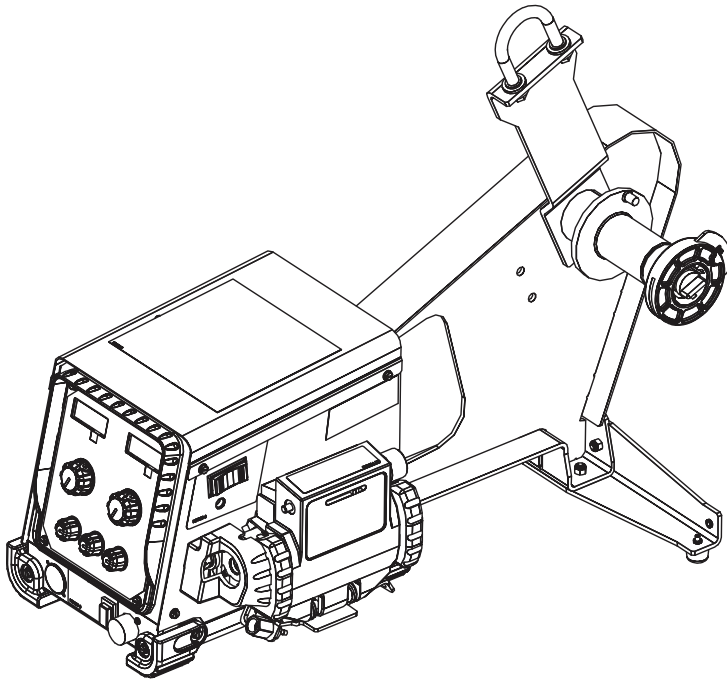


# Operator's Manual

# **FLEX FEED™ 74 HT**



For use with machines having Code Numbers:  
**12039, 12040, 12041, 12042,**  
**12045, 12046, 12051, 12052,**  
**12519, 12567, 12568, 12570,**  
**12573, 12574, 12616**



**Register your machine:**  
[www.lincolnelectric.com/registration](http://www.lincolnelectric.com/registration)

**Authorized Service and Distributor Locator:**  
[www.lincolnelectric.com/locator](http://www.lincolnelectric.com/locator)

**Save for future reference**

Date Purchased

Code: (ex: 10859)

Serial: (ex: U1060512345)

# THANK YOU FOR SELECTING A QUALITY PRODUCT BY LINCOLN ELECTRIC.

## PLEASE EXAMINE CARTON AND EQUIPMENT FOR DAMAGE IMMEDIATELY

When this equipment is shipped, title passes to the purchaser upon receipt by the carrier. Consequently, claims for material damaged in shipment must be made by the purchaser against the transportation company at the time the shipment is received.

## SAFETY DEPENDS ON YOU

Lincoln arc welding and cutting equipment is designed and built with safety in mind. However, your overall safety can be increased by proper installation ... and thoughtful operation on your part. **DO NOT INSTALL, OPERATE OR REPAIR THIS EQUIPMENT WITHOUT READING THIS MANUAL AND THE SAFETY PRECAUTIONS CONTAINED THROUGHOUT.** And, most importantly, think before you act and be careful.

### **WARNING**

This statement appears where the information must be followed exactly to avoid serious personal injury or loss of life.

### **CAUTION**

This statement appears where the information must be followed to avoid minor personal injury or damage to this equipment.



## KEEP YOUR HEAD OUT OF THE FUMES.

**DON'T** get too close to the arc. Use corrective lenses if necessary to stay a reasonable distance away from the arc.

**READ** and obey the Safety Data Sheet (SDS) and the warning label that appears on all containers of welding materials.

**USE ENOUGH VENTILATION** or exhaust at the arc, or both, to keep the fumes and gases from your breathing zone and the general area.

**IN A LARGE ROOM OR OUTDOORS**, natural ventilation may be adequate if you keep your head out of the fumes (See below).

**USE NATURAL DRAFTS** or fans to keep the fumes away from your face.

If you develop unusual symptoms, see your supervisor. Perhaps the welding atmosphere and ventilation system should be checked.



## WEAR CORRECT EYE, EAR & BODY PROTECTION

**PROTECT** your eyes and face with welding helmet properly fitted and with proper grade of filter plate (See ANSI Z49.1).

**PROTECT** your body from welding spatter and arc flash with protective clothing including woolen clothing, flame-proof apron and gloves, leather leggings, and high boots.

**PROTECT** others from splatter, flash, and glare with protective screens or barriers.

**IN SOME AREAS**, protection from noise may be appropriate.

**BE SURE** protective equipment is in good condition.

Also, wear safety glasses in work area **AT ALL TIMES.**



## SPECIAL SITUATIONS

**DO NOT WELD OR CUT** containers or materials which previously had been in contact with hazardous substances unless they are properly cleaned. This is extremely dangerous.

**DO NOT WELD OR CUT** painted or plated parts unless special precautions with ventilation have been taken. They can release highly toxic fumes or gases.

## Additional precautionary measures

**PROTECT** compressed gas cylinders from excessive heat, mechanical shocks, and arcs; fasten cylinders so they cannot fall.

**BE SURE** cylinders are never grounded or part of an electrical circuit.

**REMOVE** all potential fire hazards from welding area.

**ALWAYS HAVE FIRE FIGHTING EQUIPMENT READY FOR IMMEDIATE USE AND KNOW HOW TO USE IT.**



## SECTION A: WARNINGS



### CALIFORNIA PROPOSITION 65 WARNINGS



**WARNING:** Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects, or other reproductive harm.

- Always start and operate the engine in a well-ventilated area.
- If in an exposed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system.
- Do not idle the engine except as necessary.

For more information go to [www.P65warnings.ca.gov/diesel](http://www.P65warnings.ca.gov/diesel)

**WARNING:** This product, when used for welding or cutting, produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety Code § 25249.5 *et seq.*)



**WARNING:** Cancer and Reproductive Harm  
[www.P65warnings.ca.gov](http://www.P65warnings.ca.gov)

**ARC WELDING CAN BE HAZARDOUS. PROTECT YOURSELF AND OTHERS FROM POSSIBLE SERIOUS INJURY OR DEATH. KEEP CHILDREN AWAY. PACEMAKER WEARERS SHOULD CONSULT WITH THEIR DOCTOR BEFORE OPERATING.**

Read and understand the following safety highlights. For additional safety information, it is strongly recommended that you purchase a copy of "Safety in Welding & Cutting - ANSI Standard Z49.1" from the American Welding Society, P.O. Box 351040, Miami, Florida 33135 or CSA Standard W117.2-1974. A Free copy of "Arc Welding Safety" booklet E205 is available from the Lincoln Electric Company, 22801 St. Clair Avenue, Cleveland, Ohio 44117-1199.

**BE SURE THAT ALL INSTALLATION, OPERATION, MAINTENANCE AND REPAIR PROCEDURES ARE PERFORMED ONLY BY QUALIFIED INDIVIDUALS.**



### FOR ENGINE POWERED EQUIPMENT.

- 1.a. Turn the engine off before troubleshooting and maintenance work unless the maintenance work requires it to be running.
- 1.b. Operate engines in open, well-ventilated areas or vent the engine exhaust fumes outdoors.
- 1.c. Do not add the fuel near an open flame welding arc or when the engine is running. Stop the engine and allow it to cool before refueling to prevent spilled fuel from vaporizing on contact



with hot engine parts and igniting. Do not spill fuel when filling tank. If fuel is spilled, wipe it up and do not start engine until fumes have been eliminated.

- 1.d. Keep all equipment safety guards, covers and devices in position and in good repair. Keep hands, hair, clothing and tools away from V-belts, gears, fans and all other moving parts when starting, operating or repairing equipment.
- 1.e. In some cases it may be necessary to remove safety guards to perform required maintenance. Remove guards only when necessary and replace them when the maintenance requiring their removal is complete. Always use the greatest care when working near moving parts.
- 1.f. Do not put your hands near the engine fan. Do not attempt to override the governor or idler by pushing on the throttle control rods while the engine is running.
- 1.g. To prevent accidentally starting gasoline engines while turning the engine or welding generator during maintenance work, disconnect the spark plug wires, distributor cap or magneto wire as appropriate.
- 1.h. To avoid scalding, do not remove the radiator pressure cap when the engine is hot.



### ELECTRIC AND MAGNETIC FIELDS MAY BE DANGEROUS



- 2.a. Electric current flowing through any conductor causes localized Electric and Magnetic Fields (EMF). Welding current creates EMF fields around welding cables and welding machines
- 2.b. EMF fields may interfere with some pacemakers, and welders having a pacemaker should consult their physician before welding.
- 2.c. Exposure to EMF fields in welding may have other health effects which are now not known.
- 2.d. All welders should use the following procedures in order to minimize exposure to EMF fields from the welding circuit:
  - 2.d.1. Route the electrode and work cables together - Secure them with tape when possible.
  - 2.d.2. Never coil the electrode lead around your body.
  - 2.d.3. Do not place your body between the electrode and work cables. If the electrode cable is on your right side, the work cable should also be on your right side.
  - 2.d.4. Connect the work cable to the workpiece as close as possible to the area being welded.
  - 2.d.5. Do not work next to welding power source.



## ELECTRIC SHOCK CAN KILL.



- 3.a. The electrode and work (or ground) circuits are electrically “hot” when the welder is on. Do not touch these “hot” parts with your bare skin or wet clothing. Wear dry, hole-free gloves to insulate hands.
- 3.b. Insulate yourself from work and ground using dry insulation. Make certain the insulation is large enough to cover your full area of physical contact with work and ground.

**In addition to the normal safety precautions, if welding must be performed under electrically hazardous conditions (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, if there is a high risk of unavoidable or accidental contact with the workpiece or ground) use the following equipment:**

- Semiautomatic DC Constant Voltage (Wire) Welder.
  - DC Manual (Stick) Welder.
  - AC Welder with Reduced Voltage Control.
- 3.c. In semiautomatic or automatic wire welding, the electrode, electrode reel, welding head, nozzle or semiautomatic welding gun are also electrically “hot”.
  - 3.d. Always be sure the work cable makes a good electrical connection with the metal being welded. The connection should be as close as possible to the area being welded.
  - 3.e. Ground the work or metal to be welded to a good electrical (earth) ground.
  - 3.f. Maintain the electrode holder, work clamp, welding cable and welding machine in good, safe operating condition. Replace damaged insulation.
  - 3.g. Never dip the electrode in water for cooling.
  - 3.h. Never simultaneously touch electrically “hot” parts of electrode holders connected to two welders because voltage between the two can be the total of the open circuit voltage of both welders.
  - 3.i. When working above floor level, use a safety belt to protect yourself from a fall should you get a shock.
  - 3.j. Also see Items 6.c. and 8.



## ARC RAYS CAN BURN.



- 4.a. Use a shield with the proper filter and cover plates to protect your eyes from sparks and the rays of the arc when welding or observing open arc welding. Headshield and filter lens should conform to ANSI Z87.1 standards.
- 4.b. Use suitable clothing made from durable flame-resistant material to protect your skin and that of your helpers from the arc rays.
- 4.c. Protect other nearby personnel with suitable, non-flammable screening and/or warn them not to watch the arc nor expose themselves to the arc rays or to hot spatter or metal.



## FUMES AND GASES CAN BE DANGEROUS.



- 5.a. Welding may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases. When welding, keep your head out of the fume. Use enough ventilation and/or exhaust at the arc to keep fumes and gases away from the breathing zone. **When welding hardfacing (see instructions on container or SDS) or on lead or cadmium plated steel and other metals or coatings which produce highly toxic fumes, keep exposure as low as possible and within applicable OSHA PEL and ACGIH TLV limits using local exhaust or mechanical ventilation unless exposure assessments indicate otherwise. In confined spaces or in some circumstances, outdoors, a respirator may also be required. Additional precautions are also required when welding on galvanized steel.**
- 5.b. The operation of welding fume control equipment is affected by various factors including proper use and positioning of the equipment, maintenance of the equipment and the specific welding procedure and application involved. Worker exposure level should be checked upon installation and periodically thereafter to be certain it is within applicable OSHA PEL and ACGIH TLV limits.
- 5.c. Do not weld in locations near chlorinated hydrocarbon vapors coming from degreasing, cleaning or spraying operations. The heat and rays of the arc can react with solvent vapors to form phosgene, a highly toxic gas, and other irritating products.
- 5.d. Shielding gases used for arc welding can displace air and cause injury or death. Always use enough ventilation, especially in confined areas, to insure breathing air is safe.
- 5.e. Read and understand the manufacturer’s instructions for this equipment and the consumables to be used, including the Safety Data Sheet (SDS) and follow your employer’s safety practices. SDS forms are available from your welding distributor or from the manufacturer.
- 5.f. Also see item 1.b.



## WELDING AND CUTTING SPARKS CAN CAUSE FIRE OR EXPLOSION.



- 6.a. Remove fire hazards from the welding area. If this is not possible, cover them to prevent the welding sparks from starting a fire. Remember that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas. Avoid welding near hydraulic lines. Have a fire extinguisher readily available.
- 6.b. Where compressed gases are to be used at the job site, special precautions should be used to prevent hazardous situations. Refer to "Safety in Welding and Cutting" (ANSI Standard Z49.1) and the operating information for the equipment being used.
- 6.c. When not welding, make certain no part of the electrode circuit is touching the work or ground. Accidental contact can cause overheating and create a fire hazard.
- 6.d. Do not heat, cut or weld tanks, drums or containers until the proper steps have been taken to insure that such procedures will not cause flammable or toxic vapors from substances inside. They can cause an explosion even though they have been "cleaned". For information, purchase "Recommended Safe Practices for the Preparation for Welding and Cutting of Containers and Piping That Have Held Hazardous Substances", AWS F4.1 from the American Welding Society (see address above).
- 6.e. Vent hollow castings or containers before heating, cutting or welding. They may explode.
- 6.f. Sparks and spatter are thrown from the welding arc. Wear oil free protective garments such as leather gloves, heavy shirt, cuffless trousers, high shoes and a cap over your hair. Wear ear plugs when welding out of position or in confined places. Always wear safety glasses with side shields when in a welding area.
- 6.g. Connect the work cable to the work as close to the welding area as practical. Work cables connected to the building framework or other locations away from the welding area increase the possibility of the welding current passing through lifting chains, crane cables or other alternate circuits. This can create fire hazards or overheat lifting chains or cables until they fail.
- 6.h. Also see item 1.c.
- 6.i. Read and follow NFPA 51B "Standard for Fire Prevention During Welding, Cutting and Other Hot Work", available from NFPA, 1 Batterymarch Park, PO box 9101, Quincy, MA 022690-9101.
- 6.j. Do not use a welding power source for pipe thawing.



## CYLINDER MAY EXPLODE IF DAMAGED.



- 7.a. Use only compressed gas cylinders containing the correct shielding gas for the process used and properly operating regulators designed for the gas and pressure used. All hoses, fittings, etc. should be suitable for the application and maintained in good condition.
- 7.b. Always keep cylinders in an upright position securely chained to an undercarriage or fixed support.
- 7.c. Cylinders should be located:
  - Away from areas where they may be struck or subjected to physical damage.
  - A safe distance from arc welding or cutting operations and any other source of heat, sparks, or flame.
- 7.d. Never allow the electrode, electrode holder or any other electrically "hot" parts to touch a cylinder.
- 7.e. Keep your head and face away from the cylinder valve outlet when opening the cylinder valve.
- 7.f. Valve protection caps should always be in place and hand tight except when the cylinder is in use or connected for use.
- 7.g. Read and follow the instructions on compressed gas cylinders, associated equipment, and CGA publication P-1, "Precautions for Safe Handling of Compressed Gases in Cylinders," available from the Compressed Gas Association, 14501 George Carter Way Chantilly, VA 20151.



## FOR ELECTRICALLY POWERED EQUIPMENT.



- 8.a. Turn off input power using the disconnect switch at the fuse box before working on the equipment.
- 8.b. Install equipment in accordance with the U.S. National Electrical Code, all local codes and the manufacturer's recommendations.
- 8.c. Ground the equipment in accordance with the U.S. National Electrical Code and the manufacturer's recommendations.

**Refer to**  
**<http://www.lincolnelectric.com/safety>**  
**for additional safety information.**

	Page
<b>Graphic Symbols</b> .....	7
<hr/>	
<b>Product Description</b> .....	<b>8</b>
Duty Cycle .....	8
Recommended Processes.....	8
Process Limitations .....	8
Equipment Limitations .....	8
Recommended Power Sources .....	8
<hr/>	
<b>Installation</b> .....	<b>Section A</b>
Technical Specifications.....	A-1
Model Numbers for Basic and Advanced User Interface.....	A-2
Safety Precaution.....	A-3
Location and Drive Roll and Wire Guides .....	A-3
Feed Plate Pressure Adjustment .....	A-4
Gun Adapters .....	A-5 thru A-11
Pinion Gear Ratio.....	A-12
Rotating the Feed Plate.....	A-13
Left Hand Wire Drive .....	A-14 thru A-22
Water Cooling Kit.....	A-23
Shielding Gas .....	A-24
Loading Spools of Wire.....	A-25, A-26
Wire Reel Stands .....	A-27
Electrical Installation.....	A-28
Non Lincoln Equipment Adapter.....	A-29
Relay Connections .....	A-30
<hr/>	
<b>Operation</b> .....	<b>Section B</b>
Front and Side View .....	B-1
Rear View .....	B-2
Wire Feed Speed Knob.....	B-3
Remote Voltage Control Knob.....	B-3
2-Step / Trigger Interlock Switch.....	B-3
Thermal LED .....	B-3
Cold Feed .....	B-3
Gas Purge .....	B-3
Digital Meters .....	B-3
Timer Kit.....	B-3
Power Up Sequence.....	B-4
User Interface .....	B-4
Gouging Kit.....	B-5
<hr/>	
<b>Accessories</b> .....	<b>Section C</b>
Optional Kits and Accessories .....	C-1
Gun Adapter Kits .....	C-2
Cables .....	C-3
General Accessories.....	C-4
Accessories Included with the Flex Feed™ 74 HT.....	C-5
<hr/>	
<b>Maintenance</b> .....	<b>Section D</b>
Safety Precautions.....	D-1
Routine Maintenance .....	D-1
Periodic Maintenance .....	D-1
Calibration Specification.....	D-1, D-2
<hr/>	
<b>Troubleshooting</b> .....	<b>Section E</b>
Safety Precautions .....	E-1
How to Use Troubleshooting Guide .....	E-1
Troubleshooting Guide.....	E-2, E-3
<hr/>	
<b>Wiring Diagrams and Dimension Prints</b> .....	<b>Section F</b>
<hr/>	
<b>Parts List</b> .....	<b>parts.lincolnelectric.com</b>

Content/details may be changed or updated without notice. For most current Instruction Manuals, go to [parts.lincolnelectric.com](http://parts.lincolnelectric.com).

GRAPHIC SYMBOLS THAT APPEAR ON FLEX FEED™ 74 HT OR IN THIS MANUAL



WARNING OR CAUTION



INPUT POWER



ON



OFF



POSITIVE OUTPUT



NEGATIVE OUTPUT



PROTECTIVE GROUND

$U_1$

INPUT VOLTAGE

$I_1$

INPUT CURRENT

$I_2$

OUTPUT CURRENT

A

WELDING AMPERAGE

V

WELDING VOLTAGE



WIRE FEEDER



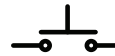
REMOTE VOLTAGE CONTROL



GMAW/FCAW PROCESS



CARBON ARC GOUGING PROCESS



CONTACTOR



COLD FEED



GAS PURGE



SHIELDING GAS INLET



SHIELDING GAS OUTLET



PREFLOW



BURNBACK



POSTFLOW



2-STEP TRIGGER



TRIGGER INTERLOCK



THERMAL

**GENERAL PHYSICAL DESCRIPTION**

The Flex Feed 74 HT is a heavy duty industrial wire feeder. At the heart of the feeder is the proven wire drive and motor, capable of feeding large diameter electrodes and pulling through long conduits.

The feed plate may be located on either the left or right hand side of the wire drive housing for easy integration into any work center. The feed plate rotates easily to lessen strain on the gun.

Two wire reel stands are available for optimizing the feeder size to the consumable package.

A new series of gun adapters has been created for improved reliability and lower voltage drop.

**GENERAL FUNCTIONAL DESCRIPTION**

The base model Flex Feed™ 74 HT has knobs for wire feed speed and remote voltage control. A large rocker switch on the side of the feeder allows for activation of Cold Feed and Gas Purge.

2-step/Trigger Interlock offers operator comfort when making long welds.

Two wire feed speed ranges are available, dependent upon the pinion gear installed in the wire drive.

The advanced user interface includes digital meters for the display of amperage and voltage while welding. The displays do not show preset values. The user interface also has timers for preflow, burnback and postflow.

The gouging option provides a means for connecting the gouging torch to the feeder and a switch for activating the power source output. High powered contactors inside the wire feeder isolate the wire drive and the gouging circuit.

**DUTY CYCLE**

The FLEX FEED™ 74 HT wire feeders are intended for semi-automatic use. The maximum rating of the FLEX FEED™ 74 HT is based upon a 60% duty cycle; welding 6 minutes of welding followed by 4 minutes of idling within a 10 minute period.

**RECOMMENDED PROCESSES**

- GMAW
- FCAW
- Hand-held SAW
- CCAG (with gouging option installed)

**PROCESS LIMITATIONS**

- Processes must be within the duty cycle and rating of the wire feeder.

**EQUIPMENT LIMITATIONS**

- Does not include weld cables
- Operates on 24 – 42 VAC input
- Must use newer gun adapter kits. Not compatible with K1500-1, K1500-2, K1500-3, K1500-4 K1500-5 and K489-7 gun adapter kits.

