

ILSAC GF-7 Overview

March 2025

Walt Collier, Sector Manager-Consumer Lubes



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Section 1

GF-7 Changes

ILSAC GF-7 Specification – Changes

GF-7 changes

The new ILSAC GF-7 category will allow cleaner engines, better deposit and oxidation control, reduced risk of pre-ignition failures, and improved fuel economy.



April 2025

when



Havoline and
Supreme

brands



ILSAC GF-6/GF-5
API SP/SN Plus

**compatible with
previous categories**



0W-16
0W-20
5W-20
5W-30
10W-30
10W-40

viscosity grades

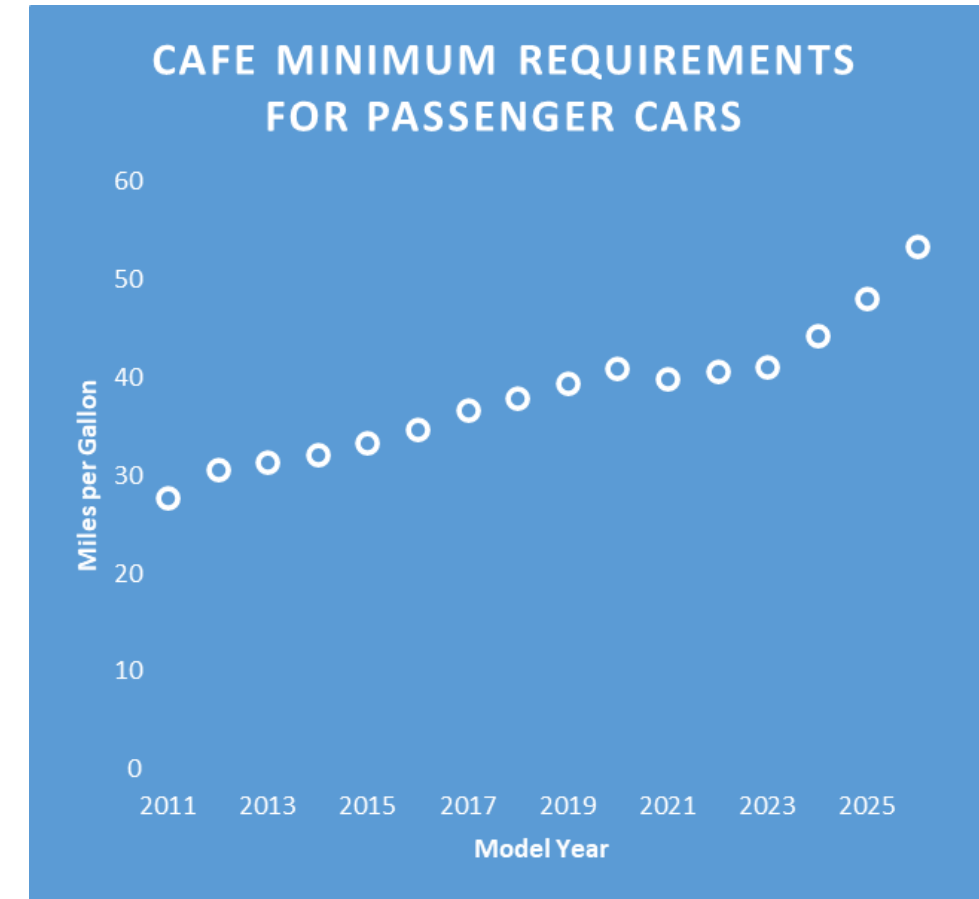


Section 2

Objectives

ILSAC GF-7 Specification – Objectives

- Meet stringent fuel economy and emissions reduction targets - particularly for model year 2026 vehicles
- Improve engine protection, efficiency, and performance
- Responding to:
 - Technological advances in engines
 - Stricter regulatory demands from the EPA - 28% reduction in CO2 emissions by 2026



Corporate average fuel economy (CAFE) requirements for passenger cars per NHTSA Title 49, Subtitle B, Chapter V, § 531.5

Section 3

Key Benefits

ILSAC GF-7 Benefits: Enhanced Fuel Economy

- Shift towards smaller, more efficient engines - driven by the need for improved fuel economy and reduced emissions
 - These engines often operate under higher pressures and temperatures, which can accelerate wear and tear on engine components
- GF-7 specification - extended limits in the Sequence VIE fuel economy test
 - Tighter performance demands in Sequence VIE fuel economy and Sequence IIH oxidation & deposit control
- Designed to help the OEMs meet the challenges of future EPA emissions targets and ensure that engines have minimal energy losses due to viscosity or friction

ILSAC GF-7 Benefits: Protection against LSPI

- Latest GF-7 specification provides defenses against Low-Speed Pre-Ignition (LSPI)
 - LSPI is a common issue in turbocharged engines that can lead to severe engine damage
 - Phenomenon where premature combustion of the fuel-air mixture occurs before the spark plug ignites - can cause knocking and potentially severe engine damage
- GF-7 introduces new aged Oil LSPI Prevention Test
 - New variant of the Sequence IX test which evaluates aged-oil pre-ignition protection
 - Ensure oils can prevent LSPI throughout the oil's drain interval

ILSAC GF-7 Benefits:

