CIGWELD

AN ESAB BRAND

BLUEJET™

DESIGNED
& TESTED
IN AUSTRALIA
FOR OVER 100 YEARS

BLOWPIPE & CUTTING ATTACHMENT

CUTTING/GOUGING/HEATING/WELDING/BRAZING

OPERATING MANUAL

BLUEJET BLOWPIPE & CUTTING ATTACHMENT

OXY / ACET / LPG
GAS TYPE

1 YEAR
WARRANTY

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 If you are ever in doubt about what you see or read in this manual with the product you received, then check for a newer version of the manual on our website or contact our customer support for assistance.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.

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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 BLUEJET
OPERATING MANUAL NUMBER FOR:
PART NUMBER: 204001, 204005

Published by:

ESAB CIGWELD AN ESAB BRAND

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RECORD THE FOLLOWING INFORMATION FOR WARRANTY PURPOSES:

Where Purchased:

Purchase Date:

Equipment Serial #:

SAFETY PRECAUTIONS

1. Check "O" rings regularly and replace if worn or damaged.
2. Do not allow oil or grease to come into contact with the equipment. Oxygen can react explosively with oil or grease.
3. Do not remove regulators from cylinder valves and blowpipe from hoses with out first closing cylinder valves and releasing the gas from the regulator, blowpipe and hoses.
4. Do not use a regulator as a control valve. When plant is not in use for any extended period of time (overnight), close cylinder valves on the cylinders and releasing the pressure from the blowpipes, regulator and hoses.
5. Do not use the BlueJet equipment with any gas other than that for which it is designed.
6. After making any repairs or service requirements to the equipment always test to ensure correct operation.
7. Open cylinder valves slowly.
8. Ensure all connections are leak free. Never test for leaks with flame.
9. If a flashback occurs, immediately turn off the blowpipe oxygen valve, then the fuel gas valve. Allow the blowpipe and tip or nozzle to cool, purge gases before re-lighting. If flashbacks persist shut down equipment and consult your CIGWELD service agent.

FLASHBACK ARRESTORS

All oxygen-fuel systems must be fitted with a minimum of AS4603-compliant flashback arrestor and a non-return value for each gas line, taking into consideration any pressure drops experienced in all components of the assembled gas control system, at the rated flow capacity of the tip or nozzle in use.

Contact your nearest CIGWELD Distributor for advice on the correct type of unit that should be fitted to cater for your application(s).

WELDING ASSEMBLY

1. Connect blowpipe to hose assembly. Blue hose to right hand (R.H.) threaded blowpipe inlet connector. Red hose to the left hand (L.H.) threaded blowpipe inlet connector. Tighten with a spanner.

NOTE
Ensure that both control valves on the blowpipe are fully closed.

2. Screw the welding mixer onto the blowpipe until hand tight.
3. Screw the selected welding tip into the welding mixer until hand tight.
4. Loosen the joint between the blowpipe and welding mixer. Align welding tip with the blowpipe to obtain the best working position to suit you and then re-tighten to hand tight.

LIGHTING UP PROCEDURE: WELDING

1. Release both regulator pressure adjusting knobs before opening the cylinder valves.
2. Open both cylinder valves slowly with the handwheel. If this is done suddenly, it is possible to damage the regulator.
3. Adjust the fuel regulator control knob to the required pressure as indicated on the gauge dial. Open the fuel valve (red) on the blowpipe, and re-adjust the regulator knob, if necessary. Close the blowpipe fuel valve (red). Repeat the procedure for the oxygen side.
4. Allow a small quantity of gas to flow through each hose to (purge) clean the passages. This must be done one at a time ensuring each valve is closed before opening the other. Then close the blowpipe valves again.
5. Slightly open the fuel valve (red) on the blowpipe, pause for a few seconds, then light.

CAUTION
Do not use cigarette lighters or matches.

6. Adjust the fuel valve (red) until the flame just ceases to smoke. When the correct fuel flame has been obtained, open the oxygen valve (blue) and adjust for a neutral flame.

NOTE
If flame will not ignite check light up procedure.

