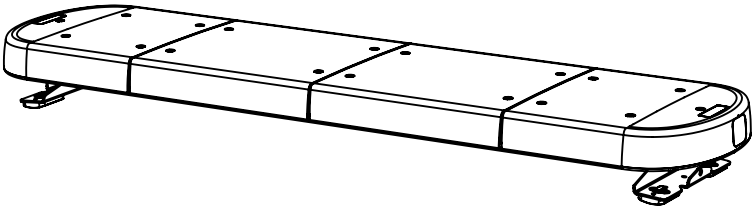
MAGNUM
LED LIGHTBAR

#EMG2000 MAGNUM™ LED DIRECT CONNECT Lightbar



IMPORTANT NOTICE TO INSTALLER: Make sure to read and understand all instructions and warnings before proceeding with the installation of this product. Ensure that the manual and any warning cards are delivered to the end user of this equipment. Proper installation of the lightbar requires the installer to have a thorough knowledge of automotive electronics, systems, and procedures. Lightbars provide an essential function of an effective visual warning system. The use of the lightbar does not insure that all drivers can or will abide by or react to an emergency warning signal, especially at high rates of speeds or long distances. The operator of the vehicle must never take the right of way for granted and it is the operator's responsibility to proceed safely. The effectiveness of the lightbar is highly dependant on the correct mounting and wiring. The installer must read and follow the manufacturer's installation instructions and warnings in the manual. The vehicle operator should verify daily that the lightbar is securely fastened to the vehicle and properly functioning before operating vehicle. The lightbar is intended for use by authorized personnel only. It is the user's responsibility to ensure they understand and operate the emergency warning devices in compliance with the applicable city, state and federal laws and regulations. SoundOff Signal assumes no liability for any loss resulting from the use of this warning device.

Components/Contents

Standard Equipment:
1 - EMG2000 MAGNUM™ LED Lightbar built to your specifications

Other Parts that may be included depending on your configuration:
1 - Vehicle Specific Hook Kit w/ Hardware*
2 - Fixed Height Mounting Brackets w/ Hardware or
1 - Flat Mount Hardware Kit or
2 - Headache Brackets w/ Hardware
*Kits will vary with each lightbar depending on vehicle specified on order form.

Unpack Lightbar

1. Remove the lightbar from box and packaging.
2. Save packaging for later shipping.
3. Check components/contents.
4. Please reference these instructions for proper wiring and installation.

Tools Required for Installation

- 1/2" Socket with ratchet or 1/2" box end
- Phillips Head Screwdriver
- Drill bit #30

SoundOff Signal®

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⚠ WARNING

- HIGH CURRENT interconnects must be properly terminated. Poor crimp quality can cause heat build-up and fire. Follow crimp connector manufacturer instructions.
- DO NOT install this product or route any wires in the Air Bag Deployment Zone. Refer to vehicle Owner's Manual for deployment zones.
- Do NOT use system to disconnect headlights, brake lights or other safety equipment.
- Unit may become hot to touch during normal operation.
- Failure to properly install connectors, fuses or wiring may cause vehicle failure or fire.
- Installation must only be performed by trained technician. Installer must determine vehicle wiring configuration and proper integration of system.
- Use proper wire gauge. All power wires connecting to positive (+) or negative (-) battery terminal or local chassis ground (-) must be sized to supply at least 125% of max. current and properly fused at power source.
- Install protective grommets when routing wire through firewall or metal.

⚠ WARNING
This product contains high intensity LED devices. To prevent eye damage, DO NOT stare into the light beam at close range.

NOTICE:

Installers and users must comply with all applicable federal, state and local laws regarding use and installation of warning devices. *Improper use or installation may void warranty coverage. To review our Limited Warranty Statement & Return Policy for this or any SoundOff Signal product, visit our website at* ***www.soundoffsignal.com/sales-support****. If you have questions regarding this product, contact* ***Technical Services****, Monday - Friday, 8 a.m. to 5 p.m. or after hours 5 p.m. to 8 p.m. EST at* ***1.800.338.7337*** *(press #4 to skip the automated message). Questions or comments that do not require immediate attention may be emailed to* ***techservices@soundoffsignal.com.***

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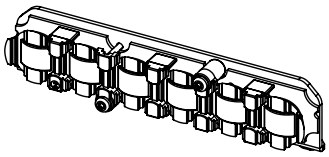
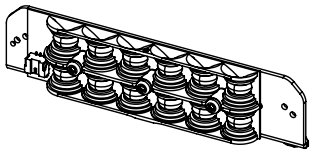
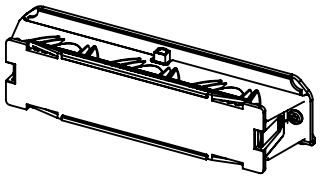
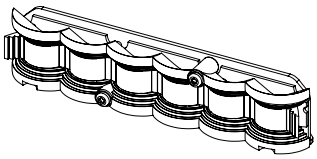
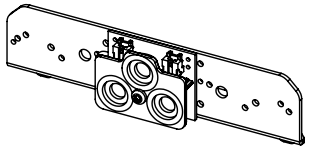
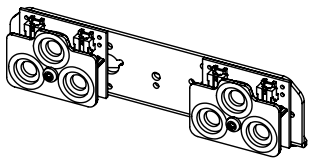
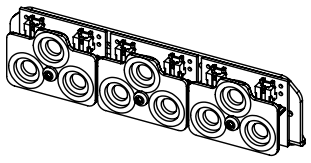
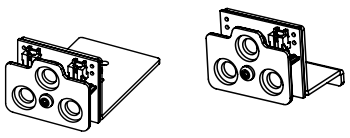
	**Fusion Boost 6 LED Inboard Module** INPUT VOLTAGE RANGE: 10-16Vdc CURRENT DRAW: 0.5 Amps @ 12.8 Vdc (Flashing) 1.0 Amps @ 12.8 Vdc (Steady On) WATTAGE: 6.4W (Flashing)
	**Fusion 12 LED Corner Module** INPUT VOLTAGE RANGE: 10-16Vdc CURRENT DRAW: 0.8 Amps @ 12.8 Vdc (Flashing) 1.6 Amps @ 12.8 Vdc (Steady On) WATTAGE: 10.2W (Flashing)
	**Turbo Optic 3 LED Inboard Module** INPUT VOLTAGE RANGE: 10-16Vdc CURRENT DRAW: 0.25 Amps @ 12.8 Vdc (Flashing) 0.5 Amps @ 12.8 Vdc (Steady On) WATTAGE: 3.2W (Flashing)
	**Fusion 6 LED Corner Module** INPUT VOLTAGE RANGE: 10-16Vdc CURRENT DRAW: 0.5 Amps @ 12.8 Vdc (Flashing) 1.0 Amps @ 12.8 Vdc (Steady On) WATTAGE: 6.4W (Flashing)
	**Takedown 3 LED Module** INPUT VOLTAGE RANGE: 10-16Vdc CURRENT DRAW: 0.21 Amps @ 12.8 Vdc (Flashing) 0.42 Amps @ 12.8 Vdc (Steady On) WATTAGE: 2.7W LIGHT OUTPUT: 240lm
	**Takedown 6 LED Module** INPUT VOLTAGE RANGE: 10-16Vdc CURRENT DRAW: 0.42 Amps @ 12.8 Vdc (Flashing) 0.84 Amps @ 12.8 Vdc (Steady On) WATTAGE: 5.4W LIGHT OUTPUT: 480 lm
	**Takedown 9 LED Module** INPUT VOLTAGE RANGE: 10-16Vdc CURRENT DRAW: 0.63 Amps @ 12.8 Vdc (Flashing) 1.26 Amps @ 12.8 Vdc (Steady On) WATTAGE: 8.1W LIGHT OUTPUT: 720 lm
	**Inboard/Alley 3 LED Module** INPUT VOLTAGE RANGE: 10-16Vdc CURRENT DRAW: 0.21 Amps @ 12.8 Vdc (Flashing) 0.42 Amps @ 12.8 Vdc (Steady On) WATTAGE: 2.7W LIGHT OUTPUT: 240 lm

