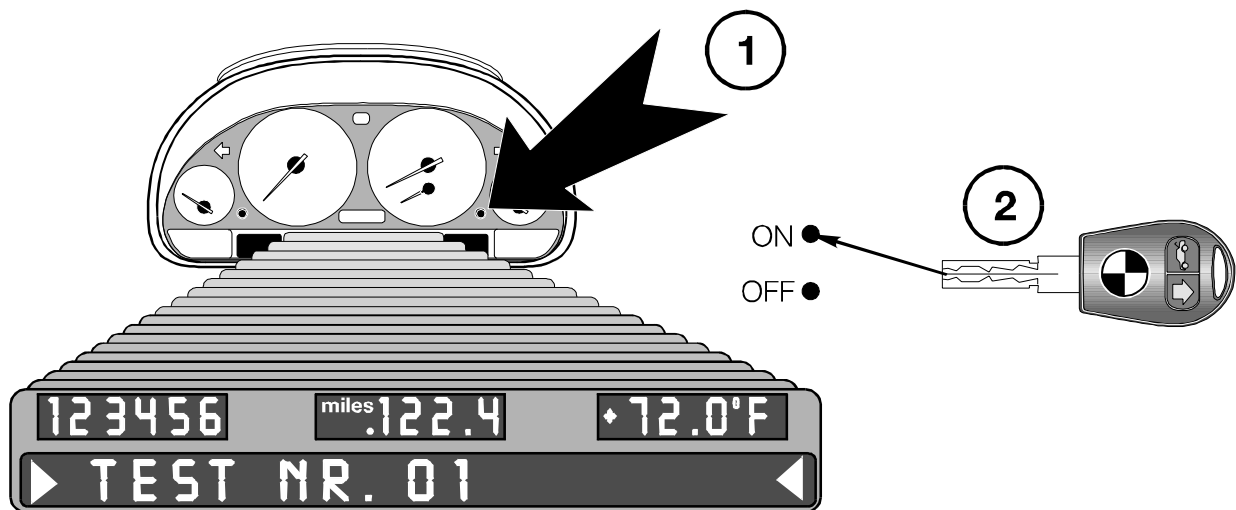


E38 BC Test Functions

The BC test functions are used to check inputs, outputs and functions of the IKE. There are 21 possible test steps. With the exception of Test #1,, #2, and #19, all other tests are locked but can be released through test #19.

The test functions are displayed in the instrument cluster. Test #01 is called up by pressing the CC button for 10 sec. The same activation can be initiated by pressing and holding the CC button while switching on the ignition.



Each time the CC button is pressed, the next test number is displayed.

After selecting a test number, the information from the test is posted by pressing the trip odometer reset button. Several tests have sub-functions which are called up by pressing the reset button while in the test.

Unlocking test functions:

- Call up test #19 - This is automatically done if attempting to enter a locked test
- Using the trip meter reset button enter by pressing the sum of the last 5 digits of the chassis number, **example:** VIN GB11111, - $1+1+1+1+1 = 5$, press the reset button 5 times.
- Confirm entry by pressing the CC button.

The test function can be cancelled by switching the ignition off or pressing the CC button for approximately 2 sec.

TEST NO. 01

The IKE supplies the following data, which appears on the 20 digit cluster matrix display:

- Vehicle Identification number = *FG5TNR: GB11111*
- K value = *K: 4739*
- BMW part number: *BMWTNR: 13809873*
- Encoding, diagnosis and bus index: *CI: 01 DI: 01 BI:01*
- IKE production date: *DAT: 52/94*
- HW/SW number: *HW: 405W:80*
- Motor: *ZYL:8*
M:6 5:400
- ROM Date: *ROM: 23.08.96*

TEST NO. 02

The following displays and instruments are activated (system test):

- Speedometer, tachometer, coolant temp gauge, fuel gauge.
- LC displays (segment test)
- Indicators and Warning Lights

This test can only be called up with the vehicle at a standstill, engine turned off, with KL R or 15 switched on.

