

CURING JEEP DEATH WOBBLE

By Tom Smisek

Commuting to town from my ranch in the Santa Ana Mountains in my 2003 Jeep Sahara, I began to notice a little front-end shudder at certain speeds above 40 mph. It would come and go, so I wasn't real concerned, but within a couple of weeks the vibrations got worse. It soon became an intermittent violent shaking, and I was concerned it may be causing damage or worse, I could lose control of my Wrangler and crash. I hobbled it over to my local tire shop and told them about the shimmy and asked that they balanced both front tires. They did. The tires were a slight bit out-of-balance, but not that bad. When the service guy returned from a test drive he pulled my Wrangler on to the rack and called another mechanic over as they began checking the front suspension. After a few minutes they gave me the bad news, my Jeep had "Death Wobble", a problem that can only be cured by replacing suspension bushings and the track arms. They offered to order the parts, but I told them to hold up.

I did some research on the Internet and found that "Jeep Death Wobble" is a common problem with vehicles that have a solid front axle, and coil springs. The Wrangler falls into this category. The wobble is a harmonic resonance resulting from loose or worn parts in the steering and/or suspension, and is usually set off by hitting a bump at a certain speed. I also discovered that the Death Wobble is extremely difficult to diagnose and fix, because it is actually caused by slop somewhere in the suspension or steering system but not by just one component.

There were a lot of different recommendations on how to isolate the offending element from tires, to steering stabilizer to specific linkage bushings. The more I researched, the more varied were the opinions on the actual cause and how to fix it. I decided not to waste a lot of time trying to isolate a component that may be causing the problem. Instead, I decided to upgrade my entire suspension system with urethane components from PROTHANE. They have a Total Kit for Jeeps that replaces all factory rubber components.

The bushings in the PROTHANE kits are available in red or black urethane, and are superior to OEM rubber as they are impervious to grease and oil, which tends to rot rubber, but moreover, urethane is a denser compound that provides a firmer, more stable ride in rugged off-road conditions and highway speeds. I also found out that the original factory rubber bushings are bonded to control arms, so you cannot just order replacement bushings; you have to buy new control arms. With PROTHANE you retain the original metal parts and just replace the bushings, saving money.

Installation of the PROTHANE Total Kit will take a skilled mechanic about 8 hours, I had mine professionally installed. There are a few "tricks" that I will explain as we go along. For the do-it-yourselfer plan on a weekend and if you have a buddy, it can go a lot easier. The installation process entails removing all of the OEM rubber parts and replacing them with urethane bushings.



Removal and installation is best done with the vehicle setting on all four tires and must support the frame and take load off the axles to relax suspension tension. A drive-on rack allows the service tech to stand, while backyard mechanics may use ramps to allow access under the vehicle.

Before removing the front control arm, mark the position of the camber bolt to assure the front-end will be close in alignment when reassembled. Front-end alignment will be required.

To remove the bonded rubber bushings from the control arms, heat the shells with a torch and the rubber bushing will be debond. The bushing will begin to smoke and bushing will be expelled with a great pop. Caution must be exerted, as these bushing may fly out. Clean the inside with a wire brush and allow it cool before inserting the urethane replacement.



Probably the most difficult procedure is removing the Upper Control Arm bushing from the front differential. Slow steady heat is applied and probing the rubber out will take time. However, a much simpler task is removing the end link bushings by cutting away one of the flanges.

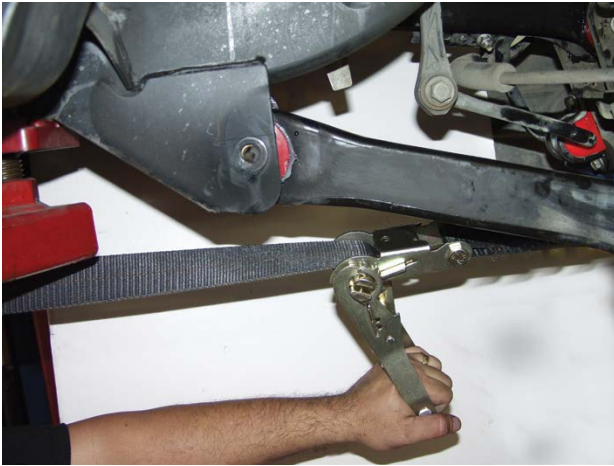




A gear puller is used to remove the end link.

Before reassembly clean all bushing cavities and lubricate with the PROTHANE special Lubricant provided in the kit. Use rubber gloves as the Silicone lubricant will stick to your fingers and be difficult to remove. All surfaces that are in contact with urethane need to be lubricated to avoid any squeaking that may occur if lube is not applied. This includes housings, bushings and sleeves.

PROTHANE bushings and sleeves can only be pressed into place using a bearing press or a C clamp. A simple technique is to place control arm or link on a clean surface of the floor and press down with the heel of your shoe. Do not use a mallet or hammer as impacting them will not work.

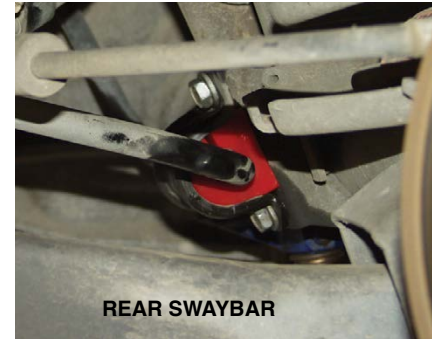


REAR UPPER CONTROL ARM

Installation complete, showing optional shock absorber Bump Stops.



To reassemble control arms may require a pry bar or winch strap to align mounting holes. Once all components are bolted in position, go back and torque each bolt to factory specifications. A professional mechanics trick is to mark the head of each bolt with a marker or dab of paint, as they are torque, to assure you did not miss any.



REAR SWAYBAR



REAR ENDLINK

As my Wrangler was being refitted with PROTHANE parts, I examined each of the original rubber bushing to try and identify which of the many bushings was the culprit and caused my Death Wobble. I could not isolate it to any one or two parts. As research had shown, it was a collective deterioration of many parts that contributed to the condition. After the installation a test drive validated that it was in fact the failed rubber bushings that caused the problem. It was the difference of night and day. So, the PROTHANE Total Kit install was the proper fix for the Death Wobble problem. Now my Jeep handles better and has a more stable ride.

For a list of all kits and components for Jeeps go to: <http://prothane.com/vehicle-applications/page/18/>

