CIGWELD

AN ESAB® BRAND

CutSkill 60

OPERATING MANUAL

P/N:1-1601-60

Version No: AA **Issue Date:** 16-07-2019 **Manual No:** 0-5574

CIGWELD
AN ESAB BRAND

WE APPRECIATE YOUR BUSINESS!

Congratulations on your new CIGWELD 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.

This Operating Manual has been designed to instruct you on the correct use and operation of your CIGWELD product. Your satisfaction with this product and its safe operation is our ultimate concern. Therefore please take the time to read the entire manual, especially the Safety Precautions. They will help you to avoid potential hazards that may exist when working with this product.

We have made every effort to provide you with accurate instructions, drawings, and photographs of the product(s) while writing this manual. However errors do occur and we apologize if there are any contained in this manual.

Due to our constant effort to bring you the best products, we may make an improvement that does not get reflected in the manual. If you are ever in doubt about what you see or read in this manual with the product you received, then check for a newer version of the manual on our website or contact our customer support for assistance.

YOU ARE IN GOOD COMPANY!

The Brand of Choice for Contractors and Fabricators Worldwide.

CIGWELD is a Market Leading Brand of Arc Welding Products for ESAB. We are a mainline supplier to major welding industry sectors in the Asia Pacific and emerging global markets including; Manufacturing, Construction, Mining, Automotive, Engineering, Rural and DIY.

We distinguish ourselves from our competition through market-leading, dependable products that have stood the test of time. We pride ourselves on technical innovation, competitive prices, excellent delivery, superior customer service and technical support, together with excellence in sales and marketing expertise.

Above all, we are committed to develop technologically advanced products to achieve a safer working environment for industry operators.

WARNING
Read and understand this entire Manual and your employer's safety practices before installing, operating, or servicing the equipment.
While the information contained in this Manual represents the Manufacturer's best judgement, the Manufacturer assumes no liability for its use.

CIGWELD CutSkill 60 Plasma Cutters
Instruction Manual Number 0-5574 for:
Part Number 1-1601-60

Published by:
CIGWELD Pty Ltd
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www.cigweld.com.au

For Printing Material Specification refer to document 47x1915.

Publication Date: 16-07-2019
Revision Date:

Record the following information for Warranty purposes:

Where Purchased: _____

Purchase Date: _____

Equipment Serial #: _____

Be sure this information reaches the operator.
You can get extra copies through your supplier.

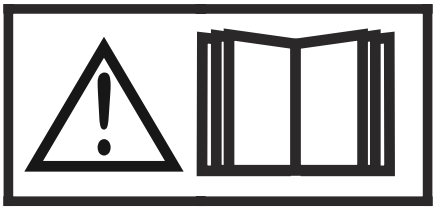
CAUTION

These INSTRUCTIONS are for experienced operators. If you are not fully familiar with the principles of operation and safe practices for arc welding and cutting equipment, we urge you to read our booklet, "Precautions and Safe Practices for Arc Welding, Cutting, and Gouging," Booklet 0-5407. Do NOT permit untrained persons to install, operate, or maintain this equipment. Do NOT attempt to install or operate this equipment until you have read and fully understand these instructions. If you do not fully understand these instructions, contact your supplier for further information. Be sure to read the Safety Precautions before installing or operating this equipment.

USER RESPONSIBILITY

This equipment will perform in conformity with the description thereof contained in this manual and accompanying labels and/or inserts when installed, operated, maintained and repaired in accordance with the instructions provided. This equipment must be checked periodically. Malfunctioning or poorly maintained equipment should not be used. Parts that are broken, missing, worn, distorted or contaminated should be replaced immediately. Should such repair or replacement become necessary, the manufacturer recommends that a telephone or written request for service advice be made to the Authorized Distributor from whom it was purchased.

This equipment or any of its parts should not be altered without the prior written approval of the manufacturer. The user of this equipment shall have the sole responsibility for any malfunction which results from improper use, faulty maintenance, damage, improper repair or alteration by anyone other than the manufacturer or a service facility designated by the manufacturer.



READ AND UNDERSTAND THE INSTRUCTION MANUAL BEFORE INSTALLING OR OPERATING.
PROTECT YOURSELF AND OTHERS!

DECLARATION OF CONFORMITY

According to
The Arc Welding Power Source Directive AS 60974.1-2006 (equivalent to IEC 60974-1 Ed. 2.1)
The EMC Directive IEC 60974-10:2014 published on 06 February 2014

Type of equipment
Plasma Cutting Power Source

Type designation etc.
Cutting Performance

Brand name or trade mark
Cigweld

Manufacturer or his authorised representative established within the EEA
Name, address, telephone No:
Cigweld Pty Ltd
71 Gower Street
Preston, Victoria, Australia, 3072
Phone: +61 3 9474 7400

The following harmonised standard in force within the EEA has been used in the design:

AS 60974.1-2006, Arc Welding Equipment - Welding Power Sources (IEC 60974-1:2000, MOD)
IEC 60974-10-2014, Arc Welding Equipment - Part 10: Electromagnetic Compatibility (EMC) Requirements
AS 1674.2-2007, Safety in Welding and Allied Processes

Additional Information: Restrictive use, Class A equipment, intended for use in location other than resid

By signing this document, the undersigned declares as manufacturer, or the manufacturer's authorised representative established within the EEA, that the equipment in question complies with the safety requirements stated above.

Date	**Signature**	**Position**
31-01-2018	 Flavio Santos	General Manager, Accessories and Adjacencies

2019

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SECTION 1: GENERAL INFORMATION

1.01 Notes, Cautions and Warnings

Throughout this manual, notes, cautions, and warnings are used to highlight important information. These highlights are categorized as follows:

NOTE

An operation, procedure, or background information which requires additional emphasis or is helpful in efficient operation of the system.

CAUTION

A procedure which, if not properly followed, may cause damage to the equipment.

WARNING

A procedure which, if not properly followed, may cause injury to the operator or others in the operating area.

WARNING

Gives information regarding possible electrical shock injury. Warnings will be enclosed in a box such as this.

1.02 Important Safety Precautions

WARNING

OPERATION AND MAINTENANCE OF PLASMA ARC EQUIPMENT CAN BE DANGEROUS AND HAZARDOUS TO YOUR HEALTH.

Plasma arc cutting produces intense electric and magnetic emissions that may interfere with the proper function of cardiac pacemakers, hearing aids, or other electronic health equipment.

Persons who work near plasma arc cutting applications should consult their medical health professional and the manufacturer of the health equipment to determine whether a hazard exists.

To prevent possible injury, read, understand and follow all warnings, safety precautions and instructions before using the equipment.

WARNING

Gases and fumes produced during the plasma cutting process can be dangerous and hazardous to your health.

- Keep all fumes and gases from the breathing area. Keep your head out of the welding fume plume.
- Use an air-supplied respirator if ventilation is not adequate to remove all fumes and gases.
- The kinds of fumes and gases from the plasma arc depend on the kind of metal being used, coatings on the metal, and the different processes. You must be very careful when cutting or welding any metals which may contain one or more of the following:

Antimony	Chromium	Mercury
Arsenic	Cobalt	Nickel
Barium	Copper	Selenium
Beryllium	Lead	Silver
Cadmium	Manganese	Vanadium

- Always read the Material Safety Data Sheets (MSDS) that should be supplied with the material you are using. These MSDSs will give you the information regarding the kind and amount of fumes and gases that may be dangerous to your health.
- For information on how to test for fumes and gases in your workplace, refer to item 1 in Subsection 1.03, Publications in this manual.
- Use special equipment, such as water or down draft cutting tables, to capture fumes and gases.
- Do not use the plasma torch in an area where combustible or explosive gases or materials are located.
- Phosgene, a toxic gas, is generated from the vapors of chlorinated solvents and cleansers. Remove all sources of these vapors.

WARNING

Electric Shock can injure or kill. The plasma arc process uses and produces high voltage electrical energy. This electric energy can cause severe or fatal shock to the operator or others in the workplace.

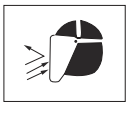
- Never touch any parts that are electrically “live” or “hot.”
- Wear dry gloves and clothing. Insulate yourself from the work piece or other parts of the welding circuit.
- Repair or replace all worn or damaged parts.
- Extra care must be taken when the workplace is moist or damp.
- Install and maintain equipment according to NEC code, refer to item 9 in Subsection 1.03, Publications.
- Disconnect power source before performing any service or repairs.
- Read and follow all the instructions in the Operating Manual.

WARNING
Fire and explosion can be caused by hot slag, sparks, or the plasma arc.

- Be sure there is no combustible or flammable material in the workplace. Any material that cannot be removed must be protected.
- Ventilate all flammable or explosive vapors from the workplace.
- Do not cut or weld on containers that may have held combustibles.
- Provide a fire watch when working in an area where fire hazards may exist.
- Hydrogen gas may be formed and trapped under aluminum workpieces when they are cut underwater or while using a water table. DO NOT cut aluminum alloys underwater or on a water table unless the hydrogen gas can be eliminated or dissipated. Trapped hydrogen gas that is ignited will cause an explosion.

WARNING
Noise can cause permanent hearing loss. Plasma arc processes can cause noise levels to exceed safe limits. You must protect your ears from loud noise to prevent permanent loss of hearing.

- To protect your hearing from loud noise, wear protective ear plugs and / or ear muffs. Protect others in the workplace.
- Noise levels should be measured to be sure the decibels (sound) do not exceed safe levels.
- For information on how to test for noise, see item 1 in Subsection 1.03, Publications, in this manual.



WARNING
Plasma Arc Rays can injure your eyes and burn your skin. The plasma arc process produces very bright ultra violet and infra red light. These arc rays will damage your eyes and burn your skin if you are not properly protected.

- To protect your eyes, always wear a welding helmet or shield. Also always wear safety glasses with side shields, goggles or other protective eye wear.
- Wear welding gloves and suitable clothing to protect your skin from the arc rays and sparks.
- Keep helmet and safety glasses in good condition. Replace lenses when cracked, chipped or dirty.
- Protect others in the work area from the arc rays. Use protective booths, screens or shields.
- Use the shade of lens as suggested in the following per ANSI/ASC Z49.1:

Arc Current (Amperes)	Minimum Protective Shade No.	Suggested Shade No. (Comfort)
Less than 20*	4	4
20-40*	5	5
40-60*	6	6
60-80*	8	8
80-300*	8	9
300 - 400*	9	12
400 - 800*	10	14

* These values apply where the actual arc is clearly seen. Experience has shown that lighter filters may be used when the arc is hidden by the workpiece.

Table 1-1: Recommended Lens

WARNING
This product contains chemicals, including lead, known to the State of California to cause birth defects and other reproductive harm. Wash hands after handling.

