September 25, 2026 Version 3

Warranty Extension: 2023–26 CR-V Hybrid Cylinder Head Gasket

Supersedes version 2 to revise the information at:

- Under BACKGROUND, the wording was revised and a statement was added.
- Under WARRANTY INFORMATION, a note was added.
- Under REQUIRED MATERIALS, a note was added.
- Under TOOL INFORMATION, tool information was updated.
- Under DETERMINING NECESSARY REPAIRS, mating surface cleaning and inspecting the block for cracks has been moved to the Job Aid - *Inspecting Cylinder Head and Engine Block for Warpage.*

APPLIES TO

Year	Model	Trim Level	VIN Range
2023–26	CR-V Hybrid	ALL	Check iN VIN status for eligibility

BACKGROUND

Under certain conditions, the cylinder head gasket effectiveness may be reduced which may cause vehicles to experience overheating, coolant loss, and/or misfire. In some cases, DTCs P0300 through P0304 may also be stored (DTCs are not required for repair)

To ensure customer satisfaction and confidence, American Honda is extending the warranty coverage on the cylinder head gasket, related to this condition, to **10 years from the original date of purchase or 150,000 miles**, whichever comes first.

This warranty extension applies to any vehicle regardless of whether it has ever been declared a total loss or sold for salvage by a financial institution or insurer or has a branded or similar title under any state's law.

OWNER NOTIFICATION

Owners of affected vehicles will be sent a notification of this campaign.

Do an iN VIN status inquiry to make sure the vehicle is shown as eligible.

CORRECTIVE ACTION

Replace the cylinder head gasket if coolant is leaking into the combustion chamber. In addition, if cylinder head or engine block warpage is detected, replace the cylinder head and/or the engine short block as dictated by the inspection process.

CUSTOMER INFORMATION: The information in this bulletin is intended for use only by skilled technicians who have the proper tools, equipment, and training to correctly and safely maintain your vehicle. These procedures should not be attempted by "do-it-yourselfers," and you should not assume this bulletin applies to your vehicle, or that your vehicle has the condition described. To determine whether this information applies, contact an authorized Honda automobile dealer.

© 2026 American Honda Motor Co., Inc. – All Rights Reserved

WARRANTY CLAIM INFORMATION

NOTE: Each warranty claim must include the following documentation from the Head Gasket Inspection Procedure, submitted in PDF format:

- ALL DTC Check printout from step 2.

  NOTE: An ALL DTC check result **with or without** DTCs P0300 through P0304 are acceptable.

- Borescope image from Step 9.3 (Page 8) with VIN, Repair Order Number, Date, and Head Number.

Repair Procedure #1 – Head Gasket Only

Operation Number	Description	Flat Rate Time	Defect Code	Symptom Code	Template ID	Failed Part Number
1105E2	Inspect for coolant leaks. Remove cylinder head and check head and engine block for warpage. Replace head gasket (includes DTC clear)	12.4 hr	6H200	GPI00	A26019A	12251-6MA-J01

Repair Procedure #2 – Head Gasket and Cylinder Head Replacement

1105E3	Inspect for coolant leaks. Remove cylinder head and check head and engine block for warpage. Replace head gasket and cylinder head (includes DTC clear, completing Job Aid, and contacting the Repair Verification Team)	12.8 hr	6H200	GPI00	A26019B	12251-6MA-J01

Repair Procedure #3 – (FWD) Head Gasket and Short Block Replacement

1105E4	**(FWD)** Inspect for coolant leaks. Remove cylinder head and check head and engine block for warpage. Replace head gasket and short block (includes DTC clear, completing Job Aid, contacting the Repair Verification Team, and align)	13.6 hr	6H200	GPI00	A26019C	12251-6MA-J01

Repair Procedure #3 – (AWD) Head Gasket and Short Block Replacement

1105E4	**(AWD)** Inspect for coolant leaks. Remove cylinder head and check head and engine block for warpage. Replace head gasket and short block (includes DTC clear, completing Job Aid, contacting the Repair Verification Team, and align)	13.8 hr	6H200	GPI00	A26019D	12251-6MA-J01

Repair Procedures #2 & #3 – (FWD) Head Gasket, Cylinder Head and Short Block Replacement

1105E5	**(FWD)** Inspect for coolant leaks. Remove cylinder head and check head and engine block for warpage. Replace head gasket, cylinder head and short block (includes DTC clear, completing Job Aid, contacting the Repair Verification Team, and align)	13.8 hr	6H200	GPI00	A26019E	12251-6MA-J01

Repair Procedures #2 & #3 – (AWD) Head Gasket, Cylinder Head and Short Block Replacement

1105E5	**(AWD)** Inspect for coolant leaks. Remove cylinder head and check head and engine block for warpage. Replace head gasket, cylinder head and short block (includes DTC clear, completing Job Aid, contacting the Repair Verification Team, and align)	14.0 hr	6H200	GPI00	A26019F	12251-6MA-J01

PARTS INFORMATION

Repair Procedure #1 – Head Gasket Only

Part Name	Part Number	Quantity
GASKET, CYLINDER HEAD	12251-6MA-A01	1
GASKET A, HEAD COVER	12341-6MA-J01	1
GASKET B, HEAD COVER	12342-6MA-J01	1
FILTER, OIL	15400-RTA-003	1
PIPE SET, FUEL JOINT	16012-6MA-305	1
GASKET, IN. PORT	17105-6MA-J01	4
GASKET, EGR PORT	17106-6MA-J01	1
GASKET, THROTTLE BODY	17107-6MA-J01	1
GASKET, CONVERTER	18115-6MA-J01	1
GASKET, EX. PIPE	18302-SP0-003	1
GASKET, EGR PIPE	18719-5R1-004	2
GASKET, EGR COOLER OUTLET	18721-6MA-J01	1
O-RING, DRAIN (TOYO)	19012-PD2-004	1
GASKET, DRAIN (DENSO)	19012-671-300	1
GASKET, THERMOSTAT CASE	19322-6MA-J01	1
BOLT, FLANGE (12X45) (SIDE MOUNT)	90160-TZA-000	2
BOLT, FLANGE (14X64) (SIDE MOUNT)	90166-TBA-A00	2
BOLT, FLANGE (10X30) (SIDE MOUNT)	90171-TBA-A00	3
NUT, SELF-LOCK (10MM) (EXHAUST)	90212-SA5-003	3
NUT, FLANGE (14MM) (SIDE MOUNT)	90371-SJD-003	1
OIL SEAL (43X58X7) (CRANK SEAL)	91212-59B-003	1
O-RING (92.4X2.8) (CRANK SEAL)	91306-5K0-A01	1
HPFP O-RING	91311-5R1-J01	1
WASHER, DRAIN PLUG	94109-14000	1

Repair Procedure #2 – Cylinder Head Replacement

Part Name	Part Number	Quantity
THERMOSTAT ASSY.	06193-6C1-305	1
GENERAL ASSY., CYLINDER HEAD (CYLINDER HEAD)	10003-69F-A01	1
O-RING	15832-RPY-003	1
CLIP, INJECTOR (INJECTOR CLIP)	16451-6MA-J01	4
SEAL SET, INJECTOR	16453-6MA-J00	1
GASKET, EGR PASSAGE	18713-6MA-J01	1

