FULL BOAR

PLASMA CUTTER

- 25 AMP
- 15 AMP Plug

INSTRUCTION MANUAL

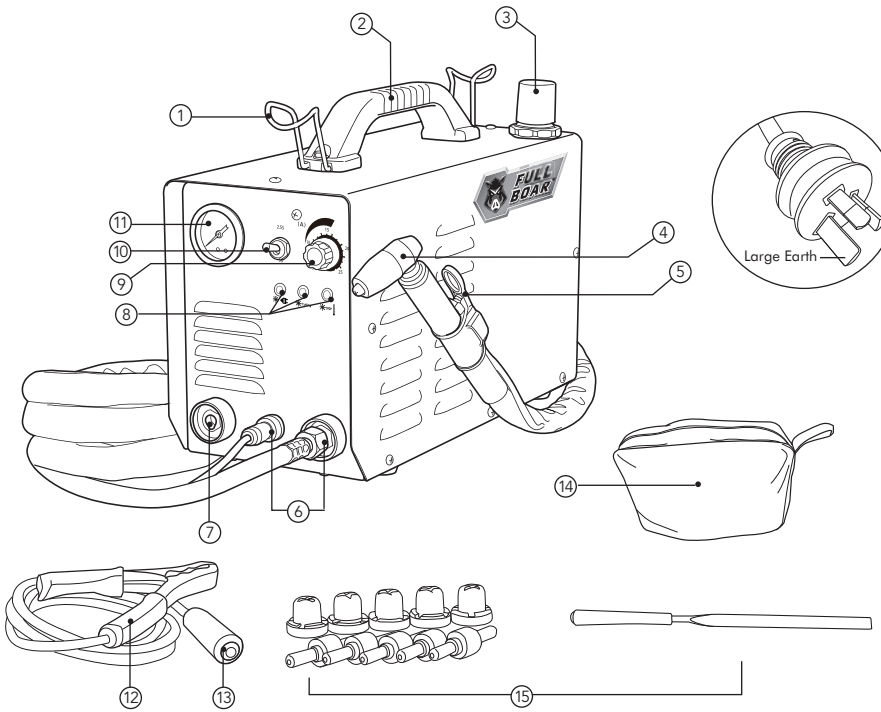
⚠ ***WARNING: Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury. Save all warnings and instructions for future reference.***

0214

SPECIFICATIONS - MODEL NO. FBT-2500

Input:	240V ~ 50Hz
Current Range:	5 - 25 Amp
Duty Cycle:	20% @ 25 Amps / 100% @ 15 Amps
Rated Input Current:	15A
Max. Cutting Thickness:	6mm
Recommended Air Flow:	120l/m (4 cfm)
Recommended Pressure:	200 to 400kpa (30 to 60 psi)
Arc Ignition Type	Contact
Power Cord & Plug:	2m & 15A plug
Circuit Breaker Insulation:	Class 1 Earthed Appliance
Fuse Input Supply Protection:	30A HRC
Weight (tool only):	6.88kgs

KNOW YOUR PRODUCT



1. Power Cord Storage
2. Carry Handle
3. Air Pressure Adjusting Knob
4. Plasma Torch
5. Trigger Switch
6. Torch & Air Lead Sockets
7. Earth Lead Socket
8. LED Indicators
9. Amperage Control Knob
10. Air Blow Selector Switch
11. Air Pressure Gauge
12. Earth Clamp
13. Earth Lead Connector
14. Accessory Zip Bag
15. Electrodes, Nozzles & Cleaning File

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INTRODUCTION

Congratulations on purchasing a Full Boar Plasma Cutter.

Your Full Boar Plasma Cutter FBT-2500 has been designed for cutting different metal types including, steel, stainless steel, aluminium and other non-ferrous materials.

SAFETY INSTRUCTIONS

> ⚠ **Warning!** When using mains-powered equipment, basic safety precautions, including the following, should always be followed to reduce risk of fire, electric shock, personal injury and material damage.

Read and understand the manual prior to operating this tool.

Save these instructions and other documents supplied with this tool for future reference.

