

# Dual Steering Systems

**A steering system with two steering gears is commonly called a dual steering system. BAB recommends replacing both steering gears anytime it becomes necessary to replace either gear. This recommendation holds true even in a warranty situation.**

**This article is in response to the many requests we have received to explain the reasons behind our recommendation to always replace both gears. The following only applies to steering systems with two steering gears. It does not apply to steering systems with hydraulic assist cylinders.**

In a dual steering system there are two hydraulic cylinders over two mechanical sets of reduction gears. One gear, the main gear, has a worm shaft assembly and a control valve attached to it which supplies hydraulic power to one direction or the other turning the axle assembly which is connected to the steering system by the steering linkage.

In the normal life of the steering gears in a dual system, it is perfectly normal for the gears to develop a minimum amount of wear (looseness). In time all steering systems develop normal wear or looseness in the system. Dual steering systems are no different except they have two steering gears and this normal wear or looseness will become present in both gears.

If we replace only one gear with a properly re-manned or new gear the replaced gear will be tight because there is no wear (looseness). The gear that was not replaced will have more wear or looseness in it than the replaced gear. Every time the truck hits a bump energy is telegraphed thru the axle and the steering parts, up thru the steering linkage and into the old (looser) gear and causes the piston to bang back and forth and hammers against the axle components and the new or replaced gear. The bigger the bump or pot hole the more energy telegraphed through the system. The more energy the system has to absorb the more wear and damage to the entire steering system. You will eventually purchase three gears instead of two. It is the same as replacing only one u-joint in a two u-joint drive shaft. No matter how tight the non-replaced u-joint felt it is usually back in a short time with an immense amount of play.

If we develop a leaking seal in only one gear the seal probably did not die a natural death. However, if the seal failed due to heat, all the seals in both gears will show similar damage. **NOTE:** Many seal may not leak fluid because they are hard from heat. Instead of leaking fluid out, they may leak by sucking air in, cavitating the system. Seals can leak due to a pressure spike in the system caused by incorrectly adjusted poppet valves. This will cause all the seals in that direction, (left or right turn) to have the same potential for damage.

## **No Technical Assistance & No Warranty**

In the process of setting up the front axle assembly so the steering gear piston travel and poppet adjustments can be obtained the steering gear that has not been replace can, and most likely will, interfere with the set up procedure which is almost a sure way to guarantee a failure of the steering gears and related components.

We will **not** provide technical assistance or warranty should you choose to replace only one gear in a two gear system because we know that the gear you or your customer didn't replace needed to be replaced. Had both gears been replace to begin with there would be no need for technical assistance or a warranty replacement unit now. Yes, it's expensive to replace both gears but why not save the labor expense and down time by replacing both gears the first time around.

You know the saying,  
**"Pay me now or pay me later"**