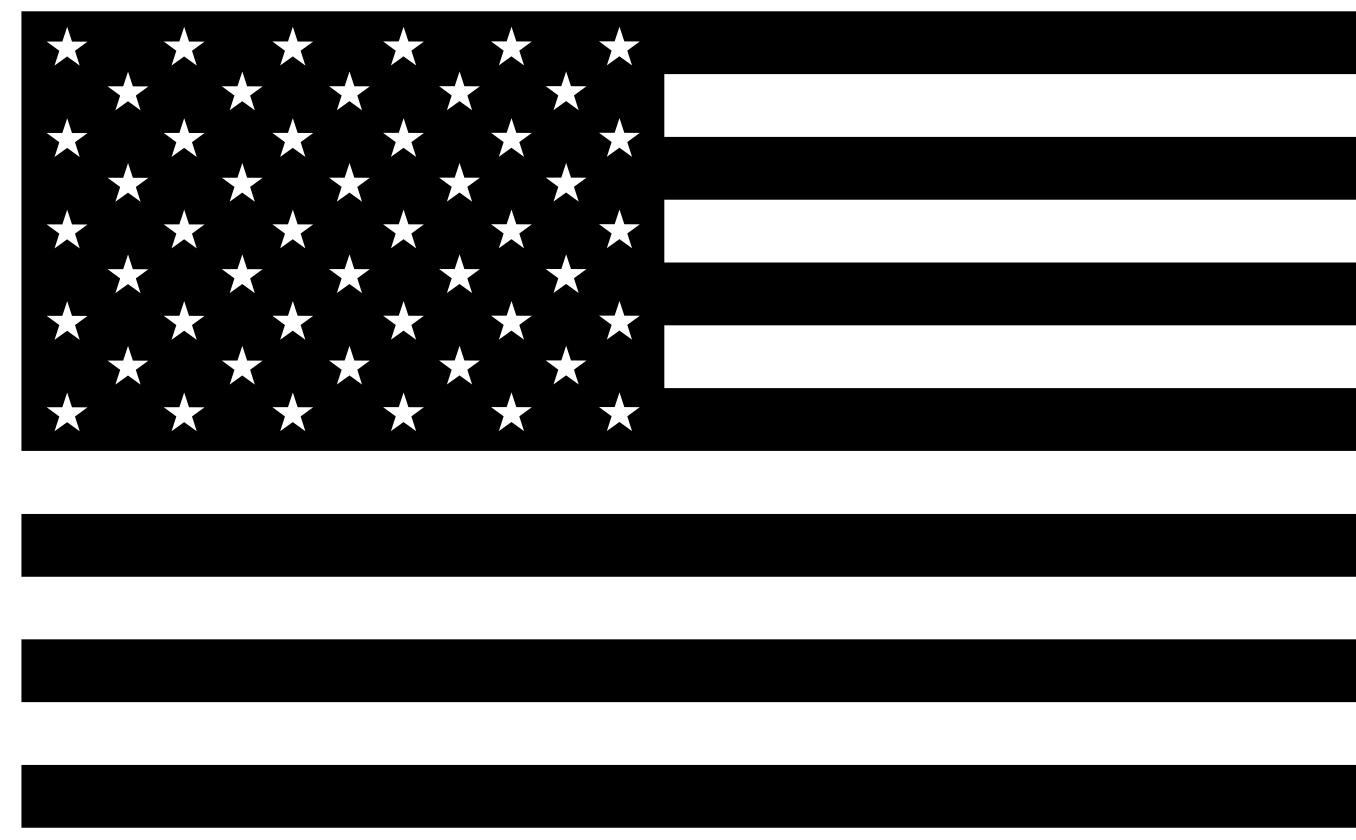


FREEDOM

★ LIGHTING SUPPLY ★



EST 2022

STARLIGHT HEADLINER

INSTALLATION GUIDE



SINGLE-COLOR • QUAD-COLOR • 120PC SHOOTING STAR • 240PC SHOOTING STAR

Complete Plug & Play Installation Reference

PLANNING • FIBER INSTALLATION • ELECTRICAL • APP SETUP • SUPPORT

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BEFORE YOU BEGIN

This guide covers FreedomLighting Supply Single-Color and Quad-Color Starlight Headliner Kits, along with the 120-Piece and 240-Piece Shooting Star upgrades. Exact interior removal, electrical access, illuminator placement, and trim configuration vary by vehicle.

