

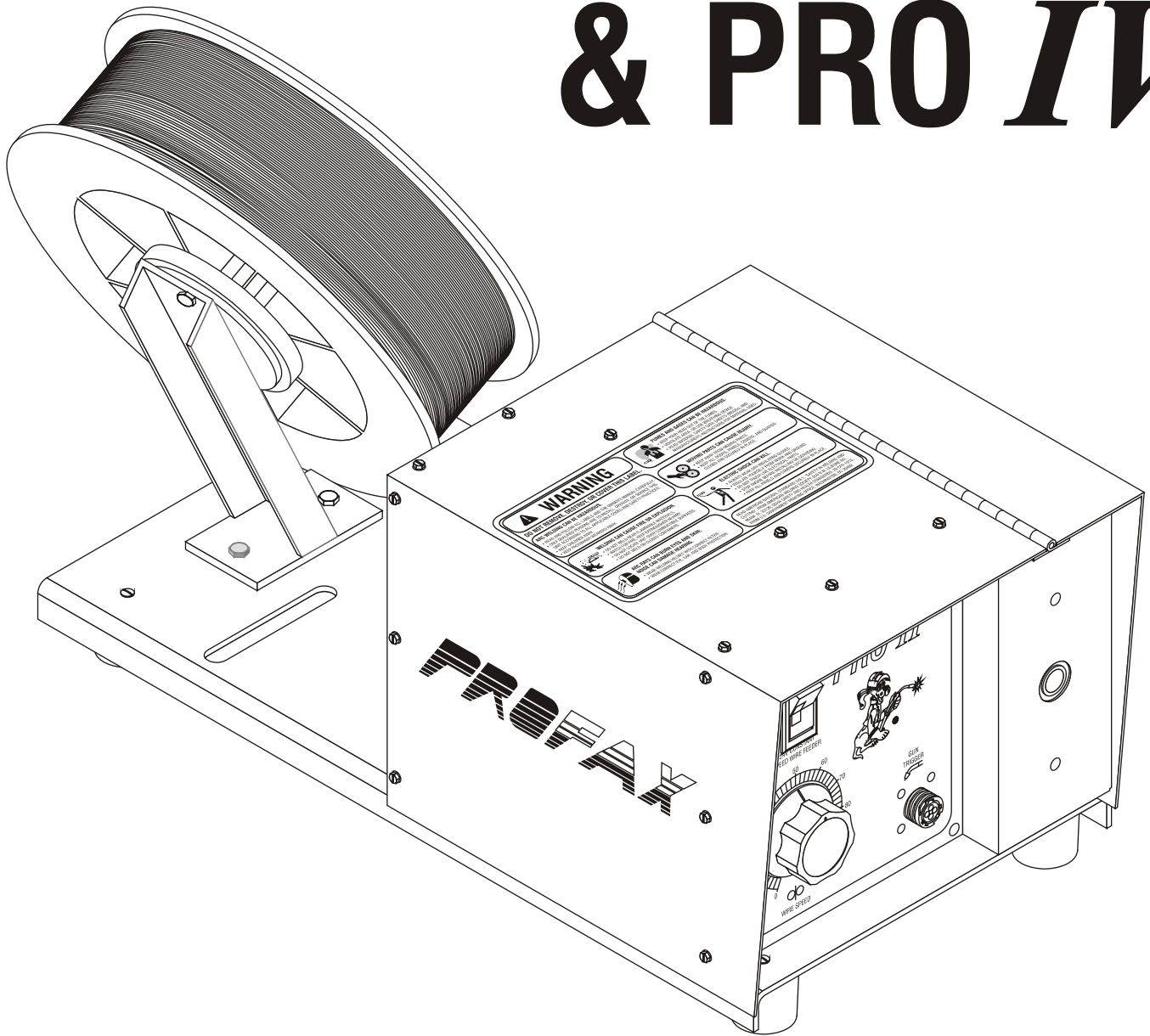


PROFAK®

PRO II

JANUARY 2005 EFFECTIVE
WITH SERIAL NUMBER
PRO II A-1001
PRO IV A-5001

& PRO IV



OWNER'S MANUAL



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***AVAILABLE THROUGH YOUR
WELDING SUPPLY DISTRIBUTOR***



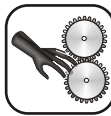
Safety Section 1



- ALERT**  - Read carefully - used with warning and caution words
- WARNING**  - Serious injury or death can happen
- CAUTION**  - Minor injury or equipment damage can happen
- NOTE**  - Gives instructions for proper operation of equipment.



Electrical shock can kill



Moving parts can main



Hot parts can burn



Smoke, fumes, and gases



Falling equipment can injure



Flying debris can injure eyes



Arc rays, molten materials, and sparks



Electromagnetic fields



Welding wire can puncture skin



Welding can cause fires



Cylinders can explode

IMPORTANT - PROTECT YOURSELF AND OTHERS! REMEMBER THAT SAFETY DEPENDS ON YOU.

The operator, supervisor, and helper must read and understand all warning and safety information provided in these instructions. **Serious injury or death** could result if welding and cutting equipment is not properly installed, used, and maintained. Training and proper supervision are most important for a safe work place. Installation, operation, repair work, and maintenance must be performed by qualified personnel. Retain these instructions for future use. Additional recommended safety and operating information is referenced in each section.



ELECTRICAL SHOCK CAN CAUSE INJURY OR DEATH

Electrical equipment must be installed and maintained in accordance with the National Electrical Code, NFPA 70, and all local codes. Maintain Mig-Guns, Electrode Holders, Tig Torches, Plasma Torches, Work Clamp, Welding Cable, and Welding Machines in good, safe operating condition. Replace worn or damaged insulation. Do not try to repair or service equipment while the power is still on. Do not service or repair equipment unless you are trained and qualified to do so. The Electrode and Work (or Ground) circuits are electrically "HOT" when equipment power is on. At no time should you touch the Electrode and Electrical Ground at the same time with bare skin or wet clothing while the power is on. Insulate yourself from work and ground using dry insulation. When welding in damp locations make certain the insulation is large enough to cover your full area of physical contact with work and ground. Ground the work (metal to be welded) to a good electrical earth ground. Keep gas cylinders, chains, wire ropes, hoists, cranes, and elevators away from any part of the electrical path. Always be sure the work cable makes a good electrical connection with the metal being welded. Occasionally check all ground connections to determine if they are mechanically strong and electrically adequate for the current required. The ground connection should be as close as possible to the area being welded. Never touch electrically "HOT" parts of electrode holders connected to two welding power sources at the same time. The voltage between the two can be the total of the open circuit voltage of both power sources. When the welding or cutting process requires values of open circuit voltages in alternating current machines higher than 80 volts, and direct current machines higher than 100 volts, adequate insulation or other means must be provided to prevent the operator from making accidental contact with the high voltage. The use of reliable automatic controls for reducing no load voltage is recommended to reduce shock hazard. When not welding for any substantial period of time, make certain that no part of the electrode circuit will accidentally make contact with the work or ground. Never immerse Mig-Guns, Electrode Holders, Tig Torches, Plasma Torches, or Electrodes in water for cooling.

REFERENCES: See Safety and Operating References A,F,H, and I.



Safety



SMOKE, FUMES, AND GASES CAN BE DANGEROUS TO YOUR HEALTH

Keep smoke, fumes, and gases from your breathing zone and the general area. Smoke, fumes, and gases from the welding or cutting process are of various types and strengths, depending on the kind of base metal being welded on. To ensure your safety, do not breathe these fumes or gases.

Ventilation must be adequate to remove smoke, fumes, and gases during the welding procedure to protect operators and others in the immediate area. Do not weld in locations where chlorinated hydrocarbon vapors are coming from degreasing, cleaning, or spraying operations. Vapors of chlorinated solvents can form the toxic gas "phosgene" when exposed to ultraviolet radiation from an electric arc. All solvents, degreasers, and potential sources of these vapors must be removed from the welding area. Shielding gases used for arc welding can displace air and cause injury or death. Fumes produced by welding or cutting, especially in confined areas, can cause discomfort and physical harm if inhaled over an extended period of time.

Always provide adequate ventilation in the welding and cutting area to insure breathing air is safe. Use air-supplied respirators if ventilation is not adequate to remove all fumes and gases. **Never Ventilate with Oxygen**, because oxygen supports and vigorously accelerates fire.

REFERENCES: See Safety and Operating References A,B,C,H, and I.



