

Technical Service Bulletin

Mazda North American Operations
Irvine, CA 92618-2922

**Subject:**

**POOR ACCELERATION AND ROUGH IDLING WITH DTC P0300,
P0301, P0302, P0303 OR P0304**

Bulletin No.: 01-001/23

Last Issued : 02/03/2023

BULLETIN NOTES

This bulletin supersedes the previously issued bulletin(s) listed below. The changes are noted in Red.

Previous TSBs:	Date(s) Issued:
01-001/23	01/04/23

APPLICABLE MODEL(S)/VINS

2020-2021 Mazda3 (Japan built 2.5T) with VINS lower than JM1BP*****300247 (produced before July 8, 2020)
2020-2021 Mazda3 (Mexico built 2.5T) with VINS lower than 3MZBP*****205173 (produced before September 9, 2020)
2018-2020 Mazda6 (2.5T) with VINS lower than JM1BGL*****524819 (produced before July 8, 2020)
2019-2020 CX-5 (2.5T) with VINS lower than JM3KF*****843332 (produced before July 8, 2020)
2016-2020 CX-9 (2.5T) with VINS lower than JM3TC*****424202 (produced before July 8, 2020)
2020-2021 CX-30 (2.5T) with VINS lower than 3MVDM*****214826 (produced before September 9, 2020)

DESCRIPTION

Some customers may complain about a poor acceleration and rough idling or the CHECK ENGINE light ON with DTC **P0301:00, P0302:00, P0303:00, P0304:00.**

NOTE:

- Only turbo engines are applicable; non-turbo engines are NOT applicable.
- In most cases, DTCs P030X stores, but sometimes not.
- Sometimes the CHECK ENGINE light does not recognize this engine concern.

This is caused by the variable valve in the exhaust manifold seizing and causing the exhaust port to become hot and the exhaust valve seat to wear unevenly, resulting in compression leakage. To eliminate this concern, the design of the exhaust manifold has been modified.

Customers having this concern should have their vehicle repaired using the following repair procedure.

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REPAIR PROCEDURE

1. Verify the customer concern.
2. Check for compression leakage from the exhaust valves.
 - If a compression leakage is determined, replace the cylinder head with the worn valve seats and the exhaust manifold with the siezed variable valve.
 - Mazda3: CYLINDER HEAD GASKET REPLACEMENT [SKYACTIV-G 2.5T (US)]
 - Mazda6: CYLINDER HEAD GASKET REPLACEMENT [SKYACTIV-G 2.5T (US)]
 - CX-30: CYLINDER HEAD GASKET REPLACEMENT [SKYACTIV-G 2.5T (US)]
 - CX-5: CYLINDER HEAD GASKET REPLACEMENT [SKYACTIV-G 2.5T (US)]
 - CX-9: CYLINDER HEAD GASKET REPLACEMENT [SKYACTIV-G 2.5T (US)]
 - If no compression leakage is determined, diagnose P030X:00 according to the instructions on MGSS.
3. Verify the repair.

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PARTS INFORMATION

Parts Number	Description	Qty.	Notes
PY8V-13-450K	MANIFOLD, EXHAUST	1	
PYY1-10-SJ0	HEAD, CYLINDER	1	
PYY1-10-S50	GASKET SET A	1	[R]
PYY1-13-S50	GASKET KIT B	1	[R]
PYY1-13-SRZ	GASKET KIT C	1	[R]
PYY1-13-W8Z	GASKET KIT D	1	[R]
9956-41-400	GASKET	1	[R] for oil drain plug
PYY1-13-223	HOSE, AIR INTAKE-I/ COOLER	1	[R]
PE23-40-584	STUD, FLANG	2	[R] for TWC
9956-41-400	GASKET	1	[R] for drain plug at AT oil pan
B455-32-099B	BOLT, SHAFT	1	[R] Joint Bolt A (Lower), Intermediate shaft
T060-26-169A	PIN, SNAP	2	[R] for tie-rod end
D651-33-042A	NUT	2	[R] for hub center nut
H010-25-421A	CLIP	1	[R] for drive shaft
CN01-27-397	SEAL, OIL	1	[R] [4WD] for transfer
KN01-27-398	SEAL, OIL	1	[R] [4WD] for transfer
9956-41-800	WASHER	1	[R] [4WD] for transfer drain plug
PY88-40-584	STUD, FLANG	2	[R] for turbocharger
PY89-40-584	STUD, FLANG	1	[R] for turbocharger
PY90-40-584	STUD, FLANG	2	[R] for turbocharger
FU31-19-423	PLUG	1	[R] Pressure detection square head plug (for line pressure check)
0000-77-0834-TB	GREASE		For knuckle (one tube does ten vehicles)

