



DIAGNOSTIC HINT: CATALYTIC CONVERTER INSPECTION AFTER LOSS OF CRANKSHAFT SIGNAL

MODEL

F01 (7 Series Sedan)	F02 (7 Series Sedan)	F06 (6 Series Gran Coupe)	F07 (5 Series Gran Turismo)
F10 (5 Series Sedan)	F12 (6 Series Convertible)	F13 (6 Series Coupe)	F15 (X5 Sports Activity Vehicle)
F16 (X6 Sports Activity Coupe)	F22 (2 Series Coupe)	F23 (2 Series Convertible)	F25 (X3 Sports Activity Vehicle)
F26 (X4 Sports Activity Coupe)	F30 (3 Series Sedan)	F31 (3 Series Sports Wagon)	F32 (3 Series Coupe)
F33 (3 Series Convertible)	F34 (3 Series Gran Turismo)	F36 (4 Series Gran Coupe)	F39 (X2 Sports Activity Coupe)
F48 (X1 Sports Activity Vehicle)	F80 (M3 Sedan)	F82 (M4 Coupe)	F83 (M4 Convertible)
F85 (X5 M Sports Activity Vehicle)	F86 (X6 M Sports Activity Coupe)	F87 (M2 Coupe)	I12 (I8 Coupe)
I15 (I8 Roadster)			

Produced up to and including February 28, 2019 with the B38T, B46O, N20, N26, N55, N63T, S55, S63R, S63T, or XB2H engine.

SITUATION

In certain situations, when the crankshaft position signal is lost while driving, the malfunction indicator lamp (MIL) and an engine malfunction check control message (CCM #29) may be displayed.

The engine may run roughly or with reduced power.

The following faults may be stored in the digital motor electronics (DME) fault memory:

Fault code:	Control module:	Fault code text:
160001	DME	Crankshaft sensor, signal: missing
Or:		
160020	DME	Crankshaft sensor, signal: implausible
In conjunction with:		
11A002	DME	Fuel high pressure, plausibility: Pressure too low
May also be stored:		
180001	DME	Catalytic Converter: efficiency below threshold
180101	DME	Catalytic Converter 2: efficiency below threshold

CAUSE

The loss of an accurate crankshaft angle value while driving may subsequently damage the catalytic converter.

CORRECTION

Evaluate the fault pattern and environmental details to determine the necessary repairs.

PROCEDURE

When fault code 160001 or 160020 and 11A002 are stored:

1. Evaluate the environmental conditions of 160001 or 160020
 - a. If the engine speed is greater than 1000 rpm
 - Continue to step 2
 - b. If the engine speed is 1000 rpm or less
 - Continue diagnostics using ISTA

2. Evaluate the environmental conditions of 180001, 180101, and 11A002
 - a. If 11A002 was not stored in conjunction with 180001 or 180101
 - Continue to step 3
 - b. If 180001 or 180101 was stored more than 620 miles after 11A002 was set
 - Continue to step 3
 - c. If 180001 or 180101 was stored under 620 miles after 11A002 was set
 - Replace the catalytic converter
 - Continue to step 5

3. Check the crankshaft sensor electrical circuits and inspect for damage
 - a. If a fault is identified in the crankshaft sensor circuit
 - Repair the identified fault
 - Continue to step 4
 - b. If no faults are found
 - Replace the crankshaft sensor
 - Continue to step 4

4. Remove the oxygen sensors or the exhaust clamp to inspect the catalytic converter monolith
 - a. If no damaged is observed
 - Continue to step 5
 - b. If damage is present
 - Replace the catalytic converter
 - Continue to step 5

5. Program the vehicle with ISTA 4.16.1x (released early March 2019) or higher to the appropriate I level shown below:

Model	Target Level
F01 (7 Series Sedan)	F001-19-03-509 or higher
F02 (7 Series Sedan)	
F07 (5 Series Gran Turismo)	

Model	Target Level
F06 (6 Series Gran Coupe)	F010-19-03-509 or higher
F10 (5 Series Sedan)	
F12 (6 Series Convertible)	
F13 (6 Series Coupe)	

Model	Target Level
F15 (X5 Sports Activity Vehicle)	F025-19-03-509 or higher
F16 (X6 Sports Activity Coupe)	
F25 (X3 Sports Activity Vehicle)	
F26 (X4 Sports Activity Coupe)	
F85 (X5 M Sports Activity Vehicle)	
F86 (X6 M Sports Activity Coupe)	

Model	Target Level
F22 (2 Series Coupe)	F020-19-03-522 or higher
F23 (2 Series Convertible)	
F30 (3 Series Sedan)	
F31 (3 Series Sports Wagon)	
F32 (3 Series Coupe)	
F33 (3 Series Convertible)	
F34 (3 Series Gran Turismo)	
F36 (4 Series Gran Coupe)	
F80 (M3 Sedan)	
F82 (M4 Coupe)	
F83 (M4 Convertible)	
F87 (M2 Coupe)	

Model	Target Level
F39 (X2 Sports Activity Coupe)	F056-19-03-522 or higher
F48 (X1 Sports Activity Vehicle)	

Model	Target Level
I12 (I8 Coupe)	I001-19-03-510 or higher
I15 (I8 Roadster)	

Note that ISTA Next will automatically reprogram and code all programmable control modules that do not have the latest software.

Always connect a BMW-approved battery charger/power supply (SI B04 23 10).

For information on programming and coding with ISTA, refer to CenterNet / TIS / Technical Documentation / Programming and Diagnostics / Programming Documentation.

WARRANTY INFORMATION

This service information bulletin provides technical, diagnostic and repair-related information.

Eligible and Covered Work/Repairs

When used to repair a verified defect in materials or workmanship, the repair procedure information provided in this bulletin is covered under the terms of the BMW New Vehicle Limited Warranty for Passenger Cars and Light Trucks including the Emission Warranty if it applies to the causal repair performed.

To submit a claim, please follow the applicable warranty policy and procedures (Labor/Part/Sublet – bulk materials) that apply to the repair being performed.

Refer to AIR for the corresponding defect code, flat rate labor operations and flat rate unit (FRU) allowances.

Diagnosis and work time (WT) labor operation codes require individual punch times and explanations on the repair order and in the claim comments section.

And, if applicable:

Consequential Repairs

When additional work and/or parts are required as a direct result of the issue described in this Service Information bulletin and the related repairs (including programming and encoding), claim these items under the defect code for the causal repair together with the corresponding labor operations listed in AIR (including any additional diagnosis) if applicable.

Please explain the reason for this consequential repair work (the why and what) on the repair order and in the claim comments section.