1.03 Publications

Refer to the following standards or their latest revisions for more information:

1. OSHA, SAFETY AND HEALTH STANDARDS, 29CFR 1910, obtainable from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402
2. ANSI Standard Z49.1, SAFETY IN WELDING AND CUTTING, obtainable from the American Welding Society, 550 N.W. LeJeune Rd, Miami, FL 33126
3. NIOSH, SAFETY AND HEALTH IN ARC WELDING AND GAS WELDING AND CUTTING, obtainable from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402
4. ANSI Standard Z87.1, SAFE PRACTICES FOR OCCUPATION AND EDUCATIONAL EYE AND FACE PROTECTION, obtainable from American National Standards Institute, 1430 Broadway, New York, NY 10018
5. ANSI Standard Z41.1, STANDARD FOR MEN'S SAFETY-TOE FOOTWEAR, obtainable from the American National Standards Institute, 1430 Broadway, New York, NY 10018
6. ANSI Standard Z49.2, FIRE PREVENTION IN THE USE OF CUTTING AND WELDING PROCESSES, obtainable from American National Standards Institute, 1430 Broadway, New York, NY 10018

7. AWS Standard A6.0, WELDING AND CUTTING CONTAINERS WHICH HAVE HELD COMBUSTIBLES, obtainable from American Welding Society, 550 N.W. LeJeune Rd, Miami, FL 33126
8. NFPA Standard 51, OXYGEN-FUEL GAS SYSTEMS FOR WELDING, CUTTING AND ALLIED PROCESSES, obtainable from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269
9. NFPA Standard 70, NATIONAL ELECTRICAL CODE, obtainable from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269
10. NFPA Standard 51B, CUTTING AND WELDING PROCESSES, obtainable from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269
11. CGA Pamphlet P-1, SAFE HANDLING OF COMPRESSED GASES IN CYLINDERS, obtainable from the Compressed Gas Association, 1235 Jefferson Davis Highway, Suite 501, Arlington, VA 22202
12. CSA Standard W117.2, CODE FOR SAFETY IN WELDING AND CUTTING, obtainable from the Canadian Standards Association, Standards Sales, 178 Rexdale Boulevard, Rexdale, Ontario, Canada M9W 1R3
13. NWSA booklet, WELDING SAFETY BIBLIOGRAPHY obtainable from the National Welding Supply Association, 1900 Arch Street, Philadelphia, PA 19103
14. American Welding Society Standard AWSF4.1, RECOMMENDED SAFE PRACTICES FOR THE PREPARATION FOR WELDING AND CUTTING OF CONTAINERS AND PIPING THAT HAVE HELD HAZARDOUS SUBSTANCES, obtainable from the American Welding Society, 550 N.W. LeJeune Rd, Miami, FL 33126
15. ANSI Standard Z88.2, PRACTICE FOR RESPIRATORY PROTECTION, obtainable from American National Standards Institute, 1430 Broadway, New York, NY 10018

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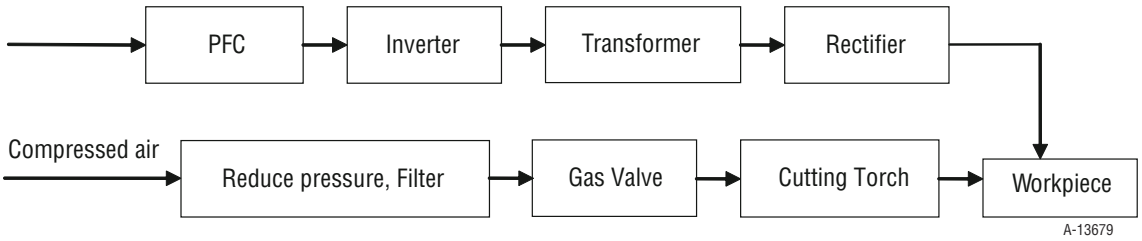
SECTION 2 SYSTEM: INTRODUCTION

2.01 Working Principle



2.02 Power Supply Specifications

Power Supply Specifications								
Description	**CutSkill 60**							
Input Power	240 VAC (± 15%), Single-Phase, 50/60 Hz							
Output Current	20-60 Amps, continuously							
I_{1max}	35 Amps							
I_{1eff}	With factory fitted supply lead & 15A plug				With upgraded 4mm² supply lead & 20A plug			
	14.3 Amps				17.3 Amps			
Duty Cycle	15%	20%	60%	100%	20%	30%	60%	100%
Output Current (A)	60	60	35	30	60	60	40	35
Output Voltage (V)	120 (CW)	104 (IEC)	94 (IEC)	92 (IEC)	120 (CW)	104 (IEC)	96 (IEC)	94 (IEC)
Fan Cooled	Yes, operates continuously							
Protection Class	IP23S							
CutSkill 60 Power Source Gas Requirements								
Recommended Input Air Pressure	600-800 kPa (87-116 PSI)							
Recommended Air Flow	110 LPM							
Note 1. Duty Cycle is the percentage of time the system can be operated without overheating. Duty cycle is reduced if primary input voltage (AC) is low or the DC voltage is higher than shown in this chart.								
Note 2. Air supply must be free of oil, moisture, and other contaminants. Excessive oil and moisture may cause double-arcing, rapid tip wear, or even complete torch failure. Contaminants may cause poor cutting performance and rapid electrode wear. Optional filters provide increased filtering capabilities.								

Table 2-1: Power Supply Specifications

NOTE

IEC Rating is determined as specified by the International Electro-Technical Commission. These specifications include calculating an output voltage based upon power supply rated current. To facilitate comparison between power supplies, all manufacturers use this output voltage to determine duty cycle.

CW Rating is determined using an output voltage representative of actual output voltage during cutting with a Cigweld torch. This voltage may be more or less than IEC voltage, depending upon choice of torch, consumables, and actual cutting operation.

NOTE

In gouging mode, the maximum output current is limited to 50A.

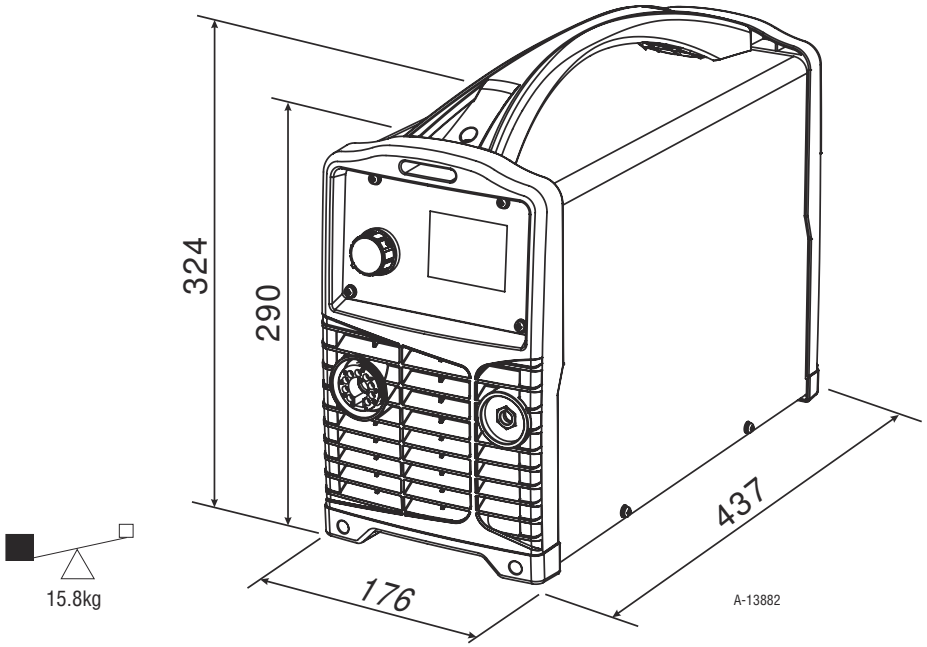


Figure 2-1: Power Supply Dimensions & Weight

NOTE
Weight includes torch & leads, input power cord, and work cable with clamp.

CAUTION
Provide clearance for proper air flow through the power supply. Operation without proper air flow will inhibit proper cooling and reduce duty cycle..

2.03 Generator Recommendation

When using generators to power the Plasma Cutting System, the following ratings are a minimum and are to be used along with the ratings listed above.

Model	Generator Output Rating
CutSkill 60	15 kVA

Table 2-2: Generator Recommendation

2.04 Circuit Breaker Recommendation

Model	Circuit Breaker Rating
CutSkill 60	25A, Type C

Table 2-3: Circuit Breaker Recommendation

2.05 Power Supply Controls and Features

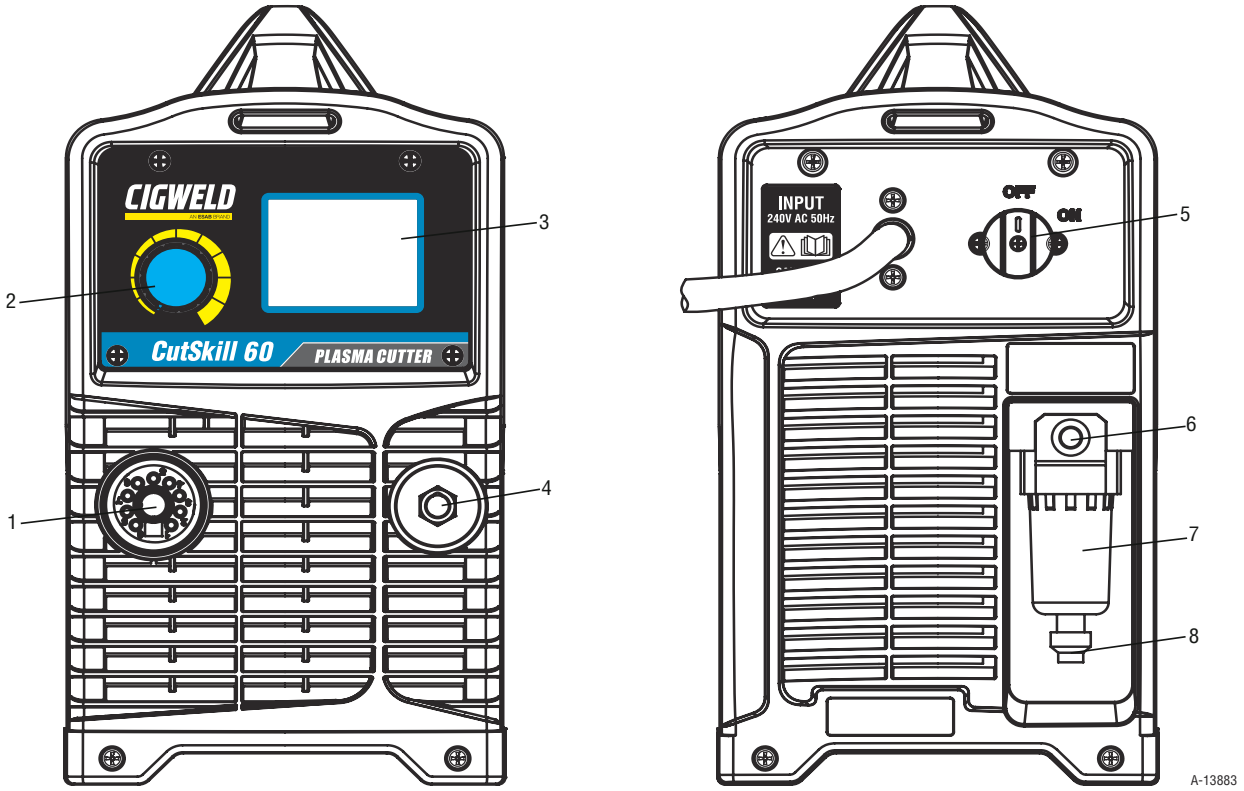


Figure 2-2: CutSkill 60

1. Plasma Cutting Torch Adaptor

   The plasma cutting torch adaptor is the connection point for the plasma cutting torch. Connect the torch by pushing the torch connector into the brass torch adaptor firmly and screwing the plastic torch nut clockwise to secure in position. To remove the Plasma cutting torch simply reverse these directions.

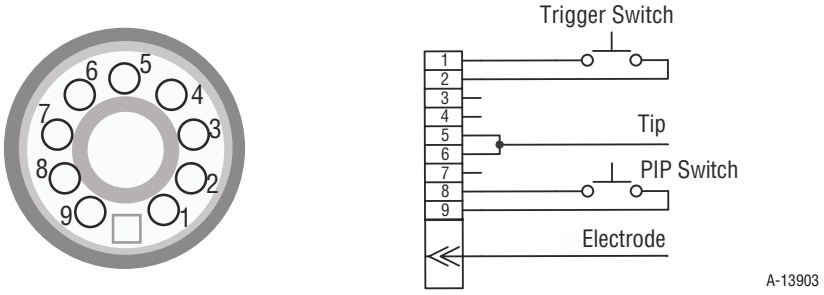


Figure 2-3: Torch Adaptor Connection

Socket Pin	Function
1	Torch Trigger
2	Torch Trigger
3	Not Connected
4	Not Connected
5	Tip
6	Tip
7	Not Connected
8	PIP Switch
9	PIP Switch
Centre Socket	Electrode

Table 2-4

2. Control Knob

Turn or press the Control Knob to select from the menu or change values.

To adjust the cutting current:

- Turn clockwise to increase cutting current;
- Turn anti-clockwise to decrease cutting current.

NOTE

In gouging mode, the maximum output current is limited to 50A.

To select an option from the displayed menu:

- Options will be highlighted in sequence at every turn;
- Turn clockwise or anti-clockwise to change selection;
- Press the Control Knob to confirm the selection;
- Select home icon and press Control Knob to exit menu.

3. LCD Screen

A LCD screen is installed on the front panel to display cutting mode, cutting current, air pressure, and error information. Press the Control Knob for more than 2 seconds to enter the menu for cutting mode selection. Detailed LCD operation method is introduced in Section 2.05.

