

# CIGWELD

AN ESAB BRAND



DESIGNED  
& TESTED  
IN AUSTRALIA  
FOR OVER 100 YEARS

## ARCMaster XC20

### AUTO-DARKENING WELDING HELMET

MIG

STICK

TIG

PLASMA

GRIND



**OPERATING MANUAL**

**ARCMaster XC20**

CIGWELD OPERATING MANUAL  
ARCMaster XC20 V1-2023

**HIGH**  
IMPACT RATING

**QUAD 1**  
LENS

**XTRA CLARITY**  
58.5mm<sup>2</sup> VIEWING AREA



# 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. To locate your nearest distributor or accredited service provider call +1300 654 674, or visit us on the web at [www.cigweld.com.au](http://www.cigweld.com.au)

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 If you are ever in doubt about what you see or read in this manual with the product you received, then check for a newer version of the manual on our website or contact our customer support for assistance.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

**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.

**AUTO-DARKENING WELDING HELMET  
INSTRUCTION MANUAL NUMBER 0-5658 FOR:****ARCMaster XC20 AUTO DARKENING WELDING  
HELMET**

Published by:



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Publication Date: 27-04-2023

**Revision Date:**

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**RECORD THE FOLLOWING INFORMATION  
FOR WARRANTY PURPOSES:**

**Where Purchased:**

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**Purchase Date:**

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# SECTION 1:

## ARC WELDING SAFETY INSTRUCTIONS AND WARNINGS



### WARNING

#### ARC WELDING can be hazardous.

Protect yourself and others from possible serious injury or death. Keep children away. Do not lose these instructions. Read operating manual before installing, operating or servicing this product.

Welding products and welding processes can cause serious injury or death, or damage to other equipment or property, if the operator does not strictly observe all safety rules and take precautionary actions.

Safe practices have developed from past experience in the use of welding and cutting. These practices must be learned through study and training before using this equipment. Anyone not having extensive training in welding and cutting practices should not attempt to weld. Certain practices apply to equipment connected to power lines; other practices apply to engine driven equipment.

Safe practices are outlined in the American National Standard Z49.1 entitled: SAFETY IN WELDING AND CUTTING. This publication and other guides to what you should learn before operating this equipment are listed at the end of these safety precautions.

HAVE ALL INSTALLATION, OPERATION, MAINTENANCE, AND REPAIR WORK PERFORMED ONLY BY QUALIFIED PEOPLE.

### 1.01 SAFETY INSTRUCTIONS



### WARNING

**ARC RAYS** can burn eyes and skin;  
**NOISE** can damage hearing.

Arc rays from the welding process produce intense heat and strong ultraviolet rays that can burn eyes and skin. Noise from some processes can damage hearing.

### ARC RAYS AND NOISE

1. Use a Welding Helmet or Welding Faceshield fitted with a proper shade of filter (see ANSI Z49.1 and AS 1674 listed in Safety Standards) to protect your face and eyes when welding or watching.
2. Wear approved safety glasses. Side shields recommended.
3. Use protective screens or barriers to protect others from flash and glare; warn others not to watch the arc.
4. Wear protective clothing made from durable, flame-resistant material (wool and leather) and foot protection.
5. Use approved ear plugs or ear muffs if noise level is high.

## ELECTRIC SHOCK



### WARNING

#### **ELECTRIC SHOCK can kill.**

Touching live electrical parts can cause fatal shocks or severe burns. The electrode and work circuit is electrically live whenever the output is on. The input power circuit and machine internal circuits are also live when power is on.

In semiautomatic or automatic wire welding, the wire, wire reel, drive roll housing, and all metal parts touching the welding wire are electrically live. Incorrectly installed or improperly grounded equipment is a hazard.

