuit Diagram For Gun

☞ *Hardware is common and not available unless listed.*

☞ *This main assembly drawing shows the XR-W (water-cooled model). Some parts for the XR-A (air-cooled model) vary in appearance. When differences occur, they are called out in the part description.*



143 223-D

Figure 7-1. Main Assembly

Item No.	Dia. Mkgs.	Part No.	Description	Quantity
			Figure 7-1. Main Assembly	
1		089 572	CATCH, link-lock	2
2		112 167	INSULATOR, door	1
3		134 327	LABEL, warning general precautionary	1
4		+113 569	WRAPPER	1
5		126 415	CLAMP, saddle	1
6		126 416	HANDLE, molded	1
7		058 427	RING, retaining spool	1
8		602 233	WASHER, flat stl .250 ID x .875 OD x .062thk	1
9		057 543	SPRING, cprsn .845 OD x .091 wire x 1.500	1
10		113 168	WASHER, locking	2
11		058 428	HUB, spool	1
12		089 561	WASHER, anti-turn stl	1
13		058 424	WASHER, fbr brake	1
14		151 697	STRIP, brake surface anti-turn	1
15		112 198	SHROUD, spool wire 12 in	1
16		030 170	BUSHING, snap-in nyl .750 ID x 1.000mtg hole	1
17		057 357	BUSHING, snap-in nyl .937 ID x 1.125mtg hole (water-cooled model)	2
17		057 357	BUSHING, snap-in nyl .937 ID x 1.125mtg hole (air-cooled model)	1
17		070 371	BLANK, snap-in nyl 1.093/1.125mtg hole (air-cooled model)	1
18		057 358	BUSHING, snap-in nyl 1.000 ID x 1.375mtg hole	1
19		♦134 201	STAND-OFF, PC card	4
20	PC3	♦114 538	CIRCUIT CARD, spot-burnback	1
	PLG7,8,11	♦115 094	HOUSING PLUG & SOCKETS	3
	PLG9	♦115 092	HOUSING PLUG & SOCKETS	1
	PLG10	♦115 093	HOUSING PLUG & SOCKETS	1
21		073 302	BEARING, ball rdl sgl row .669 x 1.378 x .39	2
22		113 161	BLOCK, bearing front	1
23		113 165	STAND-OFF, .250-20 x 1.000 lg	4
24		120 396	SHAFT, spool	1
25	MP1	113 899	BRAKE, w/terminals	1
26		113 900	BLOCK, bearing rear	1
27		601 228	CLAMP, univ 25A	1
28		601 226	INSULATOR, vinyl clamp univ 25A	1
29		600 848	WIRE, lead mot 12ga strd (order by ft)	35ft
30		176 089	TUBING, plstc PVC black	1ft
31		115 104	CONNECTOR, clamp cable .500	1
32		000 527	BLANK, snap-in nyl .875mtg hole	1
33		007 826	CABLE, port No. 18 3/c (order by ft)	11ft
34	PLG5	141 162	HOUSING PLUG & PINS	1
35		079 739	CLAMP, cable strain relief	1
36		007 826	CABLE, port No 18 3/c (order by ft)	11ft
36		♦♦007 826	CABLE, port No. 18 3/c (order by ft)	11ft
37		139 042	BUSHING, strain relief .270/.480 ID x .804mtg hole	2
37		♦♦139 042	BUSHING, strain relief .270/.480 ID x .804mtg hole	1
38	PC1	142 053	CIRCUIT CARD, motor speed control	1
	PLG1	115 092	HOUSING PLUG & SOCKETS	1
	PLG2	115 094	HOUSING PLUG & SOCKETS	1
	PLG3	115 091	HOUSING PLUG & SOCKETS	1
	PLG4	131 054	HOUSING RECEPTACLE & SOCKETS	1
39	2T	038 783	BLOCK, term 20A 12P	1
40	PLG50	131 203	HOUSING PLUG & PINS	1
41	PLG51,52	131 204	HOUSING PLUG & SOCKETS	2
42	C13	117 500	CAPACITOR	1
43	SN1	110 079	SNUBBER, polye MF .5uf 200VDC	1
44		605 741	CLIP, mtg resistor .312 ID core	2
45	R35	030 087	RESISTOR, WW fxd 25W 200 ohm	1
46	C9	114 215	CAPACITOR, polye film 2.3uf 250VAC	1
47	C14	044 602	CAPACITOR, polye film .47uf 400VDC	1
48	4T	038 785	STRIP, term 3P	1
49		134 201	STAND-OFF SUPPORT, PC card	4

Item No.	Dia. Mkgs.	Part No.	Description	Quantity

Figure 7-1. Main Assembly (Continued)