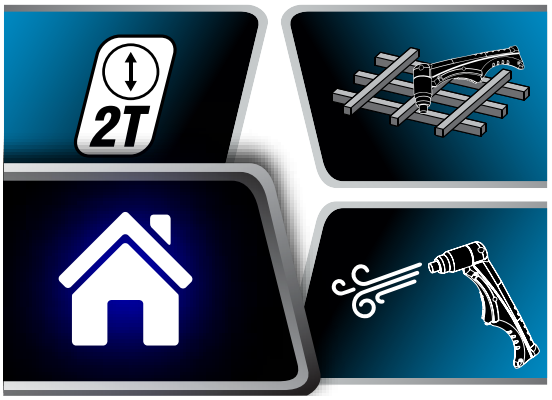


Figure 2-4: LCD Screen

4. Work Cable Terminal

Connect work cable to the power source via this Dinse terminal, and the clamp on the other side to the work piece.

CAUTION

Loose terminal connections can cause overheating and result in the male plug being fused in the Dinse terminal.

5. Input Supply ON/OFF Switch

This switch is used to turn the unit ON/OFF. When this switch is turned ON the LCD Screen on the front panel will illuminate and the fan will run.

6. Gas Inlet Port

The gas inlet port can accept a 1/4" NPT male plug. A Nitto air fitting nipple and a - 1/4" male plug is supplied in the package for connection of air line to the compressed air.

NOTE

For a secure seal, apply thread sealant to the fitting threads, according to manufacturer's instructions. Do Not use Teflon tape as a thread sealer, as small particles of the tape may break off and block the small gas passages in the torch.

7. Water Catchment

   A water catchment is installed to collect water in the compressed air.

8. Water Release Valve

   Press the water release valve upward to release water from the water catchment. Use the spanner supplied in system package to detach the water catchment from the unit for cleaning.

2.06 LCD Screen Operation

1. Welcome Screen

   Welcome Screen will display for 3 seconds when the power source is turned on.

Figure 2-5: Welcome Screen

Then Model Name Screen displays for 3 seconds.

Figure 2-6: Model Name Screen

2. Main Screen

   Main Screen displays setting of cutting current,voltage, trigger mode, cutting mode and output air pressure.

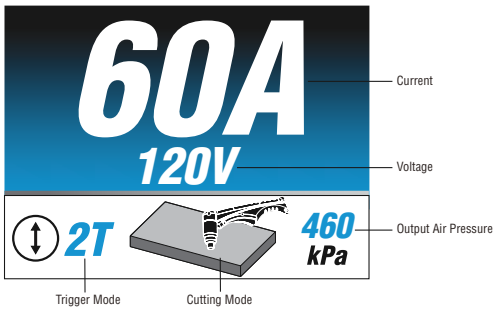


Figure 2-7: Main Screen

3. Menu Screen

Press the Control Knob to enter Menu Screen. In Menu Screen, the user can set trigger mode, cutting mode, and gas purge. Exit Menu Screen by selecting Home icon.

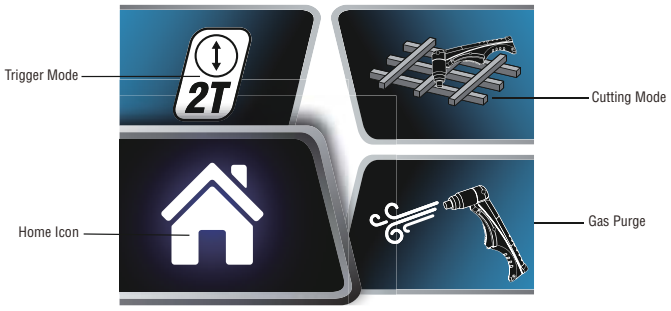


Figure 2-8: Menu Screen

1) Trigger Mode Selection Screen

Press the Control Knob when Trigger Mode section is highlighted to enter 2T/4T selection screen.

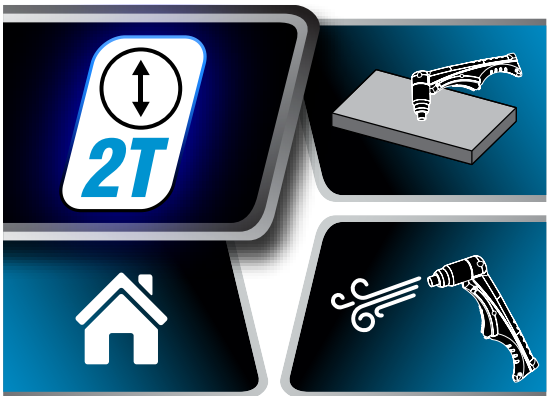


Figure 2-9: Trigger Mode Screen Selected

Turn the Control Knob clockwise or anti-clockwise to change the selection between 2T and 4T, and press the Control Knob to confirm the selection. Press the Control Knob again to exit Trigger Mode Selection Screen.

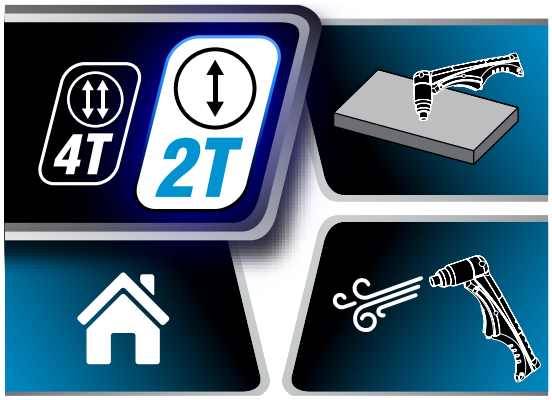


Figure 2-10: 2T Mode Selected

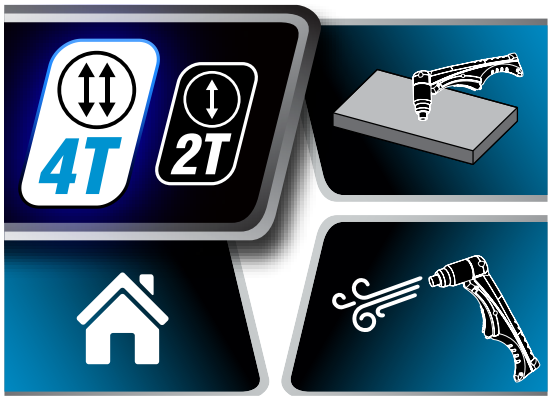


Figure 2-11: 4T Mode Selected

The Trigger Mode control is used to switch the functionality of the torch trigger between 2T (normal) and 4T (latch mode). In 2T mode, the torch trigger must remain depressed for the cutting output to be active. Press and hold the torch trigger to activate the power source (cutting). Release the torch trigger switch to cease cutting. 4T mode is mainly used for long cutting runs to reduce operator fatigue. In this mode the operator can press and release the torch trigger and the output will remain active. To deactivate the power source, the trigger switch must again be depressed and released, thus eliminating the need for the operator to hold the torch trigger.

2) Cutting Mode Selection Screen

Turn the Control Knob clockwise and press when Cutting Mode is highlighted to enter Cutting Mode Selection Screen.

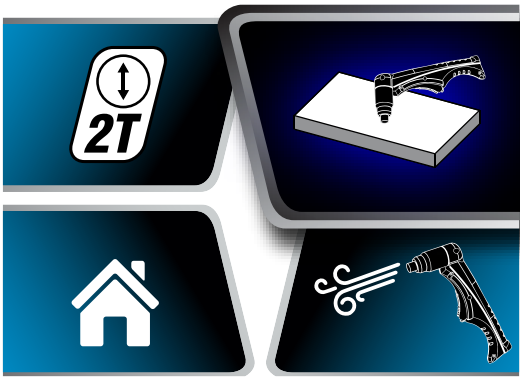


Figure 2-12: Cutting Mode Selected

Turn the Control Knob clockwise or anti-clockwise to change the selection among Plate mode, Grid mode and Gouging mode. Press the Control Knob to confirm the selection. Press the Control Knob again to exit Cutting Mode Selection Screen.

Figure 2-13: Plate Mode Selected

Figure 2-14: Grid Mode Selected

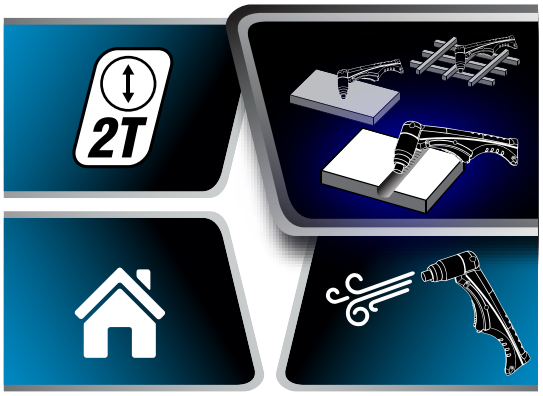


Figure 2-15: Gouging Mode Selected

NOTE

Please note that when trigger mode is set at 4T, both Gouging mode and Grid cutting mode are unavailable.

At plate cutting mode and when trigger mode is 2T, the arc will go out when the torch moves away from the work piece during cutting operations. Press the trigger again to restart the pilot arc.

At grid cutting mode, when the torch moves away from the work piece the pilot arc restarts instantly, and the cutting arc restarts instantly when the pilot arc contacts the work piece. Recommend to select grid cutting mode for cutting expanded metal or gratings, or trimming operations when an uninterrupted restart is desired.

3) Gas Purge Screen

Turn the Control Knob clockwise and press when Gas Purge Screen is highlighted to enter Gas Purge Screen.

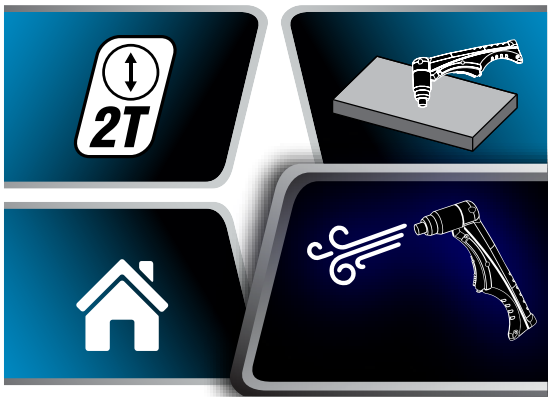


Figure 2-16: Gas Purge Screen Selected

Press the Control Knob to turn ON or turn OFF gas purge function. When gas purge is turned ON, air pressure value is displayed in gas purge section. Gas valve is engaged and compressed air goes through the plasma torch. Press the Control Knob again to stop gas purge.

Figure 2-17: Gas Purge Selected

4) Home Screen

Turn the Control Knob clockwise and press when Home icon is highlighted to enter Home Screen. Press the Control Knob again to exit Menu Screen.

4. Torch or Shield Cup Installation Error Screen

Torch or Shield Cup Installation Error Screen displays when torch or shield cup of torch is not installed correctly. Please switch the Input Supply ON/OFF switch to OFF and check the torch connection or shield cup installation.

Figure 2-18: Torch or Sheild Cup Installation Error Screen

5. Electrode or Cutting/Gouging Tip Installation Error Screen

   Electorde or Cutting/Gouging Tip Installation Error Screen displays when the electrode or cutting/gouging tip is not installed correctly. Gas will flow for 2 seconds then stop for 3 seconds. The power source continues to check the status of electrode and cutting/ gouging tip until they are in correct position. Please turn off the power source and check or replace the worn tip or electrode.

Figure 2-19: Electrode or Cutting/Gouging Tip Installation Error Screen

6. Air Pressure Error Screen

   Air Pressure Error Screen displays when the output air pressure is less than 400kPa or more than 600kPa. Adjust the pressure of input compressed air to correct level until the error alarm is clear.

Figure 2-20: Air Pressure Error Screen

7. Voltage Error Screen

   Voltage Error Screen displays when the input voltage is too low or PFC circuit fails. Contact Accredited Cigweld Service Provider for repair if necessary.

