

# *PROFAX*

## **OWNER'S MANUAL**

# **PRO-1VS**

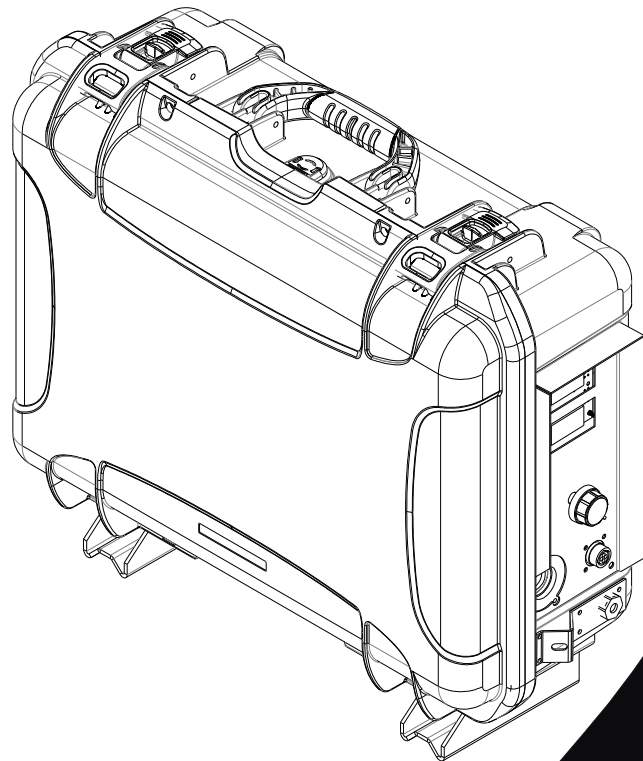
**VOLTAGE-SENSING WIRE FEEDER**

### PROCESSES



MIG (GMAW)

FLUX CORED (FCAW)



READ THE MANUAL BEFORE OPERATING THE UNIT



GIVE THIS MANUAL TO OPERATOR.

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**WARRANTY POLICY**

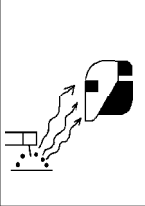
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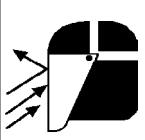
# SECTION 1 - SAFETY PRECAUTIONS - READ BEFORE USING

	<h2>WARNING</h2>	<h2>ARC WELDING can be hazardous.</h2>
<p>- <b>DANGER!</b> - 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</p> <p>- 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.</p> <p>- The symbols shown below are used throughout this manual to call attention to and identify possible hazards. When you see the symbol, watch out, and follow the related instructions to avoid the hazard. The safety information given below is only a summary of the more complete safety information found in the Safety Standards.</p> <p>- Only qualified persons should install, operate, maintain, and repair this unit.</p> <p>- During operation, keep everybody, especially children, away.</p>		

	<h3>ELECTRIC SHOCK can kill.</h3> <p>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.</p> <ol style="list-style-type: none"> <li>1.- Do not touch live electrical parts.</li> <li>2.- Wear dry, hole-free insulating gloves and body protection.</li> <li>3.- Insulate yourself from work and ground using dry insulating mats or covers.</li> </ol>	<ol style="list-style-type: none"> <li>4.- Disconnect input power or stop engine before installing or servicing this equipment.</li> <li>5.- Properly install and ground this equipment according to this Owner's Manual and national, state, and local codes.</li> <li>6.- Turn off all equipment when not in use.</li> <li>7.- Do not use worn, damaged, undersized, or poorly spliced cables.</li> <li>8.- Do not wrap cables around your body.</li> <li>9.- Ground the workpiece to a good electrical (earth) ground.</li> <li>10.- Do not touch electrode while in contact with the work (ground) circuit.</li> <li>11.- Use only well-maintained equipment. Repair or replace damaged parts at once.</li> <li>12.- Wear a safety harness to prevent falling if working above floor level.</li> <li>13.- Keep all panels and cover securely in place.</li> </ol>
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	<h3>ARC RAYS can burn eyes and skin; NOISE can damage hearing.</h3> <p>Arc rays from the welding process produce intense heat and strong ultraviolet rays that can burn eyes and skin. Noise from some processes can damage hearing.</p> <ol style="list-style-type: none"> <li>1.- Wear a welding helmet fitted with a proper shade of filter (see ANSI Z49.1 listed in Safety Standards) to protect</li> </ol>	<p>your face and eyes when welding or watching.</p> <ol style="list-style-type: none"> <li>2.- Wear approved safety glasses. Side shields recommended.</li> <li>3.- Use protective screens or barriers to protect others from flash and glare; warn others not to watch the arc.</li> <li>4.- Wear protective clothing made from durable, flame-resistant material (wool and leather) and foot protection.</li> <li>5.- Use approved ear plugs or ear muffs if noise level is high.</li> </ol>
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	<h3>FUMES AND GASES can be hazardous to your health.</h3> <p>Welding produces fumes and gases. Breathing these fumes and gases can be hazardous to your health.</p> <ol style="list-style-type: none"> <li>1.- Keep your head out of the fumes. Do not breathe the fumes.</li> <li>2.- If inside, ventilate the area and / or use forced ventilation at the arc to remove welding fumes and gases.</li> <li>3.- If ventilation is poor, use an approved air-supplied respirator.</li> <li>4.- Read the Material Safety Data Sheets (MSDSs) and the manufacturer's instruction for metal, consumables, coatings, and cleaners.</li> </ol>	<ol style="list-style-type: none"> <li>5.- Work in a confined space only if it is well ventilated, or while wearing an air-supplied respirator. Shielding gases used for welding can displace air causing injury or death. Be sure the breathing air is safe.</li> <li>6.- 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.</li> <li>7.- Do not weld on coated metals, such as galvanized, lead, or cadmium plated steel, unless the coating is removed from the weld area, the area is well ventilated, and if necessary, while wearing an air-supplied respirator. The coatings and any metals containing these elements can give off toxic fumes if welded.</li> </ol>
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	<h3>FLYING SPARK AND HOT METAL can cause injury</h3> <p>Chipping and grinding cause flying metal. As welds cool, they can throw off slag.</p> <ol style="list-style-type: none"> <li>1.- Wear approved face shield or safety goggles. Side shields recommended.</li> <li>2.- Wear proper body protection to protect skin.</li> </ol>	
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### WELDING can cause fire or explosion.

Sparks and spatter fly off from the welding arc. The flying sparks and hot metal, weld spatter, hot workpiece, and hot equipment can cause fires and burns. Accidental contact of electrode or welding wire to metal objects can cause sparks, overheating, or fire.

- 1.- Protect yourself and others from flying sparks and hot metal.
- 2.- Do not weld where flying sparks can strike flammable material.
- 3.- Remove all flammables within 35ft (10.7 m) of the welding arc. If this is not possible, tightly cover them with approved covers.

- 4.- Be alert that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas.
- 5.- Watch for fire, and keep a fire extinguisher nearby.
- 6.- Be aware that welding on a ceiling, floor, bulkhead, or partition can cause fire on the hidden side.
- 7.- Do not weld on closed containers such as tanks or drums.
- 8.- Connect work cable to the work as close to the welding areas as practical to prevent welding current from traveling long, possibly unknown paths and causing electric shock and fire hazards.
- 9.- Do not use welder to thaw frozen pipes.
- 10.- Remove stick electrode from holder or cut off welding wire at contact tip when not in use.
- 11.- Wear oil-free protective garments such as leather gloves, heavy shirt, cuffless trousers, high shoes, and a cap.



### CYLINDERS can explode if damaged.

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

- 1.- Protect compressed gas cylinders from excessive heat, mechanical shocks, and arcs.
- 2.- Install and secure cylinders in an upright position by chaining them to a stationary support or equipment cylinder rack to prevent falling or tipping.
- 3.- Keep cylinders away from any welding or other electrical circuits.

- 4.- Never allow a welding electrode to touch any cylinder.
- 5.- Use only correct shielding gas cylinders, regulators, hoses, and fittings designed for the specific application; maintain them and associated parts in good condition.
- 6.- Turn face away from valve outlet when opening cylinder valve.
- 7.- Keep protective cap in place over valve except when cylinder is in use or connected for use.
- 8.- Read and follow instructions on compressed gas cylinders, associated equipment, and CGA publication P-1 listed in Safety Standards.



