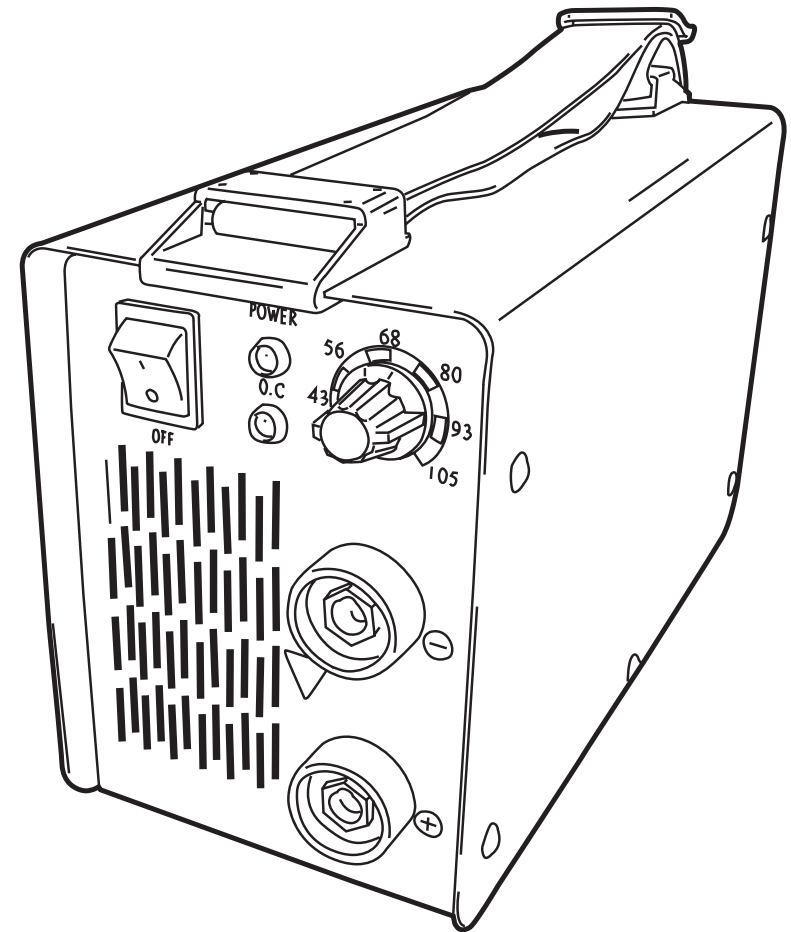


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Thank you for choosing this product.

This product is guaranteed to be free of defects in materials and workmanship for a period of 3 years from the purchase date.

If you experience a problem, return the product direct to us, with the original receipt at :

**Silverline Tools Limited.
PO Box 2988,
Yeovil.
BA21 1WU.**

We do not refund carriage. This guarantee is for Great Britain only and does not affect your statutory rights. As you would expect fair wear and tear are not covered.

Users Manual 105A Inverter ARC Welder Product Code 387669

© October 2006



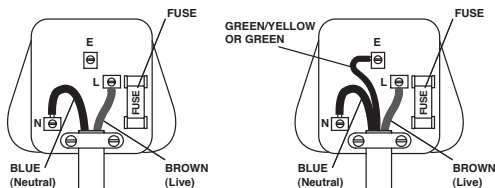
Introduction

Carefully read and understand this manual and any label attached to the tool before use. Keep these instructions with the product for future reference. Ensure all persons who use and service this product are acquainted with this manual.

Electrical Safety Information

The wires in this product are coloured:

Blue	Neutral (N)
Brown	Live (L)
Green & Yellow	Earth (E)



Double Insulated

Earthed

- As the colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.
- The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black, the wire which is coloured brown must be connected to the terminal which is marked L or coloured red.
- This appliance must be protected by a suitable fuse.
- To prevent fire or shock hazard, do not expose this product to rain/water or moisture. There are no user serviceable parts inside except those referred to in this manual. Always refer servicing to qualified service personnel. Never remove any part of the casing unless qualified to do so; this unit contains dangerous voltages.
- Use of a residual current device (RCD) will reduce the risk of electric shock.

