AUTOMOTIVE GASOLINE ENGINE OIL STANDARD

(JASO M 364: 2024)

APPLICATION MANUAL

September 2024

JASO Engine Oil Standards Implementation Panel

NOTICE: As to the quality and performance conformance and marking of a gasoline engine oil which has been reported to meet the standard and kept on file using this Automotive Gasoline Engine Oil Standard (JASO M 364: 2024) application manual shall be done at the submitter's judgment and responsibility, and the submitter shall assume liability for such quality and performance conformance and marking.

Hence, on-file system based on this application manual (hereinafter referred to as “this system”) is not for the JASO Engine Oil Standards Implementation Panel to guarantee the quality and performance of gasoline engine oil, and is not a system for the Panel to be responsible.

If any problem has occurred concerning the quality, performance and marking of gasoline engine oil, the user of this system who has onfiled to meet the standard shall solve the problem at his or her own risk.

In using Automotive Gasoline Engine Oil Standard (JASO M 364: 2024) the user of the standard is requested to fully understand the contents of this manual.

Note that if the contents of this manual have been changed, such change will be notified through the website of the "JASO Engine Oil Standards Implementation Panel" (https://www.jalos.or.jp/onfile/) and others. Please make sure that you have checked the latest information before submission.

This English language version shall be only for reference, and the Japanese language version of this manual shall be the official text. If any difference of interpretation occurs between the Japanese and the English versions, the Japanese version shall prevail.

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1. Introduction

This document has been prepared as part of the activities of the JASO Engine Oil Standards Implementation Panel, which was established voluntarily by various types of industrial organizations and academic associations related to engine oils in Japan, to ensure proper implementation of JASO Engine Oil Standards in Japan and overseas. Explained in this document are the procedures, etc. to be taken by lubricant sellers and others for reporting and keeping on file products that meet the requirements of the Automotive Gasoline Engine Oil Standard (JASO M 364: 2024) that was established by the Society of Automotive Engineers of Japan, Inc. in accordance with the Standard.

In this document, the term “gasoline engine” means a four-stroke cycle engine driven by using gasoline as a fuel, and the term " gasoline engine oil” means a lubricant for four-stroke cycle gasoline engines.

This reporting/on-file system has been proposed by the JASO next generation gasoline engine oil task force which is subordinate to the Engine Oil Task Force which is a joint committee of the Petroleum Association of Japan (PAJ) and the Japan Automobile Manufacturers Association, Inc. (JAMA), and it has been established by the JASO Engine Oil Standards Implementation Panel with support by relevant industrial and academic associations.

2. Purpose of Automotive Gasoline Engine Oil Standard (JASO M 364: 2024) Utilization System and Its Operating Organizations

2.1 Purpose

This system has been established for the purpose of ensuring the conformity of the Automotive Gasoline Engine Oil Standard (JASO M 364: 2024) to gasoline engine vehicles. Through the implementation of this system by gasoline engine oil sellers, criteria for optimum selection when customers purchase gasoline engine oils are clarified, and it is expected that the fuel economy and reliability of engines will be improved.

2.2 Operating Organizations

With regard to the utilization of the Automotive Gasoline Engine Oil Standard (JASO M 364: 2024), the Gasoline Engine Oils Steering Committee (GEO Steering Committee) has been set up on the same level as the existing 2-cycle Oils Steering Committee (2T Steering Committee), 4-cycle Oils Steering Committee (4T Steering Committee) and Diesel Engine Oils Steering Committee (DEO Steering Committee) under the JASO Engine Oil Standards Implementation Panel as shown in Figure 1. Under the GEO Steering Committee, the GEO Technical Committee has been set up which presides over the Fuel Economy Test Surveillance Panel and the Market Survey Panel. The Technical Committee is presided over by the chairpersons of the Engine Oil Subcommittee as chairperson and vice chairperson, and the leaders of the panels mentioned above take part in the Technical Committee as members, and the Society of Automotive Engineers of Japan, Inc. and the Japan Petroleum Institute participate as liaison members.

The Fuel Economy Test Surveillance Panel examines measures for solving problems that may be encountered by the users of each test when they conduct the test. The Market Survey Panel works out a market survey plan when there arises the need to carry out a market survey and analyzes the result of the survey. Each panel is mainly composed of members from automobile manufacturers, petroleum manufacturers, and additive manufacturers, and participation from other industries may be requested where necessary.

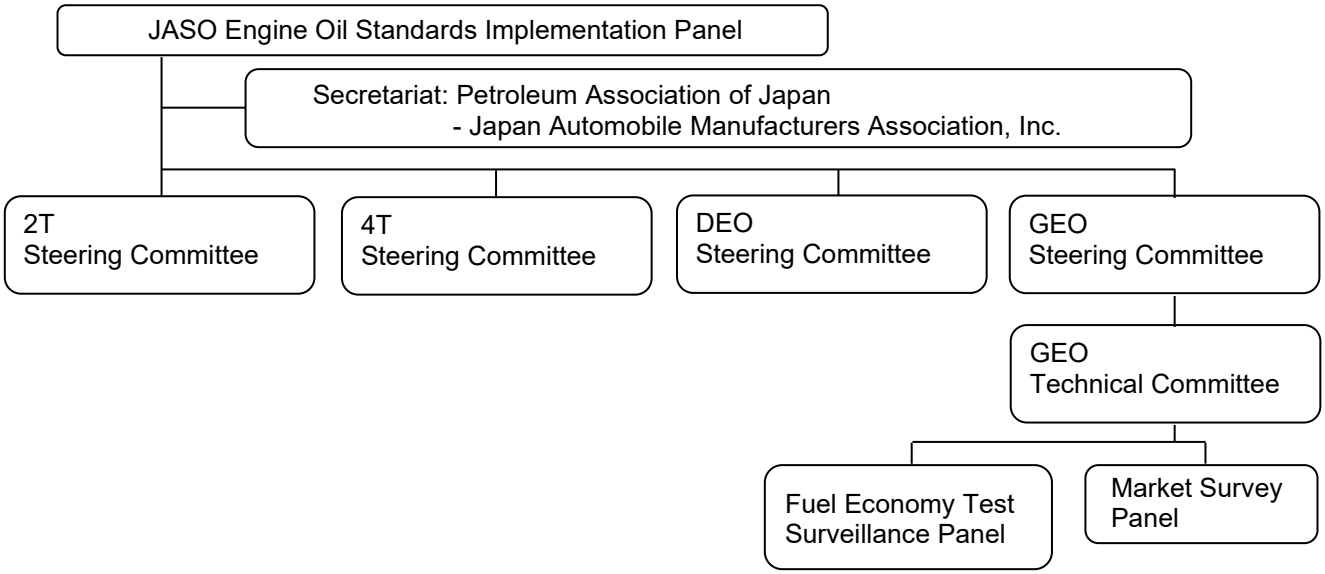


Fig. 1 Operating Organization Chart

3. On the Automotive Gasoline Engine Oil Standard (JASO M 364: 2024)

3.1 Overview of the Standard

Engine oils conforming to the Automotive Gasoline Engine Oil Standard JASO M 364: 2024 are classified into GLV-1 and GLV-2, and the Standard applies to four-cycle gasoline engines.

The GLV-1 classification was developed as a type that targets SAE 0W-8 and 0W-12 and has low viscosity and excellent fuel economy, and of which high-temperature oxidation stability, low-temperature wear prevention, low-temperature sludge prevention, etc. are equivalent to or higher than the ILSAC GF-5/API SN standard. The GLV-2 classification, which targets SAE 0W-16 and 0W-20, has very high viscosity index and excellent fuel economy, and the viscosity on the high temperature side maintains SAE16 and 20. This classification was developed by adding LSPI prevention regulation to be applicable also to supercharged engine and considering the application to existing vehicles, while maintaining the wear prevention performance, high-temperature stability, etc. equivalent to GLV-1.

3.2 Developments That Led to the Establishment of the Standard

3.2.1 GLV-1 classification

In order to prevent global warming and further petroleum consumption, there is a strong demand for reduction in CO_2 emission and strict fuel consumption regulations leading to higher fuel economy from Automobiles. As Automobiles continues to evolve reducing fuel consumption, Automotive lubricants are seen as an enabler to contribute to a greater fuel economy improvement and Japanese Automobile manufacturers have been actively promoting the development of lower viscosity engine oil for enhanced fuel economy benefit. On the other hand, as Engine Oil requires oil exchange in the market, the quality of the engine oil is secured by the engine oil standard in order for the end user to drive the car safely.

The Japanese Automobile manufacturers adopt ILSAC (International Lubricant Specification Advisory Committee) and API (American Petroleum Institute) as the global standard of the gasoline engine oil. However, it is difficult to evaluate low viscosity engine oil for SAE 0W-12 or lower by the existing fuel economy test method utilizing engine from US Automobile manufacturers to develop standards for SAE 0W-8 and 0W-12.

There is a Japanese Automobile manufacturer using engine oil with SAE 0W-8 equivalent viscosity and AICE (The Research association of Automotive Internal Combustion Engines) has a Cabinet Office-Led SIP (Cross-ministerial Strategic Innovation Promotion Program) innovative combustion technology in cooperation with research institutes developing the evaluation of low viscosity engine oil such as SAE 0W-8. Under these circumstances, companies belonging to JAMA (Japan Automobile Manufacturers Association) and PAJ (Petroleum Association of Japan) issued a request for the development and establishment of a new standard compatible with high fuel economy gasoline engines compatible with SAE 0W-8 and 0W-12.

From the above background, it has been decided to develop and establish a quality standard of low viscosity gasoline engine oil, through the following process.

- JASO next generation gasoline engine oil task force under a joint committee of the Petroleum Association of Japan (PAJ) and the Japan Automobile Manufacturers Association, Inc. (JAMA) was established in April, 2017. The fuel economy test standard has been started to develop for SAE 0W-8 and 0W-12. Round robin tests had been conducted and drafts of test procedure were released in September, 2019.
- SAE 0W-8 reference oils were evaluated with high-temperature oxidation stability test, low-temperature valve train wear and low-temperature sludge test in low oil temperature to define durability performance of automotive gasoline engine oil. It was confirmed the performance showed better than ILSAC GF-5/API SN grade oils. The Draft of specification was proposed.
- Based on these draft test procedure, JASO engine oil committee established Automobile Gasoline Engine Oils Firing Fuel Economy Test Procedure (JASO M 366:2019) by Toyota 2ZR-FXE and Automobile Gasoline Engine Oils Motored Fuel Economy Test Procedure (JASO M 365:2019) by Nissan MR20DD. In addition, Automobile Gasoline Engine Oils (JASO M 364:2019) to define 19 items which include high-temperature oxidation stability, low-temperature valve train wear and low-temperature sludge prevention was established.

3.2.2 GLV-2 classification

Engine oil is an item that greatly contributes to reduction of CO_2 emitted from internal combustion engines, and reducing viscosity is one of the effective means for such contribution. The JASO GLV-1 standard established in 2019 has become a low viscosity Automotive Gasoline Engine Oil Standard for SAE 0W-8 and 0W-12, but further reduction of viscosity is difficult to achieve both technology and popularization. Under such circumstances, there were requests from enterprises belonging to the Japan Automobile Manufacturers Association and the Petroleum Association of Japan, and lubricant-related enterprises, and there was a proposal of a new Automotive Gasoline Engine Oil Standard in terms of fuel saving. It is expected that this technology would further improve fuel efficiency by maintaining the viscosity of the conventional SAE20 and SAE16 at high temperatures, and reducing the viscosity in the middle and low temperature region while securing oil pressure and reliability (oil film). Therefore, there has been a demand to add a new classification to JASO M 364.

Because of this background, it was determined to establish the Automotive Gasoline Engine Oil Standard for low-viscosity oils in Japan and the quality standard was established through the following process.

- In June 2021, the JASO Next-generation Gasoline Engine Oil TF jointly formed by the JAMA and the Petroleum Association of Japan started studying the standard of the next-generation fuel-efficient gasoline engine oil with an ultra-high viscosity index. The test methods for volatility and shear stability that would be the key point for making an ultra-high viscosity index were also studied. The round robin test was conducted to confirm the test accuracy and the validity of the test method.

- In order to define the quality as the automotive gasoline engine oil, demonstration oils of SAE 0W-16 and 0W-20 were evaluated by the high-temperature oxidation stability test method of the ILSAC standard test, low-temperature valve train wear prevention test and chain wear prevention test, fuel-efficiency test method by JASO M 365 and M 366, etc. and it was confirmed that high fuel efficiency and performance equivalent to or higher than the ILSAC GF-5/API SN standard were provided. Draft standard values were established.

- After that, it was handed over to the Engine Oil Subcommittee of the Society of Automotive Engineers of Japan, and in March 2024, the quality standard of gasoline engine oil (JASO M 364:2024) was revised to add the JASO GLV-2 classification.

- Furthermore, since the response of fuel efficiency varies depending on the fuel-efficiency test method, it was suggested that it be possible to distinguish which test method was used for the product that passed the test. Therefore, the oil that passed the fuel-efficiency test of the JASO M 366 should be GLV-2A, and the oil that passed the fuel-efficiency test of the JASO M 365 should be GLV-2B.
- In addition, the quality of Automotive Gasoline Engine Oil Standard (JASO M 364:2024) is limited to just “GLV-2“ as the classification. In this application manual, the type of classification is separated into “GLV-2A” and “GLV-2B.” The quality of Automotive Gasoline Engine Oil Standard (JASO M 364:2024) will be minor updated to the description of classification same as this application manual by the Society of Automotive Engineers of Japan, Inc.(JSAE) in the 2025.

3.3 Test Items and Acceptance Criteria

Table 1 and 2 shows the required performance and acceptance criteria specified in the Automotive Gasoline Engine Oil Standard (JASO M 364: 2024) for GLV-1 and Table 2 for GLV-2.

Some characteristic values that need to be reported at the time of on-file registration are not specified in the Automotive Gasoline Engine Oil Standard (JASO M 364: 2019). For these items, refer to Appendix 3.

Note that when carrying out the engine tests and bench tests listed in Table 1, the procedures shown in the Comparison Table in Appendix 2 may be used as alternative test procedures. In this case, which procedure was used for obtaining the result of measurement must be specified on the reporting document, etc.

When the Automotive Gasoline Engine Oil Standard (JASO M 364: 2024) is revised, it is required to use the latest version. Also, regarding the test procedures specified in the Automotive Gasoline Engine Oil Standard (JASO M 364: 2024) as well, the latest version of the relevant test procedure shall be used if the year of establishment is not specified.

