



This Service Information bulletin **replaces** SI M17 10 12 **dated January 2013.**

SUBJECT

Engine Cranks, No Start and/or Engine Coolant Temperature Faults

MODEL

R55 (Cooper S Clubman)

R56 (Cooper S)

R57 (Cooper S Convertible)

R58 (Cooper S Coupe)

R59 (Cooper S Roadster)

R60 (Cooper S Countryman)

R61 (Cooper S Paceman)

SITUATION 1

The engine either exhibits a crank, no start or a hard start (long crank), usually on a cold engine. **No faults are stored in the DME.** Proceed to Correction 1 for further diagnosis.

SITUATION 2

NOTE: The engine may also exhibit the same starting behavior as in Situation 1.

The Service Engine Soon lamp is illuminated, with one or more of the following fault codes stored in the DME:

Engine temperature sensor faults

- 2943 Coolant temperature sensor, signal change too fast
- 2937 Coolant temperature sensor, electrical: short circuit to positive
- 2936 Coolant temperature sensor, electrical: short circuit to earth
- 293A Coolant temperature sensor, plausibility, cold start: temperature too high
- 293B Coolant-temperature sensor, plausibility, cold start: Temperature too low
- 2947 Coolant-temperature sensor, signal: Fixed on low
- 2948 Coolant-temperature sensor, signal: Fixed
- 3393 Engine downtime, plausibility: Time too long in correlation with engine coolant cooling down
- 3392 Engine downtime, plausibility: Time too short in correlation with engine coolant cooling down

If any of the above fault codes are stored, proceed to Correction 2.

Engine thermostat faults:

- 348E Characteristic map thermostat, actuation: Short circuit to positive

- 348F Characteristic map thermostat, actuation: Short circuit to earth
- 3490 Characteristic map thermostat, actuation: Open circuit

If any of the above fault codes are stored then proceed to Correction 2:

The above fault codes for the engine temperature sensor and thermostat are the primary fault codes for turning the Service Engine Soon light on.

CAUSE

1. Poor solder contacts in the engine coolant temperature sensor integrated into the engine thermostat housing
2. A faulty external or replaceable engine coolant temperature sensor (see below for identifying production changes in the thermostat and engine temperature sensors)
3. A faulty map-controlled thermostat

CORRECTION 1

NOTE: After diagnosing with the steps below, it will be necessary to determine which thermostat is installed on the vehicle. See the Preliminary Work attachment for details.

If no fault codes are stored:

- Read out the ambient air temperature and engine coolant temperature in the DME through Diagnostic Query.
- If the vehicle has been sitting overnight, these two temperatures should be within $\pm 5^{\circ}\text{C}$.
- If the engine coolant temperature is still showing an engine at operating temperature when the engine is cold, the engine coolant temperature sensor has failed.

Replace the engine temperature sensor.

- The engine temperature detected by the sensor should climb steadily during warm up. It should not “jump” in degree increments greater than 5° . If the reading jumps during warm-up, **replace the engine temperature sensor**.
- The temperature sensor reading should also come down during fan operation. If the reading does not come down, **replace the engine temperature sensor**.

If the engine fails to start (crank, no start):

- Disconnect the electrical connector at the map thermostat. If the engine starts, **replace the thermostat**.
- If the engine still only cranks with the map thermostat unplugged, check and clean the spark plugs for fouling. Recheck the starting behavior of the engine (thermostat plugged/unplugged).

CORRECTION 2

- If engine **temperature sensor faults** are stored:

Replace the engine temperature sensor (see the Preliminary Work attachment and, if required, the Installing Temperature Sensor attachment).

- If engine **thermostat faults** are stored:

Replace the **engine thermostat** (see the Preliminary Work attachment).

