

WESTWARD®

Auto Darkening Welding Helmet

Model: 4UZY7



TEC495
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Auto-Darkening welding helmets are designed to protect the eyes and face from sparks, spatter and harmful radiation under normal welding conditions. Auto-Darkening filter models automatically change from a light state to a dark state when an arc is struck, and it returns to the light state when welding stops.

Auto-Darkening welding helmets come ready for use. Follow all “safety” warnings, make all helmet fit adjustments and select the correct shade number for your welding application prior to use.



- This Auto-Darkening welding helmet is not suitable for laser welding and oxyacetylene welding / cutting processes.
- 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, including grinding discs.
- 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. Do not use replacement parts 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.
- Don't immerse the filter in water.
- Don't use any solvents on the filter screen or helmet components.
- Use only at temperatures: 14°F ~ 131°F (-10° C ~ +55° C)
- Storing temperature: - 4°F ~ 158°F (-20° C ~ +70° C)
- Protect filter from coming in contact with liquid and dirt.
- Clean the filter surface regularly; never use strong cleaning solutions. Always keep the sensors and solar cells clean by using a clean lint-free tissue.
- Regularly replace the cracked / scratched / pitted front cover lens.
- Never try to open the filter cartridge.
- The materials which may come into contact with the wearer's skin can cause allergic reactions in some circumstances.



INSTRUCTIONS FOR USE

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

• **Before First Use**

- 1) The Auto-Darkening Welding Helmet needs to be charged prior to use and after extended storage. Leave the solar panel on the helmet facing the sun for at least 4 hours before first use.
- 2) Remove the protective shipping film from both sides of the front lens.
- 3) The helmet comes assembled, before it can be used, the headgear must be adjusted for proper fit as well as delay time, sensitivity and shade level.

ADJUSTING THE HELMET FIT

- The overall circumference of the headband can be made larger or smaller by pushing in and rotating the knob on the back of the headband. (See adjustment “Y” in Fig.1). This can be done while 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 satisfactory.



ADJUSTING VIEW ANGLE

There are 5 holes on both sides of the helmet (see Fig.2). You can change view angle position by moving the adjustable limitation washer into different holes.



Fig.2

SELECTING SHADE LEVEL

Turn the shade control knob on the side of the helmet to the shade number required. Be sure to select the correct shade number for your application. See “Shade Guide Table” (Figure 3C) for your application. **NOTE:** If selections of shades are NOT provided for your application, try the darkest setting first.

SELECTING DELAY TIME

When welding ceases, the viewing window automatically changes from dark back to lightened but with a preset delay to compensate for any bright afterglow on the workplace. The delay time/response can be set to “fast” (0.1 seconds) or “slow” (1.0 seconds) as required by adjusting the dial knob on the back of the shade cartridge. (See Fig. 3a).

SENSITIVITY

The sensitivity knob allows the operator to adjust the amount of light required to trigger the Lens to darken. It is located on the back of the shade cartridge. The “Mid-high” setting is the normal setting for everyday use. When the operation of the helmet is influenced by excess ambient light, or another welding machine close by, use the “low” setting. (See Fig. 3b).



Fig.3a



Fig.3b

• **SHADE SELECTION GUIDE (Figure 3C)**

(NO.1)

Welding Process	ARC CURRENT (Amperes)													
	0.5	2.5	10	20	40	80	125	175	225	275	350	450		
	1	5	15	30	60	100	150	200	250	300	400	500		
SMAW				9	10	11	12	13	14					
MIG(heavy)						10	11	12	13	14				
MIG(light)						10	11	12	13	14	15			
TIG,GTAW			9	10	11	12	13	14						
MAG/CO ₂					10	11	12	13	14	15				
SAW							10	11	12	13	14	15		
PAC						11	12	13						
PAW		8	9	10	11	12	13	14	15					

NOTE:

- SMAW – Shielded Metal Arc Welding
- SAW – Shielded Semi-Automatic Arc Welding
- PAW – Plasma Arc Welding
- PAC – Plasma Arc Cutting
- MIG (Heavy) – MIG on Heavy Metals
- TIG, GTAW – Gas Tungsten Arc Welding
- MIG (Light) – MIG on Light Alloys
- MAG/CO₂ - Metal Active Gas

TROUBLE SHOOTING

Irregular Darkening or Dimming

Headband has been set unevenly on the two sides of the helmet resulting in an uneven distance from the eyes to the filter lens. (Adjust the headband to reduce the difference in distances to the filter).

Auto-Darkening filter does not darken or flickers

- Helmet was not properly charged before first use. (See “Before First Use” section on page 2 of this manual.)
- Front cover lens is dirty or damaged. (Change the cover lens).
- Sensors are dirty. (Clean the sensors surface).
- Welding current is too low. (Adjust the sensitivity setting higher). (Increase the delay time if necessary).

Slow response when darkening

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

Poor vision

- Front/inside cover lens and/or the filter are dirty. (Clean or change lens).
- There is insufficient ambient light.
- 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.		

MAINTENANCE

REPLACING FRONT COVER LENS.

Replace the front cover lens if it is damaged (cracked or pitted). Place your finger or thumb into the recess at the bottom edge of the window and flex the window upwards until it releases from one edge. (See Fig. 4).

REPLACING THE INSIDE COVER LENS.

Replace the inner cover lens if it is damaged (cracked or pitted). Place your finger or thumb into the recess at the upper edge of the window and flex the window upwards until it releases from one edge.

