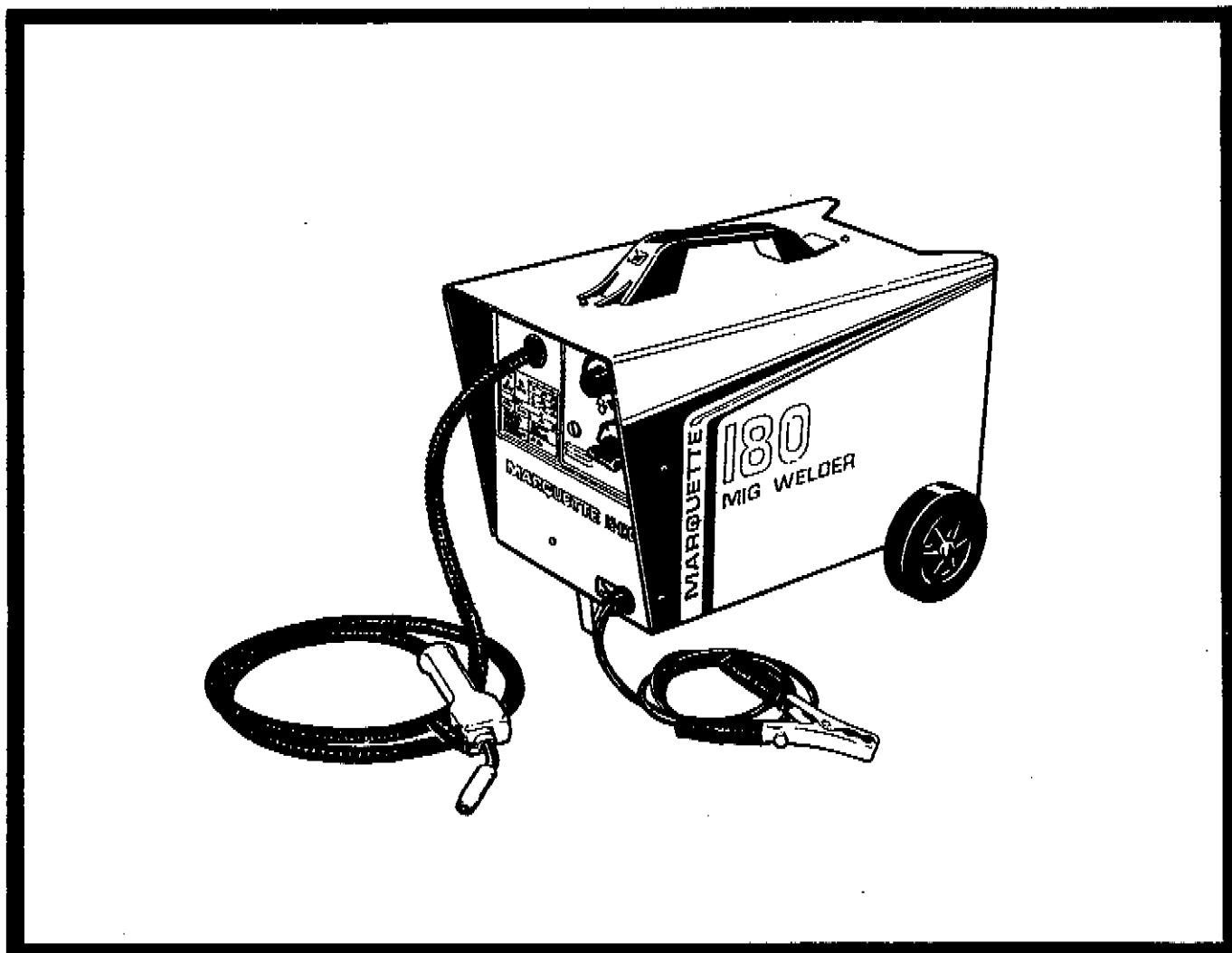


**MARQUETTE®**

**OPERATING, INSTRUCTIONS AND PARTS LIST  
MIG WELDER MODEL M12180**



**IMPORTANT OPERATING INSTRUCTIONS  
SAVE THESE INSTRUCTIONS**

**MARQUETTE®**

# WARNINGS

Read and observe all instructions included in this manual as well as these following specific procedures.

