

THE FIX FOR SPRINTER™ TURBO HOSES CRACKING ON year 2007 and on, 3.0 LITER V6 ENGINES

DIRECTIONS FOR INSTALLING THE SPRINTER™ TURBO HOSE ADAPTER (rev:012010)

Part Number: ADAP09™ TOOLS YOU WILL NEED: • A pair of pliers, • A clean lint-free rag,
• A razor blade or box cutter, • A 5/16 socket, short extension
and ratchet or 5/16 box end wrench, flat blade screwdriver

Identifying the Problem Area's

First, please note that there are two turbo hoses on the 3 liter V6 engine. Looking at the engine from under the van, the hose on the **passenger** side goes from the **turbo output** to the intercooler. The turbo output side of the hose has the metal fitting, the **intercooler input** end of this hose is a standard rubber hose with a standard hose clamp.

The hose on the **driver's** side goes from the **intercooler output** to the engine's intake manifold. The intercooler output end of this hose is a standard rubber hose with a ("captive") hose clamp, while the intake manifold input side has the metal fitting. **The driver's side is the most common failure**, but both sides are failing and it is wise to replace both of the original metal hose ends with the ADAP09 which has well rounded ends, see (Figure 3) to avoid the cracking problem at the metal ends found on the original hoses.

The Problem

Both of these "hose assemblies" have metal ends "formed" onto the hoses in a manner that allows (actually "begs for") these hoses to fail by "cracking" at the end of the hose where it meets the metal fitting, from vibration and (in our opinion) poor design of the fitting. See (Figure 1). When either of these hoses crack, power loss can be intermittent when the crack begins and is small. When these cracks "blow out", see (Figure 2) and become larger the van will go into "limp home mode".

The Solution

A Dodge dealer came to us to provide a simple fix for this problem. Replacing either of the hoses with a new one typically costs around \$140.00 for each hose. But then you are facing the same problems all over again. We designed the ADAP09 to be a simple and permanent solution to the failure of the metal hose ends, without having to buy a new hose. And the technician or owner can quickly and easily install the new part in minutes at nearly half the cost of replacing the stock hose. Plus the ADAP09 has fully rounded edges on the very end which help prevent hose failure and cracking. (Figure 3).

THE INSTALLATION (About 18 minutes)

1) Slide under the vehicle and determine which hose is cracked. It is typically the **drivers** side hose that fails first.

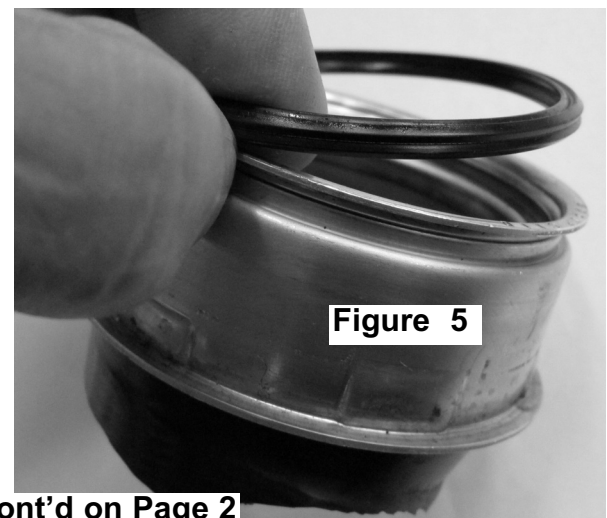
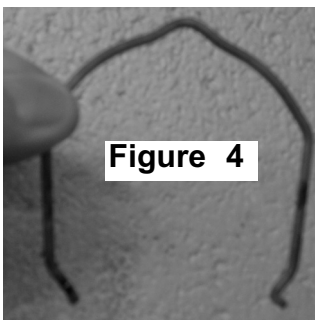
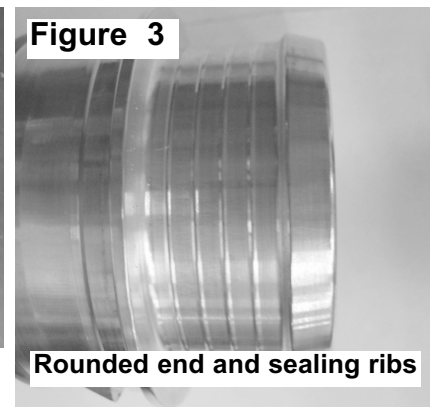
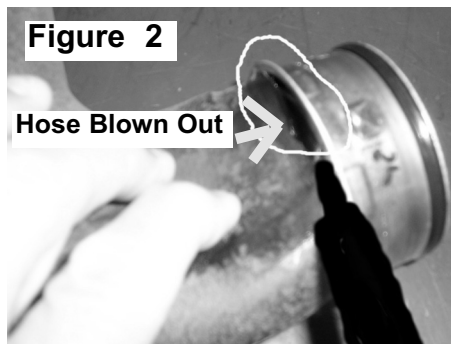
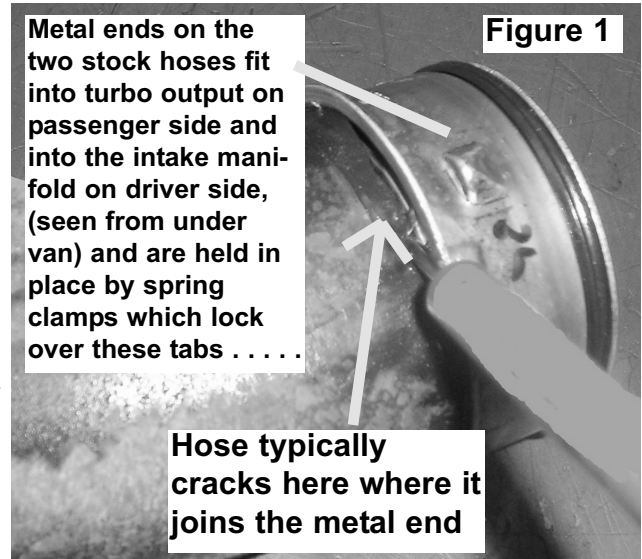
2.) Locate the end of the hose with the metal fitting, see (Figure 1) that goes into the metal tubes on the engine.

