

ATTENTION:

GENERAL MANAGER PARTS MANAGER
 CLAIMS PERSONNEL SERVICE MANAGER

IMPORTANT - All Service Personnel Should Read and Initial



SUBARU

SERVICE BULLETIN

APPLICABILITY: 00~03MY Legacy/Outback;
 04MY Legacy/ Outback Fed Spec only;
 03~05MY Baja; 99~05MY Forester;
 99~04MY Impreza with 2.5L SOHC engines

NUMBER: 02-96-05
DATE: 09/09/05

SUBJECT: 2.5L Remanufactured SOHC Short Block Release

INTRODUCTION

Subaru of America, Inc. is making available remanufactured SOHC short blocks for use in engine repairs when the original equipment short block must be replaced, with the exception of new (in-stock) unsold vehicles. These remanufactured short blocks include oil pans, water pumps, thermostats, thermostat housings, and oil pumps. When compared with conventional repairs using an original equipment replacement short block, a new water pump, and new oil pump, these remanufactured short blocks provide significant savings to customers. These replacement assemblies are factory tested for peak performance. Each remanufactured SOHC short block is covered by the Genuine Subaru Remanufactured Engine Limited Warranty for 3-year or 36,000 mile from the date and mileage of installation (whichever occurs first), the Limited Warranty for Genuine Subaru Replacement Parts, or the balance of the Subaru New Vehicle Limited Warranties (when installed by a Subaru dealer) whichever is applicable.

PARTS INFORMATION

SOA450H300R1	REMAN SOHC SHORT BLOCK	Replaces 10103AB100
SOA450H400R1	REMAN SOHC SHORT BLOCK	Replaces 10103AB120 for 02MY Impreza only and 10103AB190 for 02MY Forester only
SOA450H500R1	REMAN SOHC SHORT BLOCK	Replaces 10103AB190
SOA450H600R1	REMAN SOHC SHORT BLOCK	Replaces 10103AB380 and 10103AB390 except for 03~05MY Forester (manual transmission only)
SOA450H700R1	REMAN SOHC SHORT BLOCK	Replaces 10103AB390 for 03~05MY Forester w/ 4EAT only

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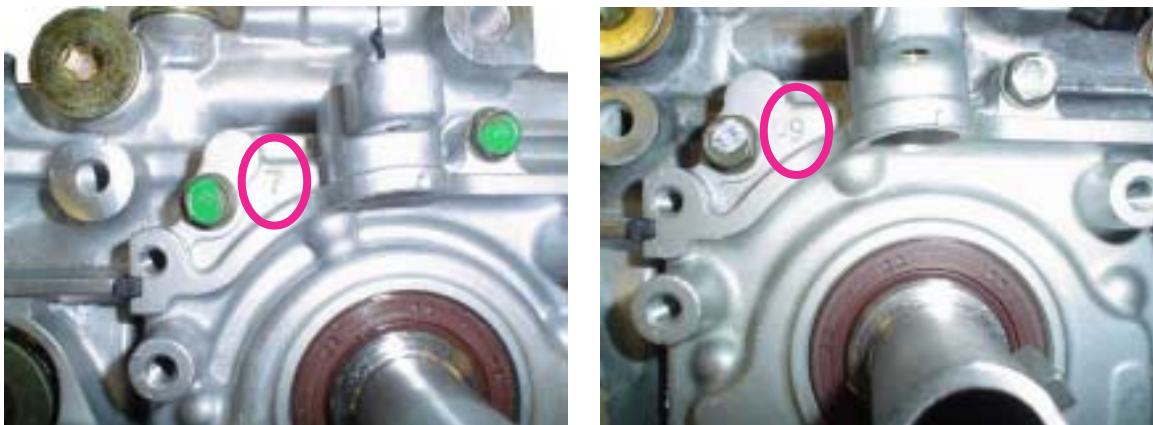


CAUTION: VEHICLE SERVICING PERFORMED BY UNTRAINED PERSONS COULD RESULT IN SERIOUS INJURY TO THOSE PERSONS OR TO OTHERS.

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.

