

Subject: OIL SEEPAGE OR LEAKS AT ENGINE FRONT COVER	Bulletin No.: 01-006/23
	Last Issued : 04/26/2023

BULLETIN NOTES

APPLICABLE MODEL(S)/VINS

2018-2023 CX-5 2.5L with cylinder deactivation

2020-2023 CX-30 2.5L with cylinder deactivation

2019-2023 Mazda3 (Japan built) 2.5L with cylinder deactivation

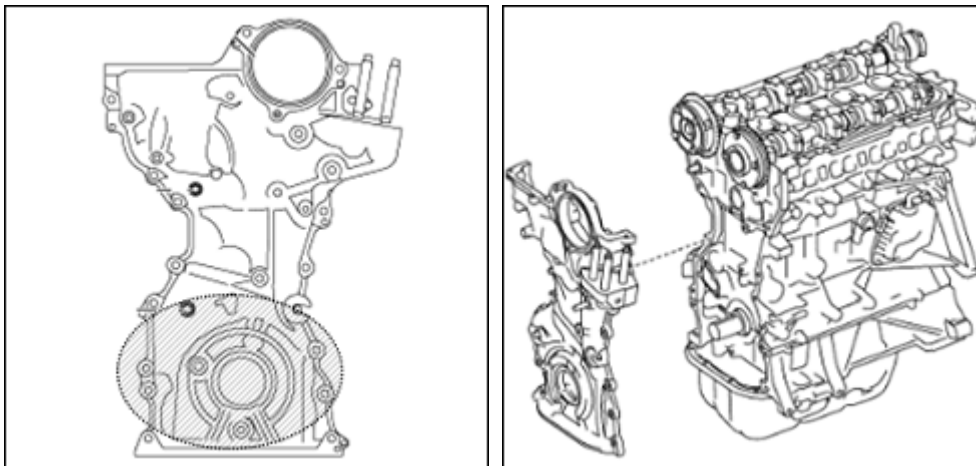
2019-2023 Mazda3 (Mexico built) 2.5L with cylinder deactivation

2018-2021 Mazda6 2.5L with cylinder deactivation with VINs lower than JM1 GL**** ** 620105 (Produced before Nov. 12, 2021)

NOTE: This service information applies to vehicles with SKYACTIV-G 2.5 (PYUD engine) with cylinder deactivation.

DESCRIPTION

Some vehicles may exhibit oil seepage or oil leak onto the engine front cover, which becomes more apparent with dust adhesion.



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

REPAIR PROCEDURE

CONSUMER NOTICE: The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools/ equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership. Mazda North American Operations reserves the right to alter the specifications and contents of this bulletin without obligation or advance notice. All rights reserved. No part of this bulletin may be reproduced in any form or by any means, electronic or mechanical--including photocopying and recording and the use of any kind of information storage and retrieval system ---without permission in writing.

1. Verify the customer concern.



Situation1:

When you receive a customer complaint for this concern, confirm the oil seepage or leak and repair it according to the procedure below.


Situation2:

When you find an oil leak or seepage during vehicle inspection, refer to "**Repair Standards for Resealing**" below, and repair it according to the procedure below.

Repair Standards for Resealing

	Front cover	Under cover
Need to repair	<ul style="list-style-type: none"> <input type="checkbox"/> Oil is dripping. <input type="checkbox"/> The area around the cover is heavily soiled with oil and dust. <input type="checkbox"/> Oil adheres to the oil seepage area by touching it. 	<ul style="list-style-type: none"> <input type="checkbox"/> Oil accumulation on cover. <input type="checkbox"/> Oil adheres to the oil leakage marks by touching it. 

CONSUMER NOTICE: The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools/ equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership. Mazda North American Operations reserves the right to alter the specifications and contents of this bulletin without obligation or advance notice. All rights reserved. No part of this bulletin may be reproduced in any form or by any means, electronic or mechanical---including photocopying and recording and the use of any kind of information storage and retrieval system ---without permission in writing.

