

*Multicylinder
Test Sequences for*

EVALUATING AUTOMOTIVE ENGINE OILS

*Sequence IID
Tenth edition*



STP 315 I
(PART 1)

**Multicylinder Test Sequences for
Evaluating Automotive Engine Oils**

**Part 1: Sequence IID
Tenth Edition**

**Sponsored by ASTM Committee B.01 on Automotive Lubricants
and D-2 on Petroleum Products and Lubricants**

**ASTM Special Technical Publication (STP) 315I (Part 1)
ASTM Publication Code Number (PCN): 04-315900-12**



**American Society for Testing and Materials
1916 Race St., Philadelphia, PA 19103**

ISBN: 0-8031-1880-5
ASTM Publication Code Number (PCN): 04-315900-12

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Printed in Philadelphia, PA
April 1993

**American Society for Testing and Materials
Special Technical Publication
STP 315I**

**Part 1
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February 3, 1993

FOREWORD

The test method described in this publication has not been subjected to the ASTM Standardization Procedure. It is not a standard recommended practice of the American Society for Testing and Materials.

The test sequences for evaluating automotive engine oils were prepared to make available a technical language to describe quantitatively the operating conditions for determining the performance of crankcase oils and to describe the oil properties needed for satisfactory performance in modern passenger cars and light trucks.

One of the most important uses of the test sequences is the technical description of various classifications of oils according to perform and type of service (accomplished by cooperative action of committees in SAE, API, and ASTM). Details of the classifications are published in SAE Information Report "Engine Oil Performance and Engine Service Classification - SAE J183," API Publication 1509 "Engine Service Classification and Guide to Crankcase Oil Selection," and ASTM Research Report D-2:1002 Engine Oil Performance Classifications."

The multi-cylinder test sequences were originally developed in 1956 by Section G-IV, a Special Study Group on Application of Crankcase Oils, under Technical Division B on Lubricating Oils, of ASTM Committee D-2 on Petroleum Products and Lubricants. Intended as the technical language for evaluating and defining oils for API Service MS, they have been known previously as the "G-IV Test Sequences" and as the "MS Test Sequences." Since 1971, the Sequence Tests have been used to define the performance requirements of the jointly developed ASTM, API, and SAE Engine Oil Classification System.

A reorganization of Technical Division B resulted in the assignment of responsibility for this language to Section I on Engine Oils of Technical Division B of Committee D-2. In 1962, Section I

STP315I IID

recommended that the Sequences be made available as an ASTM Special Technical Publication (STP). From that time until the completion of the eighth revision such STP's were published only in bound copies containing all three test sequences. The ninth revision, represents a modification to that practice. The ninth revision represents the first time that the Sequence IID, IIID and V-D were printed in three separate STP'S. ASTM STP 315H (Part 1) contains the Sequence IID Procedure; ASTM STP 315H (Part 2) contains the Sequence IIID Procedure, and STP 315H (Part 3) contains the Sequence V-D Procedure. Each of these procedures is available in either bound copies or three-hole punched pre-prints for insertion into loose-leaf binders.

Information is included showing the precision data and correlation of the specific test sequence with field and previous test experience as available at the time of the ninth revision. As a continuing activity, the appropriate Surveillance Panel of Section I gathers and periodically reports new correlation and precision data. Latest reports are available on request to the chairman of Section 1. In this publication, the Sequence IID Test Procedure is presented in detail.

In accordance with the policy of keeping the test language timely and useful, the current publication incorporates changes resulting from experience with the test. Many of these changes for Sequence IID have been discussed in Information Letters. Purchasers of STP 315H desiring to receive Information Letters published subsequent to this printing may do so by writing to:

ASTM Test Monitoring Center
4400 Fifth Avenue
Pittsburgh, Pennsylvania 15213
Attention: J. L. Zalar

This tenth revision was edited by ASTM TMC in May, 1992 (4400 Fifth Avenue , Pittsburgh, PA 15213), the test developers, and the ASTM Sequence IID Surveillance Panel. It incorporates all of the Information Letters through Number 65.

