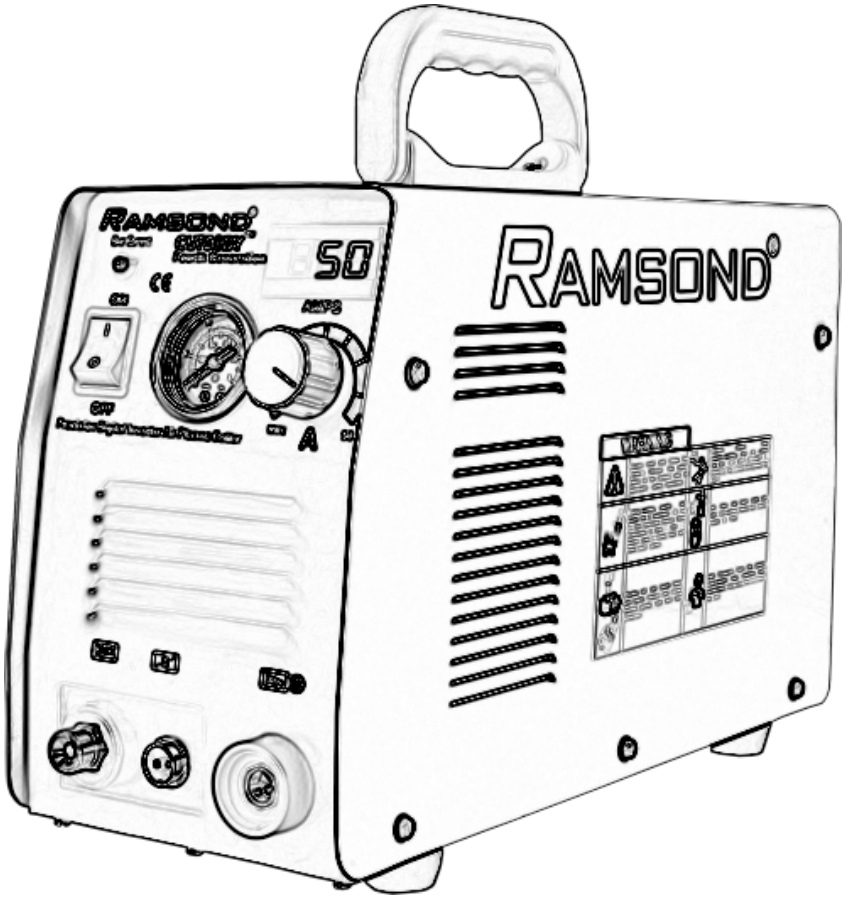
INSTRUCTION MANUAL



Digital Inverter Air Plasma Cutter

MODELS: CUT 50/70 DY Series

Serial No.: _____

Processes

Air Plasma Cutting
and Gouging

Description

DC 1 Phase

Air Plasma Cutter

Automatic Dual Voltage 110 / 220V

RAMSOND®

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PREFACE

Thank you and congratulations on choosing Ramsond. Now you can get the job done and get it done right. We know you don't have time to do it any other way. This Owner's Manual is designed to help you get the most out of your Ramsond plasma cutting and welding products. Please take time to read the safety precautions. They will help you protect yourself against potential hazards on the worksite. We've made installation and operation quick and easy. With Ramsond you can count on years of reliable service with proper maintenance. And if for some reason the unit needs repair, there's a Troubleshooting section that will help you figure out what the problem is. Warranty and service information for your particular model are also provided. Ramsond manufactures a full line of welders and welding related equipment. For information on other quality Hobart products, contact your local Ramsond dealer or visit Ramsond's website at www.Ramsond.com.

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TABLE OF CONTENTS

SECTION 1. - SAFETY PRECAUTIONS 1

1.1 SYMBOL USAGE 1

1.2 PLASMA ARC CUTTING HAZARDS 1-2

1.3 ADDITIONAL SYMBOLS FOR ISNTALLATIN, ETC. 3

1.4 CALIFORNIA PROPOSITION 65 WARNING 3

1.5 PRINCIPAL SAFETY STANDARDS 4

1.6 EMF INFORMATION 4

SECTION 2. - BASIC PRINCIPALS AND TERMINOLOGY OF PLASMA CUTTING 5

SECTION 3. - GETTING STARTED 6

3.1 WIRING 6

3.2 FRONT PANEL 7

3.3 BACK PANNEL 8

3.4 AIR REGULATOR / FILTER 9

3.5 GENERAL SET UP DIAGRAM ..... Error! Bookmark not defined.

3.6 PLASMA TORCH ..... Error! Bookmark not defined.

3.7 GROUND CLAMP 12

3.8 DUTY CYCLE 13

SECTION 4. - USING THE PLASMA CUTTER 14

4.1 OPERATION 14

4.2 OPERATING ENVIRONMENT 15

4.3 MAINTENANCE 15

SECTION 5. - TROUBLE SHOOTING 16

SECTION 6. - LIMITED WARRANTY 17

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SECTION 1 – SAFETY PRECAUTIONS - READ BEFORE USING

1-1. Symbol Usage

Means Warning! Watch Out! There are possible hazards with this procedure! The possible hazards are shown in the adjoining symbols.

▲ **Marks a special safety message.**

☞ *Means "Note"; not safety related.*



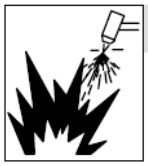
This group of symbols means Warning! Watch Out! possible ELECTRIC SHOCK, MOVING PARTS, and HOT PARTS hazards. Consult symbols and related instructions below for necessary actions to avoid the hazards.

1-2. Plasma Arc Cutting Hazards

▲ **The symbols shown below are used throughout this manual to call attention to and identify possible hazards. When you see the symbol, watch out, and follow the related instructions to avoid the hazard. The safety information given below is only a summary of the more complete safety information found in the Safety Standards listed in Section 1-5. Read and follow all Safety Standards.**

▲ **Only qualified persons should install, operate, maintain, and repair this unit.**

▲ **During operation, keep everybody, especially children, away.**



CUTTING can cause fire or explosion.

Hot metal and sparks blow out from the cutting arc. The flying sparks and hot metal, hot workpiece, and hot equipment can cause fires and burns. Check and be sure the area is safe before doing any cutting.

- Protect yourself and others from flying sparks and hot metal.
- Do not cut where flying sparks can strike flammable material.
- Remove all flammables within 35 ft (10.7 m) of the cutting arc. If this is not possible, tightly cover them with approved covers.
- Be alert that sparks and hot materials from cutting can easily go through small cracks and openings to adjacent areas.
- Watch for fire, and keep a fire extinguisher nearby.
- Be aware that cutting on a ceiling, floor, bulkhead, or partition can cause fire on the hidden side.
- Do not cut on closed containers such as tanks or drums.
- Connect work cable to the work as close to the cutting area as practical to prevent cutting current from traveling long, possibly unknown paths and causing electric shock and fire hazards.
- Never cut containers with potentially flammable materials inside – they must be emptied and properly cleaned first.
- Do not cut in atmospheres containing explosive dust or vapors.
- Do not cut pressurized cylinders, pipes, or vessels.
- Do not cut containers that have held combustibles.
- Wear oil-free protective garments such as leather gloves, heavy shirt, cuffless trousers, high shoes, and a cap.
- Do not locate unit on or over combustible surfaces.
- Remove any combustibles, such as a butane lighter or matches, from your person before doing any cutting.