FLASHING = AVERAGE
STEADY ON (100%) = PEAK

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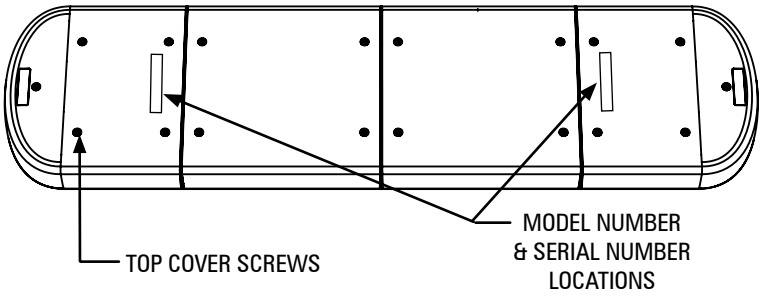
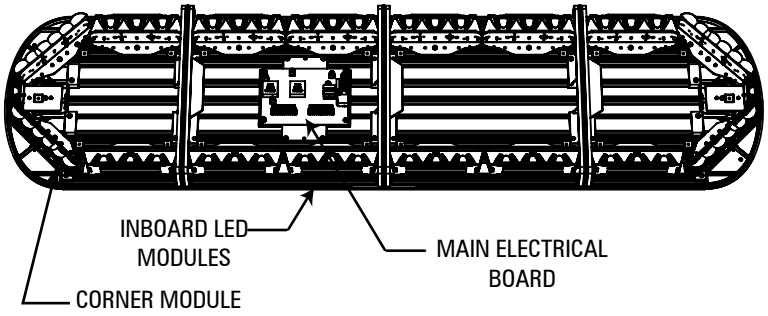
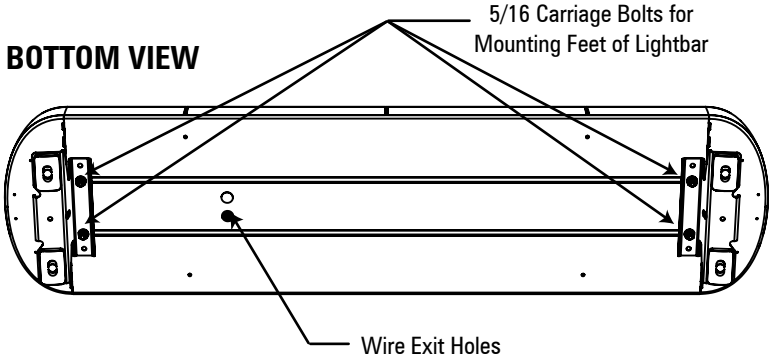
TOP VIEW WITH COVERS ON



TOP VIEW WITH COVERS OFF



BOTTOM VIEW



TECHNICAL SPECIFICATIONS

Material:	Aluminum Base, Nylon base end caps, polycarbonate outer lenses, acrylic inner lenses .		
Roof Attachments:	1/4" bolt Stainless A2		
Operating Temperature:	-40º to +65º C		
LENGTH	# OF INBOARDS WITH SPEAKER	# OF INBOARDS WITHOUT SPEAKER	DIMENSIONS
23"	2	-	WITHOUT SPEAKER: 12.4"D x 2.3"H inboard WITH SPEAKER: 12.4"D x 2.8"H inboard
35.5"	4	-	
41.8"	5	4	
48"	6	4	
54.3"	7	6	
60.5"	8	-	
73"	10	-	

POWER SPECIFICATIONS

Input Voltage Range:	10 -16 Vdc	
Light Bar Component	Current Draw (Average = Flashing)	Power Consumption (Watts)
Standby Current	.022 Amps	.28 Watts
Reverse Polarity	Fuse Protected	
Load Dump	Protected	
Wiring	Power Cable 15ft 10 AWG Wires, (+) Red, (-) Black 16 ft. 22AWG 12 Conductor Discrete Input Cable	

Optional 16ft. 18AWG 12 Conductor Speaker Harness

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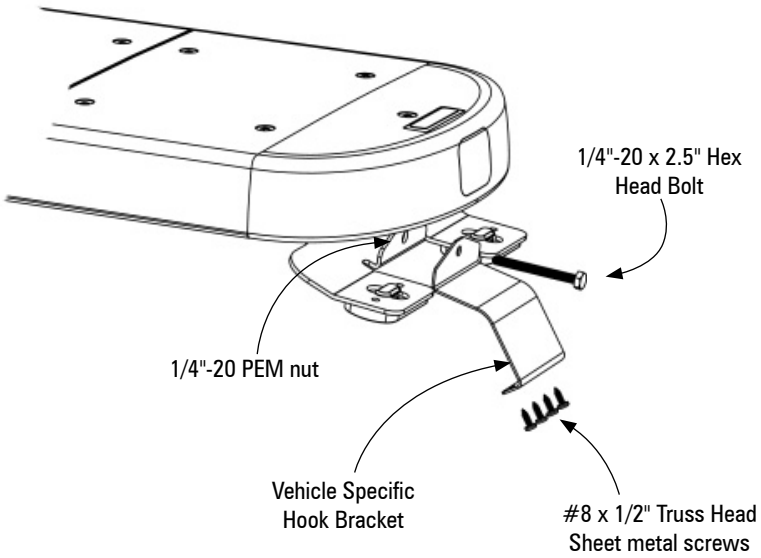

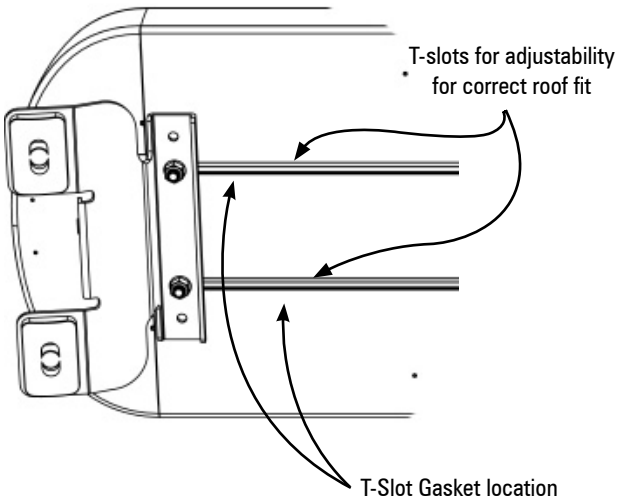

FIXED HEIGHT BRACKETS AND HOOK MOUNTING

1. Slide 5/16 carriage bolts into extrusion t-slots. Place mounting foot onto slots and tighten foot with washer and nut, ensuring the use of either a lock washer or lock nut

2. Temporarily place lightbar in its correct position on the roof of the vehicle. The bar should be positioned about the center of the vehicle B pillar. Determine the appropriate position of the mounting feet brackets on the lightbar to the vehicle roof and reposition mounting feet as needed.

3. Install supplied vehicle specific hook brackets using supplied 1/4"-20 x 2.5 Hex Head bolts onto the bar mounting foot as shown. Nut is attached to mounting foot to prevent turning and improve ease of installation. If bolt ends come in contact with the mounting feet, reposition the mounting feet.

4. Using the vehicle specific hook brackets as a template, drill 4 pilot holes using a #30 (.128 dia.) drill bit on each side of the vehicle.

5. Secure each vehicle specific hook brackets by using the 8 supplied #8 x 1/2" Truss Head Sheetmetal screws, 4 per side.

6. Tighten each vehicle specific hook bracket to mounting foot by turning the 1/4" -20 x 2.5 Hex head bolt clockwise until bar is snug and no side to side or fore to aft movement occurs. Due to different vehicle construction and mounting locations, the torque levels for connecting hooks to the lightbar foot may be different based on the vehicle. Minimum requirement for torque should be 10 IN/LB, with a maximum level of 45 IN/LB. Deflection of the lightbar and/or the roof of the vehicle may occur when torqueing the bolts connecting the hook to the lightbar foot. When installing the bolts connecting the hook to the lightbar foot, monitor both the lightbar and roof of the vehicle. Any deflection should be kept at a minimum to avoid damage to the lightbar or vehicle. Tighten to ensure there is no movement of the lightbar or foot by ensuring there is no movement either side to side, or front to rear after the torque has been done. The lightbar must be securely mounted to the vehicle for safe operation. As always, it is recommended to check the integrity of mounted lightbars on a daily basis to ensure secure attachment to the vehicle for continued safe operation.

7. Route cables into vehicle. Use supplied rubber grommet in roof for sealing/ protection of wires. It is recommended that silicone be placed around grommet to ensure roof sealing.