CONTENTS

1. SCOPE	1
2. SUMMARY OF METHOD	2
3. SIGNIFICANCE	3
3.1 Method	3
3.2 Deposit Ratings	3
3.3 Other Ratings	3
3.4 Use	3
3.5 Validity	3
3.5.1 Mid Limit Operation for Primary and Secondary Parameters	3
3.5.2 Operational Validity Criteria	4
3.5.3 Calculations of Severity Adjustments	6
3.6 Engine Test Calibration	7
3.6.1 Reporting Reference Results	9
3.6.2 Analysis of Reference Oils	9
3.7 Performance Characteristics of Motor Oil*.	10
3.7.1 Field Correlation	10
3.7.2 Precision Data	10
3.7.2.1 Reference Oil Data	10
3.7.2.2 Commercial Oil Data	10
4. APPARATUS	14
4.1 Test Engine Configuration	14
4.2 Engine Speed and Load Control	14
4.3 Laboratory Ambient Condition	14
4.4 Engine Cooling System	14
4.5 Flushing Tank	15
4.6 Coolant Mixing Tank	15
4.7 Jacketed Rocker Cover, Intake Manifold Crossover and Breather Tube Cooling Systems	15
4.8 External Oil Cooling System	16

4.8.1	External Oil System Flow Calibration	16
4.8.2	External Oil System Volume Calibration	17
4.9	Fuel System	17
4.10	Carburetor Air Supply Humidity	19
4.11	Temperature Measurement	19
4.11.1	Thermocouple Location	20
4.11.1.1	Oil Filter Block	20
4.11.1.2	Oil Pan (Sump)	20
4.11.1.3	Engine Coolant Out	20
4.11.1.4	Engine Coolant In	20
4.11.1.5	Rocker Cover Coolant Out	20
4.11.1.6	Breather Tube Coolant Out	20
4.11.1.7	Blowby Gas	20
4.11.1.8	Intake Manifold Exhaust Crossover Coolant Outlet	20
4.11.1.9	Carburetor Air	21
4.11.1.10	Intake Manifold Mixture	21
4.11.1.11	Fuel	21
4.12	AFR Determination	21
4.12.1	Optional Determinations	21
4.13	Exhaust and Exhaust Back Pressure Systems	21
4.13.1	Exhaust Pipes	21
4.13.2	Exhaust Back Pressure Control System	22
4.13.3	Exhaust Sample Lines	22
4.14	Blowby Meter	22
4.15	Pressure Measurement and Pressure Sensor Location	22
4.15.1	Crankcase Pressure	22
4.15.2	Oil Pump Outlet Pressure	23
4.15.3	Engine Oil Filter Pressure	23
4.15.4	Carburetor Inlet Air Pressure	23
4.15.5	Exhaust Back Pressure	24
4.15.6	Intake Manifold Vacuum	24
4.15.7	Rocker Cover Coolant Pressure	24
4.15.8	Breather Tube Coolant Pressure	24
4.15.9	Intake Manifold Crossover Coolant Outlet Pressure	24

5.	REAGENTS AND MATERIALS	25
5.1	Test Oil	25
5.2	Test Fuel	25
5.3	Engine Coolant	25
5.3.1	Engine Coolant Additive Concentrate	25
5.3.2	Glycol Coolant Preparation	26
5.3.3	Coolant Calibration Standards	26
5.4	Cleaning Materials	27
5.4.1	Organic Solvent	27
5.4.2	Rust Remover	27
5.4.3	General Cleaning Agents	27
5.5	Sealing Compounds	28
6.	PREPARATION OF APPARATUS	29
6.1	Dipstick Calibration	29
6.2	External Oil Cooling System and Heat Exchanger	29
6.3	Jacketed Rocker Cover Cleaning	30
6.4	Breather Tube Cleaning	30
6.5	Intake Manifold Cleaning	30
7.	ENGINE PREPARATION	32
7.1	Cleaning of Engine Parts	32
7.2	Engine Buildup Procedure	32
7.2.1	General Information	32
7.2.1.1	Handling of Related Parts	33
7.2.1.2	Sealing Compound Applications	33
7.2.2	Fastener Torque Specification and Torquing Procedures	33
7.2.2.1	Cylinder Head Bolts	33
7.2.2.2	Intake Manifold Bolts	33
7.2.2.3	Miscellaneous	35
7.2.3	Parts Replacement	35
7.2.3.1	New Parts Required Each Test	35
7.2.3.2	Parts Replaced as Necessary	36
7.2.4	Cylinder Block Preparation	36
7.2.4.1	Modifications	36