ELECTRICAL SAFETY

This tool has been designed for 230V and 240V only. Always check that the power supply corresponds to the voltage on the rating plate.

Note: The supply of 230V and 240V on Ozito tools are interchangeable for Australia and New Zealand.

If the supply cord is damaged, it must be replaced by a qualified electrician or a power tool repairer in order to avoid a hazard.

Using an Extension Lead

Always use an approved extension lead suitable for the power input of this tool. Before use, inspect the extension lead for signs of damage, wear and ageing. Replace the extension lead if damaged or defective. When using an extension lead on a reel, always unwind the lead completely. Use of an extension lead not suitable for the power input of the tool or which is damaged or defective may result in a risk of fire and electric shock.

GENERAL SAFETY INSTRUCTIONS

WARNING! Read all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. The term "Power Tool" in all of the warnings listed below refers to your mains operated (corded) power tool or battery operated (cordless) power tool.

SAVE THESE INSTRUCTIONS

1. **Keep work areas clean.** Cluttered work areas and benches can cause accidents.
2. **Consider work area environment.** Do not expose your equipment to high humidity or rain. Do not use your equipment in damp or wet conditions. Keep the work area well lit. Do not use your tool where there is a risk of causing fire or explosion, e.g. in the presence of flammable liquids and gases.
3. **Keep children away.** Do not allow children, visitors or animals to come near the work area or to touch the equipment or accessories.
4. **Dress appropriately.** Wear the appropriate protective clothing. Wear a protective hair covering to keep long hair out of the way.
5. **Guard against electric shock.** Prevent body contact with earthed or grounded surfaces. Electrical safety can be further improved by using a high sensitivity (30 mA / 30 mS) residual current device (RCD).
6. **Do not overreach.** Keep proper footing and balance at all times.
7. **Stay alert.** Watch what you are doing. Use common sense. Do not operate the equipment when tired.
8. **Secure work piece.** If required, use clamps or a vice to hold the work piece.
9. **Extension leads.** Before use inspect the extension leads and replace if damaged. When using the equipment outdoors, only use extension leads intended for outdoor use and marked accordingly.
10. **Use appropriate equipment.** Only use the equipment as outlined within this instruction manual. Do not force the equipment to the job of heavier duty equipment. The equipment will do the job better and safer at the rate for which it was intended. Do not force the equipment.

WARNING! The use of any accessory or attachment, or performance of any operation with this equipment other than those recommended in this instruction manual may present a risk of personal injury.

11. **Check for damaged parts.** Before use carefully check the equipment and power lead for damage. Check for misalignment and seizure of moving parts, breakage of parts, damage to guards and switches and any other conditions that may affect its operation. Ensure the equipment will operate properly and perform its intended function. Do not use the equipment if any parts are damaged or defective. Do not use the equipment if the switch does not turn it on and off. Have any damaged or defective parts repaired or replaced by an electrician or a power tool repairer. Never attempt any repairs yourself.

12. **Unplug the equipment.** Unplug the equipment when it is not in use, before changing any parts, accessories or attachments and before servicing.

13. **Do not abuse the cord.** Never carry the equipment by its cord or pull it to disconnect from the socket. Keep the cord away from heat, oil and sharp edges.

14. **Store equipment.** When not in use, equipment should be stored in a dry, locked up or high place, out of reach of children.

15. **Maintain mains equipment with care.** Keep the equipment clean and in good condition for better and safer performance. Follow the instructions for maintenance and changing accessories. Keep handles and switches dry, clean and free from oil and grease.

16. **Have your tool repaired by an electrician or a power tool repairer.** This power tool complies with relevant safety requirements. To avoid danger, electrical equipment must only be repaired by qualified technicians using original spare parts; otherwise this may result in considerable danger to the user.

17. **Users.** This equipment is not intended for use by young children or infirmed persons without supervision. Young children should be supervised to ensure that they do not play with this equipment.

18. **Replacement of the supply cord.** If the supply cord is damaged, it must be replaced by an electrician or a power tool repairer in order to avoid a hazard.

