

MOTORCYCLE FOUR CYCLE GASOLINE ENGINE OIL
PERFORMANCE CLASSIFICATION (JASO T 903)

IMPLEMENTATION MANUAL

April 1999
(Revised December 2004)

JASO Engine Oil Standards
Implementation Panel

CONTENTS

	Page
1. Foreword.....	1
2. Purpose of Implementation System	2
3. Outline of JASO T 903 Standard.....	2
3.1 JASO Test Procedure	2
3.2 Basic Concept of the Performance Classification.....	2
3.3 Evaluation Items and Standard Indices for Each Performance Classification.....	2
3.4 Background of Development of JASO Test Procedure and Performance Classification.....	4
3.5 Background of Study on Implementation of the JASO Motorcycle Four Cycle Engine Oil Standards	4
4. Procedures for Utilization of the JASO Motorcycle Four Cycle Oil Standards.....	5
4.1 Outline	5
4.2 Procedure Flow Chart	6
4.3 Submission and Filing of Notification Documents.....	7
4.4 Custody and Submission of Test Data	7
4.5 Documents Check	7
4.6 Oil Code Reference Numbers	8
4.7 Disclosure of On-File Information	8
4.8 Quality Assurance.....	9
4.9 Maintenance of Secrecy.....	9
4.10 Alteration of Filing.....	9
4.11 Items to be Taken into Consideration by the Submitter	10
5. Labeling	10
6. Utilization of Standards by Dealers of Motorcycles	10
7. Market Survey.....	11
8. References.....	11
8.1 Addressee for Specified Notification Documents for Filing, and Supply of Forms.....	11
8.2 Supply of Test Procedures and Performance Classification (JASO Standards)	11
8.3 Supply of JAFRE-A and JAFRE-B Reference Oils	11
8.4 Supply of Friction Test Plates.....	12
Appendix 1 -	DOCUMENTS FOR FILING BASED ON MOTORCYCLE FOUR CYCLE GASOLINE ENGINE OIL PERFORMANCE CLASSIFICATION (JASO T 903)
Appendix 2 -	NOTIFICATION AND WRITTEN CONSENT OF FILING BASED ON THE MOTORCYCLE FOUR CYCLE GASOLINE ENGINE OIL PERFORMANCE CLASSIFICATION (JASO T 903)
Appendix 3 -	EXAMPLES OF SETTING UP OIL CODE NUMBERS AND THE NECESSITY FOR SUBMISSION OF DOCUMENTS FOR ALTERATION OF FORMULATIONS
Appendix 4 -	GUIDELINES FOR READ-ACROSS WHEN MODIFYING MOTORCYCLE FOUR CYCLE OIL FORMULATIONS

Appendix 5 -

**INSTRUCTIONS FOR LABELING OR PRINTING THE OIL CODE NUMBER AND
PERFORMANCE CLASSIFICATION**

MOTORCYCLE FOUR CYCLE GASOLINE ENGINE OIL
PERFORMANCE CLASSIFICATION (JASO T 903)
IMPLEMENTATION MANUAL

NOTICE

The quality, performance and labeling of the Motorcycle Four Cycle Gasoline Engine Oil notified and filed under this JASO Engine Oil Performance Classification Implementation System, is classified and guaranteed based upon the judgment and responsibility of the company (the lube oil supplier) which submitted the specified notification documents for filing. The company shall assume all liabilities resulting therefrom.

Accordingly, under this system, the JASO Engine Oil Standards Implementation Panel (the "Panel") does not guarantee the quality or performance of the oil, and takes no responsibility with regard to such matters.

In the case where any problems associated with the quality, performance, or labeling of the motorcycle 4-cycle oil arise, the company that has utilized the JASO Motorcycle 4-Cycle Oil Standards shall itself resolve the problems.

In order to facilitate the proper use of the JASO Motorcycle 4-cycle Oil Standards, the Panel requests that the users of the standards fully understand both this manual and the guidelines for utilizing the standards. Information regarding any change in the contents of this manual will be provided through the Internet Web site of the JASO Engine Oil Standard Implementation Panel (<http://www.jalos.or.jp/onfile/>) or by any other means. Before attempting on-file, please check the latest information.

1. Foreword

This manual has been prepared as a part of the activities of the JASO Engine Oil Standards Implementation Panel (the "Panel"). The panel has been voluntarily organized by various industry associations and academic societies in Japan concerned with engine oils in order to promote in Japan and other countries the proper Motorcycle Four Cycle Gasoline Engine Oil Performance Classification Standards (JASO T 903) (the "JASO Motorcycles Four Cycle Oil Standards" or "JASO T 903 Standards"). These standards were established by the Society of Automotive Engineers of Japan (the "JSAE"). The purpose of this Manual is to explain the procedures to enable those who distribute, supply or otherwise offer for sale, four stroke oils for motorcycles in the course of trade or business (collectively "Suppliers"), to take the steps necessary to submit and have filed with the Panel notification documents in accordance with the JASO Motorcycle Four Cycle Oil Standards.

In this manual, the term "Four Cycle Engines" means four stroke cycle engines using gasoline as fuel, and the term "Four Cycle Oil" means lubricating oil for four cycle engines.