**RECOMMENDED POWER SOURCES**

<b>Power Source</b>
Flextec 450
Flextec 650
V-350
CV-305
CV-400
DC-400
DC-600
DC-655
DC-1000
Ranger 250 GXT
Ranger 305 G, LPG,D
Vantage 300
Vantage 400
Vantage 500
Air Vantage 500



**TECHNICAL SPECIFICATIONS – FLEX FEED™ 74 HT (K3883-XX)**

<b>INPUT VOLTAGE and CURRENT</b>				
<b>VOLTAGE</b>		<b>INPUT AMPERES</b>		<b>NOTES</b>
24 – 42 VAC		10A		Wire Drive
<b>RATED OUTPUT @ 104°F (40°C)</b>				
		<b>DUTY CYCLE</b>	<b>INPUT AMPERES</b>	
No Gouging Kit		Wire Drive	60%	600 Amps
With Gouging Kit		Wire Drive	60%	500 Amps
		Gouging Stud	30%	600 Amps
<b>GEARING - WIRE FEED SPEED RANGE-WIRE SIZE</b>				
<b>PINION GEAR</b>		<b>WFS RANGE</b>	<b>WIRE SIZES</b>	
20 tooth*		50 – 500 inch/min (1.3 – 12.7 m/min)	<b>GMAW</b>	<b>FCAW</b>
			.025” – 3/32” (0.6 – 2.4 mm)	.035” - .120” (0.9 – 3.0 mm)
30 tooth		50 – 700 inch/min (1.3 – 19.0 m/min)	.025” – 1/16” (0.9 – 1.6 mm)	.035 – 5/64” (0.9 – 2.0 mm)
<b>PHYSICAL DIMENSIONS</b>				
<b>HEIGHT</b>		<b>WIDTH</b>	<b>DEPTH</b>	<b>WEIGHT</b>
Wire Drive (only)	11.1 Inches (294mm)	13.6 Inches (345mm)	13.3 Inches (337mm)	36 lbs. (16.3kg)
<b>TEMPERATURE RANGE</b>				
<b>OPERATION:</b>		-40°F to 104°F (-40°C to 40°C)		
<b>STORAGE:</b>		-40°F to 122°F (-40°C to 50°C)		

Thermal tests have been performed at ambient temperature. The Duty Cycle (duty factor) @ 40°C (104°F) has been determined by simulation.

\* = gearing installed in the wire drive as equipped from the factory.



IP2X for the wire drive and user interface.

### MODEL NUMBERS FOR BASIC AND ADVANCED USER INTERFACE

MODEL K#	User Interface	Wire Reel Stand	Gun	Gouging Kit
K3883-1	Basic	-	-	-
K3883-2	Advanced	-	-	-
K3883-3	Basic	-	-	Yes
K3883-4	Advanced	-	-	Yes
K3883-5	Basic	Standard Duty	-	-
K3883-6	Advanced	Standard Duty	-	-
K3883-7	Basic	Standard Duty	-	Yes
K3883-8	Advanced	Standard Duty	-	Yes
K3883-9	Advanced	Standard Duty	300A-.035-.045	-
K3883-10	Advanced	Standard Duty	400A-.052-1/16	-
K3883-11	Basic	Heavy Duty	-	-
K3883-12	Advanced	Heavy Duty	-	-
K3883-13	Basic	Heavy Duty	-	Yes
K3883-14	Advanced	Heavy Duty	-	Yes
K3883-15	Basic	Heavy Duty	300A-.035-.045	Yes
K3883-16	Basic	Heavy Duty	400A-.052-1/16	Yes
K3883-17	Basic	Heavy Duty	K126 PRO	Yes

## SAFETY PRECAUTIONS

**WARNING****ELECTRIC SHOCK CAN KILL.**

- **ONLY QUALIFIED PERSONNEL SHOULD PERFORM THIS INSTALLATION.**
- Turn the input power **OFF** at the disconnect switch or fuse box before attempting to connect or disconnect input power lines, output cables or control cables.

- Do not touch the wire drive, drive rolls, wire coil or electrode when welding output is **ON**.
- Wire feeder may be connected to a piece of automatic equipment that may be remotely controlled.
- Do not operate with covers, panels or guards removed.
- Do not let the electrode or wire spool touch the wire feeder housing.
- Insulate yourself from the work and ground.
- Always wear dry insulating gloves.
- The lift bail is insulated from the wire feeder enclosure. If an alternate hanging device is use. it must be insulated from the wire feeder enclosure.

**MOVING PARTS can injure.**

- Keep away from moving parts.

**LOCATION**

The Flex Feed 74 HT is rated IP2X and is suitable for indoor use.

This equipment is for industrial use only and it 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 residential locations due to conducted as well as radiated radio-frequency disturbances. The EMC or RF classification of this equipment is Class A.

For best wire feeding performance, place the Flex Feed 74 HT on a stable and dry surface.

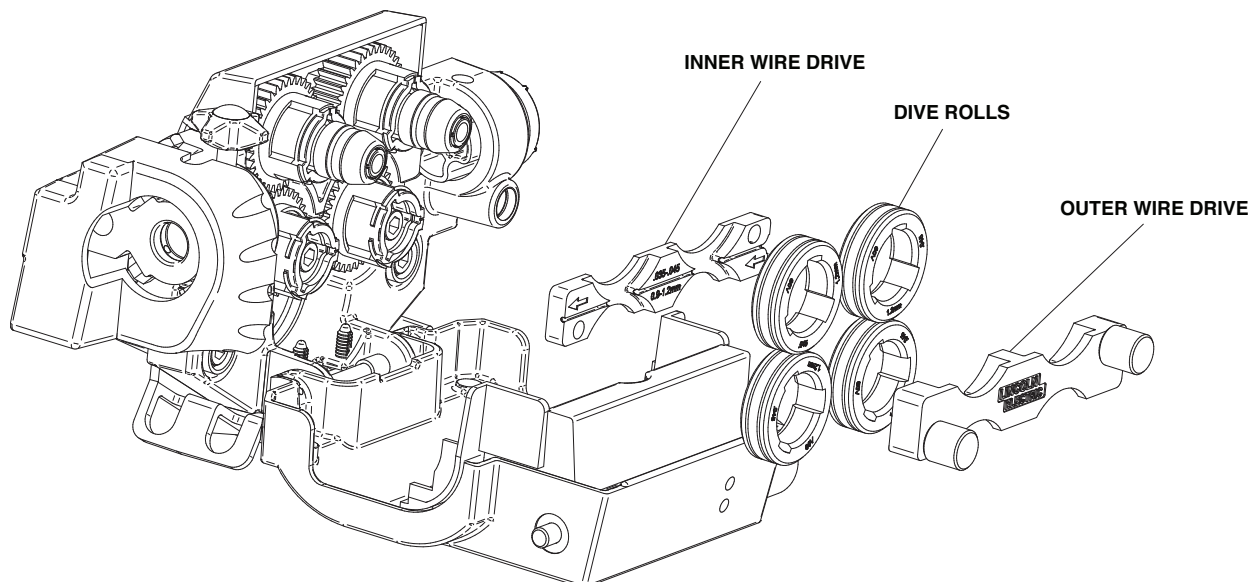
When suspending the wire feeder, insulate the hanging device from the wire feeder enclosure.

**DRIVE ROLL AND WIRE GUIDES**

(See Figure A.1)

1. Turn power **OFF** at the welding power source.
2. Open the wire drive door by pulling on the top.
3. Remove the outer wire guide.
4. Remove drive rolls by pulling straight out. It may be necessary to wiggle the drive roll to free it from the snap ring.
5. Remove the inner wire guide.
6. Install the new inner wire guide, with the arrow pointing in the direction of wire travel.
7. Install the drive rolls and outer wire guide.
8. Close the wire drive door and adjust the pressure setting accordingly.

FIGURE A.1



## FEED PLATE PRESSURE ADJUSTMENT

(See Figure A.2)

- Most wires operate well with a pressure setting of “2”. The best drive roll pressure varies with wire type, wire surface, lubrication and hardness. Too much pressure may crush the wire or cause “birdnesting”, but too little pressure could cause slippage.

Set the drive roll pressure by:

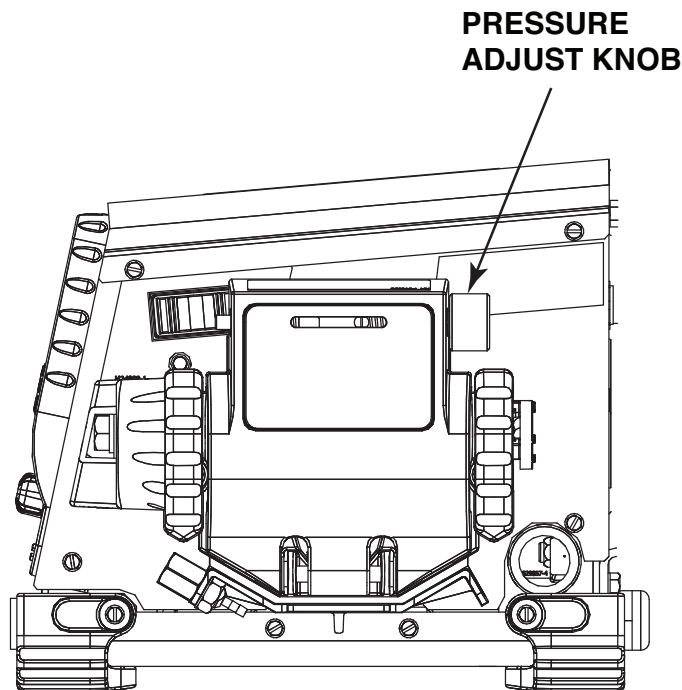
1. Press the end of the gun against a solid object that is electrically isolated from the welder output and press the gun trigger for several seconds.
2. If the wire “birdnests” or jams, the drive roll pressure is too high. Reduce the pressure by one turn of the knob, run new wire through the gun, and repeat step 1.
3. If the only result is slippage, disconnect the gun and pull the gun cable forward about 6" (150mm). There should be a slight waviness in the exposed wire. If there is no waviness, increase the pressure setting one turn, reconnect the gun and repeat the above steps.

### GUN ADAPTERS:

K3344-1 LINCOLN

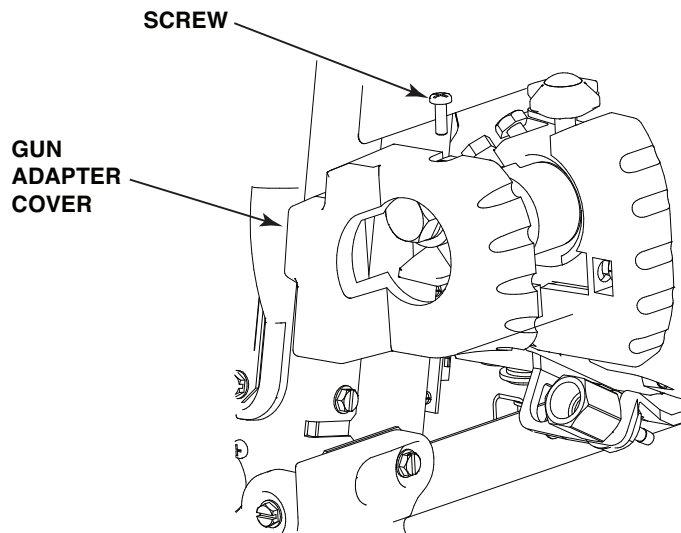
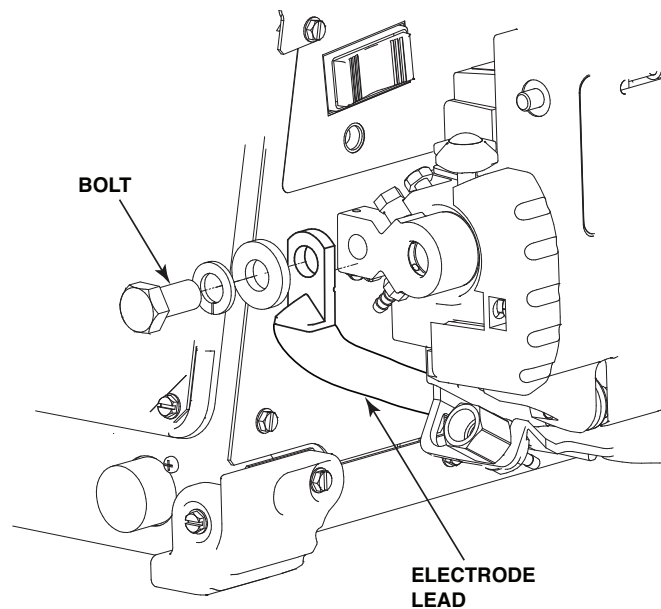
K3345-1 STANDARD #4

FIGURE A.2



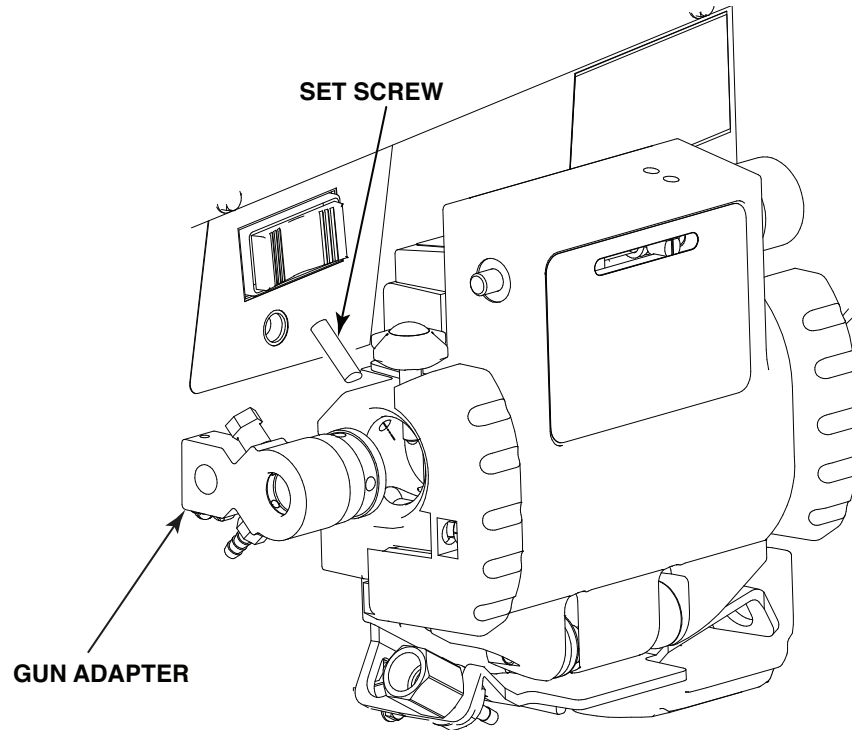
**K3346-1 STANDARD #5****K3347-1 MILLER****GUN ADAPTER REPLACEMENT PROCEDURE**

1. Turn power OFF at the welding power source.
2. Using a Phillips screw driver, loosen the screw securing the gun adapter cover. Remove the gun adapter cover.
3. With a 3/4" wrench, remove the bolt holding the electrode lead to the gun adapter.

**FIGURE A.3****FIGURE A.4**

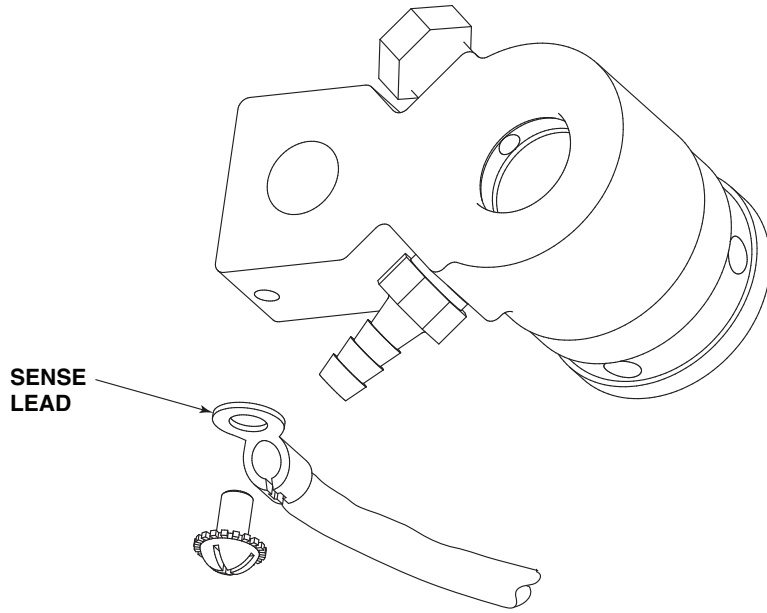
4. Use a 1/8" hex key to loosen the set screw securing the gun adapter.

FIGURE A.5



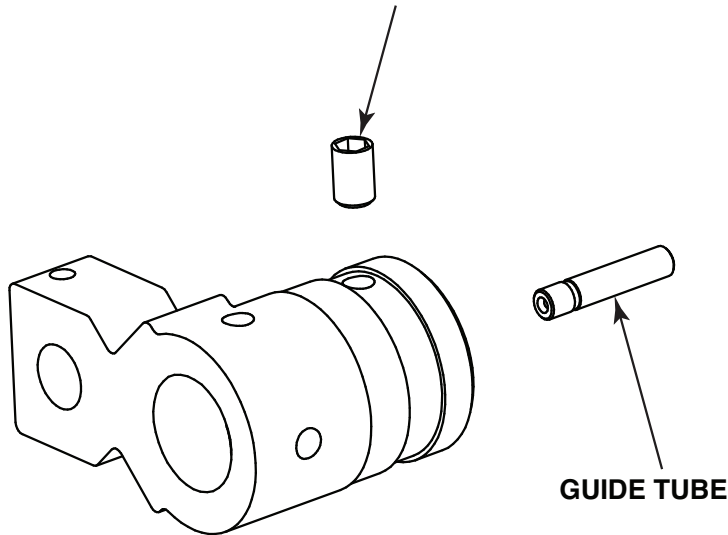
5. Remove the sense lead with a Phillips screw driver.

FIGURE A.6



- 6. If a gas hose is attached to the gun adapter, use pliers to remove the hose clamp and remove the gas hose.
- 7. If the gun adapter requires guide tubes, install the correct size guide tube and secure with the set screw.

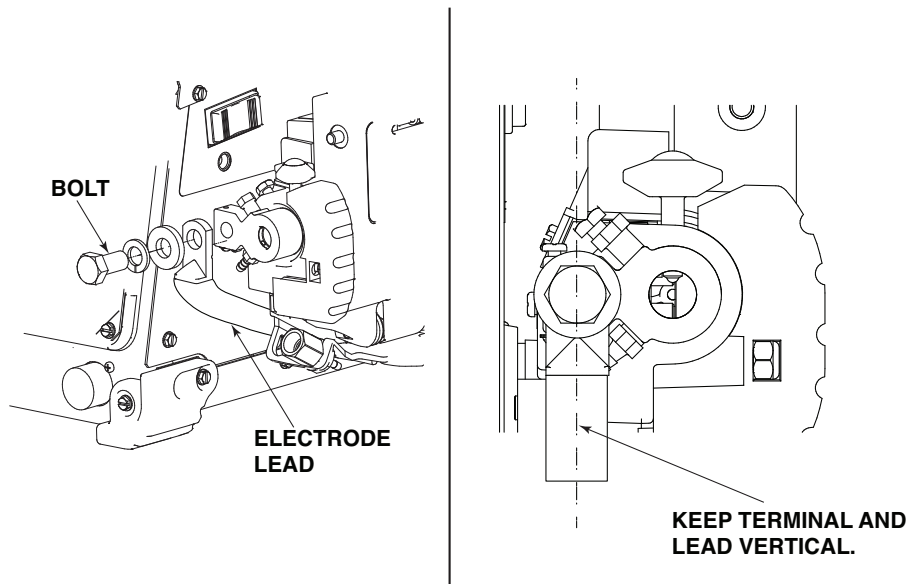
FIGURE A.7  
SET SCREW



Wire size	Number of grooves in guide tube
.023-.045" ( 0.6 – 1.2mm)	1
.045 – 1/16" (1.2 – 1.6 mm)	2
1/16 – 5/64" (1.6 – 2.0 mm)	3
.068 – 7/64" (2.0 – 2.8 mm)	4
.120 " (3.0 mm)	No Guide Tube Required

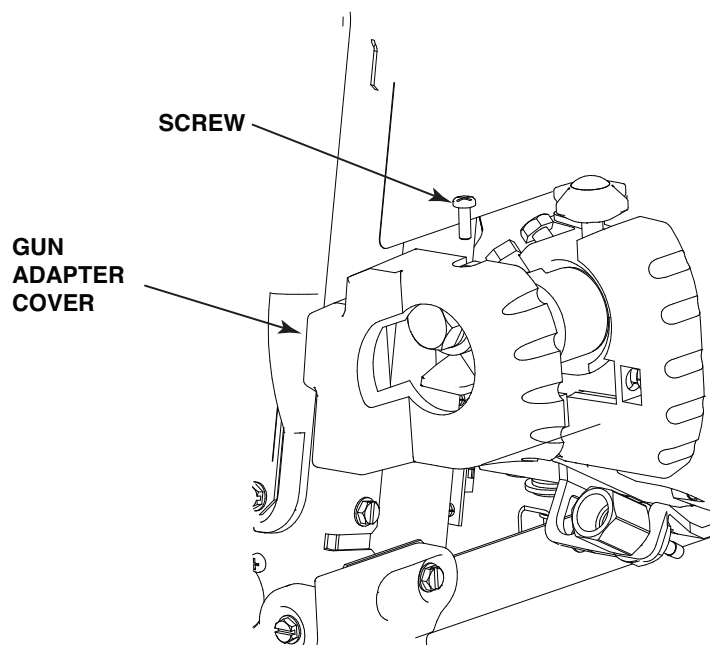
8. Assemble the sense lead to the new gun adapter. Orient the lead towards the rear of the gun adapter.
9. If required, assemble the gas hose to the gun adapter or the fitting on the feed plate and secure with a hose clamp.
10. Assemble the gun adapter to the wire drive. Tighten the set screw once the gun adapter is at a 90° angle.
11. Bolt the electrode lead to the gun adapter, making sure to route the lead straight down.

