

WHELEN[®]

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Installation Guide: ECE 65 Freedom[™] LC Lightbar Dual Intensity

Safety First

This document provides all the necessary information to allow your Whelen product to be properly and safely installed. Before beginning the installation and/or operation of your new product, the installation technician and operator must read this manual completely. Important information is contained herein that could prevent serious injury or damage.

- **Proper installation of this product requires the installer to have a good understanding of automotive electronics, systems and procedures.**
- **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.**
- **If this manual states that this product may be mounted with suction cups, magnets, tape or Velcro[™], clean the mounting surface with a 50/50 mix of isopropyl alcohol and water and dry thoroughly.**
- **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 owners 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.**
- **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.**
- **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.**
- **This product contains either strobe light(s), halogen light(s), high-intensity LEDs or a combination of these lights. Do not stare directly into these lights. Momentary blindness and/or eye damage could result.**
- **Use only soap and water to clean the outer lens. Use of other chemicals could result in premature lens cracking (crazing) and discoloration. Lenses in this condition have significantly reduced effectiveness and should be replaced immediately. Inspect and operate this product regularly to confirm its proper operation and mounting condition. Do not use a pressure washer to clean this product.**
- **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!**

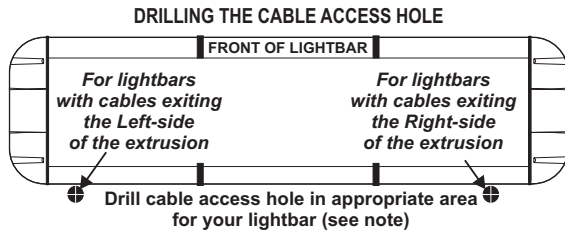
For warranty information regarding this product, visit www.whelen.com/warranty

Mounting your Lightbar:

Refer to the Lightbar mounting guide included with your lightbar.

Caution: Permanent mounting of this product will require drilling. It is absolutely necessary to make sure that no other vehicle components could be damaged by this process. Check both sides of the mounting surface before starting. If damage is likely, select a different location.

Routing your Lightbar Cable(s)



WARNING! Many vehicles are now equipped with side curtain and B-pillar air bags. Alternate routing may be required.

WARNING! All Customer supplied wires that connect to the positive terminal of the battery must be sized to supply at least 125% of the maximum operating current and **FUSED** at the battery to carry that load. **DO NOT USE CIRCUIT BREAKERS WITH THIS PRODUCT!**

1. To protect the headliner from damage caused by drilling the cable access hole through the vehicle roof, allow a 5" to 7" distance between roof and headliner by lowering the headliner before drilling.

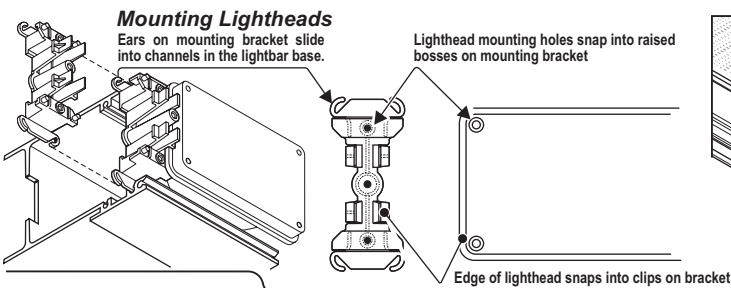
WARNING! There may be a roof support member that spans the distance between the driver's and passenger's side. **DO NOT DRILL THROUGH THIS MEMBER!** Adjust the location until the hole can be drilled without contacting this support member.

2. Using a 1" hole saw, drill the cable access hole. Use a round file to smooth and de-burr the edges then insert a 1" grommet.
3. Insert the cable(s) through the cable access hole into the vehicle. Use RTV silicone to weatherproof the access hole after the cable(s) are pulled completely into the vehicle.
4. Route the cable(s) through the vehicle following the manufacturers recommendations.

