OM-287388B 2020-02

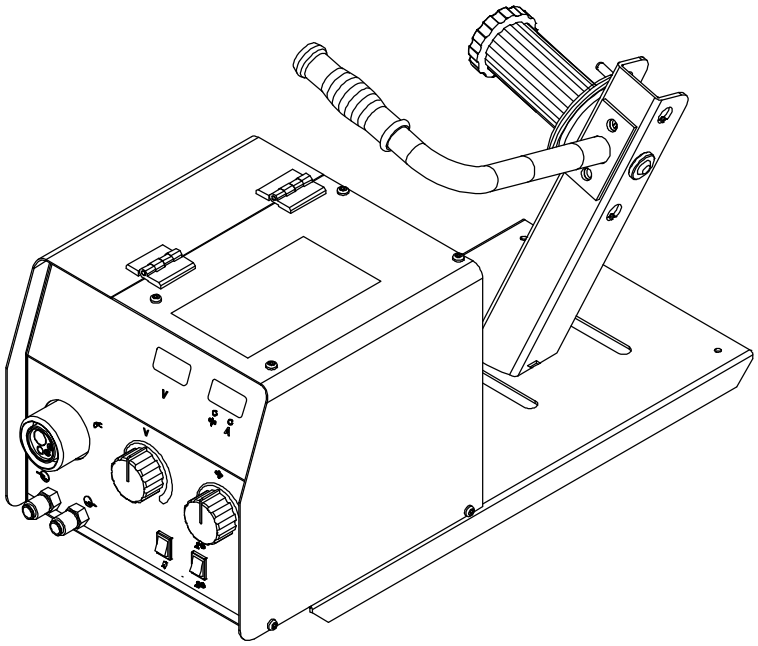
Processes

MIG (GMAW) Welding
Flux Cored (FCAW) Welding

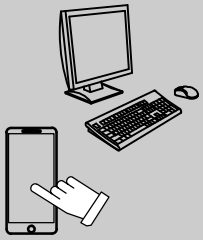
Description

Wire Feeder

ST-24w And ST-24wD CE



OWNER'S MANUAL



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

www.MillerWelds.com

From Miller to You

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

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

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

This Owner's Manual is designed to help you get the most out of your Miller products. Please take time to read the Safety Precautions. They will help you protect yourself against potential hazards on the worksite. We've made installation and operation quick and easy. With Miller, you can count on years of reliable service with proper maintenance. And if for some reason the unit needs repair, there's a Troubleshooting section that will help you figure out what the problem is, and our extensive service network is there to help fix the problem. Warranty and maintenance information for your particular model are also provided.

Miller Electric manufactures a full line of welders and welding-related equipment. For information on other quality Miller products, contact your local Miller distributor to receive the latest full line catalog or individual catalog sheets.

TRUE BLUE® WARRANTY

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

Miller®

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DECLARATION OF CONFORMITY

for European Community (CE marked) products.

ITW Welding Products B.V. Edisonstraat 10, 3261 LD Oud-Beijerland, Netherlands, declares that the product(s) identified in this declaration conform to the essential requirements and provisions of the stated Council Directive(s) and Standard(s).

Product/Apparatus Identification:

Product	Stock Number
ST-24w	059007023
ST-24wD	059007024

Council Directives:

- 2014/35/EU Low Voltage
- 2014/30/EU Electromagnetic Compatibility
- 2011/65/EU Restriction of the use of certain hazardous substances in electrical and electronic equipment

Standards:

- IEC 60974-5:2013 Arc Welding Equipment - Part 5: Wire Feeders
- IEC 60974-10:2014+A1:2015 Arc Welding Equipment – Part 10: Electromagnetic Compatibility Requirements

EU Signatory:

Pieter Keultjes

Equipment Technical Manager - EMEAR

November 4th, 2019

Date of Declaration

956172367

SECTION 1 – SAFETY PRECAUTIONS - READ BEFORE USING

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

1-1. Symbol Usage

DANGER! – Indicates a hazardous situation which, if not avoided, will result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.

Indicates a hazardous situation which, if not avoided, could result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.

NOTICE *– Indicates statements not related to personal injury.*

☞ *Indicates special instructions.*

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

1-2. Arc Welding Hazards

The symbols shown below are used throughout this manual to call attention to and identify possible hazards. When you see the symbol, watch out, and follow the related instructions to avoid the hazard. The safety information given below is only a summary of the more complete safety information found in the Principal Safety Standards listed in Section 1-5. Read and follow all Safety Standards.

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

During operation, keep everybody, especially children, away.

ELECTRIC SHOCK can kill.

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

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

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

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

HOT PARTS can burn.

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

FUMES AND GASES can be hazardous.

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

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

ARC RAYS can burn eyes and skin.

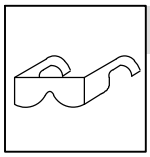
Arc rays from the welding process produce intense visible and invisible (ultraviolet and infrared) rays that can burn eyes and skin. Sparks fly off from the weld.

- Wear an approved welding helmet fitted with a proper shade of filter lenses to protect your face and eyes from arc rays and sparks when welding or watching (see ANSI Z49.1 and Z87.1 listed in Safety Standards).
- Wear approved safety glasses with side shields under your helmet.
- Use protective screens or barriers to protect others from flash, glare and sparks; warn others not to watch the arc.
- Wear body protection made from durable, flame–resistant material (leather, heavy cotton, wool). Body protection includes oil-free clothing such as leather gloves, heavy shirt, cuffless trousers, high shoes, and a cap.

WELDING can cause fire or explosion.

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

- Remove all flammables within 35 ft (10.7 m) of the welding arc. If this is not possible, tightly cover them with approved covers.
- Do not weld where flying sparks can strike flammable material.
- Protect yourself and others from flying sparks and hot metal.
- Be alert that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas.
- Watch for fire, and keep a fire extinguisher nearby.
- Be aware that welding on a ceiling, floor, bulkhead, or partition can cause fire on the hidden side.
- Do not cut or weld on tire rims or wheels. Tires can explode if heated. Repaired rims and wheels can fail. See OSHA 29 CFR 1910.177 listed in Safety Standards.
- Do not weld on containers that have held combustibles, or on closed containers such as tanks, drums, or pipes unless they are properly prepared according to AWS F4.1 and AWS A6.0 (see Safety Standards).
- Do not weld where the atmosphere can contain flammable dust, gas, or liquid vapors (such as gasoline).
- Connect work cable to the work as close to the welding area as practical to prevent welding current from traveling long, possibly unknown paths and causing electric shock, sparks, and fire hazards.
- Do not use welder to thaw frozen pipes.
- Remove stick electrode from holder or cut off welding wire at contact tip when not in use.
- Wear body protection made from durable, flame–resistant material (leather, heavy cotton, wool). Body protection includes oil-free clothing such as leather gloves, heavy shirt, cuffless trousers, high shoes, and a cap.
- Remove any combustibles, such as a butane lighter or matches, from your person before doing any welding.
- After completion of work, inspect area to ensure it is free of sparks, glowing embers, and flames.
- Use only correct fuses or circuit breakers. Do not oversize or bypass them.
- Follow requirements in OSHA 1910.252 (a) (2) (iv) and NFPA 51B for hot work and have a fire watcher and extinguisher nearby.
- Read and understand the Safety Data Sheets (SDSs) and the manufacturer's instructions for adhesives, coatings, cleaners, consumables, coolants, degreasers, fluxes, and metals.



FLYING METAL or DIRT can injure eyes.

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

BUILDUP OF GAS can injure or kill.

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

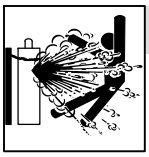
ELECTRIC AND MAGNETIC FIELDS (EMF) can affect Implanted Medical Devices.

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

NOISE can damage hearing.

Noise from some processes or equipment can damage hearing.

- Wear approved ear protection if noise level is high.



CYLINDERS can explode if damaged.

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

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

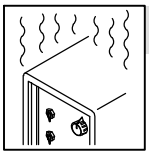
1-3. Additional Hazards For Installation, Operation, And Maintenance

FIRE OR EXPLOSION hazard.

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

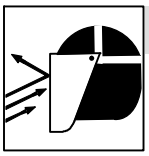
FALLING EQUIPMENT can injure.

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



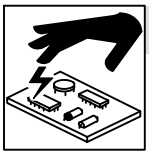
OVERUSE can cause OVERHEATING

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



FLYING SPARKS can injure.

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



STATIC (ESD) can damage PC boards.

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

MOVING PARTS can injure.

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

WELDING WIRE can injure.

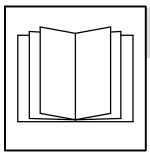
- Do not press gun trigger until instructed to do so.
- Do not point gun toward any part of the body, other people, or any metal when threading welding wire.

BATTERY EXPLOSION can injure.

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

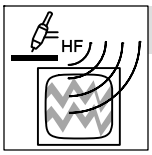
MOVING PARTS can injure.

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



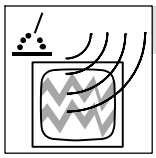
READ INSTRUCTIONS.

- Read and follow all labels and the Owner's Manual carefully before installing, operating, or servicing unit. Read the safety information at the beginning of the manual and in each section.
- Use only genuine replacement parts from the manufacturer.
- Perform installation, maintenance, and service according to the Owner's Manuals, industry standards, and national, state, and local codes.



H.F. RADIATION can cause interference.

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



ARC WELDING can cause interference.

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

1-4. California Proposition 65 Warnings

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

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

1-5. Principal Safety Standards

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

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

Safe Practices for the Preparation of Containers and Piping for Welding and Cutting, American Welding Society Standard AWS F4.1 from Global Engineering Documents. Website: www.global.ihs.com.

Safe Practices for Welding and Cutting Containers that have Held Combustibles, American Welding Society Standard AWS A6.0 from Global Engineering Documents. Website: www.global.ihs.com.

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

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

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

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

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

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

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

1-6. EMF Information

Electric current flowing through any conductor causes localized electric and magnetic fields (EMF). The current from arc welding (and allied processes including spot welding, gouging, plasma arc cutting, and induction heating operations) creates an EMF field around the welding circuit. EMF fields can interfere with some medical implants, e.g. pacemakers. Protective measures for persons wearing medical implants have to be taken. For example, restrict access for passers–by or conduct individual risk assessment for welders. All welders should use the following procedures in order to minimize exposure to EMF fields from the welding circuit:

1. Keep cables close together by twisting or taping them, or using a cable cover.
2. Do not place your body between welding cables. Arrange cables to one side and away from the operator.
3. Do not coil or drape cables around your body.
4. Keep head and trunk as far away from the equipment in the welding circuit as possible.
5. Connect work clamp to workpiece as close to the weld as possible.
6. Do not work next to, sit or lean on the welding power source.
7. Do not weld whilst carrying the welding power source or wire feeder.

