

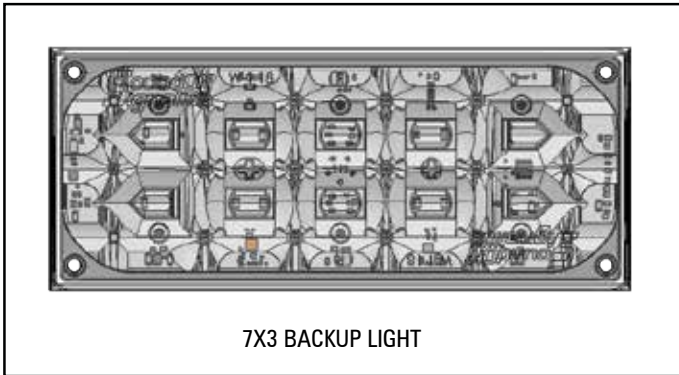


with Clear Duty® Technology

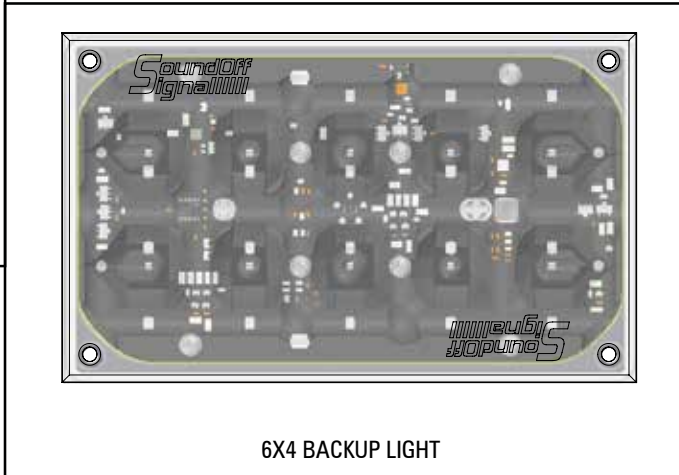
BACKUP LIGHT

EMPSC07M(x)-(x) - Quick Mount, Screw Mount, & Stud Mount

EMPSB0(xxx)-(x) - Quick Mount, Screw Mount, & Stud Mount



7X3 BACKUP LIGHT



6X4 BACKUP LIGHT

⚠ 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.
- 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.

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/tech-services/returns/.

If you have questions regarding this product, contact **Technical Services**, Monday - Friday, 8 a.m. to 5 p.m. ET at **1.800.338.7337** (press #4).

Questions or comments that do not require immediate attention may be emailed to techservices@soundoffsignal.com.

**MPOWER® BACKUP LIGHT
TECHNICAL SPECIFICATIONS**

Input Voltage:	9-32Vdc			
BACKUP LIGHT WITH WARNING CURRENT CONSUMPTION (Amps)				
	12.8Vdc		25.6Vdc	
	Peak	Average	Peak	Average
Red	1.45	0.73	0.73	0.36
Amber, Blue, Green or White	1.66	0.83	0.83	0.42

BACKUP LIGHT CURRENT CONSUMPTION (Amps)		
	12.8Vdc	25.6Vdc
	Peak	Peak
HIGH (SINGLE)	0.86	0.43
LOW (DUAL)	0.43	0.22

AFTER POWER IS ON, touching the **WHITE** wire to the ground will allow you to change various settings on the module. (refer to page 6).

