Tech Talk

LIGHT 'EM UP

LED LIGHTING

PHOTOS & WORDS BY IAN BOWMAN

To anyone who has seen a new car rolling down the road anytime recently, it's no secret that the future of lighting revolves around LED's. The modern look, ultimate reliability, and higher intensity has won the aftermarket over for years, and the OE's have followed suit in recent times.

First things first, let's look into the technology; LED stands for "light emitting diode". Basically, electrical energy passes through an electrical diode, the molecules inside the diode react, and light is formed. This, opposed to electricity passing across a wire filament in a normal, incandescent bulb, which glows and creates light. The biggest advantages to LED's are lower electrical load, faster switching, and increased output when a small package is necessary. On top of that, without a wire filament constantly wearing from having energy passed across it, LED's typically last longer than incandescent bulbs as well.

Tri-Fives are no exception to the LED allure; the constant push for 21st century technology in our classics evolves day-by-day it seems, and lighting is no exception. With this innovation has come multiple options, but some better than others; simply put, not everything fits or works the way you want it to, or the way it should. Even worse, some options look too modern.

Project Dad's Del Ray here falls into the latter category. Everything that's been done to this particular car to upgrade it, has been done in the vein of keeping the classic look. Rocket Racing Wheels, Dakota Digital RTX gauges, Holley Terminator Stealth 4150 EFI and hidden-coil valve covers, the list goes on. So, what do you do when you want modern reliability, LED light output, but don't want the car looking like it was built in the 2000's?

Companies like United Pacific, and most recently, a joint venture between Holley and Morimoto Lighting, have expended countless hours of research into providing LED options that keep the classic look.

Holley's new RetroBright LED headlights are one of the biggest game-changers I've come across in the lighting game for some time; available in 7" configuration for our Tri-Fives, as well as various other old-car-friendly sizes, these headlights have the look of an original sealed-beam bulb, using a "line" style lens that absolutely passes the "glance test". But with one in your hand, it's very clear this is no ol' Guide T-3. Nope, these puppies carry a full-finned metal housing for heat dissipation, and a serviceable LED cartridge featuring both high and low beam circuits.

Possibly the best part of all, they're plug-and-play, meaning there's no need for any additional wiring whatsoever. No additional ballasts, no secondary grounds, these units plug directly into the original 3-plug connector for your existing headlights. And, with the aforementioned lower electrical draw, there's no worry of overload on existing, even older, even original wiring. Simply put, there is no downside.

United Pacific's LED lighting options for brake and turn signals are second to none in their own. Gone are the days of using a secondary circuit board and crossing your fingers that no moisture reaches them. UP's LED park and tail lights encompass their respective lenses as well as the circuit boards and LED's in one sealed unit. On top of that, all wiring is sealed, and runs into a 1157-style socket, so absolutely no modifications are required whatsoever at the backing plates.

Now, lets go ahead and bring Dad's Del Ray out of the dark ages!

We'll be doing headlights (P/N HOL-LFRB155-PAIR), tail lights (P/N WHR-CTL5510LED), and marker lights (P/N DAN-15564). Notice there is a flasher in the mix as well (P/N DAN-13677) All available through Woody's Hot Rodz. Remember, your membership gets you FREE shipping from Woody's on all non-freight/ oversized orders over $100.

The low-load associated with LED lighting typically is not enough to activate a standard turn signal flasher, so a specific low-load flasher is necessary. We'll elaborate on that later.

A timeless look, keeping the classic style was high on the list with this one, so one last look at the original setup.

Holley's RetroBright headlights are the only LED unit on the market to keep the "line" style of the classic headlight. We went with the 5700K "modern" light color, but Holley also offers them in a 3000K "classic white" for an all-original look, and even more different, a 5700K bulb with a yellow lens!

Showing off the "heat sink" style house used by Holley to dissipate heat, as well as the serviceable bulb cartridge. It's easy to see where your money went when these are in your hands!

First things first, you'll need to remove the outer bezel and seal by removing the screws at 12 and 6 o'clock.

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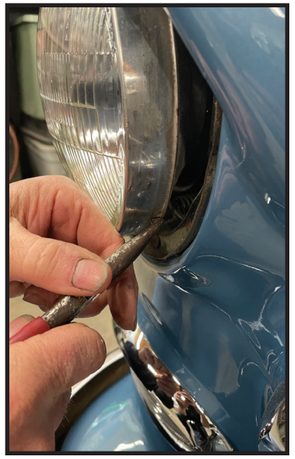


With the bezel removed, the next step is to remove the retention spring on the right side. A pair of needle-nose pliers are my weapon of choice here, there's not much room for anything else, and a clamping tool of sorts allows you to keep control of the spring.

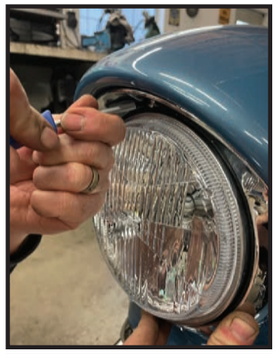
With the headlight loose, you can slip it out of the adjusters at 12 and 9 o'clock. With the headlight free, unplug the three-prong plug, and remove the stainless ring from the backing tray.