3.) You will see a "U" shaped spring clamp that holds the metal hose fitting in place. See (Figure 4) Use a screwdriver or pliers to snap out the spring clamp. You can then pull the metal hose-end out from the engine. **We highly recommend removing the standard type hose clamp at the other end of the hose and removing the hose from the vehicle to work on it. . . . BE SURE NO RUBBER PARTICULATES from the cutting of the hose fall down into and remain in the hose, since they WILL BE ingested into the engine.**

4.) "Pinch" the hose at the point where it enters the metal hose end and if the hose is bad, you will immediately be able to see a crack in the hose right where the hose end meets the metal fitting. See (Figure 2).

5.) Remove the "O-ring" gently from the end of the metal fitting with your fingers, See (Figure 5) and place the O-ring on the ADAP09 in the same manner as it was on the original metal fitting. See (Figure 6) on page 2.

6.) Replace the snap ring in the same position as it was originally. This will hold the ADAP09 in place as soon as you insert it. See (Figure 7). Put a few drops of diesel oil from your dip stick on the O-ring and then press the ADAP09



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into the engine fitting. It fits into the engine in exactly the same manner as the original hose end did.

7.) Next, take a single-edged razor blade or box cutter with a sharp blade and cut the original fitting off the hose, using the original metal fitting as a "cutting template" see (Figure 8). Once the hose has been cut **cleanly** away from the original fitting, discard the fitting and clean the inside of the hose with a clean dry shop rag and a degreaser (some techs use Windex) to remove oily deposits. Blow out any particulates out with air.

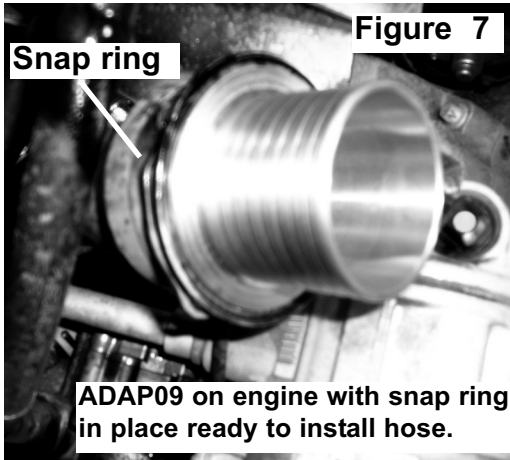


Figure 7

8.) Place the new clamp supplied in your kit over the end of the hose, but do NOT tighten it yet. Slide the end of the hose over the **already installed ADAP09**, See (Figure 7), using the method shown in (Figure 9) and push the hose on all the way to the "stop-flange" on the ADAP09 as seen in (Figure 10).

9.) Install the Hose until it lines up as it originally was, slide the hose over the intercooler tube and tighten the stock (captive) hose clamp **FIRMLY** onto the intercooler tube once you are sure the hose is aligned as it was originally installed.

10.) Do a final check of the alignment of the hose itself and then tighten **the supplied Norton clamp** on the engine intake side onto the already installed ADAP09 as seen in (Figure 7). Place the clamp about midway along the "ribbed" area of the ADAP09 as shown in (Figure 10) and tighten the clamp with the ratchet, extension and 5/16 socket to the **torque specs** shown in Figure 10. **THIS CLAMP MUST BE TIGHT!**

CONGRATULATIONS, THAT'S IT, YOU ARE DONE!

