



GUARDIAN SERIES INSTRUCTION MANUAL

Guardian Elite, Guardian, & Guardian Junior

FT-GESM, FT-GSM, & FT-GSMJR Models



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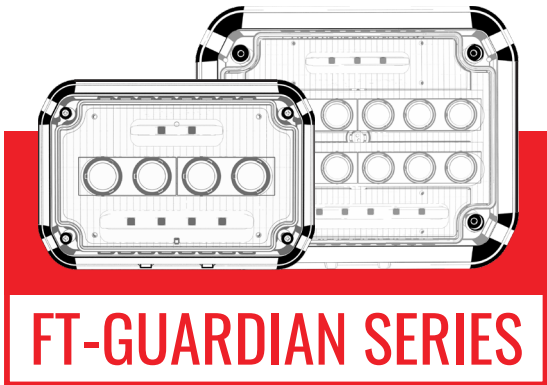
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FT-GUARDIAN SERIES



SAFETY NOTICE & WARRANTY

WARNING: INSTALLATION MUST BE CONDUCTED BY A QUALIFIED TECHNICIAN.

IMPROPER INSTALLATION CAN RESULT IN INJURY OR DEATH.

- Installation must be conducted by a qualified automotive electrician or emergency vehicle technician in accordance with the applicable NFPA standard(s) and procedures (Including but not limited to NFPA 1901, 1906, 1911, 414, 1900)
- Improperly installed, aimed, or operated lights can create significant hazard to motorists which can result in collision. Ensure light fixtures are installed and operated such that their beam does not shine into oncoming traffic
- All circuits must be fused at 125% of the rated power consumption of the loads on the circuit
- A voltage drop greater than 10% in the power feed to a fixture could be an indicator of an under-sized conductor. Use of improperly sized conductors will, at a minimum, result in poor performance, and at a maximum could result in fire
- Verify input voltage is within fixture range before installation. Voltage range information can be found in this manual or printed on the fixture body
- The use of personal protective equipment (safety glasses and gloves) is highly recommended
- Allow proper cooling time before handling the fixture if it has been installed & powered to prevent burns
- Any modifications to the fixture will void warranty and are not authorized by the manufacturer
- Always inspect the fixture for any damage prior to installing and DO NOT install if any damage is present