In reply to an inquiry from the Automotive/Lubricant Joint Committee ("ALJC"), a committee of the Petroleum Association of Japan ("PAJ") and the Japan Automobile Manufacturers Association, Inc. ("JAMA"), this submission and filing system was drafted by the Motorcycle Four Cycle Engine Oil Working Group. The latter group itself was set up by the "JASO Engine Oil Standards Implementation Panel" (formerly, the JASO Two Cycle Oil Standards Implementation Panel), a subsidiary organization of the ALJC and established with the approval of each of the above mentioned committees.

2. Purpose of Implementation System

In recent years, automotive oil quality requirements have tended toward lower viscosity and lower friction to achieve better fuel economy. There are concerns that such low friction and low viscosity oils cause clutch slippage and gear pitting wear in motorcycle transmissions.

Therefore, a test method to evaluate oils and a set of performance classifications for motorcycle four cycle engine oils have been established by the JASO.

The implementation system, described in this document, was established to facilitate the choice of appropriate 4-cycle engine oils through the use of these performance classifications.

The use of these standards will help consumers to correctly select four cycle engine oils for motorcycles when purchasing, and will reduce field problems resulting from the choice and the use of inappropriate oil quality.

3. Outline of JASO T 903 Standard

3.1 JASO Test Procedure

The test method shown in Table-1 was developed by the Motorcycle Four Cycle Engine Oil Subcommittee, which was organized within the Motorcycle Committee of the JSAE.

This procedure will be used to evaluate four cycle engine oils to confirm that they meet motorcycle oil requirements.

Table-1 Motorcycle 4-Cycle Engine Oil JASO Test Procedure

Test Procedure	JASO Standard No.
Motorcycle-Four-Stroke Cycle Gasoline Engine Oils - Friction properties test for the clutch systems	JASO T 904-98

3.2 Basic Concept of the Performance Classification

The performance level of 4-cycle oils, which meet engine oil performances and required physical and chemical properties, is classified into two grades, MA and MB, according to the test results based on the above-mentioned JASO clutch system friction test. MA/MB grade oils are appropriate for motorcycle 4-cycle engine oils, which are classified by three friction characteristic indices. MB grade is classified as low friction oils for motorcycle 4-cycle engine oils.

3.3 Evaluation Items and Standard Indices for Each Performance Classification

The evaluation items for the JASO test procedure and the standard indices for each performance classification are shown in Table 2.

Table-2 JASO Test Procedure and Standard Indices

Evaluation Item	Test Procedure	Standard Index	
		MA	MB
* DFI (Dynamic Friction Characteristic Index-DFI)	JASO T 904	1.45 or greater	Less than 1.45
* SFI (Static Friction Characteristic Index-SFI)		1.15 or greater	Less than 1.15
* STI (Stop Time Index-STI)		1.55 or greater	Less than 1.55

Note: An oil that does not meet all MA limits is classified as MB.

An oil must be of the quality level of one of the performance classification shown in Table-3.

An oil must also meet the physicochemical requirements shown in Table-4.

Table-3 Quality on Engine Oil Specification

Specifications	Categories
API	SE, SF, SG, SH, SJ, SL
ILSAC	GF-1, GF-2
ACEA	A1, A2, A3
CCMC	G-4, G-5

Table-4 Physicochemical Properties

Item	Test Method		Limit
	JIS	ASTM	
Sulfated Ash, mass%	K2272	D874	1.2 max.
Evaporative Loss, mass%	JPI 5S-41-93	D5800	20 max.
Foaming Tendency, ml (Tendency/Stability) Seq.I Seq.II Seq.III	K 2518	D892	10/0 max. 50/0 max. 10/0 max.
Shear Stability, mm ² /s xW – 30 xW – 40 xW – 50	JPI 5S-29-88 (Note 1)	D6278	9.0 min. 12.0 min. 15.0 min
High Temp. High Shear rate Vis.(150deg.C), mPa.s	JPI 5S-36-91	D4683	2.9 min.

Note 1: Test shall be conducted by diesel injector method under the standard test conditions (30 cycles).

3.4 Background of Development of JASO Test Procedures and Performance Classification

In spite of the fact that Japan is one of the leading countries producing motorcycle four cycle engines in the world, domestic quality standards of motorcycle four cycle oils have previously been unavailable. Currently there are API, ILSAC, ACEA and other 4-cycle engine oil standards in the world; however, they are primarily for automotive oils but not for motorcycle four cycle engines. Therefore it is a concern that 4-cycle engine oils for automobiles may cause clutch and transmission problems in motorcycle four cycle engines because the construction of the motorcycle engine is an "all in one" design. Engine, clutch, and transmissions are lubricated by same engine oil.

In recent years, lower friction and lower viscosity 4-cycle oils designed to achieve better fuel economy have caused clutch slippage and poor gear durability.

Field problems have been observed that are probably attributable to such oils.

Because of this, there was a strong demand by Japanese motorcycle manufacturers to develop new standards. The standards were finally established through the following process:

- * In May 1994, a "Motorcycle WG" of JAMA Engine Oil Subcommittee has investigated current 4-cycle oil standards and their engine test methods with their reference oils and has conducted field tests to see the effect of using four cycle oils in motorcycles.
- * In April 1996, "Motorcycle Four Cycle Engine Oil Subcommittee" was formed in the JASO Motorcycle Committee, and the development of test methods and standards of motorcycle four cycle oil was carried out for two years until March 1998.
- * In March 1998, the Motorcycle Four Cycle Gasoline Engine Oil Clutch System Friction Test Method and the Motorcycle Four Cycle Engine Oil Standards were developed. The standards consist of performance classifications and physicochemical property requirements.

