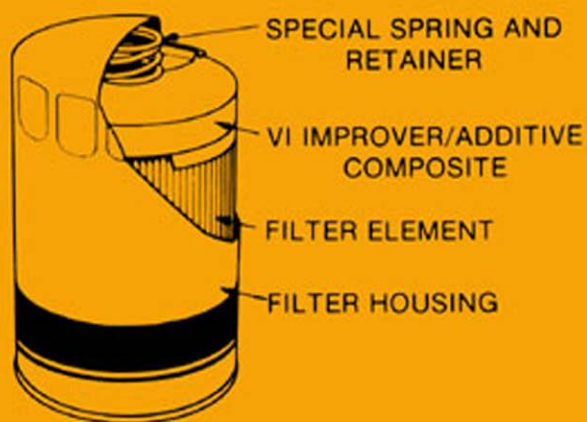


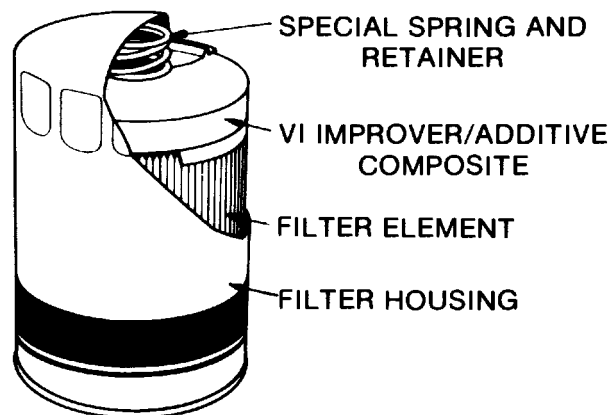
The Relationship Between Engine Oil Viscosity and Engine Performance— Part III



A Joint Publication of the
Society of Automotive Engineers, Inc.
SAE SP-429
and
American Society for Testing and Materials
ASTM STP-621-S2



The Relationship Between Engine Oil Viscosity and Engine Performance— Part III



A Joint Publication of the
Society of Automotive Engineers, Inc.
SAE SP-429



and
American Society for Testing and Materials
ASTM STP-621-S2



The Relationship Between Engine Oil Viscosity and Engine Performance— Part III

**Sponsored by
Society of Automotive Engineers, Inc.
and
American Society for Testing and Materials**

**Presented at
1978 SAE Congress and Exposition
Cobo Hall, Detroit, Michigan
February 27 — March 3, 1978**

**Published February 1978
SOCIETY OF AUTOMOTIVE ENGINEERS, INC.
400 Commonwealth Drive, Warrendale, PA 15096**

The appearance of the code at the bottom of the first page of each article in this volume indicates SAE's consent that copies of an article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per article copy fee through the Copyright Clearance Center, Inc., Operations Center, P. O. Box 765, Schenectady, NY 12301 for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale.

Articles published prior to 1978 in similar SAE collective works may also be copied at a per article fee of \$2.50 under the above stated conditions.

To obtain quantity reprint rates, permission to reprint an article, or permission to use copyrighted SAE publications in other works, contact the SAE Publications Division.

PREFACE

This SAE-ASTM Symposium entitled "The Relationship Between Engine Oil Viscosity and Engine Performance" - Part III (SAE SP 429 - ASTM STP 621-S2) was presented at the 1978 SAE Congress and Exposition in Detroit, Michigan, February 27 - March 3, 1978.

These symposia were organized to encourage international sharing of information that could help in the development of a revised viscosity classification system based on engine performance.

Another goal of these symposia was to publicize areas where more information is needed to design a realistic viscosity classification system. This should encourage the automotive, petroleum, and additive industries to obtain the needed data.

Ross M. Stewart

TABLE OF CONTENTS

Engine Pumpability and Crankability Tests on Commercial “W” Graded Engine Oils Compared to Bench Test Results, Ross M. Stewart (780369)	1
Influence of the Viscosity of Polymer Containing Engine Oils on the Startability of Engines, Curt von Petery, Horst Kruse and Willfried J. Bartz (780370)	15
Energy Savings with Multigraded Diesel Lubricants – An Experimental Test Design in Winter, Urban Bus Operation, G. R. Farnsworth, H. E. Bachman and R. Overton (780371)	25
Polymer Stability in Engines, W. Wunderlich and H. Jost (780372)	37
The Use of Time/Temperature Additive Release Package in the Automotive Lubrication System, Michael R. Bethell, Paul S. Browne and Robert W. Hegel (780373)	45
Temporary Viscosity Loss and its Relationship to Journal Bearing Performance, Michael L. McMillan and Chester K. Murphy (780374)	63
Oil Viscosity at High Shear Rates Measured by a Floating Journal Bearing, M. J. DenHerder, J. W. Harnach and D. W. Wester (780375)	79
Friction Power Loss of Mineral and Synthetic Lubricants in a Running Engine, F. L. Badiali, A. A. Cassiani Ingoni and G. Pusateri (780376)	85
European Activity Concerning Engine Oil Viscosity Classification - Part II, C. G. A. Eberan-Eberhorst, F. G. Di Lelio and A. A. Cassiani Ingoni (780377)	97