FIGURE A.8



12. Assemble the gun adapter cover and secure with the screw.

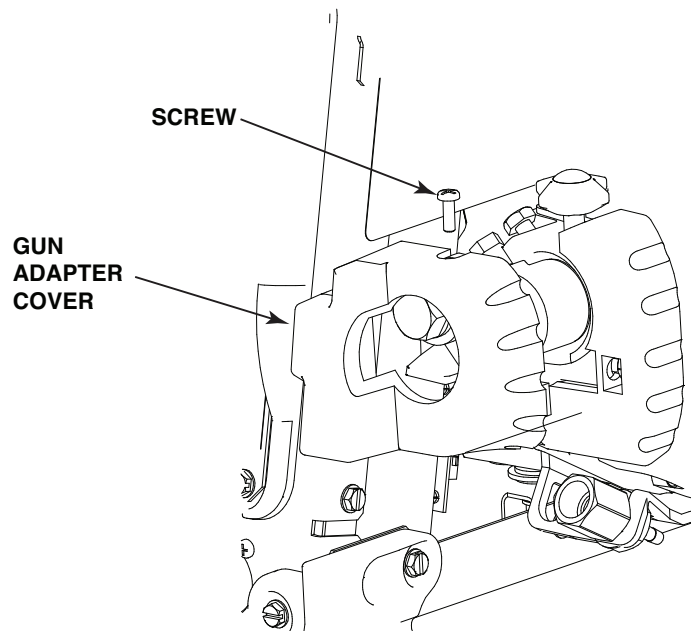
FIGURE A.9



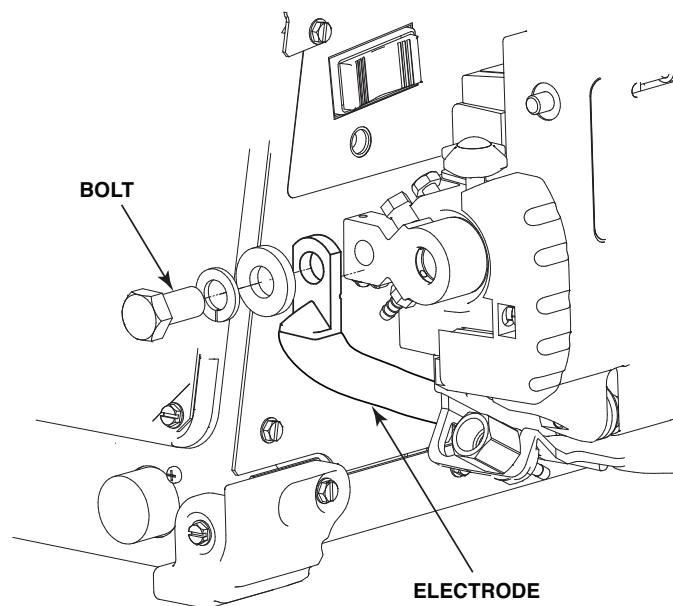


**GUN ADAPTERS:****K3348-1 OXO****K3349-1 FASTMATE**

- Using the Oxo or FastMate gun adapters requires a K3344-1 Standard #4 gun adapter to be installed in the wire drive.
1. Turn power OFF at the welding power source.
  2. Using a Phillips screw driver, loosen the screw securing the gun adapter cover. Remove the gun adapter cover.

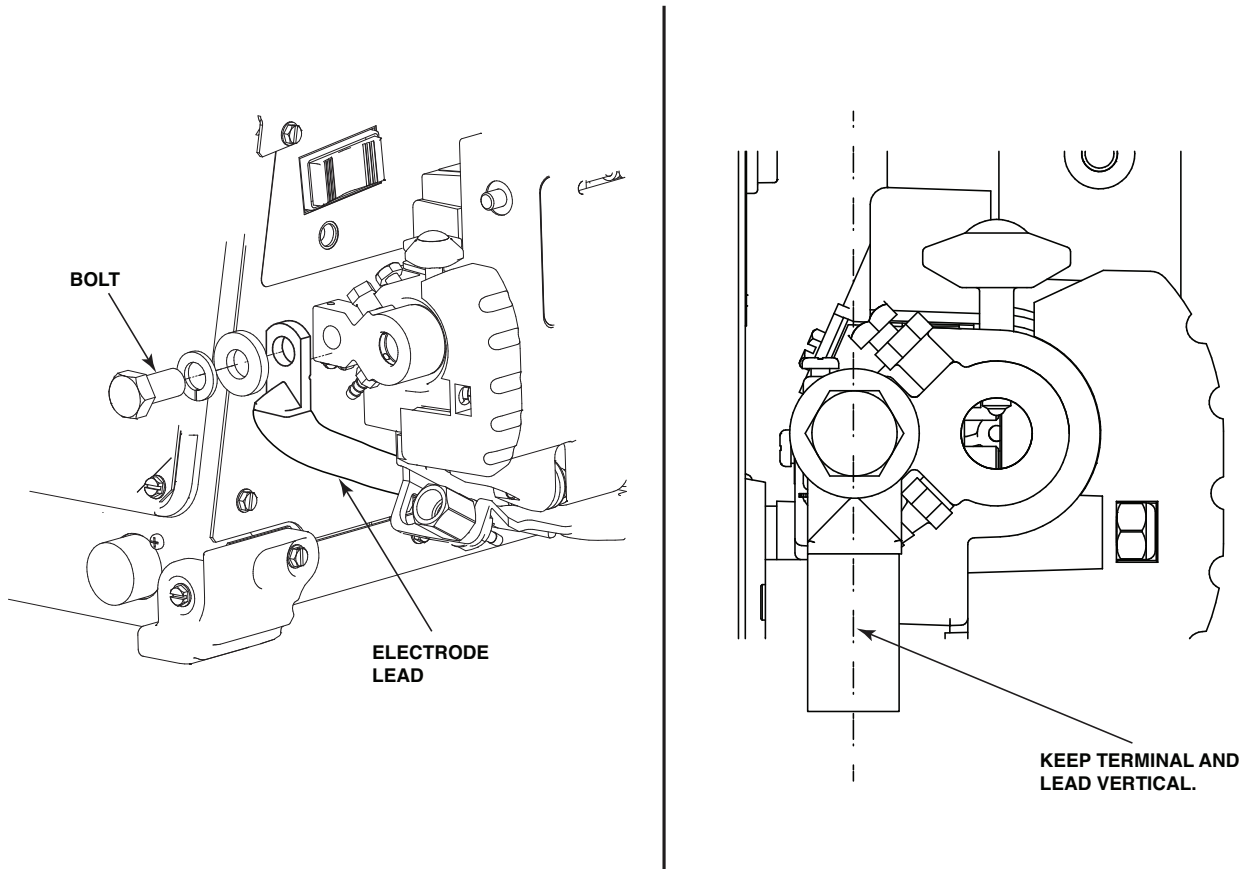
**FIGURE A.10**

3. With a 3/4" wrench, remove the bolt holding the electrode lead to the gun adapter.

**FIGURE A.11**

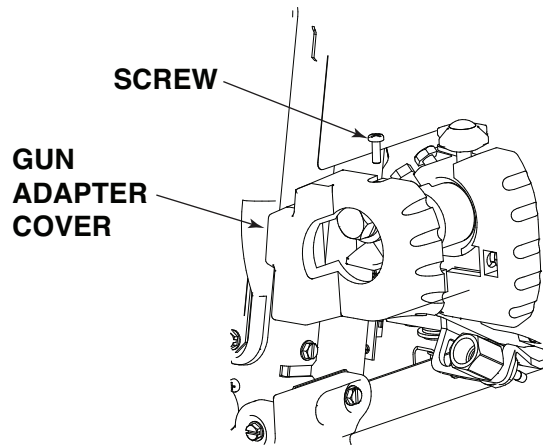
4. Using pliers, remove the hose clamp and hose from the gun adapter.
5. Bolt the electrode lead to the gun adapter, making sure to route the lead straight down.

FIGURE A.12



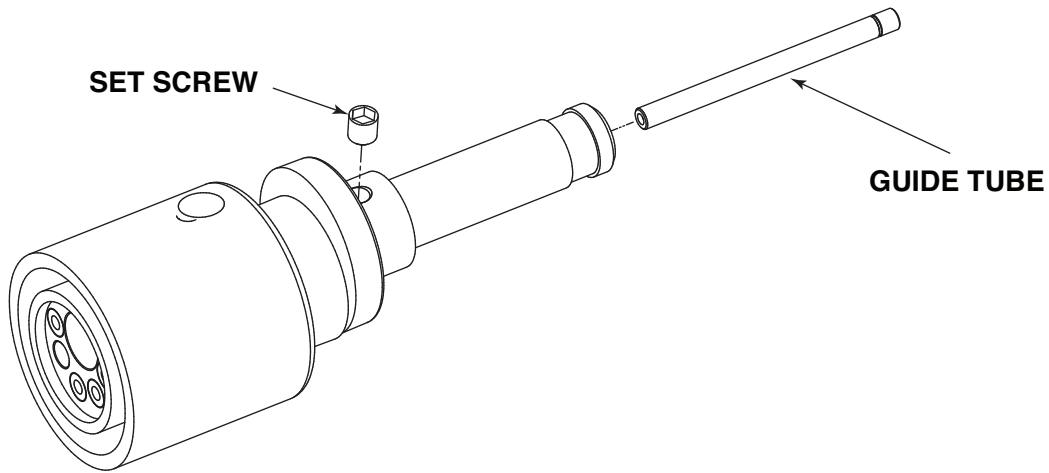
6. Assemble the gun adapter cover and secure with the screw.

FIGURE A.13



- 7. Assemble the gas hose to the Oxo or FastMate gun adapter.
- 8. Select the appropriate guide tube and secure with the set screw.

FIGURE A.14



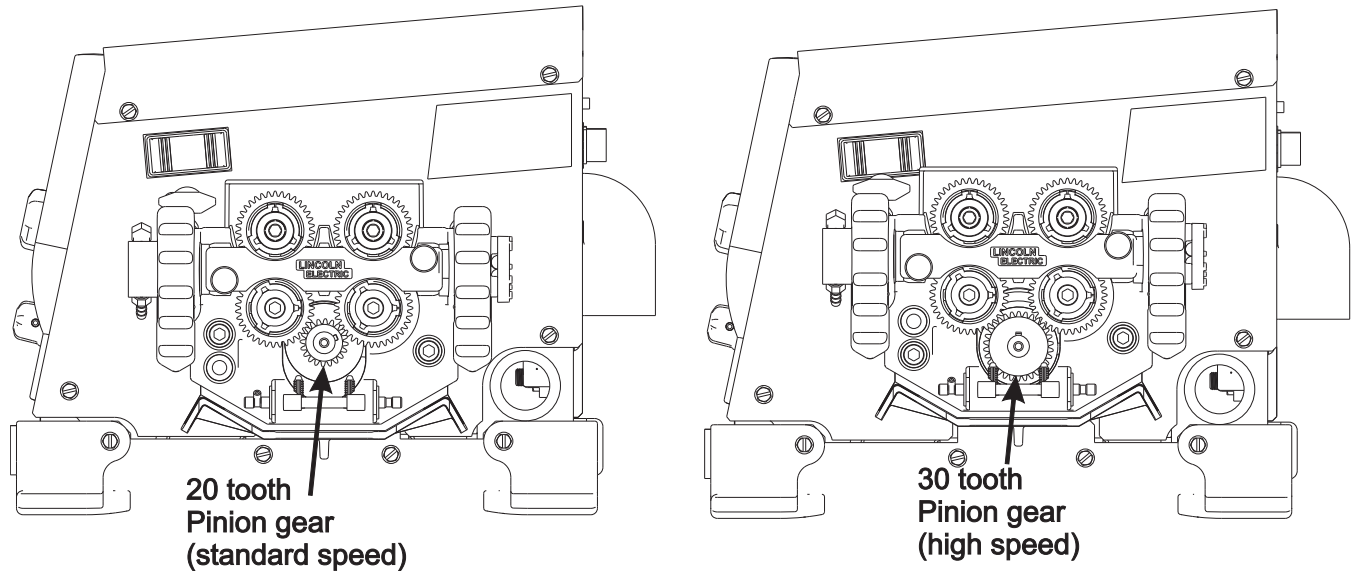
Wire size	Number of grooves in guide tube
.023-.045" (0.6 – 1.2mm)	1
.045 – 1/16" (1.2 – 1.6 mm)	2
1/16 – 5/64" (1.6 – 2.0 mm)	3
.068 – 7/64" (2.0 – 2.8 mm)	4
.120" (3.0 mm)	No Guide Tube Required

- 9. Slide the Oxo or FastMate gun adapter into the wire drive and secure with the thumb screw.
- 10. For FastMate gun adapters, connect the trigger pigtail to the connector on the front of the feeder.

### PINION GEAR RATIO

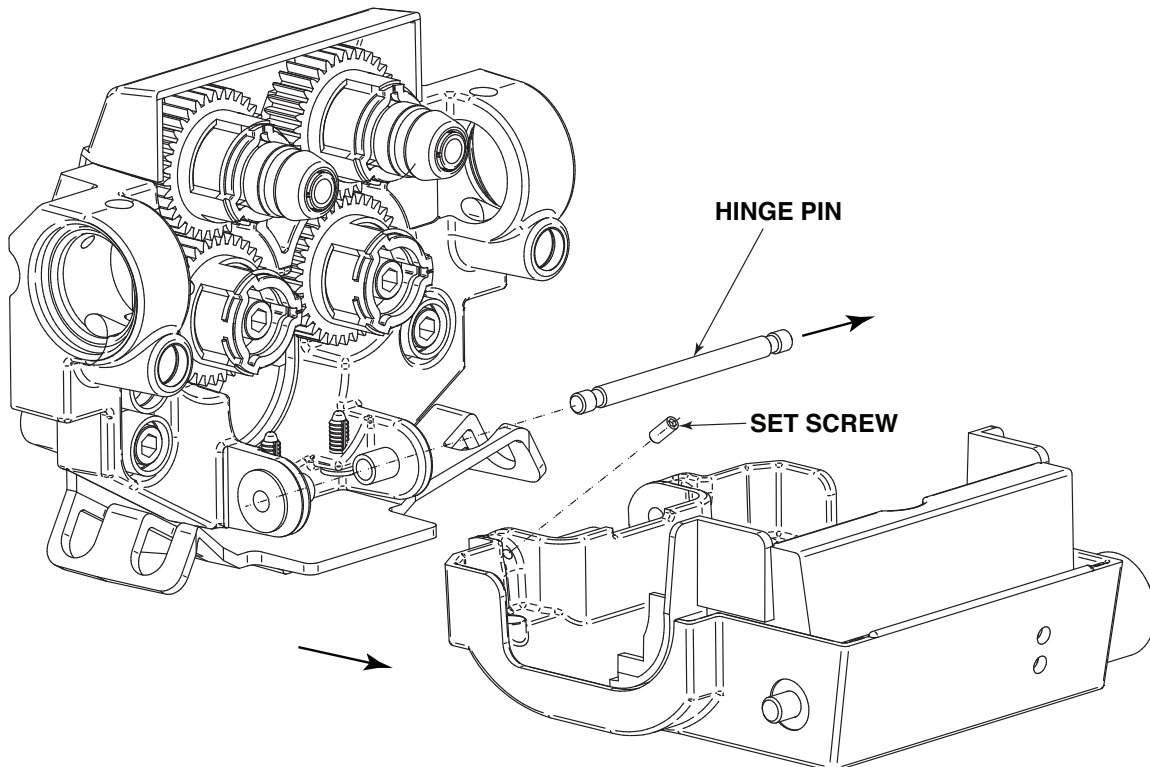
As shipped from the factory, a 20 tooth pinion gear is installed. If desired, the 30 tooth pinion gear may be installed for more speed but less torque.

FIGURE A.15



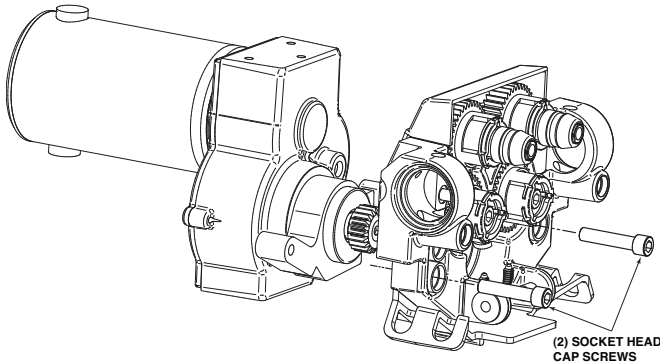
1. Turn power OFF at the welding power source.
2. Open the wire drive door and loosen the set screw holding the hinge pin using a 5/64" hex key. Slide the hinge pin towards the rear and remove the door.

FIGURE A.16



3. Remove the two socket head cap screws securing the feed plate and remove the feed plate from clamp using a 1/4" hex key.

FIGURE A.17



4. Remove the screw holding the pinion gear using a Phillips screw driver. Remove the pinion gear.
5. Install the new pinion gear.
6. Position the feed plate and tighten the socket head cap screws.
7. Re-assemble the hinge pin and door. Secure the hinge pin with the set screw.
8. Remove the (4) screws securing the roof with a 5/16" nut driver.
9. Locate the leads 586 and 515E. The ends of the leads have pink terminals cable tied into a bundle close to the pc board.
  - 20 tooth pinion gear: connect 586 to 515E
  - 30 tooth pinion gear: disconnect 586 to 515E
10. Apply/remove the wire feed speed decal from the name plate as follows:

Speed Range	Decal
50 – 500 in/min	Default value. Remove any decals applied to the nameplate.
50 – 700 in/min	M24808-1
1.5 – 12.5 m/min	M24808-2
1.5 – 18 m/min	M24808-3

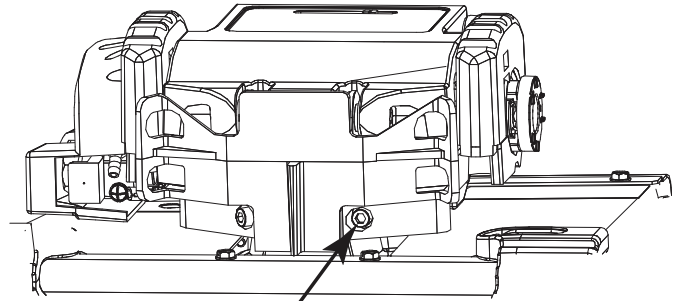
Decals are located in the literature of the feeder.

### ROTATING THE FEED PLATE

1. Turn power OFF at the welding power source.
2. Locate the socket head cap screw at the bottom of the wire drive. Loosen, but do not remove the screw using a 1/4" hex key.

FIGURE A.18

3. Rotate the wire drive to the desired position and tighten the screw.



SOCKET HEAD CAP SCREW

**LEFT HAND WIRE DRIVE**

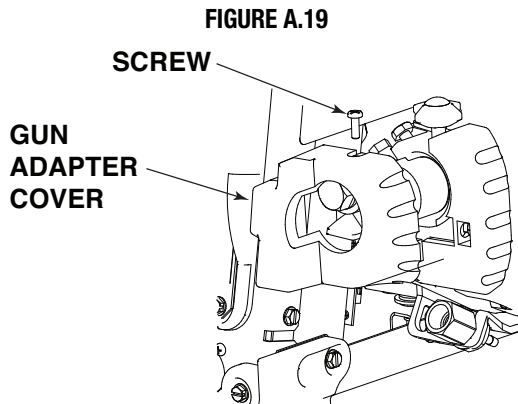
The Flex Feed 74 HT may be reassembled with the wire drive on the left hand side. To convert to a left hand wire drive:

Requires: **G7644-1 Gun adapter cover, left**

Tools required:

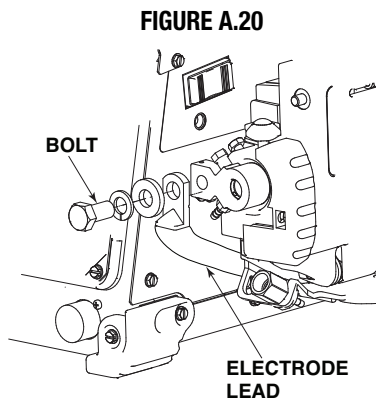
- Molex Mini-Fit JR Extraction Tool, part #11-03-0044
- Phillips Screw Driver
- 3/8" wrench
- 11/16" wrench
- 3/4" wrench
- 1/4" nut driver
- 5/16" nut driver
- 1/8" hex key
- 1/4 hex key
- pliers

1. Turn OFF power at the welding power source.
2. Using a Phillips screw driver, loosen the screw securing the gun adapter cover. Remove the gun adapter cover.



**FIGURE A.19**

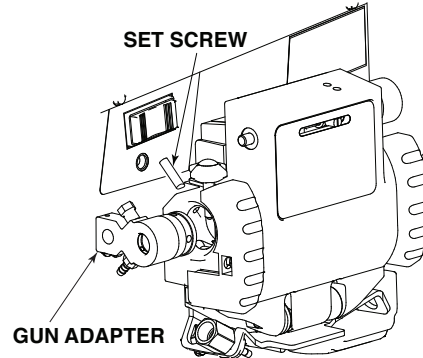
3. With a 3/4" wrench, remove the bolt holding the electrode lead to the gun adapter.



**FIGURE A.20**

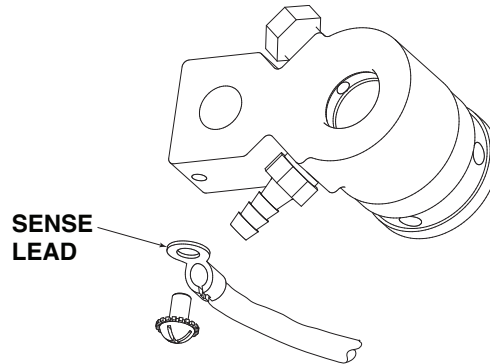
4. Use a 1/8" hex key to loosen the set screw securing the gun adapter.

**FIGURE A.21**



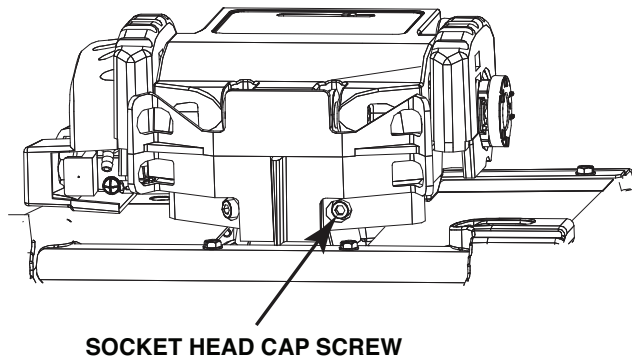
5. Remove the sense lead with a Phillips screw driver.

