

Challenge

An automotive parts manufacturer was having problems during power steering assembly with the pulley not being correctly pressed onto the pump shaft, resulting in faulty power steering pumps. When installed in a vehicle it can cause the main part of the power steering pump to become loose or come completely apart. This problem was found during assembly, post assembly testing and/or by customers leading to expensive teardown, repair and warranty costs. The manufacturer required a cost-effective solution to ensure the pulley was securely pressed into the pump shaft before final assembly.

Solution

Sciometric's Press Monitoring system provides more than a simple data acquisition – it dynamically controls the height of which a pulley is pressed onto the pump shaft. The system performs various tests with each part including force and pulley height checks during assembly. It uses three laser distance monitors to perform geometric analysis of final position. In addition, the system will identify a pulley that is even slightly deformed or not perpendicular to the pump shaft.

All PASS/FAIL data is stored in both SPC and individual waveform formats, which can be edited by authorized personnel through a password-protected entry screen.

Results

By implementing Sciometric's Press Monitoring system the power steering pump manufacturer is able to objectively identify undetectable defects prior to final power steering pump assembly, reducing downstream failures once installed in vehicles.

Request more information: www.sciometric.com
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FORCE VERSUS DISTANCE PROCESS MONITORING KEY FEATURES

- Precision control and monitoring of power steering pump press-fit assembly
- Tests 100% of assembled parts
- Detailed SPC charts of press force and position
- Uses signature analysis for most accurate verification



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of quality