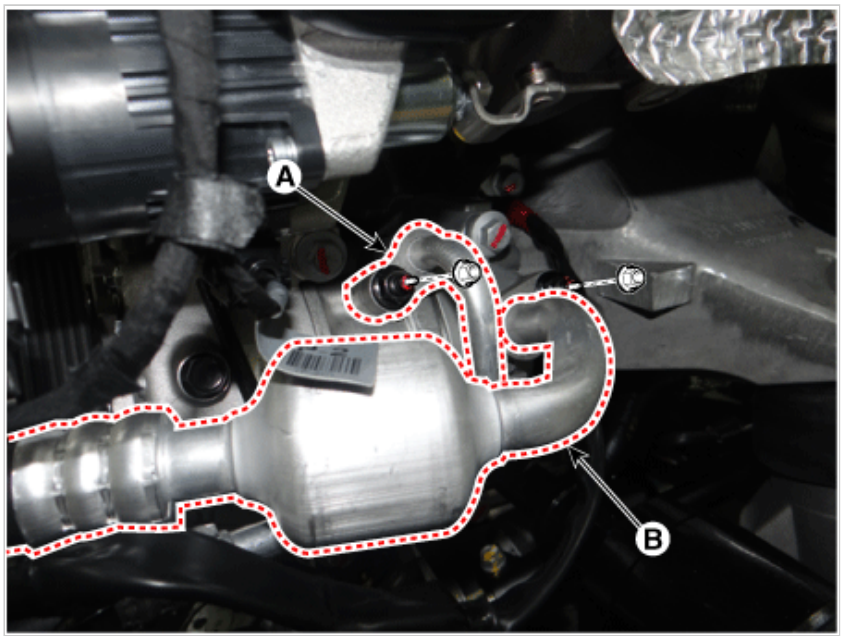
Removal

LAMBDA Engine

1. If the compressor is marginally operable, run the engine at idle speed, and let the air conditioning work for a few minutes, then shut the engine off.
2. Disconnect the negative (-) battery terminal.
3. Recover the refrigerant with a recovery/charging station.
4. Remove the sub frame.
   (Refer to Suspension System - "Sub Frame")
5. Loosen the drive belt.
   G 2.0 T-GDI-THETA (Refer to Engine Mechanical System - "Drive Belt")
   G 3.3 T-GDI-LAMBDA (Refer to Engine Mechanical System - "Drive Belt")
6. Remove the discharge line (A) and suction line (B) from the compressor.
   Tightening torque :3.9 - 5.9 N·m (0.4 - 0.6 kgf·m, 2.9 - 4.3 lb·ft)

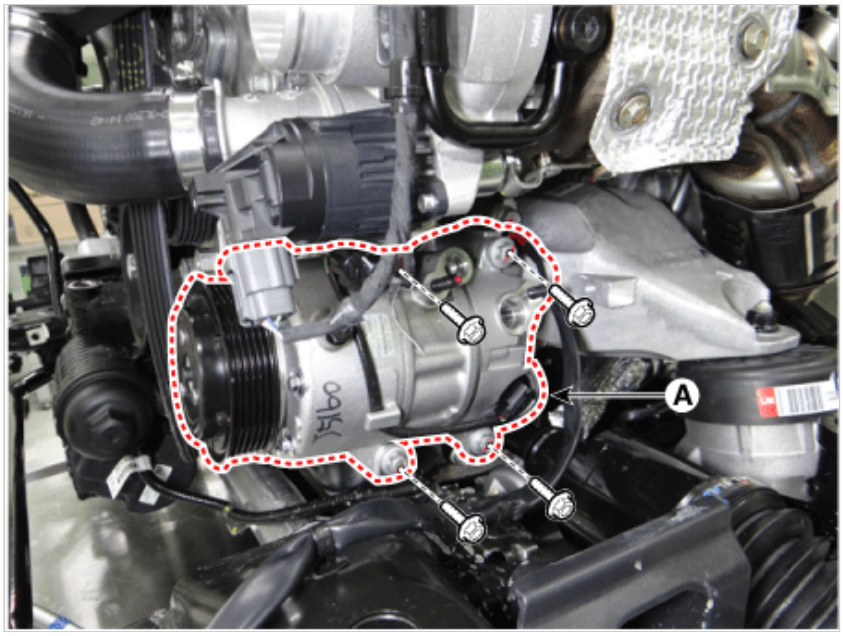


NOTICE
Plug or cap the lines immediately after disconnecting them to avoid moisture and dust contamination.

7. Disconnect the ECV connector (A).

8. Remove the compressor assembly (A) after loosening the bolts.

Tightening torque :20.00 - 32.95 N·m (2.04 - 3.36 kgf·m, 14.75 - 24.30 lb·ft)

