

## Engine Oil Consumption Test

Supersedes the Job Aid, dated April 2012; See REVISION SUMMARY

### REVISION SUMMARY

Under the TEST PROCEDURE, contact your DPSM not Tech Line for an assessment.

### BACKGROUND

If a customer complains of oil consumption, you need to do an engine oil consumption test as outlined in this Job Aid.

### TEST PROCEDURE

#### Service Advisor:

1. Schedule an engine oil and filter change. (Honda will pay for the oil and filter change if subsequent repairs are made under warranty.)
2. Ask the customer for all of the vehicle's oil service history (the DPSM will need this information when reviewing the case for warranty consideration).
3. Note what caused the customer to come in, for example, was the MIL was on and oil level was found to be low? Or did the customer find the oil level was low?
4. Print two copies of the attached Engine Oil Consumption Test form. Fill in the VIN and other information on the top of one copy, and record the starting mileage of the test. Give that copy to the customer, and attach the other copy to the repair order.
5. Show the customer how to check the engine oil level:
  - While parked on a level surface.
  - With the engine off.
  - With the engine hot.
  - Wait for 5 minutes after turning off the engine.
  - Remove and wipe off the dipstick with a clean towel.
  - Reinsert the dipstick fully, then remove it again to read the oil level.
6. Inform the customer to check the oil as outlined in their owner's manual. If the oil level approaches the lower mark on the dipstick, return to the dealer. If it is not possible to return to the dealer, then the customer must add the recommended oil and keep proper records of the amount of oil added, the mileage, and the before and after oil levels.

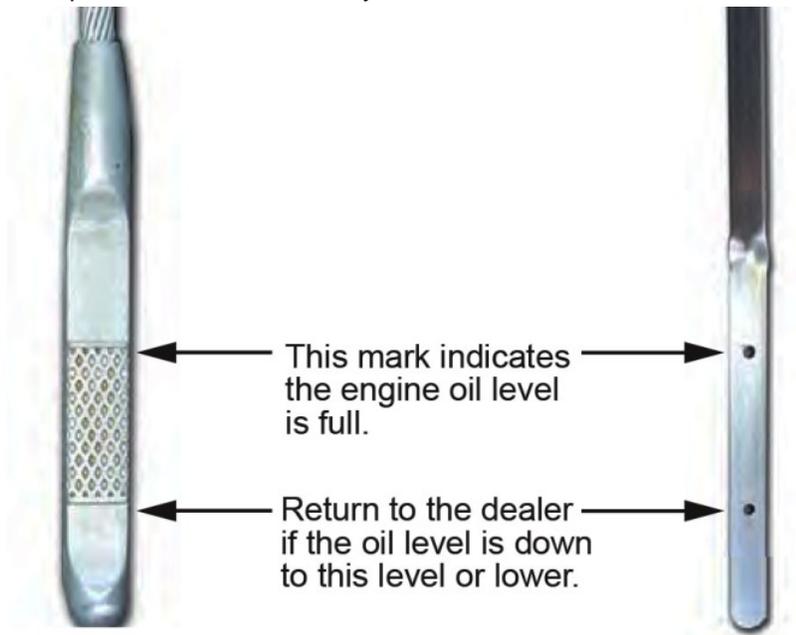
#### Service Technician:

1. Change the engine oil and filter, refilling with the recommended Honda engine oil. Allow the oil to drain for 5 minutes before refilling.
2. Visually confirm that there are no external leaks, or any loose or disconnected breather hoses.
3. Record the starting mileage of the test, and fill in the first part of the Engine Oil Consumption Test form. Put your copy in the customer's file.
4. If you add oil to the engine during the test period, record the total amount of oil added on the Repair Order.

**CUSTOMER INFORMATION:** The information in this bulletin is intended for use only by skilled technicians who have the proper tools, equipment, and training to correctly and safely maintain your vehicle. These procedures should not be attempted by "do-it-yourselfers," and you should not assume this bulletin applies to your vehicle, or that your vehicle has the condition described. To determine whether this information applies, contact an authorized Honda automobile dealer.

