



WEM B45
WEM F45



***Auto Darkening
Welding Helmet***

SAFETY WARNINGS - READ BEFORE USING**WARNING**

Read & Understand All Instructions Before Using



Auto-Darkening welding helmets are designed to protect the eye and face from sparks, spatter and harmful radiation under normal welding conditions. After you push the "On / mode" button, Auto-Darkening filter automatically changes from a light state to a dark state when an arc is struck, and it returns to the light state when welding stops. And the welding helmet will automatically off after half an hour not use.

Auto-Darkening welding helmets comes ready for use. The only thing you need to do before your welding is to push the "On / mode" button, adjust the position of the headband and select the application mode, the correct shade number, the sensitivity, delay for your application.

**WARNING**

- This Auto-Darkening welding helmet is not suitable for laser welding.
- Never place this helmet and Auto-Darkening filter on a hot surface.
- Never open or tamper with the Auto-Darkening filter.
- This Auto-Darkening welding helmet will not protect against severe impact hazards.
- This helmet will not protect against explosive devices or corrosive liquids.
- Don't make any modifications to either the filter or helmet, unless specified in this manual. Don't use replacement parts any other than those specified in this manual. Unauthorized modifications and replacement parts will void the warranty and expose the operator to the risk of personal injury.
- Should this helmet not darken upon striking an arc, stop welding immediately and contact your supervisor or your dealer.
- Don't immerse the filter in water.
- Don't use any solvents on the filter screen or helmet components.
- Use only at temperatures: -10°C ~ +55°C (14°F ~ 131°F). The helmet should be stored in dry cool and dark area and remove the battery, when not using it for a long time.
- Storing temperature: -20°C ~ +70 °C (- 4°F ~ 158°F).
- Protect filter from contacting with liquid and dirt.
- Clean the filter surface regularly; don't use strong cleaning solutions. Always keep the sensors and solar cells clean using a clean lint-free tissue.
- Regularly replace the cracked / scratched / pitted front cover lens.
- The materials which may come into contact with the wearer's skin, can cause allergic reactions in some circumstances.

**WARNING**

Severe personal injury could occur if the user fails to follow the above mentioned warnings and/or fails to follow the operating instructions.



COMMON PROBLEMS AND REMEDIES

• Irregular Darkening Dimming

Headband has been set unevenly and there is an uneven distance from the eyes to the filter lens (Reset the headband to reduce the difference to the filter).

• Auto-Darkening filter does not darken or flickers

- ① Front cover lens is soiled or damaged (Change the cover lens).
- ② Sensors are soiled (Clean the sensors surface).
- ③ Welding current is too low (Adjust the sensitivity level to higher).
- ④ Check battery and verify they are in good condition and installed properly. Also, check battery surfaces and contacts and clean if necessary.
- ⑤ Make sure "ON / MODE" button has been pushed, the user can monitor the settings from the display panel.

• Slow response

Operating temperature is too low (Do not use at temperatures below -10°C or 14°F).

• Poor vision

- ① Front/inside cover lens and / or the filter is soiled (Change lens).
- ② There is insufficient ambient light.
- ③ Shade number is incorrectly set (Reset the shade number).

• Welding helmet slips

Headband is not properly adjusted (Readjust the headband).



WARNING



The user must stop using the auto-darkening welding helmet immediately if the above-mentioned problems cannot be corrected. Contact the dealer.

INSTRUCTIONS FOR USE

WARNING! Before using the helmet for welding, ensure that you have read and understood the safety instructions.

- The helmet comes ready assembled, but before it can be used it must be adjusted to fit the user properly and set up for delay time, sensitivity and shade level.

• ADJUSTING THE FIT OF THE HELMET

The overall circumference of the headband can be made larger or smaller by rotating the knob on the back of the headband (See adjustment "Y" in fig.1). 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.