ELECTRIC SHOCK can kill.

Touching live electrical parts can cause fatal shocks or severe burns. The torch and work circuit are electrically live whenever the output is on. The input power circuit and machine internal circuits are also live when power is on. Plasma arc cutting requires higher voltages than welding to start and maintain the arc (200 to 400 volts dc are common), but also uses torches designed with safety interlock systems which turn off the machine when the shield cup is loosened or if tip touches electrode inside the nozzle. Incorrectly installed or improperly grounded equipment is a hazard.

- Do not touch live electrical parts.
- Wear dry, hole-free insulating gloves and body protection.
- Insulate yourself from work and ground using dry insulating mats or covers big enough to prevent any physical contact with the work or ground.
- Do not touch torch parts if in contact with the work or ground.
- Turn off power before checking, cleaning, or changing torch parts.
- Disconnect input power before installing or servicing this equipment. Lockout/tagout input power according to OSHA CFR 1910.147 (see Safety Standards).
- Properly install and ground this equipment according to its Owner's Manual and national, state, and local codes.
- Check and be sure that input power cord ground wire is properly connected to ground terminal in disconnect box or that cord plug is connected to a properly grounded receptacle outlet – always verify the supply ground.
- When making input connections, attach proper grounding conductor first.
- Frequently inspect input power cord for damage or bare wiring – replace cord immediately if damaged – bare wiring can kill.
- Turn off all equipment when not in use.
- Inspect and replace any worn or damaged torch cable leads.
- Do not wrap torch cable around your body.
- Ground the workpiece to a good electrical (earth) ground if required by codes.
- Use only well-maintained equipment. Repair or replace damaged parts at once.
- Wear a safety harness if working above floor level.
- Keep all panels and covers securely in place.
- Do not bypass or try to defeat the safety interlock systems.
- Use only torch(es) specified in Owner's Manual.
- Keep away from torch tip and pilot arc when trigger is pressed.
- Clamp work cable with good metal-to-metal contact to workpiece (not piece that will fall away) or worktable as near the cut as practical.
- Insulate work clamp when not connected to workpiece to prevent contact with any metal object.



ELECTRIC SHOCK can kill.

SIGNIFICANT DC VOLTAGE exists on internal parts of inverter power sources AFTER the removal of input power.

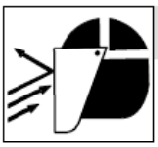
- Turn Off unit, disconnect input power, check voltage on input capacitors, and be sure it is near zero (0) volts before touching any parts. Check capacitors according to instructions in Maintenance Section of Owner's Manual or Technical Manual before touching any parts.

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EXPLODING PARTS can injure.

- On inverter power sources, failed parts can explode or cause other parts to explode when power is applied. Always wear a face shield and long sleeves when servicing inverters.



FLYING SPARKS can cause injury.

Sparks and hot metal blow out from the cutting arc. Chipping and grinding cause flying metal.

- Wear approved face shield or safety goggles with side shields.
- Wear proper body protection to protect skin.
- Wear flame-resistant ear plugs or ear muffs to prevent sparks from entering ears.



ARC RAYS can burn eyes and skin.

Arc rays from the cutting process produce intense visible and invisible (ultraviolet and infrared) rays that can burn eyes and skin.

- Wear face protection (helmet or shield) with correct shade of filter to protect your face and eyes when cutting or watching. ANSI Z49.1 (see Safety Standards) suggests a No. 9 shade (with No. 8 as minimum) for all cutting currents less than 300 amperes. Z49.1 adds that lighter filter shades may be used when the arc is hidden by the workpiece. As this is normally the case with low current cutting, the shades suggested in Table 1 are provided for the operator's convenience.
- Wear approved safety glasses with side shields under your helmet or shield.
- Use protective screens or barriers to protect others from flash and glare; warn others not to watch the arc.
- Wear protective clothing made from durable, flame-resistant material (leather and wool) and foot protection.

Table 1. Eye Protection For Plasma Arc Cutting

Current Level In Amperes	Minimum Shade Number
Below 20	#4
20 – 40	#5
40 – 60	#6
60 – 80	#8



NOISE can damage hearing.

Prolonged noise from some cutting applications can damage hearing if levels exceed limits specified by OSHA (see Safety Standards).

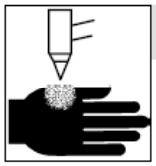
- Use approved ear plugs or ear muffs if noise level is high.
- Warn others nearby about noise hazard.



FUMES AND GASES can be hazardous.

Cutting produces fumes and gases. Breathing these fumes and gases can be hazardous to your health.

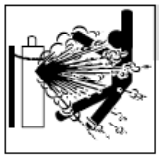
- Keep your head out of the fumes. Do not breathe the fumes.
- If inside, ventilate the area and/or use exhaust at the arc to remove cutting fumes and gases.
- If ventilation is poor, use an approved air-supplied respirator.
- Read the Material Safety Data Sheets (MSDSs) and the manufacturer's instruction for metals to be cut, coatings, and cleaners.
- Work in a confined space only if it is well ventilated, or while wearing an air-supplied respirator. Fumes from cutting and oxygen depletion can alter air quality causing injury or death. Be sure the breathing air is safe.
- Do not cut in locations near degreasing, cleaning, or spraying operations. The heat and rays of the arc can react with vapors to form highly toxic and irritating gases.
- Do not cut on coated metals, such as galvanized, lead, or cadmium plated steel, unless the coating is removed from the cutting 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 when cut.
- Do not cut containers with toxic or reactive materials inside or containers that have held toxic or reactive materials – they must be emptied and properly cleaned first.



PLASMA ARC can cause injury.

The heat from the plasma arc can cause serious burns. The force of the arc adds greatly to the burn hazard. The intensely hot and powerful arc can quickly cut through gloves and tissue.

- Keep away from the torch tip.
- Do not grip material near the cutting path.
- The pilot arc can cause burns – keep away from torch tip when trigger is pressed.
- Wear proper flame-retardant clothing covering all exposed body areas.
- Point torch away from your body and toward work when pressing the torch trigger – pilot arc comes on immediately.
- Turn off power source and disconnect input power before disassembling torch or changing torch parts.
- Use only torch(es) specified in the Owner's Manual.



CYLINDERS can explode if damaged.

Gas cylinders contain gas under high pressure. If damaged, a cylinder can explode. Since gas cylinders are normally part of metalworking processes, be sure to treat them carefully.

