



IM-232-B

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5119; 5131; 5198; 5226; 5340; 5347;
5380; 5431; 5452; 5483; 5658; 5682;
5735; 5809; 5833; 5844; 5847;
6016; 6031; 6012; 6099; 6965; 713

OPERATING INSTRUCTIONS

This manual covers equipment which is obsolete and no longer in production by The Lincoln Electric Co. Specifications and availability of optional features may have changed.

Lincwelder® AC-180-S Arc Welder

TO CONNECT TO POWER LINES

Before making this installation, check with your power company to be sure it meets local requirements as to size and type of wiring and insulation. Be sure the power supply is of the voltage, phase and frequency specified on the welder nameplate. This welder may be operated from a single-phase line, or from one phase of a two or three-phase line. If the input voltage is lower than 210 volts, follow the instructions in the paragraph on connecting for low line voltage conditions.

Use three conductor cable (#12 wire or larger) in conduit to connect the main power line to the receptacle supplied with the welder. Fuse this line with a 40 amp super lag type fuse.

Place the welder so there is free circulation of air through the louvers in the back and out the bottom on all four sides. Mount the power receptacle in a suitable location using the screws provided. Be sure it can be reached by the input plug.

The center contact in the receptacle is for the ground connection. The wire for the three-wire input line connected to this contact should be permanently connected to a water line or other suitable ground. This will insure grounding the welder frame when the welder plug is connected to the receptacle. If a separate disconnect switch is used, it should be the two-pole solid neutral type fused for 40 amperes.

Note: Special machines built for over 300 volts input are not equipped with an input cord and receptacle. Installation instructions are pasted inside the welder case. Use fuse and input wire sizes as suitable for the input amps.

CONNECTING FOR LOW LINE VOLTAGE *

The welder line switch is mounted on the welder case to the left and just below the main nameplate. As shipped from the factory, this line switch is wired for normal line voltage conditions. In most installations, that connection will give correct operation of the welder.

If the input line voltage is below 210 volts so the usual steady arc cannot be maintained, the connection can be changed to raise the welder output. Remove the case back cover. Reconnect for low line voltage as indicated on the wiring diagram pasted to the inside of the back cover.

Welding with the machine connected for low line voltage conditions after the line voltage has returned to normal will increase the possibility of overheating the welder or drawing more than rated input from the power lines, particularly when using the welder on maximum output taps.

WELDING CURRENT SELECTION

There are twelve positions on the current selector switch. Each position is marked with the output amperes for that setting. Turn the switch to the current required for each application.

There is a slight amount of play in each switch position. It is good practice to move the switch back and forth once within this play after switching to a new position. This wiping action keeps the contacts free from dirt and oxides. **DO NOT TURN THE SELECTOR SWITCH WHILE WELDING AS THIS WILL DAMAGE THE CONTACTS.**

This welder is rated at a 20% duty cycle on all switch positions, except the pipe thawing setting (see below). Duty cycle is based on a ten minute period. This means that the arc can be drawn for two minutes out of each ten minute period without any danger of overheating. If it is used for more than two minutes during several successive ten minute periods, it may overheat.

THAWING FROZEN WATER PIPES

If the electric power system is grounded to the water pipes, the thawing current can circulate through electric power system. Therefore turn the house main power switch off and disconnect the ground. If in doubt, call the power company.

With the welder OFF, connect the electrode lead to one end of the frozen pipe and the ground lead to the other end. Be sure these connections are clean and tight. Turn the selector switch to the 70 amp position. This position is circled on the nameplate. Do not use any other setting. Turn the welder ON. When water starts flowing, turn the welder OFF and disconnect.

Time for thawing depends upon the pipe size and material. However, do not use your welder for more than one hour continuously for thawing pipe.

RECOMMENDED ELECTRODES

The following electrodes are recommended for use with this welder.

For Mild Steel	For Cast Iron	For Stainless Steel
Fleetweld® 180	Ferroweld®	Stainweld®
Fleetweld 37	Softweld®	(Use 1/8" titania coated (-16) electrodes only. Performance is marginal.)
Fleetweld 57		
Fleetweld 47	<u>For Hardsurfacing</u>	
	Abrasoweld	

The arc torch optional accessory is especially suited for use on this welder for brazing, welding non-ferrous metals and preheating before bending and forming.

*Machines with nameplate volts other than 230 have no low line voltage connection.



