

**ATTENTION:**

- GENERAL MANAGER
- PARTS MANAGER
- CLAIMS PERSONNEL
- SERVICE MANAGER

IMPORTANT - All Service Personnel Should Read and Initial in the boxes provided, right.




QUALITY DRIVEN® SERVICE

**SERVICE PROGRAM BULLETIN**

**APPLICABILITY:** 2006-2009MY CA PZEV Spec. Subaru Legacy / Outback and 2008-2010MY CA PZEV Spec. Forester

**NUMBER:** WVM-23R  
**DATE:** October 2009  
**REVISED:** 02/06/17

**SUBJECT:** Engine Control Module (ECM) Reprogramming

**INTRODUCTION**

Subaru of America, Inc. (SOA) has determined that vehicles affected by this Service Program require ECM reprogramming.

Under certain severe driving patterns, such as high speed highway/uphill driving and/or accelerating with high engine revolutions, the efficiency of an affected vehicle’s catalytic converter may begin to degrade beyond design parameters. (The “Check Engine” light will illuminate to alert the driver if the catalytic converter efficiency has degraded beyond an acceptable level and if the vehicle may be releasing air pollutants that exceed Federal or California emission standards.)

To prevent this condition, a modification to the Engine Control Module software logic has been developed that will improve management of the catalytic converter.

This condition is a software issue and has no impact on vehicle drivability.

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<p><b>CAUTION: VEHICLE SERVICING PERFORMED BY UNTRAINED PERSONS COULD RESULT IN SERIOUS INJURY TO THOSE PERSONS OR TO OTHERS.</b></p> <p>Subaru Service Bulletins are intended for use by professional technicians ONLY. They are written to inform those technicians of conditions that may occur in some vehicles, or to provide information that could assist in the proper servicing of the vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do the job correctly and safely. If a condition is described, DO NOT assume that this Service Bulletin applies to your vehicle, or that your vehicle will have that condition.</p>	<p style="text-align: center;"><b>SUBARU OF AMERICA, INC. IS “ISO 14001 COMPLIANT”</b></p> <p>The international standard for excellence in Environmental Management Systems. Please recycle or dispose of automotive products in a manner that is friendly to our environment and in accordance with all local, state and federal laws and regulations.</p>
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## AFFECTED VEHICLES

- 2006-2009 MY Subaru Legacy and Outback with CA PZEV Spec Emission System
- 2008-2010 MY Forester with CA PZEV Spec Emission System

Affected vehicles are identified in the VIN range chart below. NOTE: Prior to performing repairs, confirm coverage for potentially affected vehicles by using the Vehicle Coverage Inquiry function at [Subarunet.com](http://Subarunet.com).

	MODEL	FROM	TO
2006MY	Legacy Sedan	6*204460	6*220483
	Legacy Wagon / Outback	6*304299	6*364164
2007MY	Legacy Sedan	7*200029	7*215146
	Legacy Wagon / Outback	7*300023	7*346352
2008MY	Legacy Sedan	8*200366	8*227207
	Outback	8*300017	8*367425
	Forester	8*726363	8*733308
2009MY	Legacy Sedan	9*210001	9*236941
	Outback	9*310001	9*348624
	Forester	9*700011	9*797855
2010MY	Forester	A*700001	A*734757

\* Various Characters may occupy this position

## OWNER NOTIFICATION

SOA will prepare and mail an Owner Notification Letter to owners of affected vehicles. Because of the number of vehicles affected, owner notification will occur in three (3) phases. Phase one (1) will begin in mid-October. When available, a final schedule for all phases will be posted on [Subarunet.com](http://Subarunet.com)

A copy of the Owner Notification Letter is included at the end of this bulletin.

## DEALER PROGRAM RESPONSIBILITY

Dealers are to promptly service all vehicles subject to this service program at no charge to the vehicle owner regardless of mileage, age of the vehicle, or ownership.

For affected vehicles sold after the date on the dealer's computer list, dealers are to contact those owners and provide them with a copy of the owner notification letter. They should also arrange to make the required correction according to the instructions in the service procedure section of this bulletin.

Dealers are also to promptly perform the applicable service procedures defined in this bulletin to correct all affected vehicles in their inventory (new, used, demo). Additionally, whenever a vehicle subject to this service program is taken into dealer new or used inventory, or is in the dealership for service, necessary steps should be taken to ensure the service program correction has been made before selling or releasing the vehicle.

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## PARTS INFORMATION

No repair parts are needed to perform this procedure. However, for those vehicles requiring catalytic converter replacement in association with this Service Program, Subaru has prepared the following gasket/hardware kit.

DESCRIPTION	PART NUMBER
WVM23 Gasket Kit*	10105AB340

\*The WVM23 Gasket Kit contains the following components:

NO.	PART DESCRIPTION	PART NUMBER	Q'TY
1	GASKET F	44022AA020	2
2	GASKET-EXHAUST	44616AA030	1
3	FLANGE NUT	-902370009	6
4	NUT-8x7.5	-802008270	2
5	BOLT	44059AA010	2
6	FLANGE NUT	-902370010	3
7	GASKET CM	44022AA122	1
8	BOLT & WASH M10	-901250076	1
9	SPRING	44044AA010	2

## SPECIAL TOOLS

**Vehicle ECM reprogramming will require the following:**

Subaru Diagnostic System (SDS)

- SDS Toughbook
- Subaru Select Monitor III (SSMIII Application Software)
- Subaru Diagnostic Interface Box (SDI)
- USB Data Link Cable and Reprogramming Cable.