3.5 Background of study on Implementation of the JASO Motorcycles Four Cycle Engine Oil Standards

Utilization of JASO Motorcycles Four Cycle Engine Oil Standards described above will be handled by the provisional organization which has been formed under the following process.

- * Based on the request from "Automotive Lubricant Investigation Society" which is a joint committee between "Petroleum Association of Japan" (PAJ) and "Japan Automobile Manufacturers Association"(JAMA), "the JASO Motorcycle Four Cycle Engine Oil Standards Implementation Working Group" was formed in September 1998. It is a lower branch of the organization of the "JASO Two Cycle Oil Implementation Panel" which is the only organization that can apply JASO Engine Oil Standards.

- * The WG concluded and made a proposal to restructure the former JASO Two Cycle Engine Oil Implementation Panel into the "JASO Engine Oil Implementation Panel" to cover four cycle engine oils. It is scheduled to form the JASO Engine Oil Implementation Panel in April 1999 to strive to apply smoothly the JASO Motorcycle Four Cycle Engine Oil Standards.

4. Procedures for Utilization of the JASO Motorcycles Four Cycle Oil Standards

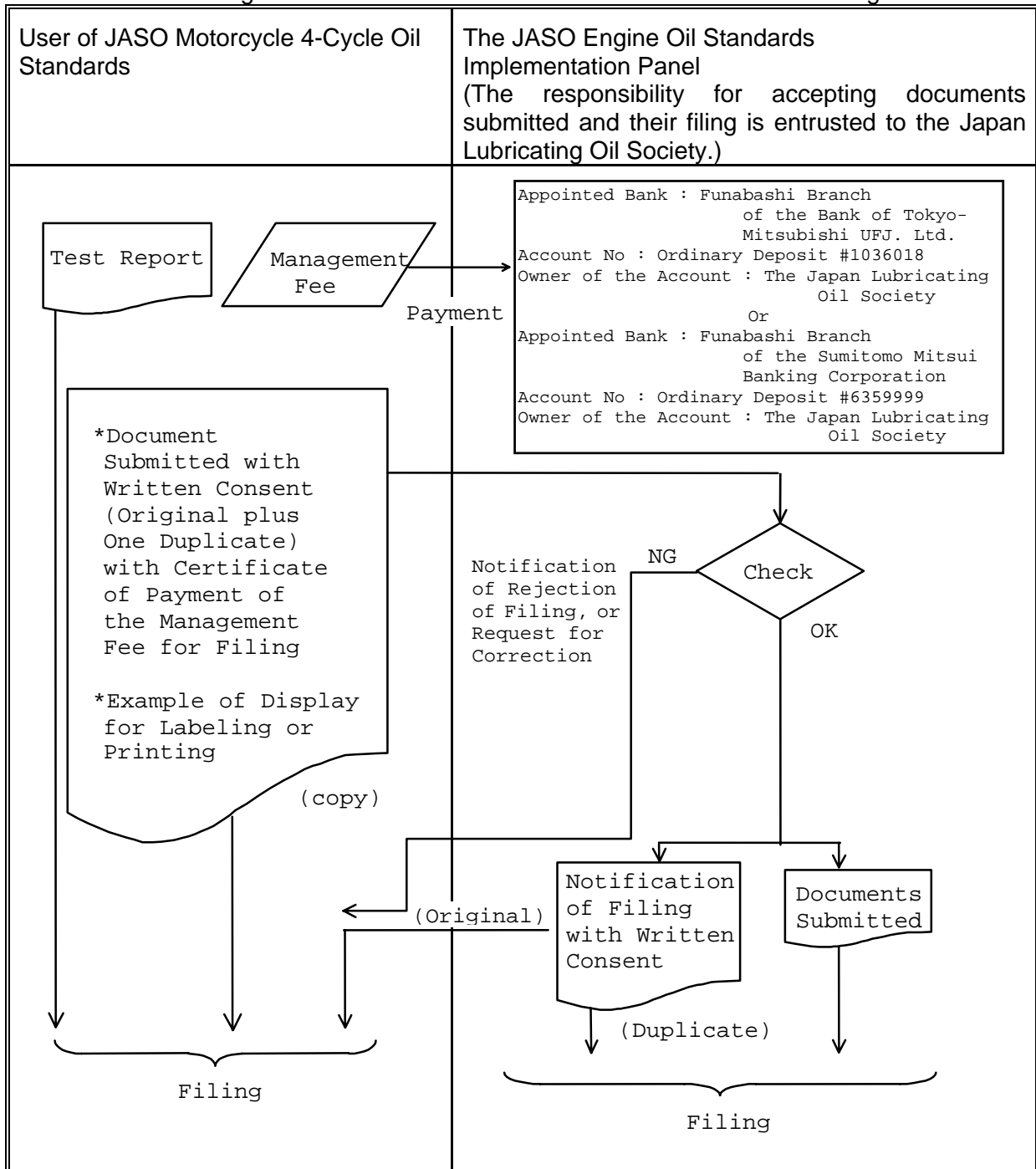
4.1 Outline

The Panel advises that a lube oil supplier (user of the JASO Motorcycle Four Cycle Oil Standards), who desires to file a 4-cycle oil against the Performance Classification based on the JASO T 903 Standard, (the "Submitter") should go through certain formalities for the utilization of the standards for each brand of product and for each formulation according to the under mentioned procedure.