7.2.4.2 Honing Equipment	37
7.2.4.3 Pre-stressing of Block	37
7.2.4.4 Honing Procedure and Surface Finish	38
7.2.5 Piston Fitting and Numbering	38
7.2.6 Piston Ring Fitting	38
7.2.7 Main Bearings	39
7.2.8 Connecting Rod Bearings	39
7.2.8.1 Connecting Rod Bolts	40
7.2.9 Camshaft Bearings	40
7.2.10 Camshaft	40
7.2.10.1 Camshaft Thrust Washer	40
7.2.11 Camshaft Sprocket and Chain	40
7.2.12 Camshaft Gear Bolt	40
7.2.13 Timing Gear Oil Deflector and Washer	40
7.2.14 Harmonic Balancer and Oil Slinger	40
7.2.15 Engine Front Cover and Seal	41
7.2.16 Timing Mark Indicator	41
7.2.17 Oil Pump	41
7.2.17.1 Oil Pump Relief Valve	41
7.2.17.2 Oil Pump Relief Valve Spring	41
7.2.18 Dipstick Tube	41
7.2.19 Oil Pan	42
7.2.20 Cylinder Head Preparation	42
7.2.20.1 Cylinder Head Freeze Plugs	42
7.2.20.2 Deburring of Cylinder Heads	42
7.2.20.3 Machining of Valve Guides	42
7.2.20.4 Valve Lapping	42
7.2.20.5 Valve Stem Seals	42
7.2.20.6 Cylinder Head Cleaning	43
7.2.20.7 Valve Springs	43
7.2.21 Stud-Type Head Bolts and Rocker Cover Deflectors	43
7.2.22 Hydraulic Valve Lifters	43
7.2.23 Pushrods	43
7.2.24 Intake Manifold	43
7.2.24.1 Modifications	43

7.2.24.2	Choke Stove	43
7.2.24.3	Deburring of Intake Manifold	44
7.2.24.4	Gaskets	44
7.2.25	Rocker Cover Spacers and Gaskets	44
7.2.26	Water Inlet Adapter	44
7.2.27	Breather Tube	44
7.2.28	Thermostat Housing	44
7.2.29	Fuel Pump and Eccentric	44
7.2.30	Oil Filter Housing	45
7.2.31	Oil Sample Line	45
7.2.32	Ignition System	45
7.2.32.1	High Energy Ignition (H.E.I.) Wire	45
7.2.32.2	Distributor Advance	45
7.2.32.3	Vacuum Advance Unit	45
7.2.32.4	Spark Plugs	45
7.2.33	Carburetor	46
7.2.34	Accessory Drive Units	46
7.2.35	Special Parts	46
7.2.36	Exhaust Manifolds	46
7.2.37	Engine Flywheel and Guards	47
7.2.38	Pressure Checking of Engine Coolant System	47
7.2.39	Lifting of Assembled Engines	47
7.2.40	Engine Mounts.	47
7.2.41	Drive Shaft	48
8.	TEST PROCEDURE	49
8.1	External Cooling System Cleaning	49
8.2	External Cooling Jacket Cleaning (Flushing)	49
8.2.1	Plumbing Connections	49
8.2.2	Procedure	49
8.3	Coolant Charging	51
8.4	Test Oil Charging	51
8.5	Installation of Rocker Covers	52
8.6	Engine Startup and Shutdown Procedures	52
8.6.1	Startup	52

8.6.2	Shutdown	52
8.7	Timing Run	52
8.8	Oil Sampling	53
8.8.1	Checks for Glycol Contamination	53
8.9	Chilled Glycol Coolant Addition	53
8.10	Oil Leveling	54
8.11	Operations	54
8.11.1	Test Time	54
8.11.2	Non-Scheduled Shutdowns	54
8.11.3	Dipstick and Guide Tube	55
8.11.4	Oil Fill Tube	55
8.11.5	Blowby Measurement	58
8.11.6	Glycol/Water Additions	58
8.11.7	Carburetor Adjustments for AFR Control	58
8.11.8	Carburetor Air Inlet Adapter	59
8.11.9	Data Recording	59
8.11.10	Stage I (28 Hours)	64
8.11.11	Stage II (2 Hours)	65
8.11.12	Stage III (2 Hours)	66
9.	FINAL INSPECTION AND REPORTING	68
9.1	Engine Teardown and Elapsed Time	68
9.1.1	Disassembly and Preparation of Parts for Rating	68
9.2	Rust Rating	70
9.2.1	Environment	70
9.2.2	Parts Layout	70
9.2.3	Method	70
9.3	Photographs of Test Parts	70
9.4	Permanent Storage of Test Parts	71
9.4.1	Desiccator Storage	71
9.4.2	Strippable Coatings	71
9.5	Reporting of Results	72
9.5.1	Report Forms	72
9.5.2	Calculation of Rust Results	72
9.5.3	Lifter Plunger Sticking	72