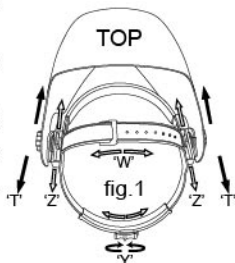
- If the headband is riding too high or too low on your head, adjust the strap which passes over the top of your head. To do this release the end of the band by pushing the locking pin out of the hole in the band. Slide the two portions of the band to a greater or lesser width as required and push the locking pin through the nearest hole (See adjustment "W" in fig.1).
- 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

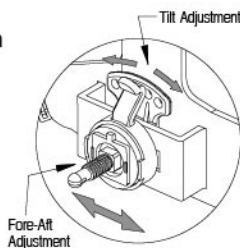
Step 1: Undo the block nut (See "T" in fig. 1) to adjust the distance between the helmet and your face in the down position.

Step 2: Loosen the block nut on either side of the helmet and slide it nearer or further from your face. (See adjustment "Z" in fig.1). It is important that your eyes are each the same distance from the lens. Otherwise the darkening effect may appear uneven.

Step 3: Re-tighten the block nut when adjustment is complete.



• **ADJUSTING VIEW ANGLE POSITION TILT:** Tilt adjustment is located on right side of helmet. Loosen the right headgear tension knob and push the top end of the adjustment lever outward until the lever's Stop Tab clears the notches. Then rotate the lever forward or back to the desired tilt position. The Stop will automatically engage again when released locking the helmet into position (See fig.2).



ON/MODE BUTTON AND BATTERY INDICATOR

• ON-OFF

Short Press ON / MODE button to check if the lens is working properly and begin to set up lens shade number, sensitivity, and delay adjustments (See fig.3-A).

When the ON / MODE button is long pressed, the lens will power off, and return to the clear state, Do not use the helmet if the lens does not function as described.

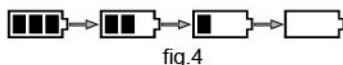
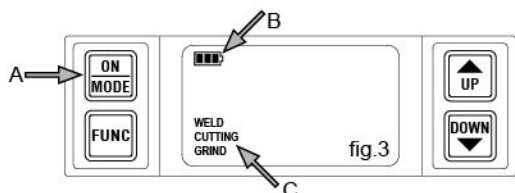
• MODE CONTROL

Short Press ON / MODE button to select the mode appropriate for the work activity (See fig.3-A):

Weld Mode – used for most welding applications. Push "FUNC" button to adjust shade number, sensitivity, and delay settings properly before welding (See fig.3-C). In this mode the lens turns to dark immediately when you start welding.

Cutting Mode – used for cutting applications. Push "FUNC" button to adjust shade number, sensitivity, and delay settings properly before cutting (See fig.3-C). In this mode the lens turns to dark immediately when you start cutting (See fig.3-C).

Grind Mode – used for grinding applications. In this mode the lens shade is fixed shade No. 4. Can not adjust shade number, sensitivity, and delay settings (See fig.3-C).



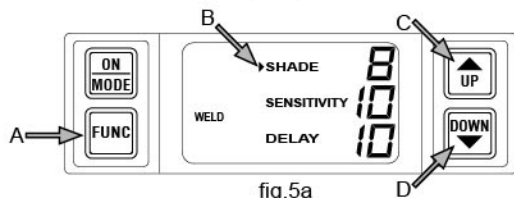
• BATTERY INDICATOR

The symbol "■" show the current state of the battery (See fig.3-B). The volume of batteries has four levels symbol to appear(See fig.4). The symbol "□" appears on the display screen before 1-2 days of battery life remains, CR2450 lithium batteries should be replaced in time. The symbol of The Battery Indicator is not real-time, should be updated once push shortly ON/MODE button.