ADDITIONAL SAFETY RULES FOR PLASMA CUTTER

Under no circumstances should the housing of the plasma cutter be opened.

Always protect your eyes and face with a welding mask or safety visor.

Wear appropriate protective clothing such as a welding leather apron and sleeved gloves etc.

Avoid exposing skin as UV rays are produced by the arc.

Screen off the work place to protect others working nearby from UV rays, sparks or debris.

Metal materials with contaminated surfaces may generate toxic fumes. Ensure the surface is clean before cutting. Avoid operating on materials cleaned with chlorinated solvents or near such solvents.

Do not cut metal equipment that holds/contains flammable materials, gases or liquid combustibles.

Zinc-plated or galvanized material should not be cut as the fumes created are highly toxic.

Do not use the plasma cutter in damp or wet conditions.

Do not use cables with worn insulation or loose connections.

Disconnect from the power supply before replacing electrodes.

Avoid direct contact with the cutting arc.

Do not use the plasma cutter to defrost piping.

Ensure the plasma cutter is placed on a level surface to prevent overturning.

Provide adequate ventilation or a means for removal of the cutting fumes produced (forced circulation using a blower or fan).

Fumes
Toxic gases are given off during the arc / plasma cutting process, which may collect in the work place or area if the ventilation is poor. Be alert at all times to the possibility of fume build-up. In small or confined areas use a fume extractor.

Glare
The electric arc generated by the cutting torch process gives direct heat and ultraviolet radiation. It is essential that the eyes of the operator and bystanders are protected from the glare during welding.

ALWAYS USE A FACESHIELD OR WELDING HELMET FITTED WITH THE CORRECT GLASS FILTER.

Heat
It is desiderable that welding gloves are worn whilst cutting. They will protect the hands from ultra-violet radiation and direct heat of the arc.

OVERALLS should also be worn. They should be of type designed to be buttoned at the wrists and the neck.

Dress
In addition to face shield, welding gloves and overalls, other types of protective clothing should be worn when cutting. Additional protective clothing such as a leather apron, sock protectors and a hat will all assist in reducing any injuries due to heat, sparks and slag produced during cutting.

ASSEMBLY

Unpacking:

- Open carton and remove top packing material.
- Carefully lift the plasma cutter from the packaging and place it on a level work surface.

Note: Use the carry handle (2) when lifting or moving the plasma cutter.

- Unpack the contents.

Plasma Torch(4):

- Attach torch lead connectors to the corresponding torch lead sockets (6) on the front panel (Fig. 1).

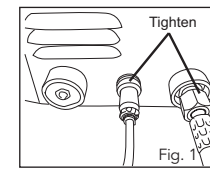


Fig. 1

Earth Clamp (12):

- Attach earth lead connector (13) to earth lead socket (7) on the front panel. Twist clockwise to tighten (Fig. 2).

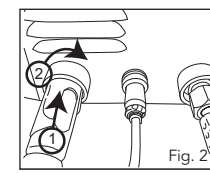


Fig. 2

Air Pressure Regulator:

The air pressure regulator is installed inside the unit, a Nitto® style male quick release adaptor is mounted on the air pressure regulator located on the rear of the plasma cutter.

- Attach your compressor's air supply hose to the male quick release adaptor on the rear of the plasma cutter (Fig. 3)

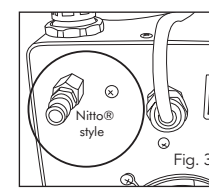


Fig. 3

Personal Protection

The supply circuit is protected by a circuit -breaker with a rating of 30A when this machine is used for cutting.

Respiratory:

- Confined space cutting should be carried out with the aid of a fume respirator or air supplied respirator that complies with AS/NZS 1715 and AS/NZS 1716 Standards.
- You must always have enough ventilation in confined spaces. Be aware of this at all time.
- Wear a respirator when natural or forced ventilation is not good enough.

Eye Protection:

- Protective eyewear or faceshield should be worn when plasma cutting. Ultra violet rays are harmful to people's eyes. Fumes can cause irritation. Always wear suitable eye protection.

