



INSTRUCTIONS FOR **ARC WELDERS**

Models:

**180XTD,
210XTC,
210XTD,
260XTD.**



Thank you for purchasing a Sealey Power Welder. Manufactured to a high standard this product will, if used according to these instructions and properly maintained, give you years of trouble free performance.

IMPORTANT: BEFORE USING THIS PRODUCT, PLEASE READ THE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS, AND CAUTIONS. USE THIS PRODUCT CORRECTLY, AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY, AND WILL INVALIDATE THE WARRANTY.

(The use of symbols in this document is to attract your attention to possible danger, and reminders, the symbols and warnings themselves do not eliminate any danger, nor are they substitutes for proper accident prevention measures).

1. SAFETY INSTRUCTIONS

1.1. ELECTRICAL SAFETY

WARNING! It is the responsibility of the owner and the operator to read, understand and comply with the following:

You must check all electrical products, before use, to ensure that they are safe. You must inspect power cables, plugs, sockets and any other connectors for wear or damage. You must ensure that the risk of electric shock is minimised by the installation of appropriate safety devices. A Residual Current Circuit Breaker (RCCB) should be incorporated in the main distribution board. We also recommend that a Residual Current Device (RCD) is used. It is particularly important to use an RCD with portable products that are plugged into a supply which is not protected by an RCCB. If in any doubt consult a qualified electrician. You may obtain a Residual Current Device by contacting your Sealey dealer. **You must also read and understand the following instructions concerning electrical safety.**

- 1.1.1. The **Electricity at Work Act 1989** requires all portable electrical appliances, if used on business premises, to be tested by a qualified electrician, using a Portable Appliance Tester (PAT), at least once a year.
- 1.1.2. The **Health & Safety at Work Act 1974** makes owners of electrical appliances responsible for the safe condition of those appliances and the safety of the appliance operators. **If in any doubt about electrical safety, contact a qualified electrician.**
- 1.1.3. Ensure that the insulation on all cables and on the appliance is safe before connecting it to the power supply. See 1.1.1. and 1.1.2. and use a Portable Appliance Tester.
- 1.1.4. Ensure that cables are always protected against short circuit and overload.
- 1.1.5. Regularly inspect power supply cables and plugs for wear or damage and check all connections to ensure that none is loose.
- 1.1.6. **Important:** Ensure that the voltage marked on the appliance matches the power supply to be used and that the plug is fitted with the correct fuse - see fuse rating at right.
- 1.1.7. **DO NOT** pull or carry the appliance by the power cable.
- 1.1.8. **DO NOT** pull the plug from the socket by the cable.
- 1.1.9. **DO NOT** use worn or damaged cables, plugs or connectors. Immediately have any faulty item repaired or replaced by a qualified electrician. When an ASTA/BS approved UK 3 pin plug is damaged, cut the cable just above the plug and **dispose of the plug safely.**
- 1.1.10. Products which require more than 13 amps are supplied without a plug. In this case you must contact a qualified electrician to ensure that a 30 amp supply is available. We recommend that you discuss the installation of an industrial round pin plug and socket with your electrician.
- 1.1.11. If an extension reel is used it should be fully unwound before connection. A reel with an RCD fitted is preferred since any appliance plugged into it will be protected. The cable core section is important and should be at least 1.5mm², but to be absolutely sure that the capacity of the reel is suitable for this product and for others which may be used in the other output sockets, we recommend the use of 2.5mm² section cable.

1.2. MODEL 180XTD only, IS A SINGLE PHASE MACHINE.

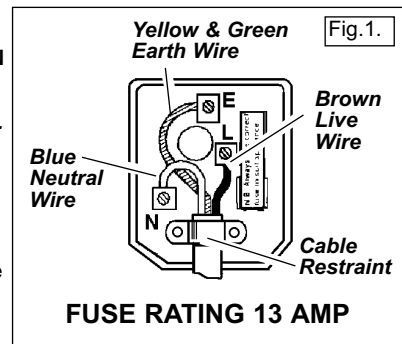
IMPORTANT: TO ACHIEVE MAXIMUM OUTPUT THIS MODEL WILL REQUIRE A 30AMP FUSED SUPPLY. WE RECOMMEND YOU DISCUSS THE INSTALLATION OF AN INDUSTRIAL ROUND PIN PLUG & SOCKET WITH YOUR ELECTRICIAN.