**FIGURE A.22**



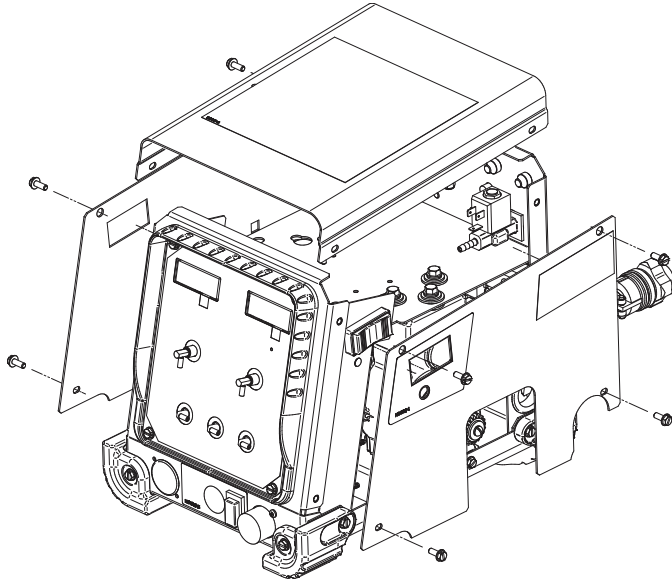
6. If a gas hose is attached to the gun adapter, use pliers to remove the hose clamp and remove the gas hose.
7. Loosen the socket head cap screw at the bottom of the feed plate and slide the feed plate off of the gear box.

**FIGURE A.23**



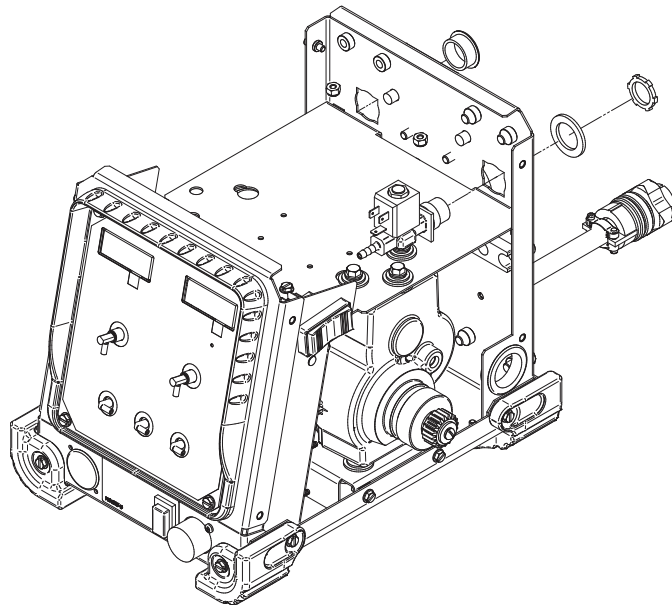
8. Remove the (4) screws securing the roof with a 5/16" nut driver. Remove the remaining (2) screws securing each case side.

FIGURE A.24



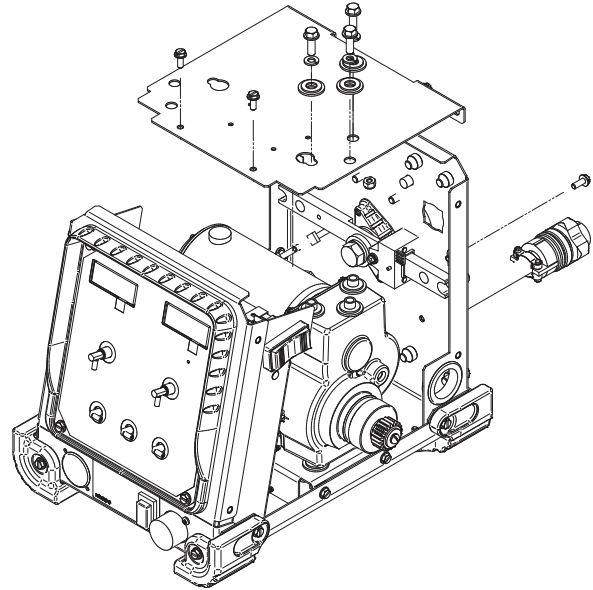
9. Remove the lock-nut holding the gas solenoid. Leave the gas hose and leads connected to the gas solenoid. Remove the plug button from the rear opposite the gas solenoid.

FIGURE A.25



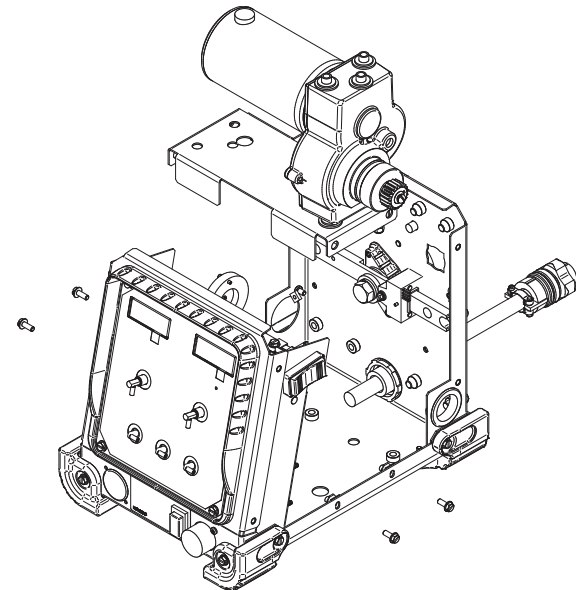
10. Remove the upper motor support. Use a 5/16" nut driver to remove the (2) screws at the rear and the (2) screws at the front. Use a 3/8" wrench to remove the (3) screws holding the support to the gearbox.

FIGURE A.26



11. Remove the (4) screws holding the motor gearbox assembly to the case and lift out the motor gearbox.

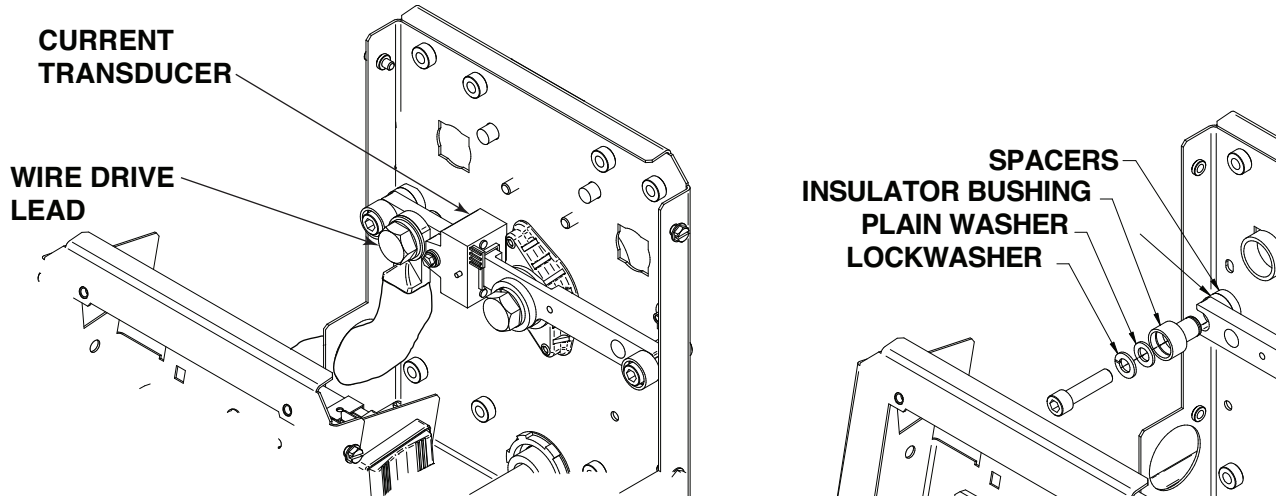
FIGURE A.27



12a. For feeders with digital displays only:

- a. Unbolt the wire drive lead from the bus bar with a 3/4" wrench.
- b. Unbolt the bus bar from the case (1/4" Hex key) and the input stud.
- c. Using a 1/4" nut driver, remove the current transducer and reassemble to the left side.
- d. Reassemble the bus bar to the case and input stud.
- e. Bolt the wire drive lead to the left side of the bus bar.

FIGURE A.28



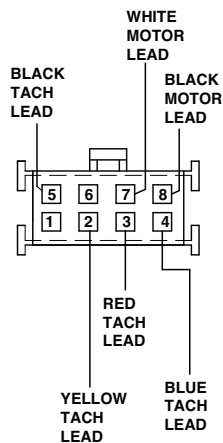
12b. For wire feeders with a gouging kit installed:

- a. Swap the gouging lead and wire drive lead positions by using a 11/16" wrench.
- b. Swap the leads to the contactor coils. Lead 549A attaches to the wire drive contactor. Lead 549B attaches to the gouging stud contactor. Lead 552 is common to both contactors.

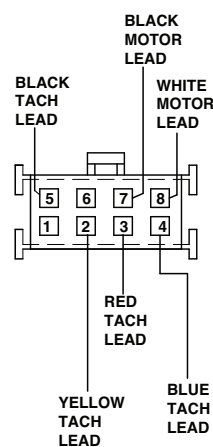
13. Change the polarity of the motor leads by swapping the large black and white leads in the motor harness plug.

FIGURE A.29

**LEFT HAND  
WIRE DRIVE**



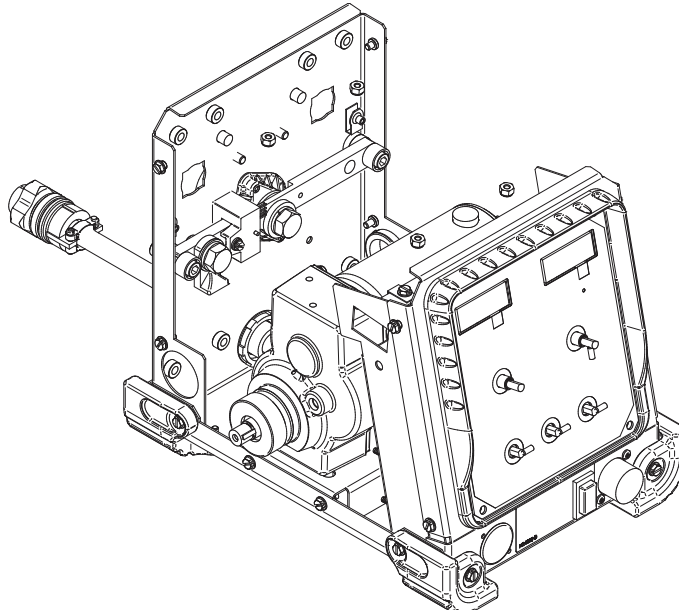
**RIGHT HAND  
WIRE DRIVE**





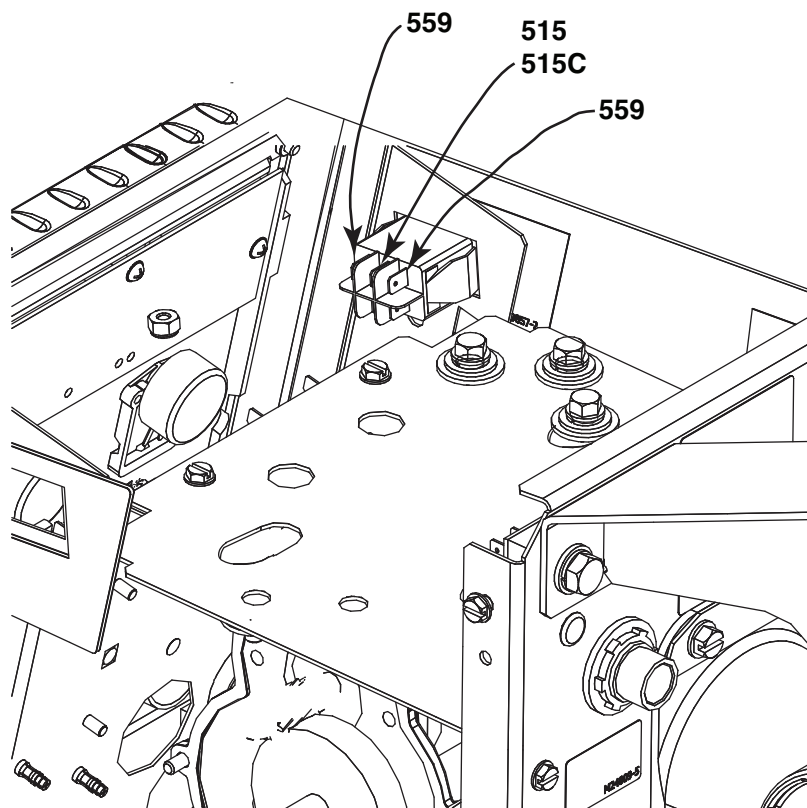
- Place the motor gearbox assembly in the case with the drive facing the left side. Secure with (4) screws.

FIGURE A.30



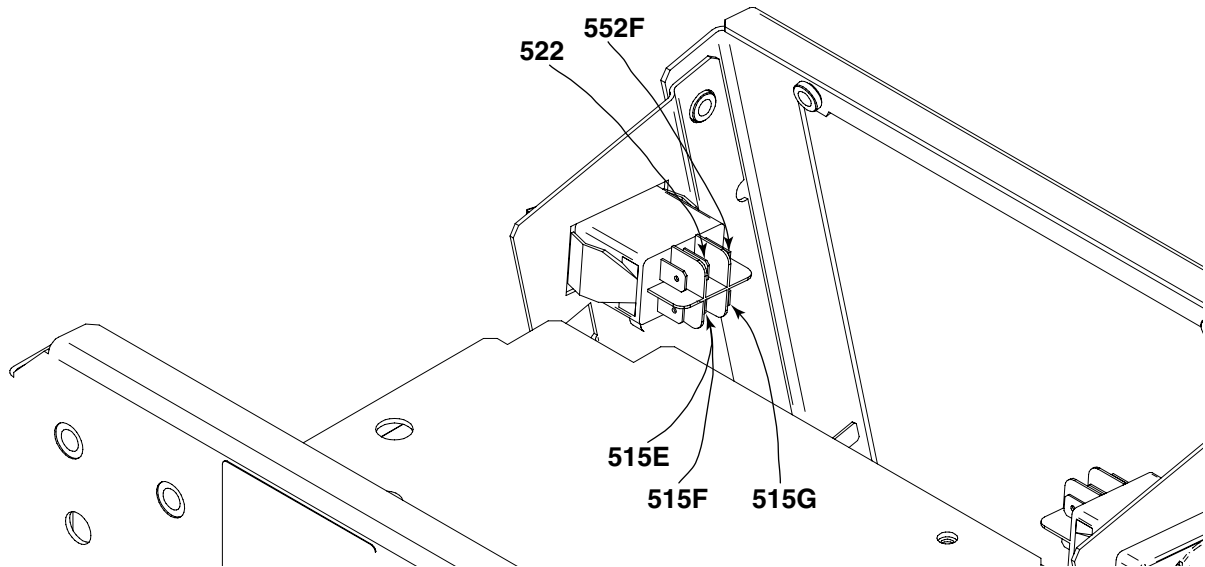
- Reassemble the upper motor support with plastic washers on the appropriate side.
- To move the Cold Feed/Gas Purge rocker switch from the right side to the left side, remove the leads from the switch. Squeeze the snaps holding the switch to the sheet metal and push the switch outwards. Reassemble the switch on the left side.

FIGURE A.31



17. If present, reassemble the Gouge/Wire Feed switch on the opposite side.

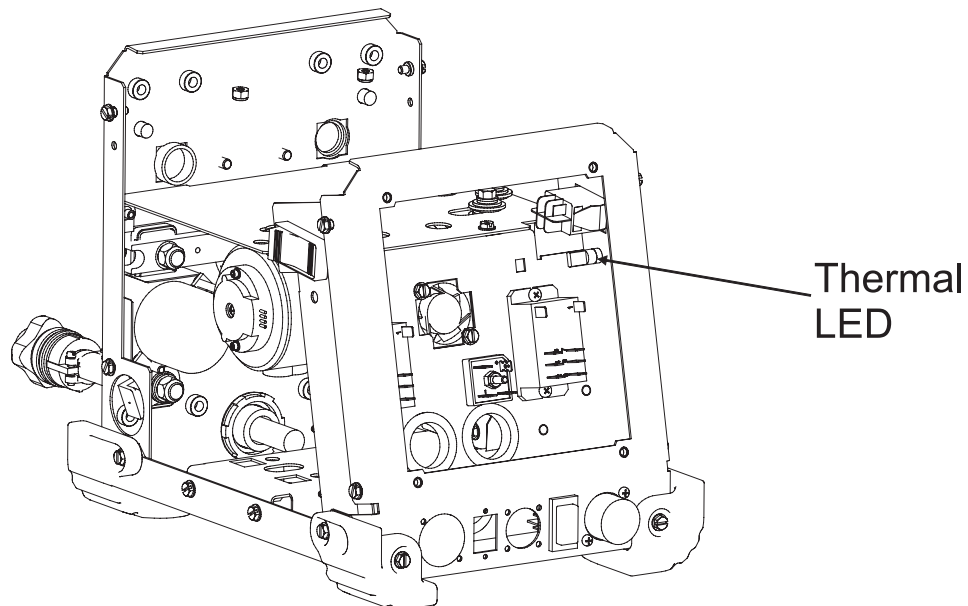
FIGURE A.32



18. Remove the (4) screws holding the user interface to gain access to the inside front compartment of the feeder.

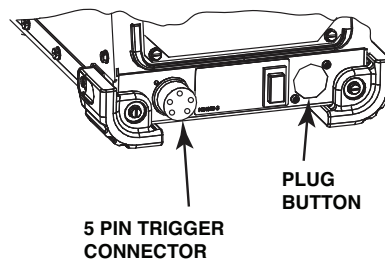
19. Move the thermal LED from right to the left hand side. Gently pull on the black body of the LED holder to separate it from the clear lens.

FIGURE A.33



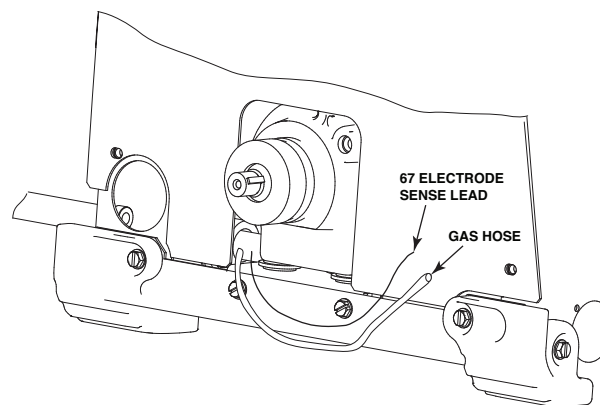
20. Swap the location of the plug button and the 5 pin trigger connection on the front of the feeder, then reassemble the user interface.

FIGURE A.34



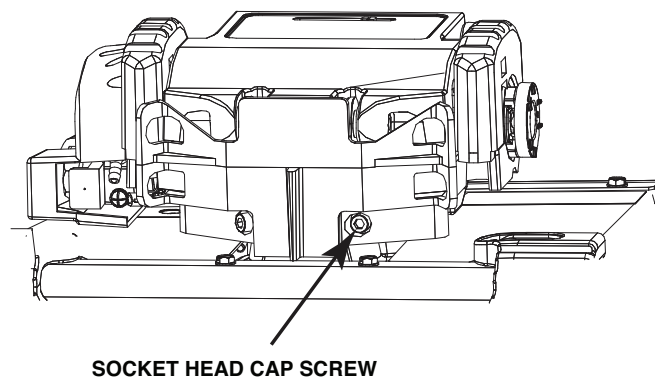
21. Reassemble the gas solenoid and plug button to the rear of the feeder.
22. Reassemble the case sides and roof to the feeder, taking care to route the gas line and electrode sense lead through the case side opening by the rear of the motor gearbox.

FIGURE A.35



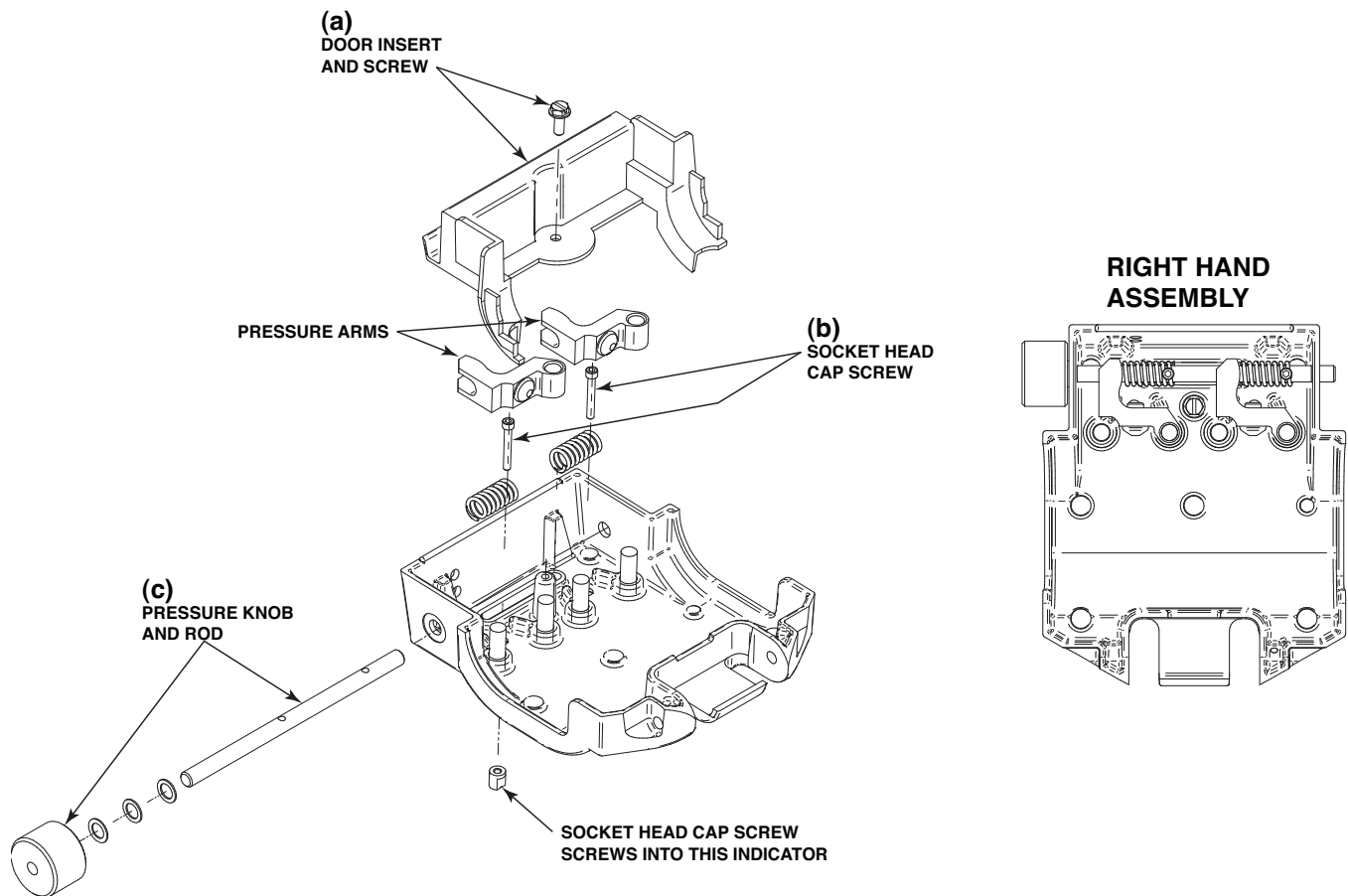
23. Reassemble the feed plate to the gear box and secure by tightening the socket head cap screw.