ARC RAYS, MOLTEN MATERIAL, AND SPARKS CAN CAUSE EYE AND SKIN INJURY

Always wear approved eye, ear, and body protection. Remove any and all combustible material from the work area. Never attempt to weld or cut without a proper head shield, and lens, that conforms to federal guidelines. A number 12 to 14 shade filter lens provides the best protection from arc radiation. A cover plate protects your eyes from sparks. Protect other nearby personnel from arc rays, sparks, or molten material. Use approved shielding curtains and appropriate goggles. Warn them not to watch the arc or expose themselves to arc rays, sparks, or molten material.

Always wear protective clothing and gloves which will not allow skin to become exposed to arc rays, heat, or molten material. Wear ear plugs to protect ears from sparks. Flammable hair preparations should not be used when welding or cutting. If possible, welding should be done in a booth that has been painted with an ultraviolet absorbing material such as zinc oxide and a low reflective finish such as lamp black, or shall be enclosed by similarly painted and noncombustible screens.

REFERENCES: See Safety and Operating References A,B,H, and I.



WELDING SPARKS CAN CAUSE FIRES AND EXPLOSIONS

Remove any and all combustible materials from the work area. If this is not possible, cover them to prevent the welding sparks from starting a fire.

Fires & explosions are caused by any combustibles reached by the arc, flame, flying sparks, hot slag, or heated materials. Do not wear any gloves or clothing that has oil or a fuel type material on it. Always have a properly working and OSHA approved Fire Extinguisher near and be sure everyone has proper training in its use.

Do not weld, heat, or cut drums or containers that have held combustibles. All hollow spaces, cavities, and containers should be vented prior to cutting, welding, or heating for they may explode. Make sure proper steps have been taken to insure that venting procedures will not form flammable or toxic vapors from substances inside containers. Purging with inert gas is recommended. Use only inert gases or inert gas mixes as required by the process.

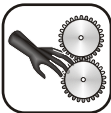
Special precautions should be used to prevent hazardous situations when using compressed gas. Use of combustible compressed gases can cause explosions resulting in personal injury or death. **Never Use Oxygen for Cleaning or Purging**. Arcing against any compressed gas cylinder can cause cylinder damage or explosion. Read and follow the instructions on compressed gas cylinders, Associated Equipment, and CEA Publication P-1, "Precautions for safe handling of compressed gases in Cylinders" available from the Compressed Gas Association, 1235 Jefferson Davis Hwy, Arlington, Va. 22202.

REFERENCES: See Safety and Operating References A,D,E,F,G, and H.



FALLING EQUIPMENT

Lift only the unit to be moved without any running gear, accessories or gas cylinders that may be attached to it. Use equipment of a proper size to lift and move the unit. Falling equipment can cause personal injury and equipment damage.



MOVING PARTS MAY CAUSE INJURY

Have only qualified people remove guards or covers for performing maintenance and troubleshooting. Moving parts such as cooling fans can maim fingers or hands and catch loose clothing. Keep tools, hands, hair and clothing away from moving parts. Be sure to reinstall all panels and guards before operating equipment.



"EMF" ELECTRO MAGNETIC FIELDS

The study of the biological effects of low frequency electric and magnetic fields does not yet let us interpret the results in a single coherent context. However, there now seems to be an extremely large amount of scientific analysis based on experimentation, at the cellular level and from studies on animals and humans, that clearly show low frequency magnetic fields interacting with and producing changes in biological systems. Current scientific understanding of the evidence does not allow definite conclusions concerning advise on avoiding risks. Therefore, the current procedures recommended for *pacemaker users are also recommended for all humans and other biological systems. To reduce the effects of low frequency electric and magnetic fields, use the following recommendations:

1. Welding cables should be kept close together by twisting or taping together.
2. Draping or coiling welding cables around the body should be avoided.
3. Welding cables should be kept away from the operator to one side.
4. Work clamp should be connected as close as possible to the area being welded.
5. Operator should not be between the work clamp and the location of the weld being made.
6. Welding power source and cables should be kept as far away as practically possible.

*Note: Pacemaker Wearers - Consult your doctor for complete information.

REFERENCES: See Safety and Operating Reference J.



CYLINDERS

Shielding gas cylinders are under high pressure and if damaged can explode. Protect from welding and electrical arcs, excessive heat and mechanical shocks. Secure cylinders in an upright position by changing to a cylinder rack or stationary support. Use only the correct shielding gas for the process. Never use unmarked cylinders or rely on color markings to denote contents. Keep cylinder caps securely on cylinders unless in use. Turn face away when opening a cylinder valve. Open cylinder valves slowly then backseat or fully open valve to prevent valve body leaks. Use regulators and hose of a sufficient type for the compressed gas used. Never connect a regulator to a cylinder with a gas it is not compatible with. Do not transfill cylinders and keep valves closed and cylinder caps installed on empty cylinders. Never use a cylinder for other than its intended use.

REFERENCES: See Safety and Operating Reference G.



HOT PARTS

Hot parts can cause serious burns. The area at and near the work being welded should be handled with proper gloves. Proper clothing should be worn to prevent spatter or chipped slag from causing burns. Never pick up welded material until it has properly cooled.

REFERENCES: See Safety and Operating References A, B, H, & I.



FLYING DEBRIS CAN INJURE EYES

Wearing proper eye protective lenses can prevent debris from damaging the eye. Wear safety glasses with side shields or face shields.

REFERENCES: See Safety and Operating References B.



WELDING WIRE CAN PUNCTURE SKIN

Position the unit away from any part of the body, other people, and metal when threading.

REFERENCES: See Safety and Operating References A.

Safety and Operating References

- A) ANSI Z49.1, "Safety in Welding and Cutting"
- B) ANSI Z87.1, "Practice for Occupational and Educational Eye and Face Protection"
- C) ANSI Z88.2, "Standard Practice for Respiratory Protection"
ANSI: American National Standard Institute, 1430 Broadway, New York, NY 10018
- D) AWS F4.1, "Recommended Safe Practices for Welding and Cutting Containers"
AWS: The American Welding Society, P.O. Box 351040, 550 NW Lejeune Rd., Miami, FL 33135
- E) NFPA 51B, "Fire Prevention in Cutting and Welding Processes"
- F) NFPA-70, "National Electrical Code"
NFPA: National Fire Protection Association, Batterymarch Park, Quincy, MA 02269
- G) CGA P-1, "Precautions for Safe Handling of Compressed Gases in Cylinders"
CGA: Compressed Gas Association, 1235 Jefferson Davis Hwy., Arlington, Va 22202
- H) Code of Federal Regulations (OSHA) 29 CFR 1910
US: U.S. Government Printing Office, Washington, DC 20402
- I) CSA Standard W117.2, "Safety in Welding, Cutting and Allied Processes"
CSA: Canadian Standards Association, 178 Rexdale Blvd., Rexdale, Ontario, Canada M9W 1R3
- J) OTA-BP-E-53 Biological Effects of Power Frequency Electric & Magnetic Fields - Background Paper US Congress,
Office of Technology Assessment, General Conclusions Section, Washington D.C: US Government Printing Office, May 1989.



Section 2 Specifications & Warranty



SPECIFICATIONS

| | | |
|--|---|--|
| Type of input power required from power source. | Single-Phase 24 VAC, 7 Amperes, 50/60 Hertz. (If the power source has only 115 VAC power available, use the optional (St./No. 9045) 115/24 VAC transformer) | |
| Maximum weld circuit rating. | 100 Volts, 500 Amperes, 100% Duty Cycle | |
| Required welding power source. | (CV) Constant Voltage with contactor | |
| Wire feed speed | 30 to 650 IPM | |
| Wire size range | .023 (.6mm) to 1/16 in. (1.6mm) | |
| Dimensions | Length: 20 in. (508mm) x Width: 10 in. (254mm) x Height 11 in. (279mm) | |
| Weight | PRO II Net: 28 lbs. (12.7 Kg.) PRO IV Net: 30 lbs. (13.6 Kg.) (Add 4 lbs. (1.8 Kg.) if optional 115/24V transformer (p/n 9045) is factory installed.) | Ship: 30 lbs. (13.6 Kg.) Ship: 32 lbs. (14.5 Kg.) |

WARRANTY

LIMITED WARRANTY - Subject to the terms and conditions hereof, **PROFAX**, Pearland, TX warrants its products to be free from defects in workmanship and material at the time of delivery by **PROFAX**.

