

WHELEN[®]

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Installation Guide: Towman's™ Liberty™ II Lightbar

Warnings to Installers

Whelen's emergency vehicle warning devices must be properly mounted and wired in order to be effective and safe. Read and follow all of Whelen's written instructions when installing or using this device. Emergency vehicles are often operated under high speed stressful conditions which must be accounted for when installing all emergency warning devices. Controls should be placed within convenient reach of the operator so that they can operate the system without taking their eyes off the roadway. Emergency warning devices can require high electrical voltages and/or currents. Properly protect and use caution around live electrical connections. Grounding or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or vehicle damage, including fire. Many electronic devices used in emergency vehicles can create or be affected by electromagnetic interference. Therefore, after installation of any electronic device it is necessary to test all electronic equipment simultaneously to insure that they operate free of interference from other components within the vehicle. Never power emergency warning equipment from the same circuit or share the same grounding circuit with radio communication equipment. All devices should be mounted in accordance with the manufacturer's instructions and securely fastened to vehicle elements of sufficient strength to withstand the forces applied to the device. Driver and/or passenger air bags (SRS) will affect the way equipment should be mounted. This device should be mounted by permanent installation and within the zones specified by the vehicle manufacturer, if any. Any device mounted in the deployment area of an air bag will damage or reduce the effectiveness of the air bag and may damage or dislodge the device. Installer must be sure that this device, its mounting hardware and electrical supply wiring does not interfere with the air bag or the SRS wiring or sensors. Mounting the unit inside the vehicle by a method other than permanent installation is not recommended as unit may become dislodged during swerving; sudden braking or collision. Failure to follow instructions can result in personal injury. Whelen assumes no liability for any loss resulting from the use of this warning device. PROPER INSTALLATION COMBINED WITH OPERATOR TRAINING IN THE PROPER USE OF EMERGENCY WARNING DEVICES IS ESSENTIAL TO INSURE THE SAFETY OF EMERGENCY PERSONNEL AND THE PUBLIC.

Warnings to Users

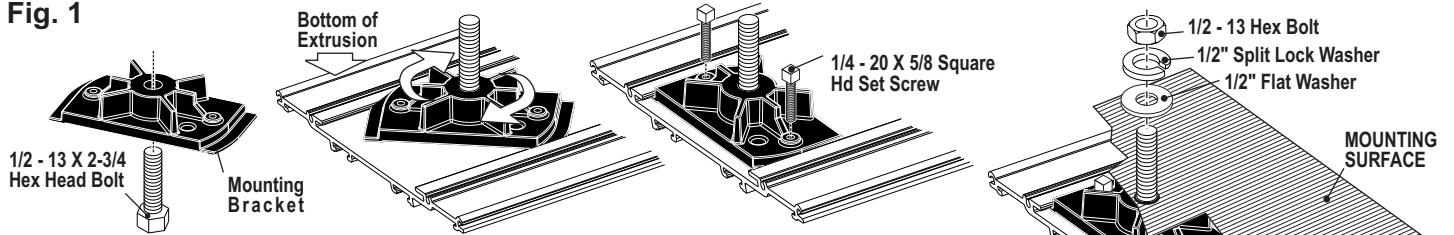
Whelen's emergency vehicle warning devices are intended to alert other operators and pedestrians to the presence and operation of emergency vehicles and personnel. However, the use of this or any other Whelen emergency warning device does not guarantee that you will have the right-of-way or that other drivers and pedestrians will properly heed an emergency warning signal. Never assume you have the right-of-way. It is your responsibility to proceed safely before entering an intersection, driving against traffic, responding at a high rate of speed, or walking on or around traffic lanes. Emergency vehicle warning devices should be tested on a daily basis to ensure that they operate properly. When in actual use, the operator must ensure that both visual and audible warnings are not blocked by vehicle components (i.e.: open trunks or compartment doors), people, vehicles, or other obstructions. It is the user's responsibility to understand and obey all laws regarding emergency warning devices. The user should be familiar with all applicable laws and regulations prior to the use of any emergency vehicle warning device. Whelen's audible warning devices are designed to project sound in a forward direction away from the vehicle occupants. However, because sustained periodic exposure to loud sounds can cause hearing loss, all audible warning devices should be installed and operated in accordance with the standards established by the National Fire Protection Association.

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.**
- **Whelen Engineering requires the use of waterproof butt splices and/or connectors if that connector could be exposed to moisture.**
- **Failure to use specified installation parts and/or hardware will void the product warranty.**
- **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 the 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 owner's 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 (this does not include products that use cigar power cords).**
- **If this product uses a remote device for activation or control, make sure that this device is located in an area that allows both the vehicle and the device 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!**

Fig. 1



IMPORTANT! The lightbar should be located a minimum of 16" from any radio antennas!

