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INNOVATION

BLUEJETTM PYRO



**HEATING AND
BRAZING KITS**

OPERATING MANUAL

CIGWELD

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 If you are ever in doubt about what you see or read in this manual with the product you received, then check for a newer version of the manual on our website or contact our customer support for assistance.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



100+
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WELDING
INNOVATION

**WARNING**

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

BLUEJET HEATING AND BRAZING KITS**PART NUMBERS:**

**208550, 208551, 208552,
208553, 208599, 208600**

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RECORD THE FOLLOWING INFORMATION FOR WARRANTY PURPOSES:

Where Purchased:

Purchase Date:

Equipment Serial #:

CONTENTS

SECTION 1:

GAS HEATING & BRAZING SAFETY INSTRUCTIONS AND WARNINGS 5

1.01	PERSONAL SAFETY	5
1.02	LPG CYLINDERS	5
1.03	LPG REGULATOR	6
1.04	HOSE HANDLING AND CARE	6

SECTION 2:

INTRODUCTION 7

2.01	KIT CONTENTS	7
------	--------------	---

SECTION 3:

INSTALLATION 10

3.01	FITTING REGULATORS TO CYLINDERS	10
3.02	HOSE	10
3.03	TESTING FOR LEAKS	10

SECTION 4:

OPERATING PROCEDURE 11

4.01	TORCH LIGHTING UP	11
4.02	TORCH CLOSING DOWN	11

SECTION 5:

SERVICE & REPAIR 12

SECTION 6:

DATA 13

6.01	BLUEJET PYRO BURNER HEADS	13
6.02	BLUEJET PYRO NECK TUBES	13
6.03	BLUEJET PYRO TORCH HANDLES	14
6.04	BLUEJET LPG REGULATOR SIDE INLET	14
6.05	BLUEJET PYRO FITTED PVC LPG HOSES	14

WARRANTY 15

SECTION 1: GAS HEATING & BRAZING SAFETY INSTRUCTIONS AND WARNINGS

The information shown under this note must be followed carefully to avoid injuring the operator or anyone in the operating area.

When an accident does occur with this equipment, it's usually due to the operator having become careless through over-familiarity. Remember, the safest of equipment, if wrongly handled, can cease to be safe. For safety protocols, re-check the points in this article. Each point is there for a purpose.

1.01 PERSONAL SAFETY

Be neat and clean about your work. Maintain your equipment in good condition. Wear goggles with the correct shade filter when using gas equipment. Goggles protect your eyes against sparks and injurious rays. It is essential that the goggles and filters are of a type intended for their relevant work. Quite apart from safety, they help you see your work better. Wear suitable gloves, aprons, shoes and protective clothing. Use a flint lighter to light the burner head. Never use matches. Keep flame, sparks or metal away from cylinders and tubing. When working with lead, lead bearing materials, steel coated with lead paints, cadmium-coated materials or any objects containing metals giving off toxic fumes, always use a suitable respirator.

1.02 LPG CYLINDERS

LPG cylinders are provided with relief valves or fusible plugs to discharge their contents and keep the cylinder pressure within safe limits should the cylinder be overheated by a fire. LPG cylinders should be used and stored upright in the open, away from combustible material. Do not store LPG cylinders with oxygen cylinders. Do not store LPG cylinders closer than 1.5 m horizontally from any opening into a building. If LPG cylinder valve leaks around the spindle, or if the relieve valve or fusible plug is leaking, remove the cylinder to open air away from buildings and sources of ignition; tag the cylinder to explain the trouble; notify the supplier as soon as possible. If LPG escapes from a leaking cylinder valve gland or from a regulator spigot ignites, immediately close the cylinder valve. If LPG escaping from a fusible plug ignites, direct a fine water spray at the cylinder and surrounding equipment. On no account should the flame be extinguished, since escaping unburned gas in a confined space may re-ignite and cause an explosion. LPG is not toxic and is odourless, but an odorant is added to give a distinctive smell. If the distinctive odour is detected an immediate check should be made for leaks. Soapy water is recommended for this purpose. As soon as the leak is located, turn off the LPG cylinder valve and tighten or repair the equipment. If LPG is leaking do

not strike matches or operate any electrical appliance in the vicinity. Remove all sources of ignition and open all doors and windows. Do not attempt to relight LPG until all traces of LPG odour have disappeared. Remember, LPG is heavier than air and will remain in open containers, cellars and confined spaces for a considerable time.

