PGN 65251   *Engine Configuration 1*   *EC1*

This map describes the stationary behavior of the engine and the speed dependent available indicated torque. This map should reflect the effect of changes due to barometric pressure, engine temperature, and any other stationary changes (sensor failures, etc.) which influence the engine torque curve more than 10%. This map is only valid for maximum boost pressure. At low boost pressures the torque limit may be much lower.

The engine configuration message must be sent at any time that the engine configuration map has changed by more than 10% of speed or torque (due to events other than boost pressure) since that last time the message was transmitted. As an alternative, it may be sent periodically, once every 5 s. It shall also be sent on response to a configuration request message.

The engine characteristic can be described in one of three modes. Mode 1 provides a complete curve of speed and torque points (see PGN65251_A). Modes 2 and 3 provide a partial curve of speed and torque points and a separate endspeed governor characteristic. In modes 2 and 3, the receiver of the engine configuration message has to calculate the minimum of the engine torque curve and the endspeed governor characteristic to get the final available engine torque.

Mode 2 provides a high idle point where torque equals zero (point 6) and the endspeed governor gain Kp (see Figure PGN65251_B). Mode 3 provides the kick-in point of the endspeed governor (point 2) and the governor gain Kp (see Figure PGN65251_C).

The selection of the three modes can be done by setting the parameters as shown in 'Table PGN65251_A.

Grandfathered definition for systems that implemented this message prior to July, 2010: On change of torque/speed points of more than 10% since last transmission. Alternative: Every 5 s.

Transmission Repetition Rate: Every 5 s and on change of torque/speed points of more than 10% since last
                                  transmission but no faster than every 500 ms
Data Length: 39
Extended Data Page: 0
Data Page: 0
PDU Format: 254
PDU Specific: 227   PGN Supporting Information: See Appendix D - PGN 65251
Default Priority: 6
Parameter Group Number: 65251 (0x00FEE3)

Start Position	Length	Parameter Name	SPN
01-02	2 bytes	Engine Speed At Idle, Point 1 (Engine Configuration)	188
03	1 byte	Engine Percent Torque At Idle, Point 1 (Engine Configuration)	539
04-05	2 bytes	Engine Speed At Point 2 (Engine Configuration)	528
06	1 byte	Engine Percent Torque At Point 2 (Engine Configuration)	540
07-08	2 bytes	Engine Speed At Point 3 (Engine Configuration)	529
09	1 byte	Engine Percent Torque At Point 3 (Engine Configuration)	541
10-11	2 bytes	Engine Speed At Point 4 (Engine Configuration)	530
12	1 byte	Engine Percent Torque At Point 4 (Engine Configuration)	542
13-14	2 bytes	Engine Speed At Point 5 (Engine Configuration)	531
15	1 byte	Engine Percent Torque At Point 5 (Engine Configuration)	543
16-17	2 bytes	Engine Speed At High Idle, Point 6 (Engine Configuration)	532
18-19	2 bytes	Engine Gain (Kp) Of The Endspeed Governor (Engine Configuration)	545
20-21	2 bytes	Engine Reference Torque (Engine Configuration)	544
22-23	2 bytes	Engine Maximum Momentary Override Speed, Point 7 (Engine Configuration)	533
24	1 byte	Engine Maximum Momentary Override Time Limit (Engine Configuration)	534
25	1 byte	Engine Requested Speed Control Range Lower Limit (Engine Configuration)	535
26	1 byte	Engine Requested Speed Control Range Upper Limit (Engine Configuration)	536
27	1 byte	Engine Requested Torque Control Range Lower Limit (Engine Configuration)	537