ADVANCECUT 60 PLASMA CUTTER

OPERATING INSTRUCTIONS

48 MONTH WARRANTY

☞IMPORTANT!

Read these Operating Instructions Completely before attempting to use this machine. Save this manual and keep it handy for quick reference. Pay particular attention to the safety instructions we have provided for your protection. Contact your distributor if you do not fully understand anything in this manual.

- 1PH 230V — 230V 50HZ SINGLE PHASE
- IGBT INVERTER TECHNOLOGY — IGBT INVERTER TECHNOLOGY
- DC — DIRECT CURRENT OUTPUT
- POWER FACTOR PFC CORRECTION — POWER FACTOR CORRECTION
- SPIKE/ GENERATOR SAFE
- IPS — INTELLIGENT PROTECTION SYSTEM
- IP 23 — IP23 CORROSION & SALT SPRAY RESISTANT

www.strata.co.nz

Contents

STRATA
SUPERIOR WELDING PRODUCTS

PLASMA CUTTER 60A

ADVANCECUT60

60A
Max Ouput (Plasma)

20mm
Max Production Cut Capacity

15A 230V
SINGLE-PHASE

48 MONTH WARRANTY

60A Inverter Plasma Cutter

- **Industrial Duty Hypertherm Style TH-70 Plasma Torch** - Superior cutting performance and consumable life
- **CNC Interface Connection** - Integration with CNC cutting machines
- **Full Colour LCD Control Screen** - Intuitive and clear visabilility and setting of control parameters
- **Internal Air Control Compartment With Quick Access** - Fully protected compressed air filter/ water trap and regulator, with quick accesability
- **Automatic Pilot Arc Control System with Perforated Cut Mode** - Increased cutting speed and capability, especially for discontinuous cutting
- **Active PFC Technology** - Increased duty cycle and energy efficiency.
- **Non HF Arc Starting System** - Increased reliability and low EMF pollution
- **Intelligent Plasma Torch Protection System** - Protects plasma torch from damage from incorrect air pressure, consumables not in place, excessive pilot arc use.
- **Intelligent Machine Protection System** - Temperature, voltage and current sensors for increased reliability & safety
- **Industrial IP23 casing with front panel protection** - Resistant to damage, moisture and corrosion
- **2T/4T Trigger Mode** - Ease of operator use for all job applications
- **Smart cooling fan system** - Reduces noise and intake of evironmental contaminants into machine
- **USB Connection** - Easy updating of software
- **Production tested with 440V** - Extreme stress testing in production for rugged reliability
- **Generator Friendly** - Designed to work with generator power supply and protect from power surges.

Description	Details
DIMENSIONS (LxWxH)	l610 x w220 x h420mm
WEIGHT	14kg
INPUT POWER SUPPLY	230V AC Phase 15A 50/60Hz
INPUT POWER SUPPLY TOLERANCE	200-260V
MAXIMUM INPUT CURRENT	34.2A
GENERATOR CAPACITY	9.5kVA
PLASMA CURRENT OUTPUT	20-60A
DUTY CYCLE	60A@20% 49A@60% 38A@100%
PLASMA PRODUCTION CUT CAPACITY - CARBON STEEL	20mm
PLASMA PRODUCTION CUT CAPACITY - ALUMINIUM	15mm
PLASMA SEVERANCE CUT - CARBON STEEL	25mm

Description	Details
INSULATION CLASS	IP23
COMPRESSED AIR REQUIREMENT	185 l/min 6bar
POWER EFFICIENCY	86%
POWER FACTOR	0.99
COMPRESSED AIR INLET	1/4" Male Aro Type
STANDARDS	AS/ IEC60974-1
WARRANTY	48 Months

Includes:


4m
Earth Lead


Strata SPT70
Plasma Hand
Torch 6m

Optional:


Strata SPT70 6m
Machine Torch for
CNC Application


14 Pin Plasma CNC
Connection Plug


SuperFlex Air Hose
3/8" x 10m

ADVANCECUT60
User guide, specs, videos

LEARN MORE

www.strata.co.nz

PLASMA CUTTING ACCESSORIES & CONSUMABLES

○ Standard ● Optional

ACCESSORY:	EZICUT40i	ADVANCECUT45	ADVANCECUT60	ADVANCECUT80	ADVANCECUT125
Earth Leads	○ AEL1625	○ AEL3550	○ AEL3550	○ AEL1625	○ AEL3550
Plasma Torch	○ 17373	○ 17373	○ SPT70H-6M	○ XTY125-6X-CC	○ XTY125-6X-CC
Consumables Kit	● XT4000KIT	● XT4000KIT		● TH125KIT	● TH125KIT
Machine Torch	-	-	● SPT70M-6M	● YM125-12-CC64	● YM125-12-CC64


WT180

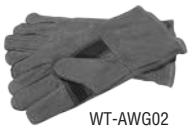

WT350


SV3000


SV4000


DW7000XL comes with battery powered air respirator.


WT-AWG01


WT-AWG02


WT-TWG20

Premium Welding Gloves

- ✓ Fully lined
- ✓ Quality Hard-Wearing Leather
- ✓ One piece back
- ✓ Special "comfort fit".

WT-AWG01	Black/Gold Gloves - Pair
WT-AWG02	Red/Gold Gloves - Pair
WT-TWG20	TIG Welding Gloves - Pair

Automatic Welding Helmets

- ✓ Variable Shade
- ✓ Complete with batteries ready to go
- ✓ Suitable for automotive DIY and industrial use.

WT180	Variable Shade 9-13
WT350	True Colour, 4 Sensor with grind function
SV3000	True Colour, Shade 5 - 13 + Grind Function (MIG/TIG/MMA/Plasma)
SV4000	Panoramic view with auto darkening side panels. Shade 4 - 13 + Grind Function (MIG/TIG/MMA/Plasma)
DW7000XL	True Colour, with grinding visor. Shade 5 - 13 + PRSL Filtration System (MIG/TIG/MMA/Plasma)

