



# 55A PLASMA ARC CUTTING MACHINE

PLASMA60i

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## INTRODUCTION

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The PLASMA60i is an inverter-style plasma arc power source designed for cutting ferrous and non-ferrous metals. It uses compressed air or nitrogen to facilitate the cutting process. The maximum cut depth is 3/4" and the unit will sever up to 1". Depth-of-Cut adjustment for applications that require cutting only the top layer of material without disturbing the base layer. It is also light weight for portability.

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# SAFETY INFORMATION

## MUST READ INSTRUCTIONS BEFORE USE



Read, understand and follow all safety messages and instructions in this manual. Safety messages in this section of the manual contain a signal word with a three-part message and, in some instances, an icon.

The signal word indicates the level of the hazard in a situation.



### DANGER

Indicates an Imminently hazardous Situation which, if not avoided, will result in death or serious injury to the operator or bystanders.



### WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to the operator or bystanders.



### CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in moderate or minor injury to the operator or bystanders.

### IMPORTANT

Indicates a situation which, if not avoided, may result in damage to the welding equipment.

Safety messages in this section contain three different type styles.

- Normal type states the hazard.
- **Bold** type states how to avoid the hazard.
- *Italic* type states the possible consequences of not avoiding the hazard.

An icon, when present, gives a graphical description of the potential hazard.

## Plasma Arc Cutting



### DANGER



• Electric welding or plasma cutting cause ultra violet rays and weld spatter  
**Bystanders will be exposed to ultraviolet rays and weld spatter.**

**Wear welding helmet with appropriate shade lens while using electric welders or plasma cutters.**

**Do not allow bystanders while welding or cutting.**

**Wear safety shield and protective clothing.**  
*Ultraviolet rays will burn eyes; weld spatter can cause injury.*



### WARNING



• Plasma cutting produces heat, sparks, hazard of electric shock and/or hazardous vapors

**Wear appropriate gloves, helmets or goggles and other protective clothing.**

**Follow all instructions and safe practices while welding or cutting.**

**Keep bystanders away from immediate area.**  
*Byproducts of plasma cutting can cause burns or other bodily injury.*

**SAVE THESE INSTRUCTIONS**

# SAFETY INFORMATION cont'd

## Risk of Electrical Shock



### WARNING



- Electrical shock can result when contacting live electrode or internal components
- Electrical shock can result from absence of grounding prong



**Do not touch electrode or internal components without protection.**



**Disconnect power before servicing. Do not remove the grounding prong in any electrical plug.**



*Electrical shock can cause injury*

## Risk of Explosion



### WARNING



- Plasma cutting causes sparks that can cause explosion



**Use caution and proper procedures when welding.**



**Avoid sparks if gasoline vapor and other fuels are present.**

*Electrical shock, flames and explosion can cause serious injury*



## Electrical and Magnetic Fields



### WARNING



- Plasma cutting may cause localized Electrical and Magnetic Fields around cables and power sources
- The magnetic fields created by high currents may affect the operation of medical equipment.



**Route the electrode and work cables together. Do not place your body between the electrode/torch and work cables. Never coil the electrode/torch lead around your body.**

**Do not work next to welding/cutting power source.**

*Electrical shock and Magnetic fields can cause injury.*

## Disposal of Equipment

### IMPORTANT

- Disposal of electrical equipment can be hazardous to the environment  
**Contact local regulations prior to disposal**  
*Improper disposal can cause an environmental hazard*

# SPECIFICATIONS

This machine is a constant direct current power source, designed for cutting electrically conductive materials (metals and alloys) using the plasma arc procedure. The plasma gas may be air or nitrogen

## EXPLANATION OF THE TECHNICAL SPECIFICATIONS LISTED ON THE MACHINE PLATE

- EN 60974.1    The machine has been built according to  
 EN 50199      this European standards.  
 EN 50192
- N° ..... Serial number.  
 Always indicate this for any request regarding the machine.
-  ..... Single-phase static transformer-rectifier frequency converter.
-  ..... Drooping characteristic.
-  ..... Suitable for plasma cutting.
- TORCH TYPE ..... Type of torch that may be used with this machine.
- U<sub>0</sub>- PEAK ..... Secondary open-circuit voltage. Peak value.  
 X ..... Percentage duty cycle.  
 The duty cycle expresses the percentage of 10 minutes for which the machine may work at a certain current I<sub>2</sub> and voltage U<sub>2</sub> without overheating.
- I<sub>2</sub> ..... Cutting current.  
 U<sub>2</sub> ..... Secondary voltage at cutting current I<sub>2</sub>.  
 This voltage is measured when cutting with the gas nozzle in contact with the work piece.  
**If this distance increases, the cutting voltage also increases and the duty cycle X% may drop.**
- U<sub>1</sub> ..... Rated supply voltage  
 1~ 50/60Hz ..... 50- or 60-Hz single-phase power supply.  
 The machine is equipped with automatic voltage change.
- I<sub>1</sub> Max ..... Max. absorbed current at the corresponding current I<sub>2</sub> and voltage U<sub>2</sub>.  
 I<sub>1</sub> eff ..... This is the maximum value of the actual current absorbed, considering the duty cycle. This value usually corresponds to the capacity of the fuse (delayed type) to be used as a protection for the equipment.
- IP23 S ..... Protection rating for the housing.  
 Grade 3 as the second digit means that this equipment may be stored, but it is not suitable for use outdoors in the rain, unless it is protected.
-  ..... Suitable for working in hazardous environments.