Vehicle Model	Engine Type	Original Equipment SOA Short Block PN	Remanufactured Replacement	Starting Production Date	Ending Production Date	PCV Pipe	Oil Pump	Water Pump
99 Forester 00-01 Forester 02 Forester 03-05 Forester MT 03-05 Forester AT	2.5L SOHC NA 2.5L SOHC NA 2.5L SOHC NA 2.5L SOHC NA 2.5L SOHC NA	10103AB100 10103AB190 10103AB190 10103AB380 10103AB390	SOA450H300R1 SOA450H500R1 SOA450H400R1 SOA450H600R1 SOA450R700R1	Mar-98 Apr-99 Dec-00 Nov-01 Nov-01	Jun-99 Feb-01 Feb-02 Mar-04 Mar-04	Non-threaded pipe for PCV Non-threaded pipe for PCV Non-threaded pipe for PCV Threaded pipe for PCV Threaded pipe for PCV	9mm 9mm 7mm 7mm 7mm	w/o cooler pipe w/o cooler pipe w/o cooler pipe w/o cooler pipe w/ cooler pipe
99 Impreza 00-01 Impreza 02 Impreza 03-04 Impreza MT 03-04 Impreza AT	2.5L SOHC NA 2.5L SOHC NA 2.5L SOHC NA 2.5L SOHC NA 2.5L SOHC NA	10103AB100 10103AB190 10103AB120 10103AB380 10103AB390	SOA450H300R1 SOA450H500R1 SOA450H400R1 SOA450H600R1 SOA450R600R1	Dec-97 Aug-98 Sep-00 Apr-02 Apr-02	Jun-99 Nov-00 May-02 Mar-04 Mar-04	Non-threaded pipe for PCV Non-threaded pipe for PCV Non-threaded pipe for PCV Threaded pipe for PCV Threaded pipe for PCV	9mm 9mm 7mm 7mm 7mm	w/o cooler pipe w/o cooler pipe w/o cooler pipe w/o cooler pipe w/o cooler pipe
00-01 Legacy / Outback MT 00-01 Legacy / Outback AT 02-03 Legacy / Outback MT 02-03 Legacy / Outback AT 04 FED Legacy / Outback MT 04 FED Legacy / Outback AT	2.5L SOHC NA 2.5L SOHC NA 2.5L SOHC NA 2.5L SOHC NA 2.5L SOHC NA 2.5L SOHC NA	10103AB180 10103AB190 10103AB380 10103AB390 10103AB380 10103AB390	SOA450H500R1 SOA450H500R1 SOA450H600R1 SOA450R600R1 SOA450H600R1 SOA450R600R1	Feb-99 Feb-99 Feb-01 Feb-01 Jan-03 Jan-03	May-01 May-01 Jun-03 Jun-03 Feb-04 Feb-04	Non-threaded pipe for PCV Non-threaded pipe for PCV Threaded pipe for PCV Threaded pipe for PCV Threaded pipe for PCV Threaded pipe for PCV	9mm 9mm 7mm 7mm 7mm 7mm	w/o cooler pipe w/o cooler pipe w/o cooler pipe w/o cooler pipe w/o cooler pipe w/o cooler pipe
03-05 Baja MT 03-05 Baja AT	2.5L SOHC NA 2.5L SOHC NA	10103AB380 10103AB390	SOA450H600R1 SOA450H600R1	Jul-02 Jul-02	Apr-05 Apr-05	Threaded pipe for PCV Threaded pipe for PCV	7mm 7mm	w/o cooler pipe w/o cooler pipe

Visual identification of 7mm and 9mm oil pumps.



Visual identification of threaded and non-threaded PCV pipes.



Visual identification of water pump with oil cooler pipe and without.



REPAIR PROCEDURES/INFORMATION

A gasket kit has been made available to speed the installation process. The kit (SOA Part Number 10105AA930) includes all the gaskets required for a basic short block replacement, including rocker cover gaskets. Three Bond sealers are not included. Oil filler duct and oil level gauge (dipstick) o-rings are not included and will need to be ordered separately if needed.

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The configuration of the remanufactured SOHC short block requires some component transfer depending upon the existing engine configuration. Any transferred components should be inspected and replaced if necessary.

Be sure to remove the three plastic transit plugs (shown below) prior to installation. One is located in the oil pressure switch plug. The others are in the main oil gallery ports that feed each head.



If the engine being replaced has an oil cooler installed, the oil cooler assembly, oil cooler pipe, hoses, nipple, thermostat housing, and connector will need to be transferred from the existing block to the replacement hybrid block. Any transferred parts should always be inspected and replaced if needed. New oil cooler o-ring and thermostat gaskets are part of the gasket kit (10105AA930). The metal gasket for the oil cooler nipple should be re-used. Apply Threebond 1215 (SOA Part Number 004403007) to the threads of the oil cooler nipple to prevent coolant leakage. This transfer of components will require removal of the remanufactured short block's factory installed oil filter. In this case, the oil filter should be replaced. In the case of those engines without an oil cooler, there is no need to replace the oil filter that comes with the remanufactured short block. The water pump installation on the remanufactured short block already includes a thermostat and housing.

