SEALEY POWER WELDERS

INSTRUCTIONS FOR

STUD WELDING KIT

Model No: **SR20**

Thank you for purchasing a Sealey product. 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. MAKE CAREFUL NOTE OF SAFETY INSTRUCTIONS, WARNINGS AND CAUTIONS. THIS PRODUCT SHOULD ONLY BE USED FOR ITS INTENDED PURPOSE. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY.

1. SAFETY INSTRUCTIONS

1.1. ELECTRICAL SAFETY

❒ **WARNING! It is the owner's responsibility to read, understand and comply with the following:**

You must check all electrical equipment and appliances to ensure that they are safe before use. You must inspect power supply leads, plugs and all electrical connections for wear and damage. You must ensure the risk of electric shock is minimised by the installation of appropriate safety devices. An RCCB (Residual Current Circuit Breaker) should be incorporated in the main distribution board. We also recommend that an RCD (Residual Current Device) is used with all electrical products. It is particularly important to use an RCD with portable products that are plugged into an electrical supply not protected by an RCCB. If in 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 the appliance and the safety of the appliance operator. ***If in any doubt about electrical safety, contact a qualified electrician.***

1.1.3. Ensure the insulation on all cables and the product itself is safe before connecting to the mains power supply. See 1.1.1. & 1.1.2. above and use a Portable Appliance Tester (PAT).

1.1.4. Ensure that cables are always protected against short circuit and overload.

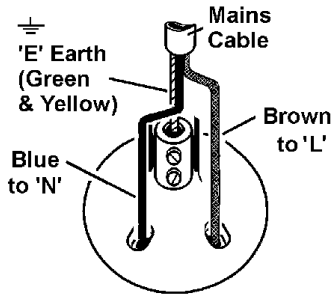
1.1.5. Regularly inspect power supply, leads, plugs for wear and damage and all electrical connections to ensure that none is loose.

1.1.6. ***Important:*** Ensure the voltage marked on the product is the same as the electrical power supply to be used and check that supply is correctly fused, see fuse rating at right.

1.1.7. **DO NOT** pull or carry the powered appliance by its power supply lead.

1.1.8. **DO NOT** pull power plugs from sockets by the power cable.

1.1.9. **DO NOT** use worn or damaged leads, plugs or connections. Immediately replace or have repaired by a qualified electrician.



FUSE RATING

THIS PRODUCT REQUIRES A

16 AMP FUSE

1.1.10. This product requires a 30 amp supply and *NO* plug is fitted. ***You must*** contact a qualified electrician to ensure a 30 amp supply is available. We recommend you discuss the installation of a industrial round pin plug and socket with your electrician. If fitting a plug -

Ensure that the unit is correctly wired and earthed, as follows:

a) Connect the GREEN/YELLOW earth wire to the earth terminal 'E'.

b) Connect the BROWN live wire to live terminal 'L'.

c) Connect the BLUE neutral wire to the neutral terminal 'N'.

d) After wiring, check there are no bare wires, that all wires have been correctly connected, that the cable outer insulation is clamped by the cable grip and that the grip is tight.

1.1.11. **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 section of the cores of the cable is important. 1.5mm^2 section is a minimum, but to be absolutely sure that the capacity of the cable reel is suitable for this product and for others that may be used in the other output sockets, we recommend the use of 2.5mm^2 section cable.

1.2. GENERAL SAFETY

❒ ***WARNING:*** *Unplug from the mains power supply before performing maintenance or service.*

✓ Ensure the welder and all cables are in sound condition and good working order, and keep the copper carrier tight.

✓ Replace or repair damaged parts. *Use recommended parts only, unauthorised parts may be dangerous and will invalidate the warranty.*

✓ Keep the welder clean for best and safest performance.

✓ Use the welder in a suitable work area. Keep the area clean and tidy and free from unrelated materials. Ensure that there is adequate lighting.

❒ ***WARNING!*** Wear safety goggles, protective clothing and welding gauntlets.

✓ Check you have good ventilation and that air can flow freely around the welder.