A neutral flame is where equal amounts of oxygen and fuel are being burned at the same rate and will be evident by a white cone being clearly defined with the merest trace of fuel haze. Excess fuel will produce a lengthened inner cone while excess oxygen will give the flame a pale colour and may cause the tip to "POP". This will affect the quality of the weld. For bronze welding an oxidisation flame is required and will be necessary to reduce the amount of fuel until the correct flame is obtained.

For other applications a carburising flame may be required. This can be achieved by increasing the flow of fuel until a haze of feather of fuel is evident at the end of the white cone.

CLOSING DOWN PROCEDURE: WELDING

1. Close fuel blowpipe valve (red), followed by the oxygen blowpipe valve (blue).
2. Turn off the cylinder valves on the cylinders with hand wheel or cylinder key.
3. Open the blowpipe valves one at a time, fuel first, in order to relieve pressure in the blowpipe, hoses and regulators – then close the blowpipe valves.
4. Release oxygen and fuel regulator control knobs.

CUTTING ASSEMBLY

NOTE
Ensure that both oxygen and fuel valves on blowpipe are closed

If changing from oxy/fuel welding to cutting, remove the welding mixer and tip from the blowpipe.

1. Screw the cutting attachment to the blowpipe, then align the head of the cutting attachment with the blowpipe. Hand tighten.
2. Select the correct size cutting nozzle for the application intended. Assemble with the nozzle retaining nut and screw onto attachment.
3. Tighten with a spanner.

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

LIGHTING UP PROCEDURE: CUTTING & HEATING

1. Release both regulator pressure adjusting knobs before opening the cylinder valves.
2. Open both cylinder valves slowly with the handwheel. If this is done suddenly, it is possible to damage the regulator.
3. Adjust the fuel regulator control knob to the required pressure as indicated on the gauge dial. Open the fuel valve (red) on the blowpipe, and re-adjust the regulator knob, if necessary. Close the blowpipe fuel valve (red).
4. Open the oxygen control valve fully (blue) on the blowpipe.
5. Adjust the oxygen regulator control valve to the required pressure indicated on the gauge dial. Open the oxygen valve (blue) on the cutting attachment, and re-adjust the regulator knob, if necessary. Close the cutting attachment oxygen valve (blue).
6. Allow a small quantity of gas to flow through each hose to (purge) clean the passages. This must be done one at a time ensuring each valve is closed before opening the other. Then close the blowpipe valves again.
7. Slightly open the fuel valve (red) on the blowpipe, pause for a few seconds, then light.
8. Adjust the fuel valve (red) until the flame just ceases to smoke.

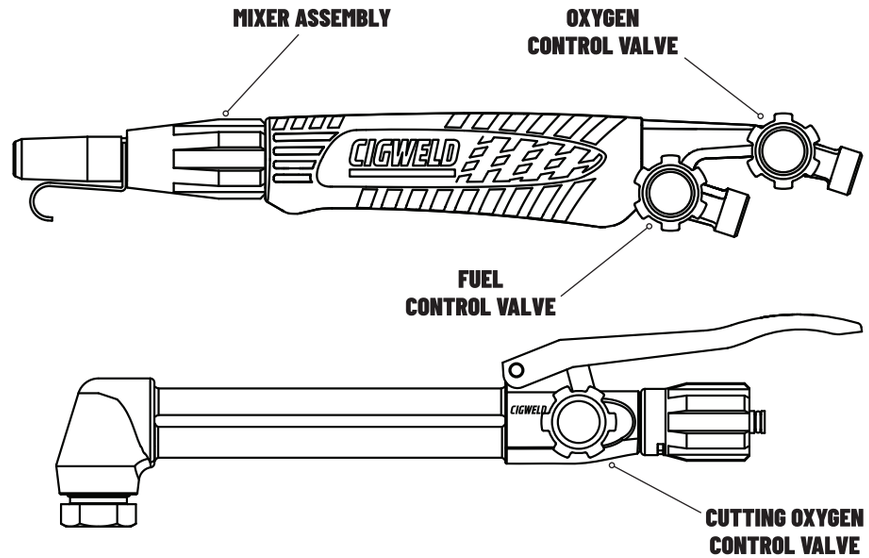
CAUTION
Do not use cigarette lighters or matches.