Repair Procedure #3 – Short Block Replacement

Part Name	Part Number	Quantity
GENERAL ASSY., CYLINDER BLOCK (ENGINE BLOCK)	10002-69F-A02	1
GASKET, EX. PIPE	18303-T2B-A01	1
O-RING, WATER PASSAGE (OIL)	19412-6MA-J01	1
NUT, FLANGE (10MM) (SWAY BAR LINK)	90002-S10-000	1
BOLT, FLANGE (12X45) (SIDE MOUNT)	90160-TZA-000	2
BOLT, FLANGE (14X33) (TORQUE ROD)	90164-T20-A00	4
BOLT, FLANGE (14X64) (SIDE MOUNT)	90166-TBA-A00	2
BOLT, FLANGE (10X30) (SIDE MOUNT)	90171-TBA-A00	3
BOLT, FLANGE (14X105) (TORQUE ROD)	90175-TRW-A00	1
NUT, SELF-LOCK (10MM) (EXHAUST)	90212-SA5-003	3
NUT, SELF-LOCK (12MM) (KNUCKLE) (CLINCH)	90215-SB0-003	3
NUT, FLANGE (14MM) (SIDE MOUNT)	90371-SJD-003	1
GASKET (10MM)	90471-59C-000	1
WASHER, DRAIN PLUG (18MM)	90471-PX4-000	1
O-RING, WATER PASSAGE (WATER)	91306-59B-003	1
O-RING (23X3.1) (WATER PASSAGE)	91308-R9L-003	1
O-RING (31.2X4.1) (NOK) (CONNECTING PIPE)	91314-PH7-003	2
CKP SENSOR O-RING	91333-PNC-006	1
WASHER, SEALING (28MM) (only on vehicles with engine block heater)	90401-PR4-000	1

REQUIRED MATERIALS

Part Name	Part Number	Quantity
Hondabond HT	08718-0004	1
Brake Cleaner (Restricted for CA, CO, CT, DE, IL, MD, MI, NH, NY, OH, RI, UT, and NJ)	08700-9200	1
Brake Cleaner 10% VOC	08700-9222	1
Brake Cleaner SCAQMD Compliant	08700-SBPCA	1
Long Life Antifreeze/Coolant Type 2	08CLA-P99-0F0A8	1.53 US gal. (2.06 US gal. with short block replacement)
Honda HEVF Type 1 e-CVT Fluid (Required when short block is replaced)	08200-9022	2WD – 3.5L (3.7 US qt) AWD – 3.9L (4.1 US qt)
Honda 0W-20 Motor Oil	08798-9163	4.2 US qt. (5.4 US qt. with short block replacement)
Red Scotch-Brite® or equivalent	Commercially available	1

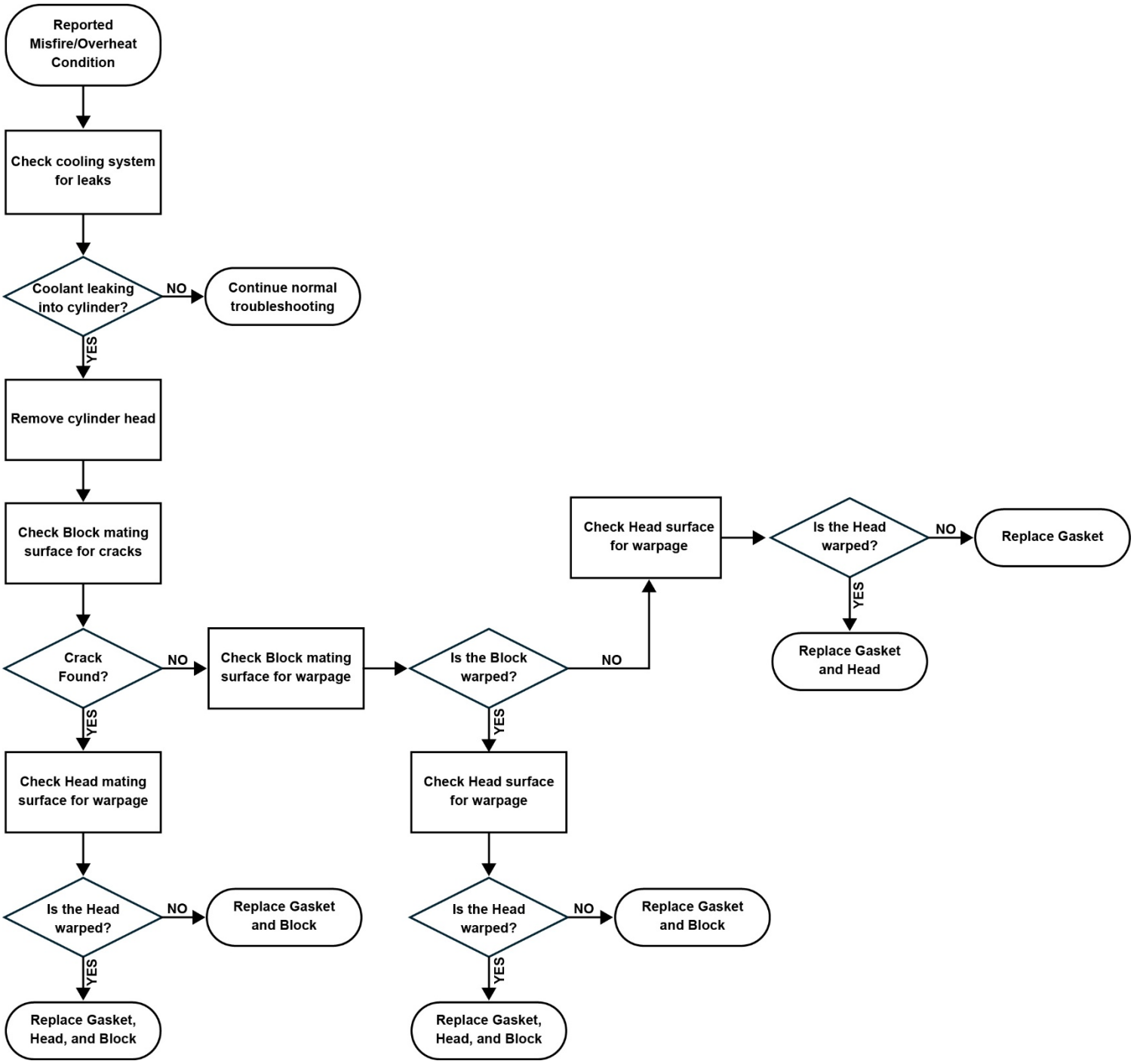
TOOL INFORMATION

Tool Name	Part Number	Quantity
Cooling System Pressure Tester	SVTS272A	1
Snap-on 5.5 mm Borescope **	BK5600Dual55 or equivalent	1
Engine Support Hanger Tool	AART1256	1
Universal Lift Eyelet *	07AAK-SNAA600	1
Support Eyelet *	07AAK-SNAA120	2
Spacer 4X.375 *	07AAB-59BA110	2
Bolt M10x1.25 – 30MM (10.9) *		1
Bolt M10x1.25 – 20MM (10.9) *		1
Bolt M8x1.25 – 30MM (10.9) *		1
Bolt M8x1.25 – 20MM (10.9) *		1
Straight Edge 18” *	07AAJ-59BA110	1
Feeler Gauge *	07AAJ-59BA120	1
Torque Angle Gauge	TA360 or Commercially Available	1

* Delivered to all dealers in the Warpage Inspection Kit 07AAJ-59BA100.

