

Power Steering Pump Moan

Automotive Noise Testing



- Investigation of excessive noise from pump
- Test with Prosig provides objective results
- Easy to construct custom test
- Allows comparison across models & makes
- Quickly identified the problem
- Saved warranty claims and costs

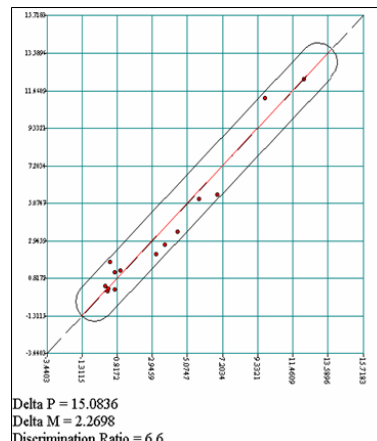
The user, an automotive manufacturer, found that they were experiencing excessive moan from some of their power steering pumps. They needed a way to quickly identify faulty pumps and work on a solution with their supplier. Using their Prosig systems, they designed a custom test to speed-up objective testing.

A BOB (best of best) vehicle / WOW (worst of worst) vehicle strategy was used to focus on discriminating between good and bad pumps.

Using a Prosig data acquisition unit, fore / aft acceleration of the steering pump was measured at the 20th order of the pump by placing an accelerometer on the top of the pump housing. Data was collected while holding the engine at 1600 RPM. Lowering the front tire pressure to 15 PSI proved to be an effective aggravator of pump noise. Data was collected over a period of 10 seconds while turning the steering wheel from its center position to one turn counter-clockwise. This was repeated three times per data set. The median value of the three peak accelerations was used as the final data point for that data set. The measurement system proved capable with a discrimination ratio of 6.6.

The success of a test such as this is a good demonstration of the flexibility of the DATS tools. Both the hardware and software can be rapidly configured to take new data and analyze it in innovate and novel ways.

Being able to quickly test these parts and obtain high quality results meant that the manufacturer was able to work with the supplier to remedy the problem before it led to warranty claims and expensive remedial work.



About Prosig

Prosig is a UK company specialising in the testing and monitoring of complex machinery, vehicles and structures within the advanced engineering, automotive, aerospace, and industrial sectors. The company offers a wide range of system capabilities, experience and innovation, with a particular focus on advanced vibration and acoustic monitoring and analysis techniques. Prosig is part of Condition Monitoring Group Ltd, an international group, with headquarters in the UK and subsidiaries in three USA, Germany and Italy.

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