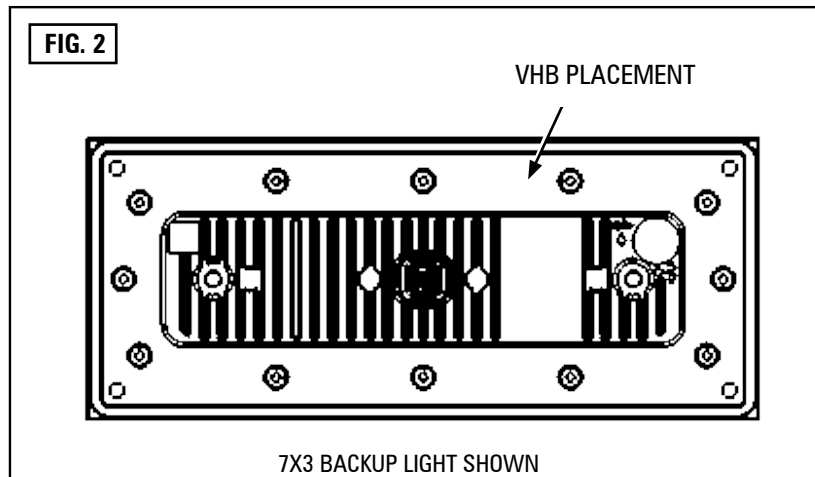
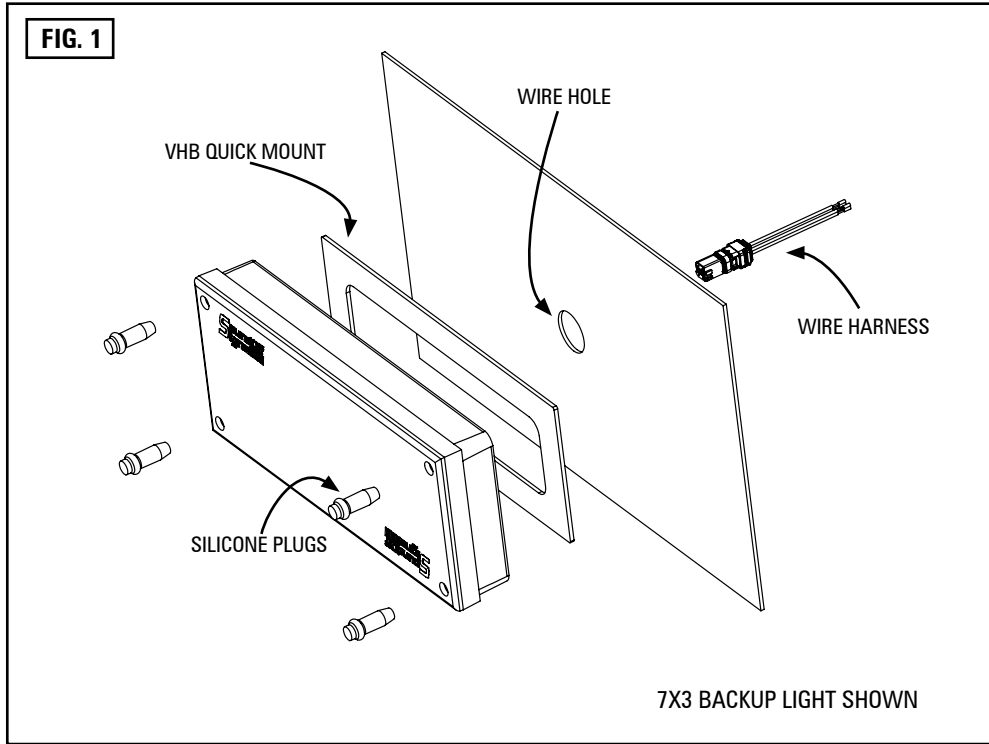
NOTE: It is recommended to use the Stud Mount option for any dynamic mount surfaces (i.e. Swinging Panels, Doors, and Tail Gates).

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

Protected by U.S. Patent 10,703,260 and Patents Pending
<https://soundoffsignal.com/legal/patent-notification/>



1.800.338.7337 / www.soundoffsignal.com



QUICK MOUNT INSTALLATION

1. Drill a 3/4" wire hole.
2. Insert (4) Silicone Plugs into Light to Seal Screw Holes. (Use a 50% Isopropyl alcohol, 50% deionized water mix for lubrication if necessary)

Caution: Petroleum/Silicone based lubricants will cause the silicone lens to discolor.

3. Prep the back of the light and vehicle mount surfaces with 50% deionized water, 50% isopropyl alcohol wipe, and allow to dry.
4. Adhere VHB quick mount to the back of the light and press down firmly for 15 seconds on full surface. See Fig. 2
5. Pull the wire harness through the vehicle wire hole and plug into the back of the light.
6. Lightly place the light against vehicle mount surface and check that the alignment is satisfactory. Once alignment is correct press firmly against light for 15 seconds to set VHB quick mount.

NOTE: Bezel will not work with the Quick Mount option.