Table 1 Required Performance and Acceptance Criterion (Quality Standards) Specified in the Automotive Gasoline Engine Oil Standard (JASO M 364 GLV-1 : 2024)

Item			Unit, etc	Standard value	Test methods
Viscosity grade				0W-8, 0W-12	**SAE J300**
Shear stability	Kinematic viscosity after 30 cycle testing (100ºC)		mm^2/s	Stay-in-grade of virgin oil viscosity classification in **SAE J300**	**ASTM D6278**
Volatility	Evaporation loss (250ºC,1h)		Mass fraction, %	15.0 or less	**ASTM D5800B/D**
Element analysis value	P		Mass fraction, %	0.06 or more 0.08 or less	**ASTM D4951**
	S		Mass fraction, %	0.5 or less	**ASTM D2622 or ASTM D4951**
Filterability	with 0.6% H_2O		%	50 or less	**ASTM D6794**
	with 1.0% H_2O			50 or less	
	with 2.0% H_2O			50 or less	
	with 3.0% H_2O			50 or less	
	with 0.6% H_2O			50 or less	**ASTM D6795**
Anti-foaming performance	Sequence I	Foaming tendency/foaming stability	mL-mL	10 or less/ 0 or less	**ASTM D892**
	Sequence II			50 or less/ 0 or less	
	Sequence III			10 or less/ 0 or less	
High temperature anti-foaming performance	Sequence IV	Foaming tendency/foaming stability	mL-mL	100 or less/ 0 or less	**ASTM D6082**
Homogeneity and miscibility				Passed	**ASTM D6922**
Ball rust test	Average gray value			100 or more	**ASTM D6557**
Gelation Index				12 or less	**ASTM D5133**
Emulsion retention	0 ℃, 24 h			No Water Separation	**ASTM D7563**
	25 ℃, 24 h				
Elastomer compatibility	ACM-1 (Polyacrylate rubber)	Volume	%	-5～+9	**ASTM D7216 A2**
		Hardness	Point	-10～+10	
		Tensile strength	%	-40～+40	
	H-NBR-1 (Hydrogeneted nitrile rubber)	Volume	%	-5～+10	
		Hardness	Point	-10～+5	
		Tensile strength	%	-20～+15	
	VMQ-1 (Silicone rubber)	Volume	%	-5～+40	
		Hardness	Point	-30～+10	
		Tensile strength	%	-50～+5	
	FKM-1 (Fluorocarbon rubber)	Volume	%	-2～+3	
		Hardness	Point	-6～+6	
		Tensile strength	%	-65～+10	
	AEM-1 (Ethylene acrylic rubber)	Volume	%	-5～+30	
		Hardness	Point	-20～+10	
		Tensile strength	%	-30～+30	

Table 1 Required Performance and Acceptance Criterion (Quality Standards) Specified in the Automotive Gasoline Engine Oil Standard (JASO M 364 GLV-1 : 2024)

Item		Unit, etc	Standard value	Test methods
Fuel economy (Firing fuel economy test[a)])	Fuel economy improvement	%	1.1 or more	**JASO M 366**
Fuel economy (Motored fuel economy test[a)])	Fuel economy improvement	%	0W-8: 2.0 or more 0W-12: 1.7or more	**JASO M 365**
High-temperature oxidation stability (Sequence IIIH)	Kinematic Viscosity Increase (40℃)	%	150 or less	**ASTM D8111**
	WPD (Weighted Piston Deposit)		3.7 or more	
	Hot Stuck Rings		None	
Aged oil low temperature viscosity (Sequence IIIHA [b)])	MRV viscosity after testing	mPa・s	60 000 or less (No yield stress)	
Aged oil low temperature viscosity (ROBO [b)])	MRV viscosity after testing	mPa・s	60 000 or less (No yield stress)	**ASTM D7528**
Phosphorus volatility (Sequence IIIHB)	Phosphorus Retention	%	81 or more	**ASTM D8111**
Low temperature valvetrain wear protection performance (Sequence IVA [c)])	Average Cam Wear	μm	90 or less	**ASTM D6891**
Low temperature valvetrain wear protection performance (Sequence IVB [c)])	Average Intake Lifter Volume Loss	mm^3	2.7 or less	**ASTM D8350**
	End of Test Iron (After Ca adjustment)	ppm	400 or less	
Low temperature sludge, and varnish protection performance (Sequence VH)	Average Engine Sludge Merits		7.6 or more	**ASTM D8256**
	Average Rocker Cover Sludge Merits		7.7 or more	
	Average Engine Varnish Merits		8.6 or more	
	Average Piston Skirt Varnish Merits		7.6 or more	
	Oil Screen Sludge	Area%	Report	
	Oil Screen Debris,	Area%	Report	
	Hot Stuck Compression Rings		None	
	Cold Stuck Rings		Report	
	Oil Ring Clogging,	Area%	Report	
Chain wear protection performance (Sequence X)	Chain Stretch % increase	%	0.085 or less	**ASTM D8279**

Note[a)] The fuel economy test should be passed in either firing fuel economy test or motored fuel economy test.
[b)] The aged oil low-temperature viscosity test should be passed in either Sequence IIIHA or ROBO.
[c)] Low temperature valvetrain wear test should be passed in either Sequence IVA or Sequence IVB.

Table 2 Required Performance and Acceptance Criterion (Quality Standards) Specified in the Automotive Gasoline Engine Oil Standard (JASO M 364 GLV-2A, GLV-2B:2024)

Item			Unit, etc	Standard value	Test methods
Viscosity grade				0W-16, 0W-20	**SAE J300**
Kinematic viscosity	Kinematic viscosity after 30 cycle testing (40ºC)		mm^2/s	0W-16 : 28 or less 0W-20 : 30 or less	**JIS K2283, ASTM D445**
Low-temperature viscosity	MRV viscosity (-40°C)		mPa・s	40 000 or less (No yield stress)	**ASTM D4684**
Share stability	Kinematic viscosity after 4-hours testing (100°C)		mm^2/s	Within virgin oil viscosity classification (**SAE J300**)	**Modified CEC L-45-A-99**
Volatility	Evaporation loss (150 ℃,12h)		Mass fraction, %	5.0 or less	**Modified ASTM D5800 B**
Element analysis value	P		Mass fraction, %	0.06 or more 0.08 or less	**ASTM D4951**
	S		Mass fraction, %	0.5 or less	**ASTM D2622 or ASTM D4951**
Filterability	with 0.6% H_2O		%	50 or less	**ASTM D6794**
	with 1.0% H_2O			50 or less	
	with 2.0% H_2O			50 or less	
	with 3.0% H_2O			50 or less	
	with 0.6% H_2O			50 or less	**ASTM D6795**
Anti-foaming performance	Sequence I	Foaming tendency/foaming stability	mL-mL	10 or less/ 0 or less	**ASTM D892**
	Sequence II			50 or less/ 0 or less	
	Sequence III			10 or less/ 0 or less	
High temperature anti-foaming performance	Sequence IV	Foaming tendency/foaming stability	mL-mL	100 or less/ 0 or less	**ASTM D6082**
Homogeneity and miscibility				Passed	**ASTM D6922**
Ball rust test	Average gray value			100 or more	**ASTM D6557**
Gelation Index				12 or less	**ASTM D5133**
Emulsion retention	0 ℃, 24 h			No Water Separation	**ASTM D7563**
	25 ℃, 24 h				
Elastomer compatibility	ACM-1 (Polyacrylate rubber)	Volume	%	-5～+9	**ASTM D7216 A2**
		Hardness	Point	-10～+10	
		Tensile strength	%	-40～+40	
	H-NBR-1 (Hydrogeneted nitrile rubber)	Volume	%	-5～+10	
		Hardness	Point	-10～+5	
		Tensile strength	%	-20～+15	
	VMQ-1 (Silicone rubber)	Volume	%	-5～+40	
		Hardness	Point	-30～+10	
		Tensile strength	%	-50～+5	
	FKM-1	Volume	%	-2～+3	

	(Fluorocarbon rubber)	Hardness	Point	-6～+6	
		Tensile strength	%	-65～+10	
	AEM-1 (Ethylene acrylic rubber)	Volume	%	-5～+30	
		Hardness	Point	-20～+10	
		Tensile strength	%	-30～+30	
Fuel economy (Firing fuel economy test[d)])	Fuel economy improvement		%	GLV-2A only 0W-16:1.1 or more 0W-20:0.9 or more	**JASO M 366**
Fuel economy (Motored fuel economy test[d)])	Fuel economy improvement		%	GLV-2B only 0W-16:1.8 or more 0W-20:1.6 or more	**JASO M 365**
High-temperature oxidation stability (Sequence IIIH)	Kinematic Viscosity Increase (40℃)		%	150 or less	**ASTM D8111**
	WPD (Weighted Piston Deposit)			3.7 or more	
	Hot Stuck Rings			None	
Aged oil low temperature viscosity (Sequence IIIHA [b)])	MRV viscosity after testing		mPa・s	60 000 or less (No yield stress)	
Aged oil low temperature viscosity (ROBO [b)])	MRV viscosity after testing		mPa・s	60 000 or less (No yield stress)	**ASTM D7528**
Phosphorus volatility (Sequence IIIHB)	Phosphorus Retention		%	81 or more	**ASTM D8111**
Low temperature valvetrain wear protection performance (Sequence IVB)	Average Intake Lifter Volume Loss		mm^3	2.7 or less	**ASTM D8350**
	End of Test Iron (After Ca adjustment)		ppm	400 or less	
Low temperature sludge, and varnish protection performance (Sequence VH)	Average Engine Sludge Merits			7.6 or more	**ASTM D8256**
	Average Rocker Cover Sludge Merits			7.7 or more	
	Average Engine Varnish Merits			8.6 or more	
	Average Piston Skirt Varnish Merits			7.6 or more	
	Oil Screen Sludge		Area%	Report	
	Oil Screen Debris,		Area%	Report	
	Hot Stuck Compression Rings			None	
	Cold Stuck Rings			Report	
	Oil Ring Clogging,		Area%	Report	
LSPI prevention performance (Sequence IX)	Average number of occurrences			5 or less	**ASTM D8291**
	Maximum number of occurrences			8 or less	
Chain wear protection performance (Sequence X)	Chain Stretch % increase		%	0.085 or less	**ASTM D8279**

Note [d)] As for the fuel economy test, GLV-2A should pass the firing fuel economy test and GLV-2B should pass the motored fuel economy test.

[b)] The aged oil low-temperature viscosity test should be passed in either Sequence IIIHA or ROBO.

3.4 On the Filing of an Oil conforming to the Standard, the Effective Period of On-File, and the Indication of Classification of the Standard

The first dates when classification indication is allowed for engine oils conforming to the Automotive Gasoline Engine Oil Standard (JASO M 364: 2024) shall be as shown in the table below.
And the last application date of a new license is March 31, 2025.

Standard	Year of Issuance of the Standard	First date when Classification Indication is allowed	Last date when a New Reporting is Accepted	On-file Termination Date
M 364-2019	2019	October 1, 2019	March 31, 2025	Note e)
M 364-2024	2024	October 1, 2024		

Regarding the indication of classification of the standards, the year described in the classification shall not be indicated. GLV-1-24 shall be indicated as GLV-1, GLV-2A-24 as GLV-2A and GLV-2B-24 as GLV-2B.

Note e) The On-file Termination Date is not set. The on-filing status of JASO M 364: 2019 is possible to be continued even after JASO M 364-2024 is issued.

4. Selection of Test Organization

4.1 General

In the Automotive Gasoline Engine Oil Standard (JASO M 364: 2024), the requirements are specified concerning various engine tests, bench tests and physical/chemical properties. For on-file (to be described later), it is required to report the results of tests conducted by a test organization. That is, the test results are valid only under if the following requirements are satisfied.

4.2 JASO Engine Test (M 365 and M 366)

4.2.1 Firing fuel economy test (JASO M 366)

JASO M 366:2019 (Automobile Gasoline Engine Oils Firing Fuel Economy Test Procedure) test in test laboratory with test precision specified by JASO M 366 is required and the test oil result needs to be notified. Reference oil test results need to be attached in this notification which is conducted in the same laboratory as the test oil. Attached reference oil test data shall be the latest.

For operation of reference oil tests, refer to “Supplement to Automotive Gasoline Engine Oil Standard (JASO M 364: 2019) Application Manual”. The test laboratory should follow the instructions of the JASO Engine Oil Standards Implementation Panel on the type and sequence of reference oils to be implemented and report the reference test results to the JASO Engine Oil Standards Implementation Panel.

4.2.2 Motored fuel economy test (JASO M 365)

JASO M 365:2024 (Automobile gasoline engine oils - Motored Fuel Economy Test Procedure) test in test laboratory with test precision specified by JASO M 365 is required and the test oil result needs to be notified. Reference oil test results need to be attached in this notification which is conducted in the same laboratory as the test oil. Attached reference oil test data are the latest and required to meet validity criteria shown in Appendix 3 Form-4b-b, Form-4b-c and Form 4b-d.

In test laboratories, standard reference oil tests by GE108A, GE208 and GE216 are required in case

of following:

・New MR20DD engine test bench establishment

・Relocation or change of MR20DD engine test bench, engine replacement or change of torque sensor

This confirmation test is required for each MR20DD engine test bench even though laboratory has multiple engine benches in one laboratory.

For operation of reference oil tests, refer to “Automotive Gasoline Engine Oil Standard (JASO M 364:2019) Annex to Application Manual, Management of Test Precision of Motored Fuel Economy Test”.

4.2.3 JASO Standard Reference Oils for JASO Engine Tests

Standard reference oils which specified in Automotive Gasoline Engine Oil Standard (JASO M 364:2019), Automobile gasoline engine oils - Motored Fuel Economy Test Procedure (JASO M 365:2024) and Automobile Gasoline Engine Oils - Firing Fuel Economy Test Procedure Gasoline Engine Oil Motored Fuel Economy Test Procedure (JASO M 366:2024) are used only for test bench severity confirmation, test validity confirmation and new test development. It is not permitted to conduct any items other than the analysis items specified in the test method. Redistribution or acquisition of reference oil from companies other than Fuel Economy Test Surveillance Panel participating companies is not permitted without Fuel Economy Test Surveillance Panel approval.

4.3 ASTM Engine Test

As to high-temperature oxidation stability test, aged oil low-temperature viscosity test, phosphorus volatility test (ASTM D8111), low-temperature valve train wear prevention test (ASTM D6891), low-temperature valve train wear prevention test (ASTM D8350), low-temperature sludge prevention test (ASTM D8256), LSPI prevention (ASTM D8291) and chain wear prevention test (ASTM D8279), submit the results of the test performed at the test organization certified by the ASTM Test Monitoring Center in accordance with the ACC Product Approval Code of Practice defined by the ACC (American Chemistry Council).

4.4 Bench Test

As to the ASTM D6278, Modified.CEC L-45-A-99 (shear stability test), ASTM D6794 and ASTM D6795 (filterability), ASTM D6922 (homogeneity and miscibility), ASTM D6557 (ball rust test), ASTM D5133 (gelation index), ASTM D7563 (emulsion retention), ASTM D7216 (evaluation of oil-elastomer compatibility), ASTM D5800B/D, Modified. ASTM D5800B (volatility test) and physical/chemical properties such as defoaming characteristic, and other physical/chemical properties to be reported upon on-file submission, any test organization may be selected under condition that accuracy specified for each test method is satisfied.

4.5 Public Information on Test Organization

Test organizations that can carry out JASO engine tests on request from an outside party (if disclosure is allowed) are publicized at the Web site of the JASO Engine Oil Standards Implementation Panel (https://www.jalos.or.jp/onfiles/) or through any other means. When the disclosure is desired, enter necessary data in the Application Form of Notification of Desired Consignee Test Laboratory (Appendix 1) and submit it to the JASO Engine Oil Standards Implementation Panel. Inquiries or test requests to the publicized test organizations shall be made directly by each Standard user, i.e., the JASO Engine Oil Standards Implementation Panel will not provide mediation between each Standard user and the publicized test organizations.

5. Standard Application Procedures (Reporting, On-Filing)

5.1 General

Each oil seller or supplier using the Automotive Gasoline Engine Oil Standard (JASO M 364:2024) through this system shall ensure that each product subject to reporting has such required performance, etc. as stipulated in the Automotive Gasoline Engine Oil Standard (JASO M 364:2024) by confirmation, in accordance with the guidance of this Manual, of a test organization designated by this Manual and shall use the Standard application procedures for each product brand and for each prescription as described in subsequent sections of “Reporting and On-Filing” and “Custody and Submission of Test Data.”

