

Operating Manual

Sabre Arc 60i/PT-81 Air Plasma Cutting System



**Please ensure that this
Instruction Manual and Parts List
is made available to the user of
the equipment**



DECLARATION OF CONFORMITY Murex Welding Products Ltd.

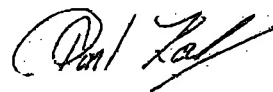
Declare hereby that:

Murex Sabre-arc 60i/PT-81 Air Plasma Cutting Equipment

Part No: 1415410

- is manufactured in accordance with the Council Directive 73/23/EEC (1973-02-19) and 89/336/EEC (1989-05-03) amended by Council Directive 93/68/EEC relating to electrical equipment designed for use within certain voltage limits.
- conforms with the protection requirements of Council Directive 89/336/EEC, amended by Council Directives 91/263/EEC, 92/31/EEC and 93/68/EEC relating to electromagnetic compatibility.
- is manufactured in accordance with EN60974-1 Safety Requirements for Arc Welding Equipment and EN50192 Plasma Cutting Systems.
- is manufactured in accordance with EN50199 Electromagnetic Compatibility for Arc Welding Equipment.

On behalf of Esab Group (UK) Ltd
Hertford Road
Waltham Cross
Herts. EN8 7RP
England



P. Karlsson
Managing Director
Esab Welding Equipment AB
1st January 1996

Manufactured by Esab Welding & Cutting Products
Florence, SC. USA



Contents

| | Page |
|--|-----------|
| • Warnings | 3 |
| • Safety | 4 |
| • Introduction | 5 |
| • Specification | 6 |
| • Un-packing | 7 |
| • Installation | 8 |
| • Controls & facilities | 12 |
| • Operation | 13 |
| • Maintenance | 17 |
| • Trouble shooting | 21 |
| • Circuit Diagram | 27 |
| • Parts List | 28 |



WARNING



This welding equipment has been designed, manufactured and tested to the highest standards to ensure long and trouble free life. However, regular maintenance is an essential part of keeping the machine operating in a reliable and safe manner and your attention is drawn to any maintenance instructions that are contained in this manual.

In general, all welding equipment should be thoroughly inspected, tested and serviced at least annually. More frequent checking will be required when the equipment is heavily used.

Wear and tear, particularly in electro-mechanical and moving components, are gradual processes. Caught in time, repair costs are small and the benefits in performance reliability and safety are significant. Left alone, they can put the equipment, and you, at risk.

Have this equipment regularly inspected and maintained by an approved service centre.



WARNING



ARC WELDING AND CUTTING CAN BE INJURIOUS TO YOURSELF AND OTHERS. TAKE PRECAUTIONS WHEN WELDING. ASK FOR YOUR EMPLOYER'S SAFETY PRACTICES WHICH SHOULD BE BASED ON MANUFACTURERS' HAZARD DATA.

ELECTRIC SHOCK - Can Kill

- Install and earth the welding unit in accordance with applicable standards.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves, or wet clothing.
- Insulate yourself from earth and work.
- Ensure your working position is secure.

FUMES AND GASES – Can be Dangerous to Health

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to keep fumes and gases from your breathing zone and the general area.

ARC RAYS – Can Injure Eyes and Burn Skin

- Protect your eyes and body. Use the correct welding screen and filter lens and wear protective clothing.
- Protect bystanders with suitable screens or curtains.

NOISE– Excessive noise can damage hearing

- Protect your ears. Use ear defenders or other hearing protection.
- Warn bystanders of the risks.

**READ AND UNDERSTAND THE INSTRUCTION MANUAL
BEFORE INSTALLING OR OPERATING AND SEE 18 PUBLICATION 237
'The arc welder at work' AVAILABLE FROM THE MANUFACTURER.**

PROTECT YOURSELF AND OTHERS

SAFETY

In any arc welding, cutting or gouging operation, it is the responsibility of the user to observe certain safety rules to ensure his personal safety and to protect those working near him.

Read all safety articles relevant to arc welding published by the 18. Pay particular attention to any CAUTION or WARNING Notes included in this manual. CAUTION indicates possible equipment damage. WARNING indicates possible hazard to life.

⚠ **WARNING** ⚠

*The ON/OFF switch on this equipment does not isolate the unit from the mains electrical supply. **AC POWER IS PRESENT ON THE ON/OFF SWITCH TERMINALS.***

*The On/Off lamp is an indication that the supply is switched on and does not imply that the unit is isolated from the supply. **BEFORE REMOVING THE COVERS FOR MAINTENANCE, ISOLATE THE UNIT FROM THE MAINS ELECTRICAL SUPPLY.***

1. Electrical

- ⚠ Treat electricity with respect. Even the open circuit voltage of this equipment can be dangerous. Adjustments to the torch or replacement of torch parts should be undertaken with the mains supply isolated from the unit.
If damaged torch cables or torch components are found, the unit must be disconnected from the mains and defective parts must be replaced using only Murex spare parts.
- ⚠ Do not work on live circuits or cables. Disconnect the main power supply before checking the machine or performing any maintenance operation.
- ⚠ Be sure the case of the welding machine is properly connected to a good electrical earth.
- ⚠ Have the wiring for the welding machine installed by a qualified electrician. All connections must be made according to specifications in force and to general safety standards.
- ⚠ Do not stand in water or on damp floors while using an arc welder or cutter. Do not use in the rain.
- ⚠ Do not operate with worn or poorly connected cables. Inspect all cables frequently for insulation failure, exposed wires and loose connections.
- ⚠ Do not overload cables or continue to operate with overheating cables. Cables which are too small for the current carried will overheat, causing rapid deterioration of the insulation.
- ⚠ Pay attention that live parts of the torch do not touch any metal which is connected to the earth cable. Fix an insulated hook to hang the torch on when it is not in use.

1. Ventilation

- ⚠ Do not weld or cut on containers which have held combustible or flammable materials, or materials which give off flammable or toxic vapours when heated, without proper cleaning.
- ⚠ Locate the welding/cutting operation far enough from any vapour-type degreaser using trichlorethylene or other chlorinated hydrocarbons as solvents. The ultraviolet light from the arc can decompose these vapours into toxic gases at a considerable distance from the arc, even though the concentration of the gases is low enough to be undetectable by smell.
- ⚠ Be sure to provide adequate ventilation for removal and dilution of fume and gases. Fume exhaust facilities near the arc, or a ventilated helmet should be used when cutting in confined spaces or on toxic material.

2. Glare

- ⚠ Never look at the arc without wearing eye protection. Always use the proper protective clothing, filter glasses, and gloves. Be careful to avoid exposed skin areas. Do not use cracked or defective helmets or shields.
- ⚠ Never strike an arc when there is someone near who is not protected from the strong light of the arc.
- ⚠ Warn bystanders who are not aware of the dangers of ultraviolet light.

3. General

- ⚠ Take care when lifting the unit.
- ⚠ Ensure that cylinders are secured by chains.
- ⚠ Locate the unit so that there is adequate air flow to the ventilation louvres.
- ⚠ Always dress correctly to protect against glare, radiation and spatter.

4. Fire

- ⚠ Ensure that the correct type of fire extinguisher is available in the welding area.
- ⚠ Do not weld near flammable materials or liquids, in or near explosive atmospheres, or on pipes carrying explosive gases.

5. Vehicle Electrics

- ⚠ When working on motor vehicles, remove the battery and any circuitry which may be damaged by the arc.
- ⚠ Whilst welding be aware of the possibility of 'hidden wires' behind panels or bulkheads.