⚠ WARNING

Route wires only in locations that are not subjected to potential wear. Make sure to avoid routing wires in the deployment area of your air bag. Refer to your vehicle's owner's manual for airbag deployment zone.

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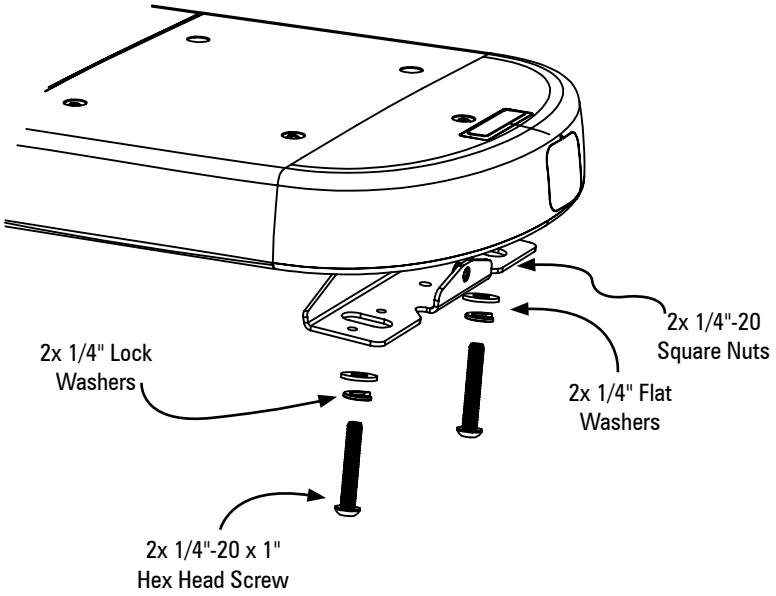
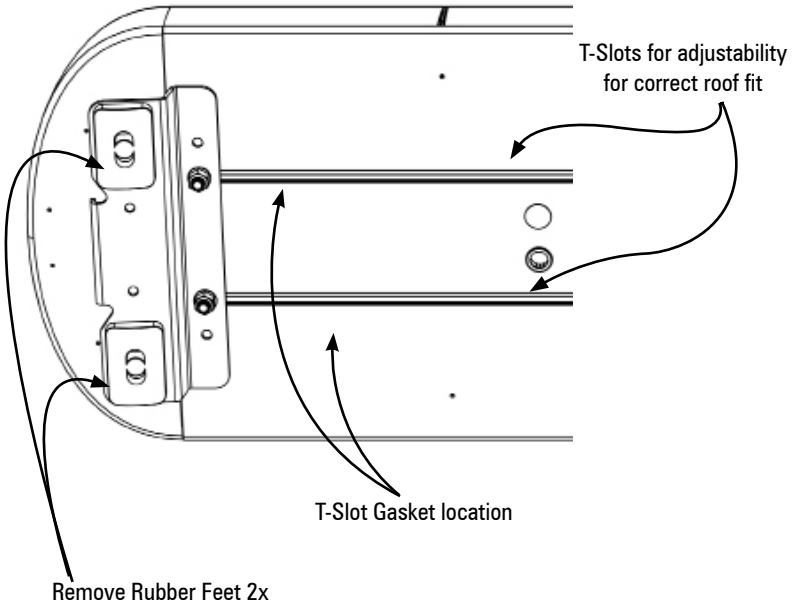
Extra Low & Permanent Mounting Foot





FIXED HEIGHT BRACKETS PERMANENT MOUNTING

1. Locate the permanent hardware kit that is included.
2. Slide 5/16 carriage bolts into extrusion t-slots. Place mounting foot onto slots and tighten foot with washer and nut, ensuring the use of either a lock washer or lock nut.
3. Temporarily place lightbar in its correct position on the roof of the vehicle. The bar should be positioned about the center of the vehicle B pillar. Determine the appropriate position of the mounting feet brackets on the lightbar to the vehicle roof and reposition mounting feet as needed.
4. Remove the rubber feet.
5. Measure and/or mark the 2 holes in roof to match mounting feet locations. See warning messages below. Drill holes for ¼" bolts (F drill).
6. Install hardware as shown in image to the left.
7. Route cables into vehicle. Use supplied rubber grommet in roof for sealing/ protection of wires. It is recommended that silicone be placed around grommet to ensure roof sealing.

⚠ WARNING

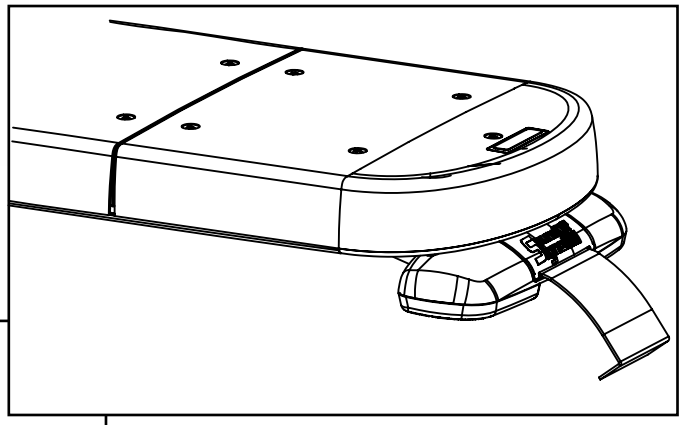
Care must be taken when drilling through the roof of the vehicle not to drill into any existing wiring and not to drill through the headliner or support members of the vehicle. Check both sides of the mounting service prior to drilling. De-burr any holes and remove any metal shards or remnants. Install grommets into all wire passage holes.

⚠ WARNING

Route wires only in locations that are not subjected to potential wear. Make sure to avoid routing wires in the deployment area of your air bag. Refer to your vehicle's owner's manual for airbag deployment zone.

#EMG2000 MAGNUM™ LED DIRECT CONNECT Lightbar

Premium Fixed Height Foot



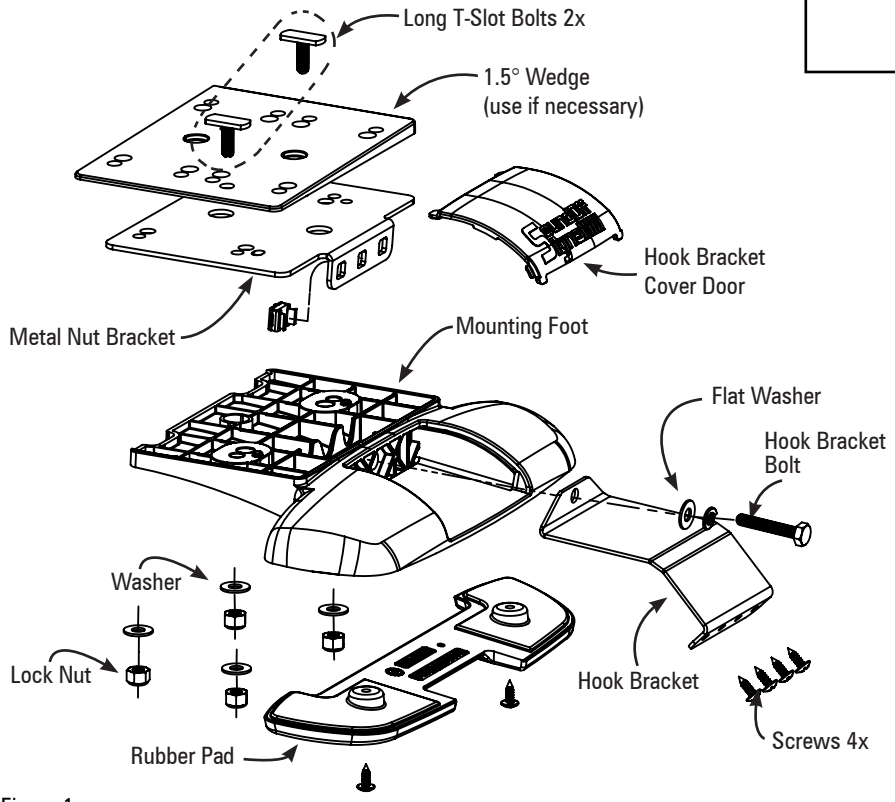


Figure 1.