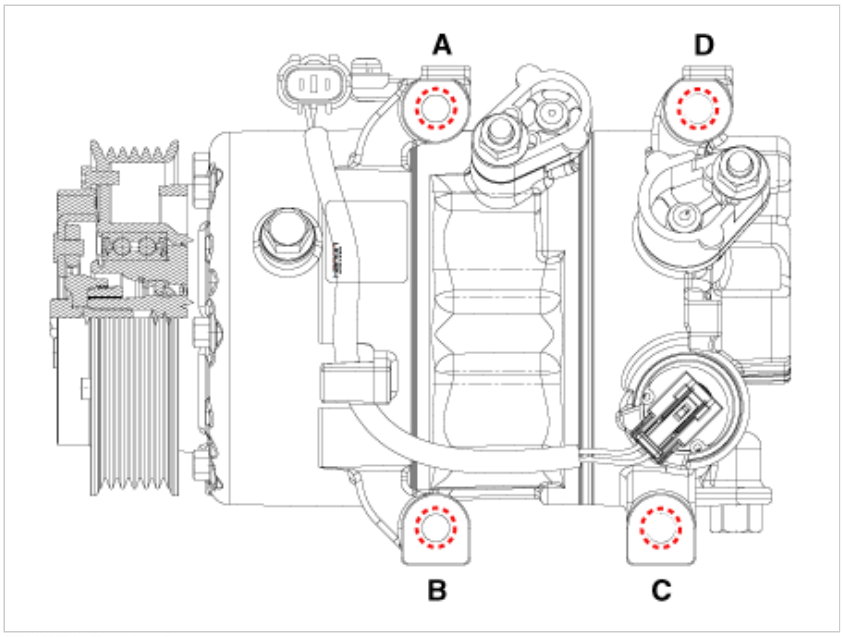


Installation

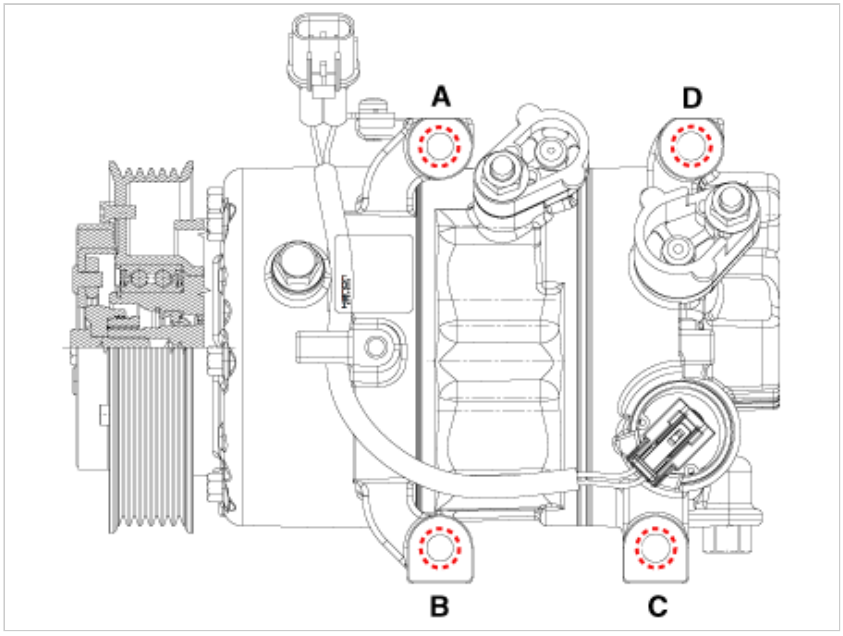
1. Make sure that the compressor (A) mounting bolt of the correct length is screwed in. Tighten the mounting bolts in the specified tightening order.

Tightening torque :20.00 - 32.95 N·m (2.04 - 3.36 kgf·m, 14.75 - 24.30 lb·ft)

[Lambda Engine]



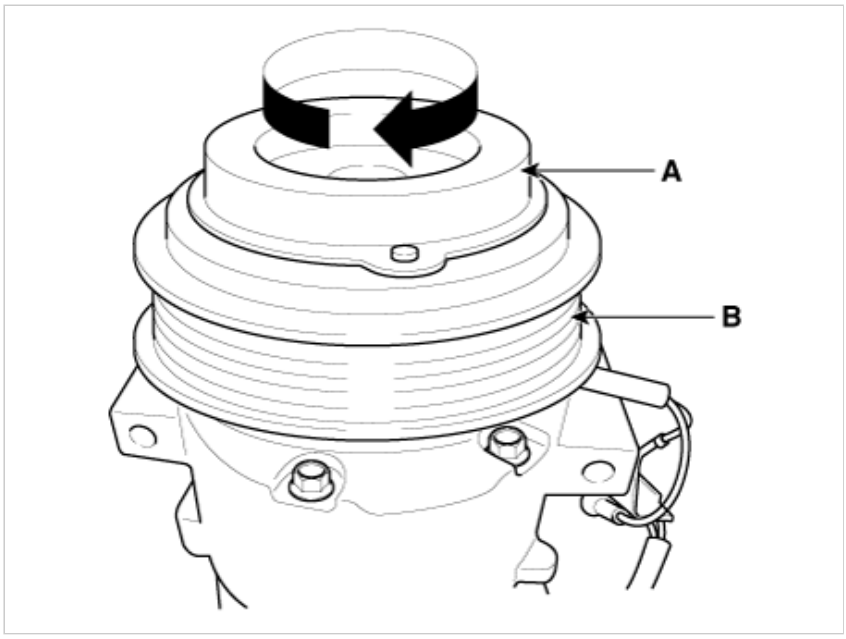
[THETA Engine]



2. Install in the reverse order of removal.
   - When installing a new compressor, drain all the refrigerant oil from the removed compressor and measure its volume. Subtract the volume of drained oil from the original capacity to calculate the amount of compressor oil that needs to be drained from the new compressor (through the suction fitting).
   - Replace the O-rings with new ones at each fitting, and apply a thin coat of refrigerant oil before installing them. Be sure to use the right O-rings for R-134a to avoid leakage.
   - To avoid contamination, do not return the oil to the container once dispensed, and never mix it with other refrigerant oils.
   - Immediately after using the oil, replace the cap on the container and seal it to avoid moisture absorption.