7X3 QUICK MOUNT PART NUMBERS

EMPSC07M4-(x)* - Backup Light with Warning, Quick Mount
 EMPSC07M4-W - Backup Light, Quick Mount

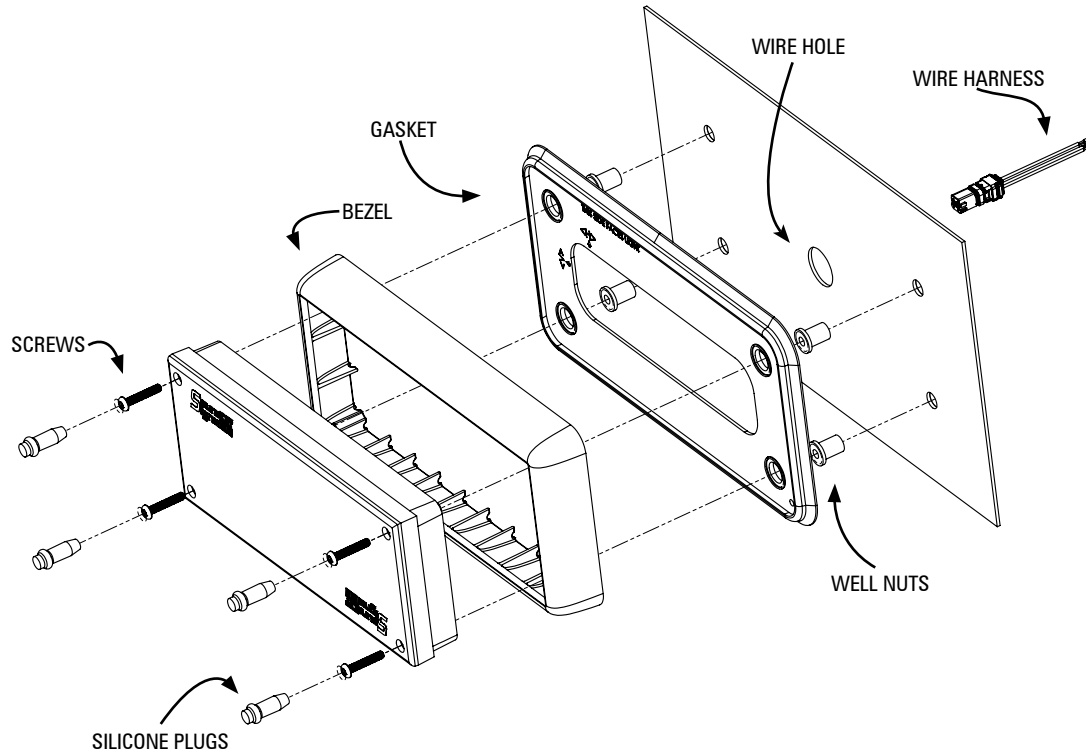
6X4 QUICK MOUNT PART NUMBERS

EMPSB0C93-(x)* - Backup Light with Warning, Quick Mount
 EMPSB0C92-W - Backup Light, Quick Mount

* (x) Refers to the color of the light.



with Clear Duty® Technology



7X3 BACKUP SCREW MOUNT LIGHT PICTURED



1.800.338.7337 / www.soundoffsignal.com

SCREW MOUNT INSTALLATION

1. Drill (4) 5/16" holes to mount light. Drill 3/4" wire hole. See Fig. 2
2. Insert the well nuts into the 4 drilled holes. Fully seat to mounting surface.
3. Align the gasket to the mounting surface.

NOTE: Horizontal and vertical orientations indicated on gasket for proper seal.

4. Place the bezel over gasket.
5. Pull the wire harness through the opening and plug into the back of the light.
6. Place the light into bezel, press firmly to make sure bezel and gasket are tight against mounting surface.
7. Secure the light to mounting surface using (4) supplied screws.

NOTE: Tighten until gasket is compressed. DO NOT over tighten and strip moly anchors.

8. Insert (4) Silicone Plugs into Light to Seal Screw Holes. (Use a 50% Isopropyl alcohol, 50% deionized water mix for lubrication if necessary)

Caution: Petroleum/Silicone based lubricants will cause the silicone lens to discolor.