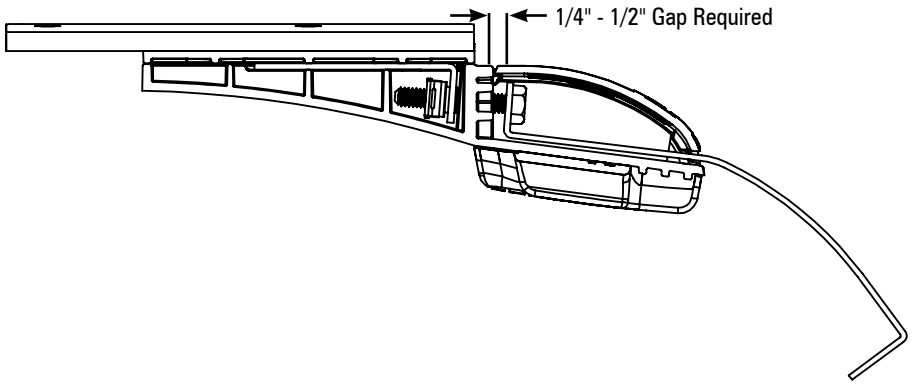


Figure 2.

FIXED HEIGHT BRACKETS AND HOOK MOUNTING (NON-PURSUIT)

1. Keeping the lightbar level with the road, attach Mounting Feet to the roof of the vehicle using the 2 supplied T-Slot bolts. If the lightbar needs to be leveled, a 1.5° wedge has been provided.
2. Place lightbar centered on the roof, and hold brackets up to the lightbar. A 1/4" to 1/2" gap should be between the hook bracket and front wall of the mounting foot prior to putting any tension on the hook bracket bolt (See Figure 3). Adjust the mounting foot position to accomodate for this gap.
3. Tighten 2 lock nuts to secure mounting foot to lightbar with max torque between 80-90in/lbs. DO NOT OVERTIGHTEN!
4. Using holes in the hook bracket as a template, drill 4 holes in the roof using the appropriate size drill. Secure hook bracket to roof with 4 screws on each side.
5. Tighten the 2 hook bracket bolts. Due to different vehicle construction and mounting locations, the torque levels for connecting hooks to the lightbar foot may be different based on the vehicle. Minimum requirement for torque should be 10 IN/LB, with a maximum level of 45 IN/LB. Deflection of the lightbar and/or the roof of the vehicle may occur when torqueing the bolts connecting the hook to the lightbar foot. When installing the bolts connecting the hook to the lightbar foot, monitor both the lightbar and roof of the vehicle. Any deflection should be kept at a minimum to avoid damage to the lightbar or vehicle. Tighten to ensure there is no movement of the lightbar or foot by ensuring there is no movement either side to side, or front to rear after the torque has been done. The lightbar must be securely mounted to the vehicle for safe operation. As always, it is recommended to check the integrity of mounted lightbars on a daily basis to ensure secure attachment to the vehicle for continued safe operation.
6. Install the cover door over the hook bracket bolt to finish the assembly. Place tab of one side into place and then push the second tab into place with a flat-head screw driver.

⚠ WARNING

Route wires only in locations that are not subjected to potential wear. Make sure to avoid routing wires in the deployment area of your air bag. Refer to your vehicle's owner's manual for airbag deployment zone.

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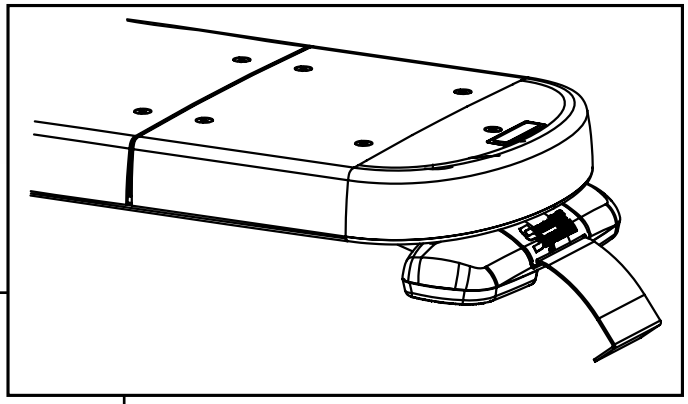
Premium Fixed Height Foot



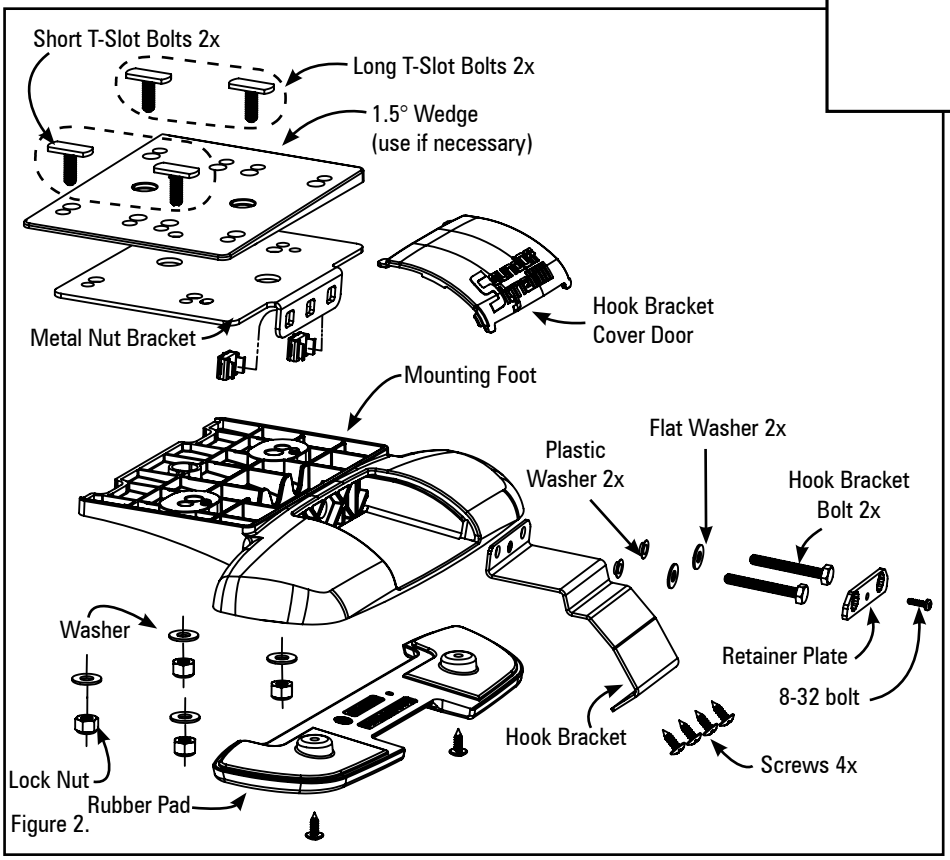


Figure 2.

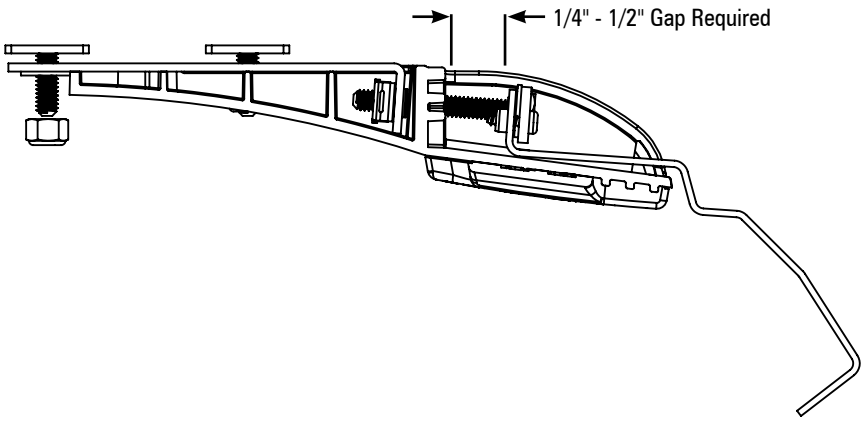


Figure 3.

