



# ECCO®

# Installation and Operation Instructions Safety Director Arrow



## WARNING!

Failure to install or use this product according to manufacturers recommendations may result in property damage, serious bodily/personal injury, and/or death to you and those you are seeking to protect!



**Do not install and/or operate this safety product unless you have read and understand the safety information contained in this manual.**

1. Proper installation combined with operator training in the use, care, and maintenance of emergency warning devices are essential to ensure the safety of emergency personnel and the public.
2. Emergency warning devices often require high electrical voltage and/or current. Exercise caution when working with live electrical connections.
3. This product must be properly grounded. Inadequate grounding and/or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or severe vehicle damage, including fire.
4. Proper placement and installation are vital to the performance of this warning device. Install this product so that output performance of the system is maximized and the controls are placed within convenient reach of the operator so that s/he can operate the system without losing eye contact with the roadway.
5. It is the responsibility of the vehicle operator to ensure daily that all features of this product work correctly. In use, the vehicle operator should ensure the projection of the warning signal is not blocked by vehicle components (i.e., open trunks or compartment doors), people, vehicles, or other obstructions.
6. The use of this or any other warning device does not ensure all drivers can or will observe or react to an emergency warning signal. Never take the right-of-way for granted. It is your responsibility to be sure you can proceed safely before entering an intersection, driving against traffic, responding at a high rate of speed, walking on or around traffic lanes.
7. This equipment is intended for use by authorized personnel only. The user is responsible for understanding and obeying all laws regarding warning signal devices. Therefore, the user should check all applicable city, state, and federal laws and regulations. The manufacturer assumes no liability for any loss resulting from the use of this warning device.

## Specifications:

Size:	Light stick:	48" x 3" x 2"
	Control box:	6" x 3 3/4" x 3/4"
Weight:	ED3307A:	17.7 lb.
	ED3307SA:	18.2 lb.
	ED3307CB:	0.5 lb.
Input Voltage:		12-24VDC
Peak Current @ 12.8 VDC:		2.8A
Max Power @ 12.8 VDC:		35.8W

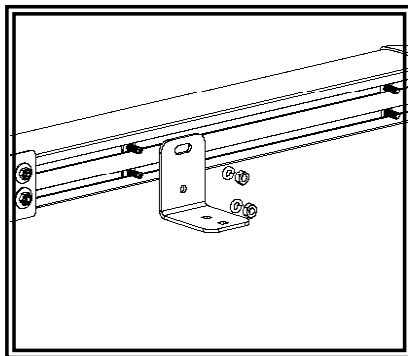


Figure 2

## Wire the Safety Director:

Wire the Safety Director into the vehicle's 12 or 24 Volt system according to Figure 1. Provide a 5A fuse near the power take off. Use 16AWG wire or larger for the Red and Black wire connections. Route the lightbar cable from the Stick to the Control Box and plug them together.

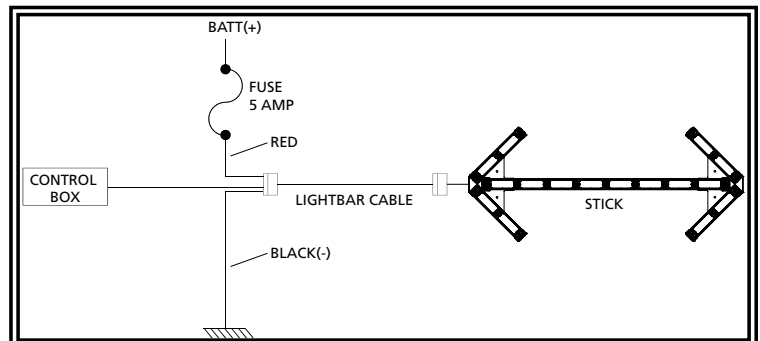


Figure 1

## Unpacking:

Carefully remove the unit and place it on a flat surface. Examine the unit for transit damage, etc. If the vehicle has an electrical system other than 12 or 24 Volts DC negative ground, contact your local representative or call the manufacturer for instructions.

### Mounting:

The Safety Directors are vertical surface mounted by screwing through the mounting bracket. Additionally, the Split Arrow is attached by bolts in the channel on the back of each light bar, opposite the arrows.

