

M17x with CEL for P012800 in the ME Control Unit: "The Coolant Temperature is Below the Specified Temperature"

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| Topic number | LI20.10-P-072886 |
| Version | 1 |
| Function group | 20.10 - Coolant pump, coolant thermostat |
| Date | 4/20/21 |
| Validity | All M17x Engines |
| Reason for change | |

Complaint

CEL on with Code P012800 "The Coolant Temperature is Below the Specified Temperature"

Cause

Under investigation

Remedy

1. During all the tests below ensure that HVAC system is completely off
2. Complete the guided test of the thermostat from hot and cold
3. This is done by answering yes and no to the initial question at the beginning of the test
4. Perform the test again with R48 unplugged
5. Bleed the cooling system as outlined in AR20.00-P-1142-04A (NOTE: Please use all the tools specified in the document)
6. Evacuate the system for 20-30 minutes instead of the 5 minutes specified by step 22 of the document
7. Once the system is bled, perform the guided test of R48 once more

If the response curve of the thermostat touches or crosses the upper or lower bound on any of the tests, replace the thermostat and follow the bleeding procedures outlined above.

If the thermostat was replaced and the system was bled OR if all the tests pass, perform the following "WARM START" and "COLD START" tests outlined below twice each:

WARM START

- Begin with the engine coolant temperature at approximately 50 degrees C
- Activate the AC system, if defrost is not in use open the windows

XENTRY TIPS

- Drive the car normally until a coolant temperature of 75 degrees C is achieved
- Depress the accelerator pedal 50% for ~5 seconds (partial acceleration)
- Let off the accelerator pedal and let the car coast for ~10 seconds
- Continue to drive the car normally

COLD START

- Drive for ~7 miles (normal driving)
- Shut off the engine in a parking lot (or similar), wait 30 seconds, then restart and continue driving
- Depress the accelerator pedal 50% for ~5 seconds (partial acceleration)
- Let off the accelerator pedal and let the car coast for ~10 seconds
- Continue to drive the car normally

If the code does not reappear, release the vehicle. If the code does reappear, open a PTSS case and include:

- Initial quick test with fault freeze
- ME control unit log
- All test results from steps 1 through 5

| Attachments | |
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| File | Description |
| AR20.00-P-1142-04A.pdf | |
| R48 test answer no FAIL.pdf | R48 Test, Answer "NO": FAILED TEST |
| R48 test answr yes unplugged FAIL.pdf | R48 Test, Answer "YES": FAILED TEST |
| R48 test plugged in cold FAIL.pdf | R48 Test, Plugged In Cold: FAILED TEST |
| R48 test unplugged hot FAIL.pdf.pdf | R48 Test, Unplugged Hot: FAILED TEST |

| WIS-References | | |
|--------------------|--|------|
| Document number | Title | Note |
| AR20.00-P-1142-04A | Pour in coolant and bleed coolant system | none |

| Symptoms |
|--|
| Power generation > Engine management > Indicator lamp > Engine diagnosis > lit |

| Parts | | | | | | |
|-------------|-----|-----|-------------|----------|------|-----|
| Part number | ES1 | ES2 | Designation | Quantity | Note | EPC |
| A1772005500 | | | THERMOSTAT | 1 | | X |

| Operation numbers/damage codes | | | | |
|--------------------------------|----------------|------|-------------|------|
| Op. no. | Operation text | Time | Damage code | Note |