FIXED HEIGHT BRACKETS AND HOOK MOUNTING (PURSUIT)

1. Attach the supplied screws to the mounting foot to secure the rubber pad as shown in Figure 3. Be sure the torque does not exceed 10 IN-LB.
2. Insert the 2 plastic washers inside holes of the provided hook brackets.
3. Keeping the lightbar level to the road, attach mounting feet to the roof of the vehicle using the 4 supplied T-Slot bolts.
4. Place lightbar centered on the roof, and hold brackets up to the lightbar. A 1/4" to 1/2" gap should be between the hook bracket and front wall of the mounting foot prior to putting any tension on the hook bracket bolt (See Figure 4). Adjust the mounting foot position to accomodate for this gap.
5. Tighten 4 lock nuts to secure mounting foot to lightbar with max torque between 80-90in/lbs. DO NOT OVERTIGHTEN!
6. Using the holes in the hook bracket as a template, drill 4 holes in the roof using the appropriate size drill. Secure hook bracket to roof with 4 screws on each side.
7. Tighten the 4 hook bracket bolts. Due to different vehicle construction and mounting locations, the torque levels for connecting hooks to the lightbar foot may be different based on the vehicle. Minimum requirement for torque should be 10 IN/LB, with a maximum level of 45 IN/LB. Deflection of the lightbar and/or the roof of the vehicle may occur when torqueing the bolts connecting the hook to the lightbar foot. When installing the bolts connecting the hook to the lightbar foot, monitor both the lightbar and roof of the vehicle. Any deflection should be kept at a minimum to avoid damage to the lightbar or vehicle. Tighten to ensure there is no movement of the lightbar or foot by ensuring there is no movement either side to side, or front to rear after the torque has been done. The lightbar must be securely mounted to the vehicle for safe operation. As always, it is recommended to check the integrity of mounted lightbars on a daily basis to ensure secure attachment to the vehicle for continued safe operation.
8. Insert the retainer plates over the 2 bolts on each of the hook kit brackets. Screw in the retainer plate to the hook kit bracket using the 8-32 bolts.
9. Install the cover door over the hook bracket bolt to finish the assembly. Place tab of one side into place and then push the second tab into place with a flat-head screw driver.

⚠ WARNING

Route wires only in locations that are not subjected to potential wear. Make sure to avoid routing wires in the deployment area of your air bag. Refer to your vehicle's owner's manual for airbag deployment zone.

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ELECTRICAL INSTALLATION

Featured Highlights:

Standby Mode:
If there is no +Vdc input to the 12 conductor wire harness for 180 seconds, the lightbar will go into a "Standy" mode. The standby mode is a low power mode that is used to extend the life of your battery. The lightbar will awaken from the Standby mode if any input (except pattern select) is connected to +Vdc.

⚠ WARNING

ALL CUSTOMER SUPPLIED POWER WIRES CONNECTING TO THE POSITIVE (+) OR NEGATIVE (-) BATTERY TERMINAL OR LOCAL CHASIS GROUND (-) MUST BE SIZED TO SUPPLY AT LEAST 125% OF THE MAXIMUM CURRENT AND PROPERLY FUSED AT THE POWER SOURCE WITH APPROPIATELY RATED FUSE.

Power Cable:
1. Route lightbar power cables as close to vehicles power source (battery) as possible.
2. Install a 40Amp Fuse (customer supplied) to the end of the RED wire of the Lightbar Power Cable.
    a. Remove the fuse before connecting any wires to the battery.
    b. DO NOT USE CIRCUIT BREAKER OR FUSIBLE LINK.
3. Connect the other end of the Fuse to the Positive (+) terminal of the battery.
    a. DO NOT use any more than 2ft of wire between the battery terminal and the fuse. Ensure the wire is protected and secured from being cut into: this non-fused wire
4. Connect the BLACK wire to the factory chassis ground right next to the battery.

Initial Power up Test:
1. Insert 40 Amp Fuse (not included) into Fuse Holder (as stated above).
2. Connect any discrete wire (except pattern select) to fused power.
3. The lightbar flashes according to the wire function.

Speaker Wire:
1. Connect wires to amplifier, if applicable.

Pattern Selection
a. First review the Pattern Table on pg. 8 before attempting pattern selection to familiarize yourself with patterns available for the different Functions.
b. Select the input Function(s) on wire harness and apply +12V to activate.
    i. To change patterns on more than one input function, simply connect desired input functions together. Before doing this, make sure all the inputs are using the same pattern table and are on the same pattern to make pattern identification easier.
c. Momentarily apply +12V to the pattern select input on wire harness to advance to the next pattern.
    i. Once the last pattern is reached, the next pattern advance will cycle back to pattern #1.
d. Once the desired pattern is reached, simply disconnect the Input Function(s) and proceed to the next Input Function(s) to be configured.
    i. The pattern is saved in non-volatile memory every time it is advanced.

Auxiliary Output - Steady Burn
The lightbar is equipped with one 3.5A auxiliary output. Connect +10-30Vdc or an external flasher output to Aux_In using a .250" female spade terminal or apply power to the Pink wire for activation. Connect ground and power of Auxiliary Light to GND and AUX_OUT using .250" female spades.

⚠ WARNING

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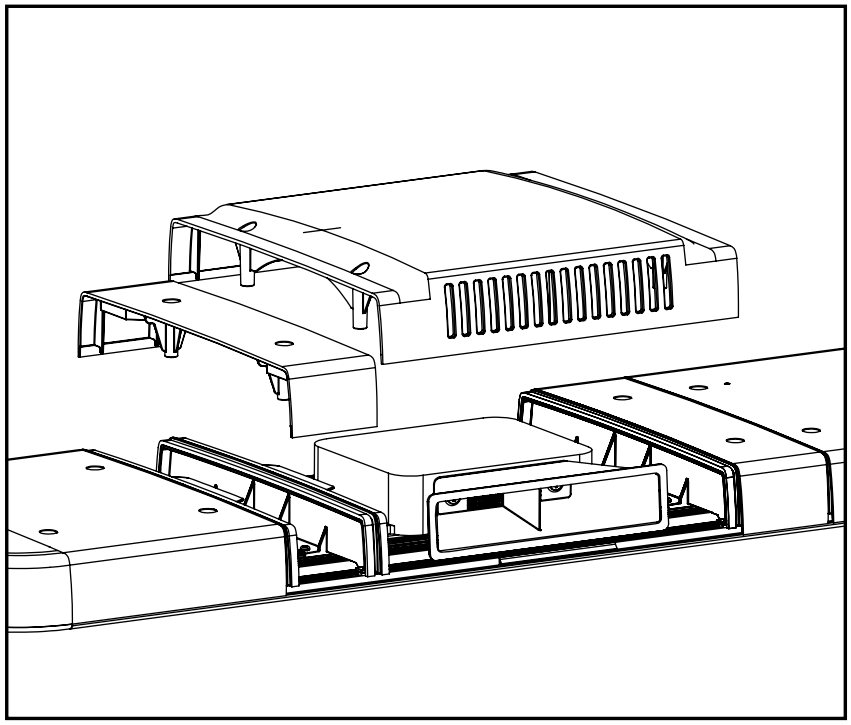
IMPORTANT

WHEN PASSING CABLES THROUGH FIREWALL OR OTHER SHEETMETAL, INSERT GROMMET TO PROTECT THE CABLE!

#EMG2000 MAGNUM™ LED DIRECT CONNECT Lightbar

MAGNUM LIGHTBAR SPEAKER
(CONFIGURED OPTION)



TECHNICAL SPECIFICATIONS FOR SPEAKER	
Power Rating	100 Watts RMS
Impedance	8-11 Ohms Nominal
Frequency Response	200-5000 Hz +/-10dB Nominal

Introduction:

The optional siren loudspeaker is used for high powered transmission of electronic siren and voice communications in vehicular applications.

Qualifications:

To properly install a siren, you must have a good understanding of automotive systems, electronics, and procedures.

The siren/speaker system is intended for use by authorized personnel only. The user's responsibility to ensure they understand and operate the emergency warning devices in compliance with all applicable city, state, and federal laws and regulations and have a throrough knowledge of state and federal UNIFORM TRAFFIC CODES.

SoundOff Signal assumes no liability for any loss resulting in the use of this warning device.

During Installation:

Do not route the speaker wires where they may interfere with the operations or deployment of the air bag or its sensors. Equipment mounted near the air bag deployment area will damage or reduce the effectiveness of the air bag. The user/ installer assumes full responsibiity to determine proper mounitng location, based on providing safety for passengers inside the vehicle.