This system is for each user of the Standard to give a public notice of the conformity of the user’s product with the Standard, on its own responsibility, by way of on-filing of a product together with its test data, and is not for this system or the Panel to certify or acknowledge the conformity of any product with the Standard. Each user of this system shall fully understand such nature of the system. Each user shall be careful so as not to cause misunderstanding by end users including consumers, and is required to make a sincere effort to maintain the conformity with the Standard of the said product on the market.

5.2 Procedure Flow Chart

The outline of the reporting and on-filing procedure is shown in Figure 2.

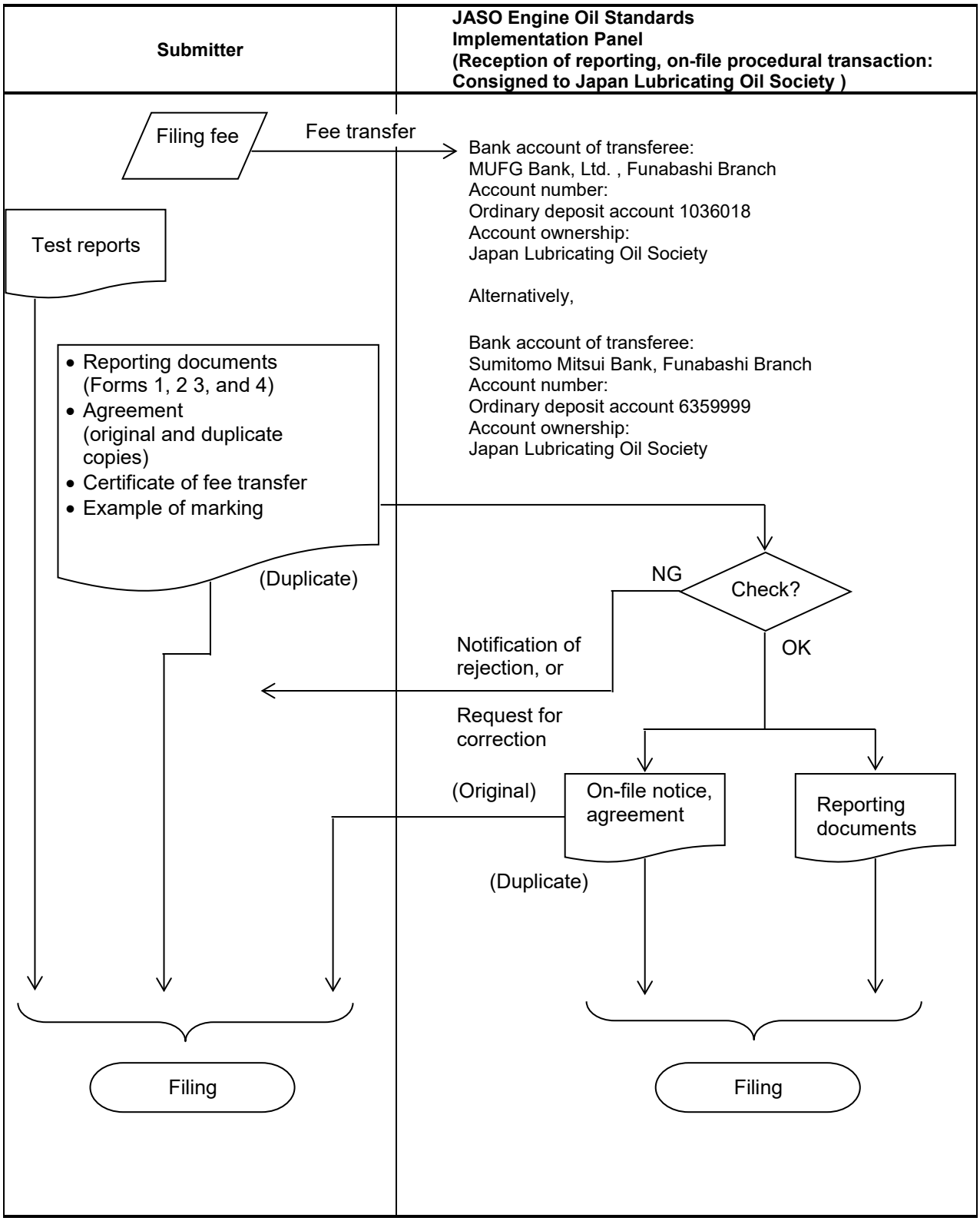


Fig. 2 Procedure Flow Chart for Reporting and Filing

5.3 Reporting and On-Filing

Prior to on-filing, the submitter shall transfer a filing fee indicated in Appendix 1 to the specified bank account of the JASO Engine Oil Standards Implementation Panel. Thereafter, the submitter shall prepare the reporting documents (forms 1, 2, 3 and 4 in Appendix 3) and enter necessary data in form B of the original and duplicate copies of the notice and agreement documents (Appendix 4). Together with a certificate of a filing fee, the submitter shall send the reporting documents to the JASO Engine Oil Standards Implementation Panel. Note that transactions for receipt of reporting and on-filing are to be consigned to the Japan Lubricating Oil Society. Therefore, the reporting documents and the filing fee certificate shall be sent to the address shown below:

Address: 2-16-1 Hinode, Funabashi, Chiba
273-0015 Japan
Japan Lubricating Oil Society
c/o Business Department

Any cost required for transferring a filing fee to the specified bank account shall be borne by the submitter. Note that the reporting documents and the filing fee will not be returned after reception. If a change in the amount of filing fee is made, it will be communicated by the JASO Engine Oil Standards Implementation Panel through related associations.

At the time of reporting, the submitter shall submit to the JASO Engine Oil Standards Implementation Panel a representative example of performance classification marking on the gasoline engine oil product container and an entire product label (design allowable). (Refer to 6 - Marking.)

5.4 Custody and Submission of Test Data

JASO engine test reports (basic data for reporting) shall be prepared in a format specified in the JASO Standard, and the submitter shall maintain responsibility for the JASO engine test reports. Further, data of ASTM engine and bench test results shall also be maintained by the submitter. The period of maintenance of test results and reports shall be until the submitter cancels on-file of the product concerned.

The submitter shall submit the test reports as promptly as possible upon receipt of a request for them from the JASO Engine Oil Standards Implementation Panel.

5.5 Documents Check

Upon receipt of reporting documents, the JASO Engine Oil Standards Implementation Panel shall check:

(1) whether all the necessary items have been entered.

(2) whether infrared absorption spectral data has been attached in the specified format.

(3) whether engine oil performance data has been entered as specified.
Further, the JASO Engine Oil Standards Implementation Panel shall check:

(4) against the specified values as to the bench test characteristic items for which the specified values have been determined.

(5) against the criteria of acceptance as to the JASO and ASTM engine test results.

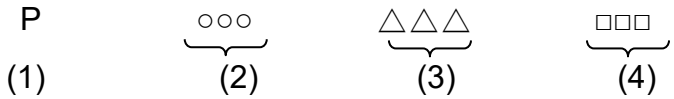
Further, the JASO Engine Oil Standards Implementation Panel shall check the performance classification documents and product labels for any improper points or unclear expressions.

If any improper or inadequate item is found, the JASO Engine Oil Standards Implementation Panel shall return a notice of on-file rejection (with information on reasoning) to the submitter or it shall request the submitter to make a correction.

If all the documents are satisfied, the JASO Engine Oil Standards Implementation Panel shall send an on-file notice to the submitter and put its copy into a file of the reporting documents.

5.6 Oil Code

An oil code shall be determined by the submitter and recorded by the JASO Gasoline Engine Oil Standards Implementation Panel.
Each oil code shall be set up in the format shown below:



(1) Category code (one alphabetic capital letter):
"P" shall be assigned to a gasoline engine oil product.

(2) Country number (three digits):
An international telephone country number of a nation where the submitter resides or the gasoline engine oil is manufactured.
(Example: Japan: 081, USA: 001, England: 044, ...)

(3) Seller code (three alphabetic capital letters):
Any three alphabetic capital letters desired by the submitter (e.g., TOYOTA MOTOR Corporation: TMC, ENEOS Corporation: ENE, ...) Basically one submitter shall use one seller code, but also multiple codes are allowed. However there is only one case that one submitter can use multiple codes, that is the case when a submitter keeps the existing code with such as merger or inheritance of brand and also JASO Engine Oil Standards Implementation Panel approve that. If the seller code has already been filed for other JASO engine oils (two cycle gasoline engine oil, four-stroke gasoline engine oil and automotive diesel engine engine oil), the same seller code shall be used unless there is a special reason.

If a seller code desired by the submitter has already been used by any other submitter, the JASO Engine Oil Standards Implementation Panel may request a change of the seller code to prevent duplication.

(4) Control number (three digits):
A voluntary control number to be assigned by the submitter arbitrarily. It is not allowed for one submitter to assign the same control number followed by same seller code to different products or different trial products.

For reference, examples of assigned oil codes are shown in Appendix 6.

5.7 Disclosure of On-File Information

For promotion and public recognition of the Automotive Gasoline Engine Oil Standard (JASO M 364: 2024), and gasoline engine oil products, the JASO Engine Oil Standards Implementation Panel will publicize product names, submitter names, viscosity grades, oil codes and classifications of on-file products through such communication media as the Internet according to the Standard.

JASO Engine Oil Standards Implementation Panel will announce the information disclosed to the submitter before disclosure. If the information is 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 information which has been agreed between JASO Engine Oil Standards Implementation Panel and submitters.

5.8 On-File Maintenance

If continuation of on-file of the product concerned is desired on and after January 1 of the year subsequent to the year of on-file, the submitter (requesting continuation of on-file) shall notify the JASO Engine Oil Standards Implementation Panel by the end of February of the subsequent year as to the amount of on-file maintenance fee, which is to be calculated according to the sales quantity (from January to December of the preceding year) in the method specified in Appendix 3. Upon notification from the submitter requesting continuation of on-file, the JASO Engine Oil Standards Implementation Panel will check it and send an invoice to the submitter requesting continuation of on-file. After receiving the invoice, the submitter requesting continuation of on-file shall promptly transfer an on-file maintenance fee to the specified bank account of the JASO Engine Oil Standards Implementation Panel. Any cost required for transfer of the on-file maintenance fee to the specified bank account shall be borne by the submitter. Note that the on-file maintenance fee will not be returned once received by the JASO Engine Oil Standards Implementation Panel.

In case that the on-file maintenance fee and calculation method are to be revised, the JASO Engine Oil Standards Implementation Panel will issue notification through the related organizations.

If the submitter requesting continuation of on-file does not transfer the on-file maintenance fee to the specified bank account, the JASO Engine Oil Standards Implementation Panel will judge that the sale of the product concerned has been discontinued. In this case, the on-file of the product concerned may be canceled.

Figure 3 shows a general flow of on-file maintenance procedure.

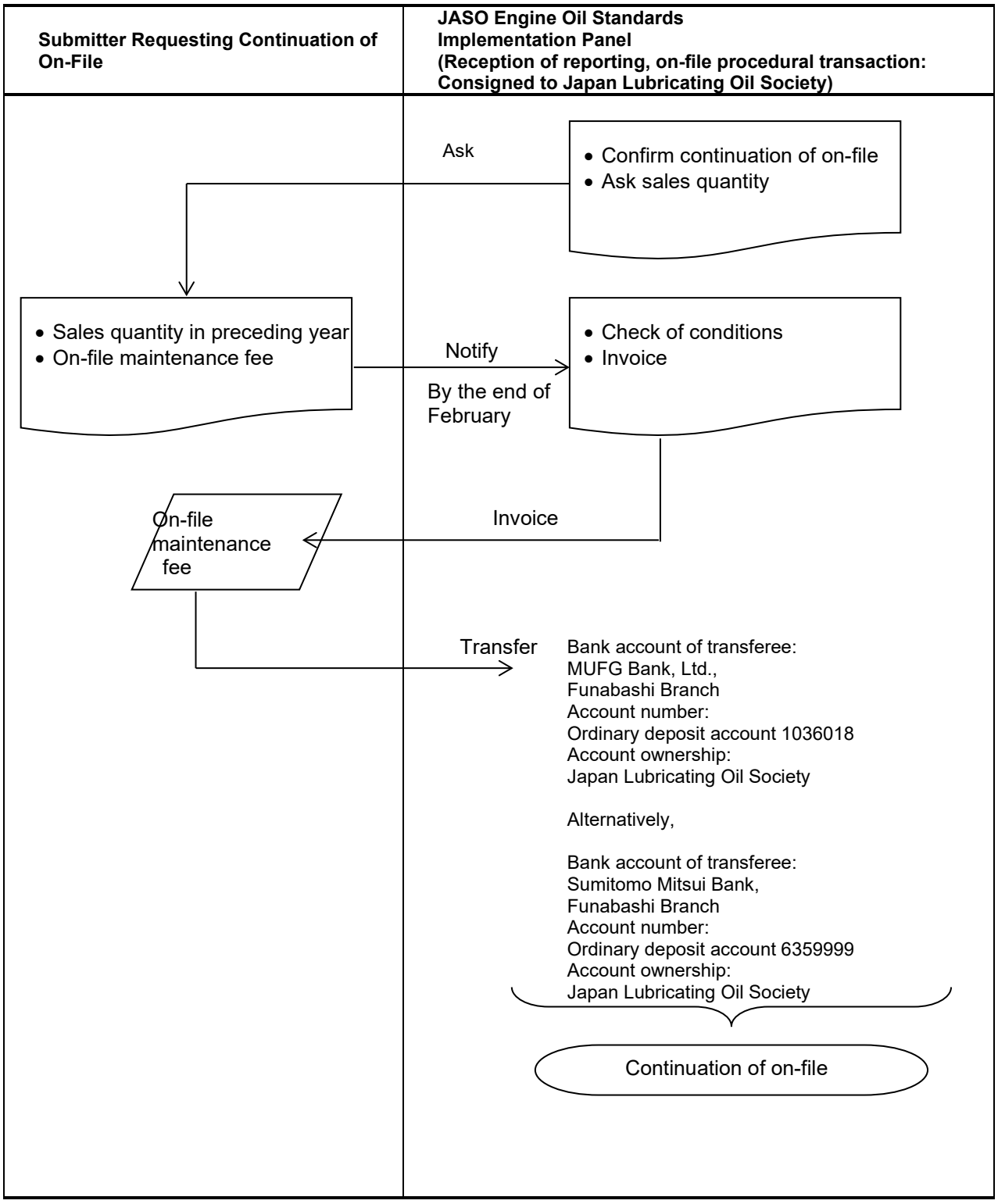


Fig. 3 On-File Continuation Procedure Flow

5.9 Liability for Product Quality

As to the quality and performance of each gasoline engine oil product filed (on file) through this system, classification and guarantee shall be the submitter's responsibility, and the submitter (seller) shall assume liability for the quality of the product concerned.

This system is not intended for the JASO Engine Oil Standards Implementation Panel to provide warranty on quality and performance of engine oil products on file. The JASO Engine Oil Standards Implementation Panel shall not be responsible for any loss or damage which may occur as a result of the use of an engine oil product on file.

If any trouble takes place concerning the quality and performance of an on-file engine oil product, the submitter shall take respond to solve the problem as his own responsibility.

If this system is contradictory to any legal regulations of the country concerned (including local administration regulations), the legal regulations take precedence over this system. Therefore, as to loss or damage arising from the use of this system without regard to inconsistency with legal regulations, the JASO Engine Oil Standards Implementation Panel will not assume any responsibility.

5.10 Information Security

Except for the conditions mentioned in Item 5.7 - Disclosure of
On-File Information, the JASO Engine Oil Standards Implementation Panel will not disclose on-file information to a third party without the written permission of the submitter, except if disclosure of on-file information is required as a legislative action by public organizations. Even if submitted or filed information is inadvertently disclosed to a third party, the JASO Engine Oil Standards Implementation Panel will not be responsible for compensation as to any loss or damage due to information disclosure.