A small amount of oil will remain in the oil filter and pan following factory testing. There is no need to attempt to remove this oil. Oil will need to be added as part of the installation process, as the remaining oil in the engine is insufficient for engine operation. Always use oil of specified viscosity and grade as listed in the appropriate Subaru Service Manual.

As with any engine repair where the coolant is replaced, Genuine Subaru Coolant and Genuine Subaru Cooling System Conditioner must be used when re-filling the system for any repairs paid for by Subaru of America, Inc. Genuine Subaru Coolant and Genuine Subaru Cooling System Conditioner are recommended for usage in all repairs to maintain peak performance and inhibit corrosion. When installing cooling system conditioner be sure to follow the installation guidelines in the April 2004 Tech Tips (available on STIS) to ensure maximum performance.

Even though the Subaru Reman SOHC Short Block has been tested at the factory, it needs to be treated as a dry engine on initial start up. After installing the engine and filling it with the appropriate amount of engine oil and coolant, it should be cranked with no compression to allow oil circulation and the development of normal oil pressure. During this process the spark plugs should be removed, the fuel pump disabled, and ignition system disabled. Please see the appropriate Subaru Service Manual for these procedures. The engine should be cranked for no more than 3 consecutive 15 second cycles to prevent starter damage. The oil pressure level can be confirmed through observation of the vehicle's oil pressure indicator lamp or in more detail through use of an approved oil pressure gauge.

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Customers should be instructed to follow new vehicle break-in driving procedures as described in the owner's manual.

A remanufactured short block must be used when replacing an original equipment short block anytime Subaru of America, Inc pays for the repair, with the exception of any repair to a new (in-stock) unsold vehicle.

Remanufactured short blocks can be easily identified due to a yellow RDOT tag on the unit's bell housing.

Repairs may be performed under warranty for manufacturing defects relating to the listed external component parts of the remanufactured short block.

These items include:

- The water pump and water pump gasket
- Thermostat, Thermostat housing, or gasket (as supplied with the unit)
- Oil pump, oil pump o-ring, sealer, and crankshaft seal
- Rear main seal
- Oil pan, oil pan sealer, and oil return seal
- Rear separator cover and sealer
- Piston pin access plug and seal
- Coolant production plugs

A DSOM authorization is required prior to replacing or repairing a remanufactured short block.

If there is damage to the internal block components due to the failure of external component(s), the unit should be replaced with another remanufactured short block. If there is an internal failure of a remanufactured short block including but not limited to: crankshaft, connecting rods, pistons, piston rings, bearings, or case the unit should be replaced with another remanufactured short block.

To ensure full core credit, dealers should follow all instructions contained in the Subaru Engine Core Document Packet. This packet contains a core return checklist; credit request and diagnosis form, core return procedures, and shipping labels. All items must be completed legibly and the packet attached to the core as indicated. The copy of the Credit Request and Diagnosis Form marked, as the "DEALER FILE COPY" should be kept as part of the vehicle record.

All engine short block cores must be returned using Roadway Reverse Logistics in order to receive core credit. All fluids must be drained from the core and the core properly packaged in the return container to prevent residual leakage or shipping damage during transit. This includes installing the three plastic transit plugs from the supplied unit. In addition, place the return unit in the original shipping bag or an equivalent substitute and seal it in a manner similar to the supplied unit. **The shipper is responsible for any fluid leakage during return shipment.**

If the core has been partially or fully disassembled, externally damaged, or a junkyard core substituted, no credit will be issued. A complete core consists of the complete short block assembly, oil pump, water pump, thermostat housing, and oil pan as a complete unit. The core should not be disassembled, in order to obtain full credit.

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CLAIM REIMBURSEMENT/WARRANTY INFORMATION

2.5L remanufactured SOHC short blocks cannot be used for repairs to new (in-stock) unsold vehicles.

For vehicles within the New Vehicle Limited Warranty period, the Genuine Subaru Remanufactured Engine Limited Warranty, or under the terms of the Limited Warranty for Genuine Subaru Parts, repairs may be claimed using the following labor operations and failure coding information. Assembly installation or replacement claims require a DSOM authorization and must include the serial number of the unit installed (as listed on the yellow RDOT tag). The serial number must be placed in the Exch/Serial/Inv# field of the claim entry. Repair claims for external components require a DSOM authorization and must include the repaired unit's serial number in the Exch/Serial/Inv# field of the claim entry.