After Installation:

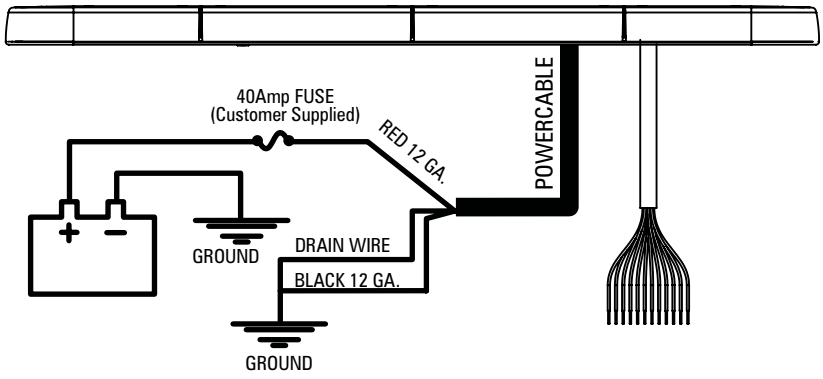
1. Test the siren and light system to ensure that everything is operating properly.
2. Test all vehicle functions to ensure that installation has not affected vehicle operation or changed vehicle safety function.
3. Store these instructions in a safe place and refer to them when performing maintenance and/or reinstallation of product.

⚠ WARNING

Sirens produce loud sounds that may damage hearing:
- Roll up windows.
- Wear hearing protection.
- Use only for emergency response.
- Avoid exposure to siren sound outside of vehicle.

#EMG2000 MAGNUM™ LED DIRECT CONNECT Lightbar

DIRECT CONNECT FLASH PATTERNS AND WIRE FUNCTIONS



#	Pattern Name	Sequence	fpm*	fps**
1	Quint	Alternating	70	1.18
2	Warp	Alternating	350	5.88
3	Inter-Cycle Flash	Alternating	-	-
4	Quad Flash	Alternating	80	1.35
5	RoadRunner	Alternating	115	1.92
6	RoadRunner	Simultaneous	115	1.92
7	Slow Runner	Alternating	70	1.16
8	Slow Runner	Simultaneous	70	1.16
9	Q-Switch	Variable	-	-
10	Single, Steady Burn	Steady Burn	115	1.92
11	Quad, Steady Burn	Steady Burn	80	1.35
12	Warp, Steady Burn	Steady Burn	350	5.88
13	Nothing, Steady Burn	Steady Burn	-	-
14	E-Single Flash	Alternating	125	2.08
15	E-Double Flash	Alternating	125	2.08
16	E-Single Flash	Simultaneous	125	2.08
17	E-Double Flash	Simultaneous	125	2.08
18	Warp 1,2,3,4	Variable	-	-
19	Warp 2,3,1	Variable	-	-
20	Warp 3,2,1	Variable	-	-
21	Steady Burn	Steady Burn	-	-

*fpm=Flashes per Minute
**fps=Flashes per Second

Wire Color	Standard Functions
Pink	Work Lights/Take Downs
Orange	Alley Driver Steady Burn
Violet	Left Turn
Red	Stop
Tan	Corners
Black	Low Power
White	Pattern Select
Brown	Alley Passenger Steady Burn
Gray	Inboards 2, 3
Blue	Inboards 1
Green	Right Turn
Yellow	Tail

LED Work Light/Take down Flash Pattern				
1	Road Runner	Alternating	115	1.92
2	PowerPulse	Alternating	180	3.00
3	Q-Switch	Variable	-	-
4	ETM	Simultaneous	214	3.57
5	Steady Burn	Steady Burn	-	-

Note: Alley Driver & Passenger are Steady Burn only

#EMG2000 MAGNUM™ LED DIRECT CONNECT Lightbar

LIGHTBAR CONTROLLER AND CONNECTOR INSTRUCTIONS

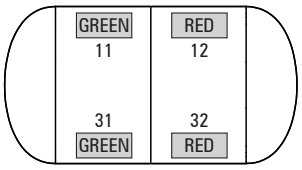
Input Wire	Input Group Control	Light Output Groups
Gray	Rear Inboard 3	Blue/White
	Front Inboard 2	Green
	Front Inboard 3	Blue
	Rear Inboard 2	Green/White
Blue	Front Inboard 1	Red, Yellow
	Rear Inboard 1	Red/Yellow/White
Pink	Take Down	White, Orange

* Front inboards have DOUBLE colored wires

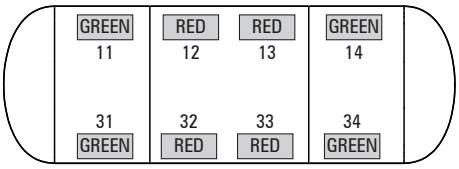
SWITCH SETTINGS						
SW1	SW2	SW3	SW4	SW5	SW6	PURPOSE
OFF	OFF	OFF				8 WIRE ARROW CONTROL
OFF	OFF	ON				NO ARROW (DEFAULT)
OFF	ON	OFF				N/A
OFF	ON	ON				4 MOD ARROW
ON	OFF	OFF				5 MOD ARROW
ON	OFF	ON				6 MOD ARROW
ON	ON	OFF				7 MOD ARROW
ON	ON	ON				8 MOD ARROW
			ON			PASSENGER-SIDE EXIT
			OFF			DRIVER-SIDE EXIT
				ON		SPLIT-COLOR ARROW MODULES
				OFF		FULL-COLOR ARROW MODULE (DEFAULT)
					ON	ENABLE WARNING FLASH ON BLUE/WHITE OUTPUT
					OFF	DISABLE WARNING FLASH ON BLUE/WHITE OUTPUT FOR STT FUNCTION

*not available on Direct Connect Model

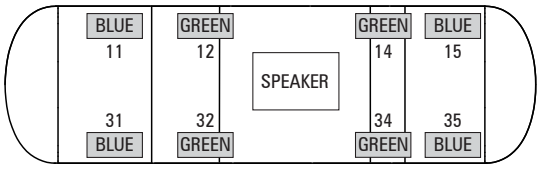
#EMG2000 MAGNUM™ LED DIRECT CONNECT Lightbar



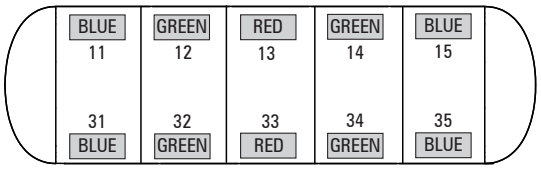
23" BAR



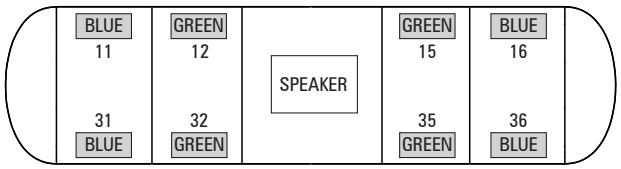
35.5" BAR



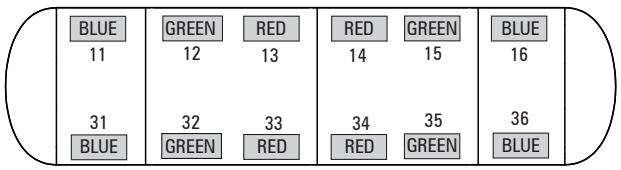
41.8" BAR*



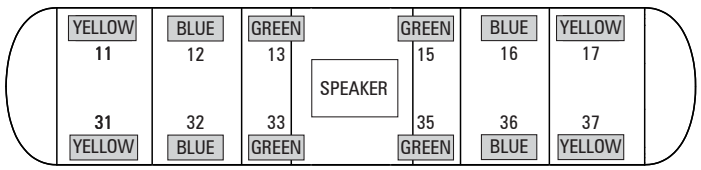
41.8" BAR



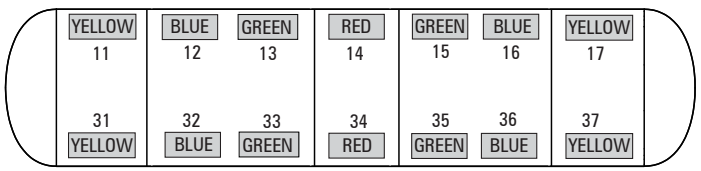
48" BAR*



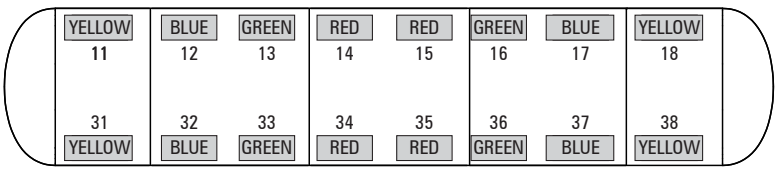
48" BAR



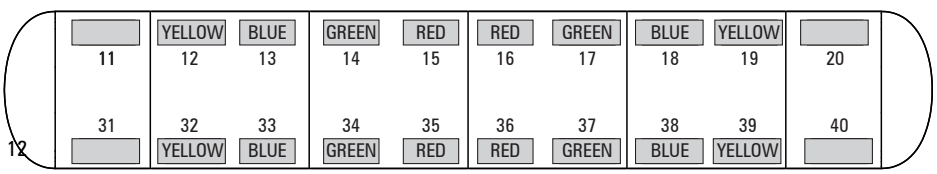
54.3" BAR*



54.3" BAR



60.5" BAR



73.0" BAR

LIGHT MODULE WIRE HARNESS LOCATIONS

REPLACEMENT OF INBOARD AND CORNER MODULES:

1. Disconnect main power.
2. Remove top cover by removing screws.
3. Locate module and remove mounting screws. Pull or slide module from lightbar.
4. Remove connector from rear of module by carefully pulling connector body from back of module.
5. Push module connector into replacement module ensuring locking latch is seated properly or connector is fully seated.
6. Replace module and hardware that fasten module to base extrusion.
7. Restore power to bar and test new module to ensure functionality.
8. Replace top cover of bar with screws removed in step 2.

HARNESS REFERENCE:

- Colors shown on left indicate wire colors on wire harness.
- Inboard modules: Color/color (eg. red/red) wires go to front inboard modules, color/white (eg red/white) go to back inboard modules.
- Corner modules: Orange/black wires go to front, red/black wires go to back.
- Split center modules: Follow previous front/back color locations, and connect red wires from each side to the split board "IN" connectors. The "OUT" / "TO MODULE" connector goes to the short adapter wire harness and then the module.
-Takedown modules: Black/red wires with white or black label, NOT SHOWN.
-Alley modules: Black/red wires with blue label, NOT SHOWN.

*WITH SPEAKER OPTION

MAGNUM TROUBLESHOOTING

NORMAL OPERATION

Under normal operation the lightbar will Flash when a combination of the 12 input wires (except pattern select) are connected to +Vdc.

The lightbar is OFF and in a low power Standby Mode 180 seconds after all inputs are removed from +Vdc.

NO OPERATION

No Power; Check Red main Power feed has a solid connection with +Vdc present on the wire.

Check Black main ground feed has a solid and low resistance connection to ground.

Check small Ground loop(s) between the electronic control board (ECB) and aluminum chassis have a low resistance connection to ground.

Verify both connections at the battery, ground location and at the ECB in the lightbar, a minimum of +10Vdc is required.

Check Fuses FH1-FH4 (10A) on the ECB in the lightbar are not blown. Each Fuse provides power to one lighbar group (pg. 9).

Verify a minimum of +10Vdc is present on an input wire and 12pin wire harness is plugged into the ECB in the lightbar.

Check Red main Power feed has not exceeded voltage cutoff threshold of +32Vdc.

NO OR INCORRECT FRONT/REAR INBOARD WARNING OR CORNER WARNING LIGHTS

No Rear Inboard Warning Lights; Verify Dip Switch setting for SW1, SW2, SW3 on the ECB in the lightbar are set to OFF, OFF, ON respectively. Cycle main power after changing any settings.

No Rear Warning on Blue Outputs Only; Verify Dip Switch setting for SW6 on the ECB in the lightbar is set to ON. Cycle main power after changing any settings.

No Inboard or Corner Warning Lights; Verify +Vdc is present on Blue, Gray or Tan wires as applicable.

Modules(s) stuck on or off; Check module connector is securely plugged in and colored power wire is not shorted to ground or +Vdc.

Check module brackets are securely screwed down onto the aluminum chassis as this is the ground return.

NO WORKLIGHTS, TAKE DOWNS, AUXILIARY OR ALLEY LIGHTS

No Lights; Verify +Vdc is present on Pink, Orange, Brown, or Aux in wires/spade terminal as applicable.

Module(s) stuck on or off; Check module connector is securely plugged in and colored power wire is not shorted to ground or +Vdc.

Check module Black wire has a low resistance connection to ground.

INCORRECT OR NO STT

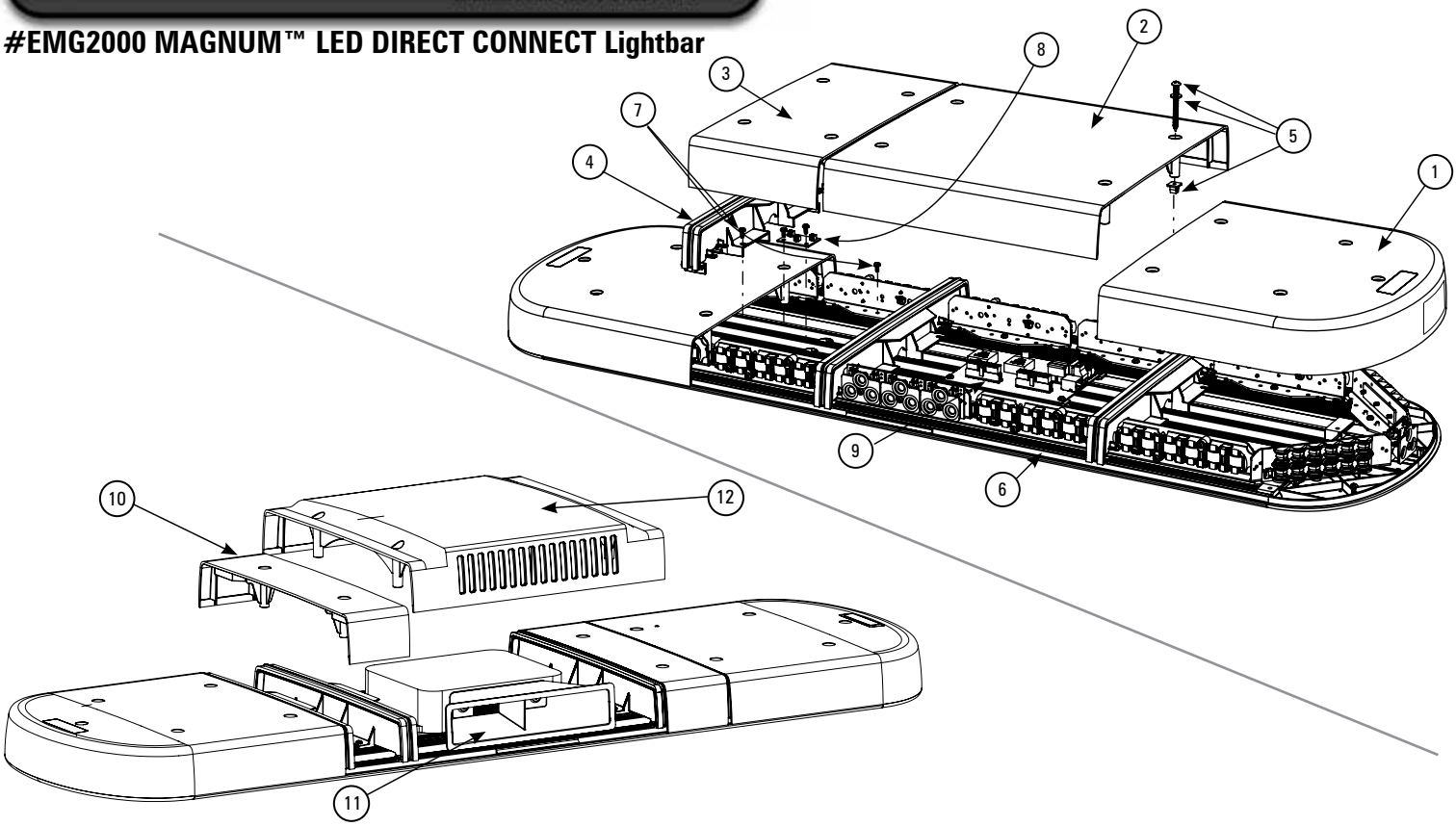
Warning overrides STT; Verify Dip Switch setting for SW6 on the ECB in the lightbar is set to OFF. Cycle main power after changing any settings.