If any questions arise regarding a filed product and a party concerned makes reference in writing to the JASO Engine Oil Standards Implementation Panel, it is allowed for the JASO Engine Oil Standards Implementation Panel to inform the questioner as to the on-file status of the gasoline engine oil product corresponding to the oil code concerned and the name of the seller concerned. Further, if the questioner desires communication with the submitter, the JASO Engine Oil Standards Implementation Panel will notify the submitter and leave any responses to the submitter. In this event, the JASO Engine Oil Standards Implementation Panel will not take any further action by itself.

5.11 Change in File

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 5.3 and update the oil code concerned.

(1) Change of the seller code

(2) Change of the company name together with the change of seller code

(3) Change of the product name

(4) Addition/change of the viscosity grade (Reporting is required even if the read-across allowable range shown in Appendix 5 is satisfied.)

(5) 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 an on-file fee specified in Item 5.3 or update the oil code concerned in the case of (1) and (2) listed below. The submitter shall make necessary payment

as specified in item 5.3 but the update of the oil code in not needed concerned in the case of (3) listed below.

(1) Change of the information on communication with the submitter (address, telephone number, etc.) (In this case, it is required to submit documents in forms 5 and 6 shown in Appendix 3.)

(2) Change of any condition other than the viscosity grade within the read-across allowable range shown in Appendix 5
(In this case, it is required to submit reporting documents in forms 5, 6, 7 and 8 shown in Appendix 3.)

(3) Change of the company name (Only when supplier code is same due to company merger or brand inheritance. In this case, it is required to submit documents in forms 5 and 6 shown in Appendix3, original on-file report form and performance classification marking form described by the new company name.)

If another submitter makes a change in an already filed product within the read-across allowable range shown in Appendix 5, it is required to provide on-file according to Item 5.3.

Also, if said submitter makes changes in the files product concerned as to any condition other than the viscosity grade within the read-across allowable range shown in Appendix 5, the contents of the change shall be promptly reported to the JASO Engine Oil Standards Implementation Panel.

Appendix 6 presents examples of reporting and notification.

5.12 Precautions for Submitter

The submitter shall pay particular attention to the following points according to this system.

(1) The quality, performance and marking of the product to be sold shall meet those entered in the on-file documents.

(2) If any questions occur as to the quality, performance and/or marking of the product, the submitter is responsible for any responses.

(3) As to the quality, performance and marking of the gasoline engine oil product filed, the submitter shall provide classification and guarantee on his own responsibility, and information on this responsibility shall be publicized to general consumers through sales channels of the submitter.

If the submitter discontinues sales of the on-file gasoline engine oil product, the submitter shall promptly notify the JASO Engine Oil Standards Implementation Panel as to cancellation of on-file.

6. Indication

After receipt of the on-file notice, the submitter shall, on its own responsibility, indicate the oil code concerned and its performance classifications on the product container using the form examples shown in Appendix 7.

As for GLV -2 (classification), indicate “A” next to the type of oil that passed the fuel-economy test in JASO M 366. As for oils that passed the fuel economy test in JASO M 365, indicate “B” next to the type.

In advertisements or the like, the user of this system shall not use such an expression as will lead to a misunderstanding that the quality/performance of the gasoline engine oil concerned has been certified by the JASO Engine Oil Standards Implementation Panel.

As specified in Item 5.3, the user of this system shall send a representative example of performance classification marking and a representative example of an entire product label (design acceptable) to the JASO Engine Oil Standards Implementation 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 gasoline engine oil products for which on-filing is maintained and check that the Automotive Gasoline Engine Oil Standard (JASO M 364: 2024) are used correctly on the market. Therefore, the JASO Engine Oil Standards Implementation Panel may take arbitrary samples of JASO engine oil category GLV-1 from the market, examine the performance marking form and quality/performance items specified in the Automotive Gasoline Engine Oil Standard (JASO M 364: 2024), 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 manner that particular submitter names and oil product names are not identifiable.

8. Use of Standard by Vehicle Manufacturers or Sellers

Any vehicle manufacturer or seller may assume responsibility to utilize the Automotive Gasoline Engine Oil Standard (JASO M 364: 2024). For instance, in owner's manual or any other document, the vehicle manufacturer or seller may indicate a recommended gasoline engine oil product to be used by consumers according to the Automotive Gasoline Engine Oil Standard (JASO M 364: 2024).

In recommending any gasoline engine oil product, the user of this system shall not provide such an expression as will lead to a misunderstanding that the quality/performance of the gasoline engine oil concerned has been certified by the JASO Engine Oil Standards Implementation Panel (e.g., gasoline engine oil certified or assured by the JASO Engine Oil Standards Implementation Panel).

As to the above recommendation, the user of this system shall send a representative example in the owner's manual concerned to the JASO Engine Oil Standards Implementation Panel.

9. Information Available

For details of conditions regarding this system, contact the following organizations.

9.1 Information on Destination Addresses of On-file Documents and On-file Forms

JASO Engine Oil Standards Implementation Panel
2-16-1 Hinode, Funabashi,
Chiba 273-0015 Japan
Japan Lubricating Oil Society
c/o Business Department
Tel : 81-47-433-5181
Fax : 81-47-431-9579
URL : https://www.jalos.or.jp/onfile/

9.2 Information on Test Methods (JASO Standards)

Society of Automotive Engineers of Japan, Inc. (JSAE)
Publishing Team
Publishing, E-NET & Professional Development Group
5 Bancho Center Building 5F
10-2, 5 Bancho, Chiyoda-ku, Tokyo
102-0076 Japan
Tel : 81-3-3262-8215(Direct)
Fax : 81-3-3261-2204

9.3 Information on Standard Reference Oil

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

9.4 Information on Test Engines and Parts

9.4.1 JASO M 366 (Firing Fuel Economy Test)

Sales Contact :
Toyotsu Machinery Corporation
Global Machinery Parts & Tools Supply Dept.
North America Group
Tel：+81-565-53-5858

Technical Contact :
TOYOTA MOTOR CORPORATION
Group No.1, Function Development Dept. No.3 Powertrain Function&Performance Development Div.
Tel：+81-80-6986-3974

9.4.2 JASO M 365 (Motored Fuel Economy Test)

Contact :
Seiichi Nakano
n-seiichi( )mail.nissan.co.jp (Note1)

Sachiko Okuda
sa-okuda( )mail.nissan.co.jp (Note1)

560-2 Okatsukoku, Atsugi city, Kanagawa, JAPAN
Materials Engineering department
Nissan Motor Co., LTD

Note1: Correct “( )” to “@”.

9.5 Information on Overseas Related Test Methods

9.5.1 Information on ASTM Test Methods and Test Implementation Organization

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959, U.S.A.
Tel：(+1)610-832-9585　FAX：(+1)610-832-9555
Website: https://www.astm.org
e:mail: service@astm.org

APPENDIX 1

Application Form of Notification of Desired Consignee Test Laboratory

Date on-file (year, month, day) : year, month, day		
Submitter (Company)	Company seal	**Contact address**
Person in charge of on-file Name Seal Department/Section, Title		Name Department/Section Address Tel Fax

Desired engine test to be consigned (Enter "○" for desired test.)		
JASO Firing Fuel Economy Test (JASO M 366)		Result data of the latest standard oil test shall be included using forms 4a-b and 4b-b and 4b-c and 4b-d.
JASO Motored Fuel Economy Test (JASO M 365)		

NOTE:
1. For continuation of the consignment-desired test, the relevant test shall be carried out using standard oil based on 4.2.1 and 4.2.2.
2. The names and addresses of the authorized test laboratories to be selected are publicized at the Panel Web site. A1-
3. For cancellation of on-file of the consignee test laboratory, notification shall be made to the Panel.

To be entered by the JASO Engine Oil Standards Implementation Panel
Person in charge of receipt: Seal
Date received (year, month, day): year, month, day
Receipt number:
Remarks:

APPENDIX 2

COMPARISON TABLE FOR TEST METHODS JIS/JPI Test and ASTM Test

Test Item	Test method	JIS/JPI test No.	ASTM test No.
Density	Oscillating U-Tube Method	JIS K 2249-1：2011	ASTM D4052
	Hydrometer Method	JIS K 2249-2：2011.	ASTM D1298
Flash Point(COC)	Cleveland Open Cup Method	JIS K 2265-4-2007	ASTM D92
Kinematic viscosity		JIS K 2283-2000 5.	ASTM D445
Viscosity Index		JIS K 2283-2000 6.	ASTM D2270
CCS viscosity		JIS K 2010-1993 Attachment A	ASTM D5293
MRV viscosity		JPI-5S-42-2004	ASTM D4684
High temperature high shear viscosity		JPI-5S-36-2003	ASTM D4683
Sulfated Ash		JIS K 2272-1998 5.	ASTM D874
Carbon residue	Conradson Method	JIS K 2270-1:2009.	ASTM D189
	Micro Method	JIS K 2270-2:2009.	ASTM D4530
Acid number	Potentiometric Titration Method	JIS K 2501-2003 7.	ASTM D664
Base number	Potentiometric Titration Method (Perchloric Acid)	JIS K 2501-2003 9.	ASTM D2896
Volatility	Noack Method	JPI-5S-41-2004	ASTM D5800B
Color	ASTM Color Test Method	JIS K 2580-2003 6.	ASTM D1500
Pour Point	Testing Method For Pour Point	JIS K 2269-1987 3.	ASTM D97
Ca	ICP Method	JPI-5S-38-2003	ASTM D4951 ASTM D5185
Mg			
Zn			
P			
Mo			
B			
N	Macro Kjeldahl Method	JIS K 2609-1998 3.	ASTM D3228
	Chemiluminescence Detection	JIS K 2609-1998 4.	ASTM D4629
	Micro Electricity Titration	JIS K 2609-1998 5.	—
S	Wavelength Dispersive X-ray Fluorescence Spectrometry	JIS K 2541-7-2003	ASTM D2622
	ICP Method	JPI-5S-38-2003	ASTM D4951 ASTM D5185
Anti-foaming	Sequence I,II,III	JIS K 2518-2017	ASTM D892
High temperature Anti-foaming	Sequence IV	JIS K 2518-2017 Attachment JA	ASTM D6082

APPENDIX 3

Gasoline Engine Oil Reporting and On-File Maintenance

Contents

1. Notes on Entries in Report Forms

(1) When entering data in the report forms, refer to the text in the standard application manual.

(2) As to an item concerning any test method without indication of a year (in the report forms), adopt a test method which is the latest version at the time of reporting.

(3) If a marking/sale corresponding to false reporting is made, the authorities concerned may impose a punishment according to the Act Against Unjustifiable Premium and Misleading Representation (Article 4 - Clause 1) or the Act of Prevention of Unfair Competition (Article 2-item 1 - Clause 12).

2. On-File Reporting Procedure

(1) Filing Fee

Filing fee required for
oil item : ¥50,000 per oil item to be filed

(2) Submission and Transfer of Filing Fee

Prior to reporting of oil item to be filed, a filing fee indicated in 2.(1) shall be transferred to the following bank account (per oil item to be filed). At the time of reporting, a certificate of the fee transfer into the bank account and necessary documents shown below shall be prepared and submitted to the panel.

Bank account of transferee:
MUFG Bank, Ltd. , Funabashi Branch
Account number:
Ordinary deposit account 1036018
Account ownership:
Japan Lubricating Oil Society

Alternatively,

Bank account of transferee:
Sumitomo Mitsui Bank, Funabashi Branch
Account number:
Ordinary deposit account 6359999
Account ownership:
Japan Lubricating Oil Society

- Document required for filing

Certificate of filing fee transfer
Form 1 : Front sheet of reporting
Form 2 : Bench test results
Form 3 : Blending change rule application data
Form 4 : Engine test results

Representative example of performance classification marking, and representative example of entire product label (Design figure acceptable)
Entry samples of Forms 1 to 4 are shown in Appendix 8.

3. On-File Maintenance Fee

As to on-file registration maintenance, a term of one year starts from January 1 and ends with December 31 of the current year.

To maintain on-file registration on and after January 1 of the year subsequent to the year of registration, it is required to pay an on-file maintenance fee. For each registrant, an on-file maintenance fee is calculated as shown below according to the total sales quantity of each registered oil in the previous year.

Total Sales Quantity of Each Registered Oil in the Previous Year	**On-File Maintenance Fee**
Less than 1,000 kl	¥50,000
1,000 kl or more	To be calculated in increments of ¥50 per kl

- Calculation Example – 1

In case that on-file registration has been completed October 1, 2024, and 1,250 kl of oil has been sold by December 31, 2024:

The term of the first year means a period between October 1, 2024, and December 31, 2024, and the term of the second year means a period between January 1, 2025, and December 31, 2025. An on-file maintenance fee to be paid in the second year is calculated on the basis of the previous year. In this case, it is determined according to declaration of sales quantity during a period of October 1, 2024, to December 31, 2024.

Hence,

1,250 kl x 50 yen/kl = 62,500 yen

- Calculation Example – 2

In case that on-file registration of oil A has been completed on October 1, 2024, 500 kl of oil A has been sold by December 31, 2024, 2,000 kl of oil A has been sold in the year 2025, on-file registration of oil B has been completed on May 1, 2025, and 1,000 kl of oil B has been sold by December 31, 2025: (Fig. 3.1)

Since the total sales quantity of oil A in the year 2024 is 500 kl, an on-file maintenance fee to be paid in the year 2025 is 50,000 yen. The total sales quantity of oil in the year 2025 is 3,000 kl, i.e., 2,000 kl of oil A plus 1,000 kl of oil B. Hence, an on-file maintenance fee to be paid in 2026 is calculated as indicated below.

3,000 kl x 50 yen/kl = 150,000 yen

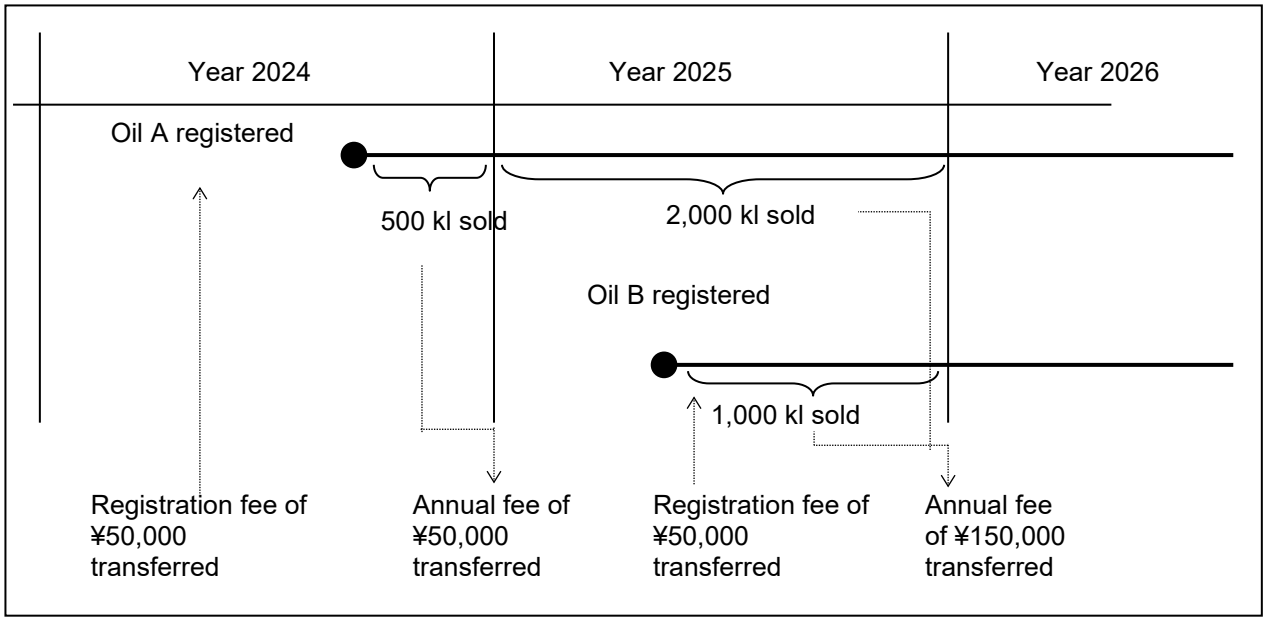


Fig. 3.1 Calculation Example of On-File Maintenance Fee

4. On-File Change Notification Procedure

Where the registrant wants to change the contents described in the on-file report, the following documents shall be prepared even if renewal of the oil code is not required. These documents shall then be submitted to the JASO Engine Oil Standards Implementation Panel. Refer to Item 5.11 in the Standards Application Manual.