1.2.1. To fit a 13Amp plug proceed as follows:

(UK only - see diagram figure 1). **Ensure the unit is correctly earthed via a three-pin plug.**

- a) Connect the GREEN/YELLOW earth wire to the earth terminal 'E'.
- b) Connect the BROWN live wire to the live terminal 'L'.
- c) Connect the BLUE neutral wire to the neutral terminal 'N'.
- d) After wiring, check that there are no bare wires, that all wires have been correctly connected, that the cable outer insulation extends beyond the cable restraint and that the restraint is tight.

1.2.2. **Cable extension reels.** When a cable extension reel is used it should be fully unwound before connection. A cable reel with an RCD fitted is recommended since any product which is plugged into the cable reel will be protected. The cross-section of the cable on the cable reel must be suitable for the unit and never lower than the cross-section of the main cable supplied with the unit.



1.3. MODELS 210XTC, 210XTD & 260XTD CAN BE OPERATED ON EITHER 240V OR 415V AND MUST HAVE AN APPROPRIATE PLUG FITTED.

WARNING! ELECTRICAL INSTALLATION OF WELDER TO A 3 PHASE 415VOLT SUPPLY MUST ONLY BE CARRIED OUT BY A QUALIFIED ELECTRICIAN. Make sure the power supply cable is correctly connected to the Earth.

1.3.1. For connection to 3 phase supply, these machines must be fitted with a plug according to diagram figure 2, and will require a minimum of 16Amps per phase, (preferably 32Amps) electrical supply. You must contact a qualified Electrician to ensure an appropriately fused supply is available.

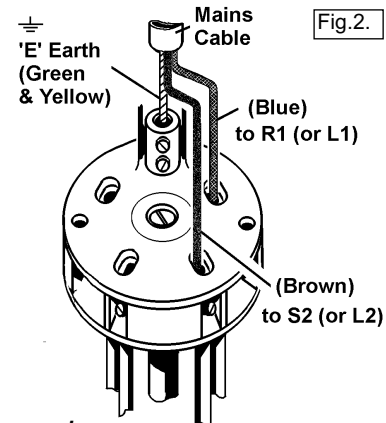
Connect GREEN/YELLOW wire to Earth 'E'

Connect BLUE wire to R1 (or L1) Terminal.

Connect BROWN wire to S2 (L2) Terminal.

When completed, check there are no bare wires, that all wires have been connected correctly and the cable restraint is tight.

1.3.2. **DO NOT** use this product with a standard extension cable. Only use ARMoured extension cable.



1.4 GENERAL SAFETY

DANGER! unplug the welder from the mains power supply before performing maintenance or service.

- ✓ Keep the welder and cables in good working order and condition. (Take immediate action to repair or replace damaged parts).
- ✓ Use genuine parts and accessories only. (Non recommended parts may be dangerous and will invalidate the warranty).
- ✓ Use an air hose to regularly blow out any dirt from the liner, and keep the welder clean for best and safest performance.
- ✓ Locate welder in adequate working area for its function. Ensure area has adequate ventilation as welding fumes are harmful.
- ✓ Keep working area clean, tidy and free from unrelated materials. Also ensure the working area has adequate lighting, and that a fire extinguisher is at hand.

- ❑ **WARNING: use welding head shield to protect eyes and avoid exposing skin to ultraviolet rays given off by electric arc. Wear safety welding gauntlets.**
- ✓ Remove ill fitting clothing, remove ties, watches, rings, and other loose jewellery, and contain long hair.
- ✓ Ensure the workpiece is correctly secured before operating the welder.
- ✓ Avoid unintentional contact with workpiece.
- ✓ Keep non essential persons away from the working area. Any persons working within the area must use protective head shield and gloves.
- ✓ Operators must receive adequate training before using the welder. The welder must only be operated under supervision.
- ✓ Stand correctly keeping a good footing and balance, and ensure the floor is not slippery, and wear non-slip shoes.
- ✓ Turn voltage switch to "0" or off when not in use.
- x DO NOT operate the welder if it or its cables are damaged and DO NOT attempt to fit any non genuine components, or parts to the welder unit.
- x DO NOT get welder wet or use in damp or wet locations or areas where there is condensation.
- ▲ **DANGER! DO NOT weld near inflammable materials, solids, liquids, or gases, and DO NOT weld containers or pipes which have held flammable materials or gases, liquids or solids. Avoid operating on materials cleaned with chlorinated solvents or near such solvents.**
- x DO NOT stand welder on a metal workbench, car bodywork or similar object.
- x DO NOT touch any live metal parts of the torch or electrode while the machine is switched on.
- x DO NOT pull the welder by the cable, or the torch, and DO NOT bend or strain cables, protect from sharp or abrasive items, and DO NOT stand on cables or leads. Protect from heat. Long lengths of slack must be gathered & neatly coiled. DO NOT place cables where they endanger others.
- x DO NOT touch the torch or workpiece immediately after welding as they will be very hot. Allow to cool.
- x DO NOT operate welder while under the influence of drugs, alcohol or intoxicating medication, or if fatigued.
- ✓ When not in use store the welder in a safe, dry, childproof area.

