

**Test plan for BMW Service (development status)**

**MED17.2**

ECU type	BMW Fault Code (hex)	BMW Fault Code (dez)	Fault mode	BMW Fault Code Description VS-Text	DTC (Diagnostic Trouble Code)	DTC Description	Component	Subcomponent	Monitoring criteria	Fault debouncing	Terminal conditions	Voltage conditions	Temperature conditions	Time conditions	System test	Signal information	Calculated value Y/N	Possible Fault Causes	Repair procedures (plant/service)	MIL illumination/CC message/emergency program	Remarks	Customer perception comments
MED17.2	0x2710	10000	MAX	Tank cap	P0455	Evaporative Emission System Leak Detected (large leak)	EVAP System	Leak Detection	5 sec. after engine start, >10 km/h	none	none	none	4 °C< ambient temperature <35 °C	10 min. after parking vehicle	DMTL system test	none	Y	Fuel filler cap missing or not on correctly	Check fuel cap Conduct DMTL system test	CGC (Check Gas Cap)		
MED17.2	0x2711	10001	MIN	Tank cap	P0455	Evaporative Emission System Leak Detected (large leak)	EVAP System	Leak Detection	5 sec. after engine start, >10 km/h	none	none	none	4 °C< ambient temperature <35 °C	10 min. after parking vehicle	DMTL system test	none	Y	Fuel filler cap missing or not on correctly	Check fuel cap Conduct DMTL system test	CGC (Check Gas Cap)		
MED17.2	0x2718	10008	MAX	DMTL heater, activation	P240C	Evaporative Emission System Leak Detection Pump Heater Control Circuit High	EVAP System	DMTL Heater	none	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEUERN_DMTLH	none	N	Short circuit to positive Heater element DME	Check wires S_DMTLH replace DMTL, replace DME	MIL on		
MED17.2	0x2719	10009	MIN	DMTL heater, activation	P240B	Evaporative Emission System Leak Detection Pump Heater Control Circuit Low	EVAP System	DMTL Heater	none	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEUERN_DMTLH	none	N	Short circuit to ground Heater element DME	Check wires S_DMTLH replace DMTL, replace DME	MIL on		
MED17.2	0x271B	10011	SIG	DMTL heater, activation	P240A	Evaporative Emission System Leak Detection Pump Heater Control Circuit/Open	EVAP System	DMTL Heater	none	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEUERN_DMTLH	none	N	Open wire Heater element DME	Check wires S_DMTLH and U_HR<5 replace DMTL, replace DME	MIL on		
MED17.2	0x2727	10023	MAX	DMTL solenoid valve, activation	P2420	Evaporative Emission System Switching Valve Control Circuit High	EVAP System	Switching Valve	none	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEUERN_DMTLV	none	N	Short circuit to positive Solenoid valve DME	Check wire S_DMTLV Replace DMTL, replace DME	MIL on		
MED17.2	0x2728	10024	MIN	DMTL solenoid valve, activation	P2419	Evaporative Emission System Switching Valve Control Circuit Low	EVAP System	Switching Valve	none	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEUERN_DMTLV	none	N	Short circuit to ground Solenoid valve DME	Check wire S_DMTLV Replace DMTL, replace DME	MIL on		
MED17.2	0x272A	10026	SIG	DMTL solenoid valve, activation	P2418	Evaporative Emission System Switching Valve Control Circuit/Open	EVAP System	Switching Valve	none	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEUERN_DMTLV	none	N	Open wire Solenoid valve DME	Check wires S_DMTLV and U_HR<5 replace DMTL, replace DME	MIL on		
MED17.2	0x272B	10027	MAX	DMTL pump motor, activation	P2402	Evaporative Emission System Leak Detection Pump Control Circuit High	EVAP System	Pump	none	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEUERN_DMTLP	none	N	Short circuit to positive Leak diagnosis pump DME	Check wire S_DMTLP Replace DMTL, replace DME	MIL on		
MED17.2	0x272C	10028	MIN	DMTL pump motor, activation	P2401	Evaporative Emission System Leak Detection Pump Control Circuit Low	EVAP System	Pump	none	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEUERN_DMTLP	none	N	Short circuit to ground Leak diagnosis pump DME	Check wire S_DMTLP Replace DMTL, replace DME	MIL on		
MED17.2	0x272E	10030	SIG	DMTL pump motor, activation	P2400	Evaporative Emission System Leak Detection Pump Control Circuit/Open	EVAP System	Pump	none	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEUERN_DMTLP	none	N	Open wire Leak diagnosis pump DME	Check wires S_DMTLP and U_HR<5 replace DMTL, replace DME	MIL on		
MED17.2	0x272F	10031	MAX	DMTL, superfine leak	P0456	Evaporative Emission System Leak Detected (very small leak)	EVAP System	Leak Detection	< 2400 m above sea level; idle time > 30 s. vehicle speed above 40 km/h > 10 min engine start temp. 6.6 °C < as ambient temperature	none	none	none	2 °C< ambient temperature <37 °C	10 min, after TR 15 off	DMTL system test	none	N	Fuel filler cap not on correctly or leakage (&gt;0.5 mm) in tank system	Check fuel cap Check tank/hoses for leaks Conduct DMTL system test	MIL ON in 4th DC		
MED17.2	0x2733	10035	MAX	DMTL, module fault	P1449	Diagnostic Module Tank Leakage (DM-TL) Pump Current Too High	EVAP System	Pump Current	< 2400 m above sea level; idle time > 30 s. vehicle speed above 40 km/h > 10 min engine start temp. 6.6 °C < as ambient temperature	none	none	none	2 °C< ambient temperature <37 °C	10 min, after TR 15 off	DMTL system test	none	N	Internal fault, DMTL	Replace DMTL	MIL ON		
MED17.2	0x2734	10036	MIN	DMTL, module fault	P1448	Diagnostic Module Tank Leakage (DM-TL) Pump Current Too Low	EVAP System	Pump Current	< 2400 m above sea level; idle time > 30 s. vehicle speed above 40 km/h > 10 min engine start temp. 6.6 °C < as ambient temperature	none	none	none	2 °C< ambient temperature <37 °C	10 min, after TR 15 off	DMTL system test	none	N	Internal fault, DMTL	Replace DMTL	MIL ON		
MED17.2	0x2735	10037	PLAUS	DMTL, module fault	P1447	Diagnostic Module Tank Leakage (DM-TL) Pump Current Too High during Switching Solenoid Test	EVAP System	Pump Current	< 2400 m above sea level; idle time > 30 s. vehicle speed above 40 km/h > 10 min engine start temp. 6.6 °C < as ambient temperature	none	none	none	2 °C< ambient temperature <37 °C	10 min, after TR 15 off	DMTL system test	none	N	Internal fault, DMTL	Replace DMTL	MIL ON		