PLEASE READ ALL INSTRUCTIONS BEFORE INSTALLATION

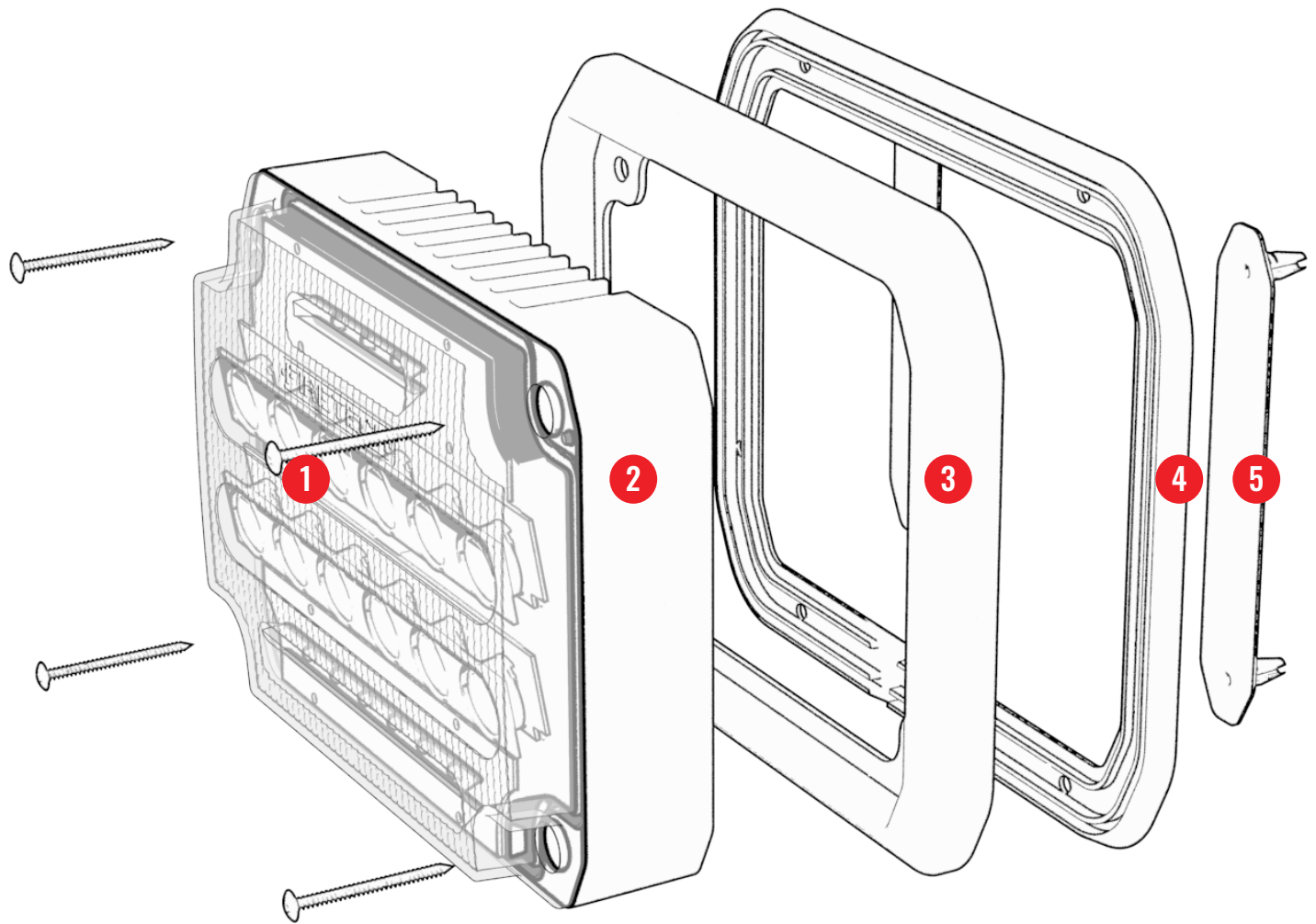


Warranty Information: Full policy available Online at www.hivizleds.com/warranty

- Proof of purchase may be required to validate warranty. All FireTech products are warranted for the useful service life of the vehicle for which they were first installed
- Improper installation, accident, physical damage, neglect, and normal wear and tear are not covered under warranty
- Lights operated in environments over 150° Fahrenheit are not covered under warranty
- All advance-exchange warranty claims must be validated with HiViz Technical Support prior to issuance of a shipping label. Failure to return defective product will result in an invoice for the full replacement value of the product
- HiViz Lighting will repair or replace defective product at its discretion. Replacement product will be in similar or better cosmetic condition than the defective part.
- Warranties should be handled through the dealer/reseller the product was purchased from; customer is responsible for delivery
- If product is found to have damage not covered under warranty, customer will be responsible for return shipping charges and/or cost of repair
- Non-warranted items can be repaired at the customer's expense of parts and labor, at the discretion of HiViz LED Lighting, who will provide an estimated repair cost before proceeding with the repair.



GUARDIAN & GUARDIAN ELITE ASSEMBLY



PIECES INCLUDED

- | | |
|------------------|---|
| 1 Screws | 4 Gasket
(*alternate available) |
| 2 Fixture | 5 Isolator |
| 3 Bezel | |

TOOLS REQUIRED

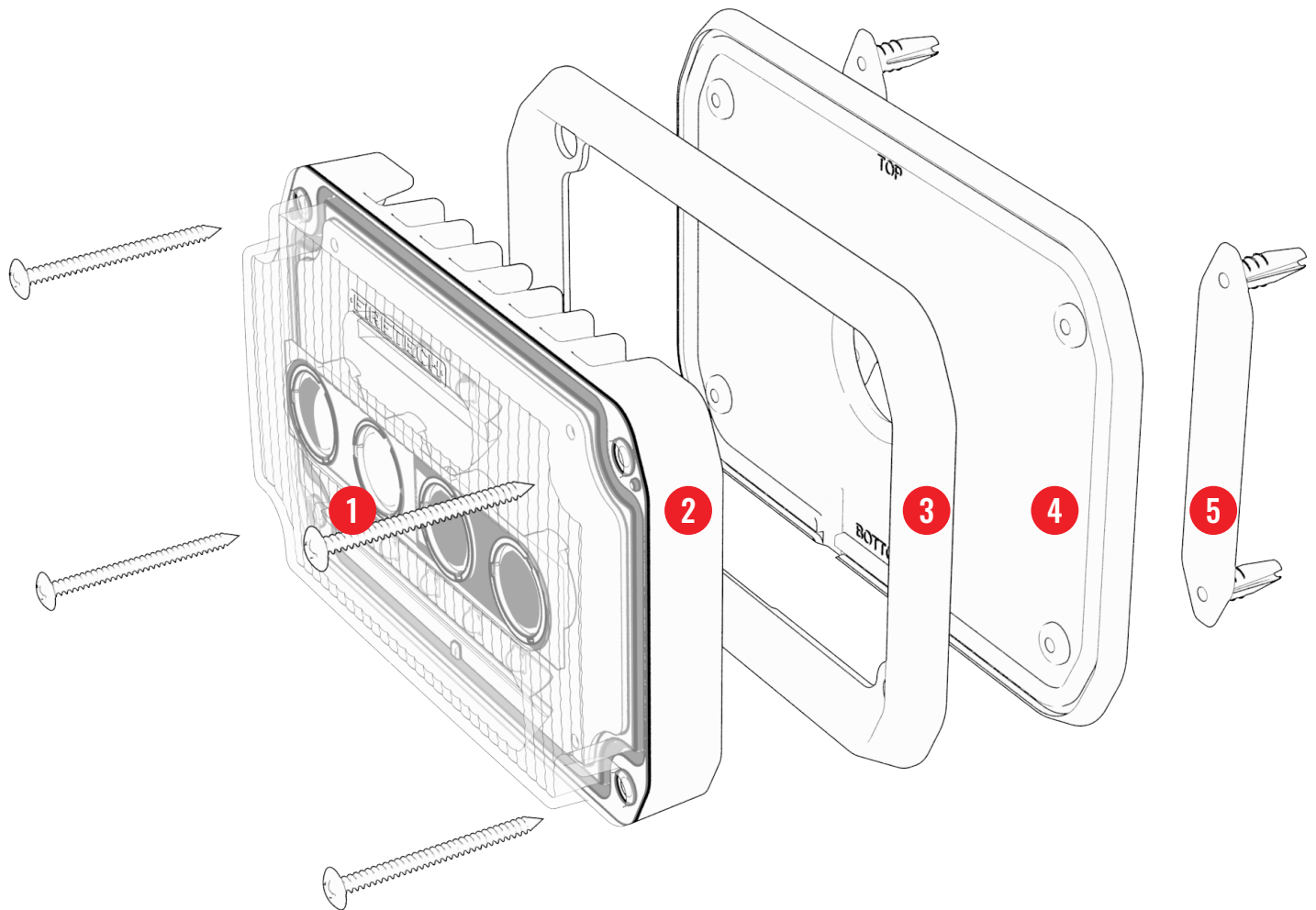
- Phillips Screwdriver
- Heat-shrink butt connectors
- Wire Strippers