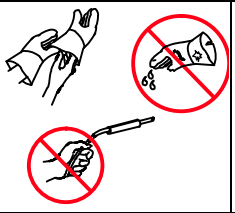
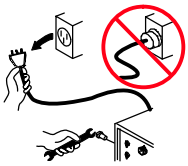
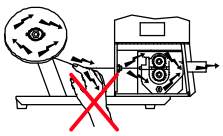
About Implanted Medical Devices:

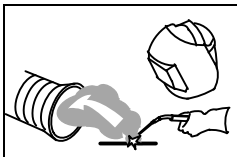
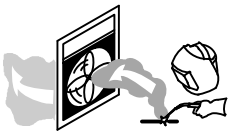
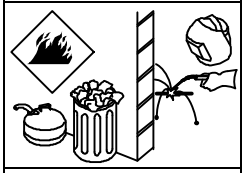
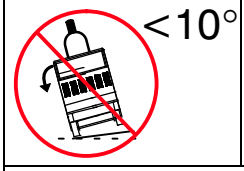
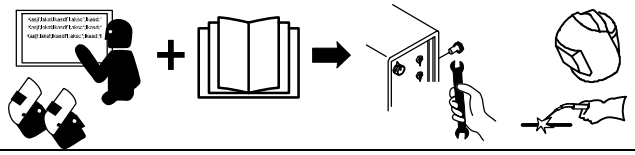
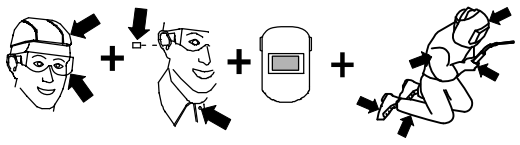
Implanted Medical Device wearers should consult their doctor and the device manufacturer before performing or going near arc welding, spot welding, gouging, plasma arc cutting, or induction heating operations. If cleared by your doctor, then following the above procedures is recommended.

SECTION 2 – DEFINITIONS

2-1. Additional Safety Symbols And Definitions

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

	Warning! Watch Out! There are possible hazards as shown by the symbols. Safe1 2012–05
	Wear dry insulating gloves. Do not touch electrode (wire) with bare hand. Do not wear wet or damaged gloves. Safe57 2017–04
	Disconnect input plug or power before working on machine. Safe5 2017–04
	Do not remove or paint over (cover) the label. Safe20 2017–04
	Drive rolls can injure fingers. Safe32 2012–05
	Welding wire and drive parts are at welding voltage during operation – keep hands and metal objects away. Safe33 2017–04
	Do not discard product (where applicable) with general waste. Reuse or recycle Waste Electrical and Electronic Equipment (WEEE) by disposing at a designated collection facility. Contact your local recycling office or your local distributor for further information. Safe37 2017–04
	Protect yourself from electric shock by insulating yourself from work and ground. Safe58 2017–04
	Keep your head out of the fumes. Safe59 2017–04

	Use forced ventilation or local exhaust to remove the fumes. Safe60 2012-06
	Use ventilating fan to remove fumes. Safe61 2012-06
	Keep flammables away from welding. Do not weld near flammables. Safe62 2012-06
	Welding sparks can cause fires. Have a fire extinguisher nearby, and have a watchperson ready to use it. Safe63 2012-06
	Do not weld on drums or any closed containers. Safe64 2017-04
 <10°	Falling unit can cause injury. Do not move or operate unit where it could tip. Safe53 2017-04
	Become trained and read the instructions before working on the machine or welding. Safe65 2012-06
	Wear hat and safety glasses. Use ear protection and button shirt collar. Use welding helmet with correct shade of filter. Wear complete body protection. Safe66 2012-06

Notes

2-2. Miscellaneous Symbols And Definitions

	Input
	Remote
X	Duty Cycle
	Wire Feed
	Line Connection
U_{1_1}	Primary Voltage
	Read Instructions
	Flux Cored Arc Welding Gun (FCAW)
I	On
O	Off

	Alternating Current
	Circuit Breaker
	Gas Metal Arc Welding (GMAW) Gun
	Gas Input
	Voltage Input
I_2	Rated Current
	Wire Run-In Speed
V	Volts
Hz	Hertz
	Trigger Hold On
	Trigger Hold Off

+	Positive
I_1	Primary Current
	Water (Coolant) Output
A	Amperes
IP	Degree Of Protection
	Jog
	Purge
	Burnback Time
U_2	Load Voltage
	Water (Coolant) Input

Notes

SECTION 3 – SPECIFICATIONS

3-1. Serial Number And Rating Label Location

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

3-2. Unit Specifications

Type of Input Power	Welding Power Source Type	Wire Feed Speed Range	Wire Diameter Range	Welding Circuit Rating	Overall Dimensions	Weight
24 Volts AC Single Phase 4 amps 50/60 Hz	Constant Voltage (CV) DC With 14-Pin And Contactor Control	1.3 To 20.0 MPM (51 to 788 IPM)	0.6 To 1.8 mm (.023 To .068/.072 in.) Max Spool Weight: 27 kg (60 lb)	100 Volts, 500 Amperes, 60% Duty Cycle	Length: 597 mm (23-1/2 in.) Width: 273 mm (10-3/4 in.) Height: 279 mm (11 in.)	17.0 kg (37-1/2 lb)

3-3. Environmental Specifications

A. IP Rating

IP Rating
IP23S
This equipment is designed for outdoor use. It may be stored, but is not intended to be used for welding outside during precipitation unless sheltered.
IP23S 2014–06

B. Information On Electromagnetic Fields (EMF)

This equipment shall not be used by the general public as the EMF limits for the general public might be exceeded during welding.

This equipment is built in accordance with EN 60974–1 and is intended to be used only in an occupational environment (where the general public access is prohibited or regulated in such a way as to be similar to occupational use) by an expert or an instructed person.

Wire feeders and ancillary equipment (such as torches, liquid cooling systems and arc striking and stabilizing devices) as part of the welding circuit may not be a major contributor to the EMF. See the Owner's Manuals for all components of the welding circuit for additional EMF exposure information.

- The EMF assessment on this equipment was conducted at 0.5 meter.
- At a distance of 1 meter the EMF exposure values were less than 20% of the permissible values.

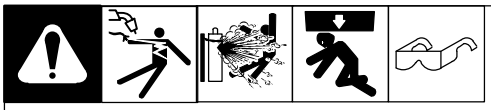
ce-emf 1 2010-10

C. Information On Electromagnetic Compatibility (EMC)

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

ce-emc 3 2011-09

4-1. Selecting A Location



Do not put feeder where welding wire hits cylinder.

☞ *Wire feeder shown is representative only and may not reflect actual unit.*

1 Wire Feeder

2 Rubber Feet

Choose slot that allows all rubber feet to sit securely on top of welding power source.

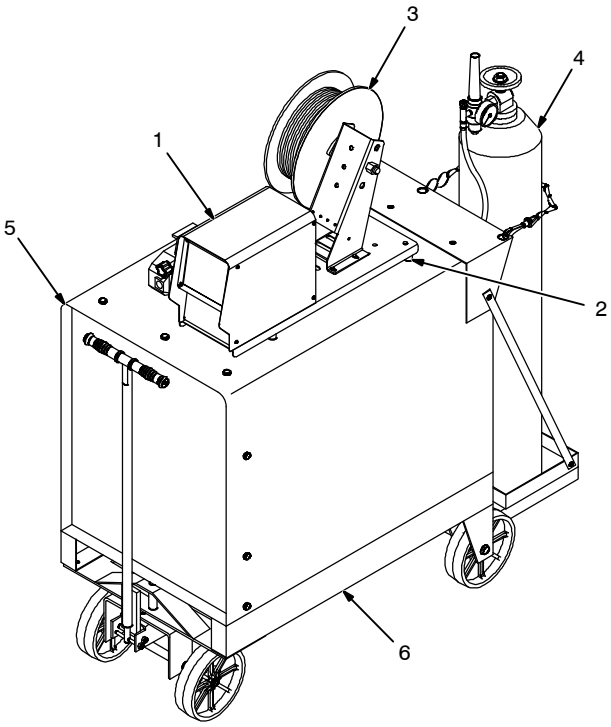
3 Wire Spool/Reel

4 Gas Cylinder w/Hose And Regulator (Customer Supplied)

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

5 Welding Power Source

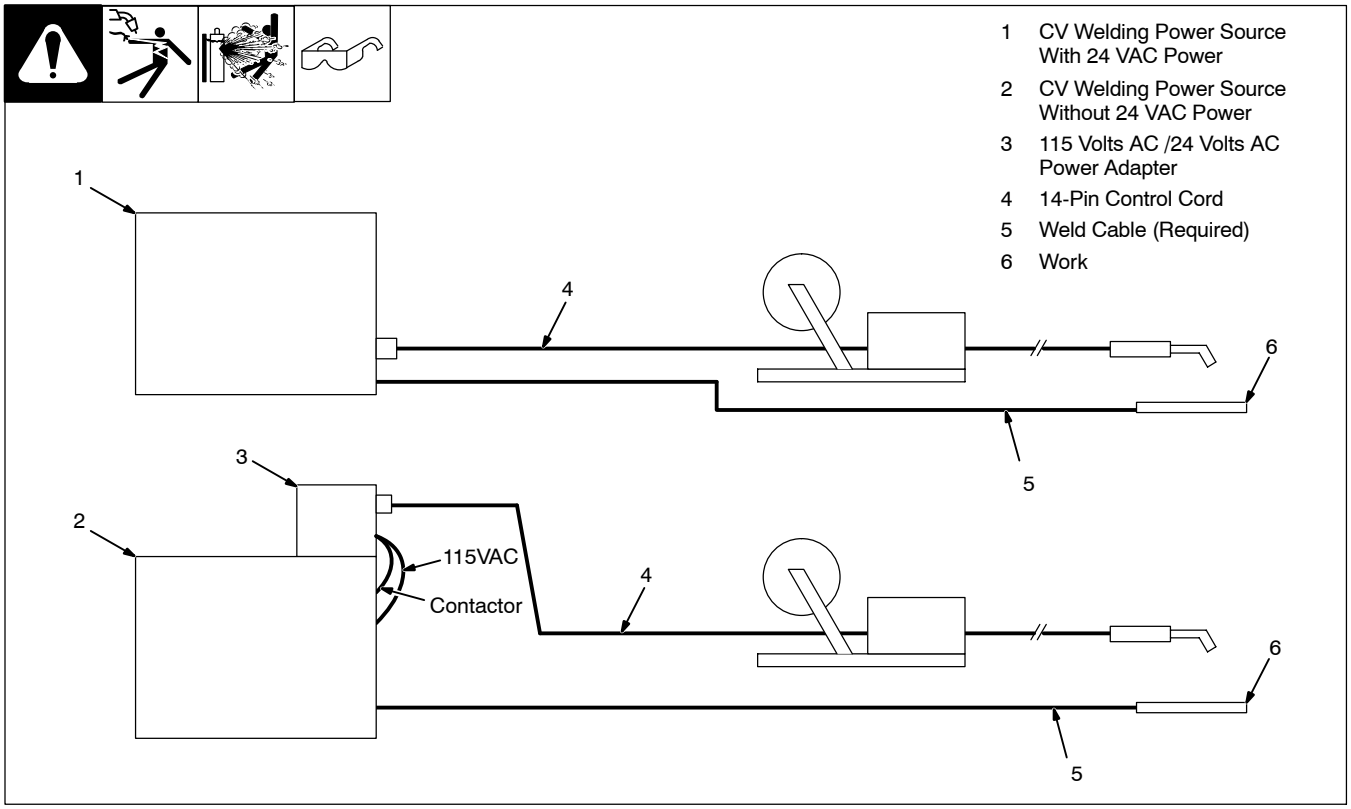
6 Running Gear



Do not move or operate unit where it could tip.

