

Charlton®



TIG WELDING TORCH FOR USE WITH MODEL AT161/AT162/AT165

PART NO: 6012233

OPERATING & MAINTENANCE INSTRUCTIONS

GC1216

INTRODUCTION

Thank you for purchasing this CLARKE Welding Torch. Assembly. It is ideal for use with the CLARKE model AT161,162 & 165 ARC/TIG welders.

Before attempting to use this product, please read this manual 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 your purchase giving you long and satisfactory service.

GUARANTEE

This product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt which will be required 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.

GENERAL 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. Please keep these instructions in a safe place for future reference.

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

INTRODUCTION

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.

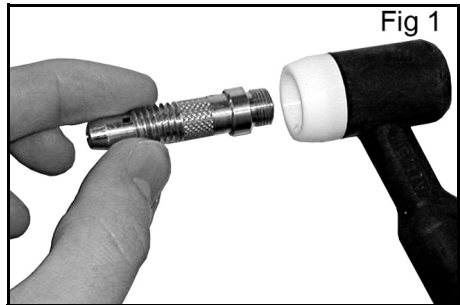
The welding torch comprises the following items: (Nos. in brackets refer to parts diagram on page 7).

- Torch body (3) with front/rear cup gaskets (2 & 4)
- End cap complete with O-ring (1)
- Valve stem complete with O-ring (8)
- Tungsten Electrodes - 1.6 and 2.4mm (9)
- Collet bodies 1.6 mm and 2.4mm (6)
- Collets 1.6 and 2.4 mm (5)
- Ceramic nozzles size 5 and size 6 (7)
- Handle and Hose Assembly (10)
- Instruction Manual (this document)

ASSEMBLY

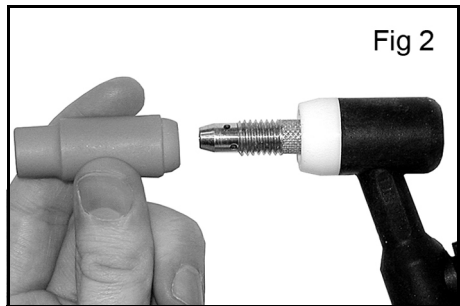
A complete torch assembly with electrode, is supplied, and is assembled as follows:

1. Screw the collet body into the head of the torch, (Fig.1) and tighten finger tight.

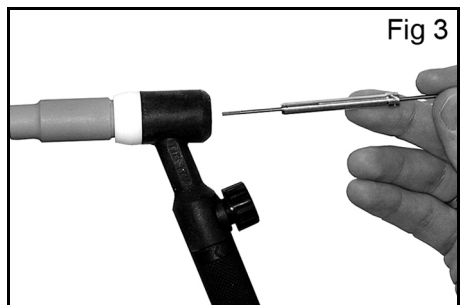


2. Screw on the ceramic nozzle insulator (Fig 2).

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

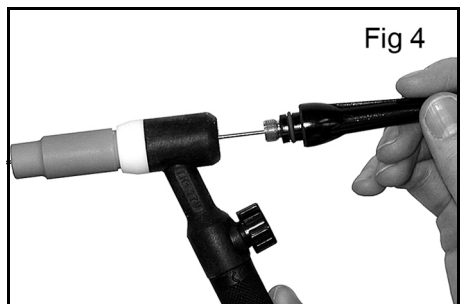


3. Pass the electrode through the collet from the shoulder end and insert the collet into the collet body through the rear of the torch, with its shoulder facing the rear as in Fig 3.
4. Pass the electrode through, so that it protrudes from the nozzle by approx. 10mm and screw on the rear end cap.



If welding space is likely to be restricted, the short end cap should be used in conjunction with an electrode of reduced length. Otherwise use the long end cap and standard electrode.

5. 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. The electrode will now be secured in position.

Your torch assembly is now ready for use.

GAS SUPPLY

it will be necessary to procure a supply of pure ARGON gas and a suitable gas regulator.

Attach the gas hose to the pressure regulator, securing with a worm drive clip and the pressure regulator to the gas bottle, ensuring the connection is perfectly gas 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

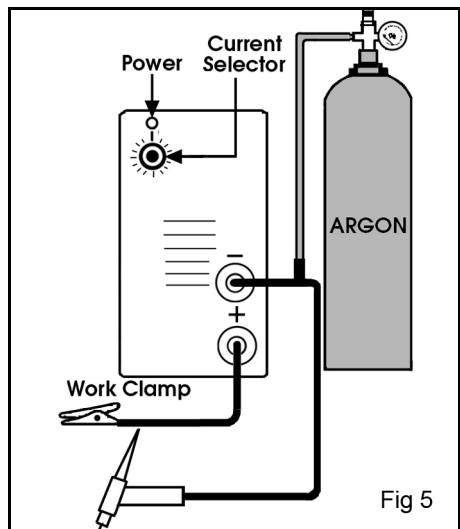
Before connecting the torch to the welder, ensure the welder is switched OFF, and disconnected from the mains supply.