INTRODUCTION

This instruction manual contains the information required to prepare your arc welding set for welding. For individual model specifications refer to section 2. If you have no previous experience the instructions are not intended to show you how to become a welder. Should you have no experience, we recommend that you seek training from an expert source. Arc welding is relatively easy to perform, but does require a steady hand and time practising under supervision with scrap metal as it is only with continued practice that you will achieve the desired results.

2. DESCRIPTION & SPECIFICATIONS

EXTRA HEAVY DUTY TURBO COOLED ARC WELDERS

Our heaviest arc welder range offers robust, heavyweight transformers with Turbofan Cooling and high duty cycle at all amperages. All welders are supplied with full accessory kits and can be used on single phase 230V up to the capacities indicated. The larger machines feature dual voltage input and it should be noted that higher welding currents can only be attained by operating on either 230V - 30Amp or 415V - 3ph power supplies.

Model No.	Welding Current	Electrode Capacity	Output Cable Ø	Cooling	No-Load Voltage	Power Input/ Efficiency	Weight
180XTD . . .35-180A (230V) . . .Ø2-4mm16mm ² . Turbo Cooled48V230V 1ph . . .24 kg5 kVA							
210XTC . .35-190A (230V) . . .Ø2-5mm25mm ² . Turbo Cooled48V . . .230V 1ph, 415V 3ph . . .30 kg5.4 kVA							
210XTD . .35-210A (230V) . . .Ø2-5mm25mm ² . Turbo Cooled48V . . .230V 1ph, 415V 3ph . . .55 kg6 kVA							
260XTD . .35-210A (230V) . . .Ø2-5mm25mm ² . Turbo Cooled48V . . .230V 1ph, 415V 3ph . . .55 kg6 kVA							

IMPORTANT INFORMATION

To operate all welders to their full capacity, you **must** run them on the correct power supply. To check the amperage, use the following formula: **kVA Rating x 4.35 = Correct Amps Supply**

3. ASSEMBLY & CONTROLS.

Unpack the product and check contents. Should there be any damaged or missing parts contact your supplier immediately.

3.1. Where necessary assemble wheels, handle, feet etc (fig 1) and fit the lens inside face mask (fig 2).

3.2. Controls

Your welder is composed of single phase or a three phase transformer with a drooping characteristic suitable for welding in alternating current using stick electrodes with diameters from 1.5mm to the highest electrode diameter as described on the data table to be found on the welder's front panel. Welding current may be regulated by using the manual magnetic "shunt" switch. The value of the current (I²) may be read on the amp graduated scale, this corresponds to the voltage of the arc (U²) according to the equation: $U^2 = (18+0,04I^2) V$ (EN 50060).

The technical specifications are shown on top or on the front panel. The following is to assist you identify your models symbols. Each model will vary in layout.

Fig 1

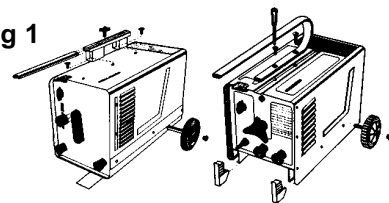
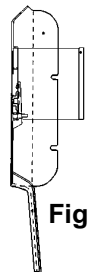


Fig 2

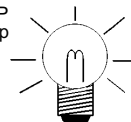


	IP21	TYPE OF TRANSFORMER Indicates single phase transformer
No		INDEX PROTECTION CODE
		SERIAL NUMBER
	50Hz	TYPE OF MACHINE SYMBOL. Machine to be an arc welder
Ømm		ELECTRODE SIZE In millimetres
12A		OUTPUT CURRENT In amps
E/h		WELDING RATE Number of electrodes per hour
UoV		RATED NO-LOAD VOLTAGE (U ₀)
		MAINS SUPPLY, 1 OR 3 PHASE Machine to be single phase 50 Hz
		MAINS CURRENT INPUT In amps

CHECK YOUR MODEL FOR BOX DETAILS

THIS INFORMATION NOT ON ALL MODELS

PILOT LAMP
This lights up when the machine is running.



