



**TECHNICAL** | LEAVING OTHERS IN THE DARK

# LEAVING OTHERS IN THE DARK

BRIGHTENING UP YOUR C4'S FUTURE WITH BULBS FROM THE 21ST CENTURY

BY CHRIS PETRIS ■ PHOTOS STEPHANIE PETRIS



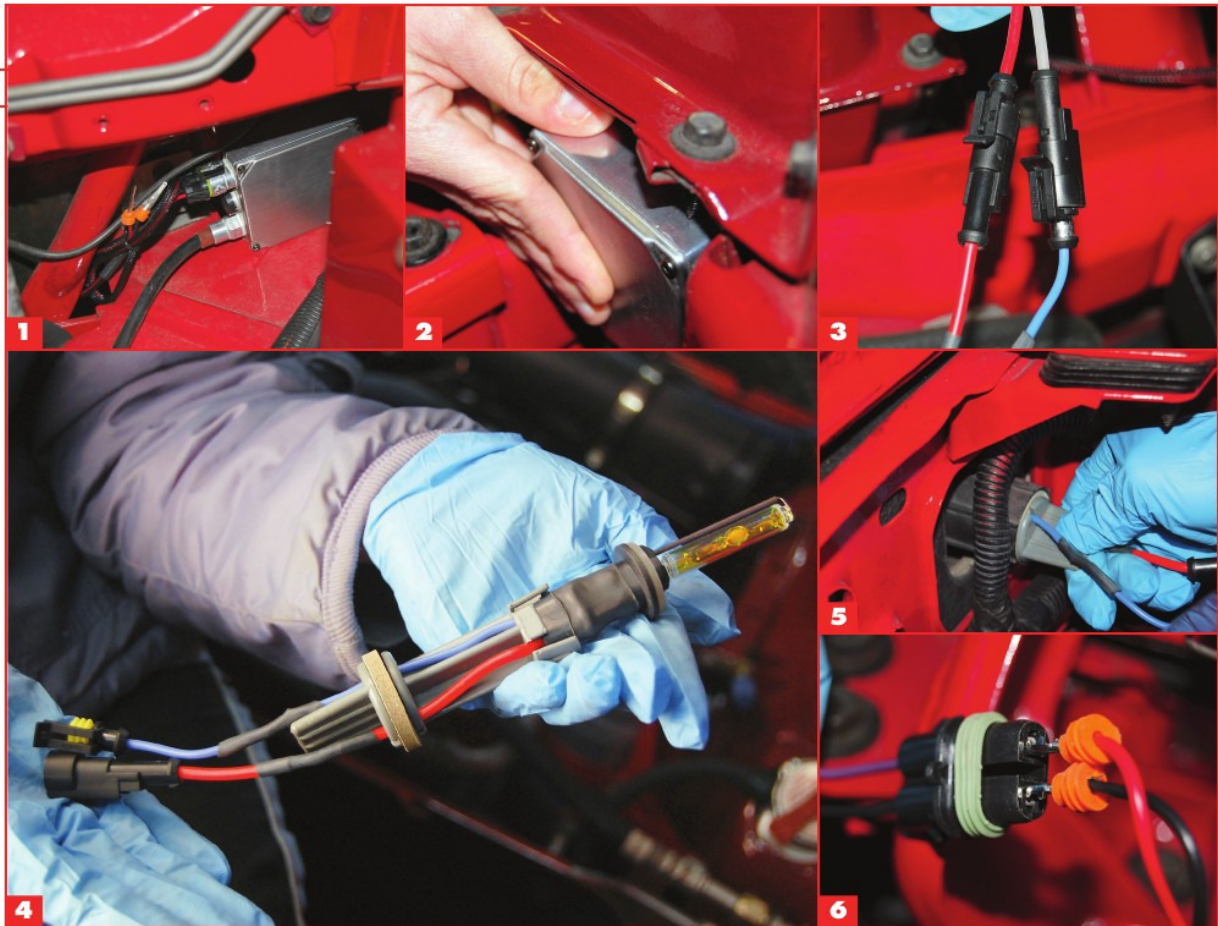
**WE NEVER CONSIDERED HOW POORLY TUNGSTEN FILAMENT LOW BEAM HEADLAMPS LIT THOSE BACKWOODS HIGHWAYS UNTIL HALOGEN HEADLIGHTS CAME ALONG. EARLY TUNGSTEN FILAMENT BULBS RELIED ON A REFLECTOR TO ENHANCE THE HEADLIGHT BEAM, KEEPING THE HIGHWAY IN FRONT OF YOU SOMEWHAT A ROLL OF THE DICE. THERE WASN'T MUCH FORWARD THINKING. WE JUST HOPED WE COULD JERK THE WHEEL QUICKLY ENOUGH TO AVOID THE SURPRISES. HALOGEN HEADLIGHTS MADE A WORLD OF DIFFERENCE KEEPING THE ROAD AHEAD SAFER.**

