

Engine Valve Dynamics

THE PROBLEM

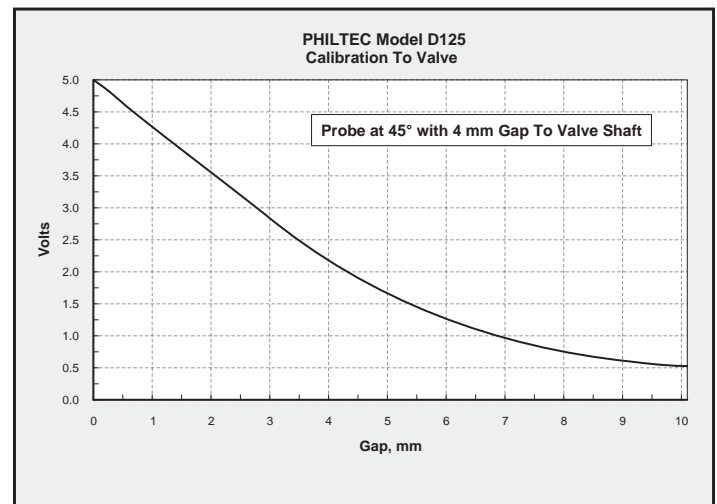
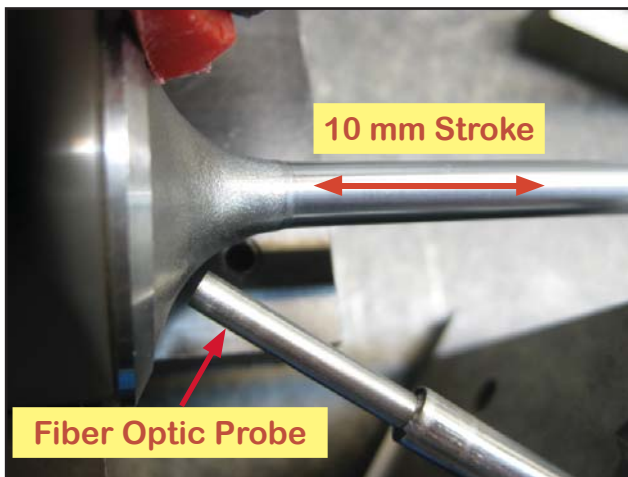
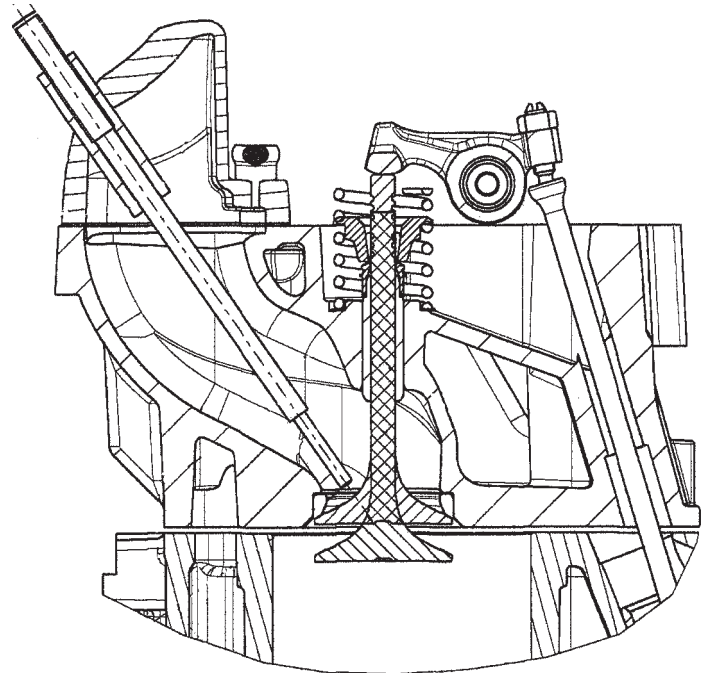
A diesel engine manufacturer had a requirement to measure the stroking motion of a valve with:

- Max. Displacement = 10 mm
- Bandwidth = 50 KHz

Tests would be performed indoor without engine firing.

The Solution

A Philtec model D125 probe was installed at a 45-55° angle to the valve stem and positioned on the lower part of the valve flare can detect valve motion. The sensor was calibrated to the valve flare with very good results.



The D125 probe is shown in the picture to the right. A special threaded adaptor with compression fitting was supplied. This adaptor was mounted on the engine bulkhead, and it allowed for adjustment and locking of the probe position.



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