MED17.2	0x2736	10038	SIG	DMTL, module fault	P1434	Diagnostic Module Tank Leakage (DM-TL)	EVAP System	Pump Current	< 2400 m above sea level; idle time > 30 s. vehicle speed above 40 km/h > 10 min engine start temp. 6.6 °C < as ambient temperature	none	none	none	2 °C< ambient temperature <37 °C; 10 min, after TR 15 off	DMTL system test	none	N	Internal fault, DMTL	Replace DMTL	MIL ON		
MED17.2	0x273D	10045	PLAUS	Ignition coil, cylinder 1, ignition-circuit monitoring	P0351	Ignition Coil 'A' Primary/Secondary Circuit	Ignition Coil	A Primary / Secondary Circuit	Engine running (not in limp-home mode)	5 sec.	none	Battery voltage > 11 V	none	none	none	none	Y	Voltage supply and ground connection for ignition system Spark plug Ignition coil Fuses	Check wiring harness Check for damage: Spark plugs, ignition coils, ignition harness Replace DME	none	Engine bucking
MED17.2	0x273E	10046	PLAUS	Ignition coil, cylinder 3, ignition-circuit monitoring	P0353	Ignition Coil 'C' Primary/Secondary Circuit	Ignition Coil	C Primary / Secondary Circuit	Engine running (not in limp-home mode)	5 sec.	none	Battery voltage > 11 V	none	none	none	none	Y	Voltage supply and ground connection for ignition system Spark plug Ignition coil Fuses	Check wiring harness Check for damage: Spark plugs, ignition coils, ignition harness Replace DME	none	Engine bucking
MED17.2	0x273F	10047	PLAUS	Ignition coil, cylinder 4, ignition-circuit monitoring	P0354	Ignition Coil 'D' Primary/Secondary Circuit	Ignition Coil	D Primary / Secondary Circuit	Engine running (not in limp-home mode)	5 sec.	none	Battery voltage > 11 V	none	none	none	none	Y	Voltage supply and ground connection for ignition system Spark plug Ignition coil Fuses	Check wiring harness Check for damage: Spark plugs, ignition coils, ignition harness Replace DME	none	Engine bucking
MED17.2	0x2740	10048	PLAUS	Ignition coil, cylinder 2, ignition-circuit monitoring	P0352	Ignition Coil 'B' Primary/Secondary Circuit	Ignition Coil	B Primary / Secondary Circuit	Engine running (not in limp-home mode)	5 sec.	none	Battery voltage > 11 V	none	none	none	none	Y	Voltage supply and ground connection for ignition system Spark plug Ignition coil Fuses	Check wiring harness Check for damage: Spark plugs, ignition coils, ignition harness Replace DME	none	Engine bucking
MED17.2	0x2745	10053	MAX	multiplicative mixture adaptation	P2177	System Too Lean Off Idle (Bank 1)	Fuel System	Off Idle	Air mass > 20 kg/h Engine speed > 1600 rpm	none	none	none	Engine temperature > 60 °C	approximately 300 sec.	START_SYSTEMCHECK_GRUND ADAPT	none	N	Fault registered owing to defective: oxygen sensor (before catalytic converter), HFM (USA only), injector nozzle, leak in induction tract (crankcase ventilation, oil cap, dipstick, EVAP line, brake booster), leak in exhaust system (cylinder head exhaust side as far as 2nd oxygen sensor), intake manifold pressure sensor, fuel primer pump, rail-pressure sensor, camshaft sensor, intake air temperature, low-quality fuel.	Because the action measures are quite extensive, they are only portrayed in the test module	MIL ON	
MED17.2	0x2746	10054	MIN	multiplicative mixture adaptation	P2178	System Too Rich Off Idle (Bank 1)	Fuel System	Off Idle	Air mass > 20 kg/h Engine speed > 1600 rpm	none	none	none	Engine temperature > 60 °C	approximately 300 sec.	START_SYSTEMCHECK_GRUND ADAPT	none	N	Fault registered owing to defective: oxygen sensor (before catalytic converter), HFM (USA only), injector nozzle, intake manifold pressure sensor, fuel primer pump, rail-pressure sensor, camshaft sensor, intake air temperature, poor-quality gasoline.	Because the action measures are quite extensive, they are only portrayed in the test module	MIL ON	
MED17.2	0x2755	10069	MAX	Fuel level sensor	P0460	Fuel Level Sensor 'A' Circuit	Fuel Level Sensor	Electrical	none	25 sec.	Terminal 15	none	none	none	none	none	Y	Short to positive	Continue fault diagnosis in I-cluster and/or SPEG	none	
MED17.2	0x2755	10069	MAX	Fuel level sensor	P0463	Fuel Level Sensor 'A' Circuit High	Fuel Level Sensor	Electrical	none	25 sec.	Terminal 15	none	none	none	none	none	Y	Short to positive	Continue fault diagnosis in I-cluster and/or SPEG	none	
MED17.2	0x2756	10070	MIN	Fuel level sensor	P0462	Fuel Level Sensor 'A' Circuit Low	Fuel Level Sensor	Electrical	none	25 sec.	Terminal 15	none	none	none	none	none	Y	Short to ground	Continue fault diagnosis in I-cluster and/or SPEG	none	
MED17.2	0x2757	10071	PLAUS	Fuel level sensor	P1407	Fuel Level Signal 1	Fuel Level Sensor	Signal	Engine running At least 6 liters of fuel must be consumed	20 sec.	none	none	none	none	none	none	Y	Seized fuel level sensor	If the fault is continuously present or has multiple log entries respond by replacing the fuel level sensor	none	
MED17.2	0x2758	10072	SIG	Fuel level sensor	P1409	Fuel Level 1 CAN Error	Fuel Level Sensor	Signal	Check CAN message	25 sec.	Terminal 15	none	none	none	none	none	Y	Implausible fuel level value received	Continue fault diagnosis in I-cluster and/or SPEG	MIL ON	
MED17.2	0x275D	10077	MAX	Fuel level sensor	P0461	Fuel Level Sensor 'A' Circuit Range/Performance	Fuel Level Sensor	Plausibility	Engine running	Fuel level change exceeds 0.5 l from previous figure	none	none	none	none	none	none	Y	Fuel line/tank leaking Fuel level sensor seizing	Check tank/hoses for leaks If the fault is continuously present or has been logged multiple times, respond by replacing the fuel level sensor	none	
MED17.2	0x275E	10078	MIN	Fuel level sensor	P144A	Fuel Level / Tank Capacity Correlation	Fuel Level	Correlation	none	none	Terminal 15	none	none	none	none	none	Y	Tank 1 fuel level exceeds tank volume	Check wiring harness If the fault is continuously present or has multiple log entries respond by replacing the fuel level sensor	none	
MED17.2	0x275F	10079	PLAUS	Fuel level sensor	P144B	Fuel Level / Fuel Consumption Correlation	Fuel Level	Correlation	Engine running At least 6 liters of fuel must be consumed	20 sec.	none	none	none	none	none	none	Y	Seized fuel level sensor	If the fault is continuously present or has multiple log entries respond by replacing the fuel level sensor	none	
MED17.2	0x276A	10090	MIN	Catalytic-converter conversion	P0420	Catalyst System Efficiency Below Threshold (Bank 1)	Catalyst	Efficiency	No fault memory stored; EVAP not active; before cat.lambda control active;	none	none	none	Engine at operating temperature	none	START_SYSTEMCHECK_KAT	none	Y	Defective catalyst	If fault is continuous, replace catalytic converter If fault is sporadic, start by conducting system test	MIL on	
MED17.2	0x276D	10093	MAX	Fuel pump, activation	P0629	Fuel Pump 'A' Control Circuit High	Fuel Regulators / Valves / Sensors	Fuel Pump	Engine running	0.5 sec.	none	9 V < Battery voltage < 16 V	none	none	STEUERN_EKP	none	N	Short circuit to positive Fuel pump relay DME	replace fuel pump relay, replace DME	CC status report	

MED17.2	0x276E	10094	MIN	Fuel pump, activation	P0628	Fuel Pump 'A' Control Circuit Low	Fuel Regulators / Valves / Sensors	Fuel Pump	Engine running	0.5 sec.	none	9 V < Battery voltage < 16 V	none	none	STEUERN_EKP	none	N	Short circuit to ground Fuel pump relay DME	Check wiring harness between DME and fuel pump relay; replace fuel pump relay, replace DME	CC status report		
MED17.2	0x2770	10096	SIG	Fuel pump, activation	P0627	Fuel Pump 'A' Control Circuit/Open	Fuel Regulators / Valves / Sensors	Fuel Pump	Engine running	0.5 sec.	none	9 V < Battery voltage < 16 V	none	none	STEUERN_EKP	none	N	Open wire Fuel pump relay DME	Check wiring harness between DME and fuel pump relay; replace fuel pump relay, replace DME	CC status report		
MED17.2	0x2771	10097	MAX	Combustion misfires, cylinder 1	P0301	Cylinder 1 Misfire Detected	Misfire	Cyl 1	580 < nmot < 6500 barometric pressure > 740 hPa after engine start	none	none	none	Engine temperature > -7.5 °C	none	none	none	Y	Ignition or injection miss, defective spark plug, defective wiring harness and plugs/contacts, induction mixture problem, defective ignition coil, defective injection valve, VANOS fault	1. If problem is present with mixture, VANOS, lambda control/oxygen sensor, high-pressure fuel system, boost control system, camshaft control, injection valves, then repair these faults first. 2. Spark plug visual inspection (cracked ceramic insulator, black electrodes, electrode gap, etc.), replace as indicated 3. Wiring harness electrical check, check contacts (corrosion, insulation damage) 4. Check ignition coil for corrosion, cracks, interchange coils between cylinders as indicated, conduct road test with full acceleration and note if problem migrates, replace ignition coil as indicated.	MIL ON		
MED17.2	0x2772	10098	MIN	Combustion misfires, cylinder 1	P0301	Cylinder 1 Misfire Detected	Misfire	Cyl 1	580 < nmot < 6500 barometric pressure > 740 hPa after engine start	none	none	none	Engine temperature > -7.5 °C	none	none	none	Y	Ignition or injection miss, defective spark plug, defective wiring harness and plugs/contacts, induction mixture problem, defective ignition coil, defective injection valve, VANOS fault	1. If problem is present with mixture, VANOS, lambda control/oxygen sensor, high-pressure fuel system, boost control system, camshaft control, injection valves, then repair these faults first. 2. Spark plug visual inspection (cracked ceramic insulator, black electrodes, electrode gap, etc.), replace as indicated 3. Wiring harness electrical check, check contacts (corrosion, insulation damage) 4. Check ignition coil for corrosion, cracks, interchange coils between cylinders as indicated, conduct road test with full acceleration and note if problem migrates, replace ignition coil as indicated.	MIL ON		
MED17.2	0x2773	10099	PLAUS	Combustion misfires, cylinder 1	P0301	Cylinder 1 Misfire Detected	Misfire	Cyl 1	580 < nmot < 6500 barometric pressure > 740 hPa after engine start	none	none	none	Engine temperature > -7.5 °C	none	none	none	Y	Ignition or injection miss, defective spark plug, defective wiring harness and plugs/contacts, induction mixture problem, defective ignition coil, defective injection valve, VANOS fault	1. If problem is present with mixture, VANOS, lambda control/oxygen sensor, high-pressure fuel system, boost control system, camshaft control, injection valves, then repair these faults first. 2. Spark plug visual inspection (cracked ceramic insulator, black electrodes, electrode gap, etc.), replace as indicated 3. Wiring harness electrical check, check contacts (corrosion, insulation damage) 4. Check ignition coil for corrosion, cracks, interchange coils between cylinders as indicated, conduct road test with full acceleration and note if problem migrates, replace ignition coil as indicated.	MIL ON		
MED17.2	0x2775	10101	MAX	Combustion misfires, cylinder 3	P0303	Cylinder 3 Misfire Detected	Misfire	Cyl 3	580 < nmot < 6500 barometric pressure > 740 hPa after engine start	none	none	none	Engine temperature > -7.5 °C	none	none	none	Y	Ignition or injection miss, defective spark plug, defective wiring harness and plugs/contacts, induction mixture problem, defective ignition coil, defective injection valve, VANOS fault	1. If problem is present with mixture, VANOS, lambda control/oxygen sensor, high-pressure fuel system, boost control system, camshaft control, injection valves, then repair these faults first. 2. Spark plug visual inspection (cracked ceramic insulator, black electrodes, electrode gap, etc.), replace as indicated 3. Wiring harness electrical check, check contacts (corrosion, insulation damage) 4. Check ignition coil for corrosion, cracks, interchange coils between cylinders as indicated, conduct road test with full acceleration and note if problem migrates, replace ignition coil as indicated.	MIL ON		