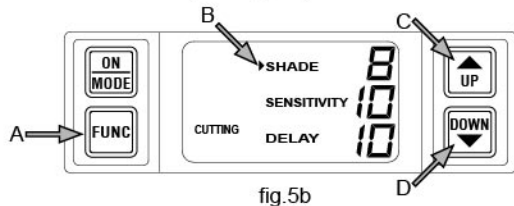
• VARIABLE SHADE CONTROL

After turn on the lens, press "FUNC" button to choose "SHADE", and adjust lens shade number (See fig.5a/5b/5c-A/B). Use the shade control UP and DOWN buttons to select the lens shade in the dark state (See fig.5a/5b/5c-C/D). The shade range for each mode are as follows:

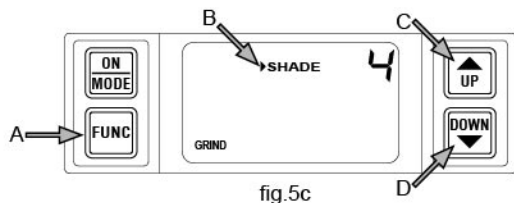
Weld Mode – No. 8 ~ No. 13 (See fig.5a)



Cutting Mode – No. 5 ~ No. 8 (See fig.5b)



Grind Mode - No. 4 only (See fig.5c)



Select the proper shade number for your welding/cutting process, by referring to the "Shade Guide Table" below.

• SENSITIVITY CONTROL

Press "FUNC" button to choose "SENSITIVITY" (See fig.6a/6b-A/B).

Use Sensitivity Control "UP" and "DOWN" buttons to make the lens more or less sensitive to arc light of different welding processes (See fig.6a/6b-C/D). sensitivity setting 5-10 is the normal setting for everyday use. The sensitivity ranges for each mode are as follows:

Weld Mode – No.0 ~ No. 10 (See fig.6a)

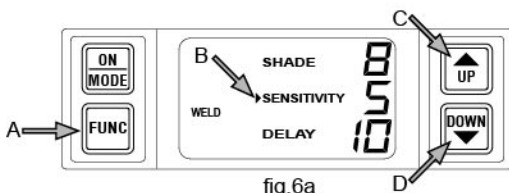


fig. 6a

Cutting Mode - No.0 ~ No. 10 (See fig.6b)

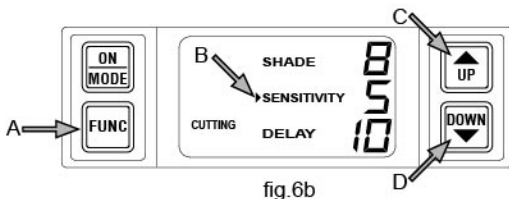


fig. 6b

Grind Mode – No sensitivity adjustment

As a simple rule for optimum performance, it is recommended to set sensitivity to the maximum at the beginning and then gradually reduce it, until the filter reacts only to the welding light flash and without annoying spurious triggering due to ambient light conditions (direct sun, intensive artificial light, neighbouring welder's arcs etc.).

It may be necessary to adjust helmet sensitivity to accommodate different lighting conditions or if lens is flashing On and Off. Adjust helmet sensitivity as follows: Adjust helmet sensitivity in lighting conditions helmet will be used in.

- Press Sensitivity "DOWN" button to lower setting to 0.
- Face the helmet in the direction of use, exposing it to the surrounding light conditions.
- Press Sensitivity "UP" button repeatedly until the lens darkens, then press "DOWN" button until lens clears. Helmet is ready for use. Slight readjustment may be necessary for certain applications or if lens is flashing on and off.
- When sensitivity is set level 10, the filter will be darkening all the time to meet some specially welding application under both WELD MODE and CUTTING MODE. With this setting, the welding helmet will Not automatically turn off after half an hour of not being used.

• DELAY CONTROL

Press "FUNC" button to choose "DELAY", begin lens delay adjustments (See fig.7a/7b-A/B). Use the Lens Delay Control "UP" and "DOWN" buttons to adjust the time for the lens to switch to the clear state after welding or cutting. (See fig.7a/7b-C/D).