1. The light bar(s) should be mounted to a flat surface or one with the least amount of curvature. Determine the proper mounting height for the light bar(s) that allows maximum visibility of the warning device to other road users and sufficient wire access.
2. Drill the holes for the M6 hex bolts, using the mounting brackets and bolts in the channels for the split arrow light bar, as a template for the proper spacing. See FIGURE 2. Make sure the holes are placed such that the light bar(s) is level side to side.
3. Drill a 11/16" [18mm] hole for the wires protruding from the rear of the unit(s). Remove any sharp edges from this hole(s).
4. Mount the light bar(s), routing the wires through the 18 mm hole with the supplied hardware, and secure. Use additional grommets or cable protection as necessary to protect the wiring from any sharp edges.

### Wiring Instructions:

#### Notes:

1. Larger wires and tight connections will provide longer service life for components. For high current wires it is highly recommended that terminal blocks or soldered connections be used with shrink tubing to protect the connections. Do not use insulation displacement connectors (e.g., 3M Scotchlock type connectors). Route wiring using grommets and sealant when passing through compartment walls. Minimize the number of splices to reduce voltage drop.
2. High ambient temperatures (e.g., under-hood) will significantly reduce the current carrying capacity of wires, fuses, and circuit breakers. All wiring should conform to the minimum wire size and other recommendations of the manufacturer and be protected from moving parts and hot surfaces. Looms, grommets, cable ties, and similar installation hardware should be used to anchor and protect all wiring.
3. Fuses or circuit breakers should be located as close to the power takeoff points as possible and properly sized to protect the wiring and devices.
4. Particular attention should be paid to the location and method of making electrical connections and splices to protect these points from corrosion and loss of conductivity.
5. Ground termination should only be made to substantial chassis components, preferably, directly to the vehicle battery.
6. Circuit breakers are very sensitive to high temperatures and will "false trip" when mounted in hot environments or operated close to their capacity.



#### CAUTION:

Disconnect the battery before wiring up the Safety Director to prevent accidental shorting, arcing, and /or electrical shock.



#### CAUTION:

This system must be connected to a separate, fused power point. Do not wire in parallel with any other accessory.

### Maintenance:

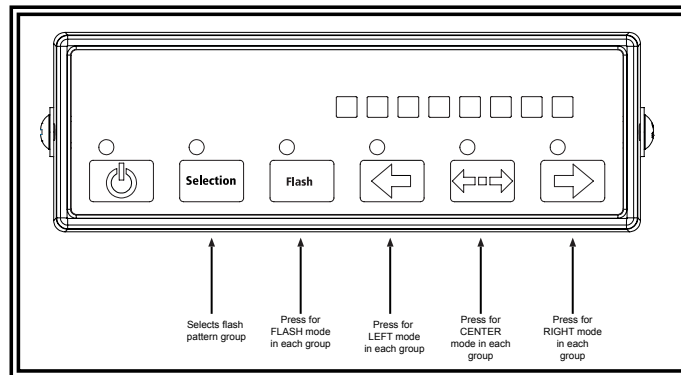
The Safety Director requires little routine maintenance. Occasional cleaning of the lenses is all that is required to maintain maximum light output. Use plain water and a soft cloth, or lens polish and a very soft paper towel or facial tissue. Since plastic scratches easily, cleaning is recommended only when necessary. Do not use solvents as they may damage the polycarbonate lens material.

If a problem does develop, refer to the Troubleshooting Guide.

### Troubleshooting Guide:

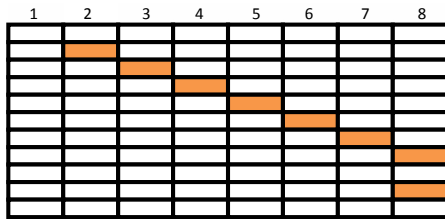
Symptom	Possible Cause
No functionality of Control Box or Stick	Main power fuse is blown, or poor connection
One Control Box LED blinks continuously	Poor connection between Control Box and Stick
One or more segments of Stick do not light	Stick is defective
Aux device will not turn on	Aux fuse is blown, or poor connection
Aux device will not turn off	Relay is shorted from excessive load current

### Control Box: Flash Pattern Selection



PATTERN GROUP	FLASH PATTERN
1	ONE LAMP SEQUENCE TO DOUBLE FLASH
2	TWO LAMP SEQUENCE TO DOUBLE FLASH
3	SIX LAMP SEQUENCE TO DOUBLE FLASH
4	SEQUENCE TO SOLID
5	ONE LAMP SEQUENCE TO TRIPLE FLASH
6	TRIPLE LAMP SEQUENCE DOUBLE FLASH
7	SEQUENCE ON TO SEQUENCE OFF
8	SOLID ARROW