(1) To change the contact address of the registrant:

Documents required for notification
Form 5: Notice of change
Form 6: Front sheet for change notification reporting

(2) To change any condition other than viscosity grade within the read-across allowable range indicated in Appendix 3:

Documents required for notification
Form 5: Notice of change
Form 6: Front sheet for change notification reporting
Form 7: For change notification; bench test result data
Form 8: Blending change rule application data

(3) In case of the change of the company name and/or the contact details for the submitter

Prior to submission of the change, a fee ¥40,000 per one submission shall be transferred to the following bank account. At the time of submission a certificate of the fee transfer into the bank account and the following documents shown in 4. and listed below shall be prepared and submitted to the JASO Engine Oil Standards Implementation Panel.

Bank account of transferee:
MUFG Bank, Ltd. , Funabashi Branch
Account number:
Ordinary deposit account 1036018
Account ownership:
Japan Lubricating Oil Society

Alternatively,

Bank account of transferee:
Sumitomo Mitsui Bank, Funabashi Branch
Account number:
Ordinary deposit account 6359999
Account ownership:
Japan Lubricating Oil Society

- Document required for filing

Certificate of filing fee transfer
Form 5 : Notice of change
Form 6 : Front sheet for change notification reporting
Original on-file report form
Representative example of performance classification marking form, and representative example of entire product label (Design figure acceptable)

Form 1: Front sheet of reporting

Gasoline Engine Oil Reporting

Date registration (year, month, day): year, month, day		
Registrant (Company)	Company seal	**Contact address**
Person in charge of registration Name Seal Department/Section, Title Signature		Name Department/Section Address Tel Fax

Registered Oil		
Intra-company designation or code number		
Product name		
Classification[4)]	☐GLV-1	☐GLV-2A ☐GLV-2B
Viscosity grade [5)]	☐0W-8 ☐0W-12	☐0W-16 ☐0W-20
Oil code		

Note 4. Check all the check boxes of applicable types.

Note 5. Check all the check boxes of applicable viscosity grade.

Form 2-1: Bench test results ☐GLV-1 ☐GLV-2A ☐GLV-2B [6)]

Item		Test method	Unit	Type	
			Standard value	GLV-1-24	GLV-2A-24 GLV-2B-24
Density (15°C)		☐ JIS K 2249-1:2011 ☐ JIS K 2249-2:2011	g/cm3		
			Standard value	Reported	
Flash point	COC	JIS K 2265-4-2007	℃		
			Standard value	Reported	
Kinematic viscosity (40°C)		JIS K 2283-2000 5.	mm^2/s		
			Standard value	Reported	0W-16 : 28 or less 0W-20 : 30 or less
Kinematic viscosity (100°C)		JIS K 2283-2000 5.	mm^2/s		
			Standard value	SAE J300	
Viscosity index		JIS K 2283-2000 6.	—		
			Standard value	Reported	
CCS Viscosity (-35°C)		JIS K 2010-1993 Attachment A	mPa･s		
			Standard value	SAE J300	
MRV viscosity (-40°C)		JPI-5S-42-2004	mPa･s		
			Standard value	SAE J300	40 000 or less (No yield stress)
HTHS viscosity (150°C)		JPI-5S-36-2003	mPa･s		
			Standard value	SAE J300	
Sulphated ash		JIS K 2272-1998 5.	Mass fraction %		
			Standard value	Reported	
Carbon residue		☐ JIS K 2270-1:2009 ☐ JIS K 2270-2:2009	Mass fraction %		
			Standard value	Reported	
Acid number		JIS K 2501-2003 7.	mgKOH/g		
			Standard value	Reported	
Base number	Hydrochloric acid method	JIS K 2501-2003 8.	mgKOH/g		
			Standard value	Reported	
	Perchloric acid method	JIS K 2501-2003 9.	mgKOH/g		
			Standard value	Reported	
Volatility (NOACK method)	Vaporization loss (250°C, 1 h)	ASTM D5800B/D	Mass fraction %		
			Standard value	15.0 or less	-
	Vaporization loss (150°C,12 h)	Modified ASTM D5800B	Mass fraction %		
			Standard value	-	5.0 or less

Color		JIS K 2580-2003 6.	-		
			Standard value	Reported	
Element analysis value	Ca	☐ ASTM D4951 ☐ ASTM D5185	Mass fraction %		
			Standard value	Reported	
	Mg		Mass fraction %		
			Standard value	Reported	
	Zn		Mass fraction %		
			Standard value	Reported	
	P		Mass fraction %		
			Standard value	0.06～0.08	
	Mo		Mass fraction %		
			Standard value	Reported	
	B		Mass fraction %		
			Standard value	Reported	
	N	☐ JIS K 2609-1998 3. ☐ JIS K 2609-1998 4. ☐ JIS K 2609-1998 5	Mass fraction %		
			Standard value	Reported	
	S	☐ ASTM D2622 ☐ ASTM D4951 ☐ ASTM D5185	Mass fraction %		
			Standard value	0.5 or less	
	Other element [9]	[ ]	Mass fraction %		
			Standard value	Reported	
Infrared absorption spectrum (in use of 0.1-mm fixed cell)			-		
			Standard value	IR chart attached, A4	
Anti-foaming [10]	Sequence Ⅰ	ASTM D892	mL		
			Standard value	10 or less/0 or less (foamability/foam stability)	
	Sequence Ⅱ		mL		
			Standard value	50 or less/0 or less (foamability/foam stability)	
	Sequence Ⅲ		mL		
			Standard value	10 or less/0 or less (foamability/foam stability)	
High-temperature anti-foaming [10]	Sequence Ⅳ	ASTM D6082	mL		
			Standard value	100 or less/0 or less (foamability/foam stability)	
Shear stability (100°C kinematic	After 30-cycle test	ASTM D6278	mm^2/s		
			Standard	SAE J300	—

viscosity after test) [11)]				value		
	After 4-hour test	Modified CEC L-45-A-99		mm^2/s		
				Standard value	—	SAE J300
Filterability	Pure water 0.6%	ASTM D6794		%		
				Standard value	50 or less	
	Pure water 1.0%			%		
				Standard value	50 or less	
	Pure water 2.0%			%		
				Standard value	50 or less	
	Pure water 3.0%			%		
				Standard value	50 or less	
	Pure water 0.6% + dry ice	ASTM D6795		%		
				Standard value	50 or less	
Homogeneity and miscibility		ASTM D6922		—		
				Standard value	Passed	
Rust prevention	Average gray value	ASTM D6557		—		
				Standard value	100 or more	
Gelation index		ASTM D5133		—		
				Standard value	12 or less	
Emulsion retention	0°C, 24 h	ASTM D7563		—		
	25°C, 24 h			Standard value	No water separation	
Elastomer compatibility(注 12)	□ ACM-1 (Polyacrylate rubber)	Volume change rate	ASTM D7216 A2	Volume fraction %		
				Standard value	-5 to +9	
		Hardness change		Point		
				Standard value	-10 to +10	
		Tensile strength change rate		%		
				Standard value	-40 to +40	
	□ ACM-2 (Polyacrylate rubber)	Volume change rate		Volume fraction %		
				Standard value	-5 to +15	
		Hardness change		Point		
				Standard value	-10 to +10	
		Tensile strength change rate		%		
				Standard value	-15 to +20	
	H-NBR-1 (Hydrogenated nitrile rubber)	Volume change rate		Volume fraction %		
				Standard value	-5 to +10	
		Hardness		Point		

		change		Standard value	-10 to +5
		Tensile strength change rate		%	
				Standard value	-20 to +15
Elastomer compatibility [12)]	VMQ-1 (Silicon rubber)	Volume change rate	ASTM D7216 A2	Volume fraction %	
				Standard value	-5 to +40
		Hardness change		Point	
				Standard value	-30 to +10
		Tensile strength change rate		%	
				Standard value	-50 to +5
	FKM-1 (Fluorocarbon rubber)	Volume change rate		Volume fraction %	
				Standard value	-2 to +3
		Hardness change		Point	
				Standard value	-6 to +6
		Tensile strength change rate		%	
				Standard value	-65 to +10
	AEM-1 (Ethylene acrylic rubber)	Volume change rate		Volume fraction %	
				Standard value	-5 to +30
		Hardness change		Point	
				Standard value	-20 to +10
		Tensile strength change rate		%	
				Standard value	-30 to +30

Note 6. Check all the check boxes of applicable types.
Note 7. The latest version of new SAE viscosity classification shall be applied to the viscosity criteria.
Note 8. When one item includes two or more test methods, a measured value according to either one test method may be entered.
In this case, the method that was used shall be indicated (check the corresponding check box).
Note 9. “Other element” refers to any other element of which content is 0.01 mass% or more, except for C, H, and O.
Note 10. Option A may be used.
Note 11. The kinematic viscosity (100℃) after the shear stability test shall conform to the SAE viscosity classification.
Note 12. For the polyacrylate rubber in the seal compatibility test, it may be carried out using either ACM-1 or ACM-2.Indicate which material was used (check the check box).

Form 3: Blending change rule application data

Where registered oil is different from oil which has been used to generate engine test result data (where a change is made in oil blending), enter “X” in the following table in the reporting form.

This indication shall be given for a test in which each rule has been applied. For use of each rule, follow the guidelines specified in Appendix 5.

Items	Fuel Economy Test	High Temperature Oxidation Stability Test	Aged Oil Low Temperature Viscosity	Phosphorus Volatility Test	Low Temperature Valve Train Wear Protection Test	Low Temperature Sludge Prevention Test	LSPI prevention performance	Chain Wear Protection Test
Test Method	JASO M 366 or JASO M 365	ASTM D8111	ASTM D8111 or ASTM D7528	ASTM D8111	ASTM D6891 or ASTM D8350	ASTM D8256	ASTM D8291	ASTM D8279
Minor change in additive formulation								
Change in base oil								
Read-across for grade of viscosity								

Form 4: Engine test result data

Form 4a: ☐Firing Fuel Economy Test (JASO M 366:2024) [13)]

Form 4a-a: Test result data of registered oil ☐GLV-1 ☐GLV-2A [14)]

Date of Start of Test				
Date of End of Test				
Item	Unit	Test Result	Specified Value	
Fuel economy improvement (FEI)	%		Reported	
FEI severity adjustment	%		Reported	
Fuel economy improvement (FEI) final result	%		GLV-1	1.1 min
			GLV-2A	☐ 0W-16 : 1.1 min ☐ 0W-20 : 0.9 min [15)]

Note 13. Fuel economy test result report one of the firing fuel economy test or motored fuel economy test. To report a firing fuel economy test, check the check box.
Note 14. Check the check boxes of applicable types.
Note 15. Check all the check boxes of applicable viscosity grade.

Form 4a-b: Test results of standard oil

Date of Start of Test				
Date of End of Test				
Test No.	Stand	Number of stand tests	Engine number	Number of engine tests
Name of Reference oil	☐GE108A ☐GE208 ☐GE216 [16)]			
Item	Unit	Test Result		Specified Value
Fuel economy improvement	%			Reported

Note 16. Check the check box of the most recently run reference oil.
Note 17. Refer to the 4.2.1 Firing fuel economy test (JASO M 366) and supplement as to the standard oil test.

Form 4b: ☐Motored Fuel Economy Test (JASO M 365:2024) [18)]

Form 4b-a: Test result data of registered oil ☐GLV-1 ☐GLV-2B [19)]

<table>
<tr><td colspan="3">Bench number</td><td colspan="3"></td></tr>
<tr><td colspan="3">Test start date</td><td colspan="3"></td></tr>
<tr><td colspan="3">Test end date</td><td colspan="3"></td></tr>
<tr><td>Name of oil used</td><td colspan="2">Item</td><td>Unit</td><td>Test Result</td><td>Specified Value</td></tr>
<tr><td rowspan="2">JASO BC Before</td><td colspan="2">Estimated FE</td><td>kg/h</td><td></td><td>Reported [20)]</td></tr>
<tr><td colspan="2">FEI (JASO BC)</td><td>%</td><td>0.0</td><td>Reported [20)]</td></tr>
<tr><td rowspan="5">Registered oil</td><td rowspan="3">Japan mode</td><td>Estimated FE</td><td>kg/h</td><td></td><td>Reported</td></tr>
<tr><td rowspan="2">FEI</td><td rowspan="2">%</td><td rowspan="2"></td><td>GLV-1
☐0W-8 : 2.0 min
☐0W-12 : 1.7 min [21)]</td></tr>
<tr><td>GLV-2B
☐0W-16 : 1.8 min
☐0W-20 : 1.6 min [21)]</td></tr>
<tr><td rowspan="2">European mode</td><td>Estimated FE</td><td>kg/h</td><td></td><td>Reported</td></tr>
<tr><td>FEI</td><td>%</td><td></td><td>Reported</td></tr>
<tr><td>JASO BC After</td><td colspan="2">Difference from JASO BC Before</td><td>%</td><td></td><td>0.2 max [22)]</td></tr>
</table>

Note 18. Fuel economy test result report one of the firing fuel economy test or motored fuel economy test. To report a motored fuel economy test, check the check box.

Note19. Check the check boxes of applicable types.

Note 20. The estimated FE of this JASO BC should be standard (FEI rate is 0.0%).

Note 21. Check the corresponding viscosity grade check box.

Note 22. This value is the difference with the estimated FE of JASO BC Before. It is a criterion for the test validity, not a standard value.

Form 4b-b: Test results of standard oil (GE108A)

Bench number					
Test start date					
Test end date					
Name of oil used	Item		Unit	Test Result	Specified Value
JASO BC Before	Estimated FE		kg/h		Reported [23)]
	FEI (JASO BC)		%	0.0	Reported [23)]
GE108A	Japan mode	Estimated FE	kg/h		Reported
		FEI	%		1.92～2.09
	European mode	Estimated FE	kg/h		Reported
		FEI	%		Reported
JASO BC After	Difference from JASO BC Before		%		0.2 max [24)]

Note 23. The estimated FE of this JASO BC should be standard (FEI rate is 0.0%).
Note 24. This value is the difference with the estimated FE of JASO BC Before. It is a criterion for the test validity, not a standard value.
Note 25. Refer to the 4.2.2 Motored fuel economy test (JASO M 365) as to the standard oil test.