[R]: Replacement parts

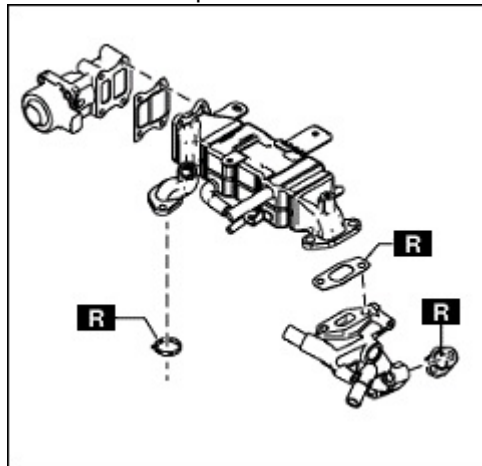
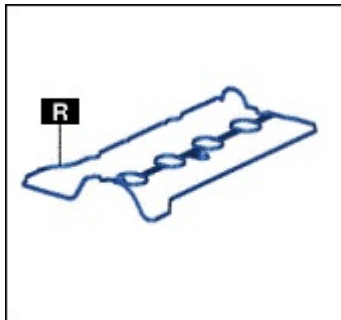
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Dealers can now utilize the Limited Parts Ordering (LPO) page on eMDCS to order the repair parts for 2.5L (with cylinder deactivation) and 2.5L turbo cylinder head repairs. There is no longer a need to contact hotline for part ordering. If there are any questions on part ordering or part status, contact the DAG group for assistance.

NOTE: It is necessary to order Gasket Kit A, B, C & D for each vehicle repair.