		
<p>No need to repair</p>	<p>The oil is completely dry by touching the oil seepage area.</p>	<p>No oil accumulation on cover.</p>

Procedure for Oil Seepage or Leak

Correctly follow the cleaning process and appropriate amount of sealant to **eliminate any future requirement to reseal. This prevents a second repair 1-3 years later, which would not be covered under warranty.**

1. Remove the engine front cover according to the MGSS online instructions TIMING CHAIN REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].

CAUTION: When removing the front cover, be sure to remove the oil pan at the same time. Insufficient cleaning of the mating face of the oil pan may cause oil leakage.

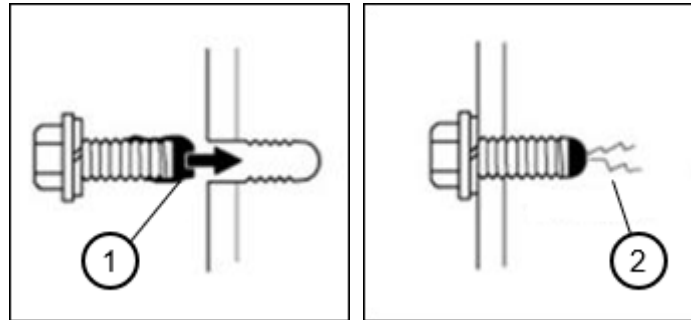
2. Completely clean and remove oil, dirt, sealant or other foreign matter that may be adhering to the engine front cover, cylinder head, or engine block.

CAUTION: If oil, dirt and sealant remains on the sealant application area, the silicone sealant will not seal properly, which will cause oil leakage.

3. When reusing the engine front cover installation bolts, remove sealant from the bolts.

CAUTION: If a bolt with sealant (1) on it is used, it could result in cracks (2) in the cylinder head and engine block.

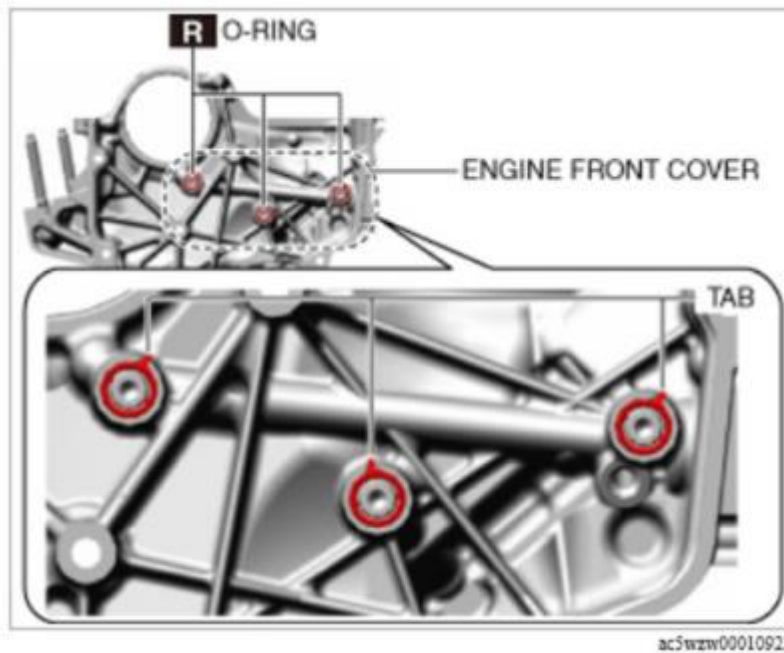
CONSUMER NOTICE: The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools/ equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership. Mazda North American Operations reserves the right to alter the specifications and contents of this bulletin without obligation or advance notice. All rights reserved. No part of this bulletin may be reproduced in any form or by any means, electronic or mechanical---including photocopying and recording and the use of any kind of information storage and retrieval system ---without permission in writing.



