



HYUNDAI

Technical Service Bulletin

GROUP

CAMPAIGN

NUMBER

21-01-048H

DATE

June, 2021

MODEL

ELANTRA (CN7)

SUBJECT:

WATER TEMPERATURE SENSOR LEAK INSPECTION AND REPAIR
(SERVICE CAMPAIGN T6Q)

*** Dealer Stock and Retail Vehicles ***

Dealers must perform this Service Campaign on all affected vehicles prior to customer retail delivery and whenever an affected vehicle is in the shop for any maintenance or repair.



When a vehicle arrives at the Service Department, access Hyundai Motor America's "Warranty Vehicle Information" screen via WEBDCS to identify open Campaigns.

Description: On certain 2021-2022 Elantra vehicles, a coolant leak at the Water Temperature Sensor (WTS) may be observed due to machining burrs at the mounting port of the cylinder head, resulting in improper coolant sealing.

Follow the inspection procedure outlined in this bulletin to check the cylinder head for signs of coolant leaks. If coolant leak is found, perform the service procedure to repair the burr at the mounting port and to replace the WTS to complete the repair.

APPLICABLE VEHICLES: Certain 2021-2022 Elantra (CN7) vehicles with 2.0L Nu engines

Parts Information:

PART NAME	PART NUMBER	FIGURE	NOTE
400 Grit Sand Paper	(Commercially Available)		(ONLY FOR LEAK REPAIR) Cut the sand paper sheet into 4" x 4" pieces for each use.
Water Temperature Sensor (WTS)	39220-2J100		(ONLY FOR LEAK REPAIR) IMPORTANT: Do not replace the WTS if no leaks are found.

NOTE: Do not order the WTS without confirming that a coolant leak is found during inspection.

Warranty Information:

MODEL	OP CODE	OPERATION	OP TIME	CAUSAL P/N	NATURE CODE	CAUSE CODE
Elantra (CN7)	10D056R0	WTS COOLANT LEAKAGE <u>INSPECTION ONLY</u>	0.2	5M515-2JU00	E81	ZZ7
	10D056R1	WTS MOUNTING HOLE MACHINING AND WTS REPLACEMENT	0.8			

NOTE 1: Submit claim on Campaign Claim Entry Screen

NOTE 2: If a part is found in need of replacement while performing the repair for this TSB, and the affected part is still under warranty, please submit a separate claim using the same Repair Order. If the affected part is out of warranty, submit a prior approval request for goodwill consideration prior to performing the work.

NOTE 3: Use of sandpaper and coolant in the amount of \$5.00 will be reimbursed as sublet under Labor Operation 10D056R1.

Inspection Procedure:

1. Turn the engine off and open the hood to prepare for coolant leakage inspection with a flashlight.

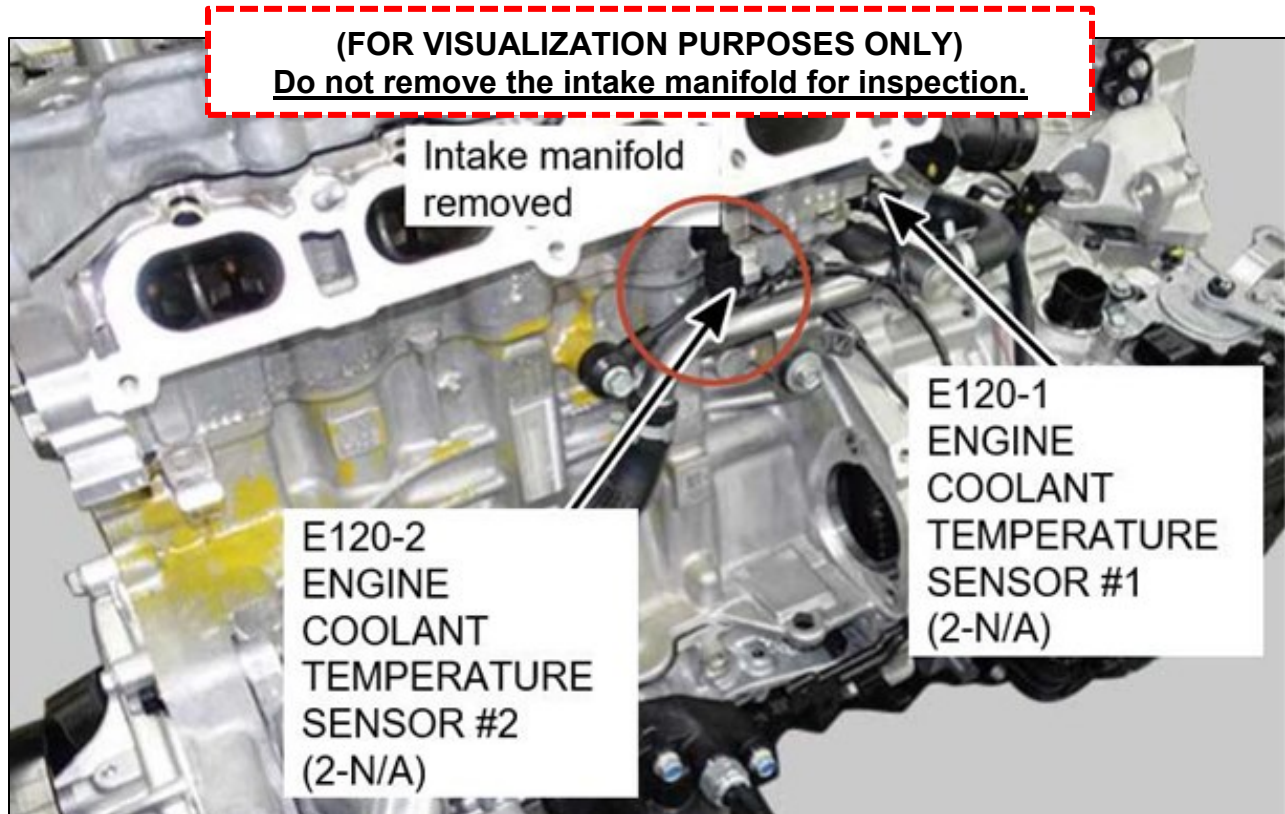


Be sure to turn the engine off and confirm that the cooling fan is off prior to performing the leak inspection.



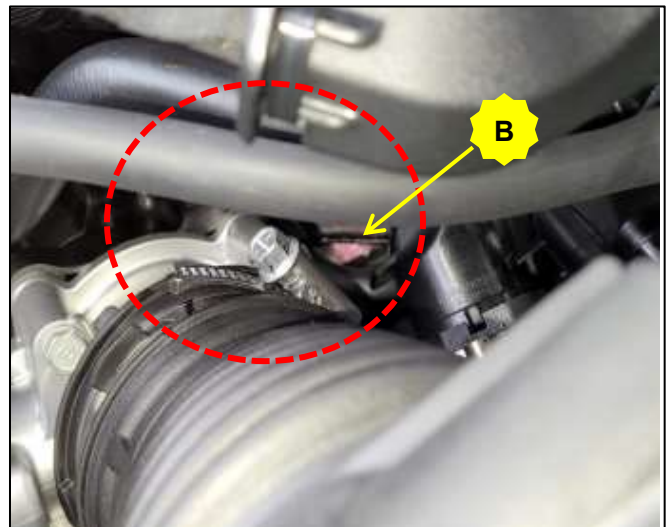
- The area to be inspected for coolant leak is the cylinder head and surrounding portions near the mid-point between the intake manifold and intake hose.





As shown above at areas surrounding sensor #2, visually check for signs of coolant leak.

2.



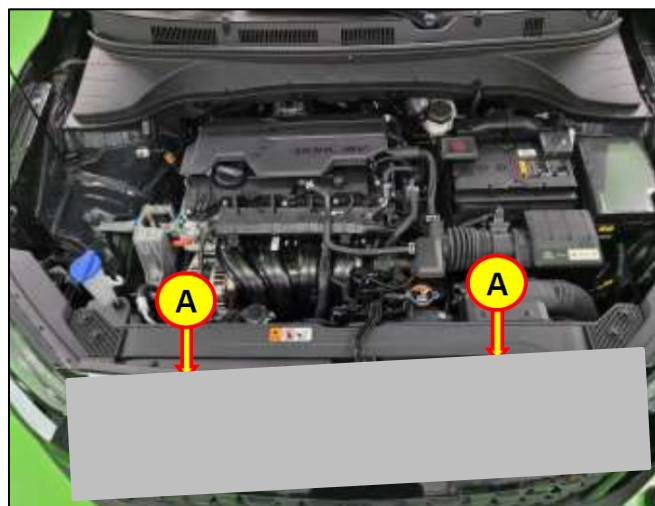
- Inspect for coolant leak residue near the cylinder head gasket (A), and areas near the lower end of the intake hose and the intake manifold (B).

