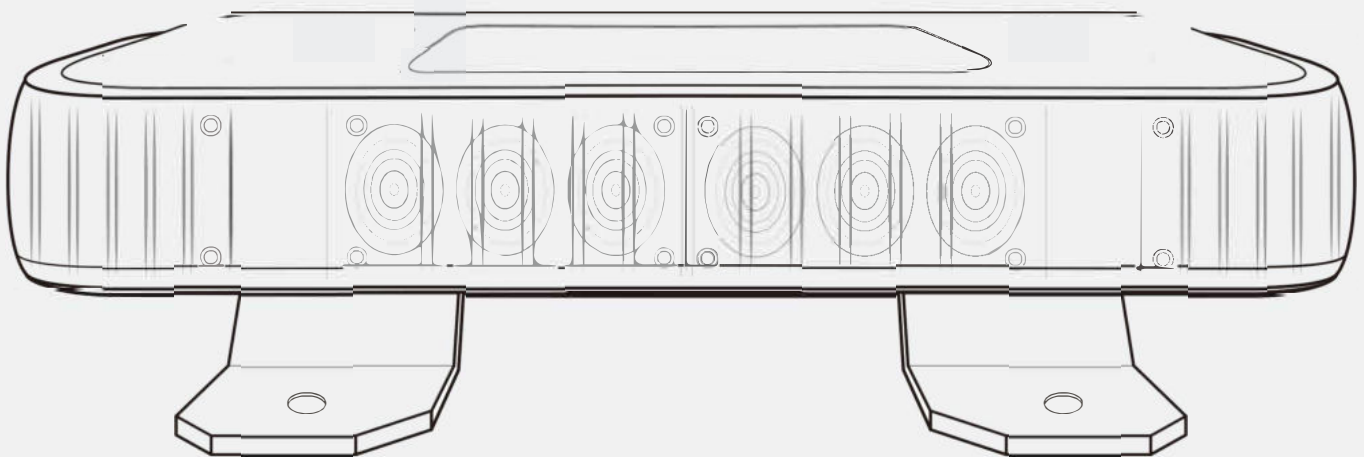




ABRAMS INSTRUCTION MANUAL
WWW.ABRAMSMFG.COM

**INSTALLATION AND CONFIGURATION MANUAL
ABRAMS RUGEYE MINI LIGHTBAR**

V.1.4



RUGEYE SERIES MINI LED LIGHTBAR

IMPORTANT! PLEASE READ THROUGH ALL PROVIDED INSTRUCTIONS AND ANY LISTED WARNINGS IN REGARDS TO PRODUCT USE.

MODEL#: RE-10

INSTALLATION AND CONFIGURATION MANUAL ABRAMS RUGEYE MINI LED LIGHTBAR

Table of Contents:

SAFETY REGULATIONS AND WARRANTY.....	2
EQUIPMENT AND DIMENSIONS.....	3
WIRING AND FUNCTION.....	3
INSTALLING BRACKETS.....	4
FLASH PATTERNS, TROUBLESHOOTING AND MAINTENANCE.....	5

WARNING:

FAILURE TO INSTALL OR USE THIS PRODUCT ACCORDING TO MANUFACTURER'S RECOMMENDATIONS MAY RESULT IN PROPERTY DAMAGE, SERIOUS INJURY, AND/OR DEATH.

IMPORTANT:

PLEASE READ ALL OF THE FOLLOWING INSTRUCTIONS BEFORE INSTALLING YOUR NEW ABRAMS PRODUCT.