✓ Ensure that there are no flammable materials near the work area.

✓ Keep children and unauthorised persons away from the work area.

✓ Remove ill fitting clothing, remove ties, watches, rings, and other loose jewellery and contain long hair.

❒ ***DANGER!*** *The welder creates magnetic fields that can interfere with watches and such devices. If you have a pacemaker, consult a doctor before welding or approaching a stud welding area.*

✗ ***DO NOT wear any clothing with metal accessories. Ensure that there are no metallic articles in your pockets.***

✗ **DO NOT** use the welder for any purpose other than that for which it is designed.

✗ **DO NOT** get the welder wet or use the welder in damp or wet locations.

❒ ***DANGER! DO NOT*** *weld near flammable materials - solids, liquids or gases.*

✗ **DO NOT** operate the welder while under the influence of drugs, alcohol or intoxicating medication, or if tired.

✗ **DO NOT** operate the welder if it, or the cable, is damaged.

✗ **DO NOT** allow untrained persons to operate the welder.

✗ **DO NOT** use outside, welder is for inside use only.

✓ When not in use, switch off welder, remove plug from power supply and store in a dry, childproof location.

2. INTRODUCTION & CONTENTS

The SR20 Stud Welding Kit is packed complete with a slide hammer and various electrodes. The kit is ideal for fast, efficient body repairs. Removes dents quickly, without holes, or the need to remove interior trim. The gun is suitable for welding a wide range of nails, washers, screws and rivets. The SR20 (in conjunction with electrodes 7 and 8) may also be used for heat shrinking to remove small dents and pimples in panels. The welder is for professional use only in an industrial environment. It must not be used for any other purpose, as there could be serious difficulties in assuring the electromagnetic compatibility in other environments. Further supplies of nails, washers etc. are available from your local dealer.

Contents:

1. Welding Gun.
2. Side Handle.

3 - 5. Nail, Screw & Rivet Electrodes.

6. Washer Electrode.
7. Heating Electrode.
8. Extension Electrode for use with items 6 & 7.
9. Washer Hook.
10. Slide Hammer.
11. Nails - Ø2mm.
12. Rivets.
13. Screws - M4.
14. Washers.

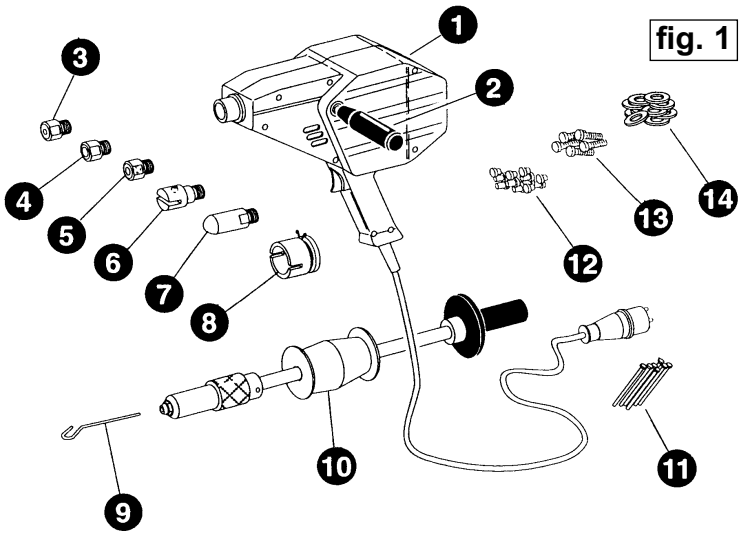


fig. 1

3. TECHNICAL SPECIFICATION

Power supply	230v 1ph
Fuse	16A
Power at 50%	0.8kVA
Max. welding power	2.5kVA
Max. short circuit current	2500A
Weight	5kg
Airborne noise level	<70dB(A)
Vibration level	< 2.5m/s^2

4. APPLICATIONS

4.1. Nails and washers

A nail or washer, depending on accessibility, is welded to damaged panel to enable the panel to be pulled back into shape with the slide hammer. See figs. 5 & 6. The washer electrode (fig.1.6) has a magnet to hold the washer in place prior to welding and should be used in conjunction with extension electrode (fig.1.8 & fig.4). When reshaping is completed, cut and grind off nail or washer to give a smooth finish.

