



High Speed Test Drive Train

1 Scope

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. Test of the run-in behavior of the drive train.

1.2 Foreword. Not applicable.

1.3 Applicability. Not applicable.

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.

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.

3.1.3 General Motors Circular Track Locations.

- Cruz Alta (GMB) Proving Ground
- Desert (GMNA - Yuma) Proving Ground
- Dudenhofen (GME - Germany) Proving Ground
- Lang Lang (GM Holden - Australia) Proving Ground
- Milford (GMNA) Proving Ground
- Millbrook (GME - England) Proving Ground
- Other equivalent Circular Track locations

3.2 Equipment.

3.2.1 Tachometer.

3.2.2 Instruments for oil temperature in the axle(s), transmission, transfer case or power transfer unit (PTU), and ambient air.

3.2.3 Contact Traffic Safety for a list of the required safety equipment.

3.3 Test Vehicle/Test Piece. New aggregates, assembled per specification, measured and not run in.

3.4 Test Time. Test time varies with individual test.

3.5 Test Required Information. Not applicable.

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3.6 Personnel/Skills. Not applicable.

4 Procedure

4.1 Preparation.

4.1.1 Check engine operation, check maximum velocity of vehicle (v_{maximum}), note maximum operating temperatures of axle(s), transmission, transfer case or PTU, and refuel vehicle.

4.1.2 Ballast vehicle to 75% of vehicle capacity weight, 75 kg of which is placed on each front seat, 40 kg in the trunk and the rest on the back seat (including driver and full tank).

4.1.3 Adjust tire pressure according to loading condition for maximum speed.

4.1.4 Activate temperature recording instruments and perform an operational check.

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.

4.2.2.1 The test aggregates are to be installed immediately before test start and may not be driven before.

4.2.2.2 The test will be conducted in dry weather on the circular track.

4.2.2.3 Enter the circular track and prepare for a drivetrain noise evaluation. This is to be accomplished by accelerating and decelerating between 50 km/h and v_{maximum} while in transmission direct gear (1:1 ratio) for no more than 5 km.

4.2.2.4 Drive at full throttle (v_{maximum}) for 200 km.

4.2.2.5 Check temperatures after every 5 km. If overheating occurs, stop the test.

4.2.2.6 After a distance of 200 km is covered, examine drive train noise as in 4.2.2.3.

4.3 Instructions. After termination of the tests, dismount test aggregates and inspect per individual product specifications. Have lubricant samples examined in the laboratory.

5 Data

The program is to be completed with three (3) new aggregates each.

5.1 Calculations. Not applicable.

5.2 Interpretation of Results. The test requirements are considered fulfilled, when all aggregates:

5.2.1 Are ready for driving in assembly without any objectionable noise and without any lubricant leakage.

5.2.2 Do not show more than slight stress marks when examined in a sight check and when measured.

5.2.3 Have measured temperatures that are stable and do not exceed the permissible values.

5.3 Test Documentation. Not applicable.

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.

PTU	Power Transfer Unit
v_{maximum}	Maximum Velocity of Vehicle

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