Inspection

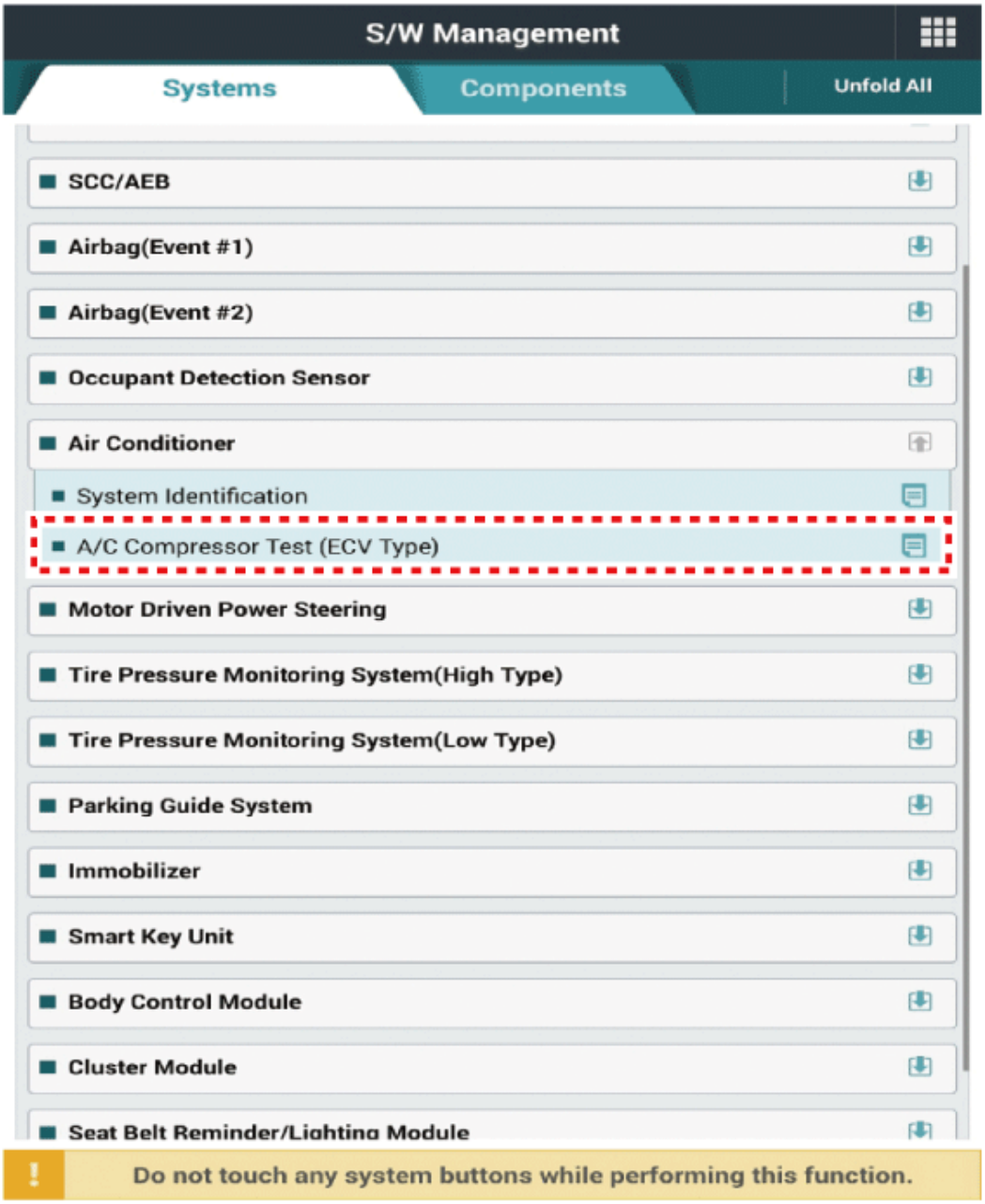
1. Check the plated parts of the limiter & hub assembly (A) for color changes, peeling or other damage. If there is damage, replace the assembly.
2. Check the pulley (B) bearing play and drag by rotating the pulley by hand. Replace the pulley with a new one if it is noisy or has excessive play/drag.



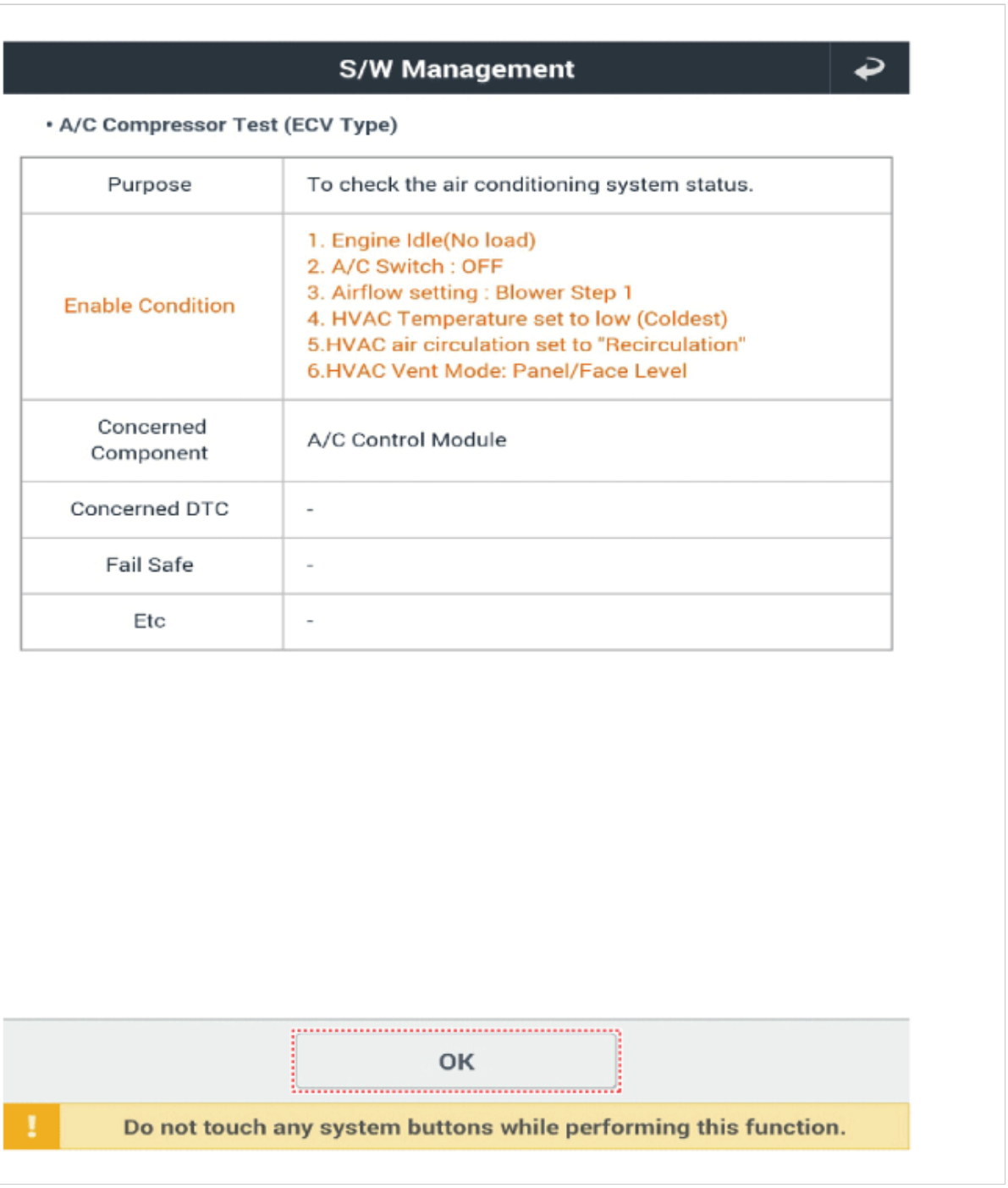
External Control Valve Compressor Inspection (KDS)

Compressor type: Fixed type compressor, External control valve, Internal control valve.
In cases of fixed type and internal control valve, it is possible to inspect compressor''s operation with clutch noise.
When it comes to External control valve, however, it cannot be checked in this way bacause it doesn''t have a clutch.
So, ECV should be inspected with KDS as below.