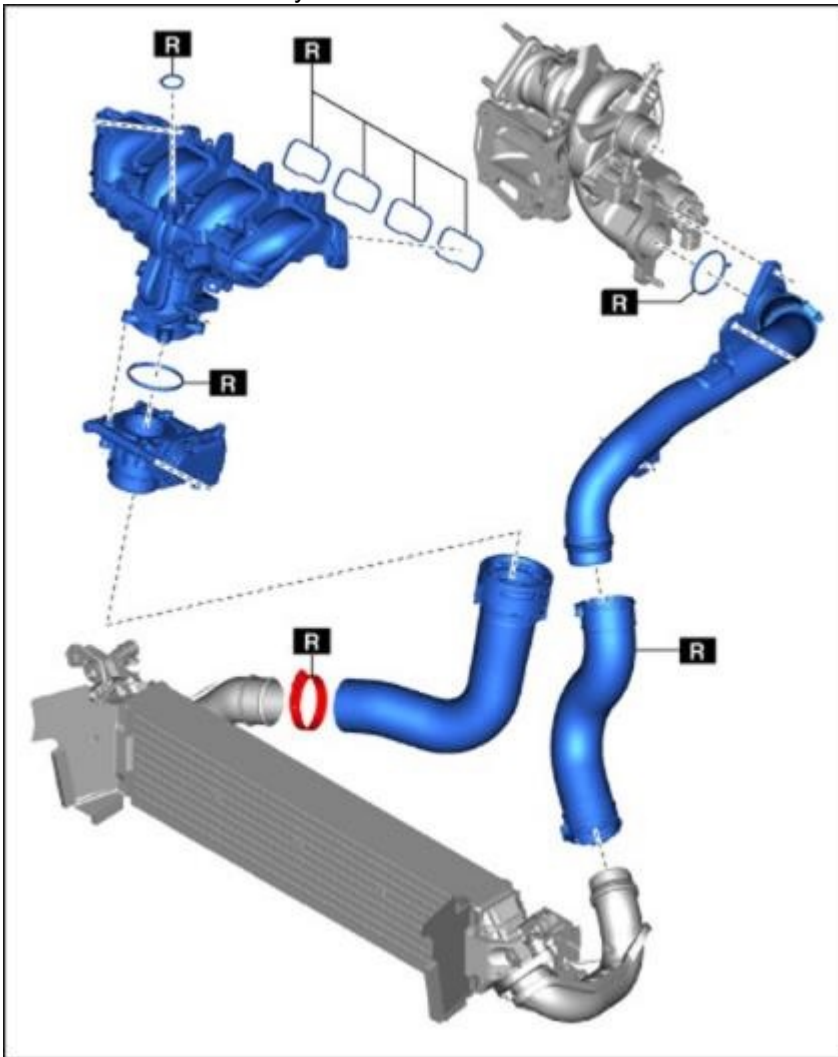
Non-reusable parts locations:

- Gasket for cylinder head cover
- Gaskets for EGR cooler and EGR valve component



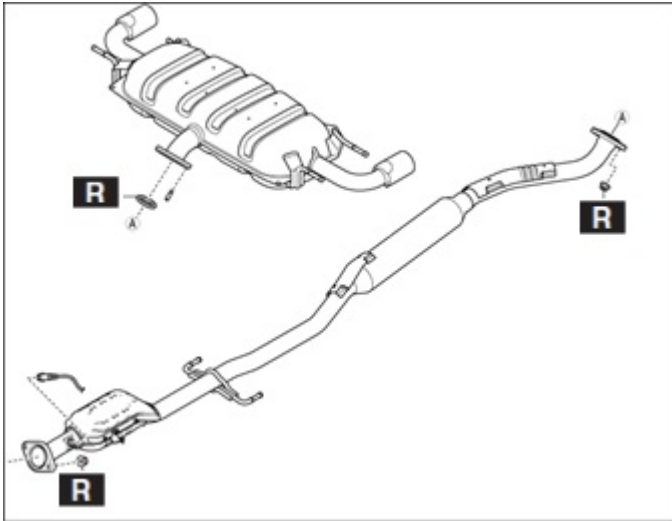
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- Gaskets for intake-air system