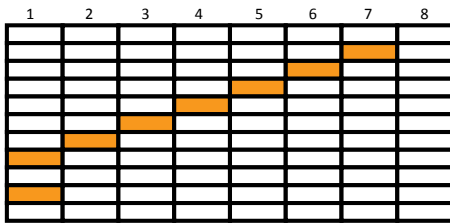
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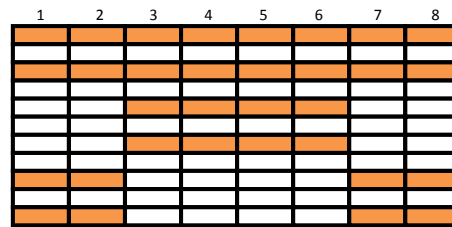
CENTER



LEFT

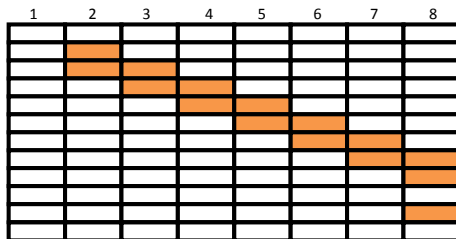


FLASH

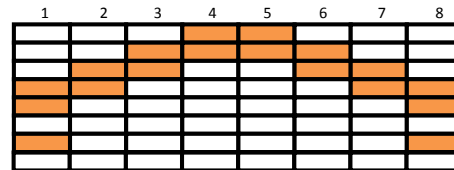


Group 2\_TWO LAMP SEQUENCE TO DOUBLE FLASH

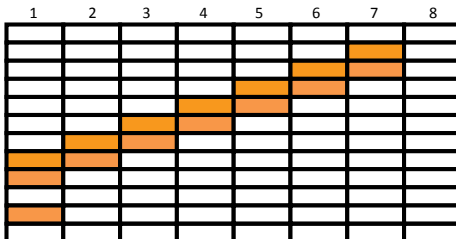
RIGHT



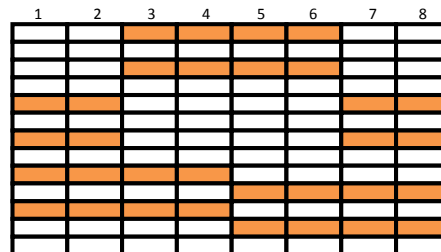
CENTER



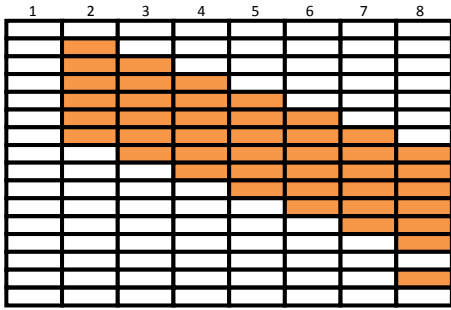
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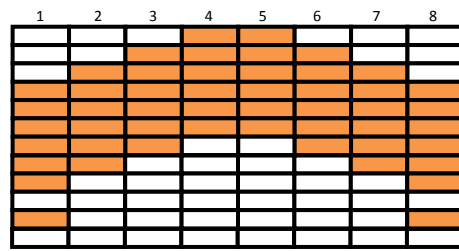
FLASH



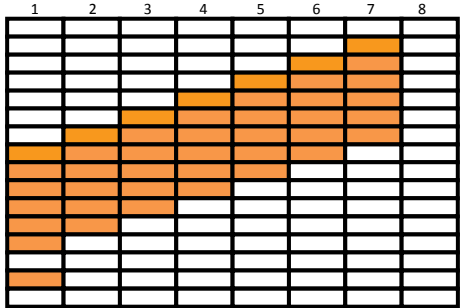
Group 3\_SIX LAMP SEQUENCE TO DOUBLE FLASH  
RIGHT



