

Following Proper Steering Gear Inspection Guidelines Ensure You Don't Misdiagnose & Replace Wrong Parts Needlessly!

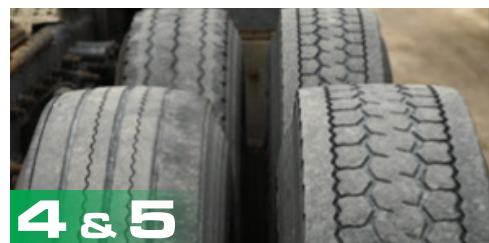
Many factors outside of the steering system can affect steering performance. Suspension misalignment, looseness or binding in front end components, mismatched tires, a dry fifth wheel and more. When an orderly diagnostic procedure was not properly followed, a steering gear is all too often replaced needlessly. To avoid this problem, we strongly recommend to follow these guidelines.

Define the Complaint

Talk to the driver to obtain a clear understanding of what the complaint is. If possible try to duplicate the condition by driving the vehicle together and asking the driver questions.

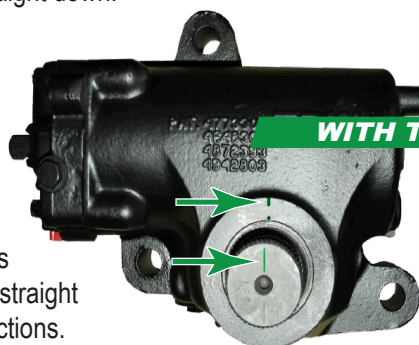
Visually Inspect Vehicle

1. Check the fluid. Does it smell burnt - the system could be overheating for any number of reasons? Is the fluid foaming with lots of air bubbles in it?
2. If so, check for leaks on the suction side of the pump, hose fitting, o-rings, loose hose clamps, etc.
3. Check for a dry fifth wheel. The drag from lack of lubrication will tend to steer the vehicle.
4. Check tires for mismatch, improper inflation and uneven wear patterns.
5. Check for uneven loading of the vehicle.
6. Check to see if the suspension was modified with an additional axle. This may require a different pitman arm or drag link than the originally equipped vehicle.
7. Inspect for worn spring shackles, patterns of excessive tire wear and out of alignment rear axles, which will tend to steer the front of the vehicle.
8. Look for components shifting as the axle is steered, including the steering gear.
9. See if the tires are making contact with any other parts such as the pitman arm or drag link.
10. Inspect axle stops to make sure they are in place and not bent.
11. Inspect the steering column. Make sure the column is not hitting anything as it rotates and the universal on the input shaft does not hit the bearing cap cover bolts.
12. Look for the steering wheel rubbing against the column cover and the column rubbing as it passes through the cab floor.
13. Inspect the hoses to make sure they are in good condition and properly routed. An improperly installed hose fitting can cause high system back pressure or starve the pump of fluid.



Inspect the Mechanical Components

1. Inspect the steering column. Remove the universal joint from the input shaft of the steering gear and inspect the sliding intermediate shaft for signs of polishing galling or binding.
2. Ensure it is properly lubricated. Inspect universal joints for sticking and proper lubrication and make sure the joints are properly phased. Improper phasing will cause lumpy steering or a hard easy hard easy feel to the steering.
3. Check the pitman arm and ensure the arm does not contact any other parts.
4. Check for steering gear centering. Make sure the piston is centered in the gear if full steering to one side cannot be reached.
5. Center the piston in the cylinder of the steering gear. The timing mark on the end of the sector shaft should be pointing to the center of the steering gear. The pitman arm timing mark should line up with the timing mark on the sector shaft when the pitman arm is hanging straight down.
6. Check the steer axle for binding. Raise the tires off the ground and steer the axle through its full turn radius.
7. Check it with the engine running and with the engine off. Feel for any binding or hard spots and ensure the actual stops contact the axle in both directions.
8. Set the vehicle on turn plates, disconnect the drag link from the pitman arm, grab the tire and turn it until the axle stop hits the axle then let go. The tires should attempt to return to the straight ahead position. If they do not, look for binding linkage connections.
9. Reconnect all links prior to hydraulic testing.



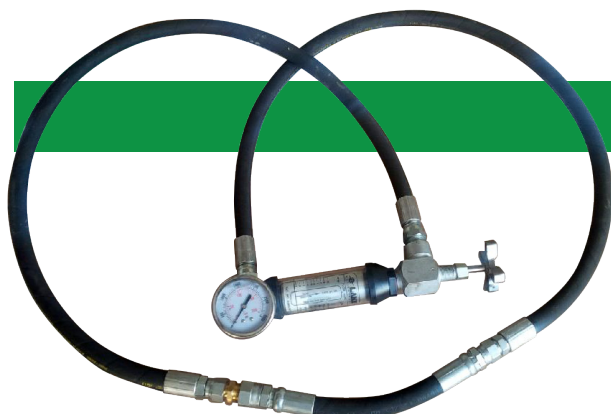
WITH TIMING MARKS

Confirm timing marks on the housing and out-put shaft are centered, facing each other



Test the Hydraulic Power Assist System

It is recommended at this point you call for assistance to review the correct procedures on how to test your power steering system. Different types of steering systems require unique specific tests.



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