** A commercially available borescope with a 90° camera can be used as an alternative.

REPAIR FLOW


Reported Misfire/Overheat Condition
Check cooling system for leaks
Coolant leaking into cylinder?
NO
Continue normal troubleshooting
YES
Remove cylinder head
Check Block mating surface for cracks
Crack Found?
NO
Check Block mating surface for warpage
Is the Block warped?
NO
Check Head surface for warpage
Is the Head warped?
NO
Replace Gasket
YES
Replace Gasket and Head
YES
Check Head mating surface for warpage
Is the Head warped?
NO
Replace Gasket and Block
YES
Replace Gasket, Head, and Block
YES
Check Head surface for warpage
Is the Head warped?
NO
Replace Gasket and Block
YES
Replace Gasket, Head, and Block

INSPECTION PROCEDURE

1. Begin the inspection procedure when the engine is cold.
2. Run the ALL DTC Check with i-HDS and document all stored PGM-FI DTCs.

   NOTE: Print the ALL DTC check results in PDF format to submit with the warranty claim. Claims submitted without the ALL DTC attachment will be denied (An ALL DTC check result **with or without** DTCs P0300 through P0304 are acceptable).
3. Remove the radiator cap, top off the coolant if low, then install the cooling system pressure tester.
4. Buckle the driver's seat belt.
5. With the cooling system pressure tester installed and the climate control OFF, start the engine in Maintenance Mode, *How to Enter PGM-FI System Maintenance Mode* and let it run until it reaches normal operating temperature (indicated by the cooling fan cycling on or ECT^1 reaches **194°F [90°C]**).
6. Turn the engine OFF once it reaches normal operating temperature.
7. Check the cooling system pressure. If the pressure is below **18 psi**, use the pressure tester to bring the cooling system pressure to **18 psi**.

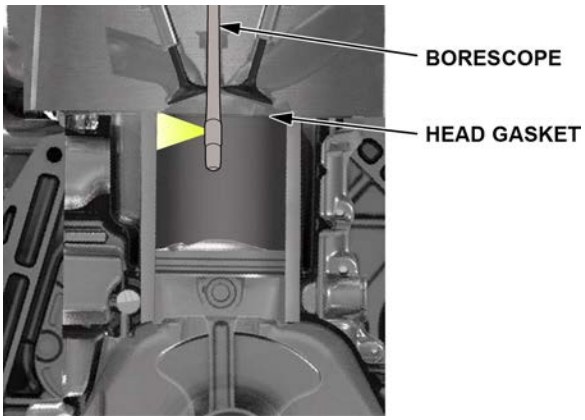
   NOTE: The cooling system pressure could be higher than **18 psi** when vehicle reaches normal operating temperature, which is acceptable.
8. Remove all 4 spark plugs.
9. Use the borescope to inspect all cylinders for coolant entering at the head gasket.

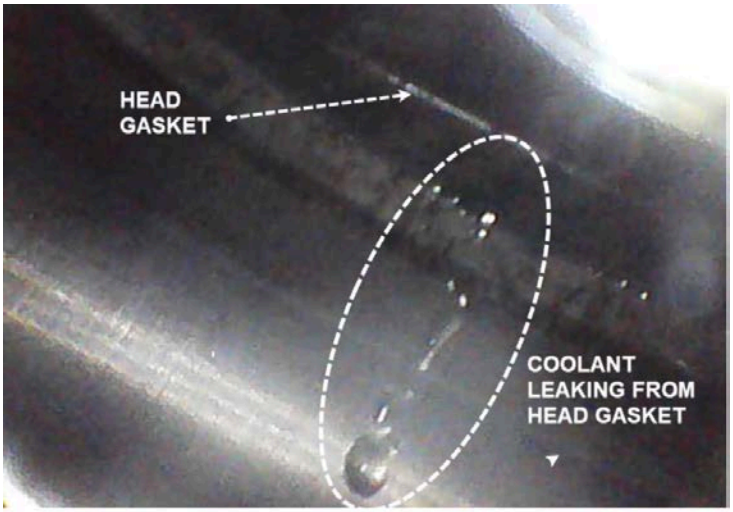
   Click here to view the video of coolant leak in cylinder: ▶ PLAY VIDEO

   9.1 Write the VIN, repair order number, and current date on a sticky note.

   9.2 Insert the borescope through the spark plug hole to inspect for coolant entering the cylinders. Using the **90°** camera to capture a side view, focus on the area where the cylinder head meets the block and scan completely **360°** around the cylinder.

   NOTE: A commercially available borescope with a 90° camera can be used as an alternative.





9.3 If coolant is observed, place the sticky note to the side of the borescope screen. Then, take a picture that includes the borescope, the sticky note, the image of the leak in the cylinder, and the head number (as shown below).

TIP: Focus on engine number.

NOTE:

- The image must clearly show the coolant on the cylinder wall.
- Clean the engine number so it is visible in the photo.
- This image needs to be submitted with the warranty claim. Claims submitted without this image will be denied.
- The image must be saved in PDF format.



9.4 Repeat for all cylinders.

Is coolant leaking into the cylinders?

YES – Reinstall the spark plugs and ignition coils, then proceed to DETERMINING NECESSARY REPAIRS.

NO – This bulletin **does not** apply. Continue with normal troubleshooting.

DETERMINING NECESSARY REPAIRS

1. Remove the cylinder head.

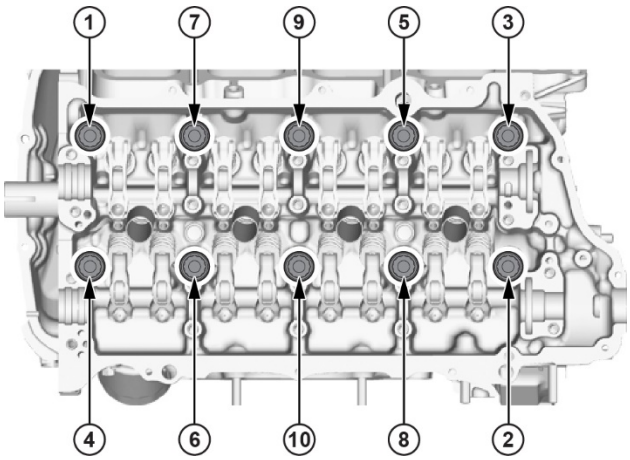
1.1 Do steps 1-18 in *Cylinder Head Removal and Installation*.

NOTE: **Do no**t do Step 19 – Fuel Rail/Injector Assembly Removal at this time.

1.2 Do the Removal steps 20-21.

1.3 Remove the cylinder head.

NOTE: To prevent warpage, loosen the bolts in sequence, **1/3 turn** at a time, repeat the sequence until all of the bolts are loosened.



1.4 Remove the head gasket.

1.5 Remove all gasket material and carbon from the head gasket mating surface on the engine block with brake cleaner and a clean shop towel.

NOTE:

- Place a clean shop towel in each cylinder to collect and remove any debris that falls into the cylinders.
- If necessary, use red Scotch-Brite® **by hand** to remove any gasket material or residue that remains on the mating surface, then clean again with brake cleaner.
- **Do not** use power tools which can damage the cylinder head and block.

2. Follow the instructions in Job Aid AJA31119 *Inspecting Cylinder Head and Engine Block for Warpage* to check the cylinder head and engine block mating surfaces for warpage. Contact the Repair Verification Team for approval if either component is outside of specifications.