## EYE AND BODY PROTECTION

**WARNING:** Never look at welding arc without a helmet or shield. Arc rays are extremely dangerous to the eyes.

1. Use helmet, filter, and cover plate complying with ANSI Z87.1 to protect your eyes and face from sparks and the rays of the arc when welding or observing open arc welding.
2. Always wear safety goggles with side shields complying with ANSI Z87.1 when in a welding area, or when near slag chipping operation.
3. To avoid spatter and ultraviolet ray burns wear oil free woolen clothing, keep sleeves and collars buttoned, no pockets in front, cuffless trousers overlapping high shoes, and leather gauntlet gloves.
4. Protect other near-by personnel with suitable non-flammable screening, and warn bystanders as to the potential hazards in the weld area.
5. Provide adequate ventilation in the welding area, particularly when welding on galvanized, lead or cadmium plated steel, and other metal which produce toxic fumes.
6. When working above floor level, protect yourself from a fall should you get a shock. Never wrap the electrode cable around any part of your body.
7. Do not weld in locations close to chlorinated hydro-carbon vapors coming from degreasing, cleaning, or spraying operations. The ultraviolet rays of the arc can react with solvent vapors to form phosgene, a highly toxic gas, and other gases.

## PROTECTION FROM ELECTRICAL SHOCK

1. Do not let bare skin or wet clothing come between the following combinations:

Welding Gun  
AND  
Ground Clamp, or Workpiece,  
or Metal Work Table

40 volts exist between these parts when welder is on and gun trigger pressed!

Wear dry, hole free, clothing and gauntlet type gloves to protect and insulate the body.

2. Take special care to insulate yourself from ground using dry insulation (such as dry wood) of adequate size when welding in damp locations, on metal floors or gratings, and in positions (such as sitting or lying) where parts or large areas of your body can be in contact with possible grounds.

3. Maintain the electrode holder, work clamp, welding cable and welding machine in good, safe operating condition.

## FLAMMABLE AND EXPLOSIVE MATERIALS

1. Remove flammable and explosive material at least 35 feet from the welding arc to prevent welding sparks or molten metal from starting a fire. Keep a type ABC fire extinguisher within easy reach.
2. Welding on or near containers which hold combustibles can cause an explosion, even when they have been cleaned. For information purchase "Safe Practices for Welding and Cutting Containers that Have Held Combustibles" (A6-0-65) from the American Welding Society AWS, 2501 N.W. 7th St., Miami, Florida 33125.
3. Electrodes shall be removed from electrode holders when not in use, and holders shall be so placed that they cannot make electrical contact with persons, conducting objects, flammable liquids, or compressed gas cylinders.
4. Never connect the work cable or clamp to any object but the work piece or metal work table. Connecting to other objects such as building ground can create a fire hazard.
5. Never weld anything on or to the welder cabinet, as a burn through may cause transformer failure.

## PREVENTATIVE MAINTENANCE

1. Never apply power to the welder with any part of the "cabinet" removed. Position on-off switch in "Off" position and disconnect power supply at the circuit breaker or fuse box before doing maintenance work inside the machine.
2. Before connecting the welder power cord to the receptacle, check the following:
  - a. Inspect the power cord and welding cables for cuts or burns and make sure blades and ground pin on the plug are straight.
  - b. Inspect "On-Off" switch lever for cracks or broken parts.
  - c. Inspect electrode holder jaw insulators for cracks or broken parts.
  - d. For additional safety information, purchase copies of "Practice for Occupational and Educational Eye & Face Protection" (ANSI Z87.1) and "Safety in Welding and Cutting" (ANSI Z49.1) from the American Welding Society or the American National Standards Institute ANSI, 1430 Broadway, New York, New York 10018, and "Code for Safety in Welding and Cutting" (CSA Standard W117.2-1574) from the Canadian Standards Association, 178 Rexdale Blvd., Rexdale, Ontario M9W1R3.

# INSTRUCTION MANUAL FOR PORTABLE MIG WELDER

## INTRODUCTION

This manual is meant to describe the correct use of the welder and to inform you about the basics of welding techniques.

Therefore, please read the following directions carefully.