MED17.2	0x2776	10102	MIN	Combustion misfires, cylinder 3	P0303	Cylinder 3 Misfire Detected	Misfire	Cyl 3	580 < nmot < 6500 barometric pressure > 740 hPa after engine start	none	none	none	Engine temperature > -7.5 °C	none	none	none	Y	Ignition or injection miss, defective spark plug, defective wiring harness and plugs/contacts, induction mixture problem, defective ignition coil, defective injection valve, VANOS fault	1. If problem is present with mixture, VANOS, lambda control/oxygen sensor, high-pressure fuel system, boost control system, camshaft control, injection valves, then repair these faults first. 2. Spark plug visual inspection (cracked ceramic insulator, black electrodes, electrode gap, etc.), replace as indicated 3. Wiring harness electrical check, check contacts (corrosion, insulation damage) 4. Check ignition coil for corrosion, cracks, interchange coils between cylinders as indicated, conduct road test with full acceleration and note if problem migrates, replace ignition coil as indicated.	MIL ON		
MED17.2	0x2777	10103	PLAUS	Combustion misfires, cylinder 3	P0303	Cylinder 3 Misfire Detected	Misfire	Cyl 3	580 < nmot < 6500 barometric pressure > 740 hPa after engine start	none	none	none	Engine temperature > -7.5 °C	none	none	none	Y	Ignition or injection miss, defective spark plug, defective wiring harness and plugs/contacts, induction mixture problem, defective ignition coil, defective injection valve, VANOS fault	1. If problem is present with mixture, VANOS, lambda control/oxygen sensor, high-pressure fuel system, boost control system, camshaft control, injection valves, then repair these faults first. 2. Spark plug visual inspection (cracked ceramic insulator, black electrodes, electrode gap, etc.), replace as indicated 3. Wiring harness electrical check, check contacts (corrosion, insulation damage) 4. Check ignition coil for corrosion, cracks, interchange coils between cylinders as indicated, conduct road test with full acceleration and note if problem migrates, replace ignition coil as indicated.	MIL ON		
MED17.2	0x2779	10105	MAX	Combustion misfires, cylinder 4	P0304	Cylinder 4 Misfire Detected	Misfire	Cyl 4	580 < nmot < 6500 barometric pressure > 740 hPa after engine start	none	none	none	Engine temperature > -7.5 °C	none	none	none	Y	Ignition or injection miss, defective spark plug, defective wiring harness and plugs/contacts, induction mixture problem, defective ignition coil, defective injection valve, VANOS fault	1. If problem is present with mixture, VANOS, lambda control/oxygen sensor, high-pressure fuel system, boost control system, camshaft control, injection valves, then repair these faults first. 2. Spark plug visual inspection (cracked ceramic insulator, black electrodes, electrode gap, etc.), replace as indicated 3. Wiring harness electrical check, check contacts (corrosion, insulation damage) 4. Check ignition coil for corrosion, cracks, interchange coils between cylinders as indicated, conduct road test with full acceleration and note if problem migrates, replace ignition coil as indicated.	MIL ON		
MED17.2	0x277A	10106	MIN	Combustion misfires, cylinder 4	P0304	Cylinder 4 Misfire Detected	Misfire	Cyl 4	580 < nmot < 6500 barometric pressure > 740 hPa after engine start	none	none	none	Engine temperature > -7.5 °C	none	none	none	Y	Ignition or injection miss, defective spark plug, defective wiring harness and plugs/contacts, induction mixture problem, defective ignition coil, defective injection valve, VANOS fault	1. If problem is present with mixture, VANOS, lambda control/oxygen sensor, high-pressure fuel system, boost control system, camshaft control, injection valves, then repair these faults first. 2. Spark plug visual inspection (cracked ceramic insulator, black electrodes, electrode gap, etc.), replace as indicated 3. Wiring harness electrical check, check contacts (corrosion, insulation damage) 4. Check ignition coil for corrosion, cracks, interchange coils between cylinders as indicated, conduct road test with full acceleration and note if problem migrates, replace ignition coil as indicated.	MIL ON		
MED17.2	0x277B	10107	PLAUS	Combustion misfires, cylinder 4	P0304	Cylinder 4 Misfire Detected	Misfire	Cyl 4	580 < nmot < 6500 barometric pressure > 740 hPa after engine start	none	none	none	Engine temperature > -7.5 °C	none	none	none	Y	Ignition or injection miss, defective spark plug, defective wiring harness and plugs/contacts, induction mixture problem, defective ignition coil, defective injection valve, VANOS fault	1. If problem is present with mixture, VANOS, lambda control/oxygen sensor, high-pressure fuel system, boost control system, camshaft control, injection valves, then repair these faults first. 2. Spark plug visual inspection (cracked ceramic insulator, black electrodes, electrode gap, etc.), replace as indicated 3. Wiring harness electrical check, check contacts (corrosion, insulation damage) 4. Check ignition coil for corrosion, cracks, interchange coils between cylinders as indicated, conduct road test with full acceleration and note if problem migrates, replace ignition coil as indicated.	MIL ON		

MED17.2	0x277D	10109	MAX	Combustion misfires, cylinder 2	P0302	Cylinder 2 Misfire Detected	Misfire	Cyl 2	580 < nmot < 6500 barometric pressure > 740 hPa after engine start	none	none	none	Engine temperature > -7.5 °C	none	none	none	Y	Ignition or injection miss, defective spark plug, defective wiring harness and plugs/contacts, induction mixture problem, defective ignition coil, defective injection valve, VANOS fault	1. If problem is present with mixture, VANOS, lambda control/oxygen sensor, high-pressure fuel system, boost control system, camshaft control, injection valves, then repair these faults first. 2. Spark plug visual inspection (cracked ceramic insulator, black electrodes, electrode gap, etc.), replace as indicated 3. Wiring harness electrical check, check contacts (corrosion, insulation damage) 4. Check ignition coil for corrosion, cracks, interchange coils between cylinders as indicated, conduct road test with full acceleration and note if problem migrates, replace ignition coil as indicated.	MIL ON		
MED17.2	0x277E	10110	MIN	Combustion misfires, cylinder 2	P0302	Cylinder 2 Misfire Detected	Misfire	Cyl 2	580 < nmot < 6500 barometric pressure > 740 hPa after engine start	none	none	none	Engine temperature > -7.5 °C	none	none	none	Y	Ignition or injection miss, defective spark plug, defective wiring harness and plugs/contacts, induction mixture problem, defective ignition coil, defective injection valve, VANOS fault	1. If problem is present with mixture, VANOS, lambda control/oxygen sensor, high-pressure fuel system, boost control system, camshaft control, injection valves, then repair these faults first. 2. Spark plug visual inspection (cracked ceramic insulator, black electrodes, electrode gap, etc.), replace as indicated 3. Wiring harness electrical check, check contacts (corrosion, insulation damage) 4. Check ignition coil for corrosion, cracks, interchange coils between cylinders as indicated, conduct road test with full acceleration and note if problem migrates, replace ignition coil as indicated.	MIL ON		
MED17.2	0x277F	10111	PLAUS	Combustion misfires, cylinder 2	P0302	Cylinder 2 Misfire Detected	Misfire	Cyl 2	580 < nmot < 6500 barometric pressure > 740 hPa after engine start	none	none	none	Engine temperature > -7.5 °C	none	none	none	Y	Ignition or injection miss, defective spark plug, defective wiring harness and plugs/contacts, induction mixture problem, defective ignition coil, defective injection valve, VANOS fault	1. If problem is present with mixture, VANOS, lambda control/oxygen sensor, high-pressure fuel system, boost control system, camshaft control, injection valves, then repair these faults first. 2. Spark plug visual inspection (cracked ceramic insulator, black electrodes, electrode gap, etc.), replace as indicated 3. Wiring harness electrical check, check contacts (corrosion, insulation damage) 4. Check ignition coil for corrosion, cracks, interchange coils between cylinders as indicated, conduct road test with full acceleration and note if problem migrates, replace ignition coil as indicated.	MIL ON		
MED17.2	0x2781	10113	MAX	Combustion misfires, several cylinders	P0300	Random/Multiple Cylinder Misfire Detected	Misfire	Multiple	580 < nmot < 6500 barometric pressure > 740 hPa after engine start	none	none	none	Engine temperature > -7.5 °C	none	none	none	Y	Multiple ignition or injection miss at one or several cylinders, defective spark plug, defective wiring harness and plugs/contacts, mixture formation problems, defective ignition coil, defective injection valve, VANOS fault	1. If problem is present with mixture, VANOS, lambda control/oxygen sensor, high-pressure fuel system, boost control system, camshaft control, injection valves, then repair these faults first. 2. Spark plug visual inspection (cracked ceramic insulator, black electrodes, electrode gap, etc.), replace as indicated 3. Wiring harness electrical check, check contacts (corrosion, insulation damage) 4. Check ignition coil for corrosion, cracks, interchange coils between cylinders as indicated, conduct road test with full acceleration and note if problem migrates, replace ignition coil as indicated.	MIL ON		
MED17.2	0x2782	10114	MIN	Combustion misfires, several cylinders	P0300	Random/Multiple Cylinder Misfire Detected	Misfire	Multiple	580 < nmot < 6500 barometric pressure > 740 hPa after engine start	none	none	none	Engine temperature > -7.5 °C	none	none	none	Y	Multiple ignition or injection miss at one or several cylinders, defective spark plug, defective wiring harness and plugs/contacts, mixture formation problems, defective ignition coil, defective injection valve, VANOS fault	1. If problem is present with mixture, VANOS, lambda control/oxygen sensor, high-pressure fuel system, boost control system, camshaft control, injection valves, then repair these faults first. 2. Spark plug visual inspection (cracked ceramic insulator, black electrodes, electrode gap, etc.), replace as indicated 3. Wiring harness electrical check, check contacts (corrosion, insulation damage) 4. Check ignition coil for corrosion, cracks, interchange coils between cylinders as indicated, conduct road test with full acceleration and note if problem migrates, replace ignition coil as indicated.	MIL ON		

