HYUNDAI **Technical Service Bulletin**	GROUP **ENGINE**	NUMBER **20-EM-002H**
	DATE **JULY, 2020**	MODEL **ELANTRA (ADa)**
SUBJECT:	ENGINE THERMOSTAT REPLACEMENT DTC P0128 / P2181	

Description: This bulletin provides a procedure for replacing the thermostat on certain 2019 Elantra vehicles. The thermostat may not function properly and may result in Diagnostic Trouble Codes P0128 or P2181. To correct this condition, follow the procedure outlined in this bulletin to replace the thermostat and air bleed the cooling system after refilling.

No drivability issues are associated with this condition.

DTC	DESCRIPTION
P0128	Coolant Thermostat (Coolant temperature below thermostat regulating temperature)
P2181	Cooling System Performance

APPLICABLE VEHICLES:	Certain 2019 Elantra (ADa)* with 2.0L Gasoline (Nu) MPI engine

NOTE: ***Elantra (ADa) vehicles have VINs starting with "5NP".

Parts Information:

MODEL	PART NUMBER	DESCRIPTION	PHOTO
Elantra (ADa)	25500-2E085-QQH	Thermostat	

NOTE: This Part number may also be used on 17~18MY ADa (VIN: 5NP) when servicing as warranty.

Warranty Information:

MODEL	OP CODE	OPERATION	OP TIME	CAUSAL P/N	NATURE CODE	CAUSE CODE
Elantra (ADa)	00DA21R0	Thermostat Replacement	0.9	25500-2E085-QQH	I3T	ZZ3

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.

Service Procedure:

1. Open the hood and loosen the radiator cap.

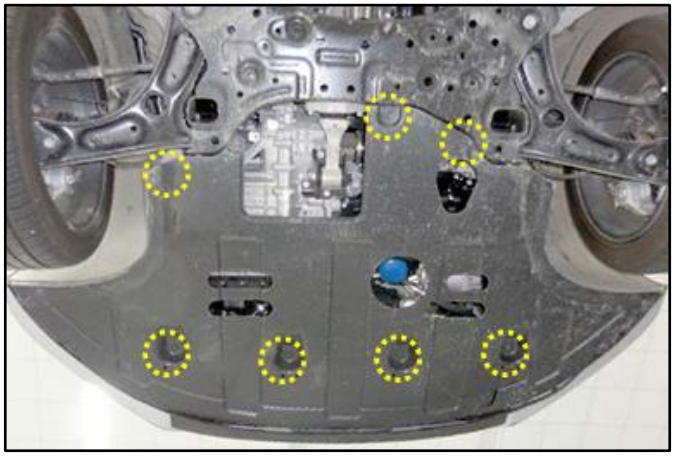
⚠ CAUTION

DO NOT open the cap when the engine is hot.

2. Lift the vehicle on a hoist.

   Use a 10mm socket and ratchet to remove 7 bolts as shown.

   Use a trim tab or similar tool to remove 12 plastic fittings and remove the undercover.



3. Place a **clean container** under the radiator.

   Use pliers to loosen the plastic drain plug for the radiator and drain approximately 1/2 gallon of coolant.

   Tighten the plug after draining the coolant.

NOTICE

The drained coolant will be re-used during the repair.

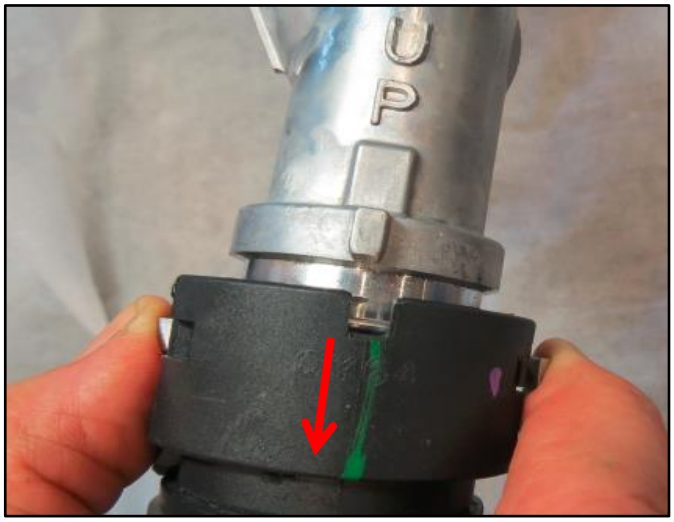
4. Lower the vehicle.

   Place the same coolant container under the engine.

5. Locate the lower radiator hose with integral quick disconnect under the alternator.

   For vehicles with a white retainer:
   Insert a 90° pick or similar tool under the silver tab. Gently rotate the pick clockwise and lift the silver tab up. Pull the white retainer out of the tab.