- PROPER INSTALLATION OF THIS PRODUCT REQUIRES THE INSTALLER TO HAVE A GOOD UNDERSTANDING OF AUTOMOTIVE ELECTRONICS, SYSTEMS AND PROCEDURES.
- THIS PRODUCT CONTAINS HIGH-INTENSITY LEDS. DO NOT STARE DIRECTLY INTO THESE LIGHTS. MOMENTARY BLINDNESS AND/OR EYE DAMAGE COULD RESULT.
- DO NOT INSTALL THIS PRODUCT OR ROUTE ANY WIRES IN THE DEPLOYMENT AREA OF YOUR AIR BAG. EQUIPMENT MOUNTED OR LOCATED IN THE AIR BAG DEPLOYMENT AREA WILL DAMAGE OR REDUCE THE EFFECTIVENESS OF THE AIR BAG, OR BECOME A PROJECTILE THAT COULD CAUSE SERIOUS PERSONAL INJURY OR DEATH. REFER TO YOUR VEHICLE OWNER MANUAL FOR THE AIR BAG DEPLOYMENT AREA. THE USER/INSTALLER ASSUMES FULL RESPONSIBILITY TO DETERMINE PROPER MOUNTING LOCATION, BASED ON PROVIDING ULTIMATE SAFETY TO ALL PASSENGERS INSIDE THE VEHICLE.
- IF MOUNTING THIS PRODUCT REQUIRES DRILLING HOLES, THE INSTALLER MUST BE SURE THAT NO VEHICLE COMPONENTS OR OTHER VITAL PARTS COULD BE DAMAGED BY THE DRILLING PROCESS. CHECK BOTH SIDES OF THE MOUNTING SURFACE BEFORE DRILLING BEGINS. ALSO DE-BURR ANY HOLES AND REMOVE ANY METAL SHARDS OR REMNANTS. INSTALL GROMMETS INTO ALL WIRE PASSAGE HOLES.
- INSPECT AND OPERATE THIS PRODUCT REGULARLY TO CONFIRM ITS PROPER OPERATION AND MOUNTING CONDITION. DO NOT USE A PRESSURE WASHER TO CLEAN THIS PRODUCT.
- FOR THIS PRODUCT TO OPERATE AT OPTIMUM EFFICIENCY, A GOOD ELECTRICAL CONNECTION TO CHASSIS GROUND MUST BE MADE. THE RECOMMENDED PROCEDURE REQUIRES THE PRODUCT GROUND WIRE TO BE CONNECTED DIRECTLY TO THE NEGATIVE (-) BATTERY POST.
- IT IS RECOMMENDED THAT THESE INSTRUCTIONS BE STORED IN A SAFE PLACE AND REFERRED TO WHEN PERFORMING MAINTENANCE AND/OR REINSTALLATION OF THIS PRODUCT.
- FAILURE TO FOLLOW THESE SAFETY PRECAUTIONS AND INSTRUCTIONS COULD RESULT IN DAMAGE TO THE PRODUCT OR VEHICLE AND/OR SERIOUS INJURY TO YOU AND YOUR PASSENGERS!
- IF THIS PRODUCT USES A REMOTE DEVICE TO ACTIVATE OR CONTROL THIS PRODUCT, MAKE SURE THAT THIS CONTROL IS LOCATED IN AN AREA THAT ALLOWS BOTH THE VEHICLE AND THE CONTROL TO BE OPERATED SAFELY IN ANY DRIVING CONDITION.
- DO NOT ATTEMPT TO ACTIVATE OR CONTROL THIS DEVICE IN A HAZARDOUS DRIVING SITUATION.

WARNING! USING A WARNING DEVICE WITH A MAGNET MOUNT ON THE OUTSIDE OF A VEHICLE WHILE IT IS IN MOTION IS AT THE SOLE RISK AND RESPONSIBILITY OF THE USER. SEEK A PROFESSIONAL INSTALLER FOR ASSISTANCE