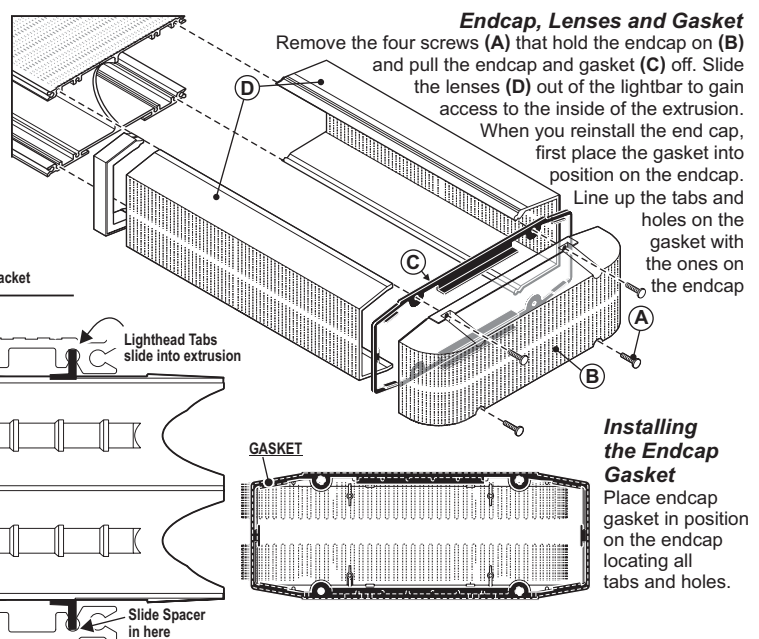
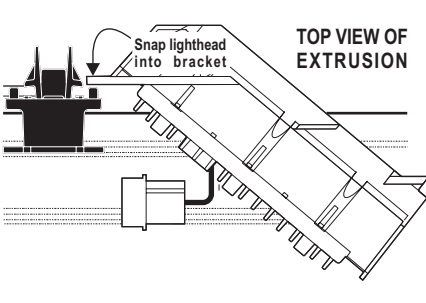
Power Cable: RED +12 VDC / BLACK: Ground

Follow the factory wiring harness through the firewall. It may be necessary to drill a hole in the firewall. If so, be absolutely sure that there are no components that could be damaged by drilling. It is recommended that you insert a grommet (Customer supplied) to protect the cable.

1. Route cable along factory wiring harness to a 12 volt battery.



Corner LED Installation



2. Install a 30 amp fuse block (customer supplied) on the end of the RED wire. Remove fuse from fuse block before connecting to the battery.
3. Connect the fuse block to the POSITIVE (+) terminal on the battery. There can not be more than two feet of wire between the fuse block and the battery. The wire between the fuse block and the battery is "unprotected", do not allow this wire to touch any other wires.
4. Connect the BLACK wire to the factory chassis ground.

Control Cable:

Extend the control cable to your switch panel and make the connections using the information on the next page. The control cable connects to your control head or switch box and is fused there. Applying +12VDC to a control wire activates its function.

Hi/Low Power: (VIOLET)

The switch is dependant on how you wish the Hi/Low feature to function:

Latching Mode: By applying +12 VDC voltage to the VIOLET wire for less than 1 second, the lightbar is "latched" into low power operation. The unit must be turned off and then back on to restore normal, high power operation (a momentary switch is preferred).

Level Mode: Applying +12 VDC voltage to the VIOLET wire for more than 1 second holds the lightbar in low power mode until voltage is removed (a toggle switch is preferred).

Scan-Lock™: (WHITE/VIOLET)

TO CYCLE FORWARD THROUGH AVAILABLE PATTERNS: Activate ONLY the control wire of the function you wish to effect then apply +12 volts to the Scan-Lock™ wire (WHITE/VIOLET) for less than 1 second and release. This will change the pattern. Repeat to advance to next pattern.

Important: Only ONE function may be active while changing patterns.

TO CHOOSE A PATTERN: Allowing the desired pattern to run for more than 5 seconds makes it the default pattern.

TO RESET TO THE FACTORY DEFAULT PATTERN: Turn off all lightbar functions. Apply +12 volts to the Scan-lock™ wire and turn the appropriate function back on and it is now restored to its factory default pattern.

