



Date: March 2004
Order No.: S-B-07.61/039b
Supersedes: S-B-07.61/039a
Group: 07

Revision: *This star bulletin has been revised to include new screen displays and updated flashing instructions to reflect the February 2003 DAS release.*

SUBJECT: TROUBLE SHOOTING FAULT CODES RELATED TO :
● ADAPTATION LIMITS OF LAMBDA CONTROL
● MASS AIR FLOW SENSORS / INTAKE AIR TEMPERATURE SENSOR
MODEL 163.154/157/172/175 (starting with MY 2001)

This SI explains how to troubleshoot fault codes P2004-[], P2006-[], P2017-[], P2086-[], P2016-[], and P2085-[] by providing a special fault tree for each P-code. Troubleshoot each fault code by solving it before moving onto the next code. If you have no codes or a code other than the above P-codes. **DO NOT REPLACE THE AIR MASS SENSOR.**

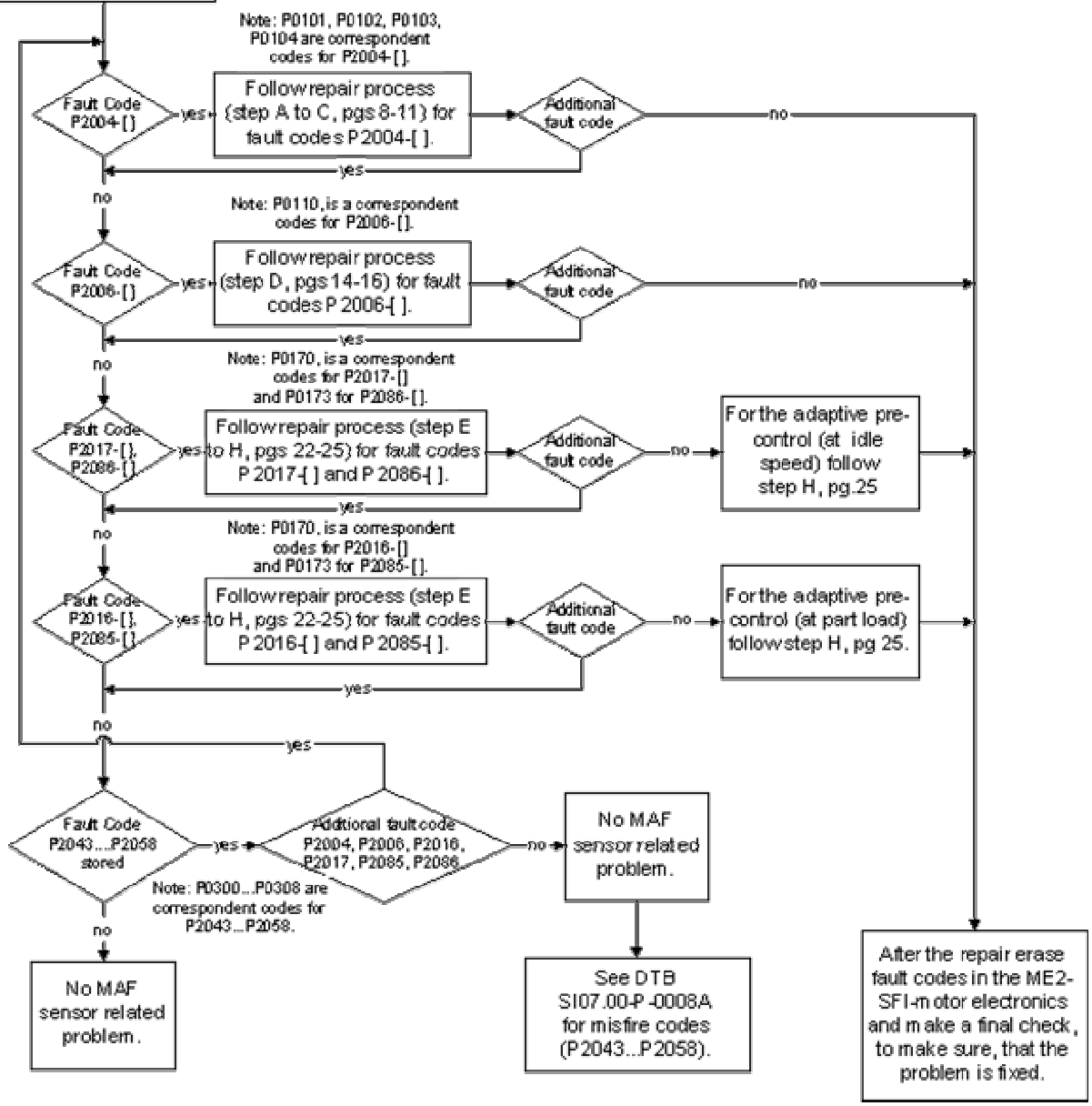
Requirements for ALL air mass sensor replaced under warranty:

- Printout of all fault codes of the ME2-SFI-motor electronics (short test).
- Freeze frame data of all fault codes stored in the ME2-SFI-motor electronics.
- Signal voltage printout Fig. 4 (page 10) of component B2/5 (Hot film MAF sensor).
- Returned MAF sensors without the required information will be debited back to the dealer.

i Note: Only original, readable printouts with the VIN number (DAS-readout) of the vehicle are accepted. The required printouts can be made only with DAS-Version starting 02/04. All mass air flow sensors will be tested and if found to be functioning correctly will be sent back to the dealer and the corresponding claim will be debited.

MAF sensor and self-adaptation of mixture formation trouble-shooting diagram

Print them out with the freeze frame data.



Upon engine start, a current is passed through the MAF sensor, heating the wire film to a certain temperature. As air passes through the sensor, this film is cooled and the sensor determines how much electricity is required to keep the film up to temperature.

This enables the sensor to determine how much air (in weight) is passing through the sensor at any given moment. This signal is then sent to the ECU which it compares to a preprogrammed map to deliver fuel and ignition spark, taking into account other engine inputs such as engine RPM and temperature.

The air intake temperature sensor is also mounted in the mass air flow sensor.

The monitor of the MAF sensor is active after a specified time after engine start and above a specified engine speed threshold.