FIGURE A.36



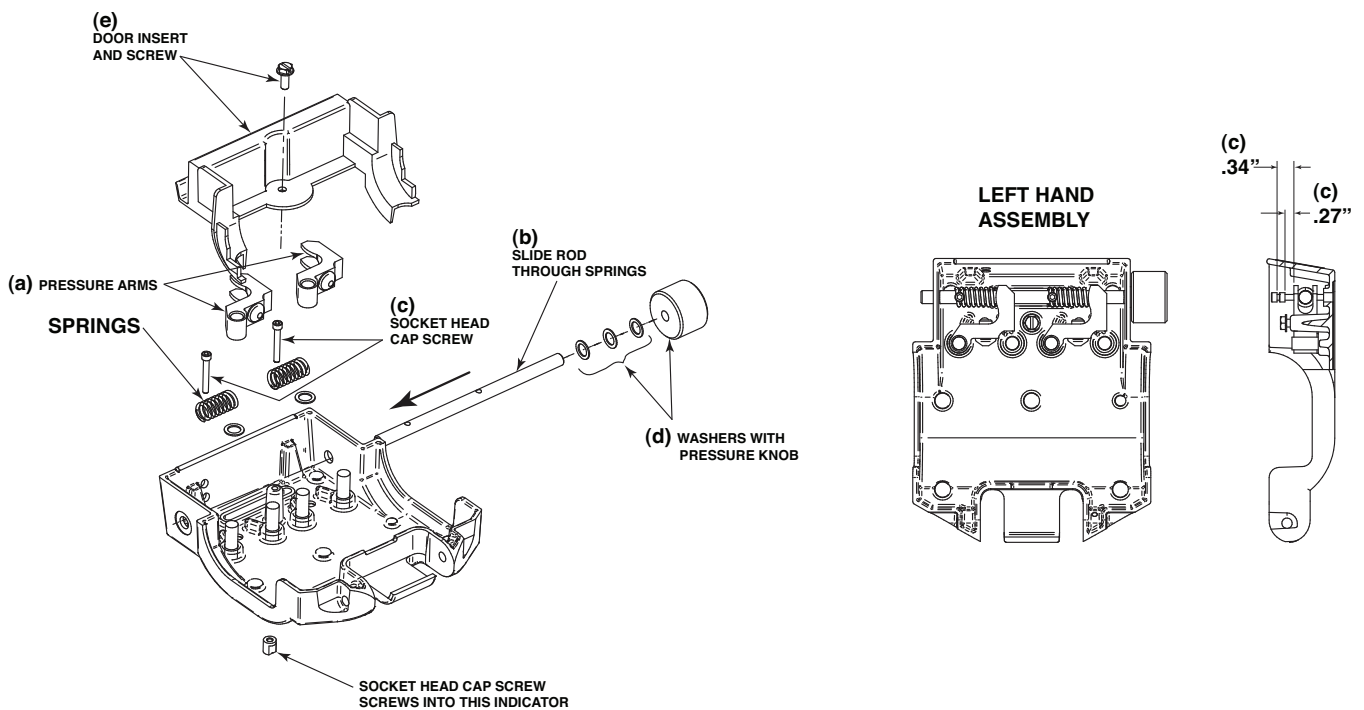
- 24a. Open the feed plate door.
- a. Remove the screw holding the door insert.
  - b. Remove the (2) socket head cap screws.
  - c. Fully unscrew the pressure knob and slide the washers and rod out of the door.

FIGURE A.37



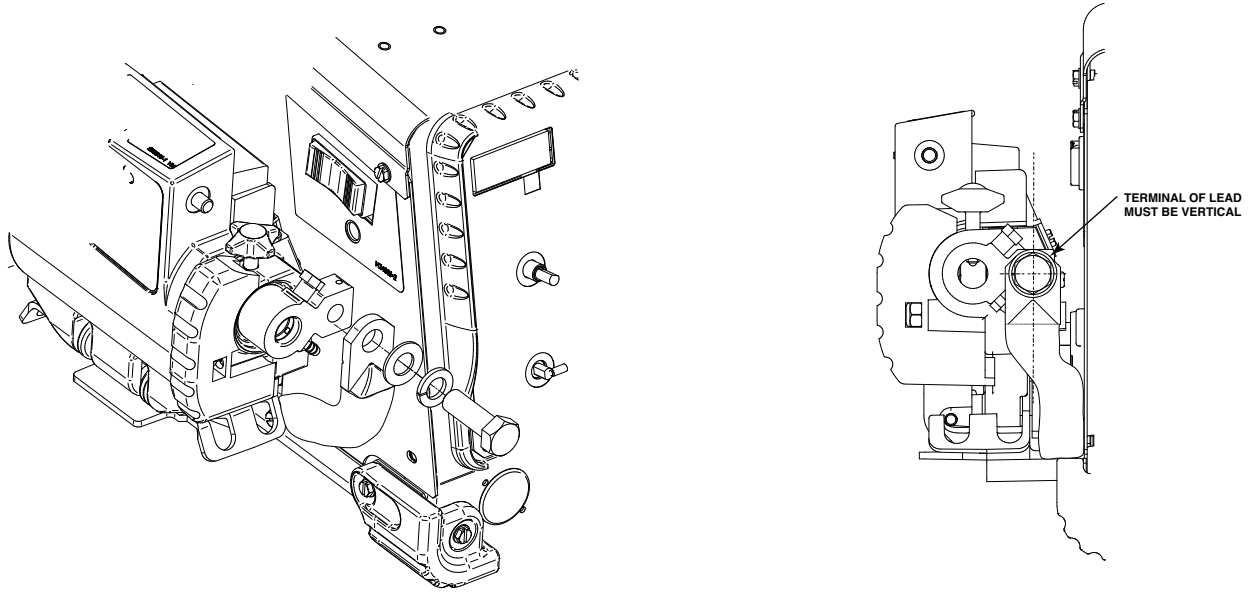
- 24b. To reassemble the door for left hand operation:
- a. Place the pressure arms on the door in the orientation as shown.
  - b. Slide the rod through the door and through the springs.
  - c. Assemble the socket head cap screws and indicator, tightening the indicator screw to a height of .27" and the other screw to .34".
  - d. Assemble the washers and pressure knob.
  - e. Assemble the door insert.

FIGURE A.38



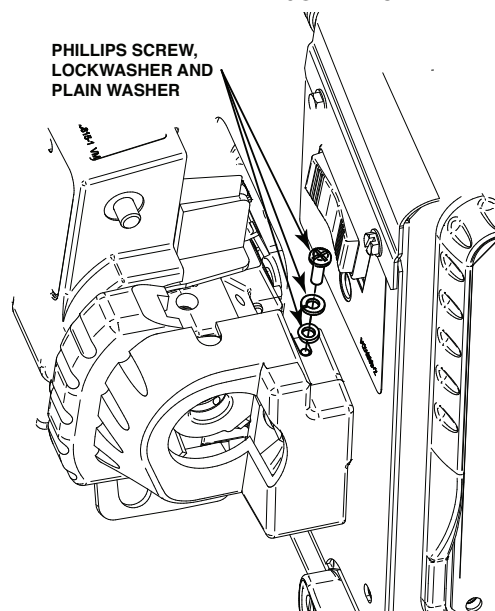
25. Place the gun adapter into the feed plate. If required, swap the position of the barbed fitting with the plug. Assemble the gas hose to the gun adapter.
26. Assemble the wire drive lead to the gun adapter. The bolt for the wire drive lead will align the gun adapter with the feed plate as the bolt is tightened. The terminal of the lead must be in a vertical position.

FIGURE A.39



27. Tighten the set screw to secure the gun adapter in place.
28. Secure the G7644-1 gun adapter cover in place with the Phillips screw, lockwasher and plain washer.

FIGURE A.40

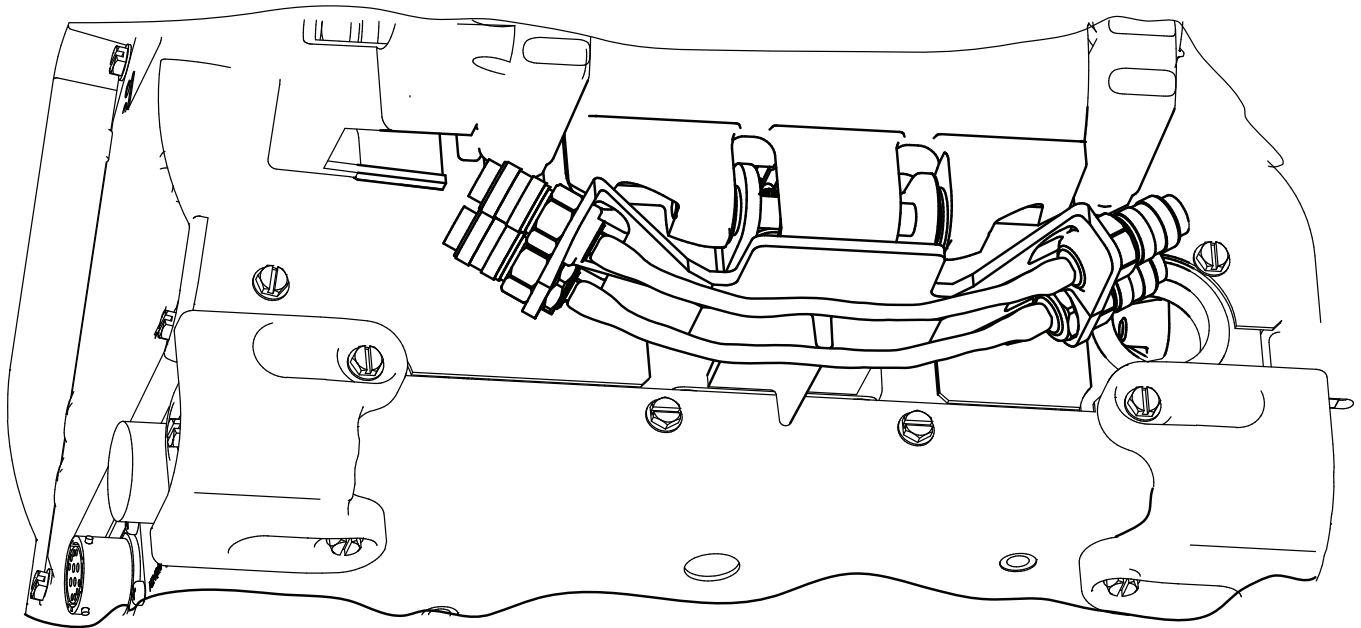


## WATER COOLING KIT

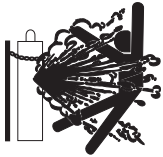
The K590-6 water connection kit installs underneath the wire drive.

1. Turn power OFF at the welding power source.
2. Install the quick disconnect fittings to the plastic bracket, by holding the rear nut stationary and spinning the fitting.
3. Cut the tubing to the desired length, and then install the tubing and hose clamps to the fittings.

FIGURE A.41



## SHIELDING GAS CONNECTION



**CYLINDER may explode if damaged.**

- Keep cylinder upright and chained to support.

- Keep cylinder away from areas where it may be damaged.
- Never lift welder with cylinder attached.
- Never allow welding electrode to touch cylinder.
- Keep cylinder away from welding or other live electrical circuits.



• **BUILD UP OF SHIELDING GAS MAY HARM HEALTH OR KILL.**

- Shut off shielding gas supply when not in use.
- See American National Standard Z-49.1, "Safety in Welding and Cutting" Published by the American Welding Society.

Maximum inlet pressure for the Flex Feed 74 HT is 100 psi. (6.9 bar.)

The inlet fitting is 5/8-18 CGA type connection.

Install the shielding gas supply as follows:

1. Secure the cylinder to prevent it from falling.
2. Remove the cylinder cap. Inspect the cylinder valves and regulator for damaged threads, dirt, dust, oil or grease. Remove dust and dirt with a clean cloth. **DO NOT ATTACH THE REGULATOR IF OIL, GREASE OR DAMAGE IS PRESENT!** Inform your gas supplier of this condition. Oil or grease in the presence of high pressure oxygen is explosive.
3. Stand to one side away from the outlet and open the cylinder valve for an instant. This blows away any dust or dirt which may have accumulated in the valve outlet.
4. Attach the flow regulator to the cylinder valve and tighten the union nut(s) securely with a wrench. Note: if connecting to 100% CO<sub>2</sub> cylinder, insert regulator adapter between regulator and cylinder valve. If adapter is equipped with a plastic washer, be sure it is seated for connection to the CO<sub>2</sub> cylinder.
5. Attach one end of the inlet hose to the outlet fitting of the flow regulator. Attach the other end to the welding system shielding gas inlet. Tighten the union nuts with a wrench.
6. Before opening the cylinder valve, turn the regulator adjusting knob counterclockwise until the adjusting spring pressure is released.
7. Standing to one side, open the cylinder valve slowly a fraction of a turn. When the cylinder pressure gage stops moving, open the valve fully.
8. The flow regulator is adjustable. Adjust it to the flow rate recommended for the procedure and process being used before making a weld.



## LOADING SPOOLS OF WIRE

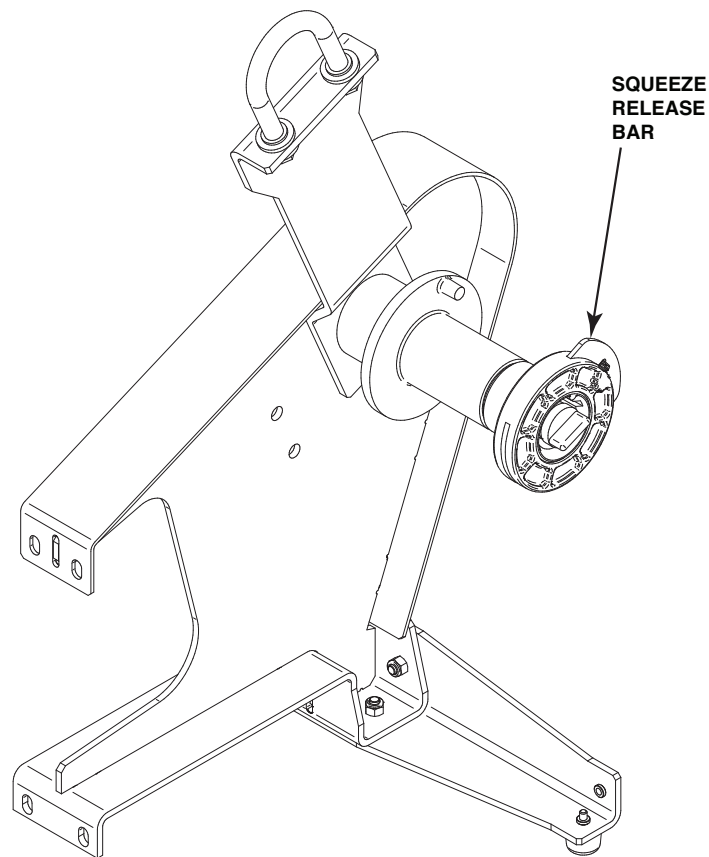
**⚠ WARNING**

- Keep hands, hair, clothing and tools away from rotating equipment.
- Do not wear gloves when threading wire or changing wire spool.
- Only qualified personnel should install, use or service this equipment.

50 - 60 lb (22 – 27 kg) coils require K3343-1 Heavy Duty Wire Reel Stand

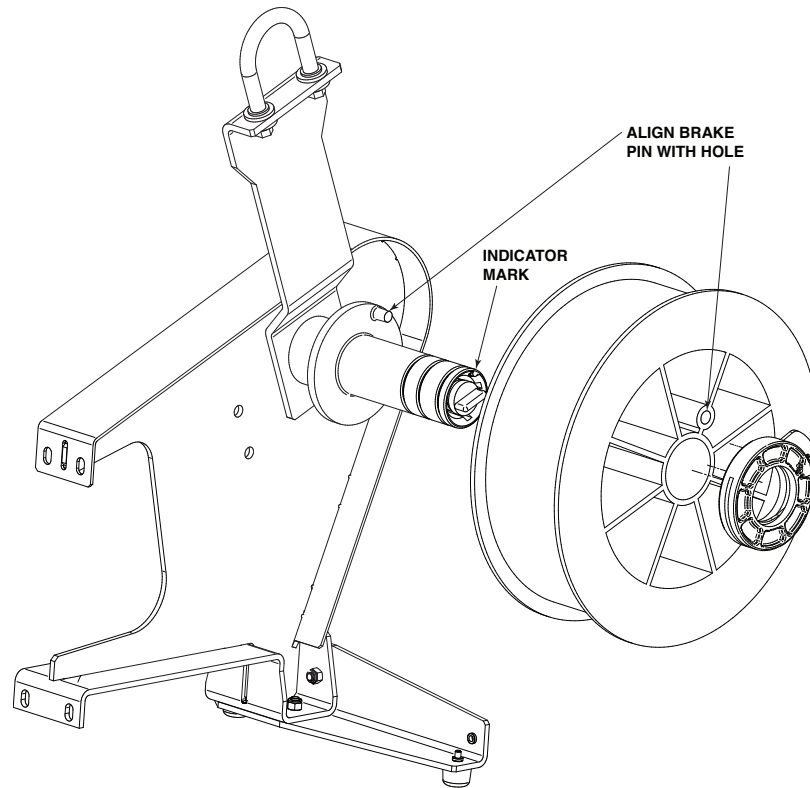
1. Turn power OFF at the welding power source.
2. Squeeze the release bar on the retaining collar and remove it from the spindle.

FIGURE A.42



- Place the spool on the spindle, aligning the spindle brake pin with one of the holes in the back side of the spool. An indicator mark on the end of the spindle shows the orientation of the brake holding pin. Be certain the wire feeds off of the spool in the proper direction.

FIGURE A.43



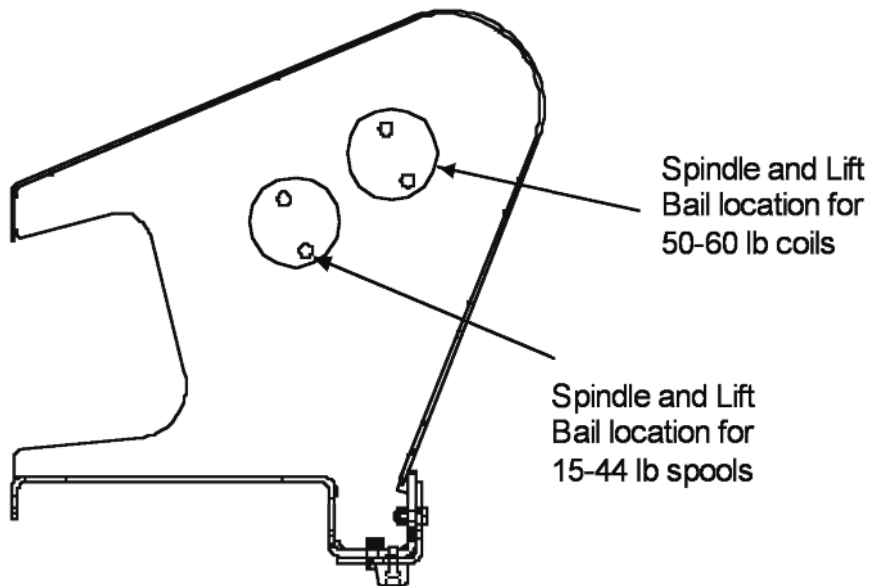
- Re-install the retaining collar, with the metal bar engaging one of the grooves of the spindle. The release bar will spring out when engaged.

## WIRE REEL STANDS

K3342-1 Standard Duty Wire Reel Stand is for use with spools 10 to 44 lb (4.5 to 20 kg)

When using the K3343-1 Heavy Duty Wire Reel, place the spindle in the location as shown.

**FIGURE A.44**



## ELECTRICAL INSTALLATION

### 14 pin connector

The control cable connecting the wire feeder to the power source is specially made for the welding environment.

The wire feeder power requires overcurrent protection. Connect the wire feeder only to power sources where the overcurrent protection is no more than 15 amps.

Do not use more than 300 ft (30.5 m) of control cable between the wire feeder and power source.

