

E36 POWER-STEERING HOSE FAILURES

Over the past couple driving seasons, we have seen a number of on-track failures of the power-steering-return hose on E36s [92-99 3-Series, including M3]. The failures we have seen were all the same: the return hose pulled off of the power-steering cooler, right at the factory-crimped connection. This failure results in the fluid content of the power-steering system being disgorged in a few seconds, creating quite a hazard on the track surface for the afflicted car and following vehicles. Of course, steering power-assist is lost as well. Why these failures did not commence earlier in the E36 life cycle remains somewhat a mystery. Please note that we have seen new, OE hose assemblies fail on their first track session, so replacing the power-steering cooler/return-hose assembly with stock parts has been shown to be ineffective in addressing the problem.

Although there is not complete consensus within the BMW-repair community as to the cause of these failures, many feel that the primary problem is that the return hose should be longer, and that engine movement [probably most severe in the on-track environment] exacerbates the problem. Deteriorated engine and/or transmission mounts can allow increased engine movement, and some feel that high temperatures may be an extenuating factor.

In preparing your E36 for a track event, it is imperative that you carefully check your engine and transmission mounts for deterioration, separation and for excessive motion of the engine and/or transmission. This inspection is facilitated by the use of a long pry bar. If your car is prepared by someone other than yourself, ensure that he/she is advised of the problem and knows what to look for.

You should also seriously consider replacing the power-steering-return hose with a suitable piece of hose a few centimeters longer. BMW hose # 32-41-1-131-524 [12-mm ID (inside diameter), cut to length] is known to work in this application. You will also need two hose clamps # 11-15-1-727-509 [15-18-mm]. Some claim success with aftermarket high-temperature hose of ½-inch ID, but be advised that the BMW hose fits the nipple on the steering-cooler more tightly than do some nominal ½-inch ID hoses. In the photo, the ferrule is where the failure occurs.



We have added an item to the driver-school Tech Form regarding this hose failure, and at event-day Tech we will be looking to see if you have addressed the problem.

Replacing the return hose is a straightforward operation. After the car has been secured on jack stands or a lift and allowed to cool, begin by cutting the return hose and allowing the contents of the system to drain into a pan. Note that the return hose is the SMALLER of the two hoses attached to the power-steering-fluid reservoir. Then, CAREFULLY slit [as shown in the photo] and remove the ferrule/hose from the power-steering-cooler outlet. An abrasive wheel was used for the photo, but a cutting pliers will suffice. Ensure that the hose nipple under the ferrule is not damaged by the slitting operation. If it is damaged, you will need to procure a new cooler-return-hose assembly.



When the ferrule and hose have been removed from the cooler outlet, you should see a hose nipple like this:



Continue by removing the other end of the return hose from the power-steering-fluid reservoir, then cut the new hose to the appropriate length and install to the cooler and reservoir with two hose clamps. You may find that your removed hose contains a restriction orifice located about 10-cm from the reservoir. You can remove this orifice and push it into your new hose, securing the orifice with a third hose clamp. Refill the system with Dexron ATF or other suitable fluid and bleed the system. Check for leaks and you should be done.