NOTE:

Tighten screws by hand/screwdriver.
Power-tools can cause damage to isolators
and cause an insecure attachment.



GUARDIAN JR ASSEMBLY



PIECES INCLUDED

- | | |
|------------------|-------------------|
| 1 Screws | 4 Gasket |
| 2 Fixture | 5 Isolator |
| 3 Bezel | |

TOOLS REQUIRED

- Phillips Screwdriver
- Heat-shrink butt connectors
- Wire Strippers

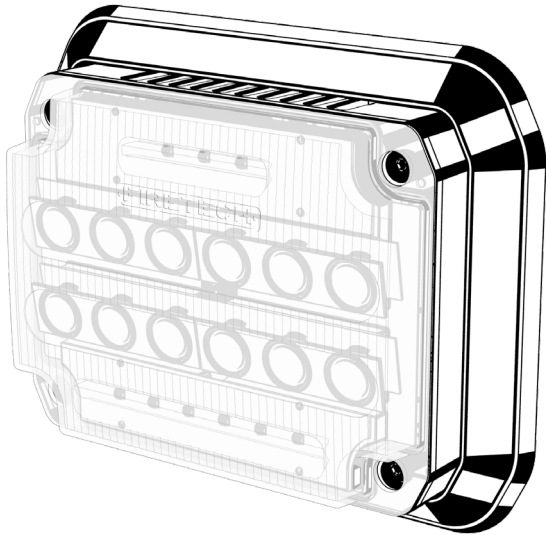
NOTE:

Tighten screws by hand/screwdriver.
Power-tools can cause damage to isolators
and cause an insecure attachment.



TECHNICAL SPECIFICATIONS

GUARDIAN & GUARDIAN ELITE

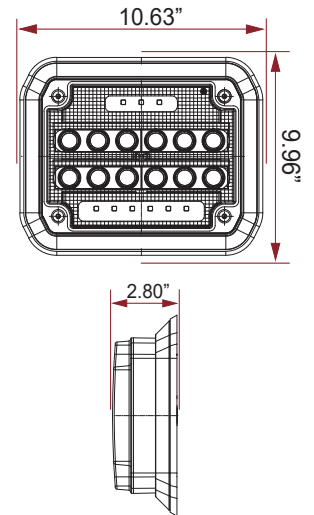


GUARDIAN ELITE | HIGH OUTPUT

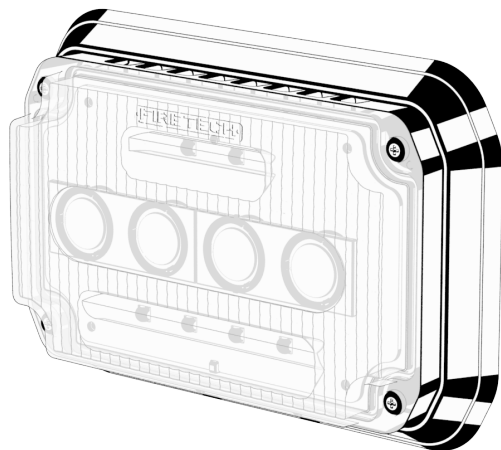
RAW LUMENS	20,500
EFFECTIVE LUMENS	12,290
OPTIONAL COLORS	CHROME, BLACK
WATTAGE	125W
AMPERAGE	10.41A
INPUT VOLTAGE	9-32V DC