INTRODUCTION

Sabre-Arc 50i & 80i power sources

The Murex Sabre-arc 60i is a portable plasma cutting system designed to work on industrial 380/415V power supplies and utilises clean and dry factory compressed air for both the plasma and secondary cooling gas. The power source uses inverter technology to give precise control of the cutting current and together with the PT-81 torch enables conducting materials up to 20mm to be cut.

PT-81 Plasma Cutting Torch

The patented Murex PT-81 torch is designed to operate to a maximum of 80 amperes at 100% duty cycle using clean dry air for both cooling and plasma gases. A built in air checkvalve inside the PT-81 torch head, in combination with air flow detection circuitry in the Sabre-arc power source, ensures the torch cannot be energised when the heatshield is removed.

The PT-81 is available with either 7.6m or 15m cables (7.6m is standard on the Sabre-arc 60i).

The PT-81 is best applied using a 3mm to 6mm stand off distance (tip to work) for cutting material thicknesses of 3mm to 20mm.

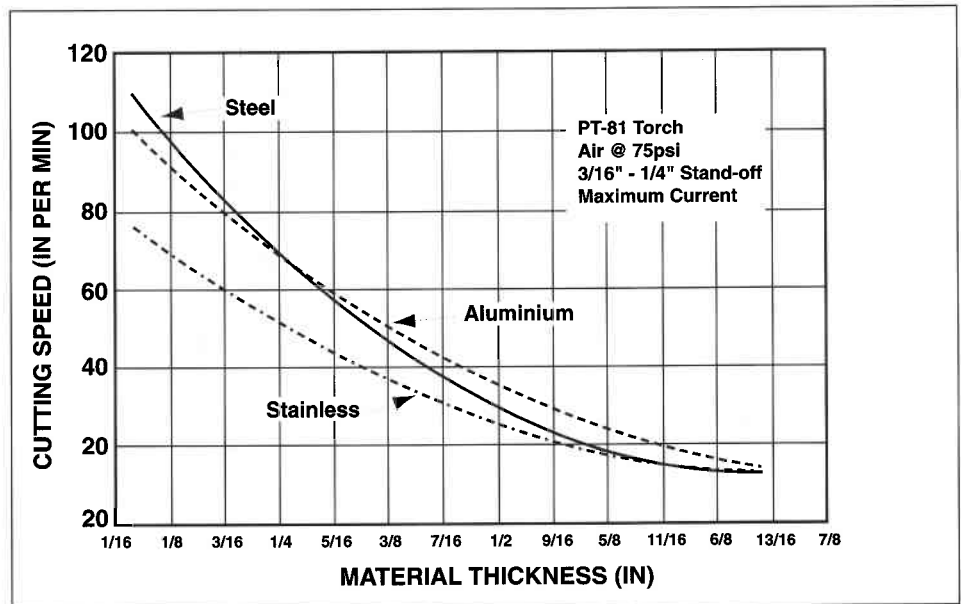


Figure 1.

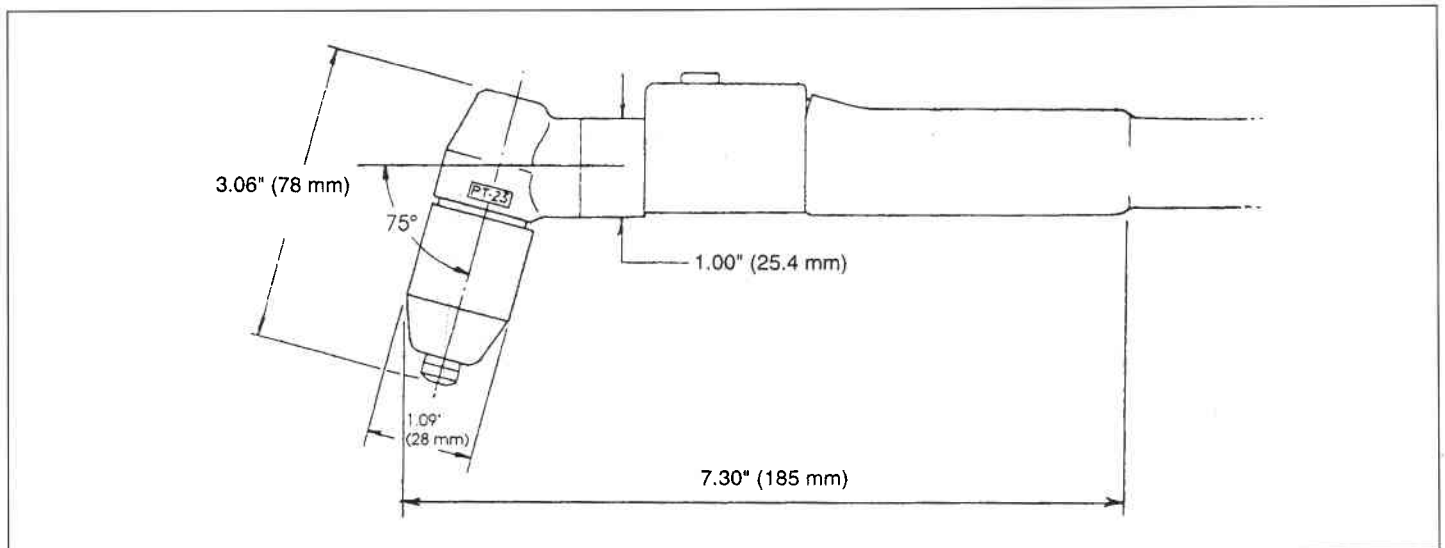


Figure 2. PT-81 Dimensions

SPECIFICATION

| | | | |
|---------------------------------------|------|----------------------|--|
| | | SABRE-ARC 60I | |
| Output | | | |
| Open Circuit Voltage | | 275Vdc | |
| Output Current | | 10-60A | |
| Duty Cycle | 60% | 60A@ 120Vdc | |
| | 100% | 50A@ 120Vdc | |
| Input | | | |
| Mains Voltage | | 400Vac \pm 10% | |
| Frequency | | 50/60Hz | |
| Phases | | 3 | |
| Primary Current at Max Output | | 13A/Phase | |
| Fuse Rating | | 25 A | |
| Dimensions | | | |
| Length | | 516mm | |
| Height | | 409mm | |
| Width (inclusive of torch storage) | | 275mm | |
| Weight | | 40kg | |

| | | | |
|---------------------------|-------|-----------|--|
| PT-81 PLASMA TORCH | | | |
| Duty Cycle | | 80A@ 100% | |
| Weight | 7.6mm | 2.4kg | |
| | 15m | 4.4kg | |

UNPACKING

The Murex Sabre systems comprise the following items

| Description | Part No |
|---|---------|
| SABRE-ARC 60i PACKAGE Containing: Sabre-Arc 60i Power Source with regulator | 1415410 |
| PT80 Plasma Torch 7.6m | 1415302 |
| Work cable 7.6m | 680560 |
| Spare parts kit (see table 1) | 1415304 |

Check that all required items are present and inspect carefully for evidence of damage which may not have been apparent on the external packing. If necessary notify the carrier or your Murex distributor immediately.

Table 1 PT-81 Spare Part Kits

| Description | Pt. No. | Qty |
|------------------|---------|-----|
| Heat Shield Long | 1415306 | 2 |
| 50-60A Nozzle | 1415211 | 4 |
| Stand off guide | 1415215 | 1 |
| Swirl Baffle | 1415213 | 1 |
| Electrode | 1415214 | 3 |
| Fuse | 951780 | 4 |
| Valve Pin | 21619 | 1 |

INSTALLATION

Installation must only be undertaken by a qualified electrician or suitably trained person.