RAIN WARNING SYMBOL
DO NOT use the machine in the rain or snow.



EARTH CLAMP



REGULATION SCALE



ELECTRODE HOLDERS various. The electrode holder is connected to the machine via this outlet,



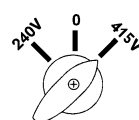
ELECTRO-FANS various. Cools the machine when running.



THERMOSTATIC PROTECTION
Lights up when the machine overheats and cuts out. The machine can be used when cooled.



PILOT LIGHT
This lights up when the machine is running

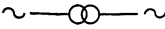











SWITCH POSITION settings



ELECTRO-FANS
Lights when operating

MEANINGS OF MARKINGS, AND SYMBOLS

	Single-Phase transformer	Rated on-load voltage U_0 in V a) Peak value in case of direct current; b) Peak & r.m.s. value in case of alternating current.		Switch
	Thermostat		Value in amps of fuse or automatic switch	n
EN 50060	EEC Standard relative to welders for limited use.	1₁ 1₂	Rated weld currents	Number of electrodes starting at room Temperature until thermostat intervenes
	Manual metal arc welder	Ø mm	Diameter of electrodes	nh
	Work Collet		Mains supply and number of phases (i.e. 1 or 3) with symbol for alternating current.	U, U₀
	Manual metal arc welding with covered electrodes	(1)3		1-max
			Drooping characteristic	IP 21
				H
				
				X
				V
				COS φ
				Cosine

4. OPERATING INSTRUCTIONS

WARNING! If you have no welding experience, we recommend you seek supervised training from an expert source.

- 4.1. Ensure the machine is turned off from the mains power supply.
- 4.2. Check that the Voltage Input Selector switch will move in the direction of the required input voltage, 240V or 415V.
- 4.3. If the required voltage cannot be selected, unscrew the voltage selection knob retaining screw and remove the knob.
- 4.4. Remove the slotted guard disc and refit so that the required voltage is visible on the top front face of the disc.
- 4.5. Refit the Voltage Input Selector knob and secure using the retaining screw.
- 4.6. Create a complete circuit by joining the earth clamp to a point on the workpiece that has been cleanly ground to provide good contact.
- 4.7. The other end of the earth lead must be connected to the machine.
- 4.8. Insert the electrode into the electrode holder ensuring there is a good connection. The other end must be connected to the machine. Ensure welding surfaces are kept clean and free from grease, or oil.
- 4.9. Set amperage by regulating control wheel according to visual scale relating to amperage/electrode diameter. This is on top, or side of machine.

YOU ARE NOW READY TO WELD

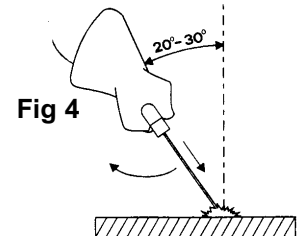
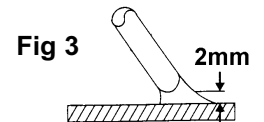
WARNING! Remember to wear a full face welding mask, gauntlets and protective clothing, and ensure you have read, understood and apply safety instructions. Wear goggles whilst chipping slag. DO NOT switch on the power supply until you are ready to start welding. Practice on scrap metal first. Place the face mask in front of your face, then tap the electrode lightly to strike an arc and maintain a steady gap between the end of the electrode and the work piece of approximately 2mm (fig 3). DO NOT hit the electrode on workpiece as this may damage the stick. Withdraw with a clean movement at the end of the run.

A few minutes practice will ensure that you get used to this and enable you to compensate accordingly. If the electrode sticks, you may be holding it too close to the work piece. Pull sharply to the left, and then to the right to free the electrode. After welding, chip off the slag with a chipping hammer (fig 4). Wear goggles. Disconnect welder from the mains power supply before resetting the electrode holder.

WARNING! Consumed electrodes and the welded pieces will be hot, use pliers when handling .

IMPORTANT - THERMOSTATIC CONTROL:

Your welder is cooled by the circulation of air. As you use larger welding rods you will experience a temporary current shut off. This is to protect your transformer from overheating. The larger the welding rod, the greater the current required, consequently, the hotter the machine will become and the quicker it will cut out.