4.2 Procedure Flow Chart

The outline of the submission and filing procedure is shown in Figure 1.

Figure 1 Procedure Flow Chart for Submission and Filing



4.3 Submission and Filing of Notification Documents

A user of the Motorcycle Four Cycle Oil Standards should fill in the notification documents (see Appendix 1) and Column B of the notice with written consent (see Appendix 2) in duplicate, and mail them to the following address of the Panel c/o the Japan Lubricating Oil Society, which is entrusted with handling the management of acceptance of documents submitted and their filing.

JASO Engine Oil Standards
Implementation Panel
c/o Business Dept.
Japan Lubricating Oil Society
2-16-1 Hinode, Funabashi-shi,
Chiba, 273-0015, Japan

A Submitter shall pay the fee indicated in Appendix 1 (which includes consumption tax) as a management fee for filing each submission by payment into the bank account indicated in Appendix 1, and shall submit the certificate of payment along with the specified documents to the Panel. At the time of reporting, the submitter shall submit to the Panel "a representative example of performance classification marking on the 4 Cycle Gasoline engine oil product container" and "an entire product label (design allowable)". In principle, the documents submitted and the management fee are not refundable to the Submitter. Should the management fee rate be revised, the Panel will publicize it through allied organizations.

4.4 Custody and Submission of Test Data

The original test reports, which must be prepared in the form prescribed in the JASO Standards, from which the notification documents for filing were completed, should be retained by the Submitter on their responsibility until the Submitter withdraws the filed documents concerned (i.e., the documents are no longer kept on file).

On receipt of a request from the Panel, the Submitter should submit the original test reports.

4.5 Document Check

The Panel will check the documents received from a Submitter as follows:

- i) Are all required items completed?
- ii) Is an infrared absorption spectrum analysis chart, prepared in the specified form, attached to the documents?
- iii) Is the engine oil performance category correctly marked in the table of the application form?
- iv) Do the physicochemical properties satisfy the five required parameters?
- v) Do the JASO Friction test results meet the standard indices of the Performance Classification?

Also the Panel will check whether there is any incorrect statement in the description of the performance classification or improper expression which might lead to misunderstanding in the product label.

In the case where even one of the above items is not satisfactory, the Panel will mail to the Submitter a notice of the rejection of the filing along with the reason for the rejection, or a notice requesting the Submitter to make the necessary corrections.

In the case where all the items are satisfactory, the Panel will mail a notice of the filing to the Submitter and file a copy with the notification documents submitted.

4.6 Oil Code Reference Numbers

A Submitter should choose an Oil code reference number, which the Panel will record. An oil code reference number is to be established on the following basis:

M ○○○ △△△ □□□
① ② ③ ④

- ① Oil Code (One capital)
M has been chosen for use with motorcycle 4-cycle engine oils.
- ② Country Number (a three digit number)
The international telephone country number of the Submitter or the company who manufactures the 2-cycle oil concerned (e.g. Japan: 081; the United States: 001; the United Kingdom: 044)
- ③ Supplier's Code (three English capital letters)
This code consists of three English capital letters that a Submitter wishes, e.g., HMC for Honda Motor Company or ENE for Nippon Oil Corporation. Note that a Submitter should use only one supplier's code for each different 4-cycle oil.

In the case where a Submitter has already filed the supplier's code with other JASO Engine Oils such as 2-cycle oil, the same code should be used.

- ④ Control Number (a three digit number)
This is the Submitter's own number, which is freely chosen by a Submitter. However, it is not allowable for a Submitter to apply the same control number to more than one product or trial product.

For reference, examples for choosing oil codes are indicated in Appendix 3.

4.7 Disclosure of On-File Information

For promotion and public recognition of the JASO Motorcycles Four Cycle Oil Standards (JASO T 903: 1998), and motorcycles four cycle oil products, the JASO Engine Oil Standards Implementation Panel will publicize oil codes, brand names, submitter names and performance classifications of on-file products through such communication media as the Internet, newspapers, magazines and other printed matters according to the JASO Motorcycles Four Cycle Oils.

If the informations are incorrect in those the submitter has submitted, the submitter shall notice the correction in written materials as soon as possible.

JASO Engine Oil Standards Implementation Panel does not have any responsibilities on the loss and the damage of submitters caused by the informations which has been agreed between JASO Engine Oil Standards Implementation Panel and submitters by "NOTIFICATION AND WRITTEN CONSENT OF FILING".

4.8 Quality Assurance

The quality and performance of a motorcycle 4-cycle oil filed in accordance with this system are classified and guaranteed on the responsibility of the Submitter, and all responsibility rests with the Submitter (the Supplier).

Under this system, the Panel will not assume any responsibility for quality or performance. The Panel will not take any responsibility for loss or damage resulting from the use of this system.

In the case where a problem associated with the quality or the performance of the motorcycle 4-cycle oil occurs, it must be resolved by the Submitter.