4. Install new O-rings to the engine front cover.

CAUTION:

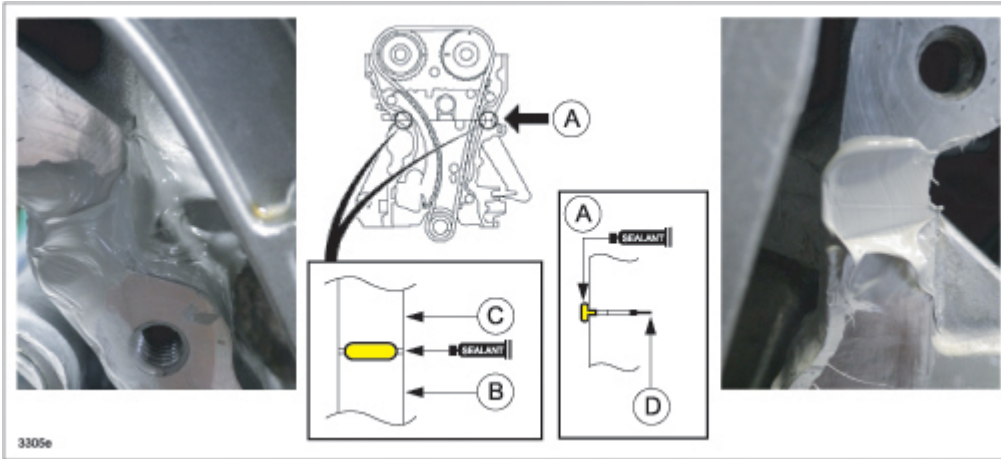
- Install the O-rings so that the tabs of the O-rings recede into the notches.
- Do not use any sealant on the O-rings.



5. Apply silicone sealant (TB1217D or equivalent) to the engine front cover, as shown below.

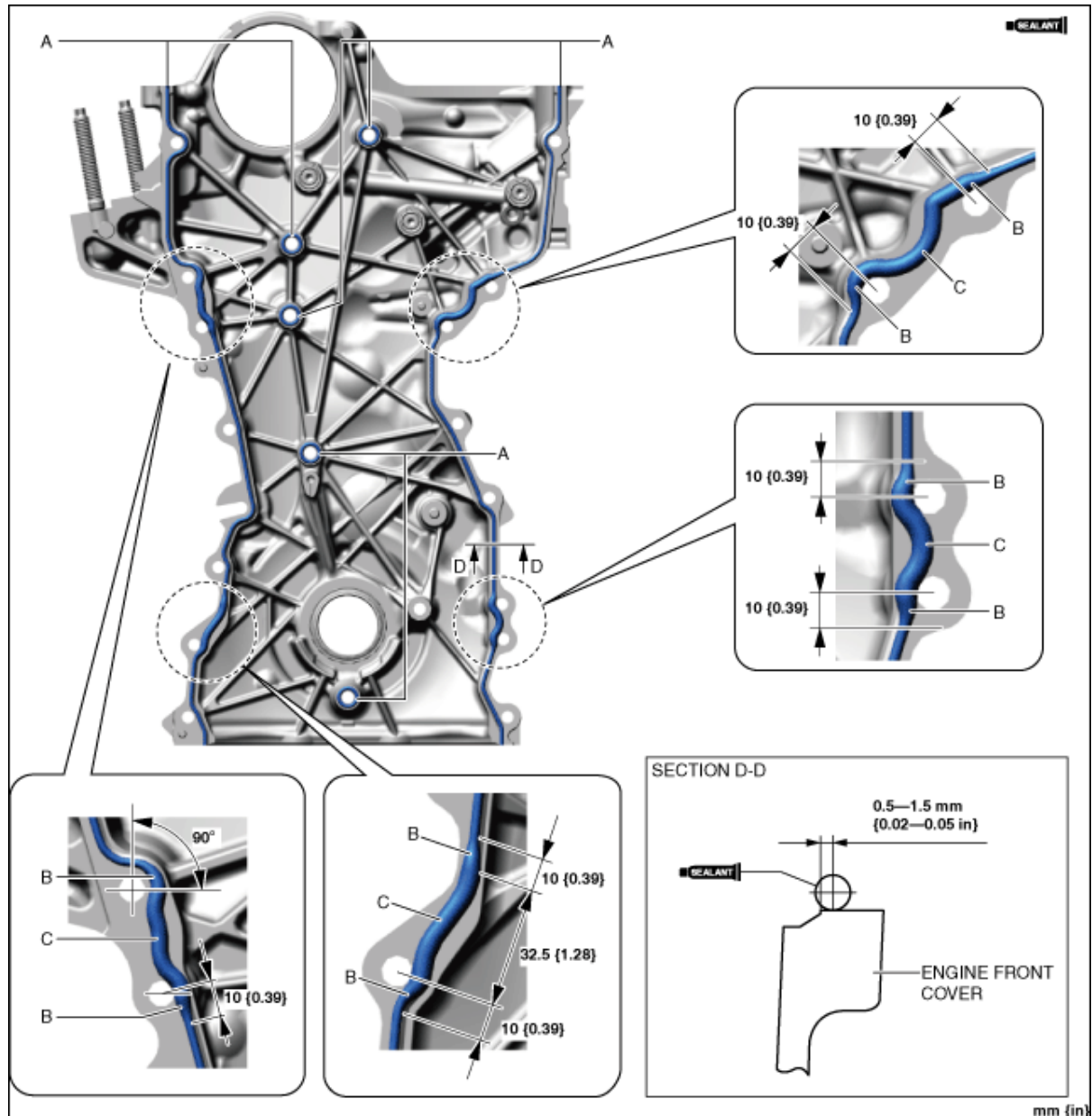
CAUTION: Apply the silicone sealant to the area (A) between the cylinder block (B) and head (C) so that it goes into the cylinder head gasket (D).