5. After tracking the oil consumption, do the following:

- **Check for and review all applicable service information on SIS** before making any repairs. Select the Search by Vehicle tab, and use the pull-down menu to select the model and year. Use keyword **OIL** in the Symptom/Problem field.
- Attach the completed oil consumption form to the hard copy of the repair order.
- Check that there is nothing unusual about the engine, such as the engine has been replaced with a used one, the vehicle has evidence of oil sludge, or there is no oil service history for the vehicle.
- If the oil consumption rate is 1 quart or more every 1,000 miles, follow the normal troubleshooting procedures including any applicable service bulletins. If normal troubleshooting procedures do not lead to a cause, contact your DPSM.
- If oil consumption is 1 quart every 1,000 to 3,000 miles, and the vehicle is driven and operated normally (severe driving conditions include towing, constant idling, the vehicle is used as a shuttle, etc.) contact your DPSM for an assessment and to determine if additional diagnostics are needed.
- Always consult with your DPSM prior to making major engine repairs such as short block or cylinder head replacement under warranty.



## Engine Oil Consumption Test

V.I.N. \_\_\_\_\_

Technician: \_\_\_\_\_

Dealer No. \_\_\_\_\_

### START TEST

Starting Mileage: \_\_\_\_\_ Date \_\_\_\_/\_\_\_\_/\_\_\_\_

(Note: The test must begin promptly after an oil change has been performed)

If someone has to add oil during the test, enter the information below:

Mileage \_\_\_\_\_ Date \_\_\_\_/\_\_\_\_/\_\_\_\_ Amount of Oil Added: \_\_\_\_\_ Qts.

### END TEST

End of Test Mileage: \_\_\_\_\_ Date \_\_\_\_/\_\_\_\_/\_\_\_\_

### TEST RESULTS

Total Miles Driven: \_\_\_\_\_

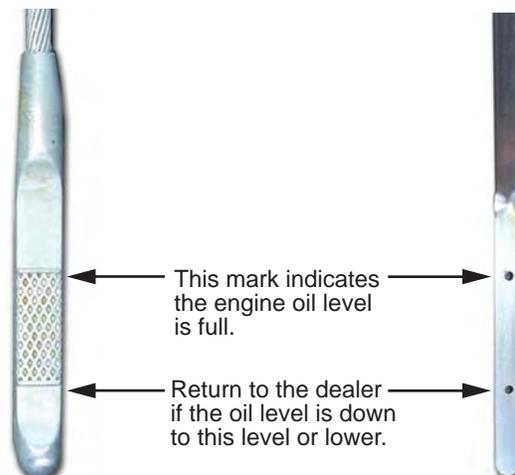
Total Amount Of Oil Added: \_\_\_\_\_ Qts.

**CONSUMPTION RATE:** \_\_\_\_\_ miles per quart

(Divide the total miles driven by the amount of oil added, in quarts.)

- **The engine oil level must be checked frequently as outlined in the owner's manual.**

If the oil level approaches the lower mark on the dipstick, return to the dealer. If it is not possible to return to the dealer, add the recommended oil, and record how much oil was added and at what mileage.



- Check the oil while on a level surface, with the engine off, with the engine hot, and wait 5 minutes before checking. Remove and wipe off the dipstick with a clean towel, insert the dipstick fully, then remove it again to read the oil level.
- Return to the dealership when the oil level has reached the bottom mark on the dipstick.

## DPSM INFORMATION FOR ENGINE OIL CONSUMPTION

To help evaluate if the vehicle is experiencing a problem that is causing excessive engine oil consumption ask the dealer the following questions:

1. Are there any service bulletins or other service information available regarding excessive engine oil consumption for the vehicle?
2. What is the oil service history? [Consider factors such as was the oil regularly changed, where was the oil changed (dealer or independent repair facility), was the correct oil used (viscosity), etc.]

NOTE: On some L4 models with maintenance minder, **it is rare but possible** to go 12,000 miles before the Oil Life reads 0%.

3. Does the customer drive the vehicle under extreme conditions (towing, constant idling, the vehicle is used as a shuttle, etc.)?
4. What is the vehicle model, year, engine type?
5. What is the current mileage?
6. Did the dealer check for any external oil leaks that may be causing the low oil level?

### Reviewing the Oil Consumption Test Results

Have the dealer provide the oil consumption test results and answers to the 6 questions above before determining a repair direction. The interpretation information is split into two vehicle types:

- Vehicles Covered by Warranty Extensions or Service Bulletins
- Vehicles Not Covered by Warranty Extensions or Service Bulletins

### Vehicles Covered by Warranty Extensions or Service Bulletins

Follow any inspection and repair procedures in the applicable Warranty Extension or Service Bulletin. Make sure the vehicle is still covered by the extended warranty time or mileage even if it shows as eligible in the iN VIN status inquiry.