50		111 152	SKID, base	2
51		+176 714	CABINET, control	1
		153 901	LABEL, caution the recommended coolant to be	1
52		605 970	WASHER, shldr nyl .310 OD x .252 ID x .064 (water-cooled model)	4
52		605 970	WASHER, shldr nyl .310 OD x .252 ID x .064 (air-cooled model)	3
53	T1	090 465	TRANSFORMER, signal 115V 24VCT 4A	1
54		090 439	LABEL, warning electric shock can kill	1
55		089 573	PLATE, keeper link-lock	2
56		131 318	INSULATOR, block connection (water-cooled model)	1
56		113 166	INSULATOR, term (air-cooled model)	1
57		131 311	BLOCK, connection	1
58		150 067	FITTING, water block extension	1
59		Fig 7-3	PANEL, front w/components	1
60		121 276	BUSHING, strain relief .709 ID x 1.115mtg hole	1
61	♦♦♦	134 834	HOSE, SAE .187 ID X .410 OD (order by ft)	2ft
62	♦♦♦	089 120	CLAMP, hose .375-.450clp dia slfttng	4
63	S8	♦♦♦ 164 963	SWITCH, flow w/fittings	1
64		601966	SCREW, cap stl hexhd .375-16 x 1.250 (water-cooled model)	1
64		117 498	TERMINAL, pwr weld (air-cooled model)	1
		117 496	WASHER, fbr .312 ID x .750 OD x .062thk (air-cooled model)	2
		075 150	WASHER, shldr nyl 1.000 OD x .375 ID (air-cooled model)	1
		010 910	WASHER, flat stl SAE .375 (air-cooled model)	2
		601 872	NUT, stl hex full .375-16	2
65		602 213	WASHER, lock stl split .375	1
66		602 243	WASHER, flat stl std .375	1
67		151 663	FITTING, plug water block	1
67		151 664	FITTING, diverter water block	1
68	♦♦♦	151 662	FITTING, pipe brs plug hex .125NPT	2
68	♦♦♦	073 432	FITTING, brs barbed M 3/16tbg x 1/8NPT	2
69	S7	011 770	SWITCH, tgl SPDT 5A 125V	1
70		113 565	DOOR, RH	1
71		Fig 7-2	MOTOR & WIRE DRIVE	1
72		010 546	BUSHING, snap-in nyl .375 ID x .500mtg hole	1
73	REED	140 786	SWITCH, reed	1
74		010 493	BUSHING, snap-in nyl .625 ID x .875mtg hole	1
75	F1	*012 663	FUSE, mintr gl slo-blo 3A	1
76		046 432	HOLDER, fuse mintr .250 x 1.250 panel mtg	1
77	S4	011 232	SWITCH, PB SPDT	1
78	CB1	174 092	CIRCUIT BREAKER, man reset 1P .7A 250VAC	1
79	3T	038 861	BLOCK, term 20A 3P	1
		601 219	LINK, jumper term blk 20A	1

+When ordering a component originally displaying a precautionary label, the label should also be ordered.

♦Part of Spot Weld Control Option

♦♦Part of Voltage Control Option

♦♦♦Part of Water Flow Shutdown Switch Option

*Recommended Spare Parts.

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

Item No.	Dia. Mkgs.	Part No.	Description	Quantity

Figure 7-2. Motor & Wire Drive (Fig 7-1 Item 71)

1		115 191	DRIVE ASSEMBLY, wire (consisting of)	1
2		058 968	RING, retainer E	1
3		605 798	WASHER, shldr nyl .375 OD x .168 ID x .080thk	4
4		120 395	SPRING, tension pressure roll	1
5		112 713	ARM, pressure roll	1
6		058 409	BEARING	1
7		112 887	PIN, hinge	1
8		057 544	SPRING, cprsn .240 OD x .026 wire x 1.000	1
9		120 397	NUT, thumb tension adjustment	1
10		147 626	COVER, gear wire drive	1
11		058 549	GUIDE, wire inlet 1/16	1
12		602 306	PIN, spring CS .125 x .500	2
13		008 667	BEARING, ball rdl dbl row .250 x .687 x .31	2
14		113 170	GEAR & SHAFT, motor	1
15		147 624	CASE, gear wire drive	1
16		147 625	BLOCK, anchor conduit	1
17		054 263	SCREW, thumb stl .250-20 x .500	1
18		120 398	ROLL, drive V groove .030-1/16 wire (consisting of)	1
19		602 169	SCREW, set stl sch 8-32 x .187 cup point	2
20		605 971	WASHER, shldr nyl .236 OD x .195 ID x .042thk	3
21		113 162	INSULATOR, motor	1
22	B1	113 898	MOTOR, torque 115VAC	1
23		113 169	GEAR, driver	1
24		604 612	SCREW, set stl sch 8-32 x .125 cup point	2