1. Do not touch live electrical parts.
2. Wear dry, hole-free insulating gloves and body protection.
3. Insulate yourself from work and ground using dry insulating mats or covers.
4. Disconnect input power or stop engine before installing or servicing this equipment. Lock input power disconnect switch open, or remove line fuses so power cannot be turned on accidentally.
5. Properly install and ground this equipment according to its Operating Manual and national, state, and local codes.
6. Turn off all equipment when not in use. Disconnect power to equipment if it will be left unattended or out of service.
7. Use fully insulated electrode holders. Never dip holder in water to cool it or lay it down on the ground or the work surface. Do not touch holders connected to two welding machines at the same time or touch other people with the holder or electrode.
8. Do not use worn, damaged, undersized, or poorly spliced cables.
9. Do not wrap cables around your body.
10. Ground the workpiece to a good electrical (earth) ground.
11. Do not touch electrode while in contact with the work (ground) circuit.
12. Use only well-maintained equipment. Repair or replace damaged parts at once.
13. In confined spaces or damp locations, do not use a welder with AC output unless it is equipped with a voltage reducer. Use equipment with DC output.
14. Wear a safety harness to prevent falling if working above floor level.
15. Keep all panels and covers securely in place.

## FLYING SPARKS AND HOT METAL



### WARNING

#### **FLYING SPARKS AND HOT METAL can cause injury.**

Chipping and grinding cause flying metal. As welds cool, they can throw off slag.

1. Wear approved face shield or safety goggles. Side shields recommended.
2. Wear proper body protection to protect skin.

## WELDING



### WARNING

#### **WELDING can cause fire or explosion.**

Sparks and spatter fly off from the welding arc. The flying sparks and hot metal, weld spatter, hot workpiece, and hot equipment can cause fires and burns. Accidental contact of electrode or welding wire to metal objects can cause sparks, overheating, or fire.

3. Protect yourself and others from flying sparks and hot metal.
4. Do not weld where flying sparks can strike flammable material. Remove all flammables within 35ft (10.7 m) of the welding arc. If this is not possible, tightly cover them with approved covers.
5. Be alert that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas.
6. Watch for fire, and keep a fire extinguisher nearby.
7. Be aware that welding on a ceiling, floor, bulkhead, or partition can cause fire on the hidden side.
8. Do not weld on closed containers such as tanks or drums.
9. Connect work cable to the work as close to the welding area as practical to prevent welding current from travelling long, possibly unknown paths and causing electric shock and fire hazards.
10. Do not use welder to thaw frozen pipes.
11. Remove stick electrode from holder or cut off welding wire at contact tip when not in use.

## CYLINDERS



### WARNING

#### CYLINDERS can explode if damaged.

Shielding gas cylinders contain gas under high pressure. If damaged, a cylinder can explode. Since gas cylinders are normally part of the welding process, be sure to treat them carefully.

1. Protect compressed gas cylinders from excessive heat, mechanical shocks, and arcs.
2. Install and secure cylinders in an upright position by chaining them to a stationary support or equipment cylinder rack to prevent falling or tipping.
3. Keep cylinders away from any welding or other electrical circuits.
4. Never allow a welding electrode to touch any cylinder.
5. Use only correct shielding gas cylinders, regulators, hoses and fittings designed for the specific application; maintain them and associated parts in good condition.
6. Turn face away from valve outlet when opening cylinder valve.
7. Keep protective cap in place over valve except when cylinder is in use or connected for use.
8. Read and follow instructions on compressed gas cylinders, associated equipment, and CGA publication P-1 listed in Safety Standards.

## BATTERIES



### WARNING

#### KEEP BATTERIES OUT OF REACH OF CHILDREN

9. Swallowing may lead to serious injury in as little as 2 hours or death, due to chemical burns and potential perforation of the oesophagus.
10. If you suspect your child has swallowed or inserted a button battery immediately call the 24-hour Poisons Information Centre in Australia on 13 11 26 (or your countries relevant Poison Information Centre) for fast, expert advice.

11. Examine devices and make sure the battery compartment is correctly secured, e.g. that the screw or other mechanical fastener is tightened. Do not use if compartment is not secure.
12. Dispose of used button batteries immediately and safely. Flat batteries can still be dangerous.
13. Tell others about the risk associated with button batteries and how to keep their children safe.

## 1.02 DECLARATION OF CONFORMITY

Manufacturer: CIGWELD  
Address: 71 Gower St, Preston  
Victoria 3072  
Australia

Description of equipment: Safety Equipment. CIGWELD  
Arcmaster Auto-Darkening Welding Helmet.

### National Standard and Technical Specifications

The product is designed and manufactured to a number of standards and technical requirements among them are:

- A. AS/NZS 1337.1:2010 Section 4 - Eye Protectors for industrial applications.
- B. AS/NZS 1338.1:2012 Filters for Eye Protectors.