1.03 LPG REGULATOR

Do not work with damaged equipment. Have leaking or damaged equipment repaired by an authorized repair agent. Do not use oil or grease on any regulator. Do not handle equipment with an oil rag, oily gloves or hands. Keep your equipment clean. Never use regulators for purposes other than that for which they were intended. Inspect connections and all seating surfaces on regulators before use. Damaged connections can cause flashbacks. Never hang tubing on a regulator or cylinder valve. Crack cylinder valves before attaching regulators. Cracking means to open the valve a little, then immediately close, to blow out dust or foreign matter. Cracking should always be done gently. Never crack a fuel gas valve near other welding works, sparks or open flame. Never force connections. Be sure all connections are tight. Never test for leaks with a flame. Never try to connect a regulator to a cylinder containing gas other than that for which the regulator is meant. If a regulator shows excessive creep (pressure build-up when blowpipe valve are closed), close cylinder valve and have regulator repaired at once. Quite apart from risks, creeping regulators lead to poor work. Pressure build-up in excess of 35 kPa is to be regarded as excessive and call for immediate attention. Periodically, have pressure gauges on regulators tested for accuracy. Ensure before using that regulators have both a cylinder pressure and a delivery pressure gauge in working order. Before opening cylinder valves always fully release regulator adjusting knob. A sudden pressure rise in a regulator whose adjusting knob is screwed in puts a heavy strain on the mechanism and may cause damage. Never release the regulator adjusting knob while there is pressure in the tubing. If the pressure gauge indicator fails to return to the stop when pressure is released, have the gauge checked.

Always take care to keep the regulators free of oil and grease. Oil and grease should be removed chemically by a qualified repair technician. Never use oil or grease on the regulator, cylinder or manifold connections. Do not change the inlet connection on a regulator in an attempt to use the regulator for a different gas service.

1.04 HOSE HANDLING AND CARE

Long lengths of hose are not desirable. They tend to kink, are vulnerable to mistreatment. When long lengths must be used, be sure all connections are tight and ensure hose is protected from being stepped on, run over, kinked or tangled. Never use wire or insulation tape to fasten hose to connections nor to couple lengths of hose. Use only suitable hose connections and couplings.

Protect hose from sparks, hot slag, hot edges or open flames. Keep hose away from grease and oil. All new hose should be blown out before connecting the equipment to remove, talc, dust or water. Do not crimp hose to stop flow of gases.

Purge each length of hose before lighting. In other words, when hose is to be reconnected, treat it as you would new hose; before lighting up, pass through it some of the gas with which it is to be used.

Examine all hose periodically for leaks, worn parts, and loose connections. Test for leaks by immersing the hose in water. Carry out this test at normal working pressures. Should leaks or worn parts be found, at once cut out the section containing them. Remake joints with suitable hose couplings. Never use a steel or copper pipe to make a joint- either temporary or permanent. Do not try to repair hose with tape. If hose is burned in a flashback, discard that length of hose. Flashbacks may burn inner walls, making hose unsafe or cause further instability to the blowpipe equipment by blockage.