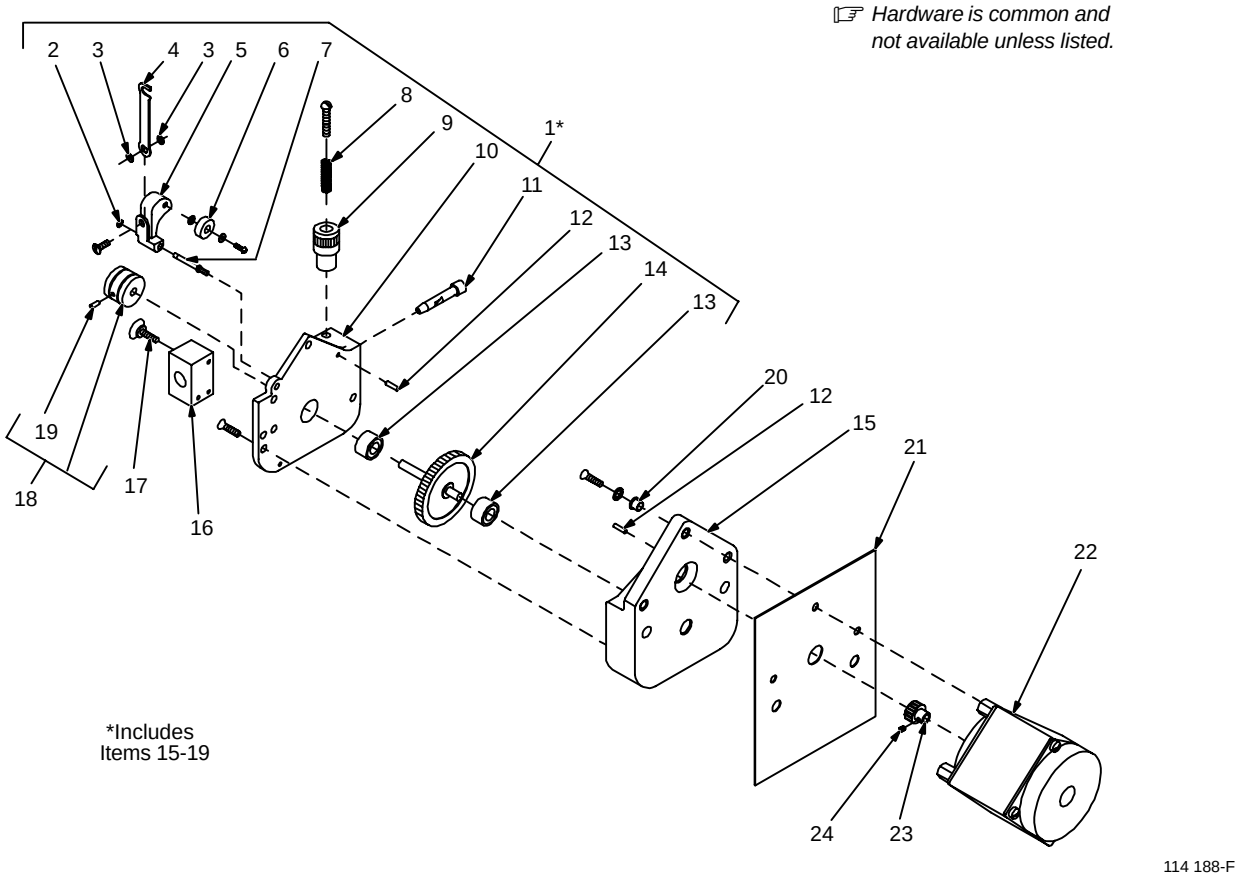


Figure 7-2. Motor & Wire Drive

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

☞ *Hardware is common and not available unless listed.*

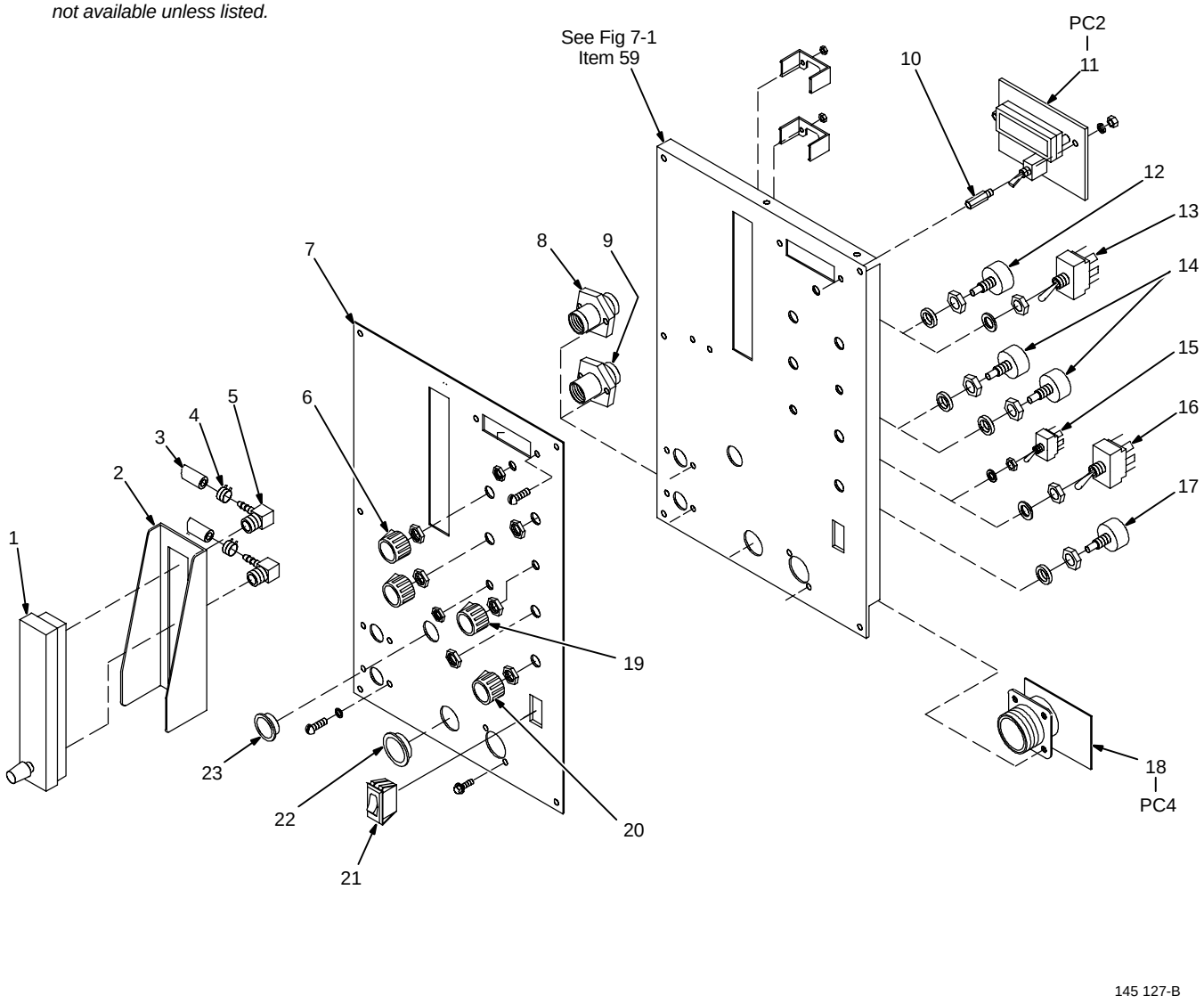