Specifications	
<b>Power Input</b>	
Voltage	208/230V
Phase	Single Phase
Frequency	50/60 Hertz
Current	40 Amps
<b>Power Output</b>	
Duty Cycle/Rated Output	100% @ 30 Amps
	60% @ 40 Amps
	35% @ 55 Amps
<b>Output Control</b>	Adjustable 20 - 55 Amps
<b>Torch Cable Length</b>	18 Feet
<b>Ground Cable Length</b>	18 Feet
<b>Power Input Cord</b>	8 Feet
<b>Dimensions</b>	
Height	16.5 Inches
Width	8 Inches
Depth	21 Inches
<b>Weight</b>	
Base Unit	44
Shipping	48

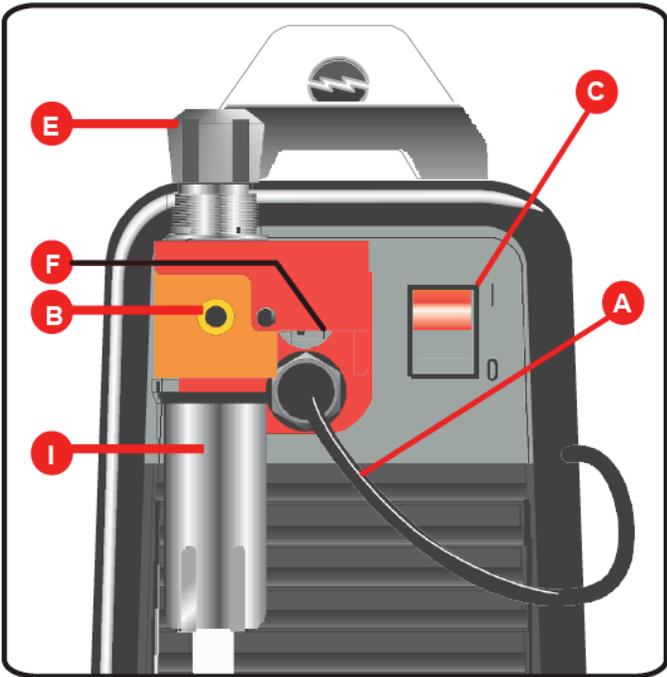
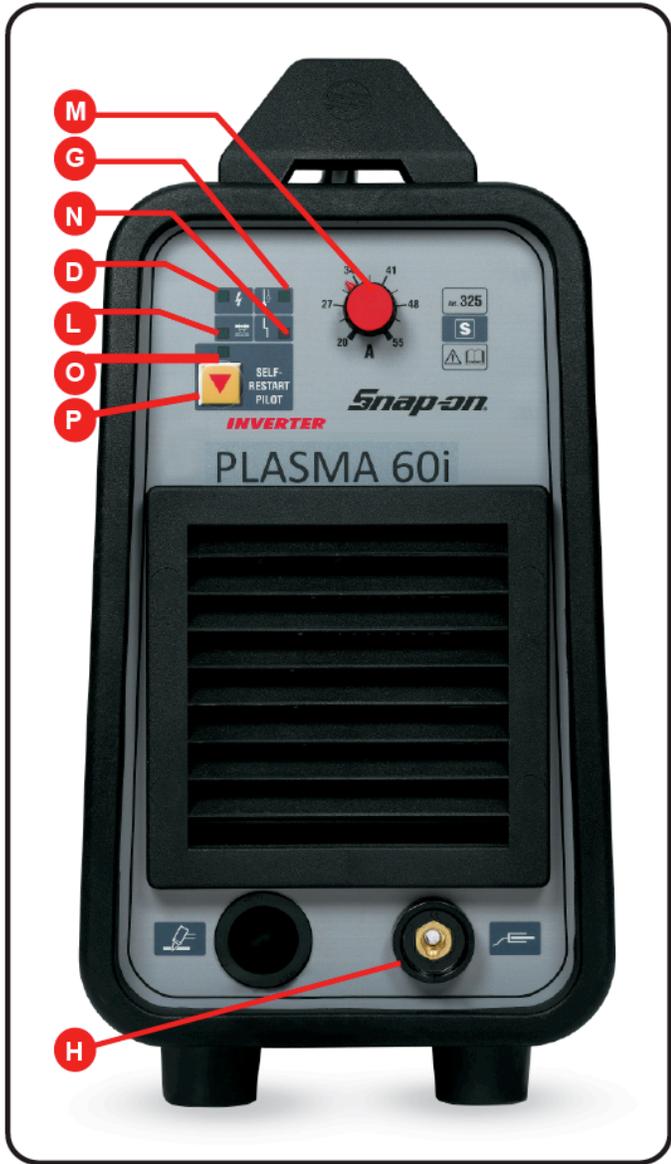
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# FEATURES