loc_feeder/cart 2015-05

4-2. Equipment Connection Diagrams



1 CV Welding Power Source With 24 VAC Power

2 CV Welding Power Source Without 24 VAC Power

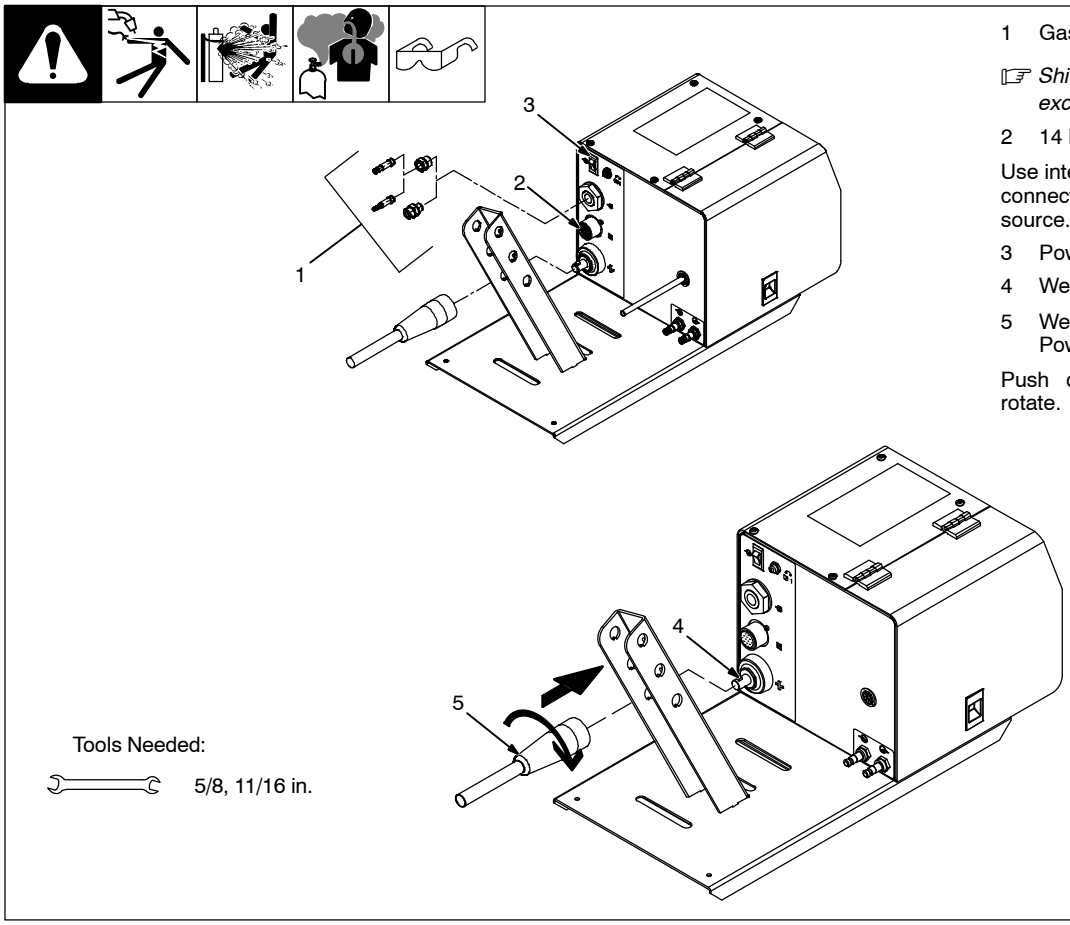
3 115 Volts AC /24 Volts AC Power Adapter

4 14-Pin Control Cord

5 Weld Cable (Required)

6 Work

4-3. 14-Pin Receptacle, Shielding Gas, And Weld Cable Connection



1 Gas Connections

☞ *Shielding gas pressure not to exceed 0.500 Mpa (72 PSI).*

2 14 Pin Receptacle RC9

Use interconnecting cord to make connection to welding power source.

3 Power Switch

4 Weld Cable Terminal

5 Weld Cable From Welding Power Source

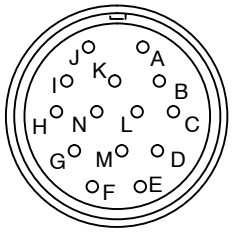
Push cable onto terminal and rotate.

Tools Needed:

5/8, 11/16 in.

805 233-A / 805 227-A

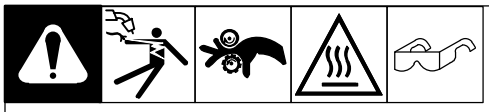
4-4. 14-Pin Receptacle Information

REMOTE 14	Pin*	Pin Information
	A	24 volts AC with respect to pin G.
	B	Contact closure to A completes 24 volts AC contactor control circuit.
	G	Circuit common for 24 volts AC circuit.
	C	+10 volts DC output to remote control with respect to pin D.
	D	Remote control circuit common.
	E	0 to +10 volts DC input command signal from remote control with respect to pin D.
	F	Current feedback; 0 to 10 volts DC, 1 V/100 A
	H	Voltage feedback; 0 to 10 volts DC, 1 V/10 arc volts

*The remaining pins are not used.

Ref. S-0004-A

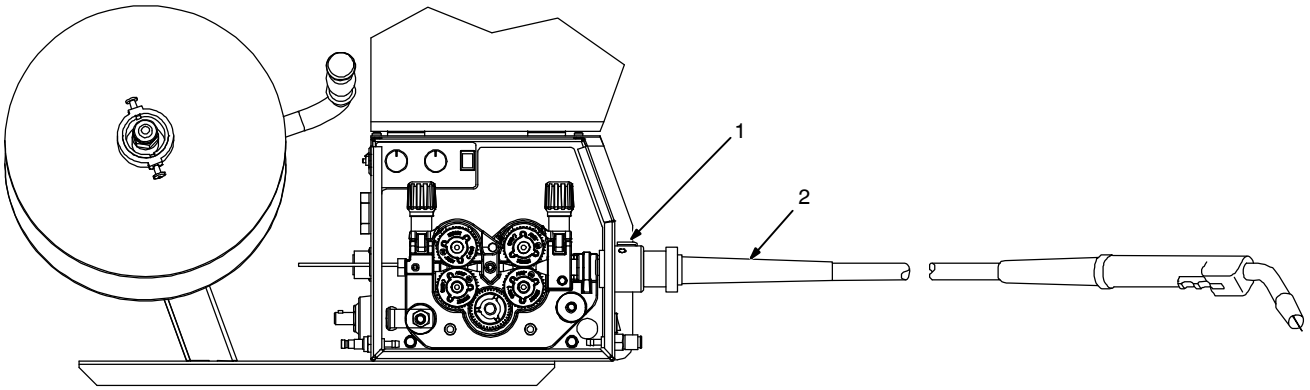
4-5. Connecting Welding Gun



1 Gun/Feeder Adapter

2 Gun Connector

Insert gun connector into adapter. Tighten locking ring.



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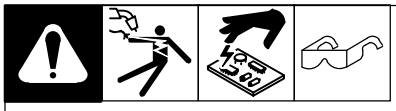
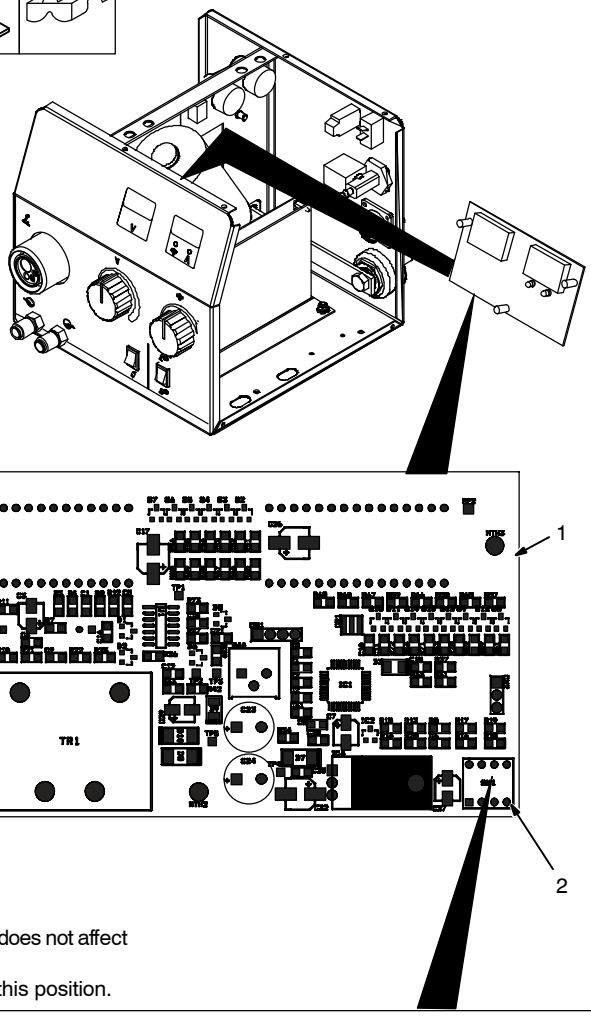
4-6. Optional Meter Circuit Board Settings



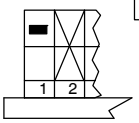


1 Meter Circuit Board

2 DIP Switch S2

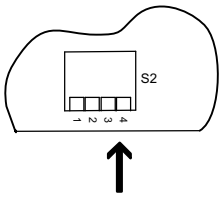
Set DIP switch S2 for type of welding power source, and desired wire feed speed display (see illustration).