Form 4b-c: Test results of standard oil (GE208)

Bench number					
Test start date					
Test end date					
Name of oil used	Item		Unit	Test Result	Specified Value
JASO BC Before	Estimated FE		kg/h		Reported [26)]
	FEI (JASO BC)		%	0.0	Reported [26)]
GE208	Japan mode	Estimated FE	kg/h		Reported
		FEI	%		1.48～1.67
	European mode	Estimated FE	kg/h		Reported
		FEI	%		Reported
JASO BC After	Difference from JASO BC Before		%		0.2 max [27)]

Note 26. The estimated FE of this JASO BC should be standard (FEI rate is 0.0%).
Note 27. This value is the difference with the estimated FE of JASO BC Before. It is a criterion for the test validity, not a standard value.
Note 28. Refer to the 4.2.2 Motored fuel economy test (JASO M 365) as to the standard oil test.

Form 4b-d: Test results of standard oil (GE216)

Bench number					
Test start date					
Test end date					
Name of oil used	Item		Unit	Test Result	Specified Value
JASO BC Before	Estimated FE		kg/h		Reported [29)]
	FEI (JASO BC)		%	0.0	Reported [30)]
GE216	Japan mode	Estimated FE	kg/h		Reported
		FEI	%		1.07～1.21
	European mode	Estimated FE	kg/h		Reported
		FEI	%		Reported
JASO BC After	Difference from JASO BC Before		%		0.2 max [30)]

Note 29. The estimated FE of this JASO BC should be standard (FEI rate is 0.0%).
Note 30. This value is the difference with the estimated FE of JASO BC Before. It is a criterion for the test validity, not a standard value.
Note 31.Refer to the 4.2.2 Motored fuel economy test (JASO M 365) as to the standard oil test.

Form 4c: High-temperature oxidation stability Test (ASTM D8111, SequenceIIIH)

Test Item	Unit	Test Result	Specified Value
Kinematic Viscosity Increase（40℃）	%		150 max
WPD（Weighted Piston Deposit）			3.7 min
Hot Stuck Rings			None

Form-4d: Aged Oil Low Temperature Viscosity (ASTM D8111, Sequence IIIHA or ASTM D7528, ROBO)

Test Item [32]		Unit	Test Result	Specified Value
☐ Sequence IIIHA				
CCS Viscosity	-35℃	mPa・s		Reported
MRV Viscosity	☐-35℃ ☐-40℃ [33]	mPa・s	☐No Yield Stress	60,000 max No Yield Stress
□ ROBO				
CCS Viscosity	-35℃	mPa・s		Reported
MRV Viscosity	☐-35℃ ☐-40℃ [33]	mPa・s	☐No Yield Stress	60,000 max No Yield Stress

Note 32. Perform Sequence IIIHA or ROBO and indicate which test has been carried out by checking the corresponding check box.

Note 33. Indicate test temperature of the test by checking the corresponding check box.

Form: 4e. Phosphorus Volatility Test (ASTM D8111, Sequence IIIHB)

Item	Unit	Test Result	Specified Value
Phosphorus Retention	%		81 min

Form: 4f. Low Temperature Valvetrain Wear Test (ASTM D6891, SequenceIVA or ASTM D8350, Sequence IVB) ☐GLV-1 ☐GLV-2A ☐GLV-2B [34)]

Item [35)]	Unite	Test Result	Specified Value
☐ Sequence IVA (GLV-1 only)			
Average Cam Wear	μm		90 max
☐ Sequence IVB (GLV-1, GLV-2A and GLV-2B)			
Average Intake Lifter Volume Loss	mm^3		2.7 max
End of Test Iron (After Ca Adjustment)	ppm		400 max

Note 34. Check the check boxes of applicable types.
Note 35. In the case of GLV-1, perform the test of ASTM D6891 or ASTM D8350, and indicate which test has been carried out by checking the corresponding check box. In the case of GLV-2, perform the test of ASTM D 8350.

Form: 4g. Low Temperature Sludge, and Varnish Test (ASTM D8256, Sequence VH)

Item	Unite	Test Result	Specified Value
Average Engine Sludge Merits	%		7.6 min
Average Rocker Cover Sludge Merits			7.7 min
Average Engine Varnish Merits			8.6 min
Average Piston Skirt Varnish Merits			7.6 min
Oil Screen Sludge	Area %		Reported
Oil Screen Debris,	Area %		Reported
Hot Stuck Compression Rings			None
Cold Stuck Rings			Reported
Oil Ring Clogging,	Area %		Reported

Form: 4h. LSPI prevention performance test (ASTM D8291, Sequence IX) □ GLV-2A □ GLV-2B [36)]

Item	Test result	Standard value
Average number of occurrences		5 or less
Maximum number of occurrences		8 or less

Note 36. Perform the test only for GLV-2. Check all the check boxes of applicable types.

Form: 4i.Chain Wear Test (ASTM D8279, Sequence X)

Item	Unit	Test Result	Specified Value
Chain Stretch % Increase	%		0.085 or less

To be Entered by the JASO Engine Oil Standards Implementation Panel	
Person in charge of receipt:	Seal
Date received (year, month, day): year, month, day	
Receipt number:	
Remarks:	

Form 5: Notice of change

Gasoline Engine Oil/Lubricant Notice of Change in On-File Data

To: JASO Engine Oil Standards Implementation Panel

With the receipt number indicated below, we hereby notify changes in the on-file data of gasoline engine oil according to Item 5.11 in the Standards Application Manual.

•Gasoline engine oil concerning changes in on-file data

Receipt number	:	
Intra-company designation, number	:	
Product name	:	
Classification		☐GLV-1 ☐GLV-2A ☐GLV-2B
Grade of viscosity	:	☐0W-8 ☐0W-12 ☐0W-16 ☐0W-20
Oil code	:	

•Changes in on-file data, and documents submitted

*	Changes in Data	Documents Submitted
	Change of the address of the registrant	Form 5 Form 6
	Change of the data within the read-across allowable range indicated in Appendix 5, other than grade of viscosity	Form 5 Form 6 Form 7 Form 8
	Change of the company name (only case if the submitter doesn't change the seller code)	Form 5 Form6 Original on-file report Performance classification marking form

* Enter "X" for changes concerned. When there are multiple change points, enter all.

Date reported
(year, month, day) : _____year, _____month, _____day
Registrant (Company) : _____Company seal
Person in charge of reporting : _____Seal
Department/Section, Title : _____
Sign : _____

To be entered by the JASO Engine Oil Standards Implementation Panel	
Person in charge of receipt:	Seal
Date received (year, month, day): year, month, day	
Receipt number:	
Remarks:	

Form 6: Front sheet for change notification reporting

Gasoline Engine Oil Reporting (For notification of change)

Date registration (year, month, day): year, month, day		
Registrant (Company)	Company seal	**Contact address**
Person in charge of registration Name Seal Department/Section, Title Signature		Name Department/Section Address Tel Fax

Registered Oil		
Intra-company designation or code number		
Product name		
Classification	☐GLV-1	☐GLV-2A ☐GLV-2B
Grade of viscosity	☐0W-8 ☐0W-12	☐0W-16 ☐0W-20
Oil code		

Note 37. Check all the check boxes of applicable types.
Note 38. Check all the check boxes of applicable viscosity grade.

Form 7-1: For change notification; bench test result data ☐GLV-1 ☐GLV-2A ☐GLV-2B [39)]

Item		Test method	Unit	Type	
			Standard value	GLV-1-24	GLV-2A-24 GLV-2B-24
Density (15°C)		□ JIS K 2249-1:2011 □ JIS K 2249-2:2011	g/cm3		
			Standard value	Reported	
Flash point	COC	JIS K 2265-4-2007	°C		
			Standard value	Reported	
Kinematic viscosity (40°C)		JIS K 2283-2000 5.	mm^2/s		
			Standard value	Reported	0W-16 : 28 or less 0W-20 : 30 or less
Kinematic viscosity (100°C)		JIS K 2283-2000 5.	mm^2/s		
			Standard value	SAE J300	
Viscosity index		JIS K 2283-2000 6.	-		
			Standard value	Reported	
CCS Viscosity (-35°C)		JIS K 2010-1993 Attachment A	mPa·s		
			Standard value	SAE J300	
MRV viscosity (-40°C)		JPI-5S-42-2004	mPa·s		
			Standard value	SAE J300	40 000 or less (No yield stress)
HTHS viscosity (150°C)		JPI-5S-36-2003	mPa·s		
			Standard value	SAE J300	
Sulphated ash		JIS K 2272-1998 5.	Mass fraction %		
			Standard value	Reported	
Carbon residue		□ JIS K 2270-1:2009 □ JIS K 2270-2:2009	Mass fraction %		
			Standard value	Reported	
Acid number		JIS K 2501-2003 7.	mgKOH/g		
			Standard value	Reported	
Base number	Hydrochloric acid method	JIS K 2501-2003 8.	mgKOH/g		
			Standard value	Reported	
	Perchloric acid method	JIS K 2501-2003 9.	mgKOH/g		
			Standard value	Reported	
Volatility (NOACK method)	Vaporization loss (250°C, 1 h)	ASTM D5800B/D	Mass fraction %		
			Standard value	15.0 or less	-
	Vaporization loss (150°C,12 h)	Modified ASTM D5800B	Mass fraction %		
			Standard value	-	5.0 or less

Color		JIS K 2580-2003 6.	-		
			Standard value	Reported	
Element analysis value	Ca	□ ASTM D4951 □ ASTM D5185	Mass fraction %		
			Standard value	Reported	
	Mg		Mass fraction %		
			Standard value	Reported	
	Zn		Mass fraction %		
			Standard value	Reported	
	P		Mass fraction %		
			Standard value	0.06 to 0.08	
	Mo		Mass fraction %		
			Standard value	Reported	
	B		Mass fraction %		
			Standard value	Reported	
	N	□ JIS K 2609-1998 3. □ JIS K 2609-1998 4. □ JIS K 2609-1998 5	Mass fraction %		
			Standard value	Reported	
	S	□ ASTM D2622 □ ASTM D4951 □ ASTM D5185	Mass fraction %		
			Standard value	0.5 or less	
	Other element [42)]	[ ]	Mass fraction %		
			Standard value	Reported	
Infrared absorption spectrum (in use of 0.1-mm fixed cell)			—		
			Standard value	IR chart attached, A4	
Anti-foaming (注 43)	Sequence I	ASTM D892	mL		
			Standard value	10 or less/0 or less (foamability/foam stability)	
	Sequence II		mL		
			Standard value	50 or less/0 or less (foamability/foam stability)	
	Sequence III		mL		
			Standard value	10 or less/0 or less (foamability/foam stability)	
High-temperature anti-foaming (注 43)	Sequence IV	ASTM D6082	mL		
			Standard value	100 or less/0 or less (foamability/foam stability)	
Shear stability (100°C kinematic	After 30-cycle test	ASTM D6278	mm^2/s		
			Standard	SAE J300	—

viscosity after test) (注 44)				value		
	After 4-hour test	Modified CEC L-45-A-99		mm^2/s		
				Standard value	—	SAE J300
Filterability	Pure water 0.6%	ASTM D6794		%		
				Standard value	50 or less	
	Pure water 1.0%			%		
				Standard value	50 or less	
	Pure water 2.0%			%		
				Standard value	50 or less	
	Pure water 3.0%			%		
				Standard value	50 or less	
	Pure water 0.6% + dry ice	ASTM D6795		%		
				Standard value	50 or less	
Homogeneity and miscibility		ASTM D6922		—		
				Standard value	Passed	
Rust prevention	Average gray value	ASTM D6557		—		
				Standard value	100 or more	
Gelation index		ASTM D5133		—		
				Standard value	12 or less	
Emulsion retention	0°C, 24 h	ASTM D7563		-		
	25°C, 24 h			Standard value	No water separation	
Elastomer compatibility(注 45)	□ ACM-1 (Polyacrylate rubber)	Volume change rate	ASTM D7216 A2	Volume fraction %		
				Standard value	-5～+9	
		Hardness change		Point		
				Standard value	-10～+10	
		Tensile strength change rate		%		
				Standard value	-40～+40	
	□ ACM-2 (Polyacrylate rubber)	Volume change rate		Volume fraction %		
				Standard value	-5～+15	
		Hardness change		Point		
				Standard value	-10～+10	
		Tensile strength change rate		%		
				Standard value	-15～+20	
	H-NBR-1 (Hydrogenated nitrile rubber)	Volume change rate		Volume fraction %		
				Standard value	-5～+10	
		Hardness		Point		

		change		Standard value	-10～+5
		Tensile strength change rate		%	
				Standard value	-20～+15
Elastomer compatibility(注 45)	VMQ-1 (Silicon rubber)	Volume change rate	ASTM D7216 A2	Volume fraction %	
				Standard value	-5～+40
		Hardness change		Point	
				Standard value	-30～+10
		Tensile strength change rate		%	
				Standard value	-50～+5
	FKM-1 (Fluorocarbon rubber)	Volume change rate		Volume fraction %	
				Standard value	-2～+3
		Hardness change		Point	
				Standard value	-6～+6
		Tensile strength change rate		%	
				Standard value	-65～+10
	AEM-1 (Ethylene acrylic rubber)	Volume change rate		Volume fraction %	
				Standard value	-5～+30
		Hardness change		Point	
				Standard value	-20～+10
		Tensile strength change rate		%	
				Standard value	-30～+30

Note 39. Check all the check boxes of applicable types.
Note 40. The latest version of new SAE viscosity classification shall be applied to the viscosity criteria.
Note 41. When one item includes two or more test methods, a measured value according to either one test method may be entered. In this case, the method that was used shall be indicated (check the corresponding check box).
Note 42. “Other element” refers to any other element of which content is 0.01 mass% or more, except for C, H, and O.
Note 43. Option A may be used.
Note 44. The kinematic viscosity (100℃) after the shear stability test shall conform to the SAE viscosity classification.
Note 45. For the polyacrylate rubber in the seal compatibility test, it may be carried out using either ACM-1 or ACM-2. Indicate which material was used (check the check box).

Form 8: For change notification; blending change rule application data

Where registered oil is different from oil which has been used to generate engine test result data (where a change is made in oil blending), enter “X” in the following table in the reporting form.

This indication shall be given for a test in which each rule has been applied. For use of each rule, follow the guidelines specified in Appendix 5.

Items	Fuel Economy Test	High Temperature Oxidation Stability Test	Aged Oil Low Temperature Viscosity	Phosphorus Volatility Test	Low Temperature Valve Train Wear Protection Test	Low Temperature Sludge Prevention Test	LSPI prevention performance	Chain Wear Protection Test
Test Method	JASO M 366 or JASO M 365	ASTM D8111	ASTM D8111 or ASTM D7528	ASTM D8111	ASTM D6891 or ASTM D8350	ASTM D8256	ASTM D8291	ASTM D8279
Minor change in additive formulation								
Change in base oil								
Read-across for grade of viscosity								

APPENDIX 4

(ORIGINAL)

Form A

Gasoline Engine Oil/Lubricant On-File Notice

To: Date (____year, ____month, ___day)

JASO Engine Oil Standards
Implementation Panel

_____Seal

We hereby notify that for a gasoline engine oil product having the following receipt number which was reported by you, an oil code and performance class thereof have been filed as indicated below.

Description

Receipt number	:	
Intra-company designation, number	:	
Product name	:	
Classification		☐GLV-1 ☐GLV-2A ☐GLV-2B
Grade of viscosity	:	☐0W-8 ☐0W-12 ☐0W-16 ☐0W-20
Oil code	:	

(Original)

Form B

On-File Agreement Concerning Gasoline Engine Oil/Lubricant On-File Agreement

To JASO Engine Oil Standards Implementation Panel

We hereby agree the following conditions in sales of the on-file gasoline engine oil indicated above.