Note: If you are replacing only one hose-end at this time, please be sure to check the other hose for cracks at its "metal fitting" end. If any cracking is observed, we urge you to replace the end of that hose as well with an ADAP09 to prevent future cracking failure problems at the metal ends.

Note: We are aware of instances where, on high mileage Sprinters, while installing the ADAP09, the owner or mechanic finds an additional crack in the MIDDLE of the hose. In this case we recommend replacing the hose with a new one but, follow the instructions and install the ADAP09 before replacing the new hose to prevent the most common failure at the metal fitting end.

Note: If your check engine light has come on, it should go off automatically after about 5 to 7 full warm ups and cool downs of the engine – this could take a few days.

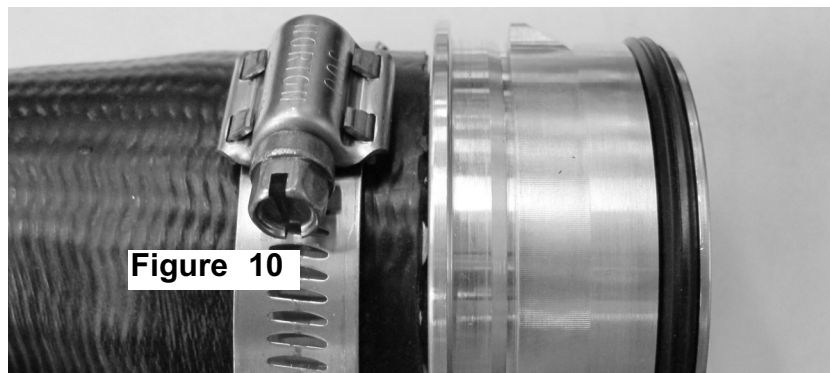


Figure 10

Note new supplied Norton Stainless steel 9/16 in. wide "Liner" clamp prevents hose "gouging" from screw. **Tighten to no less than 60 inch pounds to compensate for turbo boost pressure plus atmospheric pressure and be sure inside of hose is dry and oil-free.**

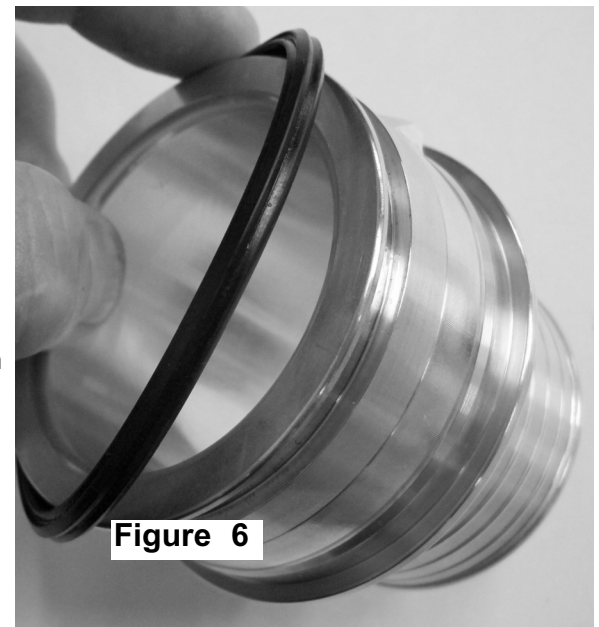


Figure 6



Figure 8

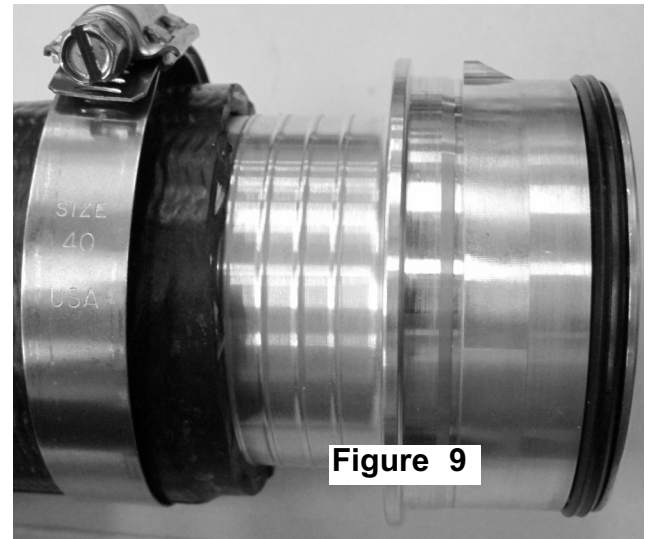


Figure 9

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ADAP09™ Hose Adapter is Patent Pending