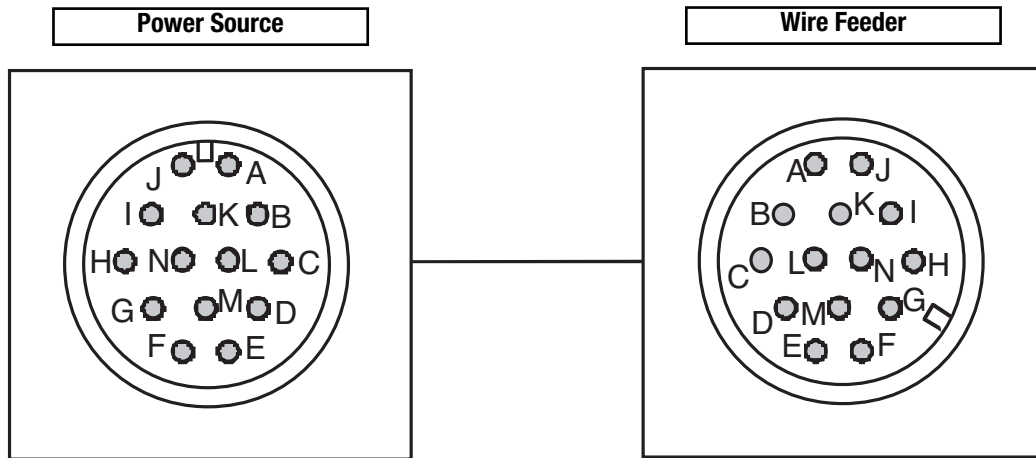
Pin	Function	Lead #
A	-	-
B	-	-
C	Welding Output Control (trigger to power source)	2
D	Welding Output Control (trigger to power source)	4
E	Remote Voltage Control ("+" supply, from power source)	77
F	Remote Voltage Control (control signal from feeder or remote)	76
G	Remote Voltage Control ("- " supply, from power source)	75
H	Work connection from power source	21
I	24 - 42 VAC to feeder	41
J	-	-
K	24 - 42 VAC to feeder	42
L	-	-
M	-	-
N	-	-

**NON-LINCOLN EQUIPMENT ADAPTER, K2335-1,-2**

The Flex Feed 74 HT may be used with non-Lincoln Electric power sources that provide 24 VAC. The power source must have the circular connector pin definition shown in the table below for proper operation of the wire feeder. Be sure the power source provides 24 VAC to the wire feeder and has overcurrent protection of no more than 15 amps. The power source must not exceed 113VDC peak.

Operation of Lincoln wire feeders on 24 VAC may result in lack of high wire feed speeds or reduced pull force at high wire feed speeds. Approximate maximum WFS for Lincoln wire feeders operating with 24 VAC is:

20 tooth pinion gear	425 in/min
30 tooth pinion gear	600 in/min



NON-LINCOLN POWER SOURCE	
Pin	Function
A	24 VAC to feeder
B	Welding Output Control
C	+10VDC to feeder for remote control
D	Remote control common
E	0-10VDC from feeder for remote control.
F	Current feedback to feeder. Scaled 0-10V. 1 V = 100 amps. Referenced to pin D.
G	24 VAC common. Arc Voltage feedback to feeder. Scaled 0-10V. 1 V = 10 Arc volts. Referenced to pin D.
N	Not used

LINCOLN WIRE FEEDER	
Pin	Function
I	42 VAC feeder
D	Welding Output Control
C	Welding Output Control
E	Remote Voltage Control ("+" supply, from power source)
G	Remote Voltage Control ("- " supply, from power source)
F	Remote Voltage Control (control signal from feeder or remote.)
J	Not used
K	42 VAC to feeder
L	Not used
N	Not used

### RELAY CONNECTIONS

The Flex Feed™ 74 HT includes a DPDT relay for switching power for accessories. The relay closes whenever the gas solenoid turns on.

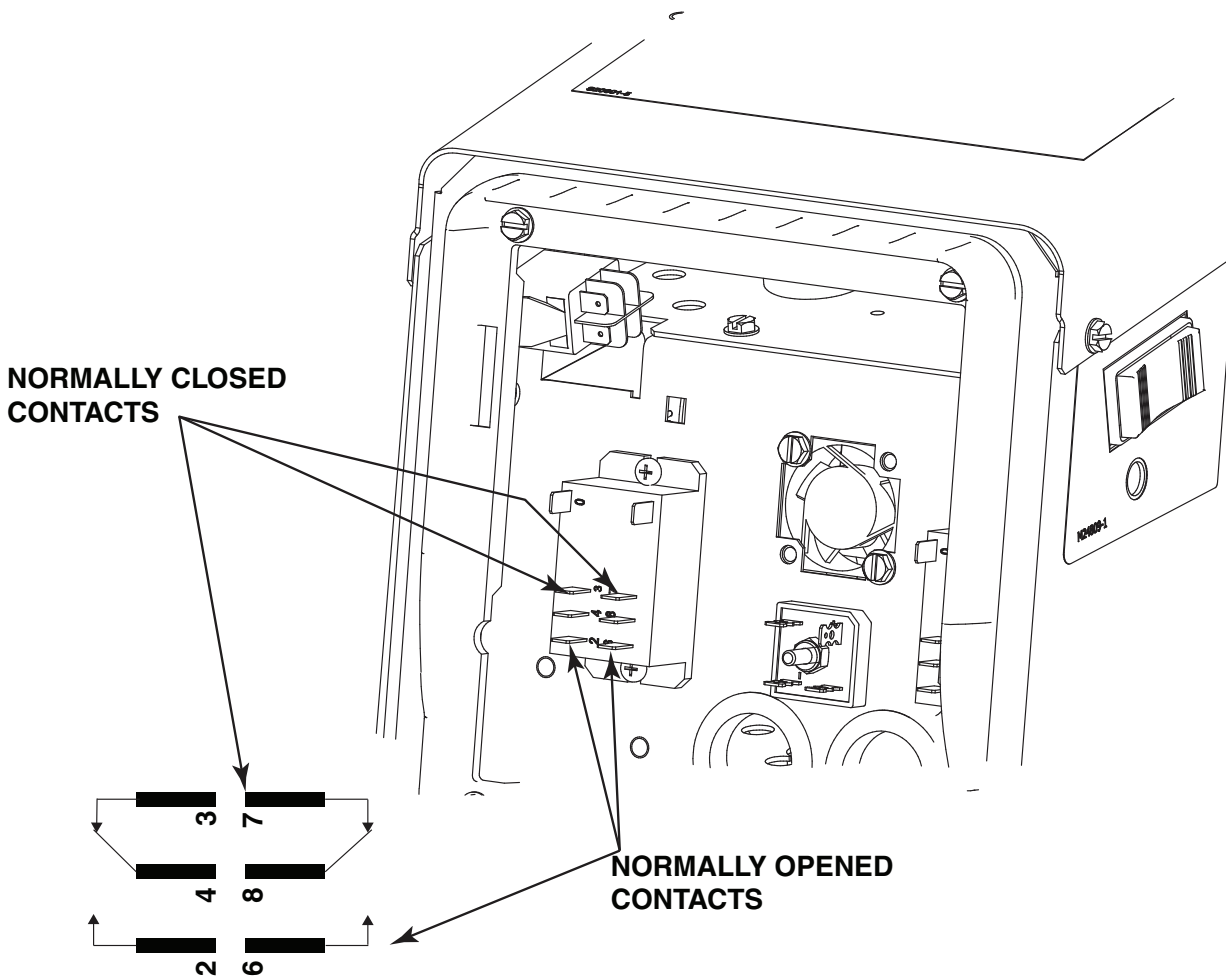
**The ratings of the relay are:**

Normally Open	30 amps @ 277 VAC	20 amp @ 28 VDC
Normally Closed	2 amps @ 480 VAC	3 amps @ 28 VDC

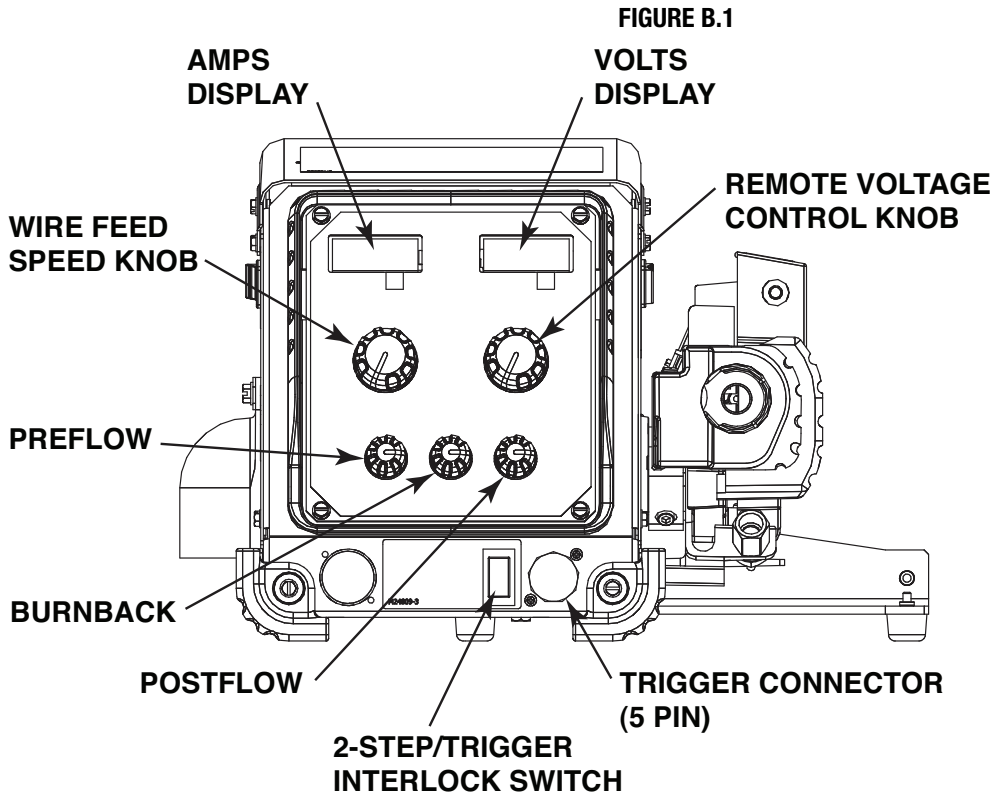
**To make connections to the relay:**

1. Turn power OFF at the welding power supply.
2. Remove the (4) screws securing the roof with a 5/16" nut driver.
3. Remove the (4) screw securing the User Interface with a 5/16" nut driver.
4. Remove the plastic plug button at the rear of the feeder and replace with an appropriate electrical bushing. Route the wires through the bushing to the relay.
5. Reassemble.

**FIGURE A.44**

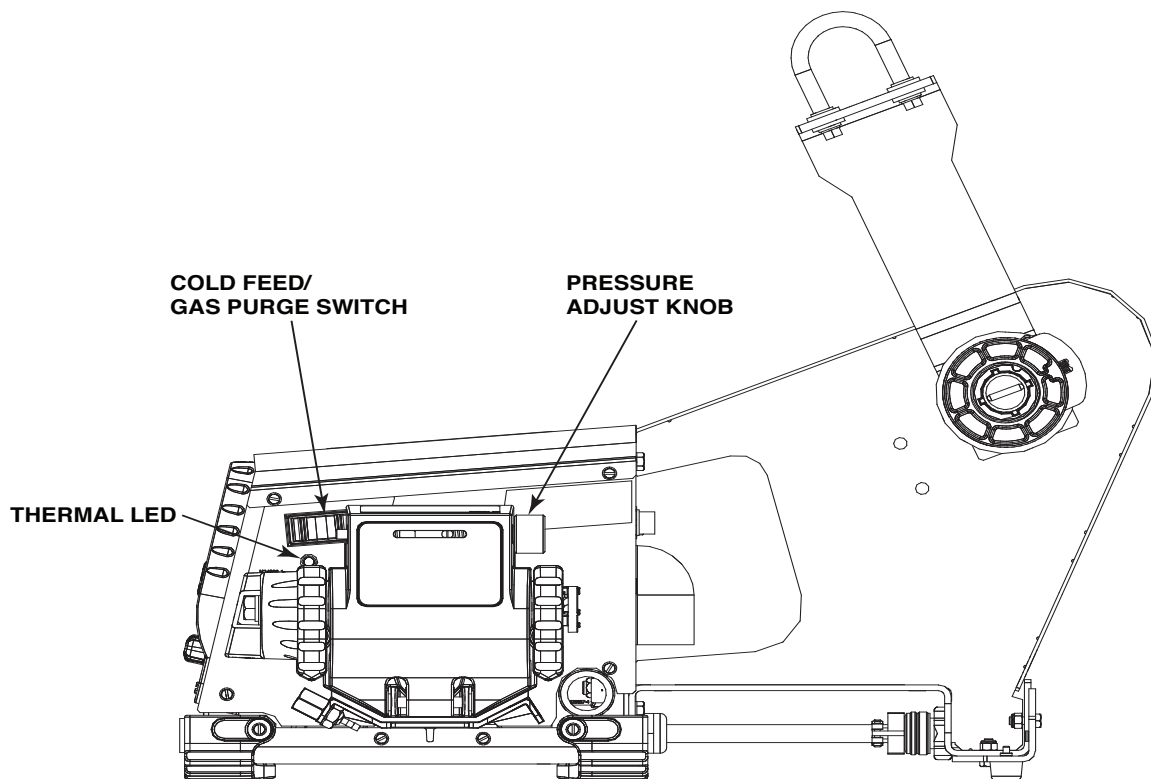


**FRONT VIEW** (See Figure B.1)  
 (ADVANCED USER INTERFACE SHOWN)



**SIDE VIEW** (See Figure B.2)

**FIGURE B.2**

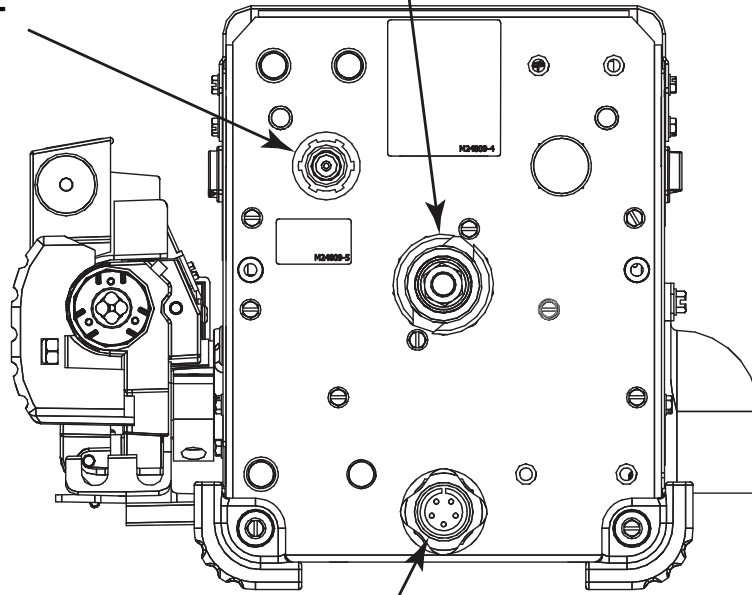


REAR VIEW (See Figure B.3)

FIGURE B.3

ELECTRODE CONNECTION  
(COVER NOT SHOWN FOR  
CLARITY)

SHIELDING  
GAS INLET



CONTROL CABLE WITH  
14 PIN CINNECTOR



**WIRE FEED SPEED KNOB**

Turn the wire feed speed knob clockwise to increase the wire feed speed.

Two ranges of wire feed are available: 50 -700 inches/minute and 50 – 500 inches/ minute (factory setting).

**REMOTE VOLTAGE CONTROL KNOB**

The remote voltage control knob adjusts the output of the power source. The Flex Feed 74 HT does not display preset voltage.

**2-STEP/ TRIGGER INTERLOCK SWITCH**

The 2-Step/Trigger Interlock switch changes the function of the gun trigger. 2-Step trigger operation turns welding on and off in direct response to the trigger. Trigger Interlock operation allows welding to continue when the trigger is released for comfort on long welds.

Place the rocker switch in the DOWN position for 2-Step operation or in the UP position for Trigger Interlock operation.

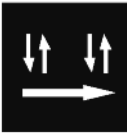
**2-Step Trigger**

2-Step trigger operation is the most common. When the gun trigger is pulled, the welding power source energizes the electrode output and the wire feeder feeds wire for welding. The power source and wire feeder continue welding until the trigger is released.



**Trigger Interlock**

Trigger Interlock operation provides for operator comfort when making long welds. When the gun trigger is first pulled, the welding power source energizes the output and the wire feeder feeds wire for welding. The gun trigger is then released while the weld is made. To stop welding, the gun trigger is pulled again, and when it is released the welding power source output turns off and the wire feeder stops feeding wire.



**⚠ CAUTION**

**If the arc goes out while welding with trigger interlock operation, the electrode output from the welding power source remains energized and the wire feeder will continue to feed wire until the gun trigger is again pulled and then released.**

**THERMAL LED:**

The thermal LED is located on the side of the Flex Feed 74 HT near the wire drive.



The thermal LED lights when the motor current is too high. Inspect the gun and conduit, verifying that the wire slides through easily.

**COLD FEED**

Pressing the Cold Feed rocker switch feeds wire at the wire feed speed indicated by the knob without turning on the power source output.



**GAS PURGE**

Pressing the Gas Purge rocker switch turns on the gas solenoid for as long as the switch is held.

The power source output remains OFF during Gas Purge.



**DIGITAL METERS**

**(Advanced User Interface Only)**

The digital meter kit displays the amperage and voltage while welding. There must be at least 10 amps and 10 volts present for the meters to show welding values. Once welding stops, the displays continue to show the last values for 5 seconds. The displays do not show preset values. If a gouging kit is installed, the displays only show the voltage while gouging and not amperage.

The amperage range is 5 to 700 amps.

**TIMER KIT**

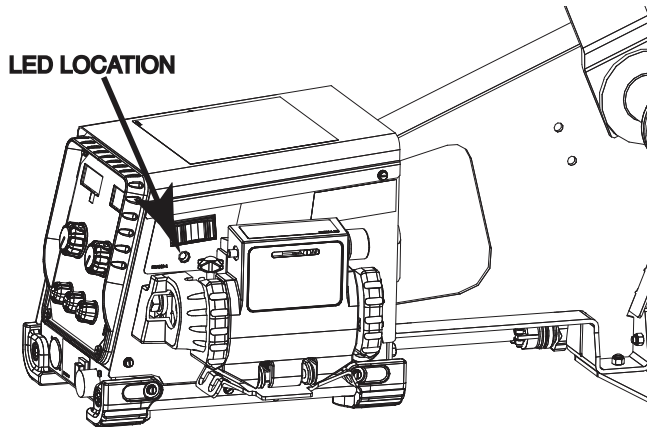
**(Advanced User Interface Only)**

The timer kit provides adjustment for preflow, burnback and postflow.

## POWER UP SEQUENCE

1. The thermal LED (location See Figure B.4) illuminates for 2 seconds.
2. If the trigger is already activated, the thermal LED will quickly blink until the trigger is released.

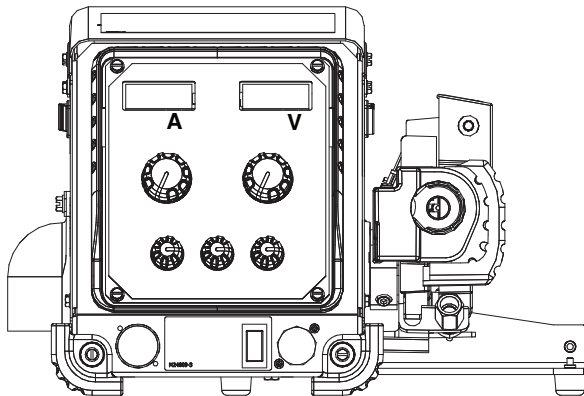
**FIGURE B.4**



## USER INTERFACE:

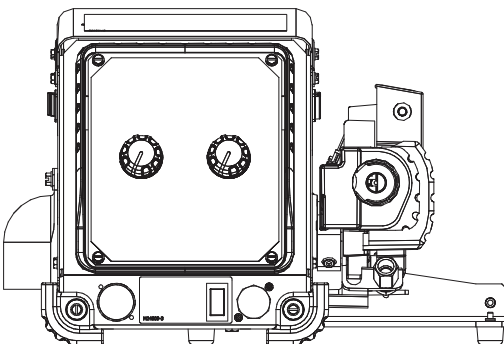
- User Interface Layout, **Advanced**

**FIGURE B.5**



- User Interface Layout, **Basic**

**FIGURE B.6**



**GOUGING KIT**

**⚠ WARNING**

**ELECTRIC SHOCK can kill.**



- If the wire feeder is turned ON with the process switch in the gouging position, the welding output will turn ON.

Use the output control knob of the Flex Feed™ 74 HT to adjust output at the power source. If the gouging stud is used for stick welding, the power source must be changed to constant current operation.

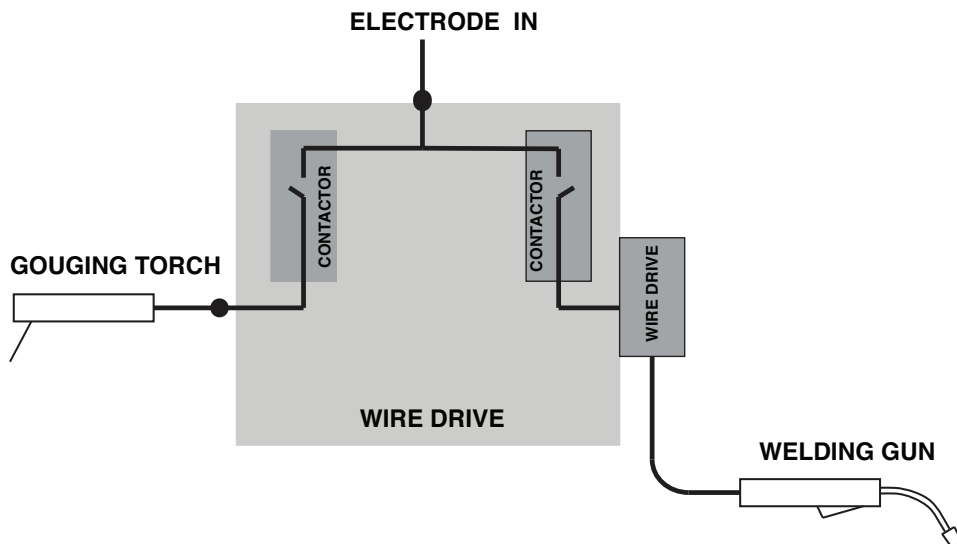
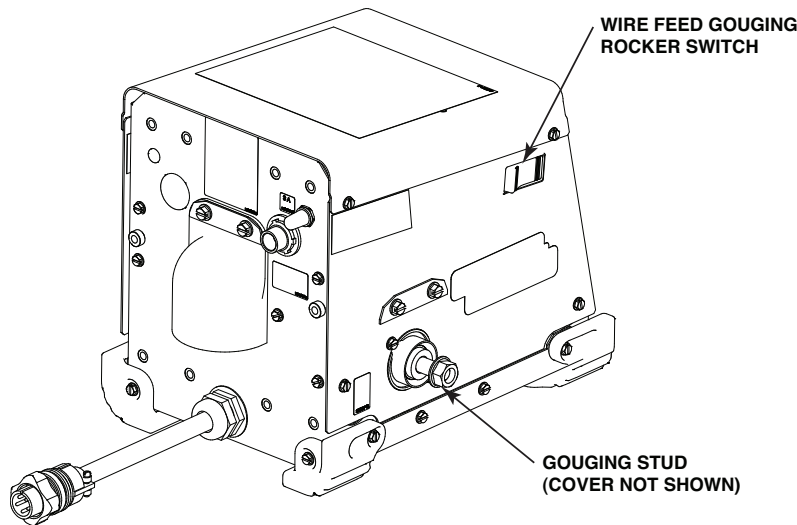
**(Do Not Switch processes while actively welding or gouging.)**

When the gouging kit is installed, a rocker switch is used to select between wire feeder operation and gouging operation.

