

SPARE PARTS

1. HANDLE
2. CENTRAL DIVIDING PANEL
3. BACK PANEL
4. INPUT CABLE
5. SPOOL HOLDER RETAINING RING
6. SPOOL HOLDER
7. WIRE FEEDING ROLL
8. TORCH NOZZLE
9. 0.6 mm. CONTACT TIP
10. COMPLETE TORCH
11. 0.8 mm. CONTACT TIP
12. TORCH HANDLE
13. EARTH CABLE WITH CLAMP
14. LOWER PANEL
15. FRONT PANEL
16. COMPLETE PLASTIC WIRE FEEDER
17. LEFT SIDE PANEL
18. WIRE FEEDING MOTOR
19. RIGHT SIDE PANEL
20. P.C. BOARD (not in 85 EN)
21. RECTIFIER
22. WELDING CURRENT SWITCH
23. GREEN PILOT-LIGHT SWITCH
24. CABLE CLAMP
25. CHOKE/INDUCTANCE
26. MAIN TRANSFORMER
27. THERMOSTAT OF RECTIFIER
28. TORCH NECK
29. TORCH TRIGGER
30. SPOT WELDING NOZZLE
31. SCREW 3.9 x 19
32. WIRE LINER IN TORCH NECK
33. FAST COUPLING CONNECTOR
34. CONTACT SPRING
35. TORCH NECK INSULATOR
36. TORCH GAS HOSE
37. TORCH INSULATOR
38. OUTER SLEEVE
39. WHEEL
40. WHEEL AXLE
41. COMPLETE FAN
42. FACE SHIELD
43. DARKENED FACE SHIELD WINDOW
44. HANDLE EXTENSION
45. DINSEL SOCKET 25 MM 2 (Connector for MIG 90 EN)
46. 1.0 CONTACT TIP
47. TORCH GAS VALVE WITH TORCH NECK
48. WIRE LINER
49. THERMOSTAT OF THE TRANSFORMER
50. CONTACTOR (for 90 EN + 100 EN USA)

Congratulations of the purchase of your new **Clarke** No Gas Mig Welder. Before attempting to operate this machine, please read this instruction manual thoroughly and follow all directions carefully. By doing so you will ensure the safety of both yourself and others around you, and at the same time, you should look forward to long and troublefree service from your **Clarke** No Gas Mig Welder.

Safety Precautions

Special care is taken during all stages of manufacture to ensure that your **Clarke** No Gas Mig Welder arrives with you in good condition. However, before using the machine it is in your own interest to read and pay attention to the following safety rules:

- 1) Do not attempt to remove side panels of the machine unless the mains plug is disconnected.
- 2) Do not use the machine with any of the panels removed.
- 3) Do not try to attempt any electrical or mechanical repair. If you have a problem with your machine contact your local dealer.
- 4) Remove any flammable materials from the welding area.
- 5) Make sure you have good ventilation in the welding area since toxic gases are released during the Mig welding Process.
- 6) Ultra-violet radiation is released by the Mig welding process and it is of the utmost importance that the operator, and any spectators, protect themselves by using welding face-shields or helmets with suitable filter lenses. The wearing of gloves and proper working clothes is also recommended.
- 7) Never use in a wet/damp environment.
- 8) If you convert your welder to standard gas operation note the following: Do not expose gas cylinders to high temperature, and do not strike an arc near or on the gas cylinder.

Caution: gas cylinders are pressurized containers. Do not pierce or burn, even when empty. Protect from direct sunlight.

CAUTION

MIG 85EN NO GAS WIRE is **LIVE** when the machine is switched on, the trigger does not switch off the welding current.

No Gas Mig Welding - How it Works

MIG (Metal Inert Gas) welding is a process in which a power wire electrode is fed; continuously into the weld pool at a controlled constant rate.

The wire is connected to the negative side of a rectified voltage supply. The workpiece is connected to the positive side of the supply.

When the wire is fed, it comes into contact with the workpiece and an arc is struck, the arc melts the wire and it is deposited onto the workpiece.

To protect the weld pool from oxidation and impurities during the welding process, a shielding gas flows over and around the weld pool. This gas flow is generated by a special flux-cored mild steel welding wire which produces its own gas shroud as it burns, thus simplifying the use of these machines and increasing their portability over standard gas Mig welding machines which require a regulated flow of gas supplied from cylinders.

Note: No Gas Mig Welders can be used to weld mild steel such as car body panels. For welding stainless steel and aluminium these machine must be converted to gas operation (see page 9).

Benefits of No Gas Mig welding

- 1) No need for cumbersome or short life gas bottles.
- 2) Outdoor use is easier as wind or breeze has less chance of blowing away the protective gas shroud.
- 3) 50% faster welding time than with normal arc welding.
- 4) Operator training time kept to a minimum.
- 5) There is no slag removal, thus eliminating almos. all postwelding cleaning operations.
- 6) Minimum waste of welding consumables.
- 7) Overall, a faster more efficient way of getting the job done.
- 8) Less heat - less distortion.
- 9) Ability to weld thin materials.

WIRING DIAGRAM
MIG 85 EN NO GAS

