



Core and Advanced Powertrain Engineering  
Fuels and Lubricants Engineering  
POEE Bldg, Mail Drop 44  
21500 Oakwood Boulevard  
Dearborn, Michigan, 48121

October 23, 2003

Detroit Advisory Panel – API  
c/o Mr. Steven Herzog  
RohMax USA, Inc.  
723 Electronic Drive  
Horsham, PA 19044-2228

Dear Mr. Herzog:

The following summarizes Ford Motor Company's engine oil and fuel recommendations for gasoline-fueled 2004 model year vehicles in the U.S. and Canada. Please forward this information to your members.

SAE 5W-20 engine oil continues to be the only recommended oil for most Ford vehicles and the Mazda Tribute. The Ford Engineering Material Specification for SAE 5W-20 service fill oils remains WSS-M2C153-H, which specifies ILSAC GF-3 requirements and the display of the API Certification Mark. In addition, it specifies the double-length ASTM Sequence IIIF test. SAE 5W-20 oil provides our customers with improved fuel economy and oil life performance. We continue to promote it strongly for our customers and request the support of oil marketers to continue supplying SAE 5W-20 oils to Ford Motor Company customers.

SAE 5W-30 is recommended for the SVT Focus 2.0L Zetec HP and 4.0L V6 applications, which are the only gasoline-fueled vehicles not recommending SAE 5W-20. The Ford Engineering Material Specification for SAE 5W-30 service fill oils is WSS-M2C205-A, which specifies ILSAC GF-3 requirements and the display of the API Certification Mark.

Fuel recommendations are similar to previous model Owner Guides with no significant changes.

An example of the Ford Motor Company 2004 MY Owner Guide for both fuel and engine oil recommendations are attached for your reference. A copy of the oil specifications for service fill is also attached (WSS-M2C153-H and WSS-M2C205-A).

Your efforts to market engine oils and fuels meeting these requirements are appreciated for the benefit of our mutual customers.

Sincerely,

/original signed/

P. W. Misangyi

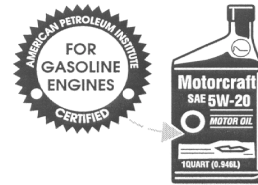
cc: Automotive Oil Change Association  
American Society of Testing and Materials  
Canadian Petroleum Products Institute  
Independent Lubricant Manufacturers Association  
Society of Automotive Engineers  
Society of Independent Gasoline Marketers of America

Attachments

# Ford 2004 MY Engine Oil Recommendations

## Most Engines

Look for this certification trademark.



### **SAE 5W-20 engine oil is recommended.**

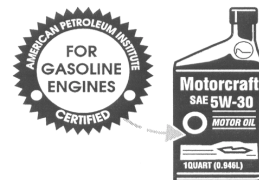
Only use oils "Certified For Gasoline Engines" by the American Petroleum Institute (API). To protect your engine's warranty use Motorcraft SAE 5W-20 or an equivalent SAE 5W-20 oil meeting Ford specification WSS-M2C153-H. **SAE 5W-20 oil provides optimum fuel economy and durability performance meeting all requirements for your vehicle's engine.**

Do not use supplemental engine oil additives, cleaners or other engine treatments. They are unnecessary and could lead to engine damage that is not covered by Ford warranty.

Change your engine oil according to the appropriate schedule listed in the Scheduled Maintenance Guide.

## 2.0L Zetec HP and 4.0L Engines

Look for this certification trademark.



### **SAE 5W-30 engine oil is recommended.**

Only use oils "Certified For Gasoline Engines" by the American Petroleum Institute (API). To protect your engine's warranty use Motorcraft SAE 5W-30 or an equivalent SAE 5W-30 oil meeting Ford specification WSS-M2C205-A.

Do not use supplemental engine oil additives, cleaners or other engine treatments. They are unnecessary and could lead to engine damage that is not covered by Ford warranty.

Change your engine oil according to the appropriate schedule listed in the Scheduled Maintenance Guide.



**ENGINEERING MATERIAL SPECIFICATION**

Material Name	Specification Number
<b>OIL, ENGINE, ILSAC GF-3, SAE 5W-20, SERVICE FILL</b>	<b>WSS-M2C153-H</b>

**1. SCOPE**

This material specification defines the minimum acceptable performance requirements and physical/chemical properties of engine oils to be used in Ford Motor Company vehicles.

**2. APPLICATION**

This material is used for lubrication of gasoline engines. This specification was released originally for service fill engine oils meeting the 2001 model vehicle requirements. Sections titled QUALITY SYSTEM REQUIREMENTS, SUPPLIER'S RESPONSIBILITY, and APPROVAL OF MATERIALS apply only to engine oils supplied directly to Ford Motor Company and it's affiliates.