Figure 7-3. Panel, Front w/Components (Water-Cooled Model Illustrated)

Item No.	Dia. Mkgs.	Part No.	Description	Quantity

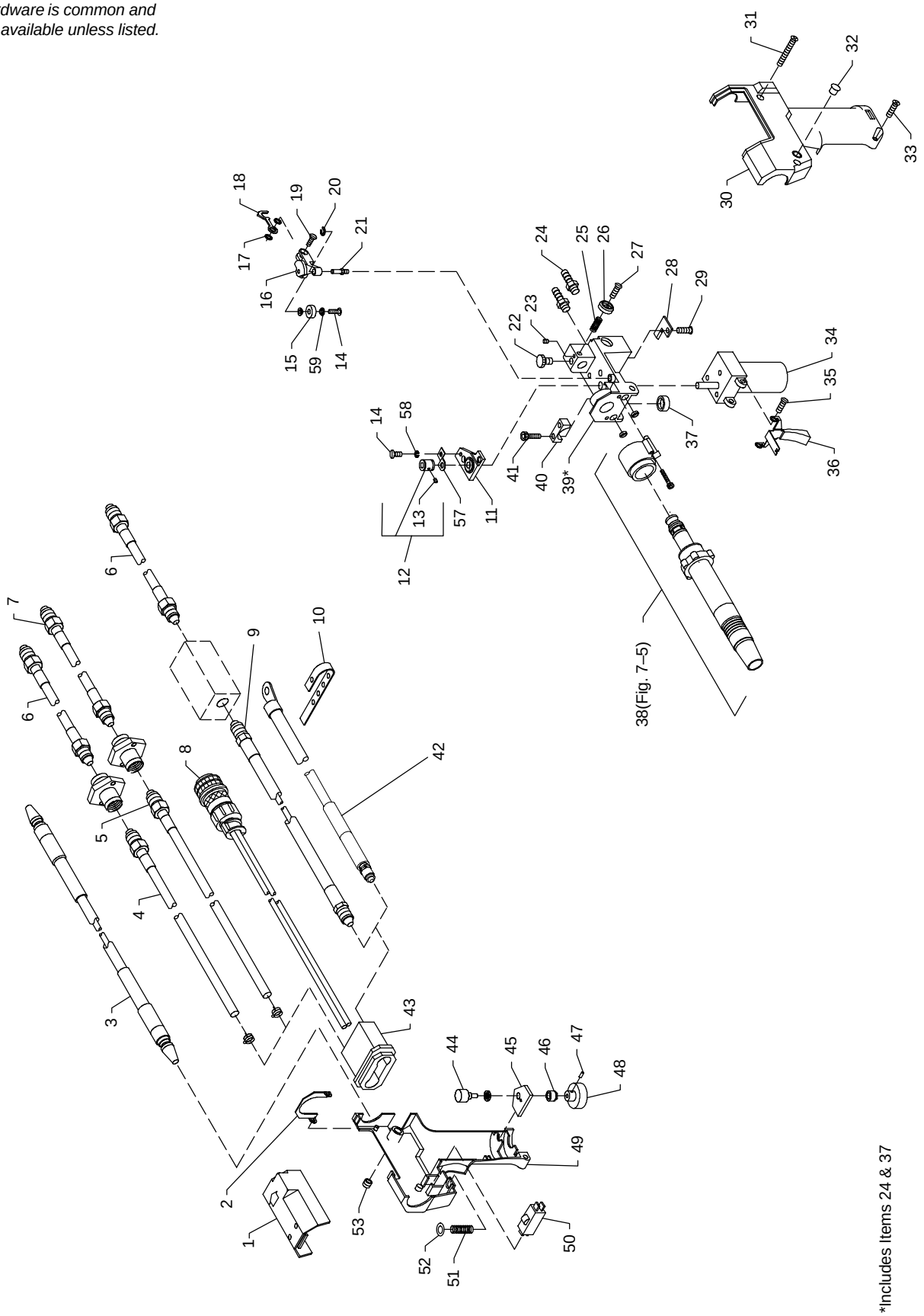
Figure 7-3. Panel, Front w/Components (Fig 7-1 Item 59)