1. Connect KDS to the vehicle and select ''Aircon Compressor Test(ECV type)''
   [ECV1]



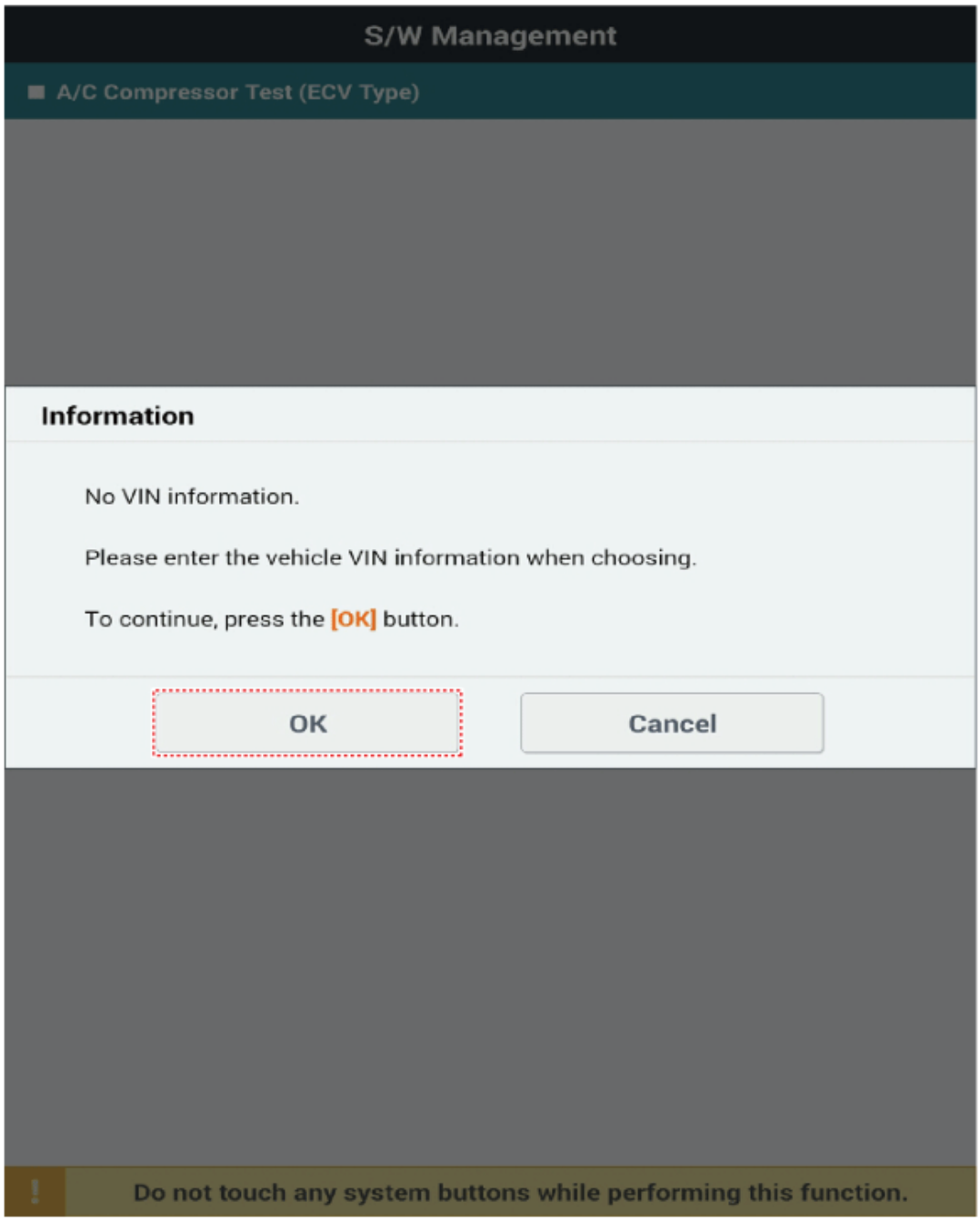
2. Make the vehicle ready as the KDS instruction on the monitor. (Turn off A/C "switch" only)