NOTICE

- If no signs of coolant leaks are found, then the inspection procedure is complete.
- If coolant leaks are found, then perform the service procedure in the following pages.

Service Procedure:

1. Cover the front of the vehicle (A) to protect it from any scratches.



2. Turn off the ignition switch and disconnect the battery (-) terminal (B).

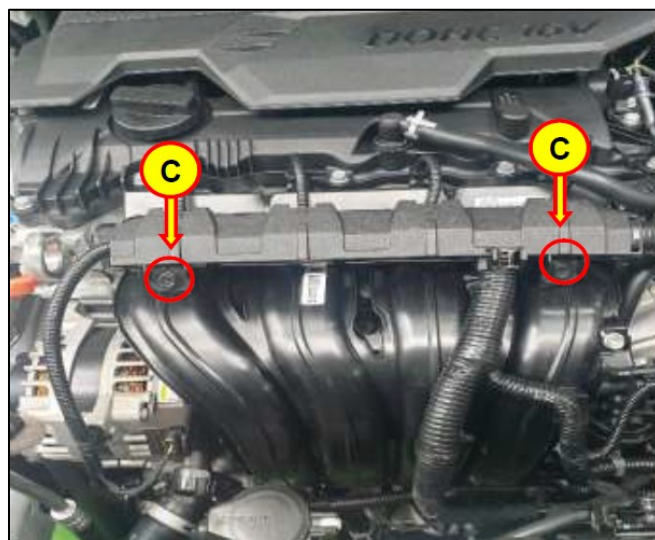
NOTE: Be sure to record the radio presets prior to battery disconnection.

Tightening torque:

8.8 Nm (78 lb-in)



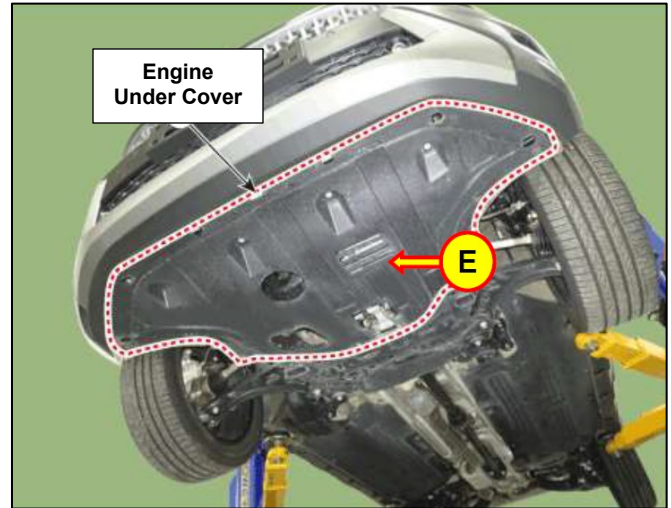
3. Loosen and remove the two bolts (C) attaching the wiring holder/protector.



4. Remove the engine under cover (E) after lifting the vehicle.

Tightening torque:

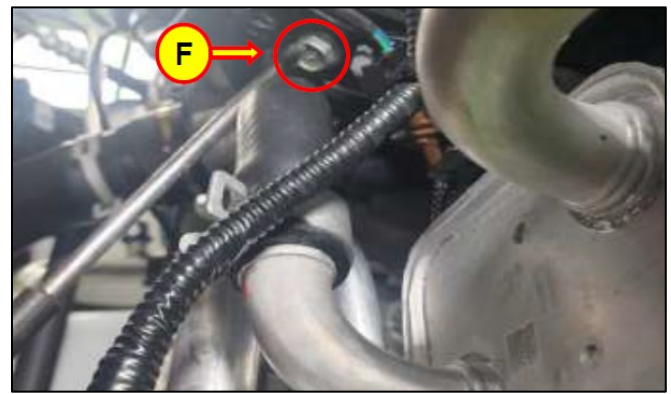
9.8 Nm (87 lb-in)



