



Steering Gear Wear Compensator Test

1 Introduction

Note: Nothing in this standard supercedes applicable laws and regulations.

Note: In the event of conflict between the English and domestic language, the English language shall take precedence.

1.1 Purpose. To provide general guidelines for operating the Steering Gear Wear Compensator test stand.

1.2 Applicability. This test procedure is applicable to any hydraulically or electrically assisted rack and pinion steering system.

1.3 Remarks. This document describes the general operating procedure for conducting a test on the Wear Compensator Test Stand. It is not a user's guide to the test machine or its control software.

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

ISO 9001

2.2 GM Standards/Specifications.

None

2.3 Additional References.

PROMESS, Incorporated, Brighton, Michigan, www.promessinc.com

Nexteer Automotive, Saginaw, Michigan, www.nexteer.com

3 Resources

3.1 Facilities.

3.1.1 Calibration. The test facilities and equipment shall be in good working order and shall have a valid calibration label.

3.1.2 Alternatives. Alternative test facilities and equipment may also be used. However, all measuring variables as specified in this standard shall be determined correctly with respect to their physical definition.

3.2 Equipment. PROMESS MotionPRO MC-700 Test Stand, Computer with MotionPRO software (available through PROMESS, Incorporated).

3.3 Test Vehicle/Test Piece. This test procedure applies to any spring controlled steering gear yoke wear compensator.

3.4 Test Time.

Calendar time: 1 day

Test hours: 6 hours

Coordination hours: 0.5 hour

3.5 Test Required Information. Test specimen details (supplier, corresponding gear, part number, serial number, etc.), and any special request details (i.e., load to be applied, number of cycles, retract distance per cycle, cycle length).

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3.6 Personnel/Skills. Operator must be qualified and documented as capable to run this test as required by ISO 9001.

4 Procedure

4.1 Preparation.

4.1.1 Required Parts.

The following parts are required for testing a steering gear wear compensator:

- PROMESS wear compensator test apparatus. See Figure 1.
- Yoke wear compensator assembly (including grenade pin/retaining nut). See Figure 2.
- Steel mounting plate (supplier specific). See Figure 3.



Figure 1: PROMESS Test Apparatus



Figure 2: Mando Assembly with Retaining Nut (left), Nexteer Assembly with Grenade Pin (right)

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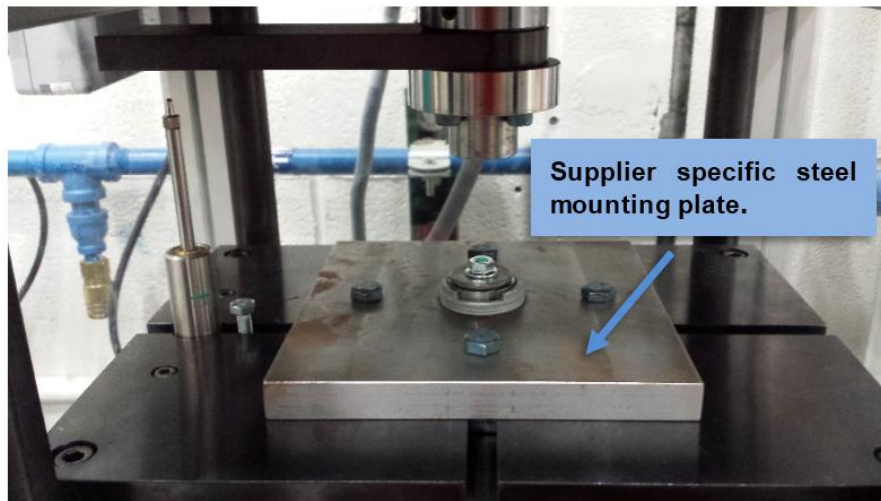


Figure 3: Nexteer Yoke Assembly Fixed to Steel Mounting Plate

4.2 Conditions.

4.2.1 Environmental Conditions. Not applicable.

4.2.2 Test Conditions. Deviations from the requirements of this standard shall have been agreed upon. Such requirements shall be specified on component drawings, test certificates, reports, etc.

4.3 Instructions.

4.3.1 Existing Test Selection. Upon opening the MotionPRO software, the user will see the last test script that was run. The user may run an already created test script by selecting File > Open Program. Figure 4 shows the program selection screen where a list of existing programs can be parsed for the desired test script. Upon selection, the user will be prompted to wait while the MotionPRO software synchronizes with the test hardware.

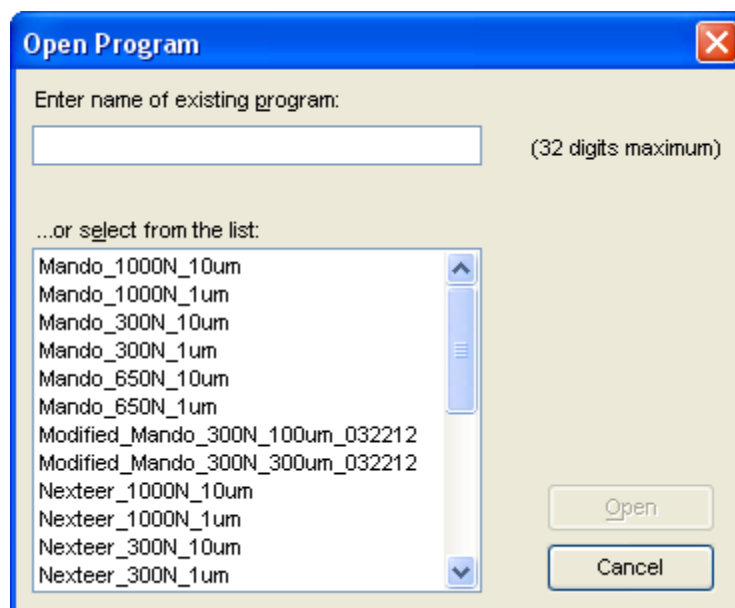


Figure 4: Existing Program Selection Screen

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