Reduction in Piston Deposits and Timing Chain Wear

- The GF-7 specification has tighter Sequence IIH Piston Cleanliness limit to ensure oil will provide better protection against deposits to ensure engines maintain optimal performance over a longer period
 - Piston deposits can lead to loss of engine efficiency, increased oil consumption, and higher emissions
 - Deposits can also cause engine knocking and reduce the engine's overall lifespan
- Timing chain wear can result in reduced engine efficiency and potential engine failure
 - GF-7 spec includes a reduced limit on the Sequence X Chain Wear
 - The improvement in timing chain wear protection in Sequence X test represents ~ 5% change in wear performance versus GF-6 test

ILSAC GF-7 Benefits: Improvement in new MRV

- GF-7 brings a reduced Mini-Rotary Viscometer (MRV) limit - used to measure pumpability
 - New fresh oil MRV limit of 40,000 centipoise (cP) - 33% change vs. ILSAC GF-6 (60,000 cP limit)
 - New MRV limit is set to enhance oil flow under cold-start conditions

Note: the MRV test is a low-shear test designed to simulate pumping characteristics of an oil that has been idle in cold weather

Section 4

Engine Test & Bench Test

What is Changing in GF-7 (Engine Tests)?

Test	GF-6A	GF-6B	GF-7A	GF-7B
Sequence IIH Weighted Piston Deposits, merits, min.	4.2	4.2	4.6	4.2
Seq. VIF 0W-16 Fuel Economy FEI Sum, min. (%) FEI 2, min. (%)	N/A	4.1 1.9	N/A	4.3 2.1
Seq. VIE XW-20 Fuel Economy FEI Sum, min. (%) FEI 2, min. (%)	3.8 1.8	N/A	4.3 2.1	N/A
Seq. VIE XW-30 Fuel Economy FEI Sum, min. (%) FEI 2, min. (%)	3.1 1.5	N/A	3.6 1.8	N/A
Seq. VIE 10W-30 Fuel Economy FEI Sum, min. (%) FEI 2, min. (%)	2.8 1.3	N/A	3.0 1.4	N/A
Seq. IX Fresh Oil LSPI Avg. #of events, max. # of events per iteration, max.	5 8	5 8	5 8	5 8
Seq. IX Aged Oil LSPI Avg. #of events, max. # of events per iteration, max.	N/A	N/A	5 8	5 8
Seq. X Timing Chain Wear % increase, max.	0.085	0.085	0.080	0.080

What is Changing in GF-7 (Bench Tests)?

Test	GF-6A	GF-6B	GF-7A	GF-7B
MRV Low Temp. Pumping Viscosity, max. (cP)	60,000	60,000	40,000	40,000
Sulphated Ash, max. (wt.%)	N/A	N/A	0.9	0.9
Elastomer Compatibility	GF-7A/B keeps all seal materials and requirements as GF-6A/B, but GF-7A/B include 3 new seal materials with limits of rate and report			
Gelation Test, max. (flow reduction %)	Test not in GF-6A/B; included in GF-7A/B as rate and report “when available” (test development not complete)			

All other engine and bench tests not listed are identical between GF-6A/B and GF-7A/B



Section 5

Naming

What Else is Changing with GF-7?

- Havoline packaging update – new look and feel
- Product tier name changes
 - See chart
 - No changes to UPC or sku #'s
- Discontinuation of Havoline Motor Oil SAE 30
- Introduction of Supreme Synthetic SAE 0W-20, 5W-20, 5W-30 (non-dexos)

Current Product Name	Post GF-7 Product Name	Comment
Havoline® High Mileage Synthetic Technology	Havoline® High Mileage SynBlend	Adopts category tier naming convention
Havoline® Synthetic Technology	Havoline® SynBlend DX	Dexos certified synblend products
Havoline® Synthetic Blend	Havoline® SynBlend	Non-dexos synblend products
Supreme Synthetic Blend	Supreme SynBlend	Bulk packaging only

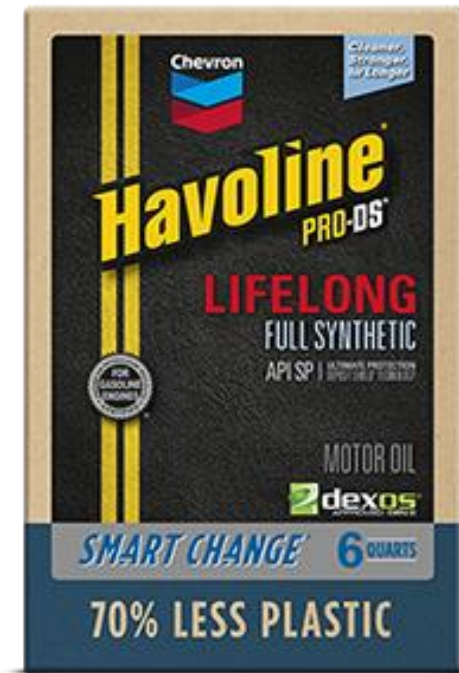


Section 6

Packaging Updates + Before & After Look

Havoline Packaging Upgrade

- Havoline is getting a new look!
- New Havoline packaging will roll out with GF-7 transition



before



after

Branded PCMO Portfolio – Before and After GF-7



****All changes highlighted in blue font – will take place with GF-7 rollout****

Section 6

Recap

Summary

1

April 2025

2

Impacts Havoline & Supreme

3

Compatible with previous categories

4

For GF-7 we will offer Supreme Full Synthetic

5

Familiarize yourselves with the bench test

6

New product names and new packaging change for Havoline smart change

Feel free to connect with me for marketing or P&T for technical questions

Thank You