GUARDIAN | STANDARD OUTPUT

RAW LUMENS	10,000
EFFECTIVE LUMENS	6,500
OPTIONAL COLORS	CHROME, BLACK
WATTAGE	70W
AMPERAGE @ 12V DC	5.83A
INPUT VOLTAGE	9-32V DC

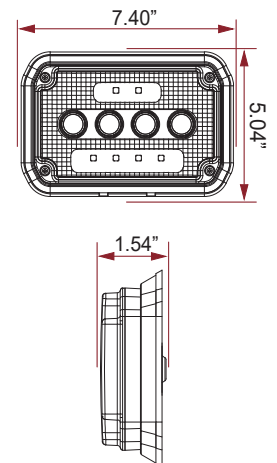


GUARDIAN JR.



GUARDIAN JR | STANDARD OUTPUT

RAW LUMENS	5,000
EFFECTIVE LUMENS	3,125
OPT. COLORS	CHROME, BLACK
WATTAGE	40W
AMP DRAW (@12V)	3.33A
INPUT VOLTAGE	9-32V DC



MODELS

ITEM #	DESCRIPTION
FT-GSM	Guardian LED Surface Mount; 10K lm, DC Power, 75W, Chrome
FT-GESM	Guardian Elite LED Surface Mount; 20.5K lm, DC Power, 125W, Chrome
FT-GSM-B	Guardian LED Surface Mount; 10K lm, DC Power, 75W, Black
FT-GESM-B	Guardian Elite LED Surface Mount; 20.5K lm, DC Power, 125W, Black
FT-GSMJR	Guardian Jr. LED Surface Mount; 5K lm, DC Power, 35W, Chrome
FT-GSMJR-B	Guardian Jr. LED Surface Mount; 5K lm, DC Power, 35W, Black

GUARDIAN OPTIONAL ACCESSORIES



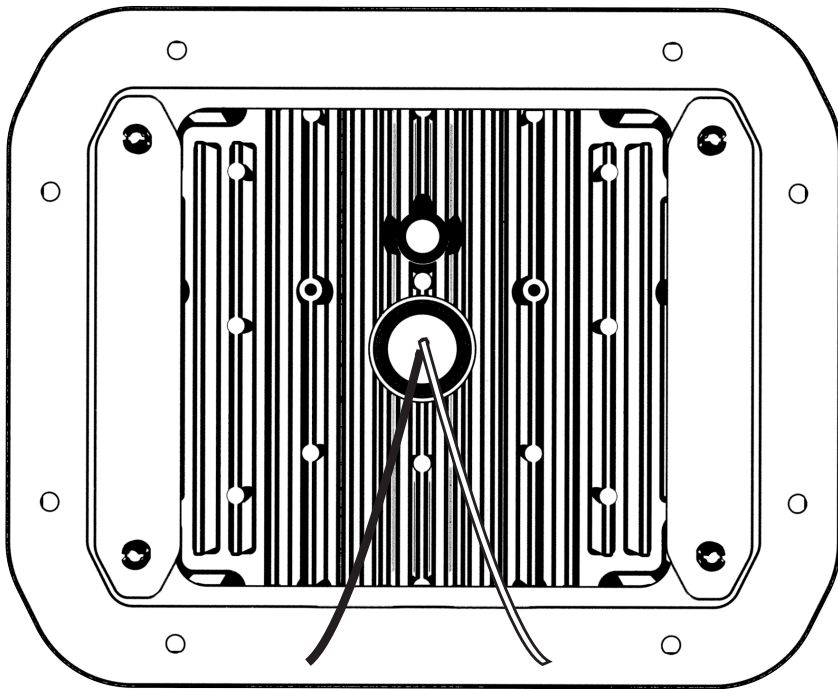
RETROFIT GASKET P/N: P-GSM-RGKIT
For replacing older style fixture or halogen side scene light. Covers old or oversized holes in the body.



BEZEL DELETE GASKET P/N: P-GSM-BDKIT
Allows installation of Guardian/Guardian Elite without chrome bezel for a reduced mounting profile.



WIRING INFORMATION



WIRING:
WHITE = 9-32v DC
BLACK= GROUND

MODEL	AMPS	FUSE
FT-GESM	10.41	15
FT-GSM	5.83	10
FT-GSMJR	3.33	5

Note: Fuse size above is a recommendation. Electrical system design should be reviewed by a qualified technician. All fuse sizes assume proper conductor is used per below chart.

Below, **Blue Sea Systems** has provided a chart documenting proper wire size selections for automotive applications. NFPA 1901 13.2.1.1 allows for up to 10% voltage drop on automotive fire apparatus. Please be sure to reference proper conductor size below. Visit blueseasystems.com for more information.