IMPORTANT: Replacement of the cylinder head or short block requires prior approval from the Repair Verification Team as outlined in the Job Aid. Warranty claims that include cylinder head or short block replacement which have not received approval from the Repair Verification Team will be denied.



Do not call for approval if the cylinder head and engine block are within specifications.

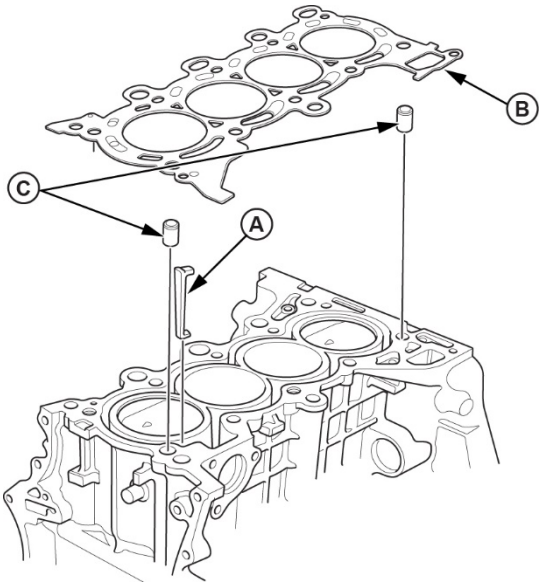
3. Determine the repair direction:

Is the cylinder head warped?	Is the engine block warped?	Repair action
No	No	**Repair Procedure #1** -Replace the cylinder head gasket
Yes	No	**Repair Procedure #2** - Replace the cylinder head
No	**Yes**	**Repair Procedure #3** - Replace the short block
Yes	**Yes**	**Repair Procedures #3, then Repair Procedure #2** - Replace the short block and the cylinder head

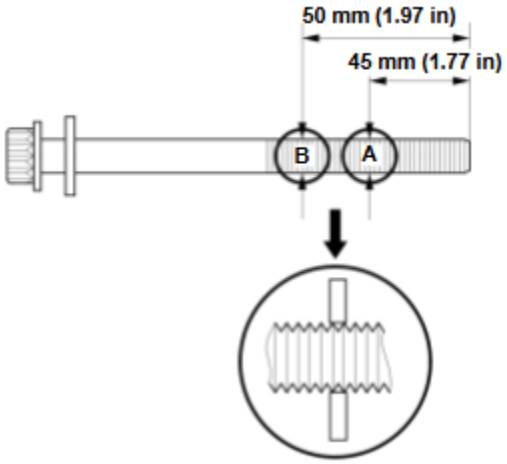
REPAIR PROCEDURE

Repair Procedure #1 - Head Gasket Only

1. Install the cylinder head with a new head gasket.
   1.1 If the engine block was replaced, install a new coolant separator (A), in the engine block if the new block did not come with one.
   1.2 Install the new cylinder head gasket (B) and the dowel pins (C) on the engine block.



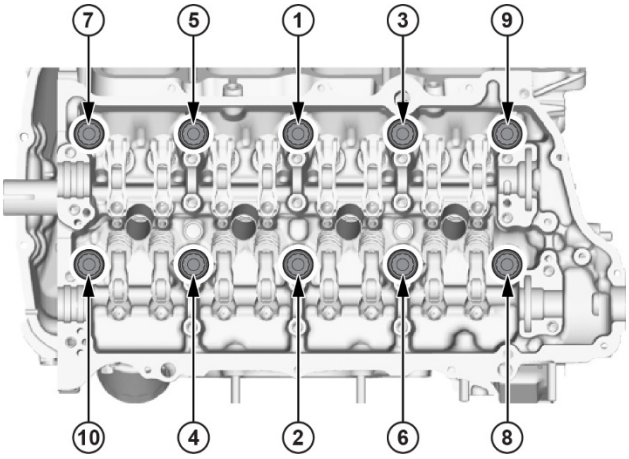
   1.3 Measure the cylinder head bolt diameters at point A and point B. If either diameter is less than **10.6 mm (0.417 in)**, replace **all** the cylinder head bolts.



   1.4 Install the cylinder head on the block.
   1.5 Apply new engine oil to the threads and under the bolt heads of all cylinder head bolts.

   NOTE: If any of the cylinder head bolts failed the measurement above, ALL the cylinder head bolts should be replaced with new.

1.6 Torque the cylinder head bolts in sequence to 4**0 N·m (30 lb-ft)** with a beam-type torque wrench if possible. When using a click-type torque wrench, be sure to tighten slowly and do not overtighten. If a bolt makes any noise while torquing, loosen the bolt and go back to step 1.5.



1.7 **IMPORTANT**: Once all cylinder head bolts have been initially torqued, repeat the torque process in sequence to ensure all cylinder head bolts are at 4**0 N·m (30 lb-ft)** before beginning the angle torque process.

1.8 After setting the initial head bolt torque, use a torque angle gauge to tighten all cylinder head bolts to specification:

- If **new** cylinder head bolts were installed: Tighten each cylinder head bolt **200°** following the torque sequence.
- If the cylinder head bolts were **reused**: Tighten each cylinder head bolt **160°** following the torque sequence.

2. Reinstall the remaining parts in the reverse order of removal.

   NOTE: After installing the side engine mount, do the *Engine Mount Tightening Procedure*.

3. Refill the transmission fluid (if it was drained for the short block replacement).
4. Drain the engine oil (if not previously drained).
5. Install the oil filter and fill with recommended engine oil.

   Including Oil Filter: 4.0 L (4.2 US qt)

   After Engine Replacement: 5.1 L (5.4 US qt)

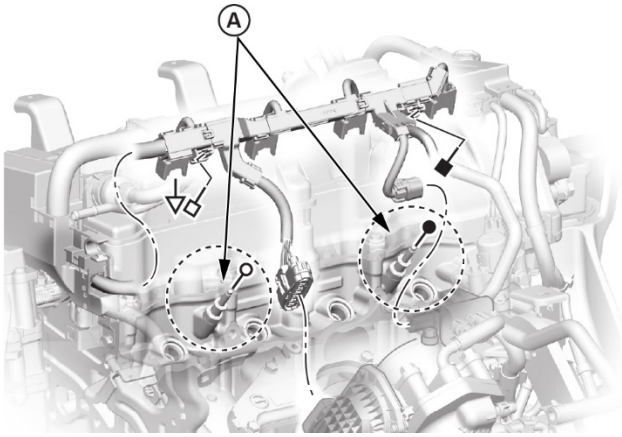
6. Refill the engine coolant.
7. Install the service plug, *Electric Powertrain Service Precautions for Service Plug*.
8. Connect the 12-volt battery, *12 Volt Battery Terminal Disconnection and Reconnection*.
9. Check for software updates.

   See service bulletin 26-088 *Product Update: 2026-26 CR-V Hybrid PGM-FI Software Update*.

10. Do the *CKP Pattern Clear/CKP Pattern Learn Procedure*.
11. Do the *Idle Speed Inspection*.
12. Do the *Ignition Timing Inspection*.
13. Reset the Maintenance Minder for engine oil, coolant and, if applicable, transmission fluid, *Maintenance Minder General Information*.
14. Do an alignment (Only if the short block was replaced).