6. Press the tabs on the left and right sides of the quick disconnect and pull the radiator hose from the thermostat.



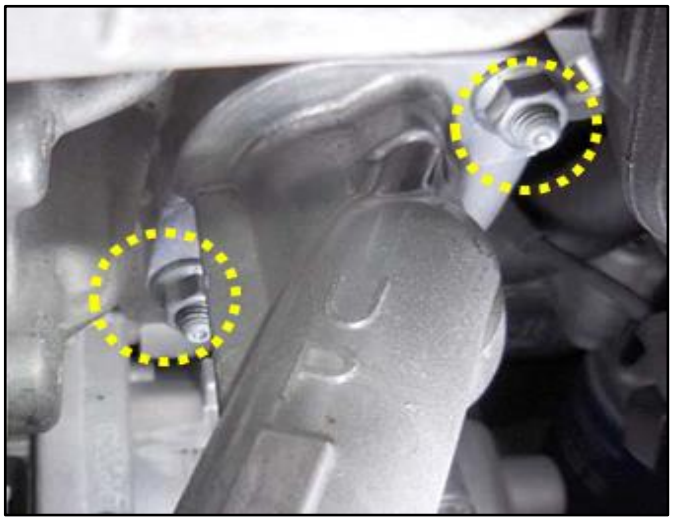
7. Press the tab on the bottom side of the coolant temperature sensor connector and disconnect the connector.

8. Use a 12mm socket and ratchet to remove the nuts for the thermostat and remove the thermostat.

   Install the new thermostat and tighten the nuts to the specified torque.

   Tightening torque:

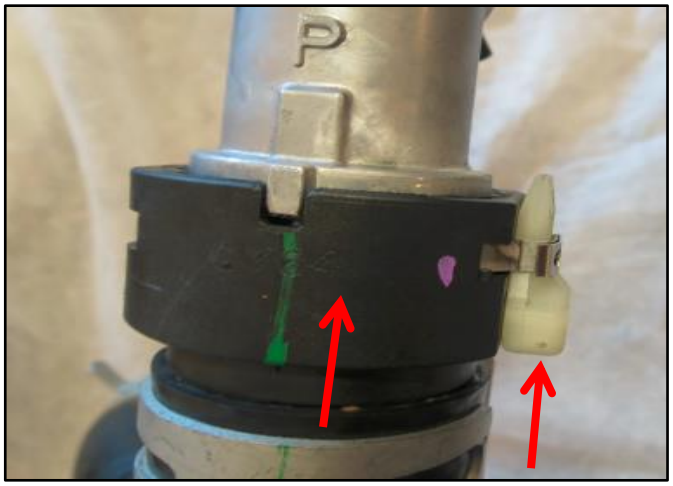
   23 Nm (17 lb-ft)



9. Reconnect the coolant temperature sensor connector.

10. Reinstall the radiator hose to the thermostat.

    - Push firmly until a click is heard from the quick disconnect.
    - Insert the white retainer into the tab (if applicable).



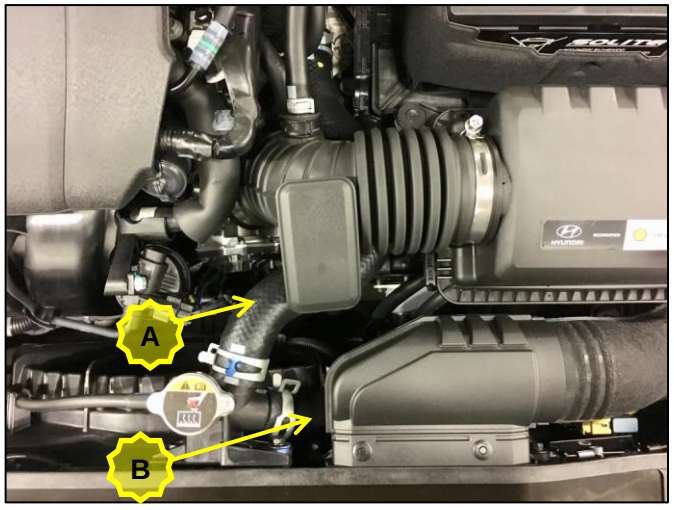
11. Refill the cooling system and prepare for air bleeding.
    - Attach a large fill funnel to the filler neck.
    - Pour the previously drained coolant in Step 3 into the fill funnel, making sure that the coolant is clean and free of debris.
    - Keep the funnel filled to 1/3 level during the air bleeding process.

12. Elevate the FRONT LH corner of the vehicle.
    - Park vehicle on level ground with parking brake ON, and block the rear wheels.
    - Raise the front left side of the vehicle at the lift point approximately 100mm (4 inches) higher than the rest of the vehicle.

