Brake Corner Dynamometer Rigid Fixture Fabrication

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. The purpose of this test procedure is to detail the fabrication process for rigid brake corner fixtures to be used in corner dynamometer testing.

1.2 Applicability. This procedure is applicable to all passenger car, sport utility vehicle and light truck brake corners.

1.3 Remarks. Rigid corner fixtures are used for testing brake components on brake corner inertia dynamometers and squeal dynamometers.

2 References

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

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

None

3 Resources

3.1 Facilities. Machine shop.

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.

- Milling machine
- Welder
- Lathe
- Drill press
- Band saw
- Metal break

3.3 Test Vehicle/Test Piece. A new knuckle will be provided for fabrication of the rigid fixture.

3.4 Test Time. Two (2) days is required for fabrication time.

3.5 Test Required Information. All safety procedures shall be followed while fabricating the brake corner rigid fixture.

3.6 Personnel/Skills. An experienced, trained machinist to perform the Instructions in 4.3.

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4 Procedure

4.1 Preparation.

4.1.1 New corner hardware (knuckle, fasteners, etc.) should be used.

4.1.2 Acquire the fixture build materials per the drawings in Appendix A, Figures A1 through A6.

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.

Note: Deviations are approved by the GM Milford Brake Component Development test improvement process (TIP) engineer.

4.3 Instructions.

4.3.1 For knuckle style disc brake corners, fabricate the rigid test fixture per the instructions in Appendix A, Figures A1 through A7. Paint fixture to protect from corrosion.

4.3.2 For solid and trailing rear axle designs, contact the GM Milford Brake Component Development TIP engineer for specific instructions. Paint fixture to protect from corrosion.

5 Data

5.1 Calculations. Not applicable.

5.2 Interpretation of Results. Not applicable.

5.3 Test Documentation. Engrave the fixture per instructions in Appendix A, Figure A2.

6 Safety

This standard may involve hazardous materials, operations, and equipment. This standard does not propose to address all the safety problems associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

7 Notes

7.1 Glossary. Not applicable.

7.2 Acronyms, Abbreviations, and Symbols.

CR	Cold Rolled
DLS	Design Level Suffix
DR	Drill
FRT	Front
ID	Identification
IN.	Inch
KPC	Key Product Characteristic
LH	Left Hand
PN	Part Number
SAE	SAE International
TIP	Test Improvement Process

8 Coding System

This standard shall be referenced in other documents, drawings, etc., as follows:

Test to GMW17357

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9 Release and Revisions

This standard was originated in March 2015. It was first approved by the Chassis Brake Global Subsystem Leadership Team in April 2015. It was first published in April 2015.

Issue	Publication Date	Description (Organization)
1	APR 2015	Initial publication.

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