


LONGEVITYTM

The power to last!TM

www.longevity-inc.com

Operating Manual

For



ForceCut[®]

FORCECUT 40D

40AMP Plasma Cutter 110v/220v

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THANK YOU!

We, at LONGEVITY, want to thank you for purchasing our product. You are almost ready to experience Longevity Welding first hand. Longevity definitely appreciates your business and understand that this equipment may be overwhelming to setup and operate so we have prepared a manual that will assist you in understand your new plasma cutter/welder. If you have any questions during or after reading this manual, please feel to contact us! Please take a moment to register your product on our website at www.longevity-inc.com or www.lweld.com

Once again, thank you for choosing Longevity as your main welding supplier!

Longevity Global, Inc.
23591 Foley St
Hayward, CA 94545

Toll-Free Customer Support: 1-877-LONG-INC / 1-877-566-4462

Website: www.longevity-inc.com

Sales: sales@longevity-inc.com

Customer Service: help@longevity-inc.com

Dealers: dealers@longevity-inc.com

Complaints: complaints@longevity-inc.com

Please join our welding forums to share welding tips and tricks, to receive useful information from customers who also use our products, and to be a part of the Longevity™ welding community at www.freeweldingforum.com



Check out LONGEVITY Racing at www.longevity-racing.com

Warranty

LONGEVITY Plasma Cutters, Welders, and Multi-Purpose Welders are covered for specific Parts and Labor warranty at our facility. For detailed information regarding your specific LONGEVITY welder or cutter, please view our Terms and Policies page on our website at the following website link: <http://www.longevity-inc.com/terms/>

Shipping Damage

Your machine is insured against damage during shipping. Keep all packing materials and containers in case machine must be returned. We will initiate a claim with the shipping company to cover damage or loss. If there is shipping damage upon opening your package, our customer service team will work with you to get the matter resolved.

In Warranty Service

Customers, who own machines that are in warranty and require service, should contact our Warranty Department by email at help@longevity-inc.com to obtain a return authorization code. In addition to the warranty we offer, we would like for you to register your product on our website at www.longevity-inc.com/resources. Remember, warranty starts from the date of purchase. For your convenience, write your order information below so you can track your order in case you need warranty work.

Order No.: _____

Date of Purchase: _____

Warranty Period: _____

Out-of-Warranty Service

Customers, who own machines that are out of warranty and require service, should contact us for an estimate. Longevity offers an exchange program on out of warranty units. We also help non LONGEVITY customers with repairs, replacement, and service.

If your unit is not manufactured by Longevity and you cannot receive service from your manufacturer or seller, Longevity will lend out hand. Our warranty policy is also available for all plasma cutters and welders. For more information, please email us at help@longevity-inc.com

General Description:

The FORCECUT Series plasma cutters offer a revolutionary new approach to plasma cutting technology. LONGEVITY® plasma cutters use the newest technology available in the welding industry with the help of IGBT internal components. By producing the units with inverter technology, we are able to produce smaller and more efficient units. During the manufacturing process, we keep maintenance and repair in mind by enabling the internal components of the machine to be simple plug and operate circuitry enabling all mother boards to be simply replaced and swapped out. The ForceCut™ series plasma cutters use special safety-redundant circuitry with built in auto-protection and self-adjusting circuitry to keep the machine running at a safe threshold. This helps protect the machine from over-voltage, power spikes, tip blowouts and shorting.

We hope you enjoy your LONGEVITY® ForceCut™ series plasma cutter!

Warnings and Safety

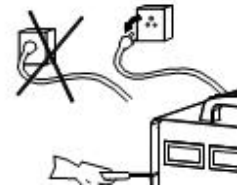
Welding and plasma cutting may be dangerous to the operator and to bystanders, if the equipment is not operated properly. Welding or cutting must be performed in accordance with all relevant safety regulations. Carefully read and understand this instruction manual before installing and operating this equipment.

Changing function modes during welding may damage equipment.

Before welding, disconnect the electrode-holder cable from the equipment.

A circuit breaker is required to prevent electrical overload of the equipment.

Only high quality welding tools should be used.



Electric Shock can be fatal.

Ensure that ground cable is connected in accordance with applicable safety codes.

Never touch electrodes, wires, or circuit components with bare hands. Wear dry welding gloves when welding.

The operator must be insulated from the work piece.



Smoke and gas can be harmful to health.

Ensure that the working area is well ventilated.

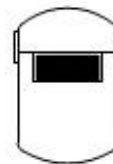
Avoid breathing smoke and gas generated during the welding process. Cutting and welding can cause cancer because of the smoke that comes from the welds and cuts.