SECTION 2: INTRODUCTION

2.01 KIT CONTENTS

PYRO STARTER KIT

P/N: 208550



P/N	DESCRIPTION
208531	BLUEJET PYRO BURNER HEAD 50mm
208538	BLUEJET PYRO NECK TUBE 220mm
208543	BLUEJET PYRO STANDARD TORCH HANDLE
208545	BLUEJET LPG REGULATOR WITH 3/8" OUTLET

P/N	DESCRIPTION
208547	BLUEJET PYRO FITTED PVC LPG HOSE, SINGLE 8MM, 2M (3/8" BSP LH)
308832	TRIPLE FLINT LIGHTER
208561	TORCH ADAPTOR (3/8" BSP LH to 5/8" - 18 UNF LH)

PYRO TORCH KIT

P/N: 208551

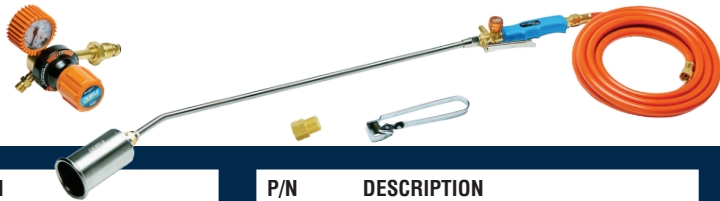


P/N	DESCRIPTION
208530	BLUEJET PYRO BURNER HEAD 60mm
208531	BLUEJET PYRO BURNER HEAD 50mm
208537	BLUEJET PYRO NECK TUBE 600mm
208538	BLUEJET NECK TUBE 220mm

P/N	DESCRIPTION
208544	BLUEJET PYRO ECONOMISER TORCH HANDLE
308832	TRIPLE FLINT LIGHTER
208561	TORCH ADAPTOR (3/8" BSP LH to 5/8" - 18 UNF LH)

PYRO PRO KIT

P/N: 208552



P/N	DESCRIPTION
208530	BLUEJET PYRO BURNER HEAD 60mm
208537	BLUEJET PYRO NECK TUBE 600mm
208544	BLUEJET PYRO ECONOMISER TORCH HANDLE
208545	BLUEJET LPG REGULATOR WITH 3/8" OUTLET

P/N	DESCRIPTION
208547	BLUEJET PYRO FITTED PVC LPG HOSE, SINGLE 8mm, 2m (3/8" BSP LH)
308832	TRIPLE FLINT LIGHTER
208561	TORCH ADAPTOR (3/8" BSP LH to 5/8" - 18 UNF LH)

PYRO PRO PLUS KIT

P/N: 208553

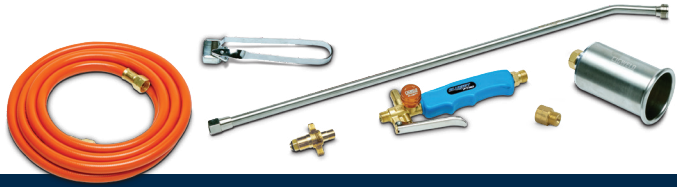


P/N	DESCRIPTION
208530	BLUEJET PYRO BURNER HEAD 60mm
208531	BLUEJET PYRO BURNER HEAD 50mm
208537	BLUEJET PYRO NECK TUBE 600mm
208538	BLUEJET PYRO NECK TUBE 220mm
208544	BLUEJET PYRO ECONOMISER TORCH HANDLE

P/N	DESCRIPTION
208545	BLUEJET LPG REGULATOR WITH 3/8" OUTLET
208548	BLUEJET PYRO FITTED PVC LPG HOSE, SINGLE 8mm, 6m (3/8" BSP LH)
308832	TRIPLE FLINT LIGHTER
208561	TORCH ADAPTOR (3/8" BSP LH to 5/8" - 18 UNF LH)

PYRO PRO LITE KIT

P/N: 208599



P/N	DESCRIPTION
208601	BLUEJET PYRO BURNER HEAD 65mm
208602	BLUEJET PYRO NECK TUBE 750mm
208544	BLUEJET PYRO ECONOMISER TORCH HANDLE
208605	BLUEJET CYLINDER ADAPTOR (3/8" BSP LH)