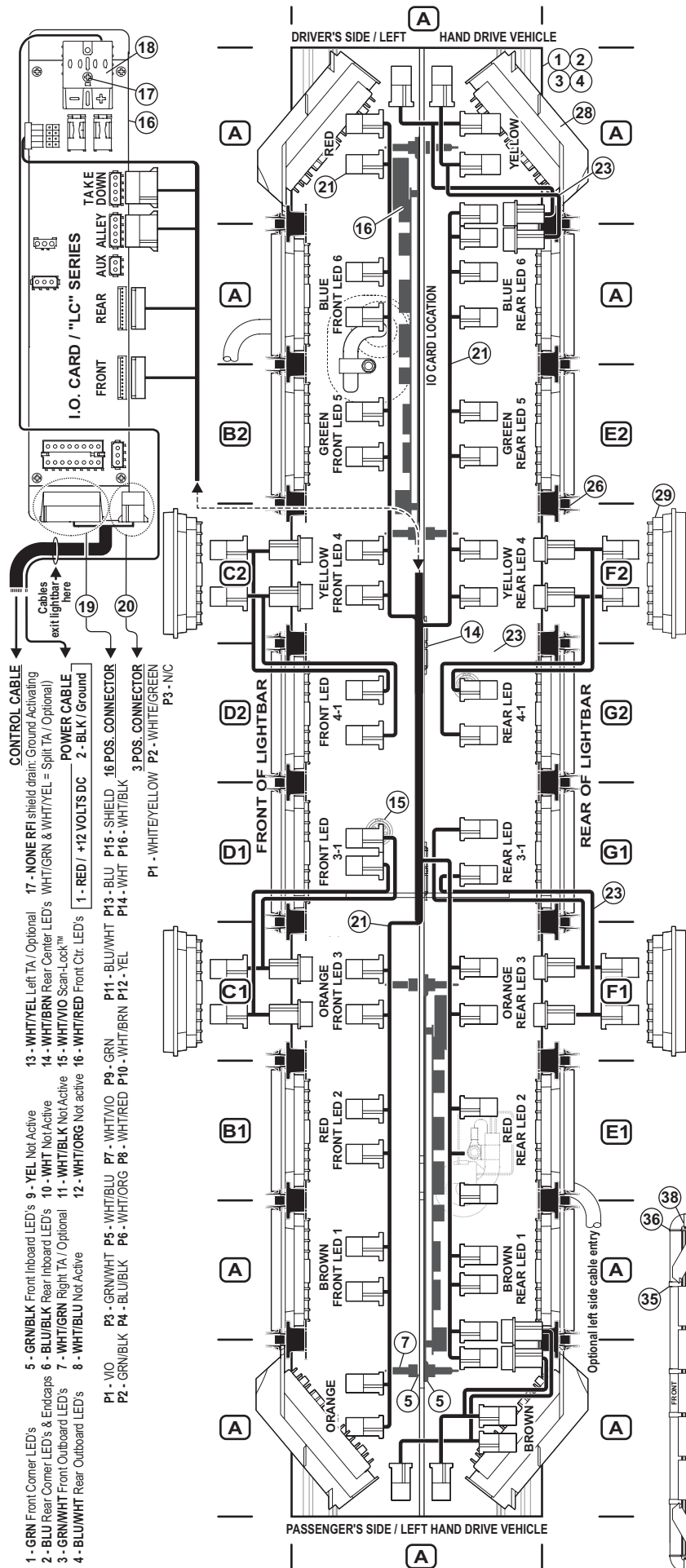
Available Flash Patterns: ECE DoubleFlash (default) > ECE SingleFlash

Traffic Advisor Patterns: Sequence to Solid (default setting) > Sequence On-Sequence Off > Single Lamp: Sequence On to TripleFlash™ > Two Lamp: Sequence On to TripleFlash™

IMPORTANT! Before returning the vehicle to active service, visually confirm the proper operation of this product, as well as all vehicle components/equipment.

IMPORTANT WARNING!

CAUTION! DO NOT LOOK DIRECTLY AT THESE LED'S WHILE THEY ARE ON. MOMENTARY BLINDNESS AND/OR EYE DAMAGE COULD RESULT!