1		♦111 569	METER, flow 6-60	1
2		♦111 633	GUARD, flow meter	1
3		♦134 834	HOSE, SAE .187 ID x .410 OD (order by ft)	4ft
		♦056 851	FITTING, hose brs barbed nipple 3/16tbg	2
		♦010 606	FITTING, hose brs nut .625-18	2
		♦056 108	FITTING, hose brs ferrule .425 ID x .718 lg	2
		♦045 852	CLIP, component .687dia mtg adh back	1
4		♦089 120	CLAMP, hose .375-.450clp dia	2
5		♦112 090	FITTING, pipe brs elb 1/8NPT x 3/16 hose	2
6		097 922	KNOB, pointer	1
7			NAMEPLATE, (order by model and serial number)	1
8		139 678	FITTING, water (water-cooled model)	1
8		000 527	BLANK, snap-in nyl .875mtg hole (air-cooled model)	1
9		000 434	FITTING, gas	1
10		♦♦115 443	STAND-OFF, No. 6-32 x .750 lg	2
11	PC2	♦♦139 897	CIRCUIT CARD, meter	1
	PLG12	♦♦115 090	HOUSING PLUG & PINS	1
	PLG13	♦♦115 094	HOUSING RECEPTACLE & SOCKETS	1
	PLG15	♦♦115 092	HOUSING PLUG & SOCKETS	1
	PLG16	♦♦131 055	HOUSING RECEPTACLE & SOCKETS	1
		136 339	COVER, opening meter	1
		120 304	BLANK, snap-in nyl .250mtg hole	1
12	R44	073 562	POTENTIOMETER, C sltd sft 1/T 2W 10K ohm	1
13	S2	120 400	SWITCH, tgl 3PDT MC 15A 125VAC	1
14	R45,46	♦♦♦028 770	POTENTIOMETER, C sltd sft 1/T 2W 1 meg ohm	2
15	S6	♦♦♦011 770	SWITCH, tgl SPDT 5A 125V	1
16	S5	♦♦♦011 609	SWITCH, tgl SPDT 15A 125VAC	1
17	R50	♦♦♦♦035 897	POTENTIOMETER, C sltd sft 1/T 2W 1000 ohm	1
18	PC4, RC20	139 508	CIRCUIT CARD, filter	1
		146 212	PLUG, 10 pin MS-3106A-18-1PX Amphenol	
	PLG14	115 092	HOUSING PLUG & SOCKETS	1
19		♦♦♦097 922	KNOB, pointer	2
20		♦♦♦♦097 922	KNOB, pointer	1
21	S1	111 997	SWITCH, rocker SPST 10A 250VAC	1
22		057 357	BUSHING, snap-in nyl .937 ID x 1.125mtg hole (water-cooled model)	1
22		070 371	BLANK, snap-in nyl 1.093/1.125mtg hole (air-cooled model)	1
23		030 170	BUSHING, snap-in nyl .750 ID x 1.000mtg hole	1

♦Part of Gas Flow Meter Option.
♦♦Part of Meter Kit Option.
♦♦♦Part of Spot Weld Control Option.
♦♦♦♦Part of Voltage Control Option.