With the switch in the “weld” position, the Flex Feed™ 74 HT functions normally and the output connection for the gouging torch is OFF.

With the switch in the “gouge” position, the power source output and gouging connection are ON and the wire drive is electrically isolated. Note that gouging will be performed with constant voltage (CV) unless the power source is changed to constant current (CC).

**FIGURE B.7**



# OPTIONAL KITS AND ACCESSORIES

## DRIVE ROLL AND WIRE GUIDE KITS

Drive Roll Kits, Steel wires		
KP1505-030S	.023-.030 (0.6-0.8mm)	Includes: 4 Smooth V groove drive rolls and inner wire guide.
KP1505-035S	.035 (0.9mm)	
KP1505-045S	.045 (1.2mm)	
KP1505-052S	.052 (1.4mm)	
KP1505-1/16S	1/16 (1.6mm)	

Drive Roll Kits, Cored Wires		
KP1505-035C	.030-.035" (0.8-0.9mm)	Includes: 4 Knurled drive rolls and inner wire guide.
KP1505-045C	.040-.045" (1.0-1.2mm)	
KP1505-052C	.052" (1.4mm)	
KP1505-1/16C	1/16" (1.6mm)	




Drive Roll Kits, Steel or Cored Wires		
KP1505-068	.068-.072" (1.8mm)	Includes: 4 Knurled drive rolls and inner wire guide.
KP1505-5/64	5/64" (2.0mm)	
KP1505-3/32	3/32" (2.4mm)	
KP1505-7/64	7/64" (2.8mm)	
KP1505-120	120" (3.2mm)	

Drive Roll Kits, Hardfacing Wires		
KP1505-7/64C	7/64" (2.8mm)	Includes: 2 Knurled drive rolls, 2 Smooth V groove drive rolls and inner wire guide.








Drive Roll Kits, Aluminum Wire		
KP1507-035A	.035" (0.9 mm)	Includes: 4 polished U groove drive rolls, outer wire guide and inner wire guide, pressure door springs, conduit bushing.
KP1507-040A	.040" (1.0mm)	
KP1507-3/64A	3/64" (1.2mm)	
KP1507-1/16A	1/16" (1.6mm)	
KP1507-3/32A	3/32" (2.4mm)	








<b>GUN ADAPTER KITS</b>			
<b>K#</b>	<b>Description</b>		
K3344-1	Gun Adapter Kit, Lincoln Back-end Also Includes KP4069-1 Guide tube Kit.		
K3345-1	Gun Adapter Kit, Tweco #2-#4 back-end		
K3346-1	Gun Adapter Kit, Tweco #5 back-end		
K3347-1	Gun Adapter Kit, Miller back-end		
K3348-1	Gun Adapter Kit, Oxo back-end Also Includes KP4069-2 Guide tube kit.		
K3349-1	Gun Adapter Kit, Fast-Mate (Euro) Also includes KP4069-3 Guide tube kit.		
KP4069-3	Guide Tube Kit, Fast-Mate		
	Wire Size	No. of Grooves In Guide Tube	Individual Buy Part #
	.023-.045" (0.6-1.2mm)	1	KP2110-1
	.045-1/16" (1.2-1.6mm)	2	KP2110-2
	1/16-5/64" (1.6-2.0mm)	3	KP2110-3
.068-7/64" (2.0-2.8mm)	4	KP2110-4	

**CABLES**

K#	Description	Purpose	Image
K1797-xx	Control Cable: Male 14 pin to Female 14 pin cable.	Connects the user interface to the wire drive for boom systems. Connects the wire drive to the power source on bench systems.	
K2335-1,-2	Competitive Equipment Adapter	Used to connect the Flex Feed 74 HT to power sources with 24 VAC.	
K1798	Adapter Cable: Female 14 pin to Terminal Strip	Connects the control cable to older power sources that only have terminal strips.	

**GENERAL ACCESSORIES**

K#	Description	Purpose	Image
K3974-1	Gouging Contactor Kit	Includes contactors and a switch to change electrode power from the feeder to a gouging torch.	
K1546-1	Incoming Bushing for Lincoln Conduit.	Use with .025 – 1/16” wires.	
K1546-2	Incoming Bushing for Lincoln Conduit	Use with 1/16” to 1/8” wires	
K3929-1	Inlet Bushing, quick connect style	Included with Flex Feed 74 HT feeders without a wire reel stand.	
K1733-1	Wire Straightener		
K1504-1	50-60 lb coil adapter for 2 inch spindles	For use with K3343-1 heavy duty wire reel stand.	
K590-6	Water Connection Kit	Includes 4 female quick disconnects, tubing and clamps water cooled guns.	
K1520-1	42 volt Transformer Kit	Converts 110 VAC to 42 VAC.	
K4068-1	Cart Mounting Bracket	Used to mount feeders to K3059-2 and K3059-3 carts.	

K#	Description	Purpose	Image
K283-1	Portable Digital Wire Feed Speed Meter		
K3342-1	Standard Duty Wire Reel Stand	For spools up to 44 lbs.	
K3343-1	Heavy Duty Wire Reel Stand	For spools up to 44 lbs and coils up to 60 lbs. Includes K3341-1 Lift Bail.	
K3341-1	Lift Bail	Insulated lift bail for suspending the wire feeder. Requires either standard duty or heavy duty wire reel stand.	
K1634-4	Spool Cover	For use with 30-40 lb. spools.	
K3340-1	Spool Cover	For use with 50-60 lb coils.	
KP3103-1	Shielding Gas Filter	Protects the gas solenoid and gun from contaminants.	

**ACCESSORIES INCLUDED WITH THE FLEX FEED™ 74 HT:**

- Bench models of the Flex Feed™ 74 HT include a 10 foot control cable
- All models include a standard #4 gun adapter.
- Models with the Heavy Duty Wire Reel stand include a lift bail.
- Models without a wire reel stand include K3929-1 quick disconnect inlet bushing



**SAFETY PRECAUTIONS****WARNING****ELECTRIC SHOCK can kill.**

- Turn the input power OFF at the welding power source before installation or changing drive rolls and/or guides.

- Do not touch electrically live parts.
- When inching with the gun trigger, electrode and drive mechanism are "hot" to work and ground and could remain energized several seconds after the gun trigger is released.
- Do not operate with covers, panels or guards removed or open.
- Only qualified personnel should perform maintenance work.

**ROUTINE MAINTENANCE**

Check weld cables, control cables and gas hoses for cuts.

Clean and tighten all weld terminals.

**PERIODIC MAINTENANCE**

Clean the drive rolls and inner wire guide and replace if worn.

Blow out or vacuum the inside of the feeder.

Inspect the motor brushes every 6 months. Replace if shorter than 0.5" (12.7mm).

**CALIBRATION SPECIFICATION****Wire Feed Speed Validation**

Calibration matches the scale on the name plate to the actual wire feed speed. As shipped from the factory, the wire feeder is calibration for 0.45 (1.2mm) wire. Calibration of the Flex Feed™ 74 HT may be required when the p.c. board, the wire feed speed potentiometer or the motor is replaced or serviced.

**To calibrate the Flex Feed™ 74 HT:**

1. Turn power OFF at the welding power source.
2. Remove the (4) screws holding the roof of the wire feeder to gain access to the pc board.
3. Turn power ON and trigger the Flex Feed 74 HT.
4. Set the WFS knob to 50 in/min and measure the drive roll rpm. If the drive roll rpm measures 8.9 to 9.2 rpm, proceed to step 7.
5. Unplug the connector in J2. Insert a shorting plug that shorts pin 1 and 5. Adjust the WFS knob as required until drive roll rpm measures:
  - 5.93 to 6.13 rpm for 20 tooth pinion gear.
  - 8.90 to 9.20 rpm for 30 tooth pinion gear.
6. Remove the shorting plug from J2.
7. Set the WFS knob to 300 in/min. Measure the drive roll rpm. If the drive roll rpm measures 53.97 to 55.17, proceed to step 10.
8. Unplug the connector in J2. Insert a shorting plug that shorts pin 1 and 5. Adjust the WFS knob as required until drive roll rpm measures:
  - 35.9 to 36.7 rpm for 20 tooth pinion gear.
  - 53.97 to 55.17 rpm for 30 tooth pinion gear.
9. Remove the shorting plug from J2.
10. Set the WFS knob to 500 in/min for the 20 tooth pinion gear or 700 in/min for the 30 tooth pinion gear. Measure the drive roll rpm. If the drive roll rpm measures 89.9 to 91.9, proceed to step 13.
11. Unplug the connector in J2. Insert a shorting plug that shorts pin 1 and 5. Adjust the WFS knob as required until drive roll rpm measures:
  - 83.87 to 85.87 rpm for 20 tooth pinion gear.
  - 126.32 to 128.32 rpm for 30 tooth pinion gear.
12. Remove the shorting plug from J2.
13. Turn power OFF and reassemble.

## Output Amperage Validation

Amperage Calibration matches the display current to the current shown through the use of a grid, and certified amp meter. Calibrating the amperage of the Flex Feed™ 74 HT requires a power source, grid and reference amp meter.

To calibrate the Flex Feed™ 74 HT Amperage:

(See Figure D.1)

1. Turn power Off at the welding power source.
2. Remove the (4) screws holding the case side (wire drive side) to gain access to the current transducer.
3. On the copper bus bar, identify the blue current transducer and locate the yellow Phillips head current trim screw.
4. Using a small Phillips screwdriver, turn the trim screw 1/8 turn in either a clockwise or a counter clockwise direction. Counter-Clockwise adjusts the display value down, while Clockwise raises it.
5. Reassemble the case side and with the feeder attached to a grid with certified meters, turn power ON and trigger the Flex Feed™ 74 HT.
6. Compare the output current on the meters to the output current display on the front of the machine. The output current and display should be + 1% of each other. If the output current percentage does not match, or is greater than + 1% of what is shown on the display of the feeder, turn power off and repeat steps 2 through 6.

FIGURE D.1



## HOW TO USE TROUBLESHOOTING GUIDE

### WARNING

Service and Repair should only be performed by Lincoln Electric Factory Trained Personnel. Unauthorized repairs performed on this equipment may result in danger to the technician and machine operator and will invalidate your factory warranty. For your safety and to avoid Electrical Shock, please observe all safety notes and precautions detailed throughout this manual.

This Troubleshooting Guide is provided to help you locate and repair possible machine malfunctions. Simply follow the three-step procedure listed below.

#### **Step 1. LOCATE PROBLEM (SYMPTOM).**

Look under the column labeled “PROBLEM (SYMPTOMS)”. This column describes possible symptoms that the machine may exhibit. Find the listing that best describes the symptom that the machine is exhibiting.

#### **Step 2. POSSIBLE CAUSE.**

The second column labeled “POSSIBLE CAUSE” lists the obvious external possibilities that may contribute to the machine symptom.

#### **Step 3. RECOMMENDED COURSE OF ACTION**

This column provides a course of action for the Possible Cause, generally it states to contact your local Lincoln Authorized Field Service Facility.

If you do not understand or are unable to perform the Recommended Course of Action safely, contact your local Lincoln Authorized Field Service Facility.

### CAUTION

If for any reason you do not understand the test procedures or are unable to perform the tests/repairs safely, contact your **Local Lincoln Authorized Field Service Facility** for technical troubleshooting assistance before you proceed.

Observe all Safety Guidelines detailed throughout this manual

PROBLEMS (SYMPTOMS)	POSSIBLE CAUSE	RECOMMENDED COURSE OF ACTION
The feeder does not power up - no voltage, no cold feed.	<ol style="list-style-type: none"> <li>1. The power source is OFF.</li> <li>2. The circuit breaker for the wire feeder on power source have tripped. (control cable models)</li> <li>3. The control cable may be loose or damaged. (control cable models)</li> </ol>	<ol style="list-style-type: none"> <li>1. Turn ON the power source.</li> <li>2. Reset the circuit breakers.</li> <li>3. Tighten, repair or replace the control cable.</li> </ol>
No shielding gas.	<ol style="list-style-type: none"> <li>1. The gas supply is OFF or empty.</li> <li>2. The gas hose is cut or crushed.</li> <li>3. Verify gas is not leaking out through the gun at the wire drive. Inspect o-rings.</li> <li>4. Dirt or debris is in the solenoid.</li> <li>5. There is a loose solenoid connection.</li> <li>6. The solenoid has failed.</li> </ol>	<ol style="list-style-type: none"> <li>1. Verify the gas supply is ON and flowing.</li> <li>2. Route the gas hose so it avoids sharp corners and make sure nothing is on top of it. Repair or replace damaged hoses.</li> <li>3. Secure the gun into the wire drive. Replace o-rings on the gun if necessary.</li> <li>4. Apply filtered shop air at 80psi to the solenoid to remove dirt.</li> <li>5. Remove the cover and check that all connections are in good condition.</li> <li>6. Replace the solenoid.</li> </ol>
Inconsistent wire feeding or wire not feeding but drive rolls turning.	<ol style="list-style-type: none"> <li>1. The gun cable is kinked and/or twisted</li> <li>2. The wire is jammed in the gun and cable.</li> <li>3. The gun liner is dirty or worn.</li> <li>4. The electrode is rusty or dirty.</li> <li>5. The contact tip is partially melted or has spatter.</li> <li>6. Improper gun liner, tip, drive rolls and/or inner wire guide.</li> <li>7. Incorrect pressure on the drive rolls.</li> <li>8. The spindle brake is too tight.</li> <li>9. Worn drive roll.</li> </ol>	<ol style="list-style-type: none"> <li>1. Keep the gun cable as straight as possible. Avoid sharp corners or bends in the cable.</li> <li>2. Remove the gun from the wire feeder and pull the jammed wire out of the gun and cable.</li> <li>3. Blow dirt out of the liner with low pressure (40psi or less). Replace the liner if worn.</li> <li>4. Use only clean electrode. Use quality electrode, like L-50 or L-56 from Lincoln Electric.</li> <li>5. Replace the contact tip.</li> <li>6. Verify the proper parts are installed.</li> <li>7. Adjust the pressure knob. Most electrodes feed well at a tension arm setting of "3".</li> <li>8. Verify the spool of wire moves with minimal effort.</li> <li>9. Replace the drive rolls if worn or filled with dirt.</li> </ol>

**⚠ CAUTION**

If for any reason you do not understand the test procedures or are unable to perform the tests/repairs safely, contact your **Local Lincoln Authorized Field Service Facility** for technical troubleshooting assistance before you proceed.

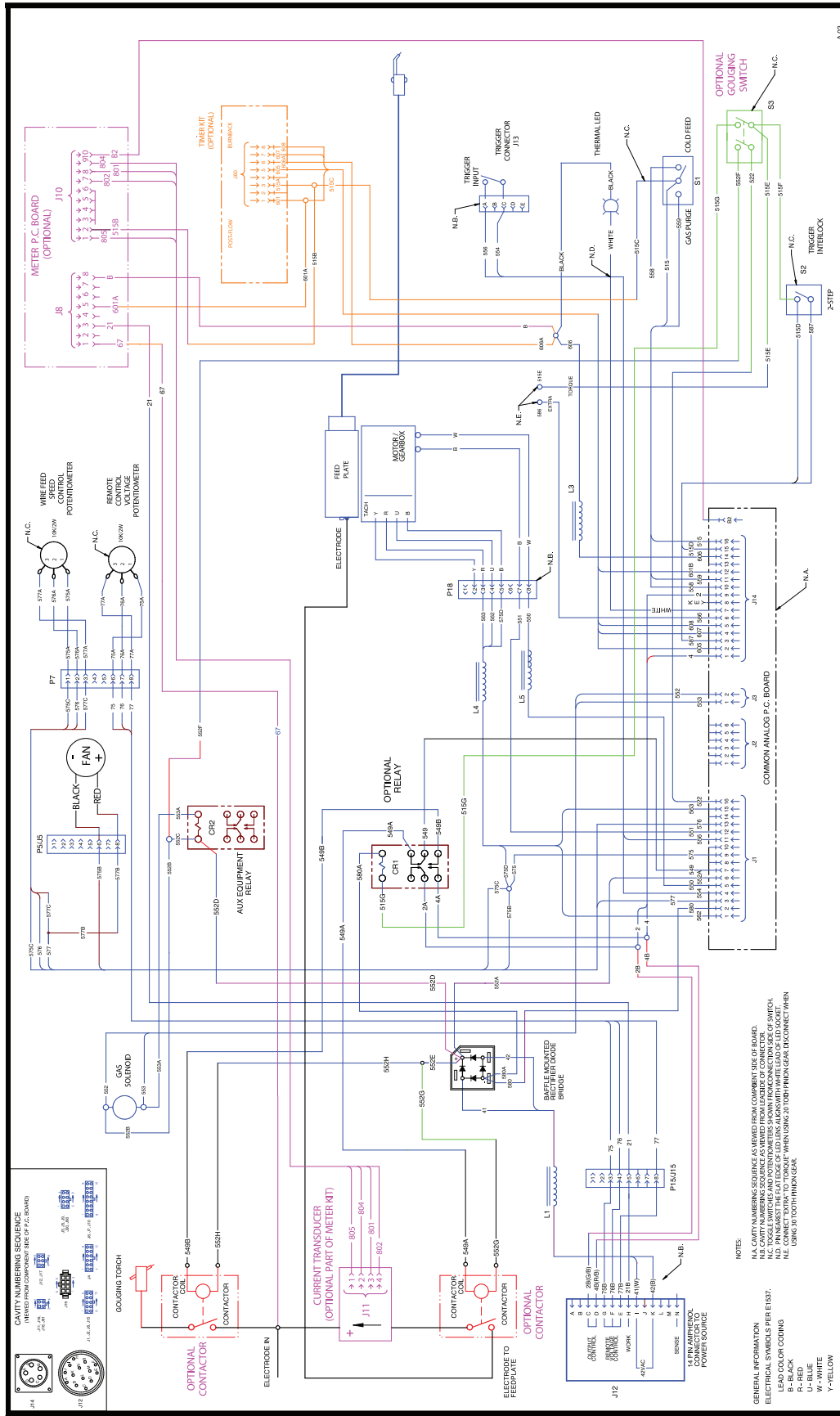
Observe all Safety Guidelines detailed throughout this manual

PROBLEMS (SYMPTOMS)	POSSIBLE AREAS OF MISADJUSTMENTS(S)	RECOMMENDED COURSE OF ACTION
Wire feed speed consistently operates at the wrong value. The speed changes when the wire feed speed knob is adjusted.	<ol style="list-style-type: none"> <li>1. The jumper lead 20 tooth/30 tooth pinion gear is connected improperly.</li> <li>2. The wrong gear is installed in the wire drive.</li> <li>3. The wrong decal was placed on the case front.</li> <li>4. The brushes on the motor are worn.</li> </ol>	<ol style="list-style-type: none"> <li>1. Properly connect the jumper lead in the harness..</li> <li>2. Install the proper pinion gear in the wire drive.</li> <li>3. Place the correct WFS decal on the case front.</li> <li>4. Inspect and replace the motor brushes.</li> </ol>
The wire feed speed stuck at 200-300 in/min and there is no change when the wire feed speed knob is adjusted.  Variable or "hunting" arc.	<ol style="list-style-type: none"> <li>1. The tachometer is connected improperly.</li> <li>2. The tachometer has failed.</li> </ol>	<ol style="list-style-type: none"> <li>1. Verify all of the tachometer leads are properly connected.</li> <li>2. Replace the motor and tachometer assembly.</li> </ol>
	<ol style="list-style-type: none"> <li>1. Wrong size, worn and/or melted contact tip</li> <li>2. Worn work cable or poor work connection.</li> <li>3. Wrong polarity.</li> <li>4. The gas nozzle is extended beyond the contact tip or the wire stickout is too long.</li> <li>5. Poor gas shielding on processes requiring gas.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace the contact tip.</li> <li>2. Verify all work and electrode connections are tight and that the cables are in good condition. Clean/replace as necessary.</li> <li>3. Adjust the polarity to match the process.</li> <li>4. Adjust the gas nozzle and shorten the stickout to ½ to ¾ inches.</li> <li>5. Check gas flow and mixture. Remove or block sources of drafts.</li> </ol>
The wire drive feeds wire at the correct speed but there is not welding output.	<ol style="list-style-type: none"> <li>1. If a gouging kit is installed, the gouging switch is in the "gouge" position</li> <li>2. If a gouging kit in installed, verify there is continuity from the electrode input to the wire drive.</li> </ol>	<ol style="list-style-type: none"> <li>1. Place the rocker switch in the welding position.</li> <li>2. Repair loose connections. Replace the contactor.</li> </ol>
There is gas flow but the feeder does not feed wire	<ol style="list-style-type: none"> <li>1. If the advanced user interface is installed, verify the preflow time has not been set to a high value</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust the preflow timer for a shorter amount of time.</li> </ol>
Poor arc starts with sticking or "blast-offs", weld porosity, narrow and ropy looking bead.	<ol style="list-style-type: none"> <li>1. Improper procedures or techniques.</li> </ol>	<ol style="list-style-type: none"> <li>1. See "Gas Metal Arc Welding Guide" (GS-100)</li> </ol>

**⚠ CAUTION**

If for any reason you do not understand the test procedures or are unable to perform the tests/repairs safely, contact your **Local Lincoln Authorized Field Service Facility** for technical troubleshooting assistance before you proceed.