CONSUMER NOTICE: The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools/ equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership. Mazda North American Operations reserves the right to alter the specifications and contents of this bulletin without obligation or advance notice. All rights reserved. No part of this bulletin may be reproduced in any form or by any means, electronic or mechanical--including photocopying and recording and the use of any kind of information storage and retrieval system ---without permission in writing.

**CAUTION:**

- **Apply the silicon sealant in a single, unbroken line.**
- To prevent silicone sealant from hardening, adhere the engine front cover and engine block firmly within 10 minutes after applying silicone sealant. After adhering them, tighten the installation bolts immediately.
- **Mazda Sealant has an expiration date, check the tube to be sure it has not been opened and it has not expired.**

CONSUMER NOTICE: The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools/ equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership. Mazda North American Operations reserves the right to alter the specifications and contents of this bulletin without obligation or advance notice. All rights reserved. No part of this bulletin may be reproduced in any form or by any means, electronic or mechanical---including photocopying and recording and the use of any kind of information storage and retrieval system ---without permission in writing.

**Bead thickness**

A: 2—6 mm {0.1—0.2 in}

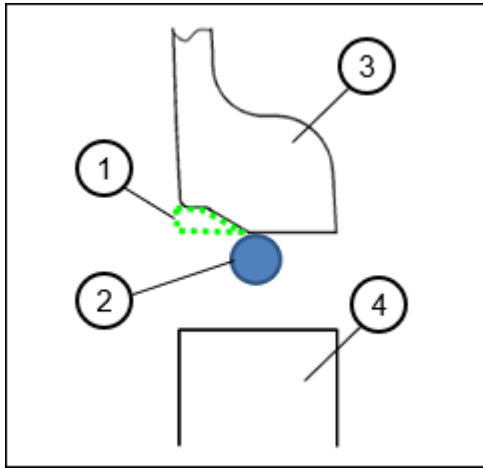
B: 4—6 mm {0.16—0.23 in}

C: 4—8 mm {0.2—0.3 in}

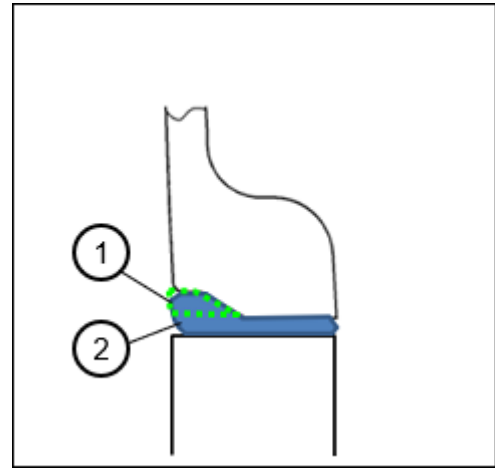
Reference information: Sealing Mechanism

Sealant (2) spreads to the step bead (1) and sealing performance is ensured.