## WARNING

## ENGINES can be hazardous.



### ENGINE EXHAUST GASES can kill.

Engines produce harmful exhaust gases.  
1.- Use equipment outside in open, well-ventilated areas.

- 2.- If used in a closed area, vent engine exhaust outside and away from any building air intakes.



### ENGINE FUEL can cause fire or explosion.

Engine fuel is highly flammable.

- 1.- Stop engine before checking or adding fuel.

- 2.- Do not add fuel while smoking or if unit is near any sparks or open flames.
- 3.- Allow engine to cool before fueling. If possible, check and add fuel to cold engine before beginning job.
- 4.- Do not overfill tank - allow room for fuel to expand.
- 5.- Do not spill fuel. If fuel is spilled, clean up before starting engine.



### MOVING PARTS can cause injury.

Moving parts, such as fans, rotors, and belts can cut fingers and hands and catch loose clothing.

- 1.- Keep all doors, panels, covers, and guards closed and securely in place.
- 2.- Stop engine before installing or connecting unit.
- 3.- Have only qualified people remove guards or covers for maintenance and troubleshooting as necessary.


- 4.- To prevent accidental starting during servicing, disconnect negative (-) battery cable from battery.
- 5.- Keep hands, hair, loose clothing, and tools away from moving parts.
- 6.- Reinstall panels or guards and close doors when servicing is finished and before starting engine.




### SPARKS can cause BATTERY GASES TO EXPLODE; BATTERY ACID can burn eyes and skin.


Batteries contain acid and generate explosive gases.  
1.- Always wear a face shield when working on a battery.

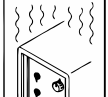
- 2.- Stop engine before disconnecting or connecting battery cables.
- 3.- Do not allow tools to cause sparks when working on a battery.
- 4.- Do not use welder to charge batteries or jump start vehicles.
- 5.- Observe correct polarity (+ and -) on batteries.


	<p><b>STEAM AND PRESSURIZED HOT COOLANT can burn face, eyes, and skin.</b></p> <p>The coolant in the radiator can be very hot and under pressure.</p>	<p>1.- Do not remove radiator cap when engine is hot. Allow engine to cool.</p> <p>2.- Wear gloves and put a rag over cap area when removing cap.</p> <p>3.- Allow pressure to escape before completely removing cap.</p>
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**- Additional Symbols For Installation, Operation, And Maintenance**


	<p><b>NOISE can damage hearing.</b></p> <p>Noise from some processes or equipment can damage hearing.</p> <ul style="list-style-type: none"> <li>- Wear approved ear protection if noise level is high.</li> </ul>	
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	<p><b>FALLING EQUIPMENT can injure</b></p> <ul style="list-style-type: none"> <li>- Use lifting eye to lift unit and properly installed accessories only, NOT gas cylinders. Do not exceed maximum lift eye weight rating (see Specifications).</li> </ul>	<ul style="list-style-type: none"> <li>- Use equipment of adequate capacity to lift and support unit.</li> <li>- If using lift forks to move unit, be sure forks are long enough to extend beyond opposite side of unit.</li> <li>- Keep equipment (cables and cords) away from moving vehicles when working from an aerial location.</li> </ul>
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














	<p><b>OVERUSE can cause OVERHEATING</b></p> <ul style="list-style-type: none"> <li>- Allow cooling period; follow rated duty cycle.</li> <li>- Reduce current or reduce duty cycle before starting to</li> </ul>	<p>weld again.</p> <ul style="list-style-type: none"> <li>- Do not block or filter airflow to unit.</li> </ul>
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	<p><b>STATIC (ESD) can damage PC boards.</b></p> <ul style="list-style-type: none"> <li>- Put on grounded wrist strap BEFORE handling boards or parts.</li> <li>- Use proper static-proof bags and boxes to store, move, or ship PC boards.</li> </ul>	
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	<p><b>ARC WELDING can cause interference.</b></p> <ul style="list-style-type: none"> <li>- Electromagnetic energy can interfere with sensitive electronic equipment such as microprocessors, computers, and computer-driven equipment such as robots.</li> <li>- Be sure all equipment in the welding area is electromagnetically compatible.</li> </ul> <p>- To reduce possible interference, keep weld cables as short as possible, close together, and down low, such as on the floor.</p>	<ul style="list-style-type: none"> <li>- Locate welding operation 100 meters from any sensitive electronic equipment.</li> <li>- Be sure this welding machine is installed and grounded according to this manual.</li> <li>- 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.</li> </ul>
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	<p><b>-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.</b></p>	
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**- Definitions**




	Stop Engine		Fast (Run, Weld/Power)		Fast/Slow (Run/Idle)		Slow (Idle)
	Start Engine		Read Operator's Manual	<b>A</b>	Amperes	<b>V</b>	Volts
	Engine Oil		Fuel		Battery (Engine)		Engine
	Temperature		Check Valve Clearance		Do not switch while welding		Work Connection
<b>+</b>	Positive	<b>-</b>	Negative		Alternating Current (AC)		Output
	Welding Arc (Electrode)		MIG (GMAW), Wire		Stick (SMAW)		TIG (GTAW)
<b>h</b>	Hours	<b>s</b>	Seconds		Time		Protective Earth (Ground)
	Circuit Protector						





# SECTION 1 SAFETY SIGNAL WORDS

The following safety alert symbol and signal words are used throughout this manual to call attention to and identify different levels of hazard and special instructions.

	<b>WARNING</b>	<b>WARNING</b> statements identify procedures or practices which must be followed to avoid serious personal injury or loss of life.
	<b>CAUTION</b>	<b>CAUTION</b> statements identify procedures or practices which must be followed to avoid minor personal injury or damage to this equipment.
	<b>CAUTION</b>	Images shown in this manual must be taken as a reference and the real unit may change slightly.

**IMPORTANT:** Statements identify special instructions necessary for the most efficient operation of this equipment.

## SECTION 2 SPECIFICATIONS

### 2-1 Serial Number And Rating Label Location

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

### 2-2. Unit Specifications

Type of Input Power	Welding Power Source Type	Wire Feed Speed	Wire Diameter Range	Input Welding Circuit Rating	Max. Wire Spool Capacity	Overall Dimensions	Weight
Open-Circuit/ Arc Voltage, 14 - 110 Volts DC	Constant Voltage (CV) Or Constant Current (CC) DC Power Source Only	60 - 850 ipm (1.52 - 21.6 mpm) Depending On Arc Voltage	Solid Wire: .023 - .052 in. (0.6 To 1.3 mm) Flux Cored: .030 - 5/64 in. (0.8 To 2 mm)	300 Amperes At 100% Duty Cycle  400 Amperes At 60% Duty Cycle	45 lb (20.4 kg), 12 in. (304 mm)	Length: 21.5 in. (546 mm)  Width: 8.5 in. (216 mm)  Height: 17 in. (432 mm)	33 lb (15 kg)
See Section 2-3 for detailed wire type, size, and rated speed range							

**TABLE 2-1 Unit Specifications**

### 2-3 Wire Type, Size, and Feed Speed Capability

Motor Speed	Wire Type	Wire Size	Rated Speed Range*
Standard	All	.023 To 5/64 in. (0.6 To 2 mm)	50 to 780 ipm (1.3 -19.8 mpm)

**TABLE 2-2 Wire Type, Size, and Feed Speed Capability**



## 2-4 Gun Recommendation

Process
GMAW - Hard or Cored Wires: M400-15, HDM400-15
FCAW - Self-Shielding Wires: 1260-15MLR, 1150-15MRL

## 2-5 Environmental Specifications

### A. IP Rating


IP Rating
<b>IP 21</b> This equipment is designed for outdoor use but not intended to be used outside during precipitation unless Sheltered.