1. As to the quality, performance and marking of the gasoline engine oil concerned, classification and guarantee shall be made on submitter's own responsibility, and the relevant information shall be publicized to general consumers through the sales channels of the submitter.
2. If any troubles take place on the market due to use of the gasoline engine oil concerned, the submitter shall solve it on his own responsibility. In such an event, no responsibility shall be assumed by the JASO Engine Oil Standards Implementation Panel.
3. The submitter declares that the quality/performance data and marking example indicated in the report document represent the gasoline engine oil concerned to be sold actually.
4. In advertisements or the like, the submitter shall not use such an expression as will lead to a misunderstanding that the quality/performance of the gasoline engine oil concerned has been certified by the JASO Engine Oil Standards Implementation Panel.
5. Upon request for submitting JASO engine test result record to the JASO Engine Oil Standards Implementation Panel, the submitter shall promptly submit relevant documents to the JASO Engine Oil Standards Implementation Panel.
6. The submitter shall approve that the JASO Engine Oil Standards Implementation Panel may disclose product names, submitter names, viscosity grades, oil codes and classifications through communication media including the Internet 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 submitter and oil name are not identifiable.
7. The submitter shall pay an on-file maintenance fee specified in the Standards Application Manual by due date each year.
8. When the sale of the gasoline engine oil concerned is discontinued, the submitter shall promptly inform the JASO Engine Oil Standards Implementation Panel as to cancellation of the on-file data.
9. As to other items than those mentioned above, the submitter shall agree each condition/requirement contained in the Standards Application Manual with clear understanding thereof.

Date reported (year, month, day)	:	_____year, _____month, _____day
Submitter (Company)	:	_____Company seal
Person in charge of reporting	:	_____Seal
Department/Section, Title	:	_____
Signature	:	_____

(Duplicate)

Form A

Gasoline Engine Oil/Lubricant On-File Notice

To:

Date (____year, ____month, ___day)
JASO Engine Oil Standards
Implementation Panel
_____Seal

We hereby notify that for a gasoline engine oil product having the following receipt number which was reported by you, an oil code and performance class thereof have been filed as indicated below.

Description

Receipt number	:	
Intra-company designation, number	:	
Product name	:	
Classification		☐GLV-1 ☐GLV-2A ☐GLV-2B
Grade of viscosity	:	☐0W-8 ☐0W-12 ☐0W-16 ☐0W-20
Oil code	:	

(Duplicate)

Form B

On-File Agreement Concerning Gasoline Engine Oil/Lubricant On-File Agreement

To JASO Engine Oil Standards Implementation Panel

We hereby agree the following conditions in sales of the on-file gasoline engine oil indicated above.

1. As to the quality, performance and marking of the gasoline engine oil concerned, classification and guarantee shall be made on submitter's own responsibility, and the relevant information shall be publicized to general consumers through the sales channels of the submitter.
2. If any troubles take place on the market due to use of the gasoline engine oil concerned, the submitter shall solve it on his own responsibility. In such an event, no responsibility shall be assumed by the JASO Engine Oil Standards Implementation Panel.
3. The submitter declares that the quality/performance data and marking example indicated in the report document represent the gasoline engine oil concerned to be sold actually.
4. In advertisements or the like, the submitter shall not use such an expression as will lead to a misunderstanding that the quality/performance of the gasoline engine oil concerned has been certified by the JASO Engine Oil Standards Implementation Panel.
5. Upon request for submitting JASO engine test result record to the JASO Engine Oil Standards Implementation Panel, the submitter shall promptly submit relevant documents to the JASO Engine Oil Standards Implementation Panel.
6. The submitter shall approve that the JASO Engine Oil Standards Implementation Panel may disclose product names, submitter names, viscosity grades, oil codes and classifications through communication media including the Internet 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 submitter and oil name are not identifiable.
7. The submitter shall pay an on-file maintenance fee specified in the Standards Application Manual by due date each year.
8. When the sale of the gasoline engine oil concerned is discontinued, the submitter shall promptly inform the JASO Engine Oil Standards Implementation Panel as to cancellation of the on-file data.
9. As to other items than those mentioned above, the submitter shall agree each condition/requirement contained in the Standards Application Manual with clear understanding thereof.

Date reported (year, month, day)	:	_____year, _____month, _____day
Submitter (Company)	:	_____Company seal
Person in charge of reporting	:	_____Seal
Department/Section, Title	:	_____
Signature	:	_____

APPENDIX 5

Read-Across Allowable Range for Change in Gasoline Engine Oil Formulation

A change of base oil or any additive in gasoline engine oil may give significant effects to performance characteristics of the gasoline engine oil. Therefore, if a change has been made regarding the viscosity grade, components or compounding ratio of a filed gasoline l engine oil product, each of the tests specified by the standard shall be carried out for the product changed.

Note, however, that as to JASO engine tests, equivalent performance could be recognized if a change is within the standard allowable range indicated below in this document.

The product concerned will be exempted from the JASO engine test if the standard allowable range is satisfied. As to ASTM engine tests and bench tests, changes can be allowed in conformance with the ACC Code of Practice and API EOLCS guidelines.

The tables below show the read-across standard allowable ranges for respective engine tests.

Appendix 5-1: List of Read-Across Standard Allowable Ranges

<table>
<tr><th rowspan="2">Item</th><th colspan="2">Change in an ORIGINAL Formulation Development</th><th colspan="2">Change from the ORIGINAL Formulation</th></tr>
<tr><th>JASO Engine Test</th><th>US Engine and Bench Tests</th><th>JASO Engine Test</th><th>US Engine and Bench Tests</th></tr>
<tr><td>Change in Additive Package treat rate</td><td rowspan="4">As per
JASO M 364 Application Manual Appendix 5-2</td><td rowspan="4">As per
ACC COP Appendix H</td><td rowspan="4">As per
JASO M 364 Application Manual Appendix 5-2</td><td rowspan="4">As per
ACC COP Appendix H,
ACC COP Appendix I</td></tr>
<tr><td>Change in Major Additive Components</td></tr>
<tr><td>Change in Pour Point Depressant/Antifoam</td></tr>
<tr><td>Change in Viscosity Index Improver treat rate (NOTE 37)</td></tr>
<tr><td>Base Oil Interchange</td><td>As per
JASO M 364 Application Manual Appendix 5-3</td><td>As per
API EOLCS ANNEX E</td><td>As per
JASO M 364 Application Manual Appendix 5-3</td><td>As per
API EOLCS ANNEX E</td></tr>
<tr><td>Viscosity Grade Read-Across</td><td>As per
JASO M 364 Application Manual Appendix 5-4</td><td>GLV-1: As per JASO M 364 Application Manual Appendix 5-4
GLV-2A, GLV-2B: As per API EOLCS ANNEX F</td><td>As per
JASO M 364 Application Manual Appendix 5-4</td><td>GLV-1: As per JASO M 364 Application Manual Appendix 5-4
GLV-2A, GLV-2B: As per API EOLCS ANNEX F</td></tr>
<tr><td>Others</td><td>-</td><td>As per
API EOLCS ANNEX R</td><td>-</td><td>As per
ACC COP Appendix I,
API EOLCS ANNEX R</td></tr>
</table>

＜Terminology＞

① Base stock: A base stock is a lubricant component that is produced by a single manufacturer to the same specifications.

② Base stock slate: A base stock slate is a product line of base stocks that have different viscosities but are in the same base stock grouping and from the same manufacturer.

③ Base oil: A base oil is the base stock or blend of base stocks.

④ Additive Component: Added in the base oil for the purpose of enhancing engine oil performance, e.g. detergents, dispersants, antiwear, friction modifiers, antioxidants, etc.

⑤ Viscosity Index Improver: Added in the base oil for the purpose of improving viscosity characteristic of engine oil.

⑥ Pour Point Depressant/Antifoam: Added in the base oil for the purpose of improving fluidity characteristic and foaming characteristic of engine oil.

＜Referred Guidelines＞

① ACC Code of Practice Appendix H: Guidelines for Minor Formulation Modifications

② ACC Code of Practice Appendix I : Program Guidelines

③ API Engine Oil Licensing and Certification System ANNEX E: API BOI Guidelines

④ API Engine Oil Licensing and Certification System ANNEX R: API Guidelines for Use of a Single Test Matrix

Note 46. Change in Viscosity Index Improver treat rate is not restricted when Viscosity Grade Read-Across and/or Base Oil Interchange are applied.

Appendix 5-2 : Guidelines for Minor Formulation Modifications in the JASO Engine Tests

Formulation Modification	Level-1
Additive component decrease	Not allowed
Additive package treat rate increase	≤ 20%
Additive component increase	
at greater than 1.0%	≤ 20%
>0.6% to ≤1%	≤ 30%
>0.3% to ≤0.6%	≤ 50%
≤0.3%	≤ 100%
New component addition	Not allowed
ZnDTP rebalance	Not allowed
Metallic detergents rebalance	Not allowed
Other rules	There is a limit to the number of above modifications allowed during the original formulation development. The sum of all modifications shall not result in an increase in treat rate of any additive component of the additive package of greater than 30%. When using a non-matrix approach, no more than 3 modifications. When using a matrix approach, a maximum of 4 modifications may be used.
Change in base stock ratio [47)]	A 15% absolute change in base stock ratio within the same base stock slate is allowed. If a new base stock is added is in a different base stock slate and that slate is either API Group I, II, III or IV, the change is limited to a maximum of 10% of the formulation.
Change in viscosity index improver treat rate	No more than 15%
Change in pour point depressant and antifoam	Variations in pour point depressant and/or antifoam type or treat rate are acceptable.

Level-1 support: To be regarded as equivalent in performance so that each engine test can be read-across.

Level-2 support is not applied to the JASO engine test.

Note 47. Grouping of base stock I~IV follows the API guideline.

Appendix 5-3: Base Oil Interchange Guidelines for the JASO engine test

A single interchange base stock that meets the definition of Group I, II, III or IV is allowed at less than or equal to 10 mass% of the engine oil formulation.

Appendix 5-4: Viscosity Grade Read Across for the JASO engine test

Appendix 5-4-1a: Viscosity Grade Read-Across Guideline for the JASO GLV-1 (JASO M 365)

	Can Be Read Across to:	
Test Run on	**0W-8**	**0W-12**
0W-8		**-**
0W-12	**X**	

X : Read-Across is permitted if SAE 0W-12 meets the FEI limit of SAE 0W-8

Appendix 5-4-2: Viscosity Grade Read-Across Guideline for the GLV-2A, GLV-2B (JASO M 365/M 366)

	Can Be Read Across to:	
Test Run on	**0W-16**	**0W-20**
0W-16		**-**
0W-20	**X**	

X : Read-Across is permitted if the standard value of 0W-16 viscosity grade is satisfied.

Appendix 5-4-3: Viscosity Grade Read-Across Guideline for the Sequence IIIH/IIIHA/IIIHB

	Can Be Read Across to:	
Test Run on	**0W-8**	**0W-12**
0W-8		**-**
0W-12	**X**	
0W-16	**X**	**X**
0W-20	**X**	**X**

X : Read -Across is permitted if it meets both conditions 1) and 2)

1) **BOV@100℃ ≥ original**
2) **VII content is equal to or lower than the original viscosity grade**

Appendix 5-4-4: Viscosity Grade Read-Across Guideline for the Sequence IVA

	Can Be Read Across to:	
Test Run on	**0W-8**	**0W-12**
0W-8		**X**
0W-12	**-**	
0W-16	**-**	**-**
0W-20	**-**	**-**

X: Read-Across is permitted if it meets both conditions 1) and 2)

1) **BOV@100℃ ≥ original**
2) **KV@100℃ of engine oil ≥ original**

Appendix 5-4-5: Viscosity Grade Read-Across Guideline for the Sequence IVB

	Can Be Read Across to:	
Test Run on	**0W-8**	**0W-12**
0W-8		**X**
0W-12	**-**	
0W-16	**-**	**-**
0W-20	**-**	**-**

X: Read-Across is permitted if BOV@100℃ ≥ original.

Appendix 5-4-6: Viscosity Grade Read-Across Guideline for the Sequence VH

	Can Be Read Across to:	
Test Run on	**0W-8**	**0W-12**
0W-8		**X**
0W-12	**X**	
0W-16	**X**	**X**
0W-20	**X**	**X**

X: Read-Across is permitted if it meets all the conditions below

1) **BOV@100℃ ≥ original**
2) **Dispersant type polymer content is equal to or higher than the original viscosity grade**
3) **Non-dispersant type polymer content is equal to or lower than the original viscosity grade**

Appendix 5-4-7: Viscosity Grade Read-Across Guideline for the Sequence X

	Can Be Read Across to:	
Test Run on	**0W-8**	**0W-12**
0W-8		**X**
0W-12	**X**	
0W-16	**X**	**X**
0W-20	**X**	**X**

X: Read-Across is permitted if it meets all the conditions below

Dispersant type polymer : Polymer molecule contains polar group having dispensability.

Non-dispersant type polymer : Polymer molecule does not contain polar group having dispersibility.

APPENDIX 6

Examples of Assigned Oil Codes, On-file Items, and Reporting/Notification Requirements for Change in Prescription

Details of oil code assignments, on-file items and reporting requirements for change in prescription are indicated in Items 5.6 and 5.11 of the Standard Application Manual. For the purpose of reference, concrete examples are shown in the following table. (Case 1: Reference)

	Description	Reporter notification	Date of report or notification	Date of issuance of on-file notice (Reference on-file)	Product		Submitter (Seller, etc.)			Manufacturer		Viscosity		Prescription						Example of oil code	Test required/not required	
					Product name	Marketplace	Company name	Code	Country	Company name	Country	Grade of viscosity	VGRA	Base oil group	BOI	Main additive name	Minor change in main additive prescription	PPD defoamer name	Change in PPD defoamer prescription		ASTM/CEC	JASO
1	Reference on-file product	To be reported	2019/10/1	2019/10/8	AAA	Japan	A	ABC	Japan	A	Japan	0W-8	None	III	None	ad	None	pp	None	P081ABC001	Required	Required
2	Change of product name	To be reported	2020/6/1	2019/10/8	BBB	U	A	ABC	Japan	A	Japan	0W-8	None	III	None	ad	None	pp	None	P081ABC002	Not required	Not required
3	Change of submitter (seller, etc.), code	To be reported	2021/6/2	2019/10/8	AAA	Japan	A	XYZ	Japan	A	Japan	0W-8	None	III	None	ad	None	pp	None	P081XYZ001	Not required	Not required
4	Change of submitter (seller, etc.), company name, code	To be notified	2021/6/2	2019/10/8	AAA	Japan	B	XYZ	Japan	C	Japan	0W-8	None	III	None	ad	None	pp	None	P081XYZ001	Not required	Not required
5	Change of submitter (seller, etc.), company name.	No action required	2020/2/5	2019/10/8	AAA	Japan	B	ABC	Japan	A	Japan	0W-8	None	III	None	ad	None	pp	None	P081ABC001	Not required	Not required
6	Change of address of submitter (seller, etc.)	To be notified	2020/2/5	2019/10/8	AAA	Japan	A	ABC	Japan	A	Japan	0W-8	None	III	None	ad	None	pp	None	P081ABC001	Not required	Not required
7	Change of marketplace	No action required		2019/10/8	AAA	V	A	ABC	Japan	A	Japan	0W-8	None	III	None	ad	None	pp	None	P081ABC001	Not required	Not required

<Terminology> VGRA : Viscosity Grade Read-across , BOI : Base oil interchange, PPD : Pour point depressant

(cont'd)