The following faults may also be stored in combination with the primary engine temperature sensor or thermostat faults:

- 2EE2 misfiring, multiple cylinders: adversely affects exhaust gas after starting
- 2EE6 misfiring, cylinder 1: adversely affects exhaust gas after starting
- 2EE9 misfiring, cylinder 2: adversely affects exhaust gas after starting
- 2EEC misfiring, cylinder 3: adversely affects exhaust gas after starting
- 2EF0 misfiring, cylinder 4: adversely affects exhaust gas after starting
- 2F7C super knocking: injection cut-off
- 2F76 super knocking cylinder 1: injection cut-off
- 2F77 super knocking cylinder 2: injection cut-off
- 2F78 super knocking cylinder 3: injection cut-off
- 2F79 super knocking cylinder 4: injection cut-off
- 2789 air-mass sensor, correction signal, working range: period duration too low
- 277A air-mass sensor, signal: electrical fault
- 29DC charge-air temperature sensor, plausibility, cold start: temperature too high
- 29DD charge-air temperature sensor, plausibility, cold start: temperature too low
- 2C58 charge air pressure control system, cut off: Pressure build-up disabled

These fault codes are secondary fault codes which could be caused by a faulty engine temperature sensor or faulty thermostat. Always troubleshoot and repair the engine temperature sensor or thermostat first. Go to Correction 1 for further diagnostic tips if the engine cannot be started.

PARTS INFORMATION

Part Number	Description	Quantity
13 62 8 603 908	Temperature sensor for the 11 53 7 588 876 and the 11 53 7 647 305 thermostat	1
61 13 8 383 722	Cable ties	2
Or:		
13 62 8 602 086	Temperature sensor for the 11 53 7 647 751 thermostat	1
Or:		
11 53 7 647 751	Thermostat all N18 model years	1
12 51 8 611 289	Adapter harness up 07/12 production	1
Or:		
12 51 8 614 952	Adapter harness from 07/12 to 3/13 production	1

Note: This repair procedure involves draining a small quantity of coolant; refill the drained quantity with new MINI Long-term Antifreeze/Coolant (50/50 mixture). Do not reuse the drained coolant.

WARRANTY INFORMATION

Covered under the terms of the MINI New Passenger Car Limited Warranty or the MINI NEXT Certified Pre-Owned Limited Warranty.

Defect Code:	13 62 02 12 00	Temperature Sensor
	Or:	
	11 53 12 12 00	Thermostat
Labor Operation:	Labor Allowance:	Description:
00 00 006	Refer to KSD2	Performing “vehicle test” (with vehicle diagnosis system – checking faults)
And:		
61 21 528	Refer to KSD2	Connect an approved battery charger/power supply (indicated in KSD2 as “Charging battery”)
And:		
11 99 000	4 FRU	Work time install/replace temperature sensor
Or:		
11 53 500	Refer to KSD2	Removing and installing/replacing coolant thermostat
Or:		
11 53 700	Refer to KSD2	Removing and installing/replacing coolant thermostat (Coolant drained)

Labor operation code 00 00 006 is a Main labor operation. If you are using a Main labor code for another repair, use the Plus code labor operation 00 00 556 instead.

Refer to KSD2 for the corresponding flat rate unit (FRU) allowance. Enter the Chassis Number, which consists of the last 7 digits of the Vehicle Identification Number (VIN). Click on the “Search” button, and then enter the applicable flat rate labor operation in the FR code field

Even though work time labor operation code 11 99 000 ends in “000,” it is not considered a Main labor operation. Also, since the “work time” FRU allowance to be claimed is specified, a separate punch time is not required.

Sublet - Materials

Sublet Code 4	See sublet reimbursement calculation below	Reimbursement for replacing the drained quantity of antifreeze/coolant (bulk container reference P/N 82 14 0 031 133, one gallon container. Do not use this part number for claim submission)
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Sublet calculation: MINI antifreeze/coolant (bulk container reference P/N 82 14 0 031 133 only) -- partial refill/used quantity (50/50 mixture) at dealer net plus handling.

Enter this material cost in sublet and itemize the amount in the claim comment section.

ATTACHMENTS

View PDF attachment [M170115 Installing Temperature Sensor.](#)

View PDF attachment [M170115 Preliminary Work.](#)

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