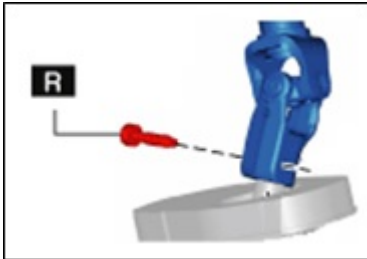


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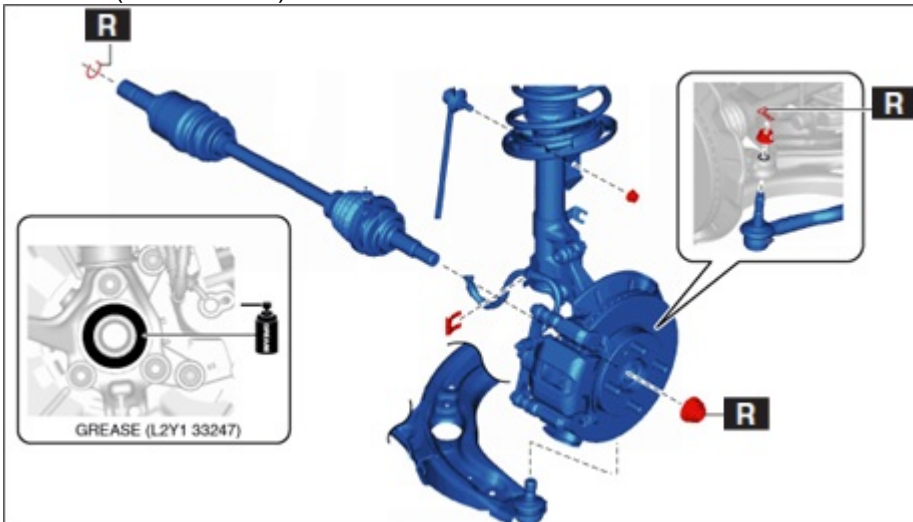
- Gasket and nuts for TWC



- Joint bolt A for Intermediate shaft

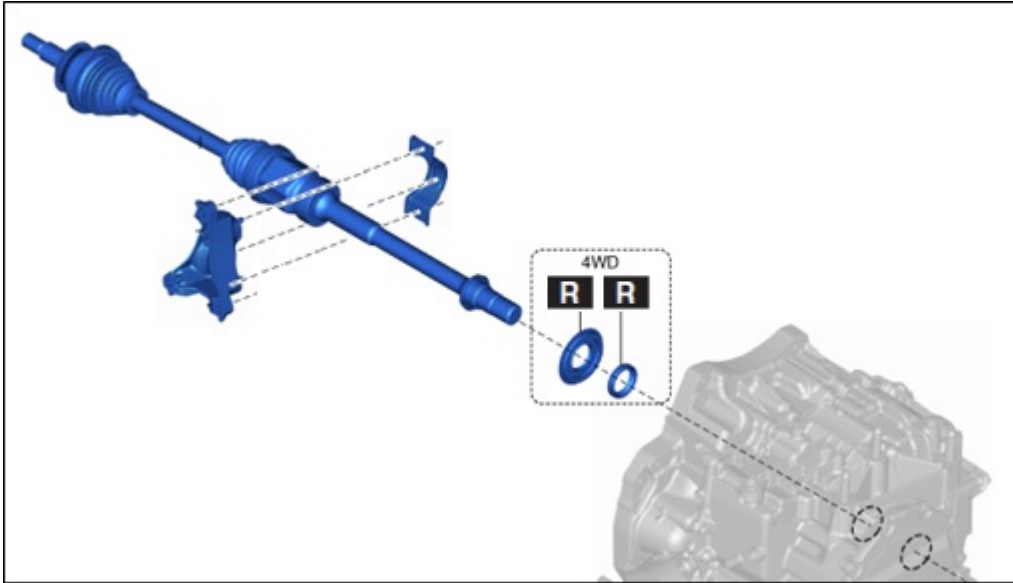


- Snap pin for Tie-rod end
- Lock nut for Driveshaft
- Clip for Drive shaft (LH)
- Grease (L2Y1-33-247) for knuckle

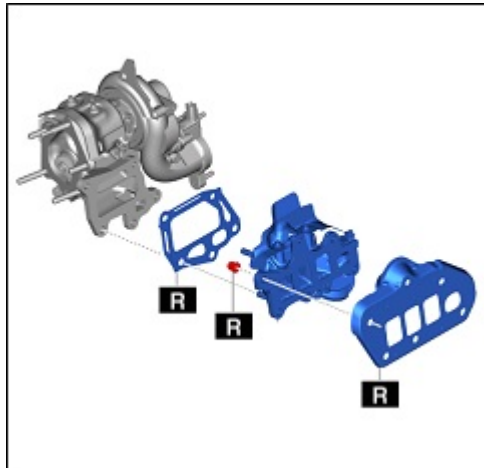
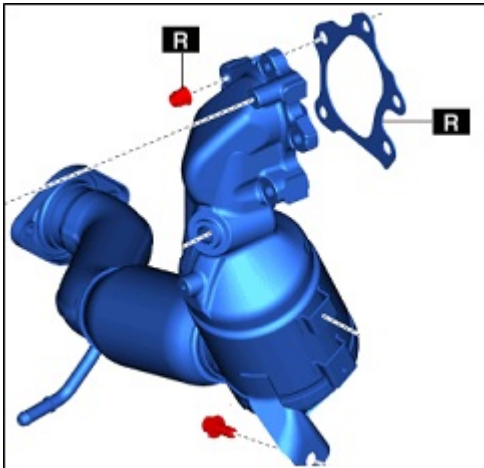