NEVER CONNECT THE BROWN OR BLUE WIRE TO THE EARTH PIN OF THE 13 AMP PLUG. IF IN DOUBT CONSULT A QUALIFIED ELECTRICIAN

General Safety Instructions

Even when used as prescribed it is not possible to eliminate all residual risk factors. Use with caution.

Keep guards in position

- Always keep guards in position, in good working order, correctly adjusted and aligned. Never attempt to use a power tool without any guard supplied with it.

Remove adjusting keys

- Always check to see that keys and adjusting wrenches are removed from power tool before turning on.

Clean work area

- Accidents occur where benches and work areas are cluttered or dirty, floors must be kept clear, avoid working where the floor is slippery.

Dangerous environment

- Do not use power tools in damp or wet conditions, or expose them to rain. Provide adequate surrounding work space and keep area well lit. Do not use power tools where there is a risk of explosion or fire from combustible material, flammable liquids, flammable gases or dust of an explosive nature. When using power tools avoid contact with any earthed items such as pipes, radiators, cookers, refrigerators, metal baths and taps.

Children & pets

- Children and pets should always be kept at a safe distance from your work. Make your workshop child-proof. Lock tool away where children can't get access to them. Remove batteries from cordless tools.

Use the correct power tool

- Don't force, or attempt to use a power tool for a purpose it was not designed for. Do not use a small tool to do the job of a heavy duty tool.

Wear correct clothing and footwear.

- Don't wear loose clothing, neckties or jewellery or other items which may get caught in moving parts. Wear non-slip footwear, cover or tie back long hair. Use safety footwear if necessary.
- Wear safety goggles at all times, every day glasses are not sufficient for eye protection, as lenses are not impact resistant and could shatter. Use an approved face or dust mask when operation creates dust. Ensure dust extraction equipment is functioning and correctly used. Hearing protection should be used if the sound intensity level for the operator could exceed 85dB(A). Use a hard hat where there is a risk of falling objects or striking your head on low level obstructions.

Protect yourself from vibration.

- Hand held power tools may produce vibration. Vibration can cause disease. Gloves to keep the operator warm and dry and therefore maintain good blood circulation in the fingers may help. This tool has not been designed for extended or industrial operation.

Secure work

- Always secure work. Where practical use a clamp or vice, it will allow you to use both hands to operate your power tool.

Keep your balance

- Don't over reach, keep proper footing at all times to ensure correct balance.

Maintain your power tool

- Keep your power tool in good working order, keep tools sharp and clean for best and safest performance. Ensure ventilation holes are kept clean and unrestricted at all times.

Always disconnect.

- Before changing tools, always ensure they are disconnected from the power source.

Accessories

- The use of any attachment or accessory other than those mentioned in this manual could result in damage or injury. The use of improper accessories could be dangerous.

Never stand on your power tool

- Standing on your power tool or its stand could cause serious injury if the tool is tipped or if the cutting tool is accidentally contacted. Do not store materials above or near the tool so that it is necessary to stand on the tool or its stand to reach them.

Switch off before connecting.

- Ensure the power tool is switched off before connecting to the power source. If the power tool stops unexpectedly turn the power switch to off.

Do not abuse the power cord.

- Be sure your cable/extension cable is properly wired and in good condition. Always replace a damaged cable/extension cable or have it repaired by a qualified person before using it. Never yank or pull the cable to disconnect it from the power socket. Never carry your power tool by its cable. Keep the cable away from damp, heat, oil, solvents, and sharp edges.

Check for damaged or missing parts.

