Power Steering Pump Tube Press: Verification of Tube Press Into Power Steering Pump

Highlights:

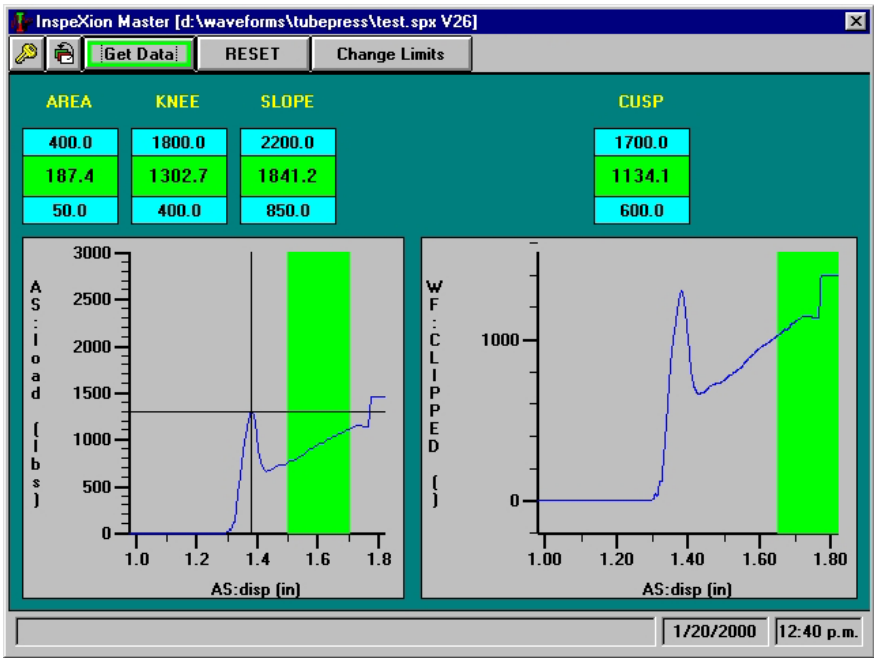
- Defects detected:
  - Insertion hole too big
  - Loose tube
  - Debris in hole
- Quick configuration
- Easy operator interface
- Subtle defect detection

An major automotive parts manufacturer was experiencing some difficulties with an assembly operation in a power steering pump manufacturing line. The operation consisted of the insertion of a tube into a power steering pump.

During normal operation, the tube supplies hydraulic fluid to the power steering pump, ensuring the pump functions reliably. The manufacturer needed to verify that the tube insertion process was free of defects as the tube performs a key operation in the overall pump operation. If the tube is not inserted properly or if the hole in the pump housing is too big the tube can come loose, leak, and lose all the power steering pump hydraulic fluid, ultimately leading to complete pump failure.

Sciemetric® was able to offer a quick and inexpensive solution to the manufacturers problem. A SigMETER® was configured to monitor the press load versus distance, eliminating variations due to the pump anomalies (one press is affected by the other due to hydraulic oil volume limitations).

The SigMETER®'s successful ability to detect the various defects associated with the insertion of the power steering pump tube led to the manufacturers purchase and implementation of numerous additional SigMETER®s into their assembly operations. By detecting defective tubes upstream the manufacturer was able to produce a top quality component, ultimately avoiding costly long term warranty issues.



Example Tube Press Waveforms

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