13. Gently squeeze the 2 upper radiator hoses leading to the filler neck Y-Junction several times to initially release any trapped air.
    - Hose (A) leading towards the engine
    - Hose (B) leading towards the radiator

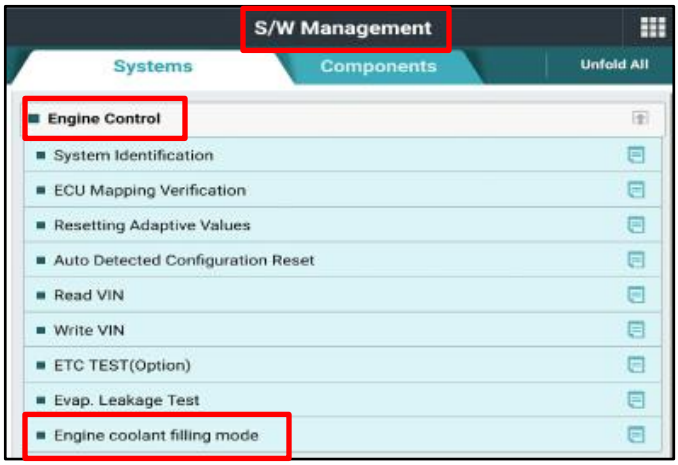
NOTICE

(Fill funnel not shown in this picture only for visual purposes.) **Keep the funnel attached to the filler neck and partially filled with coolant until all air bleeding steps are complete.**



14. With the GDS connected to monitor the engine coolant temperature (ECT), start the engine and allow the engine coolant temperature to warm up to 75°C (167°F) at idle.
    - To assist the initial engine warm up, turn off the heater blower.
    - While the engine is idling and coolant temperature is still cold, squeeze the radiator hoses (A & B) several more times before engine warms up.

15. When the minimum engine coolant temperature of 75°C (167°F) has been reached, use the GDS to perform the coolant air bleeding.
    - From the GDS home page, Select AUTO VIN > **Software Management > Engine Control > Engine coolant filling mode**.
    - Follow the prompts on the GDS to begin the air bleeding process of opening the electric thermostat, and then perform the Engine REV steps below.



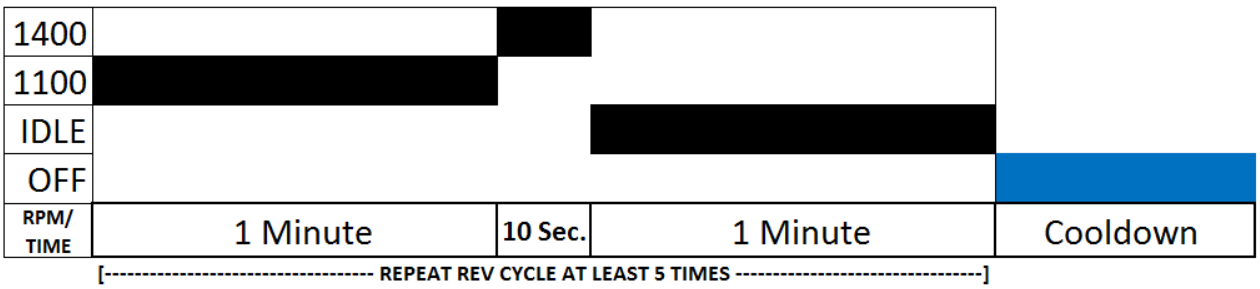
NOTICE

After warm up has been achieved, monitor for signs of coolant temperature overheating.
- **Shut the engine off if coolant boils over or is about to overflow the fill funnel.**
- Check coolant fan function and then resume after the engine has cooled sufficiently.

16. Set HVAC to the following to stabilize the coolant temperature during Engine REV steps:
    - Temperature to maximum HOT
    - A/C indicated ON
    - Blower at approximately ¾ speed

17. Perform the following Engine REV steps to help purge the remaining trapped air:
    a) REV and hold the engine speed to approximately 1,100 RPM for 1 minute.
    b) REV and hold the engine speed to approximately 1,400 RPM for 10 seconds.
    c) IDLE for 1 minute. (Check the level of the fill funnel and replenish coolant if necessary.)
    d) Repeat Steps (17a) through (17c) for at least 5 cycles, while observing for purged air.
    e) Shut the engine off.
    f) Allow the engine to cool with the funnel still attached and filled (observe for purged air).

Engine REV Cycle



NOTICE

If purging of air is still observed, repeat all of Step 17 at least 2-3 times, or as necessary.

18. **<u>After the engine and coolant has fully cooled to lukewarm temperature</u>**, remove the fill funnel and reinstall the radiator cap.
    - Check the coolant reservoir level. Fill to FULL if necessary.

19. Clean any coolant residue under the engine.

    Check for leaks from the thermostat.

    Reinstall the undercover.

    Tightening torque:

    5 Nm (44 lb-in)

20. Check for Diagnostic Trouble Codes and erase any DTC.

    Erase the DTC in the BlueLink system according to TSB 12-BE-005-2.

    Drive the vehicle to confirm proper engine coolant temperature operation.