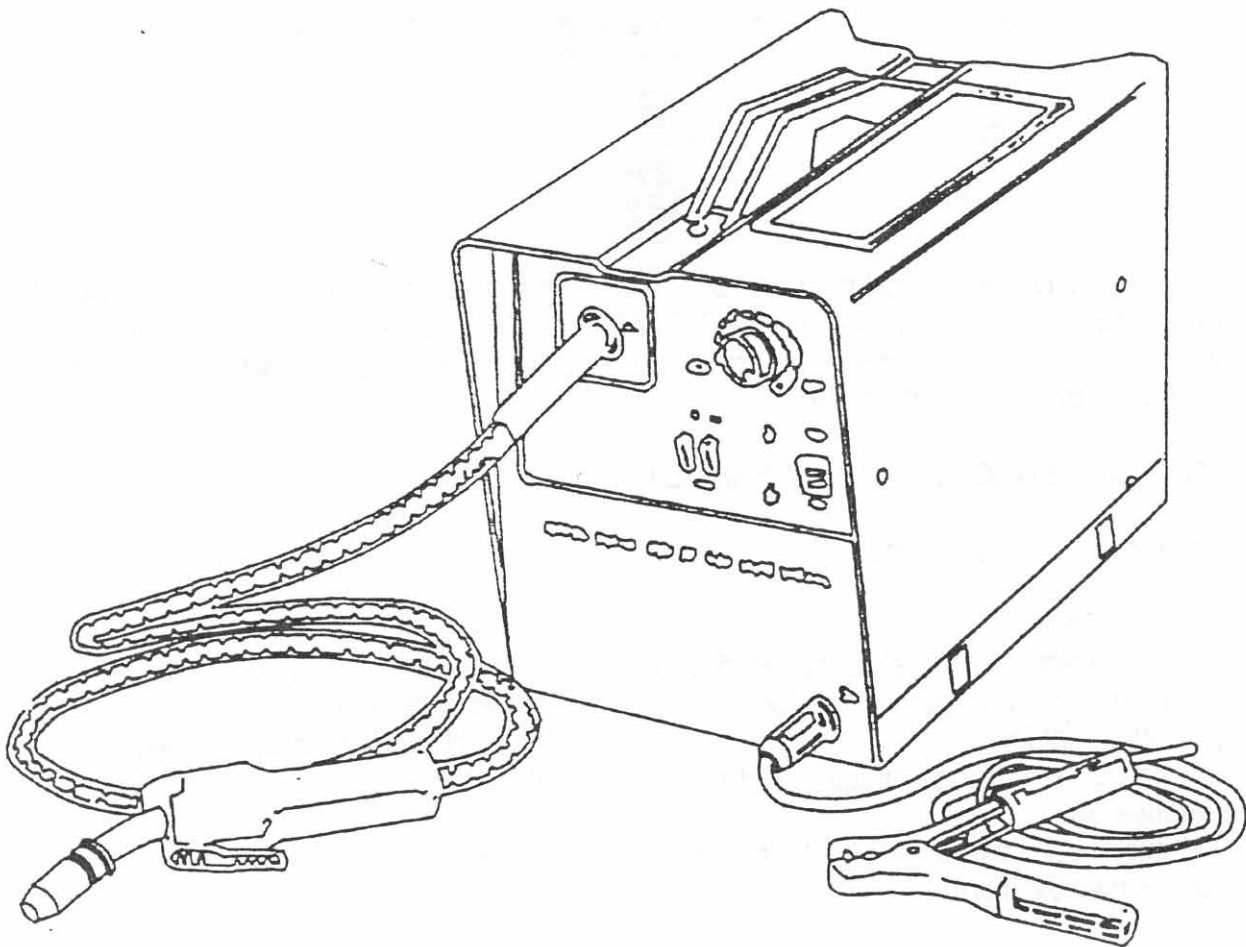


M12180, 83-317 Service Manual



WARNING: All operations listed in this repair manual must be carried out by specialized, trained personnel.

When working inside the machine, be especially careful of all non-insulated wires and terminals and moving parts (motor-driven fan).

Description of operating logic.

The machine is powered by setting the switch **33** to the "ON" position; this powers:

1) The power transformer **32**.

2) The rectifier **16**, which in turn powers the circuit **30** (Pins A1 and A3).

At this point, when the torch trigger **51** is pressed, power is sent from the circuit **30** to the coil of contact **57**, and simultaneously to the gearmotor **13**. The speed of the gearmotor **13** can be changed using the potentiometer on the circuit **30**, and is also related to the position of the selector switches **35**.

This voltage ranges from a minimum of 3.5 VDC, with the selector switches **35** set to "MIN/1", to a maximum of 34.5 VDC, with the selector switches **35** set to "MAX/2".

Open-circuit reference voltages for the welding machine (with torch trigger pressed):

Selector switch position	Volts AC measured at the rectifier input	Volts DC measured at the rectifier output
35		
MIN/1	23	19.8
MIN/2	26	22.6
MAX/1	30	26.1
MAX/2	35.2	30.6

To correctly check the open-circuit voltage leaving the rectifier **16**, connect a 1.2-Kohm/10-Watt resistor in parallel to the positive (+) and negative (-) poles, then connect the Volt meter to the same poles and press the torch trigger (the above voltages were measured with a mains supply voltage of 110 Volts AC).

POSSIBLE ERRORS - TROUBLESHOOTING

Limited current delivery.

Probable causes

- 1.1) defective diode(s) of the rectifier **16**.
- 1.2) incorrect connection of the torch or grounding cable.
- 1.3) defective welding voltage selector switches **35**.
- 1.4) interrupted connection of the power transformer **32** outputs.