Further, in the case where this system conflicts with any legislation of the country concerned (including a country's local government(s) thereof), the legislation shall be over-riding. Accordingly, the Panel will not assume any responsibility for loss or damage, which may be caused by using this system, should it be incompatible with any legislation.

4.9 Maintenance of Secrecy

Except for the conditions mentioned in Item 4.7 - Disclosure of On-File Information, the Panel will not disclose documents submitted and filed to a third party (other than an organization entrusted by the Panel) without the written consent of the Submitter.

This rule, however, does not apply to the case where the Panel is required by a public body to disclose information based on a legal requirement. Should the notification documents submitted or contents of the filing become disclosed or leaked to a third party, the Panel shall in no event be held responsible for compensation for any loss or damage resulting from such disclosure or leakage.

In the case where a market problem occurs and the Panel receives an inquiry in writing, the Panel shall be allowed to reply to the party as to whether or not the motorcycle 4-cycle oil having the designated Oil Code Reference Number is on file, and to advise the party of submitter name concerned. Further, in the case where the party desires to contact the Submitter, the Panel will inform the Submitter, and will leave the problem to the Submitter. The Panel will take no further action.

4.10 Alteration of Filing

If the same product name is used, but the motorcycle 4-cycle oil formulation on file is modified, new notification documents shall be submitted. In this case, the control number of the Oil Code Reference Number must be revised.

However, it is not necessary to revise the Oil Code Reference Number of the reformulation if it is within the allowable range of read-across indicated in Appendix 4.

In any of the following cases, the submitter shall report to the JASO Engine Oil Standards Implementation Panel in advance. In any of these cases, the submitter shall make necessary payment as specified in Item 4.3 and update the oil code concerned.

- (1) Change of the name of submitter (company) or the code of submitter
- (2) Change of the name of product
- (3) Change of the performance classification marking form

In any of the following cases, the submitter shall promptly report to the JASO Engine Oil Standards Implementation Panel. Note that it is not required to pay a on-file fee specified in Item 4.3 or update the oil code concerned.

- (1) Change of the information on communication with the submitter (address, telephone number, etc.)

Regarding the alteration of a motorcycle 4-cycle oil formulation and the necessity for amending the filing, see Appendix 3.

4.11 Items to be taken into consideration by the Submitter

In the case where a Submitter indicates an Oil Code Reference Number and performance classification on product containers, the Submitter has to take the following into consideration.

- 1) The quality and performance of the marketed product and its labeling shall be the same as those described in the notification documents.
- 2) In the case where problems associated with the quality, performance or labeling of the product occurs, the Submitter shall, on his/her own responsibility, solve such problems and, if necessary, make compensation.
- 3) It is requested that Submitters widely publicize and educate general consumers through their sales channels that the quality and performance of the filed motorcycle 4-cycle oils and their labeling is classified and guaranteed on their own responsibility.
- 4) The Submitter is requested to inform the Panel to cancel the filing whenever they stop marketing the oil on file.

5. Labeling

In the case where a Submitter, who has received a notice of a filing from the Panel, labels the performance classification and Oil Code Reference Number on the containers, the Submitter shall expressly state that the performance classification and labeling is his/her own responsibility, using the form indicated in Appendix 5.

A user of the standards, who labels his/her products accordingly, shall not use in advertising a description which might lead to the misunderstanding that the Panel approved or certified the quality and performance of the motorcycle 4-cycle oil concerned. Further, as stated in Item 4.3, a user of the standards shall submit a typical example and an entire product label(or design) of the labeling to the Panel by mail.

6. Utilization of the Standards by Dealers of Motorcycles

A person who distributes, deals, supplies or otherwise offers motorcycles, etc. for supply in the course of trade or business (the "Dealers") can utilize the JASO T 903 Standards by way of recommending in the owner's manual, etc. motorcycle 4-cycle oils to be used by consumers according to the performance classification set forth in the JASO T 903 Standards based on the Dealer's own judgment and responsibility.

When recommending a motorcycle 4-cycle oil, a user of the standards shall not utilize any expression which may lead to the misunderstanding that the Panel approved or certified

the quality and performance of the motorcycle 4-cycle oil (e.g., an expression such as "Motorcycle 4-cycle oil approved by the Panel")

Further, the Panel would like a user of the standards, recommending a motorcycle 4-cycle oil, to submit a typical example of the owner's manual to the Panel.

7. Market Survey

For ensuring proper interests of consumers and on-file submitters, the JASO Engine Oil Standards Implementation Panel will conduct market survey regarding JASO Motorcycles Four Cycle oil products and check that the JASO Motorcycles Four Cycle Oil Standards (JASO T 903: 1998), are used correctly on the market. Therefore, the JASO Engine Oil Standards Implementation Panel may take arbitrary samples of JASO engine oil category MA or MB from the market, examine the performance marking form and quality/performance items specified in the JASO Motorcycles Four Cycle oils (JASO T 903: 1998), and check them against the on-file documents concerned. If any clear discrepancy from the on-file document concerned is found in this market survey, the JASO Engine Oil Standards Implementation Panel may ask the on-file for its reason in writing or make a request for improvement.

The JASO Engine Oil Standards Implementation Panel may disclose the results of market survey in a form that particular names of submitters and their oil products are not identifiable.