MED17.2	0x2783	10115	PLAUS	Combustion misfires, several cylinders	P0300	Random/Multiple Cylinder Misfire Detected	Misfire	Multiple	580 < nmot < 6500 barometric pressure > 740 hPa after engine start	none	none	none	Engine temperature > -7.5 °C	none	none	none	Y	Multiple ignition or injection miss at one or several cylinders, defective spark plug, defective wiring harness and plugs/contacts, mixture formation problems, defective ignition coil, defective injection valve, VANOS fault	1. If problem is present with mixture, VANOS, lambda control/oxygen sensor, high-pressure fuel system, boost control system, camshaft control, injection valves, then repair these faults first. 2. Spark plug visual inspection (cracked ceramic insulator, black electrodes, electrode gap, etc.), replace as indicated 3. Wiring harness electrical check, check contacts (corrosion, insulation damage) 4. Check ignition coil for corrosion, cracks, interchange coils between cylinders as indicated, conduct road test with full acceleration and note if problem migrates, replace ignition coil as indicated.	MIL ON			
MED17.2	0x2785	10117	MAX	Additional mixture adaptation	P2187	System Too Lean at Idle (Bank 1)	Fuel System	Idle	Air mass < 18 kg/h 650 rpm < Engine speed < 900 rpm	none	none	none	Engine temperature > 60 °C	approximately 300 sec.	none	none	N	Fault registered owing to defective: oxygen sensor (before catalytic converter), HFM (USA only), injector nozzle, leak in induction tract (crankcase ventilation, oil cap, dipstick, EVAP line, brake booster), leak in exhaust system (from cylinder head exhaust side back to 2nd oxygen sensor), intake manifold pressure sensor, fuel primer pump, rail-pressure sensor, camshaft sensor, intake air temperature, low-quality fuel.	Because the action measures are quite extensive, they are only portrayed in the test module	MIL ON			
MED17.2	0x2786	10118	MIN	Additional mixture adaptation	P2188	System Too Rich at Idle (Bank 1)	Fuel System	Idle	Air mass < 18 kg/h 650 rpm < Engine speed < 900 rpm	none	none	none	Engine temperature > 60 °C	approximately 300 sec.	none	none	N	Fault registered owing to defective: oxygen sensor (before catalytic converter), HFM (USA only), injector nozzle, intake manifold pressure sensor, fuel primer pump, rail-pressure sensor, camshaft sensor, intake air temperature, poor-quality gasoline.	Because the action measures are quite extensive, they are only portrayed in the test module	MIL ON			
MED17.2	0x27AB	10155	PLAUS	Tank fill level	P116F	Fuel Level Too Low			none	none	Terminal 15	none	approximately 10 sec.	none	none	N	Tank empty	Fault is entered as supplementary information for possible fault diagnosis	Fuel level display				
MED17.2	0x27AC	10156	MAX	DMTL, major leak	P0442	Evaporative Emission System Leak Detected (small leak)	EVAP System	Leak Detection	< 2400 m above sea level; idle time > 30 s. vehicle speed above 40 km/h > 10 min engine start temp. 6.6 °C < as ambient temperature	none	none	none	2 °C < ambient temperature < 37 °C, 10 min, after TR 15 off		DMTL system test	none	N	Fuel filler cap not on correctly or leakage (>1 mm) in tank system	Check fuel cap Check tank/hoses for leaks Conduct DMTL system test	MIL on in 3rd DC.			
MED17.2	0x27B0	10160	MIN	Tank-venting system, function	P0441	Evaporative Emission System Incorrect Purge Flow	EVAP System	Flow Check	Engine running	none	none	none	Engine temperature > 70 °C	none	START_SYSTEMCHECK_TEV_F UNC	none	N	1. EVAP valve closed/obstructed 2. EVAP valve plugged or crimped	Visual inspection, whether EVAP line is compressed Disconnect both ends of EVAP line and blow through with air	MIL On			
MED17.2	0x27B1	10161	MAX	Tank-venting valve, activation	P0459	Evaporative Emission System Purge Control Valve Circuit High	EVAP System	Valve	none	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEUERN_TEV	none	N	Short circuit to positive Tank EVAP valve DME	Check wiring harness T_TEV Replace tank EVAP valve, Replace DME	MIL on	Effects limited to emissions		
MED17.2	0x27B2	10162	MIN	Tank-venting valve, activation	P0458	Evaporative Emission System Purge Control Valve Circuit Low	EVAP System	Valve	none	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEUERN_TEV	none	N	Short to ground Tank EVAP valve DME	Check wiring harness T_TEV Replace tank EVAP valve, Replace DME	MIL on	Effects limited to emissions		
MED17.2	0x27B4	10164	SIG	Tank-venting valve, activation	P0444	Evaporative Emission System Purge Control Valve Circuit Open	EVAP System	Valve	none	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEUERN_TEV	none	N	Open wire Tank EVAP valve DME	Check wiring harness T_TEV and 87 replace tank EVAP valve, replace DME	MIL on	Effects limited to emissions		
MED17.2	0x27C4	10180	MAX	Fuel level sensor	P2065	Fuel Level Sensor 'B' Circuit	Fuel Level Sensor	Electrical	none	25 sec.	Terminal 15	none	none	none	none	Y	Short to positive	Continue fault diagnosis in I-cluster and/or SPEG	none				
MED17.2	0x27C4	10180	MAX	Fuel level sensor	P2068	Fuel Level Sensor 'B' Circuit High	Fuel Level Sensor	Electrical	none	25 sec.	Terminal 15	none	none	none	none	Y	Short to positive	Continue fault diagnosis in I-cluster and/or SPEG	none				
MED17.2	0x27C5	10181	MIN	Fuel level sensor	P2067	Fuel Level Sensor 'B' Circuit Low	Fuel Level Sensor	Electrical	none	25 sec.	Terminal 15	none	none	none	none	Y	Short to ground	Continue fault diagnosis in I-cluster and/or SPEG	none				
MED17.2	0x27C6	10182	SIG	Fuel level sensor	P1433	Fuel Level 2 CAN Error	Fuel Level Sensor	Signal	none	25 sec.	Terminal 15	none	none	none	none	Y	Implausible fuel level value received	Continue fault diagnosis in I-cluster and/or SPEG	MIL ON				
MED17.2	0x27CE	10190	MAX	Fuel-supply system	P0148	Fuel Delivery Error	Fuel Supply	General										Extreme pressure peaks in high-pressure fuel system Collateral fault	Delete fault	none			
MED17.2	0x27CF	10191	MAX	Fuel-supply system	P1216	Fuel Pump Emergency Operation	Fuel Regulators / Valves / Sensors	Fuel Pump										Fault/failure in signal for intake air temperature, ambient air temperature, engine temperature or vehicle speed High-pressure pump	Because the action measures are quite extensive, they are only portrayed in the test module				
MED17.2	0x27D0	10192	MAX	Fuel-supply system	P213F	Fuel Pump System Fault - Forced Engine Shutdown	Fuel Regulators / Valves / Sensors	Fuel Pump															
MED17.2	0x2848	10312	MAX	Fuel-pressure sensor	P0190	Fuel Rail Pressure Sensor 'A' Circuit	Fuel Regulators / Valves / Sensors	Fuel Rail Pressure Sensor	none	0.5 sec.	Terminal 15	none	none	none	none	Analog; 0-5V	N	Short circuit to positive Open wire between DME and rail-pressure sensor Defective rail-pressure sensor Defective DME	1. Check wiring harness between DME and rail-pressure sensor 2. Replace rail-pressure sensor 3. Replace DME	CC status report	Switches to limp-home mode		

MED17.2	0x2849	10313	MIN	Fuel-pressure sensor	P0192	Fuel Rail Pressure Sensor 'A' Circuit Low	Fuel Regulators / Valves / Sensors	Fuel Rail Pressure Sensor	none	0.5 sec.	Terminal 15	none	none	none	none	Analog; 0-5V	N	Short to ground Defective rail-pressure sensor Defective DME	1. Check wiring harness between DME and rail-pressure sensor A_DSK 2. Replace rail-pressure sensor 3. Replace DME	CC status report	Swiches to limp-home mode
MED17.2	0x2877	10359	MAX	VANOS solenoid valve, inlet, activation	P2089	'A' Camshaft Position Actuator Control Circuit High (Bank 1)	Camshaft Position Actuator	Intake	Engine running	0.5 sec.	none	9 V < Battery voltage < 16 V	none	none	STEUErn_VANOS_EINLASS	U	N	Short circuit to positive VANOS intake-side solenoid valve DME	Check wiring harness between DME and VANOS intake solenoid valve: T_NWE1 Replace VANOS intake-side solenoid valve Replace DME	MIL on	
MED17.2	0x2878	10360	MIN	VANOS solenoid valve, inlet, activation	P2088	'A' Camshaft Position Actuator Control Circuit Low (Bank 1)	Camshaft Position Actuator	Intake	Engine running	0.5 sec.	none	9 V < Battery voltage < 16 V	none	none	STEUErn_VANOS_EINLASS	U	N	Short circuit to ground VANOS intake-side solenoid valve DME	Check wiring harness between DME and VANOS intake solenoid valve: T_NWE1 Replace VANOS intake-side solenoid valve Replace DME	MIL on	
MED17.2	0x287A	10362	SIG	VANOS solenoid valve, inlet, activation	P0010	'A' Camshaft Position Actuator Circuit/Open (Bank 1)	Camshaft Position Actuator	Intake	Engine running	0.5 sec.	none	9 V < Battery voltage < 16 V	none	none	STEUErn_VANOS_EINLASS	U	N	Open wire VANOS intake-side solenoid valve DME	Check wiring harness between DME and VANOS intake solenoid valve: T_NWE1 Replace VANOS intake-side solenoid valve Replace DME	MIL on	
MED17.2	0x287D	10365	PLAUS	VANOS, inlet: actuator movement	P000A	'A' Camshaft Position Slow Response (Bank 1)	Camshaft Position Timing	Intake	Engine rpm between 1000 and 6000	2 sec.	none	none	-48 °C < Engine temperature < 143 °C -48 °C < Engine oil temperature < 180 °C	none	STEUErn_VANOS_EINLASS	PWM	Y	VANOS valve defective / dirty Implausible camshaft sensor signal	1. If camshaft sensor fault is present, repair this first 2. Check the connection (contact resistance, corrosion) between camshaft actuator and DME (CME-101). Determine whether battery voltage is present at actuator and use tester for system test 3. Replace camshaft actuator 4. Check camshaft mechanism for stiction	MIL on	
MED17.2	0x287E	10366	SIG	VANOS, inlet: actuator movement	P0012	'A' Camshaft Position - Timing Over-Retarded (Bank 1)	Camshaft Position Timing	Intake	Engine rpm between 1000 and 6000	2 sec.	none	none	-48 °C < Engine temperature < 143 °C -48 °C < Engine oil temperature < 180 °C	none	STEUErn_VANOS_EINLASS	PWM	Y	Electrical defect in VANOS valve	1. If a camshaft sensor fault is present repair this first 2. Check camshaft system sprocket alignment (jumped chain) 3. Check connection (contact resistance, corrosion) between camshaft actuator and DME (CME-101). Determine whether battery voltage is present at actuator and use tester to conduct system test 4. Replace the camshaft actuator 5. Check camshaft mechanism for stiction	MIL on	
MED17.2	0x287F	10367	MAX	High-pressure system	P3007	Fuel Rail Pressure Pressure-Rate-Controlled, Maximum Pressure Exceeded	Fuel Regulators / Valves / Sensors	Fuel Rail Pressure	Engine running	none	none	none	none	none	STEUErn_MSV	rail-pressure sensor -> Analog; 0.5 - 4.5V	N	Fault/failure in signal for intake air temperature, ambient air temperature, engine temperature or vehicle speed High-pressure pump	Because the action measures are quite extensive, they are only portrayed in the test module	CC message / MIL	
MED17.2	0x2880	10368	MIN	High-pressure system	P3091	Fuel Rail Pressure Pressure-Rate-Controlled, Minimum Pressure Fallen Below	Fuel Regulators / Valves / Sensors	Fuel Rail Pressure	Engine running	none	none	none	none	none	STEUErn_MSV	rail-pressure sensor -> Analog; 0.5 - 4.5V	N	Fuel tank empty Wiring harness for rail-pressure sensor defective Defect/failure in signal for intake-air temperature, ambient air temperature, engine temperature or vehicle speed High-pressure pump	Because the action measures are quite extensive, they are only portrayed in the test module	CC message / MIL	
MED17.2	0x2881	10369	MAX	Wastegate valve, activation	P0246	Turbocharger/Supercharger Wastegate Solenoid 'A' High			Engine running	0.5 sec.	none	9 V < Battery voltage < 16 V	none	none	STEUErn_WGV	U	N	Short circuit to positive Wastegate valve DME	Check wiring harness between DME and wastegate valve: T_WG, replace wastegate valve, replace DME	CC status report	
MED17.2	0x2882	10370	MIN	Wastegate valve, activation	P0245	Turbocharger/Supercharger Wastegate Solenoid 'A' Low			Engine running	0.5 sec.	none	9 V < Battery voltage < 16 V	none	none	STEUErn_WGV	U	N	Short to ground Wastegate valve DME	Check wiring harness between DME and wastegate valve, replace wastegate valve, replace DME	CC status report	
MED17.2	0x2883	10371	SIG	Wastegate valve, activation	P0243	Turbocharger/Supercharger Wastegate Solenoid 'A'			Engine running	0.5 sec.	none	9 V < Battery voltage < 16 V	none	none	STEUErn_WGV	U	N	Open wire from wastegate valve Wastegate valve DME	Check wiring harness between DME and wastegate valve, replace wastegate valve, replace DME	CC status report	