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CIRCUIT TYPE				CURRENT FLOW IN AMPS															
10% VOLTAGE DROP Non Critical		3% VOLTAGE DROP Critical		5A	10A	15A	20A	25A	30A	40A	50A	60A	70A	80A	90A	100A	120A	150A	200A
0 to 20 ft. 0 to 6.1 M		0 to 6 ft. 0 to 1.8 M																	
CIRCUIT LENGTH	30 ft. 9.1 M	10 ft. 3.0 M		16 AWG	14 AWG	12 AWG	10 AWG	8 AWG	6 AWG	4 AWG	2 AWG	1 AWG	0 AWG	2/0 AWG	3/0 AWG	4/0 AWG			
	50 ft. 15.2 M	15 ft. 4.6 M		14 AWG	12 AWG	10 AWG	8 AWG	6 AWG	4 AWG	2 AWG	1 AWG	0 AWG	2/0 AWG	3/0 AWG	4/0 AWG				
	65 ft. 19.8 M	20 ft. 6.1 M		12 AWG	10 AWG	8 AWG	6 AWG	4 AWG	2 AWG	1 AWG	0 AWG	2/0 AWG	3/0 AWG	4/0 AWG					
	80 ft. 24.4 M	25 ft. 7.6 M		10 AWG	8 AWG	6 AWG	4 AWG	2 AWG	1 AWG	0 AWG	2/0 AWG	3/0 AWG	4/0 AWG						
	100 ft. 30.5 M	30 ft. 9.1 M		8 AWG	6 AWG	4 AWG	2 AWG	1 AWG	0 AWG	2/0 AWG	3/0 AWG	4/0 AWG							
	130 ft. 39.6 M	40 ft. 12.2 M		6 AWG	4 AWG	2 AWG	1 AWG	0 AWG	2/0 AWG	3/0 AWG	4/0 AWG								
	165 ft. 50.3 M	50 ft. 15.2 M		4 AWG	2 AWG	1 AWG	0 AWG	2/0 AWG	3/0 AWG	4/0 AWG									
	200 ft. 61.0 M	60 ft. 18.3 M		2 AWG	1 AWG	0 AWG	2/0 AWG	3/0 AWG	4/0 AWG										
		70 ft. 21.3 M		1 AWG	0 AWG	2/0 AWG	3/0 AWG	4/0 AWG											
		80 ft. 24.4 M		0 AWG	2/0 AWG	3/0 AWG	4/0 AWG												
		90 ft. 27.4 M			2/0 AWG	3/0 AWG	4/0 AWG												
		100 ft. 30.5 M			2/0 AWG	3/0 AWG	4/0 AWG												
		110 ft. 33.5 M			2/0 AWG	3/0 AWG	4/0 AWG												
		120 ft. 36.6 M			2/0 AWG	3/0 AWG	4/0 AWG												
		130 ft. 39.6 M			2/0 AWG	3/0 AWG	4/0 AWG												

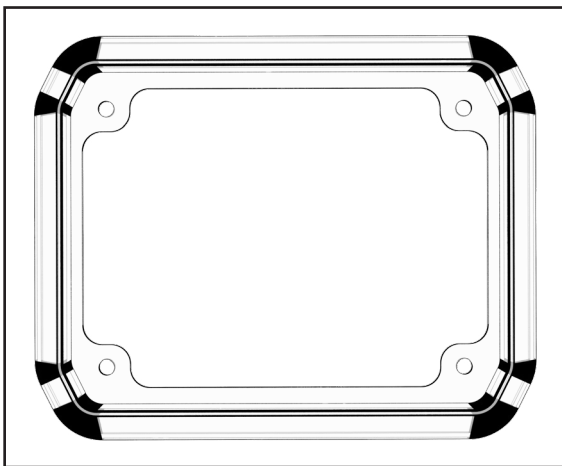
Although this process uses information from ABYC E-11 to recommend wire size and circuit protection, it may not cover all of the unique characteristics that may exist on a boat. If you have specific questions about your installation please consult an ABYC certified installer.

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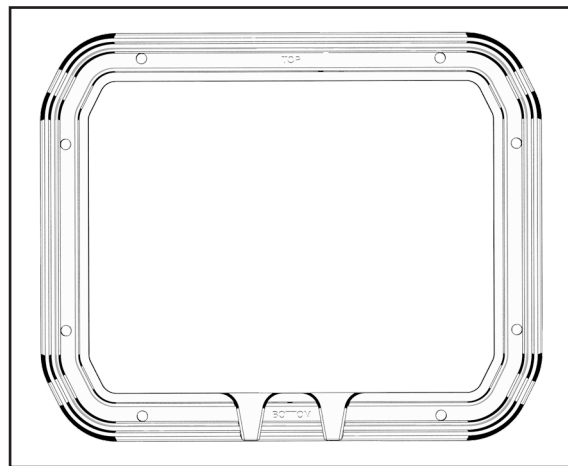