\* Extensive product design verification is conducted at the manufacturing facility as part of the routine design and manufacturing process, to ensure the product is safe and performs as specified. Rigorous testing is incorporated into the manufacturing process to ensure the manufactured product meets or exceeds all design specifications.

CIGWELD has been manufacturing and merchandising an extensive equipment range with superior performance, ultra safe operation and world class quality for more than 30 years and will continue to achieve excellence.

## 1.03 LIMITED WARRANTY

### LIMITED WARRANTY TERMS

**LIMITED WARRANTY:** CIGWELD Pty Ltd, CIGWELD An ESAB Brand, hereafter, "CIGWELD and/or ESAB" 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/ESAB products as stated below, CIGWELD/ESAB shall, upon notification thereof and substantiation that the product has been stored, installed, operated, and maintained in accordance with CIGWELD/ESAB'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/ESAB's sole option, of any components or parts of the product determined by CIGWELD/ESAB to be defective.

CIGWELD/ESAB 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/ESAB 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/ESAB 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/ESAB 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 OR ESAB'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.

### WARRANTY SCHEDULE- ARCMaster AUTO-DARKENING WELDING HELMET

CIGWELD reserves the right to request documented evidence of date of purchase.

CIGWELD SAFETY EQUIPMENT	WARRANTY PERIOD
Arcmaster XC20 Auto-Darkening Welding Helmet	2 Years
ACCESSORIES	WARRANTY PERIOD
Cover Lenses	Fit for purpose
Sweat Band	1 Month



#### WARNING

For the purpose of safety and performance and to protect your CIGWELD Equipment Warranty always use genuine CIGWELD replacement parts and accessories.

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/ESAB Accredited Seller) to the store where you purchased the product or contact CIGWELD/ESAB Customer Care 1300 654 674 for advice on your nearest Service Provider. CIGWELD/ESAB reserves the right to request documented evidence of date of purchase. CIGWELD/ESAB 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/ESAB or nominated Accredited Distributor/Accredited Service Provider.

This warranty is given.

CIGWELD Pty Ltd  
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Website: www.cigweld.com.au | www.esabasia.com

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.

Please note that the information detailed in this statement supersedes any prior published data produced by CIGWELD or ESAB.

### CIGWELD LIMITED WARRANTY DOES NOT APPLY TO:

- Obsolete goods sold at auction, second-hand goods and prototype goods.
- Consumable Parts for MIG, TIG, Plasma welding, Plasma cutting and Oxy fuel torches, O-rings, fuses, filters or other parts that fail due to normal wear.

#### Note:

\* No employee, agent, or representative of CIGWELD is authorized to change this warranty in any way or grant any other warranty, and CIGWELD shall not be bound by any such attempt. Correction of non-conformities, in the manner and time provided herein, constitutes fulfilment of CIGWELD's obligations to purchaser with respect to the product.

\* This warranty is void, and seller bears no liability hereunder, if purchaser used replacement parts or accessories which, in CIGWELD's sole judgment, impaired the safety or performance of any CIGWELD product and if the unit is altered or serviced by an unauthorised CIGWELD Service Provider. Purchaser's rights under this warranty are void if the product is sold to purchaser by unauthorized persons.



## SECTION 2: INTRODUCTION

### 2.01 HOW TO USE THIS MANUAL

This Operating Manual usually applies to just the underlined specification or part numbers listed. If none are underlined, they are all covered by this manual.

To ensure safe operation, read the entire manual, including the chapter on safety instructions and warnings.

Throughout this manual, the word WARNING, CAUTION and NOTE may appear. Pay particular attention to the information provided under these headings. These special annotations are easily recognised as follows:



#### NOTE

Offers helpful information concerning certain operating procedures. Notes will be shown in italics.



#### CAUTION

Refers to possible equipment damage. Cautions will be shown in bold type.



#### WARNING

Gives information regarding possible personal injury. Warnings will be enclosed in a box such as this.

### 2.02 EQUIPMENT IDENTIFICATION

The product identification number is printed on the outer shipping carton. Record this number for future reference.