PROFAX will honor warranty claims on products as a result of failure from a defect for a time period as listed below for the particular product line, from date of sale to the original user.

| | |
|---|----------------------------------|
| Consumable products manufactured by PROFAX | 30 days |
| Contactors, Meters and Resale consumable products | Original Manufacturer's Warranty |
| Mig Guns, Flux Cored Guns, and Spool Guns | 90 days |
| Gouging, Plasma, Tig Torches and CO ₂ Heaters | 90 days |
| Control, Extension, Interconnect and Adapter Cords | 90 days |
| Twist-lock, Multi-pin Plugs, and Connectors | 90 days |
| Esab [®] , Lincoln [®] , Miller [®] and PROFAX Drive Rolls | 90 days |
| Remote Fingertip, Hand and Foot Controls | 90 days |
| Fan Motors, Rheostats, Diodes and Brushes | 90 days |
| Spool Gun Controls | 1 year |
| Pro II Tig | 1 year |
| Welding Power Sources and Wire Feeders | 3 years |

Shelf Life before Warranty Starts 1 year

Upon the return of the merchandise at user's expense, **PROFAX** reserves the right to either repair or replace as necessary.

This is the only warranty either expressed or implied covering our products.

MAILING

P.O. Box 898
Pearland, TX 77588-0898

SHIPPING

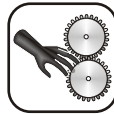
1603 North Main
Pearland, TX 77581-2803



Section 3 Installation



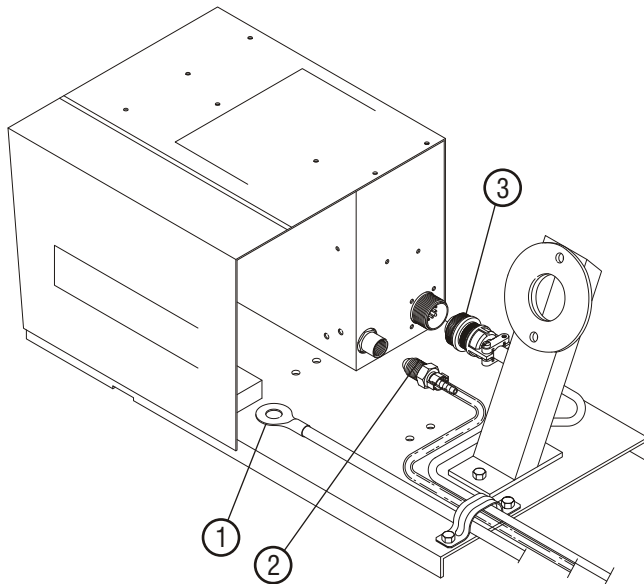
CAUTION!



NOTE: ➡

Read and understand the safety information in Section 1 before attempting installation.

CONNECTING THE WIRE FEEDER

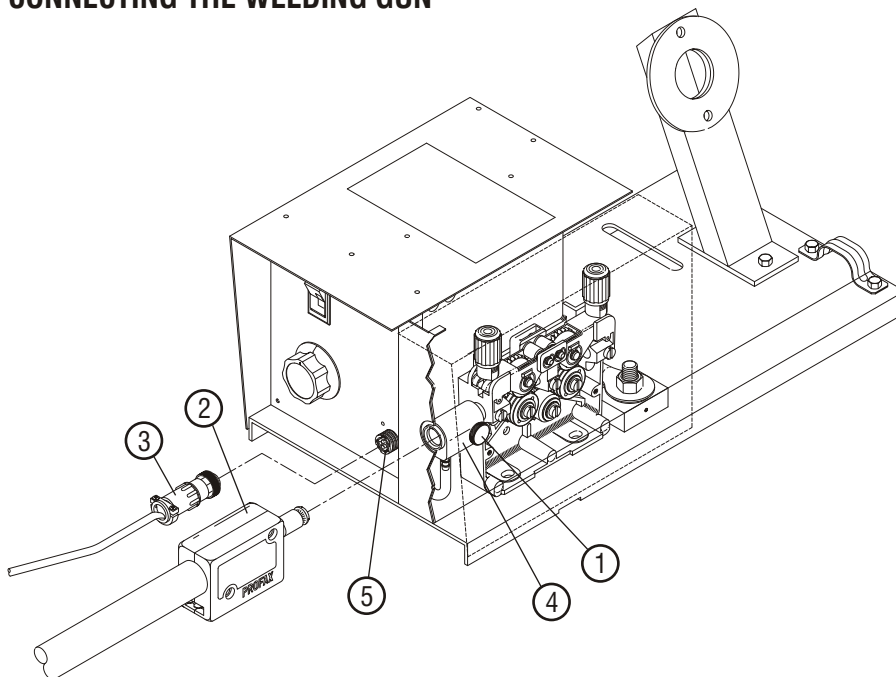


Note: Route all cables and hoses through cable clamp.

1. Attach weld cable from power source to power block.
2. Attach gas hose from flowmeter regulator to gas inlet fitting. (5/8-18 right hand inert gas)
3. Attach control cable from power source to RC1 receptacle.

SEE SECTION 4 FOR DRIVE ROLL AND CONTROL CABLE SELECTION

CONNECTING THE WELDING GUN

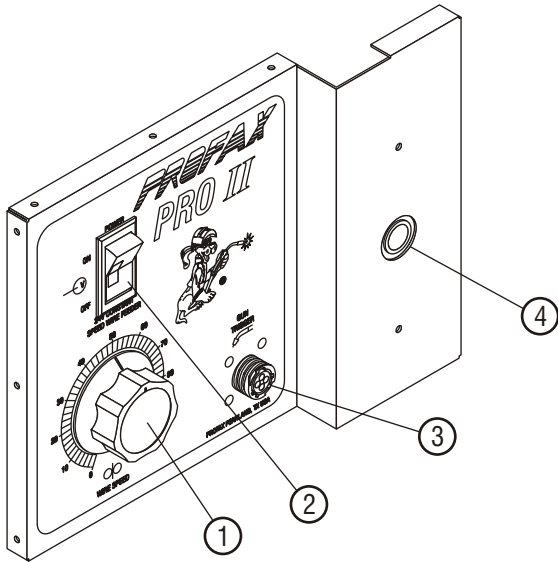


1. Gun Securing Thumbscrew
2. Trigger Plug
3. Connector Plug
4. Adapter Block
5. Trigger Plug Receptacle

Loosen the gun securing thumbscrew on the side of the adapter block. Insert the mig gun connector plug fully into the adapter block. Secure by tightening the gun securing thumbscrew. Connect the trigger plug to the trigger plug receptacle by aligning the plug until it inserts into the receptacle then turning the plug collar to the right to lock in place.

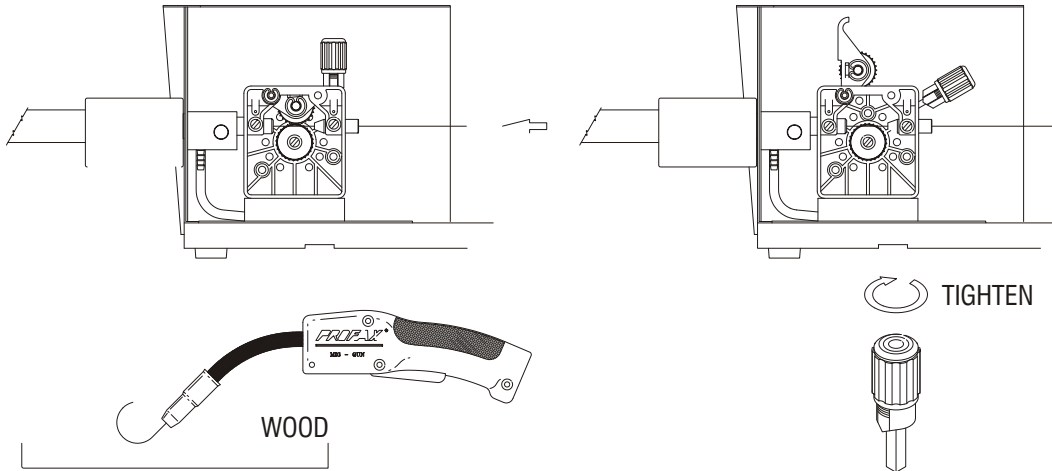


CONTROL PANEL



1. Wire Speed Control
2. Power Switch and Power "ON" Light
3. Trigger Receptacle
4. Mig Gun Receptacle

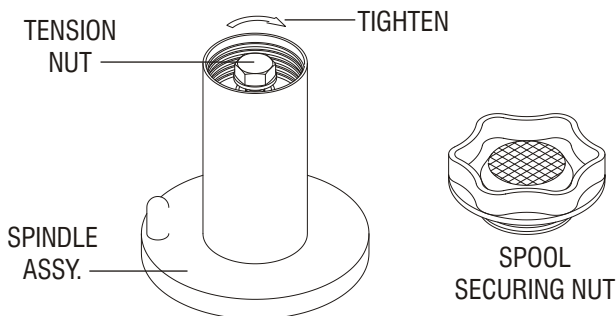
THREADING WELDING WIRE AND ADJUSTING TENSION