Extension Cord

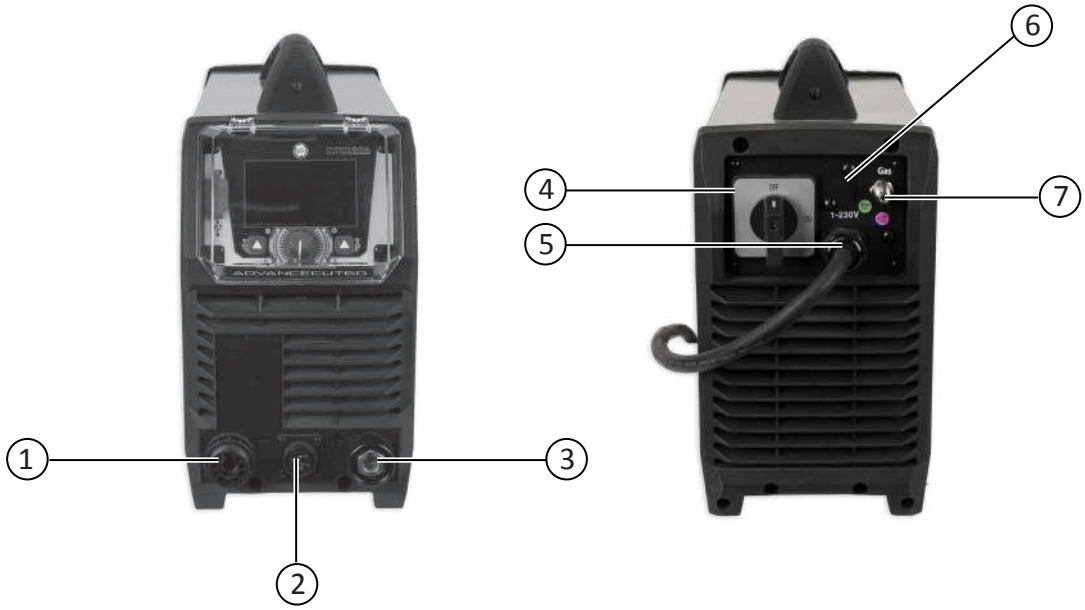
- ✓ 28A rated cable / 100% duty cycle
- ✓ Suitable for any equipment on 15A plug

16895	Heavy Duty Extension Cord, 15m - 3-Core, 2.5mm Cable w/ 15A plug & Socket

1. Installation & Operation

1.1 Layout for the front and rear panel

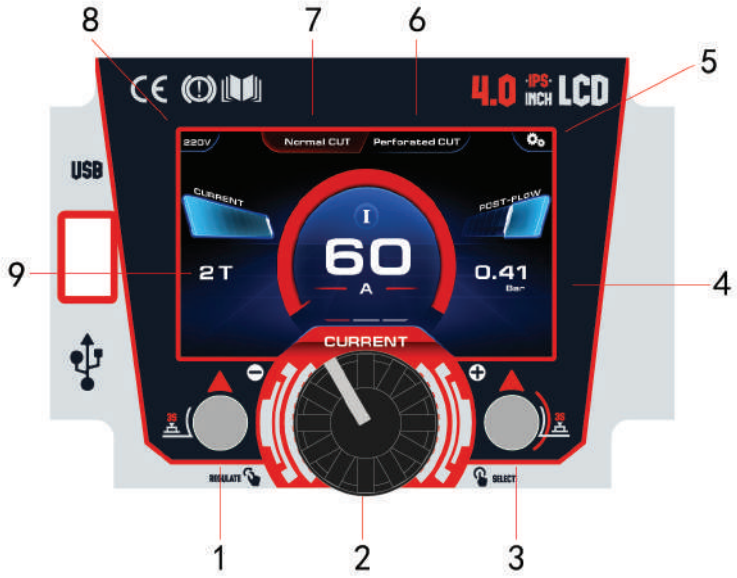
Front/Rear View



(1) Plasma Torch Euro Connection Socket.
(2) CNC Interface Connection
(3) Earth Lead Connection Socket
(4) Mains Power Switch
(5) Input Power Cable
(6) CNC Arc voltage feedback regulation switch
(7) Compressed Air Inlet

1.2 Further Controls Explained

Main interface description



1.Left select button
2.Parameter setting knob
3.Right select button
4. Compressed air pressure display
5.Machine Settings Access
6.Cutting mode indicator Normal
7. Cutting mode indicator – Perforated
8. Input voltage
9.Trigger mode – 2T/4T

1. Mode selection screen: Press①button in the interface to choose from the two cutting methods of Normal CUT and Perforated CUT.

2. Normal CUT/Perforated CUT: Use the knob ② to select Current/Post-Flow/Trigger.

Long press button① for 3 seconds to enter the check gas, and the display screen will display the above interface.

3. Long press the left ③ button for 3 seconds to enter the settings interface.

Machine Settings Menu Options

Languages	English
Brightness	1-10
Beeper	ON/OFF
Program Update	Update/Back to the menu
Fan Mode	Normal/Smart
Factory Reset	YES/NO
Run Time Recorder	YES/NO

Air Regulator Pressure Adjustment
Correct air pressure is critical for plasma cutting. Incorrect air pressure will cause poor cut quality, lack of cutting power, damage to the plasma torch and consumables and potentially damage the power source. Optimum air pressure is between 0.45 and 0.5MPa (65-75psi). Air pressure should be set with the air flowing through the torch, as the pressure with the air flowing will normally be less than static pressure, due to flow losses through the torch system. To unlock the pressure regulator knob in order to adjust it, pull the knob. Once the pressure is set correctly, push the knob to lock it into place.

Air Filter/ Water Separator
As with correct air pressure, clean, dry air is also critical for plasma cutting machine performance and reliability. The AdvanceCut60 is supplied with built in air filtration/moistureseparator to assist with providing suitable air supply. The moisture separator is self-draining, the water drain tube exits out the bottom of the clear condensate bowl. It is normal to see moisture coming from this tube periodically. If excessive amounts of water or oil are being produced in the condensate bowl and drain line, the compressed air supply should be checked for issues.

Pilot Arc System
The AdvanceCut 60 uses a pilot arc system to establish the main cutting arc.
A pilot arc system is a circuit where the return is back through the torch head and cable. This means it can create a small arc with some cutting power without making any electrical connection with the main machine earth. This is especially useful for starting cuts on material that does not have a good initial earth connection, such as paint, rust, scale.

Once the pilot arc is established and power is flowing back through the main earth, the pilot arc is switched off and the main arc started. Please note the pilot arc circuit is only designed to operate for short periods of time as an auxiliary starting system, so it has a safety protection that only allows the pilot arc to run for short periods at a time. In addition to this, these models also have a pilot arc controller system if the main arc cuts out and the torch remains to be triggered, the pilot arc will reignite. This is useful for cutting discontinuous workpieces like mesh or grids.

Plasma Torch Consumables
It is very important to understand that plasma torch consumables wear as part of normal operation and should be replaced in a timely manner. Operating a torch with worn consumables will cause poor cutting results and possible damage to the torch and machine itself. Damage caused by untimely replacement of consumables will not be covered by warranty.

Use the following guidelines to determine when consumables should be replaced:

Cutting Tips: The cutting tip has a small calibrated orifice that the plasma passes through. If the orifice becomes partially blocked, deformed or enlarged, the cutting tip should be replaced.

Electrodes: The electrode has a small silver 'hafnium' insert in the end of the tip. This is what generates the plasma ions. Once the hafnium insert is gone or is damaged the tip must be replaced.

Swirl Ring/Retaining Cap: These should be replaced if broken, chipped, cracked or badly heat damaged.

Tips and electrodes: These should wear reasonably evenly and it is normal practice to replace them both together. If a new tip is inserted with a worn electrode the tip will wear much more quickly than if the electrode was also replaced at that same time. If tips or electrodes are wearing much faster than the other component it is likely to be caused by one of the following: poor operator technique, incorrect air supply or damaged torch head.

It is also very important to only use genuine Strata consumables and parts for the SPT70 torch. They are engineered to suit the machine and non-genuine items may cause lack of performance, short life span, torch and machine damage and void warranty.