MED17.2	0x2884	10372	MAX	Charge-air pressure control deviation, plausibility	P1296	Boost Pressure Control Boost Pressure Too High			Running engine in charge-air pressure range (high part load/full load)	none	none	none	none	none	none	STEUERN_WGV	none	Y	Electropneumatic pressure converter sticking or seized. Wastegate fails to open or close. DME pulse-duty factor output is incorrect. Throttle valve defect (remains closed). Recirculated-air valve fails to open.	1. Check operation of pulse valve (activate with tester) 2. Inspect operation/motion of wastegate (use manual vacuum to operate WG directly). 3. Check whether vacuum is controlled during vehicle operation (install vacuum converter in vacuum line directly before wastegate). If it remains at, for instance, 700 mbar it is possible that the DME pulse-duty factor output was incorrect) 4. Check DME for EGAS (accelerator pedal module) fault. 5. Check DME for dump valve fault. 6. Replace DME	CC status report		
MED17.2	0x2885	10373	MIN	Charge-air pressure control deviation, plausibility	P1297	Boost Pressure Control Boost Pressure Too Low			Running engine in charge-air pressure range (high part load/full load)	none	none	none	none	none	none	STEUERN_WGV	none	Y	Leak in vacuum system (wastegate control). Leak/obstruction in intake system pressure side (between turbocharger and throttle valve). Open line (electropneumatic vacuum converter). Vacuum pump not OK Dump valve remains open. Wastegate fails to close or remains open. Turbocharger sticks/rubs. (How to check? Rotate turbine, noise? Yes, and inspect to determine if turbocharger shaft is loose) Incorrect pulse-duty factor output from DME. (How to check? Tester job?) (Determine whether vacuum is regulated during vehicle operation (install vacuum converter in vacuum line directly in front of wastegate). If it remains, e.g., at 0 mbar then an incorrect pulse-duty factor may have been generated)	1. Check vacuum system for vacuum leaks. 2. Check intake system pressurized sector (between turbocharger and throttle valve). 3. Check wiring/plug on electropneumatic vacuum converter (open wire / unplugged). 4. Check operation of vacuum pump (measure vacuum generated). 5. Check dump valve. 6. Check operation / motion of wastegate (move WG directly using manual vacuum pump) 7. Determine whether the turbo shaft is loose and whether the turbocharger makes noise when turned by hand. Otherwise replace turbocharger. 8. Replace DME	CC status report		
MED17.2	0x289D	10397	MAX	Boost-pressure sensor, electric	P0238	Turbocharger/Supercharger Boost Sensor 'A' Circuit High (Bank 1)	Supercharger Boost Sensor	Electrical	none	0.2 sec.	Terminal 15	none	none	none	none	Analogue; 0-5V	N	Short to positive or open wire Charge-air pressure sensor DME	1. Check wiring harness between charge-air pressure sensor and DME R_DSB, A_DSB 2. Replace charge-air pressure sensor B6123 3. Replace DME	CC status report	none		
MED17.2	0x289E	10398	MIN	Boost-pressure sensor, electric	P0237	Turbocharger/Supercharger Boost Sensor 'A' Circuit Low	Supercharger Boost Sensor	Electrical	none	0.2 sec.	Terminal 15	none	none	none	none	Analogue; 0-5V	N	Short to ground or open wire Charge-air pressure sensor DME	1. Check wiring harness between charge-air pressure sensor and DME U_DSB, A_DSB 2. Replace charge-air pressure sensor B6123 3. Replace DME	CC status report	none		
MED17.2	0x28A2	10402	MAX	Boost-pressure sensor, plausibility	P12A0	Turbocharger/Supercharger Boost Pressure, Pressure Front Of Throttle Valve Too High	Supercharger Boost Pressure	Pressure Front of Throttle	none	2 sec.	Terminal 15	none	none	none	none	none	N	Defective charge-air pressure system Corrosion or moisture in charge-air pressure sensor plug Defective charge-air pressure sensor	1. If a malfunction in the charge-air pressure control is present, repair this first a. Check operation of wastegate frequency valve (EPDW wastegate) b. Check operation of wastegate c. Determine whether an accelerator pedal module fault is present d. Determine whether a dump valve fault is present 2. Check wiring harness for intake air temperature sensor 3. Check wiring harness between DME and charge-air pressure sensor 4. Replace charge-air pressure sensor	MIL ON			
MED17.2	0x28A3	10403	MIN	Boost-pressure sensor, plausibility	P12A1	Turbocharger/Supercharger Boost Pressure, Pressure Front Of Throttle Valve Too Low	Supercharger Boost Pressure	Pressure Front of Throttle	none	2 sec.	Terminal 15	none	none	none	none	none	N	Collateral faults stemming from defective charge-air pressure system Collateral fault from defective intake air temperature sensor Defective wiring harness Defective intake temperature-charge-air pressure sensor	Check wiring harness between DME and intake temperature-charge-air pressure sensor Replace intake temperature-charge-air pressure sensor	MIL ON			

MED17.2	0x28A4	10404	PLAUS	Boost-pressure sensor, plausibility	P12A2	Turbocharger/Supercharger Boost Pressure, Maximum Pressure Front Of Throttle Valve Implausible	Supercharger Boost Pressure	Pressure Front of Throttle	Engine running	2 sec.	none	none	none	none	none	none	Collateral fault caused by charge-air pressure system Collateral fault stemming from defective barometric pressure sensor Collateral fault from defective throttle valve Defect in wiring harness Defective intake temperature-charge-air pressure sensor.	1. If a malfunction in the charge-air pressure control, barometric pressure sensor, or throttle valve is present, repair these first a. Check operation of wastegate frequency valve (EPDW wastegate) b. Check operation of wastegate c. Determine whether an accelerator pedal module fault is present 2. Check wiring harness between DME and charge-air pressure sensor 3. Replace charge-air pressure sensor	MIL ON				
MED17.2	0x28A5	10405	SIG	Boost-pressure sensor, plausibility	P12A3	Turbocharger/Supercharger Boost Pressure, Minimum Pressure Front Of Throttle Valve Implausible	Supercharger Boost Pressure	Pressure Front of Throttle	Engine running	2 sec.	none	none	none	none	none	none	Collateral fault stemming from defective barometric pressure sensor Defective wiring harness Defective intake temperature-charge-air pressure sensor	If a fault related to the barometric pressure sensor is present, repair this first. Check wiring harness between DME and intake temperature-charge-air pressure sensor Replace intake temperature-charge-air pressure sensor	MIL ON				
MED17.2	0x28AA	10410	PLAUS	Bypass blow-off valve, plausibility	P0039	Turbocharger/Supercharger Bypass Valve Control Circuit Range/Performance	Supercharger Bypass Valve	Plausibility	Engine running Dump valve active	none	none	none	none	none	STEUERN_ULV	none	Y	Open wire Dump valve hanging/seized DME	1. Activate the dump valve and determine whether it moves 2. Check wiring harness between dump valve and DME 3. Replace dump valve. 4. Replace DME	CC status report			
MED17.2	0x28AC	10412	MAX	Fuel-quantity control valve, activation	P0004	Fuel Volume Regulator Control Circuit High	Fuel Regulators / Valves / Sensors	Fuel Volume Regulator	Engine running	0.5 sec.	none	9 V < Battery voltage < 16 V	none	none	STEUERN_MSV	none	N	Short circuit to positive Flow-control valve DME	Check wiring between DME and flow-control valve: T_MSV, replace high-pressure pump, replace DME	CC status report			
MED17.2	0x28AD	10413	MIN	Fuel-quantity control valve, activation	P0003	Fuel Volume Regulator Control Circuit Low	Fuel Regulators / Valves / Sensors	Fuel Volume Regulator	Engine running	0.5 sec.	none	9 V < Battery voltage < 16 V	none	none	STEUERN_MSV	none	N	Short to ground Flow-control valve DME	Check wiring between DME and flow-control valve: T_MSV, replace high-pressure pump, replace DME	CC status report			
MED17.2	0x28AE	10414	SIG	Fuel-quantity control valve, activation	P0001	Fuel Volume Regulator Control Circuit/Open	Fuel Regulators / Valves / Sensors	Fuel Volume Regulator	Engine running	0.5 sec.	none	9 V < Battery voltage < 16 V	none	none	STEUERN_MSV	none	N	Open wire Flow-control valve DME	Check wiring between DME and flow-control valve: T_MSV, replace high-pressure pump, replace DME	CC status report			
MED17.2	0x28AF	10415	MAX	Bypass blow-off valve, activation	P0035	Turbocharger/Supercharger Bypass Valve Control Circuit High	Supercharger Bypass Valve	Electrical	Engine running	0.5 sec.	none	9 V < Battery voltage < 16 V	none	none	STEUERN_ULV	U	N	Short circuit to positive Dump valve DME	Check wiring harness between DME and dump valve: S_DUMP Replace dump valve, replace DME	CC status report			
MED17.2	0x28B0	10416	MIN	Bypass blow-off valve, activation	P0034	Turbocharger/Supercharger Bypass Valve Control Circuit Low	Supercharger Bypass Valve	Electrical	Engine running	0.5 sec.	none	9 V < Battery voltage < 16 V	none	none	STEUERN_ULV	U	N	Short to ground Dump valve DME	Check wiring harness between DME and dump valve: S_DUMP Replace dump valve, replace DME	CC status report			
MED17.2	0x28B1	10417	SIG	Bypass blow-off valve, activation	P0033	Turbocharger/Supercharger Bypass Valve Control Circuit	Supercharger Bypass Valve	Electrical	Engine running	0.5 sec.	none	9 V < Battery voltage < 16 V	none	none	STEUERN_ULV	U	N	Open line from dump valve Dump valve DME	Check wiring harness between DME and dump valve: S_DUMP Replace dump valve, replace DME	CC status report			
MED17.2	0x28BE	10430	MAX	Fuel pressure, plausibility	P0088	Fuel Rail/System Pressure - Too High	Fuel Regulators / Valves / Sensors	Fuel Rail Pressure										Collateral fault caused by rail-pressure sensor fault Collateral fault with 0x2880 Rail-pressure sensor Wiring harness High-pressure pump	Because the action measures are quite extensive, they are only portrayed in the test module				
MED17.2	0x28BF	10431	MIN	Fuel pressure, plausibility	P0087	Fuel Rail/System Pressure - Too Low	Fuel Regulators / Valves / Sensors	Fuel Rail Pressure															
MED17.2	0x2968	10600	SIG	Inlet camshaft sensor	P0341	Camshaft Position Sensor 'A' Circuit Range/Performance (Bank 1 or Single Sensor)	Camshaft Position Sensor	Intake Electrical	Engine running	none	Terminal 15	none	none	none	none	none	Y	Camshaft signal not compatible with defined signal Defective camshaft sensor Defect in wiring harness Camshaft sensor and camshaft retractor not correctly aligned Defective camshaft retractor Incorrect timing, correlation between camshaft and crankshaft	1. Check signal wire for short to positive, ground, open wire. (ignition off) 2. Check sensor voltage supply (4.5 to 5.5 V) (ignition on) 3. Check plug-in contacts (intermittent open) 4. Check sensor installation (gap to retractor is too large/small, S	MIL on		Long starting periods, loss of power	