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- Transfer oil seals (RH) [4WD]

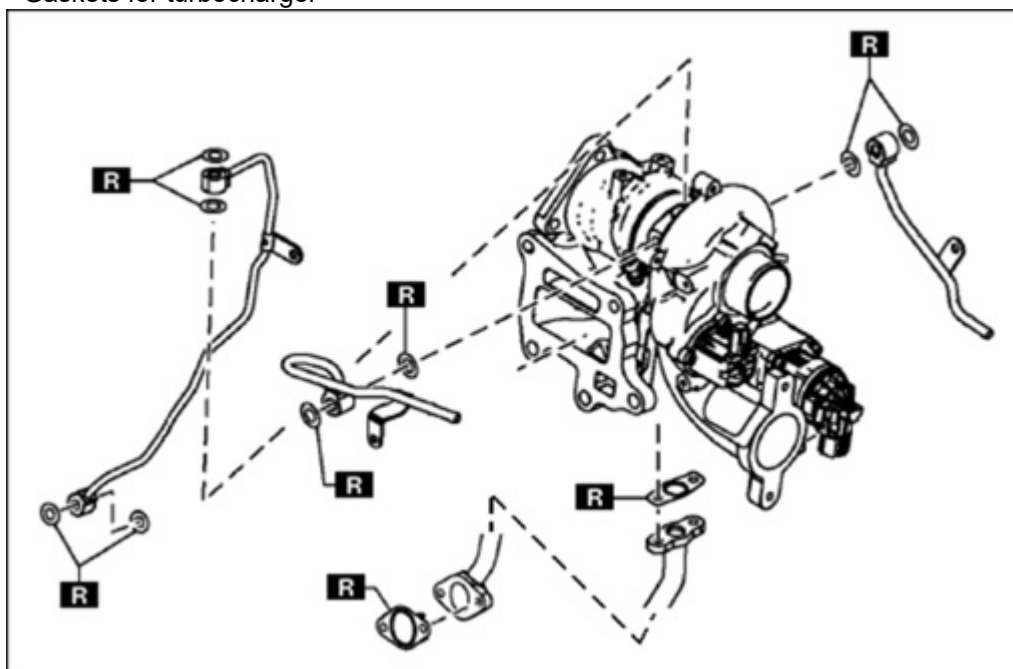


- Gasket and nuts for WU-TWC
- Gasket and nuts for exhaust manifold

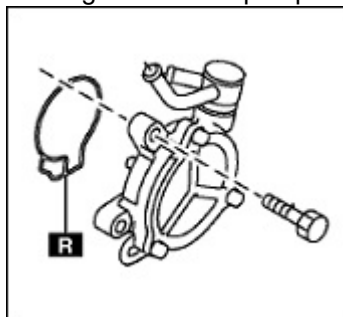


