



# Tech Tip

OIL SYSTEM SERVICE 175

## EXCESSIVE OIL CONSUMPTION The Condition Could Be Factory Induced

**D**ealing with a customer who has been told that the excessive oil consumption with his vehicle is due to the oil filter and the lubricant that you installed can be a challenge. Most customers would not lend credibility to the claim, but the customer is in a difficult position, especially when warranty coverage for his engine is being denied and he is faced with costly engine repairs.

When your shop has serviced the customer's vehicle since new, how do you defend yourself and the products that you have installed? The first step is making sure you never get yourself in a position that could make you responsible. And that would include using only quality filters and the correct lubricant for the application. There are some filters in the marketplace that do not meet the vehicle manufacturer's specifications, and they have been proven to damage some engines. GM TSB 10-06-01-003A contains illustrations of an engine in various stages of disassembly with components damaged due to an oil filter drain-back valve disintegrating and plugging oil galleries with silicone, causing major engine damage due to oil starvation. Some filters do not provide adequate filtration, and will not comply with the extended drain/service intervals. Always install the vehicle manufacturer's recommended lubricant and a quality filter. There is no single oil viscosity that will suit all applications, and some have learned this the hard way by encountering some expensive engine repairs. This is especially a concern with engines equipped with Variable Valve Timing and Modulated Displacement.

### VEHICLE MANUFACTURER OIL CONSUMPTION GUIDELINES

Engines require oil to lubricate the bearings and internal moving parts. This includes the cylinder walls, pistons and rings. In theory, when the pistons move down the cylinders, a thin film of oil remains on the cylinder walls. A portion of this oil is consumed during the combustion process. The amount of oil consumed varies with engine design and vehicle manufacturer. Most engines consume some volume of oil and this should be considered normal oil consumption. Let's consider the position of GM and Chrysler in relation to oil consumption:

#### 2014 and Prior GM Cars and Light Duty Trucks under 8500 GVW

GM advises that the accepted rate of oil consumption for engines used in their vehicles is 1 quart per 2,000 miles.

This consumption rate applies to vehicles driven in a non-aggressive manner and maintained in accordance with the recommended maintenance schedule, with less than 36,000 miles. Important: This oil consumption rate does not apply to vehicles driven aggressively, at high RPMs, high speeds, or trucks in a loaded position. Oil consumption rates for vehicles driven under these conditions can be substantially higher. Vehicles driven aggressively or continuously at high speeds/RPMs (3,000 RPM to Redline) may consume 1 quart of oil per 500 miles driven, and this should be considered normal usage. Many factors affect the oil consumption rate, and these should be considered prior to condemning an engine or recommending costly engine repairs.

#### Chrysler Vehicles 2012–2013

Chrysler advises that 2012–2013 vehicles equipped with a 3.7L, 4.7L, or 5.7L engine can expect an oil consumption rate of 1 quart per 2,000 miles driven for the first 50,000 miles. Vehicles with more than 50,000 miles may encounter an oil consumption rate of 1 quart per 750 miles, and this should be considered normal oil consumption. The mentioned consumption rates apply to personal use vehicles that are not driven aggressively and are maintained according to the vehicle manufacturer's recommended maintenance schedule. Vehicles driven at high RPMs, high speeds or pulling heavy loads may encounter higher oil consumption rates, often as much as 1 quart per 500 miles.

Having access to the vehicle manufacturer's documented oil consumption rates can be your best defense when necessary to defend your services. Always check and install the vehicle manufacturer's recommended lubricant for the application. One viscosity lubricant will not satisfy all engines, as major component damage can occur.

#### Factory Solutions for Excessive Oil Consumption

Honda Technical Service Bulletin 11-033 identifies 2008–2011 Honda applications with specific VIN codes that may encounter excessive oil consumption.

If the engine oil level is low, the malfunction indicator lamp (MIL) is illuminated and trouble codes P3400 and/or P3497 are stored in memory...a software update may be required. The codes occur when the oil level drops to a level where the line pressure can no longer support Variable Cylinder Management (VCM) operation.

During certain light throttle conditions on flat roads at cruising speeds, the VCM function may repeatedly switch on

and off. The frequent switching can contribute to increased oil consumption. The software update improves the VCM timing during the mentioned throttle/driving conditions, reducing oil consumption.