- Protect compressed gas cylinders from excessive heat, mechanical shocks, slag, open flame, sparks, and arcs.
- Install and secure cylinders in an upright position by chaining them to a stationary support or equipment cylinder rack to prevent falling or tipping.
- Keep cylinders away from any cutting or other electrical circuits.
- Never allow electrical contact between a plasma arc torch and a cylinder.
- Never cut on a pressurized cylinder – explosion will result.
- Use only correct gas cylinders, regulators, hoses, and fittings designed for the specific application; maintain them and associated parts in good condition.
- Turn face away from valve outlet when opening cylinder valve.
- Keep protective cap in place over valve except when cylinder is in use or connected for use.
- Read and follow instructions on compressed gas cylinders, associated equipment, and CGA publication P-1 listed in Safety Standards.

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1-3. Additional Symbols For Installation, Operation, And Maintenance



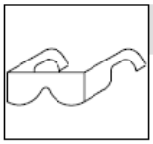
HOT PARTS can cause severe burns.

- Do not touch hot parts bare handed.
- Allow cooling period before working on torch.



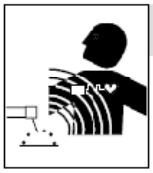
MOVING PARTS can cause injury.

- Keep away from moving parts such as fans.
- Keep all doors, panels, covers, and guards closed and securely in place.



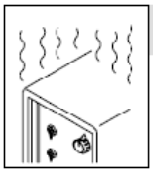
FLYING METAL can injure eyes.

- Wear safety glasses with side shields or face shield.



MAGNETIC FIELDS can affect pacemakers.

- Pacemaker wearers keep away.
- Wearers should consult their doctor before going near plasma arc cutting operations.



OVERUSE can cause OVERHEATING.

- Allow cooling period; follow rated duty cycle.
- Reduce amperage (thickness) or reduce duty cycle before starting to cut again.



EXPLODING HYDROGEN hazard.

- When cutting aluminum underwater or with the water touching the underside of the aluminum, free hydrogen gas may collect under the workpiece.
- See your cutting engineer and water table instructions for help.



FALLING UNIT can cause injury.

- Use lifting eye to lift unit only, NOT running gear, gas cylinders, or any other accessories.
- Use equipment of adequate capacity to lift unit.
- If using lift forks to move unit, be sure forks are long enough to extend beyond opposite side of unit.



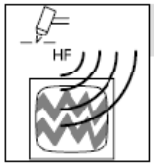
FIRE OR EXPLOSION hazard.

- Do not locate unit on, over, or near combustible surfaces.
- Do not install unit near flammables.
- Do not overload building wiring – be sure power supply system is properly sized, rated, and protected to handle this unit.



STATIC (ESD) can damage PC boards.

- Put on grounded wrist strap BEFORE handling boards or parts.
- Use proper static proof bags and boxes to store, move, or ship PC boards.



H.F. RADIATION can cause interference.

- High frequency (H.F.) can interfere with radio navigation, safety services, computers, and communications equipment.
- Have only qualified persons familiar with electronic equipment perform this installation.
- The user is responsible for having a qualified electrician promptly correct any interference problem resulting from the installation.
- If notified by the FCC about interference, stop using the equipment at once.
- Have the installation regularly checked and maintained.
- Keep high-frequency source doors and panels tightly shut, keep spark gaps at correct setting, and use grounding and shielding to minimize the possibility of interference.



ARC CUTTING can cause interference.

- Electromagnetic energy can interfere with sensitive electronic equipment such as computers and computer-driven equipment such as robots.
- To reduce possible interference, keep cables as short as possible, close together, and down low, such as on the floor.
- Locate cutting operation 100 meters from any sensitive electronic equipment.
- Be sure this cutting power source is installed and grounded according to this manual.
- If interference still occurs, the user must take extra measures such as moving the machine, using shielded cables, using line filters, or shielding the work area.

1-4. California Proposition 65 Warnings

▲ **Welding or cutting equipment produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety Code Section 25249.5 et seq.)**

▲ **Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.**

For Gasoline Engines:

▲ **Engine exhaust contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.**

For Diesel Engines:

▲ **Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.**

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1-5. Principal Safety Standards

Safety in Welding and Cutting, ANSI Standard Z49.1, from American Welding Society, 550 N.W. LeJeune Rd, Miami FL 33126

Safety and Health Standards, OSHA 29 CFR 1910, from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Recommended Practices for Plasma Arc Cutting, American Welding Society Standard AWS C5.2, from American Welding Society, 550 N.W. LeJeune Rd, Miami, FL 33126

Recommended Safe Practices for the Preparation for Welding and Cutting of Containers That Have Held Hazardous Substances, American Welding Society Standard AWS F4.1, from American Welding Society, 550 N.W. LeJeune Rd, Miami, FL 33126

National Electrical Code, NFPA Standard 70, from National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

Safe Handling of Compressed Gases in Cylinders, CGA Pamphlet P-1, from Compressed Gas Association, 1235 Jefferson Davis Highway, Suite 501, Arlington, VA 22202.

Code for Safety in Welding and Cutting, CSA Standard W117.2, from Canadian Standards Association, Standards Sales, 178 Rexdale Boulevard, Rexdale, Ontario, Canada M9W 1R3.

Safe Practices For Occupation And Educational Eye And Face Protection, ANSI Standard Z87.1, from American National Standards Institute, 1430 Broadway, New York, NY 10018.

Cutting And Welding Processes, NFPA Standard 51B, from National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

1-6. EMF Information

Considerations About Welding Or Cutting And The Effects Of Low Frequency Electric And Magnetic Fields

Welding or cutting current, as it flows through the welding or cutting cables, will cause electromagnetic fields. There has been and still is some concern about such fields. However, after examining more than 500 studies spanning 17 years of research, a special blue ribbon committee of the National Research Council concluded that: "The body of evidence, in the committee's judgment, has not demonstrated that exposure to power-frequency electric and magnetic fields is a human-health hazard." However, studies are still going forth and evidence continues to be examined. Until the final conclusions of the research are reached, you may wish to minimize your exposure to electromagnetic fields when welding or cutting.

To reduce magnetic fields in the workplace, use the following procedures:

1. Keep cables close together by twisting or taping them.
2. Arrange cables to one side and away from the operator.
3. Do not coil or drape cables around your body.
4. Keep cutting power source and cables as far away from operator as practical.
5. Connect work clamp to workpiece as close to the cut as possible.

About Pacemakers:

Pacemaker wearers consult your doctor first. If cleared by your doctor, then following the above procedures is recommended.

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SECTION 2. - BASIC PRINCIPALS AND TERMINOLOGY OF PLASMA CUTTING

A. Plasma Defined

Plasma cutters work by sending a pressurized gas, such as air, through a small channel. In the center of this channel, you'll find a negatively charged electrode. The electrode is at the center, and the nozzle is just below it. The swirl ring causes the plasma to turn rapidly as it passes. When you apply power to the negative electrode and you touch the tip of the nozzle to the metal, the connection creates a circuit. A powerful spark is generated between the electrode and the metal. As the inert gas passes through the channel, the spark heats the gas until it reaches the fourth state of matter. This reaction creates a stream of directed plasma, approximately 30,000 F or more and moving at 20,000 feet per second that reduces metal to vapor and molten slag.