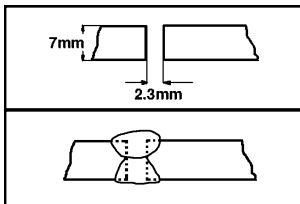


4.10. VARIOUS WELDING METHODS

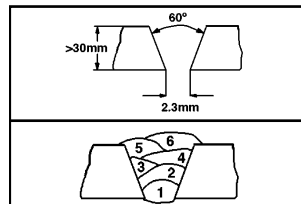
IMPORTANT.

If you have no welding experience, we recommend you seek training from an expert source to ensure your personal health & safety. You must familiarise yourself with welding applications and limitations, and specific potential hazards peculiar to welding. Good Arc welding may be achieved only with continued, supervised practice. For example:

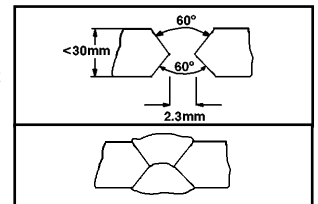
4.10.1. Metal up to 7mm thick, keep pieces 2-3mm apart. A 2nd run can go underneath for extra strength.



4.10.2. Thickness of up to 30mm, make a single butt joint, filling up the space with several layers of weld.



4.10.3. Over 30mm, you need a double "V" butt joint fill up the space with several layers of weld.



5. MAINTENANCE

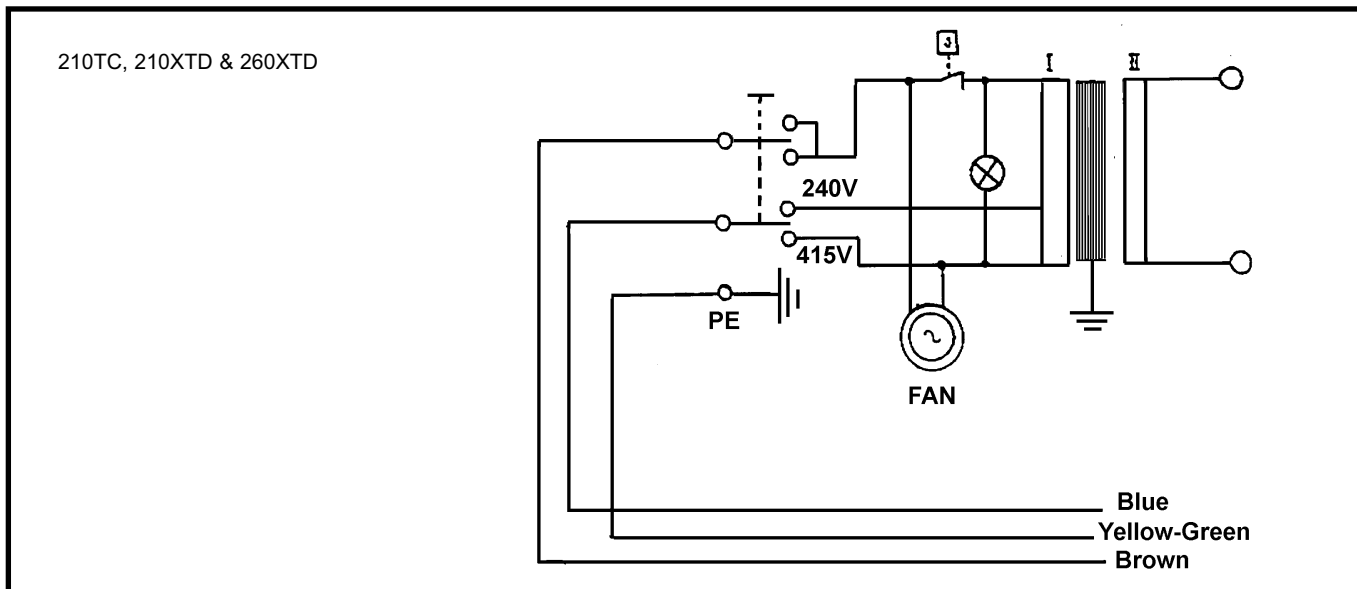
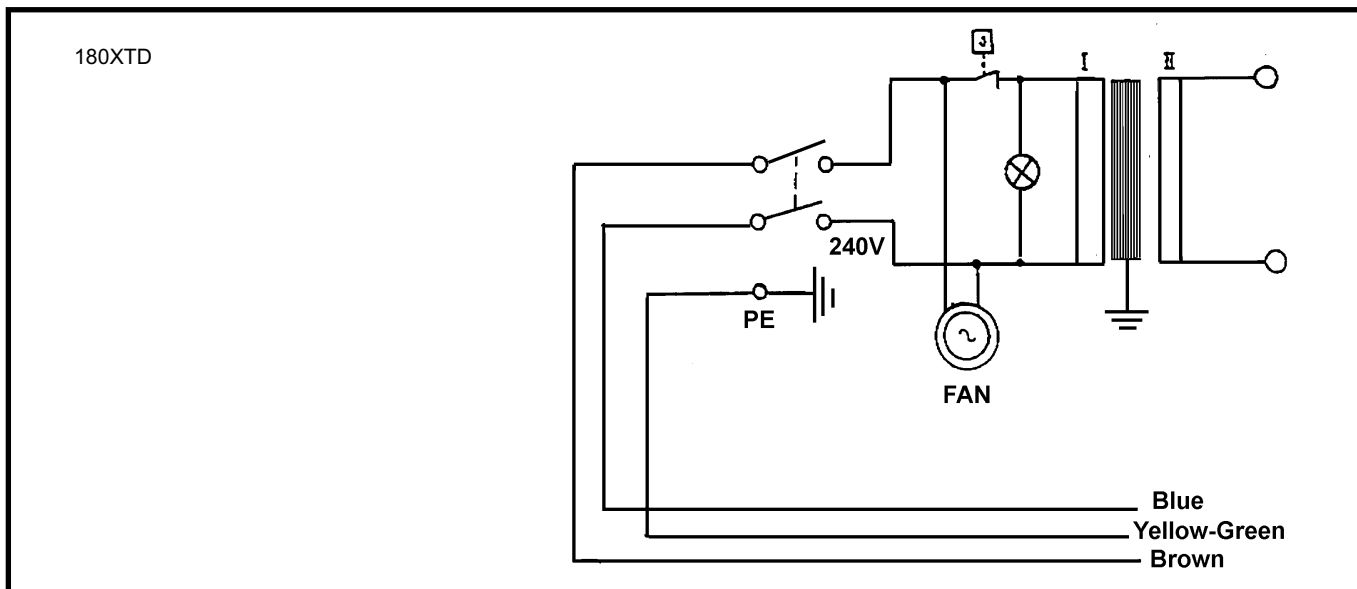
WARNING! Ensure the welder is disconnected from the electrical mains power supply before attempting any service or maintenance.

