

# CONSTANT VELOCITY JOINTS



Ralph Seekins

An acquaintance recently asked me about the constant velocity joints (commonly called “CV Joints”) on his front-wheel-drive Taurus. He had been told by a service technician that a CV joint on his car needed to be replaced and, before he committed to the repair, he wanted to know what a CV joint was, how it became damaged, and why he should replace it right now. There are thousands of vehicles on Interior Alaska roads that have CV joints. So, let’s discuss the topic. On front-wheel-drive vehicles, manufacturers couldn’t use a solid drive shaft from the transmission to the drive wheels. They needed a drive axle that would maintain a constant force to the wheels in spite of the many different combinations of up and down motions caused by irregular road surfaces and the back and forth motions of steering. What evolved is now called the CV joint. Today, many rear-wheel-drive, four-wheel-drive, and all-wheel-drive vehicles use CV joints on their drive axles as well. The discussion below addresses only front-wheel-drive systems but could be applied

to the other configurations as well. There are two CV joints on each front drive axle – one on the inner end of the shaft next to the transmission and one on the outer end next to the drive wheel. With two drive axles, that makes four CV joints on the front drive system. The CV joint is packed with grease kept in place by and protected from the elements by a rubber or plastic “boot.” Normally, CV joints are long lasting and require little maintenance. However, due to the prolonged extreme cold we experience in Alaska, CV boots have a much higher failure rate than boots in warmer climates. When cold soaked, the rubber or plastic boots tend to crack or tear rather than bend. That allows the grease to escape and moisture and grime to reach the joint. This is a sure recipe for CV joint failure. Sudden, catastrophic failure of a CV joint is rather rare. Generally a joint gives the operator lots of warning before total failure. A popping or clicking noise from the front end while turning is a good indicator there is a worn or damaged outer CV joint. A quick verification can be made by backing in a circle with the steering wheel cranked all the way to the stop. If the noise gets louder, it’s time to take the car to the hospital. You need a new joint or axle assembly. If you hear a “clunk” or “shudder” when putting the transmission into drive or when accelerating or decelerating, it may be a problem with the inner joint. This is harder

to quickly diagnose since the symptom may come from other sources such as differential gears. However, a quick verification can be made by putting the car in reverse and alternately accelerating and decelerating. If the noise is louder, you probably have a bad inner joint. Get it checked out right away. It’s a good preventative measure to regularly inspect CV boots for failure and loose or missing clamps. I recommend a visual boot inspection every time the oil and filter are changed (generally no charge). If a boot has failed and the joint doesn’t appear it needs to be replaced, the grease should be checked. A simple test is to rub the grease between one’s fingers. If it feels gritty, the grease and joint are both contaminated and the joint should be cleaned and examined for damage. Cleaning, replacing the grease and installing a new boot may be all that is necessary if a boot failure is timely detected. Continuing to drive with a failed boot is just asking for trouble down the road. If you have a concern, take your vehicle to your manufacturer’s authorized dealership for a checkup. Or, stop by our Quick Lane Tire and Auto Center for a free consultation.

*Ralph Seekins has more than 40 years' experience in the automotive industry. He started as a mechanic, worked in sales, and for the past 32 years, has been the owner of Seekins Ford Lincoln Mercury.*