FUB-SOW-FB-130013-A06 FUB-SOW-FB-130013-A06 - Diesel engine Readiness Codes - V.11, VIN: A779821

ISTA system version	4.09.33.21392	Data version	R4.09.33	Programming data	-
VIN	[redacted]	Vehicle	3'/E90/SEDAN/335d/M57/AUTO/US/LL/2010/03		
Int.lev.works	-	Int.lev. (cur.)	-	Int.lev.(tar.)	-
Mileage	-				

The readiness codes indicate the status of the roadworthiness-related engine diagnoses. The tests have to be successfully completed for a vehicle to pass its exhaust emissions test. If faults are identified during the test, a fault is registered in the fault memory and the readiness code process is not successfully completed. The tests can be carried out by means of a conditioning road test.

Notes

Modified diesel particulate filter regeneration from integration level 10-04-500 onwards
For vehicles with an integration level of 10-04-500 onwards, it takes up to 7.5 hours (engine operating time) to check the diesel particulate filter regeneration. The vehicle engine may be stopped several times during this period.
The reason for this change is due to tighter engine monitoring function legislation. Two normal regenerations are needed to check the diesel particulate filter regeneration. These are performed over a driving time of 7.5 hours. The vehicle can be switched off an unlimited number of times during the check. The critical element is the completion of the two regeneration cycles. A regeneration request by the diagnosis system is not required for the second regeneration. A request does not speed up the diagnostic function of the diesel particulate filter because it is not evaluated as a normal regeneration by the engine control unit.
The time and mileage of the last successful regeneration can be called up using the diagnosis system. These values are also available in the control unit function.
Please contact Technical Support with any problems or queries, or send us your thoughts on the diagnosis tester by e-mail to diagnose.feedback@bmw.com.
Thank you for your understanding.
Reading readiness codes:

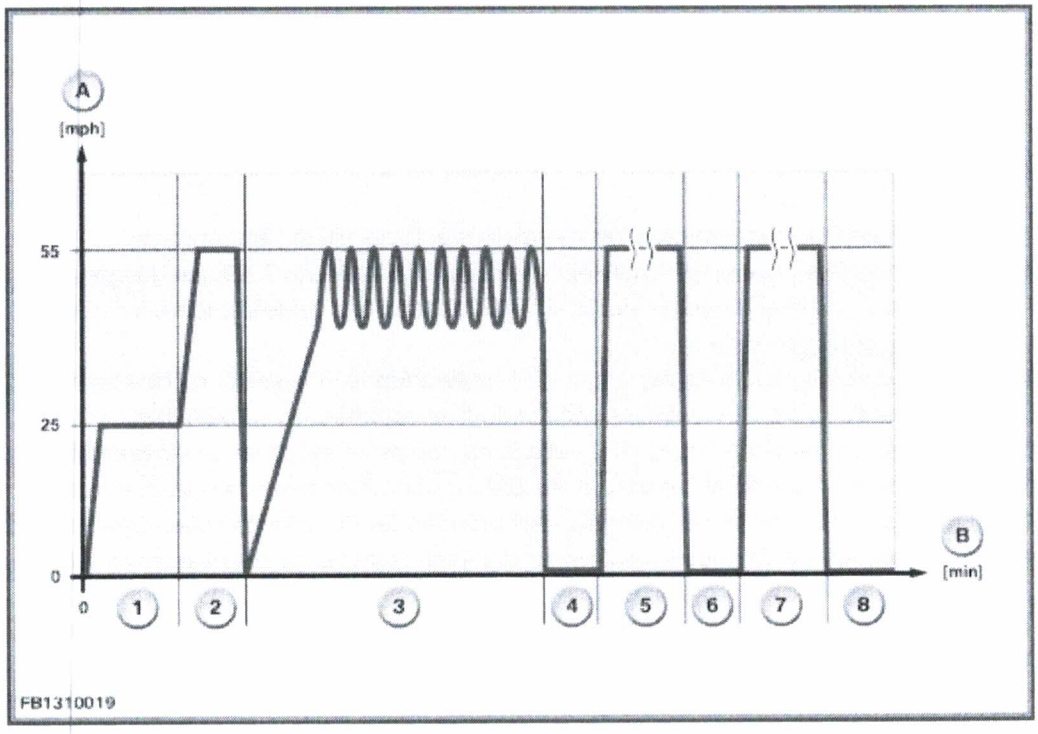
Display in the test module	Definition
Completed	Testing of the subsystem has been carried out by the control unit.
Not completed	Testing of the subsystem has not yet been fully completed. Or else faults occurred during the test.

- The readiness codes are reset when the fault memory is cleared (status: "Not completed").

- If not all readiness codes are set, the possible reasons are as follows:
  - The fault codes have just been deleted. All readiness codes are set to "Not completed". The conditioning road test must be carried out again.
  - Not all OBD tests have been completed. For the readiness codes to be set, specific vehicle conditions and driving cycles are required. Carry out the necessary driving cycles.
  - A fault was detected during the test. A fault is registered in the fault memory. Read out fault memory again. So that the fault is displayed on the diagnosis system, repeat the vehicle test or individual control unit test. Rectify the fault. Clear fault memory and carry out conditioning road test.