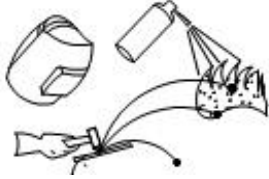



Arc-light emission can be harmful to eyes and skin.

Always wear a welding helmet, anti-radiation glass, and work clothes while welding.

Ensure that people in or near the working area are protected.



<p>Welding splash is a fire hazard.</p> <p>Keep flammable material away from the work place.</p> <p>Keep a fire extinguisher nearby, and have all personnel trained in its use. Surface noise generated while welding or cutting can be harmful to hearing.</p>	 An illustration showing a hand holding a plasma cutter nozzle, with several bright sparks and molten droplets being ejected from the tip. The sparks are depicted as small circles with motion lines, and the molten droplets are larger, teardrop-shaped shapes.
<p>In the event of a machine fault.</p> <p>Refer to this instruction manual.</p> <p>If the fault cannot be determined, contact your local dealer or supplier for assistance.</p>	 A line drawing of a person's head and shoulders. The person is wearing safety glasses and is looking down at an open book or manual they are holding in front of them.

Safety Tips

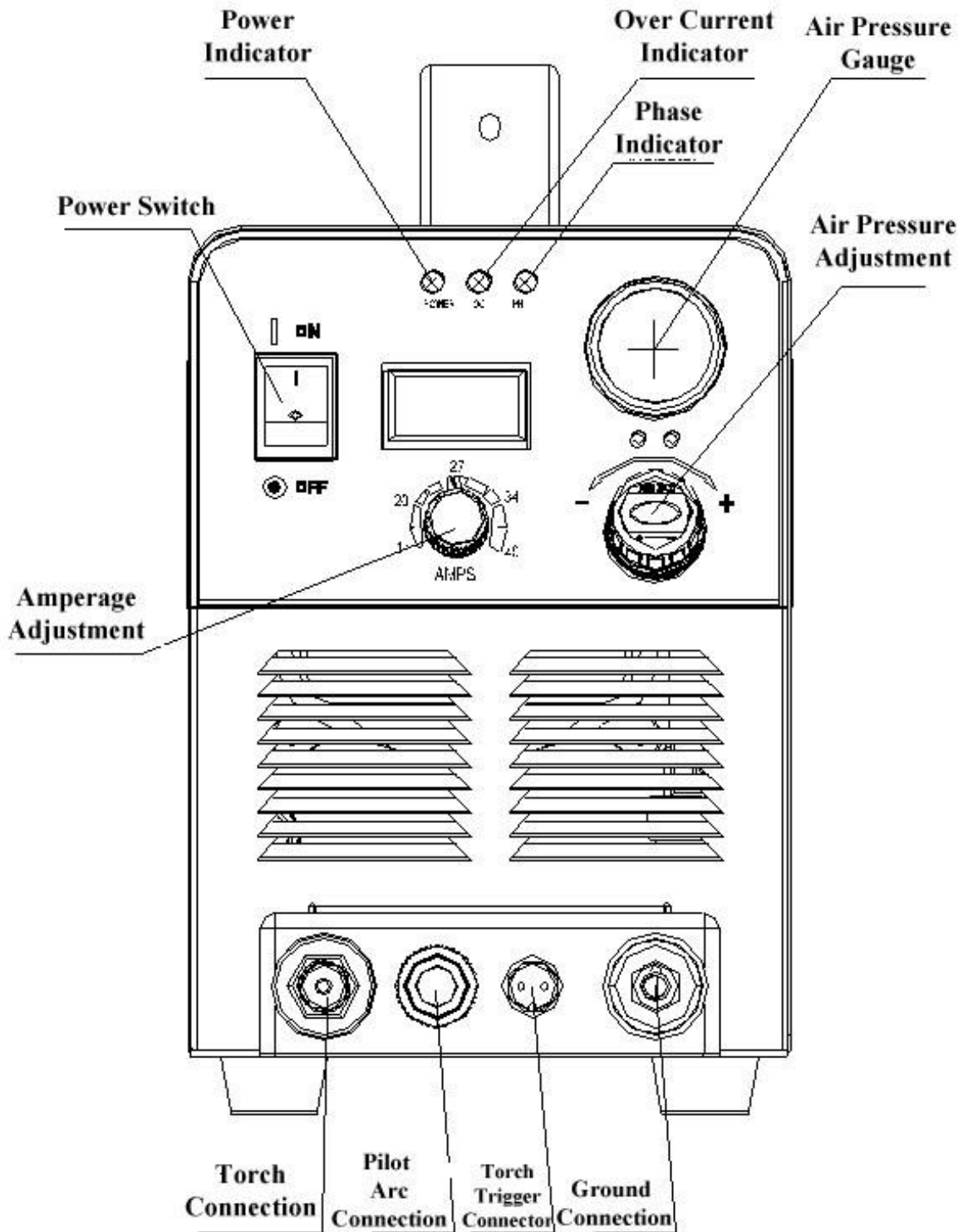
Consider the following tips to ensure safe operation of your welding/cutting equipment:

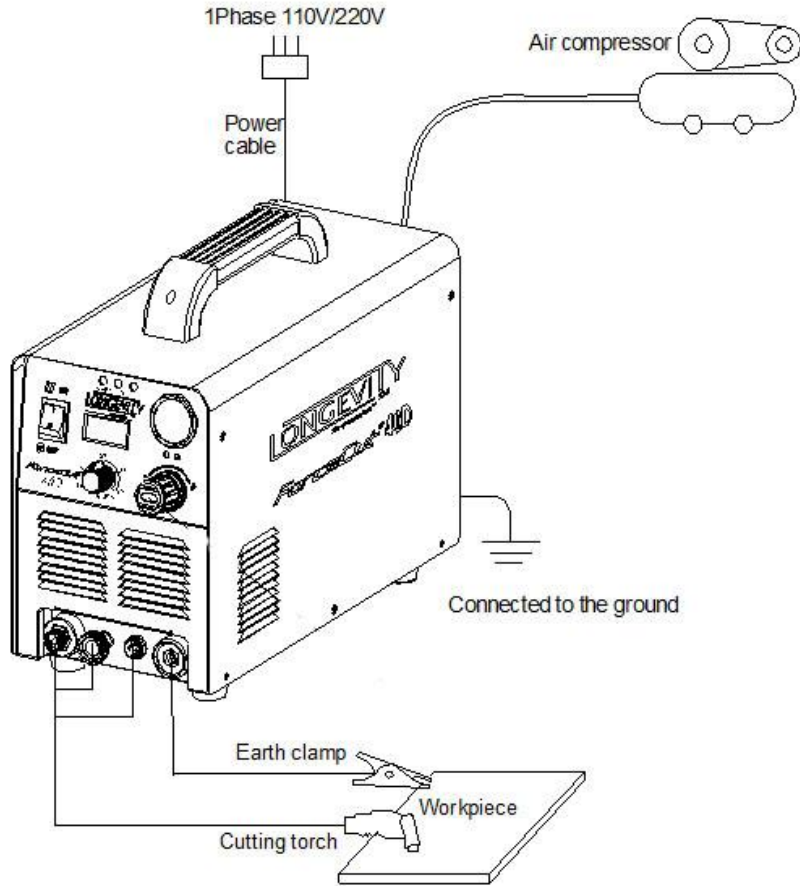
- Ensure that this welding equipment is installed in an area free of corrosive chemical gases, flammable gases or materials, and explosive chemicals.
- The area should contain little dust, and have a humidity of no more than 80%.
- Operate the welding equipment in an area sheltered from direct sunlight and precipitation. Work area temperature should be maintained at -10°C to +40°C;
- If, because of an overload, the machine suddenly stops, and it is necessary to restart it, leave the internal fan operating to lower the inside temperature.
- Always wear protective clothing and a welding mask to protect your skin.
- Wear safety goggles designed to darken the arc generated by your machine.
- Wear suitable noise protection to protect your hearing.
- Ensure that machine is grounded through the power cord or on the machine case.
- Never operate the machine in bare feet or on a wet floor.
- Never switch the machine off while it's in use. Doing so will damage the internal circuitry.
- Ensure that your circuit breaker is rated to handle the current requirements of your machine.
- Use a UL approved receptacles and plugs with your machine. Never hard wire the machine to main power.
- Work in a well-ventilated area to avoid smoke. Keep your head out of the smoke. Ensure that air is flowing away from you to avoid inhaling smoke.
- Ensure proper ventilation through the machine's louvers. Maintain a distance of at least 12 inches between this cutting equipment and any other objects in the work area.
- Use a screen or curtain designed to keep passer byes from viewing the arc.
- The arc spray and metal spray from machine use may cause nearby fires. Use caution.
- If, after reviewing this manual, you have any problems in setting up or operating your machine, contact us at help@longevity-inc.com.

MAIN TECHNICAL DATA

Item	Data	
	FORCECUT 40D	
Power voltage (v)	1 phase 110V±10%	1 phase 220V±10%
Frequency (Hz)	50/60	
No-load voltage (v)	370-405	
Rated input current (A)	47.9	29.9
Rated output voltage (v)	93.2	96
Output current regulation (A)	14-33	14-40
Duty cycle	60%	
Efficiency	80	
Power factor	0.73	
Pilot arc model	Low Frequency Pilot Arc	
Burner inter diameter (mm)	1.0	
Pressure of air compressor (kg)	4-5	
Thickness (mm)	1-12	
Weight (kg)	13.8	
Dimensions (mm)	500×245×450	

Front Panel





The panel picture above is for reference only. If any difference with the real machine, please follow with the real machine.