1. Release pressure arm(s) by sliding the tension adjustment lever(s) down.
2. Route the welding wire through the inlet guide across the drive roll(s) and into the outlet guide. Slide at least six inches of wire into the outlet guide.
3. Close pressure arm(s) and secure by sliding the tension adjustment lever(s) up until locked in place.
4. Remove the mig gun contact tip.
5. Holding the mig gun out straight, feed the welding wire through the mig gun by using the gun trigger.
6. Reinstall the contact tip.
7. To adjust drive roll pressure - hold the mig gun no less than four inches up from a wood surface. Press the gun trigger to feed wire and tighten the wire tension adjustment knob to the point where the wire does not slip.
8. Cut off wire and close cover.

NOTE: Too much wire tension will **damage motor, cause erratic feeding** and **excessively wear drive rolls**

SPOOL BRAKE ADJUSTMENT

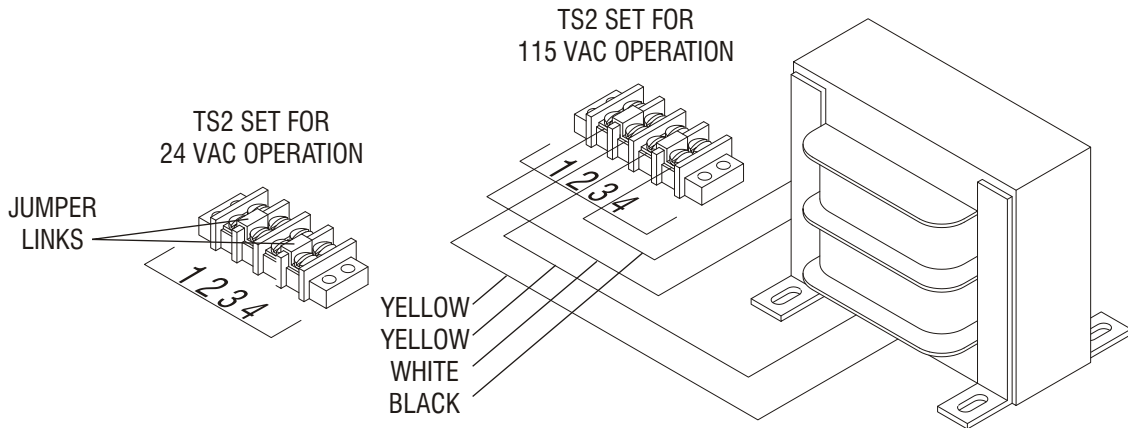


1. Tension should be adjusted with wire spool on feeder.
2. Remove wire spool securing nut.
3. Turn the tension adjustment nut to the right to increase braking tension.
4. Adjust until a slight force is felt as you turn the spool by hand.
5. Install wire spool securing nut.

NOTE: ⇨ Too much brake tension will cause **erratic feeding**.



OPTIONAL 115/24 VAC TRANSFORMER INSTALLATION



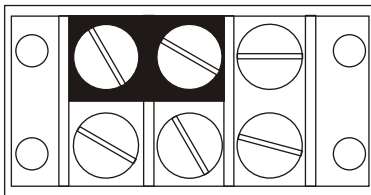
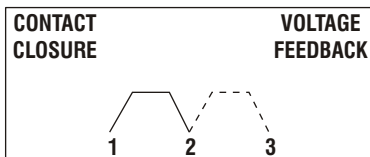
1. Remove hinged cover.
2. Locate TS2 terminal strip.
3. Remove the two jumper links from TS2.
4. Install the 115/24 VAC transformer (St./No. 9045) onto it's mounting holes using the supplied four 8/32 screws, washers, lockwashers and nuts.
5. Cut the transformer wires back so as to neatly reach their respective TS2 terminal listed in step 6.
6. Install the supplied spade wire terminals to the transformer wires.
7. Connect the transformer wires to terminal strip TS2 as follows:

| | | |
|--------|----|------------|
| White | to | Terminal 1 |
| Yellow | to | Terminal 2 |
| Yellow | to | Terminal 3 |
| Black | to | Terminal 4 |
8. Install the hinged cover making sure not to trap and or pinch any wiring.

CAUTION!

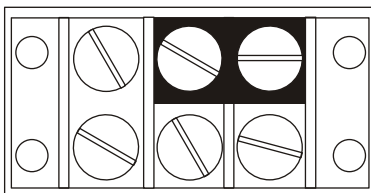
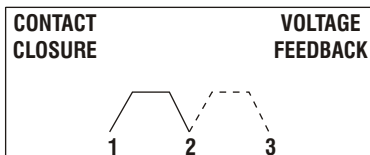
Jumper links on TS2 must be removed when installing the 9045 115V transformer option. Failure to remove links will cause the pc board to fail and void warranty.

TS1 CONTACTOR TERMINAL STRIP OPERATION



CONTACT CLOSURE OPERATION

This setting is for welding power sources that require a normally open set of contacts to operate the contactor. When the normally open set of contacts on K1 relay close it completes the circuit and energizes the contactor. Pins F and E on RC1 will give contact closure operation by the wire feeder when the TS1 jumper is from terminal 1 to 2.



VOLTAGE FEEDBACK CONTACTOR OPERATION

This setting is for power sources that require voltage feedback to operate the contactor. When K1 relay closes voltage will be sent back to the welding power source to energize the contactor. This setting is normally used with the 115/24 VAC transformer option (St./No. 9045) to send 115 VAC back to the welding power source to operate the contactor circuit. Pins F and B on RC1 will give voltage feedback operation by the wire feeder when the TS1 jumper is from terminal 2 to 3.



Section 4 Charts & Tables



DRIVE ROLL, KIT AND GUIDE CHART

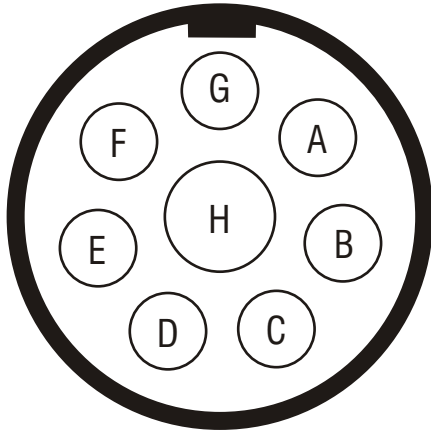
| WIRE DIAMETER | PRO II KIT NO. | PRO IV KIT NO. | TYPE | DRIVE ROLL | INLET GUIDE | OUTLET GUIDE | INTER. GUIDE |
|-----------------------|-------------------|-------------------|------|------------|---|--------------|--------------|
| .023/.025(.6mm) | 9095 | 9110 | V | 9054 | 9070 | 9080 | 9131 |
| .030 (.8mm) | 9095 | 9110 | V | 9054 | 9070 | 9080 | 9131 |
| .035 (.9mm) | 9096 | 9111 | V | 9055 | 9071 | 9081 | 9131 |
| .045 (1.2mm) | 9097 | 9112 | V | 9056 | 9071 | 9081 | 9131 |
| V - KNURLED | | | | | | | |
| .030 (.6mm) | 9098 | 9113 | VK | 9057 | 9070 | 9080 | 9131 |
| .035 (.8mm) | 9099 | 9114 | VK | 9057 | 9071 | 9081 | 9131 |
| .045 (1.2mm) | 9100 | 9115 | VK | 9058 | 9071 | 9081 | 9131 |
| .052 (1.4mm) | 9101 | 9116 | VK | 9059 | 9072 | 9082 | 9131 |
| 1/16 in. (1.6mm) | 9101 | 9116 | VK | 9059 | 9072 | 9082 | 9131 |
| PRESSURE ROLLS | | | | | | | |
| FLAT SMOOTH | --- | --- | --- | 9052 | STANDARD - FURNISHED WITH WIRE FEEDER - CAN BE USED WITH V & V-KNURLED FEED ROLLS | | |
| FLAT KNURLED | --- | --- | --- | 9053 | OPTIONAL - USED WHEN EXTRA DRIVE IS NEEDED ON CORED WIRES | | |

