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TÜV AUTOMOTIVE

Fa. Flowdrill Gmbh

Project-No.: 70765/1

Engineering - Center Ingolstadt

T E S T R E P O R T

Company: Flowdrill Fließformwerkzeuge GmbH
Herr Waldmann
Olbrichtstraße 21
69469 Weinheim

Date: 08.04.04

Quotation - no.: 70765/1

Project - no.: 70765/1

Test purpose: Leak tightness test on lambda sensor screw connections

The test report includes 3 pages.

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von der Akkreditierungsstelle des Kraftfahrt-Bundesamtes, Bundesrepublik Deutschland

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Test:

Leak tightness test on the screw connection between exhaust pipe and lambda sensor.

Test samples:

3 exhaust pipes (material 409 / 1.4512) with internal thread M18 x 1,5. All the test samples were marked as shown below:
FD17.2Spec.R079
Flowtap M18 x 1.5
Pilot hole 4mm
3000 RPM
Feed 450mm/min

Test conditions:

Breakaway torque of the lambda sensor M = 50 Nm
Test pressure p = 0.5 bar (7.25 PSI) / 1.0 bar (14.50 PSI) overpressure
Observation time t = 30 seconds

Test setup:

The test samples were closed gasproof at both ends and compressed-air supply was put up to each end (see Fig. 1). The lamda sensors which were sent by Flowdrill, were mounted with the given torque. Afterwards compressed-air was put on the pipe. For 30 seconds the leakage was measured. This test was done on all test samples.

Test result:

Neither at a pressure load of 0.5 bar (7.25 PSI) nor at 1.0 bar (14.50 PSI) a leakage could be measured.

Gaimersheim, 13.04.04

S. Kröber

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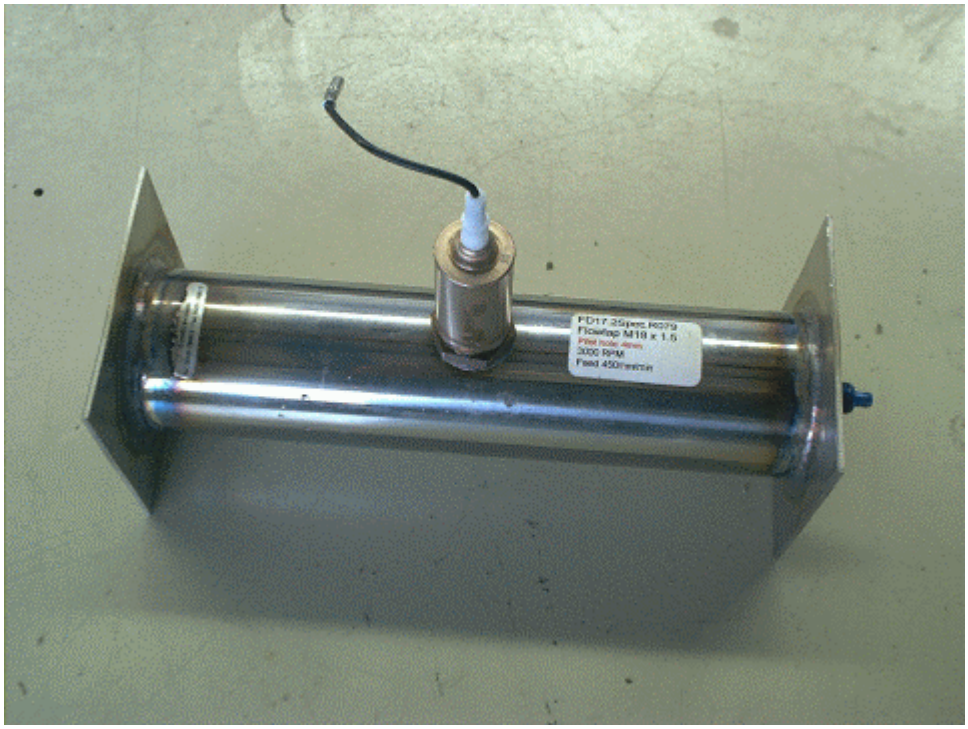

Fig. 1