DO NOT USE POWER TOOLS TO TIGHTEN

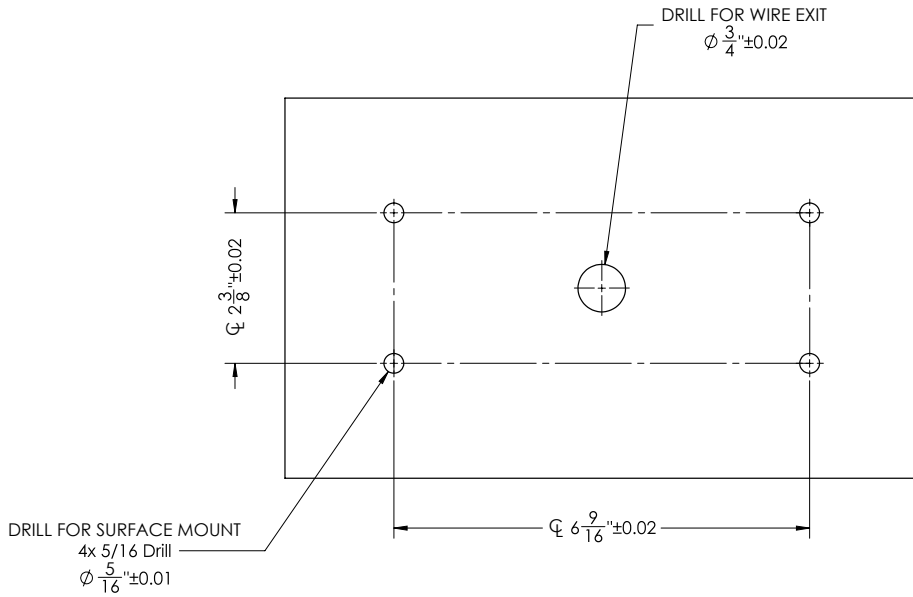
7X3 SCREW MOUNT PART NUMBERS

EMPSC07ME-(x) - Backup Light with Warning, Screw Mount*
EMPSC07MC-W - Backup Light, Screw Mount

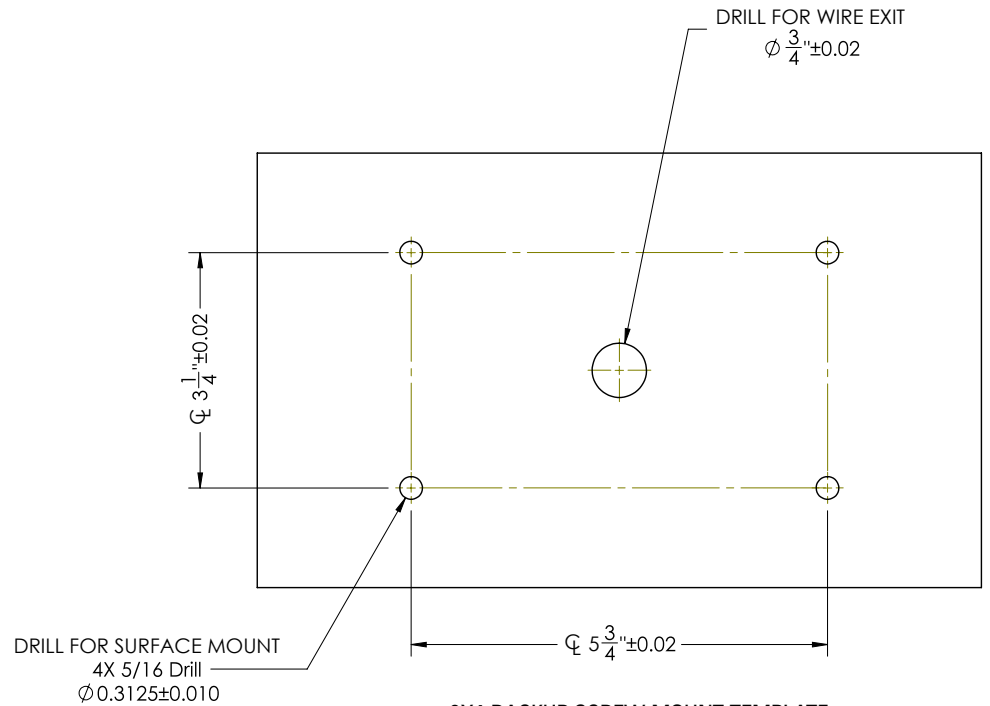
6X4 SCREW MOUNT PART NUMBERS

EMPSB0AWT-(x) - Backup Light with Warning, Screw Mount*
EMPSB0C96-W - Backup Light, Screw Mount

*(x) Refers to the color of the light.



