

ATTENTION:
 GENERAL MANAGER
 PARTS MANAGER
 CLAIMS PERSONNEL
 SERVICE MANAGER

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

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QUALITY DRIVEN® SERVICE

SERVICE BULLETIN

APPLICABILITY: 2012 and Later Impreza and XV Crosstrek™
 NA Models (FB Engine)
 2013MY BRZ (FA Engine)
 2013MY Legacy and Outback Models (FB Engine)
 2011MY and Later Forester NA Models (FB Engine)

NUMBER: 02-132-12R
DATE: 08/21/12
REVISED: 01/21/13

SUBJECT: Diagnosis and Repair for AVCS-Related DTCs
 P000A, P000B, P000C, P000D, P0011, P0014,
 P0021 and P0024

INTRODUCTION

This Bulletin provides a procedure for diagnosis and determination of necessary part replacement in the event any of the “AVCS Slow Response” or “AVCS System Failure” DTCs listed above are found to be stored in the ECM memory. A possible cause of these conditions is contamination within the camshaft sprocket and / or oil control solenoid valve (OCV) mechanism.

COUNTERMEASURE IN PRODUCTION

Countermeasures were incorporated into production during July, 2012 starting with the following VINs:

| MODEL | VEHICLE TYPE | STARTING VIN FOR CAMSHAFT SPROCKET COUNTERMEASURE | STARTING VIN FOR OIL CONTROL SOLENOID VALVE COUNTERMEASURE |
|---|--------------|---|--|
| BRZ | - | D*603215 | D*603362 |
| Impreza and XV Crosstrek (Exc. WRX & STI) | 4-Door | D*004206 | D*004655 |
| | 5-Door | D*204371 | D*205723 |
| Legacy | - | D*006591 | D*006243 |
| Outback | - | D*213584 | D*212977 |
| Forester | - | D*417742 | D*419507 |

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| <p>CAUTION: VEHICLE SERVICING PERFORMED BY UNTRAINED PERSONS COULD RESULT IN SERIOUS INJURY TO THOSE PERSONS OR TO OTHERS.</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>SUBARU OF AMERICA, INC. IS "ISO 14001 COMPLIANT"</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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SERVICE PROCEDURE / INFORMATION

NOTES: Only the Intake-related DTCs are applicable to Legacy, Outback and Forester models.
DTC P0011 and P0021 are applicable to Forester models only.

- Using the SSMIII, determine which DTC is stored.
- Determine the location of the suspect component using the **DTC List** on page 3.
- Swap the Oil Control Solenoid Valves side-to-side (intake to intake or exhaust to exhaust, not between intake and exhaust on same side) following the procedure in the applicable Service Manual.

NOTE: The o-ring and nylon backer ring on the OCV must be replaced prior to reinstallation as they both are one-time use items.

- Clear the ECM memory.
- Perform the model-specific Drive Cycle or Inspection Mode procedure for the corresponding DTC as shown in the chart on the next page.
- Follow the applicable procedure below for locating either Inspection Mode or Drive Cycle instructions to coincide with the reference chart found on page 3.
 1. For BRZ: Using the Service Diagnostics tab on the STIS home page, enter your vehicle search parameters (example: 2013 > BRZ). Next, using the DTC tab, enter P0021 for INTAKE-related DTCs or P0024 for EXHAUST-related DTCs. Select the applicable link from your search result (example: P0021: Camshaft Position "A" - Timing Over-Advanced or System Performance (Bank 2)). Follow the diagnostic outline down to TEST DRIVE (for Drive Cycle) information.
 2. For All Other Models: Using the Service Diagnostics tab on the STIS home page, enter your vehicle search parameters (example: 2013 > Outback). Next, enter specific DTC into the search term box. Select the applicable link from your search result (examples: ENGINE (DIAGNOSTICS) (H4DO) > Drive Cycle > PROCEDURE or ENGINE (DIAGNOSTICS) (H4DO) > Inspection Mode > PROCEDURE).