WELDING CABLE SELECTION TABLE

| Welding Amperes | Total Cable (Copper) Length In Weld Circuit Not Exceeding | | | | | | | |
|--------------------|---|----------------------------|----------------------------|-------------------|-------------------|-------------------|--------------------|--------------------|
| | 100 ft. (30m) or Less | | 150 ft. (45 m) | 200 ft. (60 m) | 250 ft. (70 m) | 300 ft. (90 m) | 350 ft. (105 m) | 400 ft. (120 m) |
| | 10 To 60% Duty Cycle | 60 Thru 100% Duty Cycle | 10 Thru 100% Duty Cycle | | | | | |
| 100 | 4 | 4 | 4 | 3 | 2 | 1 | 1/0 | 1/0 |
| 150 | 3 | 3 | 2 | 1 | 1/0 | 2/0 | 3/0 | 3/0 |
| 200 | 3 | 2 | 1 | 1/0 | 2/0 | 3/0 | 4/0 | 4/0 |
| 250 | 2 | 1 | 1/0 | 2/0 | 3/0 | 4/0 | 2-2/0 | 2-2/0 |
| 300 | 1 | 1/0 | 2/0 | 3/0 | 4/0 | 2-2/0 | 2-3/0 | 2-3/0 |



As viewed facing rear of feeder.



RC 1 PIN REFERENCE

| PIN | PIN INFORMATION |
|-----|---|
| A* | 115 VAC power input through fuse F3 in respect to pin G |
| B | Voltage return from pins A or D. |
| C | Not used |
| D | 24 VAC power input through fuse F2 in respect to pin G |
| E | Contact closure to pin F in respect to TS1 jumper on terminals 1 & 2. |
| F | Relay common to pins B & E in respect to TS1 jumper position. |
| G | Circuit common for 24 and 115 VAC input power. |
| H | Case ground |

* **CAUTION!** - 115 VAC **should not** be connected to pins A & G unless the 115/24 VAC transformer option (p/n 9045) is installed.

INTERCONNECTING & EXTENSION CORDS

NOTE: ➡ Control Cords come in 10 ft., 25 ft., 50 ft. & 100 ft. lengths and consist of an 8 Socket Plug, Multi-conductor Cord(s) and necessary Wires or Plugs to connect to the power source.

When ordering - Add the **length** required to the **end** of the part number. (Example: 9225-10)

| FOR CONNECTION TO | ST./NO. | POWER SOURCE CORD END PLUG DESCRIPTION FROM WIRE FEEDER TO: |
|--------------------------|--------------|--|
| PLUG ONLY | 9046 | 8 Socket Plug Only - Connects to rear of wire feeder |
| EXTENSION CORD | 9240 | 8 Socket Free Hanging Plug to 8 Pin Free Hanging Female Receptacle. (Extends between the wire feeder and the interconnecting cord.) |
| UNIVERSAL CORD | 9225 | 7 Individual wires |
| PROFAX | 9237 | 10 Pin Plug |
| AIRCO® | 9234 9226 | 115V Male Plug on Power Cord and 2 Prong Twistlock Female on Contactor Cord 3 Prong Male Twistlock on Power Cord and 2 Prong Twistlock Female on Contactor Cord |
| HOBART® | 9232 9233 | 115V Male Plug on Power Cord and 5 Pin Plug on Contactor Cord 19 Pin Plug |
| L - TEC® | 9230 9231 | 7 Flat Pin Male Plug (AMP Style) 19 Pin Plug |
| LINCOLN® | 9228 9229 | 5 Individual Wires with Spade Connectors for Terminal Strip Hookup 14 Pin Plug |
| MILLER® | 9226 9227 | 3 Prong Male Twistlock on Power Cord and 2 Prong Twistlock Female on Contactor Cord 14 Pin Plug |
| POWCON® | 9235 | 14 Pin Plug (only power sources w/115 VAC available at plug.) |
| THERMAL DYNAMICS® | 9227 | 14 Pin Plug |



Section 5 Maintenance

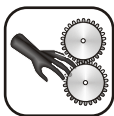


WARNING



Electrical shock can kill

- A. DO NOT TOUCH LIVE electrical parts.
- B. Disconnect input power before servicing.



Moving parts can main

Disconnect input power before servicing.



Hot parts can burn

Allow for cooling periods.



CAUTION

Read and understand the safety information in Section 1 of this manual.

Maintenance should be performed by qualified personnel only.

DAILY

1. Clean drive rolls.
 - A. Clean with a towel and wire brush.
 - B. If a solvent is required use one that will leave **NO** residue.
 - C. **DO NOT USE** - penetrating oils or anti-spatter spray on drive rolls.
2. Inspect all connections to make sure that they are clean and tight.
3. Inspect all cables and hose for cracks, tears and frayed wires. Repair as necessary.

MONTHLY

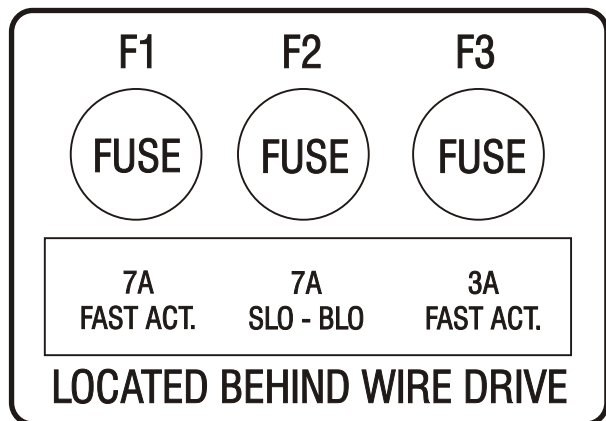
1. Inspect and repair any cables or hoses that are cracked or frayed.
2. Replace any cables or hoses that have been overheated or that have more than one repair in any six foot section.
3. Blow out or vacuum any particles from the wire drive area.
4. Clean any buildup of metal particles on or around the drive roll shafts.
5. Replace any terminal connections that show to have arced out or cannot be tightened.

3 MONTHS

1. Remove hinged cover and blow out or vacuum component area
2. Inspect for wear and replace if necessary, drive and pressure rolls, roll axles, gears and gear bushings.
3. Disassemble ,inspect and repair or replace if necessary all control cord multi-pin plugs with frayed wire or deteriorated wire insulation.
4. Replace inlet, intermediate and outlet guides.
5. Replace mig gun liner and connector plug "O" rings
6. Replace unreadable labels.

OVERLOAD PROTECTION

Disconnect all electrical power before checking fuses.



FUSES:

F1 - 7A -Fast Acting
Protects motor from overload

F2 - 7A - Slo-Blo
For wire feeder overload protection when operating on 24VAC power.