7X3 BACKUP SCREW MOUNT TEMPLATE
NOT TO SCALE, FOR REFERENCE ONLY



6X4 BACKUP SCREW MOUNT TEMPLATE
NOT TO SCALE, FOR REFERENCE ONLY

NOTICE:

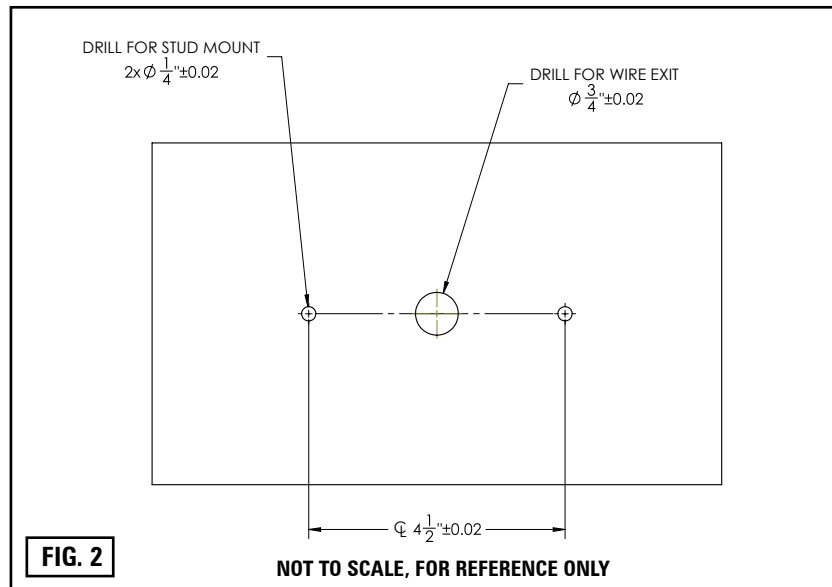
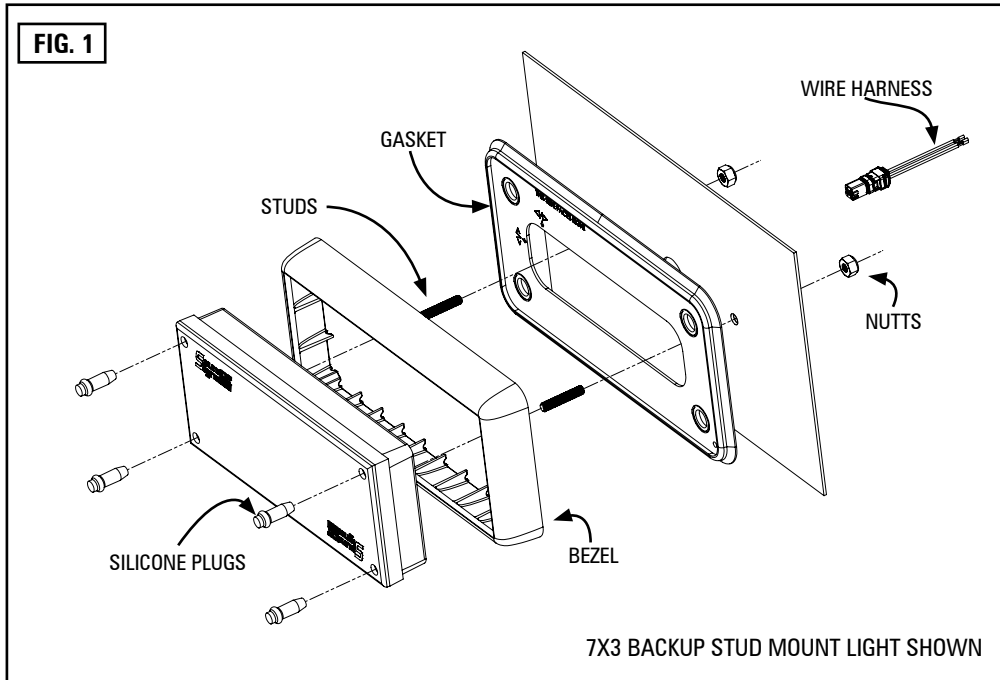
Installers and users must comply with all applicable federal, state and local laws regarding use and installation of warning devices.

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/tech-services/returns/.

If you have questions regarding this product, contact **Technical Services**, Monday - Friday, 8 a.m. to 5 p.m. ET at 1.800.338.7337 (press #4).

