

Engine - Oil Consumption Information

Bulletin No.: 01-06-01-011A

Date: July 22, 2003

INFORMATION

Subject:

Information on Engine Oil Consumption Guidelines

Models:

All 1996-2004 Passenger Cars and Gasoline Powered Light Duty Trucks Under 8500 LB GVW except Chevrolet Corvette

Supersede:

This bulletin is being revised to update the Model Years. Please discard Corporate Bulletin Number 01-06-01-011 (Section 6 - Engine).

All engines require oil to lubricate and protect the load bearing and internal moving parts from wear including cylinder walls, pistons and [piston rings](#). When a [piston](#) moves down its cylinder, a thin film of oil is left on the cylinder wall. During the power stroke, part of this oil layer is consumed in the combustion process. As a result, varying rates of oil consumption are accepted as normal in all engines.

Oil Consumption

The accepted rate of oil consumption for engines used in the vehicles referenced is 0.946 liter (1 qt) in 3200 km (2000 mi). This rate only applies to personal use vehicles, under warranty, maintained in accordance with the appropriate maintenance schedule, with less than 58,000 km (36,000 mi), or 80,450 km (50,000 mi) for Cadillac, driven at legal speeds in an unloaded (for trucks) condition.

Many factors can affect an owner's concern with oil consumption. Driving habits and vehicle maintenance vary from owner to owner. Thoroughly evaluate each case before deciding whether the vehicle in question has abnormal engine oil consumption.

Gasket and External Leaks

Inspect the [oil pan](#) and engine covers for leakage due to over tightened, damaged, or out of place gaskets. Inspect [oil lines](#) and fittings for signs of leakage.

Improper Reading of the Oil Level Indicator (Dipstick)

Verify that the dipstick tube is fully seated in the block. When checking the oil level, make sure the dipstick is wiped clean before taking an oil level reading and fully depress

the dipstick until the shoulder bottoms out on the dipstick tube. The dipstick should be the proper part number for the engine/vehicle that is being checked.

Not Waiting Long Enough After Running Engine to Check Oil Level

The vehicle should be allowed to sit for at least 5 minutes (20 minutes for the 3.4 L LQ1), after the engine has been shut off, before taking an oil level reading to assure the oil has had enough time to drain back into the crankcase. In order to ensure accurate results, the temperature of the oil should be close to the same temperature as the last time the oil level was checked.

Improper Oil Fill After an Oil Change

Following an oil change, verify that the proper amount and type of oil was put in the engine and that the oil level on the dipstick is not above the full mark or below the add marks. Refer to the Owner's Manual or Service Manual for information on recommended oil quantity, viscosity, and quality.

High Speed or High RPM Driving

Continuous driving at high speeds/high RPMs may increase oil consumption. Because this may not always be an everyday occurrence, it is hard to determine exactly how much the oil economy will be affected.

Towing or Heavy Usage

Towing a trailer will increase oil consumption and may cause oil consumption to fall below the normal accepted rate referenced in this bulletin for an unloaded vehicle in a personal use application. Large frontal area trailers will further increase the work required from the engine, especially at highway speeds, and thus increases the rate of oil consumption.

Crankcase Ventilation System

Verify that the positive crankcase ventilation (PCV) system is operating properly. Incorrect PCV valves, blockages, restrictions, or damage to the PCV system can result in increased oil use.

Oil Dilution (Fuel and Water)

On vehicles that are usually driven short distances, less than 8 km (5 mi), especially in colder weather, unburned fuel and condensation generated from cold engine operation may not get hot enough to evaporate out of the oil. When this occurs, the dipstick may indicate that the oil level is over-full. Subsequent driving on a trip of sufficient length to enable normal engine operating temperature for 30 minutes or more, in order to vaporize

excess moisture and fuel, may give the customer the impression of excessive oil consumption.

Engine Temperature

If an engine is ran at overheated temperatures (see Owner's Manual or Service Manual) for more than brief periods, oil will oxidize at a faster than normal rate. In addition, gaskets may distort, [piston rings](#) may stick, and excessive wear may result. Verify that all [cooling system](#) components are in proper working order.

Engine Wear

[Piston](#) scuffing, excessive piston-to-wall clearance, tapered or out of round cylinders, worn, damaged or improperly installed valve guides, seals and [piston rings](#) will all cause an increase in oil consumption.

Measurement of Oil Consumption

Engines require a period of time to BREAK IN so that moving parts are properly seated. Therefore, oil economy should not be tested until the vehicle has accumulated at least 6400 km (4000 mi). An exception would be allowed only if an engine is reported to be using more than 0.946 liter (1 qt) in 1600km (1000 mi).

1. Verify that the engine has no external leaks. Repair as necessary.
2. Verify that the engine is at normal operating temperature (see Owner's Manual or Service Manual).
3. Park the vehicle on a level surface.
4. Wait at least 5 minutes (20 minutes for the 3.4 L LQ1), after the engine is shut off, before checking the oil level to make sure that most of the oil has had time to drain back into the crankcase.
5. Verify that the oil level is at, but not above, the full mark on the dipstick, and that the proper viscosity and quality oil are being used as recommended in the Owner's Manual.

Oil Economy Test — Data Sheet

Dealer Name: _____

Customer Name: _____

Phone: () ____ - ____ Phone: () ____ - ____

VIN: _____

Oil Type Used: _____

R.O. #: _____

Step	Date	Mileage	Oil Level	Driving Conditions (City, Highway, Both)
1				(Start of Test)
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

6. Record the vehicle mileage, date, and exact oil level on the form shown.
7. Ask the customer to verify the oil level, each time the vehicle is fueled, following steps 1-6 and return the vehicle to the dealership if the oil level is found at or below the add mark, 0.946 liter (1 qt) low. If the oil level remains above the add mark, the customer should continue to operate the vehicle and verify the engine oil level until 3200 km (2000 mi) has accumulated before returning to the dealership for a final evaluation.
8. If the final evaluation shows that the engine uses more than 0.946 liter (1 qt) in 3200 km (2000 mi), follow the published symptom diagnostics as described in the appropriate Service Manual. If the oil consumption test shows that the engine uses less than 0.946 liter (1 qt) in 3200 km (2000 mi), explain to the customer that their engine meets the guidelines for oil consumption.

GM bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer". They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your GM dealer for information on whether your vehicle may benefit from the information.



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