**3. REQUIREMENTS**

Material specification requirements are to be used for initial qualification of materials.

**3.1 QUALITY SYSTEM REQUIREMENTS**

Material suppliers and part producers must conform to the Company's Quality System Requirements.

**3.2 PERFORMANCE**

Shall be licensed to display the API Certification Mark and meet all the requirements of the "ILSAC Minimum Performance Standard for Passenger Car Engine Oils GF-3" (October 2000) with the following exceptions:

3.2.1 This requirement changes the ILSAC GF-3 ASTM Sequence IIIF test performance criteria to the following:

ASTM Sequence IIIE Test conducted double length (128 hrs) with no oil change during test.	Performance shall meet all specifications of the 64 hr test with the following changes:
--	--

Viscosity Increase at 40 °C	200% max
-----------------------------	----------

Average Piston Varnish	8.4 min
------------------------	---------

OR

Date	Action	Revisions

2001 01 12	Revised	M. J. Riley
2000 04 10	Activated	M. J. Riley



## ENGINEERING MATERIAL SPECIFICATION

**WSS-M2C153-H**

ASTM Sequence IIIF Test conducted double length (160 hrs) with no oil change during test. Performance shall meet all specifications of the 80 hr test with the following change:

Viscosity Increase at 40 °C 200% max

3.2.2 High Temperature Deposits, mg (TEOST MHT-4) 30 max

3.2.3 ASTM Sequence VE meeting requirements of ILSAC GF-2 may be conducted to replace the ASTM Sequence IVA and Sequence VG tests.

3.2.4 ASTM L-38 meeting requirements of ILSAC GF-2 may be conducted to replace ASTM Sequence VIII.

All required engine tests shall be conducted in accordance with the most recently approved procedures as described in ASTM Special Technical Publication 315 and the applicable ASTM Standards Research Reports and Information Letters. All tests under surveillance by ASTM must be conducted using test equipment monitored by and calibrated to the requirements of the ASTM Test Monitoring Center.

### 3.3 PHYSICAL/CHEMICAL PROPERTIES

3.3.1 Copper Corrosion, max (ASTM D 130 or ISO 2160, 3 hrs at 100 °C) 1b (Dark Orange)

3.3.2 Physical Appearance and Odor

Shall be clear and bright with no objectionable odor.

3.3.3 Contaminants

Shall be free of carcinogens, toxins, metals not removed in refining or from previous use.

### 3.4 QUALIFICATION

It is the supplier's responsibility to have the technical evidence and documentation certifying that a given formulation (base oil/additive combination) meets all requirements described in this specification.

No base stock interchange (BOI) or viscosity grade read across (VGRA) is permitted to approve engine oils to this specification.

The affected Ford Fuels and Lubricants Engineering activity reserves the right to request certification documentation from any company claiming to meet this specification.



## **ENGINEERING MATERIAL SPECIFICATION**

**WSS-M2C153-H**

---

### **3.5 SUPPLIER'S RESPONSIBILITY**

All materials supplied to this specification must be equivalent in all characteristics to the material upon which approval was originally granted.

Prior to making any changes to the material originally approved under this specification, whether or not such changes affect the material's ability to meet the specification requirements, the Supplier shall notify the affected Purchasing, and Materials Engineering activities (with reasons) of the proposed changes. Upon notification of the Company, further instructions will be provided.

Note: Suppliers should be prepared to provide test data and samples demonstrating compliance to this specification, if requested.

Substance restrictions imposed by regulations or Company direction applies to the materials addressed by this document. The restrictions are identified in Restricted Substance Management Standard WSS-M99P9999-A1.

## **4. APPROVAL OF MATERIALS**

This specification is intended to define the performance and/or properties of finished parts or systems of combined materials. An Engineering Material Approved Source listing is not applicable for this specification. Product Engineering materials referenced in this document and/or the affected engineering drawing, which require prior Engineering approval, are shown in the Engineering Material Approved Source List under the specification cited.



## ENGINEERING MATERIAL SPECIFICATION

Material Name

Specification Number

**OIL, ENGINE, ILSAC GF-3, SERVICE FILL**

**WSS-M2C205-A**

### 1. SCOPE

This material specification defines the minimum acceptable performance requirements and physical/chemical properties of engine oils to be used in Ford Motor Company vehicles.

