

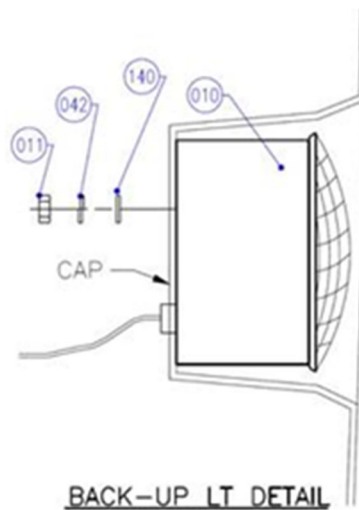
## How To - Replace the Backup Lights with LED Fixtures

The Backup Lights needed to be replaced because the incandescent lamp light is was too dim to overcome the reflections in my driver's side windows and my backup camera would 'white-out' if there was insufficient light behind the coach despite the fact that camera has infrared LEDs for night vision.

We would like to replace the Fleetwood incandescent Backup Light fixtures with LED assemblies such as the following:



The lenses provided by Fleetwood are 5" across but I have been unable to locate an LED lens with the three screw configuration at that size. Those with three mounting screws appear as 4" lenses but the mounting rings are more than 5" in diameter. In the example above, the mounting ring is 6" in diameter.



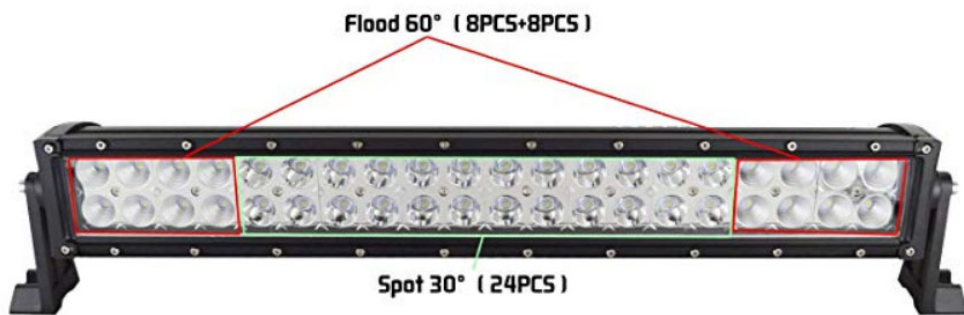
It appears that I've run out of practical options to replace the back-up lights with a chrome LED assembly. In addition, the mounting cup attaches from the inside of the rear cap, but without dismantling part of the rear cap, I can't get to the mounting nuts from any direction.

None of the LED assemblies that would look good and provide adequate light in that location can be securely mounted in the correct position with the current design of the incandescent lamp fixture. We were left to cleaning up the water damage, repainting the lens reflector, and inserting a single equivalent LED bulb. Better, but still nowhere near bright enough for backing into an unlit storage parking space. Time to shift gears.

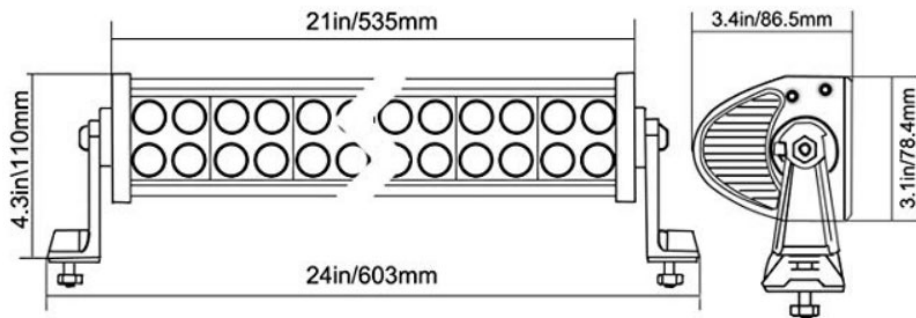
An option presented in the iRV2 Forums was to mount an LED Light Bar between the grill and the radiator. When backing into a dark area, the driver's Docking Light switch can be used to activate the Light Bar.

The Light Bar has the added advantage of being at the correct height for hooking up/disconnecting the toad at night. With a separate manual switch behind the rear grill, the Light Bar can be activated without using the side Docking Lights on the coach.