Check Prior to Use

1. Check if cutting machine is grounded securely according to standard.
2. Check if all connectors are connected firmly.
3. Check if power voltage is correct.

Basic Operation

1. Ensure that all cables are connected to the machine.
2. Ensure that the machine's OFF/ON switch is set to OFF, and plug the machine into the electrical outlet.
3. Connect the air compressor supply line to the air input side on the water separator.
4. Turn the ON/OFF switch to ON. The cooling fans should operate and the ON indicator LED or power switch (if applicable) should illuminate.
5. Clean the contact point on the work piece to ensure a good electrical connection. Ensure that no rust or paint is present that could create an open circuit.
6. Connect the ground clamp to the work piece to be cut.
7. Connect the torch to the unit properly.
8. With the pilot arc knob connected, you should get a full continuous arc when the trigger on the torch is pressed.
9. Depress the button on your torch to start the arc and begin cutting.
10. You can test the air to insure that it is properly flowing by selecting Auto Gas (Air) Flow. Air will pass through the torch continuously.
11. If necessary remove slag from the under part of the cut using a grinder or chisel after your cut.

Operation environment

1. The cutting machine can perform in an environment where conditions are particularly harsh and with outside temperature between –10 and +40 degrees centigrade with a dampness level of max 80%.
2. Avoid using in sunshine and dropping environment.
3. Keep machine dry and avoid water in the machine.
4. Do not use the cutting machine in an environment where conditions are polluted with high concentrations of dust or corrosive gas in the air.

CUTTING NOTES

1. Make sure copper tip does not come in direct contact to work piece when user is cutting. Torch should be inclined and it is 1 mm from inter-hole of copper tip to work piece in order to protect copper tip.

Trouble shooting

If your unit is not properly functioning, please call us immediately toll free at 1-877-566-4462 for support. We have included a small table here to diagnose most common problems.

Problems, Causes, and Solutions	
Problems	Causes/ Solutions
Machine will not turn on.	Check cords and breaker. If nothing is found, contact LONGEVITY
The machine runs, but nothing is happening	Check to see if you have the air regulator to the correct pressure. Make sure the regulator adjustment knob is turned clockwise and allow pressure. Check the consumables and make sure they are properly assembled. Check the ground clamp and proper grounding to the unit. Check pilot arc wire to insure it is properly connected to the unit.
Consumables (tips) are being consumed	Improper air flow. Increase the PSI on the regulator, check for leaks in the hose, maintain a distance of 1/8" from the torch tip or work piece.
Heavy Underside Slag (Cutting)	Slow travel speed. Increase travel speed or amperage on unit.
Poor Cut Quality	Check Air Pressure. Insure your unit is capable of cutting the desired thickness of material. Check the consumables to insure they are producing a stable arc. Replace Consumables and insure you have the proper PSI at the regulator.
Inconsistent Arc	Improper grounding or possible lack of air pressure. Check and replace consumables and adjust the regulator to proper PSI
Plasma Cutter Pilot Does not Ignite	Check consumables to insure they are super tight. Possibly, replace the tips. Insure that you have compressed air flowing to the unit. Drop the PSI pressure.
O.C. Over Current LED Lights	The unit has reached its DUTY Cycle. Leave power of the machine on and allow fans to cool the machine. You can also turn the machine off to properly cool it. Do not continue to weld until light is off.
Issue Not Listed	Contact LONGEVITY Toll Free 1-877-566-4462 or via email at

help@longevity-inc.com

LONGEVITY® Global, Inc. thanks you for your purchase and the opportunity to be able to serve you. If, after reviewing this manual, you have any problems in setting up or operating your machine, contact us at help@longevity-inc.com.

LONGEVITY® Global, Inc.

Toll-Free 1-877-LONG-INC / 1-877-566-4462

Website: www.longevity-inc.com

Sales: sales@longevity-inc.com

Customer Service: help@longevity-inc.com

Dealers: dealers@longevity-inc.com

Please join our welding forums to share welding tips and tricks, to receive useful information from customers who also use our products, and to be a part of the LONGEVITY® welding community at www.freeweldingforum.com

For the coolest LONGEVITY sponsored race teams plus a complete racing forum that covers everything from Drag Racing to RC Car Racing, please check out www.longevity-racing.com!

Enjoy your new plasma cutter machine from LONGEVITY! Thanks again!