MED17.2	0x2969	10601	SIG	Inlet camshaft sensor	P0340	Camshaft Position Sensor 'A' Circuit (Bank 1 or Single Sensor)	Camshaft Position Sensor	Intake Electrical	Engine running	none	Terminal 15	none	none	none	none	none	Y	No signal from camshaft sensor Defective camshaft sensor Defective wiring harness Camshaft sensor and reductor not aligned	1. Check signal wire for short to positive, ground, open wire. (ignition off) 2. Check sensor voltage supply (4.5 to 5.5 V) (ignition on) 3. Check plug-in contacts (intermittent open) 4. Check sensor installation (gap to reductor is too large/small, S	MIL on	Long starting periods, loss of power
MED17.2	0x296A	10602	MAX	Inlet camshaft sensor	P1338	Camshaft Position Sensor 'A' Faulty Phase Position (Bank 1)	Camshaft Position Sensor	Intake Phase										Signal present, but implausible: No tooth gap detected in (60-2) reductor, or more than one gap, tooth intervals too short/long Camshaft signal does not agree with defined signal Defective camshaft sensor Defect in wiring harness Installed alignment of camshaft sensor relative to	1. Check signal wire for short to positive, ground, open wire. (ignition off) 2. Check sensor voltage supply (4.5 to 5.5 V) (ignition on) 3. Check plug-in contacts (intermittent open) 4. Check sensor installation (gap to reductor is too large/small)	MIL on	
MED17.2	0x296E	10606	SIG	Crankshaft sensor	P0336	Crankshaft Position Sensor 'A' Circuit Range/Performance	Crankshaft Position Sensor	Plausibility	Engine running	none	Terminal 15	none	none	none	none	none	Y	No crankshaft signal although camshaft signal is present Defective camshaft sensor Defective wiring harness Crankshaft sensor and reductor installed out of alignment	1. Check signal wire for short to positive, ground, open wire. (ignition off) 2. Check sensor voltage supply (4.5 to 5.5 V) (ignition on) 3. Check plug-in contacts (intermittent open) 4. Check sensor installation (gap to reductor is too large/small)	MIL on	Engine stalls, breakdown vehicle
MED17.2	0x296F	10607	SIG	Crankshaft sensor	P0335	Crankshaft Position Sensor 'A' Circuit	Crankshaft Position Sensor	Electrical	Engine running	none	Terminal 15	none	none	none	none	none	Y	Induction vacuum leak (between throttle valve and engine) Collateral fault	1. Check signal wire for short to positive, ground, open wire. (ignition off) 2. Check sensor voltage supply (4.5 to 5.5 V) (ignition on) 3. Check plug-in contacts (intermittent open) 4. Check sensor installation (gap to reductor is too large/small, S	MIL on	Engine stalls, breakdown vehicle
MED17.2	0x2970	10608	MAX	Idle-speed control in homogeneous mode	P0507	Idle Air Control System RPM Higher Than Expected	Idle Speed Control	RPM	Engine running	5 sec.	none	none	Engine temperature >-8 °C	3 seconds after start	none	none	N	If throttle valve faults are present, repair these first Check induction tract between throttle valve and engine for leaks		MIL on	
MED17.2	0x2971	10609	MIN	Idle-speed control in homogeneous mode	P0506	Idle Air Control System RPM Lower Than Expected	Idle Speed Control	RPM	Engine running	5 sec.	none	none	Engine temperature >-8 °C	3 seconds after start	none	none	N	If a throttle valve fault is present, repair this first. Inspect for contamination in the area adjacent to the throttle valve Check engine and ancillary equipment for mechanical defects		MIL on	
MED17.2	0x2972	10610	MAX	Idle-speed control, catalytic-converter heating	P1562	Cold Start Idle Air Control System RPM Higher Than Expected (Bank 1)	Idle Speed Control	Cold Start RPM	Engine running	5 sec.	none	none	40>Engine temperature >-8°C	none	none	none	N	Induction vacuum leak (between throttle valve and engine) Collateral fault	If throttle valve faults are present, repair these first Check induction tract between throttle valve and engine for leaks	MIL on	
MED17.2	0x2973	10611	MIN	Idle-speed control, catalytic-converter heating	P1561	Cold Start Idle Air Control System RPM Lower Than Expected (Bank 1)	Idle Speed Control	Cold Start RPM	Engine running	5 sec.	none	none	40>Engine temperature >-8°C	none	none	none	N	Increased power draw at idle stemming from mechanical defect in engine or in ancillary equipment Extreme contamination in induction tract between throttle valve and engine	If a throttle valve fault is present, repair this first. Inspect for contamination in the area adjacent to the throttle valve Check engine and ancillary equipment for mechanical defects	MIL on	
MED17.2	0x297C	10620	MAX	Inlet camshaft, mechanism																	
MED17.2	0x2982	10626	MAX	Inlet camshaft sensor	P0340	Camshaft Position Sensor 'A' Circuit (Bank 1 or Single Sensor)	Camshaft Position Sensor	Intake Electrical	Engine running	none	Terminal 15	none	none	none	none	none	Y	No signal from camshaft sensor Defective camshaft sensor Defect in wiring harness, short circuit to positive or open wire Camshaft sensor and reductor installed out of alignment	1. Check signal wire for short to positive/open wire. (ignition off) 2. Check sensor voltage supply (4.5 to 5.5 V) (ignition on) 3. Check plug-in contacts (intermittent open) 4. Check sensor installation (gap to reductor is too large/small, specification	MIL on	Long starting periods, loss of power
MED17.2	0x2983	10627	MIN	Inlet camshaft sensor	P0342	Camshaft Position Sensor 'A' Circuit Low (Bank 1 or Single Sensor)	Camshaft Position Sensor	Intake Electrical	Engine running	none	Terminal 15	none	none	none	none	none	Y	No signal from camshaft sensor Defective camshaft sensor Defect in wiring harness, short circuit to ground Camshaft sensor and reductor installed out of alignment	1. Check signal wire for short to ground. (ignition off) 2. Check sensor voltage supply (4.5 to 5.5 V) (ignition on) 3. Check plug-in contacts (intermittent open) 4. Check sensor installation (gap to reductor is too large/small, specification 0.1 to 2.0 mm	MIL on	Long starting periods, loss of power
MED17.2	0x2A35	10805	MIN	Oxygen sensor before catalytic converter, dynamics	P0133	O2 Sensor Circuit Slow Response (Bank 1 Sensor 1)	Oxygen Sensor, Front	Slow Response	Engine speed between 1400 and 3240 rpm	none	none	none	none	none	none	none	Y	Aged oxygen sensor, oxygen sensor poisoned	Replace behind catalytic converter oxygen sensor	MIL ON	
MED17.2	0x2A50	10832	MAX	Oxygen sensor heating behind catalytic converter, activation	P0038	HO2S Heater Control Circuit High (Bank 1 Sensor 2)	Oxygen Sensor, Rear	Heater Electrical	Engine running	0.5 sec.	none	none	none	10 sec.	STEURN_LSHHK	none	N	Short to positive	Check wiring harness Replace oxygen sensor Replace DME	MIL ON	
MED17.2	0x2A51	10833	MIN	Oxygen sensor heating behind catalytic converter, activation	P0037	HO2S Heater Control Circuit Low (Bank 1 Sensor 2)	Oxygen Sensor, Rear	Heater Electrical	Engine running	0.5 sec.	none	none	none	10 sec.	STEURN_LSHHK	none	N	Short to ground	Check wiring harness Replace oxygen sensor Replace DME	MIL ON	
MED17.2	0x2A53	10835	SIG	Oxygen sensor heating behind catalytic converter, activation	P0036	HO2S Heater Control Circuit (Bank 1 Sensor 2)	Oxygen Sensor, Rear	Heater Electrical	Engine running	0.5 sec.	none	none	none	10 sec.	STEURN_LSHHK	none	N	Open circuit	Check wiring harness Replace oxygen sensor Replace DME	MIL ON	