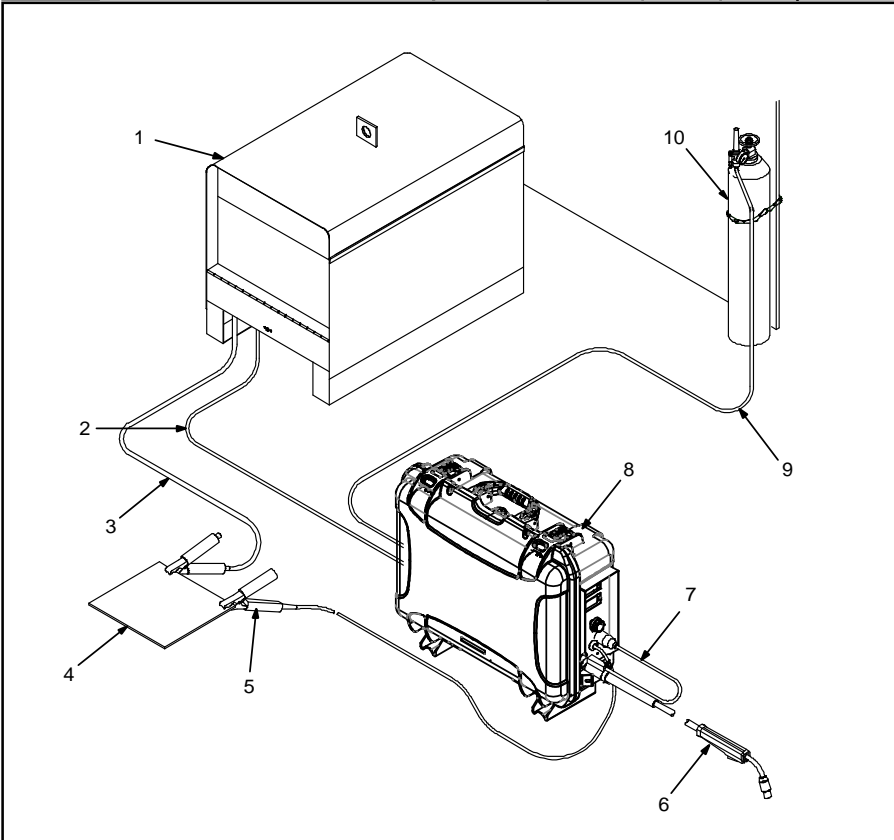
### B. Temperature Specifications

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

# SECTION 3 INSTALLATION

## 3-1 Equipment Connection Diagram

**CAUTION**  READ SAFETY BLOCKS at beginning of manual before proceeding.



**⚠** Turn Off wire feeder and welding power source.  
**⚠** Do not move or operate equipment where it could tip.  
**⚠** Use only with CC/CV DC Power Sources.

- 1 Constant Current (CC) or Constant Voltage (CV) Welding Power Supply
- 2 Weld Cable To Feeder
- 3 Work Cable To Workpiece

Weld cable and work cable connections to power source (DCEN/ DCEP) are dependant on wire type.  
*Since feeder is not polarity sensitive, there is no need for an electrode polarity switch.*

- 4 Workpiece
- 5 Voltage Sensing Clamp


Connect voltage sensing clamp to workpiece.

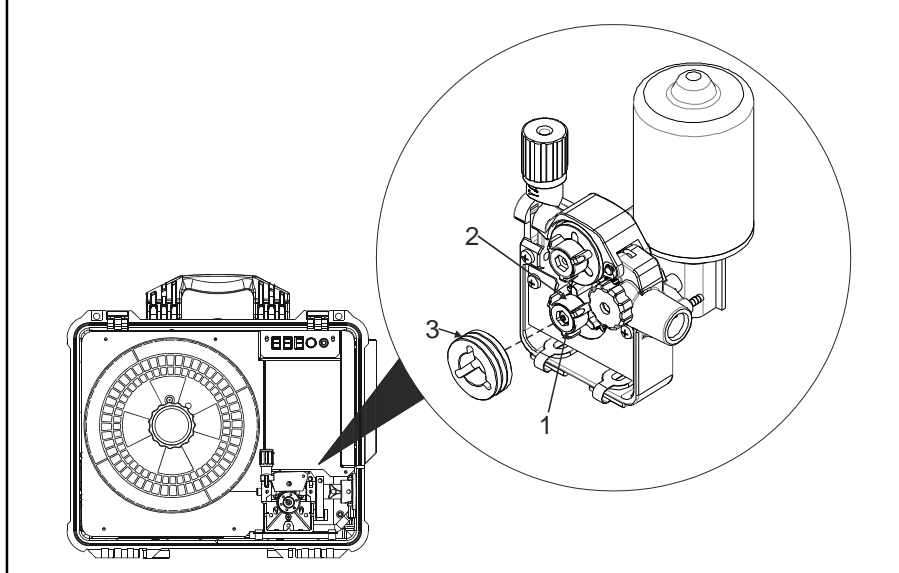
- 6 Gun
- 7 Gun Trigger Receptacle
- 8 Wire Feeder
- 9 Gas Hose
- 10 Gas Cylinder

Use of shielding gas is dependant on wire type.  
*Shielding gas pressure not to exceed 100 psi (689 kPa).*

FIGURE 3-1 Equipment Connection Diagram

## 3-2 Installing Drive Rolls

**CAUTION** 



**Installing Drive Rolls:**

- 1 Drive Roll Securing Nut
- 2 Drive Roll Carrier
- 3 Drive Roll

Turn nut one click until lobes of nut line up with lobes of drive roll carrier.  
Slide drive roll onto drive roll carrier.  
Turn nut one click.  
Repeat procedure for top drive roll.

**Cleaning Drive Rolls:**  
Remove drive rolls, and clean grooves using a wire brush.

FIGURE 3-2 Installing Drive Rolls

### 3-3 Connecting Welding Gun And Voltage Sensing Clamp



**⚠** Turn Off wire feeder and welding power source.

**⚠** Weld voltage is present at voltage sensing clamp when wire feeder and welding power source are on. This condition exists even if wire feeder lights and meters are off.

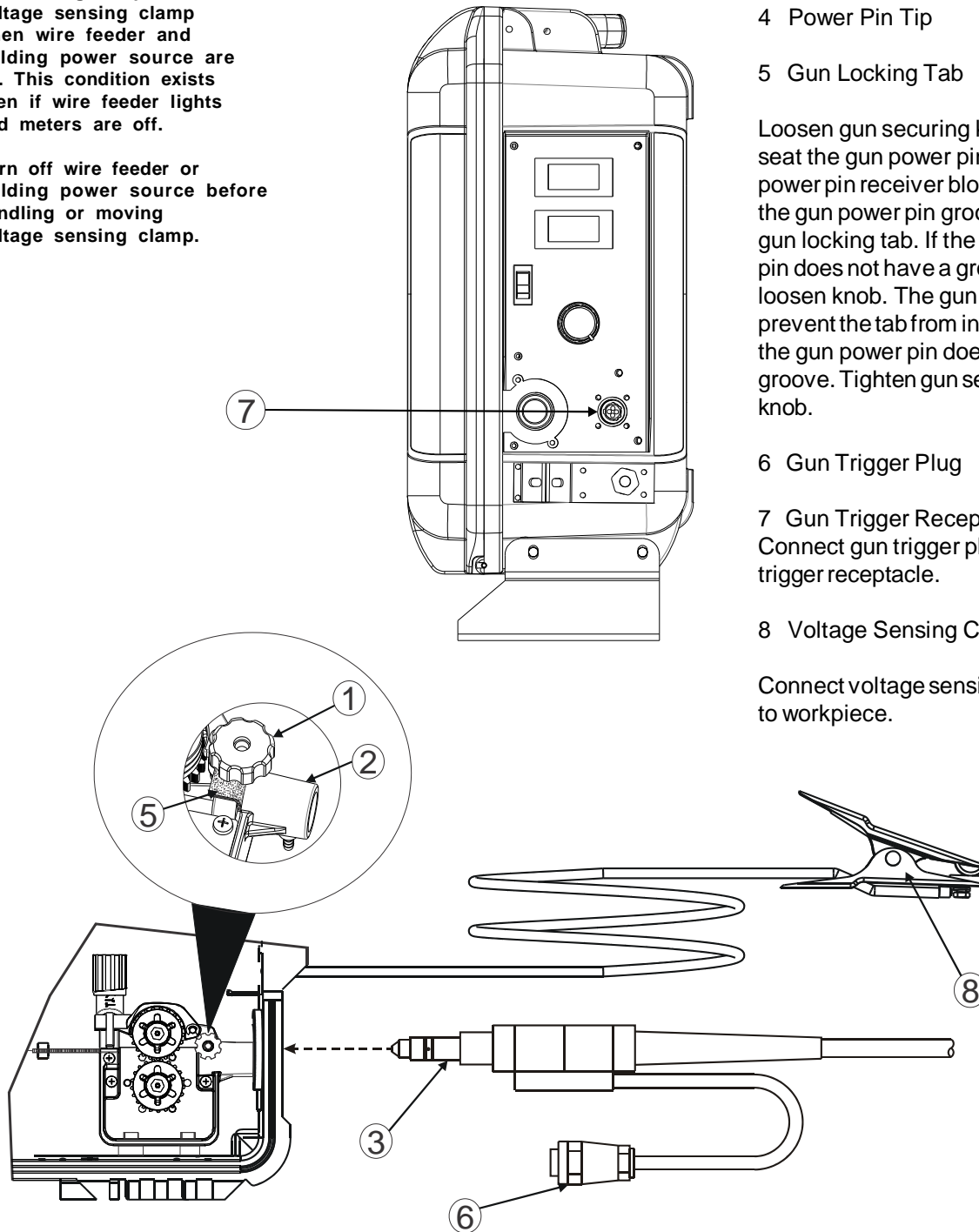
Turn off wire feeder or welding power source before handling or moving voltage sensing clamp.