### Vehicles Not Covered by Warranty Extensions or Service Bulletins

For vehicles where there are no applicable service bulletins or warranty extensions that are consuming oil at a rate of 1 quart used for every 1,000 to 3,000 miles, AHM suggests directing the technician to follow some of the troubleshooting procedures below:

NOTE: In cases where the DPSM is not confident in the dealer's findings or it is a newer vehicle (1 or 2 years) with low mileage, it is a good idea to contact Tech Line so that at least the vehicle information is recorded.

- Inspect spark plugs for oil fouling (this can help narrow the inspection to focus on a specific cylinder that may have a problem).
- Visually inspect for oily residue around intake and exhaust valves, exhaust port, or any other areas where oil may collect. A borescope can be helpful to do this.
- For engines with center mounted spark plugs, insert a borescope into the spark plug hole to inspect for oil washing around the edges of the piston which is normally caused by excessive oil consumption. This can help determine if the problem is in the engine block area (missing or stuck control rings).
- Confirm PCV is working and not clogged.
- If the vehicle is a late model vehicle with low mileage, contact Tech Line so the vehicle information is recorded and they may have some additional questions. The engine may need to be disassembled to inspect pistons, piston rings, etc.

## Examples of Excessive Oil Consumption Cases and Handling

The following three vehicle scenarios are hypothetical examples created as a guide to help interpret oil consumption test and engine condition results.

Also review the images of piston heads and spark plugs included at the end of this job aid.

**Vehicle 1: A 2009 Accord L4 with 90,000 miles comes in with the customer complaining about excessive engine oil consumption. After checking SIS, the technician finds a warranty extension bulletin that applies to the vehicle for excessive engine oil consumption.**

1. DPSM reviewed all available service information on SIS; Go to SIS and select **Service Information; Search By Vehicle**; enter the Model and Year; and use keyword "OIL" in Symptom/Problem field. A service bulletin titled *Warranty Extension: Sticking Rings Resulting in High Engine Oil Consumption* appears as a search result.

NOTE: Always make sure you review the latest version of the bulletin on SIS. Do not rely on printed copies of bulletins as they may not be current.

2. DPSM confirmed the vehicle is eligible for this Warranty Extension by doing an iN VIN status inquiry: from the Service page; click on **Vehicle Information**, then select **VIN Inquiry** and enter the VIN.

Additionally, make sure the bulletin applies based on the bulletin warranty conditions such as time and mileage. If the vehicle is eligible after confirming all of the eligibility information, follow the bulletin.

3. DPSM reviewed the oil service history. The oil service appeared normal.

NOTE: On some L4 models with maintenance minder, **it is rare but possible** to go 12,000 miles before the Oil Life reads 0%.

4. The DPSM reviewed the vehicle information provided by the dealer and why the customer came in. The customer complained about oil consumption. The DPSM also noticed the customer said they had to start adding oil between oil changes before coming in.
5. The vehicle's current mileage is 90,000.
6. The DPSM asked if the customer drives the vehicle under extreme conditions (towing, constant idling, the vehicle is used as a shuttle, etc.)? The customer indicated there is nothing unusual about their driving habits.
7. The technician did an engine oil consumption test as indicated by the bulletin using the job aid Engine Oil Consumption Test.
8. The DPSM and technician reviewed the results of the engine oil consumption test. In this case, the test revealed that the vehicle was burning a quart every 2400 miles. The technician followed the warranty extension to repair the vehicle.

**Vehicle 2: 2016 Odyssey (less than 1 year old) with 4,500 miles comes in with the customer stating that "oil is coming out of the tailpipe" and they've put 3 quarts of oil into the engine over 3,000 miles.**

1. DPSM reviewed all available service information on SIS; Go to SIS and select **Service Information; Search By Vehicle**; enter the Model and Year; and use keyword "OIL" in Symptom/Problem field. In this case, there is no service information available.
2. Next the DPSM checked for any Engineering Requests on SIS. From the **Search by vehicle** screen, click the **Home** tab, then click on **Engineering Requests** tab and check if there are any requests that fit this situation. There were no engineering requests.
3. The DPSM had the dealer contact Tech Line. Contacting Tech Line gives the engineering staff an opportunity to be involved in the repair, and to notify the factory of the issue. The DPSM submitted a FQR on the vehicle.
4. Tech Line asked the dealer to do several diagnostic procedures that may include:
  - Inspect spark plugs for oil fouling
  - Confirm the PCV is working and not clogged
  - Visually inspect for oily residue around the base of the intake and exhaust valves, or any other areas where oil may collect
  - Insert a borescope into the spark plug hole to inspect for oil washing around the edges of the piston
5. Tech Line had the dealer disassemble the engine where the technician discovered an oil control ring was missing.