Questions or comments that do not require immediate attention may be emailed to techservices@soundoffsignal.com.



STUD MOUNT INSTALLATION

1. Drill (2) 1/4" holes to mount light. Drill 3/4" wire hole. See Fig. 2

2. Insert (4) Silicone Plugs into Light to Seal Screw Holes. (Use a 50% Isopropyl alcohol, 50% deionized water mix for lubrication if necessary)

Caution: Petroleum/Silicone based lubricants will cause the silicone lens to discolor.

3. Thread studs into the back of light.

4. Align the gasket to the mounting surface.

NOTE: Horizontal and vertical orientations indicated on gasket for proper seal.

5. Place the bezel over gasket.

6. Place the light into bezel, press firmly to make sure bezel and gasket are tight against mounting surface.

7. Secure the light to mounting surface using (2) supplied nuts.

NOTE: Tighten until gasket is compressed. DO NOT over tighten and strip casting threads.

8. Pull the wire harness through the opening and plug into the back of the light.



DO NOT USE POWER TOOLS TO TIGHTEN

7X3 STUD MOUNT PART NUMBERS

EMPSC07MN-(x) - Backup Light with Warning, Stud Mount*

EMPSC07MM-W - Backup Light, Stud Mount

6X4 STUD MOUNT PART NUMBERS

EMPSB0C9J-(x) - Backup Light with Warning, Stud Mount*

EMPSB0C9H-W - Backup Light, Stud Mount

* (x) Refers to the color of the light.

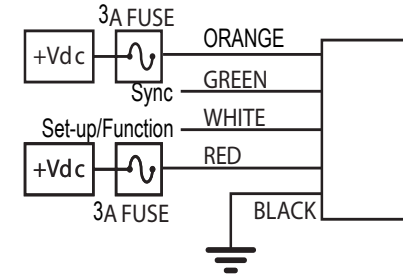
OVER-VOLTAGE PROTECTION

When an over-voltage condition is detected, the module will flash an over-voltage warning pattern of 50mS ON/950mS OFF to alert of the over-voltage condition and protect the electronics from damage due to heat/voltage.

THERMAL COMPENSATION PROTECTION

The LED module is designed to provide maximum power output while providing protection to the electronic components by reducing the output power at extreme temperatures.

FUNCTION TABLE				
WIRE			LIGHT	
RED	ORANGE	WHITE	BACKUP LIGHT WITH WARNING	BACKUP LIGHT ONLY
+9-32V			FLASH WARNING COLOR	STEADY BACKUP HIGH POWER
	+9-32V		STEADY BACKUP HIGH POWER	STEADY BACKUP LOW POWER
+9-32V	+9-32V		STEADY BACKUP HIGH POWER	STEADY BACKUP HIGH POWER
		+9-32V	NO OP	NO OP
+9-32V		+9-32V	FLASH WARNING COLOR LOW POWER	STEADY BACKUP HIGH POWER
	+9-32V	+9-32V	STEADY BACKUP LOW POWER	STEADY BACKUP LOW POWER
+9-32V	+9-32V	+9-32V	STEADY BACKUP LOW POWER	STEADY BACKUP HIGH POWER



Lights are chassis-grounded. If you need to ground-switch the light, you must isolate the lights metal backing, heatsink, studs and/or screws from the body of the vehicle or use a relay.

REMOTE NODE: FOR USE WITH bluePRINT® SYSTEM ONLY

Connecting the Green wire to ground before applying power to the Red or Orange wires will place the LED module into remote mode and the light output color will be directly controlled by the input wires as shown below.

For Cruise mode or Low Power control of the LED module, the signal to the control wires must be 100 +/- 2Hz using the duty cycle inputs listed below to produce the light output.