1. Choose a location so that the louvres on the front and rear are clear of any obstruction and permit free flow of air through and around the unit. Refer to Safety section for other precautions regarding siting the unit.

WARNING

Electric shock can kill! Precautionary measures should be taken to provide maximum protection against electric shock. Be sure that all power is off by opening the line (wall) disconnect switch and by unplugging the primary cable to the unit when connections are made inside the power supply.

2. The Sabre-arc 60i Power Source

The power source is equipped with a 3m primary input cable suitable for use on 400V 3 phase 50/60Hz supply.

Correction should be made as follows:

| | |
|--------------|---------|
| Brown | - L1 |
| Blue | - L2 |
| Yellow | - L3 |
| Green/Yellow | - Earth |

A suitable switched isolator should be used and the circuit must be protected by a suitable fuse.

3. For operator safety, the torch and work return cable corrections are located on a panel behind the cover on the left hand side of the unit.

WARNING!

Before making any corrections to the power source output terminals make sure that all primary input power to the machine is off at the main disconnect switch and that the input power cable is unplugged.

WARNING!

Do not use any torch with this unit other than the PT-81 without consulting Murex Welding products technical department. Serious injury may occur if used with any other torch.

4. Connect a supply of CLEAN DRY COMPRESSED AIR to the regulator input nipple. The supply requirements are 6 bar minimum, 10 bar maximum (90-150 psi) at 100-150 L/min. Do not use compressed air that has been oil loaded for pneumatic tools etc.

5. Clamp the earth clamp onto the workpiece ensuring that the correction point is free from rust, salt or paint.

6. Connect the workpiece or work table to an approved earth ground with a properly sized ground cable refer to figs 3 and 4.

Radio Interference

7. Murex welding power sources have been designed to high standards of electromagnetic compatibility. However, arc welding, by its very nature, generates radio-frequency energy and may cause interference. By installing and using the equipment correctly, in accordance with these instructions, the problems of interference may be minimised.

8. This equipment satisfies the requirements of the EU Directive 89/336/EC on EMC and complies with the limits in EN 50 199, 'EMC product standard for arc welding equipment'. These limits are designed to provide reasonable protection against interference in heavy industrial areas.

9. If this equipment is used in domestic areas, eg. for repair or maintenance, particular care should be taken. The time of day should be chosen and the duration of welding limited, to minimise any potential problems.

10. If this equipment caused interference the guidance given below should be considered. If a solution cannot be found please contact your distributor or the manufacturer.

11. Before installing this welding equipment an assessment should be made of potential EMC problems that may occur. It is good practice not to install welding equipment next to computers or safety critical control circuits, eg electronic machine guards, unless they have been suitably protected.

12. This equipment should be connected to the primary supply using the cable provided. However, for permanent installation, if interference problems occur, shielded cable or conduit should be considered. The primary cabling and welding cables should be kept separate to other mains wiring and control, signalling or communications (eg telephone) cables. If interference occurs then greater separation or re-routing should be considered. Welding cables should be kept as short as practically possible.

13. Interference may also be reduced by separating the welding equipment from the other equipment affected. A partition, brick wall or particularly, a metal screen will also reduce interference. Earthing and equi-potential bonding should also be considered but guidance should be sought from a competent person, the distributor or manufacturer.

14. To ensure continued compliance to the EMC Directive this equipment should be routinely maintained according to the manufacturers instructions and using only approved spare parts. In particular, the spark gaps of HF units should be adjusted and maintained according to the manufacturers recommendations.

15. All access and service door and covers should be closed and properly fastened when the equipment is being used. This equipment should not be modified in any way except for those changes and adjustments approved by the manufacturer.