1. When the correct pre-heating fuel flame has been obtained, open the OXYGEN valve (blue) on the cutting attachment and adjust for a neutral flame. (White cones clearly defined with the merest trace of fuel haze).
2. Unequal amounts of either gas will give poor cutting performance.
3. Press the cutting lever on the top of the blowpipe with the thumb, and re-adjust to a neutral flame by means of the oxygen valve (blue) on the cutting attachment.

CLOSING DOWN PROCEDURE: CUTTING & HEATING

1. Close fuel blowpipe valve (red), followed by the oxygen blowpipe valve (blue).
2. Turn off the cylinder valves on the cylinders with handwheel or cylinder key.
3. Open the blowpipe valves one at a time, fuel first, in order to relieve pressure in the blowpipe, hoses and regulators – then close the blowpipe valves.
4. Close the cutting attachment control valve
5. Release oxygen and fuel regulator control knobs.

NOTE
Withdrawal rates from fuel cylinders are limited to about 1/7 of the cylinder contents per hour e.g. from a 'G' size cylinder of 7m³ capacity, the maximum recommended flow is 1m³/hr. (17l/min.) For applications exceeding this capacity, cylinders should be manifolded. If in doubt refer to the gas supplier.



TYPE 41 GOUGING NOZZLES (OXY/ACETYLENE)

SIZE	FUEL GAS FLOW l/min @100kPa	TOTAL OXYGEN FLOW l/min & PRESSURE (@kPa)	P/N
32GB	15	61 (500)	206089
48GB	18	85 (600)	206090
32GS	15	61 (500)	206093

TYPE 44 GOUGING NOZZLES (OXY/LPG)

SIZE	FUEL GAS FLOW l/min @100kPa	TOTAL OXYGEN FLOW l/min & PRESSURE (@kPa)	P/N
32GB	12	94 (500)	206091
48GB	13	120 (600)	206092
32GS	12	94 (500)	206094

TYPE 551 WELDING TIPS (OXY/ACETYLENE)

SIZE	STEEL THICKNESS mm	PRESSURE kPa OXYGEN	PRESSURE kPa ACET	CONSUMPTION EACH GAS l/min	P/N
4*	0.9	50	50	1.5	207010
6*	1.2	50	50	1.5	207011
8*	2	50	50	2	207012
10*	3	50	50	3	207013
12*	3.2-4	50	50	4	207014
15*	5-6.5	50	50	6.5	207015
20*	8-10	50	50	12	207016
26*	13-20	50	50	22	207017
32*	25-32	50	100	38	207018

TYPE 554 BRAZING TIPS (OXY/LPG)

SIZE	STEEL THICKNESS mm	PRESSURE kPa OXYGEN	PRESSURE kPa LPG	P/N
8*	2	50	50	207019
15*	3-6.5	50	50	207020

*** Compatible with BlueJet Type 550 Mixer**

TYPE 41 CUTTING NOZZLES (OXY/ACETYLENE)

SIZE	CUTTING THICKNESS mm	FUEL GAS FLOW l/min @100kPa	TOTAL OXYGEN FLOW & PRESSURE l/min (@kPa)	P/N
6	1-6	2	11 (200)	206046
8	3-12	3.5	20 (200)	206047
12	6-20	4	38 (200)	206048
15	8-75	7	75 (350)	206049
20	12-125	9	134 (400)	206050

TYPE 44 CUTTING NOZZLES (OXY/LPG)

SIZE	CUTTING THICKNESS mm	FUEL GAS FLOW l/min @100kPa	TOTAL OXYGEN FLOW & PRESSURE l/min (@kPa)	P/N
6	1-6	2	17 (200)	206025
8	3-12	3.5	30 (200)	206026
12	6-20	4.4	58 (250)	206028
15	8-75	5.5	99 (400)	206029
20	12-125	6.5	171 (400)	206030
24	16-200	9	256 (500)	206086
32	20-300	14	456 (600)	206087
48	25-350	20	556 (700)	206088

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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.

Note: In the interest of continuous improvement, CIGWELD Pty Ltd reserves the right to change the specifications or designs of any of its products without prior notice.

NOTES:

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BLUEJET™

Instruction Part No: 213380-04-124

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