Slide Bolt Mounting:

1. Insert the two supplied 1/2 - 13 X 2-3/4 HEX HD BOLTS into the slide bolt brackets and twist the two brackets into the bottom of the lightbar extrusion (Fig. 1).
2. With the slide bolt brackets in their mounting position, secure them to the lightbar with the supplied set screws.
3. Position the lightbar onto the vehicle and mark the location of the two mounting bolts off onto the mounting surface.
4. Remove the lightbar and drill the two mounting holes you marked off using a 1/2" drill bit.

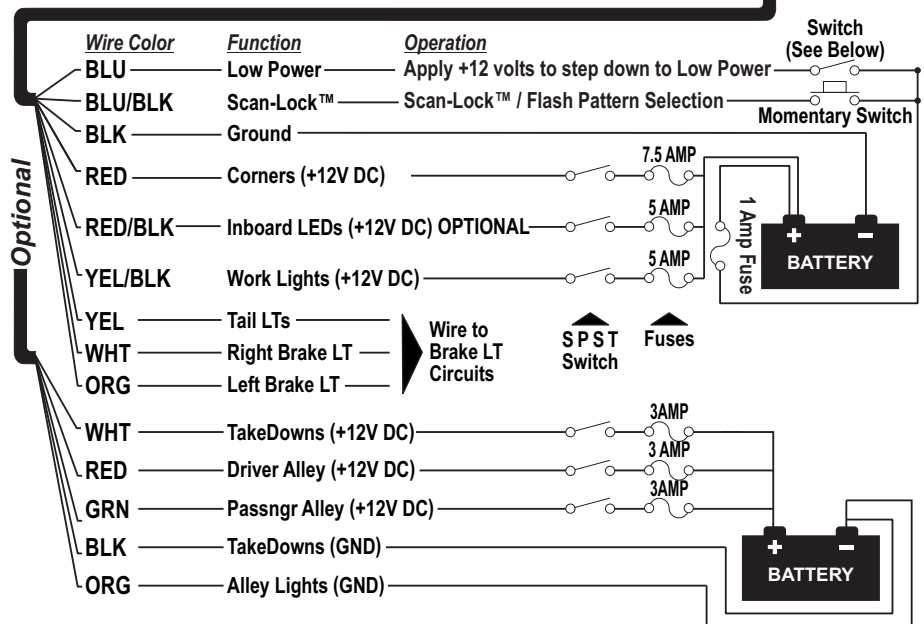
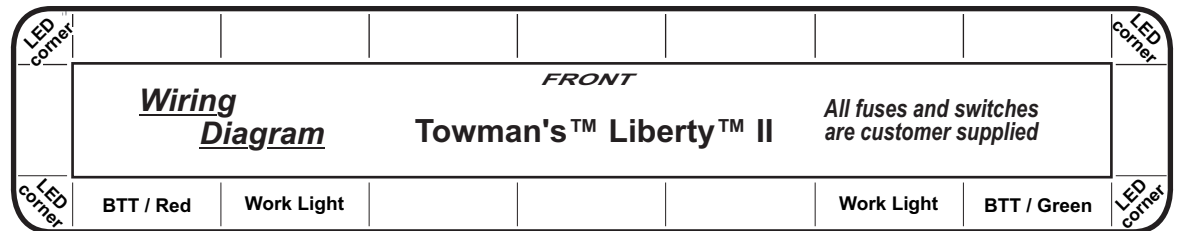
5. Secure the lightbar to the mounting surface with the supplied mounting hardware.
6. Extend wires to your switch panel and refer to the wiring diagram. Refer to the instructions included with your switches for switch wiring.

IMPORTANT! It is the responsibility of the installation technician to make sure that the installation and operation of this product will not interfere with or compromise the operation or efficiency of any vehicle equipment! Before returning the vehicle to active service, visually confirm the proper operation of this product, as well as all vehicle components/equipment.