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

☞ *Hardware is common and not available unless listed.*



143 117-E

Figure 7-4. Exploded View Of Gun

Item No.	Dia. Mkgs.	Part No.	Description	Quantity

Figure 7-4. Exploded View Of Gun

.. 1		133 479	.. COVER	1
.. 2		135 196	.. SPRING, closure cover	1
.. 3		112 715	.. CONDUIT w/FITTING, 15ft (15A & W models)	1
.. 3		112 716	.. CONDUIT w/FITTING, 30ft (30A & W models)	1
.. 4		137 474	.. HOSE, water in (15W model) (consisting of)	1
.. 4		137 475	.. HOSE, water in (30W model) (consisting of)	1
.. 5		137 473	.. HOSE, gas in (15A & W models) (consisting of)	1
.. 5		137 472	.. HOSE, gas in (30A & W models) (consisting of)	1
		056 851	.... FITTING, hose brs barbed nipple 3/16tbg	1
		010 607	.... FITTING, hose brs nut .625-18 LH (water hose)	1
		010 606	.... FITTING, hose brs nut .625-18RH (gas hose)	1
		056 108	.... FITTING, hose brs ferrule .425 ID x .718 lg	1
		134 834	.... HOSE, SAE .187 ID x .410 OD (15A & W models) (order by ft)	16ft
		134 834	.... HOSE, SAE .187 ID x .410 OD (30A & W models) (order by ft)	31ft
		089 120	.... CLAMP, hose .375-.450clp dia slfttng	1
.. 6		000 571	.. HOSE, water (XR-15 & 30W models) (consisting of)	2
		056 851	.... FITTING, hose brs barbed nipple 3/16tbg	2
		010 607	.... FITTING, hose brs nut .625-18 LH	2
		056 108	.... FITTING, hose brs ferrule .425 ID x .718 lg	2
		134 834	.... HOSE, SAE .187 ID x .410 OD (order by ft)	10ft
.. 7		048 837	.. HOSE, gas (consisting of)	1
		010 603	.... FITTING, hose brs barbed nipple 1/4tbg	2
		010 606	.... FITTING, hose brs nut .625-18RH	2
		056 112	.... FITTING, hose brs ferrule .475 ID x .718 lg	2
		603 106	.... HOSE, nprn brd No. 1 x .250 ID (order by ft)	10ft
.. 8		198 891	.. CABLE, control 15 ft (15A & W models)	1
.. 8		198 810	.. CABLE, control 30 ft (30A & W models)	1
.. 9		137 476	.. CABLE, power/water out 15ft (15W model)	1
.. 9		137 477	.. CABLE, power/water out 30ft (30W model)	1
.. 10		073 476	.. CLAMP, strap rbr 5 holes .375 wide x 4.625 lg (15A & W models)	6
.. 10		073 476	.. CLAMP, strap rbr 5 holes .375 wide x 4.625 lg (30A & W models)	13
.. 11		162 041	.. BEARING BLOCK ASSEMBLY	1
		604 638	.. SCREW, cap stl sch 6-32 x .375	3
		143 480	.. SCREW, 6-32 x .625 soc hd-hex stl	1
.. 12		136 135	.. ROLL, drive VK groove .023-1/16 wire (consisting of)	1
.. 13		604 612	.... SCREW, set stl sch 8-32 x .125 cup point	2
.. 14		114 045	.. SCREW, 6-32 x .500 hexwhd slt stl slffmg	3
.. 15		134 623	.. BEARING, idler roll	1
.. 16		132 852	.. ARM, pressure	1
.. 17		605 798	.. WASHER, shldr nyl .375 OD x .168 ID x .080	2
.. 18		133 083	.. SPRING, tension adj drive roll	1
.. 19		144 860	.. SCREW, mach stl flh 8-32 x .437	1
.. 20		058 968	.. RING, retainer E	1
.. 21		135 474	.. PIN, hinge	1
.. 22		155 565	.. SCREW, thumb	1
		134 799	.. O-RING, .176 ID x .070 CS (used w/thumbscrew)	1
.. 23		135 126	.. SCREW, set stl sch 6-32 x .125 cup point	1
.. 24		135 580	.. FITTING, gas	1
.. 25		112 896	.. SPRING, cprsn .240 OD x .020 wire x .437	1
.. 26		135 773	.. KNOB, thumb tension adjusting 8-32	1
.. 27		143 360	.. SCREW, mach stl rdh 8-32 x .500	1
.. 28		136 679	.. CLAMP, strain relief	1
.. 29		132 269	.. SCREW, mach stl rdhph 8-32 x .375	1
.. 30		164 591	.. CASE, gun LH	1
.. 31		173 527	.. SCREW, 8-32 x 1.500 soc hd-hex gr 8	2
.. 32		143 397	.. BLANK, snap in nylon	1
.. 33		173 528	.. SCREW, 8-32 x .875 soc hd-hex gr 8	1
.. 34	.... B2	161 813	.. MOTOR, gear PM 24VDC 420RPM 10.2:1 ratio	1

Item No.	Dia. Mkgs.	Part No.	Description	Quantity

Figure 7-4. Exploded View Of Gun (Continued)

35		602 066	SCREW, mach stl trh 6-32 x .250	2
36		164 592	TRIGGER	1
37		058 262	CAP, valve	1
38		Fig 7-5	BARREL ASSEMBLY	1
39		164 582	HOUSING, wire drive (15A & 30A models) (includes items 24 & 37)	1
39		164 581	HOUSING, wire drive (15W & 30W models) (includes items 24 & 37)	1
		151 661	SCREW, set 10-32 x .125 cup sch (30W models only)	2
40		133 365	CLAMP, head tube	1
41		000 417	SCREW, cap stl sch 10-24 x 1.000	2
42		203 758	CABLE, power (15A model) (consisting of)	1
42		203 759	CABLE, power (30A model) (consisting of)	1
43		133 362	STRAIN RELIEF, cable	1
44	R4	200 096	POTENTIOMETER, C sltd sft 1/T .5W 10K ohm	1
45		144 861	WASHER, anti-turn	1
46		135 127	LOCK, shaft pot .250-32 x .125dia shaft	1
47		602 169	SCREW, set stl sch 8-32 x .187	1
48		134 856	KNOB, speed control 1-10 .140 shaft x 1.125 OD	1
49		164 590	CASE, gun RH	1
50	PB1	000 369	SWITCH, lim 10A 125/250VAC DPST plgr	1
51		183 884	SPRING, cprsn .240 OD x .026 wire x 1.000	1
52		184 101	WASHER, shldr .140 ID x .250 OD	1
53		135 647	NUT, stl 8-32	3
54		162 042	CONTACT, current pick-up	1
55		602 198	WASHER, lock .141 ID stl split	4
56		134 624	BEARING, flg nyl .140 ID x .187 OD x .375flg x .031thk	2

