



BMW Air-mass Flow Sensor Reset For Diesel Engine

In normal operation, the air mass flow meter is subject to effects such as soiling and ageing. Those effects cause divergence between the stored characteristic and the specified status resulting in symptoms such as lack of power or black smoke. In order to prevent the effects of this problem, the Air mass flow meter adaptation function has been introduced on the DDE5.

Function:

Air mass flow meter adaptation is performed by the DDE control unit at two operating points: when idling and under load in an operating range defined as follows:

- Engine speed = 1700 ... 3000 rpm
- Charge-air pressure = 1100 ... 2800 mbar
- Speed = 90 ... 160 km/h
- Change in intake-air temperature < 2 /s
- Change in injection rate < 2 mg/stroke/s
- Delay period = 3 s

Adaptation sequence at each of those points:

The air mass flow meter adaptation uses certain operational data to calculate the theoretical air mass flow passing through the engine. The DDE control unit compares the figure obtained with the level measured by the air mass flow meter.

If the DDE control unit finds that the measured level differs by more than $\pm 8\%$ from the theoretical figure, that difference is stored on the control unit as a compensation factor.

That compensation factor enables the control unit to adjust the measured levels before they are processed by the various functions.

Application:

The service function Air mass flow meter adaptation must be performed after the air mass flow meter is replaced. The stored compensation factors are reset to 0 in the process.

Vehicle Use:

The air mass flow meter adaptation is used as follows:

- E46 M47TU: as of volume production launch
- E46 M57TU: as of volume production launch
- E65 M57TU: as of 03/2003 with integration stage 6.108 and DDE software VQ5.7
- E60 M57TU: as of volume production launch

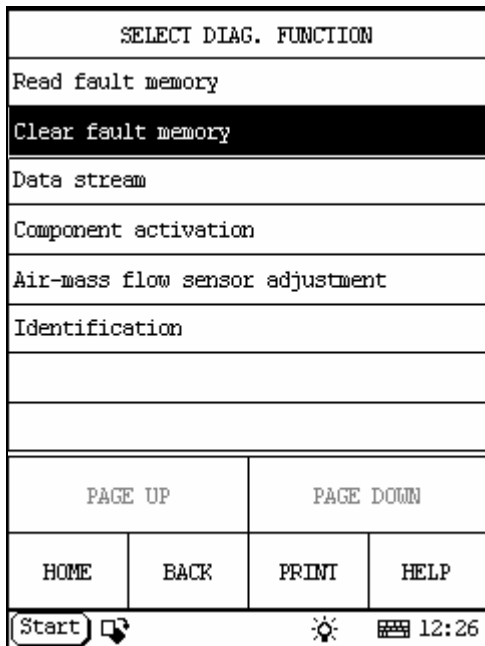


Fig. 5

Clear Fault Codes

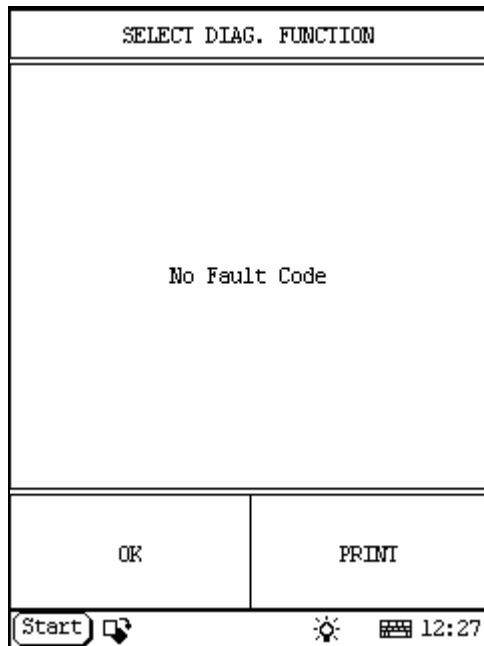


Fig. 6

No Fault Codes Stored

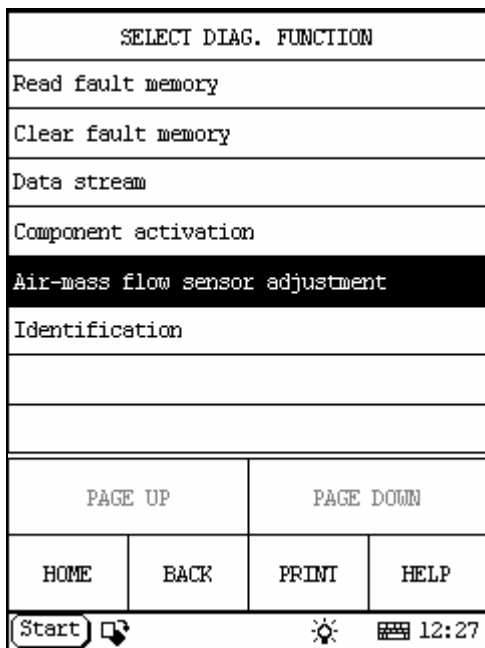


Fig. 7

Select "Air-Mass Flow Sensor Adjustment"