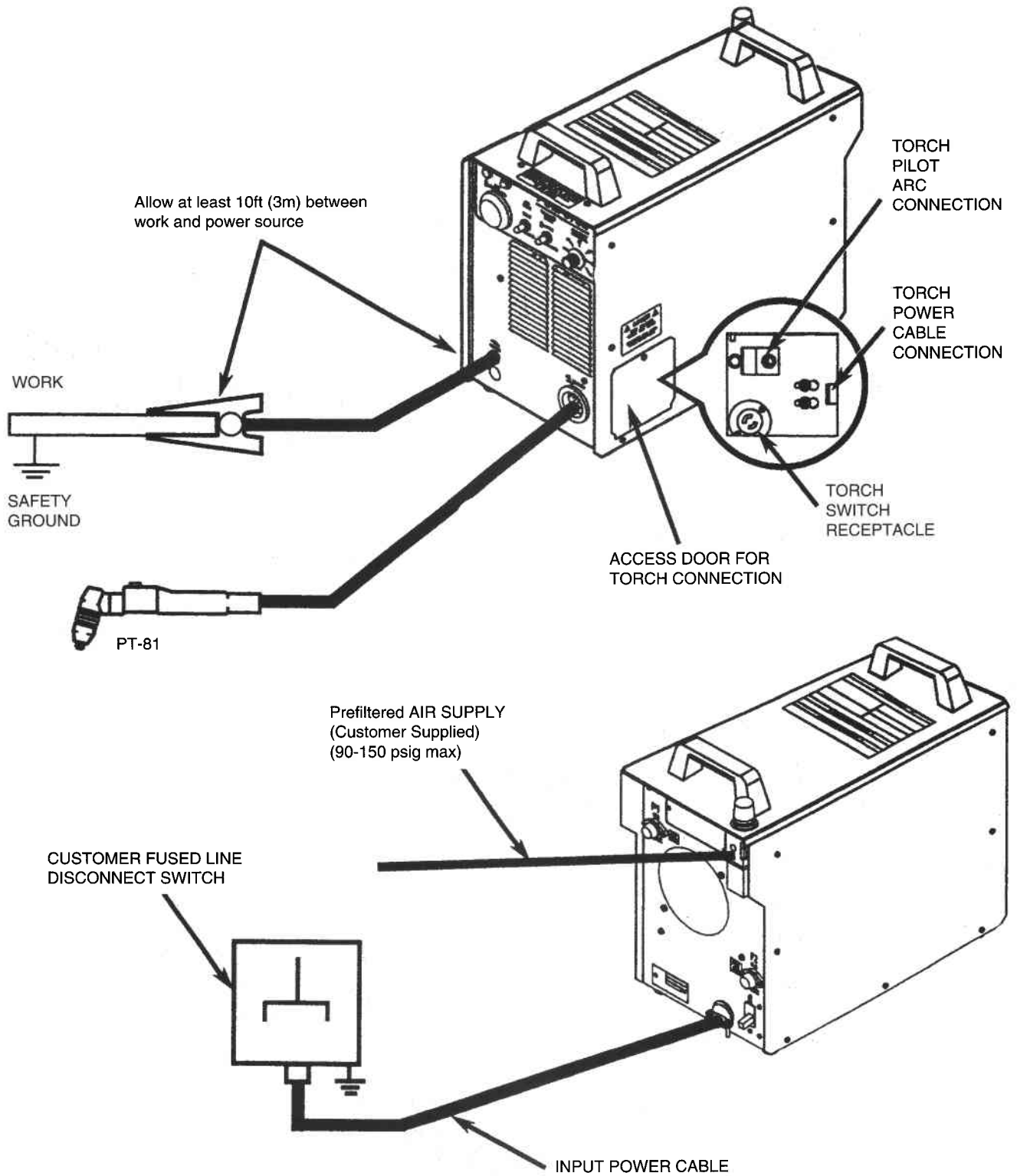


Figure 3 Sabre-Arc 60i Connection diagram

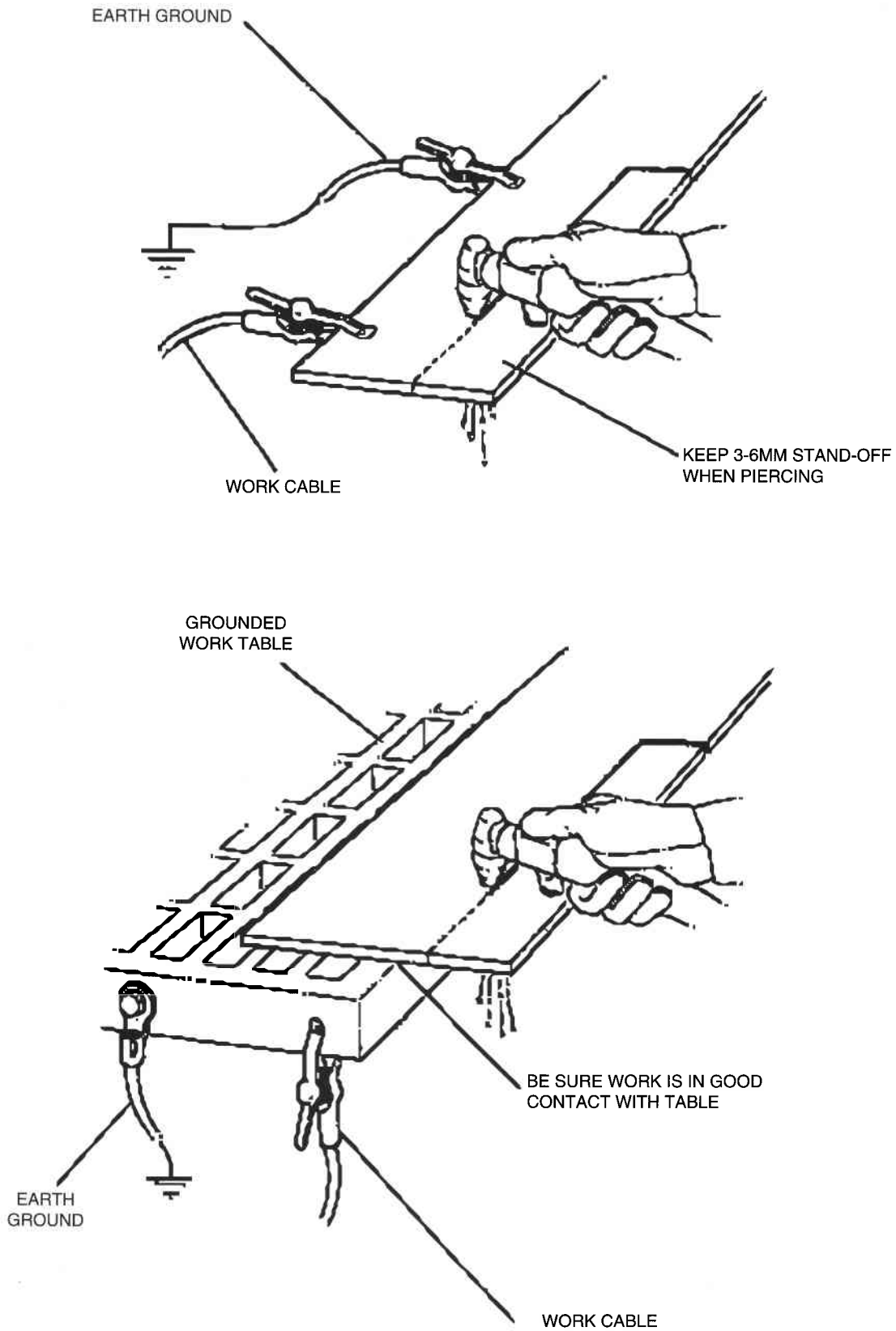


Figure 4. Ground and Work Cable Connections

ASSEMBLING THE PT-81 TORCH CONSUMABLES

WARNING!

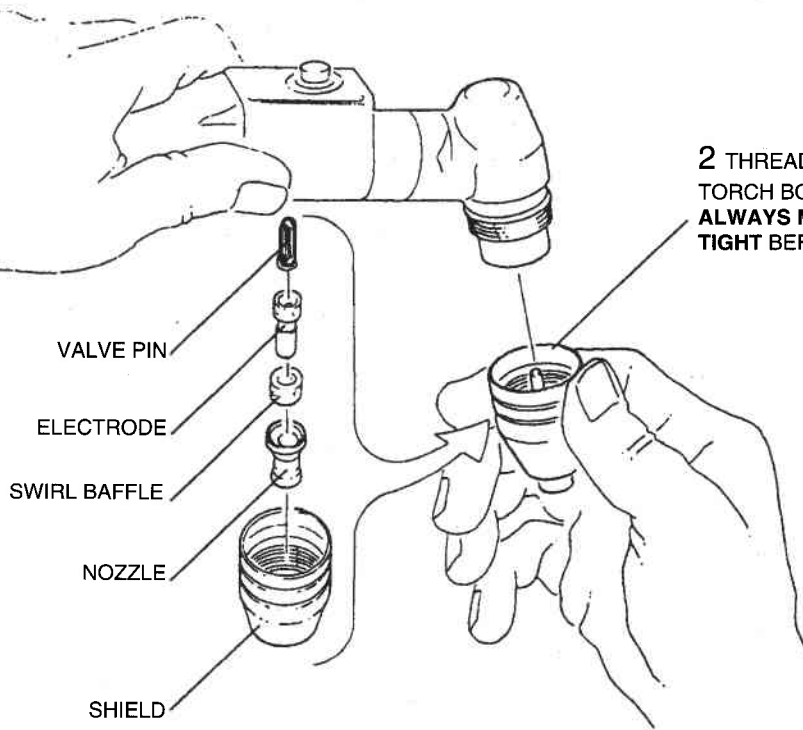
Make sure the power switch is on the Sabre-arc is in the off position and primary input power is de-energised.

The plasma arc process employs extremely high voltages. Contact with live parts of the torch and machine must be avoided.

The electrode seat comes factory assembled in the PT-81 Torch head. Make sure seat is firmly tightened with a 0.125-inch hex key. Do not overtighten. Refer to Figure 5 for installation procedure for installing seat in head.

Place the nozzle, swirl baffle, and electrode into retaining nut as shown in Figure 5. With the torch head front end facing downward, thread this assembly to the torch head and hand tighten firmly to hold parts in good contact with each other and the torch head.

1 PLACE THE NOZZLE, SWIRL BAFFLE, ELECTRODE AND VALVE PIN INTO THE SHIELD



2 THREAD THIS ASSEMBLY TO THE TORCH BODY AND HAND TIGHTEN. ALWAYS MAKE SURE THE SHIELD IS TIGHT BEFORE CUTTING.

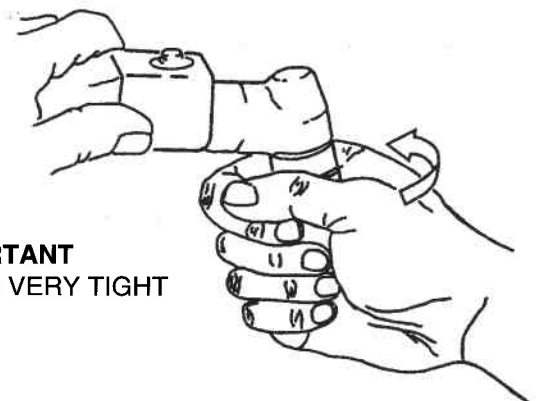
Figure 5 Assembly of PT-81 Torch Front End Parts

WARNING

**The torch head contains a gas flow check valve that acts in conjunction with circuitry within the power source. This system prevents the torch from being accidentally energised with high voltage if the torch switch is closed when the shield is removed.*

The valve pin is a crucial member of the system. Its function is to open the gas flow check valve that is permanently assembled within the torch head. If the pin is not correctly placed in the electrode, the valve will not open and the system will not function.