Driving profile for conditioning road test

So that all readiness code tests can be completed, a conditioning road test with the driving profile set out below is required (duration 60-90 minutes). No emission-relevant fault codes may be present for the engine control unit.



Driving profile (illustration not to scale)

1.	Start the engine from cold. Immediately, without an idling period, drive the car at 40 km/h (25 mph) for 5 minutes.
2.	Drive long enough for sensors to be enabled. If the vehicle has been standing for an extended period, it is possible that the NOx sensors may not be enabled until it has been

	driven for 15-20 minutes. The status of the nitrogen oxide sensors can be checked with the diagnosis tester.
3.	Drive briskly for 10 minutes. Incorporate at least 10-30 overrunning phases and load changes. The overrunning phases must last between 5 and 18 seconds. The shorter the overrunning phases, the more of them have to be carried out.
4.	Allow the vehicle to idle for about 1 minute while stationary.
5.	Accelerate the vehicle at high load from a standing start to 90 km/h (55 mph). Then, drive at a constant speed of about 90 km/h (55 mph) for at least 30-45 minutes.
6.	Allow the vehicle to idle for about 1 minute while stationary.
7.	NOTE: For vehicles with an integration level of 10-04-500, it takes up to 7.5 hours of engine operating time to check the diesel particulate filter regeneration. The vehicle engine may be stopped several times during this period. See 'Notes' for details. Use the diagnosis system to select and carry out diesel particulate filter regeneration: Drive at a constant speed of about 90 km/h (50 mph) for 30 minutes. In this case, perform some acceleration and overrun processes of 5-15 seconds duration If such high speeds are not possible, drive with the engine constantly under load and switch on additional electrical equipment such as air conditioning, rear window heater, headlights or seat heaters.
8.	Switch off ignition and leave vehicle to stand for 1 minute. Read out readiness codes.
A	Speed in mph (25 mph ~ 40 km/h, 55 mph ~ 90 km/h)
B	Driving time in minutes

Driving profile for individual readiness codes

If individual readiness code procedures have not been completed they can be completed with the following driving profiles. No emission-relevant fault codes may be present for the engine control unit.

Readiness code	Driving profile required for setting the code
Misfire monitoring / misfire detection	1 minute's idling
Fuel system monitoring / fuel system	Complete at least 10-30 overrun phases of 5-18 seconds' duration with engine warm (approx. 80 °C). The shorter the overrunning phases, the more of them have to be carried out.
Comprehensive components / remaining systems	Status is set immediately.

NHMC catalyst monitoring / catalytic converter	Start from cold then drive at about 40 km/h (25 mph) for 5 minutes without any idling phases.
NOx aftertreatment monitoring / nitrogen oxide catalytic converter, SCR system	Drive until engine is warm (approx. 80 °C). Drive long enough for sensors to be enabled. If the vehicle has been standing for an extended period, it is possible that the NOx sensors may not be enabled until it has been driven for 15-20 minutes. The status of the sensors can be checked with the diagnosis system. Drive at a constant speed of about 90 km/h (50 mph) for at least 30-45 minutes. During the constant speed phase carry out overrunning phases lasting 5-15 seconds. Afterwards allow the vehicle to idle for about 30 seconds while stationary.
Boost Pressure System Monitoring / charge air system	Dynamic driving for at least 10 minutes followed by at least 10 minutes of driving at a constant speed of about 90 km/h (50 mph).
Exhaust gas sensor monitoring / exhaust sensor system (oxygen sensors, NOx sensors)	Drive until engine is warm (approx. 80 °C). Drive long enough for sensors to be enabled. If the vehicle has been standing for an extended period, it is possible that the NOx sensors may not be enabled until it has been driven for 15-20 minutes. The status of the sensors can be checked with the diagnosis system. Carry out at least 5 overrunning phases lasting 10-15 seconds. Perform at least 3 constant drives at about 90 km/h (55 mph). Allow the vehicle to idle for about 15 seconds while stationary. Accelerate the vehicle at high load from a standing start to 90 km/h (55 mph).
PM filter monitoring / diesel particulate filter	NOTE: For vehicles with an integration level of 10-04-500, it takes up to 7.5 hours of engine operating time to check the diesel particulate filter regeneration. The vehicle engine may be stopped several times during this period. See 'Notes' for details. Use diagnosis to select filter regeneration. Drive until engine is warm (approx. 80 °C). Drive at about 90 km/h (55 mph) for at least 30 minutes so that the diesel particulate filter can be regenerated. If such high speeds are not possible, drive with the engine constantly under load and switch on additional electrical equipment such as air conditioning, rear window heater, headlights or seat heaters. Finally, switch off ignition and leave vehicle to stand for 1 minute.
EGR system monitoring / exhaust-gas recirculation	Drive until engine is warm (approx. 80 °C). Drive vehicle briskly for 10 minutes. Incorporate at least 3 idling lasting longer than 40 seconds.