

Drift / Wander

- Tire pressure too low / high / uneven
- Steering linkage loose or worn
- Wheel bearings worn or need adjustment
- Front / Rear end alignment out of spec
- **Steering gear worn or needs adjustment**
- Loose rear axle assemblies
- Fifth wheel lack of lubrication, metal shavings
- Oil flow too high
- **Too much play in pitman arm**
- **Air trapped in steering gear**
- **Output shaft splines are worn**

Excessive Heat

- Excessive pump flow
- Vehicle overload
- Hose or line, size
- Restriction in hose or line, kinked, bent or blocked
- **Poppet not adjusted properly**
- Prolonged stationary vehicle operation

Lost Motion (LASH) at steering wheel

- Steering wheel loose
- Check connection between steering gear, intermediate column and steering column
- Loose steering gear (frame)
- **Pitman arm loose on output shaft**
- **Steering gear defective or improperly adjusted**

No Recovery

- Low tire pressure
- Front end alignment off
- Front axle king pins too tight
- Binding in the steering column
- **Insufficient pump flow**
- **Steering gear issue**
- **Pump oil flow too high / low**
- Load Bearings

Excessive Play

- Worn U-Joints
- **Worn pitman arm splines**
- **Damaged sector shaft splines**

Substantial Effort Required

One Direction:

- Unequal tire pressure
- Vehicle overload
- Inadequate hydraulic system pressure
- **Excessive internal leakage in gear box**
- **Bent torsion bar**

Both Directions:

- Low tire pressure
- Vehicle overload
- Low hydraulic fluid level
- Incorrect hydraulic fluid used
- Low pressure or flow from pump
- Restriction in return line
- Return line diameter too small
- **Excessive internal leakage in gear box**
- Oversized tires
- Loose pump drive belt
- Lubrication needed
- Front end alignment off
- Air in hydraulic system

External Leakage

- Check hoses, fittings, pump, gear & vent plug
- **Possible input/output seals are damaged**
- Oil may run away from leak source

Shimmy or Shake

- Worn tires / uneven
- Mounting issue with tire or wheel
- Worn wheel bearing
- Steering linkage loose or worn
- Wheels / Brake Drums out of balance
- Front end alignment off
- **Air in hydraulic system**

Reduced Wheel Cut

- Axle Stops broken or missing
- **Pitman Arm timing marks**
- **Poppets not set correctly**
- Misadjusted draglink
- **Steering pump or gear internal leakage**

Binding

- U-Joints, lack of grease or excessive wear
- Steering Column or u-joints not phased properly
- Gear to frame is missing washers or spacers
- Check king pins, steering linkage (tie rods) load bearings
- Overload on front axle
- Front wheel bearing adjustment
- Air in system

Intermittent Lockup (hard, easy, hard)

- Check u-joints, steering column and tie rods

Hard Steering in one or both directions

- **Faulty power steering pump**
- **Material in the piston, not allowing ball to seat**
- Steering out of alignment
- Bind in steering column
- King pins / load bearings
- **Steering gear internal leakage (piston spring broken)**
- Caster degree incorrect (alignment)
- Excessive weight on front axle

Re-adjust poppets when...

- Changing to larger tires
- Reduced wheel cut
- Pitman arm timing off
- **Steering gear getting installed on different truck**
- Steer axle stops bent, missing or broken
- Steer axle u-bolts bent, broken or loose