IMPORTANT
MAKE SHIELD VERY TIGHT



CONTROL AND FACILITIES

1. Power on/off switch (rear panel)

In the on position the white pilot lamp is illuminated, the control circuitry is powered and the fan will run.

WARNING!

Placing the power switch in the OFF position does not totally isolate the unit from mains electrical power. Always isolate the machine from the electrical supply before carrying out any work on or in the power source.

2. Output Current Control

Enables the precise cutting current to the set for the plate to be cut. Control range is 10-60A .

3. Air Check Switch. In the ON position, the air filter regulator can be adjusted to the required

pressure, normally 70 psi, before cutting operations. In this mode air flows continuously and it is recommended, at least at the beginning of each shift, that the system is purged of any condensation that may have accumulated during the off period. Ensure the switch is in the **OFF** position before cutting.

4. Lock-In Switch. In the ON mode the torch switch can be released after the cutting arc has been established. To stop the cutting operation momentarily operate the torch switch again or pull the torch away from the work. In the OFF mode the torch switch must be pressed during the entire cutting cycle.

5. Fault light

Will glow amber under the following conditions and operations will come to a complete stop.

Flow Fault: The fault light will be

mostly on but will flick off for about 1/10th of a second every second. This indicates that the air flow supply is low.

Over Temperature: The fault light will be **mostly off** but will flick on for about 1/10th of a second every second. This indicates that the duty cycle has been exceeded. Allow the power source to cool down before returning to operate.

High/Low Line Voltage: The fault light will **rapidly blink on and off** (five times per second). This indicates that the input voltage is outside the "+ or - 15% range of the input rating.

Over-Current: The fault light will be on **continuously**. This indicates that the input current has been exceeded.

All fault signals will remain on for a minimum of 10 seconds. If fault clears, all will reset automatically except for over-current, the mains power must be shut off for 5 seconds and then turned back on.

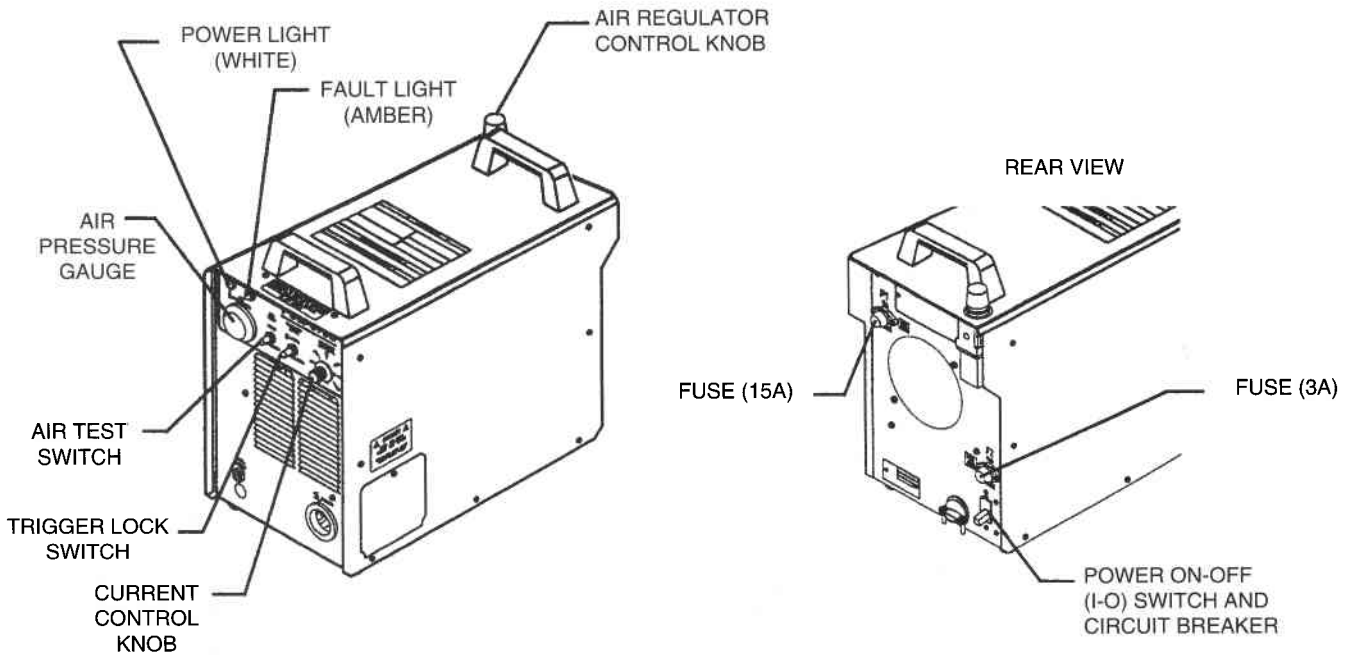


Figure 6 Sabre-arc 60i Controls

OPERATION

WARNING!

Refer to the safety notes at the front of this manual before commencing operation

WARNING!

Never under any circumstances operate the power source with the covers removed. In addition to the safety hazard, improper cooling may cause damage to internal components.

WARNING!

To prevent serious injury, never touch any parts forward of the torch handle (nozzle, heat shield, electrode, etc) when the ON/OFF switch on the Sabre-arc is in the ON position.

Use the following procedures to cut with the PT-81 Torch (figure 7).

1. Hold the torch approximately 3mm above the work and tilted at about 15-30°C. If the PT-81's standoff tool is being used, set the standoff at 1.5mm for materials less than 6mm thick and 4 to 5mm for those over 6mm thick.
2. Depress the torch switch. Air should flow from the torch and the high frequency should energize.
3. Two seconds after depressing the torch switch, the Pilot Arc should start and the Main Arc should immediately follow allowing the cut to begin. (If using the LOCK-IN mode, torch switch may be released after establishing the cutting arc).
4. After starting the cut, the torch may be returned to the upright position. When not using the standoff guide, the nozzle should be held approximately 3mm from the work. When using the standoff guide, refer to Figure 9.

6. In the postflow mode, the arc can be restarted immediately by depressing the torch switch. The two second preflow will be automatically cancelled.

7. To determine the correct output current and travel speed for the material thickness being cut refer to figure 1 on page 5.