**Vehicle 3: 2013 Accord L4 (3 years) with 35,000 miles comes in with the customer stating they put in 2 quarts of oil over a 2,000 mile period.**

1. DPSM reviewed all available service information on SIS; Go to SIS and select **Service Information; Search By Vehicle**; enter the Model and Year; and use keyword "OIL" in Symptom/Problem field. There were no bulletins related to oil consumption.
2. The DPSM reviewed the oil service history.
3. The DPSM reviewed the vehicle information provided by the dealer and why the customer came in. The customer found oil level low.
4. The vehicle's current mileage is 65,000.
5. DPSM asked if the customer drives the vehicle under extreme conditions (constant idling, used as a shuttle vehicle, used for towing, etc.)? The customer indicates there is nothing unusual about their driving habits.
6. The DPSM asked the technician to do an engine oil consumption test using the job aid titled Engine Oil Consumption Test.
7. The DPSM and the technician reviewed the results of the engine oil consumption test. In this case, the test revealed that the vehicle was burning 1 quart over 1500 miles.
8. The DPSM asked the dealer to contact Tech Line. Tech Line made a recommendation about how to repair the vehicle.
9. In cases outside of warranty and with no other service information, the dealer evaluated the vehicle on a single case basis. After evaluating all the information available in this case for goodwill, the DPSM authorized vehicle repairs.

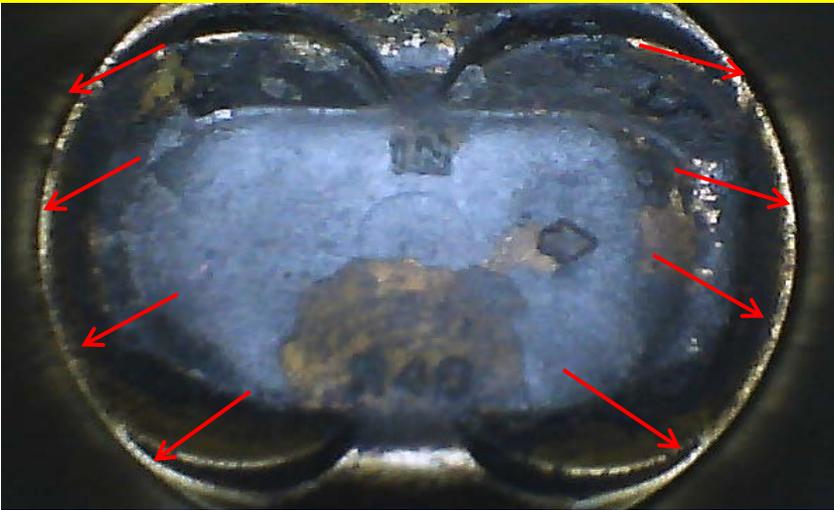
*Items to consider when interpreting results*

Consider the following information when making a decision:

- Oil Change History. Does the oil change history support a reasonable effort to maintain the vehicle? Consider this information, but don't use it to disqualify a customer unless you see a clear case of neglect: the oil wasn't changed regularly, engine sludge, the engine overheated from lack of lubrication, etc. In those cases it might be reasonable to require the customer authorize teardown.
- Customer Drive cycle: How does the customer use the vehicle? If the customer drives the vehicle under extreme conditions, this should be a stronger factor if the vehicle was not properly maintained (questionable or no oil change history, engine sludge etc.). This may be a reason to decline assistance.
- Actual oil consumption rate: All factors indicate the oil consumption rate is not normal.

There are many factors that affect engine oil consumption rates and the situation is different for every customer. Make sure you consider all the information available before coming to a conclusion before proceeding with the vehicle.

These pistons are examples of how piston tops may look when inspected with a borescope inserted through the spark plug holes. Single overhead cam engines have the camshaft mounted directly over the center of the cylinders so the image will appear angled like the lower left photo.