Clothing:

- Protective clothing should be worn when plasma cutting. Ultra violet rays and sparks are harmful to people's uncovered skin.
- Flameproof loose fitting cotton clothing buttoned to the neck, protective leather gloves, spats, apron and steel capped safety boots are recommended.

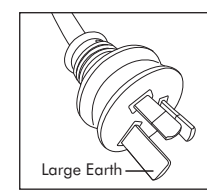
Set Up

Work Area:

The plasma cutter is to be set up in an area which is adequately ventilated and that the air vents are not obstructed. Care must be taken when positioning as to prevent the fan from introducing dust or deposits into the plasma cutter.

Power Supply:

Connect the power supply cable to a 15 Amp dedicated power point located as near as possible to the work area, so that the unit can be switched off quickly in case of emergency. Your plasma cutter includes an input power cord and plug suitable for 240 Volt, 15 Amp, Single – Phase input power (normal household current).



Make sure that the mains supply switch and any fuses have a value which is the same or 20% above the maximum current absorbed by the unit. All fuses should be the slow-blow type.

Note: 15 Amp plug can only be used in a 15 Amp power point. A 15 Amp power point can only be installed by a qualified person.

Any 15 Amp extension lead and plug should have the same cross-section as the power supply cable. Extension leads, however , should only be used when absolutely necessary. It is important to note that any extension of mains cables or torch cables will possibly affect the cutting performance of this cutting equipment, due to the resistance of the cable will reduce voltage input, which is determined by the length of the cable.

Earth Clamp (12):

The earth clamp (12) forms an integral part of the plasma cutting process. Fasten the earth clamp (12) to the work piece to be cut, making sure that the clamp is properly connected and has a adequate cross-section, if the surface of the piece to be cut is painted, rusty or covered with insulating material, clean the surface so that satisfactory contact between the work piece and the earth clamp (12) can be obtained (Fig. 4). Connect only to the main part of the workpiece; do not connect to the part to be cut off.

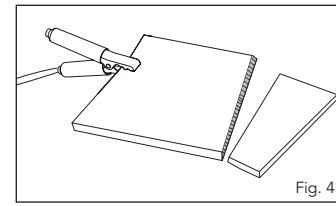


Fig. 4

Plasma Torch (4):

Make sure that the plasma torch (4) has been assembled with the correct components and that the cutting tip is suitable for the cutting current. The torch parts must correspond with the type of operation, and with the amperage output of this power supply (25 amps maximum).

- The installation of the torch's parts should follow the order according to the pictures listed blow (Fig. 5)

Part	Description
a.	Plasma torch handle
b.	Electrode
c.	Diffuser
d.	Nozzle
e.	Shield cap

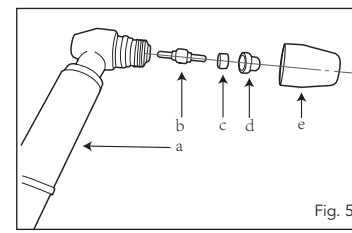


Fig. 5

- The shield cap (e) should be screwed tightly, but do not over tighten, finger tighten only.
- Replace the nozzle (d) if burnt to a degree that it will affect the cutting slot.
- The electrode (b) should be replaced in time when it worn down or shortened to about 2mm.

⚠ **WARNING!** Always direct the arc away from the user as sparks and molten material will be ejected from the point of contact. Care should also be taken to protect the work area from these sparks.

Cutting Technique:

The plasma torch (4) can be comfortably held in one hand or steadied with two hands. Position your hand as to press the torch trigger switch (5) on the plasma torch (4). Your 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.

- When straight edge cutting the torch should be held at a 90° angle to the workpiece and dragged along the cutting surface (Fig. 6). Establish the cutting arc from the edge and drag along the workpiece. The speed at which you do this is dependant on the workpiece thickness, current and airflow rate selected.