IMPORTANT - PROTECT THE HEADLINER

A factory headliner can crease, crack, wrinkle, or become permanently damaged if it is excessively folded or bent. Create as much working room as possible before attempting removal or reinstallation.

RECOMMENDED TOOLS & INSTALLATION SUPPLIES

- Vehicle-specific sockets, wrenches, trim-removal tools, and appropriate hand tools.
- Power tools may make interior removal easier when used carefully.
- Marker or suitable marking tool for the backside of the headliner.
- Correct-size needle for piercing the headliner.
- Low-temperature hot glue gun and compatible glue.
- Fiber-optic cutters and zip ties for organization.
- Appropriate 12V wiring, circuit protection, connectors, meter, and electrical tools for the vehicle.

FLS PRO INSTALLATION DIY KIT

For DIY installations, Freedom Lighting Supply recommends the Pro Installation DIY Kit. It includes purpose-selected installation items such as the correct needle size, low-temperature glue gun, fiber-optic cutters, and zipties to help keep the installation clean and organized.

HEADLINER REMOVAL & WORKSPACE

STEP 1

Remove the Necessary Interior Components

Remove the interior pieces required to safely lower and remove the headliner. Depending on the vehicle, this may include pillars, visors, handles, overhead components, seats, center-console components, or other trim. Some vehicles require substantially more disassembly than others. When removing the headliner without removing glass, maximize the available interior space so the headliner can leave the vehicle with the least possible bending. On many pickup trucks, a rear door provides the largest practical opening.

PROFESSIONAL GLASS-REMOVAL OPTION

Some professional installers remove the windshield or rear glass to create a large unobstructed opening for the headliner. Glass removal and reinstallation should only be performed by someone with the appropriate equipment and experience. A typical DIY installer will generally create room by removing interior components instead.

STEP 2

Place the Headliner on a Clean Work Surface

Once removed, place the headliner on a large, clean, stable table or work surface with the backside facing upward. Support it evenly and avoid placing weight on unsupported areas.

