KES

Abrasion Test Standard of Shift Fork

KES T – F004

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1. Scope of Application

This shall be applied to the entire vehicle types of T/M or T/A.

2. Purpose

This shall be for the purpose of evaluating the anti-abrasion property of a shift fork and sleeve by measuring the abrasion amount of the shift fork.

3. Test Preparation

3.1 Equipment and tool preparation

(1) Prepare the tools for testing a public sample.

(2) Preparations : T/M fixing table, propeller shaft (for FR), drive shaft, change lever (for FF), flange

3,2 Preparation of public sample

3.2.1 A public sample should be T/M or T/A complete.

3.2.2 Oil temperature measurement

(1) Fix a thermocouple to the public sample and measure the oil temperature.

(2) Use the double coupling for a thermocouple and fix it to the lower part.

4. Evaluation Item

(1) Abrasion amount at the edge of shift fork

(2) Abrasion amount at the slot of the sleeve

5. Test Condition

(1) Public sample

Use the new part for the T/M or T/A complete.

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(2) Shift rpm

Shift at the 50 % of the maximum rpm of each engine.

Example 1. In the case that the maximum rpm is 5000 rpm

Shift at 2500 rpm (= 5000 × 0.5).

(3) Shift load

In principle, add 15kg to the change knob.

(4) Load time

When connecting the gear, it shall be 1 sec. And when releasing the gear, it shall be 3 sec.

(5) Oil temperature

80 °C ± 5 °C

(6) Parts

Use the new parts for the entire parts influential to the test.

Gear, sleeve, synchro ring, key, spring, hub and shift fork etc.

6. Test Method

6.1 Shift number

The object shall be 100,000 cycles per each gear.

6.2 Measurement item

6.2.1 Shift load

Measure it by fixing strain gauges to the change lever with a push-pull gauge and record it with a linearcorder.

6.2.2 Rpm

For FR, measure the RPM at the main drive shaft and for FF, at the primary shaft.

Remark 1. Use a light sensor or contact switch.

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