2. Duty Cycle

Strata machines are fitted with thermal overload protection which means the machine will automatically shut down when it reaches a certain temperature, to prevent damage to components. The machine will then re-start when it returns to a safe temperature.

Duty cycle is a measure of the percentage of time a machine will operate within a certain time period at a given amperage. For example a duty cycle of 40A @ 30% means that a machine will operate at 40A for 3 minutes in a 10 minute time period. The machine will have to rest for the remaining 7 minutes to enable it to cool down.

Duty cycle is also related to the ambient operating temperature and the capacity of the input power supply. If the input power supply capacity is not sufficient, the power supply circuit breaker may trip before the machine reaches its duty cycle capacity. Operating the AdvanceCut60 from a 32A capacity power supply will enable a higher duty cycle than the factory standard 15A input rating.

3. Installation & Operation

3.1 Electrical Connection
The AdvanceCut60 is designed to operate on a 15A 230-240V AC power supply*
*Refer duty cycle point in section above.

3.2 Extension Leads
If an extension cord must be used, it should be minimum cable core size 2.5mm2 Recommended extension lead: Strata code #16895 15m H/D 15A Using extension leads over 30m total length is not recommended.

3.3 Generator Use
This machine is designed with generator use in mind and incorporates wide voltage tolerance and intelligent voltage sensing technology to provide maximum protection from power fluctuations that can occur with motor generators.

3.3.1 Generator Size
To enable full output and duty cycle of this plasma cutter a recommended generator size is minimum 9.5kVa continuous output. Recommended model: GT Power GT15000E

3.3.2 Generator Quality & Warranty Limitations
Avoid using poor, low quality generators as these have the greatest risk of power spikes etc. A suitable quality generatorshould have a THD (total harmonic distortion) rating of no more than 6%. Most reputable generator suppliers will be able to specify the THD ratings on their product. Any damage caused by poor quality generator power supply or incorrect use is not covered under warranty.

3.3.3 Golden Rules of Generator use
When running an inverter plasma cutter off a generatort here are 3 VERY IMPORTANT Golden Rules that MUST be followed:

1. Do NOT plug plasma cutter into generator until AFTER generator has been started up and is running smoothly
2. UNPLUG plasma cutter from generator BEFORE shutting generator down/turning generator off
3. NEVER let your generator run out of fuel whilst the plasma cutter is plugged in.
Following these Golden Rules will significantly reduce the risk of any damage resulting from generator power suppl

4. Compressed Air Requirements

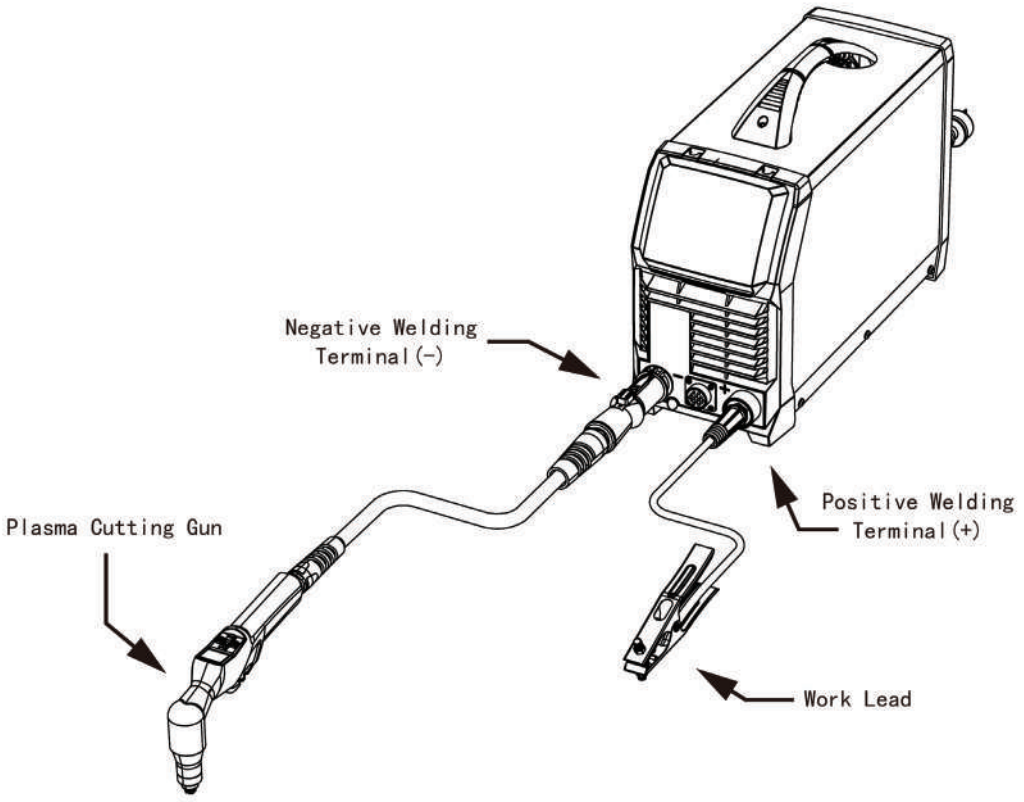
A reliable and consistent supply of clean dry compressed air is essential for proper operation. Although the machine contains its own internal air supply filtration system it is recommended the compressed air supply should have external filtration in the line feeding the machine, both a standard water trap (sintered bronze filter) and also a coalescing filter (for oil in air).The air requirement is a minimum of 185 l/min (6.5cfm) Free Air Delivery (FAD) at 75psi pressure. This normally means the compressor must be a belt drive model or if a direct drive it must have a motor power of 3HP.

The air must be dry and free of oil and moisture (normally a symptom of older, worn out compressors). The air hose must also be of sufficient size (3/8”/10mm minimum) to supply the machine.