CONSUMER NOTICE: The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools/ equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership. Mazda North American Operations reserves the right to alter the specifications and contents of this bulletin without obligation or advance notice. All rights reserved. No part of this bulletin may be reproduced in any form or by any means, electronic or mechanical—including photocopying and recording and the use of any kind of information storage and retrieval system ---without permission in writing.



Before assembly



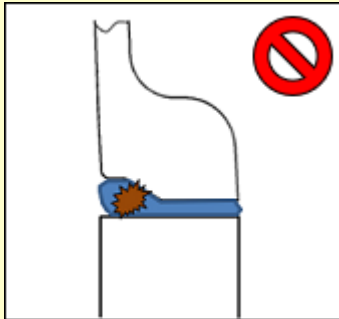
Assembled

1	Step bead
2	Sealant (TB1217D or equivalent)
3	Front cover
4	Engine

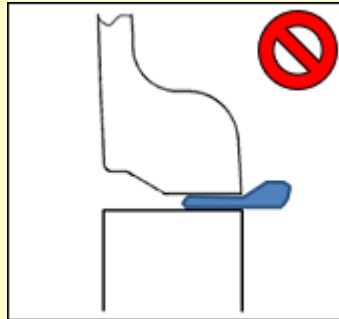
The following are required to achieve the effective sealing.

- 1 □ Clean and degrease the mating surfaces.
- 2 □ Apply the proper amount and location of sealant.

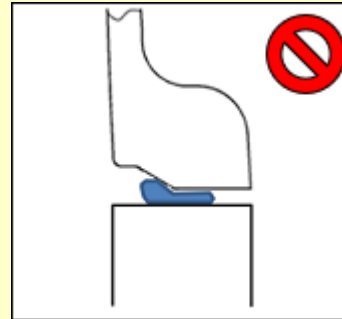
The ground contact area between the sealant and the cover is small and does not provide sufficient sealing.



Dust gets into the mating surfaces



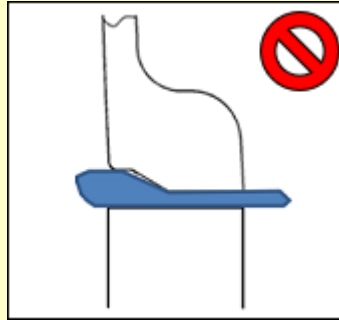
The place of application is out of alignment



Too little sealant

Overlapping sealant may adversely affect internal engine parts.

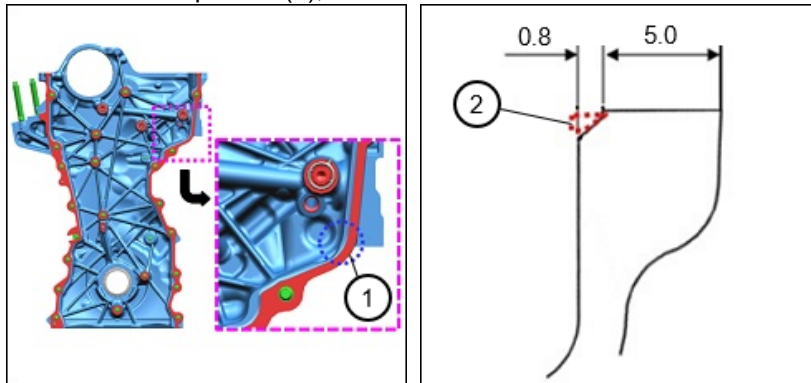
CONSUMER NOTICE: The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools/ equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership. Mazda North American Operations reserves the right to alter the specifications and contents of this bulletin without obligation or advance notice. All rights reserved. No part of this bulletin may be reproduced in any form or by any means, electronic or mechanical---including photocopying and recording and the use of any kind of information storage and retrieval system ---without permission in writing.



