

MAVAL

Maval Industries, LLC

World Class Quality in Remanufactured and New Steering Systems

COMPANY HIGHLIGHTS

- First independent remanufacturer to be awarded QS9000/ISO-9001 Quality System Certification.
- 30 plus years of remanufacturing and manufacturing steering systems for automotive service and off-road OE vehicle production-our sole focus is steering.
- Current/past quality approvals & supply agreements with the following vehicle & parts manufacturers



• 200 Employees



• 135,000 sq. ft. production/warehouse facility in Ohio.



• All remanufactured parts produced in Ohio

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COMPETITOR PRODUCT COMPARISON

BENCHMARK QUESTIONS	MAVAL	PRODUCT A	PRODUCT B	PRODUCT C
Are all products produced using OE components or sourced through an OE supplier?	YES	?	?	?
Are all seals, O-rings, Teflon rings, bellows and rubber components new?	YES	?	?	?
Are all salvaged components inspected and machined to the OE specification using statistical process controls?	YES	?	?	?
Are all products tested to the OE performance specifications?	YES	?	?	?
Are all individual unit test results stored in a computer database for traceability?	YES	?	?	?
Do all units include solenoids and other related components required to insure proper performance on the vehicle?	YES	?	?	?
Do all units have a uniform, clean appearance in and out of the box?	YES	?	?	?
Has the supplier produced new steering systems for use in OE vehicle production?	YES	?	?	?
Does the supplier have multiple quality approvals from OE vehicle Manufacturers?	YES	?	?	?
Is the product produced in the US?	YES	?	?	?

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Technical Assistance : 866-943-2748 · Extensions: 237 or 240

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DIAGNOSTIC AND TECHNICAL TIPS FOR HYDRAULIC STEERING SYSTEM SERVICE AND REPAIR

Contamination and air in the system are the two primary causes of service & repair issues in hydraulic power steering systems.

CONTAMINATION: If present in the system, in the short term, at either engine idle or low RPM, contamination will result in little or no power assist due to either a sticking pressure valve in the pump and/or blocked orifices in the pinion valve that are restricting flow of the power steering fluid. Over the long term, contamination will result in damage to the seals, o-rings and Teflon rings, resulting in both internal and external leakage.

AIR: If present in the system, there will be little or no power assist. Many hydraulic steering systems utilize a small remote reservoir that if not filled and bled of air properly, when the vehicle is started, will result in cavitation of the power steering fluid and no power assist.

SERVICE CHECKLIST

- Have the original steering unit and/or pump been run dry? If yes, it is recommend that both be replaced in order to prevent re-contamination of the hydraulic system.
- Have the hydraulic lines/hoses been inspected for deterioration? It is recommended that lines/hoses over 10 years old be replaced-moving "old" lines/hoses around during service can break off debris from the inner lining and re-contaminate the hydraulic system.
- Has the reservoir been inspected for cracks and all contamination removed? If cracked and/or contaminants cannot be completely removed the reservoir must be replaced in order to prevent re-contamination of the hydraulic system. **NOTE:** Many reservoirs are equipped with screens which must also be inspected and cleaned to prevent re-contamination of the system.
- Has the hydraulic system been flushed completely and re-inspected for any remaining contamination? All contamination must be gone before final installation of the lines. Running the fluid through an in-line filter or coffee filter will provide guidance as to the level of contamination in the hydraulic system. **NOTE:** Remove the in-line filter once the condition of the fluid is confirmed as being clear of contaminants.
- Has the system been properly bled of air? If there is no power assist when the vehicle is started, let the vehicle sit for 30 minutes and bleed the system again using the instructions included in the box or the published OE instructions available on-line.
- If so equipped are all electronic solenoids connections correct? Poor connections will impact the level of power assist generated by the hydraulic system.
- Make sure that the pressure and return lines are installed correctly. Crossing these lines will result in immediate leakage out the top of the steering unit.

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