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- **Inverter Technology** – Features a small yet powerful package size that allows for portability in a variety of situations in the shop or on the job site.
- **Material Capability** – Ideal for cutting a variety of ferrous, non-ferrous and high strength materials.
- **Cutting Capacity** – Cuts a maximum of 3/4” and will sever up to 1”
- **Amperage Range Control** – Adjustable amperage range from 20-55 Amps with provides the ability to minimize distortion on thinner materials.
- **Depth-of-Cut Adjustability** – For applications where the top layer of material is cut without disturbing the base layer.
- **Input Voltage Versatility** – Accepts 208V or 230V input power supply voltages at minimum current requirements.
- **Pilot Self-Restart Function** – Provides the ability to cut perforated, grid or expanded metal applications.
- **Air Supply System** – Contains an air filter and pressure regulator to allow for either a compressed air or nitrogen air supply.
- **Protection** – LED warning system for low air pressure, high temperatures and system blockages.
- **Included Accessories** – Includes power supply, torch assembly, ground cable and spare torch consumables.
- **Technical Support** – Industry-leading technical support of over 30 years of experience by calling 800-ABC-WELD to speak with a live expert.

# DESCRIPTION OF EQUIPMENT



- A** Power cord
- B** Compressed air fitting (1/4" female gas thread)
- C** Main power switch "0" = off "I" = on
- D** Main power led
- E** Pressure regulator knob (Lift to adjust)
- F** Pressure gauge
- G** Thermostat LED
- H** Ground cord
- I** Water trap
- L** Low air pressure LED
- M** Cutting current regulator knob
- N** Blocked LED; lights when hazardous conditions arise.
- O** LED that lights when the "SELF-RESTART PILOT" function is active
- P** Push-button to activate and deactivate the "SELF-RESTART PILOT" function.
- Q** Plasma torch (includes consumable parts).

# DESCRIPTION OF EQUIPMENT

## THERMAL PROTECTION

This system comes equipped with the following safety devices:

### Overload cutout:



To avoid overload while cutting.

The LED **G** (see fig 1) lights when active.

### Pneumatic:



Located on the torch inlet to prevent low air pressure. The LED **L** lights when tripped (see fig.1).

### Electrical:

- 1) In the event of a short-circuit between the nozzle and electrode during arc striking
- 2) In the event of a short-circuit between the contacts of the reed relay on circuit 36 (see exploded drawing).
- 3) When the electrode is worn to the point it must be replaced. These conditions block the machine, and are signaled by the lit LED **N**.
- 4) In addition, this machine is equipped with automatic selection of the supply voltage and the following protections:
  - A) 208/230V Power supply: during start-up, the machine remains blocked (LED **N** lit) if the voltage is below 200V. After start-up, the machine runs at as low as 180V.

The plasma cutter is able to operate on 208 or 230 volt service. The advanced inverter design requires much less amperage input thus saving on electricity costs. This along with its lightweight design, allows it to be used anywhere there is electric service and compressed air available.

## Adjustable Arc Control

The PLASMA60i adjustable output arc control allows the user to easily cut thin metal, up to 3/4" and sever up to 1". With the adjustable output control, the cutting arc can be adjusted to cut one layer of material without cutting the second layer. This can be extremely useful where an outer panel may be removed without cutting through an inner panel.

Many industrial segments will benefit using the PLASMA60i because of its lightweight design and adjustable arc feature. The plasma cutter eliminates the need of using oxygen acetylene cutting techniques that not only would be cumbersome to move, also more costly.



## WARNING

- **Do not remove or short-circuit the safety devices.**
- **Use only original spare parts.**
- **Always replace any damaged parts of the machine with original materials.**
- **Use only torches type CP40.**
- **Do not run the machine without its housings. This would be dangerous to the operator and anyone else in the work area, and would prevent the machine from being cooled properly.**

# ASSEMBLING THE UNIT/START UP GUIDE

## INSTALLATION

Make sure that the supply voltage is 208/230V 50/60Hz and a minimum of 40 amp service. When mounting a plug, make sure it has an adequate capacity, and that the "**yellow/green conductor**" of the power supply cable is connected to the ground or "earth" terminal. The blue and brown wires need to be connected to each of the other pins on the plug.



### WARNING

Only skilled personnel should install the machine. All connections must be carried out according to current regulations.

See complete listing of safety messages at the beginning of this manual.

**The machine must be installed by qualified personnel. All connections must be made in compliance with current safety standards and full observance of safety regulations (see CEI 26-23 - IEC-TS 62081).**

Connect the air supply to the fitting **B**.

- If the system air contains a considerable amount of moisture and oil, it is best to use a drying filter to avoid excessive oxidation and wear of the consumer parts, damaging the torch and reducing the cutting speed and quality.