Repair Procedure #2 - Cylinder Head Replacement

1. Transfer the following parts from the old cylinder head to the new cylinder head:
   1.1 VTC oil control valve with new O-ring and torque mounting bolt to **12 N·m (9 lb-ft)**.
   1.2 Fuel rail and injectors with new O-rings. Do step 7 of *Injector Removal and Installation*.
   1.3 Fuel pipe bolts with threaded heads (A) (if not included with new cylinder head). Torque to **22 N·m (16lb-ft)**.

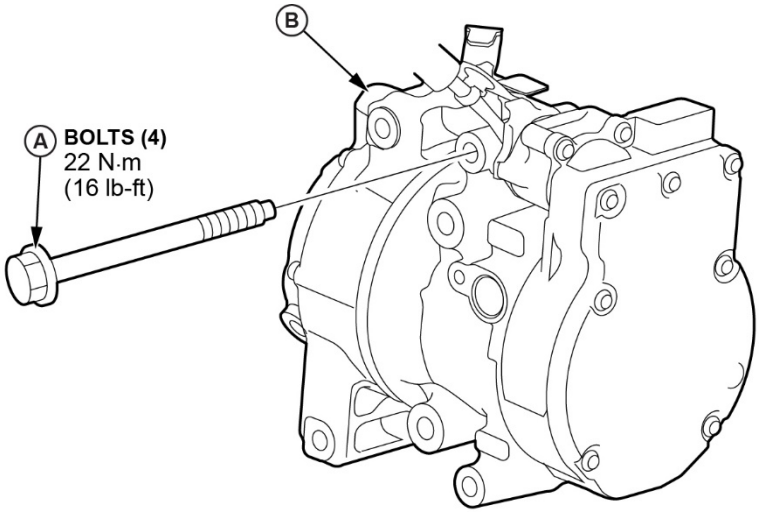


   1.4 Transfer any mounting studs that were not included with the new cylinder head.
2. Go to **Repair Procedure #1 – Head Gasket Only**, to install the cylinder head and complete the repair.

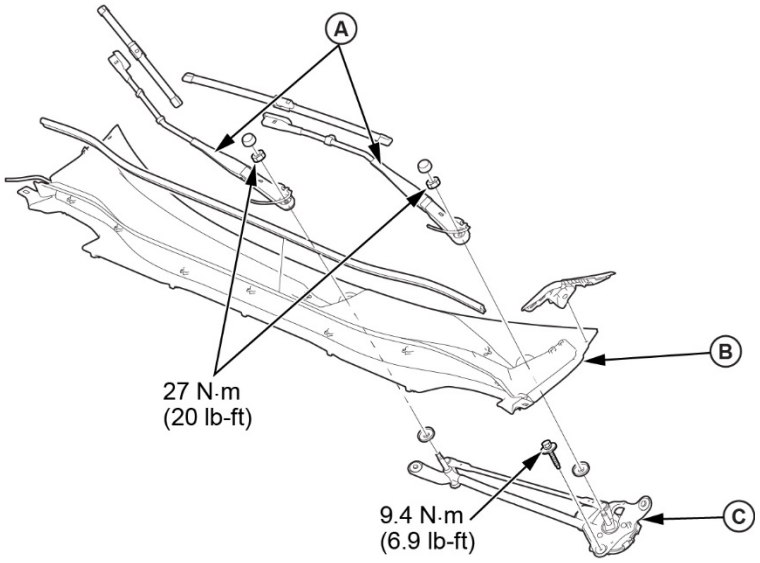
Repair Procedure #3 - Short Block Replacement

1. With the floor jack still supporting the engine, remove the electric water pump.
2. Disconnect the wiring connector from the A/C compressor.
3. Leaving the A/C hoses connected, remove the 4 mounting bolts (A) securing the A/C compressor (B) to the engine block, then shift it toward the radiator fan and secure it with a strap to the front bulkhead area.

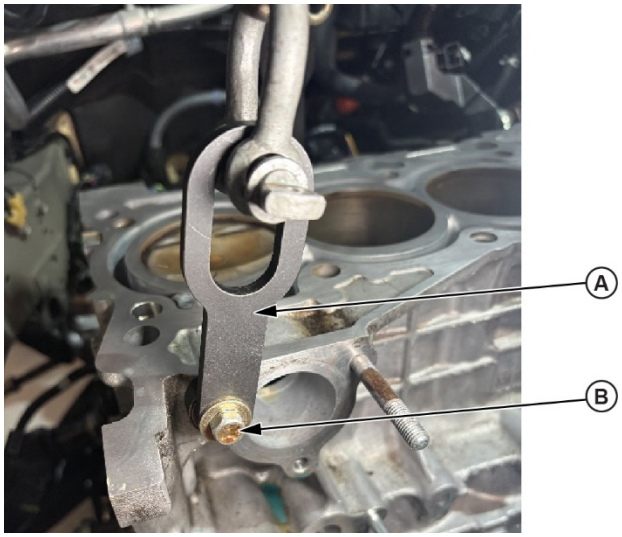
   NOTE: **Do not** disconnect the A/C hoses.



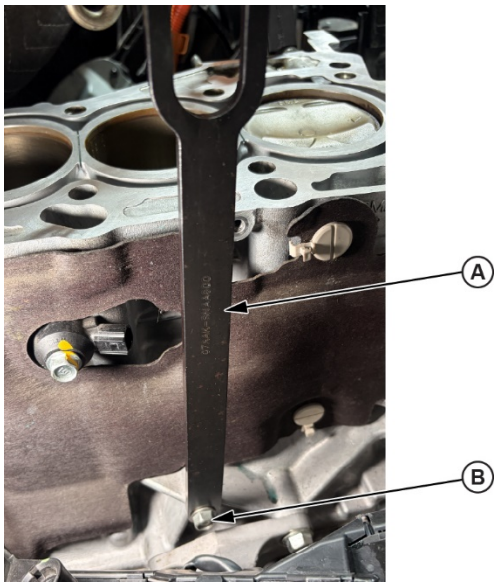
4. Remove the windshield wipers arms (A), cowl cover (B), and wiper motor assembly (C), *Windshield Wiper Area*.



5. Remove the bulkhead cover, see item A in *Front Bumper Area*.
6. Disconnect the knock sensor.
7. Attach a lifting eyelet (T/N 07AAK-SNAA120) (A) into the electric water pump bolt hole (B) on the block with a **10 mm** spacer and **30 mm** bolt from the kit, then tighten until the lifting eyelet is snug to the block.



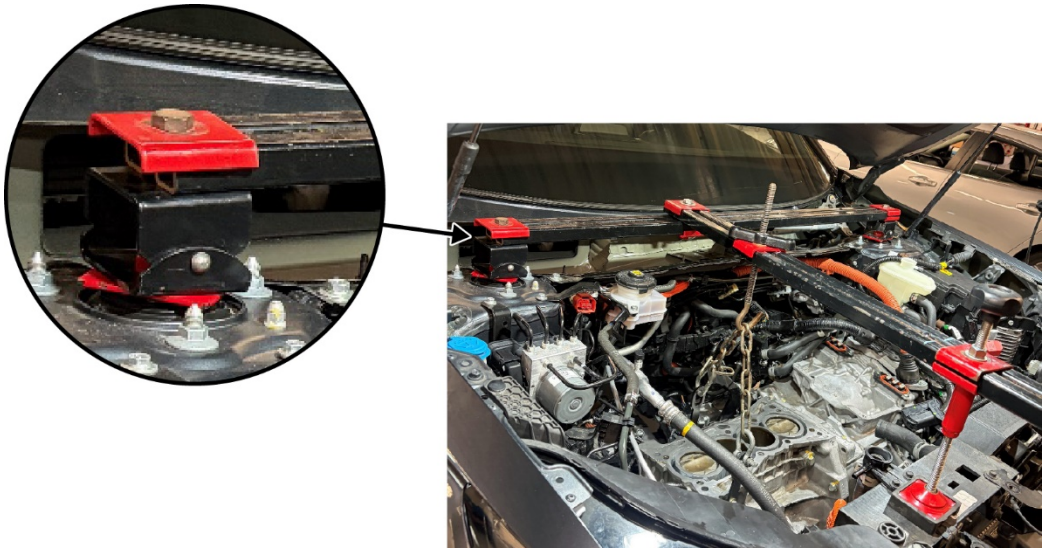
8. Attach long eyelet (T/N 07AAK-SNAA600) (A) to bolt hole (B) above the intermediate shaft bracket using a **20 mm** bolt from the kit, then tighten until the lifting eyelet is snug to the block.