- 5.1. Keep the welder clean and dry at all times. Use a dry cloth to clean the unit.
- 5.2. Keep all electrodes clean and ensure all cables are in good condition.
- 5.3. Use authorised service agent for any other maintenance or service requirements.

6. TROUBLESHOOTING

- 6.1. **Burning through thin metal:** On very thin sheet, e.g. car body work, the lowest amperage setting will be too fierce. In this case you can still use your welder but you will need a brazing kit which is available from your Sealey stockist, Part Number "AK4".
- 6.2. **Machine frequently cuts out:** May be caused by a sticking electrode. One sticking electrode could cause the machine to cut out for up to ten minutes. After this time it should be ready to use again. Or, the machine is being overworked causing the thermostatic control to activate.
- 6.3. **Difficulty in striking an arc:**
 - a). The electrode is damp. Heat it up to 60° - 70° before using.
 - b). Wrong type of rod.

7. ELECTRICAL DIAGRAM



NOTE: It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.

IMPORTANT: No liability is accepted for incorrect use of this equipment

WARRANTY: Guarantee is 12 months from purchase date, proof of which will be required for any claim.

INFORMATION: Call us for a copy of our latest catalogue on 01284 757525 and leave your full name and address including your postcode.

SEALEY POWER WELDERS

Sole UK Distributor
Sealey Group,
Bury St. Edmunds, Suffolk.