Recommended Torch Angle of 5° to 15°

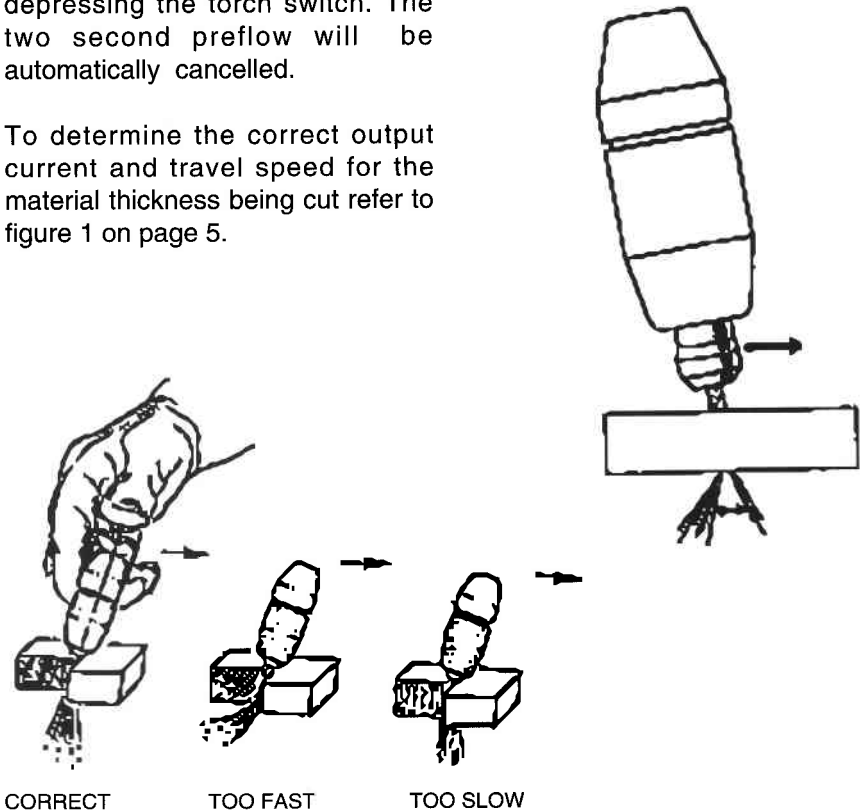


Figure 7 Effect of Cutting Speed

Caution

Be sure to change the electrode in the PT-81 torch before the length becomes shorter than 17mm. Using a shorter electrode will reduce nozzle life but more seriously it can cause a short and damage the torch and/or the power source.

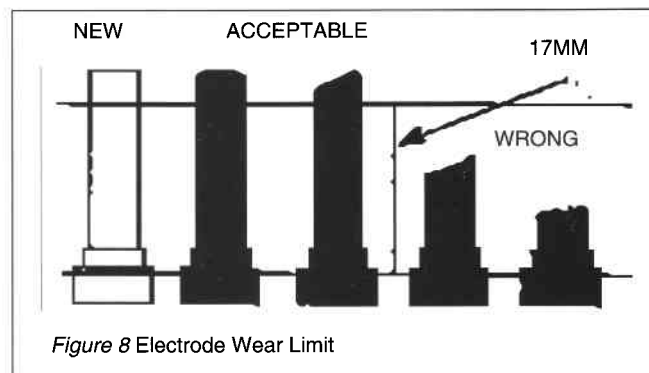


Figure 8 Electrode Wear Limit

Torch-To-Work Standoff Guide

If desired, a torch-to-torch standoff guide (Pt No. 1415215) is available.

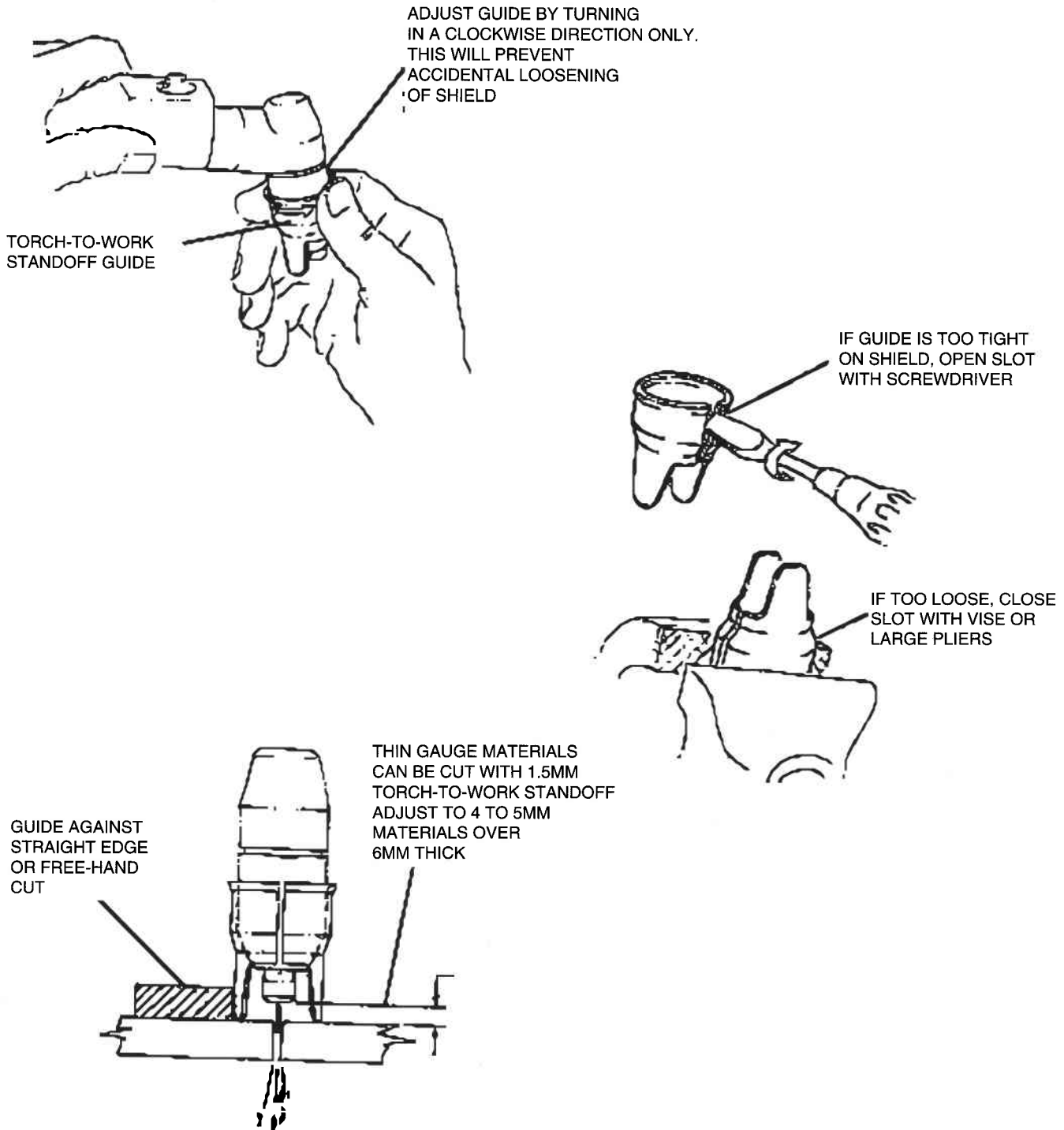


Figure 9 PT-81 Torch-to-Work Standoff Guide

COMMON CUTTING PROBLEMS

| Problem | Remedy |
|--|--|
| 1. Insufficient Penetration | <ul style="list-style-type: none"> • Cutting speed too fast • Damaged tip • Air pressure incorrect • Current too low |
| 2. Main Arc Extinguishes | <ul style="list-style-type: none"> • Cutting speed too fast • Stand off distance too large • Worn electrode and tip • Duty cycle exceeded |
| 3.Excessive Dross Formation Note if may be impossible with some materials and thicknesses to get totally dross-free cuts | <ul style="list-style-type: none"> • Incorrect cutting speed • Incorrect air pressure • Faulty tip or electrode |
| 4. Double Arcing | <ul style="list-style-type: none"> • Low air pressure • Contact cutting at high current • Damaged or loose tip • Heavy spatter |
| 5. Uneven Arc | <ul style="list-style-type: none"> • Damaged or worn tip and/or electrode |
| 6. Unstable Cutting Conditions | <ul style="list-style-type: none"> • Incorrect cutting speed • Loose cables and connections • Faulty air supply |
| 7. Main Arc Does Not Strike | <ul style="list-style-type: none"> • Heavily insulated plate • Work return not connected • Excess air pressure • Worn electrode and tip • Tip too far from work |
| 8. Poor Consumable Life | <ul style="list-style-type: none"> • Improper air pressure • Contact cutting at high current • Piercing thick plate • Spatter • Contaminated air supply |

PIERCING

The torch should be 3mm to 4mm from the work. This will reduce the chance of spatter front entering the torch. The torch should be angled at about 30° when starting to pierce, and then straightened after accomplishing the pierce.

