

BODY-06, Battery Tray Leaks/Repairs

Introduction

A leaking battery tray can be catastrophic. Particularly if you own a 944 which has its DME located in the passenger's footwell. When the battery tray leaks, water drips onto the DME wiring harness and runs into the DME control unit case. On turbocharged cars, the KLR unit can be affected as well. Leaking battery trays normally occur when the battery tray drain clogs and water stands in the battery tray for long periods of time. It can also occur if the battery cover is missing. Water running off the windshield (from rain or when you wash your car) runs on top of the unprotected battery and washes acid from the outside of the battery to the bottom of the battery tray. It is therefore important that the battery be removed periodically, the tray cleaned thoroughly, and the drain checked to ensure it is draining properly.

Procedure

There are several different methods which may be used to repair a leaking battery. I will describe two of the methods here. The method chosen depends on the extent of the damage to the battery tray. The method required may also determine whether the projects are within the capability of the shade tree mechanic as well.

Determining Which Repair Method to Use

If there are no visible holes in the bottom of the battery tray or the holes are very small in size "Method 1" may be used. However, if the battery tray has large holes or there is a general weakening of the battery tray bottom (flexes easily when pushed on) "Method 2" should be used.

Method 1

As already stated, Method 1 should only be used if the damage to the battery tray is relatively minor.

1. For 944s whose DME control unit is located in the passenger footwell, or in the case of 944 Turbos, the DME and KLR control units, the control units should be removed before attempting any repairs to prevent damage to the control units.
2. First, check the battery tray drain to see if it is clogged and clean it out if necessary. You can check the drain by pouring a cup of water into the tray and see if it drains readily. Since you know your tray is leaking, you should stuff some rags around the underside of the tray to absorb any leakage. Then, the entire battery tray should be cleaned with a mild soap and water solution and rinsed thoroughly. This includes removing any debris that's too large to be flushed out the drain (i.e. leaves, etc.).

3. Next, scrape the bottom of the battery tray with a metal scraper to remove any loose paint. If there is any discoloration of the paint (i.e. rust color) or any rusted metal is exposed, the tray must be treated with a rust converter. This will convert the rusted metal back to a form that can be painted. On light colored cars discoloration of the paint in the battery tray is very easy to identify. However, with medium and dark colored paint, it is difficult, and sometimes almost impossible to identify all areas where there may be rust forming under the existing paint. For dark colored cars, I recommend removing as much of the paint from the bottom of the battery tray as possible. Then, treat rusted areas with rust converter as required. There are several different versions of rust converter. Mar-Hyde makes a very good converter which is applied with a brush. I've used the Mar-Hyde brand with results on my own car. I obtained it at a local auto paint supply dealer. I've also used a rust converter which comes in a spray can which I bought at Wal-Mart (sorry can't remember the brand). Be sure you wear gloves, mask, and eye protection when working with the rust converter. You DON'T want to get any on your skin. I'm told it will discolor your skins and takes an extremely long time to wear off.
4. After the rust converter is completely dry, coat the entire bottom of the battery tray with a "brushable seam sealer" (that's the stuff with brush lines in it that you see all over the engine compartment in a 944). For bare metal, it is desirable to prime the surface before applying the seam sealer. 3M makes a good brushable seam sealer that's available at most auto paint supply stores. If you're worried about aesthetics try to make your brush strokes similar to other areas under the hood where brushable seam sealer has been applied at the factory.
5. After the seam sealer is dry the battery tray may be painted to match the rest of the car's paint. Normally, the seam sealer does not need to be primed prior to painting.
6. After the battery tray is repaired, ensure that the battery has a battery cover installed. This will help prevent acid from being flushed off of the battery terminals during rainy weather or when the car is being washed. Also, make sure you remove the battery periodically and clean the tray. Make sure the battery tray drain is clear during cleaning.

Method 2

Method 2 should be used if there is significant damage to the battery tray. I won't describe this method in great detail because it is beyond the capability of most shade tree mechanics.

In this method, the bottom of the battery tray has been damaged to the point that it is not repairable. So, the bottom of the tray must be removed and a new tray bottom installed.

1. First, determine how much of the battery tray bottom must be removed and mark the area with a permanent marker, paint, scratch awl, etc. Remove the affected area using a cutoff tool, cutting torch, or if you have access to one (I hate you) plasma cutter.
2. Next, make a template for the replacement bottom by having someone hold a sheet of paper against the bottom of the tray and tracing the cutout area onto the paper.
3. Use the template to transfer the drawing of the replacement bottom to the metal plate you intend to use for the bottom. You may choose to use carbon, galvanized, or stainless steel. I prefer galvanized or stainless for obvious reasons but, it depends on what type of welding equipment you have available.
4. Cutout the new bottom and tack weld in to place in the tray to keep it from moving while you complete the welding. Use a hand grinder to clean up the welds on the tray side of the bottom (the underside isn't as critical).
5. Coat the entire bottom of the battery tray with a "brushable seam sealer" (that's the stuff with brush lines in it that you see all over the engine compartment in a 944). For bare metal, it is desirable to prime the surface before applying the seam sealer. 3M makes a good brushable seam sealer that's available at most auto paint supply stores. If you're worried about aesthetics try to make your brush strokes similar to other areas under the hood where brushable seam sealer has been applied at the factory.
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