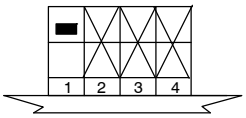
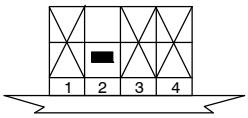
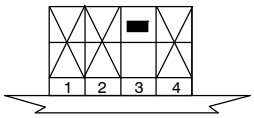
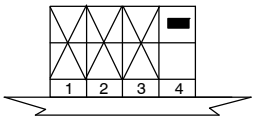
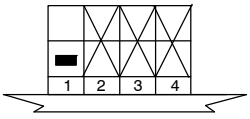
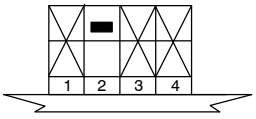
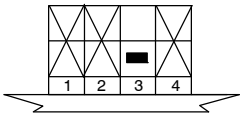
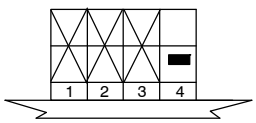
Reinstall wrapper.



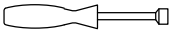
X Indicates switch position does not affect specified function.

▮ Means switch must be in this position.



Voltage Measurement	**Current Signal**	**Wire Feed Speed Display**	**Digital Amperage Display**
0-100V (Step Voltage Power Source)	Signal Not Available	Inches/Minute	Hold Function ON
			
Or	Or	Or	Or
0-10V (Electronic Control P/Source)	Signal Available	Meters/Minute	Hold Function OFF
			

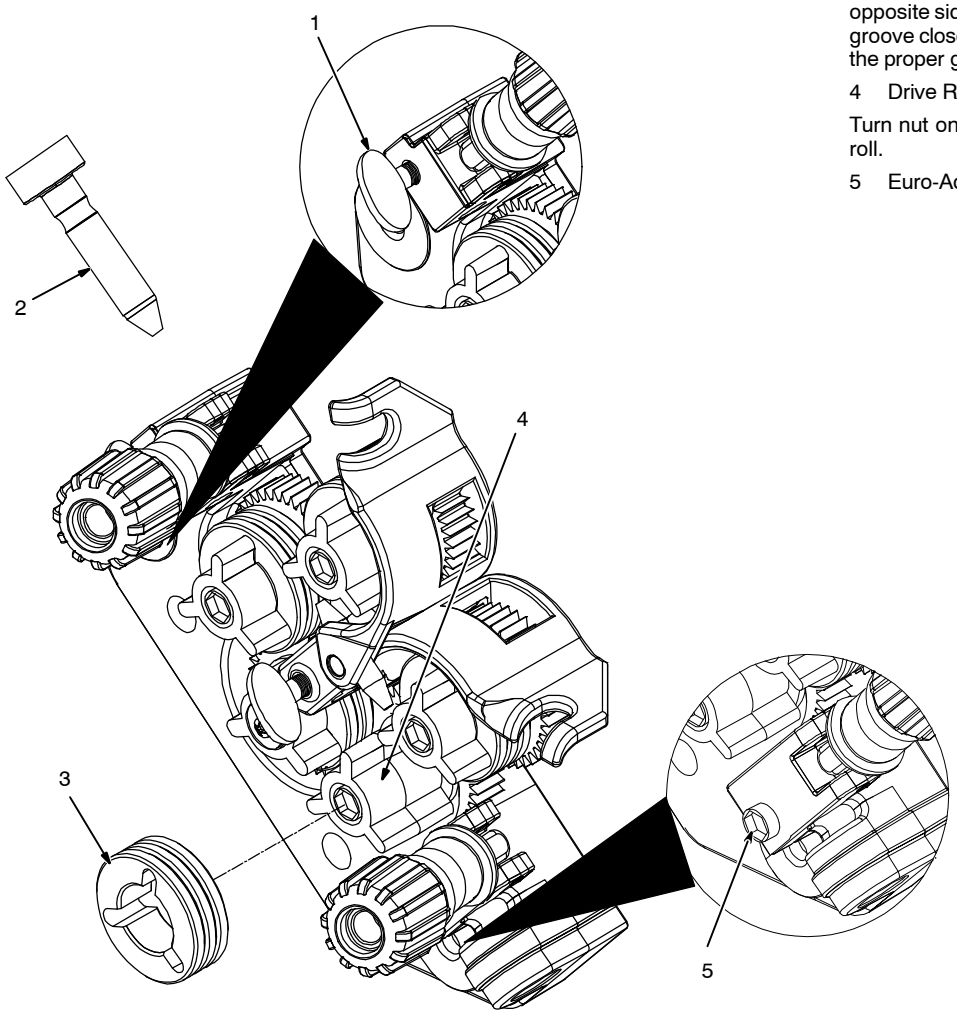
Tools Needed:



Torx 25

805 228-A

4-7. Installing Wire Guide And Drive Roll



1 Inlet Wire Guide Securing Screw

2 Inlet Wire Guide

Loosen screw. Slide tip as close to drive rolls as possible without touching. Tighten screw.

3 Drive Roll

The drive roll consists of two different sized grooves. The stamped markings on the end surface of the drive roll refers to the groove on the opposite side of the drive roll. The groove closest to the motor shaft is the proper groove to thread.

4 Drive Roll Securing Nut

Turn nut one click to secure drive roll.

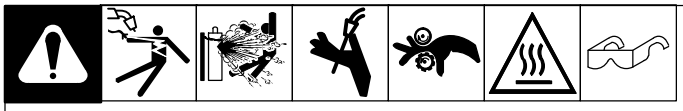
5 Euro-Adapter Securing Screw

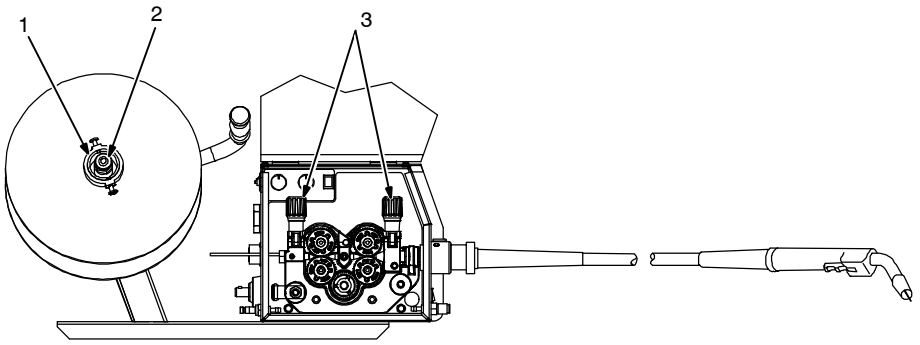
Tools Needed:

1/4 in.

956142644_1-B

4-8. Installing And Threading Welding Wire





1 Retaining Ring

2 Hub Tension Adjustment Nut

If necessary, move hub on support for use of a different size wire spool.

Remove retaining ring, and install spool so hub pin fits spool hole. Reinstall retaining ring.

Adjust tension nut so wire is taut when wire feed stops.

3 Pressure Assembly Adjustment Knob

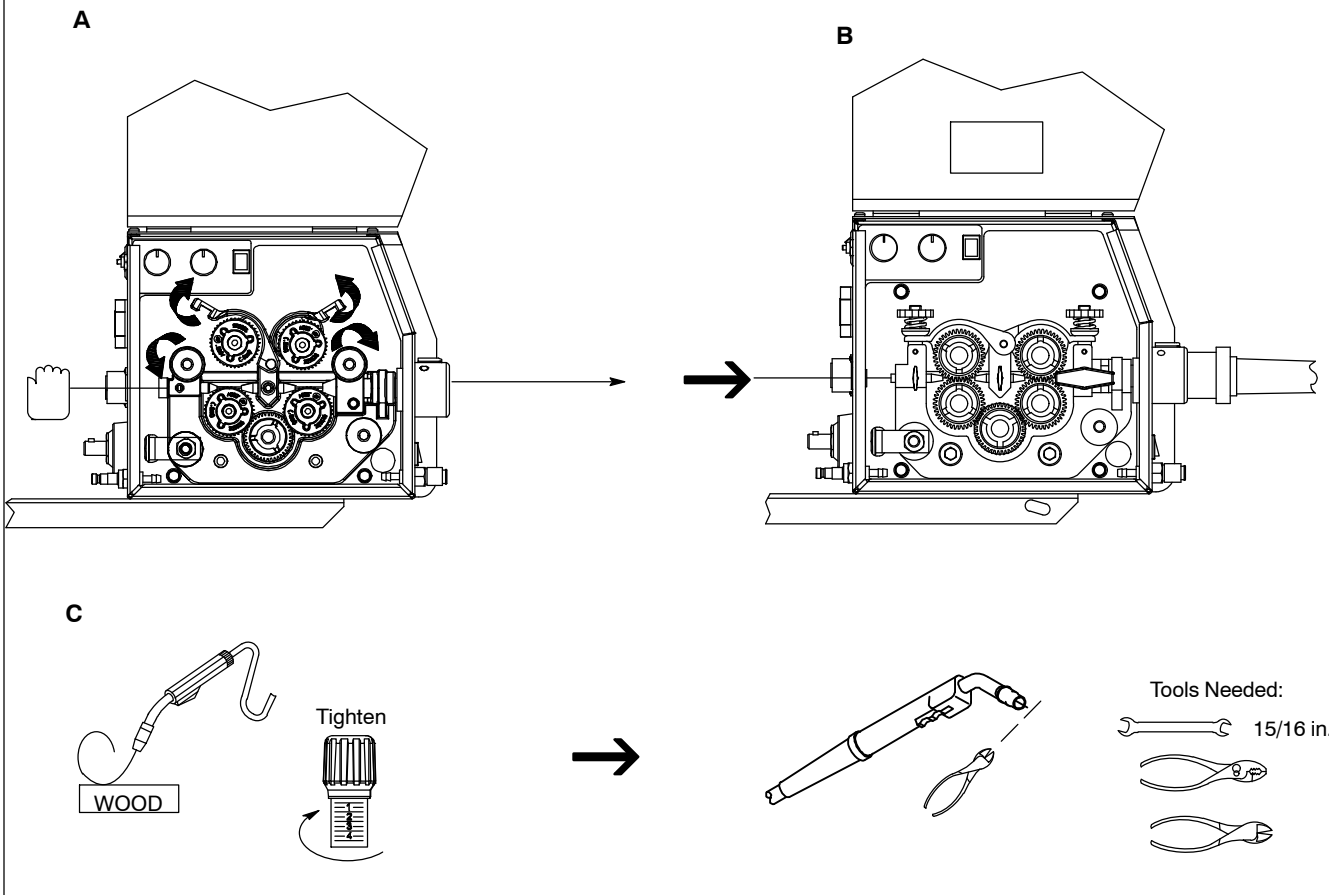
Lay gun cable out straight.

