

SURFACE VEHICLE RECOMMENDED PRACTICE

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(R) SPRING-LOADED CLUTCH SPIN TEST PROCEDURE

1. SCOPE:

This SAE Recommended Practice applies to spring-loaded clutches such as are used with manual shift type transmissions.

1.1 Purpose:

This document is intended to provide a uniform test procedure for spring-loaded clutches to determine rotative speeds at which they will either burst or withstand a specified limiting speed.

2. REFERENCES:

2.1 Applicable Documents:

SAE J1240, Flywheel Spin Test Procedure

3. TEST EQUIPMENT:

Refer to SAE J1240 for a description of typical test equipment requirements.

4. TEST PROCEDURE:

4.1 Prior to spin testing, the item to be tested is to be identified, checked for material and dimensional defects, and balanced to print specification.

4.2 Test should be performed in a minimum ambient temperature of 15°C (60°F). Record ambient temperature.

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4.3 Mounting:

Test sample is to be mounted on a spin arbor. The arbor may be operated in a vertical or horizontal position; the arbor design must be such that vibration will be minimized.

4.3.1 Cover Assemblies: Mount the cover assembly on a steel test flywheel in the position it would be when engaged with a new driven disc. To simulate the driven disc thickness, suitable spacers between the flywheel and pressure plate may be used, or the flywheel may be machined to effectively position the pressure plate in the new position.

4.3.2 Pressure Plate or Intermediate Plate of Multiple-Plate Clutches: Mount the plate on a test fixture piloting by either the same method as used in the cover assembly or flywheel such as drive pins or by the I.D. Use enough clamping force to hold the test piece in place but not enough to counteract centrifugal force.

4.4 Cover Assemblies, Pressure Plates and Intermediate Plates:

4.4.1 Spin test sample to 2000 rpm then accelerate at a rate not to exceed 80 rpm/s until the predetermined limiting speed is attained, vibration becomes excessive, or burst occurs.

4.5 Driven Disc Assemblies:

4.5.1 Subject driven discs with organic facing material to $260^{\circ}\text{C} \pm 3$ ($500^{\circ}\text{F} \pm 5$) for 15 min. The maximum elapsed time between removal from the heat chamber and initial acceleration shall be 25 s. Driven discs with inorganic facing material may be spun at room temperature.

4.5.2 Accelerate at a rate of approximately 300 rpm/s until the predetermined limiting speed is attained, vibration becomes excessive, or burst occurs.

The (R) is for the convenience of the user in locating areas where technical revisions have been made to the previous issue of the report. If the symbol is next to the report title, it indicates a complete revision of the report.

RATIONALE:

The following changes were made:

1. Previous scope became the purpose section; new scope section was added.
2. Reference is made to SAE J1240 for a description of typical test equipment requirements.
3. Test procedures section rewritten to explain items to be done prior to testing and mounting. Also to explain specific procedure for each component or assembly being tested.

RELATIONSHIP OF SAE STANDARD TO ISO STANDARD:

Not applicable.

APPLICATION:

This SAE Recommended Practice applies to spring-loaded clutches such as are used with manual shift type transmissions.

REFERENCES:

SAE J1240, Flywheel Spin Test Procedure

COMMITTEE COMPOSITION:

DEVELOPED BY THE SAE CLUTCH, FLYWHEEL, AND HOUSING STANDARDS COMMITTEE:

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