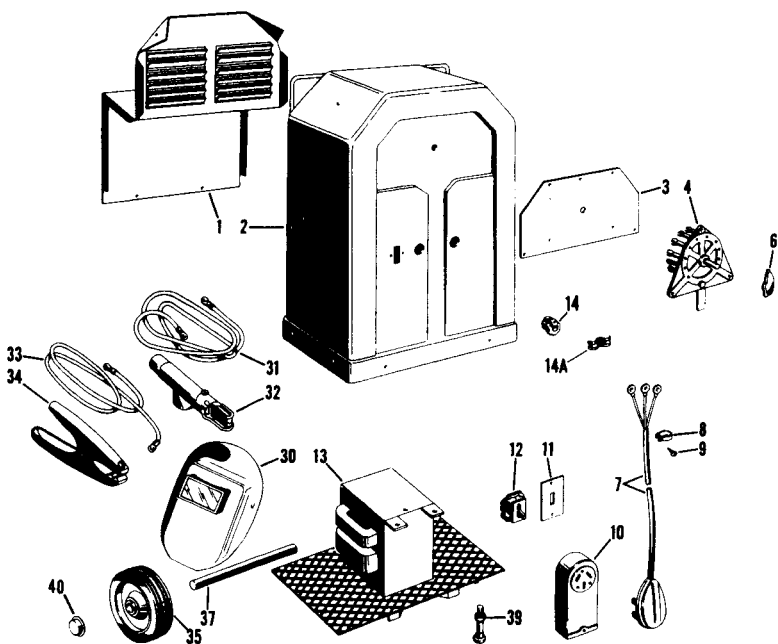
THE LINCOLN ELECTRIC COMPANY

Cleveland, Ohio 44117

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HOW TO USE PARTS LIST

1. Find the part on the drawing.
2. Using the item number from the drawing, find the part name and description in the table.
3. Get the welder code number, found on the nameplate.
4. Order the part from a Lincoln Field Service Shop. Be sure to give the item number, part name and description, number required, the welder name, and the welder code number.



ITEM	DESCRIPTION
1	Back Cover
2	Case
3	Nameplate
4	Selector Switch Assembly
6	Selector Switch Handle
7	Power Input Cable
8	Input Cable Clamp
9	Self Tapping Screw
10	Power Receptacle
11	Switch Mounting Plate
	(Below Code 4235 only)
12	Line Switch
13	Transformer and Base
14	Output Lead Grommets (Below Code 5340)
14A	Output Lead Clamp (Above Code 5340)
	<u>ACCESSORIES</u>
30	Head Shield
31	Electrode Cable
32	Electrode Holder
33	Ground Cable
34	Ground Clamp
	<u>UNDERCARRIAGE KIT INCLUDES</u>
35	Wheels
37	Axle
39	Front Feet
40	Push Nut

GUARANTEE

The Lincoln Electric Company warrants all new equipment against defects in workmanship and material for a period of one year from date of shipment, provided the equipment has been properly cared for and operated under normal conditions.

For a complete guarantee, refer to the Lincoln Electric Company Dealer Price Book of Field Service Shop Parts Manual.

SAFETY PRECAUTIONS

When using a welder, as with all machinery, the following safety precautions, among others which may be required in special circumstances, should be observed:

1. Use extreme caution when doing maintenance work in the vicinity of rotating parts. If possible shut the unit off.
2. Protect the arms and hands from rayburns and hot slag by wearing good leather gloves whenever welding.
3. Use a good shield fitted with the proper safety lenses to protect your eyes from sparks and arc flash.
4. Use extreme care whenever shipping slag that chips do not fly and hit your eyes or those of your helper. Wear safety glasses.
5. Although at rated voltage, this welder will have a maximum output voltage within the prescribed safety limits, carelessness can result in a serious accident. Be Careful.
 - (a) The input plug and cable assembly is internally grounded to the welder frame. For proper grounding be certain the ground terminal of the receptacle for this three prong plug is connected to the welder by insulated welding cable.
 - (b) Use a well constructed electrode holder connected to the welder by insulated welding cable.
 - (c) Make certain the work is well connected to the ground cable, as close to the point of welding as possible. This is particularly important when standing on wet ground or a metal framework. Under such conditions be sure you are well insulated from the ground by dry gloves and rubber soled shoes.
 - (d) Electrode holders must not be cooled by immersion in water.
 - (e) The electrode should be used for welding and not for lighting cigarettes.
6. Provide adequate ventilation for weldor.

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