

Whelen 45055

Whelen Engineering Century Series Super-LED Mini Lightbar (Model 45055) Instruction Manual

Model: 45055 | Brand: Whelen Engineering

1. PRODUCT OVERVIEW

The Whelen Century Series Super-LED Mini Lightbar is a compact, low-profile warning light designed for various vehicle applications. It incorporates high-performance Super-LED technology to provide effective visual signaling. Key features include:

- Four linear corner modules, each with 6 Super-LEDs.
- Eight inboard modules, each with 6 TIR style Super-LEDs.
- Standard current switching with 17 selectable Scan-Lock flash patterns and pattern override capability.
- Low-profile design with a durable polycarbonate dome outer lens and compression fit gasket for superior moisture resistance.
- 360° coverage, meeting SAE J845 Class I certification standards.
- Clip-Lock system for easy removal of lightbar domes for maintenance.
- Constructed on an extruded aluminum platform for durability and long-term reliability.



Figure 1: Whelen Century Series Super-LED Mini Lightbar (Amber). This image displays the full lightbar unit, highlighting its amber dome and the arrangement of the internal LED modules.

2. SAFETY INFORMATION

Read all instructions carefully before installation and operation. Failure to follow these instructions may result in

damage to the product, vehicle, or personal injury.

- **Electrical Safety:** Disconnect the vehicle's battery before performing any electrical work. Ensure all wiring connections are secure and properly insulated to prevent short circuits.
- **Mounting Safety:** Securely mount the lightbar to the vehicle according to the instructions. Improper mounting can lead to the lightbar detaching during vehicle operation, posing a hazard.
- **Visibility:** Ensure the lightbar's placement does not obstruct the driver's view or interfere with vehicle safety systems.
- **Heat:** While LEDs generate less heat than traditional bulbs, ensure adequate ventilation around the unit to prevent overheating.
- **Eye Protection:** Avoid staring directly into the lightbar's LEDs when operating, as intense light can cause temporary vision impairment.
- **Authorized Personnel:** Installation and service should be performed by qualified personnel familiar with vehicle electrical systems and safety procedures.

3. SETUP AND INSTALLATION

This lightbar is designed for permanent mounting. The package includes mounting brackets and instructions.

3.1. Pre-Installation Checklist

- Verify all components are present: lightbar unit, mounting brackets, and hardware.
- Ensure the vehicle's electrical system is compatible with the lightbar's power requirements (12 watts).
- Choose a mounting location that provides optimal visibility and does not obstruct vehicle operation or other equipment.

3.2. Mounting Instructions

1. Position the lightbar on the desired mounting surface.
2. Use the provided mounting brackets as templates to mark drilling locations.
3. Drill pilot holes as necessary, ensuring not to damage any underlying vehicle components.
4. Securely attach the mounting brackets to the vehicle using appropriate hardware.
5. Attach the lightbar to the mounted brackets, ensuring it is level and firmly secured.

3.3. Wiring Instructions

1. Disconnect the vehicle's battery to prevent electrical hazards.
2. Route the lightbar's power and control wires to the vehicle's electrical system, avoiding hot or moving parts.
3. Connect the positive wire to a fused 12V power source.
4. Connect the negative wire to a suitable vehicle ground point.
5. If applicable, connect control wires for flash pattern selection or override to a switch or control module.
6. Ensure all connections are crimped, soldered, and insulated properly.
7. Reconnect the vehicle's battery and test the lightbar's functionality.

4. OPERATING INSTRUCTIONS

The Whelen Century Series Mini Lightbar features standard current switching and 17 Scan-Lock flash patterns.

4.1. Powering On/Off

Activate the lightbar by applying 12V power to the designated power input wire. Deactivate by removing power.

4.2. Selecting Flash Patterns (Scan-Lock)

The lightbar includes a Scan-Lock feature to cycle through 17 different flash patterns. Refer to the specific wiring diagram provided with your unit for the exact method of pattern selection. Typically, this involves momentarily applying power to a dedicated pattern control wire or cycling the main power switch a specific number of times.

4.3. Pattern Override

Certain configurations may allow for a pattern override function, which enables a specific flash pattern to be activated regardless of the currently selected pattern. Consult the detailed wiring and operation guide included with your product for instructions on utilizing this feature.

5. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your Whelen Century Series Mini Lightbar.