5. Basic Operation

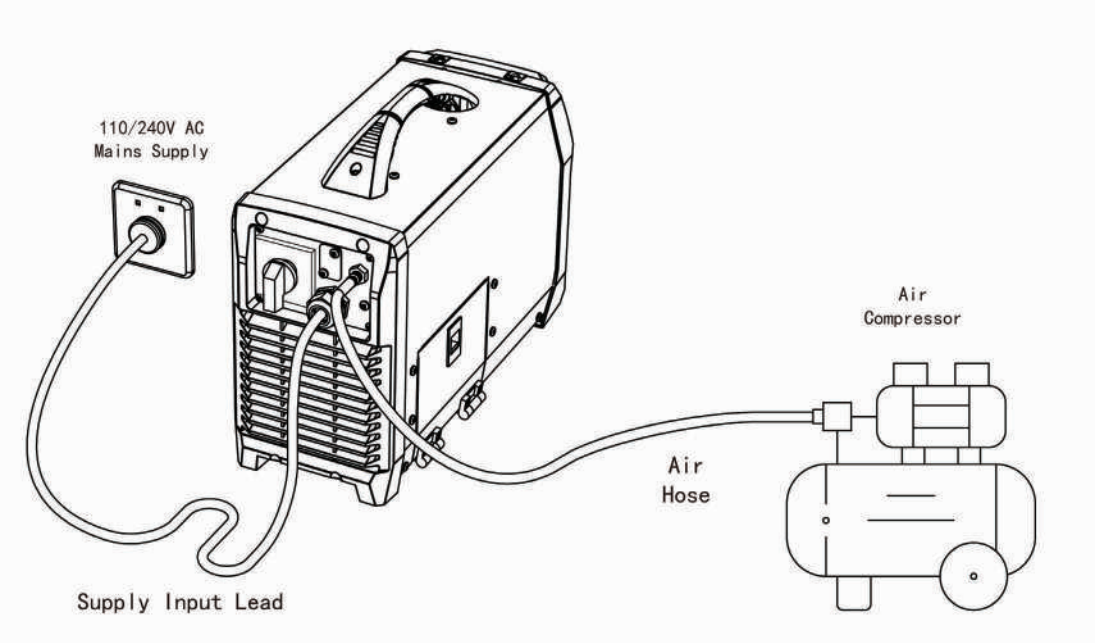
Set Up

1) Connect the earth cable quick connector to the earth connection socket Connect the earth clamp to the work piece. Contact with the work piece must be firm contact with clean, bare metal, with no corrosion, paint or scale at the contact point.
2) Connect the plasma torch to the machine central connector ensuring the collar is done up firmly.
3) Connect the machine to suitable mains power using the mains input power lead. Switch the mains power switch to 'on' to power up the machine.
4) Connect the compressed air supply to the filter/ regulator inlet. Check the air pressure. Trigger the air flow using the 'set' function , check the air pressure again and adjust if necessary. Return the switch to 'run' position.
5) Select the output current using the current control knob . You are now ready to plasma cut!



Cutting

1. Hold the Spacer on the work piece, so the centre of the Torch Tip is aligned to the edge of the material.
2. Pull the torch Trigger (compressed air flow will start and the electronic ignition arc should energize)
3. As the ignition arc jumps to the work piece, the main plasma arc will ignite and start cutting.
4. After starting the cut, the Spacer can be dragged along the work piece.
5. When ending a cut, the torch Trigger should be released and lifted off the work piece just before the end of the cut to minimize double-arcing which can damage the tip. This is to prevent the ignition arc from reigniting after cutting arc extinguishes.
6. Compressed air will continue to flow through the torch for several seconds after the cutting stops. In this post-flow mode, the arc can be restarted immediately by depressing the torch switch.



5.1 Distance from the Tip to the Work Piece

The distance from the torch tip to the material being cut should be about 2mm. The Strata plasma torch is fitted with a spacer that sits on the material and holds the tip at the optimum distance from the material. This spacer can be removed to access tight spots. In this case the operator simply needs to manually hold the tip about 2mm from the material.

5.2 Travel Speed

The speed at which the torch moves will significantly influence the quality of the cut.

Correct Speed – When travelling at the correct speed the kerf out the bottom of the material should either be perpendicular or lag *behind* at an angle up to 15°. The result should be a clean cut with limited dross.

Too Fast – this will either not cut right through the material or the kerf will lag *behind* at an angle greater than 15°.
Often this will create excess 'top dross' on the top of the material. Any dross on the bottom of the cut will likely be 'High-speed dross' which is very hard and difficult to remove.

Too Slow – the kerf will lean *forwards* out the bottom of the plate. This will also create a lot of 'low-speed dross' on the bottom of the cut. Low-speed dross is soft and easy to chip off.
If speed is excessively slow the arc may lose contact with the material and extinguish or drop out temporarily.

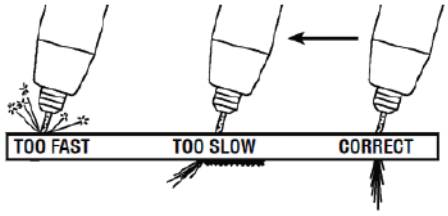


Figure 13

5.3 Piercing the work piece

The torch should be angled at about 30° when starting to pierce, and then straightened as the arc penetrates the material. This will blow the molten material away from the torch so it is not forced directly back at the tip which will cause excessive wear or damage.
It is advisable when piercing thicker materials to drill a small pilot/starting hole in the work piece which makes it a lot easier and gives increased tip life.

5.4 Direction of Cut

The plasma gas stream swirls as it leaves the torch to maintain a smooth column of gas. This swirl effect results in one side of a cut being squarer than the other.
Viewed along the direction of travel, the right side of the cut is more square than the left.

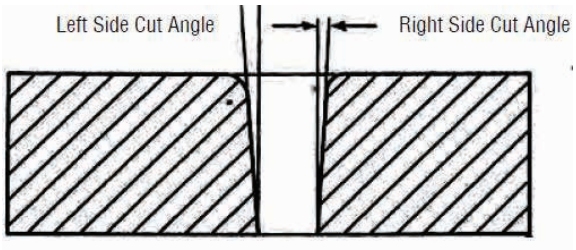


Figure 14

To make a square-edged cut along an inside diameter of a circle, the torch should move counter clockwise around the circle. To keep the square edge along an outside diameter cut, the torch should travel in a clockwise direction.

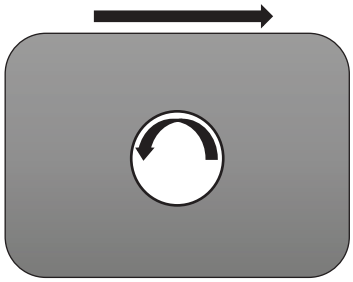


Figure 15

5.5 Reducing Dross for Clean Cuts

Dross (slag) is the excess material that spatters and builds up on the underside of the work-piece as you cut. Dross occurs when the operating procedure and technique is less than optimal. It will require practice and experience to obtain cuts without dross. Although less than optimal cuts will contain dross, it is relatively easy to remove by breaking it off using pliers or chipping off with a chisel or scraping or grinding the finished cut as needed and is generally only a minor inconvenience.

A combination of factors contributes to the build-up of dross. They include; material type, material thickness , amperage used for the cut, speed of the torch across the work-piece, condition of the torch tip, input line voltage, air pressure, etc. Generally there is an inversely proportional relationship between output current and speed of cut. Do not use more output current than is necessary and adjust speed of cut toward minimizing dross build-up on underside of cut. Experiment with adjusting current and speed to minimize dross.
When dross is present on carbon steel, it is commonly referred to as either 'high speed', 'low speed', or 'top dross'.

'Top dross' is present on top of the plate and is normally caused by too great a torch to plate distance or too fast travel speed. It is normally very easy to remove and can often be wiped off with a welding glove.