Too much sealant

Notes on resealing the front cover:

The following areas (1) have a smaller step bead (2), so be careful about the amount and location of sealant application.

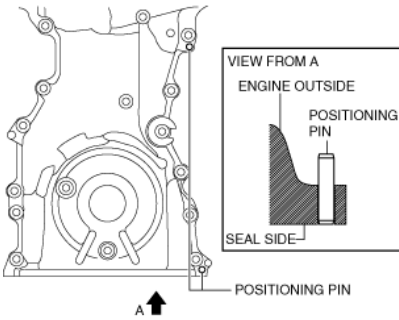


6. Install the front seal with SST and engine front cover according to the MGSS online instructions TIMING CHAIN REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].

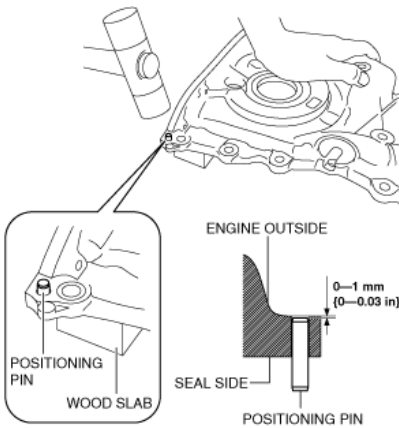
Engine Front Cover Installation Note:

NOTE: For a new engine front cover, the positioning pins in the two locations shown below project to the outside of the engine.

CONSUMER NOTICE: The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools/ equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership. Mazda North American Operations reserves the right to alter the specifications and contents of this bulletin without obligation or advance notice. All rights reserved. No part of this bulletin may be reproduced in any form or by any means, electronic or mechanical---including photocopying and recording and the use of any kind of information storage and retrieval system ---without permission in writing.

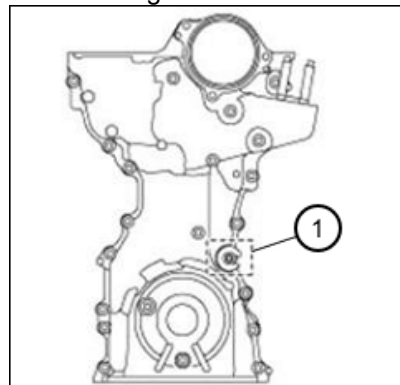


NOTE: If the engine front cover is newly replaced, tap the positioning pins in the two (2) locations to the seal surface side.



NOTE: Temporarily install a M8 × 1.25 bolt (length 40 mm {1.6 in}) to the drive belt auto tensioner installation bolt hole (1) to prevent the following:

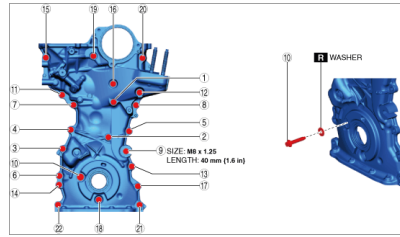
- A silicone sealant adhesion malfunction in the drive belt auto tensioner installation bolt hole.
- A bolt mis-installation due to silicone sealant hardening.



7. Tighten the engine front cover installation bolts in the order shown below.

CAUTION: For the number 10 bolt of the tightening order, install the bolt with a new washer.