Halogen bulbs use tungsten filaments in a tightly encased quartz envelope filled with halogen gases. The halogen gases provide brighter light while the spent tungsten filament particles are recycled onto the filament. The tungsten regeneration keeps the bulbs

alive longer. The downside to their bright white light allowing us to see further down the road is the extra heat generated.

HID (High Intensity Discharge) lamps were the next step to replace existing exterior lighting. HID lights use a ballast (transformer) converting DC

voltage into AC voltage to burn the xenon gas metallic salt-filled lamps. The easily distinguishable blue tint from the xenon gas tells you that an HID lamp-equipped vehicle is headed your way. Once the metallic salts vaporize, the HID is at maximum brightness.



**1** Our HID ballasts must be mounted somewhat near the driving lights. We decided to mount ours under the driver-side frame rail. Industrial strength hook and loop fastener strips were supplied for the mounting and worked well.

**2** The passenger-side ballast was not going to fit under the frame rail, so we mounted it on the front side of the radiator/A/C housing. Wherever you decide to place the ballast, make sure the headlight will still rotate without hitting it.

**3** The weatherproof connectors from the lamps to the ballast are easy enough to connect and figure out. Just like the ballast itself, make sure the wiring doesn't get tangled in the headlights.

**4** We had to use the original driving light lamp holder, routing the wires through the holder in the same manner as the factory wiring. The lamp holder seal should be reused or replaced (if missing) to keep water and debris out of the lamp assembly.

**5** This can be aggravating trying to engage the driving lamp holder into the lens assembly. It may seem impossible, but it will go in and turn to the lock position.

**6** Not my favorite way of installing terminals, but this is the way the instructions showed them to be installed. We removed the orange seals and put heat shrink on the exposed portion of the terminals to at least protect the terminals from shorting out.

One major advantage is the HID bulb's intense beam directs a more focused pattern than halogen lamps. This allows a smaller lamp for the same amount of light the halogen produced. Another advantage is if you used the same size HID lamp, there would be considerably more light. The downside is the intense light beam can cause major glare issues for oncoming drivers. To make HID headlamps acceptable, new reflector designs were required. Unlike halogen replacements, HID lighting requires a complete, well thought-out package

to retrofit properly and avoid blinding other drivers.

Before HID or halogen lighting was available, fog and driving lights were installed to supplement our barely acceptable headlights. Fog lights rely on a piercing beam as close to the ground as possible to avoid bouncing the light rays off dense low-hanging clouds. Yellow lenses are the norm on fog lamps to help reduce glare off the fog. Driving lights with their clear lenses are also used in this manner to supplement headlights. No one likes to admit it, but as we age, night driving

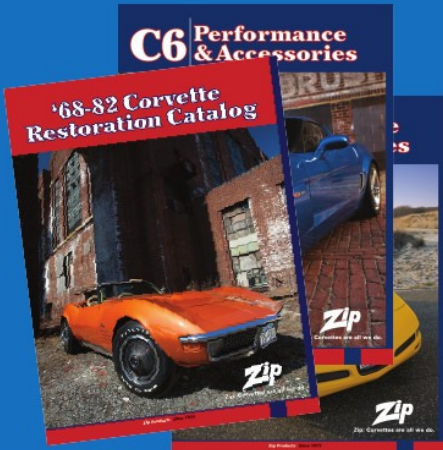
requires more light to raise our comfort level, especially when you're rocketing along at highway speeds. The idea is to spot animals on the interstate before they can ruin your night. Large deer in the Northeast or elk out West will make you a believer in having the best night vision possible. The cost is considerable for the HID units over halogen, but if you drive long distances at night, they're worth it. Retrofitting existing driving lamps is less costly than headlight HID's since they are positioned low enough to keep glare off the oncoming traffic. As we



Restoration to personalization.

