



Gear Fatigue Test Standard

KES T – F002

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1. Scope of Application

This shall be applied to the entire vehicles with a manual transmission (Except 4 × 4 vehicle).

2. Purpose

This shall be for the purpose of processing the gear fatigue test by confirming the general items such as test preparation, method and data process method of a gear fatigue tester.

3. Test Preparation

3.1 Preparation of equipment and tool

Prepare the tools for testing a test sample. (T/M)

3.2 Preparation of test sample

(1) The test sample should be a mission complete.

(The test samples should be more than 5 units.)

(2) In principle, change the case of the test sample with a new item when it is damaged.

However, the 2nd damage shall be approved when testing 2nd, 3rd, 4th, 5th.

(3) Oil temperature measurement

Measure the oil temperature by fixing a thermocouple to the test sample. In case of a transmission for a commercial vehicle, measure the temperature at extension bush section.

4. Evaluation Item

(1) Gear within transmission : life decision, allophone

(2) Bearing : allophone, life

(3) Clutch hub : spline

(4) Case : crack in the case

5. Test Condition

5.1 Test sample

5.2 Use a new item for the T/M complete.

(1) Load torque

Increase the load according to the testing gear on the basis of the engine maximum torque. (To)

(Set the appropriate rotational speed and load torque according to the load of the oil temperature increase and the absorption capability of the dynamo.)

(2) Test load torque (input torque)

1st : 100 – 110 % load

2nd : 100 – 120 % load

3rd : 100 – 130 % load

4.5th : 100 – 140 % load

5.3 Test rotational speed (input rpm) (1)

(1) 3,000 ± 500 rpm

(2) When the oil temperature increase too high, lower the rpm.

Note (1) For the FF : 3,000 ~ 3,600

For the FR : 2,500 ~ 3,000

5.4 Injected oil

Inject the regulated amount of the designated oil.

Remark 1. If the oil is injected too many, the temperature shall increase abnormally.

5.5 Oil temperature (including the temperature of the extension bush)