MED17.2	0x2A56	10838	PLAUS	Oxygen-sensor heater behind catalytic converter, function	P0141	O2 Sensor Heater Circuit (Bank 1 Sensor 2)	Oxygen Sensor, Rear	Heater	Engine turning over	none	none	none	Engine start temperature > -9.8 degrees	Time parked > 300 sec. between engine starts	STEUERN_LSHHK	none	Y	High oxygen sensor heater resistance or corroded contacts on plug-in connections	Check oxygen sensor heater: Contact resistance at plugs (CMI-218 CMI-217/229) and in wire too high (DME - wiring harness - sensor), replace oxygen sensor behind catalytic converter as indicated	MIL ON		
MED17.2	0x2A60	10848	MAX	Oxygen-sensor heater before catalytic converter, activation	P0032	HO2S Heater Control Circuit High (Bank 1 Sensor 1)	Oxygen Sensor, Front	Heater Electrical	Engine running	0.5 sec.	none	none	none	10 sec.	none	none	N	Short circuit to positive Oxygen sensor before catalytic converter DME	Check wiring harness between oxygen sensor and DME Replace oxygen sensor Replace DME	MIL ON		
MED17.2	0x2A61	10849	MIN	Oxygen-sensor heater before catalytic converter, activation	P0031	HO2S Heater Control Circuit Low (Bank 1 Sensor 1)	Oxygen Sensor, Front	Heater Electrical	Engine running	0.5 sec.	none	none	none	10 sec.	none	none	N	Short to ground Oxygen sensor before catalytic converter DME	Check wiring harness between oxygen sensor and DME Replace oxygen sensor Replace DME	MIL ON		
MED17.2	0x2A63	10851	SIG	Oxygen-sensor heater before catalytic converter, activation	P0030	HO2S Heater Control Circuit (Bank 1 Sensor 1)	Oxygen Sensor, Front	Heater Electrical	Engine running	0.5 sec.	none	none	none	10 sec.	none	none	N	Open wire Oxygen sensor before catalytic converter DME	Check wiring harness between oxygen sensor and DME Replace oxygen sensor Replace DME	MIL ON		
MED17.2	0x2A64	10852	MAX	Oxygen-sensor heater before catalytic converter, function	P3026	O2 Sensor Operating Temperature not Reached (Bank 1 Sensor 1)	Oxygen Sensor, Front	Heater	Engine turning over	none	none	none	Engine start temperature > -9.8 degrees	Time parked > 300 sec. between engine starts	STEUERN_LSHVK	none	Y	High oxygen sensor heater resistance or corroded contacts on plug-in connections	Check oxygen sensor heater: Contact resistance at plugs (CMI-230 CMI-217/229) and in wire too high (DME - wiring harness - sensor), replace oxygen sensor before cat. as indicated	MIL ON		
MED17.2	0x2A66	10854	PLAUS	Oxygen-sensor heater before catalytic converter, function	P0135	O2 Sensor Heater Circuit (Bank 1 Sensor 1)	Oxygen Sensor, Front	Heater	Engine turning over	none	none	none	Engine start temperature > -9.8 degrees	Time parked > 300 sec. between engine starts	STEUERN_LSHVK	none	Y	Increased resistance in sensor heater or corroded contacts in plug connections Fault entered if correct ceramic temperature is not reached within a specified period	Check oxygen sensor heater: Contact resistance at plugs (CMI-230 CMI-217/229) and in wire too high (DME - wiring harness - sensor), replace oxygen sensor before cat. as indicated	MIL ON		
MED17.2	0x2A67	10855	SIG	Oxygen-sensor heater before catalytic converter, function	P3016	O2 Sensor Calibration Resistance at WRAF-IC Plausibility (Bank 1 Sensor 1)	Oxygen Sensor, Front	ECM Self-Test	Engine running	none	none	none	Engine start temperature > -9.8 °C	Time parked > 300 sec.	none	none	Y	Calibration resistance in control module outside tolerance	Replace DME	MIL ON		
MED17.2	0x2A6C	10860	MAX	DME, internal fault	P3012	O2 Sensor Signal Circuit Adaptation Value Too High (Bank 1 Sensor 1)	Oxygen Sensor, Front	ECM Self-Test	Engine running	10 sec.	none	none	none	none	none	none	N	Defective DME	Replace DME	MIL ON		
MED17.2	0x2A6D	10861	MIN	DME, internal fault	P3014	O2 Sensor WRAF-IC Supply Voltage Too Low (Bank 1 Sensor 1)	Oxygen Sensor, Front	ECM Self-Test	Engine running	10 sec.	none	none	none	none	none	none	N	Defective DME	Replace DME	MIL ON		
MED17.2	0x2A6E	10862	PLAUS	DME, internal fault	P3024	O2 Sensor Initialization Error WRAF-IC (Bank 1 Sensor 1)	Oxygen Sensor, Front	ECM Self-Test	Engine running	none	none	none	none	none	none	none	N	Defective DME	Replace DME	MIL ON		
MED17.2	0x2A6F	10863	SIG	DME, internal fault	P3022	O2 Sensor Disturbed SPI Communication to WRAF-IC (Bank 1 Sensor 1)	Oxygen Sensor, Front	ECM Self-Test	Engine running	none	none	none	none	none	none	none	N	Defective DME	Replace DME	MIL ON		
MED17.2	0x2A74	10868	MAX	Oxygen sensor behind catalytic converter, ageing	P2270	O2 Sensor Signal Biased/Stuck Lean (Bank 1 Sensor 2)	Oxygen Sensor, Rear	Signal Check	Engine turning over	0.1 sec.	none	none	none	none	none	none	Y	oxygen sensor output voltage sticks above specified value	Replace oxygen sensor behind catalytic converter	MIL ON		
MED17.2	0x2A75	10869	MIN	Oxygen sensor behind catalytic converter, ageing	P2271	O2 Sensor Signal Biased/Stuck Rich (Bank 1 Sensor 2)	Oxygen Sensor, Rear	Signal Check	Engine turning over	0.1 sec.	none	none	none	none	none	none	Y	oxygen sensor output voltage sticks below specified value	Replace oxygen sensor behind catalytic converter	MIL ON		
MED17.2	0x2A77	10871	SIG	Oxygen sensor behind catalytic converter, ageing	P0139	O2 Sensor Circuit Slow Response (Bank 1 Sensor 2)	Oxygen Sensor, Rear	Slow Response	Engine on overrun	none	none	none	none	none	none	none	Y	oxygen sensor voltage does not fall below MIN threshold on trailing throttle (overrun fuel-supply cut-off)	Replace oxygen sensor behind catalytic converter	MIL ON		
MED17.2	0x2A7C	10876	MAX	Oxygen sensor behind catalytic converter, electric	P0138	O2 Sensor Circuit High Voltage (Bank 1 Sensor 2)	Oxygen Sensor, Rear	Electrical	Engine running	none	none	Battery voltage > 11 V	none	90 sec. after engine start	none	Analog; 0.06-1.080V	N	Short circuit to battery voltage Oxygen sensor	Check wiring harness Replace oxygen sensor	MIL on	none	none
MED17.2	0x2A7D	10877	MIN	Oxygen sensor behind catalytic converter, electric	P0137	O2 Sensor Circuit Low Voltage (Bank 1 Sensor 2)	Oxygen Sensor, Rear	Electrical	Engine running	none	none	Battery voltage > 11 V	none	90 sec. after engine start	none	Analog; 0.06-1.080V	N	Short circuit to battery voltage Oxygen sensor	Check wiring harness Replace oxygen sensor	MIL on	none	none
MED17.2	0x2A7E	10878	PLAUS	Oxygen sensor behind catalytic converter, electric	P0140	O2 Sensor Circuit No Activity Detected (Bank 1 Sensor 2)	Oxygen Sensor, Rear	Electrical	Engine running	none	none	none	none	90 sec. after engine start	START_SYSTEMCHECK_LSHK	Analog; 0.06 - 1.080V	N	Wiring harness Oxygen sensor	Check wiring harness Replace oxygen sensor	MIL ON		
MED17.2	0x2A7F	10879	SIG	Oxygen sensor behind catalytic converter, electric	P0136	O2 Sensor Circuit (Bank 1 Sensor 2)	Oxygen Sensor, Rear	Electrical	Engine running	none	none	none	none	90 sec. after engine start	START_SYSTEMCHECK_LSHK	Analog; 0.06 - 1.080V	N	Open wire Oxygen sensor	Check wiring harness Replace oxygen sensor	MIL ON		
MED17.2	0x2A8B	10891	SIG	Oxygen sensor before catalytic converter, calibration cable	P2626	O2 Sensor Pumping Current Trim Circuit/Open (Bank 1 Sensor 1)	Oxygen Sensor, Front	Pumping Current	Engine running	1 sec.	none	none	none	none	START_SYSTEMCHECK_LSVK	none	Y	Open wire Oxygen sensor before catalytic converter	Check wiring harness between DME and oxygen sensor in front of catalyst; A_LSV1 Replace oxygen sensor in front of catalyst	MIL ON		
MED17.2	0x2A90	10896	MAX	Oxygen sensor before catalytic converter, pump current cable	P3018	O2 Sensor Lambda Controller Value Above Threshold due to Open Pumping Current Circuit (Bank 1 Sensor 1)	Oxygen Sensor, Front	Positive Current	Engine running	1.5 sec.	none	none	none	none	START_SYSTEMCHECK_LSVK	none	Y	Open wire Oxygen sensor before catalytic converter	Check wiring harness between DME and oxygen sensor in front of catalyst; L_LSV1 Replace oxygen sensor in front of catalyst	MIL ON		
MED17.2	0x2A92	10898	PLAUS	Oxygen sensor before catalytic converter, pump current cable	P3020	O2 Sensor Signal Voltage Too Low during Coast Down Fuel Cut-Off due to Open Pumping Current Circuit (Bank 1 Sensor 1)	Oxygen Sensor, Front	Positive Current	Engine on overrun	5 sec.	none	none	none	none	none	none	Y	Wiring harness (contact resistance) Pre-catalyst oxygen sensor	Check wiring harness between DME and pre-catalyst oxygen sensor; L_LSV1 and M_LSV1 Replace pre-catalyst oxygen sensor	MIL ON		
MED17.2	0x2A93	10899	SIG	Oxygen sensor before catalytic converter, pump current cable	P2237	O2 Sensor Positive Current Control Circuit/Open (Bank 1 Sensor 1)	Oxygen Sensor, Front	Positive Current	Engine running	none	none	none	none	none	START_SYSTEMCHECK_LSVK	none	Y	Wiring harness (contact resistance) Pre-catalyst oxygen sensor	Check wiring harness between DME and pre-catalyst oxygen sensor; L_LSV1 and M_LSV1 Replace pre-catalyst oxygen sensor	MIL ON		
MED17.2	0x2A98	10904	MAX	Oxygen sensor before catalytic converter, sensor wires	P0132	O2 Sensor Circuit High Voltage (Bank 1 Sensor 1)	Oxygen Sensor, Front	Electrical	Engine running	1 sec.	none	none	none	none	START_SYSTEMCHECK_LSVK	none	N	Short circuit to positive Oxygen sensor in front of catalyst	Check wiring harness Replace oxygen sensor in front of catalyst	MIL ON		
MED17.2	0x2A99	10905	MIN	Oxygen sensor before catalytic converter, sensor wires	P0131	O2 Sensor Circuit Low Voltage (Bank 1 Sensor 1)	Oxygen Sensor, Front	Electrical	Engine running	1 sec.	none	none	none	none	START_SYSTEMCHECK_LSVK	none	N	Short to ground Oxygen sensor in front of catalyst	Check wiring harness Replace oxygen sensor in front of catalyst	MIL ON		