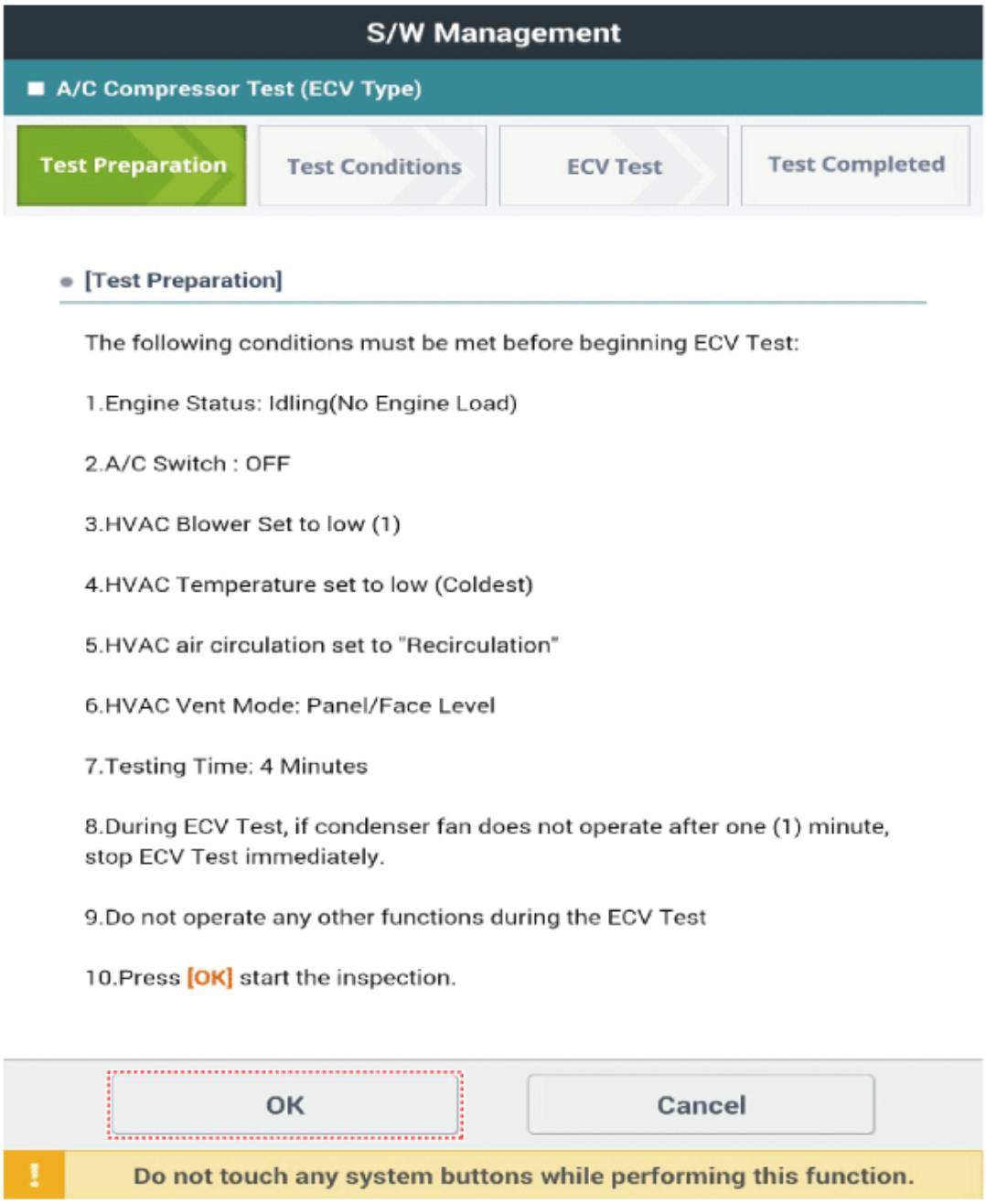
3. Check if other DTC codes are found before inspect ECV compressor. If so, solve that problems first. If not, press "OK" button to continue.

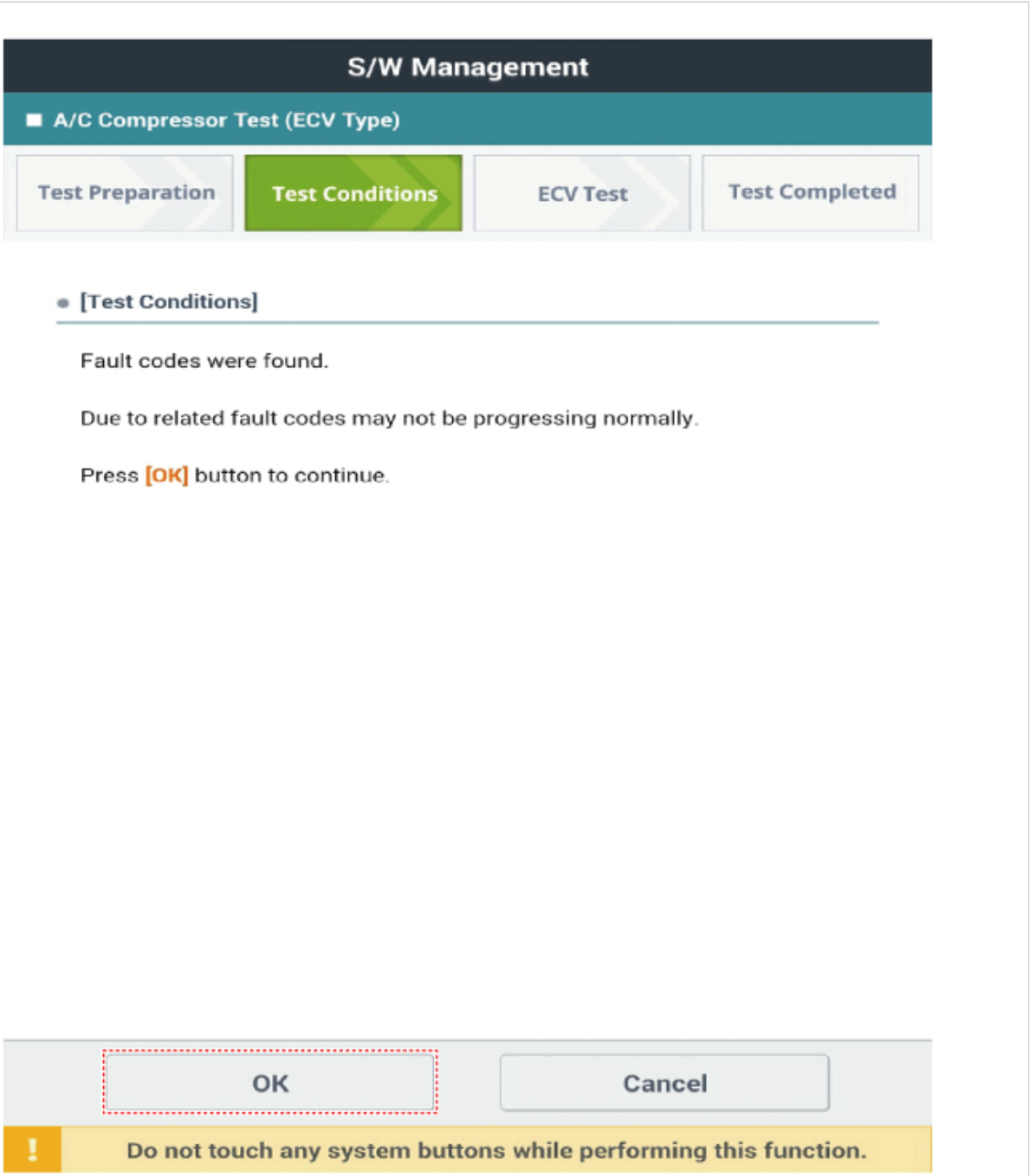
Information

Do not continue inspection if these DTC codes are found: B1241, B1242, B1672, B1685, B1686, B1687