Weld Mode – No.0 ~ No. 10 (See fig.7a)

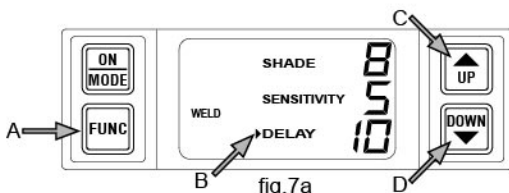
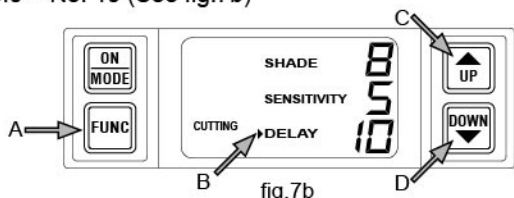


fig. 7a

Cutting Mode - No.0 ~ No. 10 (See fig.7b)



Grind Mode – No delay adjustment

The delay is particularly useful in eliminating bright after-rays present in higher amperage applications where the molten puddle remains bright momentarily after welding. Use the Lens Delay Control buttons to adjust delay from 0 to 10 (0.1 to 1.0 second). When welding stopped, the viewing window automatically changes from dark back to light but with a pre-set delay to compensate for any bright afterglow on the workpiece. The delay time /response can be set from Level 0 to level 10. It is recommended to use a shorter delay with spot welding applications and a long delay with applications using higher currents. Longer delays can also be used for lower current TIG welding, and TIG / MIG / MAG pulse.

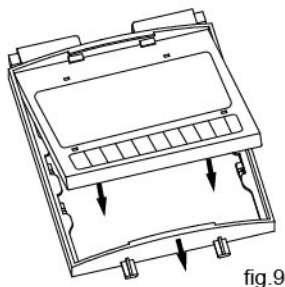
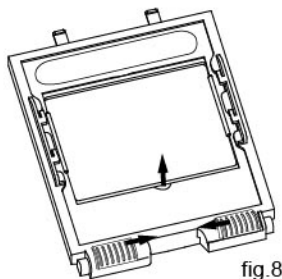
- You are now ready to use the helmet. The shade number, sensitivity and delay time need to be adjusted during using according to different welding processes.

MAINTENANCE

To replace the front cover lense remove lens cassette by moving locks toward center (fig.8) and lift up the lens cassette to remove / replace the front lens cover.

REPLACING INSIDE CLEAR LENS : Replace the inside clear lens if it is damaged. Place your fingernail in recess below cartridge view window and flex lens upwards until it releases from edges of cartridge view window.

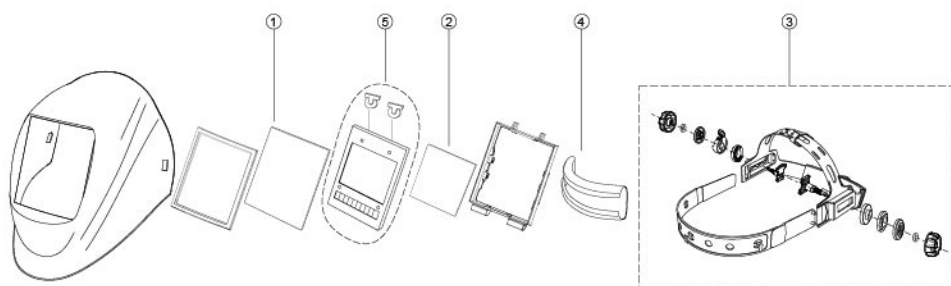
CHANGE THE SHADE CARTRIDGE : Remove ADF holder assembly from helmet shell. See fig.8 for removal. Flex top end of the ADF holder to allow for ADF cartridge to be removed from frame. Install new ADF cartridge into frame per fig.9 below. Make sure that the ADF cartridge is inserted in ADF holder correctly as shown. Install ADF holder assembly into helmet shell.