9. Position the engine support hanger tool as shown.

NOTICE

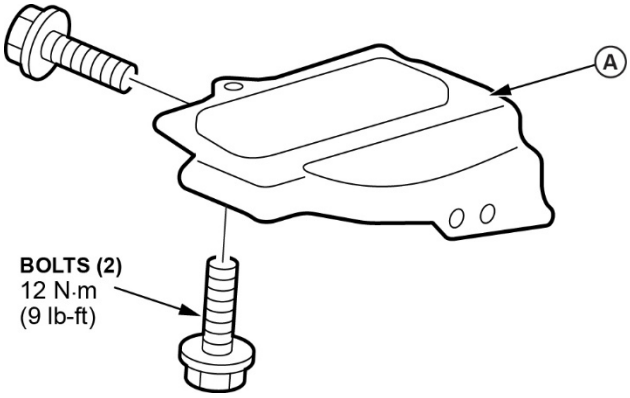
Keep the engine support hanger clear of the windshield to avoid damage.



10. Attach a chain to the lifting eyelets, then attach the chain to the engine support hanger and tighten until the engine is supported by the engine hanger.



11. Remove the floor jack, then raise the vehicle.
12. Drain the engine oil.
13. Drain the transmission fluid.
14. Remove the A-pipe (A), *Exhaust Pipe/Muffler Area*.
15. Remove the torque converter cover (A)

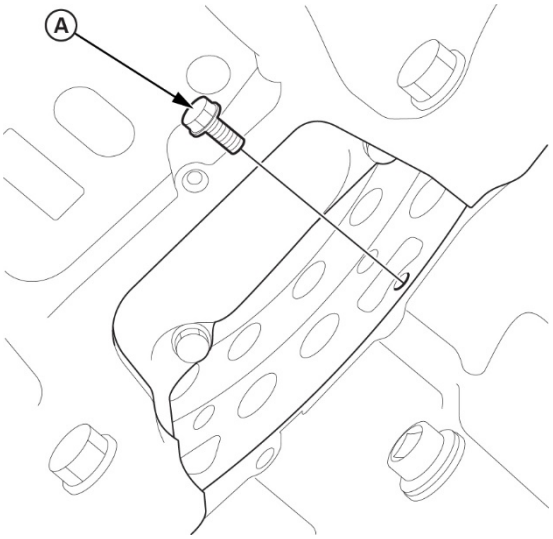


16. Remove the eight bolts (B) securing the drive plate to the torque converter while rotating the crankshaft pulley.

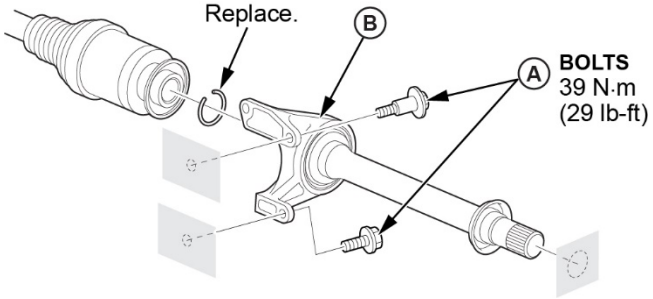
    During installation:

    16.1 Rotate the crankshaft pulley as necessary to tighten the flywheel bolt (B) to half of the specified torque, then do the final torque in a crisscross pattern.

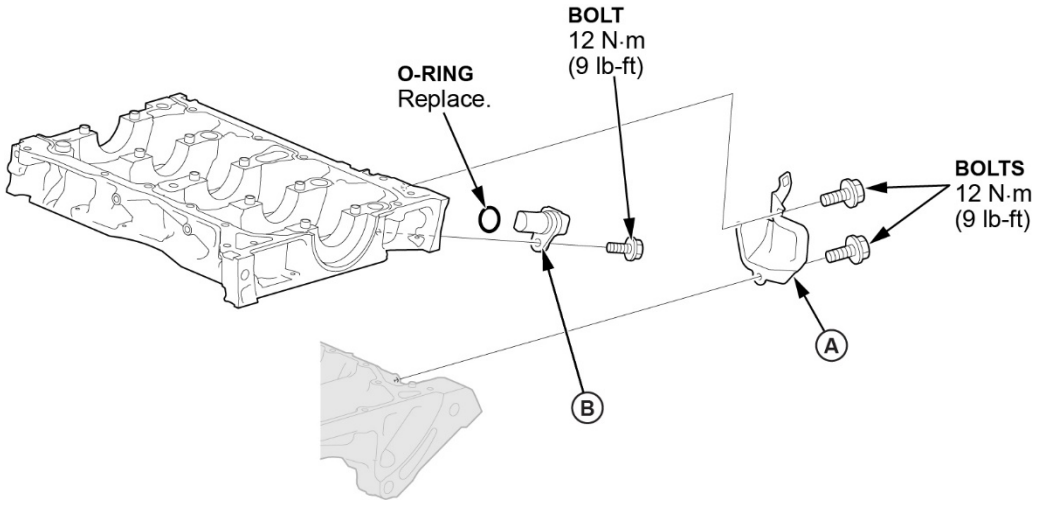
    16.2 Check that the crankshaft rotates freely.



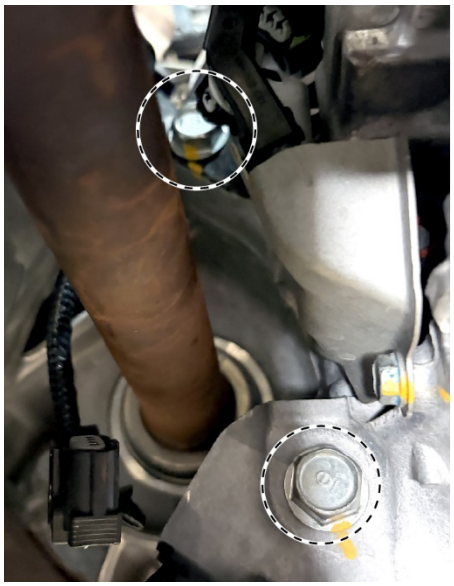
17. Remove the 3 bolts (A) holding the intermediate shaft bracket (B) to the engine block.

