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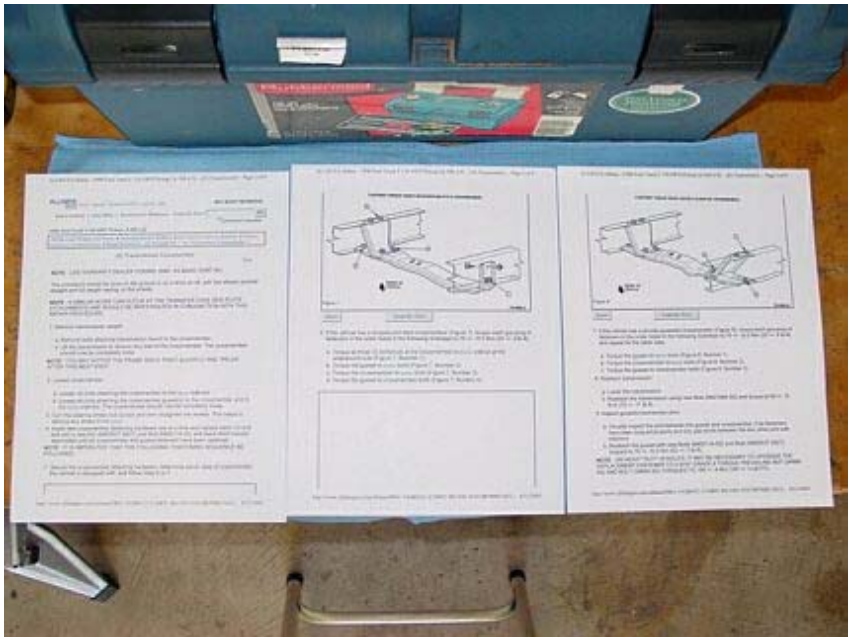
Ford Trucks: Snap, Crackle And Pop

by Paul Amero, BAT Auto Technical

There are a lot of Ford trucks on the road, both old and new. Today we are going to focus on the older ones, late eighties to mid nineties. These trucks for a variety of reasons have suffered from frame and suspension noises. Because of the length of the frames noises tend to radiate and can be hard to isolate. What I focused on was transmission crossmember noises and how to stop them, but I will touch on other parts of the frame and suspension that can cause various noises. With this particular truck the complaint was of a snapping, cracking, popping noise especially when entering parking spaces or any slow, maneuvering type of turn that places stress on the frame. The noise was very audible both inside and outside the vehicle. I identified the noise by simply placing my hand on the transmission crossmember and having the owner turn the steering wheel. Inside the truck it sounds like the frame is breaking. This is a common problem with the gusset type transmission crossmember. For whatever reason over time the frame and crossmember seem to get in a bind and these noises occur. No bolts were loose nor was there any frame damage.

Let's move on to repairing the problem. The tools required are pretty common. An impact wrench makes this job much easier but if you don't have one a ratchet will do, just be prepared for a little more work. One tool that requires little effort and is available on your home Pc is Alldata. This is the automotive repair and information system we use at Bat Auto. As you can see the info I needed to guide me thru this particular tsb repair was 3 pages long.



Here is the crossmember , It supports the weight of the transmission and spans the width of the frame . One thing to inspect while you are in the area is the transmission mount. It's the part you see between the transmission and the crossmember. It has a rubber insulator that can crack and allow the transmission to move around more than it should if it's cracked or damaged.

Here is a view of the gusset that runs from the crossmember to the upper frame.

The first step is loosening all the bolts. Loosen the transmission to crossmember bolts, and all the bolts on the crossmember and gussets.

Now once all the bolts are loose, use a jack to raise the transmission up off the crossmember. The next step is to make sure the crossmember and gussets are free and not binding. You can use a small pry bar or flat tip screwdriver to make sure all the parts are loose.

This next step may seem odd, but what you are doing is relieving any stress on the frame. This has to be done on a firm level surface such as a garage floor. Transmission in neutral, parking brake off, Start the engine and turn the steering wheel from center to full left, then full right and repeat. Return the steering wheel to straight when you are finished. Shut engine off, Apply parking brake.

We are almost done. The only thing left to do is tighten the all the bolts that were loosened. This step is important. First tighten the gusset to upper frame bolts first. Do this on both sides, a total of four bolts. Now the crossmember to frame bolts, just two. Next is the lower gusset to crossmember bolts once again on both sides, a total of four bolts. Now lower the transmission on to the crossmember and tighten those two bolts.

With that done the repair is complete. The noises from this particular problem should be history. As I mentioned there may be other things causing noise problems on these vehicles so I will run down the list of the usual suspects.

Radius arm bushings not only cause noise but handling problems with the twin I beam suspension. On this truck I have replaced them in the past.

There is some debate as to what is the best method when replacing radius arm bushings. Pulling the radius arm forward to avoid removing the rivets on the radius arm bracket is popular, but in doing so can also damage pivot arm bushings. If the pivot arm bushings weren't a problem before, it's very likely they will be after doing this simply because pulling the twin I beam places a lot of stress on pivot arm bushings. What I did was remove the rivets on the bracket and reinstalled 7/16, grade 8 nuts, bolts and lock washers. As you can see there is no damage to the bracket and all the bolts hold the bracket securely. A lot of times the left radius arm bushing isn't in too bad of shape, the right one as you can see lives very close to the catalytic converter. It has a metal heat shield but over time the heat from the exhaust takes its toll on that bushing.

Below you can see the pivot arm bushings I mentioned. These bushings are what both the left and right sides of the twin I beam front suspension pivot on.

Now we can move on to the other sources of frame and suspension noises. Rivets …. These things aren't a big problem in areas with little to no road salt, but they do rust or break. If you do find any broken, rusted or damaged , replace them with grade 8 bolts, nuts and lock washers.

Body mounts, especially the front shown below, can deteriorate over time and cause noises. If you see any of these that look cracked replace them. They not only cause noise but they can cause the body of your truck to sag.

Bushings , and there are lots of them , be it sway bar or shock absorber , these can make enough noise to make you think your truck is falling apart if they allow metal to metal contact.

The next problem area below may be hard to see. Where the bolts that attach the steering box to the frame, cracks can appear in this area of the frame or the bolts can become loose.

Finally, inspect the rear suspension area. There are a lot of bushings on the rear sway bar and shocks to have a look at. The trailing arm link bushings are of special interest simply because of their exposure to the elements.

That about covers the cause of various frame and suspension noises on Ford trucks.
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