- Before each use check if any part of the power tool is damaged or missing, check carefully that it will operate properly and perform its intended function. Check alignment of moving parts for binding. Any guard or other part that is damaged should be correctly repaired or replaced. Do not use if the power switch does not turn the power on and off. Check any other condition that may affect the safety of the power tool. **DO NOT USE IF DEFECTIVE.**

Direction of feed

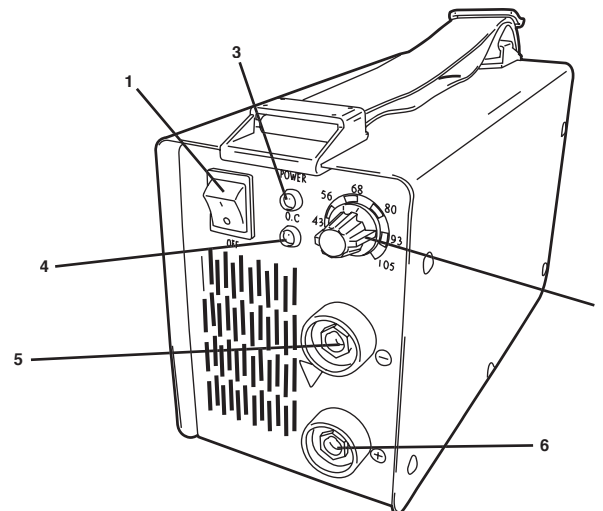
- Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.

Don't leave the tool running unattended

- Always wait until your power tool has come to a complete stop before leaving it and then disconnect from power source.

Product Familiarisation 105A Inverter ARC Welder

- On/off switch
- Amp selector
- Power indicator
- Over current warning
- Negative terminal
- Positive terminal



SPECIFICATION

Input voltage:	230V
Input capacity:	3.2kW
Input voltage frequency:	50/60Hz
No-load voltage:	65V
Current range:	20-105A
Output cycle:	24V
Rated duty cycle:	30%

Additional safety information

IT IS THE RESPONSIBILITY OF THE OWNER AND OPERATOR TO CHECK THE FOLLOWING.

- You must check electrical products before use to ensure they are safe.
- You must inspect power cables, plugs, sockets and any other connections for wear or damage.
- You must minimise the risk of electrical shock by the installation of appropriate safety devices.
- A residual current circuit breaker should be incorporated in the main distribution board. In addition a residual current device (RCD) should be used. If in any doubt consult a qualified electrician.

Warning: If you intend to use this product with a generator care should be taken. The generator **MUST** be stable with regards to frequency, voltage and waveform. The output must be higher than the power (KVA) of the inverter and the generator must be self regulating. The use of a generator that is not self regulating may be dangerous. If in any doubt do not use a generator with this product.

Danger: Always unplug the inverter from the power source before connecting or disconnecting cables or performing maintenance or service. Direct contact with the inverter circuit is extremely dangerous.

Always keep the inverter and cables in good working order and condition. Immediate action should be taken to repair or replace damaged parts or cables.

Ensure work area is suitable and well ventilated; fumes produced in welding are toxic and harmful.

Warning: Cable connectors must be turned fully into the quick plugs to ensure good electrical contact. Loose connection will cause overheating, rapid deterioration and an overall loss of efficiency.

Ensure that the flow of clean, cool air around the inverter is not obstructed in any way. Make sure that there are no conductive dusts, corrosive vapors or humidity that could enter the inverter and cause serious damage.

Keep the working area free from any unrelated materials.

Warning: Always use a welding mask or helmet and welding

No-load loss:	40W
Efficiency:	80%
Arc-starting:	0.93
Applied welding:	0.8-2.5mm
Class of insulation:	B
Case protection degree:	IP21
Weight:	4kg

gauntlets to protect the eyes and avoid exposing skin to harmful ultraviolet radiation and heat given off by the electric ARC.

It is particularly important to remove jewellery, watches, rings, necklaces and loose fitting clothing when welding.

Make sure that the work is secured correctly before operating the inverter. Avoid any unintentional contact with the work. Accidental or unintentional operation of the torch may be dangerous and will wear the nozzle. Protect cables from heat and abrasive or sharp objects. Keep unauthorized personnel away from the work area; any person in the work area should use the same protective equipment as the operator.

Operators must receive adequate training before operating the inverter.

Warning: when the inverter is switched off the short circuit light will come on for approximately 10-15 seconds whilst the capacitor discharges. **DO NOT** open the unit until the light has gone out. Turn voltage switch to (0) off when inverter is not in use.

