

Brake Booster Assembly Press Monitoring

App Note 2001

Elimination of Customer Returns

100% In-Line Process Monitoring

Press Monitor

Integration into Existing Manual Press Station

Displacement Sensor Technology

Load Cell Technology

Additional Applications Notes Available

Situation

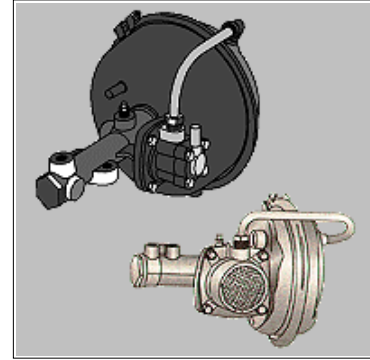
A leading manufacturer of truck brake boosters needed to assure that 100% of boosters had been assembled correctly. They wanted a system integrated into their existing two (2) manual press stations capable of running six (6) different styles of boosters.

Solution

Automation Innovation designed two (2) press monitoring systems using their Signature Analysis based Process Monitoring System, a standard load cell and displacement sensor. The basic design was used in both systems.

The load cell and displacement sensor were integrated into the customer's existing press. Care was taken in protecting the load cell from off-center loading. The displacement center was linked to the press stroke and gave the system a force versus displacement signature during the press cycle.

The various assembly components were loaded into the press and the press was cycled. The load cell and displacement sensor sent information to the signature analysis controller. The signature analysis controller built a signature of the press cycle and determined the quality of the assembly.



The system was capable of determining changes in position of the assemblies, changes in assembly components (wrong springs), changes in material, improper press cycles (short stroke), improper tooling, etc.

The signature analysis system monitored both press systems at the same time.

Within the first month of operation, the system found several "field failures" therefore paying for both press monitoring systems. The number of returns due to assembly problems have been eliminated.

Other Products

- Process Monitoring
- Thread Inspection
- Gauging Systems
- OEM Heat Treat Monitors
- Assembly/Verification Systems
- Packaging Systems
- Robotic Automation
- Engineering Services