Flash Patterns

1. ActionScan™ (default)
2. SignalAlert™ L/R SYNC
3. SignalAlert™ L/R ASYNC
4. SignalAlert™ IN/OUT
5. SignalAlert™ SIM
6. SignalAlert™ ALT/SIM
7. CometFlash® L/R SYNC
8. CometFlash® L/R ASYNC
9. CometFlash® IN/OUT
10. CometFlash® SIM
11. CometFlash® ALT/SIM
12. DoubleFlash 75 L/R SYNC
13. DoubleFlash 75 L/R ASYNC
14. DoubleFlash 75 IN/OUT
15. DoubleFlash 75 SIM
16. DoubleFlash 75 ALT/SIM
17. SingleFlash 75 L/R SYNC
18. SingleFlash 75 L/R ASYNC
19. SingleFlash 75 IN/OUT
20. SingleFlash 75 SIM
21. SingleFlash 75 ALT/SIM
22. LongBurst™ L/R SYNC
23. LongBurst™ L/R ASYNC
24. LongBurst™ IN/OUT
25. LongBurst™ SIM
26. LongBurst™ ALT/SIM
27. SingleFlash 60 L/R SYNC
28. SingleFlash 60 L/R ASYNC
29. SingleFlash 60 IN/OUT
30. SingleFlash 60 SIM
31. SingleFlash 60 ALT/SIM
32. SingleFlash 90 L/R SYNC
33. SingleFlash 90 L/R ASYNC
34. SingleFlash 90 IN/OUT
35. SingleFlash 90 SIM
36. SingleFlash 90 ALT/SIM
37. SingleFlash 120 L/R SYNC
38. SingleFlash 120 L/R ASYNC
39. SingleFlash 120 IN/OUT
40. SingleFlash 120 SIM
41. SingleFlash 120 ALT/SIM
42. SingleFlash 240 L/R SYNC
43. SingleFlash 240 L/R ASYNC
44. SingleFlash 240 IN/OUT
45. SingleFlash 240 SIM
46. SingleFlash 240 ALT/SIM
47. ActionFlash™ L/R SYNC
48. ActionFlash™ L/R ASYNC
49. ActionFlash™ IN/OUT
50. ActionFlash™ SIM
51. PingPong™ L/R SYNC
52. PingPong™ L/R ASYNC
53. PingPong™ IN/OUT
54. PingPong™ SIM
55. ModuFlash™ L/R SYNC
56. ModuFlash™ L/R ASYNC
57. ModuFlash™ IN/OUT
58. ModuFlash™ SIM

L/R SYNC = LEFT / RIGHT - SYNCHRONOUS
 L/R ASYNC = LEFT / RIGHT - ASYNCHRONOUS
 IN/OUT = IN / OUT
 SIM = SIMULTANEOUS
 ALT/SIM = ALTERNATING/SIMULTANEOUS



Low Power / BLUE:

The switch type used depends on how you wish Hi/Lo to function:

Latching Mode: Apply +12 VDC to the BLUE wire for less than 1 second to "latch" the lightbar into low power. The unit must be turned off and then back on to restore normal operation. (Momentary Switch)

Level Mode: Apply +12 VDC to the BLUE wire for over 1 second to hold the lightbar in low power until voltage is removed. (SPST Switch)

Scan-Lock™ / BLU/BLK:

The BLU/BLK wire allows you to choose from 58 available flash patterns. You must activate the function to cycle through the flash patterns and select a pattern:

To cycle forward apply +12 VDC to the BLU/BLK wire for less than 1 second and release.

To cycle backward apply +12 VDC to the BLU/BLK wire for more than 1 second and release.

When the desired pattern is displayed, allow it to run for more than 5 seconds. The lighthouse will now display this pattern when activated.

To reset to the factory default pattern: With power off, apply +12 VDC to BLU/BLK wire while turning power on.

Corner LED's / RED: Apply +12VDC to the RED wire to activate the corner LED's.

Inboard LED's / RED/BLK (Optional): Apply +12VDC to the RED/BLK wire to activate the Inboard LED's.

Work Lights / YEL/BLK: Apply +12VDC to the YEL/BLK wire to activate the Work Lights.