### 2.03 RECEIPT OF EQUIPMENT

When you receive the equipment, check it against the invoice to make sure it is complete and inspect the equipment for possible damage due to shipping. If there is any damage, notify the carrier immediately to file a claim. Furnish complete information concerning damage claims or shipping errors to:

CIGWELD, Customer Care Department,  
71 Gower St, Preston, Victoria, Australia, 3072,  
[enquiries@cigweld.com.au](mailto:enquiries@cigweld.com.au).

Include all equipment identification numbers as described above along with a full description of the parts in error.

Additional copies of this manual may be downloaded by visiting [www.cigweld.com.au/manuals/](http://www.cigweld.com.au/manuals/) or by contacting CIGWELD, Customer Care Department, at the address given above. Include the Operating Manual number and equipment identification numbers.



#### NOTE

Protect your Warranty by ensuring the Front and Rear plastic cover lenses are in good condition and are firmly in place before welding commences. The warranty on this product does not cover weld spatter, grinding sparks or scratches to the Auto-Darkening Filter (ADF) where the cover lenses sit. It is the users responsibility to change and replace cover lenses as needed.

## SECTION 3: GENERAL INFORMATION

### 3.01 ARCMaster AUTO-DARKENING WELDING HELMET

The CIGWELD Arcmaster XC20 Auto-Darkening Welding Helmet is a sophisticated and modern helmet specifically engineered for welding comfort, versatility, performance and fume deflection.

Two sensors detect the arc and darken the lens in less than 0.2ms. Even at very low amperages, the helmet remains dark which makes it ideal for TIG work as well as more powerful stick and MIG jobs, and a simple switch allows you to choose between welding and grinding modes.

To ensure your complete satisfaction with your new Arcmaster XC20 Auto-Darkening Welding Helmet and to realise a safer work environment, we ask that you read the following Operating Manual thoroughly before use.

### 3.02 USER RESPONSIBILITY

This product will perform as per the information contained herein when installed, operated, maintained and repaired in accordance with the instructions provided. This equipment must be checked periodically. Defective equipment should not be used. Parts that are broken, missing, plainly worn, distorted or contaminated, should be replaced immediately. Should such repairs or replacements become necessary, it is recommended that such repairs be carried out by appropriately qualified persons approved by CIGWELD. Advice in this regard can be obtained by contacting an accredited CIGWELD Distributor.

This product or any of its parts should not be altered from standard specification without prior written approval of CIGWELD. The user of this product shall have the sole responsibility for any malfunction which results from improper use or unauthorised modification from standard specification, faulty maintenance, damage or improper repair by anyone other than appropriately qualified persons approved by CIGWELD.

## SECTION 4:

# PERSONAL PROTECTION

### 4.01 PROTECTING YOURSELF WHILST WELDING



#### WARNING

Prior to welding check operation of the filter lens, if the lens does not darken DO NOT COMMENCE WELDING. If during welding the filter does not darken IMMEDIATELY STOP WELDING.

The radiation from an electric arc during the welding process can seriously harm eyes and skin. It is essential that the following precautions be taken:

When electric arc welding, it is a requirement to use a welding helmet or welding handshield that complies to a relevant standard. Protective filter lenses are provided to reduce the intensity of radiation entering the eye thus filtering out harmful infra-red, ultra-violet radiation and a percentage of the visible light. Such filter lenses are incorporated into this Welding Helmet. To prevent damage to the filter lenses from molten or hard particles an additional special plastic external cover lens is provided. This cover lens should always be kept in place and replaced before the damage impairs your vision while welding.



#### WARNING

The indicated filter lens shade numbers are minimum. If any discomfort is felt, higher shade numbers should be selected.

Recognised standards for recommended practices for occupational eye protection include AS/NZS 1336 and EN 175.

Gloves should be flameproof gauntlet type to protect hands and wrists from heat burns and harmful radiations. They should be kept dry and in good repair.

Protective clothing must protect the operator from burns, spatter and harmful radiation. Woollen clothing is preferable to cotton because of its greater flame resistance. Clothing should be free from oil or grease. Wear leggings and spats to protect the lower portion of the legs and to prevent slag and molten metal from falling into boots or shoes.



#### WARNING

For machine disc cutting, scaling, grinding and machining of metals and the like, additional eyeshields or faceshields with appropriate impact rating should be used. Refer to AS/NZS 1336 for full details of the appropriate protection for industrial applications.