P/N	DESCRIPTION
208606	BLUEJET PYRO PVC LPG HOSE 8mm, 3m
308832	TRIPLE FLINT LIGHTER
208561	TORCH ADAPTOR (3/8" BSP LH to 5/8" - 18 UNF LH)

PYRO PIEZO KIT

P/N: 208600



P/N	DESCRIPTION
208603	BLUEJET PYRO PIEZO ELECTRIC TORCH
208544	BLUEJET PYRO ECONOMISER TORCH HANDLE
208604	BLUEJET POL REGULATOR (3/8" BSP LH)

P/N	DESCRIPTION
208606	BLUEJET PYRO PVC LPG HOSE 8mm, 3m
208561	TORCH ADAPTOR (3/8" BSP LH to 5/8" - 18 UNF LH)

SECTION 3: INSTALLATION

3.01 FITTING REGULATORS TO CYLINDERS

- Place Cylinders in intended position ready for use. Secure firmly in position.
- Momentarily open and then close (called “cracking”) the cylinder valve before attaching the regulator to blow out foreign matter.
- Place the inlet of LPG regulator (colour coded orange) onto the cylinder valve. Tighten the nut on the regulator inlet using the combination spanner supplied.

3.02 HOSE

- Connect one end of the orange hose to the outlet of the LPG regulator (colour coded orange). Tighten the nut using the spanner. The nut is left hand (LH) threaded and needs to be turned in an anti-clockwise direction in order to tighten.
- Connect the Orange hose for LPG to the torch handle end. Tighten the nut using the combination spanner supplied. The nut is left hand (LH) threaded and needs to be turned in an anti-clockwise direction in order to tighten.

3.03 TESTING FOR LEAKS

- After assembly and before lighting up it is recommended that the following procedure be adopted to check for leaks.
- Close the torch handle valve
- Open the LPG cylinder valve slowly and set the regulator to show approximately 100 kPa on the delivery gauge
- Close the LPG cylinder valve
- Watch the cylinder pressure gauge and if the pressure decreases there is a leak in the LPG system. If no pressure drop is experienced, then there are no leaks up to the torch handle valve
- Open torch handle valve to release LPG gas pressure from the system
- Release regulator control knob to fully out position
- Close torch handle valve
- Repeat test for the fuel gas system

All that is needed to locate the leak(s) is a suitable leak detection solution or soapy water.



WARNING

This test should be done quickly, and it is important that there are no sources of ignition present during this process, as a certain amount of LPG gas will be released to the atmosphere. If no leaks are detected, the system is ready for use. If any leaks are detected on the torch handle, it should be returned to the distributor from which it was purchased. If leaks are detected elsewhere in the system, then the joint should be re-tightened and re-tested, or the leaking item replaced.

SECTION 4:

OPERATING PROCEDURE

4.01 TORCH LIGHTING UP

- Gradually turn the valve on the LPG cylinder counterclockwise to open it and allow gas to flow. Use a soap & water solution (soapy water) to detect any leaks; bubbles will indicate leak.
- Slightly open the gas control valve on the torch handle to allow a controlled flow of gas.
- Use flint lighter by holding it at the flame outlet of the torch and igniting it to produce a spark pointing the burner head away from you.
- Once the flame is lit, adjust the flame height and intensity using the gas control valve on the torch handle. Turn the valve counterclockwise to increase the flame and clockwise to decrease it.
- Ensure the flame is steady and adjust the flame as needed to achieve a consistent and efficient combustion.