QTY	ITEM	PART NUMBER	DESCRIPTION
*		01-06687928-	
1	1	11-387385-055	TOMMANS, 5Ø LIBERTY LIGHTBAR
1	2	21-11245004-1	BASE, MACHINED 5Ø.00" LEGACY LIGHTBAR
2	3	21-11245004-1	GROMMET, SPECIAL TO BE MOLDED 1.5Ø2"
2	3	21-7263998-00	PLUG, VENT .750 DIA HOLE LIGHTBAR
1	4	14-0023347-01	SCREW, 1Ø.24 X .8Ø7 TX PHD SWEDGE FORM 1/4" LEAD 5ØØ THD
6	5	07-26E120-000	BRACKET, BULKHEAD LENS MOUNT LIBERTY LIGHTBAR
1	6	07-26D565-000	BRACKET, IO ANCHOR LEGACY LIGHTBAR
1	7	02-016F500-01	ASSY, IO BOARD MINI SOLO WRECKER
1	8	46-076G231-00	ASSY, CABLE 9C 7" TOMMANN LIBERTY II
1	9	26-0115037-07	CABLE CLAMP 7/16 D, 1/2" #10 SCREW, NYLON, BLACK
1	10	13-104111-063	NUT, 1Ø.24 CAD PLATED WHIZ OR STEEL ZINC PLATED
A/R	11	46-0741502-17	ASSY, 9C 18 GA 17" CABLE STRIP BOTH 3" 61171-ONE END
A/R	12	39-040423-04	HOUSING, 4 POS SOCKET COMM MATE-N-LOK
2	13	39-0406324-04	HOUSING, 6 POS SOCKET COMM MATE-N-LOK
1	14	26-0215001-06	TY WRAP 6" BLACK
2	15	07-247187-000	BRACKET, END CLAMP NO ALLEY LIBERTY II
A/R	16	01-0247193-30	SUB ASSY, 3 LED TR ALLEY LIGHT LIBERTY II
4	17	07-226275-000	BRACKET, CORNER CLAMP LIBERTY II
12	18	14-062216-081	SCREW 6-32 X 1/2 PPHMS SEMS W/IT LOCK WASHER
2	19	01-026F608*-9	CORNER L-FRONT-REAR 3 LED SINGLE ROW LIBERTY II
2	20	01-026F609*-9	CORNER L-REAR-FRONT 3 LED SINGLE ROW LIBERTY II
A/R	21	01-026F608*-0	CORNER L-FRONT-REAR 12 LED SINGLE ROW LIBERTY II
A/R	22	01-026F609*-0	CORNER L-REAR-FRONT 12 LED SINGLE ROW LIBERTY II
A/R	23	01-026F605*-0	SUB ASSY, FULL DIRECTIONAL LIBERTY II
2	24	01-026F767-30	SUB ASSY, SINGLE 3 LED FULL TD LIBERTY II
2	25	01-0247196-50	SUB ASSY, (2) STOP TURN, TAIL LC LIBERTY II
8	26	07-247303-000	BRACKET, COLOR FILTER FULL LIBERTY II
8	27	07-247304-000	BRACKET, SHORT COLOR FILTER LIBERTY II
4	28	07-223841-000	BRACKET, FILLER LEGACY LIGHTBAR
1	29	46-0787876-00	HARNESS DRIVER CORNER J1 JERR DAN LIBERTY II (NS)
1	30	46-0787876-01	HARNESS FRONT INBOARD J2 JERR DAN LIBERTY II (NS)
1	31	46-0787876-02	HARNESS REAR INBOARD J5 JERR DAN LIBERTY II (NS)
1	32	46-0787876-03	HARNESS PASS CORNERS J6 JERR DAN LIBERTY II (NS)
1	33	46-076030-000	HARNESS WORK LIGHT JERR DAN LIBERTY II
1	34	46-0747447-00	HARNESS BRAKE/TAIL LT LIBERTY II
A/R	35	46-076G231-00	HARNESS ALLEY LIGHT TOMMANN LIBERTY II
20	36	07-26F382-000	BRACKET SNAP-IN LT MODULE MT FREEDOM REDESIGN
A/R	37	26-0215001-03	TY WRAP 3" BLACK (NS)
2	38	02-036E774-30	SUB ASSY, FULL LENS, LIBERTY LIGHTBAR
1	39	68-196E776-30	LENS, CLEAR OPTIC CUT CENTER LIBERTY II
4	40	38-046E119-000	SEAL, LENS DIVIDER LIBERTY II LIGHTBAR
2	41	38-046E118-000	DIVIDER, LENS INDEPENDENCE LIGHTBAR
4	42	14-104286-16J	SCREW, 1Ø.24 X 1.25" WAX DIF SHOULDER PHTX, TRI POINT SS
1	43	10-0346824-000	LABEL, CENTER DOME REMOVAL INSTRUCTIONS
2	44	11-26E056-021	COVER, TOP EXTRUDED 21.6Ø5" MACHINED LEGACY
1	45	11-26E377-009	COVER, TOP EXTRUDED CENTER LEGACY LIGHTBAR
12	46	15-105G76-148	SCREW, 1Ø X 7/8" T-5 TORX TRUSS HD PLASTIC SS W/IN SEAL
A/R	47	02-038132309S	1Ø2" MOUNTING BRACKET SLIDE BOLT
1	48	10-0322935-000	LABEL, "FRONT" LIGHTBAR ASSY (NS)
1	49	10-0523912-000	LABEL, PWIMNSN LIBERTY II (NS)
1	50	10-0523922-000	LABEL, SERIAL NUMBER, LIBERTY II SERIES (NS)

(NS) = Not Shown