INSTALLATION INSTRUCTIONS

1. Make sure the battery switch **is in the off position** before beginning.
2. Remove old scene light(s) (if applicable).
3. If an older light is removed and a large hole is left in its place, a **retrofit gasket kit** will be required (the standard fitment requires exact hole sizes for proper water ingress protection).
4. If you are installing on a new vehicle, use the included template to mark your mounting holes. Use a center punch prior to drilling to prevent the bit from wandering and damaging paint.
5. Identify the position where you will install the fixture. Check to be sure there is no wiring or other critical infrastructure behind the mounting location (and that you have adequate access to run wiring).
6. Using the included template, measure and mark the holes using a permanent marker, then center punch (**measure twice, cut once**).
7. Drill holes. Exact diameters are important for water sealing and secure mounting.
8. Once holes have been drilled, install the **isolators** (they prevent the light fixture and mounting hardware from coming in contact with the body, preventing galvanic corrosion), a rubber mallet can be used to pop them in place.
9. Pull wiring through center hole. Be sure to leave a service loop (slack in the wire) to allow for removal and re-installation if needed.
10. **Install the gasket on your bezel and the bezel with your fixture before connecting wiring.** Be sure the FireTech logo is facing upright and the gasket drains are at the bottom.
11. Connect wiring to fixture (it may be necessary to have a helper hold the light while you connect the wiring).
12. Align fixture with isolators and install fixture **using included mounting screws**. Use a manual screwdriver to prevent damage to the isolators.



a. Bezel



b. Gasket

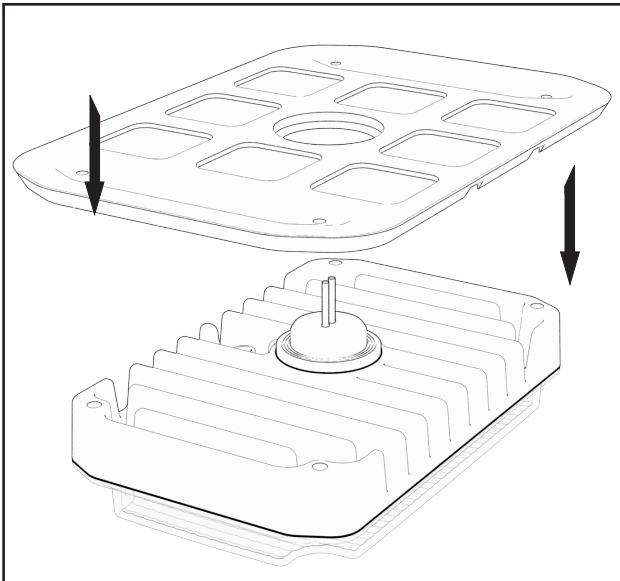


FITTING THE GASKET

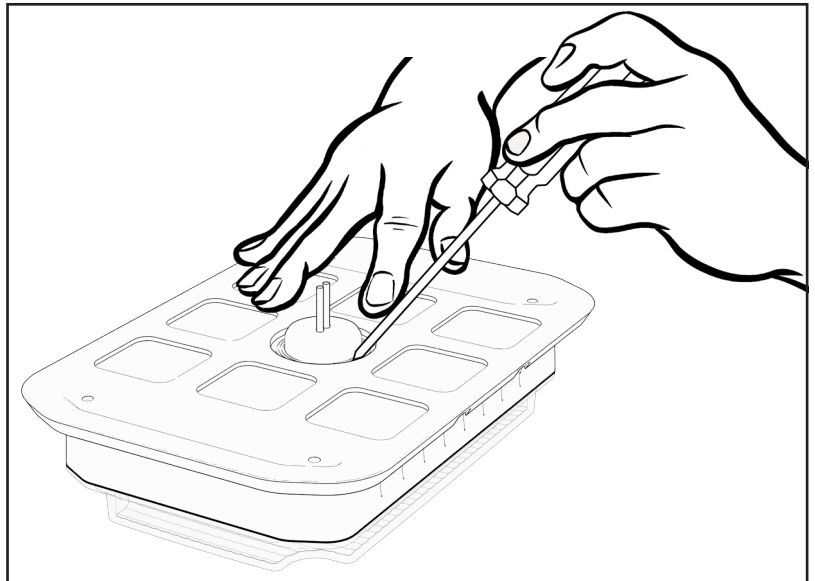
When using the Retrofit Gasket, or any Guardian Junior product, it is important to ensure the gasket seats properly under the wire bushing on the back of the fixture for a water-tight seal.

