



Test Monitoring Center

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L-33-1 Information Letter No. 03-2
Sequence No. 3
September 16, 2003

ASTM consensus has not yet been obtained on this information letter. An appropriate ASTM ballot will be issued in order to achieve such consensus.

TO: L-33-1 Mailing List

SUBJECT: 1. Change in Solvent Specification
2. Bearing Replacement
3. Addition of Dana Bulletin No. 5304-2

1. At the August 27, 2003 L-33-1 Surveillance Panel meeting, the panel approved a motion to revise the cleaning solvent specification to D 235 – Type II, Class C. Sections 2.1, 7.2, 9.2.1.3, 9.2.1.4, and 11.4.2 of the L-33-1 test procedure have been revised. A new footnote 5 has been added. Renumber old footnotes 5 through 19 to 6 through 20 respectively. The effective date for this change is January 1, 2004.

2. At the August 27, 2003 L-33-1 Surveillance Panel meeting, the panel approved a motion requiring any defective bearing is to be replaced with a bearing that is from the same manufacturer and has the same bearing part number. Section 9.2.1.5 of the L-33-1 test procedure has been revised. This change is effective the date of this information letter.

3. At the August 27, 2003 L-33-1 Surveillance Panel meeting, the panel approved a motion to allow the reference of the Dana Bulletin No. 5304-2. Section 9.2.2.1 of the L-33-1 test procedure has been revised. This change is effective the date of this information letter.

The updated version of the L-33-1 test procedure, draft 20030505, is available in its entirety from the TMC web site (ftp://ftp.astmtmc.cmu.edu/docs/gears/l331/procedure_and_ils) or by contacting the TMC for a hardcopy. The revised sections of the L-33-1 test procedure are attached.

Dale Smith
Chairman
L-33-1 Surveillance Panel

John L. Zalar
Administrator
ASTM Test Monitoring Center

Attachment

c: ftp://ftp.astmtmc.cmu.edu/docs/gears/l331/procedure_and_ils/il03-2.pdf

Distribution: Email

2.1 *ASTM Documents:*

STP 512-A Laboratory Performance Tests for Automotive Gear Lubricants Intended for API GL-5 Service⁴

D 235 Standard Specification for Mineral Spirits (Petroleum Spirits) (Hydrocarbon Dry Cleaning Solvent)⁵

⁵ Annual Book of ASTM Standards, Vol 06.04.

Renumber old footnotes 5 through 19 to 6 through 20 respectively

7.2 *Cleaning Solvent*--A solvent meeting Specification D 235 – Type II, Class C.

9.2.1.3 *Cleaning*—Pressure wash the differential housing and each individual component with solvent (see Section 7.2) using a round plastic bristle brush. Rinse the differential housing and each individual component with solvent (see Section 7.2) and dry with compressed air or nitrogen. *Do not* use wire brushes or abrasive cleaning pads to clean the differential housing and individual components. Remove all grease and oil used in manufacturer's assembly from bearings and wipe clean lip seals with a dry cloth.

9.2.1.4 *Functional Surface and Cover Plate Preparation* — Abrasive blast the entire differential case, ring, pinion, side gears, differential pinion gears (spider gears), all four thrust washers and the inside surface of the housing cover plate by uniformly abrasive blasting with 80 grit aluminum oxide. *Do not* abrasive blast the bearings, bearing cups and differential shaft (cross shaft pin). *Do not touch any cleaned surface with bare hands as moisture can cause rusting.* After abrasive blasting and pre-test inspection (Section 9.2.1.5), pressure wash abrasive blasted parts, all four bearings, and bearing cups with solvent (see Section 7.2) and a round plastic bristle brush (Pressure not to exceed 30 psi) see Section 6.1.2. After pressure washing, rinse with solvent (see Section 7.2) and dry with filtered compressed air or nitrogen (pressure not to exceed 30 psi). A Wilkerson filter, model M18-02-CH00¹⁶ is required to filter the compressed air or nitrogen. A Wilkerson model MTP-96-646¹⁶ is the required replacement element for the filter assembly. *Do not* use wire brushes or abrasive-cleaning pads to clean the abrasive blasted parts. *Do not* spin dry the bearings with the compressed air or nitrogen. Only use blowguns without a safety bypass to air-dry the parts. A Milton model S15 has been found to be acceptable.

9.2.1.5 *Pre-Test Inspection*—After the parts have been abrasive blasted and before cleaning and rinsing; carefully inspect the abrasive blasted parts, bearings and bearing cups for rust or corrosion and damage. If any rated area is found to have rust, re-prepare as described above in 9.2.1.4. If defects are found, such as casting flaws etc., which might be mistaken for rust at the end of test inspection, add a notation of their pre-test existence to the test report. If any bearing is found to have rust or damage, replace it with a new one that is rust-free. The replaced bearing shall be from the same manufacturer and have the same bearing part number. The end of test inspection and rating make no allowances for parts rusted before start of test.

9.2.2.1 *Drive Pinion Shaft Installation*—Assemble the drive pinion shaft with its bearings and install it in the housing following the guidelines in Section 9.2.2. Dana Bulletin No. 5304-2 may be used for additional information, however in all cases the L-33-1 procedure supercedes all information in this bulletin.

11.4.2 Lightly pressure wash all parts with a solvent (see Section 7.2) to remove used test oil.