- **Cleaning:** Clean the polycarbonate dome with a soft cloth and mild soap and water. Avoid abrasive cleaners or solvents that could damage the lens.
- **Inspection:** Periodically inspect the lightbar for any signs of damage, loose mounting hardware, or frayed wiring. Ensure the compression fit gasket remains intact for moisture resistance.
- **Dome Removal (Clip-Lock System):** The Clip-Lock system allows for easy removal of lightbar domes for internal service or cleaning without compromising the weather-resistant seal. Refer to the specific instructions for dome removal to avoid damage.
- **Electrical Connections:** Check all electrical connections for corrosion or looseness. Tighten or clean as necessary.

6. TROUBLESHOOTING

If you encounter issues with your lightbar, refer to the following troubleshooting steps:

Problem	Possible Cause	Solution
Lightbar does not illuminate.	No power, blown fuse, loose wiring, faulty ground connection.	Check power supply, inspect fuse, verify all wiring connections are secure, ensure proper ground.
Incorrect or no flash pattern.	Improper wiring for pattern selection, control module issue.	Review wiring diagram for pattern control. Ensure control signals are correctly applied.
Moisture inside the dome.	Damaged gasket, improper dome re-installation.	Inspect the compression fit gasket for damage. Ensure the dome is properly seated and secured using the Clip-Lock system.
Dim or flickering LEDs.	Low voltage, poor connection, internal component failure.	Check vehicle voltage. Inspect wiring for resistance. If problem persists, contact support.

If troubleshooting steps do not resolve the issue, contact Whelen Engineering customer support.

7. SPECIFICATIONS

Feature	Detail
Model Number	45055

Feature	Detail
Brand	Whelen Engineering
Color	Amber with Amber Dome
Light Source	Super-LEDs (6 per linear corner module, 6 per TIR style inboard module)
Flash Patterns	17 Scan-Lock patterns with override capability
Mounting Type	Permanent Mount
Dimensions (L x W x H)	23.25" (591mm) L x 7.75" (197mm) W x 2.375" (61mm) H
Weight	8.78 pounds (3.99 Kilograms)
Material	Extruded Aluminum platform, Polycarbonate (PC) dome
Water Resistance Level	Water Resistant (with compression fit gasket)
Wattage	12 watts
Certifications	SAE J845 Class I (360° coverage)
UPC	702302603506

8. WARRANTY AND SUPPORT


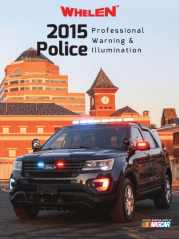




8.1. Warranty Information

The Whelen Century Series Super-LED Mini Lightbar is covered by a **Whelen Five Year HDP (Heavy-Duty Professional) Warranty on LEDs**. This warranty covers defects in materials and workmanship under normal use. For full warranty terms and conditions, please refer to the official Whelen Engineering warranty documentation or their website.

8.2. Customer Support

For technical assistance, troubleshooting, or warranty claims, please contact Whelen Engineering customer support.

- **Website:** www.whelen.com (for product information, FAQs, and contact details)
- **Contact:** Refer to the Whelen Engineering website for the most current contact information, including phone numbers and email addresses for technical support.

	<p>Whelen WeCanX™ Inner Edge® FST Interior Lightbar Installation Guide</p> <p>Detailed installation guide for the Whelen WeCanX™ Inner Edge® FST Interior Lightbar, covering safety warnings, general installation procedures, vehicle-specific mounting instructions for various models, and wiring information.</p>
	<p>Whelen 2015 Police Catalog: Professional Warning & Illumination Systems</p> <p>Comprehensive catalog of Whelen's 2015 Super-LED lightbars, lightheads, sirens, speakers, flashers, and control systems for law enforcement and emergency vehicles. Features detailed product specifications, technologies, and vehicle compatibility.</p>
	<p>Whelen PLF46 Programmable Light Flasher Installation Guide</p> <p>Official installation guide for the Whelen PLF46 Programmable Light Flasher, detailing mounting, wiring, specifications, and programming instructions for emergency vehicle warning systems.</p>
	<p>Whelen 6-Button WeCan Control Head with Slide Switch Installation and Operation Guide</p> <p>Comprehensive guide for installing and operating the Whelen 6-button WeCan Control Head with Slide Switch, including safety warnings, wiring instructions, and dip switch configurations for various functions.</p>
	<p>Whelen Police Professional Warning & Illumination Catalog</p> <p>Explore the Whelen catalog for professional warning and illumination solutions for police vehicles. Discover lightbars, lightheads, sirens, and more, designed for reliability and performance.</p>
	<p>Whelen WPS4003 Three Cell Mass Notification Warning System - Product Overview & Specifications</p> <p>Detailed information on the Whelen WPS4003 Three Cell High-Power Voice and Siren System, including features, specifications, activation controls, options, and acoustic performance for mass notification.</p>