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- Gaskets for turbocharger

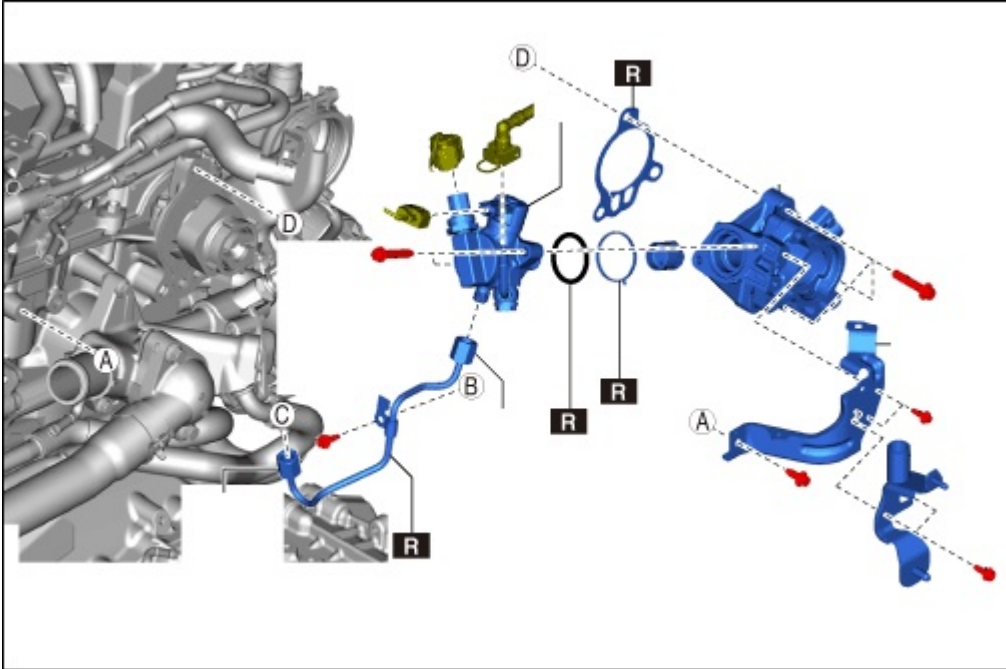


- O-ring for vacuum pump

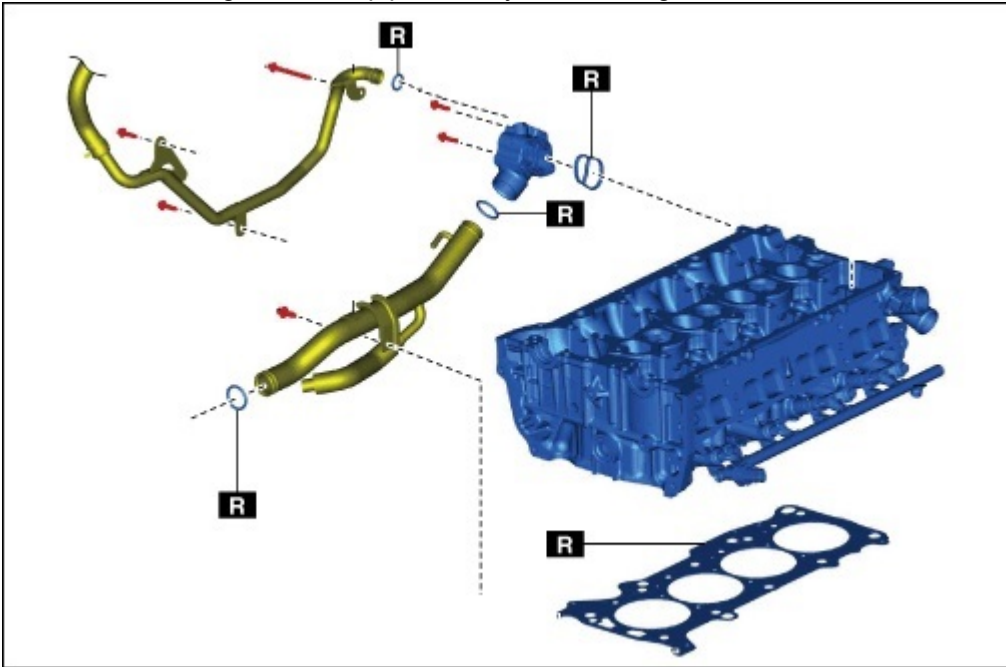


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- Gaskets and pipe for high pressure fuel pump