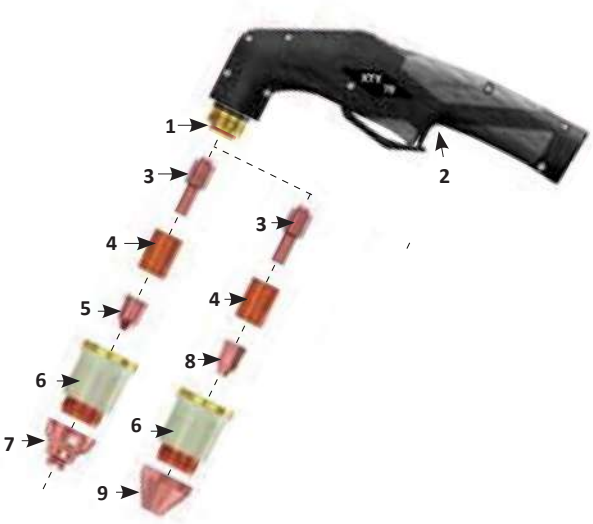
'Low speed dross' is normally present on the bottom edge of the plate. It can vary from a light to heavy bead, but does not adhere tightly to the cut edge, and can be easily scraped off.

'High speed dross' usually forms a narrow bead along the bottom of the cut edge and is very difficult to remove. Usually it will need to be removed by grinding. When cutting troublesome steel, it is sometimes useful to reduce the cutting speed to produce 'low speed dross'. Any resultant clean up can then be accomplished by scraping, not grinding.

6. Torch Spare Parts

SPT70 Plasma Hand Torch

70A @ 80% Duty Cycle, EN60974-7



Torch Model

Stock Code	Description
SPT70H-6M	SPT70 Plasma Hand Torch 70A 6M Euro Connect

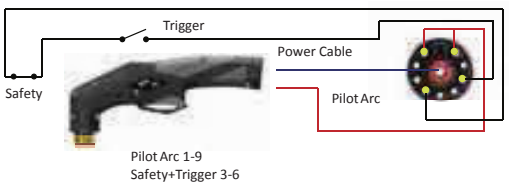
Technical Data

Voltage Class	M	Duty Cycle 80%	70A
Standard Length	6m	Start Method	Pneumatic Ignition
Air Consumption	185 l/min	Cutting Thickness	20-22 mm
Air Pressure	5.0-5.5 Bar		

Consumables

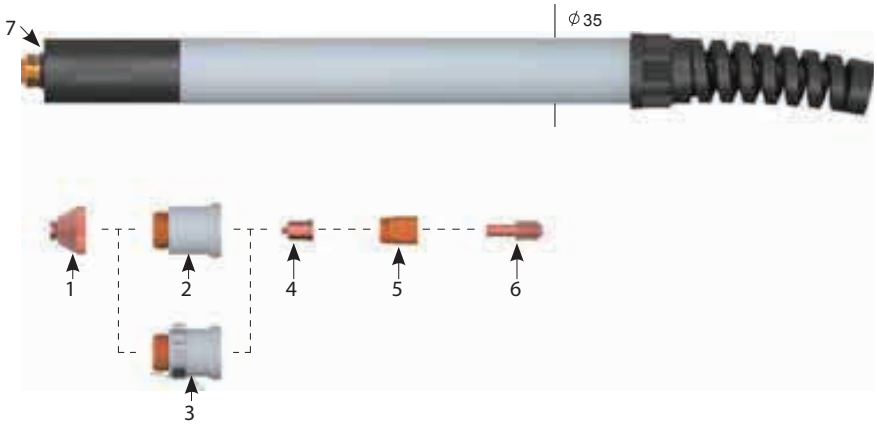
	Stock Code	Description
1	42424	SPT70 Plasma Hand Torch Head
2	42425	SPT70 Torch Handle Assembly w/ Switch
3	42426	SPT70 Electrode 70A
4	42427	SPT70 Swirl Ring 70A
5	42428	SPT70 Cutting Tip 20-50A
	42429	SPT70 Cutting Tip 70A
6	42432	SPT70 Shield Cup Body 20-70A
7	42434	SPT70 Shield Cap Hand 20-70A
8	42431	SPT70 Gouging Tip 70A
9	42435	SPT70 Shield Cap Gouging 20-70A

Pin Configuration



SPT70 Plasma Machine Torch

70A @80% Duty Cycle, EN60974-7, Consumables Compatable with XTY70



Torch Model

Stock Code	Description
SPT70M-6M	SPT70 Machine Plasma Torch 70A 6M Euro Connect

Technical Data

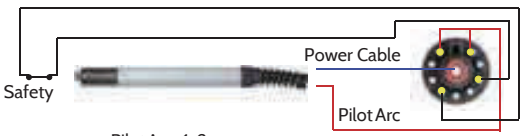
Standard Length	6 m	Duty Cycle 80%	70A
Air Consumption	185 l/min	Start Method	Pneumatic Ignition
Air Pressure	5.0-5.5 Bar	Cutting Thickness	20-22 mm

Consumables

* Denotes Standard Build

	Stock Code	Description
1	42436	SPT70 Shield Cap Machine 20-70A
	42437	SPT70 Shield Cap Fine Cut 45A
2	42432	SPT70 Shield Cup Body 20-70A
3	42433	SPT70 Shield Cup Body 20-70A Ohmic Contact Sensing
4	42428	SPT70 Cutting Tip 20-50A
	42429	SPT70 Cutting Tip 70A
	42430	SPT70 Machine Fine Cutting Tip
5	42427	SPT70 Swirl Ring 70A
6	42426	SPT70 Electrode 70A
7	42440	SPT70 Machine Plasma Torch Head

Pin Configuration



Pilot Arc 1-9
Safety 3-6

7. Care & Maintenance

7.1 Keep your Plasma Cutting Machine in Top Condition

The AdvanceCut60 does not require any special maintenance, however the user should take care of the machine as follows:

1. Regularly clean the ventilation slots
2. Keep the casing clean
3. Check all cables before use
4. Check electrode holders, work lead/clamps and cutting torches before use
5. Replace worn earth clamps which do not provide a good connection
6. Replace worn torch consumable parts in a timely manner
7. Use a soft cloth or brush to clean electrical components. Do not use liquid cleaning products, water or especially solvents
8. Do not use compressed air to clean electrical components as this can force dirt and dust further into components, causing electrical short circuits
9. Check for damaged parts

WARNING! *Before performing cleaning/maintenance, replacing cables/connections, make sure the machine is switched off and disconnected from the power supply.*

If damaged, before further use, the machine must be carefully checked by a qualified person to determine that it will operate properly. Check for breakage of parts, mountings and other conditions that may affect its operation.

Have your machine repaired by an expert. An authorised service centre should properly repair a damaged part.