MESH CUTTING

For rapid restarts use the lock in OFF torch switch mode and do not release the torch switch. This avoids the two second preflow portion of the cutting cycle.

DRAG CUTTING

If drag cutting is desired, the 15A pilot arc fuse located on the rear panel can be removed. This eliminates the pilot current allowing you to cut by dragging the torch tip on the work.

DO NOT EXCEED 10mm CUTTING THICKNESS IN DRAG MODE.

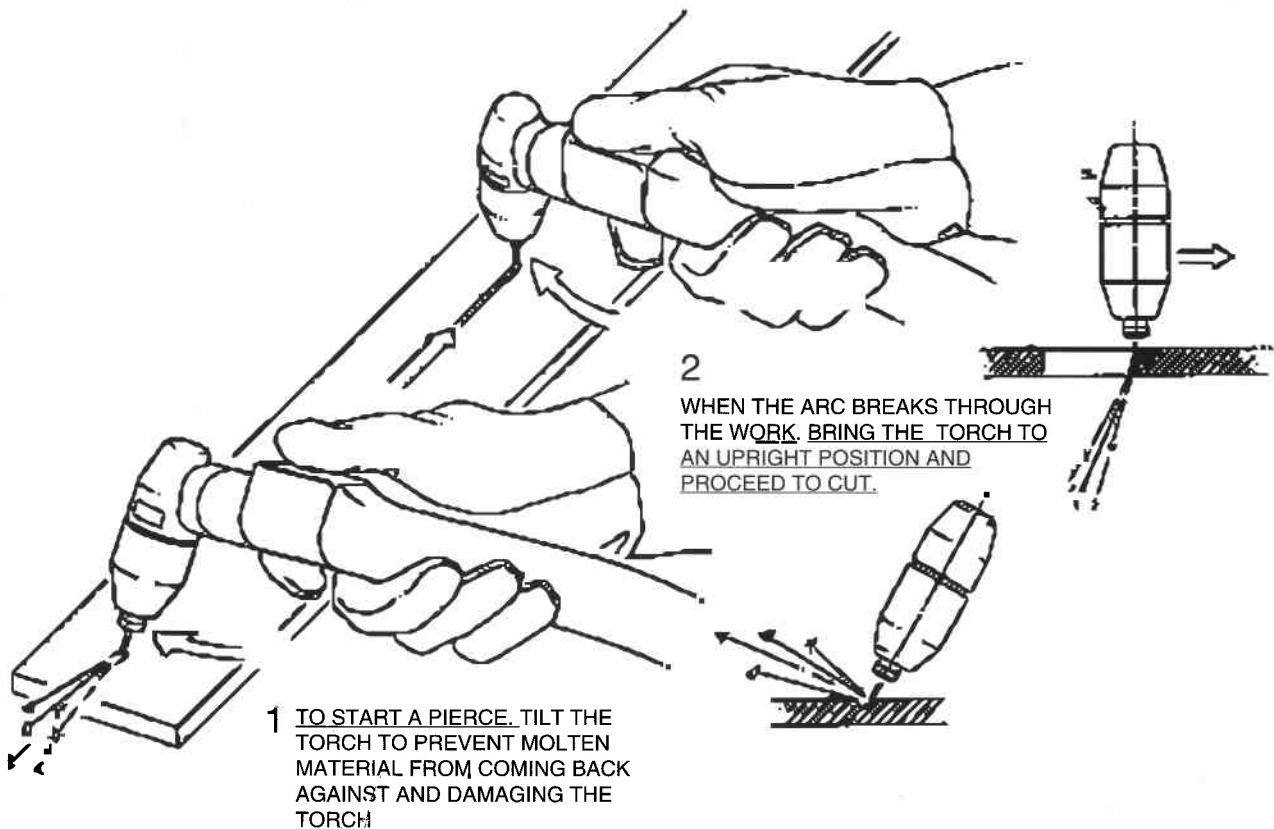


Figure 10 Piercing Technique with the PT-81

MAINTENANCE

Sabre-arc 60i Power Source

WARNING

The unit must always be isolated from the mains electrical supply before any maintenance work is undertaken.

1. At regular intervals, and wearing eye and face protection, blow out the inside of the unit using low-pressure clean dry compressed air.
2. Check all electrical connections and fitting are tight and that cables are in good condition.
3. Check the air system for leaks.
4. Check and bleed water or oil from the air regulator filter assembly.
5. When excessive contamination is found in the air, the flow switch (FS) should be disassembled and cleaned, see Fig 9.

Note: It is not necessary to remove the flow switch from the machine for cleaning.

- A. Ensure the machine is disconnected from both air and electrical supplies and that there is no trapped air under pressure in the hoses.
- B. Remove piston plug.
- C. Remove spring. Use care when handling to avoid damage.
- D. Remove piston.
- E. Clean all parts with a suitable solvent.
- F. Reassemble.

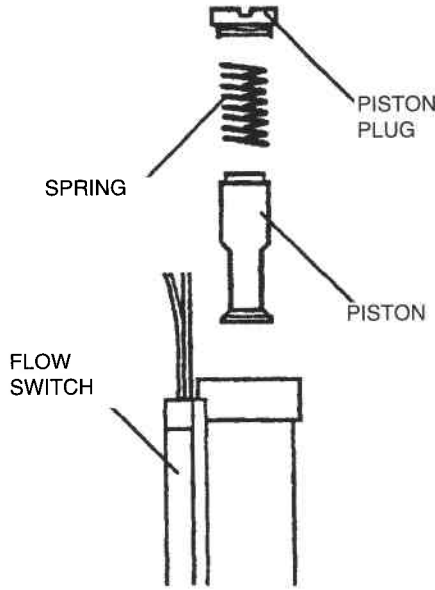


Figure 11 Disassembly/Assembly of Flow Switch

PT-81 Plasma Torch

WARNING!

Be sure that all primary power to the machine has been externally disconnected. Be sure that the wall disconnect switch or circuit breaker is in the OFF position before attempting any maintenance work on the Sabre-arc

1. Remove the heat shield
2. Inspect the front end components, replace if worn or damaged, to replace/install front end components refer to fig 5.
3. If necessary, remove electrode seat from torch using an 1/8" hex key.
4. Apply a small amount of lubricant part no. 1414217 to the heat shield or to the 'O' ring see fig 12.
5. Check 'O' ring for damage.
6. Inspect electrode. Do not continue to use if the length is shorter than 17mm.