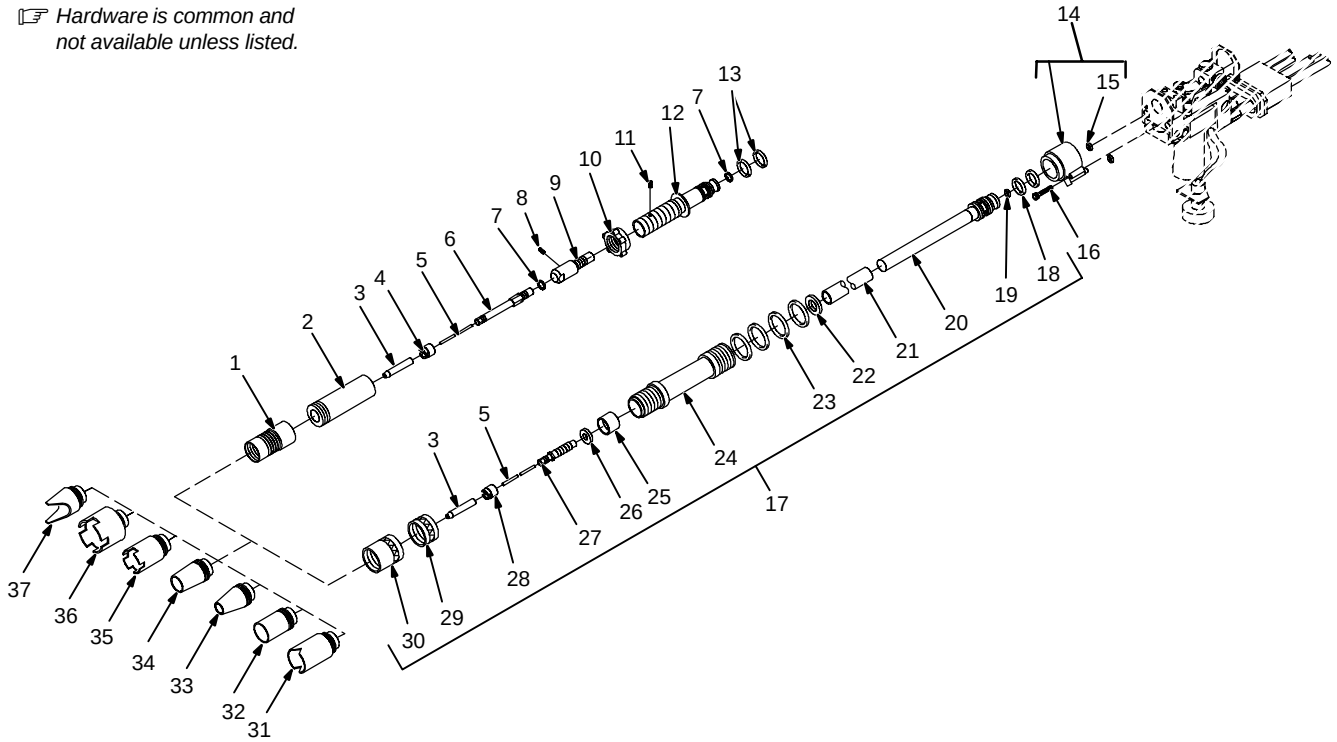
To maintain the factory original performance of your equipment, use only Manufacturer's Suggested Replacement Parts. Model and serial number required when ordering parts from your local distributor.

Item No.	Part No.	Description	Quantity

Figure 7-5. Barrel Assembly (Fig 7-4 Item 40)

1	144 862	EXTENSION, nozzle (15A & 30A models)	1
2	156 821	EXTENSION, barrel 2.875 lg (15A & 30A models)	1
3	♦136 171	TUBE, contact .025/31 wire	1
3	♦135 427	TUBE, contact .030/36 wire	1
3	♦135 428	TUBE, contact .030/41 wire	1
3	♦147 314	TUBE, contact .035/41 wire	1
3	135 430	TUBE, contact .035/52 wire	1
3	♦135 429	TUBE, contact .047/52 wire	1
3	♦135 424	TUBE, contact .047/61 wire	1
3	♦135 426	TUBE, contact .062/73 wire	1
3	♦135 425	TUBE, contact .062/81 wire	1
	136 821	WRENCH, nut tube contact	1
	166 575	WRENCH, hex .078 across the flat	1
4	136 748	NUT, compression .375-24	1
5	♦136 683	LINER, teflon .045-1/16 wire x 6.875 lg	1
5	136 682	LINER, teflon .023-.035 wire x 6.875 lg	1
6	164 421	ADAPTER, contact tube (15A & 30A models)	1
7	164 485	O-RING .176 ID x .070CS (15A & 30A models)	2
8	604 612	SCREW, set stl sch 8-32 x .125 (15A & 30A models)	1
9	164 422	TUBE, head (15A & 30A models)	1
10	058 685	NUT, jam nozzle extension (15A & 30A models)	1
11	602 172	SCREW, set stl sch 10-32 x .187 cup point (15A & 30A models)	1
12	164 423	ADAPTER, tube head (15A & 30A models)	1
13	134 800	O-RING, .614 ID x .070CS	2
14	203 675	MANIFOLD, water (15W & 30W models) (consisting of)	1
15	175 946	.... O-RING, .614 ID x .070CS	2
16	135 128	SCREW, cap stl sch 6-32 x 1.000 (15W & 30W models)	2