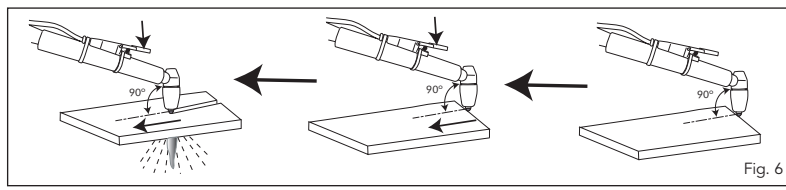


Fig. 6

- When attempting to pierce the workpiece the plasma torch (4). should be held at a 45° angle (Fig. 7). Once the arc is established the plasma torch (4). is then turned to a 90° angle and continue cutting as normal.
- Never hit workpiece with the torch, the torch and nozzle are fragile and can easily damage.

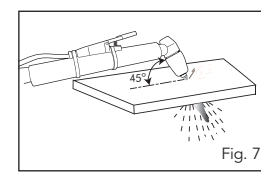


Fig. 7

Note: Worn nozzle will cause cutting inaccuracies and/or arc starting problems, so inspect the nozzle regularly. The nozzle has a perfectly round hole in the end that will become oblong over time. As it becomes oblong the arc will distort and wear the nozzle even more. When this occurs discard it. If the nozzle is covered with spatter, discard or remove the spatter with cleaning file (supplied).

Controls & Indicators

On/Off Switch Is located on the rear of the Plasma Cutter (Fig. 8).

- To turn the plasma cutter on, select the ON (I) position
- To turn the plasma cutter off, select the OFF (O) position

Note: When the On/Off Switch is in the ON position the power indicator LED (8) will illuminate and the cooling fan will come on.

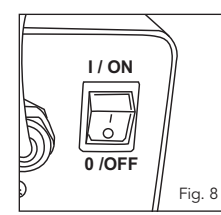


Fig. 8

Amperage Control Knob (9) (Fig. 9)

- Allows you to adjust the current from 5 to 25 Amps.
- Set the desired current for the type of metal being cut, lower the amps for thin material, higher amps for heavy, thicker material.

  eg. 8 Amps 0-2mm
  15 Amps 2-4mm
  25 Amps 4-6mm

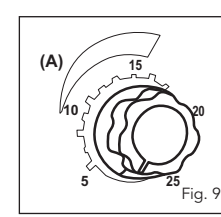


Fig. 9

Air Blow Selector Switch (10) (Fig. 10)

- 2.5S to allow a 2.5 second air delay to pass through the torch. Use this setting if you are cutting for short periods of time at low Amps.
- 5.0S to allow more air to pass though the torch. Use this setting if your are cutting for long periods of time at high Amps. This feature protects the torch from over heating.

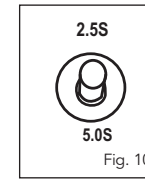


Fig. 10

LED Indicators (8) (Fig.11)

Power Indicator LED

- When illuminated Green, the plasma cutting is on.

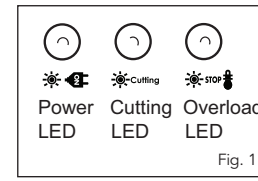


Fig. 11

Cutting Indicator LED

- When illuminated Yellow, cutting is in process.

Thermal Overload Indicator LED:

- When illuminate Red, the internal temperature has exceeded normal limits and will automatically shut down. Stop using the plasma cutter while leaving the On/Off switch ON to allow the internal cooling fan to operate. Allow the unit to run with the fan on until the overload indicator LED turns off. **This is normal operation for prolonged use and does not indicate a fault.**

Air Pressure Adjusting Knob (3) is on the top rear of the plasma cutter

- During operation you can regulate air pressure through the plasma cutter by lifter and rotating in either direction. (Fig. 12). The air pressure gauge (11) indicates the selected air pressure. Set the pressure at the air source approximately 30Psi to 40Psi higher than the plasma cutter.

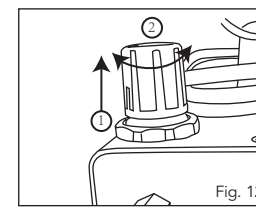


Fig. 12

Duty Cycle

IF YOUR PLASMA CUTTER OVERHEATS AND THE THERMAL OVERLOAD PROTECTION ENGAGES DO NOT TURN YOUR PLASMA CUTTER OFF AS THE FAN WILL ASSIST IN REDUCING THE COOLING TIME.