9.5.4	Oil Pump Relief Valve Sticking	72
9.5.5	Oil Consumption Computation	80
9.5.6	Operational Test Parameters and Deviations	80
9.6	Review of Representative Rust Parts	80
10.	GENERAL INFORMATION	81
10.1	Safety	81
10.2	Glossary of Definitions	83
10.3	Glossary of Symbols and Terms	84
10.4	Document Precision Information	85

APPENDICES

APPENDIX A	86
PROCUREMENT OF TEST MATERIALS	86
A.1 GENERAL COMMUNICATIONS CONCERNING SEQUENCE IID REFERENCE	
TESTS	86
A.2 GENERAL COMMUNICATIONS CONCERNING SEQUENCE IID PROCEDURAL	
QUESTIONS AND CANDIDATE TEST	86
A.3 REFERENCE OILS	86
A.4 TEST ENGINES	86
A.5 SPECIAL SEQUENCE IID TEST PARTS	87
A.6 EXTERNAL OIL PUMP	87
A.7 EXTERNAL OIL SYSTEM HEAT EXCHANGER	87
A.8 EXTERNAL OIL SYSTEM AND OTHER QUICK DISCONNECT	
FITTINGS	87
A.9 FUEL PRESSURE REGULATOR	87
A.10 FUEL SHUT-OFF VALVE	88
A.11 HUMIDITY MEASURING EQUIPMENT	88
A.12 THERMOCOUPLES AND PACKING GLANDS	88
A.13 EXHAUST PIPES	88
A.14 CRANKCASE PRESSURE GAUGE (MAGNEHELIC)	88
A.15 TEST FUEL	89
A.16 GLYCOL	89
A.17 SODIUM METABORATE	89
A.18 NACAP	89
A.19 CALCIUM NITRATE	89
A.20 SODIUM NITRITE	90
A.21 PLURONIC L-61	90
A.22 DECYL ALCOHOL	90
A.23 COOLANT HYDROMETER	90
A.24 OAKITE 811	90
A.25 OAKITE 77, OAKITE II , OAKITE RUST STRIPPER*, OAKITE DRYCID	91
A.26 SOVASOL #5	91
A.27 PERFECT SEAL NO. 4 SEALING COMPOUND	91
A.28 PERMATEX, NO. 2 NON-HARDENING AND PERMATEX 6BR	91

A.29	3M SUPER WEATHERSTRIP ADHESIVE	91
A.30	ANTI-SEIZURE COMPOUND	92
A.31	3M CLOTH	92
A.32	BREATHER TUBE GASKETS	92
A.33	ENGINE TEST ASSEMBLY FLUID, EF 411	92
A.34	DESICCATOR FOR PAINT ROLLER	92
A.35	INTAKE AND EXHAUST MANIFOLD GASKETS	93
A.36	PISTON RINGS	93
A.37	PISTONS	93
A.38	VALVE LIFTERS	93
A.39	PERFECT CIRCLE TOOLS AND SEALS	94
A.40	ROCKER COVER GASKETS	94
A.41	VALVE SPRINGS	94
A.42	CYLINDER HONE	94
A.43	RING GAP FEELER GAUGE	95
A.44	RING GRINDER	95
A.45	CAM BEARING INSTALLATION TOOL	95
A.46	VALVE GUIDE CUTTER FOR VALVE STEM SEALS	95
A.47	SPARK PLUG WIRE REMOVAL TOOL	96
A.48	DRIVESHAFT	96
A.49	TERI-TOWELS	96
A.50	RATING LIGHTS	96
A.51	CRC RATING MANUAL	96
A.52	STRIPPABLE COATING	97
A.53	PUSHRODS	97
A.54	CENTRAL PARTS DISTRIBUTOR	97
	APPENDIX B	98
B-1	Numerical	98
B.2	Alphabetical	103
	APPENDIX C	108
C-1	TEST PARTS AVAILABLE THROUGH SERVICE PART OPERATIONS (SPO)	108
C-2	SEQUENCE IID CRITICAL PARTS LIST AVAILABLE THROUGH THE CENTRAL PARTS DISTRIBUTOR	110

FIGURES

FIGURE 1	11
FIGURE 2	12
FIGURE 3	13
FIGURE 4	56
FIGURE 5	57
FIGURE 6	61
FIGURE 7	62
FIGURE 8	63
FIGURE 9	73
FIGURE 10	74
FIGURE 11	75
FIGURE 12	76
FIGURE 13	77
FIGURE 14	78
FIGURE 15	79

ISBN 0-8031-1880-5