If the air supply comes from a pressure regulator of a compressor or centralized system, the regulator must be set to an output pressure of no more than 8 bar (0.8 Mpa) or 116 PSI. If the air supply comes from a compressed air cylinder, the cylinder must be equipped with a pressure regulator. **Never connect a compressed air cylinder directly to the regulator on the machine! The pressure could exceed the capacity of the regulator, which might explode!**

- 1) Connect the power cord **A**: the yellow-green cable wire must be connected to an efficient grounding terminal of the plug. The remaining brown and blue wires must be connected to the supply voltage.
- 2) Amperage requirements
  - 230V 40 amp service.
- 3) The absorbed current  $I_1$  may be determined also by reading the technical specifications shown on the machine under the available supply voltage  $U_1$ .
- 4) Any extension cords must be sized appropriately for current  $I$ , **but are not recommended.**

# PLASMA CUTTING - INTRODUCTION

1. Turn the machine on "I" using the switch **C**. The warning lamp **D** will light to indicate that the machine is on.
2. Press the torch trigger briefly to open the flow of compressed air. Since the arc is not lit, air leaves the torch for only 5 sec.
3. Now adjust the pressure, shown on the pressure gauge **F** to 4.7 bar or 68 psi. Lift the knob to adjust. Clockwise will increase and counterclockwise will decrease. Then lock the knob by pressing it downward.
4. Connect the grounding clamp to the work piece. The cutting circuit must not be deliberately placed in direct or indirect contact with the protective wire except in the work piece.

If the work piece is deliberately grounded using the protective conductor, the connection must be as direct as possible and use a wire of at least the same size as the cutting current return wire, and connected to the work piece at the same point as the return wire using the return wire clamp or a second grounding clamp placed in the immediate vicinity. Every precaution must be taken to avoid stray currents.

5. Use the knob **M** to adjust the cutting current from 20 to 55A based on the work at hand. Use a 0.9mm nozzle up to 35A and a 1.1mm nozzle for 35-55A. Be sure to use the two-point spacer (PLASMA2504) with the 1.1mm nozzle.
6. Make sure that the ground clamp and the work piece are in good electrical contact, especially with painted or oxidized metal or with insulated coating; connect the clamp as close as possible to the cutting area.
  - Do not connect the grounding clamp to the part of the material that is to be removed.
7. Press the torch trigger to strike the pilot arc. If cutting does not begin within 2 seconds, the pilot arc goes out; press the trigger again to re-strike it.

8. Begin cutting as shown in Fig. 2/A, avoid starting as shown in Fig. 2/B
9. Hold the torch upright while cutting.
10. When you have finished cutting and released the trigger, air will continue to leave the torch for approximately 40 seconds to allow the torch to cool down. **It is best not to turn the machine off until this cool-down period is complete.**

- To cut perforated or grid metal, activate the "Pilot self restart" function using the push-button **P** (LED **C** lit). When you have finished cutting, holding this push-button down will cause the pilot arc to restart automatically. **Use this function only if necessary to avoid unnecessary wear on the electrode and nozzle.**

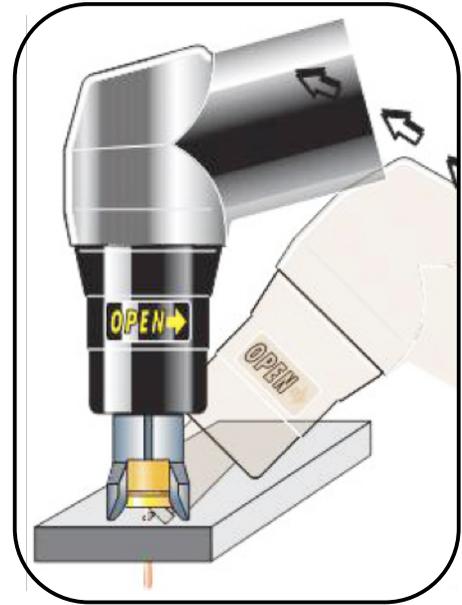
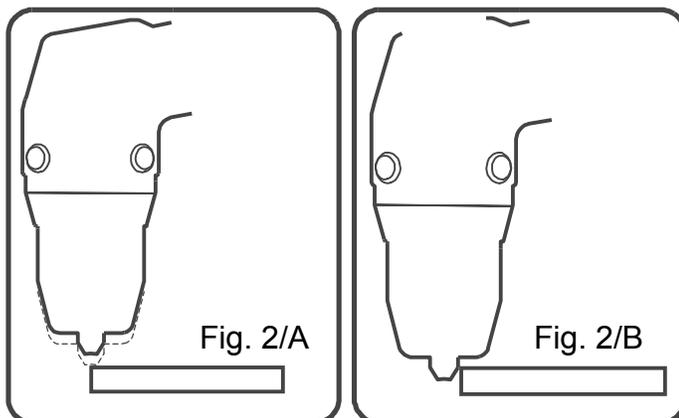


Fig. 3

Should you need to make holes or begin cutting from the center of the work piece, you must hold the torch at an angle and slowly straighten it so that the nozzle does not spray molten metal (see fig. 3). This must be done when making holes in pieces more than 3 mm or .118" thick. (12 gauge = .105")

Should you need to cut several layers of metal, adjust the cutting current to the minimum values.