TECHNICAL SPECIFICATIONS

Optical Class:	1 / 1 / 1 / 2
Viewing Area:	97x62mm (3.82"x2.44")
Cartridge Size:	133x114x9mm (5.24"x4.50"x0.35")
Arc Sensor:	4
Light State:	DIN 3.5
Grind State:	DIN 4
Cutting Shade:	Shade no. from 5 to 8
Welding Shade:	Shade no. from 8 to 13
Shade Control:	Internal, Variable Shade, Digital Display Control
Power On/Off:	Manual-on, Auto-off
Sensitivity Control:	Low — High, Digital Display Control
UV/IR Protection:	Up to Shade DIN16 at all times
Power Supply:	Solar cell. Battery replaceable, 2 × CR2450 lithium battery
Switching Time:	1/25,000 s. from Light to Dark
Oxyfuel Gas Welding	Yes
Oxygen Cutting	Yes
Grinding:	Yes
Delay (Dark to Light):	0.1 ~ 1.0 s Digital Display Control
Low Amperage TIG Rated:	≥ 2 amps (DC); ≥ 2 amps (AC)
Operating Temp.:	-10°C ~ +55°C (14°F ~ 131°F)
Storing Temp.:	-20°C ~ +70°C (-4°F ~ 158°F)
Helmet Material:	High Impact Resistance Nylon
Total Weight:	490g
Application range:	Stick Welding (DC&AC); TIG (DC,DC Pulse); TIG AC(Pulse), Excellent low amperage TIG response; MIG/MAG; MIG/MAG Pulse; Plasma Cutting/Welding; Oxyacetylene Welding/Cutting; Grinding
Approved:	DINplus, CE, ANSI Z87.1, CSA Z94.3, AS/NZS 1338.1

PARTS LIST & ASSEMBLY



Reference Number	Description	Part No.
1	Front cover lens(5)	WEN WMFC45
2	Inside cover lens(5)	WEN IC45
3	Headgear	WEN HG45
4	Sweatband	WEN SB45
5	Replacement lens	WEN RL45

SHADE GUIDE TABLE

GUIDE FOR SHADE NUMBERS

OPERATION	ELECTRODE SIZE 1/32 in. (mm)	ARC CURRENT (A)	MINIMUM PROTECTIVE SHADE	SUGGESTED ⁽¹⁾ SHADE NO. (COMFORT)
Shielded metal arc welding	Less than 3 (2.5)	Less than 60	7	—
	3-5 (2.5-4)	60-160	8	10
	5-8 (4-6.4)	160-250	10	12
	More than 8 (6.4)	250-550	11	14
Gas metal arc welding and flux cored arc welding		Less than 60	7	—
		60-160	10	11
		160-250	10	12
		250-500	10	14
Gas tungsten arc welding		Less than 50	8	10
		50-150	8	12
		150-500	10	14
Air carbon Arc cutting	(Light)	Less than 500	10	12
	(Heavy)	500-1000	11	14
Plasma arc welding		Less than 20	6	6 to 8
		20-100	8	10
		100-400	10	12
		400-800	11	14
Plasma arc cutting	(Light) ⁽²⁾	Less than 300	8	8
	(Medium) ⁽²⁾	300-400	9	12
	(Heavy) ⁽²⁾	400-800	10	14
Torch brazing		—	—	3 to 4
Torch soldering		—	—	2
Carbon arc welding		—	—	14
PLATE THICKNESS				
	in.	mm		
Gas welding				
	Under 1/8	Under 3.2		4 or 5
	1/8 to 1/2	3.2 to 12.7		5 or 6
Heavy	Over 1/2	Over 12.7		6 or 8
Oxygen cutting				
	Under 1	Under 25		3 or 4
	1 to 6	25 to 150		4 or 5
Heavy	Over 6	Over 150		5 or 6

⁽¹⁾ As a rule of thumb, start with a shade that is too dark, then go to a lighter shade which gives sufficient view of the weld zone without going below the minimum. In oxyfuel gas welding or cutting where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line the visible light of the (spectrum) operation

⁽²⁾ These values apply where the actual arc is clearly seen. Experience has shown that lighter filters may be used when the arc is hidden by the workpiece.