TEST NO. 03

The following SI data can be displayed:

- SI km since last reset: *SI KM: 1250*
- SI automatic transmission kilometers: *SI-GETR - KM 23300*

TEST NO. 04

Momentary Fuel Consumption is displayed:

- VBR: *0.0 L/100KM*
VBR: *0.0 L/H*

TEST NO .05

This function shows the range calculation data:

- Range at measured fuel consumption: *RW-VBR: 19.5 L/100 KM*

TEST NO .06

In this function, the fuel tank volume for the right and left half of the fuel tank and the current total tank volume are shown in the Instrument Cluster matrix display.

This enables the function of the float level sensors to be checked.

Display: *TNK 29.5/34.2/63.7L*
TNKAMZ 60.2L PHASE 1

The first numerical value in line 1 shows the contents of the left half of the fuel tank, the second, the volume of the right half of the tank. The third value is the current total value. If a level sensor is defective, it's value reverts to 0.

Line 2 shows the current average value (displayed value) for the contents of the fuel tank. The numerical value after the word phase refers to the valid computed number.

Phase 1: Regular computing method by way of sensors (both sensors OK).

Phase 2: Calculation in progress from TKVA signal (sensor faulted)

Phase 3: Fuel tank contents cannot be computed, fuel gauge reads 0 (at least one sensor is faulted).

TEST NO. 07

Momentary coolant temperature. *KTMP: 075⁰ C*

Momentary engine speed: *N:5238 U/MIN*

TEST NO. 08

Momentary Road Speed V: *085 KM/H*

TEST NO. 09

Battery voltage (terminal 30) *UB: 12.5 V*

TEST NO. 10

Preset national market codes list. The number is encoded in the IKE with the central code key

Display: *USA 02*

TEST NO 11

The unit code is entered in the EEPROM by the DIS after IKE has been installed and can be read out by means of test function 11.

TEST NO. 12

This test function shows the data for computing the vehicle's estimated time of arrival.

- Average speed for calculating arrival time: *VANK: 029.7 KM/H*
- Current arrival time: *ANK: 13.04*

TEST NO. 13

This test function enables the gong to be tested, Display: *GONG?*

- After confirming by pressing the trip odometer reset button, the four audible warning signals are triggered off once in succession.
- Gong T1 (Memo signal) 2.0s
- Gong T2 (Outside temperature) 1.5 s.
- Gongs T1 and T2 (LIMIT/CODE warning) 1.5 s
- Gong T3 (Check Control Gong)

TEST NO. 14

This function shows the contents of the fault memory in a hexadecimal code.

Display: *DIAG: 07 81 033*

TEST NO. 15

Not assigned to any test function.

TEST NO. 19

Procedure for unlocking the BC test functions. See page 32.

TEST NO. 20

BC consumption value correction factor. This test adjusts the correction factor for the consumption value displayed in the MID. The production line installed value is 1000. The value ranges from 750 to 1250.

To adjust the correction factor press the trip meter reset button once for a reduction of 1. For each press of the reset button the value decreases by 1 until it reaches 750. After 750 the number will reset to 1250 and begin to count down again.

To accept the set correction factor press the CC button.

The consumption correction factor (VK) is calculated from the actual amount of consumed fuel (VBR IST) and the displayed value (VBR ANZ):

$$VK = (\text{Actual MPG} / \text{Displayed MPG}) \times 1000.$$

TEST NO. 21:

This function resets the software at the IKE. This reset is necessary after replacing for example one of the fuel tank level sensors. Otherwise the damping function in the software will prevent the actual value from being shown only after a long time duration.

Display: *RESET ?*

If the test is terminated without a software reset, the ignition switch must be turned back to "0" or the CC button pressed.

CHECK CONTROL MODULE

Model: E38

Production Date: E38: From start of production to 9/95.

Objectives:

After completing this module you should be able to:

- Recognize how different priority messages are displayed.
- Identify the different methods used to recall CC messages.
- Understand the operation of the electronic oil level sensor.