The plasma itself conducts electrical current. The cycle of creating the arc is continuous as long as power is supplied to the electrode and the plasma stays in contact with the metal that is being cut. The cutter nozzle has a second set of channels. These channels release a constant flow of shielding gas around the cutting area. The pressure of this gas flow effectively controls the radius of the plasma beam.

NOTE! This machine is designed to use only compressed air as the "gas."

B. Voltage Regulation

The Automatic Voltage Compensation
Circuit prevents voltage load from exceeding maximum in accordance with the main technical data sheet and shortening the life of the machine.

C. Thermal Protection

The thermal protection circuits will engage if unit exceeds duty cycle. This will cause the machine to stop working. The indicator will be lit on the front of the machine. The fan will continue to run until the unit cools down. When it reaches an acceptable temperature, the unit will operate again.

D. Duty Cycle

Duty cycle is the percentage of on time in a 10 minute period in which the machine can be operated continually, in an environment of a specified temperature.

Exceeding duty cycle ratings will cause the thermal overload protection circuit to become energized and shut down output until the unit cools to normal operating temperature. Continual exceeding of duty cycle ratings can cause damage to the machine.

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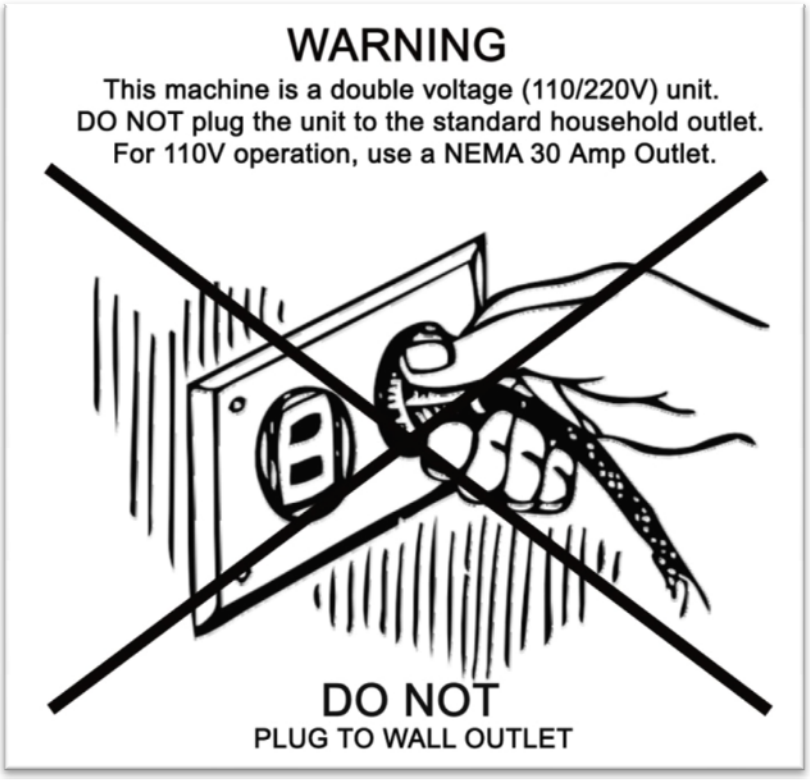
SECTION 3. – GETTING STARTED

3.1 - WIRING

Upon unpacking your Ramsond CUT series plasma cutter, you will notice that the unit is not equipped with wall plug. This is done to accommodate either the 110V or 220V configuration. The CUT series is a dual voltage machine. There is no switch for changing the power between 110 and 220 V, as the machine automatically detects the voltage.

CAUTION

Due to the current draw (Amp), this unit should **NOT** be connected to the standard household 110V outlet. A 30 Amp circuit is required for 110V operation and a 20 Amp circuit for 220V operation.



The main power cable of the unit consists of 3 wires as follows:

Brown or Red	=	Line
Blue or Black	=	Neutral
Two-Tone Green/Yellow	=	Ground

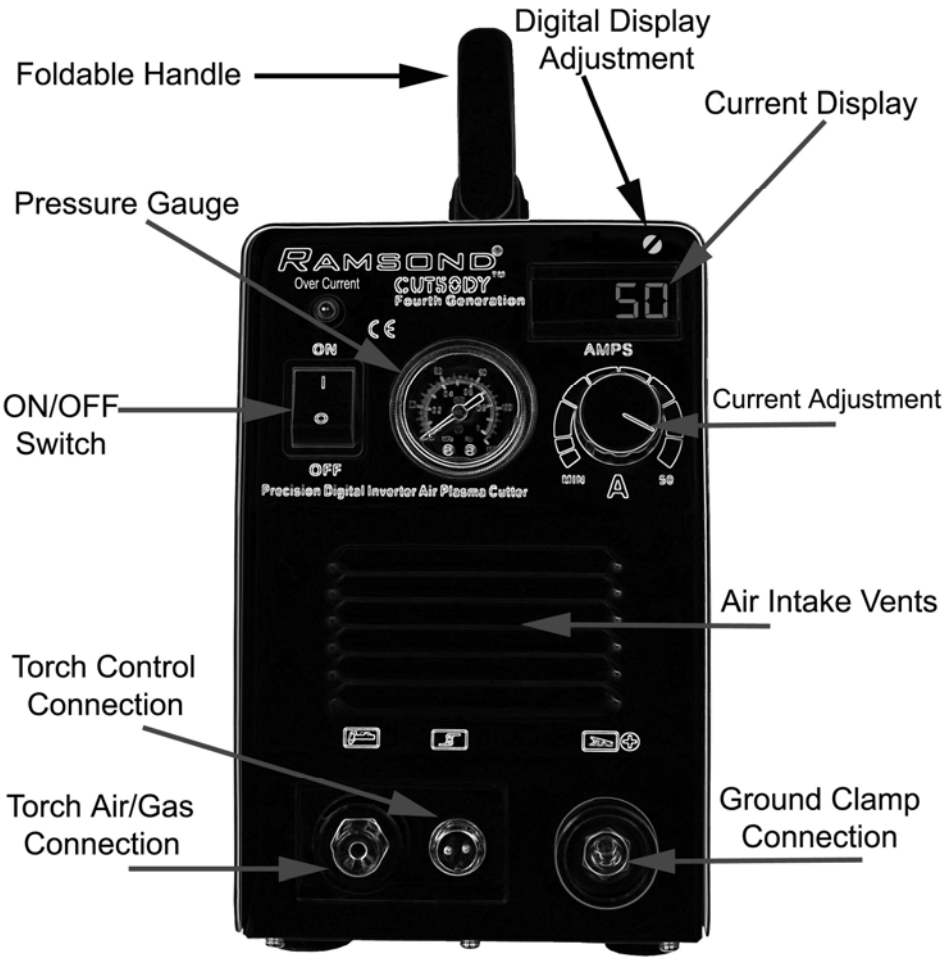
CAUTION

Incorrect wiring may lead to risk of injury and severe damage to the unit. It shall also render the limited warranty void!