A. Open pressure assembly, hold wire tightly, and cut off end. Push wire through guides int gun.

B. Close and tighten pressure assembly. Press Jog button until wire comes out gun.

C. To adjust drive roll pressure, press gun trigger to feed wire against wood surface. Tighten knob so wire does not slip.

Cut off wire. Close door.



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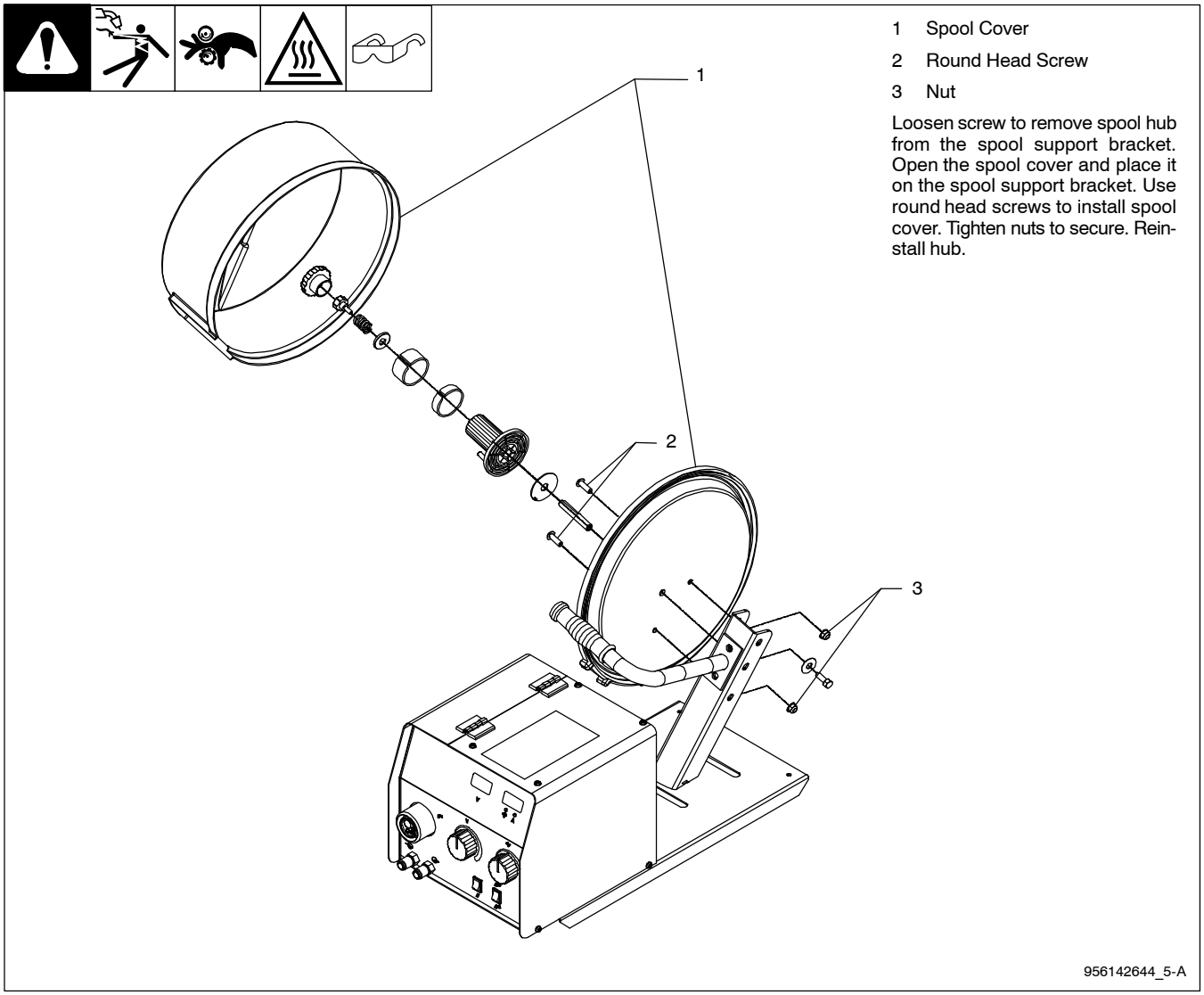
4-9. Installing Optional Spool Cover



1 Spool Cover

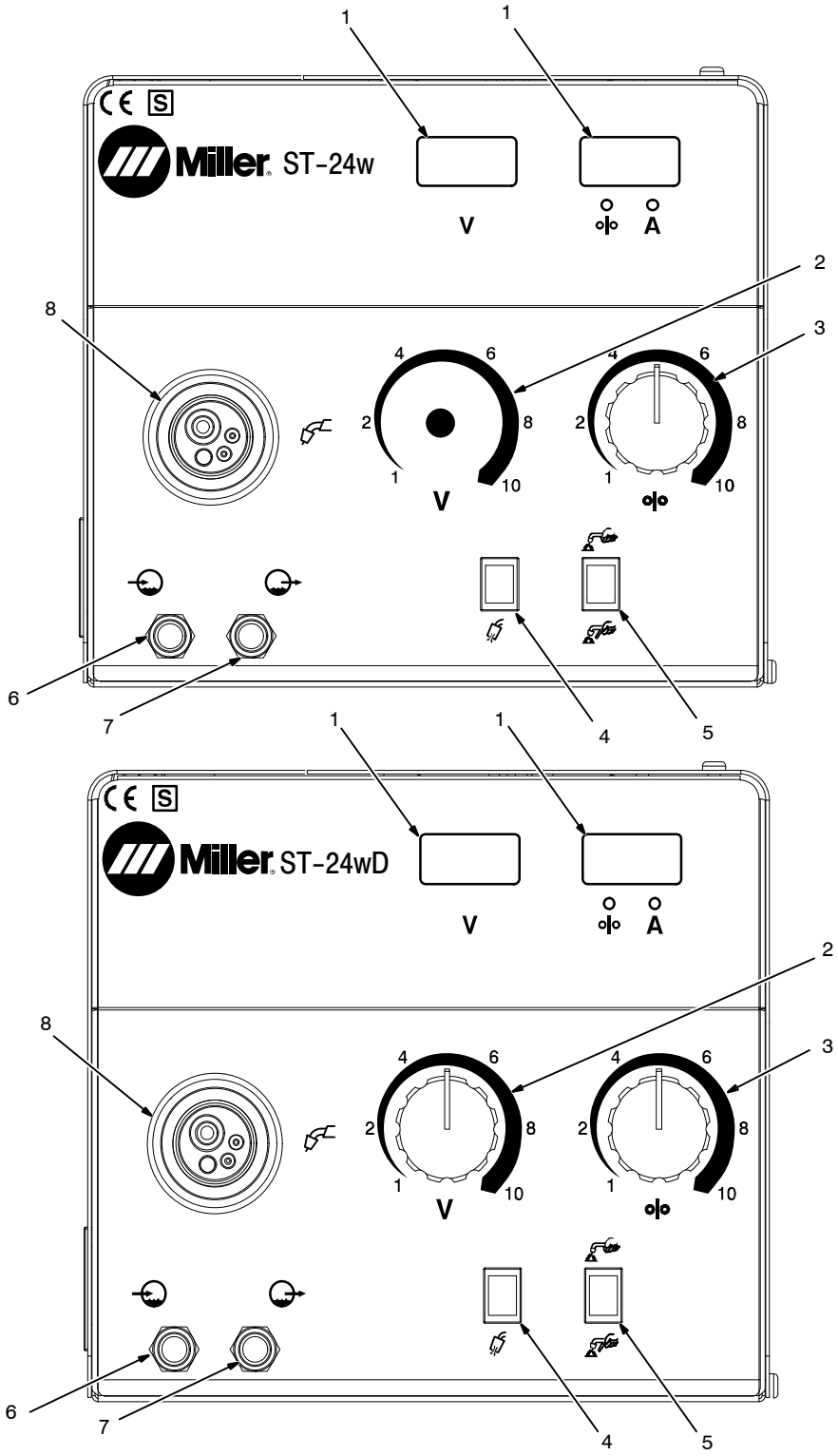
2 Round Head Screw

3 Nut

Loosen screw to remove spool hub from the spool support bracket. Open the spool cover and place it on the spool support bracket. Use round head screws to install spool cover. Tighten nuts to secure. Reinstall hub.

Notes

5-1. Front Panel Controls



1 Optional Voltage/Wire Speed Meter

Use switch to choose volts or wire feed speed display.

2 Optional Remote Voltage Control

Use control to set welding power source voltage at the wire feeder. Numbers are for reference only.

3 Wire Speed Control

4 Gas Purge Switch

Press Gas Purge Switch to energize gas valve to purge air from gun, or adjust gas regulator.

5 Trigger Hold Switch

Push switch up to weld without holding gun trigger throughout the weld cycle.

To start weld cycle, press and release gun trigger within three seconds after an arc has been struck. To end weld, press and release gun trigger.

Power switch is on rear panel (see Section 4-3).

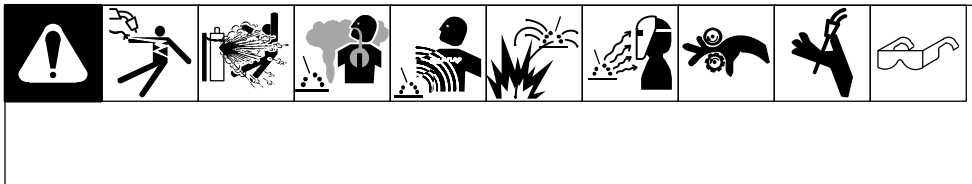
6 Water Cooling In (Red)

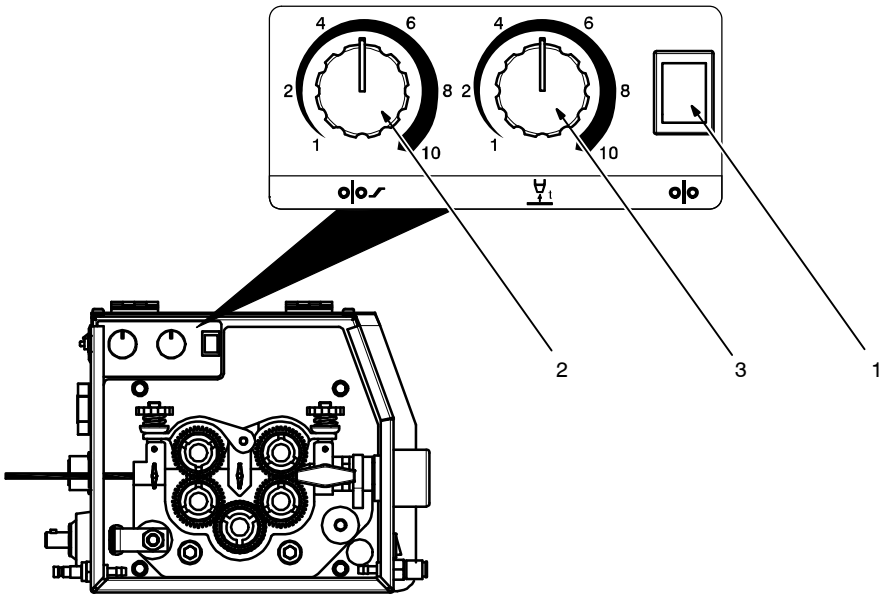
7 Water Cooling Out (Blue)

8 Welding Torch Connector

Ref. 805 230-A

5-2. Optional Side Panel Controls





1 Wire Jog Control

Use Jog position to momentarily feed welding wire at speed set on Wire Speed control without energizing welding circuit or shielding gas valve.