5. Loosen the upper mounting bolt (F) of the intake manifold bracket.

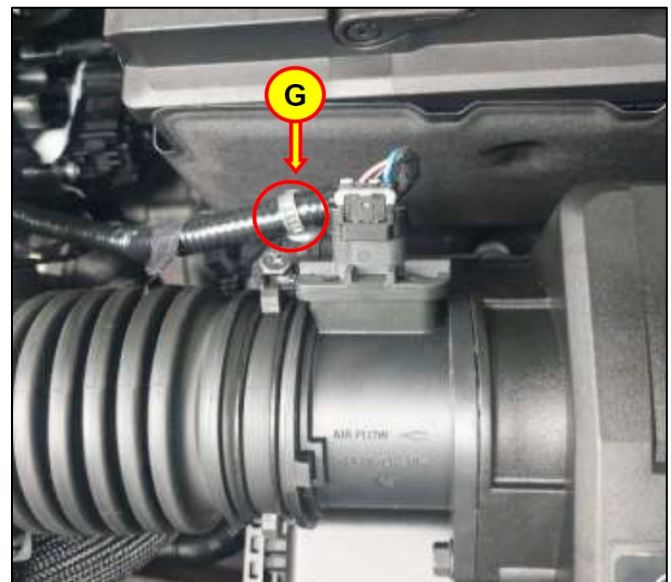
Tightening torque:

21 Nm (15.5 lb-ft)



- Only loosen the upper mounting bolt (F). Do not remove the intake manifold bracket.

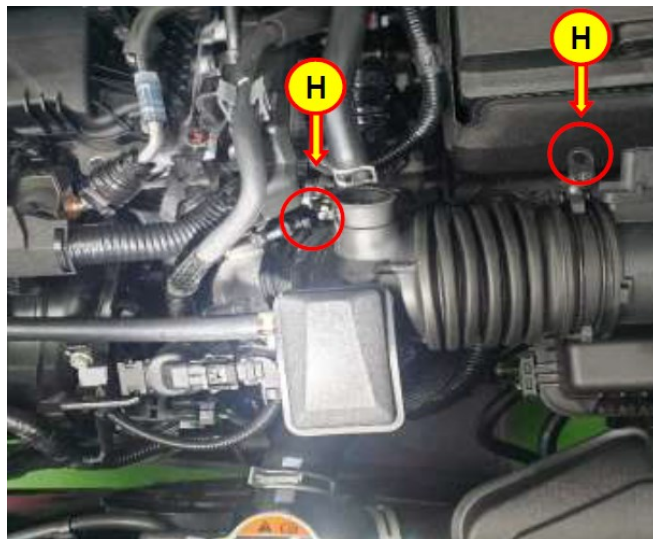
6. After lowering the vehicle to the floor, disconnect the intake hose AFS with the fixing wiring clip (G).



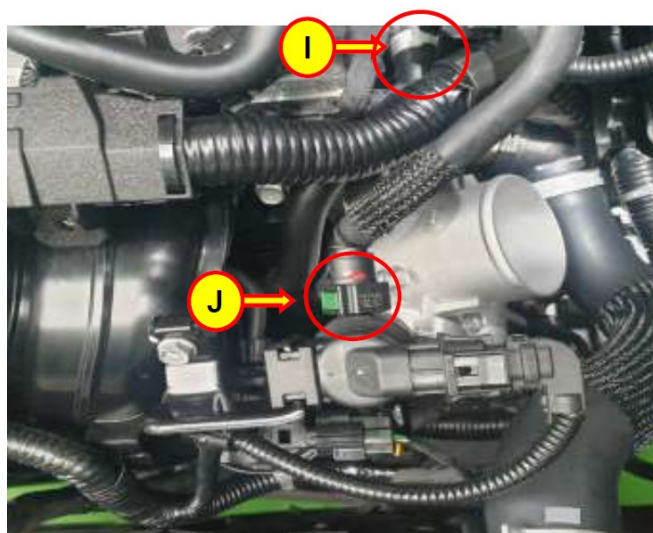
7. Loosen the intake hose fixing clamp (H) and remove the hose.