**RECOMMENDED PROTECTIVE FILTERS FOR ELECTRIC WELDING**

Description of Process	Approximate Range of Welding Current in Amps	Minimum Shade Number of Filter(s)
Air - Arc Gouging	Less than or equal to 400	12
	Less than or equal to 300	11
Flux-cored Arc Welding (FCAW) - with or without shielding gas	300 to 400	12
	400 to 500	13
	Greater than 500	14
	Less than or equal to 250	12
Gas Metal Arc Welding (GMAW) (MIG) - Aluminium and Stainless Steel - other than Aluminium and Stainless Steel	250 to 350	13
	Less than or equal to 150	10
	150 to 250	11
	250 to 300	12
	300 to 400	13
	400	14
Gas Tungsten Arc Welding (GTAW) (TIG)	Less than or equal to 100	10
	100 to 200	11
	200 to 250	12
	250 to 350	13
	Greater than 350	14
Manual Metal Arc Welding - covered electrodes (MMAW)	Less than or equal to 100	8
	100 to 200	10
	200 to 300	11
	300 to 400	12
	Greater than 400	13
Plasma - Arc Cutting	50 to 100	10
	100 to 400	12
	400 to 800	14
Plasma - Arc Spraying	—	15
Plasma - Arc Welding	Less than or equal to 20	8
	20 to 100	10
	100 to 400	12
	400 to 800	14
Resistance Welding	—	Safety Spectacles or eye shield
Submerged - Arc Welding		2 (5) *

\*A shade 5 filter is recommended for watching molten pool in electroslag welding. Refer to standard AS/NZS 1338.1:1992 for comprehensive information regarding the above table.

Table 4-1 Recommended Protective Filters for Electric Welding



## SECTION 5: SPECIFICATIONS

### 5.01 ARCMaster HELMET & LENS SPECIFICATIONS

#### Description

Filter Lens	Auto-Darkening Filter Lens - (with Blue Light Filter)
Filter Lens Dimensions	120mm x 100mm x 18mm
Viewing Area Dimensions	95mm x 36mm
Reaction Time	0.2ms
Sensors	2
Power Supply	Non-replaceable lithium battery and solar assist
Inactivated Shade Level	4
Variable Shade Level	9 - 13
Function	Welding or Grinding
Operating Temperature	-5° C to +55 °C
Storing Temperature	-20 °C to +70 °C
Sensitivity Range (Light to Dark)	Low to High
Delay (Dark to Light)	Long - Middle - Short (0.3s - 0.9s)
On/Off Control	Automatic
Helmet Material	High Impact Resistant Polyamide (Nylon)
Weight	455g
Cover Lens Material	Polycarbonate - High Impact Rated

Table 5-1 Specifications



#### NOTE 1

Due to variations that can occur in manufactured products, claimed performance, voltages, ratings, all capacities, measurements, dimensions and weights quoted are approximate only. Achievable capacities and ratings in use and operation will depend upon correct installation, use, applications, maintenance and service.

### 5.02 CONTENTS

#### ARCMaster AUTO-DARKENING WELDING HELMET

Description	QTY
Arcmaster XC20 Auto-Darkening Welding Helmet	1
Front Cover Lens	1
Rear Cover Lens	1
Operating Manual	1

Table 5-2 Packing List

## SECTION 6: HARNESS ADJUSTMENT

Prior to use, the Welding Helmet must be adjusted for maximum comfort and protection. The Helmet should be adjusted such that it is effectively positioned over the eyes and face to ensure adequate protection and comfort whilst welding. Please refer to the Harness adjustment instructions below.

### ADJUSTING THE FIT OF THE HELMET

The overall circumference of the headband can be made larger or smaller by rotating the knob (1) on the back of the headband. This can be done whilst wearing the helmet and allows just the right tension to be set to keep the helmet firmly on the head without it being too tight.

If the headband is sitting too high or too low on your head, adjust the strap (2) which passes over the top of your head. To do this release the end of the band by pushing the locking

stud out of the hole in the band. Slide the two portions of the band to a greater or less width as required and push the locking stud through the nearest hole.

Test the fit of the headband by lifting up and closing down the helmet a few times while wearing it. If the headband moves while tilting, re-adjust it until it is stable.