01284 757500

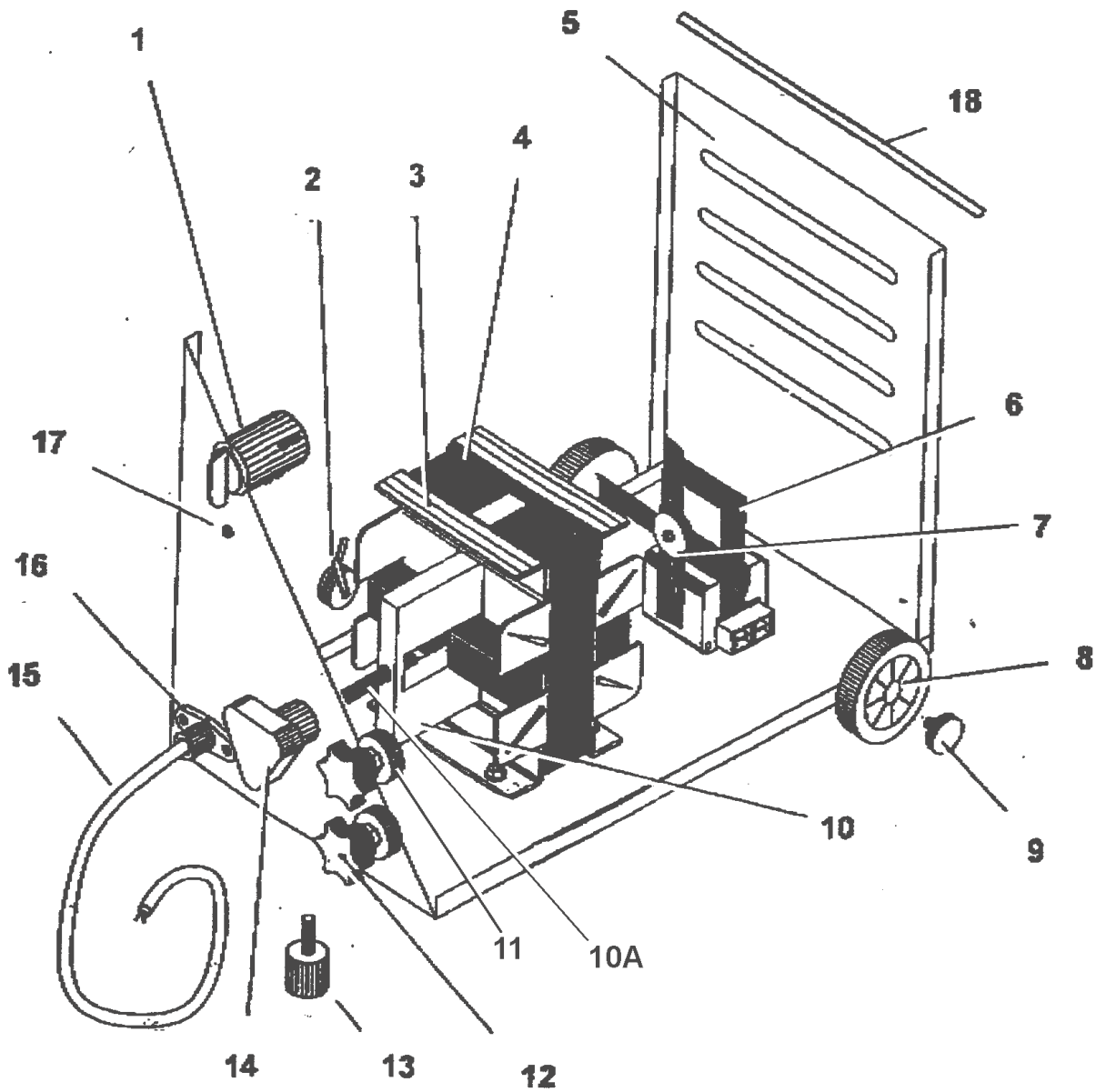


01284 703534

E-mail: sales@sealey.co.uk

**PARTS LIST FOR
ARC WELDER
180XTD, 210XTC, 210XTD & 260XTD**

Issue: 1
Date: 010100



180XTD

Item	Part No	Description
01	331/00704175	SWITCH
02	331/01202130	THERMAL PROTECTION
03	331/10051060	ATTACHMENT CLAMP
04	331/1706058	TRANSFORMER
05	331/1022000N	CHASSIS
06	331/02301035	MOTOR FAN
07	331/02302154	BLADE,FAN
08	331/02201150	WHEEL 150mm dia
09	331/02104017	CAP,WHEEL
10	331/10070010	SHUNT
10A	180XTD/09	PIN, ADJUSTING
13	331/02101020	SUPPORT,M8
14	331/10034100	HAND WHEEL ,M8
16	331/02102113	LOCK, CABLE
17	331/01902010	LAMP
18	331/10041370	AXLE
*	120/712030	CLAMP, EARTH
*	LS/16	LEAD (SINGLE) 16mm 3m c/w EYES
*	MIG/SEH/1	DE-LUX ELECTRODE HOLDER
*	331/03401005	HANDLE