- 1 Gun Securing Knob
- 2 Power Pin Receiver Block
- 3 Gun Power Pin
- 4 Power Pin Tip
- 5 Gun Locking Tab

Loosen gun securing knob and seat the gun power pin fully into power pin receiver block. Align the gun power pin groove with the gun locking tab. If the gun power pin does not have a groove, loosen knob. The gun locking tab will prevent the tab from interfering when the gun power pin does not have a groove. Tighten gun securing knob.

- 6 Gun Trigger Plug
  - 7 Gun Trigger Receptacle
- Connect gun trigger plug to gun trigger receptacle.

- 8 Voltage Sensing Clamp
- Connect voltage sensing clamp to workpiece.



**FIGURE 3-3 Connecting Welding Gun And Voltage Sensing Clamp**

### 3-4 Connecting Shielding Gas

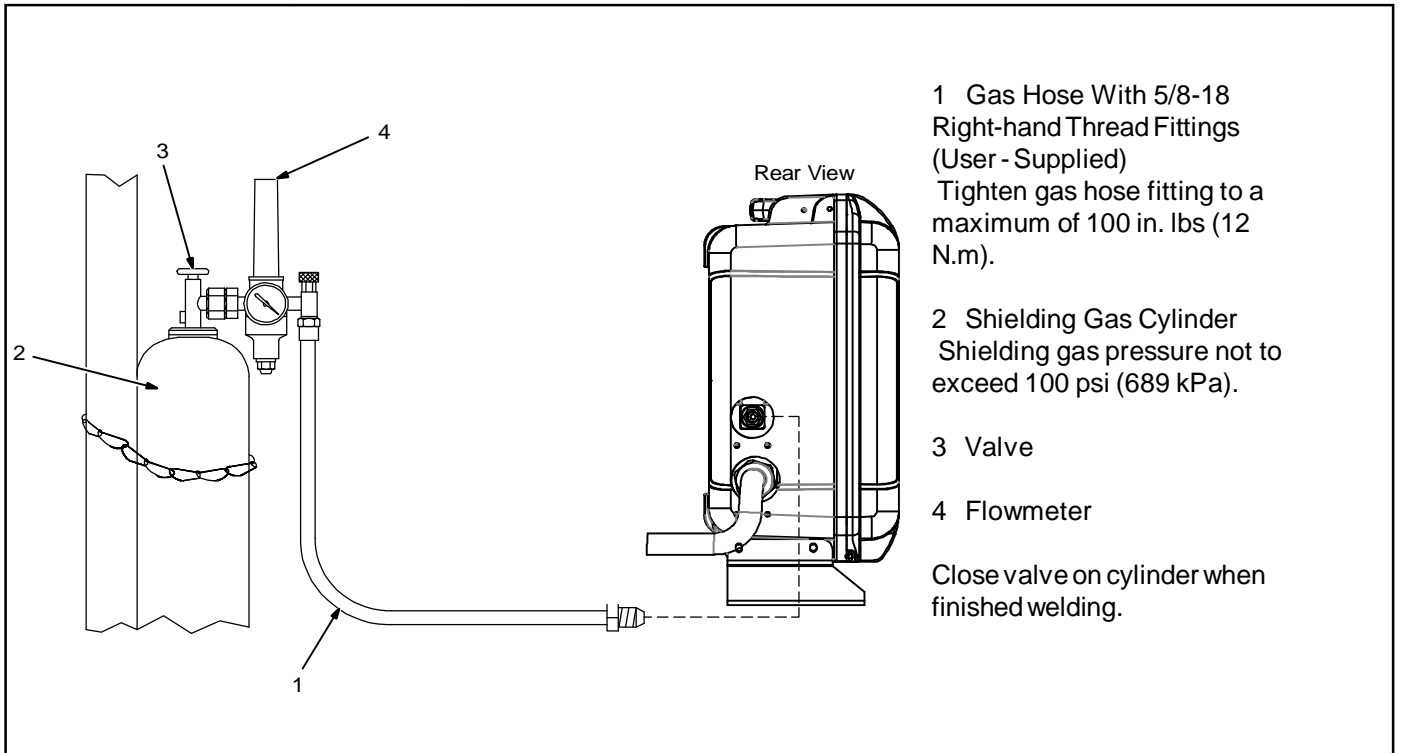


FIGURE 3-4 Connecting Shielding Gas

### 3-5 Connecting Weld Cable

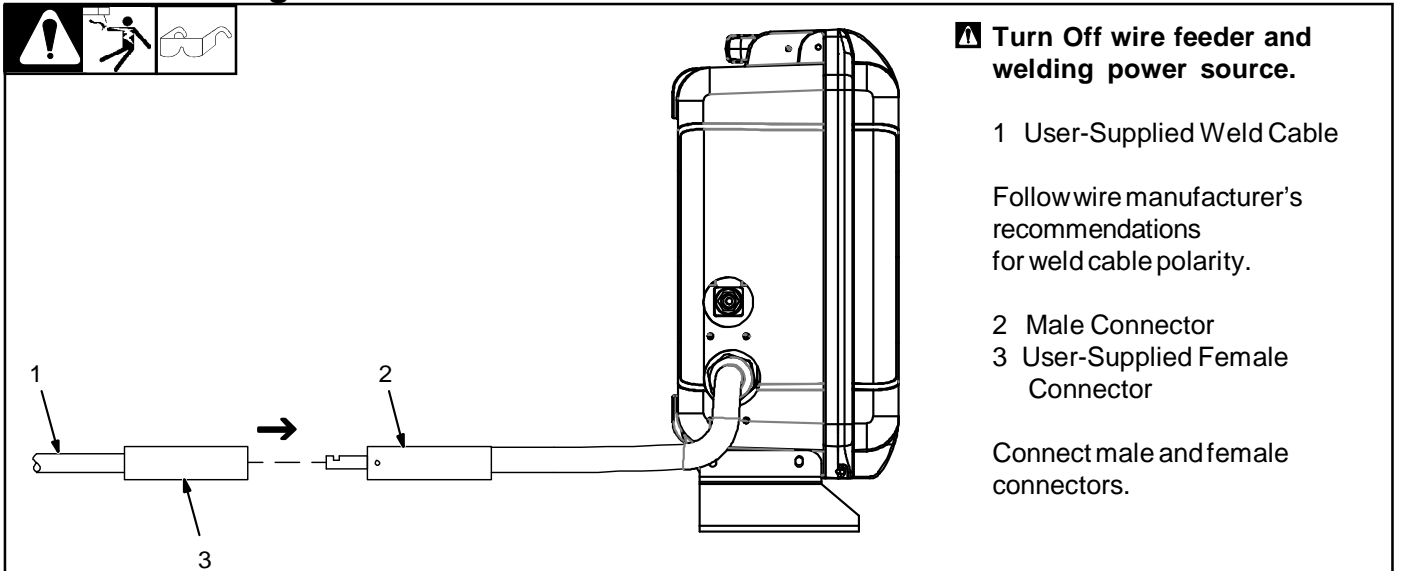




FIGURE 3-5 Connecting Weld

### 3-6. Selecting Cable Sizes

-  Turn off power before connecting to weld output terminals.
-  Do not use worn, damaged, undersized, or repaired cables.