One of the best known systems which has made it possible for users, even for unskilled ones, to produce excellent welds as well as to join with ease materials considered hard to be welded, is the process based on a continued fed wire with gas shielding, commonly known as MIG/MAG.

The welder you have bought has been conceived and simplified in such a way as to be practical, easy to operate, light and transportable with one hand.

It gives excellent performances on mild steel, stainless steel and aluminum.

Furthermore, the welder we supply is equipped with what is necessary to weld mild steel, except for the gas bottle, which is available at a welding distributor.

## INSTALLATION AND MILD STEEL WELDING

Remove the side panel (1).

Remove the belts (19) supplied with the welder from the reel housing and insert them into the openings provided on the back of the unit.

Position and fasten cylinder to the rear of the machine by means of the belts (19).

Screw the flowmeter to the cylinder following the procedure given at the section: «Instructions for connection to cylinder.».

Make sure that the supply voltage corresponds to that indicated in the rating plate of the welder and connect the power cord to AC receptacle (provided with ground wire in perfect working order.)

Connect ground clamp (38) to workpiece, making sure that there is a good contact.

Make sure that the workpieces are thoroughly clean and fit closely.

Turn on the switch (62) and set the knob on position (1).

## THE MACHINE IS READY TO WELD

Select the welding position by means of selector switch (62) according to the thickness of workpieces, as per below.

Thickness	Setting
1/32" to 1/16"	1
1/8"	2
3/16"	3
1/4"	4

The steel wire (suitable for welding mild steel) is already inserted in the torch.

Place the torch in the welding position.

Protect your eyes with the mask (prepared as shown in Fig. 1).

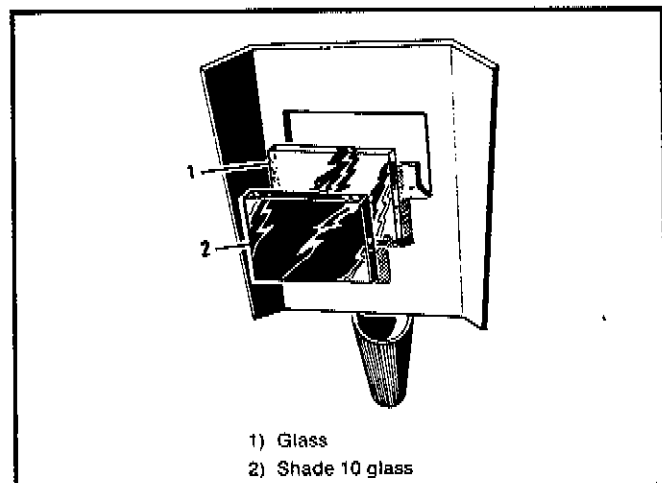


Fig. 1

Press the torch lever (39) all the way to strike the welding arc.

For a greater stability of the arc keep the tip of the torch as near as possible to the workpiece and regulate wire speed by means of the knob (34) so as to get an arc with regular and constant noise. If speed is too high wire tends to push against the workpiece causing the torch to jump back; if speed is too low, wire melts with random drops or arc goes out.

For the welding of mild steel, this welder can be used with a mixture of Argon + CO<sub>2</sub> (75% + 25%) or with 100% CO<sub>2</sub>.

## STAINLESS STEEL WELDING

The welder has to be prepared as described in «mild steel welding» section and following accessories have to be used:

- Cylinder with Argon + CO<sub>2</sub> (75% + 25%) or Argon + O<sub>2</sub> (98% + 2%)
- Spool of stainless steel wire

The inclination of the torch and the direction of the motion we recommend are shown in Fig. 2.

## ALUMINUM WELDING

The welder has to be prepared as described in «mild steel welding» section and following accessories have to be used:

- Cylinder with 100% Argon
- Reel of .030 aluminum wire (type 5356)
- 1 mm. contact tip

The inclination of the torch and the direction of the motion have to be those shown in Fig. (2).