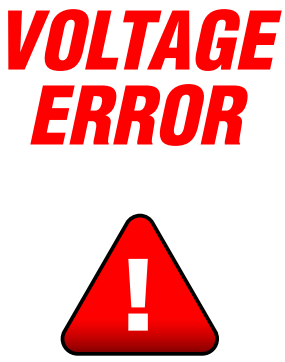


Figure 2-21: Voltage Error Screen

8. Over Temperature Error

   This cutting power source is protected by a temperature sensor. The Over Temperature Error screen will be displayed if the machine has over heated which normally occurs if the duty cycle of the power source has been exceeded. Should the Over Temperature Error screen displays the output of the power source will be disabled. Leave the power source turned On to allow the internal components to cool down. Once the power source cools down sufficiently the Over Temperature Error screen will automatically disappear. Note that the On/Off switch should remain in the On position such that the fan continues to operate thus allowing the power source to cool sufficiently. Do not switch the power source Off if an Over Temperature condition is present.

Figure 2-22: Over Temperature Error Screen

SECTION 2 TORCH: INTRODUCTION

2T.01 Scope of Manual

This manual contains descriptions, operating instructions and maintenance procedures for the CutSkill 60A Plasma Cutting Torch. Service of this equipment is restricted to properly trained personnel; unqualified personnel are strictly cautioned against attempting repairs or adjustments not covered in this manual, at the risk of voiding the Warranty. Read this manual thoroughly. A complete understanding of the characteristics and capabilities of this equipment will assure the dependable operation for which it was designed.

2T.02 Specifications

A. Torch Configurations

1. Hand Torch, Model CutSkill 60A

The hand torch head is at 75° to the torch handle. The hand torch includes a torch handle and torch trigger assembly.

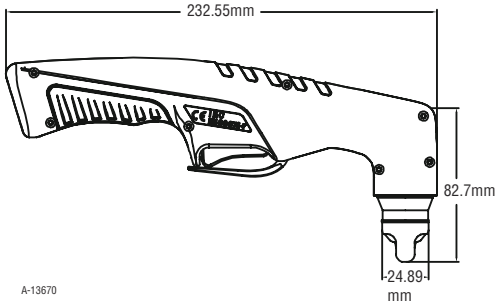


Figure 2T-1: CutSkill 60A Torch

B. Torch Leads Lengths

CutSkill 60A Plasma torch length is 5m.

C. Torch Parts

Electrode, Tip, Shield Cup, Gas Diffuser, Standoff Guide

Torch for CutSkill 60 system is fitted with 1.1mm tip.

D. Parts - In - Place (PIP)

Torch Head has built - in switch

12 vdc circuit rating

E. Type Cooling

Combination of ambient air and gas stream through torch.

F. Torch Ratings

CutSkill 60A Torch Ratings	
Ambient Temperature	40 °C
Rated Current	60 Amps
Duty Cycle	60%
Rated Voltage	500 V
Operating Pressure	400-600 kPa
Gas Flow	110 - 150 LPM

Table 2T-1: CutSkill 60A Torch Ratings

2T.03 Introduction to Plasma

A. Plasma Gas Flow

Plasma is a gas which has been heated to an extremely high temperature and ionized so that it becomes electrically conductive. The plasma arc cutting process uses this plasma to transfer an electrical arc to the workpiece. The metal to be cut or removed is melted by the heat of the arc and then blown away.

In a Plasma Cutting Torch a cool gas enters Zone B, where an arc between the electrode and the torch tip heats and ionizes the gas. The main cutting arc then transfers to the workpiece through the column of plasma gas in Zone C.

By forcing the plasma gas and electric arc through a small orifice, the torch delivers a high concentration of heat to a small area. The stiff, constricted plasma arc is shown in Zone C. Direct current (DC) straight polarity is used for plasma cutting, as shown in the illustration.

Zone A channels a secondary gas that cools the torch. This gas also assists the high velocity plasma gas in blowing the molten metal out of the cut allowing for a fast, slag - free cut.

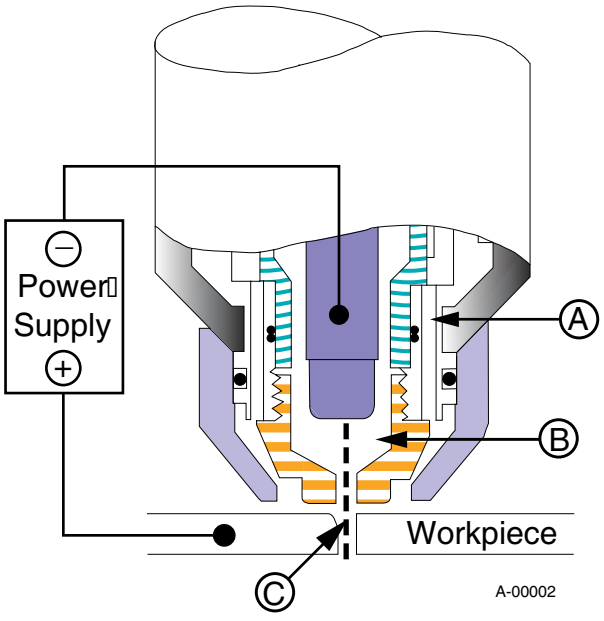


Figure 2T-2: Typical Torch Head Detail

B. Gas Distribution

The single gas used is internally split into plasma and secondary gases.

The plasma gas flows into the torch through the negative lead, through the starter cartridge, around the electrode, and out through the tip orifice.

The secondary gas flows down around the outside of the torch starter cartridge, and out between the tip and shield cup around the plasma arc.

C. Main Cutting Arc

DC power is also used for the main cutting arc. The negative output is connected to the torch electrode through the torch lead. The positive output is connected to the workpiece via the work cable.

SECTION 3: INSTALLATION

3.01 Unpacking

1. Use the packing lists to identify and account for each item.

   A. Contents List

Description	Quantity
Power Source	1
CutSkill 60A Torch	1
Work Cable and Clamp (3m)	1
Shoulder Strap	1
Nitto Air Fitting Nipple, Male Plug - 1/4"	1
Wrench for Air Filter	1
Operating Manual	1
Gouging Tip 60A	1

2. Inspect each item for possible shipping damage. If damage is evident, contact your distributor and / or shipping company before proceeding with the installation.
3. Record Power Supply and Torch model and serial numbers, purchase date and vendor name, in the information block at the front of this manual.

3.02 Lifting Options

The Power Supply includes a handle for **hand lifting only.** Be sure unit is lifted and transported safely and securely.

WARNING

Do not touch live electrical parts.
Disconnect input power cord before moving unit.
FALLING EQUIPMENT can cause serious personal injury and can damage equipment.
HANDLE is not for mechanical lifting.

- Only persons of adequate physical strength should lift the unit.
- Lift unit by the handle, using two hands. Do not use straps for lifting.
- Use optional cart or similar device of adequate capacity to move unit.
- Place unit on a proper skid and secure in place before transporting with a fork lift or other vehicle.

3.03 Primary Input Power Connections

CAUTION

Check your power source for correct voltage before plugging in or connecting the unit. The primary power source, fuse, and any extension cords used must conform to local electrical code and the recommended circuit protection and wiring requirements as specified in Section 2.

Power Cord and Plug

This power supply includes an input power cord and plug suitable for 240 VAC, 15 Amp.

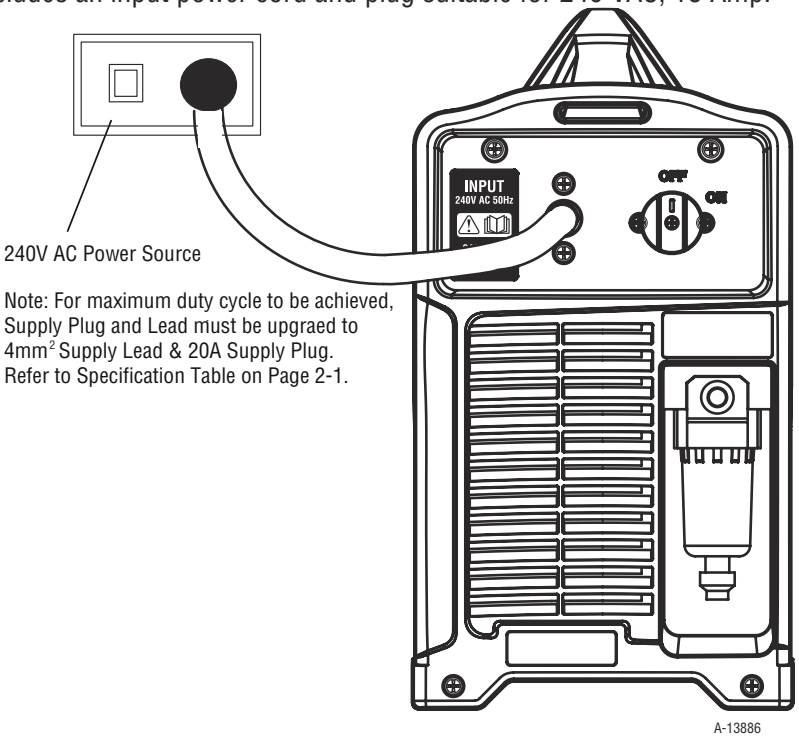
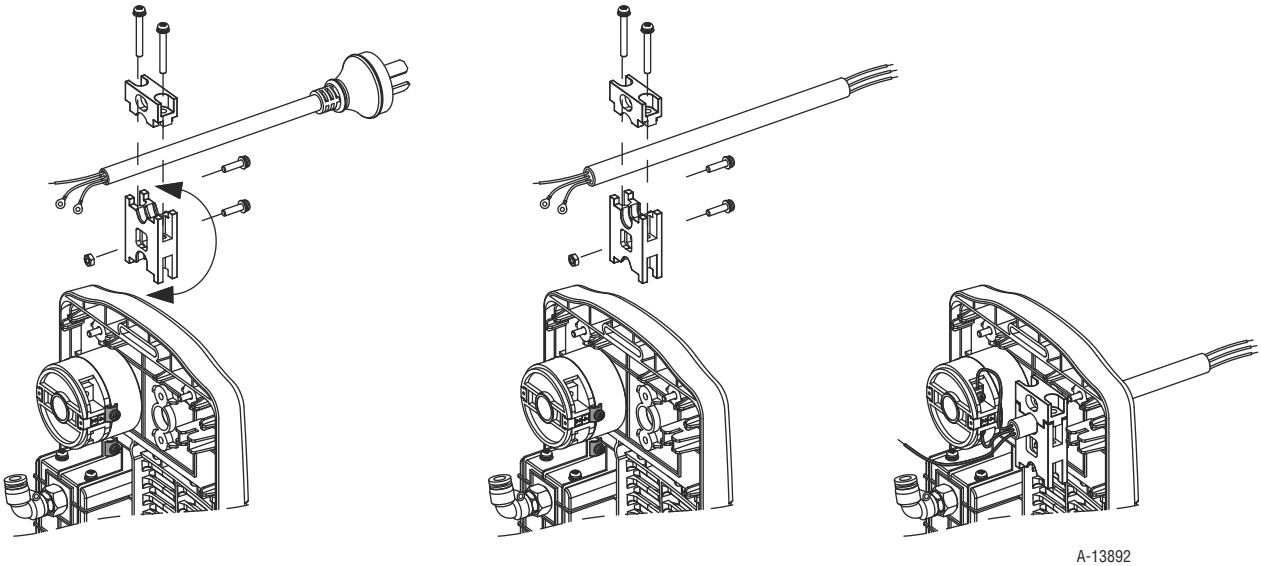


Figure 3-1: 240V AC Power Source

When the power source input voltage is over or under the safe operating range, the Voltage Error Screens will be displayed, at the same time the current output will be cut off.

If the power supply voltage continually goes beyond the safe work voltage range it will shorten the power source life-span.

Replacement of Power Cord on Rear Panel



3.04 Air Supply Connections

A. Connecting Air Supply to Unit

1. Remove the red protective cap on the inlet port.
2. Connect the Nitto Air Fitting Nipple, Male Plug - 1/4" to the inlet port, or use other barb to connect to the inlet port.

> **NOTE**
> For a secure seal, apply thread sealant to the fitting threads, according to manufacturer's instructions. Do Not use Teflon tape as a thread sealer, as small particles of the tape may break off and block the small gas passages in the torch.

3. Connect the gas line to the connector with quick disconnector or clamp. Refer to Figure 3-2.

> **NOTE**
> For a secure seal, apply thread sealant to the fitting threads, according to manufacturer's instructions. Do Not use Teflon tape as a thread sealer, as small particles of the tape may break off and block the small gas passages in the torch.