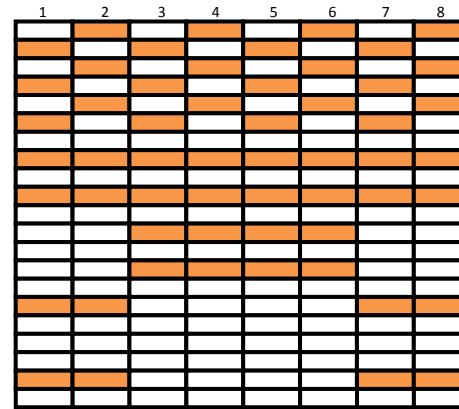
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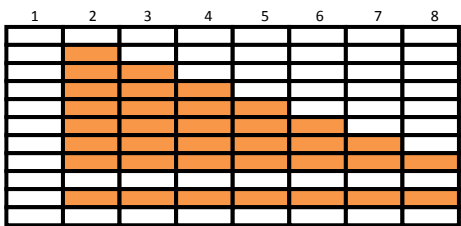
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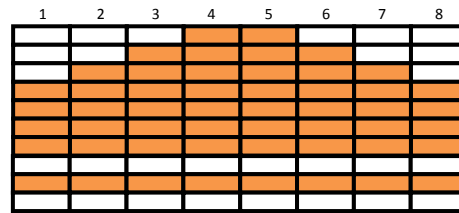
FLASH



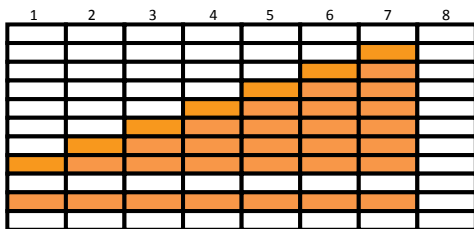
Group 4\_SEQUENCE TO SOLID  
RIGHT



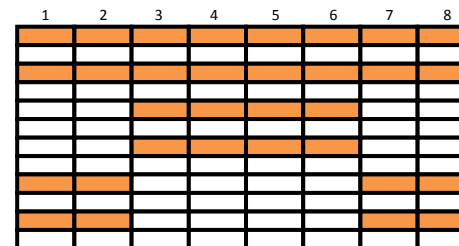
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LEFT

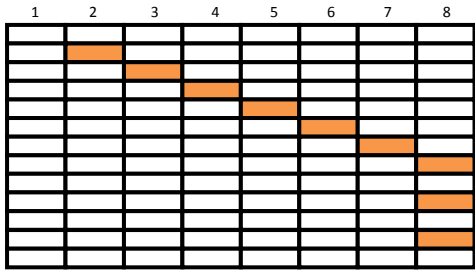


FLASH

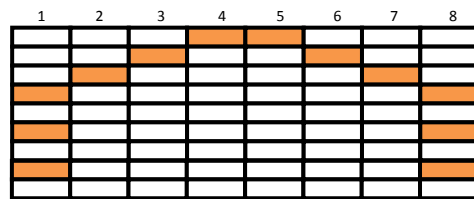


Group 5\_ONE LAMP SEQUENCE TO TRIPLE FLASH

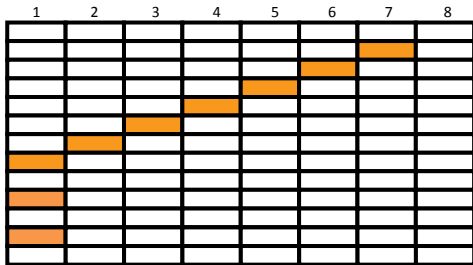
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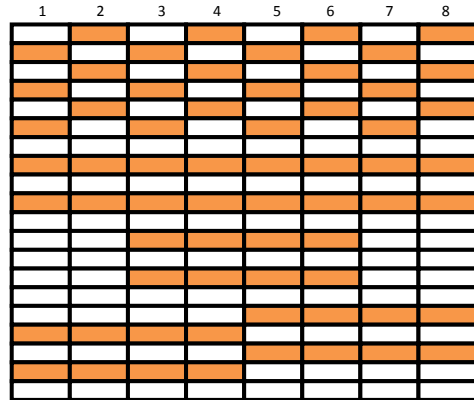
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LEFT