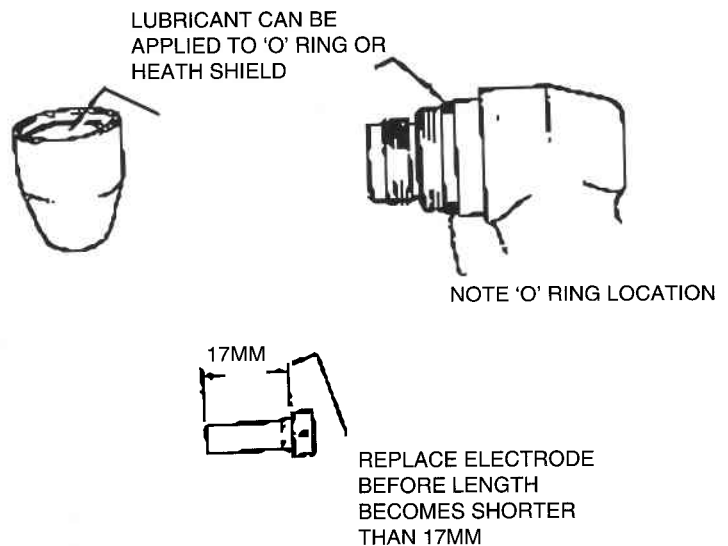


Figure 12 'O' ring and Electrode Maintenance

Removal of PT-81 Torch Head

Note: The power cable, the two white switch leads and the blue and black leads in the service line should be inspected periodically. If damage to the protective sheath or if gas leaks are noted, replace the damaged component.

For the procedure to remove torch head and switch from service line, refer to Figure 13. Note position of all components and tape locations before performing disassembly of service lines to ensure proper position of components and tape during reassembly procedure.

Replacing the Torch Head

Refer to Figure 13 and assemble in reverse order.

CAUTION!

Use two wrenches when installing torch head to power cable to prevent twisting copper tube.

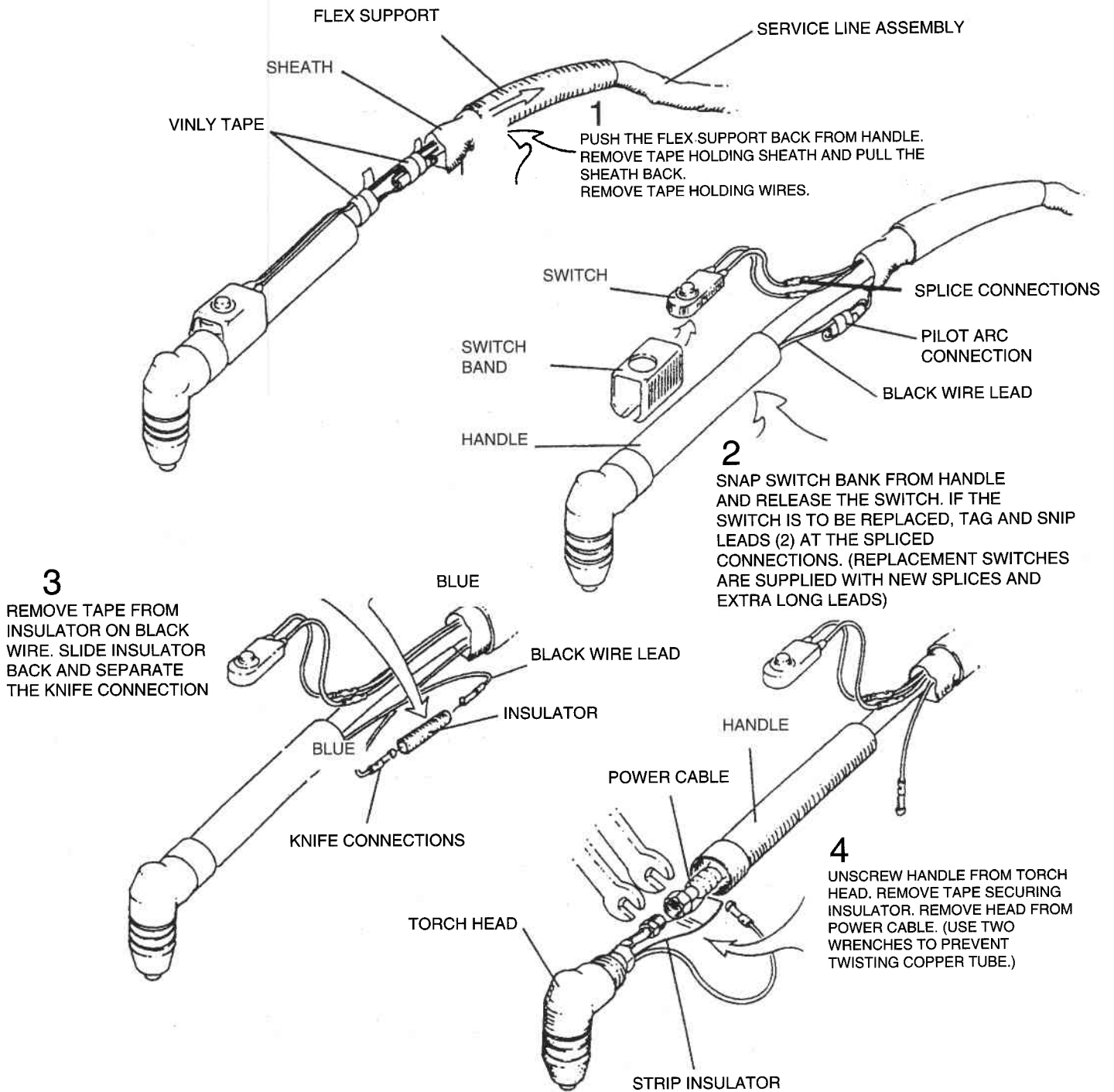
- A.** Slide handle over power cable. Slide blue and black wires attached to the torch head through the handle.
- B.** Using two wrenches, screw torch head onto power cable.
- C.** Thread handle onto torch body and hand tighten.
- D.** Slide insulators over knife connections on blue and black wires. Connect the blue and black wires to same colour wires protruding from sheath. Slide the insulators back over knife connections. Be sure the insulators completely cover the knife connections.
- E.** Ensure that Nomex insulator is inserted between the power cable connection and the blue and black wires. Refer to fig 13.
- F.** Determine position of switch and cut to wires to desire length.
- G.** Splice switch wires to white wires protruding from the sheath.

NOTE

Switch may be positioned to suit user.

- H.** Place switch in switch band and snap onto handle at desire position.
- I.** Using vinyl tape, tape wires near handle as previously noted.
- J.** Pull sheath up to end of handle and tape to power cable and leads.
- K.** Push flex support back up onto the handle.

Figure 13 Removal of PT-81 Torch Head and Switch from Service Line



Switch Plug Removal and Replacement

WARNING!

DO NOT INTERCHANGE THE SWITCH PLUG AND PILOT ARC / SAFETY PLUG. INTERCHANGING THESE PLUGS WILL VOID THE SAFETY INTERLOCK CREATING AN UNSAFE CONDITION THAT MAY CAUSE ELECTRIC SHOCK AND BURNS.

A. Switch Plug Removal

1. Loosen the two screws and open the plug as illustrated.
2. Loosen the screws clamping the two white leads in place.
3. Remove the plug

B. Switch Plug Replacement.

1. Strip wire lead insulation back 6mm

NOTE: Be sure the strain relief tubing (1414227) is inserted into plug so it will be secured when the plug is closed.

2. Replace in reverse order of removal.