Duty cycle defines the number of minutes, within a 10 minute period in which the plasma cutter operates during normal operation.

A plasma cutter can only cut for a certain continuous period of time before it requires to cool down.

If the internal components of the plasma cutter should become hot the unit could overheat. If the plasma cutter overheats the Thermal Overload Protection feature will automatically shut down the unit.

OPERATION (cont.)

The plasma cutter will cease to cut and the Thermal Overload LED will illuminate RED. This LED indication is just to inform you that your plasma cutter is becoming too hot and requires to cool down to protect the internal components. Do Not turn your unit Off as the plasma cutter has an internal cooling fan and this will assist your unit to cool down quicker. Reducing the cooling time will enable you to get back to your cutting job quicker.

Depending on how many Amps or how heavy the cutting you are doing the cooling time may take up to 60 Minutes for your plasma cutter cool down so you can return to your cutting job.

Cutting

- Contact the copper tip of the plasma torch to the work piece, press the trigger switch (5) until the arc starts then raise the torch about 1mm above the work piece, and perform the cutting operation. You will experience high-frequency spark discharge and air coming from the nozzle.
- Once cutting is over, release the trigger switch (5) to put out the arc. A period of post-flow time required for torch cooling will follow. Do not disconnect air until this cooling period has been completed. Failure to do this will result in torch head damage.

MAINTENANCE

⚠ **WARNING!** To prevent serious injury from accidental operation:
Turn the Power Switch of the Plasma Cutter to its "OFF" position and unplug the plasma cutter from its electrical outlet before performing any inspection, maintenance, or cleaning procedures.

- Keep the ventilation vents of the tool clean at all times, if possible, prevent foreign matter from entering the vents.
- After each use, blow air through the tool housing to ensure it is free from all dust particles which may build up. Build up of dust particles may cause the tool to overheat and fail.
- If the enclosure of the tool requires cleaning do not use solvents but a moist soft cloth only. Never let any liquid get inside the tool; never immerse any part of the tool into a liquid.
- Worn nozzle will cause cutting inaccuracies and/or arc starting problems, so inspect the nozzle regularly. When the nozzle hole becomes covered with spatter, discard or clean with cleaning file (supplied).

Note: Ozito Industries will not be responsible for any damage or injuries caused by the repair of the tool by an unauthorised person or by mishandling of the tool.

TROUBLE SHOOTING

Symptom	Possible cause	Suggested Solution
Difficulty cutting through the work piece	The cutting current is too low	Refer to 'cutting guide instructions' for correct plasma cutting settings
	The cutting speed is to rapid	Slow down the cutting speed
	Torch electrode or nozzle are burned out or blocked	Clogged nozzle tips can be unclogged using a needle file or replacing if unclogging is unsuccessful. Burned out electrodes must be replaced.
	Incorrect cutting technique has been used	Ensure the nozzle tip is held exactly 90 degrees to the work piece (refer to photo)
	Poor contact or connection between ground cable and work piece	Ensure connection is firm and contact point is free from paint or solvents
Work piece overheating, resulting in metal residue (slag) building up or dripping off the work piece	Cutting speed is too slow	Increase cutting speed
	Cutting current and air pressure are too high for the application	Refer to 'cutting guide instructions' for correct plasma cutting settings
Plasma arc is inconsistent	Current and air pressure settings are incorrectly matched	Please refer to 'cutting guide'
	Torch electrode or nozzle are burned out or blocked	Clogged nozzle tips can be unclogged using a needle file or replacing if unclogging is unsuccessful. Burned out electrodes must be replaced.
	Poor contact or connection between ground cable and work piece	Ensure connection is firm and contact point is free from paint or solvents
Rough cutting finish on work piece	Torch electrode or nozzle are burned out or blocked	Clogged nozzle tips can be unclogged using a needle file or replacing if unclogging is unsuccessful. Burned out electrodes must be replaced.
	Excessive movement of the gun during cutting	Use a guide/straight edge
	Cutting speed is too slow	Refer to cutting guide for correct cutting speeds
	Incorrect cutting technique has been used	Ensure the nozzle tip is held exactly 90 degrees to the work piece (refer to photo)