4.02 TORCH CLOSING DOWN

- Rotate the gas control valve on the torch handle clockwise to fully close it, thereby stopping the flow of gas through the torch.
- Confirm that the flame is completely extinguished by visually inspecting the flame to ensure there is no residual burning or flow of gas.
- Proceed to the LPG cylinder and rotate its valve clockwise to close it, stopping the flow of gas from the cylinder to the torch.
- Once it has been confirmed that there are no gas leaks and torch has cooled down, carefully unscrew the torch. Handle the connections with care to avoid any damage.
- Store the torch and LPG cylinder in a location that is cool, dry, and well-ventilated away from electrical outlet.

SECTION 5: SERVICE AND REPAIR

Apparatus improperly maintained or repaired can be dangerous. Improper service or repair, service or modification of the product could result in damage to the product and/or injury to the operator. **Under no circumstances, should you attempt to service or repair the product.** Service and repairs are to be carried out by trained personnel only, so as to ensure that the product is returned to you in a safe working order. Please consult your local CIGWELD PTY LTD distributor for information on approved repair agents.



SECTION 6: DATA

6.01 BLUEJET PYRO BURNER HEADS



BURNER HEAD DIAMETER:	60mm
FLAME LENGTH:	600mm
INLET CONNECTION:	M20 x 1 Female
GAS CONSUMPTION:	5,000 g/Hr @ 150kPa
HEAT OUTPUT:	61,600KJ (58,386 BTU/Hr)
P/N:	208530



BURNER HEAD DIAMETER:	50mm
FLAME LENGTH:	500mm
INLET CONNECTION:	M20 x 1 Female
GAS CONSUMPTION:	3,000 g/Hr @ 150kPa
HEAT OUTPUT:	26,230KJ (24,862 BTU/Hr)
P/N:	208531

6.02 BLUEJET PYRO NECK TUBES



SIZE:	600mm
INLET CONNECTION:	M14 x 1 RH Female
OUTLET CONNECTION:	M20 x 1 RH Male
P/N:	208537



SIZE:	220mm
INLET CONNECTION:	M14 x 1 RH Female
OUTLET CONNECTION:	M20 x 1 RH Male
P/N:	208538

6.03 BLUEJET PYRO TORCH HANDLES



TORCH HANDLE:	Standard
INLET CONNECTION:	3/8" BSP LH
OUTLET CONNECTION:	M14 x 1 Male
OPERATING PRESSURE:	150-400kPa
P/N:	208543



TORCH HANDLE:	Economiser
INLET CONNECTION:	3/8" BSP LH
OUTLET CONNECTION:	M14 x 1 Male
OPERATING PRESSURE:	150-400kPa
P/N:	208544

6.04 BLUEJET LPG REGULATOR SIDE INLET



INLET CONNECTION:	CGA 510 SI
OUTLET CONNECTION:	3/8" BSP LH
MAX WORKING PRESSURE/FLOW:	400 kPa
STANDARD:	AS 4267
P/N:	208545

6.05 BLUEJET PYRO FITTED PVC LPG HOSES



LENGTH:	2m	6m
THREAD:	3/8" BSP LH	3/8" BSP LH
NOMINAL BORE DIAMETER:	8mm	8mm
COLOUR:	Orange	Orange
STANDARD:	AS 1869, AGA Certified (9273)	AS 1869, AGA Certified (9273)
P/N:	208547	208548

6.06 BLUEJET PYRO TORCH ADAPTOR (3/8" BSP LH TO 5/8" - 18 UNF LH)



INLET CONNECTION:	3/8" BSP LH F
OUTLET CONNECTION:	5/8" - 18 UNF LH M
P/N:	208561



NOTE

Significant deviation from these pressures may result in sub-optimal flame settings and in extreme cases could lead to hazardous situations.



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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

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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.

Warranty	Warranty Period
Burner Heads, Neck Tubes and Torch Handles	12 Months
Gas regulators (excluding seat assembly and pressure gauges)	5 Years
Gas regulator seat assemblies and pressure gauges	6 Months
Elastomer seals and "O" rings used in the equipment	3 Months
Accessories, defined as items used to ignite, maintain or repair, including hoses and fittings	1 Month

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