



## DME Electrical Wastegate Valve Faults - Adaptation Limit Positions Not Detected

### MODEL

F22 (2 Series Coupe)	F23 (2 Series Convertible)	F30 (3 Series Sedan)	F32 (4 Series Coupe)
F31 (3 Series Sport Wagon)	F33 (4 Series Convertible)	F34 (3 Series Gran Turismo LCI)	F36 (4 Series Gran Coupe)
G12 (7 Series Sedan)			

With the B46O, B48M, B48O, and B58M engines produced up to 7/31/2016.

### SITUATION

Engine runs with reduced power.

Emissions warning lamp lights up.

One or more of the following faults are entered in the DME fault memory.

- 123411 "Electrical wastegate valve, limit position teach in: End stop (wastegate valve open) not found
- 123412 - Electrical wastegate valve, limit position teach in: End stop (wastegate valve open) not found

Other consequential faults that also may be stored:

- 123401 - Electrical wastegate valve, adaptation: Cold start not learned
- 123437 - Electrical wastegate valve: Jammed closed

### CAUSE

Problems with electromagnetic compatibility (EMC).

- The PWM actuation (PWM = pulse-width-modulated) of the heat management module causes a fault condition on the 5V supply line of the electrical wastegate valve controller.
- This leads to a fault on the position sensor signal of the electrical wastegate valve controller.

### CORRECTION

Vehicle wiring harnesses have been improved in production since June and July 2016.

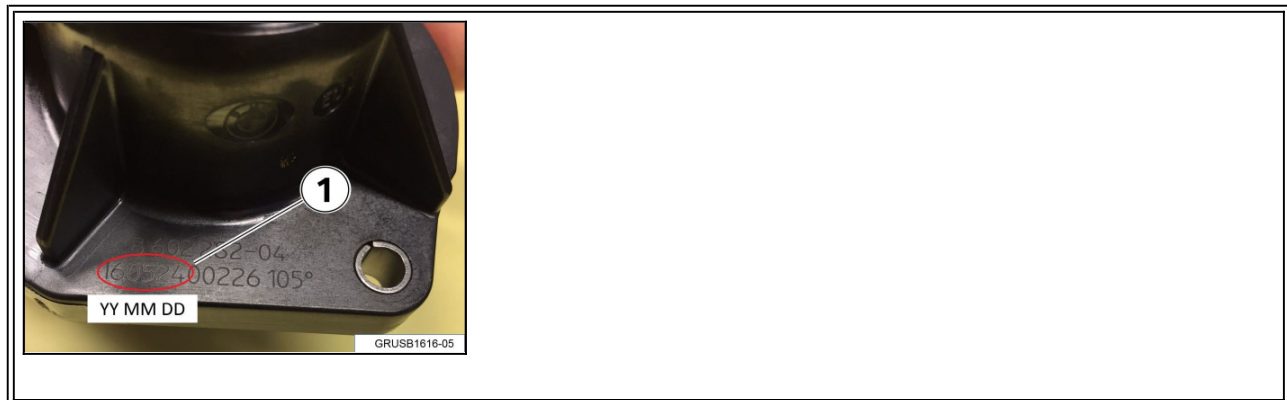
NOTE: Due to the number of engine and vehicle combinations, specific production correction dates cannot be assigned to individual models.

In order to reduce the incompatible electromagnetic radiation, individual wires of the vehicle wiring harness were twisted.

## PROCEDURE

For conditions that are similar to the situation described.

1. Perform diagnosis using the latest version of ISTA.
2. Inspect and / or replace the Engine sensor system module 1 vehicle wiring harness (see graphic for part number location).



Although the improved vehicle wiring harness has the same part number, it can be identified by the index (1) at the rear of the part number. (2) indicates the last 7 digits of the part number.

Is the index on the part number below the range specified in the table below?

Part number	Index number for improved parts
12 51 8 631 656	05 or higher
12 51 8 631 658	05 or higher
12 51 8 631 660	04 or higher
12 51 8 631 662	05 or higher
12 51 8 636 054	07 or higher
12 51 8 636 055	07 or higher
12 51 8 642 919	05 or higher
12 51 8 669 730	02 or higher

**YES-** go to step 3.

**NO** – continue troubleshooting with ISTA.

3. Replace the “Engine sensor system module 1 vehicle wiring harness“. Obtain the required part number from the Electronic Parts Catalogue (EPC).

Note: The Central Parts Warehouse (ZTA) Dingolfing has been purged of earlier index parts.

## PARTS INFORMATION

Perform a part number look-up in ETK by VIN for the following

Part Number	Description	Quantity
12 51 8 6## ##	Wiring harness, eng. Sensoric module 1	1
Refer to ETK	Intake manifold gaskets	?

### Bulk Materials

Part Number	Description	Quantity
82 14 1 467 704	Antifreeze	As needed
83 22 2 152 426	Automatic trans fluid (20 liters)	As needed

Also refer to ETK/EPC and the repair instructions for onetime-use fasteners/screws and information regarding other repair-related gaskets, seals, fluids and/or lubricants that also need to be replaced/used and claimed.

## WARRANTY INFORMATION

Covered under the terms of the BMW New Vehicle Limited Warranty for Passenger Cars and Light Trucks or the BMW Certified Pre-Owned Program.

<b>Defect Code:</b>	<b>12 51 12 81 00</b>
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**A. Harness replacement procedure “includes” checking the Automatic Transmission fluid level (00 11 237/500)**

Labor Operation:	Labor Allowance:	Description:
12 51 235*	Refer to KSD2	Remove and install/replace Model 1, sensor system engine wiring (Main work)
Or:		
12 51 720*	Refer to KSD2	Remove and install/replace Model 1, sensor system engine wiring (Plus

		work)
And, as necessary:		
61 00 006	Work time (WT)	Performing vehicle diagnosis – test module

If you are using a Main labor code for another repair, use the Plus code labor operation 12 51 720 instead.



**Note\*:** When harness labor operation “12 51 235/720” includes labor operation “00 11

237/500” for “Checking/topping up automatic transmission fluid level”, this inclusive labor operation itself includes “connecting an approved battery charger/power supply and performing a vehicle test.”

Or:

**B. Harness replacement procedure “does not include” checking the Automatic Transmission fluid level.**

Labor Operation:	Labor Allowance:	Description:
00 00 006	Refer to KSD2	Performing “vehicle test” (with vehicle diagnosis system – checking faults) (Main work)
Or:		
00 00 556	Refer to KSD2	Performing “vehicle test” (with vehicle diagnosis system – checking faults) (Plus work)
And:		
61 21 528	Refer to KSD2	Connect an approved battery charger/power supply (indicated in KSD 2 as Charging battery)
And, as necessary:		
61 00 006	Work time (WT)	Performing vehicle diagnosis – test module
And:		
12 51 720*	Refer to KSD2	Remove and install/replace Model 1, sensor system engine wiring

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) allowances.

Work time labor operation code 61 00 006 is not considered a Main labor operation; however, it does require an individual punch time and an explanation on the repair order and in the claim comments section.

And:

**Sublet – Bulk Materials (Items A and B)**

<b>Sublet Code 4</b>	See sublet reimbursement calculation below	Reimbursement for the repair-related bulk materials (BMW part number(s), please do not use the part numbers for claim submission)
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Sublet reimbursement calculation for claiming the “used quantities” of repair-related bulk materials (BMW part numbers) is at dealer net plus your center’s handling.

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

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