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| DTC | DESCRIPTION | RH / LH | INTAKE / EXHAUST | VEHICLE MODEL AND ENGINE TYPE (FA, FB) | | | |
|-------|--|---------|------------------|--|--|--|--|
| | | | | BRZ (FA) | "2012 - 13MY Impreza, XV (FB)" | "2011-13MY Forester (FB)" | "2013MY LEG & Outback (FB)" |
| P000A | A Camshaft Position Slow Response (Bank 1) | RH | Intake | BRZ Drive Cycle (Refer to Service Manual) | "Drive Cycle ""C"" (Refer to Service Manual)" | Not Applicable | "Drive Cycle ""C"" (Refer to Service Manual)" |
| P000B | B Camshaft Position Slow Response (Bank 1) | RH | Exhaust | BRZ Drive Cycle (Refer to Service Manual) | "Drive Cycle ""C"" (Refer to Service Manual)" | Not Applicable | Not Applicable |
| P000C | A Camshaft Position Slow Response (Bank 2) | LH | Intake | BRZ Drive Cycle (Refer to Service Manual) | "Drive Cycle ""C"" (Refer to Service Manual)" | Not Applicable | "Drive Cycle ""C"" (Refer to Service Manual)" |
| P000D | B Camshaft Position Slow Response (Bank 2) | LH | Exhaust | BRZ Drive Cycle (Refer to Service Manual) | "Drive Cycle ""C"" (Refer to Service Manual)" | Not Applicable | Not Applicable |
| P0011 | Intake Camshaft Position - Timing Over-Advanced or System Performance (Bank 1) | RH | Intake | BRZ Drive Cycle (Refer to Service Manual) | "Inspection Mode (Refer to Service Manual)" | "Inspection Mode (Refer to Service Manual)" | "Drive Cycle ""C"" (Refer to Service Manual)" |
| P0014 | Exhaust AVCS System 1 (Range / Performance) | RH | Exhaust | BRZ Drive Cycle (Refer to Service Manual) | "Inspection Mode (Refer to Service Manual)" | Not Applicable | Not Applicable |
| P0021 | Intake Camshaft Position - Timing Over-Advanced or System Performance (Bank 2) | LH | Intake | BRZ Drive Cycle (Refer to Service Manual) | "Inspection Mode (Refer to Service Manual)" | "Inspection Mode (Refer to Service Manual)" | "Drive Cycle ""C"" (Refer to Service Manual)" |
| P0024 | Exhaust AVCS System 2 (Range / Performance) | LH | Exhaust | BRZ Drive Cycle (Refer to Service Manual) | "Inspection Mode (Refer to Service Manual)" | Not Applicable | Not Applicable |

- Does the suspect component / problem location change to the opposite bank of the engine by resetting the applicable DTC?
 - **YES-** Replace the suspect OCV with a new part (including a new o-ring and backer ring).
 - **NO-** Replace the suspect camshaft sprocket with a new part. (It is not necessary to return OCVs to their original positions.)

IMPORTANT: After any component replacement, perform the applicable **Drive Cycle or Inspection Mode procedure** again to confirm the repair.

WARRANTY / CLAIM INFORMATION

For vehicles within the Basic New Car Limited and/or Powertrain Warranty period, this repair may be claimed using the following information:

| LABOR DESCRIPTION | LABOR OPERATION # | FAIL CODE | VEHICLE MODEL | | | |
|--|-------------------|-----------|---------------|---------|----------|------------------|
| | | | BRZ | IMPREZA | FORESTER | LEGACY / OUTBACK |
| Swap OCVs, Drive Cycle or Inspection Mode and Replace OCV | A244-501 | BAD-42 | 1.1 | 1.1 | 0.9 | 1.1 |
| Swap OCVs, Drive Cycle or Inspection Mode and Replace Cam Sprocket | A244-511 | | 4.5 | 4.9 | 4.7 | 4.9 |

NOTE: These labor times include all the Drive Cycle or Inspection Mode procedures as needed and all SSMIII use.