8. References

The availability of reference documents, parts and the other items relating to this system are given below:

8.1 Addressee for Specified Notification Documents for Filing, and Supply of Forms

The JASO Engine Oil Standards Implementation Panel
c/o Business Dept.
Japan Lubricating Oil Society
2-16-1 Hinode, Funabashi-shi
Chiba 273-0015, Japan
Tel: 81-47-433-5181/Fax: 81-47-431-9579

8.2 Supply of Test Procedure and Performance Classification (JASO Standards)

Society of Automotive Engineers of Japan, Inc.
Gobancho Center Bldg. 5F
10-2 Gobancho, Chiyoda-ku
Tokyo 102-0076, Japan
Tel: 81-3-3262-8211/Fax: 81-3-3261-2204

8.3 Supply of JAFRE-A and JAFRE-B Reference Oils

Technical Center
Japan Lubricating Oil Society
2-16-1 Hinode, Funabashi-shi
Chiba 273-0015, Japan
Tel: 81-47-433-5181 / Fax: 81-47-431-9579

8.4 Supply of Friction Test Plates

- * Friction Plate (Part Number:FZ127-24-Y1)
- * Steel Plate (Part Number:FZ132-8-Y1)
NSK Atago Co. Ltd.
6-3, 1-chome, Ohsaki, Shinagawa-ku,
Tokyo 141-0032, Japan
Tel: 81-3-3495-8207 / Fax: 81-3-3495-8241

Appendix 1

DOCUMENT FOR FILING BASED ON MOTORCYCLE FOUR CYCLE GASOLINE ENGINE OIL PERFORMANCE CLASSIFICATION (JASO T 903)

Date of submission of Documents		/Day	/Month	/Year
Submitter		Contact Person		
Person Responsible for Documentation Name		Name		
		Position		
		Address		
Signature				
Title		Tel		
		Fax		

Motorcycle 4-Cycle Oil To Be Filed	
Internal Product Name or No.	
Trade Name	
Viscosity Grade	
Performance Classification	MA MB
Oil Code	

Circle either MA or MB.

1. Quality on Engine Oil Specifications

Specifications	Categories
API	SE SF SG SH SJ SL
ILSAC	GF-1 GF-2
ACEA	A1 A2 A3
CCMC	G-4 G-5

Circle the performance category satisfied.

2. Physicochemical Properties

Item	Test method		Measured value	Specification
	JIS K or JPI	ASTM		
Density (15°C)	g/cm ³	K 2249	D1298	Report
Flash point	°C	K 2265	D92 or D93	Report
Kinematic viscosity (40°C)	mm ² /s	K 2283	D445	Report
Kinematic viscosity(100°C)	mm ² /s	K 2283	D445	Note 1
Viscosity index		K 2283	D2270	Report
Low-temp. Vis, CCS(- deg. C) mPa.s			D5293	Note 1
High-temp. High-share rate Vis.(150deg.C)mPa.s		JPI-5S-36-91	D4683	2.9 Min.
Sulfated Ash	mass%	K 2272	D874	1.2 Max.
Acid Number	mg KOH/g	K 2501	D664	Report
Base Number (HClO ₄ method)	mg KOH/g	K 2501	D2896	Report
Evaporative Loss	mass%	JPI-5S-41-93	D5880	20 Max.
Foaming Tendency, ml (Tendency-Stability)	Seq.I	K 2518	D892	10 Max.-Nil
	Seq.II			50 Max.-Nil
	Seq.III			10 Max.-Nil
Shear Stability(diesel injector method), mm ² /S (Kinematic 100deg.C Viscosity after the test)	xW-30	JPI-5S-29-88 (Note 2)	D6278	9.0 Min.
	xW-40			12.0 Min.
	xW-50			15.0 Min.
Color (Visual inspection)				Report
Elemental analysis	mass%			
Calcium		JPI-5S-38-92	D4951	Report
Barium		JPI-5S-38-92	D4951	Report
Magnesium		JPI-5S-38-92	D4951	Report
Zinc		JPI-5S-38-92	D4951	Report
Boron		JPI-5S-38-92	D4951	Report
Phosphorus		JPI-5S-38-92	D4951	Report
Nitrogen		K 2609-1990	D4629	Report
Sulfur		K 2541-1992	D2622	Report
Other elements > 100ppm (except carbon, hydrogen, and oxygen)				Report
Infrared absorption spectrum analysis (0.1 mm sealed absorption cell)				A4 size IR chart to be attached

Note 1 : In accordance with Engine Oil Viscosity Classification, SAE J300.

Note 2 : Test shall be conducted by diesel injector method under the standard test conditions (30 cycles).

3. Clutch Test Results of Friction properties (JASO T 904)

Items	Test Results	JASO T 903	
		MA	MB
DFI (Dynamic Friction Index)		1.45 or greater	Less than 1.45
SFI (Static Friction Index)		1.15 or greater	Less than 1.15
STI (Stop Time Index)		1.55 or greater	Less than 1.55

We hereby warrant that the test results described in this document indicate typical figures of the motorcycle 4-cycle oil concerned and representative performance of the product that will be marketed as such.

The test reports were prepared according to the format specified in the JASO Standards and the retained test reports are kept under our own responsibility. We herewith submit a typical example and an entire product label of the labeling of the quality and performance of the motorcycle 4-cycle oil concerned that will be used on containers and literature.