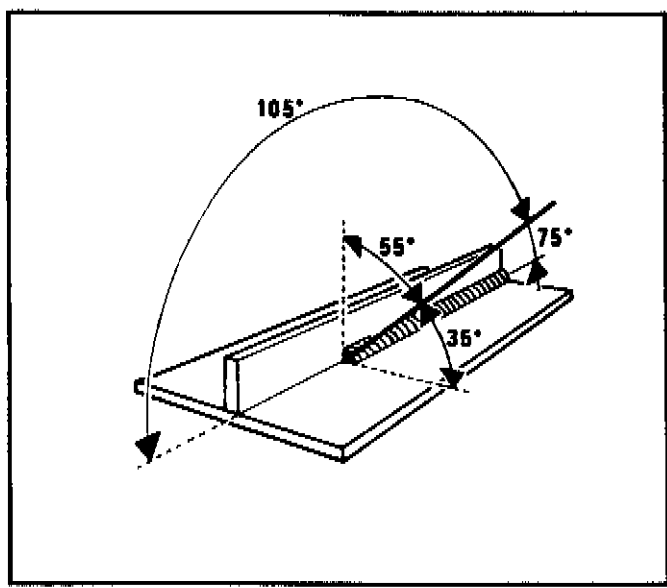


Fig. 2

Flux cored wire should not be used on this machine. Flux cored wire should only be used on a welder than can reverse its polarity.

## INSTRUCTIONS FOR WIRE REEL REPLACEMENT (Fig. 3)

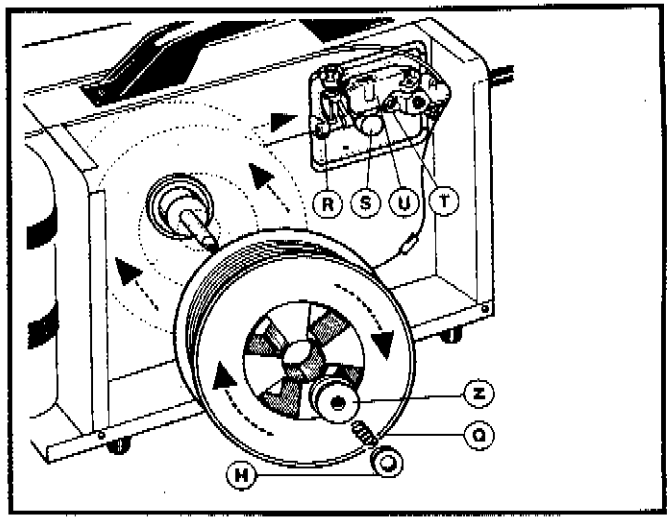


Fig. 3

Switch OFF selector switch (62).

Remove the housing (1).

Cut the end of the wire projecting from the contact tip with a well sharpened tool.

Release the wire pressing device (U) by pulling thumb screw down, away from the center of the welder.

Wind the wire by turning the reel counterclockwise. Fix the end of the wire in the side-hole of reel spool. Remove the reel by pinching the ends of the reel-holder together. (Fig. 4).

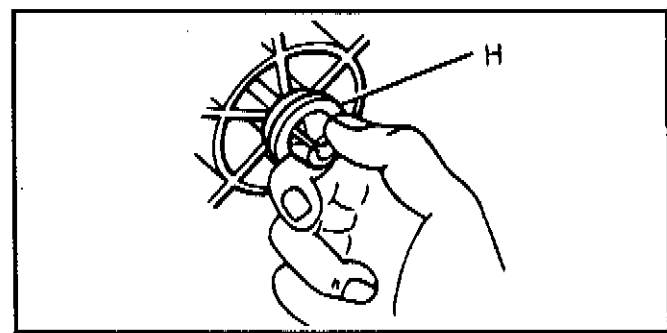


Fig. 4

Replace the reel.

Insert the friction spring (Q) and fit the lockwasher (H).

**NOTE:** When using an 8" dia (10 lb) reel, mount the external reel support (Z) supplied with the machine, before the friction spring (Q).

Take off the wire from the reel hole of the spool and cut as much of it as it is necessary for the end of the wire to be straight.

Slip the wire into the inlet hole (R), pass it on the shaft of the motor (S) and insert it at least 2" in the liner (T).

Lower the wire pressing device (U) and lock it, making sure that the wire stays in the shaft groove. Slip off the gas nozzle (41).

Unscrew the contact tip (42).

With switch (62), set the knob on position 1. Insert the coil spring (43) if it has come out during this operation.