CHANGING THE SHADE CARTRIDGE. Loosen the holding spring (see D in Fig.5a), move out the shade cartridge and put new shade cartridge into the filter frame; fix the cartridge by using the spring (see E in Fig.5a).

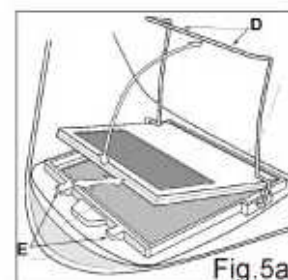
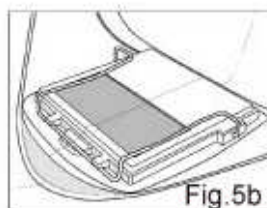
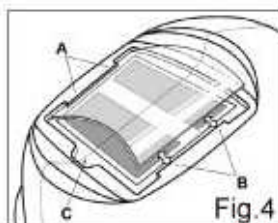
FITTING NEW CARTRIDGE.

Take the new shade cartridge and pass the potentiometer cable under the wire loop before dropping the cartridge into its retaining frame inside the helmet. Hinge down the wire loop clip and ensure that the front edge of the loop is properly retained under the retaining lugs as shown in Fig. 5b.

Fasten the potentiometer to the inside of the helmet with the shaft protruding through the hole. Push the shade control knob onto the shaft.

CLEANING.

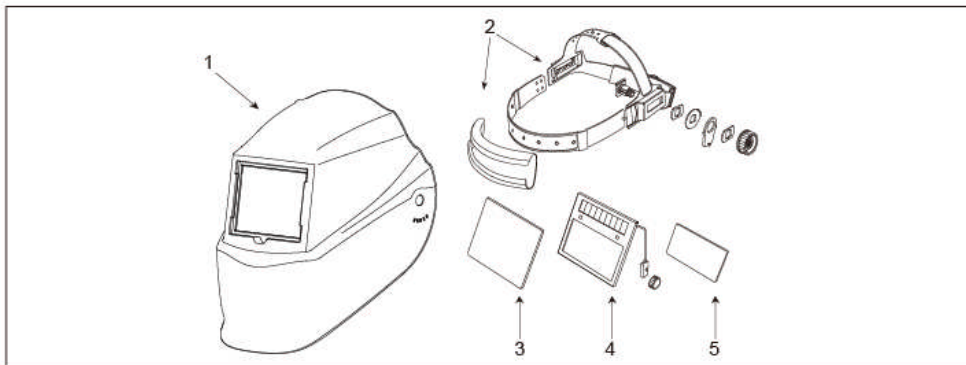
Clean helmet by wiping with a soft cloth. Clean cartridge surfaces regularly. Do not use strong cleaning solutions. Clean sensors and solar cells with methylated spirit (ethyl alcohol 95% and methyl alcohol 5%) and a clean cloth and wipe dry with a lint-free cloth.



Welding Helmet Service Kit**For Repair Parts, call 1-800-323-0620****24 hours a day – 365 days a year**

Please provide the following:

- Model Number
- Serial Number (if any)
- Part description and number as shown on parts list

Figure – Repair Parts Illustration for Model(s) 4UZ Y7**Repair Parts List**

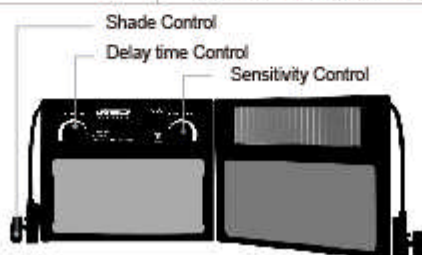
Reference Number	Description	Part Number	Qty.
1	Shell(Welding mask)	TTIX700SG	1
2	Head Gear Assembly	TTADFHGG	1
3	Front Cover Lens	TTADF2X4FG	1
4	Auto-Darkening Filter	TTADF700SLG	1
5	Inside Cover Lens	TTADF700SIG	1

3 YEAR WARRANTY

Should this welding helmet ever fail to perform satisfactorily due to a defect or poor workmanship within 3 years from the purchasing date, return it to the place of purchase and it will be replaced, free of charge. Incidental or consequential damages are excluded from this warranty.

TECHNICAL SPECIFICATIONS

Viewing Area	97x47.5mm (3.82"x1.87")
Cartridge Size	110x90x9mm (4.33"x3.54"x0.35")
Arc Sensor	2
Light State	DIN 3.5
Shade	DIN 9 ~ 13
Shade Control	External, Variable Shade
Power On/Off	Fully Automatic
Sensitivity Control	Adjustable by dial knob
UV/IR Protection	Up to Shade DIN16 at all times
Power Supply	Solar cell. No battery change required
Switching Time	1/25,000 s. from Light to Dark
Dark to Light	0.1 ~ 1.0s by dial control knob
Low Amperage TIG Rated	3 amps
Grinding	—
Operating Tep.	-10°C ~ +55°C (14°F ~ 131°F)
Storing Tep.	-20°C ~ +70°C (-4°F ~ 158°F)
Total Weight	500g
Application range	MIG; MAG/CO2; SMAW; Air carbon cutting; TIG (Excellent lower amperage TIG response, DC <3amp, AC <5amp, DC PULSE <5amp); PLASMA arc welding/cutting
Standard	ANSI Z87.1-2003 / CSA Z94.3





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