

GUIDE FOR THE FORMAT OF A D02.B0 RESEARCH REPORT FOR NEW OR MODIFIED ENGINE TESTS

This guide is meant to enhance the more generic guide available from ASTM and provide a more in-depth look at newly developed Subcommittee B engine test procedures. In the past, the research report has served Subcommittee B as a tool for the approval of a new engine test, a vehicle for the promulgation of a test procedure while it is moving forward in preparation as a standard test method and the archive for the precision data required for the standard test method. Use of this guide for future reports can provide more consistent documents, will relate the development to the Subcommittee B "GUIDE FOR TEST DEVELOPMENT" and should insure that all is in place for the completion of the standard test method.

1. **Executive Summary (optional)**

2. **Title**

"A clear, concise title of the research report that describes the nature of the study should immediately follow the name of the sponsoring committee, for example:"

COMMITTEE D-2 ON PETROLEUM PRODUCTS

RR: D02: XXXX

DEVELOPMENT OF THE SEQUENCE IIIF ENGINE OIL TEST

*Number will be assigned by ASTM Headquarters at the time the RR is first referenced in a standard.

3. **Introduction**

- Describe the scope of the development activity.
- Provide a statement of need for the test, e.g. a current or potential field problem, replacement of an existing test, etc.
- Provide a general description of the test which has been developed.

4. **Background**

- Describe the nature of the field problem to be simulated.
- Provide field data to be used for correlation.
- If the test replaces an existing test, discuss the reason for the replacement.
- Discuss the reference oils used in the development and those projected for use in the on-going stand calibration process.
- Present and discuss discrimination data, normally gathered before precision matrix testing.

5. **Test Method**

- Reference the test procedure, which should be a **separate appendix** to the RR. This should be the test procedure used in the running of precision tests referred to later in the RR. The procedure should include all of the necessary report forms. Format of the procedure should be close to ASTM Standard Test Method format, i.e. "the Blue Book."
- Identify the hardware platform and a commitment for support by the OEM for at least five years.
- Identify critical parts and a process for assuring consistent hardware quality.
- Identify the test fuel, if critical, and a commitment from the source(s) for long term supply and quality control.
- Discuss any measurement or rating techniques which are unique to this procedure and plans for on-going workshops to maintain calibration of these techniques.

6. **Precision Test Program (matrix)**

- Discuss the experimental design
- List the participating laboratories (may be coded)
- Document any special instructions for the use by the participating laboratories.
- Document the lab visits made prior to the start of the precision testing.

7. **Statistical Data Summary**

- This includes documentation of the analysis of the precision program data by a recognized statistician or team of statisticians.
- This summary can be included in the body of the report or as a separate appendix.
- A summary of the conclusions from the analysis including the statistical information needed to establish an LTMS for the test.
- Provide a precision statement for use in the Standard Test Method.

8. **Research Report Summary**

- List the principle result(s) of the development and precision program, i.e. test discrimination, test precision and field/prior test correlation.
- List the conclusions drawn from the data.
- List the recommendations from the development program.