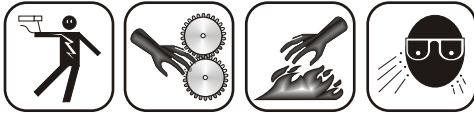
F3 - 3A - Slo-Blo
USED ONLY WITH 115/24 VAC TRANSFORMER INSTALLED
Protects wire feeder from overload



Section 6 Troubleshooting



WARNING

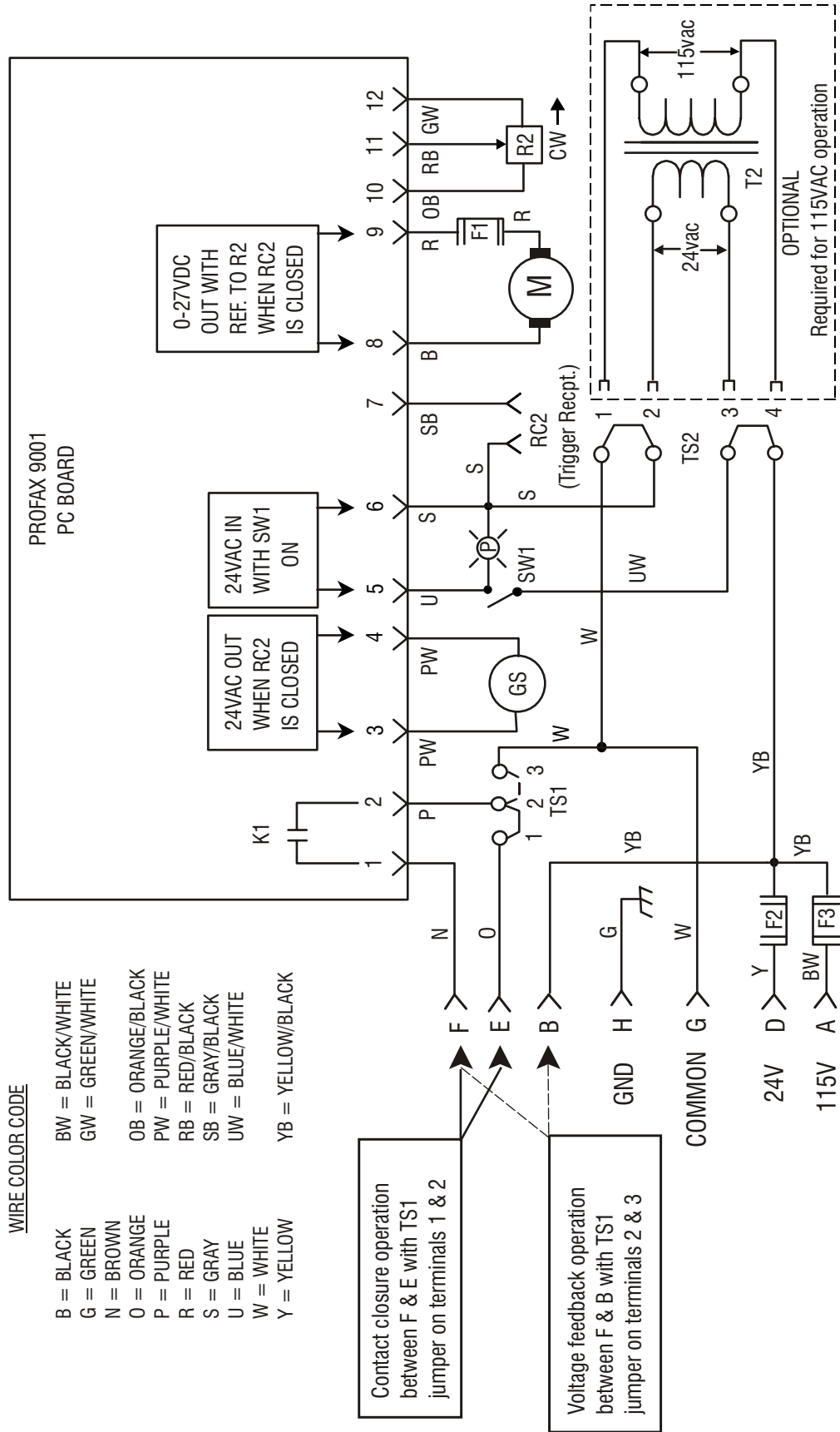


Troubleshooting should only be done by qualified personnel with a working knowledge of electrical circuits.

| TROUBLE | REMEDY |
|---|---|
| Unit completely inoperative. | <ol style="list-style-type: none"> 1. Turn power switch on. 2. Check F3 fuse if using 115/24 VAC transformer option. 3. If using 115/24 VAC transformer option check to see if transformer was installed properly. 4. Check F2 fuse if operating from a 24 VAC power source. 5. Check control cord plugs and connections. 6. Check input power to feeder. |
| Wire does not feed. | <ol style="list-style-type: none"> 1. Check for proper drive roll size and proper drive roll tension. 2. Check for drive roll obstructions. 3. Check mig gun trigger, trigger leads, cord and plug. 4. Check fuses 5. Have an authorized service station check motor and PC board. |
| Wire feeds as soon as power is turned on. | <ol style="list-style-type: none"> 1. Check mig gun trigger, trigger leads, cord and plug for shorted wires. 2. Check for shorted or frayed wires touching in RC2 receptacle. |
| Wire feeds erratically. | <ol style="list-style-type: none"> 1. Readjust drive roll tension. 2. Spool brake too tight. 3. Wrong size drive rolls and or wire guides. 4. Worn drive rolls and or guides. 5. Inlet or outlet guide touching drive rolls preventing proper tension adjustment. 5. Dirty mig gun liner. 6. Improperly installed mig gun liner. 7. Worn contact tube. 8. Worn drive roll axles and or drive gear bushings. 9. Have an authorized service station check motor and PC board. |
| Gas valve rattles loudly with erratic or slow wire speed. | <ol style="list-style-type: none"> 1. Check for a short between the weld cable and the mig gun trigger leads. 2. Check gas valve components for tightness. |
| Gas does not flow but wire feeds OK. | <ol style="list-style-type: none"> 1. Check gas supply and flowmeter to see if they are on and allowing gas to flow. 2. Check to see if gas flow is reaching gas solenoid connection at feeder. 3. Check gas solenoid valve. |
| Motor runs slowly. | <ol style="list-style-type: none"> 1. Check for correct input voltage. 2. Check for correct voltage to motor. 3. Have an authorized service station check the motor and PC board. |
| Wire feeder operates OK but will not weld. | <ol style="list-style-type: none"> 1. Ground cable not or badly connected. 2. Weld cable not connected to wire feeder. 3. Power cable not connected to power block. 4. Contactor not being energized in power source. <p style="margin-left: 40px;">Check:</p> <ol style="list-style-type: none"> A. K1 relay B. TS1 jumper placement C. Control cord wiring |



CIRCUIT DIAGRAM



WIRE COLOR CODE

- B = BLACK
- G = GREEN
- N = BROWN
- O = ORANGE
- P = PURPLE
- R = RED
- S = GRAY
- U = BLUE
- W = WHITE
- Y = YELLOW
- BW = BLACK/WHITE
- GW = GREEN/WHITE
- OB = ORANGE/BLACK
- PW = PURPLE/WHITE
- RB = RED/BLACK
- SB = GRAY/BLACK
- UW = BLUE/WHITE
- YB = YELLOW/BLACK

Contact closure operation between F & E with TS1 jumper on terminals 1 & 2

Voltage feedback operation between F & B with TS1 jumper on terminals 2 & 3

Jumper links on TS2 must be removed when installing this option.