2 Wire Run-In Control

Use control to set wire feed speed before arc is initiated.

3 Wire Burn-Back Control

Use control to prevent wire electrode from sticking in weld pool.

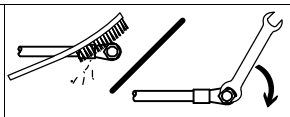
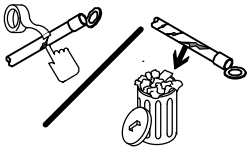
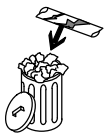
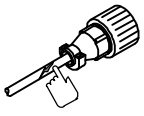
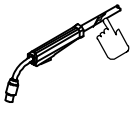
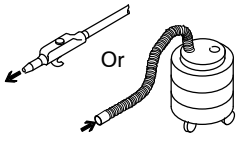
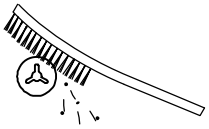
Close side door.

805 229-A

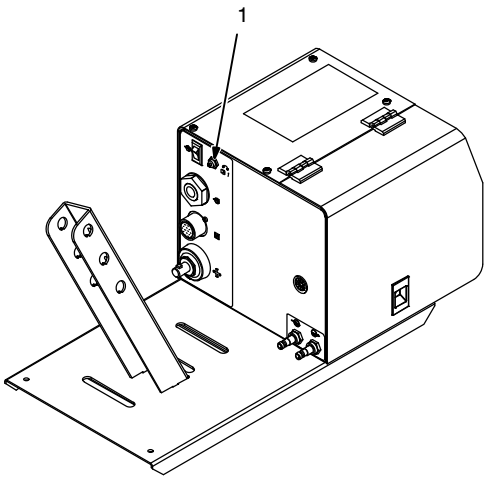
SECTION 6 – MAINTENANCE & TROUBLESHOOTING

6-1. Routine Maintenance

Disconnect power before maintaining.

	✓ = Check ● = Clean ☆ = Replace			
Every 3 Months	 ☆ Unreadable Labels	 ● Weld Terminals	 ✓☆ Weld Cable	 ☆ Cracked Parts
	 ✓ 14-Pin Cord	 ✓ Gas Hose and Fittings	 ✓ Gun Cable	
Every 6 Months	 ● Inside Unit	 ● Drive Rolls		

6-2. Overload Protection



Turn Off unit and welding power source.

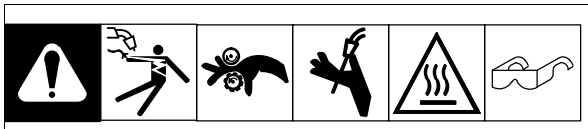
1 Circuit Breaker CB1

CB1 protects wire feeder from overload.

Correct problem and manually reset breaker.

Ref. 805 227-A

6-3. Troubleshooting



Trouble	Remedy
Wire does not feed, unit completely inoperative.	Turn Power switch On.
	Check 14−pin receptacle RC9 connections.
	Check input power.
Wire does not feed.	Check circuit breaker CB1. (see Section 6-2)
	Check gun trigger connection at wire feeder. Check gun trigger leads and trigger switch. See gun Owner's Manual.
	Have Factory Authorized Service Agent check drive motor and control board PC1.
Wire feeds erratically.	Readjust hub tension and drive roll pressure (see Section 4-8).
	Use correct size drive roll (see Parts List).
	Clean or replace dirty or worn drive roll (see Section 4-7).
	Remove weld spatter around nozzle opening.
	Replace contact tip or liner. See gun Owner's Manual.
	Have Factory Authorized Service Agent check drive motor and control board PC1.
Wire feeds when Jog switch is pressed but not when gun trigger is pressed.	Check gun trigger connection at wire feeder. Check gun trigger leads and trigger switch. See gun Owner's Manual.
Wire feeds as soon as power is applied.	Check gun trigger. See gun Owner's Manual.
Wire does not feed until trigger is pressed but continues to feed after trigger is released.	Check for short between gun trigger leads and weld cable. Repair or replace gun trigger leads.
Gas valve rattles loudly and wire feeds slowly or erratically.	Check for short between gun trigger leads and weld cable. Repair or replace gun trigger leads.
Gas does not flow; wire feeds.	Check gas valve and flowmeter.

SECTION 7 – ELECTRICAL DIAGRAM

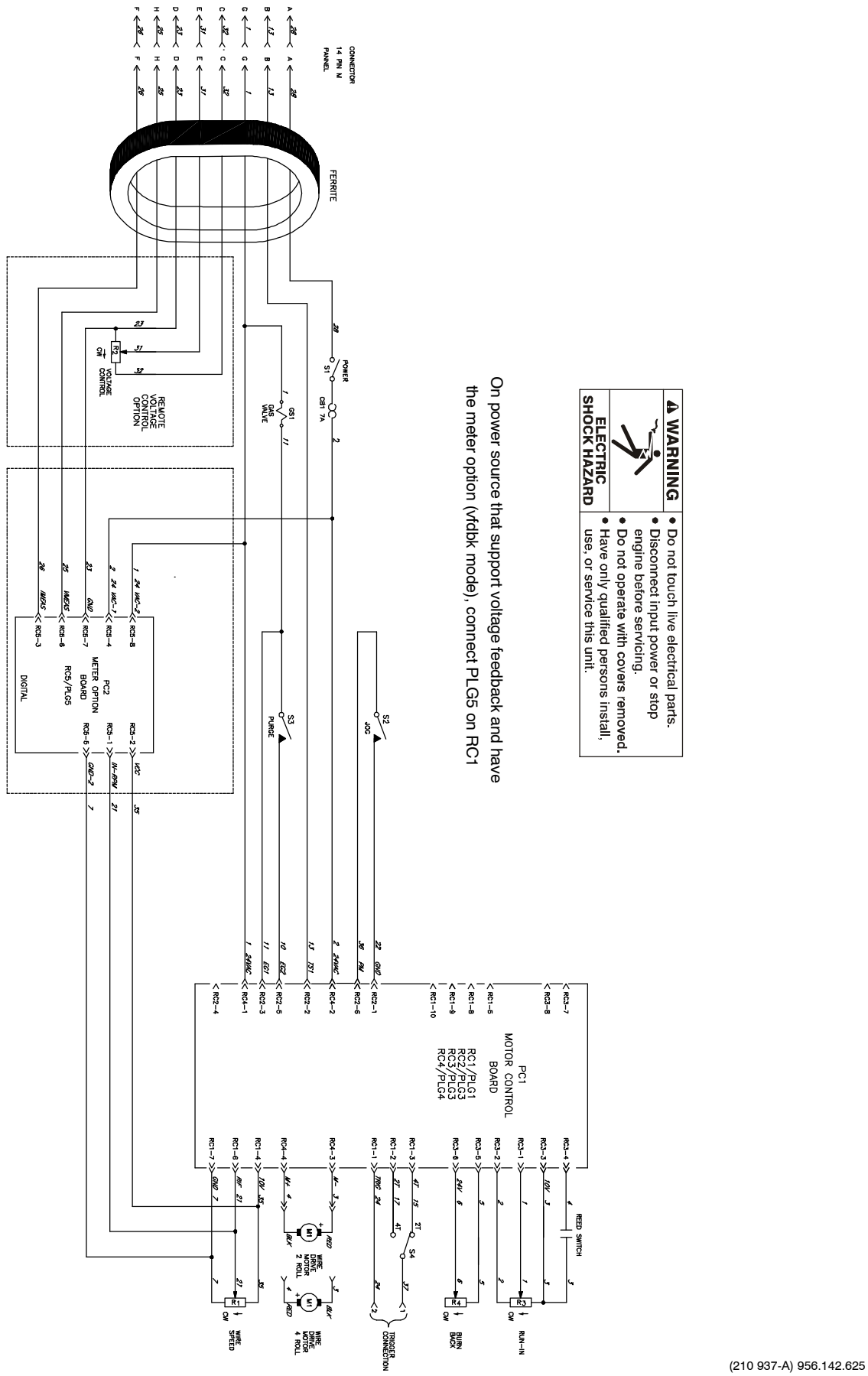


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Figure 7-1. Circuit Diagram For Wire Feeder With Optional Equipment