IMPROPER WIRING OF THE UNIT WILL LEAD TO SUBSTANTIAL DAMAGE TO THE UNIT AND WILL RENDER THE WARRANTY VOID.

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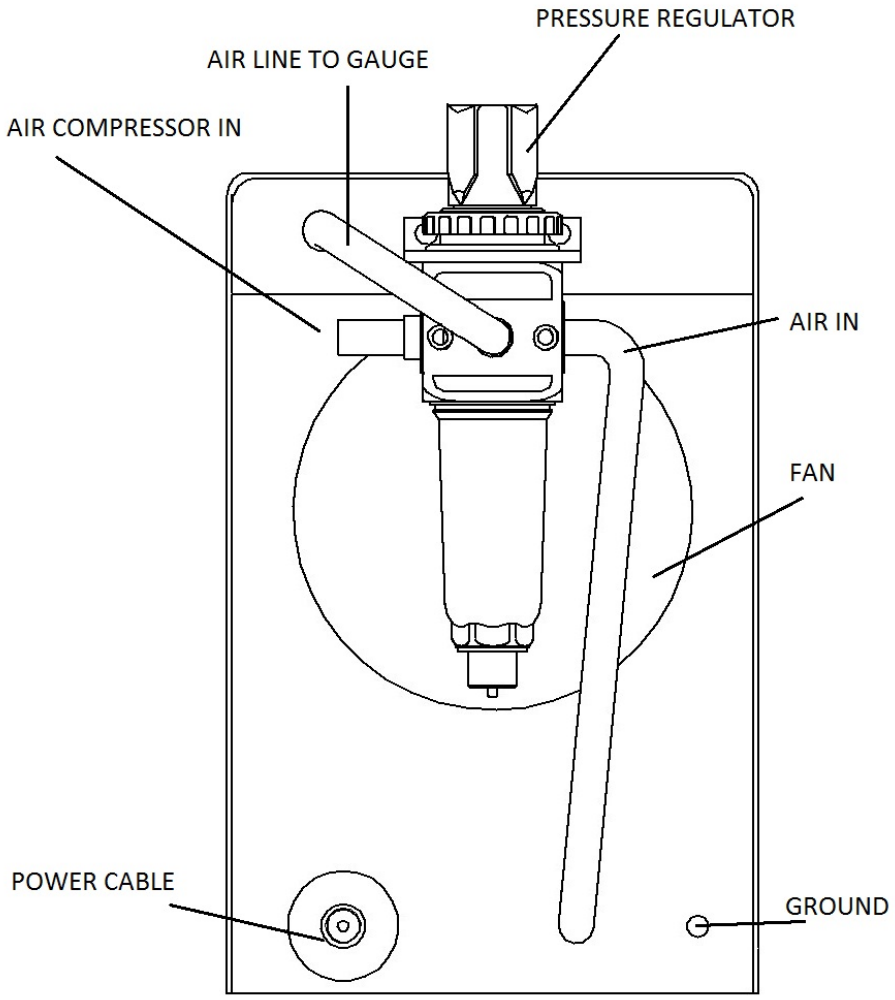
3.2 - FRONT PANEL



ON / OFF SWITCH	Turns the unit on and off. Digital display may stay lit for up to 1 minute after unit is turned off. This is normal.
DIGITAL AMPERAGE DISPLAY	Displays the Current (Amp). The unit is equipped with a display calibration screw above the display. If the display is out of range, adjustments can be made using this screw. For calibrating the display, turn the Amperage (A) knob to maximum position and then calibrate the display to the maximum current (e.g. 50A for CUT50)
AIR CONNECTION	The air hose of the plasma torch attaches to this connection. Before connecting, ensure connection and threads are clean and free from debris.
TORCH SWITCH	The electrical connection of the plasma torch connects to this two-prong connection. Before connecting ensure connection and threads are clean and free from debris.
GROUND CLAMP CONNECTION	Before connecting ensure connection and threads are clean and free from debris
CALIBRATION SCREW	Adjusts digital amp display output. To calibrate display turn amp knob to maximum amperage (e.g. 50 amp for CUT50) and adjust display to read 50 amps.

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3.3 - BACK PANEL



AIR REGULATOR – Apply supplied thread tape on all fitting, double check for any leaks

AIR LINE TO GAUGE – Ensure that airline is firmly installed into quick disconnect fitting

PRESSURE REGULATOR – Adjust pressure to desired levels.

NOTE THE ARROW DIRECTION ON THE REGULATOR TO ENSURE PROPER INSTALLATION. (See Following Page)

AIR LINE IN – Ensure filter screen is free from debris. DO NOT OVER TIGHTEN HOSE CLAMPS

GROUND – Optional ground connection. Suggested ground for product safety.

***BEFORE EACH USE INSPECT POWER CABLE TO ENSURE THERE ARE NO BREAKS, CUTS, OR DEFECTS. IF CABLE IS FOUND TO BE DEFECTIVE DO NOT USE. REPAIR OR CONTACT TECHNICAL SUPPORT**

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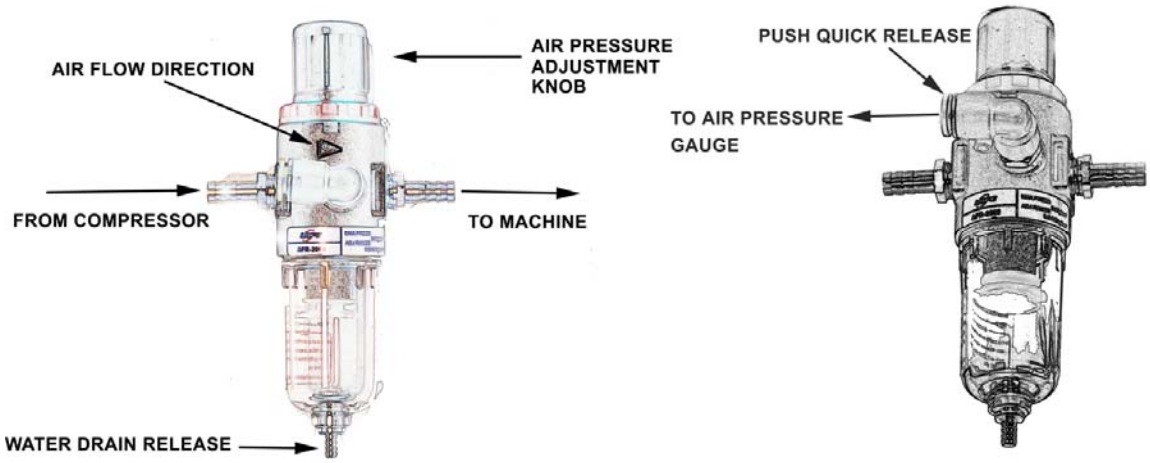
3.4 - AIR REGULATOR / FILTER

Air regulator/filter adjusts the air pressure to the plasma torch. It also acts as a filter and removes moisture from compressed air. The air regulator attaches to the rear of the unit. From the compressor the air is connected to the regulator. From the regulator a tube will connect to the GAS IN nozzle in the rear of the unit which supplies the air to the plasma torch. The L shaped QUICK-RELEASE Nozzle also connects to the middle position of the air regulator. The orange tube connects to this QUICK RELEASE 'L' NOZZLE. The orange tube is connected to the pressure gauge located in the front panel. The adjustment knob on top of the regulator adjusts the air pressure. Lift and turn this knob to adjust the air pressure.

