KES

Rapid Destruction Experiment on the Misshifting Mechanism of a Transmission

KES T – F005A

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1. Scope of Application

This shall be applied to the manual transmission. (the entire vehicle types)

2. Purpose

This shall be for the purpose of evaluating the shock strength of a transmission link system. (Change lever~gear spline)

3. Test Preparation

3.1 Preparation of equipment and tool

Prepare the equipments and tools for testing a public sample.

(1) Equipment

Synchro tester

(2) Preparations

T/M fixing table, propeller shaft (for FR), drive shaft (for FF), change lever, strain gauge, linearcorder,push-pull gauge

3.2 Preparation of public sample

Use the new parts for a public sample. (T/M complete and lever etc)

In the case of FF type, there should be no rpm difference of left and right wheel by welding diff.

Fix the strain gauge to the change lever.

4. Evaluation Item

Each section of change lever ~ gear spline

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5. Test Condition

(1) Additional load

- Low ~ 4th : 30 kg × 40 times
- 5th : 20 kg × 40 times

} Load point should be on the change knob.

(2) Loading time

1 sec/times

(3) Loading interval

The standard shall be 20 sec. (The principal purpose shall be protecting the motor)

(4) Rpm difference

The relative difference of the test gear and hub sleeve shall be 2500rpm.

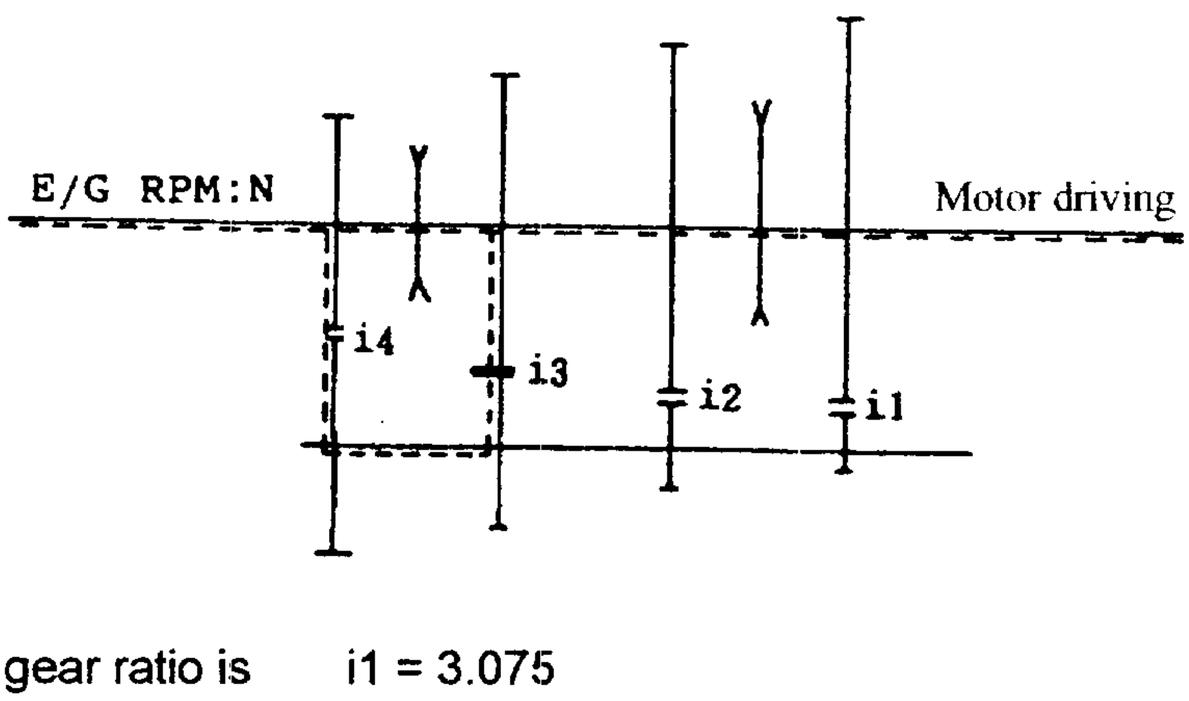
(5) The chamber section of the synchro ring should be polished. (one side for test)

Remark 1 : The main purpose shall be poor synchronization.

6. Test Method

(1) Rpm setting method

Example 1. For FR type



When the gear ratio is i1 = 3.075

i2 = 2.002

i3 = 1.366

at i4 = 1.000

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