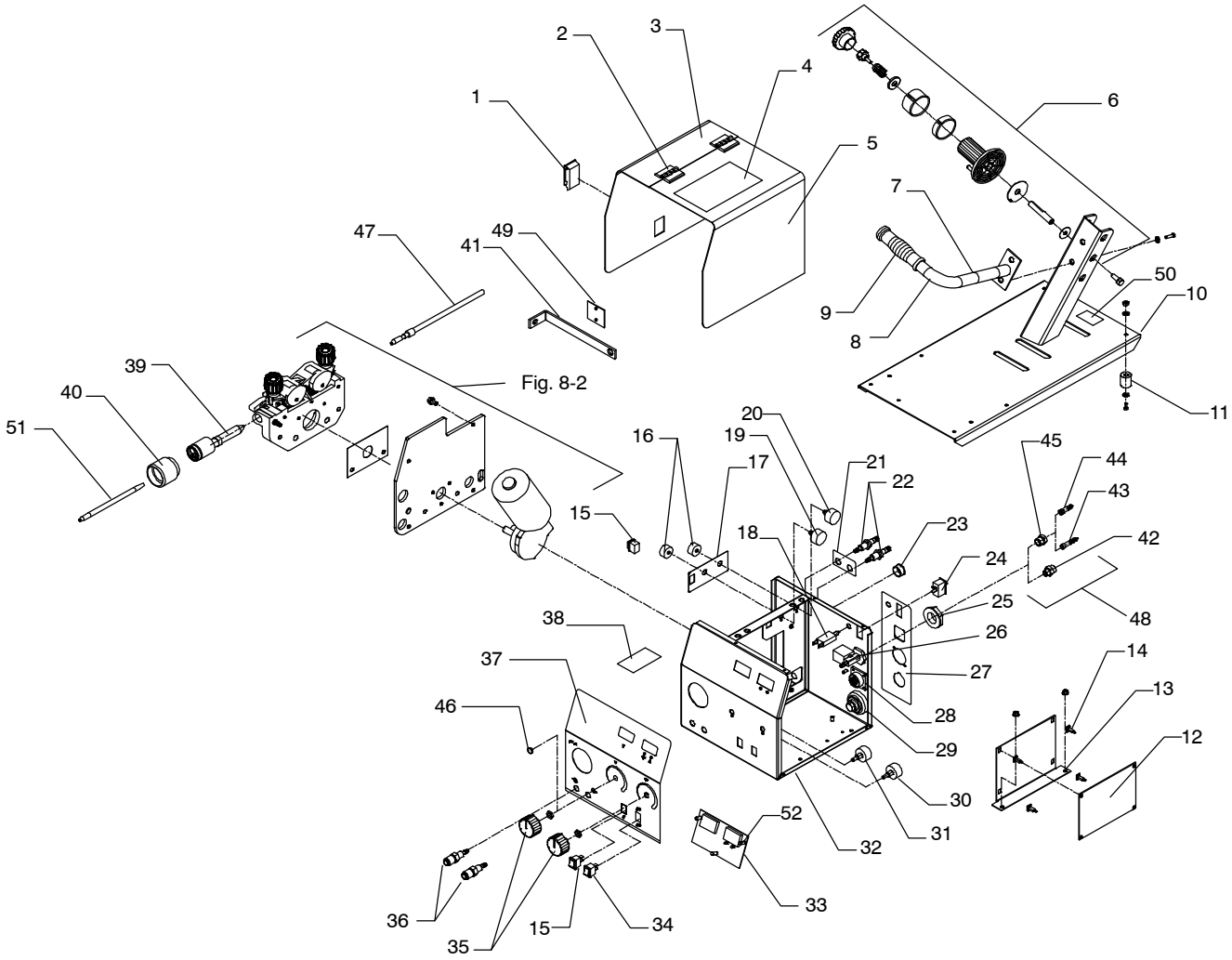

Figure 8-1. Main Assembly

Item No.	Dia. Mkgs.	Part No.	Description	Quantity ST-24w	Quantity ST-24wD
			Figure 8-1. Main Assembly		
1		151187	Latch, Slide Flush Mtg Hole 1.000 Wide X 1.500 Lg	1	1
2		156034004	Hinge,	2	2
3		156122069	Wrapper, Opening Side Panel	1	1
4		178936	Label, General Precautionary Wordless Ce Wf	1	1
5		+156121030	Wrapper, Fixed	1	1
6		057094057	Assembly, Hub And Spindle	1	1
7		156031084	Label, Caution Incorrect Lifting	1	1
8		+057070002	Handle, Lifting	1	1
9		604423	Grip, Handle	1	1
10		157026015	Base,	1	1
11		134306	Foot, Rbr 1.250 Dia X 1.375 High	4	4
12	PC1	057084124	Circuit Card Assy, Motor Speed Control	1	1
13		156005118	Support, PC1	1	1
14		134201	Stand-Off Support, PC Card	4	4
15	S2, S3	056093022	Switch, Rocker Spst	2	2
16		207076	Knob, Pointer	2	2
17		956142579	Label. Wire Run-In And Burn Back Control	1	1
18	CB1	056067273	Circuit Breaker, Man Reset 1P 6A 250 VAC (Includes Boot)	1	1
19	R4	056059277	Potentiometer, 1T 0.5W 10K Ohm	1	1
20	R3	056059277	Potentiometer, 1T 0.5W 10K Ohm	1	1
21		956142612	Label, Water Connections Rear Panel	1	1
22		556049424	Fitting. Quick Connect Water Male	2	2
23		156033034	Boot, Rubber	2	2
24	S1	111997	Switch, Rocker Spst 10A 250 VAC	1	1
25		220805	Nut, 750-14 Nps 1.48 Hex .41H Nyl	1	1
26	GS1	228036	Gas Valve, 24 VAC 1 Way .750-14 Thd 2 Mm Orf 100 Psi	1	1
27		956142607	Label, Rear Panel Terminals Power On/Off	1	1
28		056076192	Receptacle w/Pins	1	1
29		056076216	Receptacle, Twlk Insulated Male	1	1
30	R1	056059182	Potentiometer, WFS 1/T 2W 1k Ohm	1	1
31	R2	056059182	Potentiometer, WFS 1/T 2W 1k Ohm	1	1
32		117090005	Case Assembly,	1	1
33	PC2	057084129	Circuit Card Assembly, Digital Display	0	1
34	S4	056067260	Switch, Rocker Spst On-None -On .4Va 28VDC	1	1
35		207075	Knob, Pointer WFS	1	1
35		207075	Knob, Pointer RVC	0	1
36		556049423	Fitting, Quick Connect Water Female	2	2
37		356029271	Nameplate, Front ST-24w	1	0
37		356029272	Nameplate, Front ST-24wD	0	1
38		178937	Label, Warning Electric Shock and Pinch	1	1
39		♦057052039	Adapter, Gun/Feeder Euro	1	1
40		V56005028	Sleeve, Nylon Euro Connector	1	1
41		556031007	Bus Bar, Power Connection	1	1
42		057052043	Adapter, 5 /8 UNC - 3 /8 Bsp	1	1
43		057052045	Fitting, Quick Connector	1	1
44		057052044	Fitting, Hose Brs Barbed M 1/4Tbg x 5/8-18 SAE	1	1
45		156018115	Nut, 5 /8	1	1
46		656043033	Cap, Blanking Nylon RVC	1	0
47		188149	Guide, Wire Inlet	1	1
48		058066057	Kit, Gas Connection	1	1
49		057084128	Switch, Reed	1	1
50		207235	Label, Warning Tipping And Exploding Cylinder Hazards	1	1
51		156090021	Guide, Wire Outlet	1	1
52		V56008111	Stand-Off, Digital Display Board	3	3

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

♦ Euro torch models only.

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.

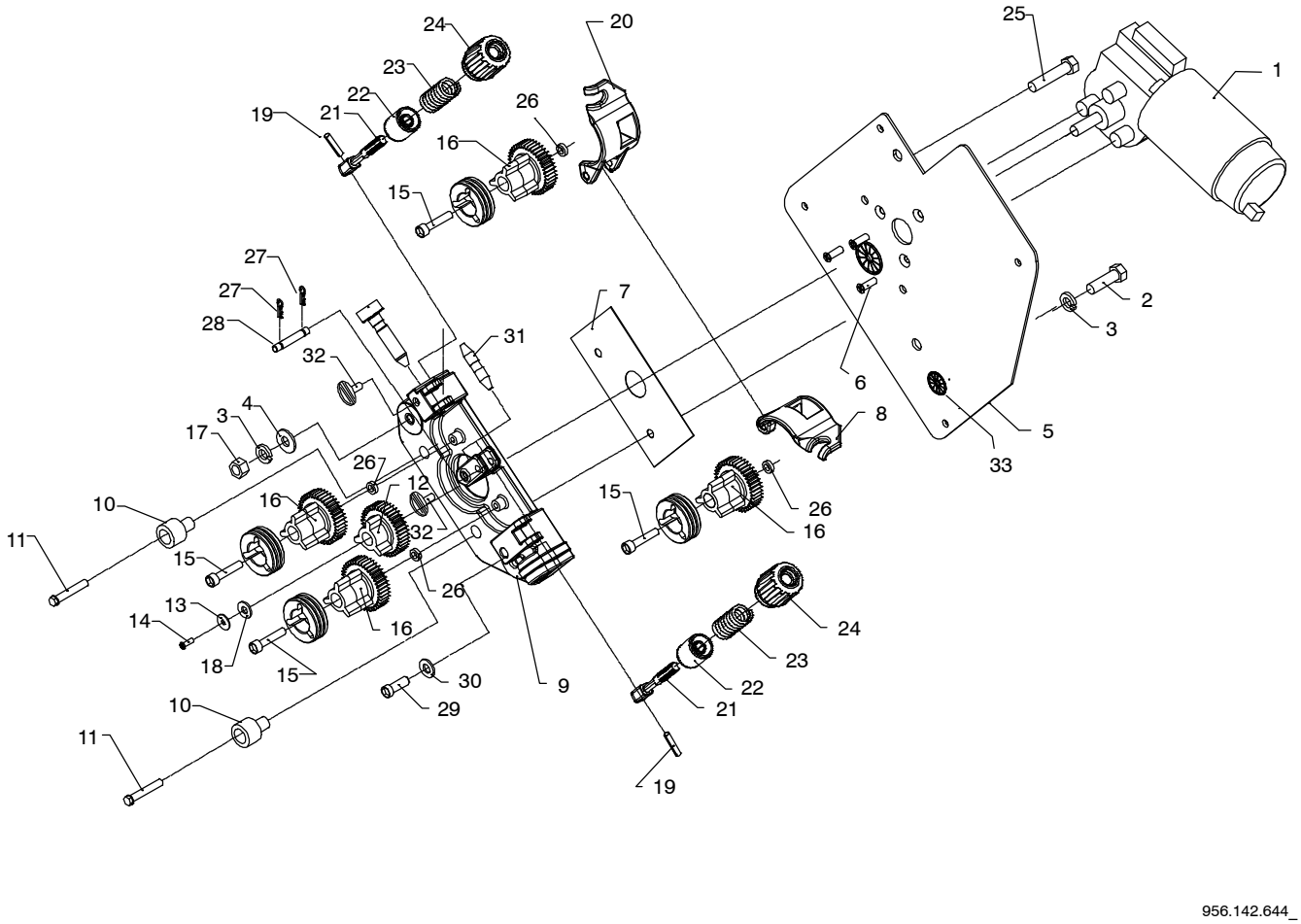

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Figure 8-2. Drive Assembly, Wire (4 Drive Roll)

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

Figure 8-2. Drive Assembly, Wire(4 Drive Roll)