Screw in the contact tip (42).

Insert the gas nozzle (41).

Fit the side panel (1) on the welder.

### INSTRUCTIONS FOR CONNECTION TO CYLINDER (Fig. 5)

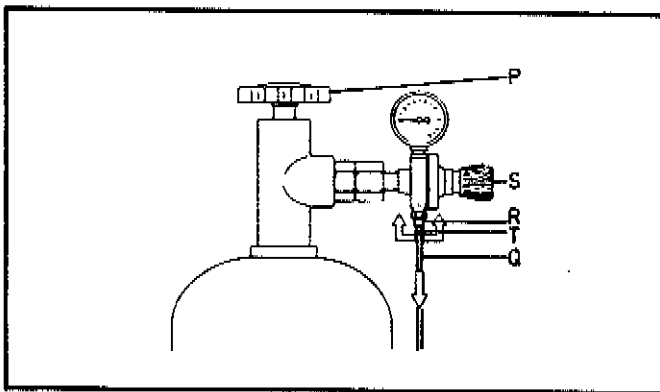


Fig. 5

Screw the fitting on the flowmeter onto the cylinder and tighten it with a suitable wrench, to avoid any gas leaks. Open the cylinder valve.

Push the gas flexible line (Q) all the way into the connector (R) of the flowmeter. Press the torch lever and regulate the gas flow at 5 cfh by means of the flowmeter knob (S).

**NOTE:** It is normal that, when releasing the torch lever, the indicator of the pressure gauge rises. Gas flow must be adjusted when gas flows out of the torch, i.e. when the lever is being pressed. In order to avoid damaging the pressure gauge, it is important to stop gas flow by unscrewing the knob (S) before opening the cylinder valve. To detach the flexible line from the flowmeter connector press the ring (T) toward the regulator body and remove gas hose from quick coupling (R).

In order to save gas it is possible, particularly at low welding currents, to decrease the gas flow less than 5 cfh, provided that the welding arc is sufficiently shielded and that weld does not show porosity.

### SERVICING AND USEFUL HINTS

**Caution:** Before starting inspection disconnect the welder from the electrical outlet.

Do not bring the torch near the face to check whether the gas or wire are coming out.

Always switch off the welder after use to avoid useless waste of power.

Always shut off the gas after use.

The welder is provided with thermal protection.

Should it activate, wait a few minutes as to let the unit cool down.

When any extension cord is used, its cross section must be the same or greater, never narrower, than the existing power cord on the welder.

Cut the welding wire with tools that do not bend it. During welding, very small drops of molten metal deposit inside the gas nozzle and therefore it is good to remove the slag in the nozzle.

Every now and then check that the hole of the contact tip has not become too large or closed shut.

Inside the torch hose (50) there is the wire guide sheath (47), that we recommend cleaning every now and then by blowing a jet of dry and clean air. Never hit the torch strongly against other objects nor let it receive violent blows.

Periodically check electric and gas connections.