**Note:** If you require assistance with using the Subaru Diagnostic System (SDS), use the “Help” function icon, which will allow you to access the tutorial information.

## SERVICE PROCEDURE

This service procedure will involve completing the following two (2) steps:

- 1) Check ECM memory for diagnostic trouble codes.
- 2) Reprogram ECM with updated Pack file.

### 1) Check ECM memory for diagnostic trouble codes.

Using the appropriate Subaru Diagnostics System (SDS) components, connect to the vehicle’s Diagnostic Link Connector (DLC) located in the vehicle’s lower left dash panel.

Select the Select Monitor Icon from the SDS Graphical User Interface (GUI).

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The Main Menu will appear:

- 1) Select **Each System Check** .
- 2) Select **Engine Control System**.
- 3) Select **Diagnostic Code(s) Display**.
- 4) Select **Memorized Diagnostic Code(s)**.
- 5) Search results will appear. Proceed as follows:

**If no codes are found**, proceed to the “ECM Reprogramming Instructions” section of this bulletin, beginning on this page, below.

**If trouble codes are found**, refer to the following table for the correct repair procedure. Make any necessary repairs and clear all codes prior to reprogramming the ECM.

DIAGNOSTIC TROUBLE CODE	REPAIR PROCEDURE
P0420	Replace Catalytic Converter(s).
Any other code, or combination of codes, not listed above.	Refer to applicable service manual for additional diagnostic procedures. After completing repairs, clear codes and reprogram the ECM.

## 2) ECM Reprogramming Instructions

Confirm your SSMIII contains the October 2009 or newer software update.

**Note:** Vehicles equipped with automatic transmission must be placed in “Park” (P) during the reprogramming process.

### Upgrade Version Numbers

Use the following Pack file to reprogram the ECM:

MODEL YEAR	VEHICLE	TRANSMISSION	NEW ECM / PAK FILE PART NUMBER
2006MY	Legacy & Outback 2.5L NA CA Spec. PZEV	A/T	22611AK44E.pak
	Legacy & Outback 2.5L NA CA Spec. PZEV	M/T	22611AK43G.pak
2007MY	Legacy & Outback 2.5L NA CA Spec. PZEV	A/T	22611AM39C.pak
	Legacy & Outback 2.5L NA CA Spec. PZEV	M/T	22611AM38C.pak
2008 & 09MY	Legacy & Outback 2.5L NA CA Spec. PZEV	A/T	22611AN02E.pak
	Legacy & Outback 2.5L NA CA Spec. PZEV	M/T	22611AN01D.pak
2008MY	Forester 2.5L NA CA Spec. PZEV	A/T	22611AN084.pak
	Forester 2.5L NA CA Spec. PZEV	M/T	22611AN073.pak
2009MY	Forester 2.5L NA CA Spec. PZEV	A/T	22611AN452.pak
	Forester 2.5L NA CA Spec. PZEV	M/T	22611AN442.pak
2010MY	Forester 2.5L NA CA Spec. PZEV	A/T	22765AA361.pak
	Forester 2.5L NA CA Spec. PZEV	M/T	22765AA351.pak

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## STATE EMISSION TESTING ADVISORY

After ECM reprogramming, the OBD system's readiness code monitors will set to "incomplete". Normally, the vehicle needs to be driven under a variety of conditions before the readiness code monitors will indicate "complete". (See State I/M Program Advisory Bulletin number 11-72-04, dated 8/4/04 for details.)

## SERVICE PROGRAM IDENTIFICATION LABEL

Type or print the necessary information on a Service Program identification label. The completed label should be attached to the vehicle's upper radiator support.

Additional labels are available through the Customer Dealer Services Department (CDS) at 1-866- 782-2782.

<b>SUBARU</b>
Campaign Code <b>WVM-23</b>
COMPLETED
DIST./DEALER NO.
SERIAL NO.
<b>DO NOT REMOVE</b>

## CALIFORNIA "VEHICLE EMISSION RECALL - PROOF OF CORRECTION" CERTIFICATE

The California Air Resources Board and the Department of Motor Vehicles Registration/ Recall Program requires that all emission related Recall/Campaign or Service Program repairs be completed before a vehicle registration is renewed. Please provide owners of vehicles registered in the state of California a completed "Vehicle Emission Recall - Proof of Correction" certificate. Vehicle owners should be advised to retain this certificate because the California Department of Motor Vehicles may require they provide proof this service program repair has been completed.

Vehicle Emission Recall - Proof of Correction				
License Number	Make	Year Model	Body Type	Vehicle Identification Number
	Subaru of America, Inc.			
Manufacturer		Recall Number		
The above described vehicle has been repaired, modified and/or equipped with new emission control devices to meet applicable California Emission Control Laws				
Dealer's Name		Address, City, State and Zip		
Date		Dealership's Authorized Signature		
		x		
Return this certificate to DMV <u>only</u> when required-otherwise retain for your records.				