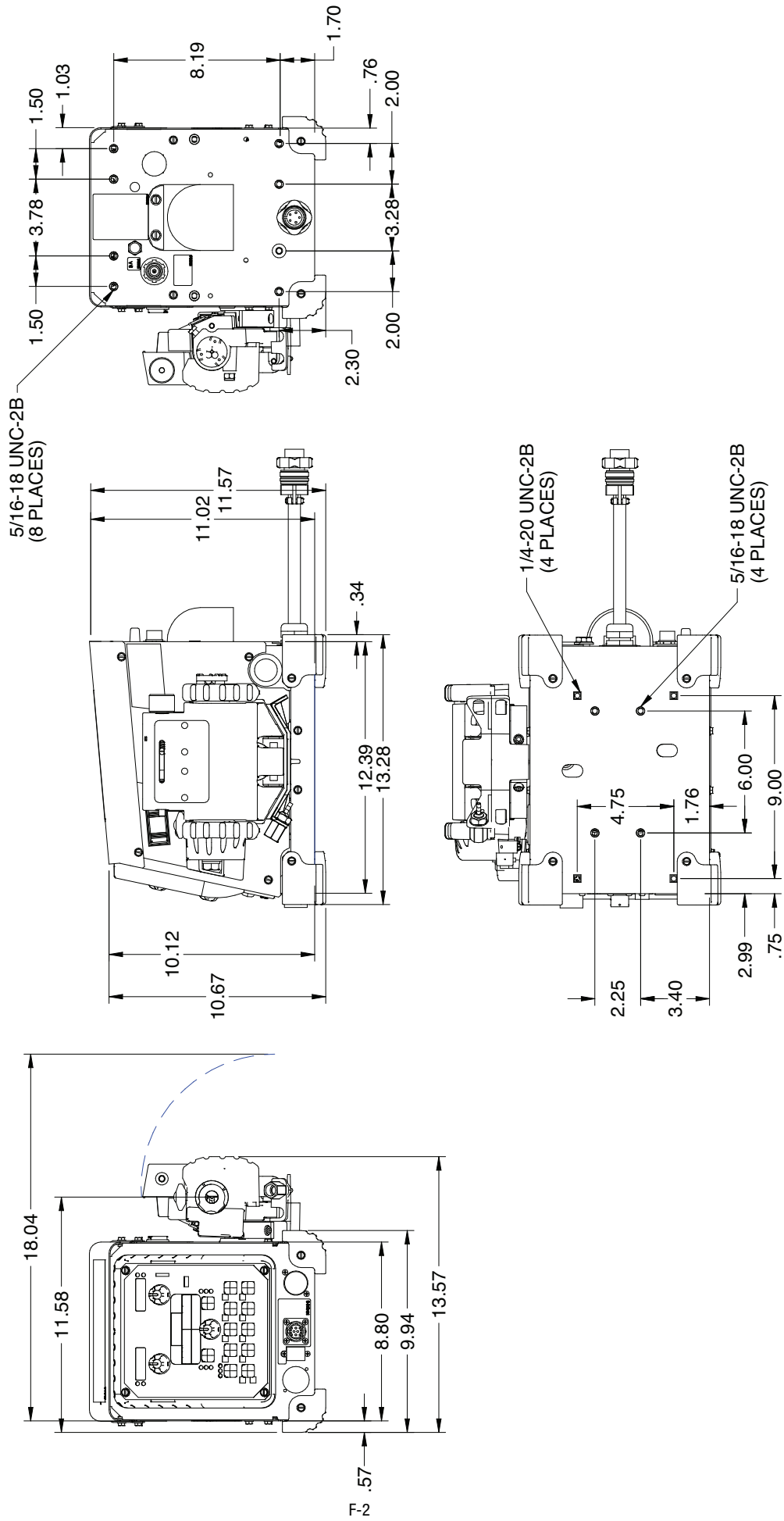
WIRING DIAGRAM- FLEX FEED 74 HT



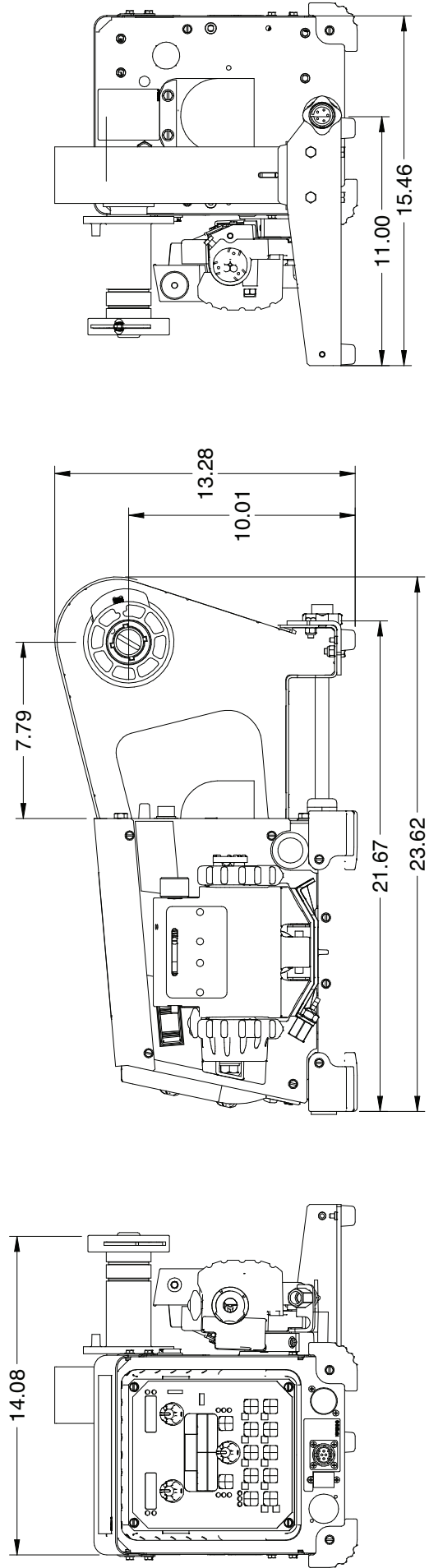
G7621

NOTE: This diagram is for reference only. It may not be accurate for all machines covered by this manual. The specific diagram for a particular code is pasted inside the machine on one of the enclosure panels. If the diagram is illegible, write to the Service Department for a replacement. Give the equipment code number.

DIMENSION DRAWING FOR WIRE DRIVE HOUSING

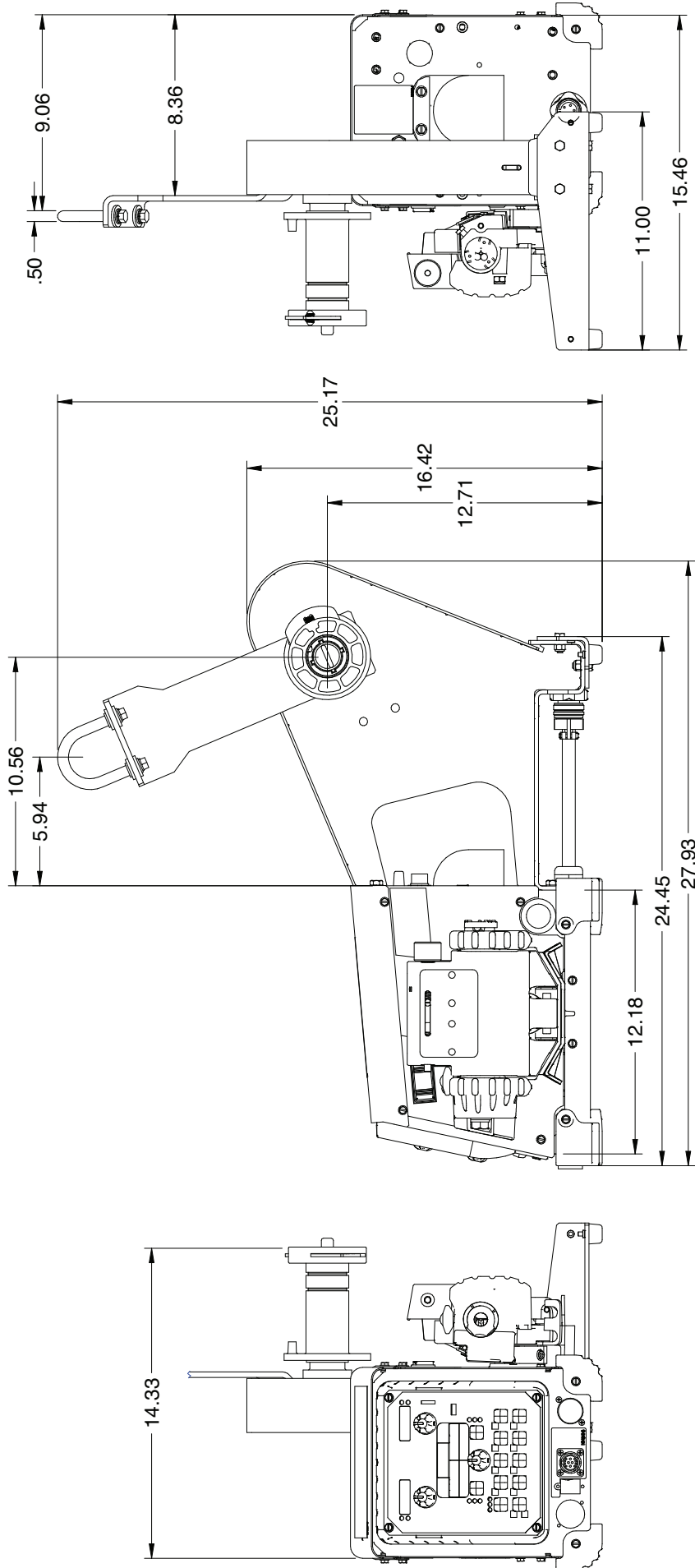


DIMENSION DRAWING FOR STANDARD DUTY WIRE REEL STAND





DIMENSION DRAWING FOR HEAVY DUTY WIRE REEL STAND



			
<b>WARNING</b>	<ul style="list-style-type: none"> <li>Do not touch electrically live parts or electrode with skin or wet clothing.</li> <li>Insulate yourself from work and ground.</li> </ul>	<ul style="list-style-type: none"> <li>Keep flammable materials away.</li> </ul>	<ul style="list-style-type: none"> <li>Wear eye, ear and body protection.</li> </ul>
Spanish <b>AVISO DE PRECAUCION</b>	<ul style="list-style-type: none"> <li>No toque las partes o los electrodos bajo carga con la piel o ropa mojada.</li> <li>Aíslese del trabajo y de la tierra.</li> </ul>	<ul style="list-style-type: none"> <li>Mantenga el material combustible fuera del área de trabajo.</li> </ul>	<ul style="list-style-type: none"> <li>Protéjase los ojos, los oídos y el cuerpo.</li> </ul>
French <b>ATTENTION</b>	<ul style="list-style-type: none"> <li>Ne laissez ni la peau ni des vêtements mouillés entrer en contact avec des pièces sous tension.</li> <li>Isolez-vous du travail et de la terre.</li> </ul>	<ul style="list-style-type: none"> <li>Gardez à l'écart de tout matériel inflammable.</li> </ul>	<ul style="list-style-type: none"> <li>Protégez vos yeux, vos oreilles et votre corps.</li> </ul>
German <b>WARNUNG</b>	<ul style="list-style-type: none"> <li>Berühren Sie keine stromführenden Teile oder Elektroden mit Ihrem Körper oder feuchter Kleidung!</li> <li>Isolieren Sie sich von den Elektroden und dem Erdboden!</li> </ul>	<ul style="list-style-type: none"> <li>Entfernen Sie brennbares Material!</li> </ul>	<ul style="list-style-type: none"> <li>Tragen Sie Augen-, Ohren- und Körperschutz!</li> </ul>
Portuguese <b>ATENÇÃO</b>	<ul style="list-style-type: none"> <li>Não toque partes elétricas e electrodos com a pele ou roupa molhada.</li> <li>Isole-se da peça e terra.</li> </ul>	<ul style="list-style-type: none"> <li>Mantenha inflamáveis bem guardados.</li> </ul>	<ul style="list-style-type: none"> <li>Use proteção para a vista, ouvido e corpo.</li> </ul>
Japanese <b>注意事項</b>	<ul style="list-style-type: none"> <li>通電中の電気部品、又は溶材にヒブやぬれた布で触れないこと。</li> <li>施工物やアースから身体が絶縁されている様にして下さい。</li> </ul>	<ul style="list-style-type: none"> <li>燃えやすいものの側での溶接作業は絶対にしてはなりません。</li> </ul>	<ul style="list-style-type: none"> <li>目、耳及び身体に保護具をして下さい。</li> </ul>
Chinese <b>警告</b>	<ul style="list-style-type: none"> <li>皮肤或湿衣物切勿接触带电部件及焊条。</li> <li>使你自已与地面和工件绝缘。</li> </ul>	<ul style="list-style-type: none"> <li>把一切易燃物品移离工作场所。</li> </ul>	<ul style="list-style-type: none"> <li>佩戴眼、耳及身体劳动保护用具。</li> </ul>
Korean <b>위험</b>	<ul style="list-style-type: none"> <li>전도체나 용접봉을 젖은 헝겊 또는 피부로 절대 접촉치 마십시오.</li> <li>모재와 접지를 접촉치 마십시오.</li> </ul>	<ul style="list-style-type: none"> <li>인화성 물질을 접근시키지 마십시오.</li> </ul>	<ul style="list-style-type: none"> <li>눈, 귀와 몸에 보호장구를 착용하십시오.</li> </ul>
Arabic <b>تحذير</b>	<ul style="list-style-type: none"> <li>لا تلمس الاجزاء التي يسري فيها التيار الكهربائي أو الألكترود بجسدك أو بالملابس المبللة بالماء.</li> <li>ضع عازلا على جسمك خلال العمل.</li> </ul>	<ul style="list-style-type: none"> <li>ضع المواد القابلة للاشتعال في مكان بعيد.</li> </ul>	<ul style="list-style-type: none"> <li>ضع أدوات وملابس واقية على عينيك وأذنيك وجسمك.</li> </ul>

**READ AND UNDERSTAND THE MANUFACTURER'S INSTRUCTION FOR THIS EQUIPMENT AND THE CONSUMABLES TO BE USED AND FOLLOW YOUR EMPLOYER'S SAFETY PRACTICES.**

**SE RECOMIENDA LEER Y ENTENDER LAS INSTRUCCIONES DEL FABRICANTE PARA EL USO DE ESTE EQUIPO Y LOS CONSUMIBLES QUE VA A UTILIZAR, SIGA LAS MEDIDAS DE SEGURIDAD DE SU SUPERVISOR.**

**LISEZ ET COMPRENEZ LES INSTRUCTIONS DU FABRICANT EN CE QUI REGARDE CET EQUIPMENT ET LES PRODUITS A ETRE EMPLOYES ET SUIVEZ LES PROCEDURES DE SECURITE DE VOTRE EMPLOYEUR.**

**LESEN SIE UND BEFOLGEN SIE DIE BETRIEBSANLEITUNG DER ANLAGE UND DEN ELEKTRODENEINSATZ DES HERSTELLERS. DIE UNFALLVERHÜTUNGSVORSCHRIFTEN DES ARBEITGEBERS SIND EBENFALLS ZU BEACHTEN.**

			
<ul style="list-style-type: none"> <li>● Keep your head out of fumes.</li> <li>● Use ventilation or exhaust to remove fumes from breathing zone.</li> </ul>	<ul style="list-style-type: none"> <li>● Turn power off before servicing.</li> </ul>	<ul style="list-style-type: none"> <li>● Do not operate with panel open or guards off.</li> </ul>	<b>WARNING</b>
<ul style="list-style-type: none"> <li>● Los humos fuera de la zona de respiración.</li> <li>● Mantenga la cabeza fuera de los humos. Utilice ventilación o aspiración para gases.</li> </ul>	<ul style="list-style-type: none"> <li>● Desconectar el cable de alimentación de poder de la máquina antes de iniciar cualquier servicio.</li> </ul>	<ul style="list-style-type: none"> <li>● No operar con panel abierto o guardas quitadas.</li> </ul>	Spanish <b>AVISO DE PRECAUCION</b>
<ul style="list-style-type: none"> <li>● Gardez la tête à l'écart des fumées.</li> <li>● Utilisez un ventilateur ou un aspirateur pour ôter les fumées des zones de travail.</li> </ul>	<ul style="list-style-type: none"> <li>● Débranchez le courant avant l'entretien.</li> </ul>	<ul style="list-style-type: none"> <li>● N'opérez pas avec les panneaux ouverts ou avec les dispositifs de protection enlevés.</li> </ul>	French <b>ATTENTION</b>
<ul style="list-style-type: none"> <li>● Vermeiden Sie das Einatmen von Schweißrauch!</li> <li>● Sorgen Sie für gute Be- und Entlüftung des Arbeitsplatzes!</li> </ul>	<ul style="list-style-type: none"> <li>● Strom vor Wartungsarbeiten abschalten! (Netzstrom völlig öffnen; Maschine anhalten!)</li> </ul>	<ul style="list-style-type: none"> <li>● Anlage nie ohne Schutzgehäuse oder Innenschutzverkleidung in Betrieb setzen!</li> </ul>	German <b>WARNUNG</b>
<ul style="list-style-type: none"> <li>● Mantenha seu rosto da fumaça.</li> <li>● Use ventilação e exaustão para remover fumo da zona respiratória.</li> </ul>	<ul style="list-style-type: none"> <li>● Não opere com as tampas removidas.</li> <li>● Desligue a corrente antes de fazer serviço.</li> <li>● Não toque as partes elétricas nuas.</li> </ul>	<ul style="list-style-type: none"> <li>● Mantenha-se afastado das partes moventes.</li> <li>● Não opere com os painéis abertos ou guardas removidas.</li> </ul>	Portuguese <b>ATENÇÃO</b>
<ul style="list-style-type: none"> <li>● ヒュームから頭を離すようにして下さい。</li> <li>● 換気や排煙に十分留意して下さい。</li> </ul>	<ul style="list-style-type: none"> <li>● メンテナンス・サービスに取りかかる際には、まず電源スイッチを必ず切して下さい。</li> </ul>	<ul style="list-style-type: none"> <li>● パネルやカバーを取り外したままで機械操作をしないで下さい。</li> </ul>	Japanese <b>注意事項</b>
<ul style="list-style-type: none"> <li>● 頭部遠離煙霧。</li> <li>● 在呼吸區使用通風或排風器除煙。</li> </ul>	<ul style="list-style-type: none"> <li>● 維修前切斷電源。</li> </ul>	<ul style="list-style-type: none"> <li>● 儀表板打開或沒有安全罩時不準作業。</li> </ul>	Chinese <b>警告</b>
<ul style="list-style-type: none"> <li>● 얼굴로부터 용접가스를 멀리하십시오.</li> <li>● 호흡지역으로부터 용접가스를 제거하기 위해 가스제거기나 통풍기를 사용하십시오.</li> </ul>	<ul style="list-style-type: none"> <li>● 보수전에 전원을 차단하십시오.</li> </ul>	<ul style="list-style-type: none"> <li>● 판넬이 열린 상태로 작동치 마십시오.</li> </ul>	Korean <b>위험</b>
<ul style="list-style-type: none"> <li>● ابعد رأسك بعيداً عن الدخان.</li> <li>● استعمل التهوية أو جهاز ضغط الدخان للخارج لكي تبعد الدخان عن المنطقة التي تتنفس فيها.</li> </ul>	<ul style="list-style-type: none"> <li>● أقطع التيار الكهربائي قبل القيام بأية صيانة.</li> </ul>	<ul style="list-style-type: none"> <li>● لا تشغيل هذا الجهاز اذا كانت الاغطية الحديدية الواقية ليست عليه.</li> </ul>	Arabic <b>تحذير</b>

**LEIA E COMPREENDA AS INSTRUÇÕES DO FABRICANTE PARA ESTE EQUIPAMENTO E AS PARTES DE USO, E SIGA AS PRÁTICAS DE SEGURANÇA DO EMPREGADOR.**

使う機械や溶材のメーカーの指示書をよく読み、まず理解して下さい。そして貴社の安全規定に従って下さい。

請詳細閱讀並理解製造廠提供的說明以及應該使用的銀焊材料，並請遵守貴方的有關勞動保護規定。

이 제품에 동봉된 작업지침서를 숙지하시고 귀사의 작업자 안전수칙을 준수하시기 바랍니다.

اقرأ بتمعن وافهم تعليمات المصنع المنتج لهذه المعدات والمواد قبل استعمالها واتبع تعليمات الوقاية لصاحب العمل.

## **CUSTOMER ASSISTANCE POLICY**

The business of The Lincoln Electric Company is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for advice or information about their use of our products. We respond to our customers based on the best information in our possession at that time. Lincoln Electric is not in a position to warrant or guarantee such advice, and assumes no liability, with respect to such information or advice. We expressly disclaim any warranty of any kind, including any warranty of fitness for any customer's particular purpose, with respect to such information or advice. As a matter of practical consideration, we also cannot assume any responsibility for updating or correcting any such information or advice once it has been given, nor does the provision of information or advice create, expand or alter any warranty with respect to the sale of our products.

Lincoln Electric is a responsive manufacturer, but the selection and use of specific products sold by Lincoln Electric is solely within the control of, and remains the sole responsibility of the customer. Many variables beyond the control of Lincoln Electric affect the results obtained in applying these types of fabrication methods and service requirements.

Subject to Change – This information is accurate to the best of our knowledge at the time of printing. Please refer to [www.lincolnelectric.com](http://www.lincolnelectric.com) for any updated information.



**THE LINCOLN ELECTRIC COMPANY**

22801 St. Clair Avenue • Cleveland, OH • 44117-1199 • U.S.A.  
Phone: +1.216.481.8100 • [www.lincolnelectric.com](http://www.lincolnelectric.com)