It is important to note that the torch cable male DIN connector, is plugged into the **NEGATIVE** terminal of the welder, as shown in Fig 5, otherwise the tungsten electrode will melt.

The earth clamp cable is connected to the POSITIVE terminal.

Connect the earth clamp from the welder to the workpiece choosing an area of bare metal, free from rust, paint or oil etc.

Fig 5 illustrates a typical connection.



OPERATION

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

On smaller, DIY machines, a 'scratch arc' method is used where the electrode is 'scratched' against the workpiece 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 workpiece, 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 workpiece.

If you are unfamiliar 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 it is undamaged. Replace any part which is suspect and ensure all connections are firmly secured before switching on the welder.

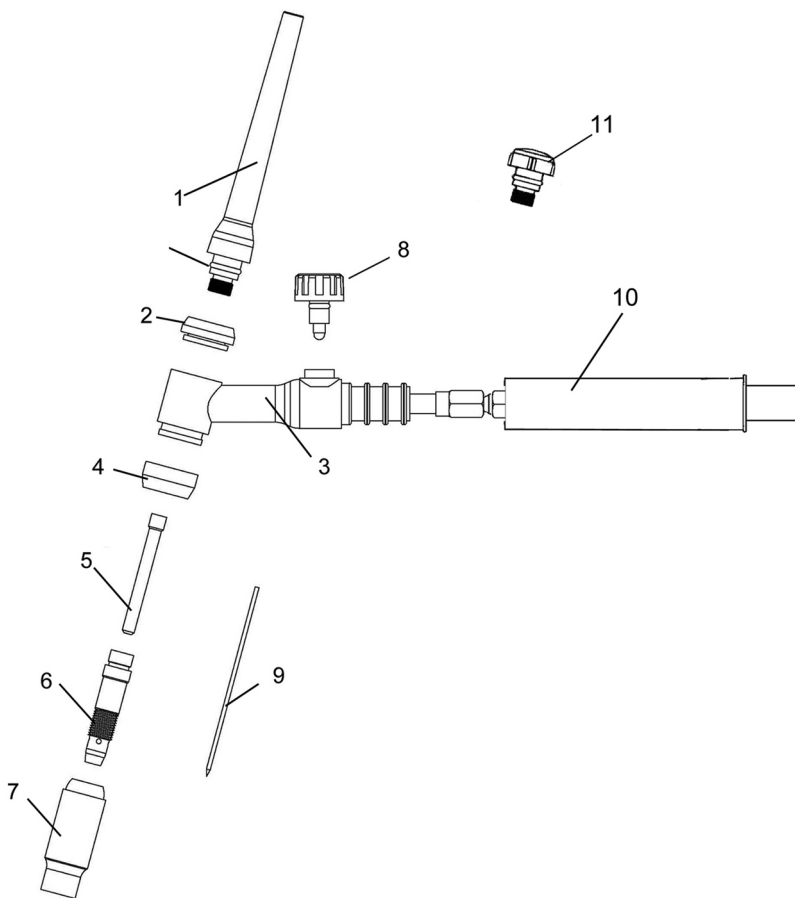
Consumable parts (electrodes, nozzles etc) are listed in the parts list on page 7.

Do not dispose of welding products with general household waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of appropriately.

ACCESSORIES

Regulator	Part No: 8134140
Argon (60 bar)	Part No: 6000661
Argon (110 bar)	Part No: 6000663

COMPONENT PARTS



No	Description	Part No
1	End Cap c/w O-ring	GWWK01
2	Rear Cup Gasket	GWWK02
3	Torch Body	GWWK03
4	Front Cup Gasket	GWWK04
5	Collet	GWWK05
6	Collet Body	GWWK06

No	Description	Part No
7	Ceramic Nozzle	GWWK07
8	Twist Valve c/w O-ring	GWWK08
9	Tungsten Electrode 1.6/ 2.4 mm	GWWK09
10	Hose & protective sleeve	GWWK10
11	Short end cap & O-ring	GWWK11

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