Note:

- 1) Refer to the "MOTORCYCLE FOUR-CYCLE GASOLINE ENGINE OIL PERFORMANCE CLASSIFICATION (JASO T 903) IMPLEMENTATION MANUAL" in filling in this form.
- 2) The current version of the JASO test procedure at the time of submission must be used to generate test data which are reported in the documents submitted.
- 3) The handling fee is Yen 40,000 per submission. It should be paid into the following bank account, and a certificate of the payment should be attached to documents being submitted to the JASO Engine Oil Standards Implementation Panel.

Appointed Bank:	Funabashi Branch of the Bank of Tokyo Mitsubishi UFJ. Ltd.
Account No:	Ordinary Deposit #1036018
Owner of the Account:	The Japan Lubricating Oil Society
Or	
Appointed Bank:	Funabashi Branch of the Sumitomo Mitsui Banking Corporation
Account No:	Ordinary Deposit #6359999
Owner of the Account:	The Japan Lubricating Oil Society

- 4) In the case where a false report is made, and labeling of the performance of a product and sales were made based on such a report, the company concerned may be penalized under the Act against Unjustifiable Premiums and Misleading Representations of Japan, Article 4, Item 1 or the Unfair Competition Prevention Laws of Japan, Article 2, Item 10, or any other equivalent laws in the country in which the product is marketed.

Only for the Use of the JASO Engine Oil Standards Implementation Panel	
Person responsible for receipt - Name: _____	Seal: _____
Date of receipt: _____	
Receipt number: _____	
Remarks:	

3. We hereby guarantee that the quality and performance described in the notification documents submitted for filing are data representing the physicochemical properties and performance of the motorcycle 4-cycle oil that will be actually marketed. Also the description of quality and performance that has been submitted is representative of that which will be used.
4. We will widely publicize and educate consumers through our sales channels that the quality and performance of the motorcycle 4-cycle oils and its description that are submitted for filing are classified and guaranteed on our own accountability.
5. We shall not use in our advertisement any expression that may lead to the misunderstanding that the Panel approved or certified the performance of the motorcycle 4-cycle oil concerned.
6. Upon receipt of a request from the Panel, we shall submit the original friction test results under JASO T 904 without delay.
7. The submitter shall approve that the JASO Engine Oil Standards Implementation Panel may disclose oil code, submitter name, product name and performance classification, through communication media including the Internet, newspapers, magazines, and other publications. Further, where market survey is conducted by the JASO Engine Oil Standards Implementation Panel, the submitter shall approve that the JASO Engine Oil Standards Implementation Panel may disclose the results of the market survey in a form of that the name of the submitter and the oils are not identifiable.
8. When the marketing of the motorcycle 4-cycle oil concerned is discontinued, we will immediately notify the Panel that the filing be canceled.
9. In addition to the above, we hereby acknowledge that we have understood all contents of the Motorcycle Four-Cycle Engine Oil Performance Classification (JASO T 903) Implementation Manual and the Guidelines for Utilizing Motorcycle Four-Cycle Gasoline Engine Oil Performance Classification Standards, and we hereby agree to abide by them in all respects.

Date : _____ /Day /Month /Year

Company : _____

Responsible Person : _____

Title : _____

Signature : _____

3. We hereby guarantee that the quality and performance described in the notification documents submitted for filing are data representing the physicochemical properties and performance of the motorcycles 4-cycle oil that will be actually marketed. Also the description of quality and performance that has been submitted is representative of that which will be used.
4. We will widely publicize and educate consumers through our sales channels that the quality and performance of the motorcycles 4-cycle oils and its description that are submitted for filing are classified and guaranteed on our own responsibility.
5. We shall not use in our advertisement any expression which may lead to the misunderstanding that the Panel approved or certified the performance of the motorcycles 4-cycle oil concerned.
6. Upon receipt of a request from the Panel, we shall submit the original friction test results work sheet under JASO T 904 without delay.
7. The submitter shall approve that the JASO Engine Oil Standards Implementation Panel may disclose oil code, submitter name, product name and performance classification, through communication media including the Internet, newspapers, magazines, and other publications. Further, where market survey is conducted by the JASO Engine Oil Standards Implementation Panel, the submitter shall approve that the JASO Engine Oil Standards Implementation Panel may disclose the results of the market survey in a form of that the name of the submitter and the oils are not identifiable.
8. When the marketing of the motorcycle 4-cycle oil concerned is discontinued, we will immediately notify the Panel that the filing be canceled.
9. In addition to the above, we hereby acknowledge that we have understood all contents of the Motorcycle Four-Cycle Engine Oil Performance Classification (JASO T 903) Implementation Manual and the Guidelines for Utilizing Motorcycle Four-Cycle Gasoline Engine Oil Performance Classification Standards, and we hereby agree to abide by them in all respects.

Date : _____ /Day _____ /Month _____ /Year

Company : _____

Responsible Person : _____

Title : _____

Signature : _____

Appendix 3

EXAMPLES OF SETTING UP OIL CODE NUMBERS AND THE NECESSITY FOR SUBMISSION OF DOCUMENTS FOR ALTERATION OF FORMULATIONS

Although the procedure of setting up oil code number is indicated in Item 4.6 of the Standards Implementation Manual, the following examples are shown for reference (Case 1 is the baseline).