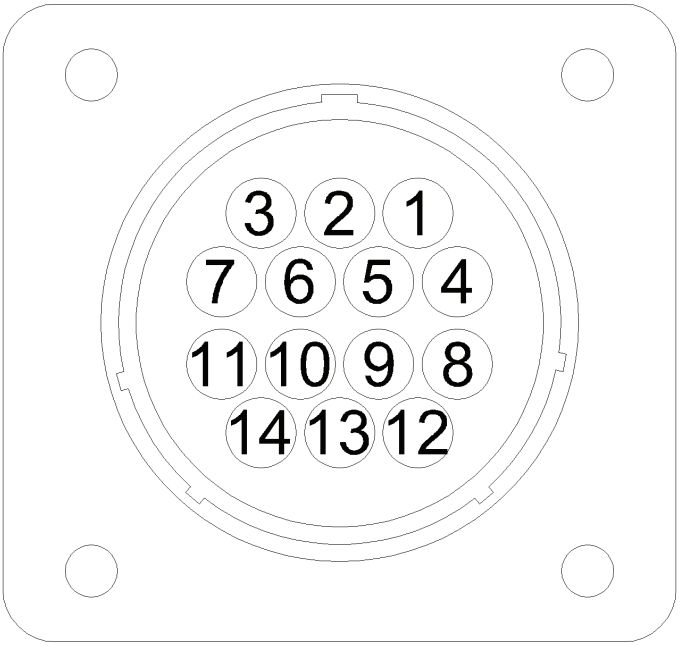
This appliance is manufactured in accordance with relevant safety standards. Only experts must carry out repairing of electrical appliances, otherwise considerable danger for the user may result.
Use only genuine replacement parts. Do not use modified or non-genuine parts.

7.2 Storing the Plasma Cutter

When not in use the machine should be stored in the dry, dust-free and frost-free environment.

8. CNC Interface

Refer to the following table when connecting the AdvanceCut60 to CNC controller with a machine interface cable. Warning- This operation should only be carried out by an authorized Strata service technician.



SOCKET	1(-)	2(+)	8	9	5(-)	6(+)	12	14	13
Function	1:1 Arc Voltage Feedback		Welding torch switch		Proportional adjustable arc voltage feedback		Pilot arc		Ground

The AdvanceCut60is equipped with an optional, factory-installed, four-position voltage divider that is designed to be safely connected without tools. The built-in voltage divider provides a scaled-down arc voltage of 1:20, 1:30, 1:40, and 1:50 (maximum output of 18V). An optional receptacle on the rear of the power supply provides access to the scaled-down arc voltage and signals for arc transfer and plasma start.

Note: The factory presets the voltage divider to 1:20. To change the voltage divider to a different setting, refer to the section on the next page.

Warning : *The factory-installed internal voltage divider provides a maximum of 18V under open-circuit conditions. This is an impedance-protected functional extra-low voltage (ELV) output to prevent shock, energy, and fire under normal conditions at the machine interface receptacle and under single fault conditions with the machine interface wiring. The voltage divider is not fault-tolerant, and ELV outputs do not comply with safety extra-low voltage (SELV) requirements for direct connection to computer products.*

The cover on the machine interface receptacle prevents dust and moisture from damaging the receptacle when not in use. This cover should be replaced if damaged or lost.

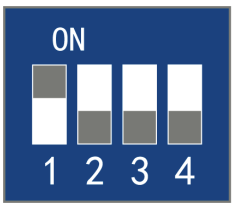
Installation of the machine interface cable must be performed by a qualified service technician. To install a machine interface cable:

1. Turn OFF the power and disconnect the power cord.
2. Remove the machine interface receptacle's cover from the rear of the power supply.
3. Connect the machine interface cable to the power supply.

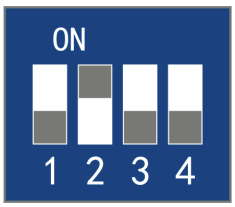
9. Four Position Voltage Divider

The factory presets the voltage divider to 1:20. To change the voltage divider to a different setting:
1. Turn OFF the power supply and disconnect the power cord
2. Remove the DIP switch cover
3. Locate the voltage divider DIP switch near the power supply.

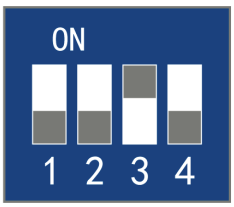
	SCALE	1:20	1:30	1:40	1:50
POSITION	1	ON			
	2		ON		
	3			ON	
	4				ON



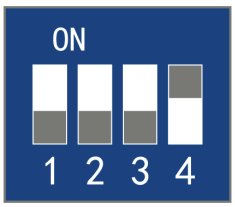
1:20



1:30

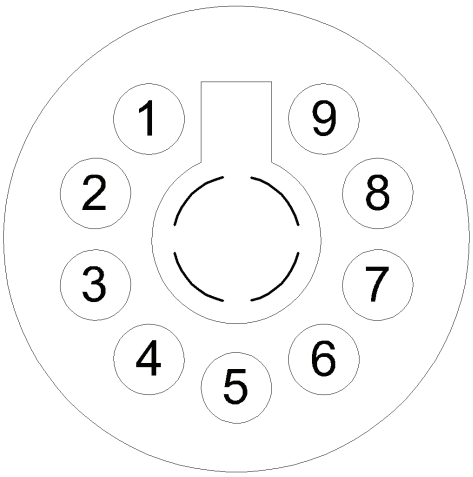


1:40



1:50

10. Plasma Torch Euro Socket Connection Technical Information



SOCKET	Function	Introduction
1	Welding torch switch	When press torch switch, Pin 1 and 2 will be short circuit. When loosen switch, Pin 1 and 2 will open.
2		
3(+)	Digital Welding torch switch	
4(-)		
5	Pilot arc	
6		
7	HF Torch	Pin 7 in HF torch should be short with Pin 8. Normal torch don't have Pin 7.
8	Torch Check	Pin 8 and 9 in torch should be short circuit when nozzle install. If nozzle install, Pin 8 and 9 will open.
9		

11. Troubleshooting

Warning : *There are extremely dangerous voltage and power levels present inside this unit. Internal machine repairs and servicing should only be carried out by an authorized Strata service centre.*

A. Power lamp and temperature lamp on.
1. Air flow blocked, check for blocked air flow around the unit and correct condition.
2. Fan blocked, check and correct condition.
3. Unit is overheated, let unit cool down for at least 5 minutes. Make sure the unit has not been operated beyond Duty Cycle limit, refer to technology parameters in Section 2.
4. Internal failure- Contact Strata service.

B. Torch fails to ignite the arc when torch switch is activated
1. System is in SET mode, change to RUN mode.
2. Faulty torch parts, inspect torch parts and replace if necessary.
3. Gas pressure too high or too low, adjust to proper pressure.
4. Internal failure- Contact Strata service.

C. No cutting output; Torch activated, power source on; Gas flows; Fan operates
1. Torch not properly connected to power supply, check that torch leads are properly connected to power supply.
2. Work cable not connected to work piece, or connection is poor, make sure that work cable has a proper connection to a clean, dry area of the workpiece.
3. Internal failure- Contact Strata service.
4. Faulty Torch, Internal failure- Contact Strata service.

D. Low cutting output
1. Incorrect setting of CURRENT (A) control, check and adjust to proper setting.
2. Internal failure- Contact Strata service.

E. Difficult Starting
1. Worn torch parts (consumables), shut off input power. Remove and inspect torch shield cup, tip and electrode. Replace electrode or tip if worn; replace shield cup if excessive spatter adheres to it.

