



DME FAULT MEMORY ENTRY FOR THE CRANKSHAFT SENSOR

MODEL

F90 (M5 Sedan) with S63M	G05 (X5 xDrive50i) with N63M	G07 (X7 xDrive50i) with N63M	G12 (750i xDrive Sedan with N63B, M760i xDrive Sedan with N74L) Produced from March 1, 2019
G14 (M850i xDrive Convertible) with N63B	G15 (M850i xDrive Coupe) with N63B		

All models produced thru February 28, 2020

SITUATION

Technicians may notice this fault logged during a diagnostic session:

Fault code:	Control module:	Fault Text:
160021	DME	Crankshaft sensor: general loss of synchronism

Environmental conditions are vehicle speed 0 (stationary) and engine speed less than 1500 rpm.

There is no customer-facing symptom nor related check control message displayed.

CAUSE

Phantom/pseudo fault due to unsuitable DME software.

Background:

After parking the vehicle and turning off the engine, both DME control units go into sleep mode at different times.

- The DME of cylinder bank 2 ("secondary") goes into sleep mode first.
- The DME of cylinder bank 1 ("primary") is still awake, and can experience a reduction in signal voltage for the crankshaft sensor signal.

This signal change can mistakenly be evaluated as a skipped crankshaft sensor cog by the DME.

If the engine is started while the primary DME is still awake, this causes a brief loss of synchronization with the secondary DME.

Fault 160021 is logged after three (3) consecutive engine starts with this momentary loss of synchronization.



Note: Starting the engine after the primary DME has also gone into sleep mode will avoid the loss of synchronization.

PROCEDURE

When DME fault code 160021 is present:

1. Read out the environmental conditions for fault memory entry 160021.

2a. If the environmental conditions are:

- **Engine speed:** less than 1500 rpm; and
- **Vehicle speed:** 0 mph

Solution:

- o Ignore the fault
- o Clear the fault memory
- o Do not replace the crankshaft sensor.

2b. If the environmental conditions are:

- **Engine speed:** greater than 1500 rpm; and/or
- **Vehicle speed:** greater than 0 mph

Solution:

- o Perform and complete diagnosis with ISTA. Do not deviate from the test plan.



Note:

- a. The test plan will be updated with the release of ISTA 4.17.1x (estimate availability late April, 2019)
- b. Parts replacement will not provide a solution to this situation.

WARRANTY INFORMATION

2a: In conjunction with the ISTA diagnosis of un-related issue(s), covered under the terms of the BMW New Vehicle Limited Warranty for Passenger Cars and Light Trucks.

Defect Code:	1214101400	Crankshaft sensor, temporary malfunction
Labor Operation:	Labor Allowance:	Description:

61 00 980	Refer to AIR/KSD2	Continuing vehicle test and performing quick delete
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Or:

2b: Under the terms of the BMW New Vehicle Limited Warranty, if other eligible and covered work is performed as a result of performing the ISTA diagnostics and the related test plans, claim this work with the applicable defect code and labor operations provided AIR/KSD2 (including diagnosis with separate punch times, when applicable).

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