**Turn the machine off when the task is complete**



# TROUBLESHOOTING/ CONSUMABLE REPLACEMENT

## INSUFFICIENT PENETRATION

This error may be caused by the following:

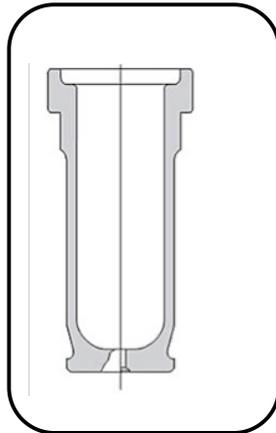
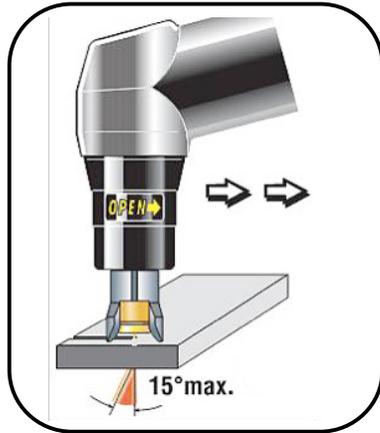
- High speed. Always make sure that the arc fully penetrates the work piece and is never held at a forward angle of more than 10 -15° (see Fig. 4). This will avoid incorrect consumption of the nozzle and burns to the nozzle holder (see Fig. 5).
- Excessively thick work piece (see “Cutting Thickness–Speed” chart).
- Grounding clamp not in good electrical contact with the work piece.
- Worn nozzle and electrode.
- Cutting current too low.

NOTE: When the arc does not penetrate, check the nozzle for cutting slag blockage.

## CUTTING ARC GOES OFF

This error may be caused by:

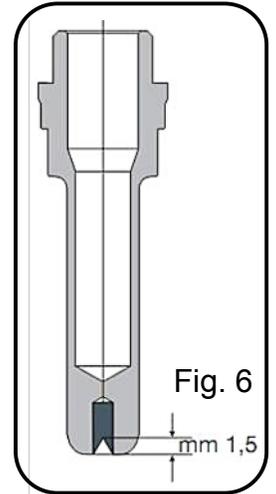
- Worn nozzle, electrode or swirl ring.
- Air pressure too high.
- Supply voltage too low.



## REPLACING CONSUMABLE PARTS

Always shut off the machine before replacing consumer parts.

- The electrode must be replaced when it has a crater in the center approximately 1 mm deep (.039”) or slightly over 1/32” (see Fig. 6).
- The gas nozzle must be replaced when the hole is no longer smooth and the cutting capacity is diminished.
- The swirl ring must be replaced when some areas are blackened. Due to its small size, it is very important to position it correctly during assembly (see Fig. 4).
- The nozzle holder must be replaced when the insulating part is deteriorated



Make sure that the electrode T, the swirl ring U and the gas nozzle V are mounted correctly, and that the nozzle holder W is firmly tightened.

If any of these parts are missing, this will interfere with smooth operation of the machine and, especially, jeopardize operator safety

## SHORTER LIFE OF CONSUMABLE PARTS

This error may be caused by:

- Oil or dirt in the arc intake,
- Unnecessarily long pilot arc,
- Low arc pressure.

## CUTTING THICKNESS–SPEED

Material	Mild Steel				Stainless Steel				Aluminum				
	Current (Amps)	Thickness (mm, inches)		Cutting Speed (m/min, in/min)		Thickness (mm, inches)		Cutting Speed (m/min, in/min)		Thickness (mm, inches)		Cutting Speed (m/min, in/min)	
55	-	-	-	-	-	-	-	-	-	2	0.079	750	295
55	3	0.118	420	165	3	0.118	349	137	3	0.118	550	217	
55	4	0.157	249	98	4	0.157	200	79	4	0.157	387	152	
55	5	0.197	210	83	5	0.197	156	61	5	0.197	328	129	
55	6	0.236	180	71	6	0.236	125	49	6	0.236	217	85	
55	8	0.135	110	43	8	0.135	85	33	8	0.135	134	53	
55	10	0.394	69	27	10	0.394	54	21	10	0.394	94	37	
55	12	0.472	55	22	12	0.472	47	19	12	0.472	84	33	
55	15	0.591	40	16	15	0.591	33	13	15	0.591	40	16	
55	20	0.787	20	8	20	0.787	16	6	20	0.787	30	12	
55	25	0.984	12	5	-	-	-	-	-	-	-	-	

# MAINTENANCE

## HELPFUL HINTS

- If the system air contains considerable amounts of moisture and oil, it is best to use a drying filter to avoid excessive oxidation and wear on consumable parts, damage to the torch and a reduction in the speed and quality of the cutting.
- Make sure that the new electrode and nozzle to be mounted are thoroughly clean and degreased.
- Always use original spare parts to avoid damaging the torch.