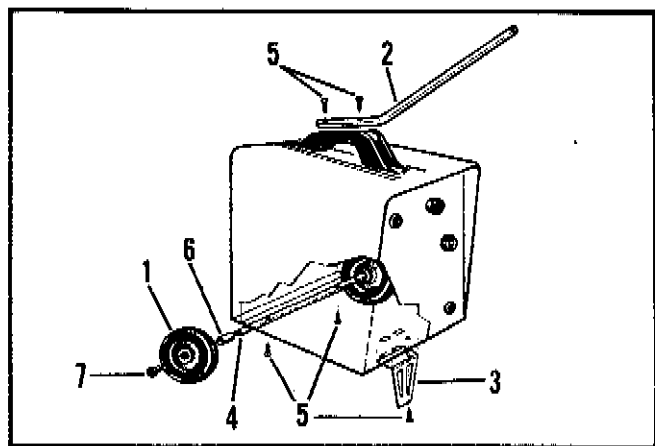
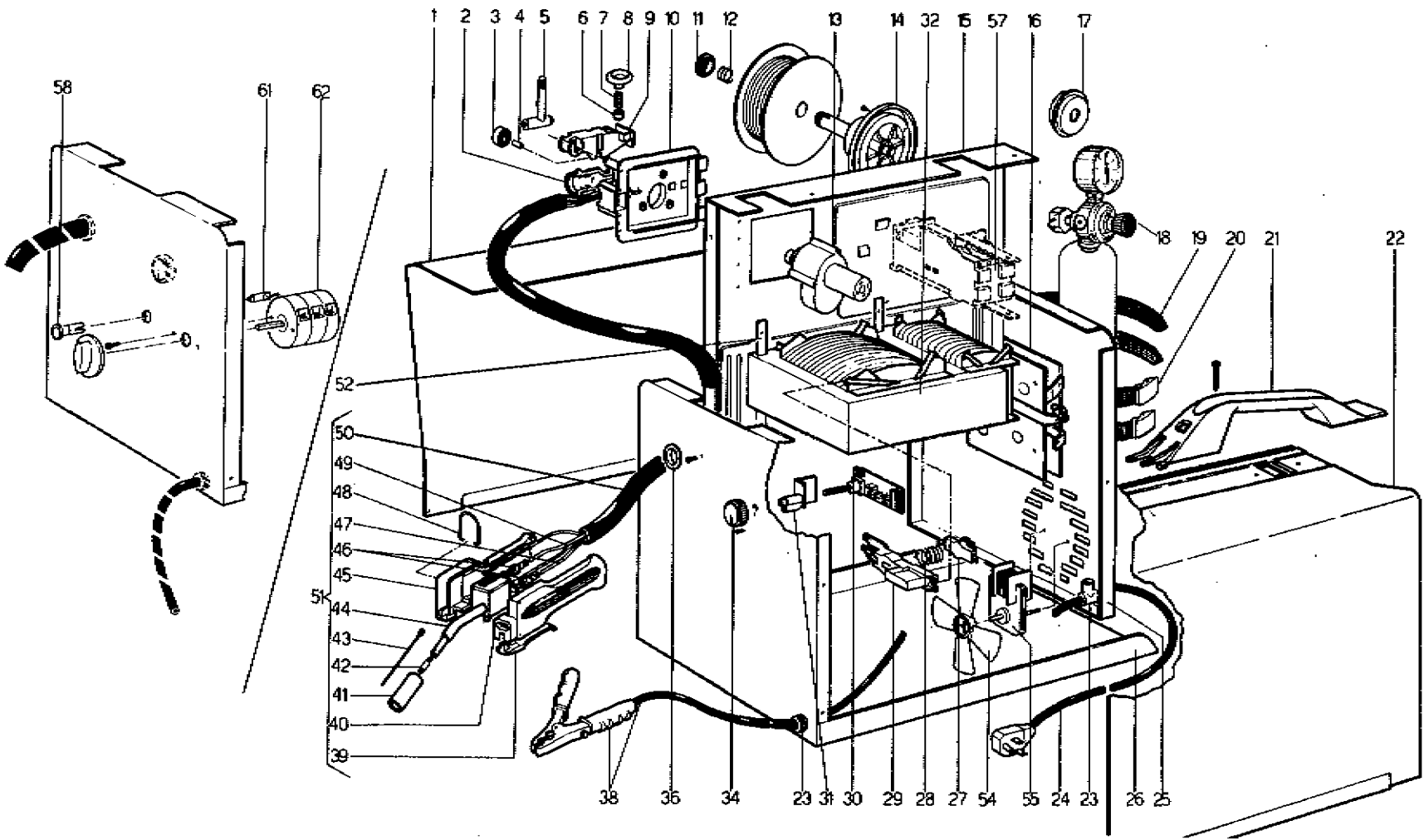


Fig. 6

ITEM	PART NO.	DESCRIPTION
1	B7010907	WHEEL
2	B7011907	HANDLE
3	B7012907	FOOT
4	B7031907	AXLE
5	B7032907	SCREW
6	B7033907	SPACER
7	B7034907	HUB CAP