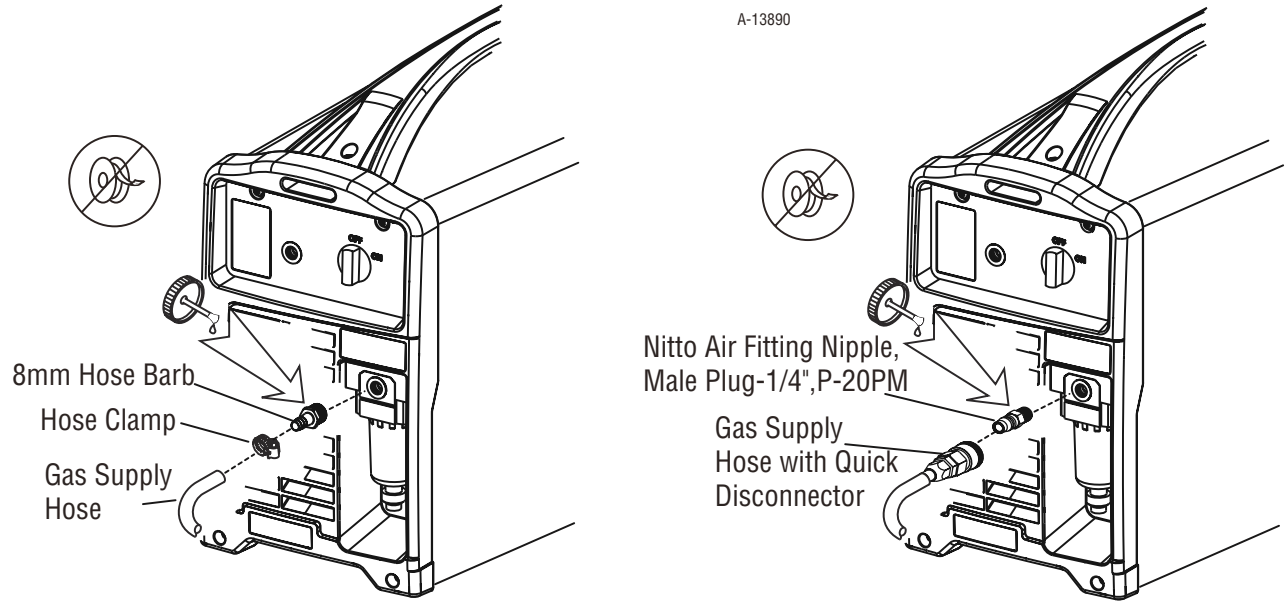


Figure 3-2: Gas Connection to Compressed Air Input

B. Using Industrial Compressed Air In Gas Cylinders

When using Industrial compressed air in gas cylinders as the gas supply:

1. Refer to the manufacturer's specifications for installation and maintenance procedures for high pressure gas regulators.
2. Examine the cylinder valves to be sure they are clean and free of oil, grease or any foreign material. Briefly open each cylinder valve to blow out any dust which may be present.
3. The cylinder must be equipped with an adjustable high - pressure regulator capable of outlet pressures up to 600-800 kPa bar maximum and flows of at least 110 LPM.
4. Connect gas supply hose to the cylinder.

> **NOTE!**
> Pressure should be set at 600-800 kPa at the high pressure gas cylinder regulator.
> Supply hose must be at least 6 mm I.D..
> For a secure seal, apply thread sealant to the fitting threads, according to manufacturer's instructions. Do Not use Teflon tape as a thread sealer, as small particles of the tape may break off and block the small gas passages in the torch.

C. Installing Optional Inline Filter

An optional inline filter (P/N CSP337039) is recommended for improved filtering with compressed air and keeping moisture or debris out of the torch.

1. Attach the inline filter hose to the Inlet Port 1/4" NPT of the system filter.
2. Attach the filter assembly to the filter hose.
3. Connect the air line to the filter using the 1/4" NPT. The illustration of Figure 3-3 shows typical fittings as an example.

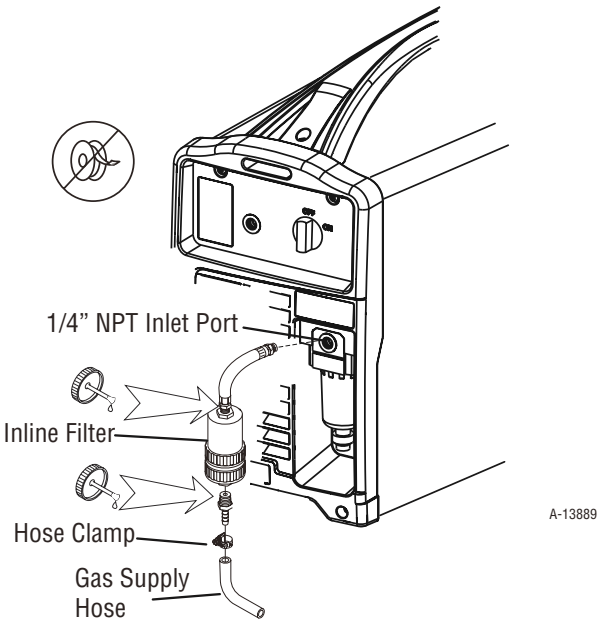


Figure 3-3: Connecting Inline Filter

NOTE!

Pressure should be set at 6.0 kPa at the high pressure gas cylinder regulator.
Supply hose must be at least 6 mm I.D..
For a secure seal, apply thread sealant to the fitting threads, according to manufacturer's instructions. Do Not use Teflon tape as a thread sealer, as small particles of the tape may break off and block the small gas passages in the torch.

3.05 Work Lead Connection

Connect the Work Lead to the power supply and the work piece.

1. Attach the male dinse plug of the work lead to the dinse socket on the front panel (refer to 2.04.4) as shown in Figure 3-4. Push in and turn clockwise for a secure and sound electrical connection.

> **CAUTION**
>
> Loose terminal connections can cause overheating and result in the male plug being fused in the Dinse terminal.

2. Connect the work clamp to the work piece or cutting table. The working area must be free from oil, paint and rust. Connect only to the main part of the work piece. Do Not connect to the part to be cut off.

> **CAUTION**
>
> Before connecting the work clamp to the work piece make sure the mains power supply is switched off.

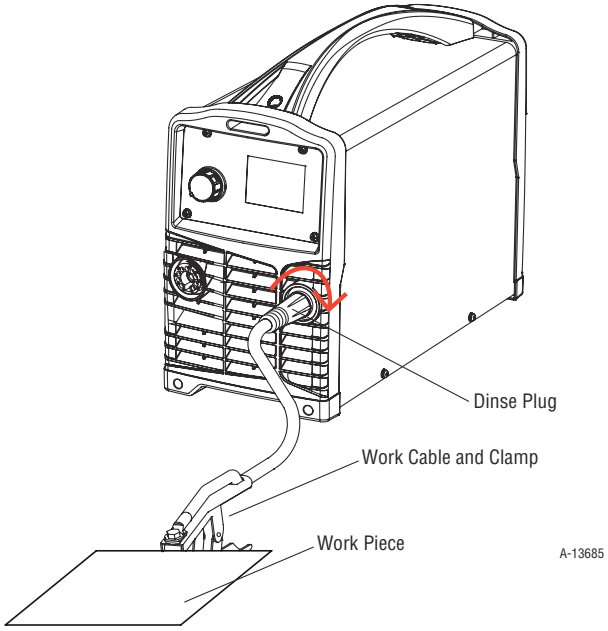


Figure 3-4: Connecting Work Lead

3.06 Torch Connection

Fit the CutSkill 60A plasma torch to the power source by pushing the male torch connector into the female torch adaptor and screwing the torch locking nut clockwise to secure the plasma torch to the torch adaptor.

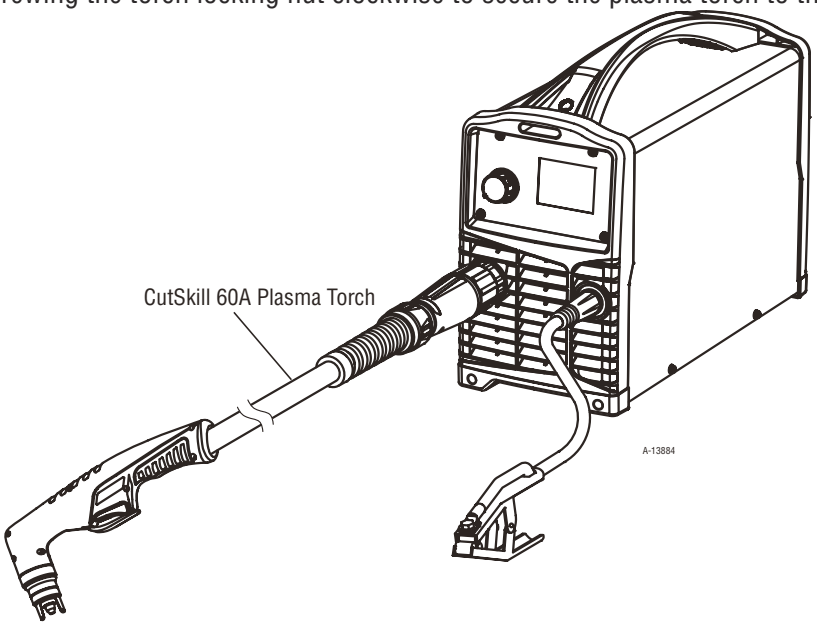


Figure 3-5: Connecting Plasma Torch

SECTION 4 SYSTEM: OPERATION

4.01 Preparations for Operating

At the start of each operating session:

WARNING

Disconnect primary power at the source before assembling or disassembling power supply, torch parts, or torch and leads assemblies.

A. Torch Parts Selection

Check the torch for proper assembly and appropriate torch parts. The torch parts must correspond with the type of operation, and with the amperage output of this power supply. Use only genuine Cigweld parts with this torch.

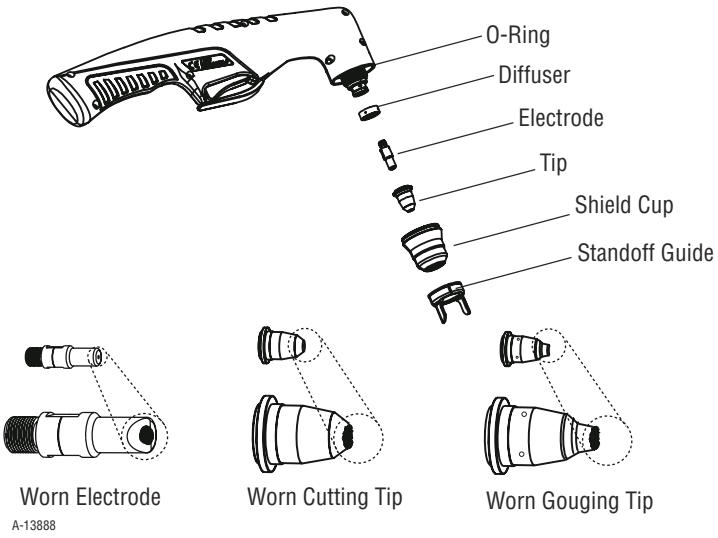


Figure 4-1: Torch Parts Selection

B. Torch Connection

Check that the torch is properly connected. Refer to Section 3.06 for details.

C. Check Primary Input Power Source

1. Check the power source for proper input voltage. Make sure the input power source meets the power requirements for the unit per Specifications in Section 2.
2. Connect the input power cable (or close the main disconnect switch) to supply power to the system.