**NOTICE - The Total Cable Length in Weld Circuit (see table below) is the combined length of both weld cables. For example, if the power source is 100 ft (30 m) from the workpiece, the total cable length in the weld circuit is 200 ft (2 cables x 100 ft). Use the 200 ft (60 m) column to determine cable size**

WELDING AMPERAGE		TOTAL CABLE (COPPER) LENGTH IN WELD CIRCUIT NOT EXCEEDING.*						
		100 Ft (30 m) or less	150Ft (45 m)	200Ft (60 m)	250Ft (70 m)	300Ft (90 m)	350Ft (105 m)	400Ft (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
350	1/0	2/0	3/0	4/0	2-2/0	2-3/0	2-3/0	2-4/0

\* Weld cable size (AWG) is based on either a 4 volts or less drop or a current density of not more than 300 circular mils per ampere.  
 \* This chart is a general guideline and may not suit all applications. If cable overheats, use next size larger cable.

**TABLE 3-1 Selecting Cable Sizes**

## 3-7 Installing And Threading Welding Wire



**WARNING**



SEE SAFETY PRECAUTIONS at the beginning of manual for basic welding information.

### Installing Wire And Adjusting Hub Tension:

- 1 Retaining Nut
- 2 Hub Tension Adjustment Knob

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

Adjust tension knob so only a slight force is needed to turn spool.

*Do not over tighten tension knob. It is not necessary to use any tools to tighten the knob.*

### Threading Welding Wire:

- 3 Pressure Adjustment Knob

Lay gun cable out straight.

Open pressure assembly. Hold wire tightly and cut off end. Guide wire through inlet guide, into drive roll grooves, and into gun liner.

Close pressure assembly and tighten pressure adjustment knob enough to feed wire. Press jog switch until wire comes out of gun.

To set proper drive roll pressure, release the pressure on the drive rolls by loosening the pressure adjustment knob. Position gun at about a 45 degree angle, with nozzle about two inches from a wooden surface. While feeding the wire against the wooden surface, increase the pressure to one half turn past the point where the wire stops slipping. If the wire slips at maximum hand-tight pressure, there may be other problems. Check the gun liner, spool tension, contact tip and drive roll wear, as all these can cause wire feeding problems.

Cut off wire, and close door.

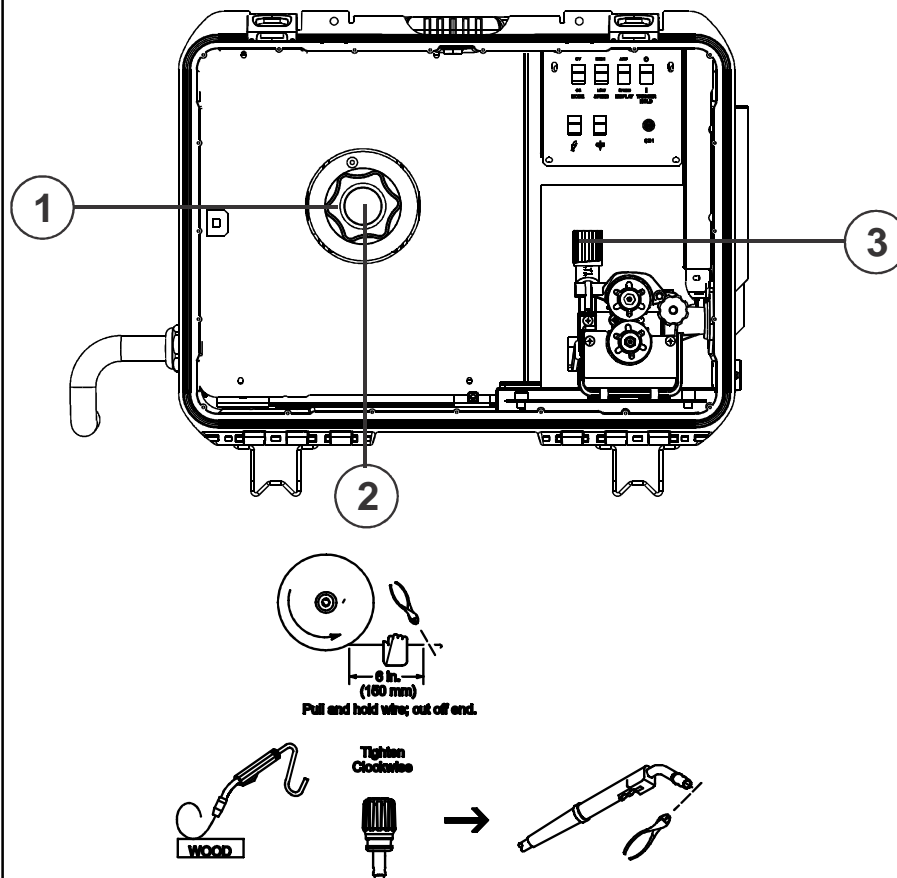
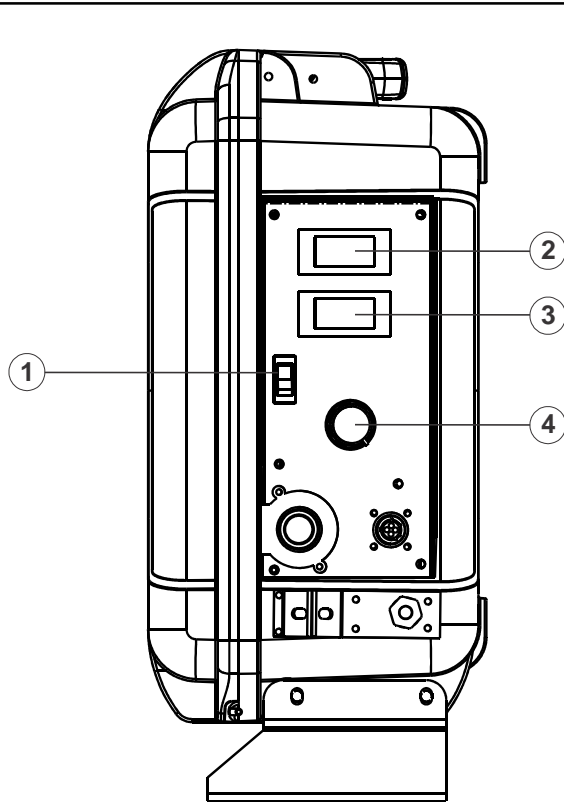


FIGURE 3-7 Installing And Threading Welding Wire

# SECTION 4 OPERATION

## 4.1 Controls With Meters



1 Power Control Switch

2 Wire Speed / Amperage Meter

Displays preset wire speed. While welding in CC mode, actual wire speed is dependant on arc voltage. Amperage displayed at the feeder is approximate. Refer to power source for actual amperage.

3 Voltmeter

Displays actual arc voltage or open circuit voltage at the feeder.

4 Wire Speed Control

Use control to adjust wire speed within the speed range selected by the wire speed range switch, located on the inner control panel. Maximum wire speed may be limited by arc voltage.

5 CC/CV Switch

Use switch to match feeder with the output of the power source.

While welding in CC mode, actual wire speed is dependent on arc voltage.

While welding in CV mode, the wire feeder remains at constant speed and the wire speed is not dependent on arc voltage. Maximum wire speed may be limited by arc voltage.

6 HI/LO Speed Range Switch

Use switch to select speed range. High range is 100 to 800 Inches per Minute (2.5 to 20.3 Meters per Minute). Low range is 25 to 200 Inches per Minute (0.6 to 5.1 Meters per Minute).

7 Display speed / inches per minute

Wire Speed / Amperage Meter will display only Wire Speed in Inches per Minute.

Display amperage

Wire Speed / Amperage Meter will display Amps while welding.

8 Trigger Hold Switch

Trigger hold allows operator to weld without holding gun trigger.

To use trigger hold function, place trigger hold switch in the I position.

Press and hold the trigger. Welding will continue when trigger is released.

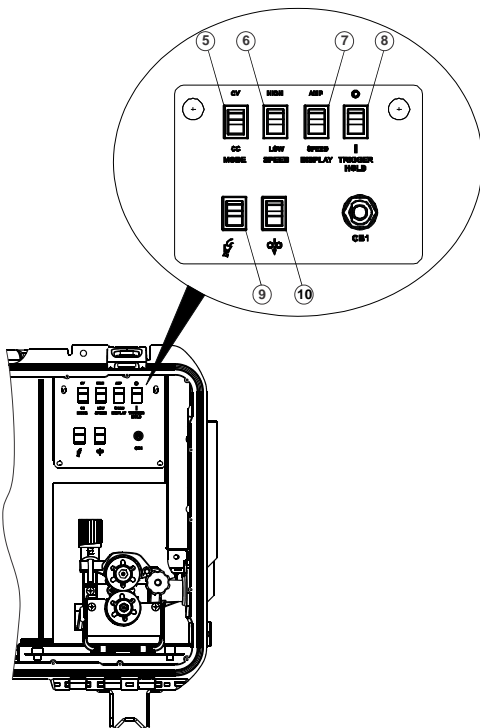
To stop welding, press and release the trigger.