☞ *Hardware is common and not available unless listed.*



800 434-A

Figure 7-5. Barrel Assembly

Item No.	Part No.	Description	Quantity
		Figure 7-5. Barrel Assembly (Fig 7-4 Item 40) (Continued)	
. . 17	137 042	. . BARREL ASSEMBLY, water cooled (15W & 30W models) (consisting of)	1
. . 18	134 800	. . . . O-RING, .614 ID x .070CS	1
. . 19	134 799	. . . . O-RING, .176 ID x .070CS (15W & 30W models)	1
. . 20	180 805	. . . . FITTING ASSEMBLY, barrel	1
. . 21	136 943	. . . . TUBING, teflon	1
. . 22	136 834	. . . . WASHER, flat .594 ID fbr	1
. . 23	180 966	. . . . O-RING, .926 ID x .070CS	4
. . 24	137 041	. . . . BARREL, outer	1
. . 25	136 836	. . . . INSULATOR, head tube from adapter	1
. . 26	136 835	. . . . WASHER, flat .390 ID brs	1
. . 27	136 680	. . . . ADAPTER, contact tube	1
. . 28	136 748	. . . . NUT, .375-24 stl	1
. . 29	136 833	. . . . NUT, 1.000-12 stl	1
. . 30	136 832	. . . . ADAPTER, nozzle	1
. . . . .	050 622	. . . . NOZZLE, 5/8 orf x 1-5/8 lg	1
. . 31	♦009 925	. . NOZZLE, spot outside corner .937 ID x 2.375	1
. . 32	♦050 116	. . NOZZLE,13/16 orf x 1-5/8 lg	1
. . 33	♦050 115	. . NOZZLE, 1/2 orf x 1-5/8 lg	1
. . 34	050 622	. . NOZZLE, 5/8 orf x 1-5/8 lg	1
. . 35	♦000 442	. . NOZZLE, spot	1
. . 36	♦004 466	. . NOZZLE, spot	1
. . 37	♦000 443	. . NOZZLE, spot inside corner	1

♦OPTIONAL

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

Warranty Questions?

Call
1-877-HOBART1
for your local
Hobart distributor.

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

Support
Need fast answers to the tough welding questions? Contact your distributor or call 1-800-332-3281. The expertise of the distributor and Hobart is there to help you, every step of the way.

HOBART WELDERS

HOBART WARRANTY

Effective January 1, 2000
(Equipment with a serial number preface of "LA" or newer)

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

LIMITED WARRANTY – Subject to the terms and conditions below, Hobart Welding Products., Troy, Ohio, warrants to its original retail purchaser that new Hobart 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 Hobart. 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, Hobart will repair or replace any warranted parts or components that fail due to such defects in material or workmanship. Hobart must be notified in writing within thirty (30) days of such defect or failure, at which time Hobart will provide instructions on the warranty claim procedures to be followed.

Hobart shall honor warranty claims on warranted equipment listed below in the event of such a failure within the warranty time periods. All warranty time periods start on the date that the equipment was delivered to the original retail purchaser, or one year after the equipment is sent to a North American distributor or eighteen months after the equipment is sent to an International distributor.

1. 5 Years Parts – 3 Years Labor
   * Original main power rectifiers
   * Inverters (input and output rectifiers only)
2. 3 Years — Parts and Labor
   * Transformer/Rectifier Power Sources
   * Plasma Arc Cutting Power Sources
   * Semi-Automatic and Automatic Wire Feeders
   * Inverter Power Supplies
   * Intellitig
   * Engine Driven Welding Generators **(NOTE: Engines are warranted separately by the engine manufacturer.)**
3. 1 Year — Parts and Labor
   * DS-2 Wire Feeder
   * Motor Driven Guns (w/exception of Spoolmate 185 & Spoolmate 250)
   * Process Controllers
   * Positioners and Controllers
   * Automatic Motion Devices
   * RFCS Foot Controls
   * Induction Heating Power Sources
   * Water Coolant Systems
   * HF Units
   * Grids
   * Maxstar 140
   * Spot Welders
   * Load Banks
   * Hobart Cyclomatic Equipment
   * Running Gear/Trailers
   * Plasma Cutting Torches (except APT & SAF Models)
   * Field Options
     (NOTE: Field options are covered under True Blue® for the remaining warranty period of the product they are installed in, or for a minimum of one year — whichever is greater.)
4. 6 Months — Batteries
5. 90 Days — Parts
   * MIG Guns/TIG Torches
   * Induction Heating Coils and Blankets
   * APT, ZIPCUT & PLAZCUT Model Plasma Cutting Torches
   * Remote Controls
   * Accessory Kits
   * Replacement Parts (No labor)
   * Spoolmate 185 & Spoolmate 250
   * Canvas Covers

HOBART's Limited Warranty shall not apply to:

1. **Consumable components; such as contact tips, cutting nozzles, contactors, brushes, slip rings, relays or parts that fail due to normal wear.**
2. Items furnished by Hobart, 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 Hobart, 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.

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

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

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

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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

Resources Available

Always provide Model Name and Serial/Style Number.

To locate a Distributor, retail or service location:

Call 1-877-Hobart1 or visit our website at www.HobartWelders.com

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File a claim for loss or damage during shipment.

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