



MODEL

E90 (3 Series sedan 335d)	E70 (X5 xDrive 3.5d)	F30 (3 Series Sedan 328d)	F31 (3 Series Touring 328d)
F15 (X5 xDrive 3.5d)	F25 (X3 xDrive 2.8d)	F10 (5 Series 535d)	F02 (7 Series 740xd)

SITUATION

The Service Engine Soon lamp is illuminated. The following fault codes may be stored in the DDE:

N47T/N57T engine

- 245700 - Particle filter system: particulate filter highly loaded (Exhaust backpressure high)
- 245800 - particle filter system - filter is heavily contaminated. (exhaust backpressure is above maximum)

M57Y engine

- 480A Particle filter system - filter is heavily contaminated. (exhaust backpressure is too high)
- 481A Particle filter system - filter is heavily contaminated. (exhaust backpressure is above maximum)

CAUSE

1. Faults with the exhaust system that affect the monitoring of the DPF by the DDE
2. Unfavorable recent driving profile

INFORMATION

During normal driving, there is a continuous regeneration of the diesel particulate filter that takes place at exhaust-gas temperatures between 280 and 350°C (slower oxidation process). The soot particles can only be burned off when the required exhaust-gas temperature has been reached. Under certain driving conditions (i.e., prolonged short trips or an exhaust system which never reaches soot burn-off temperatures), the DPF can become restricted.

The DDE will initiate periodic regeneration automatically, at the latest after 600 miles. In vehicles making many short distance journeys, periodic regeneration takes place after only 250-500 miles.

The Digital Diesel Electronics control unit evaluates the time for periodic regeneration from the following values:

- average distance driven
- average driving speed
- temperature in the diesel particulate filter
- values from the exhaust pressure sensor

The DDE initiates the regeneration process by decreasing incoming air by the throttle valve, and one or two post injections are executed. This heats the exhaust-gas temperature to approx. 600°C . When the exhaust

temp reaches this point:

- The soot is burned off with the residual oxygen.
- The periodic regeneration is carried out at all speeds.
- Regeneration is most efficient under the following conditions:
 - Speeds above about 60 km/h (approx. 38 mph).
 - Constant speed for over 20-30 minutes.

This regeneration of the DPF can also be started through Service Functions in ISTA/D (Test Plan B1363_D7CSFREG-CSF DDE 7.x Service function, regeneration).

UPDATE! **Important:** Periodic, forced regeneration can only be triggered via the ISTA service functions, if fault codes 480A/245700 and 481A/245800 are "not present".

Note: The DDE measures the distance travelled since the last regeneration in meters (i.e., 21,670 m corresponds to 21.67 kilometers, or 13.5 miles).

UPDATE! If DPF regeneration cannot be performed successfully, the DPF can become blocked with soot particles restricting exhaust flow. When this restriction happens, fault code 480A/245700 (Diesel particulate filter is blocked; exhaust-gas pressure is high) can be stored. Fault code 481A/245800 (Diesel particulate filter – filter is heavily blocked, exhaust gas pressure is above maximum) can be stored if prolonged driving occurs after FC480A/245700 is stored.

PROCEDURE 1

If it is determined that the faults were not caused by the driving profile, the following points need to be checked.

Induction system:

- Air intake hose - inspect for leak-tightness.
- Charge-air hose - inspect for leak-tightness.
- Air mass system test
- Swirl flaps and exhaust gas recirculation valve; function test

Diesel particulate filter:

- Exhaust-gas pressure hose to the diesel particulate filter - inspect for leak-tightness/damage.
- Check the plausibility of the temperature sensors: compare the exhaust temperature sensor upstream of the diesel particulate filter with the exhaust temperature sensor of the catalytic converter. When the exhaust gases are cold, both values should be the same.
- Check the plausibility of the exhaust pressure sensor (test module).

PROCEDURE 2

UPDATE! Frequent short trips with low speed city-type driving, where the exhaust does not get up to operating temperature, will result in insufficient regeneration. If this prolonged driving profile continues, it will cause the DPF to clog with particulate matter and, eventually, store fault code 480A/245700. If driven further, it will store fault code 481A/245800. A DPF regeneration must be executed via ISTA/D.

Periodic regeneration via the ISTA service function is only enabled under the following conditions:

- **UPDATE!** Fault codes 480A/245700 and 481A/245800 have the status "currently not present".
- Engine temperature >75 °C (normal operating temperature).
- Exhaust-gas temperature upstream of the diesel particulate filter >240 °C .

- Sufficient fuel present (fuel reserve lamp is not lit).
- Regeneration is aborted if the fuel reserve lamp lights up.
- No fault code concerning air, exhaust gas, or sensors stored in the DDE.
- A constant travelling speed above approx. 38 mph; a travelling speed above approx. 55 mph is ideal for regeneration. The exhaust-gas temperature increases to above 600°C .
- Successful regeneration takes place at an exhaust-gas temperature above 500 °C .

UPDATE!

To set FCs 480A/245700 and 481A/245800 to “currently not present“ the following driving conditions need to be carried out.

- Drive the vehicle for approx. 45 minutes at a constant speed of above approx. 55 mph.
- 30 minutes for continuous regeneration
- 15 minutes for periodic regeneration
- In addition, switch on electrical consumers, so that the exhaust-gas temperature remains between 280-350 °C

This allows continuous regeneration to take place because the ideal exhaust-gas temperature will be reached. Continuous regeneration takes place and relieves the diesel particulate filter. The exhaust-gas pressure drops. When the exhaust-gas pressure drops, the fault codes 480A and 481A receive the status "currently not present".

UPDATE!

As soon as the fault codes receive the status 480A/245700 and 481A/245800 "currently not present", automatic, periodic regeneration can take place.

Important:

As soon as regeneration is complete, the distance covered since the last regeneration is reset to 0000000 m. This status is an evidence of a successful regeneration.

Measure the exhaust-gas pressure at the diesel particulate filter after regeneration is completed. The actual value must correspond with the specified value.

WARRANTY INFORMATION

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

Eligible and Covered Work/Repairs

To submit a claim for a repair with a verified defect in materials or workmanship, please following the established and applicable warranty policy and procedures together with the using corresponding defect code and labor operations provided in the KSD2.

Consequential Repair

Defect Code:	Refer to KSD2	Defect Code that applies to the repair work which necessitated the additional work procedure below to be performed
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As described above, when repairs are performed which are covered under the terms of the BMW New Vehicle Limited Warranty for Passenger Cars and Light Trucks, if the following procedure also needs to be performed, it is then claimable in conjunction with the covered repair.

Labor Operation:	Labor Allowance:	Description:
18 99 000	10 FRU	Perform DPF regeneration



Note: If the “cause” is the result of an unfavourable driving profile (short-distance driving), the

above work procedure is not claimable

Work time labor operation code 18 99 000 is not considered a Main labor operation. Also, since the “work time” FRU allowance to be claimed is specified, a separate punch time is not required.