RC1

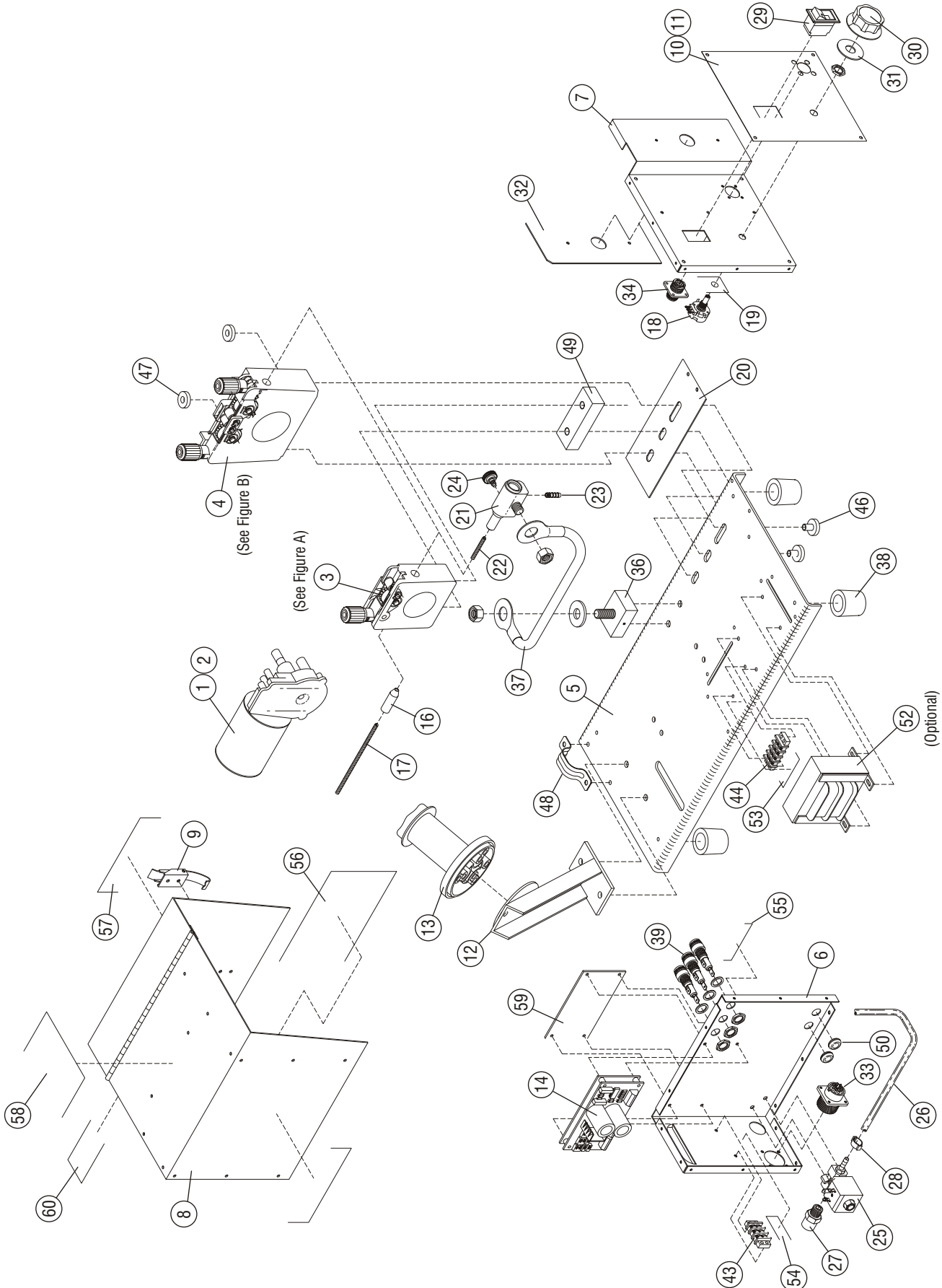


PARTS

MANUAL



Parts





Parts



| ITEM | PART NO. | ELEC. MKGS. | DESCRIPTION | QTY. | |
|------|----------|-------------|--|--------|--------|
| | | | | PRO II | PRO IV |
| 1 | 9002 | M | MOTOR, 24VDC 160 RPM | 1 | |
| 2 | 9003 | M | MOTOR, 24VDC 160 RPM | | 1 |
| 3 | 9004 | | WIRE DRIVE ASSY. 2 ROLL (see figure A) | 1 | |
| 4 | 9005 | | WIRE DRIVE ASSY. 4 ROLL (see figure B) | | 1 |
| 5 | 9012A | | BASE | 1 | 1 |
| 6 | 9014A | | DIVIDER PANEL | 1 | 1 |
| 7 | 9016A | | FRONT PANEL | 1 | 1 |
| 8 | 9013A | | HINGED COVER | 1 | 1 |
| 9 | 9015 | | COVER HASP | 1 | 1 |
| 10 | 9019 | | FACEPLATE | 1 | |
| 11 | 9139 | | FACEPLATE | | 1 |
| 12 | 9018 | | SPOOL SUPPORT | 1 | 1 |
| 13 | 9017 | | SPINDLE ASSY. | 1 | 1 |
| 14 | 9001 | | PC BOARD | 1 | 1 |
| 15 | 8999 | | TERMINAL TOOL, PC Board (Not Shown) | 1 | 1 |
| 16 | 9007 | | INLET GUIDE HOLDER | 1 | 1 |
| 17 | | | INLET GUIDE LINER (see DRIVE ROLL, KIT and GUIDE chart) | 1 | 1 |
| 18 | 9028 | R2 | POTENTIOMETER, 10K, 1T, 2W | 1 | 1 |
| 19 | 9029 | | INSULATOR, potentiometer | 1 | 1 |
| 20 | 9008 | | DRIVE MOUNT INSULATOR | 1 | 1 |
| 21 | 9006 | | ADAPTER BLOCK | 1 | 1 |
| 22 | | | LINER, adapter block (see DRIVE ROLL, KIT and GUIDE chart) | 1 | 1 |
| 23 | 9170 | | NIPPLE, adapter block | 1 | 1 |
| 24 | 9171 | | THUMB SCREW, adapter block | 1 | 1 |
| 25 | 9020 | GS | GAS SOLENOID, 24VAC | 1 | 1 |
| 26 | 9172 | | HOSE, gas solenoid | 1 | 1 |
| 27 | 9021 | | FITTING, gas solenoid inlet | 1 | 1 |
| 28 | 9173 | | CLAMP, gas solenoid hose | 2 | 2 |
| 29 | 9022 | SW1 | POWER SWITCH | 1 | 1 |
| 30 | 9030 | | KNOB, potentiometer | 1 | 1 |
| 31 | 9031 | | BRAKE, felt | 1 | 1 |
| 32 | 9032 | | OUTLET INSULATOR | 1 | 1 |
| 33 | 9033 | RC1 | POWER RECEPTACLE, amphenol | 1 | 1 |
| 34 | 9034 | RC2 | TRIGGER RECEPTACLE, amp | 1 | 1 |
| 35 | 9035 | | TERMINAL, trigger receptacle (Not Shown) | 2 | 2 |
| 36 | 9010 | | POWER BLOCK | 1 | 1 |
| 37 | 9011 | | POWER CABLE | 1 | 1 |
| 38 | 9024 | | FOOT, rubber | 4 | 4 |
| 39 | 6100 | | FUSE HOLDER | 3 | 3 |
| 40 | 9038 | F1 | FUSE, 7 amp, 250V fast acting (Not Shown) | 1 | 1 |
| 41 | 9039 | F2 | FUSE, 7 amp, 250V Slo-Blo (Not Shown) | 1 | 1 |
| 42 | 9040 | F3 | FUSE, 3 amp, 250V Slo-Blo (Not Shown) | 1 | 1 |
| 43 | 9041 | TS1 | TERMINAL STRIP, 3 pole | 1 | 1 |
| 44 | 9042 | TS2 | TERMINAL STRIP, 4 pole | 1 | 1 |
| 45 | 9043 | | JUMPER, terminal strip (Not Shown) | 3 | 3 |
| 46 | 9025 | | SCREW INSULATOR, wire drive | 2 | 2 |
| 47 | 9026 | | INSULATING WASHER, wire drive | | 2 |
| 48 | 9009 | | CLAMP, cable | 1 | 1 |
| 49 | 9023 | | SPACER BLOCK | 1 | |
| 50 | 9027 | | GROMMET, rubber | 2 | 2 |
| 52 | 9045 | T2 | TRANSFORMER, (optional) 115/24VAC 100VA | 1 | 1 |
| 53 | 9047 | | LABEL, TS2 | 1 | 1 |
| 54 | 9048 | | LABEL, TS1 | 1 | 1 |
| 55 | 9049 | | LABEL, fuses | 1 | 1 |
| 56 | 9051 | | LABEL, schematic | 1 | 1 |
| 57 | 9142 | | LABEL, PROFAX | 2 | 2 |
| 58 | 9036 | | LABEL, safty | 1 | 1 |
| 59 | 9177 | | DIVIDER PANEL, Insulator | | 1 |
| 60 | 9176 | | TOP COVER, Insulator | | 1 |