PLAN THE STAR LAYOUT

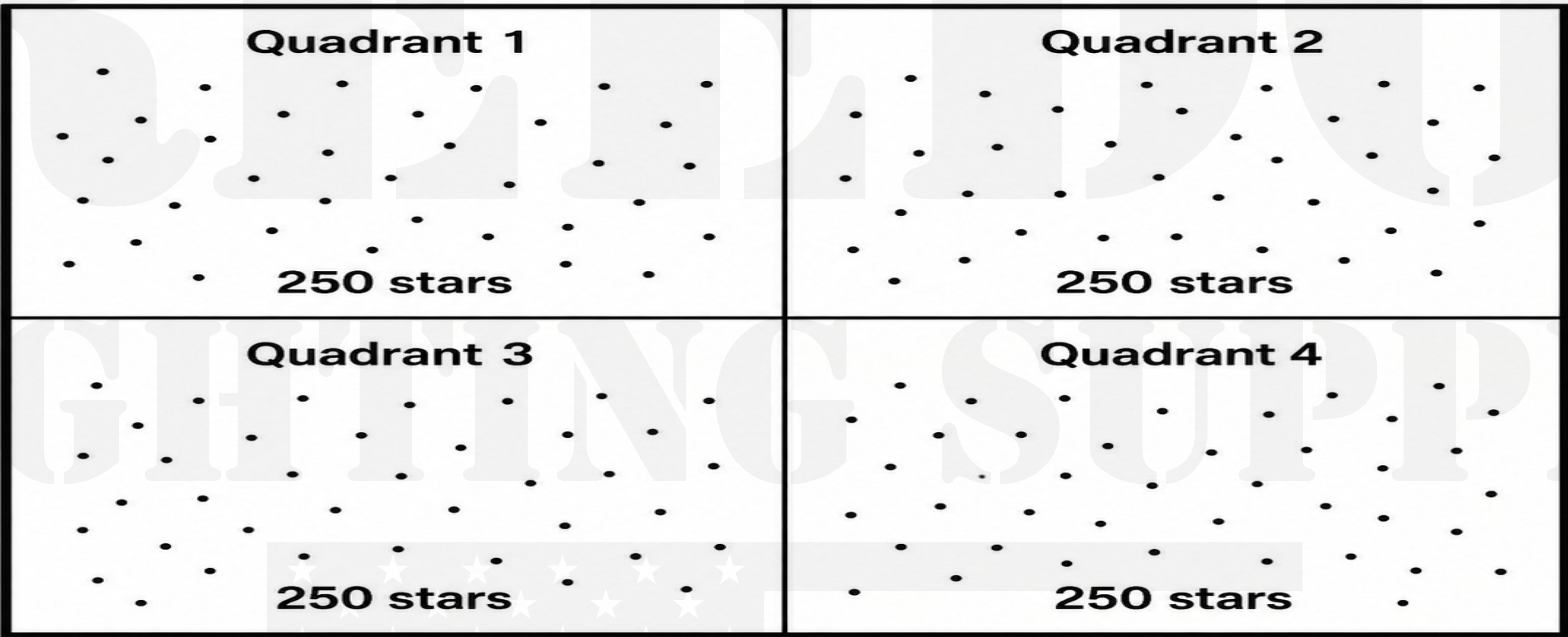
STEP 3

Divide the Headliner Into Four Quadrants

Working from the backside of the headliner, divide the usable starlight area into four approximately equal sections. Mark one centerline left-to-right and another front-to-rear to create four quadrants. This gives you a simple way to control overall star density while keeping the finished pattern random.

Divide the total number of regular starlight fibers by four and use that number as the approximate target for each quadrant. For example, a 1,000-piece kit should receive approximately 250 stars in Quadrant 1, 250 in Quadrant 2, 250 in Quadrant 3, and 250 in Quadrant 4.

Starlight Headliner Layout Example



Example: 1,000-piece Starlight Headliner Kit
 $1,000 \div 4 = 250$
Place approximately 250 stars in each quadrant
(1 + 2 + 3 + 4 = 1,000 stars).

STEP 4

Randomly Mark the Regular Stars

Within each quadrant, place small marker dots randomly across the usable area. Do not create rows, grids, or an obvious repeating pattern. The quadrant count controls distribution; the individual star locations should still look naturally random.

WORK FROM THE BACKSIDE

All layout marks and piercing are performed from the backside - the roof-facing side - of the headliner. The fibers are pushed through from the backside toward the finished interior-facing surface.

PLAN AROUND VEHICLE COMPONENTS

Before piercing the material, account for overhead consoles, dome lights, microphones, handles, visors, sunroof openings, wiring channels, fasteners, and other vehicle-specific components.

SHOOTING STAR LAYOUT - OPTIONAL

If the vehicle is receiving a 120-piece or 240-piece Shooting StarKit, establish the normal starlight locations first. Then plan and mark the shooting-star patterns.

STEP 5

Mark the Shooting Star Lines

Unlike the normal stars, shooting-star fibers should be installed in deliberate straight-line groups. Mark the individual fiber locations extremely close together along each line. The fibers should not share the exact same hole or touch once installed, but tight spacing is important for creating the proper animated shooting-star effect.

Keep the shooting-star module location in mind during layout. The module is compact and can typically be secured above the headliner when sufficient clearance exists. It will require its own

12V positive and negative electrical connection.

CUSTOM LOGOS & DESIGNS

For a custom logo, lettering, or other defined design, Freedom Lighting Supply recommends using a separate lighting kit/illuminator whenever practical. Independent control allows the logo to operate separately from the surrounding stars, use a different color, and stand out more clearly.

IMPORTANT - MIRROR THE LOGO

Because the design is laid out from the backside of the headliner, any logo, lettering, or directional design must be mirrored/reversed. When viewed from the finished interior side, the design will then read correctly.

PIERCE, THREAD & ORGANIZE THE FIBERS

STEP 6

Pierce the Marked Locations

Using the correctly sized needle, carefully pierce each marked location from the backside toward the finished side. The Freedom Lighting Supply Pro Installation DIY Kit includes the proper needle size for the supplied fiber optics.

STEP 7

Thread the Fiber Optics

Feed the fibers through the pierced holes and pull plenty of slack through to the finished side. Do not leave the fiber barely protruding. Extra length protects against a fiber backing out before it is fully secured and gives you enough material for clean final trimming.

FIBER ORGANIZATION & GLUING

STEP 8

Organize the Backside as You Work

Even a smaller starlight kit creates a large number of loose fibers. Continuously route and organize them toward the planned illuminator location instead of waiting until every fiber is installed. Use the supplied zip ties where appropriate to keep bundles neat without crushing or sharply bending them.