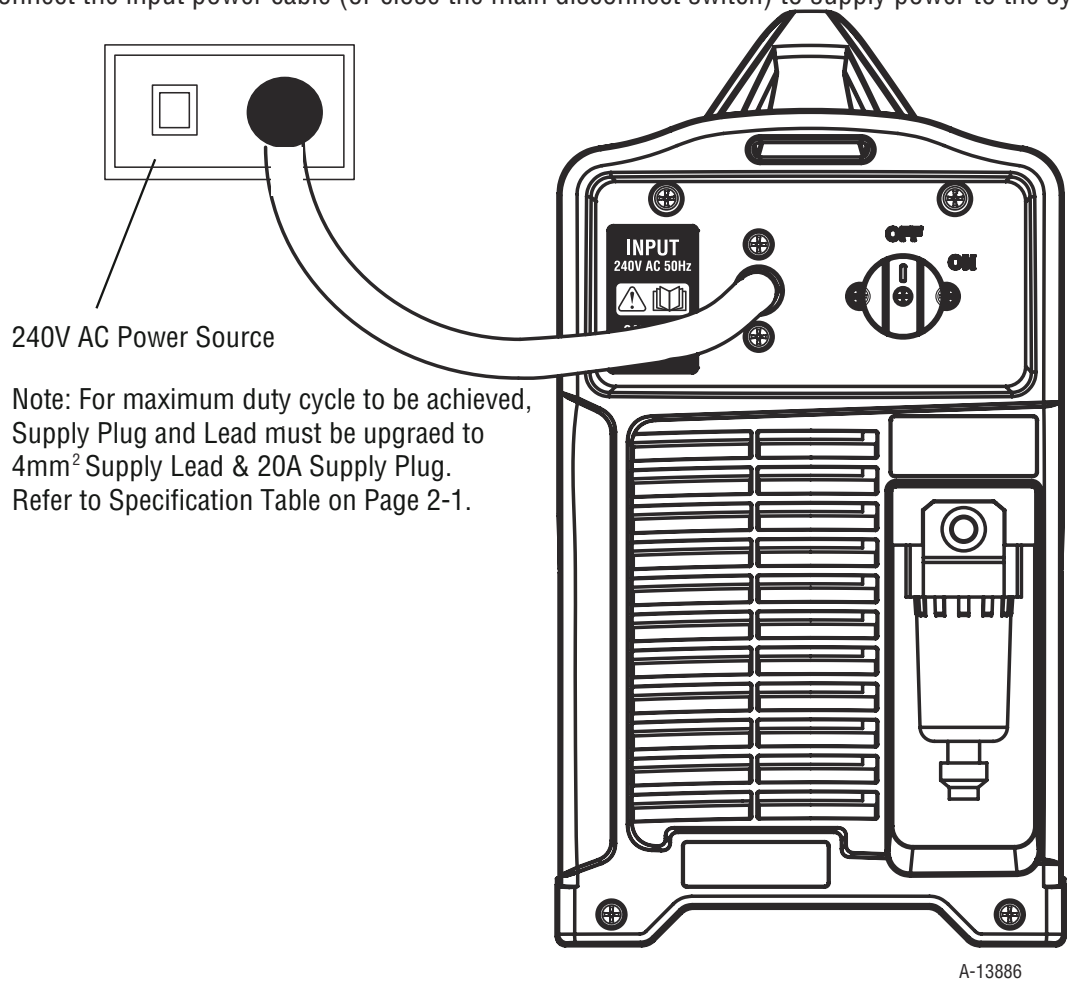


Figure 4-2: Connecting Power Cable

D. Gas Selection

Ensure gas source meets requirements listed in Section 2T. Check connections and turn gas supply on.

E. Connect Work Cable

Clamp the work cable to the workpiece or cutting table. The area must be free from oil, paint and rust. Connect only to the main part of the workpiece; do not connect to the part to be cut off.

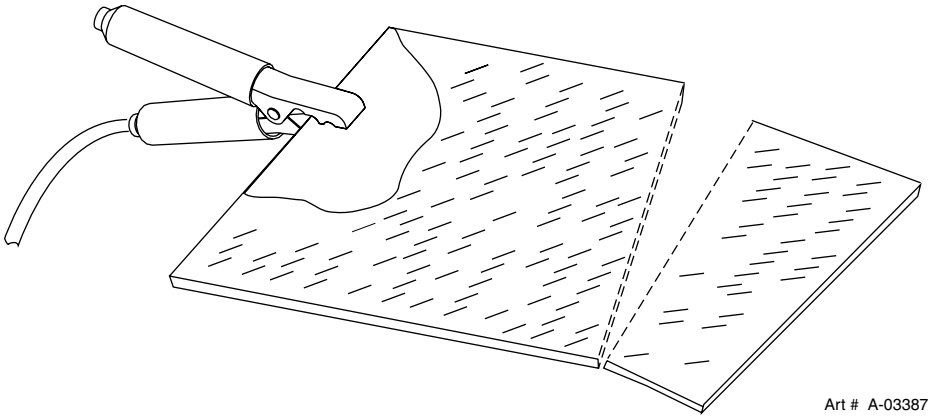


Figure 4-3: Connecting Work Cable

4.02 Sequence of Operation

The following is a typical sequence of operation for this power supply. Refer to Appendix 1 for block diagram.

1. Plug the input power cord into an active circuit.
2. Switch the ON / OFF switch on the rear panel of the power source to ON position. Ensure the LCD illuminates.
3. Select trigger mode between 2T and 4T. Refer to 2.05.3 for details.

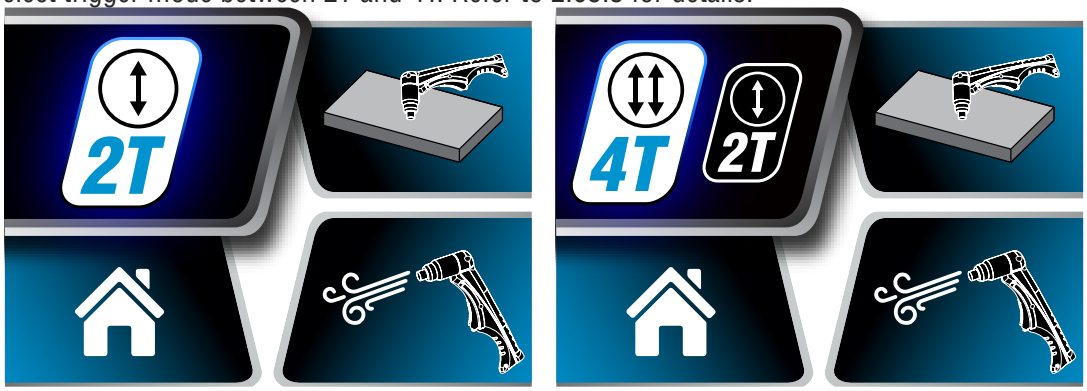


Figure 4-4: Selecting Trigger Mode

4. Select cutting mode among Plate Mode, Gouging Mode and Grid Mode. Refer to 2.05.3 for details.

Figure 4-5: Selecting Cutting Mode

NOTE

Please note that when trigger mode is set at 4T, both gouging mode and grid cutting mode are unavailable.

5. Check air pressure. Press the Control Knob and enter gas purge menu (refer to Section 2.05.3) to turn on gas purge function. The gas flows and the screen displays air pressure. Make sure the pressure is in the correct range from 410 kPa to 550 kPa. Please note the power source has set gas pressure to 460 kPa as default value. Press the Control Knob again to stop gas flow.
6. Select Home icon and press the Control Knob to exit the menu screen.
7. Adjust output current value via control knob on the front control panel (refer to Section 2.04.2).
8. Wear protective clothing, including welding gloves and appropriate eye protection (see Table 1-1).

9. Hold the torch perpendicular to the workpiece with the front of the tip on the edge of the workpiece at the point where the cut is to start. Pull the trigger. Arc is initiated and cutting process starts. Recommend always start the cutting from the edge of the work piece. Starting from the middle of work piece may damage the shield cup or standoff guide, and reduce life of the tip.

NOTE

For best performance and parts life, always use the correct parts for the type of operation.
Please avoid piercing and drag cutting without the use of the standoff guide.

The torch can be comfortably held in one hand or steadied with two hands. Position the hand to press the Trigger on the torch handle. With the hand torch, the hand may be positioned close to the torch head for maximum control or near the back end for maximum heat protection. Choose the holding technique that feels most comfortable and allows good control and movement.

NOTE!

The tip should never come in contact with the workpiece.

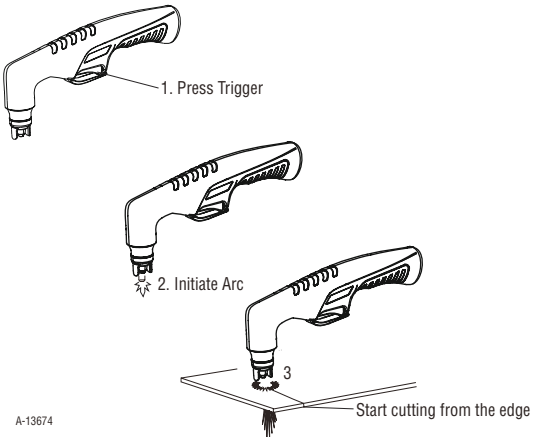


Figure 4-6: Cutting Operation

10. Complete cutting operation. Release the torch trigger and main arc stops.
11. Set the power supply ON / OFF switch to OFF (down position). Unplug input power cord.

4.03 Gouging

WARNING

Be sure the operator is equipped with proper gloves, clothing, eye and ear protection and that all safety precautions at the front of this manual have been followed. Make sure no part of the operator's body comes in contact with the workpiece when the torch is activated.

Disconnect primary power to the system before disassembling the torch, leads, or power supply.

CAUTION

Sparks from the cutting process can cause damage to coated, painted, and other surfaces such as glass, plastic and metal.
Check torch parts. The torch parts must correspond with the type of operation.

Gouging Parameters

Gouging performance depends on parameters such as torch travel speed, current level, lead angle (the angle between the torch and workpiece), and the distance between the torch tip and workpiece (standoff).

CAUTION

Touching the torch tip or shield cup to the work surface will cause excessive parts wear.

Torch Travel Speed

Optimum torch travel speed is dependent on current setting, lead angle, and mode of operation.

Current Setting

Current settings depend on torch travel speed, mode of operation (hand or machine torch), and the amount of material to be removed.

Lead Angle

The angle between the torch and workpiece depends on the output current setting and torch travel speed. The recommended lead angle is 35°. At a lead angle greater than 45° the molten metal will not be blown out of the gouge and may be blown back onto the torch. If the lead angle is too small (less than 35°), less material may be removed, requiring more passes. In some applications, such as removing welds or working with light metal, this may be desirable.

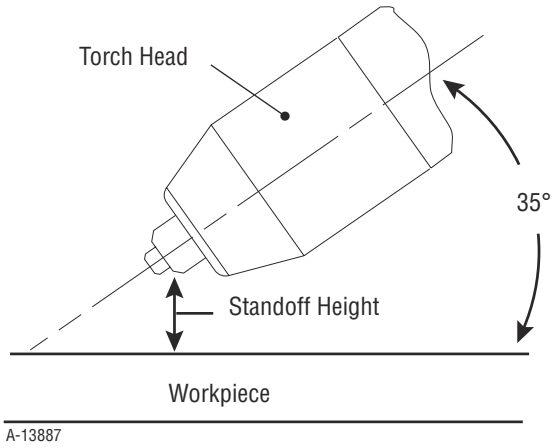


Figure 4-7: Gouging Angle and Standoff Distance

Standoff Distance

The tip to work distance affects gouge quality and depth. Standoff distance of 1/8 - 1/4 inch (3 - 6 mm) allows for smooth, consistent metal removal. Smaller standoff distances may result in a severance cut rather than a gouge. Standoff distances greater than 1/4 inch (6 mm) may result in minimal metal removal or loss of transferred main arc.

Slag Buildup

Slag generated by gouging on materials such as carbon and stainless steels, nickels, and alloyed steels, can be removed easily in most cases. Slag does not obstruct the gouging process if it accumulates to the side of the gouge path. However, slag build - up can cause inconsistencies and irregular metal removal if large amounts of material build up in front of the arc. The build - up is most often a result of improper travel speed, lead angle, or standoff height.

4.04 Cut Quality

NOTE!

Cut quality depends heavily on setup and parameters such as torch standoff, alignment with the workpiece, cutting speed, gas pressures, and operator ability.
Refer to appendix pages for additional information as related to the power supply used.

