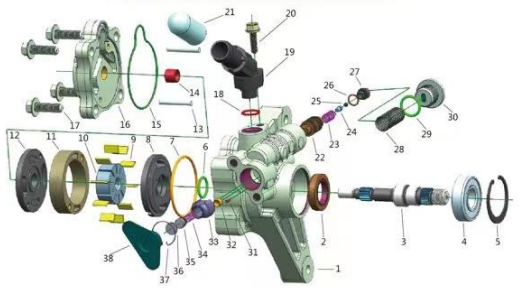
## Vane Power Steering Pump



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|---|---|---|---|---|
| 1. Pump housing | 9. Vane | 17. Fastening bolt | 25. Steel ball | 33. Flow Valve shell |
| 2. Oil seal | 10. Rotor | 18. O-ring | 26. Pressure gasket | 34. Preload spring |
| 3. Drive shaft | 11. Stator | 19. Oil inlet pipe | 27. Valve carrier | 35. Piston |
| 4. Bearing | 12. Upper oil distribution disc | 20. Fastening bolt | 28. Flow spring | 36. Sealed cap |
| 5. Circlip | 13. Cylindrical pin | 21. Oil inlet plug | 29. O-ring | 37. Circlip |
| 6. O-ring | 14. Composite shaft sleeve | 22. Pressure Valve shell | 30. Valve plug bolt | 38. Oil outlet plug |
| 7. O-ring | 15. Irregular ring | 23. Compression spring | 31. Locating pin | |
| 8. Lower oil distribution disc | 16. Pump cover | 24. Support unit | 32. Orifice sleeve | |

**Thank you for choosing our products. To guarantee your safe driving and economic interests, please refer to the following methods for replacement:**

1.Fault diagnosis: This product can only be used after steering faults are diagnosed by a professional technician, such as oil leakage, power failure, hard steering, severe noise, and other parts malfunctions.

2.Cleaning system: After disassembly, the oil filter and the connecting part of the oil pipe need to be cleaned to drain the residual oil in the steering gear cylinder, and the high-pressure and low-pressure pipe orifices need to be blocked in time to prevent foreign bodies from invading.

3.Select proper oils: Use special power steering oil since mismatched oils will damage the steering hydraulic system; No. 8 hydraulic oil is recommended. Such deteriorated oil as discoloration, turbidity must be replaced.

4.Check the oil pipe: The low-pressure hose must be replaced if there is a crack after bending. Meanwhile, replace the hose clamp.

5.Install booster pump: Don not remove the oil inlet plug 21 and the oil outlet plug 38 before installing the pump. The high and low pressure oil pipes must be cleaned before connecting.

6.Install the belt: Clean and dry the tooth-shaped groove surface for the belt, and tighten the belt according to the requirements of the OEM.

7.Exhaust air: Before oiling, the front wheel of the vehicle needs to be lifted. While oiling, turn the steering wheel back and forth to the limit position without starting the engine; fill the oil into the oil cup's designated scale mark and continue turning the steering wheel without starting the engine. Do not start the engine until there are no bubbles in the oil cup visually.

8.Product experience: Under normal conditions, there is no obvious booster pump noise in the vehicle, but there will be slight fluid sound of oil drain from the pressure valve when steering to the limit position.

9.Drive car in cold regions: Although the design of steering power varies among car manufacturers, the general principle is that the steering wheel can be easily turned with one hand; avoid or reduce steering to the limit position as far as possible to prolong the service life of all components of the whole steering system.
At low temperatures, the hydraulic oil will thicken and the flow will decrease, resulting in hard steering. It is recommended to use after warming up engine.

## Operation Instruction

| Symptom | Analyses | Diagnoses | Solutions |
|---|---|---|---|
| 1. Obvious noise | Power steering fluid low | Check the oil level in oil tank | Add the same type of power steering fluid. |
| | Air in the boost ystem | Check the oil in oil tank for air bubbles | Lift the front wheels off the ground and turn the left and right steering wheels without starting the engine until the bubbles in oil tank are removed. |
| | Aging pipes and clip | Check the aging of low pressure pipe | Fold rubber tube with 180 degrees, and the oil tube needs to be replaced if cracks are found. |
| | Rotational system | Check associated axle clearance except crankshaft | Clean the belt with an air gun and replace the tensioner. |
| 2. Hard steering | The long storage time for product causes the vanes 9 to be stuck by oil, resulting in non-operation | Check for oil fluctuations in oil tank | Without turning the direction, increase the engine from idle speed to about 4500 rpm in situ, and operate several times repeatedly. |
| | Faults of tie rods, ball cages, tires, steering gear, etc. | Check the relevant parts | Replace or adjust. |
| | Power steering gear leakage | Over shelf life or kilometers | Replace steering gear. Remove the valve plug bolt 30. Reduce the number of pressure gaskets 26. |
| | Low winter temperatures in cold regions | Start a car in cold accompanied by hard steering, but it will return to normal when the oil temperature rises after operation | Replace with winter special power steering fluid with low viscosity. |
| 3. Unstable power steering | Oil pollution Oil filter blocked Leaking pressure valve 27* | Observe whether the oil in the tank is translucent Scrape the filter screen with a wooden stick to check for sludge | Replace power steering pump oil or oil filter. Remove the valve plug bolt 30 and remove debris from the steel ball 25 and the valve carrier 27 holes. |
| 4. Oil leakage | Mismatched high-pressure interface size, aging of sealing ring or gasket The low-pressure pipe is damaged or loosened during the courier process | Check whether the oil pipe is loose after tightening the bolts, and whether the gasket or seal is deformed Check whether the low-pressure pipe fixing screws are loose or damaged | Replace the screws or high-pressure pipes of the original vehicle pump and replace the gaskets or sealing rings. Fasten oil pipe bolt 20. Replace oil inlet pipe 19. |

### CERTIFICATION

Date: See product or packaging

Inspector: See product or packaging color 1● 2● 3● 4●