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FIA CORVETTE HEADLIGHT INSTALLATION

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Installation Instructions

Application

This technical memorandum applies to the FIA headlight systems for C3 Corvettes sold through Vintage Exotics. The headlight system consists of the following components:

2 Headlight covers

2 Headlight brackets

2 Headlight backing plates

4 headlight bulb holders and trim rings

2 headlight retaining brackets

4 Dzus fasteners and springs

Aircraft grade rivets

We recommend reading through the instructions before starting on the installation. It is our experience that the set be installed for a trial fit, removed, painted or finished and then re-assembled. Please email us at jim@vintageexotics.com with any questions on the installation that you might have.

Installation

First begin by removing the factory headlight doors, mechanisms, hinges and actuators. You can retain the Corvette bulb holders and use them in this installation. Our Complete FIA Headlight Kit includes these bulb holders in case the existing units are not servicable.

The aluminum headlight brackets are finished in bare aluminum. Many people prefer to leave it in this finish but others have used anodizing, powder coating and painting. If you decide to paint them, we recommend a satin black “wrinkle” finish paint. This is what is shown in the images from one of our own installations. Make sure that you sand and clean them before painting if you choose that route.

The headlight brackets should fit inside of your factory headlight openings with no modifications. The upper portion of the bracket will mount to the stock holes in the header bar. The forward portion of the bracket can either be bolted or riveted to the lower grill bar in the stock body.

The headlight backing plates mount directly to the headlight brackets. We have left the fastening method to be chose by the user. Either bolts or riveted connections between the two pieces is reccomended. If you use bolts, be sure to use nyloc nits to prevent the pieces from loosening in service conditions.

Once the backing plates are mounted, you can purchase or re-use your headlight bulbs. These mount in the bulb holders and the rings attach to the holders. Note that only two screws per headlight bulb holder are required. A spring attaches at a third point to hold the bulb holder secure. The bulb holders mount in the backing plates by first attaching the spring and then maneuvering the bulb holder into the adjusting screws. You can then use the adjusting screws to point the headlights for service.

The Acrylic lens covers are best mounted using an aluminum bracket at the leading edge and Dzus (or quarter turn) fasteners at the trailing edge. This configuration provides the least possibility that air enters under the forward lip of the cover and the possibility of failure at high speeds. It further provides some protection from water directly entering the forward edge of the cover and fogging the lens in wet racing conditions. The quarter turn fasteners allow for the lens to be easily removed for cleaning or replacement during endurance racing or for general servicing.

The forward brackets are made from 0.055" 5000 series aluminum and are riveted to the forward edge of the body. Depending on the year of your Corvette, the rivets may penetrate the flexible bumper area and require additional washers behind the rivets for pull through strength. The rivets supplied with the mounting kit are aircraft grade Cherry Rivets with aluminum bodies and stems thus no corrosion will be expected between the brackets and the rivets.

To locate the brackets, place the lenses on the car in the desired position and place the bracket in the desired position. This placement is not critical but based on the need to clear the headlight backing plates and the appearance of the installation. The holes on the brackets are located on the forward side of the car. Use the brackets as a drill guide and drill 1/8 inch holes into the fiberglass or urethan bumper. Once you have drilled the first hole, install a rivet in this hole and drill another hole at the end of the bracket.. Install this rivet and use the remaining holes for drill guides. Use the flush mount rivets for these holes (flat bottoms and round protrusions above the brackets). Repeat the same procedure on the opposite side.



Both headlights installed



The rivets on the brackets face forward



The Dzus fasteners are located near the top of the covers but beware of the header bar interference !

Once the brackets have been located and mounted, place the headlight covers in place under the lip of the bracket. Locate two holes on the lens covers each 1 inch from the upper corners as seen in the example installation. Use 1/8 pilot drill holes in each location and install one rivet as a locating pin in one hole while the other hole is drilled. do not install the rivet with the riveter but rather leave it in the hole as a guide. Re-drill the holes to 1/2 inch diameter in the covers and then the fiberglass body. These are the holes for the Dzus quarter turn fasteners.

Next you will need to drill holes for the Dzus fastener springs. Place them on the body on the holes that you just drilled for the fasteners. Locate the primary wire so that it bisects the hole and is perpendicular to the centerline of the car. Use the Dzus wire to locate the holes for their fastening rivets. Drill two 1/8" holes to mount the Dzus spring under the exterior fiberglass panel. On each hole, use a larger bit (3/4 inch) or a chamfer bit to recess the head of the rivet into the hole. This provides a flush mounting for the cover and countersink rivets are provided in the kits.

On some cars you will be able to access the panel underneath the holes that you have drilled and on others the header bar is in the way. If the header bar is in the way, you may choose to notch it out with a cutting wheel or you can place the Dzus fastener spring into the 1/2 inch hole and carefully rivet the spring in place. This latter method may require some patience and skill. This issue can be avoided by relocating the holes in the headlight covers away from the recommended placement further forward. Check the locations before you drill holes in the bodywork to be sure that you are placing them correctly and where you would like them. There is no correct position for these Dzus fasteners but do avoid placing them too close to a cover edge as the lens will crack when drilled.

Cosmetics

Many people choose to paint the lens cover to match the body and others leave them clear. Its simply a matter of preference. The same is true for the mounting brackets. In the installation example, we have chosen to leave them natural.