MPOWER® 7x3 BACKUP LIGHT ONLY REMOTE NODE FUNCTIONALITY		
RED	ORANGE	LIGHT
CRUISE		CRUISE BACKUP COLOR
FLASH		FLASH BACKUP COLOR
STEADY		STEADY BACKUP COLOR

MPOWER® 7x3 BACKUP LIGHT WITH WARNING REMOTE NODE FUNCTIONALITY		
RED	ORANGE	LIGHT
CRUISE	-	CRUISE WARNING COLOR
-	CRUISE	CRUISE BACKUP COLOR
CRUISE	CRUISE	CRUISE BACKUP COLOR
FLASH	-	FLASH WARNING COLOR
-	FLASH	FLASH BACKUP COLOR
FLASH	FLASH	FLASH BACKUP COLOR
STEADY ON	-	STEADY WARNING COLOR
-	STEADY ON	STEADY BACKUP COLOR
STEADY ON	STEADY ON	STEADY BACKUP COLOR
CRUISE	FLASH	FLASH BACKUP COLOR

Cruise Mode Duty Cycle (@ 100Hz)	
Input	Light Output
40%	OFF
50%	5%
60%	10%

Low Power Flash D.C. (@ 100Hz)	
Input	Light Output
70%	30%
80%	40%
90%	50%

FOR THE 7X3 BACKUP LIGHT WITH WARNING ONLY

SIMULTANEOUS/ALTERNATE

This function can only be changed when the LED module is in a flashing mode (disabled in cruise or steady ON functions) and only has an effect when at least 2 LED modules have the green sync wire connected together. When the light is flashing, momentarily connect the white wire to ground for >3S and <4S (light will go steady high, steady low, off, steady high) then release. The light module will switch between Simultaneous and Alternate each time this sequence is done. To have light modules flash simultaneously, both light modules need to be set to the same sequence type (Set-Up Table). To have light modules flash alternately, the light modules need to be set to different sequence types (Set-Up Table).

ADVANCE PATTERN

Flash pattern can only be changed when the LED module is in a flashing mode (disabled in cruise or steady ON functions). When the light is flashing, momentarily connect the white wire to ground for >250mS and <1S (light will go steady high) then release. The flash pattern will advance to the next pattern. If the light module was at the last pattern, the pattern will reset to the 1st pattern.

BACKUP PATTERN

This function is only valid when the LED module is in a flashing mode (disabled in cruise or steady ON functions). When the light is flashing, momentarily connect the white wire to ground for >1S and <2S (light will go steady high, steady low) then release. The flash pattern will backup to the previous pattern. If the light module was at the first pattern, the pattern will change to the last pattern on the list.

PATTERN RESET

This function is only valid when the LED module is in a flashing mode (disabled in cruise or steady ON functions). When the light is flashing, momentarily connect the white wire to ground for >5S and <6S (light will go steady high, steady low, off, steady high, steady low, off) then release. The flash pattern will reset to the 1st pattern in the list.

FACTORY RESET

This function is only valid when the LED module is in a flashing mode (disabled in cruise or steady ON functions). When the light is flashing, momentarily connect the white wire to ground for >6S and <7S (light will go steady high, steady low, off, steady high, steady low, off, steady high) then release. The LED module will reset to: pattern=1, Function Table=1, Color Swap=OFF, Simultaneous.

Backup High/Low Power

To be compliant with government regulations, a Backup Light System consisting of Dual Backup Lights shall be operated in Low Power. A system consisting of one Single Backup Light shall be operated in High Power.

SETUP TABLE			
SECONDS		USER INTERFACE	
FROM	TO	VISUAL FEEDBACK	ACTION TAKEN
0	1	STEADY-HIGH (60%)	FORWARD ONE PATTERN
1	2	STEADY-LOW (30%)	BACKWARD ONE PATTERN
2	3	OFF	NO CHANGE
3	4	STEADY - HIGH (60%)	SEQUENCE TYPE: SIMULTANEOUS OR ALTERNATE
4	5	STEADY - LOW (30%)	NO CHANGE
5	6	OFF	RESET TO PATTERN 1
6	7	STEADY-HIGH (60%)	FACTORY RESET (PATTERN 1, COLOR SWAP: OFF, SIMULTANEOUS) SEPARATE COLOR CONTROL: OFF

If held longer than 7 seconds, the light will go back to flashing the current pattern and no action will be taken.