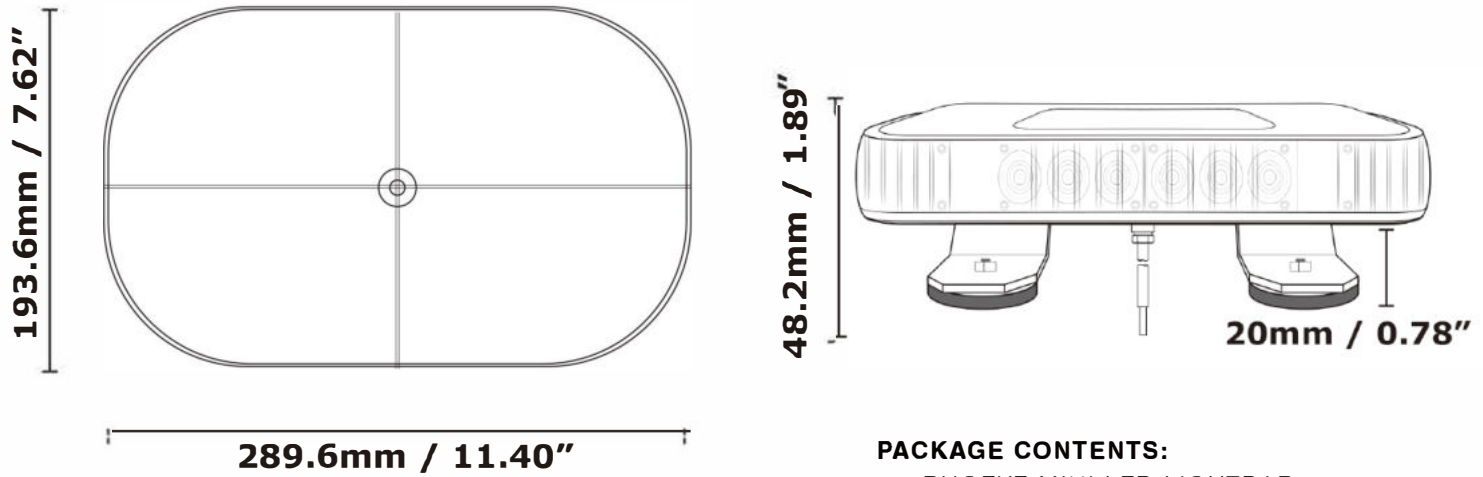
WARRANTY (2 YEAR WARRANTY)

THIS PRODUCT WAS TESTED AND FOUND TO BE OPERATIONAL AT THE TIME OF MANUFACTURE. PROVIDED THIS PRODUCT IS INSTALLED AND OPERATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, ABRAMS GUARANTEES THIS PRODUCT FOR A PERIOD OF 2 YEARS FROM THE DAY OF PURCHASE OR DELIVERY, WHICH EVER IS LATER. UNITS DEMONSTRATED TO BE DEFECTIVE WITHIN THE WARRANTY PERIOD WILL BE REPLACED. IMPROPER INSTALLATION OR USE OF INAPPROPRIATE OR INADEQUATE WIRING OR CIRCUIT PROTECTION CAUSES THE WARRANTY TO BE VOID. FAILURE OR DESTRUCTION OF THE PRODUCT RESULTING FROM ABUSE OR UNUSUAL USE AND/OR ACCIDENTS IS NOT COVERED BY THIS WARRANTY. ABRAMS SHALL IN NO WAY BE LIABLE FOR OTHER DAMAGES INCLUDING CONSEQUENTIAL, INDIRECT OR SPECIAL DAMAGES WHETHER LOSS IS DUE TO NEGLIGENCE OR BREACH OF WARRANTY. ABRAMS MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY INCLUDING, WITHOUT LIMITATION, WARRANTIES OF FITNESS OR MERCHANTABILITY, WITH RESPECT TO THIS PRODUCT.