9 Jog Switch

Pressing the Jog switch allows the operator to jog wire without energizing the contactor or gas valve.

10 Purge Switch

Pressing the Purge switch allows the operator to purge gas lines before welding and to preset gas flow rate at the flowmeter.



# SECTION 5 - MAINTENANCE & TROUBLESHOOTING

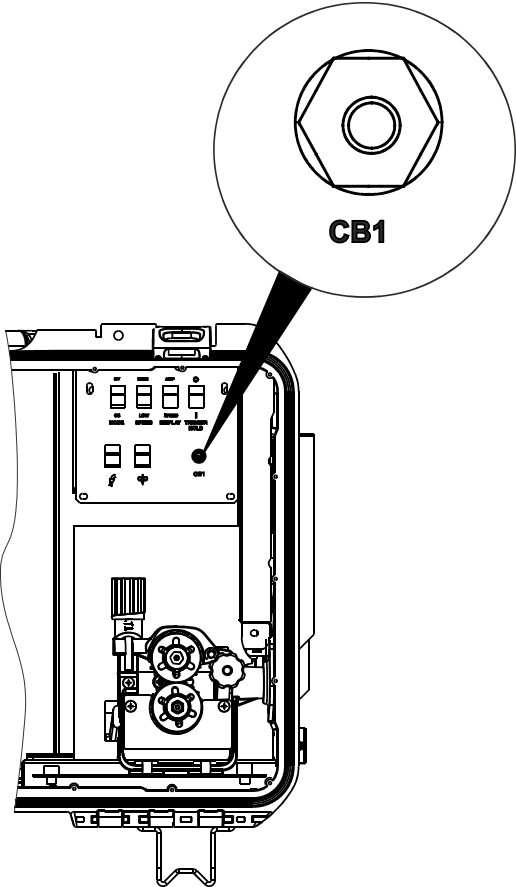
## 5-1 Routine Maintenance

	<b>CAUTION</b>							SEE SAFETY BLOCKS at beginning of manual before proceeding.
--	----------------	--	--	--	--	--	--	---

	☐ = Check      = Change      = Clean      = Replace
Every 3 Months	<p>Replace Damaged Or Unreadable Labels</p> <p>Replace Damaged Gas Hose</p>
	<p>Repair Or Replace Cracked Cables And Cords</p>
Every 6 Months	<p>Clean Drive Rolls</p> <p>Blow Out Or Vacuum Inside</p>

## 5-2 Overload Protection And Thermostat Protection

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**CB1**

**⚠ Turn Off wire feeder and welding power source.**

1 Supplementary Protector CB1

CB1 protects wire feeder from overload. Correct problem and reset CB1.

Close and latch door.

**Thermostat Protection**

Unit has internal thermostat protection and will not feed wire if overheating occurs.

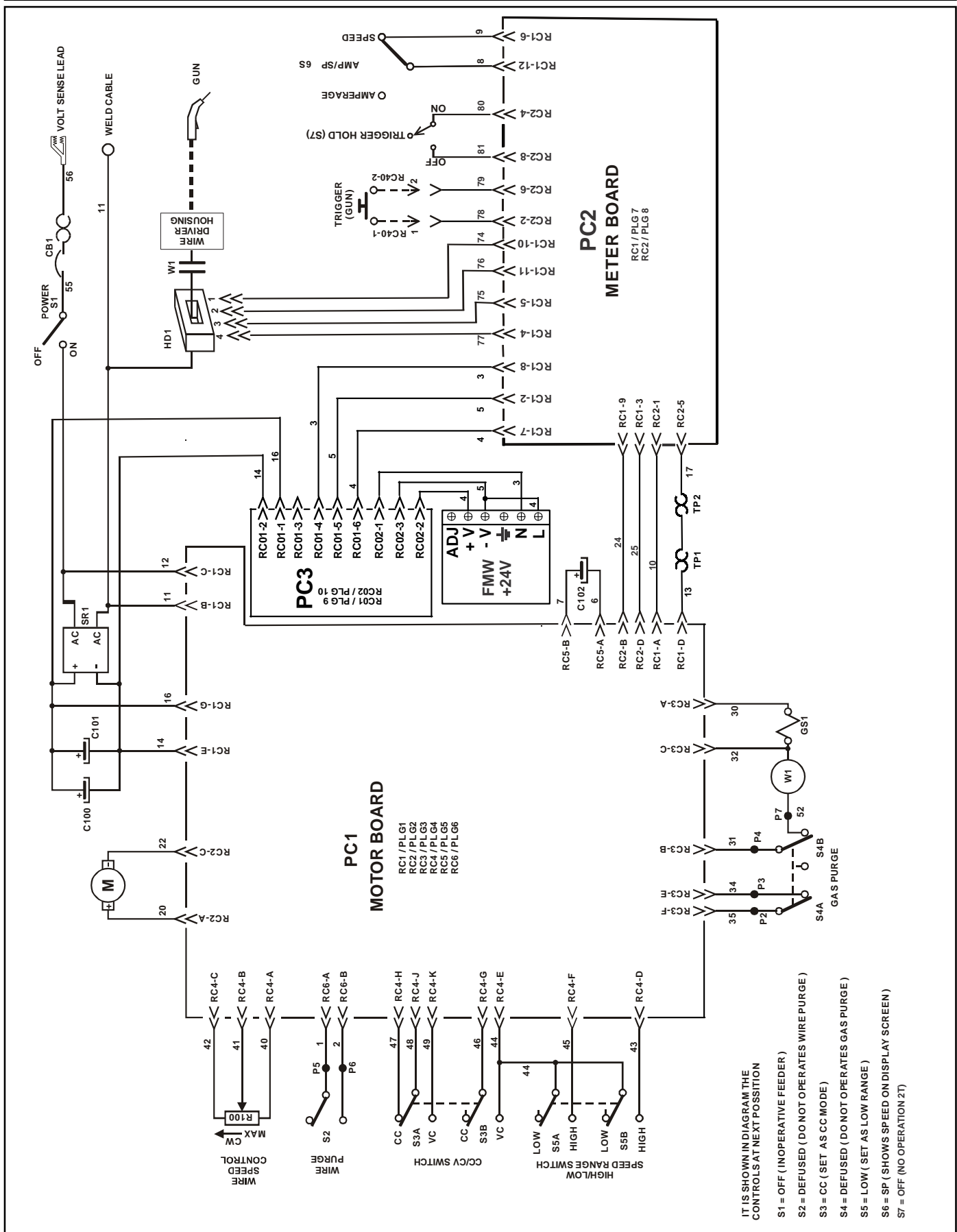
FIGURE 5-1 Overload Protection And Thermostat Protection



## 5-3 Troubleshooting

Trouble	Remedy
Wire does not feed; open-circuit voltage available.	Check power switch S1 and connections, and replace if necessary.
	Check supplementary protector CB1. Reset CB1.
	Unit overheated. Allow unit to cool.
	Check sensing lead connection.
	Check gun trigger plug connection.
	Check gun trigger. See gun Owner's Manual.
	Have Factory Authorized Service Agent check Motor Control Board (PC1).
Wire feeds erratically.	Readjust hub tension (see Section 3-7).
	Readjust drive roll pressure (see Section 3-7).
	Clean or replace dirty or worn drive roll (see Section 3-2).
	Remove weld spatter around gun nozzle opening.
	Replace contact tip or liner. See gun Owner's Manual.
	Change to correct size and type drive roll (see Section 3-2)
	Check that Power Pin Tip is correct size (see Section 3-3).
	Have Factory Authorized Service Agent check Motor Control Board (PC1).
Motor runs slowly.	Readjust hub tension (see Section 3-7).
	Check and replace contact tip or liner if necessary. See gun Owner's Manual
	Have Factory Authorized Service Agent check Motor 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
	Have Factory Authorized Service Agent check Motor Control Board (PC1).
Wire stubbing on low end using a constant current power source or feeder resets.	Make sure CC/CV switch is in CC position (see Section 4-1).
	Increase power source inductance setting if available.
	Increase output setting of power source or decrease wire feed speed.
Gas does not flow or does not stop flowing; wire feeds.	Clear blockage in gas hose or replace hose.
	Clear blockage in welding gun.
	Check gas valve.
	Check coil voltage and connections of gas valve GS1. Check continuity of coil. Replace GS1 if necessary.
	Have Factory Authorized Service Agent check Motor Control Board (PC1).
Wire remains energized after trigger is released.	Check setting of trigger hold switch, if applicable.
	Check contactor W1 to see if contacts are frozen closed.