No or incorrect STT Lights; Verify +Vdc is present on Violet, Red, Green and Yellow as applicable.

Module(s) stuck on or off; Check module connector is securely plugged in and colored power wire is not shorted to ground or +Vdc.

Check module brackets are securely screwed down onto the aluminum chassis as this is the ground return.

#EMG2000 MAGNUM™ LED DIRECT CONNECT Lightbar



REPLACEMENT PARTS & ACCESSORIES

ITEM #	PART#	DESCRIPTION
	PEMG2K00	EXTRA LOW MOUNTING FOOT KIT
	PESF1K00	LOW PROFILE MOUNTING FOOT - EXT.
	PEMG2K01	PREMIUM FIXED HEIGHT FOOT KIT - STANDARD PAD
	PEMG2K02	PREMIUM FIXED HEIGHT FOOT KIT - EXT
	PENG2K03	PREMIUM FIXED HEIGHT FOOT KIT - THICK PAD
	PETLK06	HEADACHE RACK MOUNT FOOT
	PESF1HK16	FLAT MOUNT HARDWARE KIT
	PETLF(xx)	LOW PROFILE HOOK KITS
	PETLF00	PERMANENT MOUNT HARDWARE KIT
	PETLR(xx)	ROOF RACK HOOK KITS
	PEPX3GA01	BASE T-SLOT GASKET ROUND
9	PEMG2E01	MAINBOARD ASSEMBLY DIRECT CONNECT
1	PEMG2DECL(x)	ENDCAP LEXAN DOME (COLOR)
1	PEMG2DECX(x)	ENDCAP XYLEX DOME (COLOR)
3	PEMG2DMSL(x)	INNER DOME LEXAN 6" (COLOR)
3	PEMG2DMSX(x)	INNER DOME XYLEX 6" (COLOR)
2	PEMG2DMLL(x)	INNER DOME LEXAN 12" (COLOR)
2	PEMG2DMLX(x)	INNER DOME XYLEX 12" (COLOR)
10	PEMG2DMML(x)	INNER DOME LEXAN 3" (COLOR)
	PEPX3HNDC1	DIRECT CONNECT INPUT HARNESS

ITEM #	PART#	DESCRIPTION
4	PEMG2DVDLC	DIVIDER (LEXAN/CLEAR)
4	PEMG2DVDXC	DIVIDER (XYLEX/CLEAR)
*	PEMG2AR103W	ALLEY LIGHT MODULE
*	PEMG2HR103W	LED TAKEDOWN/WORK LIGHT (SINGLE)
*	PEMG2HR106W	LED TAKEDOWN/WORK LIGHT (DOUBLE)
*	PEMG2HR109W	LED TAKEDOWN/WORK LIGHT (TRIPLE)
	PEMG2LM103(x)	3" 3 LED INBOARD MODULE (COLOR)
*	PEMG2LR103(x)	6" 3 LED INBOARD MODULE (COLOR)
*	PEMG2LR106(x)	6 LED INBOARD MODULE (COLOR) †
*	PEMG2CR106(x)	6 LED CORNER MODULE (COLOR)
*	PEMG2CC112(x)	12 LED CORNER MODULE (COLOR)
*	PEMG2CE112A	12 LED CORNER MODULE ECE AMBER
5	PEMG2HDDR	SINGLE DOME REPLACEMENT HARDWARE KIT
6	PEMG2GABS	BASE GASKET (SHORT 10 FEET)
6	PEMG2GABL	BASE GASKET (LONG 14 FEET)
7	PEMG2HDDM	SINGLE DIVIDER/MODULE SCREW KIT
	PEMG2HNMS	MAIN WIRE HARNESS SHORT
	PEMG2HNML	MAIN WIRE HARNESS LONG
11	PEMG2SPKR1	SPEAKER, FLAT FOR MAGNUM LIGHTBAR
12	PEMG2DSPKR	EMG2000 SPEAKER DOME

* SEE PAGE 2 FOR ILLUSTRATIONS; † PART NUMBER FOR BOTH SOLID AND SPLIT

#EMG2000 MAGNUM™ LED DIRECT CONNECT Lightbar

WARRANTY & RETURN GOODS PROCEDURE

CLEANING & CARE OF YOUR LIGHTBAR:

Keeping the lenses clean and scratch free will optimize the performance of the lightbar. The exterior of the lightbar including lenses should be cleaned with mild soapy water and a soft cotton cloth to remove dirt, grime and insects. Never use window cleaners or harsh chemicals on the lenses; this may cause failure of the lenses or reduce clarity resulting in the reduction of light output.

MOUNTING INTEGRITY:

A review of bolt/hardware/mounting bracket integrity should be performed at the beginning and end of each shift.

WARNING MESSAGES - PLEASE READ:

WARNING - DRILLING ANY HOLES INTO THE LIGHTBAR IS NOT RECOMMENDED! THE RISK OF DAMAGING INTERNAL COMPONENTS AND THE RESULTING FAILURE OF THE LIGHTBAR WILL VOID ANY WARRANTY OF THIS PRODUCT.

WARNING - CARE MUST BE TAKEN WHEN DRILLING THROUGH THE ROOF OF THE VEHICLE NOT TO DRILL INTO ANY EXISTING WIRING AND NOT TO DRILL THROUGH THE HEADLINER OR SUPPORT MEMBERS OF THE VEHICLE. CHECK BOTH SIDES OF THE MOUNTING SERVICE PRIOR TO DRILLING. DE-BURR ANY HOLES AND REMOVE ANY METAL SHARDS OR REMNANTS. INSTALL GROMMETS INTO ALL WIRE PASSAGE HOLES.

WARNING - ROUTE WIRES ONLY IN LOCATIONS THAT ARE NOT SUBJECTED TO POTENTIAL WEAR. MAKE SURE TO AVOID ROUTING WIRES IN THE DEPLOYMENT AREA OF YOUR AIR BAG. REFER TO YOUR VEHICLE OWNER'S MANUAL FOR AIR BAG DEPLOYMENT ZONES.

WARNING - ALL CUSTOMER SUPPLIED POWER WIRES CONNECTING TO THE POSITIVE (+) OR NEGATIVE (-) BATTERY TERMINAL OR LOCAL CHASSIS GROUND (-) MUST BE SIZED TO SUPPLY AT LEAST 125% OF THE MAXIMUM CURRENT AND PROPERLY FUSED AT THE POWER SOURCE WITH APPROPRIATELY RATED FUSE.

IMPORTANT: When passing cables through fire wall or other sheet metal, insert grommet to protect the cable!

WARRANTY RETURN PROCESS:

Please contact your SoundOff Signal Sales Representative, Customer Services staff or our Technical Department (800.338.7337) for a RMA #, Return Merchandise Authorization Number.

The following information is required for issuance of the RMA #:

- Reason for returning the product*
- Address where replacement product is to be shipped*
- Telephone number where you may be reached*
- SoundOff Signal invoice number on which product was purchased**
- SoundOff Signal part number and serial number**
- E-mail address where RMA # should be e-mailed**
- Fax number where RMA # should be faxed**

* RMA # will not be given without this information.
** If available, please provide this information.

SoundOff Signal will NOT accept returns without an RMA #. Each RMA # is good for only one (1) return and will expire (30) days after the date it was issued. Products must be shipped back to SoundOff Signal and the RMA # clearly marked on the outside of the package near the shipping label. Please use the following address on your shipping label:

SoundOff Signal
ATTN: RMA # / Technical Services
3900 Central Parkway
Hudsonville, MI 49426

WARRANTY EXCLUSIONS:

Shipping & Handling, labor and service fees are non-refundable. SoundOff Signal is not liable for any damage due to installation or personal injury as a result of using SoundOff Signal product.

WARRANTY FORFEITURE:

Warranty will not be granted if the Warranty Return Policy & Procedure rules are not strictly followed. Physical damage resulting from customer abuse will void warranty. Warranty will also be voided if any SoundOff Signal and/or manufacturer serial tags, product stickers, seals, or the like, are removed, altered or tampered with. Returned product that is damaged by shipping via the RMA # procedure is not the responsibility of SoundOff Signal.

Document effective date on cover and below supersedes previously dated policies and statements.

There are no other warranties, expressed or implied, including, but not limited to, any implied merchantability or fitness for a particular use. SoundOff Signal reserves the right to modify this warranty statement at any time; or to discontinue, modify, or upgrade any products of its manufacture with design improvements without prior notice.