Moisture from the compressed air is filtered and collected in the glass bowl and can be drained by pulling the WATER DRAIN RELEASE.

CAUTION

TURN THE UNIT OFF BEFORE DRAINING THE WATER AS THE DRAINED WATER MAY GET SUCKED INSIDE THE UNIT BY THE TURNING FAN.

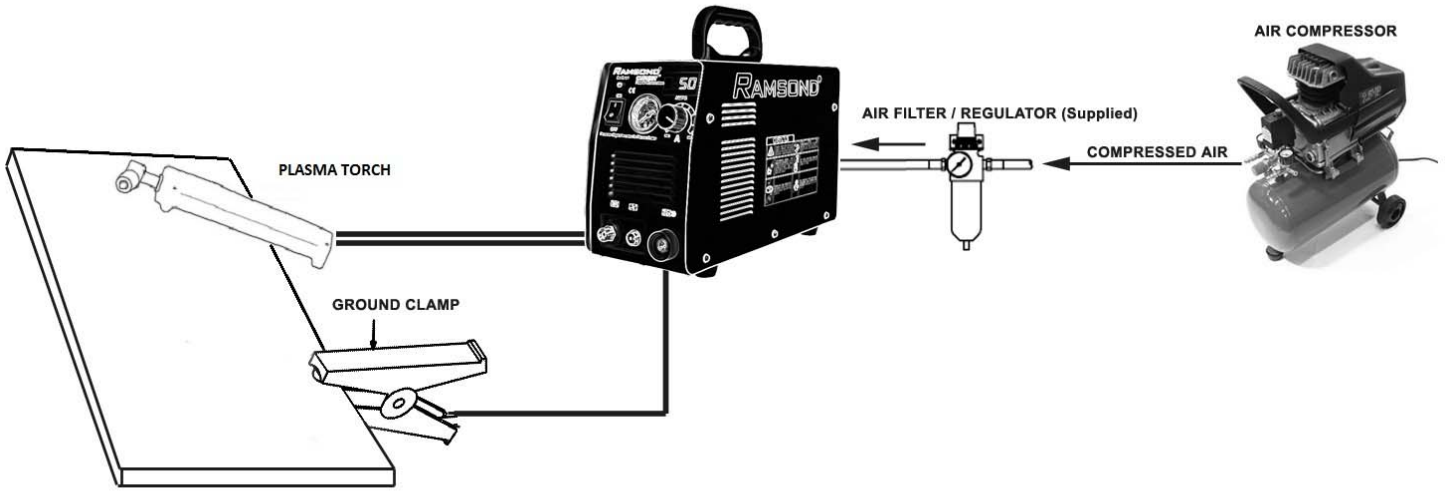


IMPORTANT

WHEN INSTALLING REGULATOR FITTINGS FOLLOW THE ARROW ON THE REGULATOR FOR AIR FLOW DIRECTION. FAILURE TO INSTALL FITTINGS IN PROPER DIRECTION WILL SUBSTANTIALLY AFFECT PLASMA CUTTER PERFORMANCE.

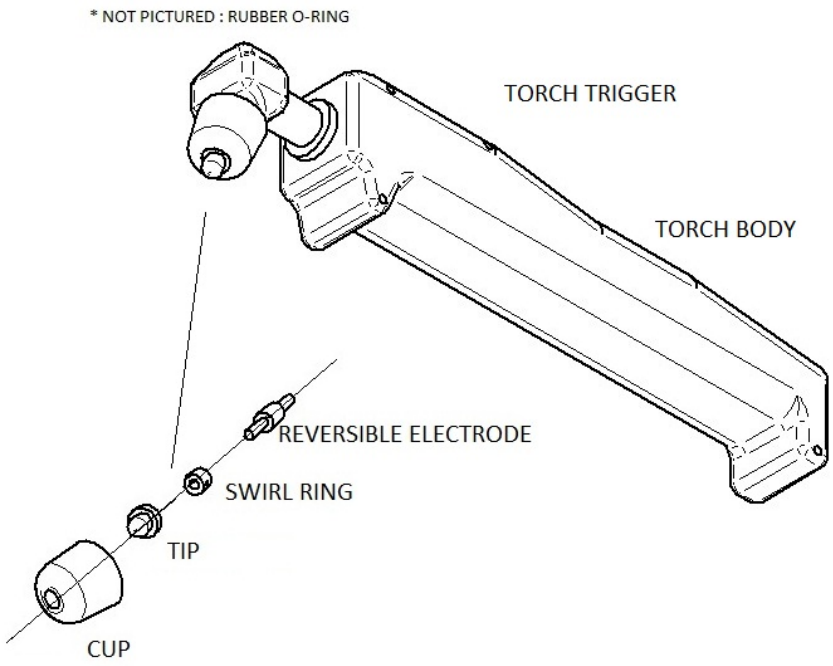
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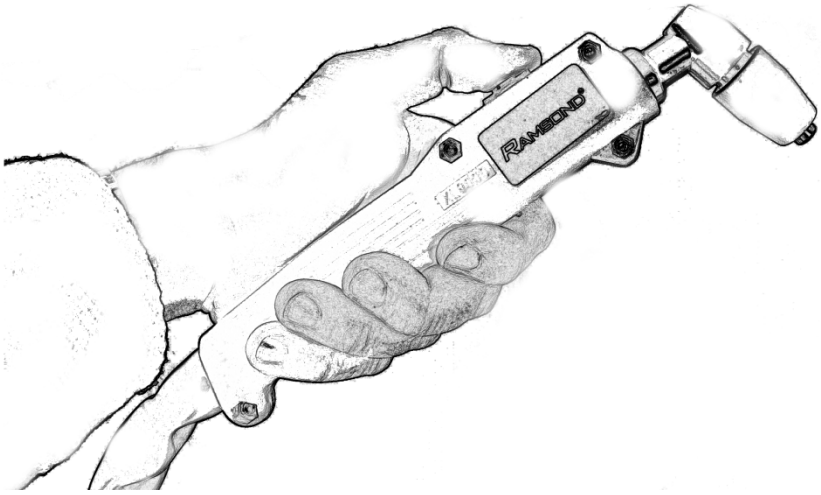
3.5 - GENERAL SET UP DIAGRAM



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3.6 - PLASMA TORCH





TORCH BODY / HANDLE Always inspect unit before use. If any defects are present do not use. Call technical support.