What's the second-best sound to a garage door creaking open? The sweet rumble of a Corvette rolling out to meet the new day! Whether your pride and joy is shaking off a winter slumber or revving-up for the morning commute, Zip Products is the enthusiast's choice for the right parts, right now, at the right price. For the classics, Zip is in constant pursuit of the newest-available, most-correct, and best quality parts to be had. Fans of Cs 4, 5 and 6 know Zip to again be at the forefront when it comes to look-better/drive-better upgrades and enhancements for their respective generations. What can we ship your way today?

**1-800-962-9632 [www.zip-corvette.com](http://www.zip-corvette.com)**



**Zip**  
Zip: Corvettes are all we do.

©2010 Zip Products 804-746-2290 **FREE CATALOGS for Corvettes!**

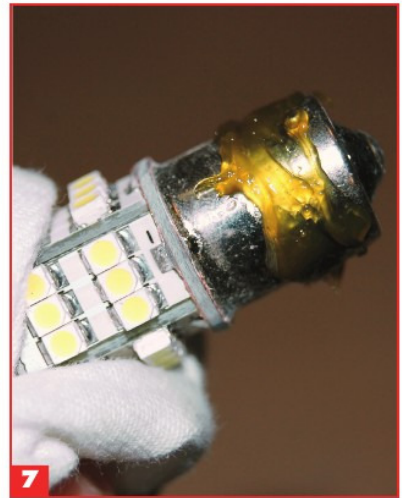
**EAST TEXAS**  
**MUSCLE CARS**

*WE SPECIALIZE IN THE SALES AND INSTALLATION OF QUALITY AFTERMARKET PERFORMANCE PRODUCTS FOR YOUR EARLY TO LATE MODEL VEHICLE.*

**CALL NOW!**  
**903.686.0456**

**5917 MCCANN RD | LONGVIEW, TX 75605 | [WWW.EASTTEXASMUSCLECARS.COM](http://WWW.EASTTEXASMUSCLECARS.COM)**

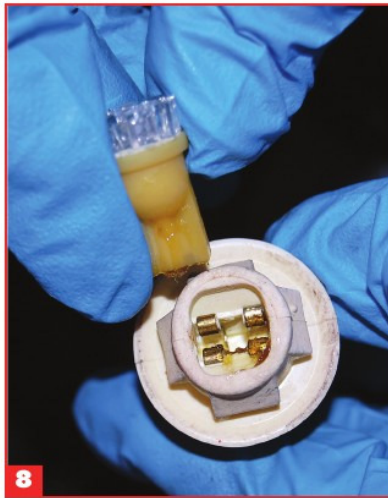
32 CORVETTE ENTHUSIAST



**7** We coated the bulb base with DE-OX anti-oxidizer to prevent corrosion and socket damage. DE-OX is available from most electrical suppliers.

mentioned earlier, HID lighting requires specific reflectors to avoid the glare from the upgraded lighting and keep the DOT happy. We chose halogen headlamps with the HID driving lamps to keep oncoming drivers safe. We aren't saying that HID headlamps are unsafe or troublesome; they just require specific components for correct installation. The other concern was cost. Coupling the HID driving lights with the halogen headlamps made a world of difference on our C4, while saving a few dollars.

Our lighting upgrade wouldn't be complete without replacing the original filament taillights and side marker bulbs with LEDs. LED (Light Emitting Diode) exterior lighting is all the rage, saving energy and giving long lamp life. We also replaced the back-up lamp bulbs with LED units for a bright white light for reverse maneuvering. Our cornering lamps were also replaced with LEDs for a definitive change in nighttime appearance. I have to say the LEDs really look great at night, especially those back-up lamps. The bright white light the LEDs emit really changes the exterior aesthetics. The HID driving light installation is easy enough with minimal tools on one Saturday afternoon, and you'll light up the night.