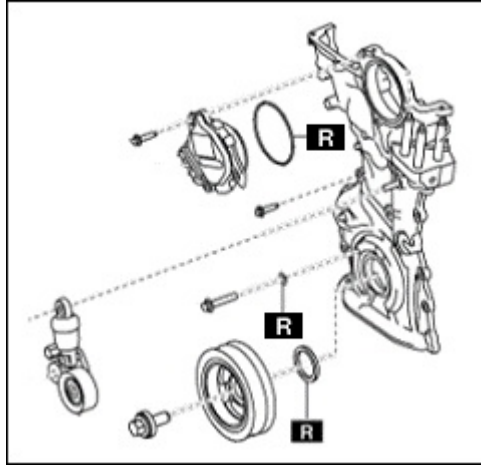
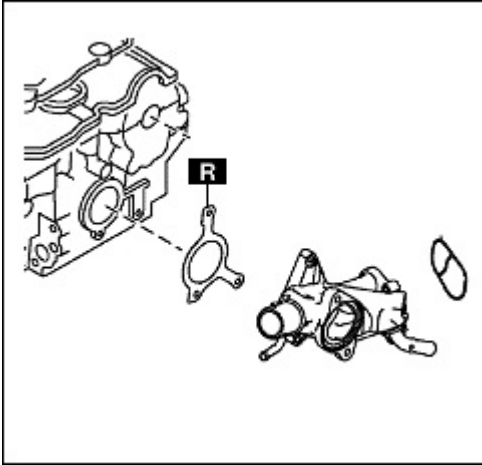


- Gasket and O-rings for water pipes and cylinder head gasket

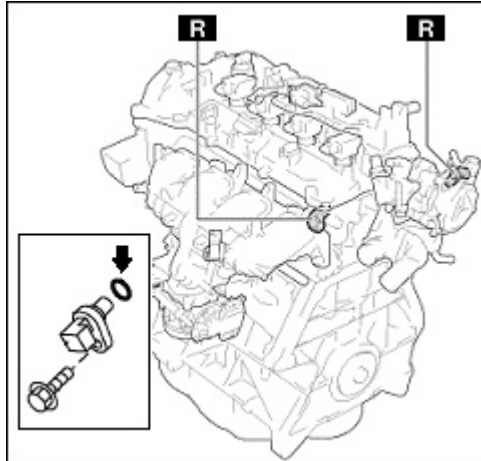
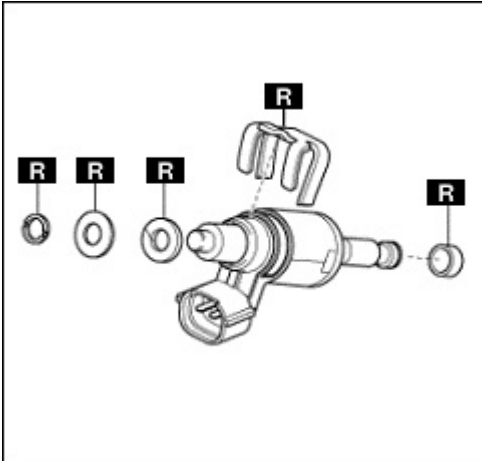


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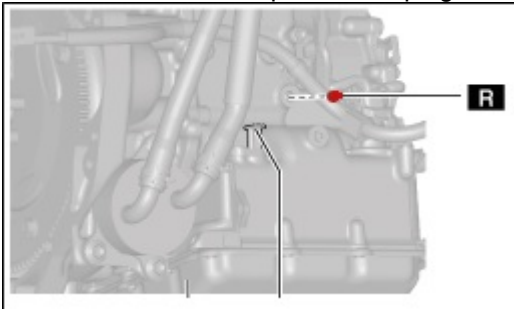
- Gasket for water outlet
- O-ring for electric variable valve timing motor/driver
- Sealing washer for bolt
- Front oil seal