INSTALLATION AND CONFIGURATION MANUAL ABRAMS RUGEYE MINI LED LIGHTBAR

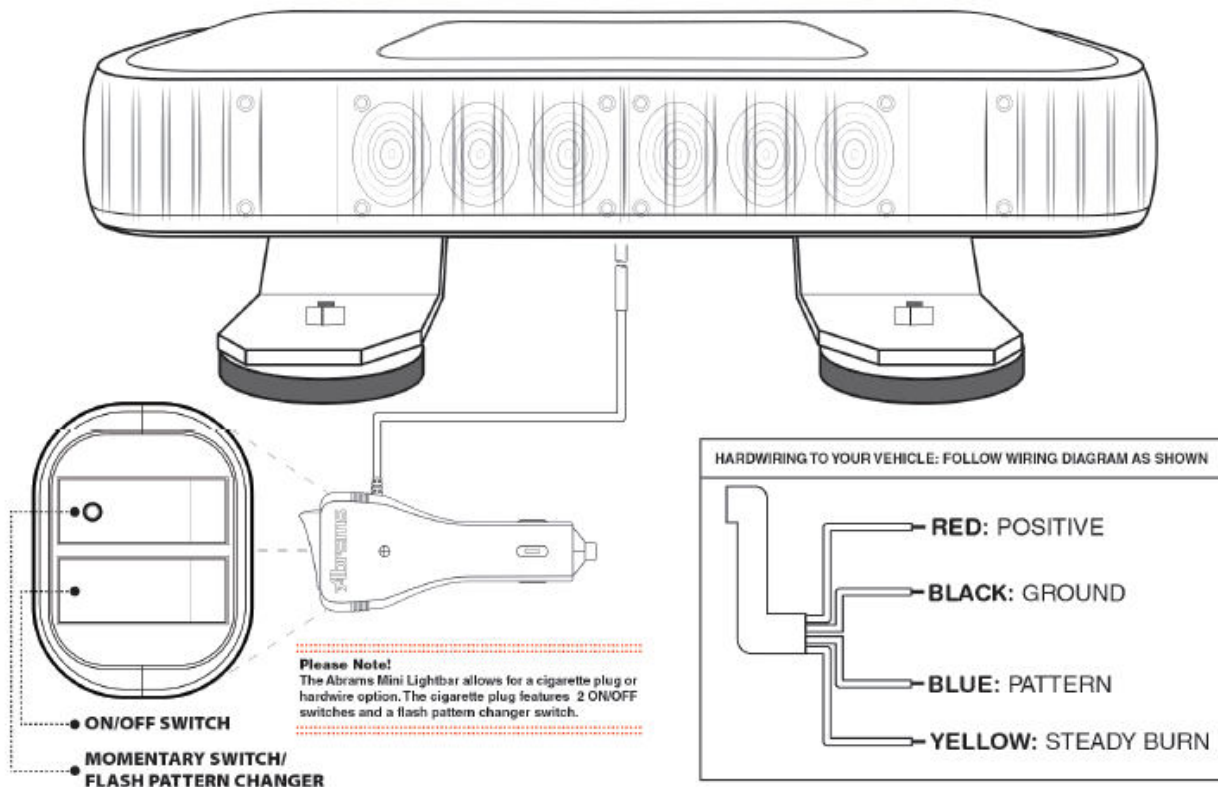
EQUIPMENT AND DIMENSIONS



PACKAGE CONTENTS:

- RUGEYE MINI LED LIGHTBAR
- ABRAMS CIGARETTE LIGHTER PLUG
- MAGNETIC OR PERMANENT MOUNTING KIT
- 9.5 FT POWER CABLE
- PRODUCT INSTALLATION MANUAL