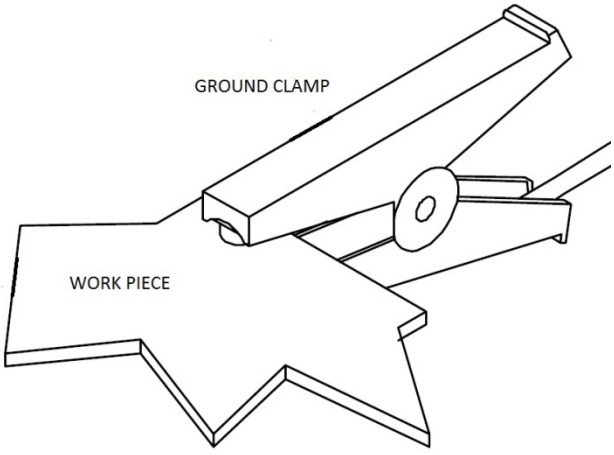
CONSUMABLES Includes, cup, tip, swirl ring, and reversible electrode. Each unit comes with 5 cups, 5 swirl rings, 10 tips, 10 reversible electrodes, and 2 O-rings.

WARNING

Before replacing the consumables of the torch make sure the machine is turned off and disconnected from the power source.

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3.7 - GROUND CLAMP

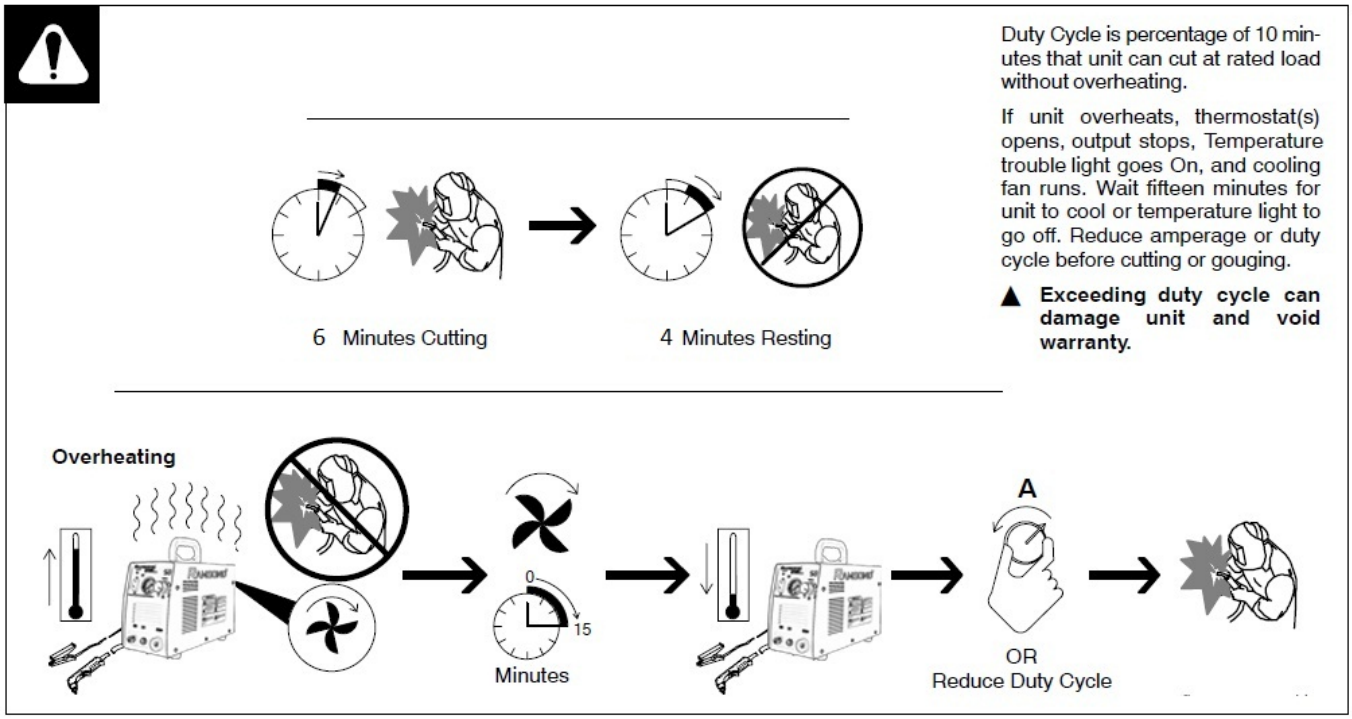


GROUND CLAMP Ensure ground clamp is firmly installed on work-piece. Install clamp on a work-piece that is NOT getting cut off. Make sure work-piece is clean and free from debris, rust, and dirt.

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3.8 - DUTY CYCLE

The unit is installed with internal duty cycle overload protection. In the event that the unit is overloaded or overheats, let unit cool off. Continuous overloading or overheating can cause unit failure or damage. At full power, cut for 6 minutes and allow the unit to cool for 4 minutes.



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SECTION 4. – USING THE PLASMA CUTTER

4.1 - OPERATION



IMPORTANT

BEFORE TURNING YOUR UNIT ON OR OFF MAKE SURE THE AMP REGULATION IS SET TO THE MINIMUM SETTING. FAILURE TO DO SO MAY LEAD TO DAMAGE TO THE UNIT.

A. TO BEGIN

Turn the Power Switch to the ON position.

Once unit is powered on, allow unit to sit for 1 min before making first cut.

Position yourself to where you can read the air pressure. Press the torch switch (air will exhaust from the torch, adjust the air regulator to read approximately 20 – 60 PSI) release the switch.

Secure ground clamp to work piece. Connect clamp to main part of work piece. *Not the part being removed.*

B. CUTTING

1) DRAG CUTTING

Position torch tip slightly above the work piece, press torch switch and lower torch tip toward work piece until contract is made and cutting arc is established. After cutting arc is established, move the torch in the desired direction keeping the torch tip slightly angled. Maintain contact with the work piece.

Move the torch just fast enough to maintain spark concentration under the work piece. If sparks radiate above the work piece, you are moving too fast.

2) STAND-OFF CUTTING

In some cases it may be beneficial to cut with the torch tip raised above the work piece.

Raise the torch tip between 1/16” and 1/8”” of an inch above the work piece.

You can use the stand-off method during a penetration or gouging method of cutting. *Additionally, you can use stand-off cutting* while cutting sheet metal to reduce the chance of splatter-back tip damage.

3) PIERCING

For piercing, position the tip approximately 1/8” above the work piece. Angle the torch slightly to direct the sparks away from the torch tip and operator.

Initiate the arc and lower the tip of the torch until the main cutting arc transfers.

Start the pierce off the cutting line on the scrap piece or template and then continue the cut onto the cutting line.

Hold the torch perpendicular to the work piece after the pierce is complete and continue cutting as desired.

Clean spatter and scale from the shield cup and the tip as soon as possible.

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4.2 OPERATING ENVIRONMENT

1. The Ramsond CUT can perform in environments where conditions are particularly harsh and with outside temperature between -10 and +40 degree centigrade with a maximum humidity level of 80%.