Cut quality requirements differ depending on application. For instance, nitride build - up and bevel angle may be major factors when the surface will be welded after cutting. Dross - free cutting is important when finish cut quality is desired to avoid a secondary cleaning operation. The following cut quality characteristics are illustrated in the following figure:

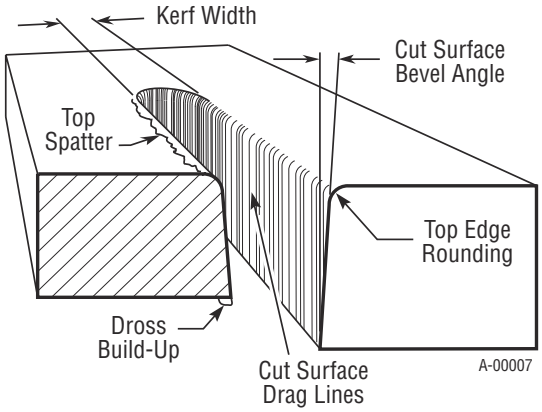


Figure 4-8: Cut Quality Characteristics

Cut Surface

The desired or specified condition (smooth or rough) of the face of the cut.

Nitride Build - Up

Nitride deposits can be left on the surface of the cut when nitrogen is present in the plasma gas stream. These buildups may create difficulties if the material is to be welded after the cutting process.

Bevel Angle

The angle between the surface of the cut edge and a plane perpendicular to the surface of the plate. A perfectly perpendicular cut would result in a 0° bevel angle.

Top - Edge Rounding

Rounding on the top edge of a cut due to wearing from the initial contact of the plasma arc on the workpiece.

Bottom Dross Buildup

Molten material which is not blown out of the cut area and resolidifies on the plate. Excessive dross may require secondary cleanup operations after cutting.

Kerf Width

The width of the cut (or the width of material removed during the cut).

Top Spatter (Dross)

Top spatter or dross on the top of the cut caused by slow travel speed, excess cutting height, or cutting tip whose orifice has become elongated.

4.05 General Cutting Information

WARNING

Disconnect primary power at the source before disassembling the power supply, torch, or torch leads.

Frequently review the Important Safety Precautions at the front of this manual. Be sure the operator is equipped with proper gloves, clothing, eye and ear protection. Make sure no part of the operator's body comes into contact with the workpiece while the torch is activated.

CAUTION

Sparks from the cutting process can cause damage to coated, painted, and other surfaces such as glass, plastic and metal.

NOTE!

Handle torch leads with care and protect them from damage.

Torch Standoff

Improper standoff (the distance between the torch tip and workpiece) can adversely affect tip life as well as shield cup life. Standoff may also significantly affect the bevel angle. Reducing standoff will generally result in a more square cut. Always use the standoff guide on the torch to keep the distance between torch tip and work piece.

Edge Starting

For edge starts, hold the torch perpendicular to the workpiece with the front of the tip near (not touching) the edge of the workpiece at the point where the cut is to start. When starting at the edge of the plate, do not pause at the edge and force the arc to "reach" for the edge of the metal. Establish the cutting arc as quickly as possible.

Direction of Cut

In the torches, 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 more square than the other. Viewed along the direction of travel, the right side of the cut is more square than the left.

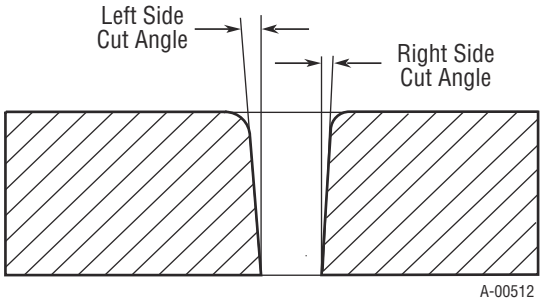


Figure 4-9: Side Characteristics Of Cut

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

Dross

When dross is present on carbon steel, it is commonly referred to as either "high speed, slow speed, or top dross". Dross present on top of the plate is normally caused by too great a torch to plate distance. "Top dross" is normally very easy to remove and can often be wiped off with a welding glove. "Slow 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. When cutting a troublesome steel, it is sometimes useful to reduce the cutting speed to produce "slow speed dross". Any resultant cleanup can be accomplished by scraping, not grinding.

4.06 Common Cutting Faults

Problem - Symptom	Common Cause
Insufficient Penetration	1. Cutting speed too fast.
	2. Torch tilted too much.
	3. Metal too thick.
	4. Worn torch parts
	5. Cutting current too low.
	6. Non - Genuine Cigweld parts used
	7. Incorrect gas pressure
Main Arc Extinguishes	1. Cutting speed too slow.
	2. Torch standoff too high from workpiece.
	3. Cutting current too high.
	4. Work cable disconnected.
	5. Worn torch parts.
	6. Non - Genuine Cigweld parts used
Excessive Dross Formation	1. Cutting speed too slow.
	2. Torch standoff too high from workpiece.
	3. Worn torch parts.
	4. Improper cutting current.
	5. Non - Genuine Cigweld parts used
	6. Incorrect gas pressure
Short Torch Parts Life	1. Oil or moisture in air source.
	2. Exceeding system capability (material too thick).
	3. Excessive pilot arc time
	4. Gas pressure too low.
	5. Improperly assembled torch
	6. Non - Genuine Cigweld parts used
Difficult Starting	1. Worn torch parts
	2. Non - Genuine Cigweld parts used
	3. Incorrect gas pressure

Table 4-1: Common Cutting Faults

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SECTION 5 SYSTEM: SERVICE

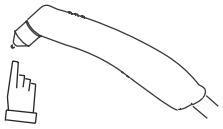
5.01 General Maintenance

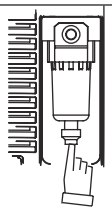
Warning!
Disconnect input power before maintaining.

Maintain more often if used under severe conditions

Each Use

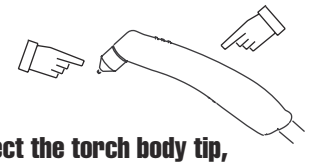
Visual check of torch tip and electrode





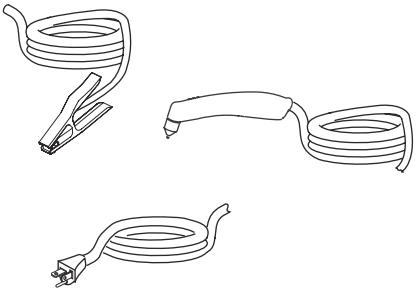
Press the water release valve upward to release water from the water catchment.

Weekly



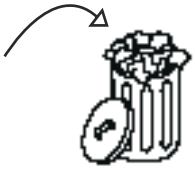
Visually inspect the torch body tip, electrode, standoff guide and shield cup

Visually inspect the cables and leads. Replace as needed

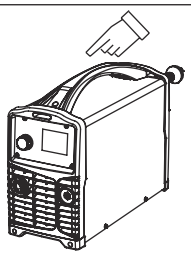


3 Months

Replace all broken parts

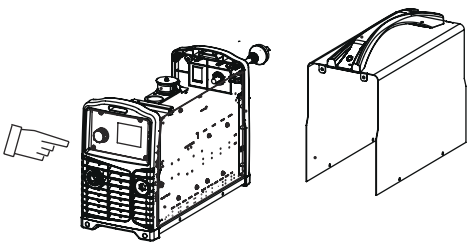


Clean exterior of power supply



6 Months

Visually check and Carefully clean the interior



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A. Every three months

Check external air filter, replace if necessary.

1. Shut off input power; turn off the gas supply. Bleed down the gas supply. Check air filter and replace if necessary.

NOTE
Leave internal ground wire in place

B. Every six months

1. Check the in-line air filter(s), clean or replace as required.
2. Check cables and hoses for leaks or cracks, replace if necessary.
3. Vacuum dust and dirt out of the entire machine.

5.02 Basic Troubleshooting Guide

WARNING
There are extremely dangerous voltage and power levels present inside this unit. Do not attempt to diagnose or repair it unless you are an accredited service provider and you have had training in power electronics measurement and troubleshooting techniques.

PROBLEM		CAUSE		REMEDY	
1	LCD screen is not illuminated.	A	Main input power cord does not connect to power socket.	A	Connect the power cord.
		B	Power ON/OFF switch in OFF (down) position.	B	Turn switch to ON (up) position.
		C	Actual input voltage does not correspond to required 240V of the unit.	C	Ensure that the mains supply is within 240VAC +/- 15% then turn the power source OFF then turn the power source back ON.
		D	Faulty components in unit	D	Have an accredited CIGWELD service provider repair or replace
2	Torch or shield cup installation error	A	Torch is not correctly connected to the power source.	A	Reinstall torch, make sure torch has fully installed into the plasma cutting torch female adaptor, and screw the plastic torch nut clockwise to secure in position.
		B	Shield cup is not installed correctly.	B	Install the shield cup again.
		C	Plasma torch failure	C	Have an accredited CIGWELD service provider repair or replace.
3	Air pressure error	A	Input air pressure too low or too high	A	Adjust the input air pressure to 600kPa~800Kpa.
		B	Gas passage contains impurities.	B	Disconnect gas hose from the rear of power source or wirefeeder and blow out impurities.
		C	Gas leakage	C	Check gas leakage between the gas gose and the gas inlet or cylinder outlet.
		D	Faulty component in unit.	D	Have an accredited CIGWELD service provider repair or replace.

PROBLEM		CAUSE		REMEDY	
4	Electrode or cutting tip installation error	A	Electrode or tip is not installed correctly.	A	Reinstall the electrode or tip.
		B	Electrode or tip is seriously worn.	B	Replace worn electrode or tip.
		C	Plasma torch failure.	C	Have an accredited CIGWELD service provider repair or replace.
		D	Power source component failure.	D	Have an accredited CIGWELD service provider repair or replace.
5	Voltage error	A	The mains supply voltage out of range.	A	Check if the input voltage is within 204~276.
		B	Power source component failure.	B	Have an accredited CIGWELD service provider repair or replace.
6	Over temperature error	A	Duty cycle of power source has been exceeded.	A	Leave the power source switched ON and allow it to cool. Note that Over Temperature Error screen must be extinguished prior to commencement of cutting.
		B	Air flow through or around the unit is blocked.	B	Keep the ventilation clearance.
		C	Fan failure	C	Check if the fan is turnning when the main switch is ON. Have an accredited CIGWELD service provider repair or replace if the fan is not working.
		D	Power source component failure.	D	Have an accredited CIGWELD service provider repair or replace.

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SECTION 6: PARTS LIST

The parts list provides a breakdown of all replaceable components.

6.01 Power Source Replacement Parts

Item #	Qty	Description	Catalog #
1	1	Panel Cover	CSP337097
2	1	PCB Inverter	CSP337098
3	1	Panel Base	CSP337099
4	1	Panel Front	CSP337019
5	1	Dinse Socket	CSP337020
6	1	Centre Adaptor	CSP337021
7	1	PCB LCD	CSP337022
8	1	Panel Control	CSP337100
9	1	Shield Panel	CSP337024
10	1	Control Knob	CSP337025
11	1	PCB Encoder	CSP337026
12	1	Output Inductor	CSP337101
13	1	Main Transformer	CSP337102
14	1	Inductor PFC	CSP337103
15	1	Fan Assembly	CSP337104
16	1	Solenoid Assebly	CSP337031
17	1	Earth Inductor	CSP337032
18	1	Power Switch	CSP337028
19	1	Pressure Sensor Assembly	CSP337106
20	1	Air Regulator	CSP337030
21	1	Air Filter	CSP337033
22	1	Panel Rear	CSP337107
23	1	Common Chock PCB	CSP337105
24	1	Handle	CSP337108