FIGURE A

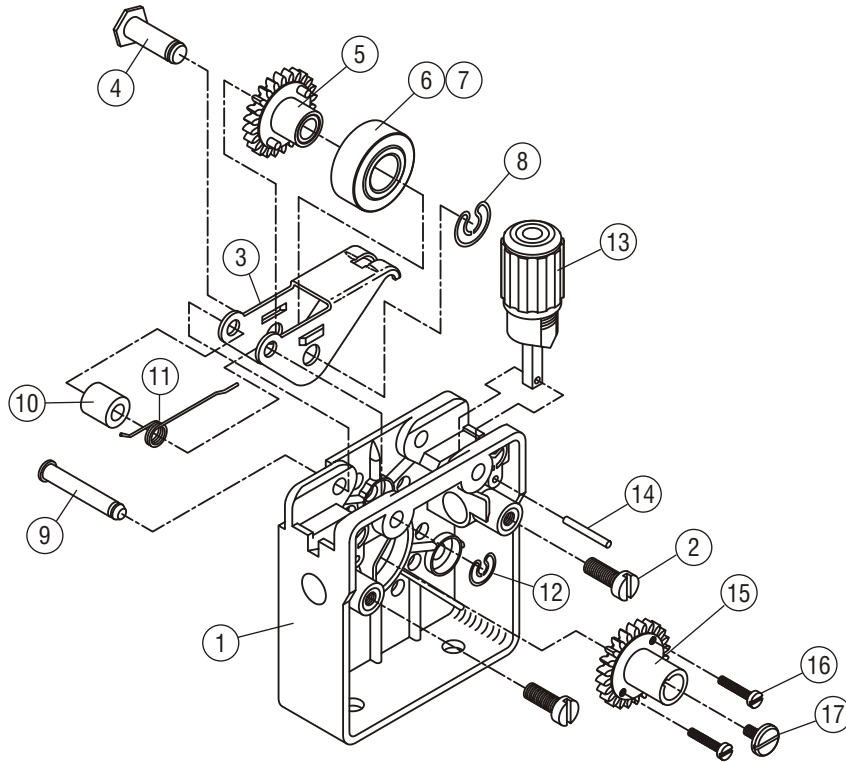
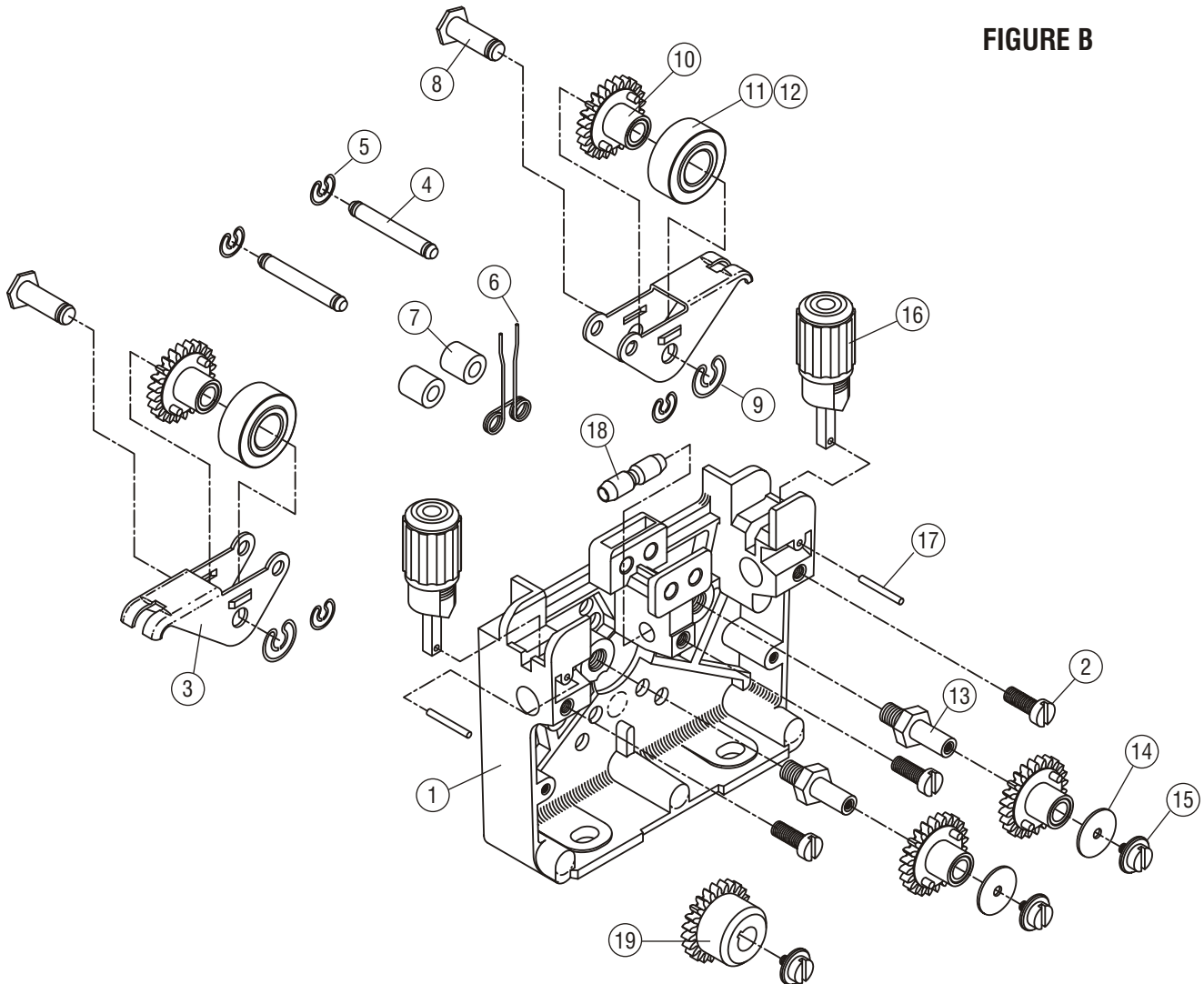


FIGURE B





Parts List



| FIGURE A ITEM | PARTS LIST PART NO. | PRO II WIRE DRIVE 2 ROLL ASSEMBLY P/N 9004 DESCRIPTION | QTY. |
|--------------------------|--------------------------------|---|-------------|
| 1 | 9143 | WIRE DRIVE HOUSING | 1 |
| 2 | 9144 | SCREW, guide retention, and motor mounting | 5 |
| 3 | 9145 | PRESSURE ARM | 1 |
| 4 | 9134 | AXLE, pressure roll | 1 |
| 5 | 9136 | GEAR, pressure roll | 1 |
| 6 | 9052 | PRESSURE ROLL, flat smooth | 1 |
| 7 | 9053 | PRESSURE ROLL, knurled (optional) | 1 |
| 8 | 9135 | CIRCLE CLIP, pressure roll axle | 1 |
| 9 | 9146 | PIVOT PIN, pressure arm | 1 |
| 10 | 9147 | SPACER | 1 |
| 11 | 9148 | SPRING, lift | 1 |
| 12 | 9149 | CIRCLE CLIP, pressure arm pivot pin | 1 |
| 13 | 9150 | TENSION AJUSTER | 1 |
| 14 | 9151 | RETAINING PIN, tension adjuster | 1 |
| 15 | 9129 | GEAR, drive | 1 |
| 16 | 9130 | SCREW, drive roll retention | 2 |
| 17 | 9126 | SCREW, drive gear retention | 1 |
| 18 | 9128 | KEY, motor shaft (Not Shown) | 1 |
| 19 | 9152 | SNAP RING, motor shaft (Not Shown) | 1 |
| FIGURE B ITEM | PARTS LIST PART NO. | PRO II WIRE DRIVE 4 ROLL ASSEMBLY P/N 9005 DESCRIPTION | QTY. |
| 1 | 9153 | WIRE DRIVE HOUSING | 1 |
| 2 | 9154 | SCREW, guide retention | 3 |
| 3 | 9145 | PRESSURE ARM | 2 |
| 4 | 9155 | PIVOT PIN, pressure arms | 1 |
| 5 | 9149 | CIRCLE CLIP, pressure arm pivot pin | 4 |
| 6 | 9156 | SPRING, lift | 1 |
| 7 | 9147 | SPACER | 2 |
| 8 | 9134 | AXLE, pressure roll | 2 |
| 9 | 9135 | CIRCLE CLIP, pressure roll axle | 2 |
| 10 | 9136 | GEAR, feed and pressure roll | 4 |
| 11 | 9052 | PRESSURE ROLL, flat smooth | 2 |
| 12 | 9053 | PRESSURE ROLL, knurled (optional) | 2 |
| 13 | 9132 | AXLE, drive roll | 2 |
| 14 | 9133 | WASHER, drive roll retention | 2 |
| 15 | 9127 | SCREW, gear retention | 3 |
| 16 | 9150 | TENSION ADJUSTER | 2 |
| 17 | 9151 | RETAINING PIN, tention adjuster | 2 |
| 18 | 9131 | INTERMEDIATE GUIDE (see Drive Roll, Kit and Guide Chart) | 1 |
| 19 | 9137 | GEAR, main drive | 1 |
| 20 | 9128 | KEY, motor shaft (Not Shown) | 1 |
| 21 | 9152 | SNAP RING, motor shaft (Not Shown) | 1 |
| 22 | 9138 | SCREW, motor mounting (Not Shown) | 3 |