**8** LED side marker bulbs were installed at all four corners to enhance the exterior lighting. Just like the taillight and parking light bulbs, DE-OX should be applied.

The existing driving light wiring is used to connect to the supplied ballasts, and then the ballasts are connected to the new HID bulbs. We found the toughest thing to install was the new HID bulbs back into the driving lamp plastic housing. Installing the LEDs was painful because of the rear taillights, but we shouldn't be replacing them any time soon. Of course, there is always something to make things interesting. The LED taillight and parking light turn signal bulbs require another flasher. LED lamps require low amperage to illuminate, so standard thermal flashers won't heat up enough to flash the new LED lamps. Replacing the C4 flasher is a story in itself. The flasher is stuffed behind the passenger-side dash, making it difficult to find. It's one of those situations where you know that it is supposed to be there, but there's something about running your hand into the unknown, hoping you don't find something unexpected. We'll provide a photo for guidance, but then it's up to you play Pin the Tail on the Donkey. What's really cool about this upgrade is you get to see better while your Corvette looks better at night. Plus, there's a good chance you may never need to replace an exterior bulb again.



1963-1982 Replica Wheels!

## The #1 Manufacturer and Supplier of Corvette Interiors, Parts & Wheels!

**Corvette America products are available from:**

- ALL Major Corvette Parts Suppliers
- Restoration Shops
- Your Local Dealer

Call or go online to get your **FREE Catalogs!**



Dealer inquiries welcome!

**800-458-3475 • www.CorvetteAmerica.com**

### '53-62 CORVETTE CHASSIS

**Superior Steering, Stopping & Handling**



- \* Disc brakes, R/P steering
- \* Direct replacement
- \* Optional antisway bars
- \* Core support, engine trans, body & bumper mounts in their stock locations

**1953-62 Bolt-in IFS**



- \* Bolts to factory holes
- \* Can be installed at home with basic tools in a weekend

Made in U.S.A.