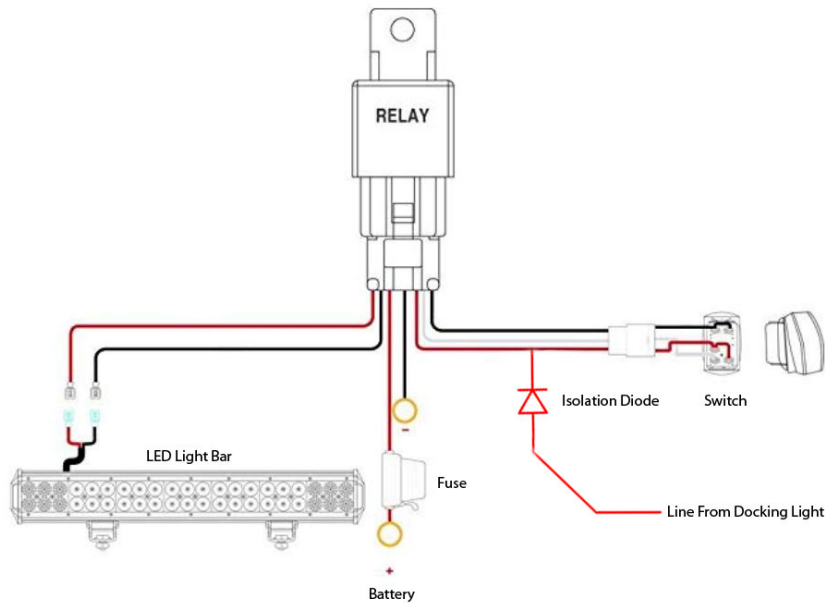
**Parts:** AUXTINGS 22 24 inch 120W Spot Flood LED Light Bar for \$32 from [https://www.amazon.com/gp/product/B073S42YSN/ref=ppx\\_yo\\_dt\\_b\\_asin\\_title\\_o02\\_s01?ie=UTF8&psc=1](https://www.amazon.com/gp/product/B073S42YSN/ref=ppx_yo_dt_b_asin_title_o02_s01?ie=UTF8&psc=1)



Mixed spot and Flood light integration, concentrated light ,  
brightness is atrong, wide range of light !



The wiring diagram shows how the Light Bar connects to the power relay, manual switch, and battery connections. All wiring except for the Isolation Diode came with the Light Bar.



A 1N4001 Isolation Diode was added to the red line between the manual switch (on the right) and the relay, to the Docking Light wire so that the Docking Light switch at the driver's seat would turn on the Light Bar but the Light Bar switch would not turn on the Docking Lights.

**Parts:** 3 amp 1N4001 diodes, a 20 pack for \$10 from [https://www.amazon.com/gp/product/B0068AF32Q/ref=ppx\\_yo\\_dt\\_b\\_asin\\_title\\_o04\\_s00?ie=UTF8&psc=1](https://www.amazon.com/gp/product/B0068AF32Q/ref=ppx_yo_dt_b_asin_title_o04_s00?ie=UTF8&psc=1)

**Parts:** Wire Wrap in 1/4", and 3/8" diameter for \$4 at <https://www.harborfreight.com/1-4-quarter-inch-x-14-ft-protective-wire-wrap-66985.html>

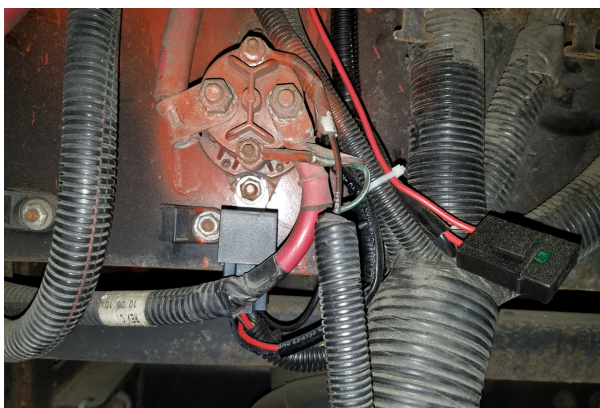
**Parts:** Tie Wrap for \$6 at [https://www.amazon.com/Multi-Purpose-Self-Locking-Tie-Wraps-Cable-Tie-Strength/dp/B0793HMK2H/ref=sr\\_1\\_1\\_sspa?crd=32DKNCRDSYLAV&keywords=tie+wrap&qid=1555685350&s=gateway&sprefix=tie+wrap%2Caps%2C141&sr=8-1-spons&psc=1](https://www.amazon.com/Multi-Purpose-Self-Locking-Tie-Wraps-Cable-Tie-Strength/dp/B0793HMK2H/ref=sr_1_1_sspa?crd=32DKNCRDSYLAV&keywords=tie+wrap&qid=1555685350&s=gateway&sprefix=tie+wrap%2Caps%2C141&sr=8-1-spons&psc=1)

The Light Bar was attached to the base of the coach's end cap then the wiring harness was wrapped in wire wrap, tie wrapped to existing wires in the coach and routed back to the chassis battery distribution area. The Light Bar switch is mounted between the lower and upper rear grill.



The light bar is between the radiator and the rear grill. The manual light switch is between the lower grill and the upper grill (open). The main wiring to the battery compartment exits at the top left of the radiator.

Inside the Engine Compartment, the cable enters from the top of the radiator and forward to the Engine Fuse and Relay area. The new wire wrapped cable is tied to an existing wire run. From there it drops down to just below the Grid Heater Relay (red). The Light Bar Relay is bolted to the frame at the base of the Grid Heater Relay. The Light Bar Fuse is to the right. The battery and ground connections are just above this point on the Engine's fuse block distribution panel seen in the second image. The Isolation Diode was connected to the red wire coming from the relay to the manual switch and is fully covered by the wire wrap in the third image.



The backup lights come on when the coach is in reverse, just as before. But now, if I need more light to back into a dark storage location, I can flood the area with light by turning on the Light Bar along with the Docking Lights at the driver's seat.

If I want to have additional light to hook-up or disconnect the toad, the Light Bar is at an ideal height and using the manual switch without the Docking Lights needing to come on.