## MAINTENANCE

Always cut off the power supply to the machine before any operation, which must always be carried out by qualified personnel (CEI 26-29 / IEC 60974-4).

## PLASMA CUTTER MAINTENANCE

In the case of maintenance inside the machine, make sure that the switch  is in position  and that the power cord is disconnected from the mains.

Even though the machine is equipped with an automatic condensation drainage device that is tripped each time the air supply is closed, it is good practice to periodically make sure that there is no condensation accumulated in the water trap I (fig.1).

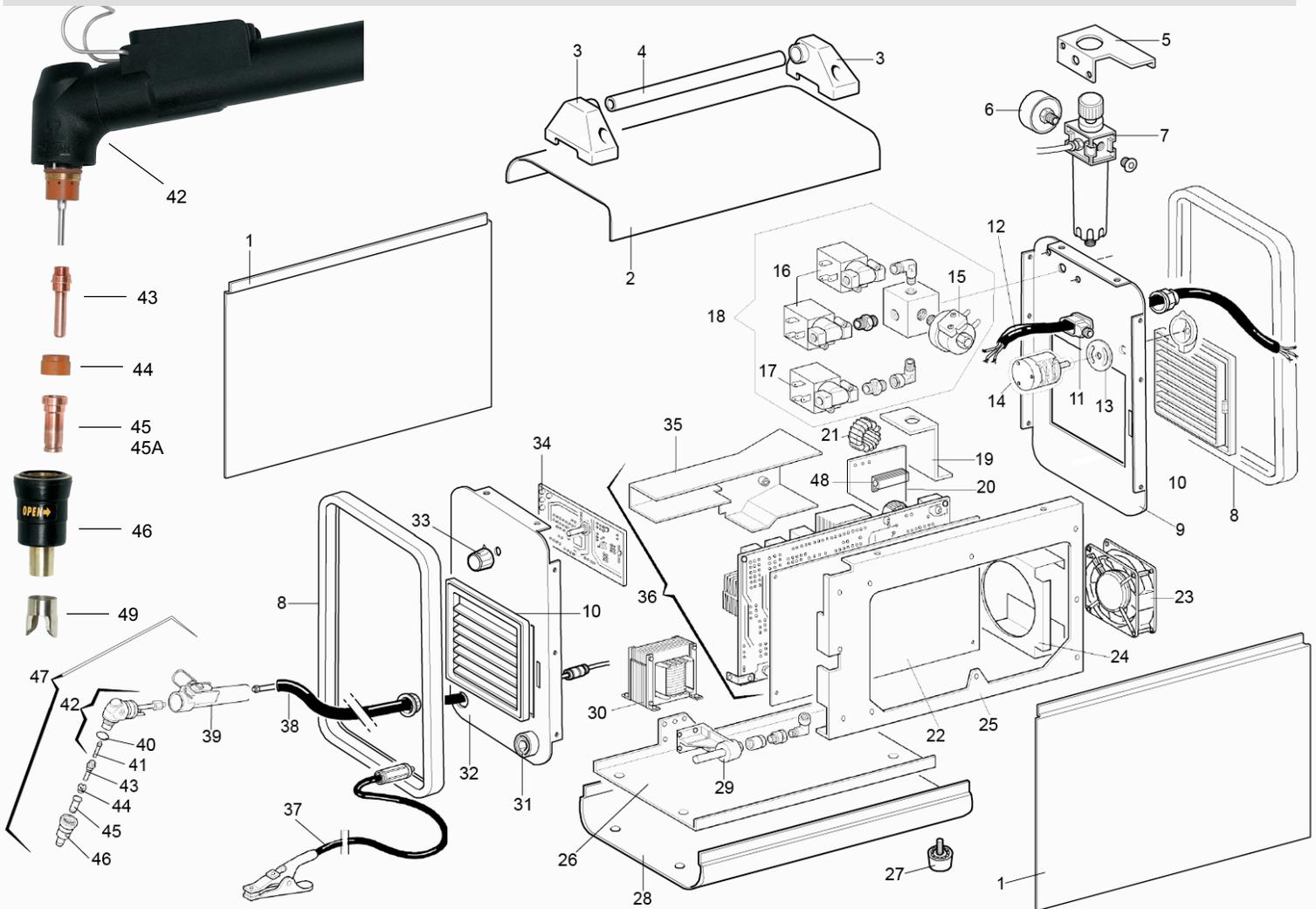
It is also necessary to periodically clean the interior of the machine from the accumulated metal dust, using compressed air.

## PRECAUTIONS AFTER REPAIRS.

After making repairs, take care to organize the wiring so that there is secure insulation between the primary and secondary sides of the machine. In particular, make sure that the casing 50 is mounted (see exploded drawing). Do not allow the wires to come into contact with moving parts or those that heat up during operation. Reassemble all clamps as they were on the original machine, to prevent a connection from occurring between the primary and secondary circuits should a wire accidentally break or be disconnected.

Also mount the screws with geared washers as on the original machine.