### ADJUSTING THE DISTANCE BETWEEN THE HELMET AND THE FACE

To adjust the distance from the welder's eyes to the filter lens use the two horizontal adjustments (3) located left and right of the harness assembly.

To adjust the viewing angle position, release the two tabs (4) from the notches on each side to adjust the angle up or down.



Figure 6-1 Harness Adjustment

## SECTION 7: INSTALLATION OF MAGNIFICATION LENS (OPTIONAL)

CIGWELD magnification lenses magnify the work area substantially to assist the welder in maintaining the high standard required.



### WARNING

Before installing the magnification lens, ensure that the rear cover lens is in place.



#### 1. Magnification Lens Frame

Magnification lens frame shown on left without magnification lens installed.



#### 2. Installing Magnification Lens

To install magnification lens, slide the magnification lens from the top of the magnification lens frame and slide it down until it comes in contact with the last set of tabs on the magnification lens frame. Ensure that the lens fits firmly in between the tabs.





### 3. Magnification Lens installed

Once the lens is installed it should sit firmly in place as shown in the picture on the left.



### 4. Removing Magnification Lens

To remove the magnification lens slide the magnification lens from the bottom edge in an upwards motion until the magnification lens becomes free from the magnification lens frame.

## ARCMASTER AUTO-DARKENING WELDING HELMET

DESCRIPTION	PART NUMBER
1.50 diopter	454012
2.00 diopter	454010
2.25 diopter	454014
2.50 diopter	454011

Table 7-1 Magnification Lens Ordering Information



## SECTION 8:

# CHANGING OF FRONT AND REAR COVER LENSES

If any of the Cover Lenses are broken, plainly worn, distorted or contaminated they should be replaced immediately with a genuine CIGWELD replacement part.

### REPLACING FRONT COVER LENS

To replace the front cover lens unclip the auto-darkening filter from the top and bottom retaining clips. Remove the existing front cover lens and replace with new one. Ensure that when installing the filter lens is fastened securely to prevent any fumes passing through.

Before fitting the auto-darkening filter, make sure to peel off the protective plastic film off the front and rear cover lens.

### REPLACING REAR COVER LENS

Remove the rear cover lens by pulling up the recessed centre edge of the lens and the left and right edges of the cover lens will pop out of their tabs. Replace the existing rear cover lens by sliding the lens under the tabs on one side first and then bending up and slightly massaging the other side so that it slides under the tabs and sits securely.

Ensure both cover lenses are securely in place before use.

## SECTION 9:

# ARCMaster XC20 AUTO-DARKENING FILTER LENS CONTROLS

For your protection and maximum efficiency of your product, please study this information carefully before use.



Figure 9-1

### 1. Welding/Grinding Mode

The Welding/Grinding mode switch is used to change the Filter Lens between Welding and Grinding modes. The Arcmaster XC20 Welding Helmet has a high impact rating for grinding.

Additional safety specs or safety goggles rated to the Australian/New Zealand safety standard - AS/NZS 1337.1, are always recommended underneath your welding helmet for added safety against flying particles and fragments, dust and molten metals.

### 2. Sensitivity Control

The Sensitivity Control is used to make the Filter Lens more or less responsive to different light levels. Manually adjust the sensitivity as required for the application.

### 3. Variable Shade Control

The Variable Shade Control is used to adjust the shade level between 9-13. Manually adjust shade to desired level as required for the application.

### 4. Delay Switch

The Delay Switch is used to adjust the hold time of the Filter Lens after welding is completed. Manually adjust delay time to desired level as required for the application.

## SECTION 10:

# BATTERIES AND BATTERY COMPARTMENT

### BATTERY COMPARTMENT

The Batteries in this helmet are built-in and non-removable. The battery life is extended when the welding helmet is exposed to UV light from sunlight or welding.

**TIP:** When the helmet is not in use, we recommended placing the helmet in a clear plastic bag (to keep it dust free) and storing on a shelf or rack facing a window with natural sunlight. the sun's rays will help extend the life of the batteries.



#### WARNING

Swallowing a button coin battery may lead to serious injury in as little as 2 hours or death, due to chemical burns and potential perforation of the oesophagus.