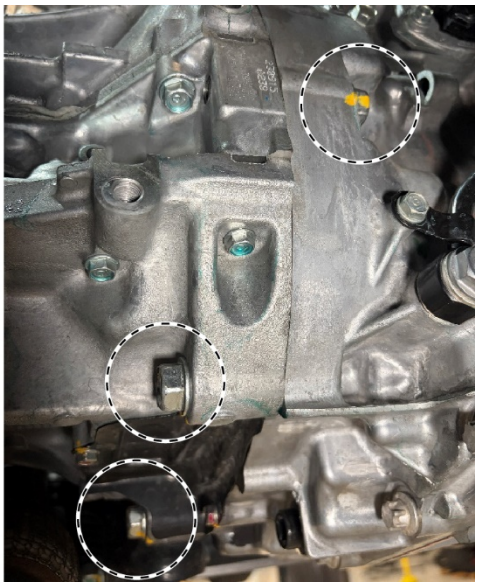


18. Remove the CKP sensor cover (A), then disconnect the harness from the CKP sensor (B).



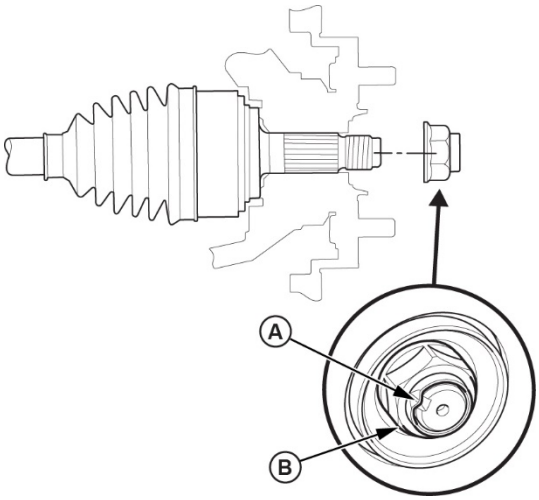
19. Remove the 5 lower transmission mounting bolts.





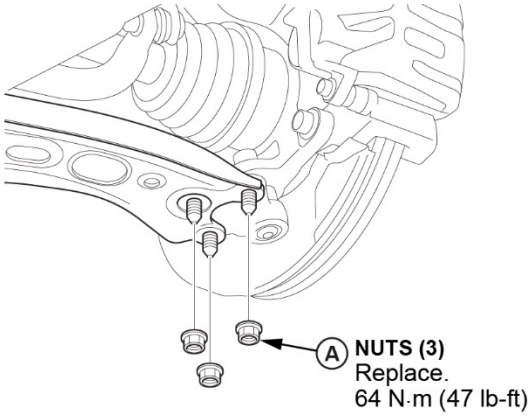
20. Remove the right front spindle nut. Pry up the stake (A), then remove the spindle nut (B).

    During installation, install a new spindle nut and apply oil to the threads, then torque to **328 N·m (242 lb-ft)**. Once torqued, use a drift to stake the spindle nut shoulder (A) to the driveshaft.



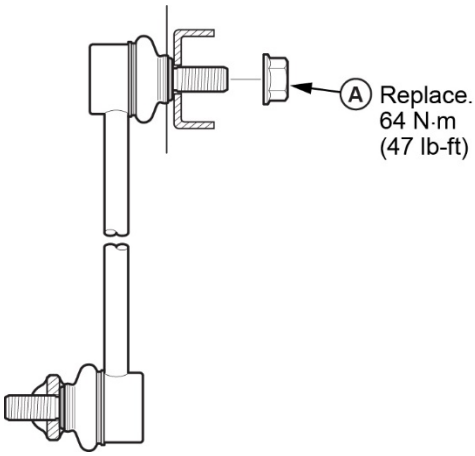
21. Remove the 3 nuts (A) mounting the lower control arm to the ball joint.

    During installation, loosely install new flange nuts, then torque to **64 N·m (47 lb-ft)**.



22. Remove the upper sway bar link nut (A).

    NOTE: Use a new flange nut during reassembly.



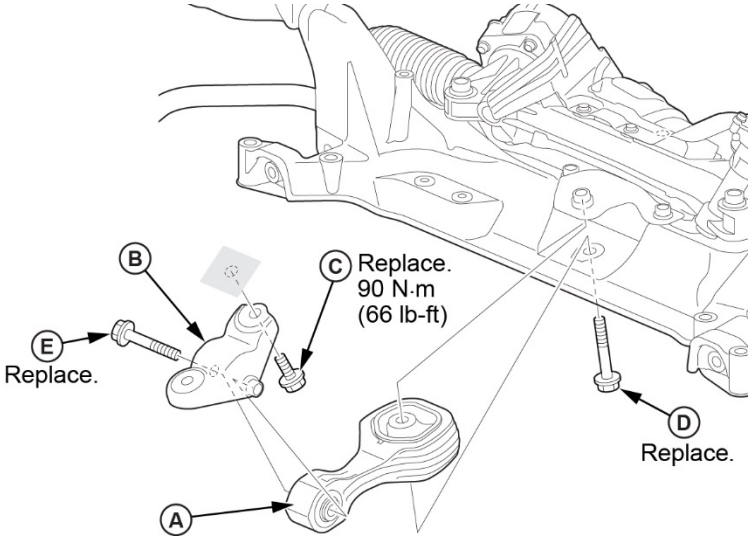
23. Remove the right-side driveshaft and intermediate shaft as an assembly.



24. Remove the lower torque rod (A), then remove the lower torque rod bracket (B).

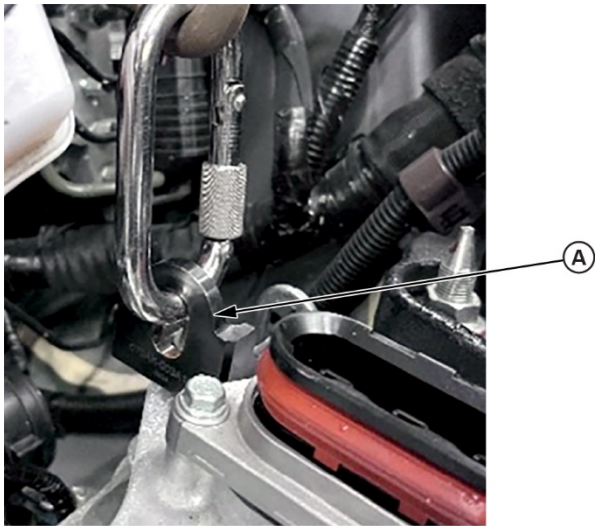
    During installation:

    - Use new bolts (C, D, & E) during installation.
    - Install the torque rod bracket and torque the mounting bolts to **90 N·m (66 lb-ft)**.
    - Tighten the torque rod mounting bolts until snug but do not final torque at this time. Final torque will be done during the cylinder head installation steps.

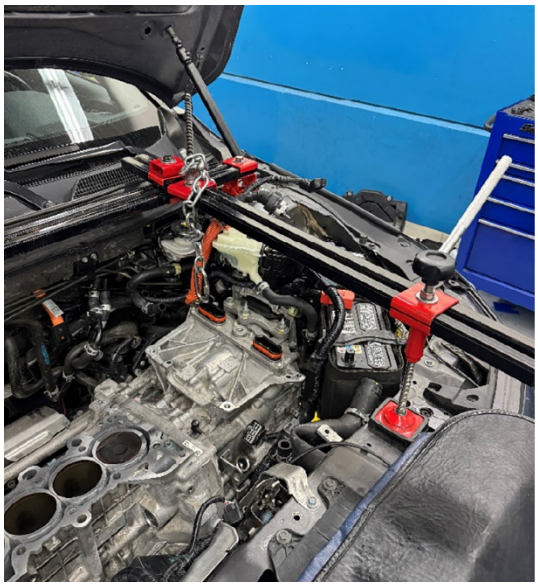


25. Lower the vehicle and use the floor jack to support the engine.
26. Remove the chain from the lifting eyelets on the engine.

