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Clarke[®]

weld



TIG WELDING TORCH KIT

Part No. 6010800

OPERATING & MAINTENANCE INSTRUCTIONS



Thank you for purchasing this CLARKE TIG Welding Torch Kit, designed for the professional and DIY user alike. It is ideal for use with most TIG welding machines, in particular, the **CLARKE ARC/TIG WELDERS, Models 130 and 150.**

Please read this leaflet thoroughly and follow the instructions carefully, in doing so you will ensure the safety of yourself and that of others around you, and you can look forward to the torch giving you long and satisfactory service.

GUARANTEE

This CLARKE product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt as proof of purchase. This guarantee is invalid if the product is found to have been abused or tampered with in any way, or not used for the purpose for which it was intended.

Faulty goods should be returned to their place of purchase, no product can be returned to us without prior permission. This guarantee does not effect your statutory rights.

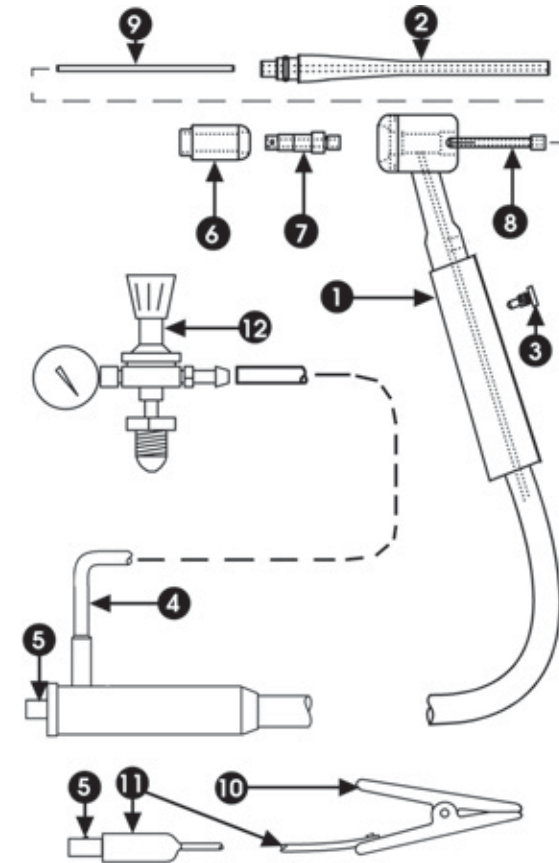
SAFETY PRECAUTIONS

IMPORTANT!

In addition to the following precautions, you should read, and fully comply with all instructions and safety precautions that were supplied with your TIG Welder.

- X NEVER** point the torch at any person or animal.
- X NEVER** touch the nozzle unless the welder is switched OFF and the nozzle has been allowed to cool off.
- X NEVER** connect, disconnect, or attempt to service the torch, unless the machine is switched OFF and disconnected from the mains supply.
- X NEVER** allow the cables to become wrapped around the operator or any person in the vicinity.
- ✓** When welding, users and bystanders must **ALWAYS** use a hand or head shield fitted with the correct shade of lens. Failure to do so can cause serious damage to your eyes.

PARTS DIAGRAM



Item	Description	Part No.	Item	Description	Part No.
1-9	Torch assembly complete	23020125	8	Collet 1.6mm	23025004
1-5	Torch head w/cable assembly	23025031		Collet 2.4mm	23025013
2	End Cap c/w O-Ring	23025012		Collet 3.2mm	23025017
3	Gas Contr. Knob c/w O-Ring	23025034	9	Electrode (For welding Steel)	
4	Air Hose	*		1.6mm	23025006
5	DIN Connector (M12)	22100001		2.4mm	23025015
6	Ceramic Nozzle	23025008		3.2 mm	23025019
7	Collet Body 1.6mm	23025005	10	Earth Clamp	22110007
	Collet Body 2.4mm	23025014	11	Earth Cable Complete 2Mtrs	43210009
	Collet Body 3.2mm	23025018	12	Mini Gas Regulator	22905004

* See your CLARKE dealer

OPERATION

There are three methods generally employed for producing the initial arc for TIG welding.

On smaller, low end machines, a 'scratch arc' method is used where the electrode is 'scratched' against the work to strike an arc, similar to normal arc welding. Other machines employ a 'lift arc' method, which is similar to scratch arc in that the electrode must touch the work, but a far greater degree of control is available. Others are fitted with a High Frequency unit which allows the arc to form once the electrode is brought to within a specified distance from the work.

If you are not familiar with TIG welding, you should consult the manual supplied with your TIG welder, where full details of its operation should be given.

MAINTENANCE

The torch and cable should be inspected before use, to ensure that it is completely undamaged. Replace any part which is suspect, and ensure all connections are firmly secured before switching on the welder.

The earth cable similarly should be completely free from defects, and the clamp must be capable of gripping the workpiece firmly.

Consumables (Electrodes, Nozzles etc.), are listed in the Parts list.

PARTS & SERVICE CONTACTS

For Spare Parts and Service, please contact your nearest dealer, or CLARKE International, on one of the following numbers.

PARTS & SERVICE TEL: 020 8988 7400

PARTS & SERVICE FAX: 020 8558 3622

or e-mail as follows:

PARTS: Parts@clarkeinternational.com

SERVICE: Service@clarkeinternational.com

UNPACKING

Unpack and lay out the components, checking against the following list. Any damage which may have been incurred in transit should be reported to your CLARKE dealer immediately.