To install the gasket around the bushing:

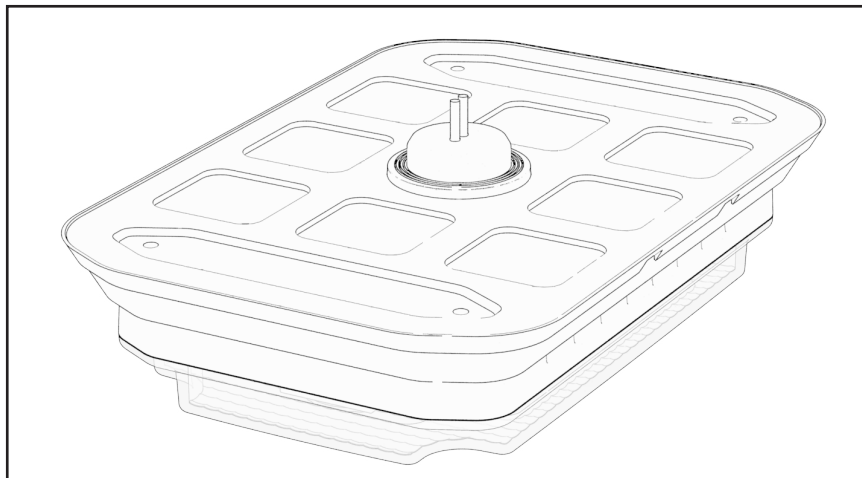
1. Line the gasket, fixture, and bezel up in place (be sure drain holes are at the BOTTOM).
2. On the gasket, push the rubber material **down and underneath** the bushing on the back of the light. Pulling on the corners of the gasket to stretch the rubber material and allow for the gasket to seat is helpful.
3. The gasket needs to be hooked over top of the light. **If needed**, use a flat screwdriver to work the gasket around until it seats in place.