### 2. APPLICATION

This material is used for lubrication of gasoline engines. This specification was released originally for service fill engine oils meeting the 2002 model vehicle requirements for viscosity grades other than SAE 5W-20. Sections titled QUALITY SYSTEM REQUIREMENTS, SUPPLIER'S RESPONSIBILITY, and APPROVAL OF MATERIALS apply only to engine oils supplied directly to Ford Motor Company and its affiliates.

### 3. REQUIREMENTS

Material specification requirements are to be used for initial qualification of materials.

#### 3.1 QUALITY SYSTEM

Material suppliers and part producers must conform to the Company's Quality System requirements.

#### 3.2 PERFORMANCE

Shall meet all the requirements of "The ILSAC GF-3 Minimum Performance Standard For Passenger Car Engine Oils" and shall be licensed to display the API Certification Mark.

#### 3.3 PHYSICAL/CHEMICAL PROPERTIES

3.3.1 Copper Corrosion, max (ASTM D 130 or ISO 2160, 3 h at 100 C) 1b (Dark Orange)

3.3.2 Physical Appearance and Odor

Shall be clear and bright with no objectionable odor.

3.3.3 Contaminants

Shall be free of carcinogens, toxins, metals from refining or previous use.

Date	Action	Revisions
2001 03 13	Activated	M. J. Riley

**3.4 QUALIFICATION**

It is the supplier's responsibility to have the technical evidence and documentation certifying that a given formulation (base oil/ additive combination) meets all requirements described in this specification.

The affected Ford Fuels and Lubricants Engineering activity reserves the right to request certification documentation from any company claiming to meet this specification.

**3.5 SUPPLIER'S RESPONSIBILITY**

All materials supplied to this specification must be equivalent in all characteristics to the material upon which approval was originally granted.

Prior to making any changes to the material originally approved under this specification, whether or not such changes affect the material's ability to meet the specification requirements, the Supplier shall notify the affected Purchasing, and Materials Engineering activities (with reasons) of the proposed changes. Upon notification of the Company, further instructions will be provided.

Note: Suppliers should be prepared to provide test data and samples demonstrating compliance to this specification, if requested.

Substance restrictions imposed by regulations or Company direction applies to the materials addressed by this document. The restrictions are identified in Restricted Substance Management Standard WSS-M99P9999-A1.

**4. APPROVAL OF MATERIALS**

This specification is intended to define the performance and/or properties of finished parts or systems of combined materials. An Engineering Material Approved Source listing is not applicable for this specification. Product Engineering materials referenced in this document and/or the affected engineering drawing, which require prior Engineering approval, are shown in the Engineering Material Approved Source List under the specification cited.

## **Ford 2004 MY Regular Fuel Recommendation**

### **Choosing the right fuel**

Use only UNLEADED FUEL. The use of leaded fuel is prohibited by law and could damage your vehicle.

Your vehicle was not designed to use fuel or fuel additives with metallic compounds, including manganese-based additives. Studies indicate that these additives can cause your vehicle's emission control system to deteriorate more rapidly. In Canada, many fuels contain metallic additives, but fuels free of such additives may be available; check with your local fuel dealer.

Do not use fuel containing methanol. It can damage critical fuel system components.

Repairs to correct the effects of using a fuel for which your vehicle was not designed may not be covered by your warranty.

### **Octane recommendations**

Your vehicle is designed to use "Regular" unleaded gasoline with pump (R+M)/2 octane rating of 87. We do not recommend the use of gasolines labeled as "Regular" that are sold with octane ratings of 86 or lower in high altitude areas.



Do not be concerned if your engine sometimes knocks lightly. However, if it knocks heavily under most driving conditions while you are using fuel with the recommended octane rating, see your dealer or a qualified service technician to prevent any engine damage.

### **Fuel quality**

If you are experiencing starting, rough idle or hesitation driveability problems during a cold start, try a different brand of "Regular" unleaded gasoline. "Premium" unleaded gasoline is not recommended because it may cause these problems to become more pronounced. If the problems persist, see your dealer or a qualified service technician.

It should not be necessary to add any aftermarket products to your fuel tank if you continue to use high quality fuel of the recommended octane rating. Aftermarket products could cause damage to the fuel system. Repairs to correct the effects of using

an aftermarket product in your fuel may not be covered by your warranty.

Many of the world's automakers approved the World-wide Fuel Charter that recommends gasoline specifications to provide improved performance and emission control system protection for your vehicle. Gasolines that meet the World-wide Fuel Charter should be used when available. Ask your fuel supplier about gasolines that meet the World-wide Fuel Charter.

**Cleaner Air**

Ford endorses the use of reformulated "cleaner-burning" gasolines to improve air quality.