Tightening torque:

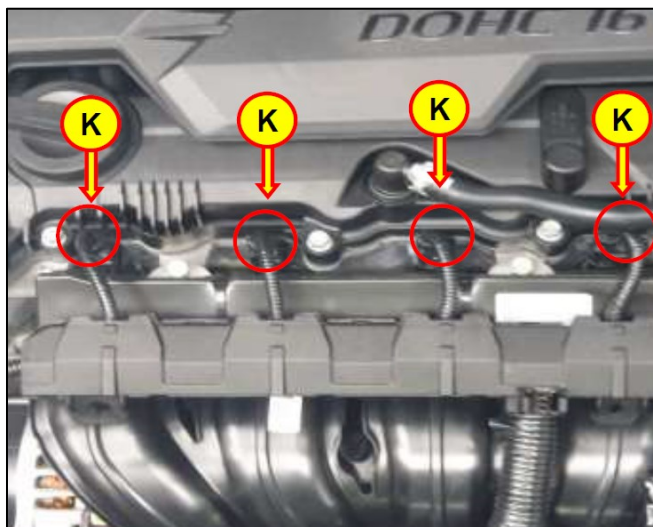
3.9 Nm (34.5 lb-in)



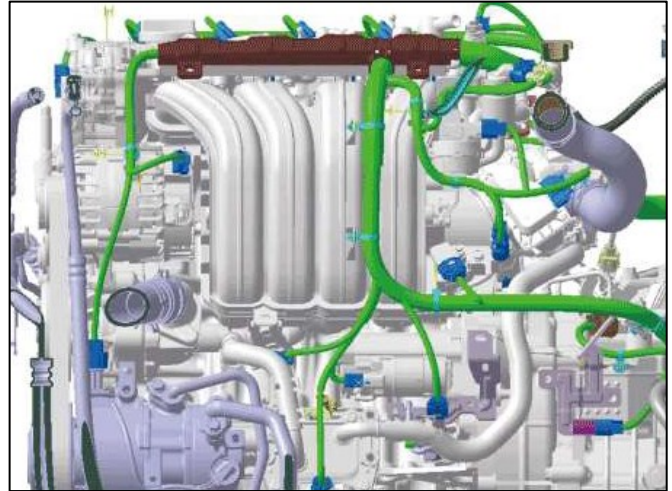
8. Loosen the intake manifold vacuum hose clamp (I) and disconnect the PCSV hose quick connector (J).



9. Disconnect the injector connectors (K).



10. Disconnect the engine wiring connector and the harness clamp to allow separating the wiring harness from the intake manifold.



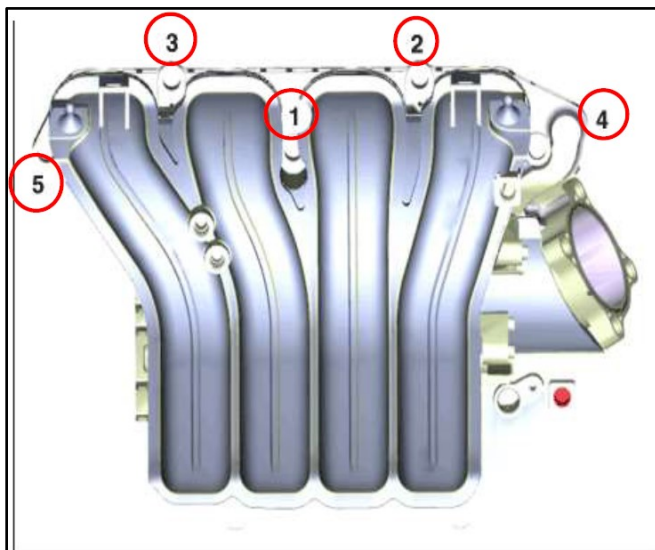
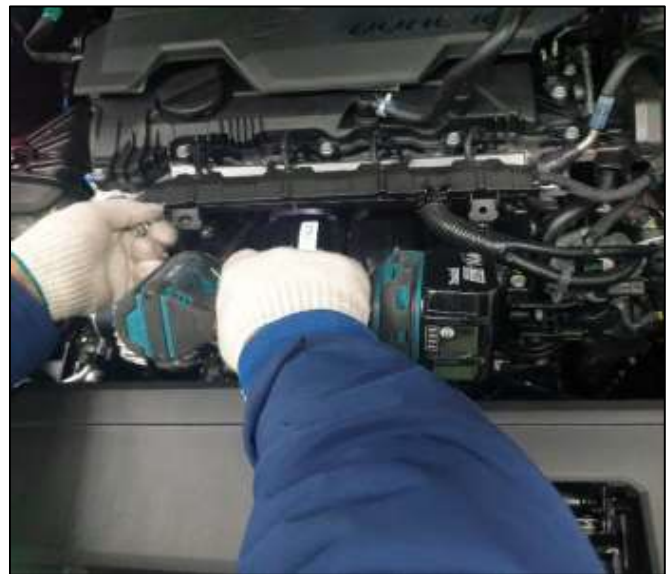
11. Loosen the intake manifold fixing nuts & bolts and remove the intake manifold.