2. DO NOT USE THE MACHINE IN WET / RAINING CONDITIONS. KEEP MACHINE DRY AND AVOID ENTRY OF WATER INTO MACHINE.

3. **TURN MACHINE OFF WHEN DRAINING THE MOISTURE FROM AIR REGULATOR FILTER.**

4. DO NOT USE THE MACHINE IN CONDITIONS PRESENTING HIGH CONCENTRATIONS OF DUST OR CORROSIVE GAS.

4.3 MAINTENANCE



WHENEVER SERVICE OR INSPECTION OF MACHINE IS CONDUCTED, DISCONNECT UNIT FROM POWER SOURCE AND LET UNIT COOL DOWN.

AFTER EACH USE

CLEAN AND INSPECT TORCH CUP, TIP, SWIRL RING, AND REVERSIBLE ELECTRODE. MAKE SURE UNIT IS DISCONNECTED FROM THE POWER SOURCE. MAKE SURE UNIT IS OFF. AND HAS AMPLE TIME TO COOL DOWN.

REPLACE CONSUMABLES WHEN NEEDED

INSPECT AIR REGULATOR AND PRESSURE GAUGE

EVERY 3 MONTHS OF USE

- SERVICE AIR REGULATOR / FILTER
- INSPECT LABELS AND ENSURE THEY ARE READABLE
- INSPECT AIR HOSES AND CABLES FOR CRACKS OR BREAKS
- INSPECT TORCH HANDLE AND CONSUMABLES
- REPLACE ANY WORN OR BROKEN PARTS

EVERY 6 MONTHS OF USE

- SERVICE AIR REGULATOR
- SERVICE AIR REGULATOR
- INSPECT LABELS AND ENSURE THEY ARE READABLE
- INSPECT AIR HOSES AND CABLES FOR CRACKS OR BREAKS
- INSPECT TORCH HANDLE AND CONSUMABLES
- VACUUM OUT AIR VENTS AND FAN

EXTENDED USE WILL REQUIRE MORE ROUTINE MAINTENANCE

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SECTION 5. TROUBLESHOOTING

Trouble	Question	Remedy
No cutting output; Unit does not light up	**Is the unit ON?**	**Turn unit ON**
		Inspect power plug and wiring
No cutting output; Unit lights up	**Is the ground clamp on?**	**Inspect tool connectors**
		Ensure proper ground
	Is over current light on? (O.C.)	**Let unit cool off**
		Internal component problem. See professional assistance
Inadequate Arc / Cutting	**Is the air supply adequate?**	**Check air supply, ensure at least 20 psi**
	Is the ground clamp on?	**Ensure proper ground and clean ground surface.**
	Have you inspected the consumables?	• **Reduce cutting speed** • **Bring torch closer to work piece** • **Ensure air passage way is free from debris** • **Replace consumables**
Cutting Arc Fluttering, pulsating	**Are you drawing enough Current (A)?**	**Ensure that for 110V operation, you are connected to a minimum of 30 Amp Circuit and for 220V, a minimum of 20 Amp Circuit.**
	Is the airway clean?	**Possible debris in the path of air to the plasma torch may cause this problem.** • **Remove Consumables from Torch.** • **Press the torch button to activate air flow.** **If there is debris present in the line, this should remove the debris from the torch air pathway.**
Torch Tip, Electrode burning out too quickly	**Do you have adequate air pressure?**	**Inadequate air pressure leads to excessive damage to consumables. Increase air pressure.**

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SECTION 6. LIMITED WARRANTY

Ramsond Corporation warrants all new welding and plasma cutting equipment to the original end user, when installed within the United States, against defective material or workmanship for a period of 1 year from the date of original purchase, subject to the limitations contained herein. In the event of product failure or malfunction, return this product in person or by courier to:

Ramsond Corporation
WPC Service Department
4051 Haggerty Road
West Bloomfield, Michigan 48323
Tel: (248) 363-8302
Fax: (248) 363-7834

We do not accept freight-collect items. The purchaser is responsible for shipping costs to us, as well as the return of serviced merchandise.

You **MUST** include the following to receive warranty service:

1. Proof of purchase document(s)
2. Detailed Description of the fault or problem
3. $35 Handling fee (check or money order)
4. Return shipping Label (prepaid) for returning the repaired / replaced product to the customer

The faulty/defective product component will then be repaired or replaced (at our option). The repaired / replaced component shall then be returned to the purchaser. The purchaser shall be responsible for all shipping and handling costs of sending the faulty / defective product to us, as well as all shipping and handling costs of returning the repaired / replaced unit to the customer. Any import / export costs, such as brokerage fees, taxes, customs, or duties are the responsibility of the customer. Certain items which are subject to normal wear and tear are specifically excluded from this warranty (e.g. consumables). Please allow up to 30 days from date that we receive the unit for repair / replacement. In the event that we are not able to repair the product we will replace the product with the same or a similar one. In the event that the model is not available, we will replace the machine with an existing model with same or better characteristics and quality. We shall not be responsible for faulty installation, operation or maintenance of the product and as such we recommend installation, assembly, repair and maintenance only by certified and qualified professionals. We reserve the right to require proof of same before honoring any parts warranty replacement / repair. Damage resulting from failure to use the product in a manner consistent with our recommendations shall render the limited warranty void. This limited warranty specifically excludes any consequential and / or incidental damages. This warranty does not apply to damage resulting from fire, water, burglary, accident, abuse, misuse, acts of God, attempted repairs or improper installation by unauthorized persons. Failure to follow use, care, or maintenance instructions in your Instruction Manual may void this warranty. Although we may provide technical assistance via telephone or email to the customer, it is virtually impossible to troubleshoot all matters via telephone or remote assistance. As such, the offering by us of any technical assistance is made without any warranty or guarantee and provided on “as is” basis. It is the responsibility of each purchaser to determine whether any particular product is compliant with and permissible for use pursuant to the applicable rules, codes, and/or regulations, if any, and suitable for particular use and operation. We make no representations or warranties whatsoever concerning the suitability of any merchandise for a particular use or purpose. The details, specification and information provided herein are the full and complete information and data available with respect to each product. Do not assume the existence of any fact, data or information that is not expressly stated herein. We only warrant the information contained herein. If you purchase under certain assumptions which are not expressly stated herein, you purchase at your own risk and without recourse to us. We reserve the right to make slight modifications necessary to the merchandise for product improvement. We may carry this product in colors other than the colors displayed herein. As such, we will ship according to color availability. **THIS WARRANTY EXCLUDES ALL ORAL, STATUTORY, EXPRESS OR IMPLIED WARRANTIES WHICH MAY BE APPLICABLE TO HOBART, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE.** Ramsond shall have no obligation or liability of any kind or character, including any obligation or liability for consequential or special damages arising out of, or with respect to, the product, its sale, operation, use or repair. Hobart neither assumes nor authorizes anyone else to assume for it any obligation or liability in connection with the product, its sale, operation, or use, other than as stated herein.

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NOTES

For comments and questions, please email or write to:

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West Bloomfield, Michigan 48323
USA
Tel: (866) 777-7071
Fax: (248) 363-7834
Email: www.ramsond.com

For accessories and parts, please visit Ramsond's store at www.Ramsond.com

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