Your stainless retainer ring will fit the RetroBright headlight just as it was intended. No time-wasting modifications needed here!

On the backing tray, there'll be three notches to orient the headlight itself, which only go one way. There's also a notch to orient the trim ring, positioning the adjuster tabs in the correct location and keeping all your lines perfectly vertical. Once everything is assembled, plug the

3-prong plug into your factory wiring. Again, there is no modification needed here. I always recommend a dab or dialectric grease in the connector to inhibit corrosion. Carefully feed the wire into the headlight bucket, and slip the tabs on the stainless ring into the adjusters.

Reattach the retention spring. You'll probably have to squeeze this guy pretty tight to pull forward. The spring may be small, but it's strong!!!

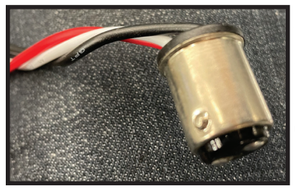


Reattach your headlight bezel. I usually do top first, let it hang, then get the bottom started a touch before running anything down. Remember, these things (unless they've been replaced) are 65+ years old, they may have been tweaked on a time or two!

Just like that, you've got LED lighting power! Move on to the next side, where the process is exactly the same. With the headlights done, we'll move on to the park

lights. United Pacific's LED park lights replace the lens, so no need to remove or modify the actual housing in any way shape or form.

Remove the lens and bulb, the only thing you'll need will be the retaining screws.
The original park and taillights



both use an 1157 bulb. These are a dual filament bulb, with a run and flash circuit on separate filaments. The United Pacific LED replacements use the same 1157 plug, so no changes to the housing and/or wiring are required.

Simply plug the harness in just as you would a bulb. Again, I recommend a dab of dialectric grease on the contact points. Note: remember to put the original lens-to-housing gasket on the LED lens first!

The LED conversion installs just as the factory lens would. Slip into the housing, and install the screws. It really is that easy! Installation is the same, side to side.

With the lights off, both of these could easily pass for factory lighting options, and that was the goal here!

With our front buttoned up, we move onto the rear. Bezel must be removed in order to gain access to the taillight lens screws.

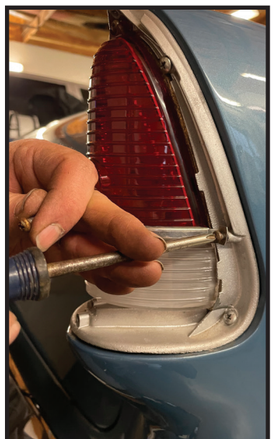
With the bezel out of the way, the retention "bar" for the backup lights and taillight is removed.

With the bar removed, the upper screw holding the taillight lens is taken out and the lens and bulb are discarded as neither is used over.

Just as the park lights, the tails use an 1157-style socket. If your car is equipped with back up lights, you can add LED flavor to those at this time as well by tagging on P/N 14542. Our unit here is not so equipped.

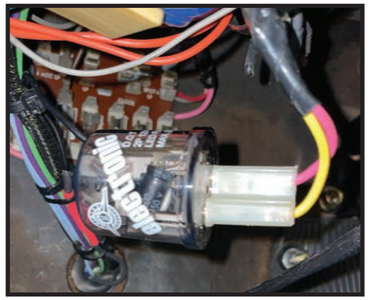
Loosely fit the stainless bar into place. Once all the recesses are lined up properly, cinch this down along with your upper screw.

Start the upper screw, but don't cinch it down just yet. Allow yourself some freedom to align everything properly.



Reattach your taillight bezel same as the fronts; top loose first, start bottom, then tighten both down.

All buttoned up. Looks no different now, but wait 'til they're lit up!



With our lights done, the last piece of the puzzle is United Pacific's low-load flasher. Without this specific flasher, the lights will do one of two things: hyperflash, or won't flash at all. Installation is as simple as replacing the existing flasher and running the ground wire. *NOTE* in some applications (specifically stock-style wiring harnesses like the one shown here) the polarity on the flasher will need to be reversed in order to gain turn signal operation. This can be accomplished one of three ways: re-pinning the connector or cutting & splicing the wires

opposite the original configuration, or using United Pacific P/N 90650A Polarity reverser.

Notice on the top of the new flasher, there's a wire?

This will need taken to a solid ground point. Dad's Del Ray has an added ground lug welded to the chassis by the a-pillar for just such a purpose, so we took it there.

And now, the fruits of our labor! The 6700K color on the RetroBright headlights is a nice, modern touch against the classic style of the '55, and provides increased visibility in night time driving situations well beyond what the old halogens were capable of.

The park lights carry an amber LED, which makes for a nice distinction away from the bright white headlight. The neat thing about LED technology, it allows the LED to appear perfectly clear until energy is passed through it, lighting up amber.

And out back, our new LED tails! Not only are these aesthetically pleasing and longer lasting, their high intensity brightness will improve visibility to other drivers, ultimately improving safety!