4.2. Rivets

Rivets are used for attaching mouldings or similar items to panels. The rivet electrode has a magnet to hold the rivet in place prior to welding (fig.2).

4.3. Screws

Screws are welded to panels to provide mounting points for other equipment (fig.3).

4.4. Heating

The heating electrode (fig.1.7) is used to locally heat and shrink out minor panel defects. This electrode should be used in conjunction with extension electrode (fig.1.8).

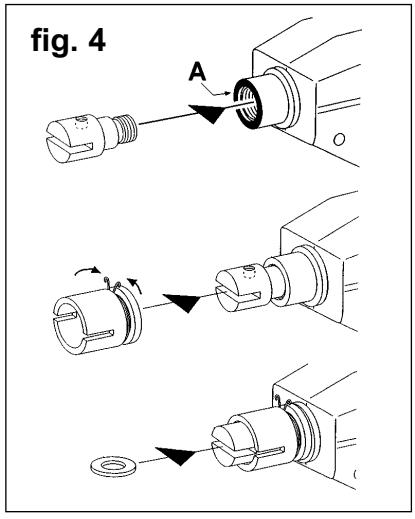


fig. 4

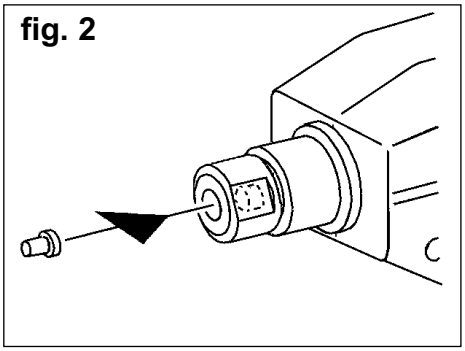


fig. 2

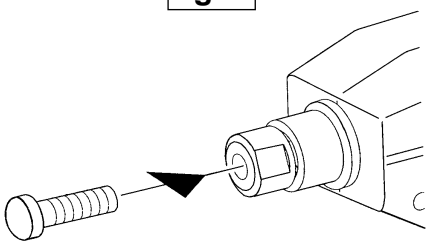


fig. 3

5. OPERATING INSTRUCTIONS

❒ **WARNING! Ensure that you read and understand the safety instructions in Section 1.**

Introduction

If you are not familiar with the SR20 or with stud welding, we recommend that you practice the following procedure before attempting any actual task. When welding, you will find that the trigger operation time is very short. We recommend a period of 0.5 - 1 second. Leave approximately 1 minute between each use to allow gun to cool. Practice on a scrap panels before attempting the actual work. Proceed as follows:

5.1. Welding

5.1.1. Disconnect from power supply. Screw side handle (fig.1.2) to left or right side of gun, as required.

5.1.2. Attach appropriate electrode for task (see Section 4). If using either of electrodes fig.1.6 and 7, also fit extension electrode fig.1.8, see fig. 4.

Note: Electrodes are copper, DO NOT over tighten or threads will be damaged.

5.1.3. Ensure that you check the following before you start:

a). Electrodes and extension electrode must be clean and without defect. Carefully remove any defect with a fine file or abrasive paper.
b). If the electrode is too worn and cannot be repaired, replace with a new one.
c). The panel to be welded must be clean and free from paint, grease or rust.

IMPORTANT! If the electrode, electrode holder, carrier contact face (fig. 4.A) and panel are not clean, dry and free from paint, grease, rust etc. the weld will be poor and the welder may overheat, causing irrepairable damage to the casings.

5.1.4. Connect the welder to the power supply. Select the item for welding (i.e. nail, washer etc.) and insert into the electrode. Note that washer and rivet electrodes are magnetic to hold washer/rivet in place.

5.1.5. With moderate force, press gun onto damaged panel surface. The electrode will retract and the outer rim of the carrier (or extension electrode if fitted) will make contact with workpiece thereby completing the electrical circuit. Keep the gun head at right angles to the panel surface to ensure good contact, see fig. 5.