This information is supplied for use during this program's initial release. Always refer to the Subaru Warranty Wizard application for the most current information.

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REMAN SOHC SHORT BLOCK INSTALLATION OR REPLACEMENT LABOR OPERATION DESCRIPTION	REMAN SOHC ONLY OPERATION NUMBER	2.5L REMAN SOHC ENGINE TIMES	NOTES
SHORT BLOCK 2.5L REMAN SOHC SHORT BLOCK	B295-041	6.6	+ 0.5 for Automatic Transmission Includes Engine R&R
ENGINE NOISE TESTING AND DIAGNOSIS	C295-101	0.4	Can be claimed one time per repair only.
ENGINE COMPRESSION AND / OR CYLINDER LEAK DOWN TESTING AND DIAGNOSIS	C295-111	1.2	Can be claimed one time per repair only.
REMAN SOHC SHORT BLOCK EXTERNAL COMPONENT REPAIR LABOR OPERATION DESCRIPTION	REMAN SOHC ONLY OPERATION NUMBER	2.5L REMAN SOHC ENGINE TIMES	NOTES
CAM BELT, TENSIONER / PULLEY R&R	B252-201	1.6	Add related 'C' Operation(s)
WATER PUMP / GASKET R&R	C259-401	0.5	
ENGINE OIL PUMP / O-RING R&R	C255-201	0.3	
FRONT CRANKSHAFT OIL SEAL R&R	C256-011	0.1	
ENGINE OIL AND / OR COOLANT LEAK TESTING AND DIAGNOSIS	C245-001	0.4	Can be claimed one time per repair only.
REAR CRANKSHAFT OIL SEAL R&R	B394-241	3.3	Automatic or Manual Transmission. Includes Flywheel or Torque Converter Drive Plate R&R and Leak Testing
ENGINE OIL SEPARATOR COVER, GASKET, SEALER, AND / OR REAR PISTON PIN ACCESS PLUG OR SEAL R&R	B394-601	3.5	Automatic or Manual Transmission. Includes Flywheel or Torque Converter Drive Plate R&R and Leak Testing
OIL PAN, SEALER / OIL RETURN O RING R&R	B255-301	1.2	
ENGINE OIL FILTER R&R	A255-231	0.3	
THERMOSTAT, HOUSING / GASKET R&R	B229-301	0.4	
FRONT PISTON PIN ACCESS PLUG OR SEAL R&R	A245-151	2.2	One or Both Sides. Includes Oil Leak Testing, R&R Cambelt, Cambelt Idler Pulley and/or Cover Spacer
COOLANT PASSAGE PRODUCTION PLUG, RESEAL	A246-152	0.6	Includes Leak Testing and Diagnosis.
OIL PAN DRAIN PLUG OR GASKET R&R	A245-321	0.3	Includes Draining and Refilling of Engine Oil and Filter Replacement if Necessary.

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PART DESCRIPTION	REMAN SOHC ONLY FAIL CODES	NUMERIC DESCRIPTION CODES
WATER PUMP	CBA	02, 15, 25, 27, 28, 35
WATER PUMP GASKET	CBB	03, 29
ENGINE OIL PUMP	CBC	01, 15, 17, 22, 27
ENGINE OIL PUMP O-RING	CBD	03, 27, 29
FRONT CRANKSHAFT OIL SEAL	CBE	03, 29
OIL SEPARATOR COVER	CBG	27, 28
OIL SEPARATOR COVER SEALER	CBH	29, 34
REAR CRANKSHAFT OIL SEAL	CBI	03, 29
OIL PAN	CBJ	27, 28, 29
OIL PAN SEALER	CBK	29, 34
OIL RETURN O-RING	CBL	03, 29
OIL FILTER	CBM	13, 22, 34
THERMOSTAT	CBN	20, 21, 22, 39, 43
THERMOSTAT HOUSING	CBO	02, 27, 28
THERMOSTAT HOUSING GASKET	CBP	03, 29
PISTON PIN ACCESS PLUG	CBQ	27, 28
PISTON PIN ACCESS PLUG SEAL	CBR	03, 29
COOLANT PASSAGE PRODUCTION PLUG	CBS	02, 03, 27, 28, 29, 35
OIL DRAIN PLUG OR GASKET	CBT	02, 13, 15, 29, 34
REMAN SOHC SHORT BLOCK	AAO	02, 04, 11, 20, 27, 28