- Spacer and O-rings for fuel injector
- O-rings for CMP sensor

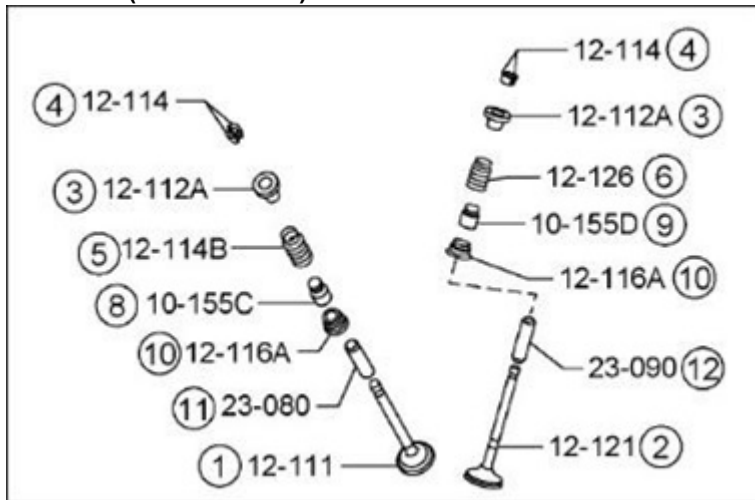


- Pressure detection square head plug



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NOTE: For information only, DO NOT order the parts shown below. They are already included with the Cylinder Head Set (PYY1-10-SJ0).



No.	Description	Qty.
1	VALVE, INLET	8
2	VALVE, EXHAUST	8
3	SEAT, VALVE SPG-UP	16
4	COTTER, VALVE	32
5	SPRING, VALVE	8
6	SPRING, OUTER-EX. VALVE	8
8	SEAL, INLET VALVE	8
9	SEAL, EXHAUST VALVE	8
10	SEAT, VALVE SPG.-LWR	16
11	GUIDE, VALVE	8
12	GUIDE, VALVE	8

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WARRANTY INFORMATION**NOTE:**

- This warranty information applies only to verified customer complaints on vehicles eligible for warranty repair.
- This repair will be covered under Mazda's Powertrain Limited Warranty term.
- Additional diagnostic time cannot be claimed for this repair.

Warranty Type	A
Symptom Code	08
Damage Code	9A
Part Number Main Cause	PY8V-13-450K (MANIFOLD, EXHAUST)
Quantity	1
Operation Number / Labor Hours:	XXW82RRX / 12.2 Hrs (Mazda3, CX-30) XXW82ERX / 10.9 Hrs. (Mazda6) XXW82FRX / 11.2 Hrs. (CX-5 2WD) XXW82GRX / 11.1 Hrs.(CX-5 4WD) XXW82KRX / 11.3 Hrs. (CX-9) Front wheel alignment check and adjust: XXW82NRX / 1.3 Hrs. (using wired type 4-wheel alignment tester) XXW82PRX / 0.8 Hrs.(using wireless type 4-wheel alignment tester)

NOTE:

- Radiator types are identified by the placement of the drain plug (A).
- Claim engine oil (6.2 US qt (5.9 L, 5.2 Imp qt) maximum), ATF (5.1 US qt (4.9 L, 4.3 Imp qt) maximum), gear oil (0.48 US qt (0.45 L, 0.40 Imp qt) maximum) and coolant (10.5 US qt, (9.9 L, 8.7 Imp qt) maximum) as related parts.
- If the Wheel Alignment Check and Adjust is performed at outside shop, claim the actual invoice amount with the sublet code "C1".

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