WIRING AND FUNCTION



INSTALLATION AND CONFIGURATION MANUAL ABRAMS RUGEYE MINI LED LIGHTBAR

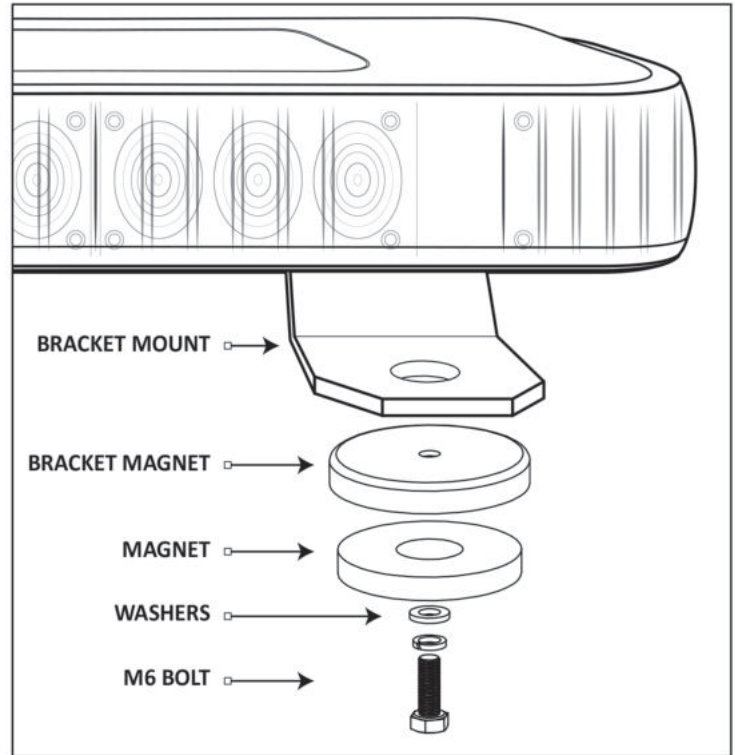
MOUNTING OPTIONS

MAGNETIC MOUNT INSTALLATION:

- STEP 1:** CLEAN THE SURFACE WHERE THE LIGHT BAR WILL BE MOUNTED
- STEP 2:** PLACE THE LIGHT BAR ON A FLAT SURFACE OF THE VEHICLE AND ADJUST THE MAGNET FEET TO FIT YOUR VEHICLE.

LIGHT BARS SHOULD BE MOUNTED A MINIMUM OF 12" - 34" FROM THE RADIO ANTENNA TO AVOID INTERFERENCE. IF YOU DO NOT KNOW WHERE TO MOUNT YOUR BAR, SEEK A PROFESSIONAL INSTALLER FOR THE INSTALLATION.

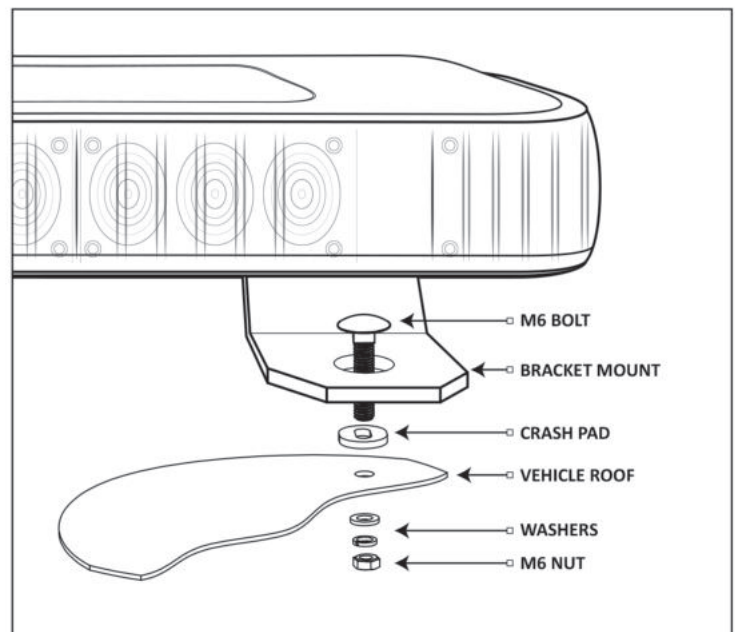
WARNING!
 USING A WARNING DEVICE WITH A MAGNET MOUNT ON THE OUTSIDE OF A VEHICLE WHILE IT IS IN MOTION IS AT THE SOLE RISK AND RESPONSIBILITY OF THE USER. SEEK A PROFESSIONAL INSTALLER FOR ASSISTANCE



PERMANENT MOUNT INSTALLATION:

- STEP 1:** REMOVE THE FOUR MAGNETIC MOUNTING PADS, ATTACHED THE PERMANENT BRACKET.
- STEP 2:** PLACE THE PERMANENT BRACKET ON THE VEHICLE AND MARK THE HOLES FOR DRILLING.
- STEP 3:** DRILL THE MARKED HOLES.
- STEP 4:** ATTACH THE PERMANENT BRACKET TO THE VEHICLE WITH BOLT, NUT AND WASHER.