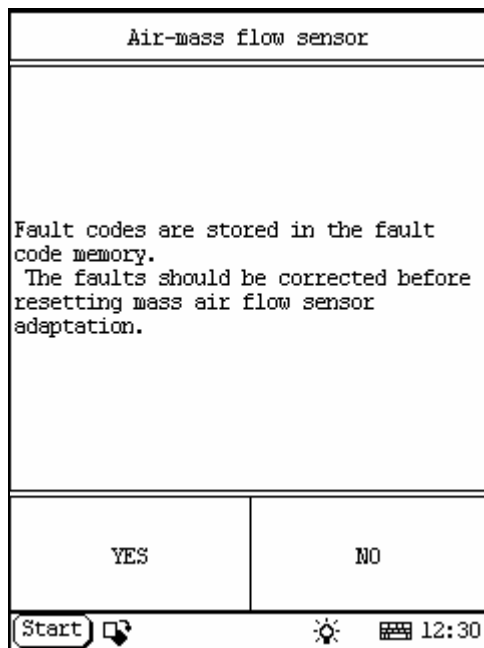


Fig. 8

X431 Software Checks For Any Fault Codes

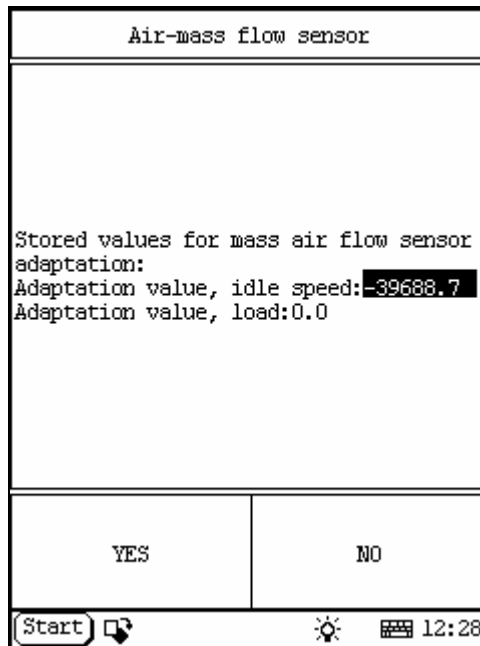


Fig.9

Current Stored information about idle speed and load for the adaptation value Select
 “YES” to continue