27. Install the transmission lifting eyelet (A).

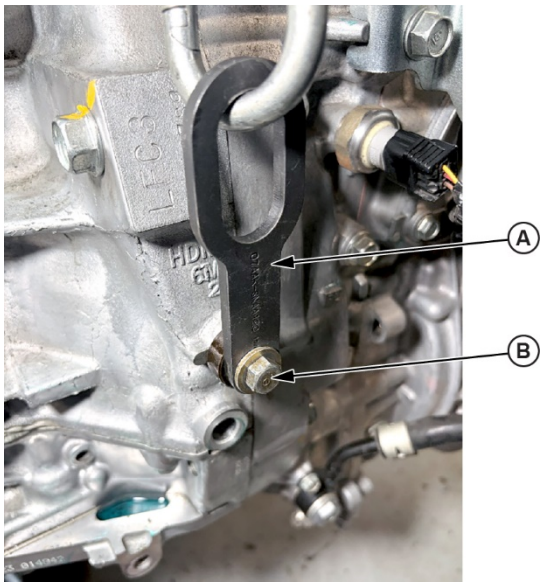


28. Shift the engine support hanger tool over to the transmission and attach the chain to the transmission, then tighten to support the transmission.





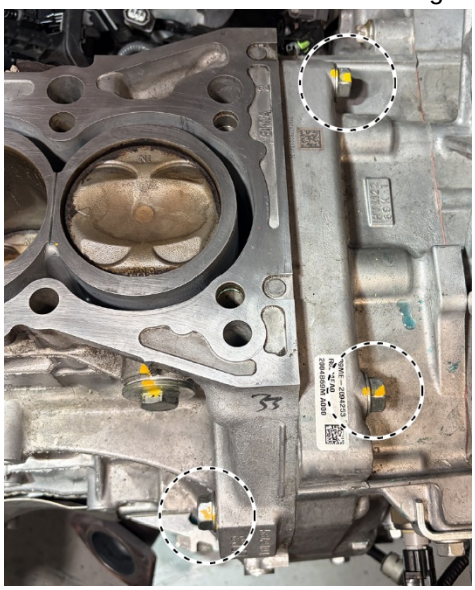
29. Install another lifting eyelet (T/N 07AAK-SNAA120) (A) and **10 mm** spacer with a **30 mm** bolt from the kit to the EGR cooler mounting bolt location, then tighten until the eyelet is snug to the block.



30. Attach the chains from the engine leveler to the lifting eyelets on the engine as shown, then remove the slack.



31. Remove the 3 transmission mounting bolts from the front of the engine.



32. Separate the engine from the transmission.

    NOTE: Use a prybar or screwdriver between the drive plate and the torque converter to ensure the torque converter stays with the transmission.

33. Lift the short block to clear the engine compartment.

    NOTE: Make sure the torque converter does not come off the transmission.

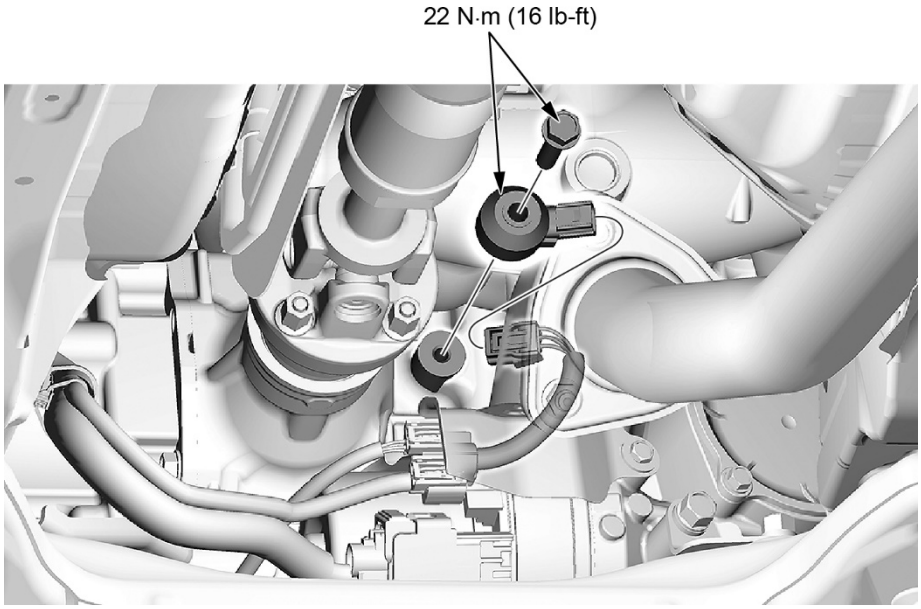
34. Lower the short block to the ground.

35. Transfer the following parts to the new short block:

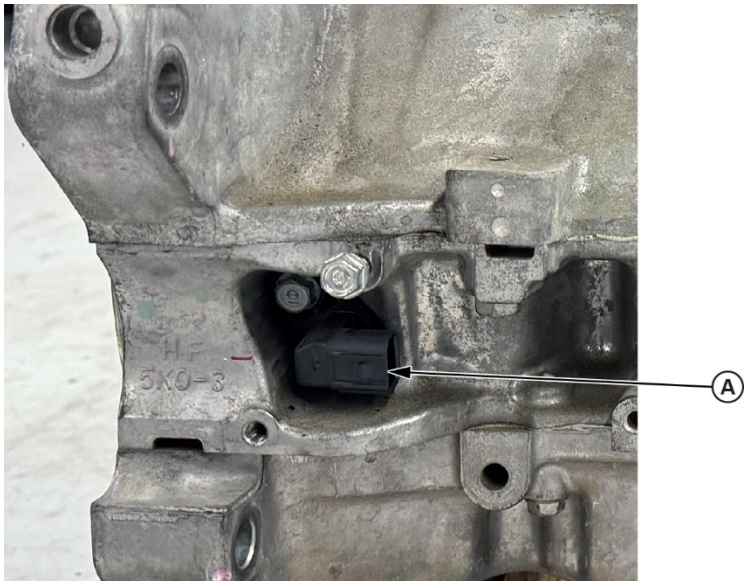
    35.1 Drive Plate – torque to **74 N·m (55 lb-ft)**.

    NOTE: Tighten the eight bolts in a crisscross pattern in at least two steps.

    35.2 Knock Sensor – torque to **22 N·m (16 lb-ft)**.



35.3 CKP Sensor (A) – Install with a new seal and torque to **12 N·m (9 lb-ft)**.



35.4 Dowel pins (if applicable).

36. Transfer the lifting eyelets from the original engine to the new engine, installing in the same locations.
37. Use the engine hoist and leveler to install the new short block into the vehicle.
38. Complete the Short Block Replacement by installing the remaining parts in the reverse order of removal.

Is the cylinder head also being replaced?

YES – Go to **Repair Procedure #2 - Cylinder Head Replacement**.

NO – Go to **Repair Procedure #1 – Head Gasket Only** to install the cylinder head and complete the repair.