WARNING!
 WARNING! DO NOT DRILL THROUGH THE ROOF SUPPORT MEMBER WHICH SPANS BETWEEN THE PASSENGER AND DRIVERS SIDE OF THE VEHICLE. IF THIS APPLIES TO YOU, ADJUST THE LOCATION WHERE THE BAR WILL BE MOUNTED TO AVOID CONTACT WITH THIS SUPPORT MEMBER



INSTALLATION AND CONFIGURATION MANUAL

ABRAMS RUGEYE MINI LED LIGHTBAR

FLASH PATTERNS

PATTERN NO.	FLASH Pattern	PATTERN NO.	FLASH Pattern	PATTERN NO.	FLASH Pattern	PATTERN NO.	FLASH Pattern
1-Default	Quad 75 Ph1	16	Single 250 Ph1	31	Two Triple 75 Ph1	46	Two In Out 120
2	Quad 75 Ph2	17	Single 250 Ph2	32	Two Triple 75 Ph2	47	Two In Out 250
3	Quad 75 Alt.	18	Single 250 Alt.	33	Two Triple 75 Alt.	48	Checker 75
4	Quad 150 Ph1	19	Double 75 Ph1	34	4 Single 75 4 Instant 75	49	Checker 120
5	Quad 150 Ph2	20	Double 75 Ph2	35	4 Double 75 2 Quad 75	50	Checker 250
6	Quad 150 Alt.	21	Double 75 Alt.	36	One Rotate 75	51	Quad Checker
7	Quint 75 Ph1	22	Double 120 Ph1	37	One Rotate 120	52	Sequence
8	Quint 75 Ph2	23	Double 120 Ph2	38	One Rotate 250	53	Front Back
9	Quint 75 Alt.	24	Double 120 Alt.	39	Two Rotate 75	54	Left Right
10	Single 75 Ph1	25	Triple 75 Ph1	40	Two Rotate 120	55	Spread
11	Single 75 Ph2	26	Triple 75 Ph2	41	Two Rotate 250	56	Modulation
12	Single 75 Alt.	27	Triple 75 Alt.	42	One In Out 75	57	Modulation Alt.
13	Single 120 Ph1	28	Instant 75 Ph1	43	One In Out 120	58	Auto Run
14	Single 120 Ph2	29	Instant 75 Ph2	44	One In Out 250	59	Steady burn
15	Single 120 Alt.	30	Instant 75 Alt.	45	Two In Out 75	60	Off

TROUBLESHOOTING AND MAINTENANCE

Problem	Scenarios	Possible Cause	Trouble Shooting
Warning LED module has one or all diodes out	Are all the LED Diodes out?	<p>No: If at least one LED diode is out, the LED Module needs to be replaced.</p> <p>Yes: Defective PCB in the Abrams Control Box or LED module or cables disconnected from Connector or LED.</p>	<p>Call Abrams Customer Service to make a warranty claim for a new LED</p> <ol style="list-style-type: none"> 1. Make sure the product is disconnected from power. 2. Unscrew the two screws that secure the LED module for the light bar. 3. Pull the LED out gently and slowly. 4. You will see red and black wires that lead to a connector. 5. Confirm that the wires with pins are in the connectors (Both male and female connectors) have not come out of the connectors. 6. If so: use a pin pusher to place the wires back into the connector. <ol style="list-style-type: none"> A. Ensure the wings of the pin are opened to ensure a proper connection. B. If closed use tweezers to pull away from the base. C. A click will be heard when placing the pin back into the connector. D. Make sure the pin is seated in the center of its pin position to ensure proper connection. 7. If not: continue reading: <ol style="list-style-type: none"> 1. Follow steps 1 - 4 to unplug a working module in the same manner. 2. Plug in the defective module into the working modules position. <ol style="list-style-type: none"> A. If the LED module comes on. You need a new PCB or Abrams Control Box B. If the LED module does not come on. You need a new LED module
No recall of flash pattern	Is the units power cables run to the correct locations: Positive (red) and Negative (black), directly to the battery?	<p>No: Improper Grounding.</p> <p>Yes:</p>	<p>If grounded incorrectly, an electrical feedback could be the culprit. Electrical feedback can cause the PCB not to recognize the command that it is being told to do. Move the ground to proper location and see if this fixes the issue.</p>
Lights randomly going on or interference?	Yes		<p>Ensure that the power and ground are connected accordingly.</p> <p>Check CB or two way radio, move lightbar away from antenna as far as possible, do not run radio and lightbar wires in parallel.</p>