F. Arc shuts off during operation; arc will not restart when torch switch is activated.
1. Power Supply is overheated, let unit cool down for at least 5 minutes. Make sure the unit has not been operated beyond Duty Cycle limit. Refer to Section 2 for duty cycle specifications.
2. Compressed air too low, check source for at least 4bar/60psi; adjust as needed. It is need to open the machine cover.
3. Torch consumables worn, check torch shield cup, tip, starter element, and electrode; replace as needed.
4. Internal failure- Contact Strata service.

G. No gas flow; the power lamp on; Fan operates
1. Gas not connected or pressure too low, check gas connections. Adjust gas pressure to proper setting

H. Torch cuts but low quality
1. Current (A) control set too low, increase current setting.
2. Torch is being moved too fast across workpiece, reduce cutting speed.
3. Excessive oil or moisture in torch, hold torch 1/8 inch (3 mm) from clean surface while purging and observe oil or moisture buildup (do not activate torch). If there are contaminants in the gas, additional filtering may be needed.

12. Safety

12.1 Store and Retain this Manual

Retain this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number into the NOTES section at the rear, and keep this manual and the receipt in a safe and dry place for future reference.

12.2 Important Safety Information

Failure to follow the warnings and instructions may result in electric shock, fire, serious injury and/ or death. Save all warnings and instructions for future reference.
This is the safety alert symbol to alert you to potential personal injury hazards:

Obey all safety messages that follow this symbol to avoid possible injury or death.

 **DANGER!** indicates a hazardous situation which, if not avoided, will result in death or serious injury.

 **WARNING!** indicates a hazardous situation which, if not avoided, could result in death or serious injury.

 **CAUTION**, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTE, used to address practices not related to personal injury.

CAUTION, without the safety alert symbol, is used to address practices not related to personal injury.

12.3 General Safety Warnings

1. **Maintain labels and nameplates on the plasma cutter.** These carry important information. If unreadable or missing, contact Strata for a replacement.
2. **Avoid unintentional starting.** Make sure the plasma cutter is setup correctly and you are prepared to begin work before turning on the machine.
3. **Unplug before performing maintenance.** Always unplug the plasma cutter from its electrical outlet before performing any inspection, maintenance, or cleaning procedures.
4. **Never leave the plasma cutter unattended while plugged into power.** Turn power off before leaving the plasma cutter unattended.

5. **Do not touch live electrical parts.** Wear dry, insulating gloves. Do not touch the torch tip when machine is plugged in. Do not wear wet or damaged gloves. Plasma uses high electric voltage which can cause serious harm or death.
6. **Protect yourself from electric shock.** Do not use the plasma cutter outdoors. Insulate yourself from the work piece and the ground. Use non-flammable, dry insulating material if possible, or use dry rubber mats, dry wood or plywood, or other dry insulating material large enough to cover the area of contact with the work or the ground.
7. **Avoid inhaling fume.** Some fume and dust created by plasma cutting contain chemicals known to cause cancer, birth defects or other harm. Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area, and work with approved safety equipment, such as dust masks that are specially designed to filter out microscopic particles.
8. **People with pacemakers should consult their physician(s) before using this machine.**

WARNING! *Electromagnetic fields in close proximity to a heart pacemaker could cause interference, or failure of the pacemaker. The use of a Plasma Cutter is NOT RECOMMENDED for pacemaker wearers. Consult your doctor.*

---

9. **Ensure that the unit is placed on a stable location before use.**

WARNING! *If this unit falls while plugged in, severe injury, electric shock, or fire may result.*

---

10. **Transportation Methods.** Lift unit with the handle provided, or use a handcart or similar device of adequate capacity. If using a fork lift vehicle, secure the unit to a skid before transporting.

CAUTION! *Disconnect input power conductors from de-energized supply line before moving the machine.*

---

11. **Exercise good work practices.** The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be considered by the operator.
12. **Do not use this machine for pipe thawing.** This machine was not designed for pipe thawing and will be a significant electrical & heat hazard if attempt is made to use for thawing pipe.

12.4 Plasma Cutting Safety Instructions & Warnings

WARNING! *Protect yourself and others from possible serious injury or death. Keep children away. Read the operating/Instruction manual before installing, operating or servicing this equipment. Have all installation, operation, maintenance, and repair work performed by qualified people.*

If an operator does not strictly observe all safety rules and take precautionary actions, plasma cutting and processes can cause serious injury or death, or damage to other equipment or property.

Safe practices have developed from past experience in the use of welding and cutting. These practices must be learned through study and training before using this equipment. Some of these practices apply to equipment connected to power lines; other practices apply to engine driven equipment. Anyone not having extensive training in welding and cutting practices should not attempt to use these machines.

Safe practices are outlined in the Australian Standard AS 1674.2 entitled: Safety in Welding and European Standard EN60974-1 entitled: Safety in welding and allied processes.

WARNING! *Only use safety equipment that has been approved by an appropriate standards agency. Unapproved safety equipment may not provide adequate protection. Eye and breathing protection must be AS/NZS compliant for the specific hazards in the work area.*

DANGER! *Always wear AS/NZS compliant safety glasses and full face shield fitted with appropriate filter shade number.*

CAUTION! *Heavy-duty work gloves, non-skid safety shoes and hearing protection used for appropriate conditions will reduce personal injuries.*

CAUTION! *Have the equipment serviced by a qualified repair person using identical replacement parts. This will ensure that the safety of the power tool is maintained.*

12.4.1 Personal Safety

CAUTION! *Keep the work area well lit. Make sure there is adequate space surrounding the work area. Always keep the work area free of obstructions, grease, oil, trash, and other debris. Do not use equipment in areas near flammable chemicals, dust, and vapours. Do not use this product in a damp or wet location.*

1. **Stay alert, watch what you are doing and use common sense when operating equipment.** Do not use a tool while you are tired or under the influence of drugs, alcohol or medication. A moment of distraction when operating equipment may result in serious personal injury.

2. **Do not overreach.** Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.

12.4.2 Arc Rays can Burn Eyes and Skin

CAUTION! *Arc rays from the plasma cutting process produce intense heat and strong ultraviolet rays that can burn eyes and skin.*

1. Use a Welding Helmet or Full Face Shield fitted with a proper shade filter (refer AS 60974-1, AS/NZS 1337.1 and AS/NZS 1338.1 Safety Standards) to protect your face and eyes when cutting or watching.