NOTICE

During the reinstallation steps, temporarily fasten the intake manifold in the order shown in the figure below and then fully fasten them to the specified torque.

Tightening torque:

21 Nm (15.5 lb-ft)



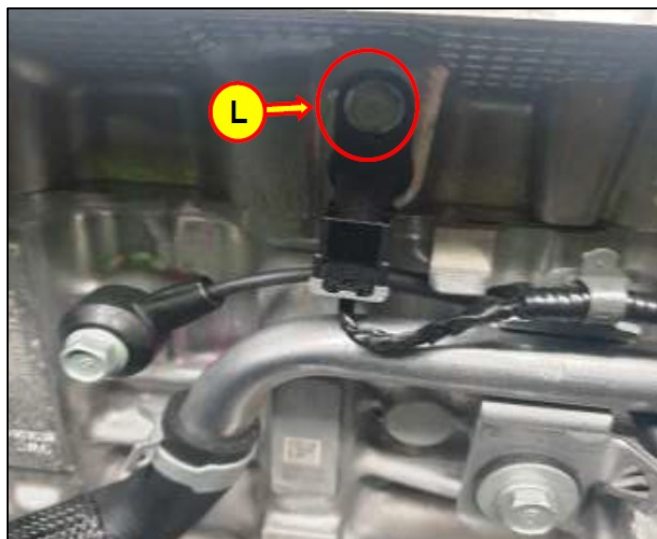
12. Place a clean drain pan underneath the vehicle.

NOTICE

Additional coolant may be drained when the WTS is removed.

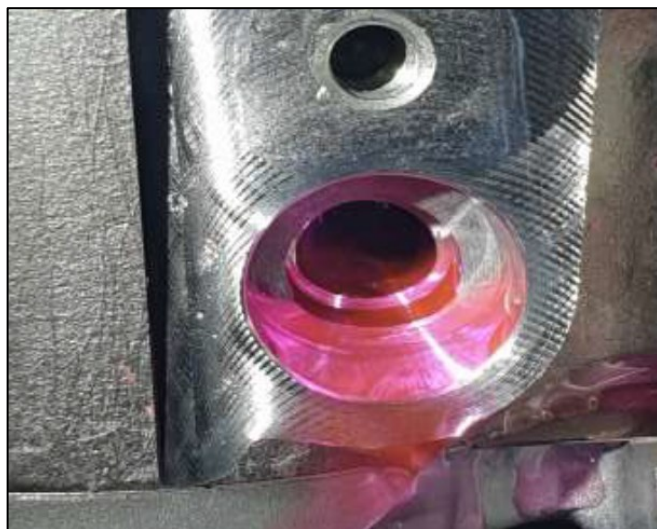


13. After removing the WTS connector, loosen the mounting bolt (L), and remove the WTS from the mounting hole.

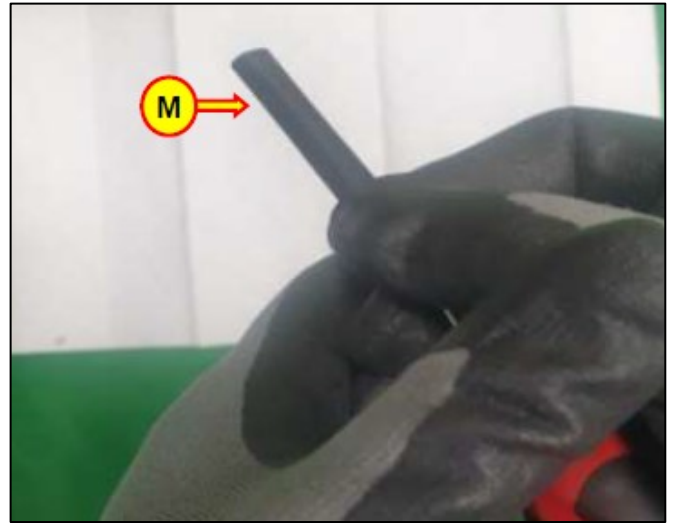


NOTICE

Use shop air to remove any excess coolant from previous leaks in addition to the coolant that may have drained after the WTS was removed. Use a shop towel if necessary to wipe dry the WTS mounting hole for the next steps.