4. Start inspection


S/W Management
A/C Compressor Test (ECV Type)
Test Preparation
Test Conditions
ECV Test
Test Completed
[Test Preparation]
The following conditions must be met before beginning ECV Test:
1.Engine Status: Idling(No Engine Load)
2.A/C Switch : OFF
3.HVAC Blower Set to low (1)
4.HVAC Temperature set to low (Coldest)
5.HVAC air circulation set to "Recirculation"
6.HVAC Vent Mode: Panel/Face Level
7.Testing Time: 4 Minutes
8.During ECV Test, if condenser fan does not operate after one (1) minute, stop ECV Test immediately.
9.Do not operate any other functions during the ECV Test
10.Press [OK] start the inspection.
OK
Cancel
Do not touch any system buttons while performing this function.



⚠ CAUTION

Check if condenser fan is operating when condition is changed to "ECV running"

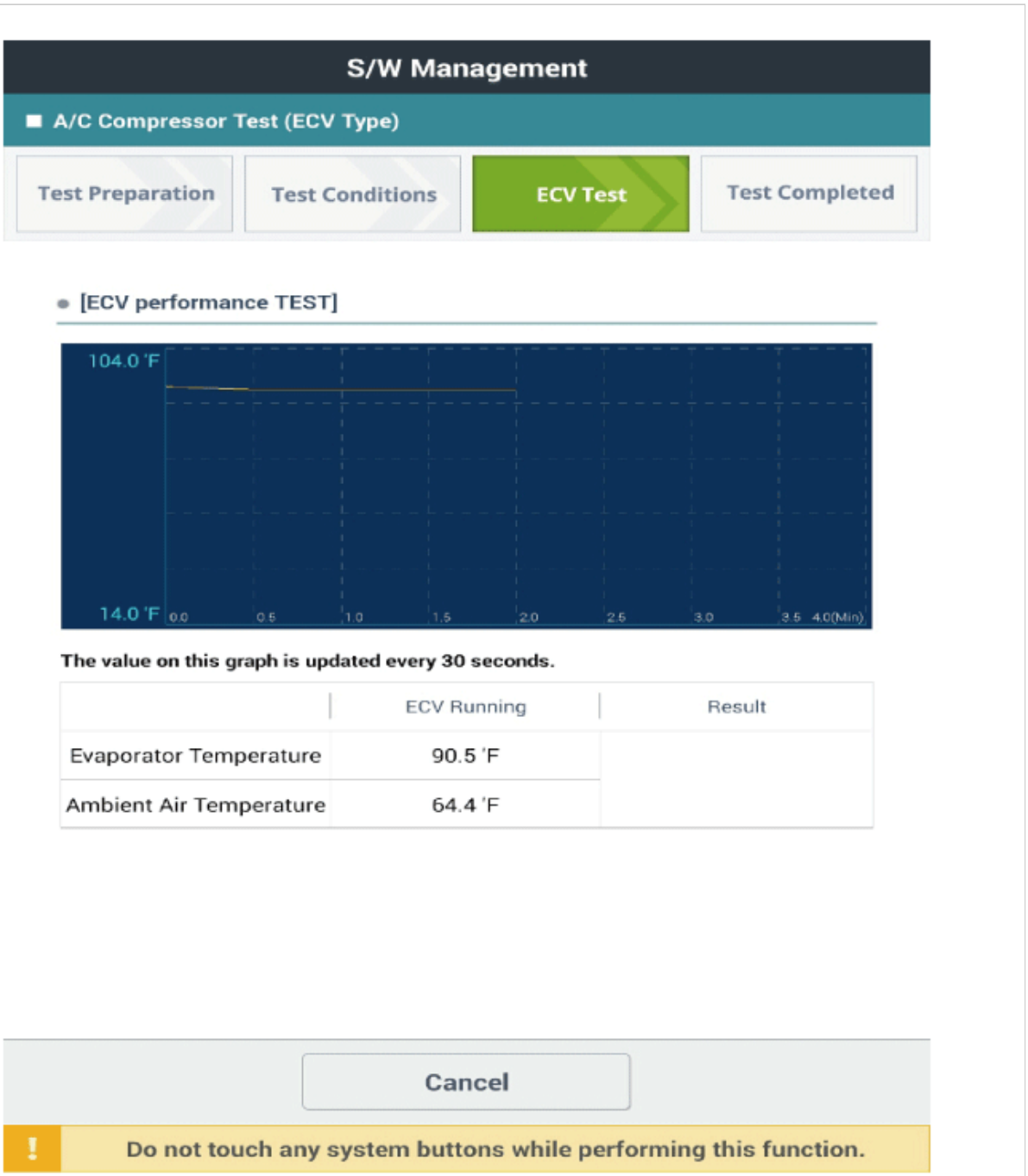
⚠ CAUTION

Relief valve will operate if condenser fandoesn"t work due to overpressure in thecompressor. It helps the airconditiong system torelieve by releasing refrigerant and oil (losed ifrelieved).