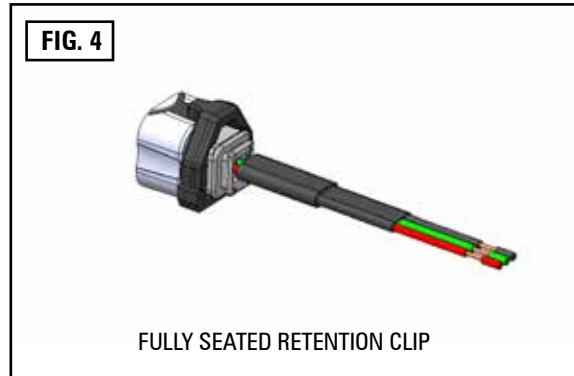
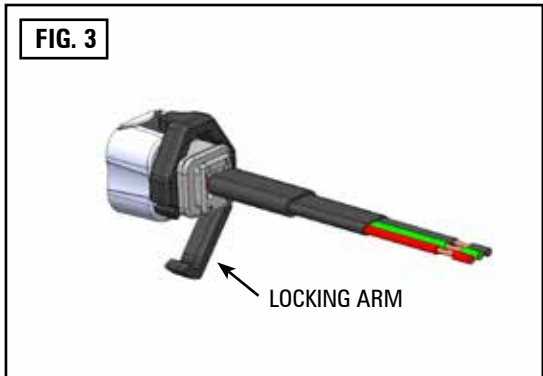
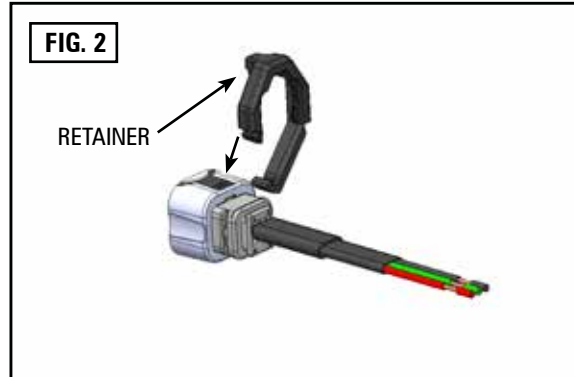
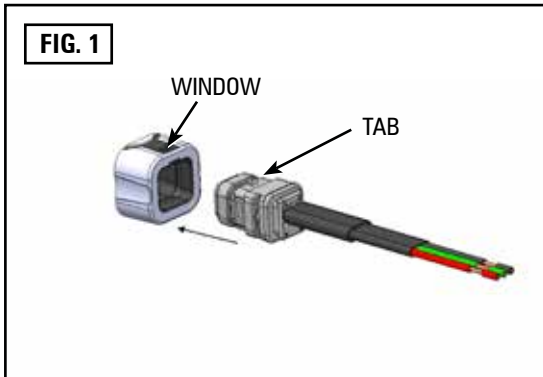
FLASH PATTERNS

PATTERN #	SINGLE COLOR
1	QUINT
2	WARP
3	INTER-CYCLE
4	DOUBLE
5	QUAD
6	POWER PULSE
7	ROAD RUNNER
8	Q-SWITCH
9	STEADY-BURN / ROADRUNNER (SEQUENCE TYPE 1: STEADY BURN, SEQUENCE TYPE 2: ROADRUNNER)
10	STEADY-BURN DRIVER TITLE 13 QUAD (SEQUENCE TYPE 1: STEADY BURN, SEQUENCE TYPE 2: TITLE 13 QUAD)
11	QUAD 2
12	DOUBLE 2

SYNC 2

Synchronizing the flashing of multiple light modules is accomplished by connecting the Green wires of different light modules together. Up to 24 light modules can be connected for synchronized flashing. All light module flash patterns must be set to the same flash pattern # to ensure proper operation. Refer to Sequence Type section in the Setup Table to setup light modules to flash in alternate or simultaneous flash pattern.

NOTE: Will NOT work with non-Sync 2 products, such as Ghost, LED3, and 4 wire Intersector. WILL WORK with Sync 2 products nFORCE Secondary Lights, nFORCE FIT, and 5 wire Intersector Lights



RETENTION CLIP INSTRUCTIONS*

1. Plug harness into light housing, aligning tab to window, as shown in Fig 1.
2. Install the retainer clip over harness/light interface, inserting retainer into window, as shown in Fig. 2.
3. Press retainer clip's locking arm to snap closed.

*In the event the harness needs to be disengaged from the light, these instructions can be used to reattach and apply the retention clip.

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/tech-services/returns/.

If you have questions regarding this product, contact **Technical Services**, Monday - Friday, 8 a.m. to 5 p.m. ET at 1.800.338.7337 (press #4).

Questions or comments that do not require immediate attention may be emailed to techservices@soundoffsignal.com.