Maintenance

- While Abrams products are very durable, there are some things you need to keep in mind and practice to preserve the longevity and function of your product.
 - Never take any Abrams Lightbar through a car wash, such as a pressure washer, automatic car wash, brushes that will scratch your equipment or similar car washes or equipment where chemicals, high pressure water, and materials may scratch or damage your equipment.
 - Use Water with a soft cloth to clean your products and lenses.
- Yellowing of clear lenses may occur overtime. Lenses can be purchased by calling Abrams Customer Service at 844-9-ABRAMS

Trouble Shooting

All Manufacture Defects are covered under the Abrams Warranty accordingly. Warranty is void with disassembly or rewiring of any Abrams Products or Improper Wiring or Installation. If you are unsure how to trouble shoot your light bar for any reason or if the trouble shooting does not fix your issue, call Customer Service immediately for assistance at 844-9-ABRAMS

INSTALLATION AND CONFIGURATION MANUAL

ABRAMS RUGEYE MINI LED LIGHTBAR

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TROUBLESHOOTING AND MAINTENANCE

Problem	Scenarios	Possible Cause	Trouble Shooting
Warning LED module has one or all diodes out	Are all the LED Diodes out? No Yes	If at least one LED diode is out, the LED Module needs to be replaced. Defective PCB in the Abrams Control Box or LED module or cables disconnected from Connector or LED.	Call Abrams Customer Service to make a warranty claim for a new LED 1. Make sure the product is disconnected from power. 2. Unscrew the two screws that secure the LED module for the light bar. 3. Pull the LED out gently and slowly. 4. You will see red and black wires that lead to a connector. 5. Confirm that the wires with pins are in the connectors (Both male and female connectors) have not come out of the connectors. 6. If so: use a pin pusher to place the wires back into the connector. A. Ensure the wings of the pin are opened to ensure a proper connection. B. If closed use tweezers to pull away from the base. C. A click will be heard when placing the pin back into the connector. D. Make sure the pin is seated in the center of its pin position to ensure proper connection 7. If not: continue reading: 1. Follow steps 1 - 4 to unplug a working module in the same manner. 2. Plug in the defective module into the working modules position. A. If the LED module comes on. You need a new PCB or Abrams Control Box B. If the LED module does not come on. You need a new LED module
No recall of flash pattern	Is the units power cables run to the correct locations: Positive (red) and Negative (black), directly to the battery? No Yes	Improper Grounding.	If grounded incorrectly, an electrical feedback could be the culprit. Electrical feedback can cause the PCB not to recognize the command that it is being told to do. Move the ground to proper location and see if this fixes the issue. A New PCB may be required.
Pressing buttons on the Switch Box but light bar doesn't respond at all or for specific function	Do the LEDs light up on the LED Display? No Yes	Broken Fuse Disconnected Connector Damaged Cable TEST THE POSSIBLE CAUSES FOR "No" Wires in the wrong location	If the inline fuse is broken, replace it with a fuse with the same AMPs. Check that the connector is fully recessed in the switch box. If you have an extension cable with connectors check that the connection has not disconnected. Check the full length of your wiring to make sure there are no spliced wired in the cable harness. TEST THE POSSIBLE CAUSES FOR "No" You may have a wire that is not in the correct position. If you are using an extension cable with connectors or no connector, make sure that the wires are corresponding correctly. In other words, simply make sure the colors are matching one another and that you do not have a Green connected to a Yellow. Green should be connected to Green.
Lights randomly going on or interference?	Yes		Ensure that the power and ground are connected accordingly. Check CB or two way radio, move lightbar away from antenna as far as possible, do not run radio and lightbar wires in parallel.