**370 BDEMST Operating mode at startup**

This function defines in the area Start, Post-start and Warm-up, which operating mode (s) is allowed.  
Background: If the engine is still too cold, no judicious lean operation is possible.  
The finally output variable is bdemodst. This finally sets the permissible operating mode (s) in the start and  
Warm-up.  
The variables bdemmodtm, bdemodha and bdemodst are formed analogously to the variable bdemod from% BDEMUM. The variable bdemodst  
is then passed on to% BDEMKO, where the coordination of the (different) business mode requests takes place.  
At high speeds or when a temperature threshold is exceeded, the calculation of the permissible operating mode in% BDEMST  
aborted (block deactivation).  
The codeword CWBDEMST determines whether only the block application or otherwise all other blocks are calculated.  
CWBDEMST = 0 (default value):  
Otherwise, all blocks will be calculated except for the block application. This case is intended for SERIAL DISCOVERY.  
In the individual blocks, a separate temperature threshold can be applied to each operating mode.  
CWBDEMST = 1 (only for test bench tests):  
Only the application and switch off blocks are calculated. All other blues are not calculated. This case is only  
intended for the work on the test bench and NOT for the SERIES BEDATUNG. With MODSTAP the bit pattern can be arbitrary  
be set.  
For the following description, a default condition of CWBDEMST = 0 is assumed.  
In bdemodtm, the respective bits for enabling the respective operating mode are tmot depending on the motor temperature  
educated.  
The variable bdemodha comes from the function% BDEMHA. There, the respective bits for the release of the respective  
Operating mode as a function of the heating power requirement to the engine formed.  
The variable bdemodst is formed from a bitwise AND-combination of the variables bdemodtm and bdemodha. That an operating mode  
will be released only if released by both bdemodtm and bdemodha.  
In order to be able to release the respective operating mode in bdemodtm except homogeneous, the following conditions must be satisfied:  
1. The start enrichment fst\_w or the post-start / warm-up enrichment fnswl\_w must be less than or equal to the threshold FNSWLMX.  
Background: The enrichment increases the momentum during lean operation. It is therefore necessary for the monitoring  
that the enrichment is below the threshold FNSWLMX, so as to limit the additional moment.  
2. The time after start tnst\_w must be greater than or equal to the threshold TNSTUSVB.  
Background: The combustion chamber temperature depends very much on the duration of operation at the beginning of engine operation. In order to  
To ensure that the combustion chamber has reached a sufficient temperature even with warm coolant, the  
Operating time since the start of the operation is greater than or equal to the threshold TNSTUSVB.  
3. The cooling water temperature must be greater than the respective temperature threshold for the corresponding operating mode.  
Special case shift operation: Here, a distinction is made between idling and other operation.

APP BDEMST 2.10.0 Application Notes

Prerequisites: Switching to the individual operating modes must work properly when the engine is warm.

For lean operation, a specific combustion chamber temperature is required. At the beginning of engine operation, this temperature is dependent

mainly from the duration of operation. After a certain period of operation, the combustion chamber temperature then depends mainly on the

Cooling water temperature down.

The respective temperature thresholds and TNSTUSVB must therefore be at least as large that the motor in the corresponding

Operation mode runs perfectly, i. There should be no dropouts or increased restlessness.

The threshold FNSWLMX is to be applied in cooperation with the torque monitoring.

If the motor temperature exceeds the threshold TMOTSTOFF, the function is switched off for reasons related to the runtime.

The value of TMOTSTOFF should be greater than any other temperature thresholds of this function.

If a mode of operation other than homogeneous is to be enabled in the start, TNSTUSVB must be set to 0.