1	M1	057010051	Motor, Gear 24 V 100W	1
2		601966	Screw	1
3		602213	Washer, Lock	2
4		010910	Washer, Flat	1
5		656005033	Insulator, Plate	1
6		156019746	Screw, M6 x 16	3
7		656005027	Insulator, Motor	1
8		238728	Lever, Mounting Pressure Gear	1
9		238726	Housing, Adapter Drive Motor	1
10		221654	Bushing, Insulating	2
11		156019200	Screw, M6 x 35	2
12		173618	Carrier Drive, Gear	1
13		602200	Washer, Medium Lock	1
14		124609	Screw, M4 x 12	1
15		602209	Screw, 250-20 x 1.25 Soc Hd-Hex Gr8 Pln	1
16		172075	Carrier, Drive Roll w/Component 24 Pitch	4
17		601872	Nut	1
18		156009124	Washer, D5 x 15 x 1.2	1
19		010224	Pin, Spring CS .187 x 1.000	2
20		230691	Lever, Mounting Pressure Gear	1
21		225718	Fastener, Pinned	2
22		198080	Cup, Spring	2
23		196897	Spring, CPRSN .695 Od x .095 Wire x 1.500	2
24		196895	Knob, Tension	2
25		203562	Screw	1
26		166072	Spacer, Gear	4
27		151828	Pin, Cotter Hair .042 x .750	2
28		079634	Pin, Hinge	1
29		156019804	Screw, 5/16-18 x 1 Alloy Steel Socket Head Cap Screw Plain Finish	1
30		156009145	Washer, Flat	1
31		056207	Guide, Wire Intermediate Brass .045 - .052	1
32		054263	Screw, Thumb	2
33		756033039	Bushing, Snap-in D 22.9	1

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

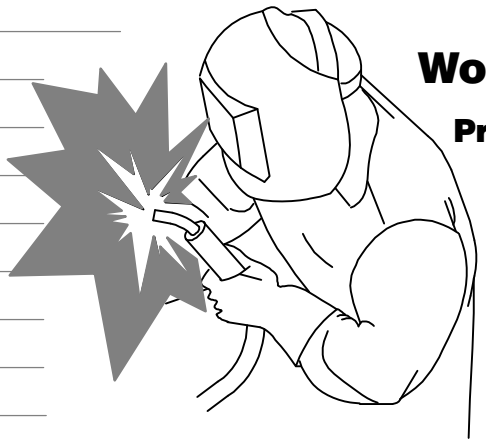
Table 8-1. Drive Roll And Wire Guide Kits (4 Drive Roll)

☞ *Base selection of drive rolls upon the following recommended usages:*

1. *V-Grooved rolls for hard wire.*
2. *U-Grooved rolls for soft and soft shelled cored wires.*
3. *U-Cogged rolls for extremely soft shelled wires (usually hard surfacing types).*
4. *V-Knurled rolls for hard shelled cored wires.*
5. *. Drive roll types may be mixed to suit particular requirements (example: V-Knurled roll in combination with U-Groved)>*

Wire Diameter			Kit No.	Drive Roll		Wire Guide	
Metric	**Fraction**	**Decimal**		**Part No.**	**Type**	**Inlet**	**Intermediate**
0.6 mm	0.023/0.025 in	0.023/0.025 in	087 132	087 130	V-Grooved	056 192	056 206
0.8 mm	0.030 in	0.030 in	046 780	053 695	V-Grooved	056 192	056 206
0.9 mm	0.035 in	0.035 in	046 781	053 700	V-Grooved	056 192	056 206
1.0/1.2 mm	0.035/0.045 in	0.035/0.045 in	N/A	189 285	V-Grooved	156 193	056 207
1.0 mm	0.040 in	0.040 in	191 917	053 696	V-Grooved	056 192	056 206
1.2 mm	0.045 in	0.045 in	046 782	053 697	V-Grooved	056 193	056 207
1.6 mm	1/16 in	0.062 in	046 784	053 699	V-Grooved	056 195	056 209
0.9 mm	0.035 in	0.035 in	044 750	072 000	U-Grooved	056 192	056 206
1.2 mm	0.045 in	0.045 in	046 785	053 701	U-Grooved	056 193	056 207
1.3 mm	0.052 in	0.052 in	046 786	053 702	U-Grooved	056 193	056 207
1.6 mm	1/16 in	0.062 in	046 787	053 706	U-Grooved	056 195	056 209
0.9 mm	0.035 in	0.035 in	046 782	132 958	V-Knurled	056 192	056 206
1.2 mm	0.045 in	0.045 in	046 793	132 957	V-Knurled	056 193	056 207
1.3 mm	0.052 in	0.052 in	046 794	132 956	V-Knurled	056 193	056 207
1.6 mm	1/16 in	0.062 in	046 795	132 955	V-Knurled	056 195	056 209
1.8 mm	0.068-0.072 in	0.068-0.072 in	089 985	132 959	V-Knurled	056 195	056 209
1.2 mm	0.045 in	0.045 in	083 319	083 489	U-Cogged	056 193	056 207
1.3 mm	0.052 in	0.052 in	083 320	083 490	U-Cogged	056 193	056 207
1.6 mm	1/16 in	0.062 in	046 800	053 708	U-Cogged	056 195	056 209

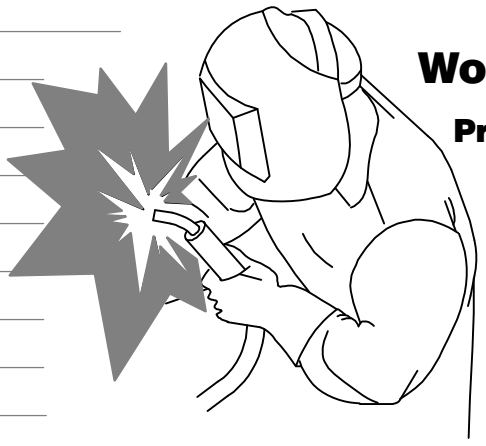
Notes



Work like a Pro!

Pros weld and cut safely. Read the safety rules at the beginning of this manual.

Notes



Work like a Pro!

Pros weld and cut safely. Read the safety rules at the beginning of this manual.

Warranty Questions?

Call your ITW Welding Regional Office.

TRUE BLUE® WARRANTY

Effective January 1, 2020
(Equipment with a serial number preface of NA or newer)

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

LIMITED WARRANTY – Subject to the terms and conditions below, Miller Electric Mfg. LLC, Appleton, Wisconsin and ITW Welding (hereafter referred to as Miller) warrant to authorized distributors that new Miller equipment sold after the effective date of this limited warranty is free of defects in material and workmanship at the time it is shipped by Miller. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

Within the warranty periods listed below, Miller will repair or replace any warranted parts or components that fail due to such defects in material or workmanship. Miller must be notified in writing within thirty (30) days of such defect or failure, at which time Miller will provide instructions on the warranty claim procedures to be followed. Notifications submitted as online warranty claims must provide detailed descriptions of the fault and troubleshooting steps taken to diagnose failed parts. Warranty claims that lack the required information as defined in the Miller Service Operation Guide (SOG) may be denied by Miller.

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

1. 5 Years Parts — 3 Years Labor
   * Original Main Power Rectifiers Only to Include SCRs, Diodes, and Discrete Rectifier Modules
2. 3 Years — Parts and Labor Unless Specified
   * Auto-Darkening Helmet Lenses (No Labor) (See Classic Series Exception Below)
   * Engine Driven Welder/Generators **(NOTE: Engines are Warranted Separately by the Engine Manufacturer.)**
   * Insight Welding Intelligence Products (Except External Sensors)
   * Inverter Power Sources
   * Plasma Arc Cutting Power Sources
   * Process Controllers
   * Semi-Automatic and Automatic Wire Feeders
   * Transformer/Rectifier Power Sources
3. 2 Years — Parts and Labor
   * Auto-Darkening Helmet Lenses – Classic Series Only (No Labor)
   * Auto-Darkening Weld Masks (No Labor)
   * Fume Extractors – Capture 5, Filtair 400 and Industrial Collector Series
4. 1 Year — Parts and Labor Unless Specified
   * ArcReach Heater
   * AugmentedArc and LiveArc Welding Systems
   * Automatic Motion Devices
   * Bernard BTB Air-Cooled MIG Guns (No Labor)
   * CoolBelt (No Labor)
   * Desiccant Air Dryer System
   * Field Options **(NOTE: Field options are covered for the remaining warranty period of the product they are installed in, or for a minimum of one year — whichever is greater.)**
   * RFCS Foot Controls (Except RFCS-RJ45)
   * Fume Extractors – Filtair 130, MWX and SWX Series, ZoneFlow Extraction Arms and Motor Control Box
   * HF Units
   * ICE/XT Plasma Cutting Torches (No Labor)
   * Induction Heating Power Sources, Coolers **(NOTE: Digital Recorders are Warranted Separately by the Manufacturer.)**
   * Load Banks
   * Motor-Driven Guns (except Spoolmate Spoolguns)
   * PAPR Blower Unit (No Labor)
   * Positioners and Controllers
   * Racks (For Housing Multiple Power Sources)
   * Running Gear/Trailers
   * Subarc Wire Drive Assemblies
   * Supplied Air Respirator (SAR) Boxes and Panels
   * TIG Torches (No Labor)
   * Tregaskiss Guns (No Labor)
   * Water Cooling Systems
   * Wireless Remote Foot/Hand Controls and Receivers
   * Work Stations/Weld Tables (No Labor)
5. 6 Months — Parts
   * Batteries
6. 90 Days — Parts
   * Accessories (Kits)
   * ArcReach Heater Quick Wrap and Air Cooled Cables
   * Canvas Covers
   * Induction Heating Coils and Blankets, Cables, and Non-Electronic Controls
   * MDX Series MIG Guns
   * M-Guns
   * MIG Guns, Subarc (SAW) Torches, and External Cladding Heads
   * Remote Controls and RFCS-RJ45
   * Replacement Parts (No labor)
   * Spoolmate Spoolguns

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

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

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

The exclusive remedies for warranty claims are, at Miller's option, either: (1) repair; or (2) replacement; or, if approved in writing by Miller, (3) the pre-approved cost of repair or replacement at an authorized Miller service station; or (4) payment of or credit for the purchase price (less reasonable depreciation based upon use). Products may not be returned without Miller's written approval. Return shipment shall be at customer's risk and expense.

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

This Limited Warranty provides specific legal rights, and other rights may be available, but may vary by country.

Owner's Record

Please complete and retain with your personal records.

Model Name Serial/Style Number

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

Distributor

Address

Country Zip/Postal Code

For Service

Contact a DISTRIBUTOR or SERVICE AGENCY near you.

Always provide Model Name and Serial/Style Number.

Contact your Distributor for:

- Welding Supplies and Consumables
- Options and Accessories
- Service and Repair
- Replacement Parts
- Owner's Manuals

Contact the Delivering Carrier to:

File a claim for loss or damage during shipment.

For assistance in filing or settling claims, contact your distributor and/or equipment manufacturer's Transportation Department.

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