5.1.6. Squeeze the trigger for the length of time required to complete the welding process (see Introduction to this section). **DO NOT** keep the gun in place for too long as it may overheat or burn a hole in the panel.

5.1.7. **DO NOT** release the pressure on the welding surface until you have released the trigger or the circuit may be prematurely broken.

5.1.8. When the task is complete, disconnect the tool from the power supply and store in a safe area.

Note: Do not use the welding gun continuously for long periods at a time, as the gun may overheat.

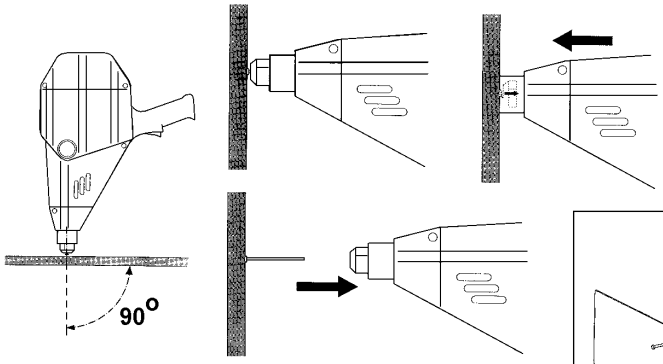
5.2. Slide Hammer

5.2.1. Grip the nail in the slide hammer (fig.1.10) spindle and then operate the striking hammer until the dent is pulled out. To pull a washer, grip the washer hook (fig.1.9) in the spindle and hook the washer. See fig.6.

5.3. Sheet Heating

Use the heating electrode (fig.1.7) and extension (fig.1.8), for localised sheet heating in order to shrink and remove small dents and pimples. Proceed as 4.1. above, omitting 4.1.5. Carefully heat the localised area accordingly.

fig. 5



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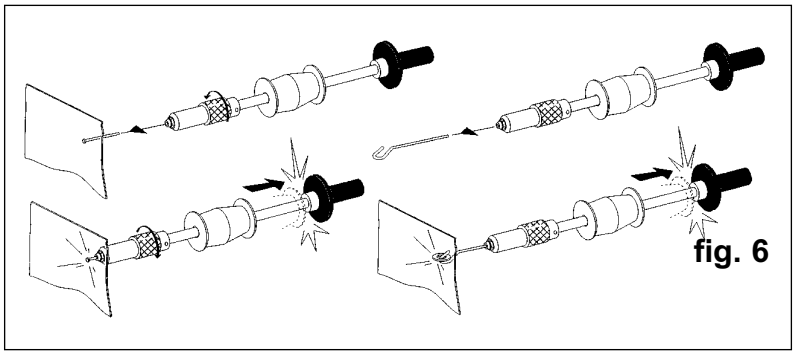

fig. 6

6. MAINTENANCE

WARNING: *Unplug from the mains power supply before performing maintenance or service.*

6.1. Check all electrical components as stated in Section 1.

6.2. Ensure the welder and cable are in sound condition and good working order and the copper carrier is tight.

6.3. Replace or repair damaged parts. *Use recommended parts only, unauthorised parts may be dangerous and will invalidate the warranty.*

6.4. Keep the welder clean for best and safest performance. Do not clean with water, strong solvents, paint thinners or gasoline.

6.5. If welding performance is poor check that the power supply is sufficient. Check that the correct electrodes are being used. Check spring, SR20/30009, to ensure it is not worn and that its force is adequate.

6.6. Clean the electrodes with fine abrasive paper.

7. DECLARATION OF CONFORMITY

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

Stud Welder Model SR20

73/23/EEC Low Voltage Directive
89/336/EEC EMC Directive
93/68/EEC CE Marking Directive

CE The construction file for this product is held by the Manufacturer and may be inspected, by a national authority, upon request to Jack Sealey Ltd.

Signed by Mark Sweetman 1st May 2003

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 postcode.

SEALEY POWER WELDERS

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