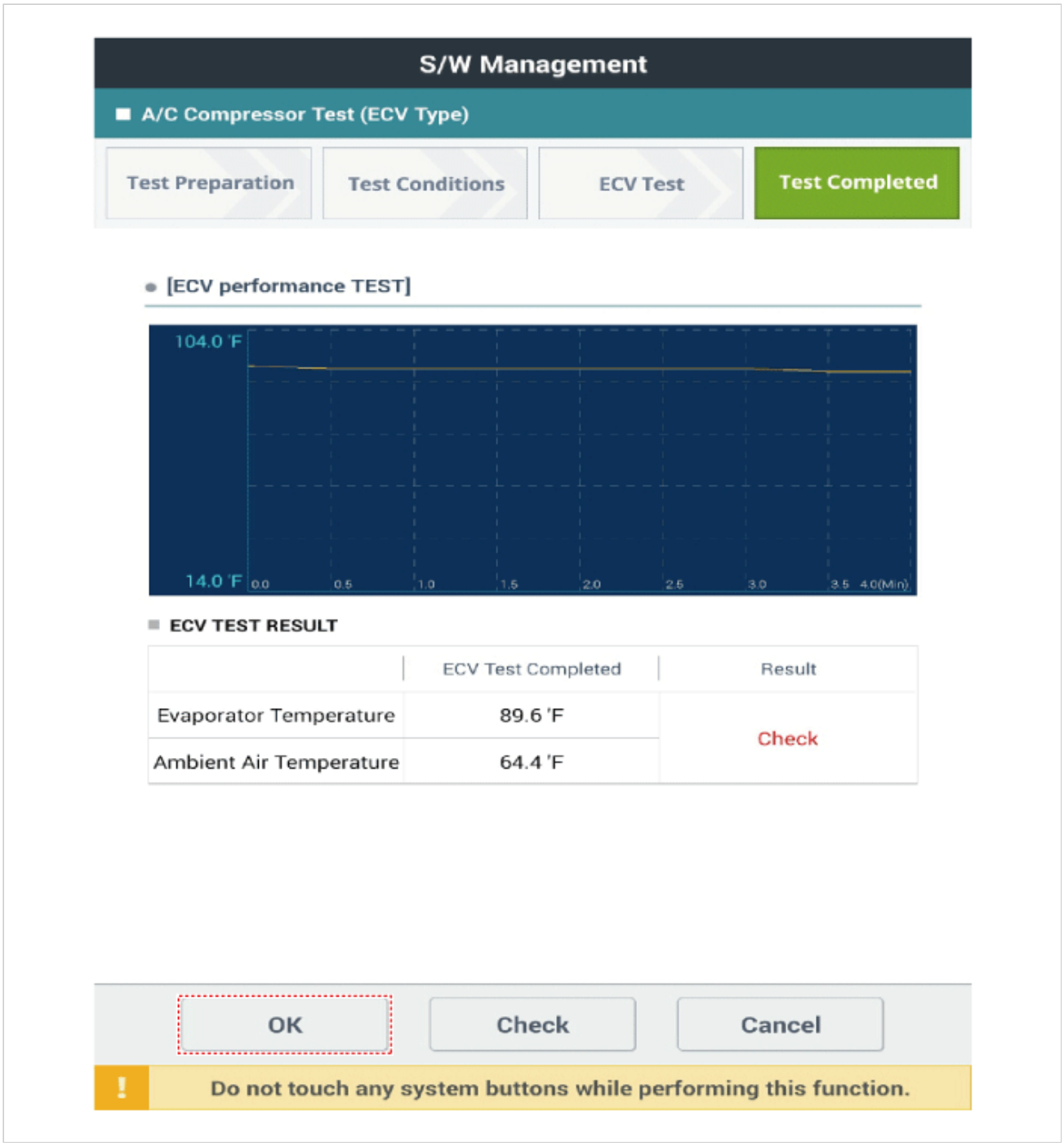
※ Refill refrigerant and oil after operation of relief valve

※ Noise occurred when relief valve is in operation

5. Check the result of inspection.
   [ECV7]


S/W Management
A/C Compressor Test (ECV Type)
Test Preparation
Test Conditions
ECV Test
Test Completed
[ECV performance TEST]
104.0 'F
14.0 'F
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0(Min)
The value on this graph is updated every 30 seconds.
ECV Running
Result
Evaporator Temperature
90.5 'F
Ambient Air Temperature
64.4 'F
Cancel
Do not touch any system buttons while performing this function.

[ECV8]



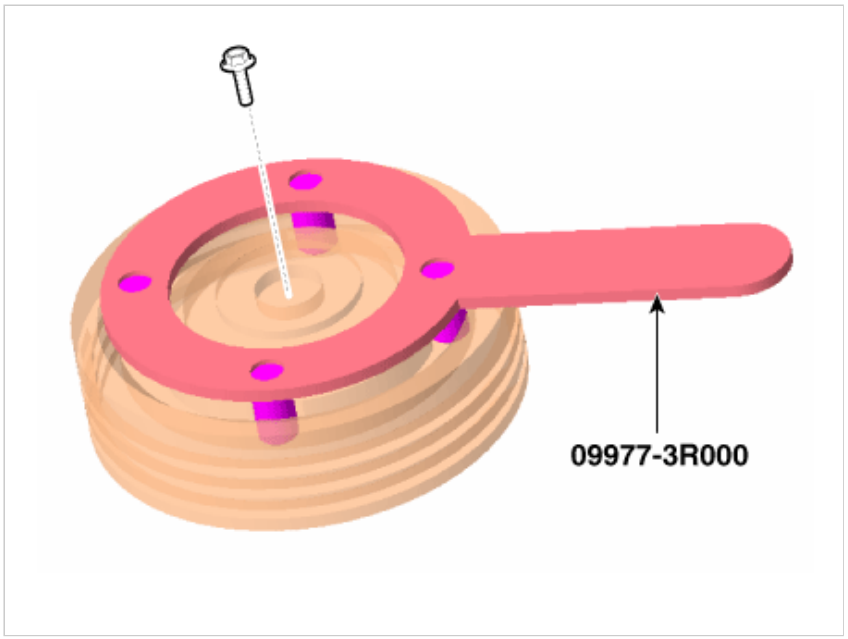
6. If the result shows "Check" , click "Check" and follow the instruction.