# SECTION 6 ELECTRICAL DIAGRAM



IT IS SHOWN IN DIAGRAM THE CONTROLS AT NEXT POSITION

S1 = OFF (INOPERATIVE FEEDER)  
 S2 = DEFUSED (DO NOT OPERATES WIRE PURGE)  
 S3 = CC (SET AS CC MODE)  
 S4 = DEFUSED (DO NOT OPERATES GAS PURGE)  
 S5 = LOW (SET AS LOW RANGE)  
 S6 = SP (SHOWS SPEED ON DISPLAY SCREEN)  
 S7 = OFF (NO OPERATION 2T)

## SECTION 7 PARTS LIST

IT. No.	PART No.	DESCRIPTION	QUANTITY
1	PM0851	CASE	1
2	PC2123	CHASSIS	1
3	PM1240	GEARMOTOR	1
4	PS1612	HUB SUPPORT	1
5	MP08414	HUB	1
6	PS1618	SPOOL, HUB SUPPORT	1
7	MC10209	CONTACTOR	1
8	PS1399	BUS-BAR INPUT	1
9	PS1630	BUS-BAR OUTPUT	1
10	MM04279	GAS HOSE	1
11	PA0940	CAPACITOR, INSULATOR	1
12	MC10885	ELECTROLITIC CAPACITOR	2
13	PA0936	CAPACITOR, CLAMP	1
14	PA0957	CAPACITOR, INSULATOR	1
15	MC10895	ELECTROLITIC CAPACITOR	1
16	PA0941	CAPACITOR, CLAMP	1
17	PA1056	GEARMOTOR INSULATOR	1
18	MS03964	STRAIN RELIEF	1
19	MV01050	SOLENOID VALVE	1
20	PT1071	RETAINING NUT FOR SOLENOID VALVE	1
21	MP08335	RECTIFIER, BRIDGE	1
22	MT08470	CURRENT TRANSDUCER	1
23	MT08503	THERMOSTAT	2
24	PT2143	CIRCUIT CARD, CONTROL	1
25	PT2145	MOTOR INSULATOR	1
26	126693	WORK CLAMP AND LEAD	1
27	PT2547	HEEL, SUPPORT	2
28	PT2566	COVER, COMPONENTS	1
29	PP3591	PLATE, INNER CONTROLS	1
30	MR09816	THERMAL CIRCUIT BREAKER	1
31	MI01227	SWITCH DPDT	4
32	PP3592	VALVE PLATE	1
33	MC11467	CIRCUIT CARD, DIGITAL METER	1
34	MP02512	POTENTIOMETER	1
35	PF0925	PLATE, CONTROLS	1
36	MI01281	SWITCH DPDT	2
37	MI01178	SWITCH SPST	1
38	MP08416	KNOB	1
39	PA0928	MALE INSULATOR	6
40	PA0929	FEMALE ISOLATOR	8
41	PS1634	MOTORGear SEPARATOR	1
42	PS1636	MOTORGear SEPARATOR	1
43	MS03965	SCREW GROMMENT	14
44	PC1864	WELD CABLE	1
45	PT3477	CIRCUIT CARD, VOLTAGE SELECTOR	1
46	PR1144	VALVE REINFORCEMENT	1
47	PR1145	VALVE PLATE, CLAMP	2
48	PA1197	AUXILIARY SOURCE, CLAMP	1
49	MF02383	AUXILIARY SOURCE	1
50	LC-40HD	WELD LEAD CONNECTION	1

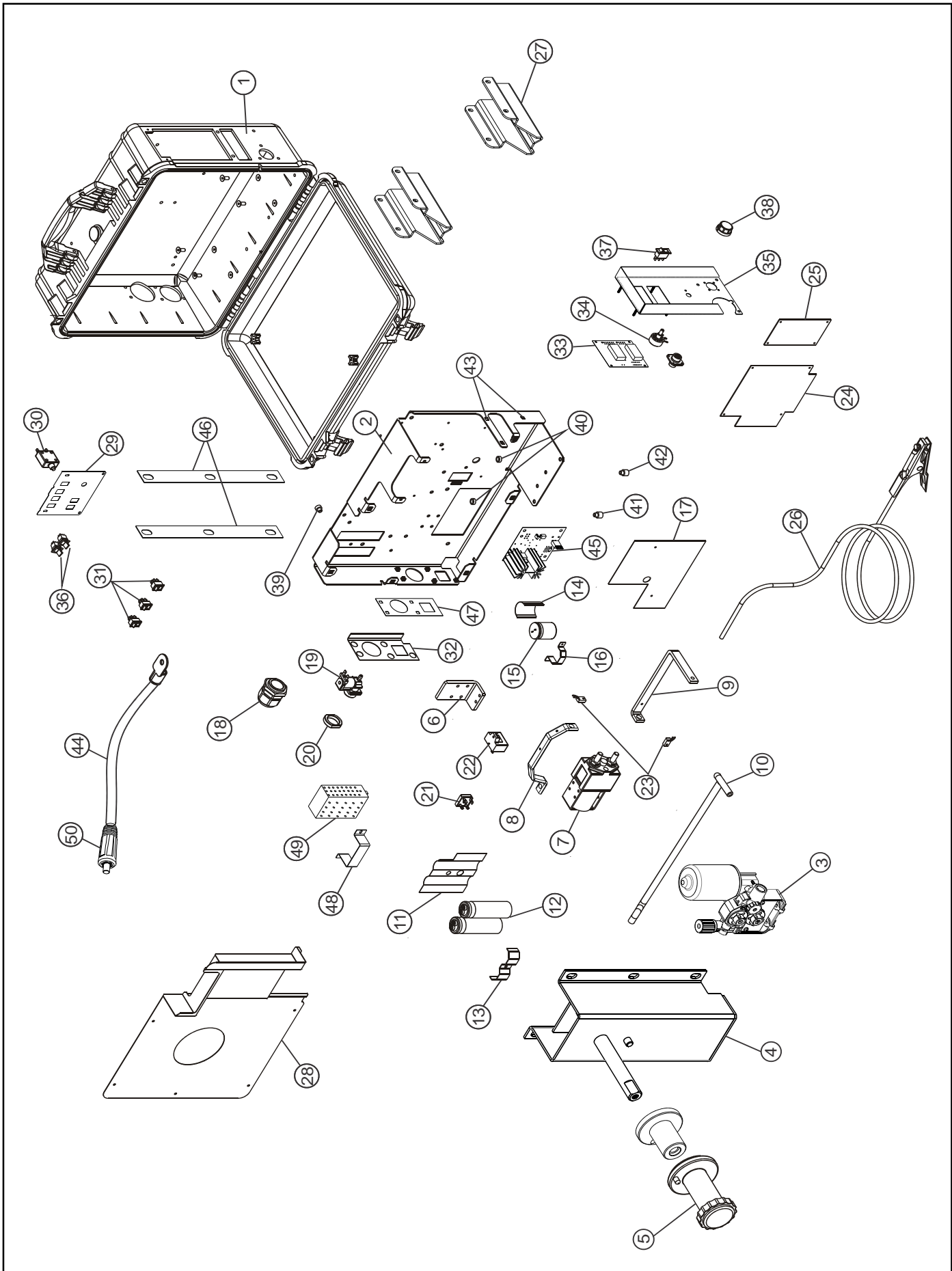
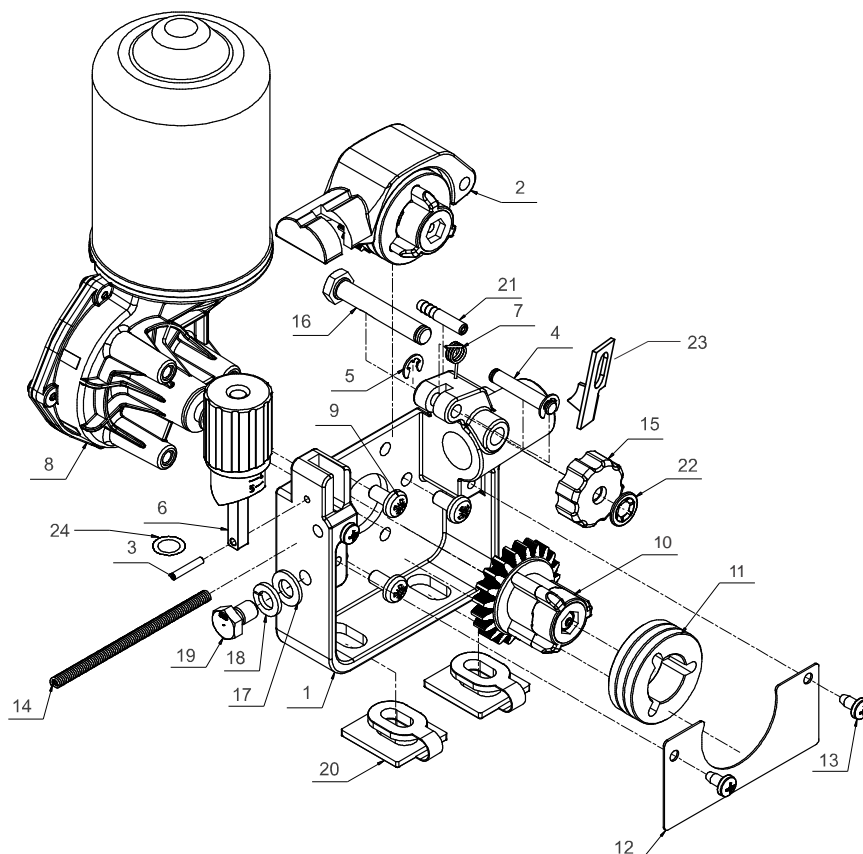