DESCRIPTION OF SYMBOLS

V	Volts	**Hz**	Hertz	A	Amperes
~	Alternating current	**W**	Watts	**X**	load duration rate
U_1	Rated AV input voltage (with tolerance ±10%)	U_0	Non-load voltage	I_2	Current rating
I_1 **max**	Rated maximum input current	I_1 **eff**	Maximum effective input current	**IP**	Protection class
1~50/60Hz	Symbol of single-phase AV power and rated frequency	S	Suitable for welding in an environment which has high risk of electric shock		
	Warning		Read operator's manual		Do not operate in the rain
	Arc rays can burn eyes and injure skin		Electric shock from torch or wiring can kill		Double insulated
	Toxic Fumes		Cutting sparks can cause explosion or fire	5124	Regulator compliance mark

CARING FOR THE ENVIRONMENT

Power tools that are no longer usable should not be disposed of with household waste but in an environmentally friendly way. Please recycle where facilities exist. Check with your local council authority for recycling advice.

Recycling packaging reduces the need for landfill and raw materials. Reuse of recycled material decreases pollution in the environment. Please recycle packaging where facilities exist. Check with your local council authority for recycling advice.

CONTENTS

1 x FBT-2500 Plasma Cutter
1 x Plasma Torch
1 x Earth Clamp
1 x Air Regulator (fitted)
1 x Accessory Zip Bag
6 x Nozzles (1 fitted)
6 x Electrodes (1 fitted)
1 x Cleaning File
1 x Instruction Manual

Distributed by:
Ozito Industries Pty Ltd

AUSTRALIA (Head Office)

1-23 Letcon Drive, Bangholme Victoria, Australia, 3175
Telephone: 1800 069 486

WARRANTY

YOUR WARRANTY FORM SHOULD BE RETAINED BY YOU AT ALL TIMES. IN ORDER TO MAKE A CLAIM UNDER THIS WARRANTY YOU MUST RETURN THE PRODUCT TO YOUR NEAREST BUNNINGS WAREHOUSE (see www.bunnings.com.au or www.bunnings.co.nz for store locations) WITH YOUR BUNNINGS REGISTER RECEIPT. PRIOR TO RETURNING YOUR PRODUCT FOR WARRANTY PLEASE TELEPHONE OUR CUSTOMER SERVICE HELPLINE:

Australia 1800 069 486
New Zealand 0508 069 486

TO ENSURE A SPEEDY RESPONSE PLEASE HAVE THE MODEL NUMBER AND DATE OF PURCHASE AVAILABLE. A CUSTOMER SERVICE REPRESENTATIVE WILL TAKE YOUR CALL AND ANSWER ANY QUESTIONS YOU MAY HAVE RELATING TO THE WARRANTY POLICY OR PROCEDURE.

1 YEAR WARRANTY

Your product is guaranteed for a period of **12 months from the original date of purchase**. If a product is defective it will be repaired in accordance with the terms of this warranty. Warranty excludes consumable parts, for example: wheels, bearings.

The benefits provided under this warranty are in addition to other rights and remedies which are available to you under law. The warranty covers manufacturer defects in materials, workmanship and finish under normal use.

Our goods come with guarantees that cannot be excluded under Australian Consumer law & Consumer Guarantees Act 1993 (NZ). You are entitled to a 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 and replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

WARRANTY EXCLUSIONS

The following actions will result in the warranty being void.

- If the tool has been operated on a supply voltage other than that specified on the tool.
- If the tool shows signs of damage or defects caused by or resulting from abuse, accidents or alterations.
- Failure to perform maintenance as set out within the instruction manual.
- If the tool is disassembled or tampered with in any way.
- The warranty excludes damage resulting from product misuse or product neglect.

This warranty is given by Ozito Industries Pty Ltd.
ABN: 17 050 731 756
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