Step 1



Step 2

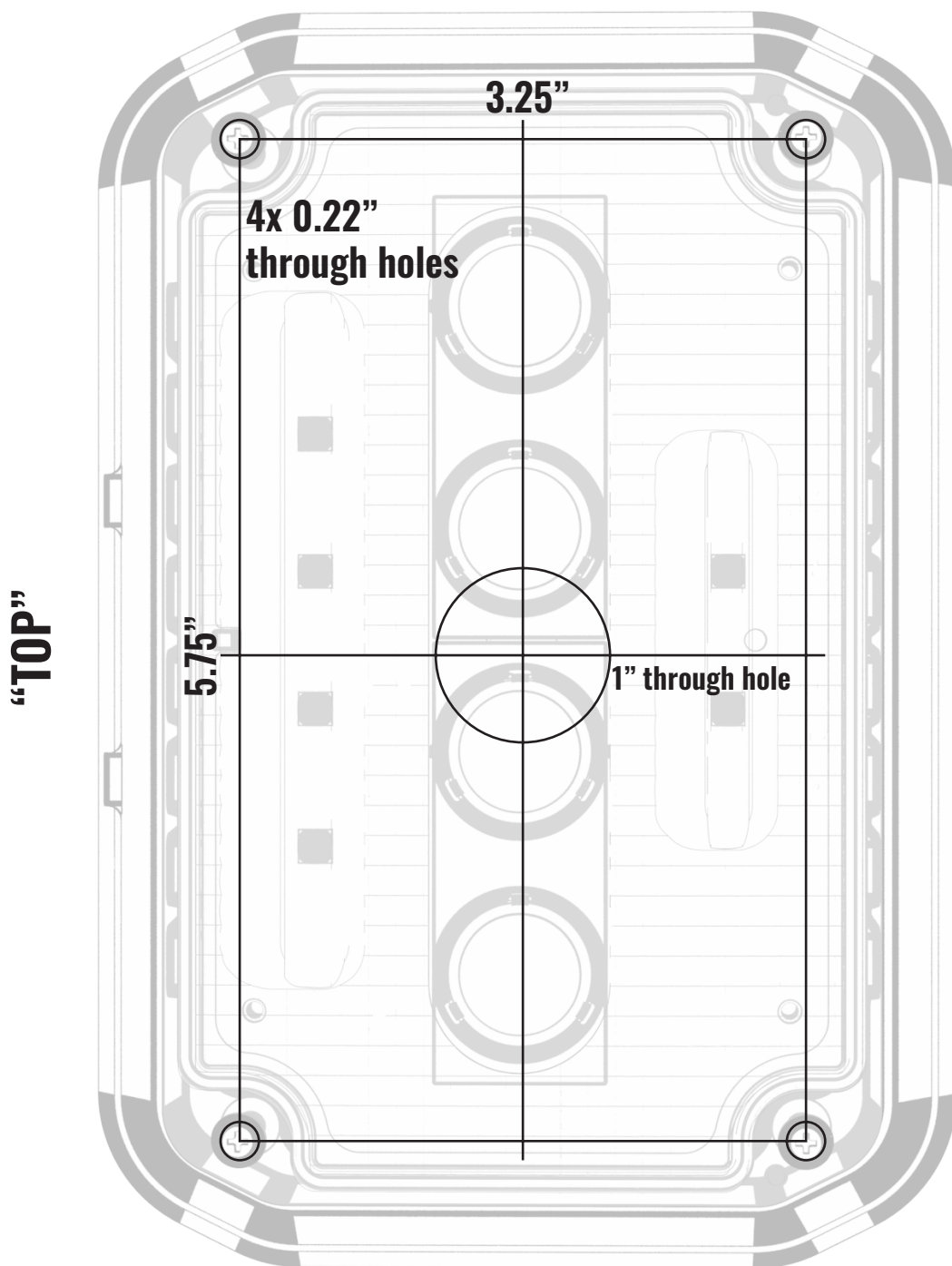


Step 3



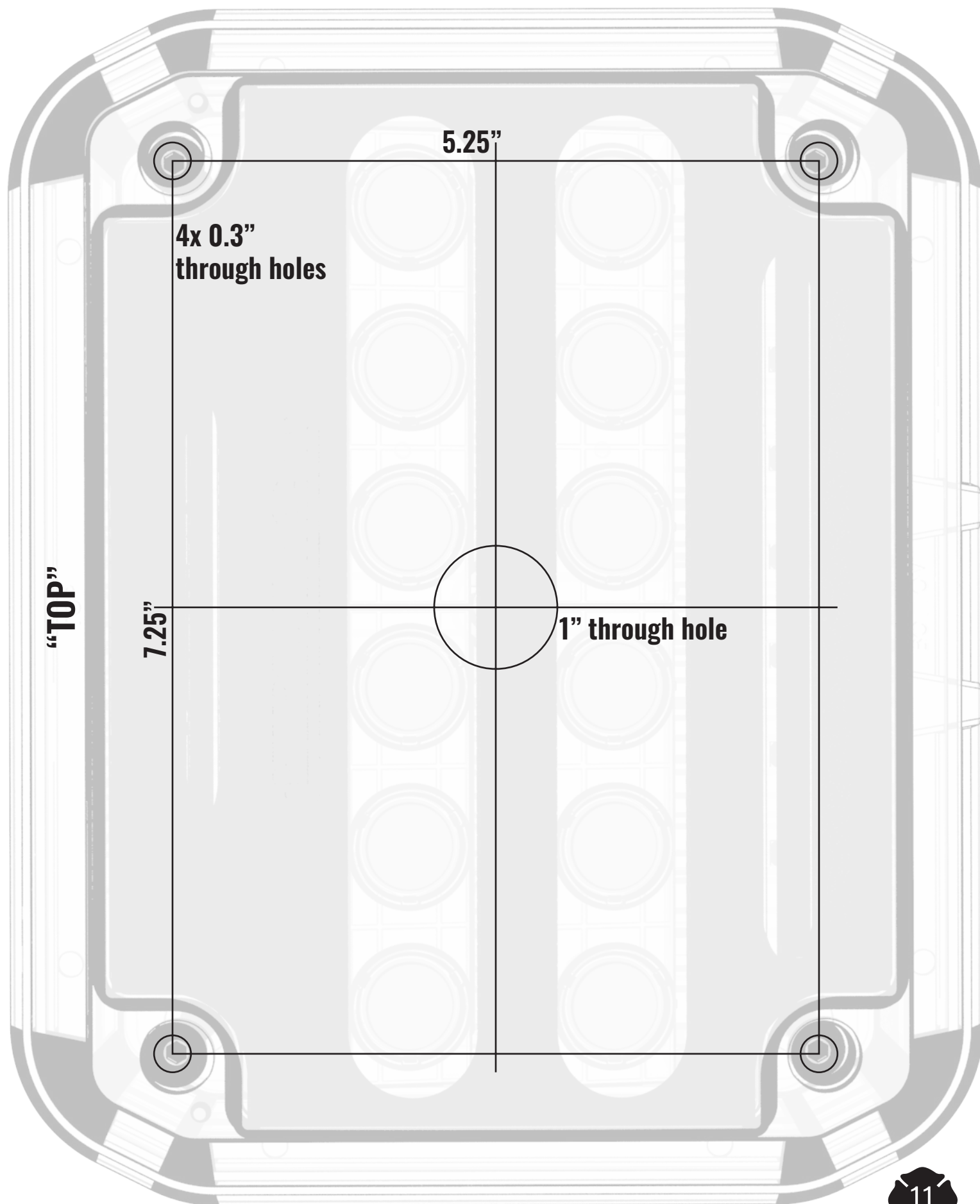
MOUNTING DIMENSIONS

*Images may be used as templates for lining up holes to drill on vehicle. Mind you, the fixtures are displayed here sideways in order to fit the page size.



GUARDIAN Jr: 7.4" X 5.04"





GUARDIAN & GUARDIAN ELITE: 10.63" X 9.96"



REFERENCES



For additional information, please visit hivizleds.com



**Guardian Products
page**



**Guardian Installation
Video**