Cs.	Country of Marketing	Product Name	Marketer			Manufacturer		Formulation			Example of Oil Code Number	Necessity for Renewal of Filing
			Company	Code	Country	Company	Country	Name	No.	Alteration		
1	Japan	α	A	ABC	Japan	A	Japan	a	001	Note(1)	M081ABC001	Yes
2	Japan	α	A	ABC	Japan	B	Japan	a	001	None	M081ABC001	None
3	Japan	α	A	ABC	Japan	A	Japan	a'	002	Note(2)	M081ABC001	None
4	Japan	α	A	ABC	Japan	A	Japan	a"	003	Note(3)	M081ABC002	Yes
5	Japan	α	A	ABC	Japan	A	Japan	a"	004	Note(4)	M081ABC003	Yes
6	Japan	β	A	ABC	Japan	A	Japan	a"	004	Note(4)	M081ABC004	Yes
7	Japan	β	A	ABC	Japan	A	Japan	a	001	None	M081ABC005	Yes
8	Japan	τ	A	ABC	Japan	A	Japan	b	005	Note(5)	M081ABC006	Yes
9	USA	α	A	ABC	Japan	A	Japan	a	001	None	M081ABC001	None
10	USA	α	A	ABC	Japan	C	USA	a	001	None	M081ABC001	None
11	USA	α	A	ABC	Japan	C	USA	a'	002	Note(2)	M081ABC001	None
12	USA	α	A	ABC	Japan	C	USA	a"	003	Note(3)	M081ABC002	Yes
13	USA	α	A	ABC	Japan	E	UK	a	001	None	M081ABC001	None
14	USA	δ	A	ABC	Japan	A	Japan	a	001	None	M081ABC007	Yes
15	USA	α	D	DEF	USA	A	Japan	a	001	None	M001DEF001	Yes
16	USA	ε	D	DEF	USA	A	Japan	a	001	None	M001DEF002	Yes
17	USA	α	D	DEF	USA	E	UK	a	001	None	M001DEF001	Yes
18	Japan	α	A	ABC	Japan	E	USA	a	001	None	M081ABC001	None
19	Japan	ζ	D	DEF	USA	A	Japan	a	001	None	M001DEF001	Yes
20	Japan	α	D	DEF	USA	E	UK	a	001	None	M001DEF001	Yes
21	USA	α	E	EFG	UK	G	Germany	a	001	None	M044EFG001	Yes
22	Japan	α	F	FGH	Japan	A	Japan	a	001	None	M081FGH001	Yes

Note (1) : Base for formulations subsequently filed (2) : Within the read-across range
 (3) : Outside the read-across range (4) : Alteration of coloring agent and odorant only
 (5) : Different formulation

Appendix 4

GUIDELINES FOR READ-ACROSS WHEN MODIFYING MOTORCYCLE FOUR-CYCLE OIL FORMULATIONS

The primary raw materials usually used for motorcycle 4-cycle oil formulations may be classified into the following four categories :

- (1) Base Oil - Main base component. Mineral oil or synthetic oil, or a mixture of them is used.
- (2) Additives - To improve Viscosity characteristics, anti wear and detergency of motorcycles 4-cycle oils, additives such as VI Improver, detergents, dispersants, anti wear agents, friction modifier, oxidation inhibitors, pour point depressant and foam inhibitor, etc are used.

Since either of these primary raw materials may affect the performance of motorcycle 4-cycle oils, in the case where a modification of any of these primary raw materials or their blend ratio is made, the oil shall be regarded as a different formulation. As a consequence, the Submitter is required to rerun and submit the JASO T 904 friction bench test data and specified documents for filing under a new oil code number.

If a reformulation is made within the following ranges, the oil is regarded as equivalent to its original formulation and renewal of the document submission is exempted.

- (1) Base Oil - The case where a base oil of the same type and physical properties is used at the same blend ratio.
- (2) Additives - In principle, any alteration of additives is not approved. However, in the case of following minor changes, read-across of the friction bench test data is allowed. In this case, however, renewal of the filing is required.
 - Pour point depressant type and treatment level under the same viscosity grade
 - Foam inhibitor type and treatment level
 - Coloring agent or odorant type

- 4) Colors which contrast the letters and the rectangular lines with the background should be used.
- 5) For the sentence under the above mark, the marketer may use their own language indicating the same expression as that written in English. In this case, it is to be desired that the form of characters used and their size are as similar as possible to the exemplification in English.

2. Guidelines for indication of the designation mark

- 1) The dimension of the above mark indicates the reference size. The minimum size is limited to 0.8 times of reference dimensions. Depending upon the size of the product containers, the size above minimum dimensions can be used, but it is desirable not to exceed quadruple the size.
- 2) The marketer without constraint can be decided the location of the mark on containers .

3. Examples of the Designation Mark



PRODUCT MEETING JASO T 903
 COMPANY GUARANTEEING THIS MX PERFORMANCE:
 XXXX Co.,Ltd.

Mark with Dimensions
 Specified in Item 1.1
 of Appendix 5



PRODUCT MEETING JASO T 903
 COMPANY GUARANTEEING THIS MX PERFORMANCE:
 XXXX Co.,Ltd.

1.5 x Dimensions



PRODUCT MEETING JASO T 903
 COMPANY GUARANTEEING THIS MX PERFORMANCE:
 XXXX Co.,Ltd.
 2 x Dimensions