FIBER ROUTING

Avoid sharp bends, kinks, crushing, excessive tension, and unnecessary crossing of fiber bundles. Plan the routing so the headliner can be reinstalled without trapping or pinching any fibers.

STEP 9

Secure the Fibers With Low-Temperature Hot Glue

After the fibers have been threaded and organized, secure them on the backside of the headliner using low-temperature hot glue. Apply enough glue to retain the fibers without creating excessive bulk.

LOW-TEMPERATURE HOT GLUE ONLY

Do not use a high-temperature glue gun on the fiber optics. Excessive heat can damage or melt the plastic fiber. The FLS Pro Installation DIY Kit includes an appropriate low-temperature glue gun.

STEP 10

Allow the Glue to Fully Cure

After all fibers are secured, leave the headliner stationary and allow the glue to completely set. Freedom Lighting Supply recommends allowing approximately 12-16 hours before moving or reinstalling the headliner.

DO NOT TRIM THE FIBERS YET

Leave the exposed fibers long. Final trimming is performed only after the headliner is completely reinstalled and secured in its final position inside the vehicle.

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ILLUMINATOR & CONTROLLER CONNECTIONS

The regular starlight fibers terminate at the main starlight illuminator/controller. The connection configuration depends on whether the system is Single-Color or Quad-Color.

SINGLE-COLOR STARLIGHT

The Single-Color system uses one fiber-optic connection point at the illuminator. Gather the regular starlight fibers into the supplied port adapter/fiber holder, secure the fibers into the adapter, and connect the adapter assembly into the single illuminator port. Make sure the connection is tight, then perform a gentle pull check so the adapter and fiber bundle cannot move or loosen over time.

QUAD-COLOR STARLIGHT

The Quad-Color system uses four separate fiber-optic connection ports. Organize the regular starlight fibers into the required bundles, secure each bundle into its supplied port adapter/fiber holder, and install all four assemblies into their respective illuminator ports. Make sure all four connections are fully seated and tight, then gently pull-check each adapter.

SHOOTING STAR MODULE - 12 PORTS

Both the 120-piece and 240-piece Shooting Star configurations use a 12-port shooting-star control box. Divide the shooting-star fibers evenly into 12 separate groups before connecting them to the module.

KIT	TOTAL FIBERS	PORTS	FIBERS PER PORT
120-Piece Shooting Star	120	12	10
240-Piece Shooting Star	240	12	20

For the 120-piece kit, create 12 groups of 10 fibers. For the 240-piece kit, create 12 groups of 20 fibers. Keeping these groups organized as you work is much easier than separating the entire shooting-star bundle at the end. Secure each group into its corresponding module port and verify that every group is firmly retained.

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REINSTALL THE HEADLINER

STEP 11

Prepare the Fiber Bundle for Reinstallation

After the glue has fully cured, inspect the entire backside one final time. Confirm every fiber is secured and organize the main fiber bundle so it can travel cleanly toward the planned illuminator location.

STEP 12

Route the Main Fiber Bundle

As the headliner is returned to the vehicle, route the main starlight fiber bundle down a C-pillar when practical. The C-pillar is typically one of the larger pillar areas and often provides the easiest path for bringing the fiber bundle down from the headliner.

STEP 13

Secure the Headliner Before Trimming

Carefully return the headliner to its installed position while protecting all fiber bundles from pinching, kinking, or pulling. Reinstall the pillars and enough interior components to fully secure the headliner before trimming any fibers.

When possible, keep the seats removed until the starlight installation and fiber trimming are completely finished. The additional working room makes the final steps significantly easier.

MOUNT THE ILLUMINATOR & SHOOTING STAR MODULE

Hide the main illuminator in a secure, protected, serviceable location toward the rear of the vehicle when practical. Exact placement is vehicle-specific. The shooting-star module is very small and may be secured above the headliner when adequate clearance exists. Make sure neither unit can rattle, move, interfere with trim, or create a pressure point against the headliner.

12V ELECTRICAL CONNECTIONS

The main starlight illuminator and shooting-star module require 12V power and ground. When both systems are installed, run an individual power wire and individual ground for each controller/module rather than combining them into one power lead.