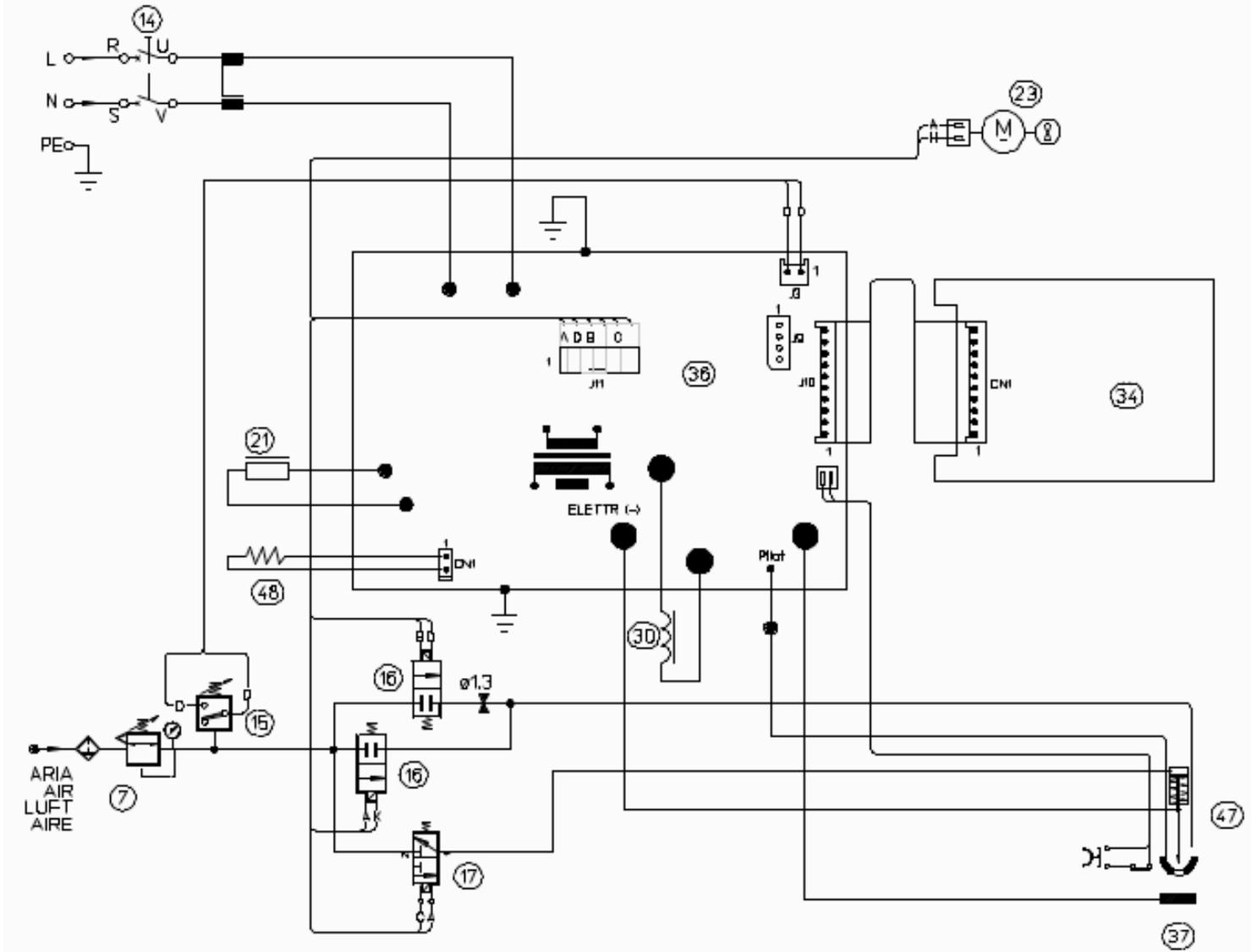
# REPLACEMENT PARTS – PARTS LIST



POS.	PART NUMBER	DESCRIPTION	POS.	PART NUMBER	DESCRIPTION
1	CKSP6001	FIXED SIDE PANEL	26	CKSP6026	INSIDE BAFFLE
2	CKSP6002	COVER	27	CKSP6027	FOOT
3	CKSP6003	HANDLE SUPPORT	28	CKSP6028	BOTTOM
4	CKSP6004	HANDLE	29	CKSP6029	TERMINAL BOARD
5	CKSP6005	PRESSURE REDUCER SUPPORT	30	CKSP6030	CHOKE
6	CKSP6006	GAUGE	31	CKSP6031	SOCKET
7	CKSP6007	PRESSURE REDUCER	32	CKSP6032	FRONT PANEL
8	CKSP6008	FRAME	33	CKSP6033	KNOB
9	CKSP6009	BACK PANEL	34	CKSP6034	PANEL CIRCUIT
10	CKSP6010	FINNED PANEL	35	CKSP6035	COVER
11	CKSP6011	STRAIN RELIEF	36	CKSP6036	POWER CIRCUIT
12	CKSP6012	POWER CORD	37	CKSP6037	EARTH CABLE
13	CKSP6013	PROTECTION	38	CKSP6038	TORCH CABLE
14	CKSP6014	SWITCH	39	CKSP6039	HANDGRIP
15	CKSP6015	PRESSURE SWITCH	40	CKSP6040	O.RING
16	CKSP6016	SOLENOID VALVE	41	PLASMA5005	DIFFUSER
17	CKSP6017	SOLENOID VALVE	42	PLASMA5006	TORCH BODY (HEAD)
18	CKSP6018	AIR ASSY	43	PLASMA5004	ELECTRODE (5 PK)
19	CKSP6019	SUPPORT	44	PLASMA5003	SWIRL RING (2 PK)
20	CKSP6020	CHOKE SUPPORT	45	PLASMA2502	NOZZLE Ø 0.9mm (5 PK)
21	CKSP6021	PFC CHOKE	45A	PLASMA5002	NOZZLE Ø 1.1mm (5 PK)
22	CKSP6022	INSULATION	46	PLASMA5001	NOZZLE HOLDER
23	CKSP6023	MOTOR WITH FAN	47	PLASMA5007	COMPLETE TORCHE
24	CKSP6024	FAN SUPPORT	48	CKSP6048	RESISTANCE
25	CKSP6025	CIRCUIT BOARD SUPPORT	49	PLASMA2504	TWO POINT SPACER