FIGURE 7-1 General Assembly

### LIST 7-2 Part List of Feeder Mechanism of Wire

IT. No	PART No.	DESCRIPTION	QUANTITY
1	PB2303	Feed plate with groove	1
2	MB06011R	Arm compl (W ith central gear)	1
3	MP08505R	Spring pin	1
4	MF02408R	Shaft	1
5	MA04084R	Retaining washer	2
6	MB06013R	Wire pressure knob	1
7	MR10180R	Spring	1
8	MM04285R	Motor	1
9	MT08689R	Screw M6 x 12	3
10	ME02417R	Drive gear	1
11	-----	Roll (Ask to your distributor)	2
12	MT08690R	Cover safety	1
13	MT08686R	Screw	2
14	MG02226R	Inlet guide tube	1
15	PP4429	Fix knob (Gun loking tab)	1
16	MT08685R	Fix bolt	1
17	MR10178R	Washer	1
18	MR10177R	Pressure washer	1
19	MT08687R	Screw (8mm x 20 mm)	1
20	MA04083R	Insulator	2
21	ME02416R	Gas inlet pin	1
22	MR10176R	Retaining washer	1
23	PS2098	Gun loking tab	1
24	ME02451	Arm central gear	1



**FIGURE 7-3 Assembly of Feeder Mechanism**

# GUIDE TO INSTALL HEELS

To install the heels on the case supports, read the following instruction.

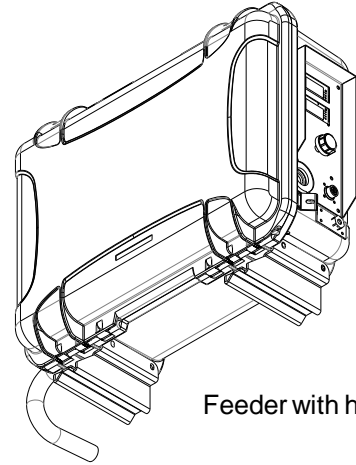
Feeder offers the choice of using 2 heels to keep it balanced while the cover is opened.

If required this choice, proceed as next:

a) Find front and rear heels.

b) Set each heel to the base as the figure shows, using the appropriate screws.

- 1.- PT2547 heel (2 pieces)
- 2.- MT08181 Screw (4 pieces)
- 3.- MT08294 Nut (4 pieces)
- 4.- MR09993 Flat rondana (8 pieces)
- 5.- MR09990 Pressure washer (4 pieces)
- 6.- PT3496 Long reinforcing tube (2 pieces)
- 7.- PT3497 Short reinforcement tube (4 pieces)



Feeder with heels placed

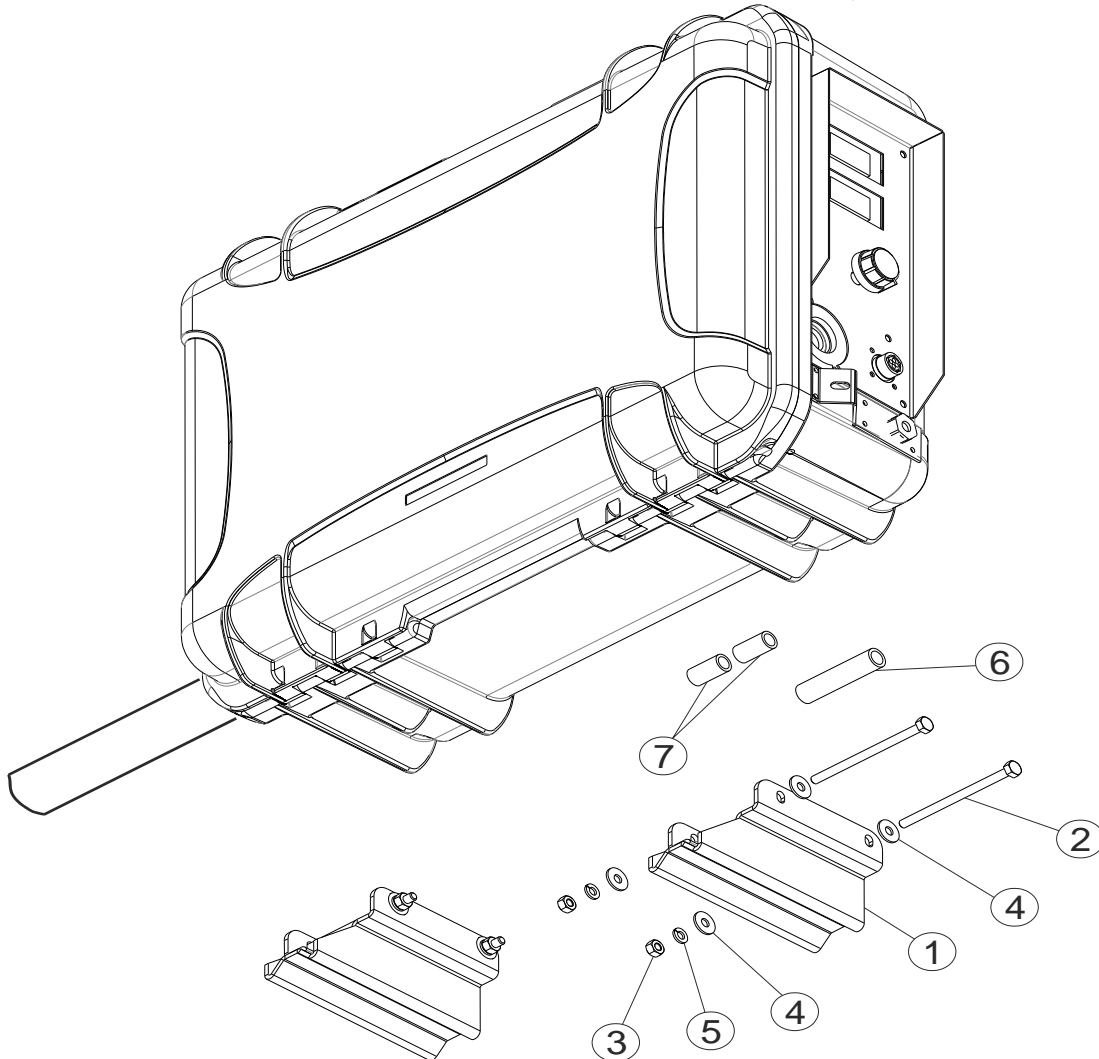


FIGURE 7-2 Heels Installation



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Consumable products manufactured by <b>PROFAX</b> .....	30 Days
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Esab®, Lincoln®, Miller® and <b>PROFAX</b> Drive Rolls .....	90 Days
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