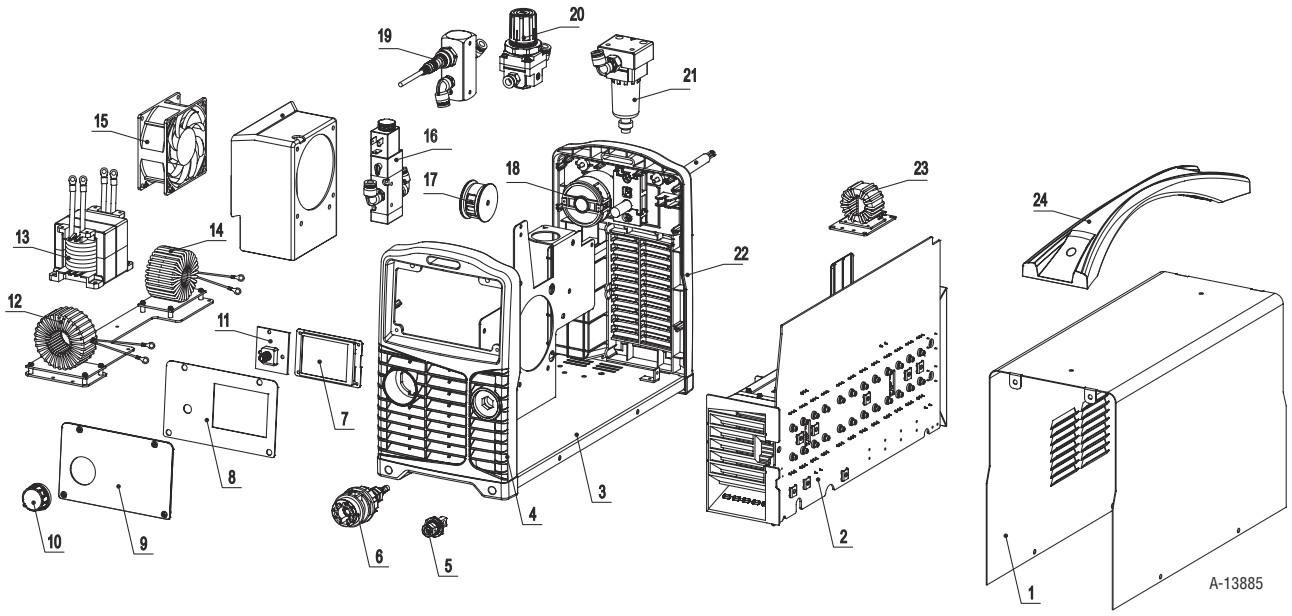


Figure 6-1: CutSkill 60 Power Source Replacement Parts

6.02 CutSkill 60A Plasma Torch (P/N CSP337000) Replacement Parts

Item #	Qty	Description	Catalog #
1	1	Cutting Tip, 1.1mm	CSP337095
2	1	Electrode	CSP337003
3	1	Standoff Guide	CSP337004
4	1	Shield Cap	CSP337005
5	1	O-ring	CSP337006
6	1	Diffuser	CSP337007
7	1	Torch Handle	CSP337008
8	1	Trigger Guard	CSP337009
9	1	Torch Trigger	CSP337010
10	1	Torch Head	CSP337011
11	1	Torch Joint	CSP337012
12	1	Cable Assembly	CSP337013
13	1	Torch Adaptor	CSP337014
14	1	Plasma Torch Spanner	CSP337094

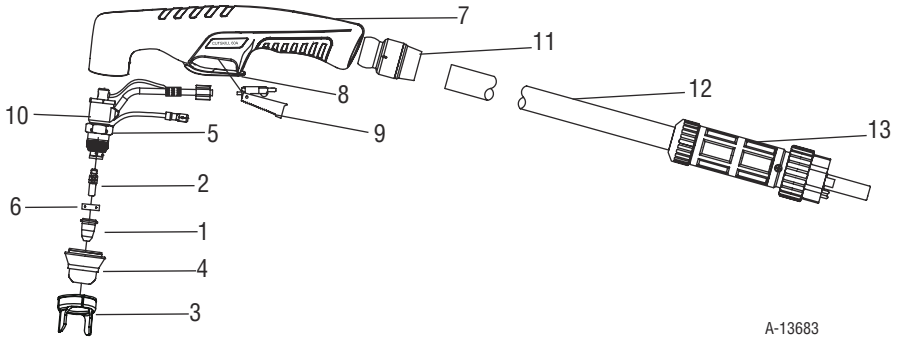


Figure 6-2: CutSkill 60A Plasma Torch Replacement Parts

6.03 Options and Accessories

Item #	Description	Catalog #
1	Filter Inline	CSP337039
2	Cartridge Filter	CSP337040
3	Circle Cutting Attachment	CSP337041
4	Gouging Tip 60A	CSP337096

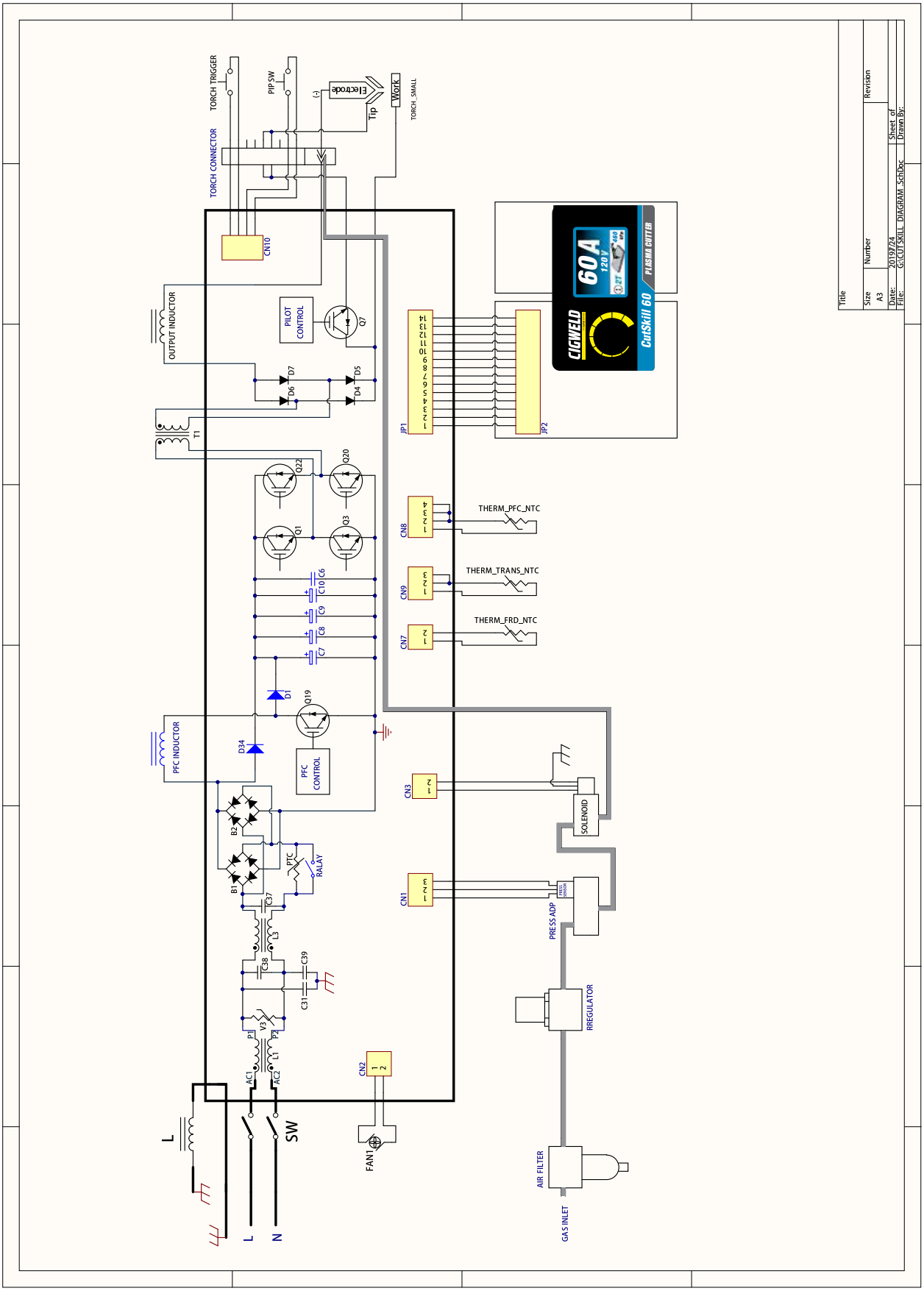
6.04 Ordering Information

Order replacement parts by catalog number and complete description of the part or assembly, as listed in the parts list for each type item. Also include the model and serial number of the torch. Address all inquiries to your authorized distributor.

6.05 Returns

If a product must be returned for service, contact your distributor. Materials returned without proper authorization will not be accepted.

APPENDIX 1: CIRCUIT DIAGRAM



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CIGWELD - LIMITED WARRANTY TERMS

LIMITED WARRANTY: CIGWELD Pty Ltd, An ESAB Brand, hereafter, “CIGWELD” warrants to customers of its authorized distributors hereafter “Purchaser” that its products will be free of defects in workmanship or material. Should any failure to conform to this warranty appear within the time period applicable to the CIGWELD products as stated below, CIGWELD shall, upon notification thereof and substantiation that the product has been stored, installed, operated, and maintained in accordance with CIGWELD’s specifications, instructions, recommendations and recognized standard industry practice, and not subject to misuse, repair, neglect, alteration, or accident, correct such defects by suitable repair or replacement, at CIGWELD’s sole option, of any components or parts of the product determined by CIGWELD to be defective.

CIGWELD MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHERS, INCLUDING, BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

LIMITATION OF LIABILITY: CIGWELD SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, SUCH AS, BUT NOT LIMITED TO, LOST PROFITS AND BUSINESS INTERRUPTION. The remedies of the Purchaser set forth herein are exclusive and the liability of CIGWELD with respect to any contract, or anything done in connection therewith such as the performance or breach thereof, or from the manufacture, sale, delivery, resale, or use of any goods covered by or furnished by CIGWELD whether arising out of contract, negligence, strict tort, or under any warranty, or otherwise, shall not, except as expressly provided herein, exceed the price of the goods upon which such liability is based. No employee, agent, or representative of CIGWELD is authorized to change this warranty in any way or grant any other warranty.

PURCHASER’S RIGHTS UNDER THIS WARRANTY ARE VOID IF REPLACEMENT PARTS OR ACCESSORIES ARE USED WHICH IN CIGWELD’S SOLE JUDGEMENT MAY IMPAIR THE SAFETY OR PERFORMANCE OF ANY CIGWELD PRODUCT. PURCHASER’S RIGHTS UNDER THIS WARRANTY ARE VOID IF THE PRODUCT IS SOLD TO PURCHASER BY NON-AUTHORIZED PERSONS.

The warranty is effective for the time stated below beginning on the date that the authorized distributor delivers the products to the Purchaser. Notwithstanding the foregoing, in no event shall the warranty period extend more than the time stated plus one year from the date CIGWELD delivered the product to the authorized distributor.

Any claim under this warranty must be made within the warranty period which commences on the date of purchase of the product. To make a claim under the warranty, take the product (with proof of purchase from a Cigweld Accredited Seller) to the store where you purchased the product or contact Cigweld Customer Care 1300 654 674 for advice on your nearest Service Provider. CIGWELD reserves the right to request documented evidence of date of purchase. CIGWELD or our Accredited Distributor must be notified in writing of its claim within seven (7) days of becoming aware of the basis thereof, and at its own expense returning the goods which are the subject of the claim to CIGWELD or nominated Accredited Distributor/Accredited Service Provider

This warranty is given.

Cigweld Pty Ltd

A.B.N. 56007226815

71 Gower Street, Preston

Victoria, Australia, 3072

Phone: 1300 654 674

Email: enquiries@cigweld.com.au

Website: www.cigweld.com.au

This warranty is provided in addition to other rights and remedies you have under law: Our goods come with guarantees which cannot be excluded under the Australian Consumer Law. You are entitled to replacement or refund for a major failure and to compensation for other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Please note that the information detailed in this statement supersedes any prior published data produced by CIGWELD.

WARRANTY SCHEDULE – CUTSKILL 60

WARRANTY	WARRANTY PERIOD – (Parts and Labour)
CUTSKILL 60	3 Years
ACCESSORIES	**WARRANTY PERIOD**
Plasma torch and work lead	3 Months
Plasma torch consumable items	NIL

CIGWELD Limited Warranty does not apply to;

- Obsolete goods sold at auction, second-hand goods and prototype goods.
- Consumable Parts for MIG, TIG, Plasma welding, Plasma cutting and Oxy fuel torches, O-rings, fuses, filters or other parts that fail due to normal wear.

Note:

* No employee, agent, or representative of CIGWELD is authorized to change this warranty in any way or grant any other warranty, and CIGWELD shall not be bound by any such attempt. Correction of non-conformities, in the manner and time provided herein, constitutes fulfilment of CIGWELD's obligations to purchaser with respect to the product.

* This warranty is void, and seller bears no liability hereunder, if purchaser used replacement parts or accessories which, in CIGWELD's sole judgment, impaired the safety or performance of any CIGWELD product and if the unit is altered or serviced by an unauthorised CIGWELD Service Provider. Purchaser's rights under this warranty are void if the product is sold to purchaser by unauthorized persons.

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