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## CLAIM REIMBURSEMENT AND ENTRY PROCEDURES

Credit to perform this Service Program will be based on the submission of properly completed repair order information. Dealers may submit claims through Vehicle Claim Entry on Subarunet.

**Note:** certain vehicles affected by the WVM-23 Service Program may also be affected by the WVU-31 ECM Reprogramming Service Program. Since the WVU-31 PAK file includes the updates contained in the WVM-23 PAK file, only reprogram the ECM using the WVU-31 PAK file. **If WVM-23 was previously performed or performed in conjunction with WVU-31, labor time will be reduced by 0.4 hours on the WVM-23 claim, to adjust for overlapping reprogramming labor.**

### **When WVM-23 is not Performed in Conjunction with WVU-31:**

CLAIM TYPE	CAMPAIGN CODE	LABOR	LABOR OPERATION
RC	WVM-23	A145-580 0.6 hrs.	Reprogram ECM only.
		A145-582 1.1 hrs.	ECM reprogramming and Catalytic Converter Replacement.

### **When WVM-23 is Performed in Conjunction with or after performing WVU-31:**

CLAIM TYPE	CAMPAIGN CODE	LABOR	LABOR DESCRIPTION
RC	WVM-23	A145-580 0.2 hrs.	Reprogram ECM only.
		A145-582 0.7 hrs.	ECM reprogramming <u>and</u> Catalytic Converter replacement.

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## OWNER NOTIFICATION LETTER

Service Program WVM-23  
Engine Control Module Reprogramming  
October 2009

### **Dear Subaru Owner:**

We would like to thank you for selecting a 2006~2009 Subaru Legacy / Outback or 2008~2010 Subaru Forester with a 2.5 Liter engine equipped with a California Partial Zero Emission Vehicle (PZEV) emission system. At Subaru, we take pride in our products and are committed to your continued satisfaction.

During a quality review, we discovered that under certain severe driving patterns, such as high speed highway/uphill driving and/or accelerating with high engine revolutions, the efficiency of your vehicle's catalytic converter may begin to degrade beyond design parameters. (The "Check Engine" light will illuminate to alert you if the catalytic converter efficiency has degraded beyond an acceptable level and if your vehicle may be releasing air pollutants that exceed Federal or California emission standards.) To prevent this condition, Subaru has developed a modification to the Engine Control Module software logic that will improve management of the catalytic converter. This software change will not adversely affect the performance of your vehicle.

### WHAT WE ARE ASKING YOU TO DO PROMPTLY

We suggest that you schedule an appointment with your Subaru Dealer as soon as possible to have your vehicle's Engine Control Module software reprogrammed. The approximate time to perform this update is 40 minutes. However, it may be necessary for you to leave your car for a longer period on the day of your scheduled appointment to allow your dealer flexibility in scheduling other appointments. Your Subaru dealer will perform this repair at no cost to you. Please present this letter to your Subaru Dealer on the day of your service appointment.

### CALIFORNIA REGISTERED OWNERS

The California Air Resources Board requires that emission related campaigns be completed prior to California's vehicle registration renewal process; without this repair, you will not be able to register your vehicle during your next annual registration. Upon completion of the services required by this campaign, your California dealer will complete and provide you a "Proof of Correction Certificate." If required, present the certificate to the California Department of Motor Vehicles (the "DMV") when renewing your California registration as proof of campaign completion. If the DMV does not request the certificate, we recommend that you keep it for your records.

In addition, the State of California requires that every vehicle must pass an emission test (SMOG Check) every two years and before it is sold. Without the free service we are providing, your vehicle may be more likely to fail this test and require that you make costly repairs.

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## CHANGED YOUR ADDRESS OR SOLD YOUR SUBARU?

If you have changed your address, or if you have sold your Subaru, please complete the enclosed prepaid postcard and mail it to us.

## IF YOU NEED FURTHER ASSISTANCE

To locate your nearest Subaru Dealer, you can access our web site at [www.Subaru.com](http://www.Subaru.com) and go to the dealer locator function. Or, you may call us at 1-800SUBARU3 (1-800-782-2783) during normal business hours. Please call or write (using the address at the top of this letter) us immediately if the dealer fails or is unable to complete this procedure free of charge.

Your continued satisfaction with Subaru is important to us. This update is intended to assure your vehicle's optimal performance. We appreciate your understanding in this matter and regret any inconvenience this may cause you.

Sincerely,  
Subaru of America, Inc.

### ***Notice to Lessors***

*The lessor of a vehicle who receives this letter is requested to provide a copy of it to the vehicle lessee(s) within 10 business days from receipt. The lessor should also keep a record of the lessee(s) to whom this letter is sent, the date sent, and the applicable vehicle identification number (VIN). (For the purposes of this section, a lessor means a person or entity that in the last twelve months prior to the date of this notification has been the owner, as referenced on the vehicle's title, of any five or more leased vehicles. A leased vehicle is a vehicle leased to another person for a term of at least four months.)*

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