2. Wear approved safety glasses. Side shields are recommended.

3. Use protective screens or barriers to protect others from flash and glare; warn others not to watch the arc.

4. Wear protective clothing made from durable, flame-resistant material (wool and leather) and foot safety protection.

5. Never wear contact lenses while plasma cutting.

12.4.3 Noise Can Damage Hearing

CAUTION! *Noise from some processes can damage hearing. Use AS/NZS compliant ear plugs or ear muffs if the noise level is high.*

12.4.4 Work Environment Safety

DANGER! *Remove any combustible material from the work area.*

1. When possible, move the work to a location well away from combustible materials. If relocation is not possible, protect the combustibles with a cover made of fire resistant material.
2. Remove or make safe all combustible materials for a radius of 10 metres around the work area. Use a fire resistant material to cover or block all doorways, windows, cracks, and other openings.
3. Enclose the work area with portable fire resistant screens. Protect combustible walls, ceilings, floors, etc., from sparks and heat with fire resistant covers.
4. If working on a metal wall, ceiling, etc., prevent ignition of combustibles on the other side by moving the combustibles to a safe location. If relocation of combustibles is not possible, designate someone to serve as a fire watch, equipped with a fire extinguisher, during the cutting process and well after the cutting is completed.
5. Do not weld or cut on materials having a combustible coating or combustible internal structure, as in walls or ceilings, without an approved method for eliminating the hazard.
6. After cutting or welding, make a thorough examination for evidence of fire. Be aware that visible smoke or flame may not be present for some time after the fire has started. Do not weld or cut in atmospheres containing dangerously reactive or flammable gases, vapours, liquids, and dust. Provide adequate ventilation in work areas to prevent accumulation of flammable gases, vapours, and dust.
7. Do not apply heat to a container that has held an unknown substance or a combustible material whose contents, when heated, can produce flammable or explosive vapours. Clean and purge containers before applying heat. Vent closed containers, including castings, before preheating, welding, or cutting.

12.4.5 Electricity Can Kill

DANGER! *Touching live electrical parts can cause fatal shocks or severe burns. The electrode and work circuit is electrically live whenever the output is on.*

The input power circuit and machine internal circuits are also live when power is on. Incorrectly installed or improperly grounded equipment is a hazard.

1. Do not touch live electrical parts.
2. Wear dry, hole-free insulating gloves and body protection.
3. Insulate yourself from the work and the ground using dry insulating mats or covers.
4. Disconnect input power before installing or servicing this equipment. Lock input power, disconnect switch open, or remove line fuses so power cannot be turned on accidentally.
5. Properly install and ground this equipment according to national, state, and local codes.

6. Turn off all equipment when not in use. Disconnect power to equipment if it will be left unattended or out of service.
7. Never dip the plasma torch in water to cool it.
8. Do not use worn, damaged, undersized, or poorly spliced cables.
9. Do not wrap cables around your body.
10. Connect work piece to a good electrical ground.
11. Do not touch the torch tip machine is connected to power supply.
12. Use only well-maintained equipment. Repair or replace damaged parts as soon as practical.

12.4.6 Fumes And Gases

WARNING! *Plasma cutting produces fumes and gases. Breathing these fumes and gases can be hazardous to your health.*

---

1. Keep your head out of the fumes. Do not breathe the fumes.
2. If inside, ventilate the area and/or use an exhaust at the arc to remove plasma cutting fumes and gases.
3. If ventilation is poor, use an approved supplied-air respirator (PAPR).
4. Read the Safety Data Sheets (SDS) and the manufacturer's instruction for the metals, consumables, coatings, and cleaners.
5. Work in a confined space only if it is well ventilated, or while wearing an air-supplied respirator. Be sure the breathing air is safe.
6. Do not use plasma cutter in locations near degreasing, cleaning, or spraying operations. The heat and rays of the arc can react with vapours to form highly toxic and irritating gases.
7. Do not plasma cut on coated metals, such as galvanized, lead, or cadmium plated steel, unless the coating is removed from the cut area, the area is well ventilated, and if necessary, while wearing an air- supplied respirator. The coatings and any metals containing these elements can give off toxic fumes if plasma cut.

12.4.7 Fire & Explosive Risks

WARNING! *Sparks and spatter fly off when plasma cutting. The flying sparks and hot metal, weld spatter, work piece, and hot equipment can cause fires and burns.*

Accidental contact of torch tip to metal objects can cause sparks, overheating, or fire.

1. Protect yourself and others from flying sparks and hot metal.
2. Do not operate where flying sparks can strike flammable material.
3. Remove all flammables within 10m of the plasma cutting site.

4. Be alert that plasma cutting sparks and hot materials from plasma cutting can easily go through small cracks and openings to adjacent areas.
5. Watch for fire, and keep a fire extinguisher nearby.
6. Be aware that plasma cutting on a ceiling, floor, bulkhead, or partition can cause fire on the hidden side.
7. Do not plasma cut on closed containers such as tanks or drums.
8. Connect the work lead/clamp to the job as close to the plasma cutting area as practical to prevent plasma cutting current from traveling long, possibly unknown paths and causing electric shock and fire hazards.

12.4.8 Sparks & Hot Metal

⚠ ***WARNING!*** *Chipping and grinding causes flying metal, and as welds cool they can throw off slag.*

---

1. Wear an AS/NZS approved face shield or safety goggles. Side shields are recommended.
2. Wear appropriate safety equipment to protect the skin and body.

Warranty

As part of an on-going commitment to excellence in product support, Euroquip offers a comprehensive product warranty program.

Warranty period for the AdvanceCut60:

Commercial Use: 48 Months

Domestic Use: 48 Months

Warranty covers failure caused by manufacturing and material defects in the product, during the warranty period specified. The warranty period begins when the product is purchased by the end user. Warranty is not transferrable and is only claimable by the original purchaser.

Warranty does not cover parts that are subject to wear and tear from usage.

Warranty covers failure of a product caused by defective materials and/or manufacturing for the period given and the usage specified by Euroquip. The warranty period begins when the product is purchased by the end user. Warranty is not transferrable and is only claimable by the original purchaser.

Warranty also does not cover failure caused by the untimely replacement or service of the above wearing parts. Evidence must be provided that the product has been maintained and serviced suitably for a claim to be considered under warranty.

Failure caused by incorrect operation of the product, lack of proper care and maintenance of the product, external damage, external circumstances such as contaminated fuel or poor water supply, modifications to the product, attempted repair/ service by a party other than an Approved Service Agent, is not covered under warranty.

Warranty does not cover pre delivery service and adjustment, or failure that may occur as a result of lack of/ incorrect pre delivery service and adjustment.

Warranty does not cover any incidental, indirect or consequential loss, damage or expense that may result from any defect, failure or malfunction of a product.

Should any issue be found to be a combination of a warranty failure and a non-warranty issue, the repair cost component to rectify and repair the non-warranty failure is the customers' full responsibility.

The decision that an issue with a product qualifies as a warranty claim is made at the sole jurisdiction of Euroquip.

No costs incurred will be considered under warranty if repairs are carried out by a party other than a Euroquip Approved Service Agent, unless with prior consent in writing from Euroquip.

It is the responsibility of the purchaser to deliver a product under warranty to the nearest relevant service agent or product reseller. Warranty does not cover call outs, mileage and freight costs.

If a product is repaired under warranty, parts and labour required for the repair will be supplied at no charge. Warranty assessment and repair will be scheduled and executed according to the normal work flow at the service location and depending on the availability of suitable replacement parts.

This warranty policy is an additional benefit and does not affect the legal rights of any end user, reseller or service agent.

ADVANCECUT 60

ADVANCECUT 60

euroquip
empowering industries

Congratulations on your new STRATA product. We are proud to have you as our customer and will strive to provide you with the best service and reliability in the industry. This product is backed by our extensive warranty and world-wide service network. To locate your nearest distributor or service agency visit www.strata.co.nz, or email us at customerservice@euroquip.co.nz

www.strata.co.nz