ELECTRICAL SAFETY

Use an appropriately rated and protected 12V circuit and proper automotive wiring practices. Verify polarity and the correct vehicle circuit before making a connection. If you are unsure about the vehicle electrical system, have this portion completed by a qualified installer.

The system may be connected to a dedicated manual switch or to an appropriate ignition/accessory-switched 12V source. Freedom Lighting Supply prefers ignition/accessory-switched operation when practical because the headliner can automatically power with the vehicle for a more integrated OEM-style experience.

FINAL FIBER TRIMMING

STEP 14

Trim Only After the Headliner Is Fully Installed

Once the headliner is completely secured in its final position, trim the exposed fibers from the finished interior side. Work slowly and methodically.

Use the supplied/recommended fiber-optic cutters and trim each fiber cleanly at the finished headliner surface. Take care not to drag the cutter across the fabric or nick the headliner material, which can pull threads, snag the surface, or create visible damage.

TAKE YOUR TIME

Fiber trimming is one of the final cosmetic steps. Keeping the seats removed until trimming is complete provides more room to position yourself and reduces the chance of accidentally contacting the finished headliner.

MY SMARTLED APP SETUP

Compatible Bluetooth-equipped Starlight Headliner systems use the My smartLED app. Scan the QR code below to open the exact Apple App Store page.



My smartLED
Apple App Store

Scan the QR code to download the app.

apps.apple.com/us/app/my-smartled/id1477962111

After the compatible controller has power, enable Bluetooth on the phone and open My smartLED. Follow the app prompts to connect to the controller and test the available lighting functions. Available functions may vary with the specific controller supplied with the kit.

FINAL SYSTEM TEST

Before reinstalling the remaining seats or interior pieces, power the complete system and inspect the finished headliner. Confirm the regular stars illuminate, intended color functions operate, shooting-star effects operate when equipped, controllers remain secure, and no fiber bundles or electrical wiring are pinched by trim.

FINAL INSTALLATION CHECKLIST

- Headliner fully secured with no new creases, wrinkles, or damaged areas.
 - Regular stars distributed evenly with a natural random appearance.
 - Shooting-star lines closely spaced and straight when equipped.
 - All backside fibers secured with low-temperature hot glue.
 - Glue allowed approximately 12-16 hours to fully cure before reinstallation.
 - Fiber bundles organized and free of sharp bends, crushing, or excessive tension.
 - Single-Color adapter securely connected to its illuminator port, when applicable.
 - All four Quad-Color adapters securely connected, when applicable.
 - 120-piece Shooting Star Kit divided into 12 groups of 10 fibers, when applicable.
 - 240-piece Shooting Star Kit divided into 12 groups of 20 fibers, when applicable.
 - Main illuminator and shooting-star module securely mounted and protected.
 - Separate appropriate 12V power and ground connections used for each controller/module. •
- Fibers trimmed only after the headliner was completely reinstalled.
- All lighting functions tested before final interior reassembly.

QUICK TROUBLESHOOTING

Some regular stars do not illuminate: Inspect the affected fibers for excessive bends, damage, or poor seating at the illuminator adapter. Confirm the fiber bundle is securely retained in the illuminator.

Quad-Color section appears weak or does not illuminate: Inspect the corresponding fiber adapter and verify it is fully inserted and securely tightened into its illuminator port.

Shooting-star effect is incomplete: Verify all 12 shooting-star module ports contain their intended fiber groups and that the fibers are firmly retained. Confirm the shooting-star module has proper 12V power and ground.

Fibers pull back through the headliner: Do not continue trimming. Inspect the backside if accessible and verify the affected fiber was properly secured with low-temperature glue.

App will not connect: Confirm the compatible controller has power, phone Bluetooth is enabled, and My smartLED has the permissions requested by the phone. Restart the app and controller power if necessary.

WARRANTY & INSTALLATION SUPPORT

Freedom Lighting Supply lighting products are backed by our Lifetime Warranty for the original purchaser, subject to current warranty terms. Warranty coverage does not include improper installation, misuse, physical damage, heat damage, or unauthorized alteration of supplied components or wiring.

NEED INSTALLATION HELP?

Contact Freedom Lighting Supply before making an uncertain connection or modification. Installation Support:
Monday-Saturday, 8:00 AM-8:00 PM Eastern Time • 239-300-8339 • info@freedomlightingsupply.com • freedomlightingsupply.com