DO NOT operate inverter if any cable or part is damaged.

DO NOT use welding cables in excess of 10m in length. **DO NOT** connect the return cable to any metallic structure which is not part of the work piece, this will impair weld quality and may be dangerous.

DO NOT use the inverter in damp or wet conditions or areas where there is condensation. Under no circumstances get the inverter wet. **Danger: DO NOT** weld near flammable materials – solids, liquids or gas.

DO NOT weld containers or pipes which have held or may have held flammable materials – solids, liquids or gas. Avoid operating the inverter on materials cleaned with chlorinated solvents or near solvents of this type.

DO NOT touch the work until the weld has been allowed to cool thoroughly as it will be very hot.

DO NOT touch the torch after use until it has been allowed to cool thoroughly.

DO NOT operate the inverter whilst under the influence of drink, drugs, intoxicating medication or if tired.

PRIOR TO USE

Unpack and check the inverter for any damaged or missing parts. Contact your retailer immediately if this is the case.

Warning: ensure that the inverter is not connected to a power source before assembling, connecting or disconnecting cables.

Warning: failure to follow electrical safety instructions will affect the operating performance of your inverter and may damage the integral safety system, which could result in a serious injury or fatality.

ARC Welding

When ARC welding the electrode holder cable is normally connected to the positive (+) terminal

Work clamp connection

The work clamp cable is connected to the inverter terminal not occupied by the electrode holder cable. The clamp is connected to the work piece.

OPERATING INSTRUCTIONS

Warning: always use a welding mask or helmet and welding gauntlets to protect the eyes and avoid exposing skin to harmful ultraviolet radiation and heat given off by the electric ARC. Ensure that this protection is in place before striking an ARC.

ARC Welding

Strike the electrode against the work piece as if you were striking a match. **DO NOT** hit the electrode against the work piece as this will damage the electrode.

As soon as the ARC is ignited, a distance equal to the diameter of the electrode being used should be maintained as a constant for the duration of the weld, as the weld advances along the work piece the angle of the electrode head must be kept at between 20 and 30 degrees.

At the end of the weld bead bring the electrode head backwards in order to fill the weld crater, quickly lift the electrode head from the weld pool to extinguish the ARC.

MAINTENANCE

Warning: Disconnect the inverter from the power supply and wait for the circuit light to go out before attempting to open the unit.

Remove the cover from the inverter on a regular basis and remove dust by passing a low pressure air flow through the inside. The cover should be correctly and securely replaced before attempting to use the inverter. Keep the outside cover of the inverter clean at all times by wiping with a soft dry cloth.

TROUBLESHOOTING

Should you experience any problem with the inverter please make the following checks:-

- That the welding current is correct for the diameter and type of electrode in use.
- That if the power supply is on, the power indicator light (green) is on. If the power indicator light is not on there is a power supply problem (for example a circuit breaker may have blown).
- That the correct voltage is being used as indicated on the rating plate.
- That the (red) LED is not illuminated. If the LED is illuminated it indicates an over or under voltage or a short circuit.
- That the normal intermittence ratio is correct and that the fan is working correctly.
- That the cables are undamaged and that there is nothing causing a short circuit.
- That all circuit connections are correct. You should pay particular attention to the work clamp, making sure that it is correctly attached to the work piece and that there is no grease, paint or other contaminate that could cause a bad connection.

Electromagnetic Compatibility

This equipment is in conformity with the European standard on the electromagnetic compatibility of ARC welding equipment and similar processes (ARC and Plasma cutting)

Protection against interference (**E.M.C.**)

The emission limits in this standard may not provide full protection against interference to radio and television reception when the

equipment is used closer than 30m to the receiving antenna. In special cases, where highly susceptible equipment is used in close proximity additional mitigation measures may be required to reduce the electromagnetic emissions. Potential difficulties may arise in achieving electromagnetic compatibility in a non-industrial environment (for example in a residential area). The user is responsible for installing and using this equipment according to these instructions. If electromagnetic disturbances are detected then it shall be the responsibility of the user of the equipment to resolve the situation.