If you suspect your child has swallowed or inserted a button battery immediately call the 24-hour Poisons Information Centre in Australia on 13 11 26 (or your country's relevant Poison Information Centre) for fast, expert advice.

Examine devices and make sure the battery compartment is correctly secured, e.g. that the screw or other mechanical fastener is tightened. Do not use if compartment is not secure.

Dispose of used button batteries immediately and safely. Flat batteries can still be dangerous.

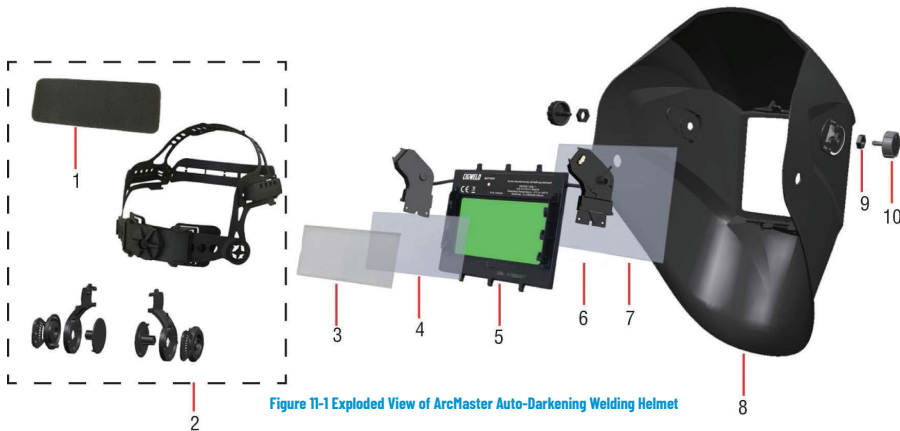
Tell others about the risk associated with button batteries and how to keep their children safe.

## SECTION 11: SPARE PARTS



### WARNING

CIGWELD cannot be held responsible for the continuing performance of this Welding Helmet if non-genuine spare parts are used.



### SPARE PARTS - CIGWELD ARCMaster AUTO-DARKENING WELDING HELMET

ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION
1	454326	Sweatband	6		Non-replaceable batteries
2	454327	Harness assembly (including Sweatband)	7	WHCL110F	Front Cover Lens
3		Magnification Lens (Optional - refer to Page 16)	8		Helmet Shell (Not available as spare part)
4	WHCL70R	Rear Cover Lens	9		Control Nut (Not available as spare part)
5		Auto-Darkening Filter Lens (Not available as spare part)	10		Control Knob (Not available as spare part)

Table 11-2 Spare Parts

## SECTION 12:

# BASIC TROUBLESHOOTING

FAULT	CAUSE	REMEDY
1. Irregular darkening dimming.	A. Headband has been set unevenly and there is an uneven distance from the eyes to the filter lens.	A. Reset the headband to reduce the difference to the filter
2. Auto-Darkening filter does not darken or flickers.	A. Front cover lens is soiled or damaged.	A. Clean Cover Lens with a soft cloth. Replace if necessary.
	B. Sensors are dirty.	B. Clean the sensors surface.
	C. Welding current is too low.	C. Adjust the sensitivity level to higher. Check that the battery is still charged, you can do this by holding up the helmet and lens outdoors in sunlight, and then quickly passing your hand over the front of the lens. This will cause the ADF to see a change between the visible light and your hand interrupting the sun's rays, and therefore the helmet should turn on.
	D. The Grinding Mode Switch is turned on.	D. Switch the Grinding Switch back to the Welding Setting on the outside of the helmet (Left-hand side when looking at the helmet from the front).
3. Slow response.	A. Operating temperature is too low.	A. Do not use at temperatures below -10° C.
4. Poor vision.	A. Front/inside cover lens and/or the filter are dirty.	A. Change cover.
	B. There is insufficient ambient light.	B. Reset the shade number.
	C. Shade number is incorrectly set.	
5. Welding helmet slips.	A. Head Harness is not properly adjusted.	A. Readjust the Head Harness.

Table 12-1 Basic Troubleshooting



### WARNING

If the above troubleshooting recommendations do not resolve the problem, do not use the Auto-Darkening Welding Helmet. Contact CIGWELD for further information.

## **SECTION 13:**

# **NOTES**