SI B12 14 18
Engine Electrical Systems

April 2018
Technical Service

INDIVIDUAL DRIVING CYCLES FOR OBD2 READINESS CODES (M57Y)

MODEL

E90 (3 Series Sedan 335d)	E70 (X5 xDrive 35d)

With the M57Y engine

SITUATION

One or more OBD readiness codes are not set to “ready” during a state emissions inspection, with a hand-held scan tool or during an ISTA/D diagnostic session.

CAUSE

The proper OBD drive cycle has not been completed for monitoring the emission control components installed on the M57Y diesel engine.

PROCEDURE

Follow the diagnostic tips in attachment: B12_14_18_attachment.pdf

WARRANTY INFORMATION

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

Eligible and Covered Work/Repairs

Under the terms of the BMW New Vehicle Limited Warranty for Passenger Cars and Light Trucks, if an eligible repair is performed to address a verified defect in materials or workmanship, claim this work with the corresponding defect code and labor operations, including diagnosis, that are provided in KSD2.

Please follow the established and applicable warranty policy and claim submission procedures (Labor/Part/Sublet) that apply to the repair being performed.

ATTACHMENTS

View PDF attachment **B12_14_18_attachment**.

PRELIMINARY WORK

- Any fault codes stored related to the emission control/monitoring systems in the DDE will need to be diagnosed and repaired first before trying to complete the OBD drive cycle.

NOTE: Clearing fault codes or programming the DDE will set all readiness codes to "not ready".

THE DRIVING CYCLE

- A "driving cycle" consists of an engine startup, vehicle operation (driving the vehicle up to operating temperature with wheel speed, coasting (off throttle or "overrun") and engine shut off. the driving cycle must be completed in order for all monitored systems to be checked and set to ready

Emission Components Monitored:

- Misfire monitoring
- Fuel system monitoring
- Comprehensive components
- NMHC catalyst monitoring (Oxidation Catalyst)
- NOx after-treatment monitoring
- Boost pressure system monitoring
- Exhaust gas sensor monitoring
- PM filter monitoring
- EGR system monitoring

Individual readiness driving cycles

A customer may not meet all the driving cycle criteria during their "customer" drive cycle.

- Follow the procedures below to set readiness codes individually that will not set during a drive cycle
- Drive (carefully) with a hand-held scan tool connected to read out readiness codes while driving. This will save time and also help in understanding what how the readiness codes set to ready.

Readiness Code	Driving Profile Required for Setting the Code
Misfire monitoring	1 minute's idling
Fuel system monitoring	Complete at least 10-30 overrunning 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	Status is set immediately.
NHMC catalyst monitoring	The engine needs to be cold (overnight). If possible have the car pointed at the exit from your center. - Start the engine and immediately shift into Drive and start driving. - **DO NOT** go over 25 mph (stay at 23mph), set cruise if possible. - Do not stop and let the engine idle, this needs to be a continuous drive. - The engine trans should hold in 2nd gear (on its own) during this drive. - When the trans shifts to third (might take up to 5 minutes) the readiness should be set. - If it shifts to third gear right away you missed the drive cycle window. - If the readiness does not set or the drive cycle is interrupted, the engine will need to be cold (overnight cold) before the drive cycle can be performed again.
NOx after treatment monitoring	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 50 mph for at least 30-45 minutes. During the constant speed phase carry out overrunning (off throttle) phases lasting 5-15 seconds. Afterwards allow the vehicle to idle for about 30 seconds while stationary.
Boost pressure system monitoring	Drive briskly for at least 10 minutes followed by at least 10 minutes at a constant 50 mph.
Exhaust gas sensor monitoring	Drive until engine is warm (approx. 80 °C). - Drive long enough for sensors to be enabled. NOTE: 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 (off throttle) phases lasting 10-15 seconds. - Complete at least 3 constant-speed phases at 50 mph. - Allow the vehicle to idle for about 15 seconds while stationary. - Accelerate the vehicle at high power from a standing start to 55 mph.

PM filter monitoring	**NOTE:** It takes up to 7.5 hours of engine operating time to check the diesel particulate filter regeneration. The DDE needs to see two successful regenerations to set the readiness to “ready”. The engine may be stopped several times during this period. Optimum driving characteristics to have the DDE perform a regeneration: - Drive until engine is warm (approx. 80 °C). - Drive at a constant 50 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. - Check for successful regenerations through DDE Diagnosis Request in ISTA
EGR system monitoring	- Drive until engine is warm (approx. 80°C). - Unlock the instrument cluster (test step 19) to monitor engine operating temp in real time while driving.  - If the engine does not get up to 80°C, replace the engine thermostat. - Drive vehicle briskly for 10 minutes. Incorporate at least 3 idling lasting longer than 40 seconds.