No good: Example of a 2008 2.4L L4 (port fuel injection) with 100,000 miles and is experiencing excessive oil consumption. The piston edges are clean which may occur with stuck rings.



Good: Example of a 2013 2.4L L4 (port fuel injection) with 45,000 miles and no oil problems. Piston top is fairly clean, carbon free.



Good: A close up of a 2014 3.5L V6 (direct injection) with 60,000 miles and no oil problems. No oily deposits, just dry carbon and clean area on piston top from direct injection spray pattern.

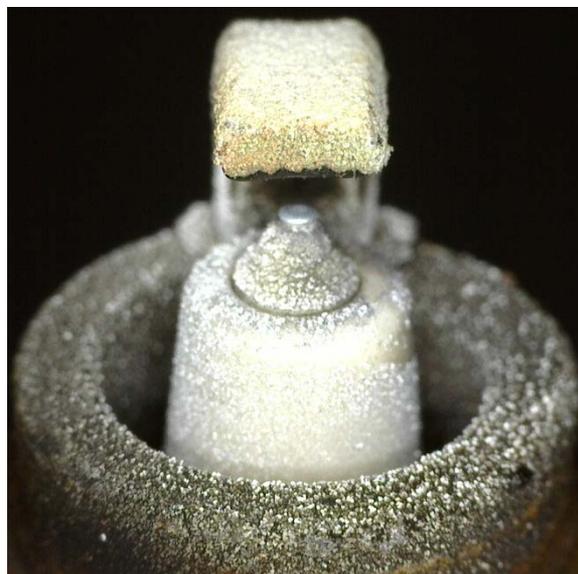


Good: Example of a 2015 1.5L L4 (direct injection) with 20,000 miles and no oil problems. Piston top has a clean area.

**These spark plugs are examples from a high mileage V6 VCM II engine with misfire (magnified for clarity). Spark plugs with oil deposits and broken insulators are good indicators of trouble with the corresponding cylinder.**



Good: Normal gray ash color



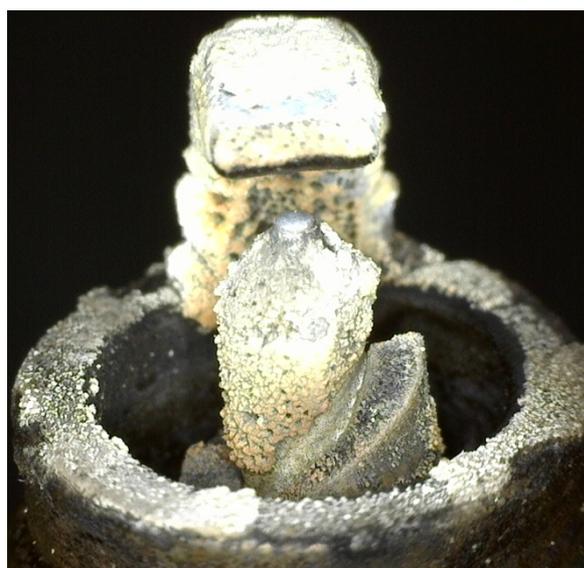
Good: Normal gray ash color



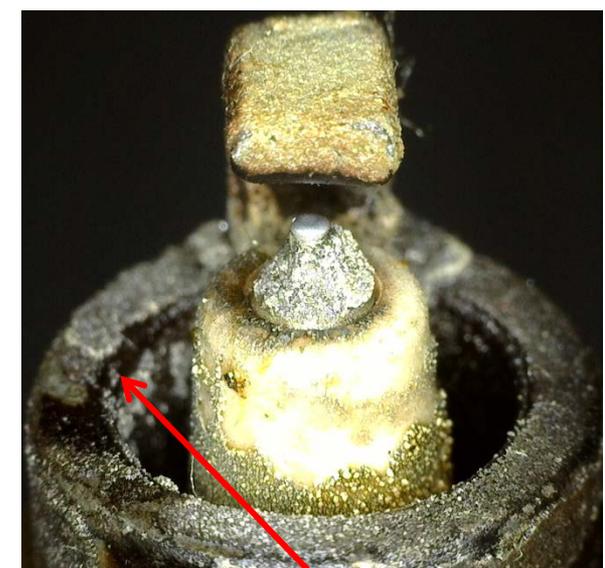
Good: Normal gray ash color



No good: Insulator badly broken



No good: Insulator badly broken



No good: Heavy oil deposits