QTY	QTY	QTY	QTY	ITEM	PART NUMBER	DESCRIPTION
		*			01-0684692-01	FREEDOM GEN 3 LC / R-R-B-B / 50"
		*			01-0684692-02	FREEDOM GEN 3 LC / R-R-B-B / 55"
	*				01-0684692-03	FREEDOM GEN 3 LC / R-R-B-B / 60"
*					01-0684692-00	FREEDOM GEN 3 LC / R-R-B-B / 44"
-	-	-	1	1	11-363141-000	BASE EXTRUSION / 45.75"
-	-	1	-	2	11-363142-000	BASE EXTRUSION / 51.125"
-	1	-	-	3	11-363143-000	BASE EXTRUSION / 56.50"
1	-	-	-	4	11-363390-000	BASE EXTRUSION / 40.375"
2	2	2	2	5	22-0542701-000	MTG. STUD
2	2	2	2	6	13-130111-072	NUT 1/4-20 ELASTIC STOP / 316 SS
4	4	4	4	7	22-0416982-000	PROTECTIVE COVER
1	1	1	1	8	21-11245004-1	GROMMET / 1.562"
1	1	1	1	9	46-0742957-17	CABLE / 2-C 10GA 17"
1	1	1	1	10	46-0742883-17	CABLE / 17-C 22GA 17"
1	1	1	1	11	14-104216-160	#10-24 x 1 PPHMS
1	1	1	1	12	13-104111-063	NUT / #10-24 WHIZ
1	1	1	1	13	26-0115663-100	CABLE CLAMP: 5/8"
2	2	2	2	14	21-242401-000	BUSHING: 1-5/8"
2	2	2	2	15	21-7263998-000	VENT 3/4"
1	1	1	1	16	01-0264880-000	ASSEMBLY / I-O BD. LC / ECE 65 12v
1	1	1	1	17	14-062216-160	#6-32 X 1 PPHMS
1	1	1	1	18	39-0017188-008	HOUSING / 2 POLE
1	1	1	1	19	39-0416323-04	HOUSING / 16 POS SOCKET CMNL
1	1	1	1	20	39-0403023-04	HOUSING / 3 POS SOCKET
A/R	A/R	A/R	A/R	21	46-0763941-000	HARNESS / 6 LIGHT
1	1	1	1	22	46-0763942-000	HARNESS / 4 LIGHT 72"
12	12	12	4	23	46-0784112-04	HARNESS UPPER LED ADAPTER
4	4	4	4	24	20-0042765-000	SPACER / CORNER STROBE
-	-	4	-	25	07-242815-000	BRACKET / SPACER
12	18	18	14	26	07-263103-000	MOUNTING BRACKET
6	12	8	8	27	09-1363158-000	FILLER PANEL / "400" SERIES
4	4	4	4	28	01-0263814-20	CORNER LED / FREEDOM BLU-BLU
6	6	6	6	29	02-0364528222	LINEAR LED 400 BLUE GEN III AMP
2	-	-	-	30	68-1983816-20	LENS / 5.00" / BLUE
4	4	-	4	31	68-1983817-20	LENS / 6.562" / BLUE
-	-	4	-	32	68-1984104-20	LENS / 9.25" / BLUE
4	2	-	-	33	68-1183491B02	LENS / 10.375" / BLUE
-	4	4	4	34	68-1984105-20	LENS / 15.75" / BLUE
8	8	6	6	35	02-0341448-000	LENS / DIVIDER ASSY / BLACK
2	2	2	2	36	38-0283381-000	GASKET / ENDCAP
2	2	2	2	37	68-1183369-200	ENDCAP / BLUE
8	8	8	8	38	14-104286-16JB	#10-24 x 1-1/4" TX. PHD. SCREW w/SHLDR

General Specifications:

Length 990.6mm MIN - 1524mm MAX (1524mm shown)
 Flash Pattern Single/Double
 LED Colour BLUE
 Lens Colour BLUE

Base ECE65 Assembly

4 corner modules 01-0263814-20 / BLUE / At "A"

Optional ECE65 Pairs

6 Directional Lamps 01-0364528222 / BLUE / At: B1 - B2 C1 - C2 D1 - D2
 E1 - E2 F1 - F2 G1 - G2

NOTE: A maximum of 6 sets of 400 Series LEDs are allowed before ECE maximums are exceeded.