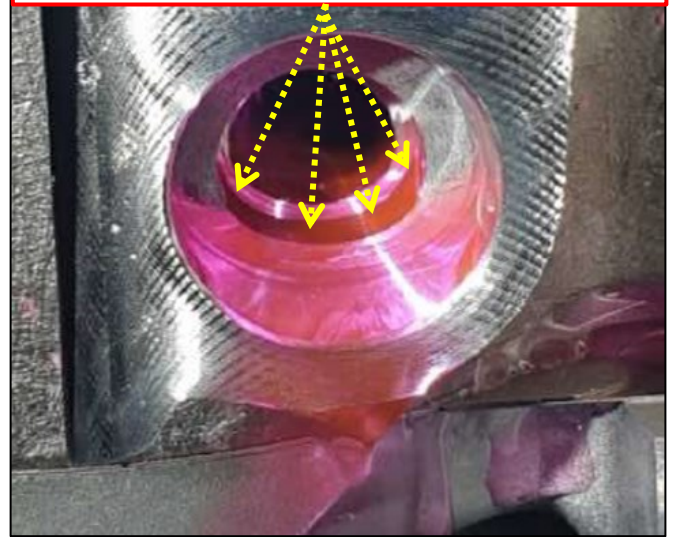
14. Position the prepared 4"X4" sized sandpaper and wrap it tightly around a Philips screwdriver tip as shown (M).



15. Remove the burr while rotating in the circular direction as shown by the arrow for about 8 ~ 9 times while maintaining a perpendicular angle to the WTS mounting hole.



WTS O-ring sealing surface to be sanded



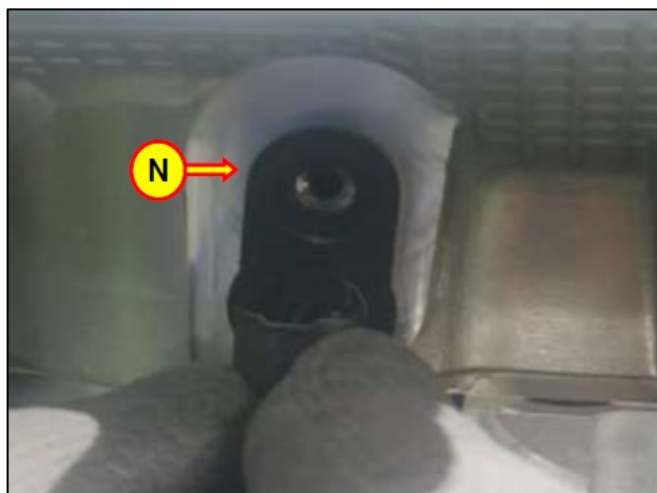
NOTICE

After the burr of the WTS O-ring sealing surface has been sanded away, use shop air to blow away the removed burr chips and sanding debris from the WTS mounting hole and its surrounding areas.

Use a lint free shop towel to wipe clean the WTS mounting hole and any remaining coolant residue from the cylinder head and the cylinder block.

16. First, apply some coolant to wet the O-ring of the new WTS and also to the newly reworked mounting hole. **(This is important to lubricate and prevent any pinching damage to the WTS O-ring seal during installation.)**

Then, install the new WTS (N) while slightly rotating it as the O-ring of the WTS is carefully pushed into the mounting hole.



17. To complete the WTS installation, check that the O-ring is fully seated into the mounting hole and then fasten the mounting bolt while initially holding the WTS flat against the cylinder head.

Tightening torque:

10.8 Nm (95.5 lb-in)

NOTICE

Be sure to connect the WTS to the engine wiring harness during the reassembly.



18. Reinstall the remaining parts and engine wiring harness connections in the reverse order of removal/disconnection.

NOTE: Reprogram the radio presets recorded from Service Procedure Step 2.



19. Refill and air bleed the cooling system according to the Shop Manual.

NOTICE

Low coolant level and/or improper air bleeding of the cooling system may result in poor engine cooling, improper HVAC system performance, and abnormal noise from the cooling system.

Refer to 2021 Shop Manual section: Engine Mechanical System > Cooling System > Coolant > Repair procedures > Refilling And Bleeding

20. Verify final repair by checking for any coolant leaks near the WTS. Wipe off any spilled coolant from the vehicle that may have occurred during the repair process.