# M12180, 83-317

Item	Lincoln Stock #	Customer #	Description
1		B7032370	Left side panel
2	See 10A	B7001370	Cable holder
3	See 10A	B7002370	Bearing
4	See 10A	B7003370	Roller pin
5	See 10A	B7004370	Roller presser pin
6	See 10A	B7005370	Spring rest ring
7	See 10A	B7006370	Spring
8	See 10A	B7007370	Knob
9	See 10A	B7008370	Roller holder arm
10	See 10A	B7009370	Drive motor support
<b>10A</b>	<b>334-635-000</b>	<b>246229</b>	<b>Drive base assembly (includes 2-10)</b>
11		B7010370	Ring
12		B7011370	Spring
13	216-115-000	B7012370	Wire feed motor
14		B7013370	Coil support
15		B7014370	Center support
16		B7015370	Rectifier
17		B7016370	Reel outer support
<b>18</b>	<b>334-460-001</b>	<b>B7017370</b>	<b>Gas Regulator</b>
19		B7018370	Belt
20		B7019370	Buckle
21		B7020370	Handle
22		B7034370	Fixed housing
23		B7022370	Cable holder
24	S26399-19	B7023370	Powercord
25		B7024370	Back panel
26		B7039370	Front/base
27		B7026370	Thermostat
28		B7027370	Spring

Item	Lincoln Stock #	Customer #	Description
29	S26399-20	B7028370	Thermostat support
30	880-591-000	B7029370	Circuit board
31		B7030370	Circuit board bracket
32		B7031370	Transformer
34	S26399-22	B7033370	Knob
36		B7035370	Bushing
38	S26400-6	B7036370	Ground cable
39	S26399-23	B7037370	Torch lever/trigger
40	S26399-24	B7038370	Handgrip, Left
<b>41</b>	<b>334-500-400</b>	<b>M15598 (83-636)</b>	<b>Nozzle</b>
<b>42</b>	<b>KP2039-1B1</b>	<b>M15522 (83-393)</b>	<b>0.025 contact tip</b>
	<b>KP2039-2B1</b>	<b>M15523 (83-394)</b>	<b>0.030 contact tip</b>
	<b>KP2039-3B1</b>	<b>M15524 (83-395)</b>	<b>0.035 contact tip</b>
43	S26400-7	B7041370	Conductor tube liner
44	246-534-000	B7074370	Gas valve with gooseneck
45	S26399-25	B7043370	Handgrip, Right
46		B7043370	Quick coupling
47	S26399-32	B7075370	Liner
48	S26399-27	B7046370	Torch hook
49	S26399-28	B7047370	Gas hose
50	N/A	B7048370	Torch hose
<b>51</b>	<b>334-633-000</b>	<b>M15591, 83-634</b>	<b>Complete Torch</b>
52		B7030370	Latch
54		B7051370	Fan blade
55		B7052370	Fan motor
57	246-519-666	B7053370	Contactora
58		B7054370	Lamp holder
61		B7056370	Pilot Lamp
62		B7057370	Switch

