AMERICAN CHEMISTRY COUNCIL PRODUCT APPROVAL CODE OF PRACTICE

APPENDIX I

Program Guidelines

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PROGRAM GUIDELINES

Introduction

Program Guidelines are part of the American Chemistry Council (ACC) Code for testing engine oils. These guidelines were developed based on criteria set by a work group of industry formulators. The guidelines are based on fundamental knowledge of the performance of engine oils in each test type. They relate to industry need and have been verified by industry data. No guideline is driven by individual company need or data.

Purpose

Program Guidelines are provided to promote cost effective testing when developing programs built on existing Core Data Sets developed under the ACC Code. Supporting data are required to ensure that any modifications made to the formulation will not deteriorate performance in tests previously passed. Engine test data are required to support any booster attributes, and Level 2 support, where applicable, (see Tab 1) must exist for all other test types. In the absence of Level 2 support, the actual engine tests must be run. Information should be included in the candidate data package specifying those guidelines utilized and the performance represented for each oil grade.

1. a) An increase in treatment level of the total performance additive package, exclusive of viscosity modifier and pour point depressant, of <20% is acceptable with Level 1 support, except for the Sequence IX which requires Level 2 support.

   b) Additives already present or additives which were not present in the original tested formulation may be used as boosters to the system such as for TBN, performance, fuel economy, etc. The amount of the resultant up treat is not restricted. Engine test data are required to support any booster attributes, and Level 2 support must exist for all other test types. In the absence of Level 2 support, the actual engine tests must be run.

2. When conducting base oil interchange, the final commercial formulation must contain all minor formulation modifications. For the Sequences IIIF, IIIG, IIIH, IIIH60, IIIH70, IVA, IVB, VG, VH, VID, VIE, VIF, VIII and IX engine tests in the Code, the total number of changes from the tested formulations may not exceed four, including all changes made for base oil interchange. When using a matrix core data set based on the engine tests listed above, the number of changes may not exceed four. Support data, as defined in Tab 1, must be provided.

   A base oil interchange program may be built from the following data, for the same API Service Category, provided the performance package is the same in all data sets except as allowed in Appendix H:

   1. A single Core Data Set
   2. More than one Core Data Set
   3. One or more Core Data Sets and other base oil interchange programs.

3. Where a change in viscosity modifier shear stability is required by the customer, it is acceptable to make this change within the same chemical type and manufacturer with

corresponding Level 2 support. "Chemical type" means chemical family such as, but not limited to, styrene ester, polymethacrylate, styrene butadiene, styrene isoprene, polyisoprene, olefin copolymer and poly- isobutylene.

4. Where dispersant viscosity modifiers are used in a multigrade program, the additional dispersant requirement for any subsequent rationalization to a monograde or other grade with a lower viscosity modifier treatment level will be defined by the Sequence VG test alone provided Level 2 support (Tab 1) exists in the other test types.

5. Following completion of a program according to the ACC Code of Practice, substitution of Group III or Group IV base stock for Group I, Group II and/or Group III base stock is allowed with Level 2 support.

6. Substitution of API Group V base stock for up to 10% of the base stock is allowed for PCMOs and diesel engine oils with Level 2 support.