WHEN ORDERING SPARE PARTS PLEASE STATE THE MODEL NUMBER AND SERIAL NUMBER AND PART NUMBER NEEDED.

# WIRING DIAGRAM



## WIRING DIAGRAM COLOUR CODE

A	BLACK	L	PINK-BLACK
B	RED	M	GREY-PURPLE
C	GREY	N	WHITE-PURPLE
D	WHITE	O	WHITE-BLACK
E	GREEN	P	GREY-BLUE
F	PURPLE	Q	WHITE-RED
G	YELLOW	R	GREY-RED
H	BLUE	S	WHITE-BLUE
K	BROWN	T	BLACK-BLUE
J	ORANGE	U	YELLOW-GREEN
I	PINK	V	BLUE

# WARRANTY/SERVICE AND REPAIR

## Snap-on Tools Company Limited Two (2) Year Warranty

Snap-on Tools Company (the "Seller") warrants only to original purchasers who use the Equipment in their business that under normal use, care and service, the Equipment (except as otherwise provided herein) shall be free from defects in material and workmanship for two years from the date of original invoice. Seller does not provide any warranty for accessories used with the Equipment that are not manufactured by Seller. Seller limits torch assembly to a period of 30 days.

SELLER'S OBLIGATIONS UNDER THIS WARRANTY ARE LIMITED SOLELY TO THE REPAIR OR, AT SELLER'S OPTION, REPLACEMENT OF EQUIPMENT OR PARTS WHICH TO SELLER'S SATISFACTION ARE DETERMINED TO BE DEFECTIVE AND WHICH ARE NECESSARY, IN SELLER'S JUDGMENT, TO RETURN THIS EQUIPMENT TO GOOD OPERATING CONDITION. NO OTHER WARRANTIES, EXPRESS OR IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, SHALL APPLY AND ALL SUCH WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED.

SELLER SHALL NOT BE LIABLE FOR ANY INCIDENTAL, SPECIAL OR CONSEQUENTIAL COSTS OR DAMAGES INCURRED BY PURCHASERS OR OTHERS (including, without limitations, lost profits, revenues, and anticipated sales, business opportunities or goodwill, or interruption of business and any other injury or damage).

This warranty does not cover (and separate charges for parts, labor and related expenses shall apply to) any damage to, malfunctioning, inoperability or improper operation of the Equipment caused by, resulting from or attributable to (A) abuse, misuse or tampering; (B) alteration, modification or adjustment of the Equipment by other than Seller's authorized representatives; (C) installation, repair or maintenance (other than specified operator maintenance) of the Equipment or related equipment, attachments, peripherals or optional features by other than Seller's authorized representatives; (D) improper or negligent use, application, operation, care, cleaning, storage or handling; (E) fire, water, wind, lightning or other natural causes; (F) adverse environmental conditions, including, without limitation, excessive heat, moisture, corrosive elements, dust or other air contaminants, radio frequency interference, electric power failure, power line voltages beyond those specified for the Equipment, unusual physical, electrical or electromagnetic stress and/or any other condition outside of Seller's environmental specifications; (G) use of the Equipment in combination or connection with other equipment, attachments, supplies or consumables not manufactured or supplied by Seller; or (H) failure to comply with any applicable federal, state or local regulation, requirement or specification governing welders and related supplies or consumables.

Repairs or replacements qualifying under this Warranty will be performed on regular business days during Seller's normal working hours within a reasonable time following purchaser's request. All requests for Warranty service must be made during the stated Warranty period. Proof of purchase date is required to make a Warranty request. This Warranty is nontransferable.

Snap-on Tools Company  
Kenosha, Wisconsin 53141-1410  
Technical Support Line 800-ABC-WELD

**Customer Service and Technical Support 800-ABC-WELD**  
**Monday – Friday 7:00 a.m. – 3:00 p.m. EST**

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