www.jimmeyerracing.com \* E-mail: jim@jimmeyerracing.com

**JimMeyer**

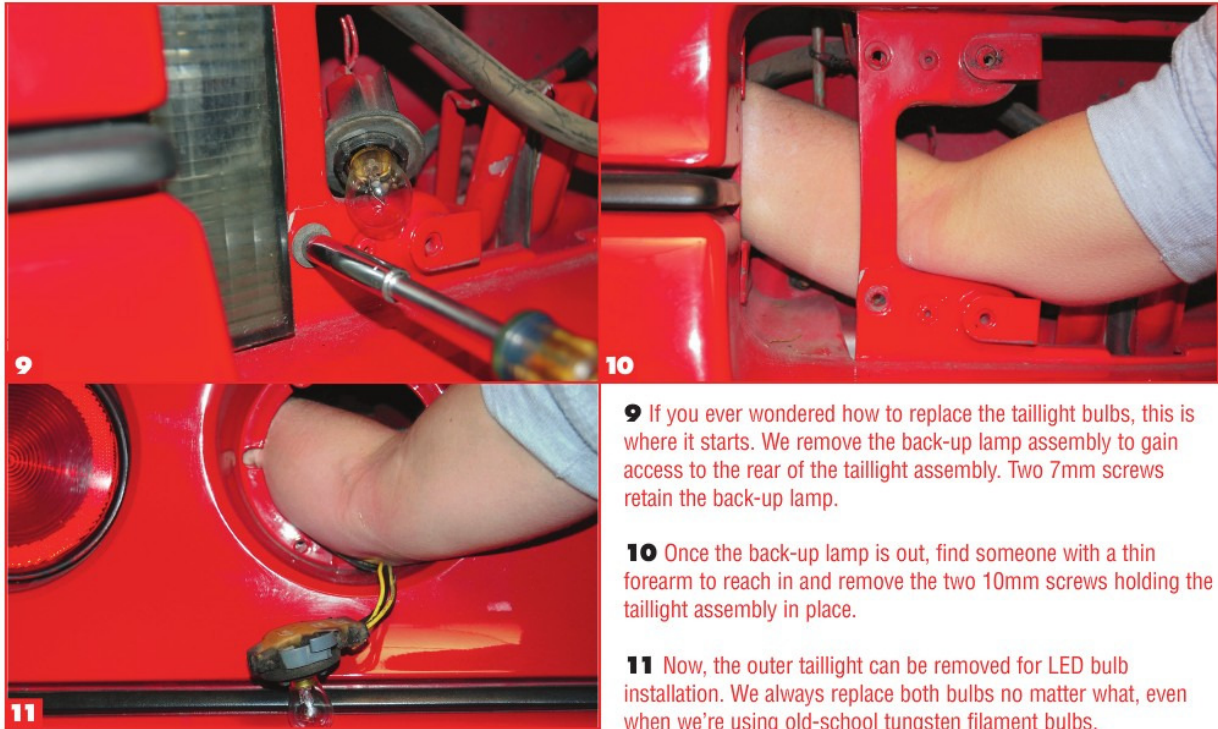
racing products inc

Tech Line: 541-994-7717

Order Line: 1-800-824-1752

2795 S.E. 23rd \* Lincoln City, OR 97367

**TECHNICAL** | LEAVING OTHERS IN THE DARK



**9** If you ever wondered how to replace the taillight bulbs, this is where it starts. We remove the back-up lamp assembly to gain access to the rear of the taillight assembly. Two 7mm screws retain the back-up lamp.

**10** Once the back-up lamp is out, find someone with a thin forearm to reach in and remove the two 10mm screws holding the taillight assembly in place.

**11** Now, the outer taillight can be removed for LED bulb installation. We always replace both bulbs no matter what, even when we're using old-school tungsten filament bulbs.

**Can Your Touch-Up Paint Do This?**



Fast, Simple, Dramatic Paint Chip Repairs...  
with **NO PAINT BLOBS!**

- \* All OEM Factory Match Colors \* Permanent Repairs
- \* No Clear Coat Needed \* The Cure for Road Rash

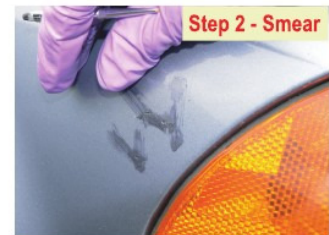
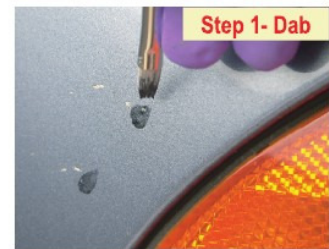
*Our proprietary paint and blending solution allow professional repairs in minutes, not hours!*

**Rated #1** by *The Wall St. Journal* among do-it-yourself paint repair products -2/14/08



**DR. COLORCHIP™**  
AUTOMOTIVE PAINT CHIP REPAIR SYSTEMS

**Order Your Chip Repair Kit Today!**  
**Drcolorchip.com (866) 372- 2548**



3 kit sizes: \$39 \* \$49 \* \$59



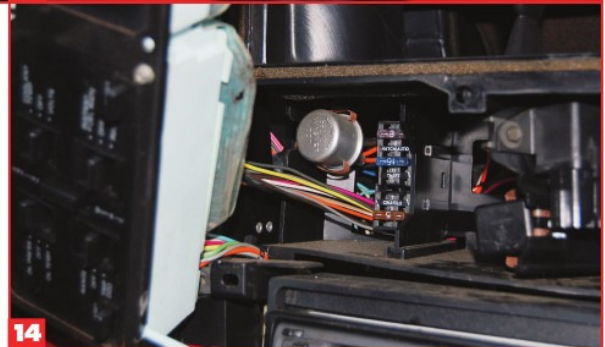
12

**12** The LED taillights have a bulb socket fixture to twist into the socket in place of the standard bulb.



13

**13** We stuffed the wiring into the taillamp assembly and twisted the original bulb socket into place. Make sure you have a good seal on the bulb socket to keep junk out of the lamp assembly.



14

**14** 1984-1989 Corvettes have the four-way flasher located behind the convenience panel (SES light, dash switches, etc). The center dash fascia must be removed first; then 7mm screws hold the panel in place. Your new LED lights won't flash with the original four-way flasher or the turn signal flasher.