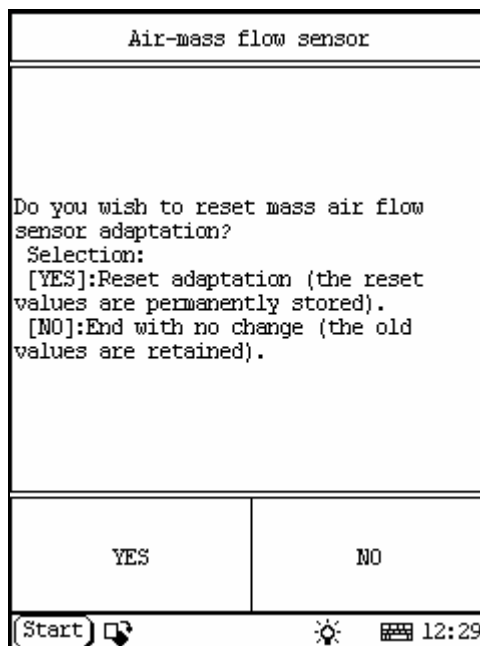


Fig.10

Select “YES” to reset adaptation

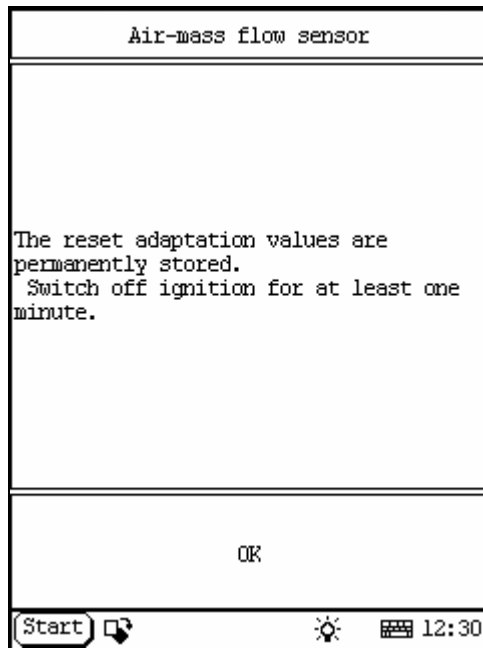


Fig.11

Switch Off Ignition for at least one minute and Select “OK”

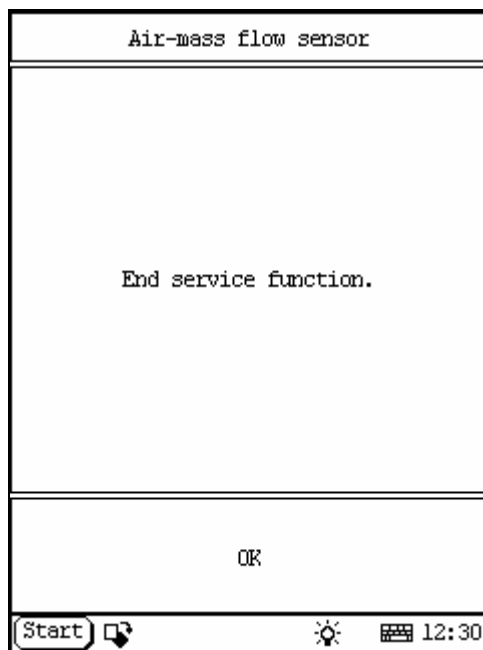


Fig.12

End of Reset Procedure Select “OK” to go back to Engine Menu

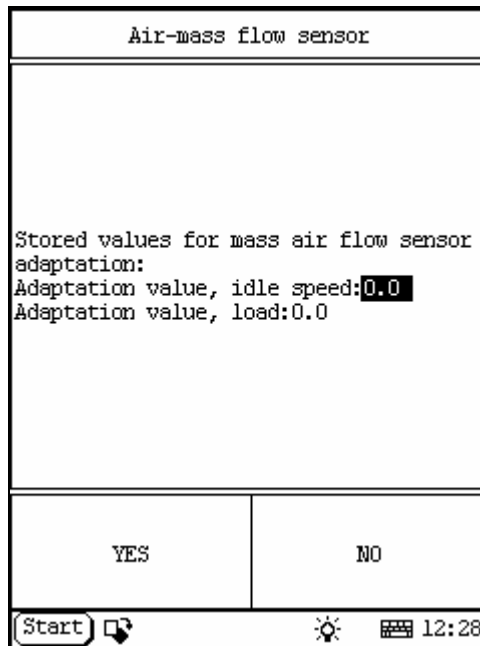


Fig.13

To Check if Air-Mass has been reset Select “Air-Mass Flow Sensor Adjustment” again and Stored information should be 0.0 as above To exit Select NO

Error Resetting Air-Mass

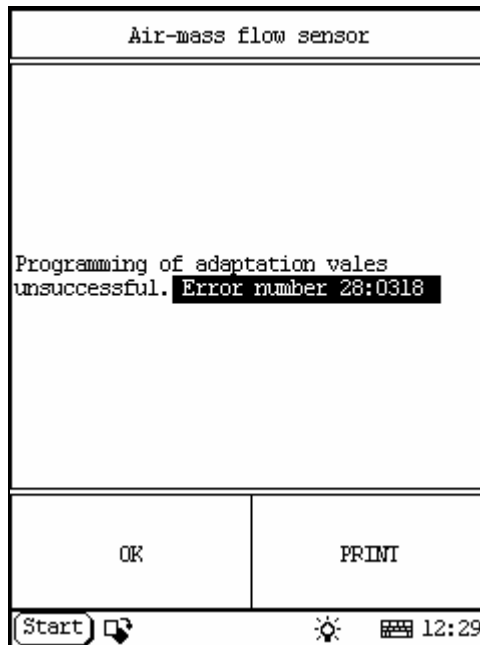


Fig.14

If Error occurs as above please report this number to Launch so we can add this new system