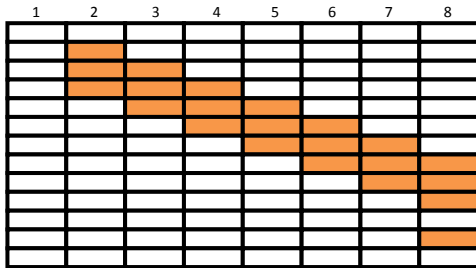


FLASH



Group 6\_TRIPLE LAMP SEQUENCE DOUBLE FLASH

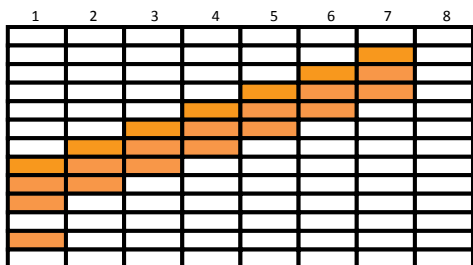
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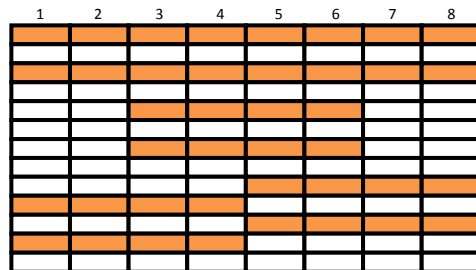
CENTER



LEFT

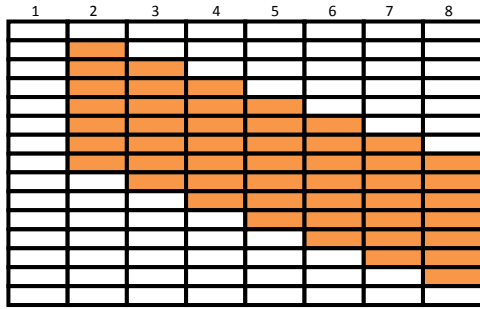


FLASH



Group 7\_SEQUENCE ON TO SEQUENCE OFF

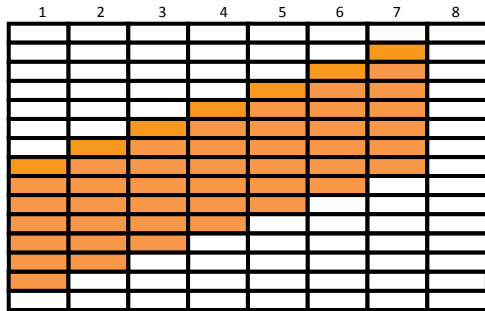
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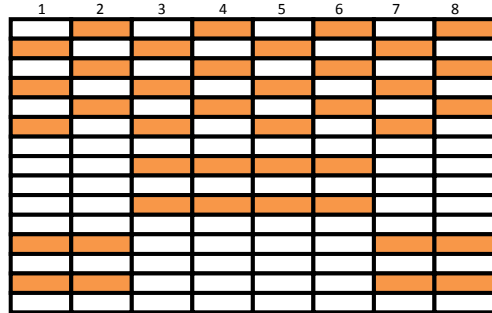
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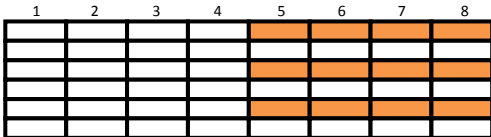


FLASH

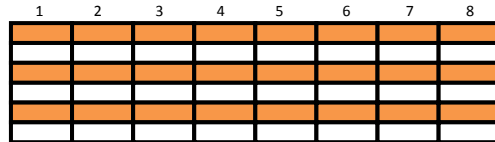


Group 8\_SOLID ARROW

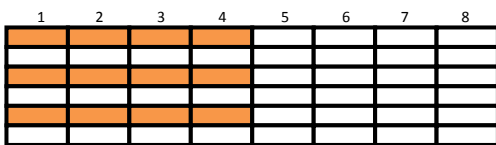
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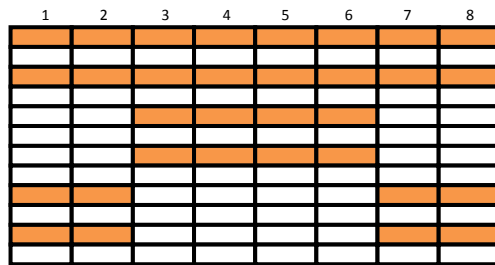
CENTER



LEFT



FLASH



Note: Group 8 RIGHT, LEFT, and CENTER are SAE J595 compliant.



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