**Z06 Big Brake Package**  
Direct bolt on to 1997-2010 C5 & C6 Corvettes.  
REGULARLY .....\$2415.95  
**SALE .....\$2095.95**  
\*Does not fit stock C5 or C6 wheels.

**1997-2010 Billet Exhaust Plates**  
Your choice of logo.  
Starting at.....\$169.00

**1997-2010 Hurricane™ Air Intake System**  
Up to 35 HP gain. One of the best forced air intake systems available today.  
Carbon Fiber ....Starting at \$499.95  
Black Finish ..Starting at \$299.95

**Dominator GT Pro and GT Race Exhaust Systems**  
Made by Bassani & WCC for C5, C6 & Z06 Corvettes. All Dominator GT systems are constructed of 100% stainless steel, made in the USA and come with a limited lifetime warranty.  
Starting at ...\$995.00

**100% Price Match Guarantee**  
Shop with Confidence

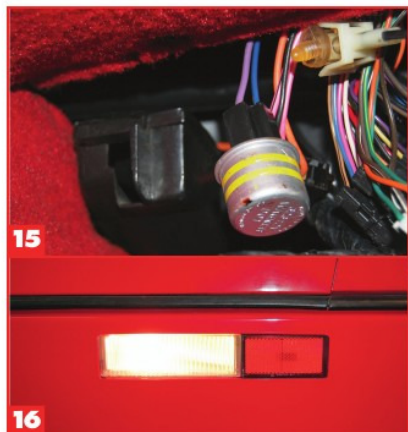
**97-2010 C5 / C6 WCC Forged 946 Performance Wheels**  
These are the deepest forged wheel on the market for standard body C5 and C6 Corvettes.  
Starting at ....\$3,595.00/Set

**2009 Z06 Spider Wheels**  
Fits all 1997-2010 Corvettes. Available in Chrome, Black.  
Starting at...  
**\$895<sup>00</sup> / set**

**SALE! ZR1 Wheels for C5 & C6**  
Fits all 1997-2010 Corvettes. Available in Chrome, Black or Silver.  
Starting at...**\$749<sup>00</sup> / set**

**888-737-8802**  
www.westcoastcorvette.com **Over 4000 parts available online!**

**TECHNICAL** | LEAVING OTHERS IN THE DARK



**15** Now, that pesky turn signal flasher must be located to enjoy the look of those new LED lights. We found the flasher directly above where it was hanging down. We simply reached up, grabbed it and there it was.

**16** Now that's a bright back-up side lamp! The same bulbs are used for the



front cornering lamps. The white light is very noticeable at night and actually helps your vision during cornering on the front.

**17** What a dramatic difference in the back-up lamps. They look so good you'll want to keep them on all the time. We didn't polish the lens, that's just using the LED bulb! ■

**FOR YOUR INFORMATION:**

**C4 HID DRIVING LIGHT KIT**  
[www.corvetteHID.com](http://www.corvetteHID.com)

**ECKLER'S**  
[www.ecklers.com](http://www.ecklers.com)  
 Taillight Kit (Part # 39262)  
 Flasher (2 required) (Part # 52951)

**CORVETTE EYEWEAR**  
**PREMIUM SUNGLASSES**

VIRTUALLY SHATTERPROOF POLYCARBONATE LENSES  
 Provides Superior Visual Acuity and 100% UV PROTECTION



**Available in the most popular Corvette™ colors!**

Visit our website at [www.CorvetteEyewear.com](http://www.CorvetteEyewear.com)  
 or e-mail us at [CorvetteEyewear@aol.com](mailto:CorvetteEyewear@aol.com)

★★ **DEALER INQUIRIES INVITED** ★★

For information on how to become an authorized Corvette Eyewear® dealer call

**866-416-8247**

General Motors Trademarks used under license to Corvette Eyewear®/JRS Eyewear

**GREAT CHRISTMAS GIFT!**

SEVERAL STYLES DESIGNED SPECIFICALLY WITH THE CORVETTE ENTHUSIAST IN MIND FROM THE C1 TO THE C6 AND C6-Z06

RETAILS FROM \$50.00