CONSUMER NOTICE: The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools/ equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership. Mazda North American Operations reserves the right to alter the specifications and contents of this bulletin without obligation or advance notice. All rights reserved. No part of this bulletin may be reproduced in any form or by any means, electronic or mechanical--including photocopying and recording and the use of any kind of information storage and retrieval system ---without permission in writing.

**Tightening torque**

20—26 N·m {2.1—2.6 kgf·m, 15—19 ft·lbf}

8. Remove the bolt installed to the drive belt auto tensioner installation bolt hole when installing the drive belt auto tensioner.
9. Re-install the other removed parts.
10. Verify the repair.

PARTS INFORMATION

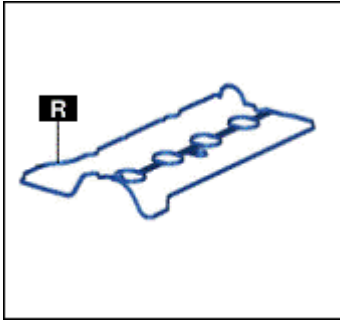
Parts Number	Description	Qty.	Notes
PYFA-10-235	GASKET, HEAD COVER	1	[R]
PE01-12-257	RING,'O'	1	[R] for electric variable valve timing motor/driver
ZJ01-10-243	WASHER, SEALING	1	[R] for front cover
PE01-10-602	SEAL, OIL	1	[R] for front oil seal
PYFA-10-673	RING,'O'	3	[R] for front cover
9956-41-400	GASKET	1	[R] for oil pan drain plug
0000-77-1217-ES	SILICONE	1	---

[R]: Replacement parts

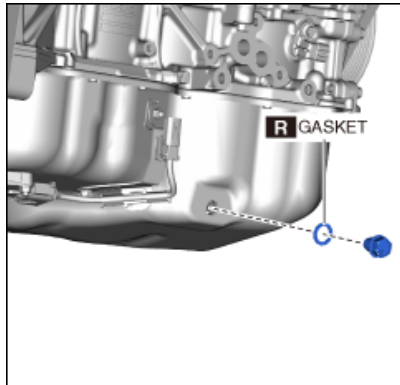
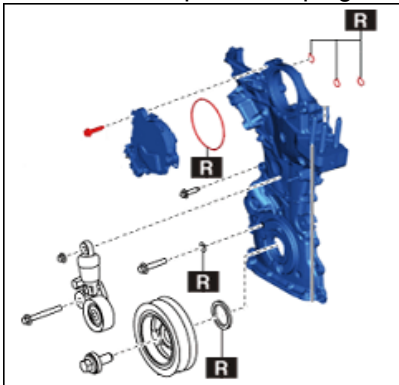
Replacement parts location

- Gasket for cylinder head cover

CONSUMER NOTICE: The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools/ equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership. Mazda North American Operations reserves the right to alter the specifications and contents of this bulletin without obligation or advance notice. All rights reserved. No part of this bulletin may be reproduced in any form or by any means, electronic or mechanical--including photocopying and recording and the use of any kind of information storage and retrieval system ---without permission in writing.



- O-ring for electric variable valve timing motor/driver
- Other parts for front cover
- Gasket for oil pan drain plug



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 New Vehicle Powertrain Warranty term.
- Additional diagnostic time cannot be claimed for this repair.

Warranty Type	A
Symptom Code	76
Damage Code	99
Part Number Main Cause	7777-SP-X26
Quantity	0
Operation Number / Labor Hours:	XXWBKXAX / 3.6 Hrs. (CX-5 / Mazda6) XXWBKXAX / 3.8 Hrs. (CX-30 / Mazda3)

NOTE: Claim the engine oil (Max. 4.3 L {4.5 US qt, 3.8 Imp qt}) as related parts.

CONSUMER NOTICE: The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools/ equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership. Mazda North American Operations reserves the right to alter the specifications and contents of this bulletin without obligation or advance notice. All rights reserved. No part of this bulletin may be reproduced in any form or by any means, electronic or mechanical--including photocopying and recording and the use of any kind of information storage and retrieval system ---without permission in writing.