Checks

- a) replace the rectifier.
- a) check the connections of the torch and grounding cable.
- a) replace the selector switch(es).
- a) reset the connection.

Metal splatters while welding.

Probable causes

- 1.1) welding parameters incorrectly set

Checks

- a) find the correct parameters by adjusting the selector switches **35** and the potentiometer to adjust the wire speed.

1.2) welding wire does not flow smoothly

a) Make sure the gearmotor **13** is in good working order. Also make sure the wire moves smoothly inside the torch.

1.3) incorrect connection of the grounding cable

a) make sure the connections are intact.

The contact 57 does not close when the torch trigger is pressed.

Probable causes

Checks

1.1) defective torch trigger.

a) make sure the trigger and its connections are in good working order

1.2) circuit **30** is defective

a) replace.

1.3) coil of contact **57** broken or not powered.

a) check the coil winding

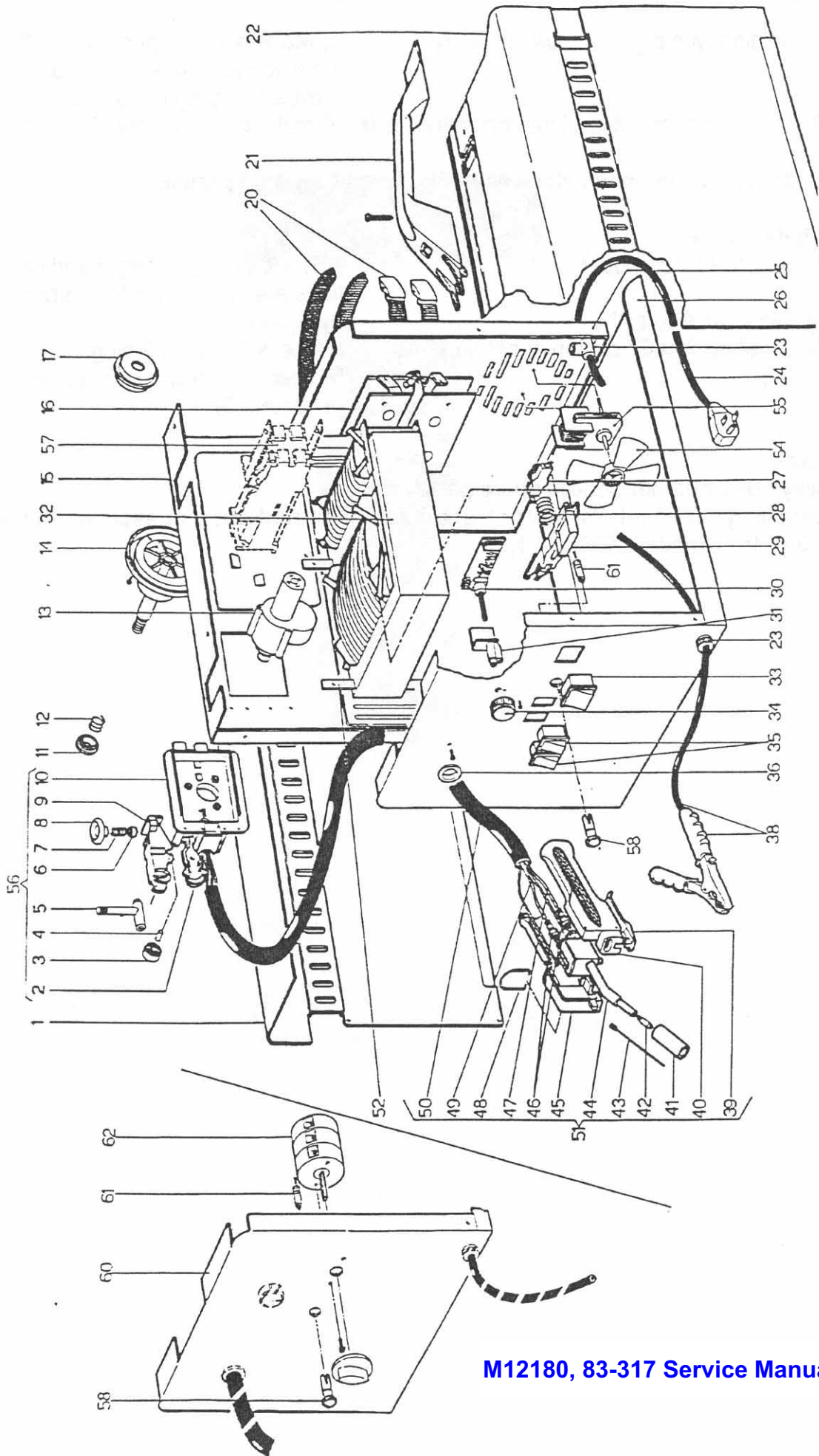
b) check the power connections of the coil of contact **57**.

Notes:

Always use original Cebora spare parts

After every repair job, all safety tests must be carried out as described in paragraph 6.1.3 of the standard IEC 974.1.

M12180, 83-317 Service Manual



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
10A	334-635-000	246229	Drive base assembly (includes 2-10)
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
18	334-460-001	B7017370	Gas Regulator
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
41	334-500-400	M15598 (83-636)	Nozzle
42	KP2039-1B1	M15522 (83-393)	0.025 contact tip
	KP2039-2B1	M15523 (83-394)	0.030 contact tip
	KP2039-3B1	M15524 (83-395)	0.035 contact tip
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
51	334-633-000	M15591, 83-634	Complete Torch
52		B7030370	Latch
54		B7051370	Fan blade
55		B7052370	Fan motor
57	246-519-666	B7053370	Contactor
58		B7054370	Lamp holder
61		B7056370	Pilot Lamp
62		B7057370	Switch

1 year warranty on unit

2/2/2006

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