* = Not illustrated

210XTC

Item	Part No	Description
01	331/00704175	SWITCH
02	331/01202130	THERMAL PROTECTION
03	331/10051060	ATTACHMENT CLAMP
04	331/17060810	TRANSFORMER
05	331/1022200N	CASE
06	331/02301040	FAN MOTOR 230/240V
07	331/02302154	BLADE,FAN
08	331/02201150	WHEEL 150mm dia
09	331/02104017	WHEEL CAP
10	331/10070010	SHUNT
10A	210XTC/09	ADJUSTING PIN
11	120/990162	TERMINAL COMPLETE
12	210XTC/10A	TERMINAL KNOB (RED)
13	331/02101020	SUPPORT,M8
14	331/10034100	HAND WHEEL ,M8
16	331/02102115	CABLE, LOCK
17	331/01902010	LAMP
18	331/190152A	AXLE, LATER TYPE, ID9mm/OD12mm
*	MIG/SEH/1	DE-LUX ELECTRODE HOLDER
*	120/712030	CLAMP, EARTH
*	LS/16	LEAD (SINGLE) 16mm 3m c/w EYES
*	331/03401005	HANDLE

* = Not illustrated

210XTD

Item	Part No	Description
01	331/00704175	SWITCH
02	331/01202130	THERMAL PROTECTION
03	331/10051060	ATTACHMENT CLAMP
04	331/17060910	TRANSFORMER
05	331/1022600N	CASE
06	331/02301040	FAN MOTOR 230/240V
07	331/02302154	BLADE,FAN
08	331/02201150	WHEEL 150mm dia
09	331/02104017	WHEEL CAP
10	331/10070010	SHUNT
14	331/19034100	HAND WHEEL & ADJ PIN
11	120/990162	TERMINAL COMPLETE
13	331/02101020	SUPPORT,M8
15	331/14130350	MAINS CABLE
16	331/02102115	CABLE, LOCK
17	331/01902010	LAMP
18	331/190152A	AXLE, LATER TYPE, ID9mm/OD12mm
*	120/122256	THERMOSTAT
*	331/03401005	HANDLE
*	MIG/SEH/1	DE-LUX ELECTRODE HOLDER
*	MIG/EW11R	WELDING LENS EW11, ROBUST BS679R, CE APP
*	LS/16	LEAD (SINGLE) 16mm 3m c/w EYES

* = Not illustrated

260XTD

Item	Part No	Description
01	331/00704175	SWITCH
02	331/01202130	THERMAL PROTECTION
03	331/10051060	ATTACHMENT CLAMP
04	331/17060910	TRANSFORMER
05	331/1022600N	CASE
06	331/02301060	MOTOR FAN
07	331/02302154	BLADE,FAN
08	331/02201150	WHEEL 150mm dia
01	331/02104017	CAP,WHEEL
10	331/10070010	SHUNT
11	331/02105010	INSULATOR
12	331/03404040	CONNECTIONS
13	331/02101020	SUPPORT,M8
14	331/10034100	HAND WHEEL,M8
15	331/14130350	MAIN SUPPLY CABLE
16	331/02102120	CABLE LOCK
17	331/01902010	LAMP
18	331/10041420	AXLE FOR REAR WHEELS

SEALEY POWER WELDERS

Declaration of Conformity We, the sole importer into the UK, declare that the products listed below are in conformity with the following EEC standards and directives.

ARC WELDERS Models:

180XTD, 210XTC, 210XTD, 260XTD.

73/23/EEC
Low Voltage Directive (S.I. 1994/3260)
89/336/EEC
EMC Directive (S.I. 1992/2372 &
Amendments).

The construction files for these products are held by the Manufacturer and may be inspected, by a national authority, upon request to Jack Sealey Ltd.



Signed by Mark Sweetman

1st January 2000

For Jack Sealey Ltd. Sole importer into the UK of Sealey Power Welders

NOTE: It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.

IMPORTANT: No liability is accepted for incorrect use of this equipment.

WARRANTY: Guarantee is 12 months from purchase date, proof of which will be required for any claim.

INFORMATION: For a copy of our latest catalogue and promotions, call us on 01284 757525 and leave your full name and address including your postcode.

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