### **Honda V-6 with Variable Cylinder Management**

Honda has announced a powertrain warranty extension of 8 years with unlimited mileage from the original date of purchase, with the exception of salvage vehicles or similar branded vehicles. Honda states that the piston rings on certain cylinders may rotate, allowing the ring gaps to align, resulting in spark plug fouling, due to the excessive blow-by. The malfunction indicator lamp (MIL) may be illuminated with diagnostic trouble codes PO301 through PO304 stored in memory. Honda TSB 13-078 (and others based on application) covers the necessary diagnostic and repair procedures, which will require cleaning the pistons and replacing the rings on the affected cylinders. Verification based on VIN status should be obtained to determine eligibility prior to making any repairs.

Vehicles affected include: 2008–2012 Accord, 2008–2013 Odyssey, 2009–2013 Pilot, 2010–2011 Accord Crosstour and 2012 Crosstour, all equipped with the V-6 engine with Variable Cylinder Management.

### **Toyota's Limited Service Campaign**

Toyota has been inundated with complaints of excessive oil consumption with their 2.4L (2AZ-FE) engine. Vehicles involved include the following:

- 2007–2009 Camry
- 2007–2011 Camry Hybrid
- 2007–2008 Solara
- 2009 Corolla
- 2009 Matrix
- 2006–2008 Rav4

If you perform a search for excessive oil consumption on one of the listed applications, you will review many complaints and a class action lawsuit.

Toyota has acknowledged that they have received reports of excessive oil consumption on the mentioned applications, and they have addressed this concern with a Limited Service Campaign. Vehicle owners have been or will be notified that they may seek reimbursement for previous repairs to correct excessive oil consumption. Customers who have not had repairs performed should take their vehicle to a Toyota dealer to have an excessive oil consumption test performed to determine if their vehicle is eligible for repairs under the campaign. If so, it will receive redesigned piston and ring assemblies. The test involves filling the engine with oil to the proper oil level and sealing the engine to prevent tampering. The customer returns to the dealer for inspection, after driving 1100–1300 miles. The primary coverage offers warranty enhancement until October 31, 2016, regardless of mileage. The secondary

coverage is applicable for 10 years from the date of first use or 150K miles, whichever occurs first. Toyota states that this is a warranty enhancement...not a recall.

### **GM's Excessive Oil Consumption**

Excessive oil consumption on GM vehicles equipped with V8 aluminum block/iron block engines and Active Fuel Management (AFM) may require an engine modification. Excessive oil consumption may occur once the vehicle logs 30K–40K miles and especially with vehicles operated at high engine speeds for an extended period of time. Vehicles affected include:

- 2007–2011 Cadillac Escalades
- 2007–2011 Chevrolet Avalanche, Silverado 1500, Suburban, Tahoe
- 2010–2011 Camaro
- 2010–2012 Colorado
- 2007–2011 GMC Sierra 1500, Sierra Denali, Yukon
- 2010–2012 GMC Canyon
- 2008–2009 Pontiac G8 GT
- Built prior to Feb.1, 2011 (Updated Valve Cover) and October 2010 (AFM shield)
- Equipped with the following engines:
  - Aluminum Block V8 with AFM (RPOs LH9, L94, LZ1, L99, LC9, LH6, L76, L92, LFA [Hybrid])
  - Iron Block V8 with AFM (RPOs LMG, LY5)

GM advises that the excessive oil consumption may result from oil spray from the AFM pressure relief valve located in the crankcase. The oil spray causes deposits to form on the piston ring grooves, causing the rings to stick, promoting excessive oil consumption. GM illustrates and recommends some procedures and checks to be performed in GM Service Bulletin 10-06-01-008J.

In most of the cases that we have observed, the installation of new piston and ring assemblies were required to resolve the oil consumption condition. A new deflector oil shield (GM P/N 12639759) should be installed on the AFM pressure relief valve located in the crankcase to prevent oil from spraying directly on the pistons and rings.

**Summary:** The definition of excessive oil consumption varies greatly with the different vehicle manufacturers. The first course of action is establishing the vehicle manufacturer's position in relation to usage and mileage.

Make certain you remind your customers that with the extended drain/service intervals for the newer vehicles, it is not uncommon to add oil between lubrication services. Considering that, it would be wise to check their oil on a more frequent basis and add accordingly.

Make certain you install the vehicle manufacturer's recommended lubricant and a quality oil filter.

LARRY HAMMER, Technical Services  
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