

TRW GEAR-STRG,THP60,1200RAD,AB,ST



[Joe Vieth](#) 5 posts since Mar 26, 2015

TRW GEAR-STRG,THP60,1200RAD,AB,ST Jul 29, 2016 11:43 AM

On a select few of the trucks in our fleet, the driver will complaint of a hard/frozen steering while turning to the left; feels fine going to the right.

We have been replacing the steering gearbox because we don't see anything wrong.

PN: 14-17727-000 is the box we have been replacing it with.

Does anyone have an insight or advice on this problem?



[Scott Trippel](#) 3,990 posts since Dec 13, 2014

Re: TRW GEAR-STRG,THP60,1200RAD,AB,ST Aug 10, 2016 8:46 PM

We have with Western Star 5700.

Perform PSSA tests, pay close attention the steering gear backpressure tests



[Joe Vieth](#) 5 posts since Mar 26, 2015

Re: TRW GEAR-STRG,THP60,1200RAD,AB,ST Aug 11, 2016 3:05 AM

Ok good advice. I found the PSSA tests and read through them. Thank you.



[Rob Eichenberg](#) 11 posts since Feb 17, 2015

Re: TRW GEAR-STRG,THP60,1200RAD,AB,ST Aug 11, 2016 5:56 PM

They are seeing this nation wide the TRW thp 60 are known for this



[Carlos Williams](#) 1 posts since Apr 3, 2015

Re: TRW GEAR-STRG,THP60,1200RAD,AB,ST Aug 12, 2016 10:27 AM

We have been having the same issues on some customers units, We have called TRW, They have advised that they were aware of the issue and had requested FREIGHTLINER to use Allison Transynd ATF fluid because of the heat issue, most of our steering issues are loosing steering in the mountains. We have replaced 3 steering gear this week for the same problem



[Joe Vieth](#) 5 posts since Mar 26, 2015

Re: TRW GEAR-STRG,THP60,1200RAD,AB,ST Aug 25, 2016 5:02 AM

I really appreciate the information. Thank you.

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[Matthew Jablon](#) 2 posts since Jul 31, 2015

Re: TRW GEAR-STRG,THP60,1200RAD,AB,ST Aug 26, 2016 2:36 PM

In some duty cycles with high amount of tight turning requirements, excessive heat can cause this condition. Consider adding a power steering cooler.



[Jeffrey Armstrong](#) 75 posts since Mar 4, 2015

Re: TRW GEAR-STRG,THP60,1200RAD,AB,ST Oct 28, 2019 5:57 PM

so I have one js2309 star. 100k unit was shaking very badly turning to the left when backing up. I have flushed steering system and replaced filter still no change. got tech support involved with this pump putting out 5.5 gpm and 2650 psi. was told r/r pump for over pressurizing system didn't see that to me but put new pump on still same issue with all same readings. when cap the right gear off no issue with shaking, installed new gear shake got worse, done the nulling out poppets on drive side helped a lot but still was there very little been a week with nothing from them was advised to r/r gear for foreman. installed new driver gear right back to doing same thing but will do it on stands but only to the left



[Kyle Siebert](#) 4,084 posts since Nov 14, 2014

Re: TRW GEAR-STRG,THP60,1200RAD,AB,ST Oct 28, 2019 10:44 PM

Check for the steer tires rubbing on spring or gear box. Makes a huge difference to turn the wheel hard, back up about 3 or 4 feet. The reverse caster turns the tires over to their actual stop, vs turning the wheel. When you just turn the wheel it stops because the relief poppet in the gear box opens and cuts the assist pressure, increases volume of fluid returned to reservoir. If you hulked it the rest of the way about 1/4 to 3/4 turn, it will reach the turn stop, but the tires will return the wheel back slightly. Backing the truck up and turning allows the reverse caster to pull the wheels over to their end stop and stay there. This has burned many techs. I suppose jacking it up in the air, and checking for rubbing, is the way to go.



[Jeffrey Armstrong](#) 75 posts since Mar 4, 2015

Re: TRW GEAR-STRG,THP60,1200RAD,AB,ST Oct 29, 2019 1:19 PM

Unit is jacked up and put on stands and it is still doing it very badly. They have about 10 trucks and this one is the worse out of all of them. They all do it just not as bad



[Chris Vanboom](#) 163 posts since Nov 21, 2014

Re: TRW GEAR-STRG,THP60,1200RAD,AB,ST Oct 29, 2019 8:32 PM

I see this unit has a power steering cooler... has it been checked for internal restriction/flushed/bypassed?



[Scott Trippel](#) 3,990 posts since Dec 13, 2014

Re: TRW GEAR-STRG,THP60,1200RAD,AB,ST Oct 29, 2019 5:56 PM

According to the steering manual...I have attached it.

You have a THP60 main gear and a THP 45 slave gear. You should have 5.8 gpm @ 1500 rpm minimum and 2683 + or - 100 psi. So I see your flow is low and pressure is good.

You say the problem disappears when you remove the slave gear from the system. It might be a flow problem. Flow is what make assist not pressure. We routinely flow our pumps to get better assist. Not sure this will cure it but you flow is defiantly low. What is you back pressure reading?

- [WS TS Steering Manual.pdf](#) 170.5 KB Preview



[Kyle Siebert](#) 4,084 posts since Nov 14, 2014

Re: TRW GEAR-STRG,THP60,1200RAD,AB,ST Oct 30, 2019 1:09 AM

What are the pressures and flows doing while turning to the left? You should check this at multiple points in the system, when you have dual steer. The line from pump to master gearbox should have the a consistant pressure. The aux gearbox, one side should have high pressure and the other would be return while turning left. If its dropping out in pressure while turning left then i'd guess its that line. If it is not dropping out in pressure then check the return line, it should not have high pressure while turning left. If the return is getting high pressure with the issue then the problem is that line. What ever line it is, follow it to check for a area where its kinked hard or something. If it isn't kinked hard, then i'd probably advise to replace both lines and do a powernet test. Just to make sure the engine doesn't have a poor ground and is using the power steering lines as a ground causing them to fail prematurely.

If you remove the steering shaft from the gearbox, can you duplicate the complaint? Could be a issue with the bearings in the column.

Could be a line to the aux gearbox is damaged and now acting like a reed valve. So one direction it flows fine but when it flows opposite direction, the damaged section of hose prevents the fluid from returning and locks the aux gearbox making assist hard and probably making a noise with it. How old are these units and how many miles?

[Jeffrey Armstrong](#)



[Ryan Ostar](#) 1 posts since Aug 16, 2019

Re: TRW GEAR-STRG,THP60,1200RAD,AB,ST Nov 13, 2020 4:57 PM

So I work at a dealer in mass and we have a company who owns about 6 of western star 4700 tri-axle dumps with the dual box setup. SN#MJ1156 equipped with cooler. The owner of the trucks has had multiple steering issues with these unit from lines leaking with these little pin holes in the line to two of the unit having this issue of an extreme shutter when turning left. customer stated that it happen on the road a couple times. I was only able to get it to do it in the shop steer tires off the ground and weather I turn fast or slow I get about 2/3rds of the way thru its range of free motion and it starts shuttering so bad it shakes the whole truck. hooking up a PSSA now will report back with reading but any thoughts? We did change filter and cut back return line that

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was leaking. also customer stated there was a leak but after a short road test there were no leaks found fluid temp after test drive 118F.