



MAINTENANCE AND SERVICING OF STEERING SYSTEM

- ✚ To check the amount of play in the steering system on vehicles with power steering, check the condition and tension of the drive belt from the power steering pump.
- ✚ Then check the fluid level in the pump reservoir. Start the engine. Next, with the front wheels in the straight-ahead position, turn the steering wheel with a mark on a ruler or scale.
- ✚ Now slowly turn the steering wheel in the opposite direction until the front wheels start to move again. The distance that the steering wheel reference marks moved along the ruler is the amount of free play in the steering system.
- ✚ If the steering wheel rim moves too much before the front wheels begin to move, there is excessive play.

S.No	Complaints	Possible Cause	Check (or) correction
1	Excessive play in steering system	<ul style="list-style-type: none">✚ Looseness in steering gear✚ Looseness in linkage✚ Loose wheel bearing	<ul style="list-style-type: none">✚ Readjust, replace worn parts✚ Readjust, replace worn parts✚ Readjust
2	Hard steering	<ul style="list-style-type: none">✚ Low tyre pressure✚ Friction in steering gear✚ Friction in linkage	<ul style="list-style-type: none">✚ Inflate to correct tyre pressure✚ Lubricate, readjust, replace worn parts✚ Lubricate, readjust, replace worn parts
3	Car wander	<ul style="list-style-type: none">✚ Low or uneven tyre pressure✚ Steering gear binding✚ Linkage binding✚ Incorrect wheel alignment	<ul style="list-style-type: none">✚ Inflate to correct tyre pressure✚ Readjust, lubricate, replace worn parts✚ Readjust, lubricate, replace worn parts✚ Check alignment and readjust
4	Car pulls to one side during normal driving	<ul style="list-style-type: none">✚ Uneven tyre pressure✚ Uneven castor or camber	<ul style="list-style-type: none">✚ Inflate to correct tyre pressure



		<ul style="list-style-type: none">✚ Wheel not tracking	<ul style="list-style-type: none">✚ Check alignment □✚ Check tracking, replace defective parts
5	Car pulls to one side while braking	<ul style="list-style-type: none">✚ Brakes grab✚ Uneven tyre pressure✚ Uneven castor or camber	<ul style="list-style-type: none">✚ Readjust, replace brake lining✚ Inflate to correct tyre pressure✚ Check alignment and readjust
6	Front wheel shimmy at low pressure	<ul style="list-style-type: none">✚ Uneven tyre pressure✚ Loose linkage✚ Loose ball joints✚ Dynamic imbalance	<ul style="list-style-type: none">✚ Inflate to correct tyre pressure✚ Readjust, replace worn parts✚ Replace worn parts✚ Balance the wheel
7	Steering shakes	<ul style="list-style-type: none">✚ Uneven tyre pressure✚ Looseness in linkage✚ Looseness in steering gear✚ Shock absorber defective	<ul style="list-style-type: none">✚ Inflate to correct tyre pressure✚ Readjust, replace worn parts✚ Readjust, replace worn parts✚ Repair or replace
8	Tyres squeal on turns(skids)	<ul style="list-style-type: none">✚ Excessive speed on curves✚ Uneven tyre pressure✚ Front alignment incorrect✚ Worn tyres	<ul style="list-style-type: none">✚ Take curves at slow speed✚ Inflate to correct tyre pressure✚ Check and adjust✚ Replace tyres

SERVICE OF STEERING SYSTEM

To avoid very heavy tire wear, and proper running of motor vehicle on the roads, all parts of the steering assembly should be kept in good condition. There should be no loose parts and wrong



adjustments, requiring correct overhauling of servicing, repair and adjustment of the steering assembly.

Procedure for the steering system servicing has been explained

Removing the linkages

- ✚ The steering wheel is removed by using a puller.
- ✚ Disconnect the drop arm from the rocker shaft.
- ✚ Disconnect the pitman arm from the relay rod.
- ✚ Disconnect the tie rod from relay rod and knuckle arm.
- ✚ Disconnect the drag link from knuckle arm.
- ✚ Disassembly of idler arm bracket.

Overhauling the steering gear (Rack and Pinion Type)

- ✚ Clamp gear housing in vice. Before disassembly, remove all dirt, oil etc.
- ✚ Loosen the lock nut and place the match marks on the tie rod and rack end.
- ✚ Remove the tie rod and lock nuts.
- ✚ Remove the rack boots.
- ✚ Using a hammer and screwdriver or chisel loosen the crimped part of the claw washer.
- ✚ Remove the claw washer.
- ✚ Remove the rack guide spring cap lock nut and remove the spring and rack guide.
- ✚ Remove the pinion bearing adjusting screw.
- ✚ Remove pinion with upper bearing.
- ✚ Remove the rack from the pinion side without revolving it.
- ✚ All parts are clean with kerosene. Then inspect all the parts.
- ✚ Check rack for run out and for teeth wear of damage. Maximum run out: 0.3 mm. if it is faulty, replace it.
- ✚ Check the pinion for rear and tear.
- ✚ All parts are reassembling with respective place. Then adjust the pinion preload.