	Description	Reporter notification	Date of report or notification	Date of issuance of on-file notice (Reference on-file)	Product		Submitter (Seller, etc.)			Manufacturer		Viscosity		Prescription						Example of oil code	Test required/not required	
					Product name	Marketplace	Company name	Code	Country	Company name	Country	Grade of viscosity	VGRA	Base oil group	BOI	Main additive name	Minor change in main additive prescription	PPD defoamer name	Change in PPD defoamer prescription		ASTM/CEC	JASO
1	Reference on-file product	To be reported	2019 /10/1	2019 /10/8	AAA	Japan	A	ABC	Japan	A	Japan	0W-8	None	III	None	ad	None	pp	None	P081ABC001	Required	Required
8	Change in viscosity in case 1, within VGRA range	To be reported	2019 /11/5	2019 /10/8	AAA	Japan	A	ABC	Japan	A	Japan	0W-12	Allowed	III	None	ad	None	pp	None	P081ABC010	Not required	Not required
9	Change in viscosity in case 1, out of VGRA range	To be reported	2020 /1/25	2020 /2/5	AAA	Japan	A	ABC	Japan	A	Japan	0W-12	Not allowed	III	None	ad	None	pp	None	P081ABC101	Relevant test required	Relevant test required
10	Change in base oil in case 1, BOI test not required	To be notified	2019 /12/3	2019 /10/8	AAA	Japan	A	ABC	Japan	A	Japan	0W-8	None	II/III	Provided	ad	None	pp	None	P081ABC001	Not required	Not required
11	Change in base oil in case 1, BOI test required	To be reported	2019 /12/3	2019 /10/8	AAA	Japan	A	ABC	Japan	A	Japan	0W-8	None	III	Not allowed	ad	None	pp	None	P081ABC001	Relevant test required	Relevant test required
12	Minor change in main additive prescription in case 1, level 1	To be notified	2019 /12/3	2019 /10/8	AAA	Japan	A	ABC	Japan	A	Japan	0W-8	None	III	None	ad	Provided	pp	None	P081ABC001	Not required	Not required
13	Minor change in main additive prescription in case 1, level 2	To be reported	2019 /12/3	2019 /10/8	AAA	Japan	A	ABC	Japan	A	Japan	0W-8	None	III	None	ad	Not allowed	pp	None	P081ABC001	Not required	Relevant test required
14	Change in main additive prescription in case 1	To be reported	2020 /1/25	2020 /2/ 5	AAA	Japan	A	ABC	Japan	A	Japan	0W-8	None	III	None	D	Not allowed	pp	None	P081ABC003	Required	Required
15	Change in PPD/ defoamer prescription in case 1	To be notified	2019 /12/3	2019 /10/8	AAA	Japan	A	ABC	Japan	A	Japan	0W-8	None	III	None	ad	None	FI	Provided	P081ABC001	Not required	Not required

<Terminology> VGRA : Viscosity Grade Read-across , BOI : Base oil interchange , PPD : Pour point depressant

(cont'd)

	Description	Reporter notification	Date of report or notification	Date of issuance of on-file notice (Reference on-file)	Product		Submitter (Seller, etc.)			Manufacturer		Viscosity		Prescription						Example of oil code	Test required/not required	
					Product name	Marketplace	Company name	Code	Country	Company name	Country	Grade of viscosity	VGRA	Base oil group	BOI	Main additive name	Minor change in main additive prescription	PPD defoamer name	Change in PPD defoamer prescription		ASTM/CEC	JASO
1	Reference on-file product	To be reported	2019/10/1	2019/10/8	AAA	Japan	A	ABC	Japan	A	Japan	0W-8	None	III	None	ad	None	pp	None	P081ABC001	Required	Required
16	Change in base oil by another submitter based on the on-file of case 1 (JASO BOI test notification)	To be reported	2020/3/1	2019/10/8	CCC	U	B	DEF	U	BB	U	0W-8	None	II/III	Provided	ad	None	pp	None	P001DEF001	Relevant test required	Not required
17	Change in base oil by another submitter based on the on-file of case 1 (BOI test required)	To be reported	2020/4/1	2019/10/8	DDD	A	C	GHI	A	CC	U	0W-8	None	III	Provided	ad	None	pp	None	P111GHI001	Relevant test required	Relevant test required
18	Minor change in main additive prescription, level 1, or change in base oil, by another submitter based on the on-file of case 1 (JASO BOI test notification)	To be reported	2020/4/3	2019/10/8	EEE	Japan	D	JKL	Japan	DD	Japan	0W-8	None	II/III	Provided	ad	Provided	pp	None	P081JKL001	Relevant test required	Not required
19	Minor change in main additive prescription, level 2, or change in base oil, by another submitter based on the on-file of case 1 (JASO BOI test notification)	To be reported	2020/4/4	2019/10/8	FFF	Japan	E	MNP	Japan	EE	Japan	0W-8	None	III	Provided	ad	Provided	pp	None	P081MNP001	Relevant test required	Relevant test required

<Terminology> VGRA : Viscosity Grade Read-across , BOI : Base oil interchange , PPD : Pour point depressant

(cont'd)

	Description	Reporter notification	Date of report or notification	Date of issuance of on-file notice (Reference on-file)	Product		Submitter (Seller, etc.)			Manufacturer		Viscosity		Prescription						Example of oil code	Test required/not required	
					Product name	Marketplace	Company name	Code	Country	Company name	Country	Grade of viscosity	VGRA	Base oil group	BOI	Main additive name	Minor change in main additive prescription	PPD defoamer name	Change in PPD defoamer prescription		ASTM/CEC	JASO
1	Reference on-file product	To be reported	2019 /10/1	2019 /10/8	AAA	Japan	A	ABC	Japan	A	Japan	0W-8	None	III	None	ad	None	pp	None	P081ABC001	Required	Required
17	Change in base oil by another submitter based on the on-file of case 1 (BOI test required)	To be reported	2020 /4/1	2019 /10/8	DDD	A	C	GHI	A	CC	U	0W-8	None	III	Provided	ad	None	pp	None	P111GHI001	Relevant test required	Relevant test required
20	VGRA by the submitter of case 17 based on case 17	To be reported	2020 /4/3	2019 /10/8	DDD	A	C	GHI	A	CC	U	0W-12	None	III	None	ad	None	pp	None	P111GHI002	Not required	Not required
21	BOI by the submitter of case 17 based on case 21	To be notified	2019 /11/1	2019 /10/8	DDD	A	C	GHI	A	CC	U	0W-12	None	II/III	Provided	ad	None	pp	None	P111GHI002	Not required	Not required
22	Minor change in main additive prescription, level 1, by the submitter of case 17 based on case 21	To be notified	2019 /11/1	2019 /10/8	DDD	A	C	GHI	A	CC	U	0W-12	None	III	None	ad	None	pp	None	P111GHI002	Not required	Not required
23	Minor change in main additive prescription, level 2, by the submitter of case 17 based on case 21	To be reported	2019 /11/1	2019 /10/8	DDD	A	C	GHI	A	CC	U	0W-12	None	III	None	ad	Not allowed	pp	None	P111GHI002	Not allowed	Required
24	Change in ppd/defoamer prescription by the submitter of case 17 based on case 21	To be notified	2019 /11/1	2019 /10/8	DDD	A	C	GHI	A	CC	U	0W-12	None	III	None	ad	None	pp	Provid ed	P111GHI002	Not required	Not required

<Terminology> VGRA : Viscosity Grade Read-across , BOI : Base oil interchange , VII : Viscosity Index Improver , PPD : Pour point depressant

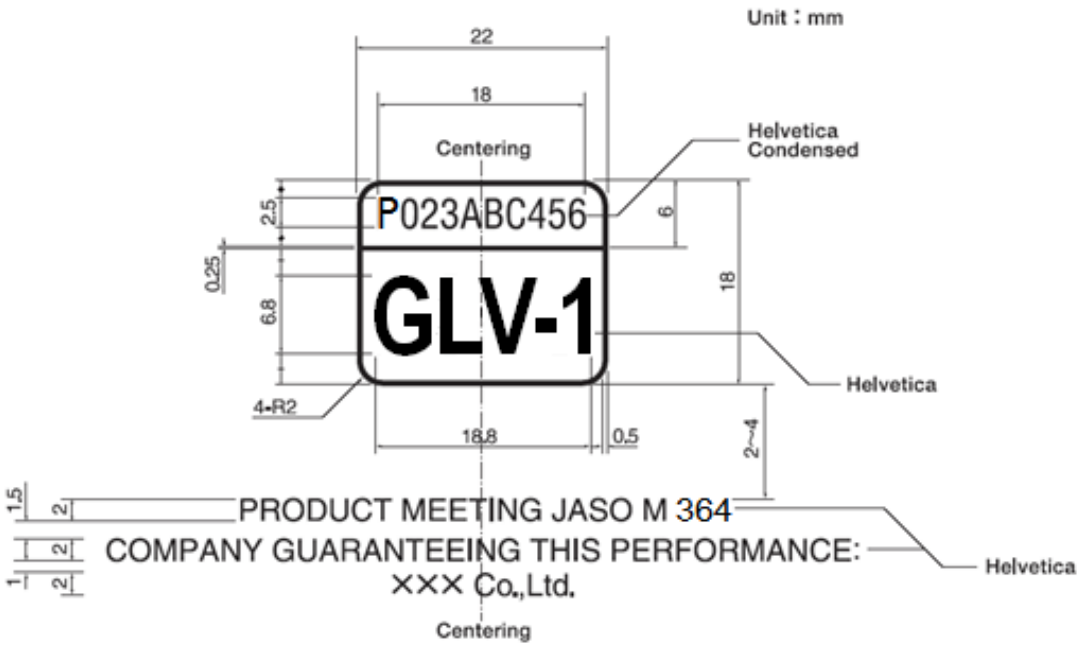
APPENDIX 7

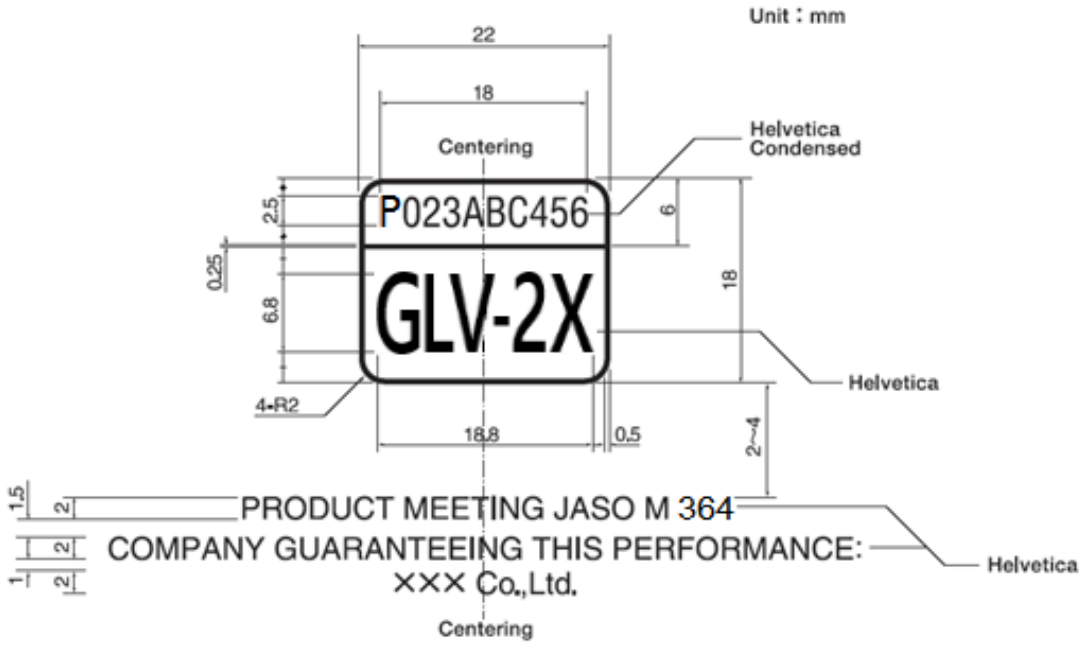
OIL CODE AND PERFORMANCE CLASSIFICATION MARKING LABEL

For providing an oil code and a performance classification indication on a container of an on-file product, it is required to follow the marking example indicated below.

1. Example of Marking Label

1.1 Dimensions and Fonts





1.2 Notes

(1) In the above figure, “P023ABC456” indicates an oil code. The Helvetica condensed font or the Arial narrow font shall be used. The characters shall be entered so that their size can be fit in the specified dimensional frame.
(2) “GLV-1” and “GLV-2X” in the above figure shall be indicated using the Helvetica font or the Arial font. The characters shall be entered so that their size can be fit in the specified dimensional frame. “GLV-2A” or “GLV-2B” shall be indicated for “GLV-2X” according to the type of fuel economy test performed at the time of submission. If both GLV-2A and GLV-2B are registered, indicate both of them.
(3) The alphanumeric characters of “PRODUCT MEETING JASO M 364” under the figure shall be indicated in one line using the Helvetica font or the Arial font. The character size shall correspond to the specified dimensions. In the same manner, the alphanumeric characters of “COMPANY GUARANTEEING THIS GLV-1 PERFORMANCE: Company name” shall be indicated with the Helvetica font or the Arial font in two or three lines. The character size corresponds to the specified dimensions.
(4) The color of the characters and frame lines shall be contrastive to the background color.

2. Marking Method

(1) The minimum dimensions are indicated in the above example of marking label. An analogous form may be enlarged according to the size of the container used.

(2) The marking label may be attached at an arbitrary position on the container used.

3 Marking Label Samples

Figure dimension not enlarged

Figure dimension not enlarged 1.5times

Figure dimension not enlarged 2times

Figure dimension not enlarged

Figure dimension not enlarged 1.5times

Figure dimension not enlarged 2times

4 Marking samples when registering the oil for GLV-2A and GLV-2B using the same oil code

Figure dimension not enlarged

Figure dimension not enlarged 1.5times

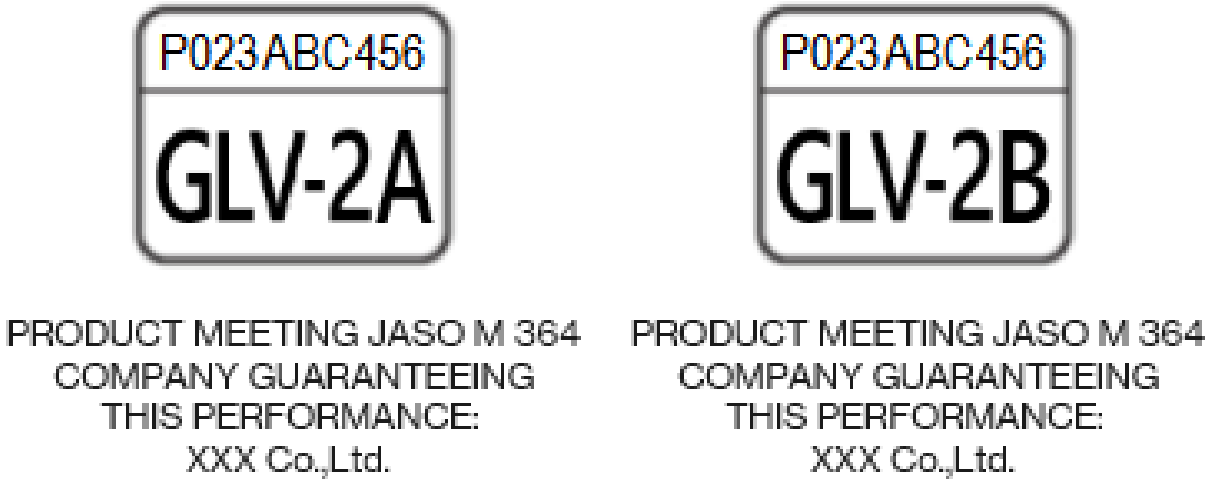


Figure dimension not enlarged 2times