**1 year warranty on unit**

**12/16/2005**

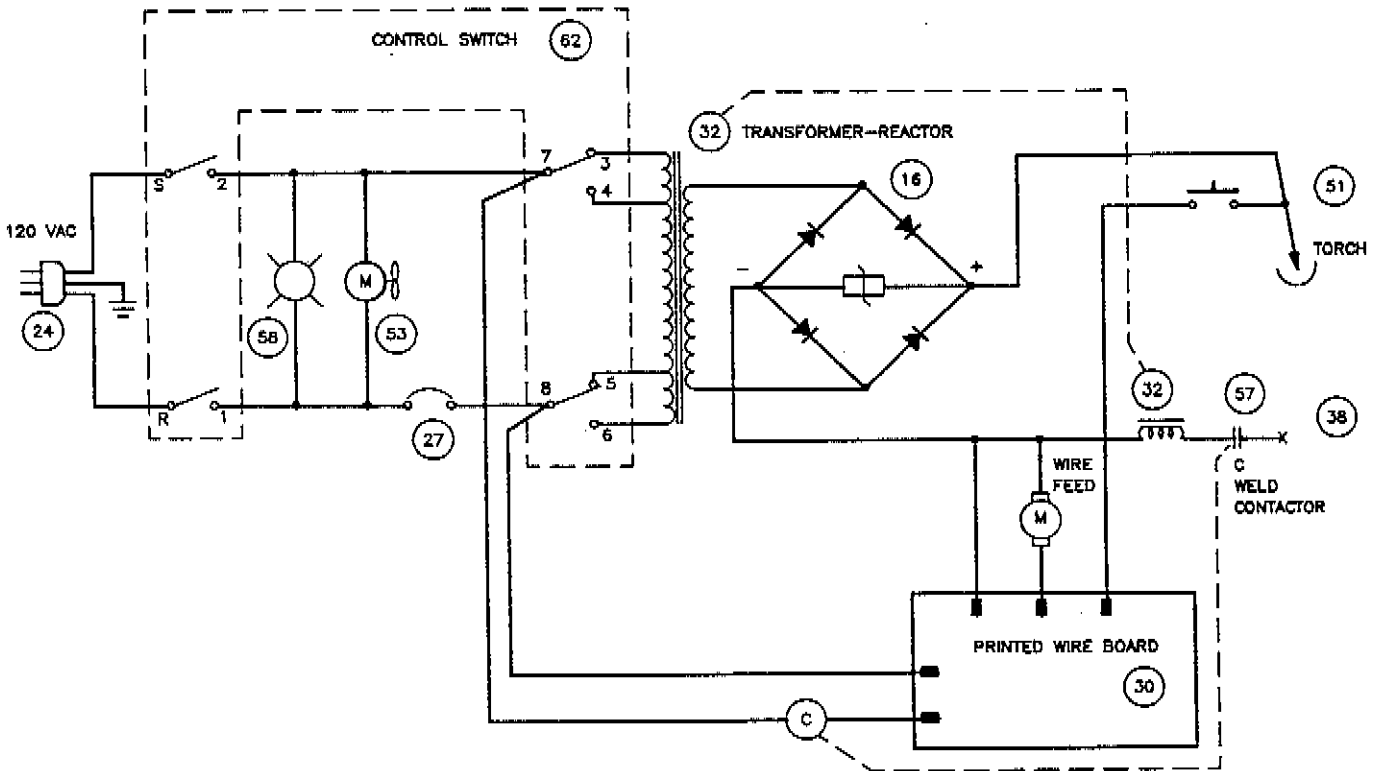
Model	Primary Input	Input Plug	Duty Cycle at Rated Output
M12180	120V, 20 amp	15A	10%

Rated Output	Voltage Settings	Agency Listing	Max Output
80 amps	4		130 amps

# WIRING DIAGRAM

Control Switch Action

Position	These Contacts Are Closed
Off	NONE
1	R-1, S-2, 7-3, 8-6
2	R-1, S-2, 7-3, 8-5
3	R-1, S-2, 7-4, 8-6
4	R-1, S-2, 7-4, 8-5





## LIMITED WARRANTY

Lincoln, a Division of McNeil (Ohio) Corp., a subsidiary of Pentair, Inc., warrants that jacks and related service equipment sold with the brand-names Lincoln, Blackhawk Automotive, Blackhawk Automotive Banner, Blackhawk Automotive Porto-Power, Hein-Werner Automotive, Hein-Werner Automotive Winner will be free from defects in material and workmanship during the one (1) year following the date of purchase. This warranty is extended to the original retail purchaser only. If a jack or related service equipment proves to be defective during this warranty period, it will be repaired or replaced without charge. To obtain repair or replacement, it must be shipped, transportation charges prepaid, with proof of date of purchase to a Lincoln authorized Warranty and Service Center, within one (1) year following the date of purchase. This warranty does not apply to parts damaged from accident, overload, or abuse, nor does it apply to any equipment which has been altered or used with special attachments other than those recommended by Lincoln. No other express warranty applies to jacks and related service equipment manufactured by Lincoln. ANY IMPLIED WARRANTIES applicable to jacks and related service equipment manufactured by Lincoln, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WILL LAST ONLY FOR ONE (1) YEAR FROM THE DATE OF PURCHASE. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. In no event shall Lincoln be liable for incidental or consequential damages. The liability of Lincoln on any claim for loss or damage arising out of the sale, resale, or use of a jack or related service equipment shall in no event exceed the purchase price. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

Service beyond the warranty period is available through a nationwide system of Authorized Service Centers which are carefully selected by Blackhawk. A current list of Authorized Service Centers is available from the factory.

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