7. Inspect ECV again from the first step.

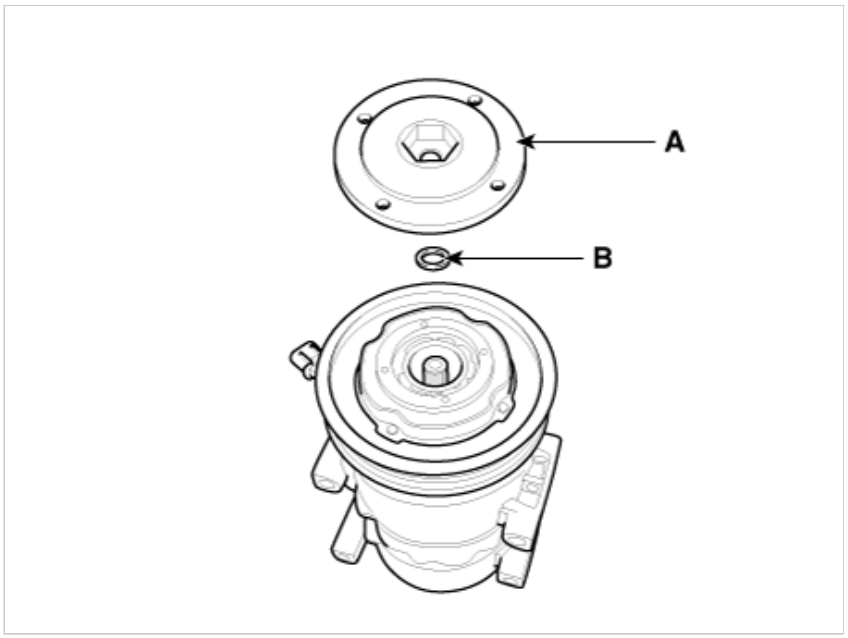
Disassembly

1. Remove the RH front tire.
   (Refer to Suspension System - Wheel")
2. Remove the front wheel guard [RH].
   (Refer to Body - "Front Wheel Guard")
3. Loosen the drive belt.
   G 2.0 T-GDI-THETA (Refer to Engine Mechanical System - "Drive Belt")
   G 3.3 T-GDI-LAMBDA (Refer to Engine Mechanical System - "Drive Belt")
4. Remove the center bolt (A) and the hub bolts (B) while holding the pulley with a disc & hub assembly bolt remover (09977-3R000).

Tightening torque :
15 - 21 N·m (1.5 - 2.1 kgf·m, 11.1 - 15.5 lb·ft)



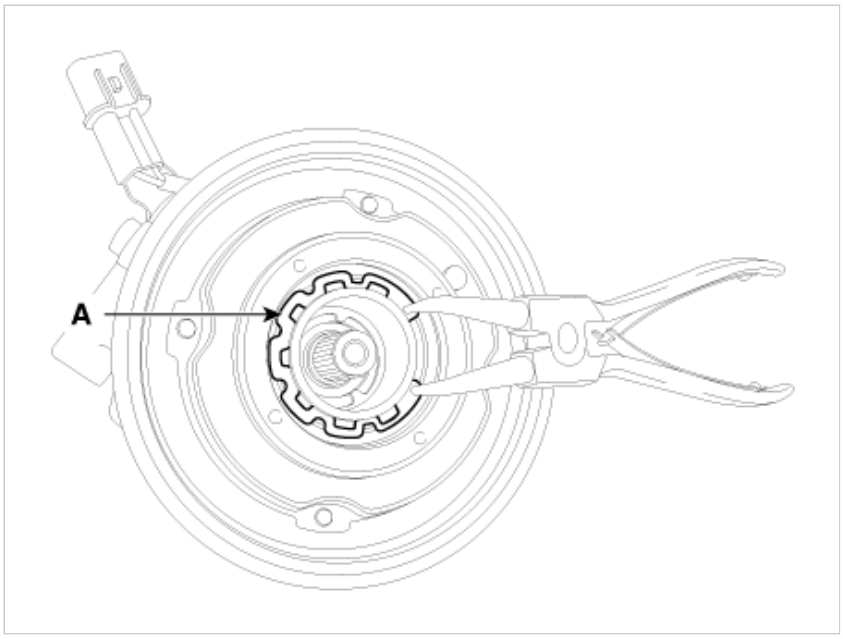
5. Remove the hub assembly (A) and shim (gap washer) (B), taking care not to lose the shim.

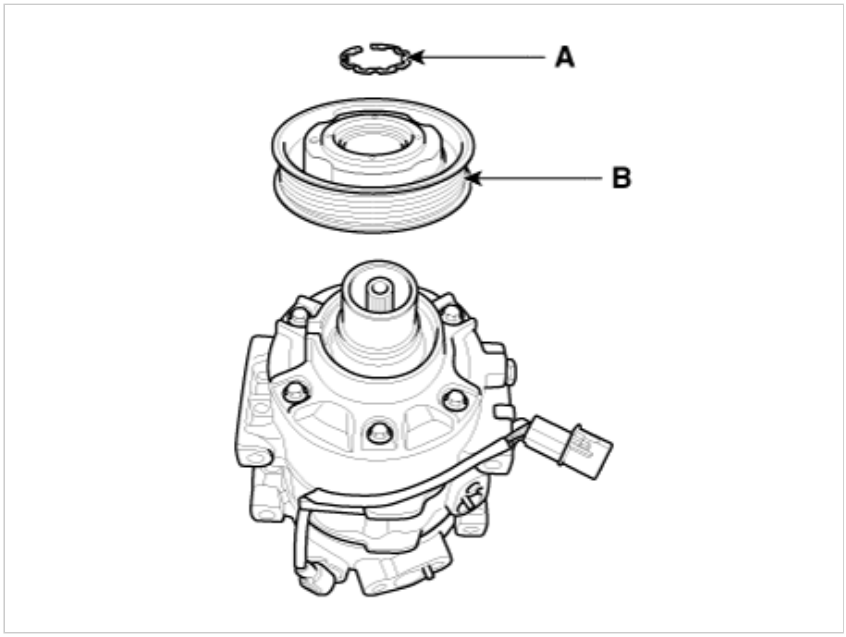


6. Remove the pulley (B) after removing the snap ring (A) with snap ring pliers.

NOTICE

- Be careful not to damage the pulley and compressor during disassembly/reassembly.
- Once snap ring is removed, replace it with a new one.





7. Reassembly is the reverse order of disassembly.

NOTICE

- Clean the pulley and compressor sliding surfaces with non-petroleum solvent.
- Install new snap ring, and make sure they are fully seated in the groove.
- Make sure that the pulley turns smoothly after reassembly.