The Torch Kit comprises the following items: **(Nos. in brackets Refer to Parts Diagram)**

1. Main cable with the following attachments:
 - 1.1 DIN type male connector (5)
 - 1.2 Air hose for connection to the gas regulator (4)
 - 1.4 Torch head (1)
2. Two complete nozzle assemblies - 1.6mm and 2.4 mm, each one comprising:
 - 2.1 Electrode (9)
 - 2.2 Collet Body (7)
 - 2.3 Collet (8)
3. One Ceramic Nozzle (6)
4. One Gas Regulator - for connection to a large gas bottle. (12)
5. One Earth Clamp with cable and male DIN type connector (5, 10 and 11)

ASSEMBLY (Ref. Parts Diagram)

Two complete nozzle assemblies, complete with electrodes, are supplied with the unit, and are assembled as follows.

1. Select the size of electrode required, and ensure you select the correct size collet and collet body for that particular electrode.

Fig.1



2. Screw the collet body into the head of the torch. (Fig.1) and tighten, but taking care not to overtighten.....

Fig.2



and then screw on the nozzle insulator (Fig.2).

- Thread the electrode into the collet, and insert the collet into the collet body through the rear of the head, with its' shoulder facing the rear as shown in Fig.3



- Push the electrode in, so that it protrudes from the nozzle by approx. 10mm, and screw on the rear end cap. As the end cap tightens, the electrode will be gripped and secured in position. Whilst it is still possible for the electrode to move, adjust it so that it protrudes from the nozzle by 4 - 5mm, and then tighten the end cap against the rubber O-Ring.



NOTE: Before assembly, file or grind the tip of the electrode to a point (from 40° to 60°), as this will give optimum performance.

This completes the torch assembly.

GAS SUPPLY

It will be necessary to procure a supply of pure ARGON gas. A large gas cylinder should be used.

Attach gas hose to the pressure regulator (supplied), securing with the worm drive clip (not supplied), and the pressure regulator to the gas bottle, ensuring the connection is perfectly tight. Pressure is regulated by turning the control knob on the regulator.

ALWAYS release the pressure from the regulator when not in use, and remember to turn OFF the gas supply as soon as you have finished welding.

ALWAYS close the cylinder valve before attempting to change an empty cylinder.

CONNECTIONS

Before connecting the torch to the welder, ensure the welder is switched OFF, and disconnected from the mains supply.

It is important to note that the torch cable male DIN connector, is plugged into the **NEGATIVE** terminal of the welder, otherwise the tungsten electrode will melt.

The earth clamp cable is connected to the POSITIVE terminal.

Connect the earth clamp to the workpiece, to bare metal, free from rust, paint, or oil etc.

Figs. 5 and 6 illustrate typical connections

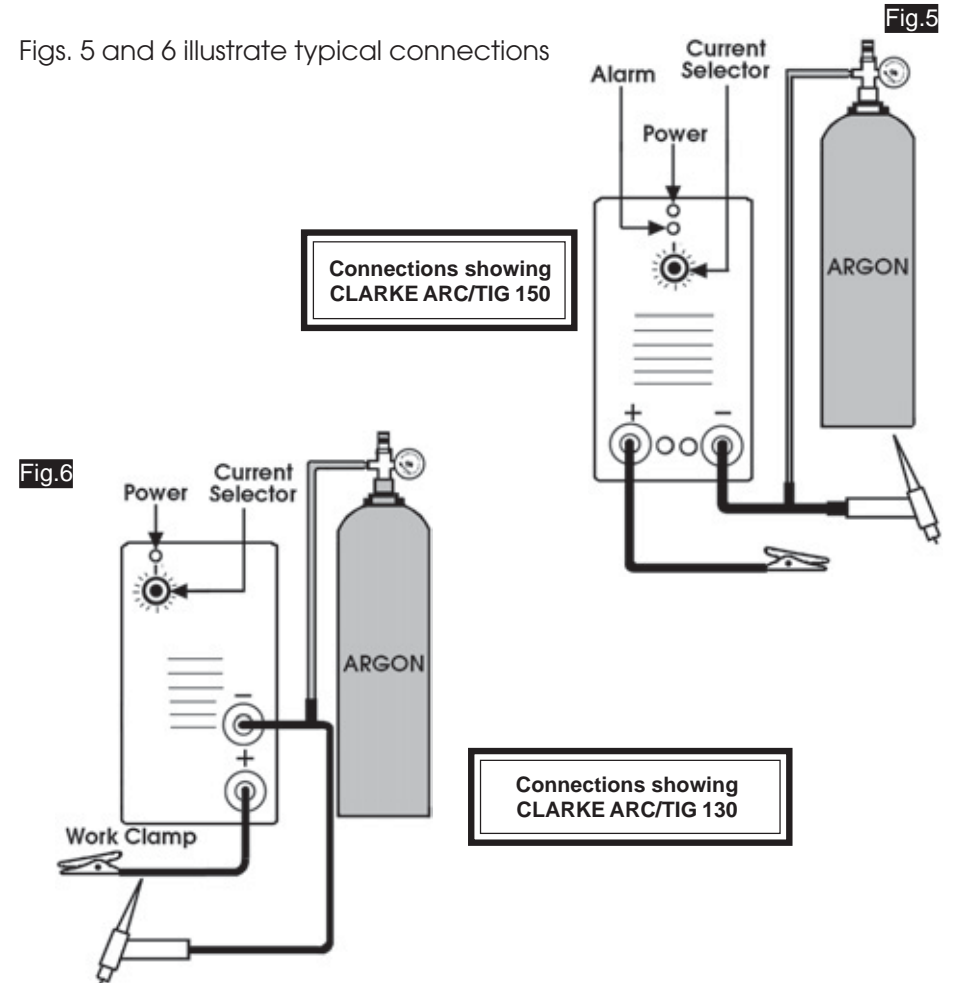


Fig.6

Fig.5