MED17.2	0x2AA3	10915	SIG	Oxygen sensor before catalytic converter, Nernst cable	P2243	O2 Sensor Reference Voltage Circuit/Open (Bank 1 Sensor 1)	Oxygen Sensor, Front	Reference Voltage	Engine running	none	none	none	none	none	START_SYSTEMCHECK_LSVK	none	N	Open wire Oxygen sensor before catalytic converter	Check wiring harness between DME and oxygen sensor in front of catalyst; L_LSVR1 Replace oxygen sensor in front of catalyst	MIL ON		
MED17.2	0x2AAB	10923	SIG	Oxygen sensor before catalytic converter, virtual ground	P2251	O2 Sensor Negative Current Control Circuit/Open (Bank 1 Sensor 1)	Oxygen Sensor, Front	Negative Current	Engine running	none	none	none	none	none	START_SYSTEMCHECK_LSVK	none	N	Open wire Oxygen sensor before catalytic converter	Check wiring harness between DME and oxygen sensor in front of catalyst; M_LSV1 Replace oxygen sensor in front of catalyst	MIL ON		
MED17.2	0x2AB4	10932	MAX	Oxygen sensor before catalytic converter, electric	P0130	O2 Sensor Circuit (Bank 1 Sensor 1)	Oxygen Sensor, Front	Electrical	Engine running	none	none	none	none	none	none	none	N	Sum fault	Repair other oxygen sensor fault		Fault is always entered together with a wiring routing or heater fault indicated by a second fault memory entry in the control module.	
MED17.2	0x2AC1	10945	MAX	Oxygen sensor before catalytic converter, plausibility	P2097	Post Catalyst Fuel Trim System Too Rich (Bank 1)	Fuel System	Post Catalyst	Engine running	none	none	none	none	none	START_SYSTEMCHECK_LSVK	none	N	Wiring fault Oxygen sensor before catalytic converter defective	1. Check wiring harness plug connections CMI-216, CMI-215, CMI-228, CMI-227, CMI-230 2. Replace oxygen sensor	MIL ON		
MED17.2	0x2AC2	10946	MIN	Oxygen sensor before catalytic converter, plausibility	P2096	Post Catalyst Fuel Trim System Too Lean (Bank 1)	Fuel System	Post Catalyst	Engine running	none	none	none	none	none	START_SYSTEMCHECK_LSVK	none	N	Wiring fault Oxygen sensor before catalytic converter defective	1. Check wiring harness plug connections CMI-216, CMI-215, CMI-228, CMI-227, CMI-230 2. Replace oxygen sensor	MIL ON		
MED17.2	0x2AC3	10947	PLAUS	Oxygen sensor before catalytic converter, plausibility	P2195	O2 Sensor Signal Biased/Stuck Lean (Bank 1 Sensor 1)	Oxygen Sensor, Front	Signal Check														
MED17.2	0x2AC4	10948	SIG	Oxygen sensor before catalytic converter, plausibility	P2196	O2 Sensor Signal Biased/Stuck Rich (Bank 1 Sensor 1)	Oxygen Sensor, Front	Signal Check														
MED17.2	0x2ACB	10955	PLAUS	Oxygen sensor before catalytic converter, connection	P2414	O2 Sensor Exhaust Sample Error (Bank 1 Sensor 1)	Oxygen Sensor, Front	Exhaust Sample Error	Engine running	none	none	none	none	none	none	none	N	oxygen sensor not installed	Check to ensure that oxygen sensor is installed correctly Replace oxygen sensor	MIL ON		
MED17.2	0x2ACD	10957	SIG	Oxygen sensor behind catalytic converter, dynamic response in overrun	P013A	O2 Sensor Slow Response - Rich to Lean (Bank 1 Sensor 2)	Oxygen Sensor, Rear	Slow Response	LSU universal oxygen sensor and behind catalytic converter sensor ready for operation, IC diagnosis terminated	Terminal 15, engine on	Battery voltage between 10.7V and 16V	none	none	none	none	none	N	Dynamic response too slow in oxygen sensor behind catalytic converter	Check plug connection on oxygen sensor behind catalytic converter ( CMI-224, CMI-225, CMI-218), otherwise replace oxygen sensor behind catalytic converter.	MIL ON		
MED17.2	0x2ACD	10957	SIG	Oxygen sensor behind catalytic converter, dynamic response in overrun	P013E	O2 Sensor Delayed Response - Rich to Lean (Bank 1 Sensor 2)	Oxygen Sensor, Rear	Delayed Response	LSU universal oxygen sensor and behind catalytic converter sensor ready for operation, IC diagnosis terminated	Terminal 15, engine on	Battery voltage between 10.7V and 16V	none	none	none	none	none	N	Dynamic response too slow in oxygen sensor behind catalytic converter	Check plug connection on oxygen sensor behind catalytic converter ( CMI-224, CMI-225, CMI-218), otherwise replace oxygen sensor behind catalytic converter.	MIL ON		
MED17.2	0x2AD2	10962	MAX	Oxygen sensor behind catalytic converter, dynamic response in overrun	P013A	O2 Sensor Slow Response - Rich to Lean (Bank 1 Sensor 2)	Oxygen Sensor, Rear	Slow Response														
MED17.2	0x2AD2	10962	MAX	Oxygen sensor behind catalytic converter, dynamic response in overrun	P013E	O2 Sensor Delayed Response - Rich to Lean (Bank 1 Sensor 2)	Oxygen Sensor, Rear	Delayed Response														
MED17.2	0x2AD8	10968	MAX	DME, internal fault																		
MED17.2	0x2B01	11009	MAX	Throttle-valve potentiometer 1	P0123	Throttle/Pedal Position Sensor/Switch 'A' Circuit High	Throttle Position Sensor	1	Engine running	none	none	none	none	none	none	none	N	- Short circuit to positive - Defective throttle valve sensor - Defective DME	- Check wiring harness between DME and throttle valve - Replace throttle valve - Replace DME	MIL on		
MED17.2	0x2B02	11010	MIN	Throttle-valve potentiometer 1	P0122	Throttle/Pedal Position Sensor/Switch 'A' Circuit Low	Throttle Position Sensor	1	Engine running	none	none	none	none	none	none	none	N	- Short to ground - Defective throttle valve sensor - Defective DME	- Check wiring harness between DME and throttle valve - Replace throttle valve - Replace DME	MIL on		
MED17.2	0x2B03	11011	PLAUS	Throttle-valve potentiometer 1	P0121	Throttle/Pedal Position Sensor/Switch 'A' Circuit Range/Performance	Throttle Position Sensor	1			Terminal 15 ON							- Defective throttle valve sensor	- Check voltages of both throttle valve sensors (sum of both voltages = 5 V) - Check wiring harness between DME and throttle valve - Replace throttle valve			
MED17.2	0x2B05	11013	MAX	Throttle-valve potentiometer 2	P0223	Throttle/Pedal Position Sensor/Switch 'B' Circuit High	Throttle Position Sensor	2	Engine running	none	none	none	none	none	none	none	N	- Short circuit to positive - Defective throttle valve sensor - Defective DME	- Check wiring harness between DME and throttle valve - Replace throttle valve - Replace DME	MIL on		
MED17.2	0x2B06	11014	MIN	Throttle-valve potentiometer 2	P0222	Throttle/Pedal Position Sensor/Switch 'B' Circuit Low	Throttle Position Sensor	2	Engine running	none	none	none	none	none	none	none	N	- Short to ground - Defective throttle valve sensor - Defective DME	- Check wiring harness between DME and throttle valve - Replace throttle valve - Replace DME	MIL on		
MED17.2	0x2B07	11015	PLAUS	Throttle-valve potentiometer 2	P0221	Throttle/Pedal Position Sensor/Switch 'B' Circuit Range/Performance	Throttle Position Sensor	2			Terminal 15 ON							Defective throttle valve sensor	- Check voltages of both throttle valve sensors (sum of both voltages = 5 V) - Check wiring harness between DME and throttle valve - Replace throttle valve			
MED17.2	0x2B08	11019	PLAUS	Throttle-valve potentiometer	P0120	Throttle/Pedal Position Sensor/Switch 'A' Circuit	Throttle Position Sensor	1			Terminal 15 ON							Fault is logged together with fault 0x2B03 and/or fault 0x2B07	Repair fault 0x2B03 and/or 0x2B07			

MED17.2	0x2B1D	11037	MAX	Throttle-valve actuator, activation	P2103	Throttle Actuator 'A' Control Motor Circuit High	Throttle Actuator	Control Motor	Engine running	none	none	none	Ambient temperature > 7 °C	none	none	none	Y	- Control wires for throttle valve actuator motor are mutually shorted and/or shorted to positive or ground - Defective throttle valve actuator motor - Defective DME	- Check wiring harness between DME and throttle valve - Replace throttle valve - Replace DME			
MED17.2	0x2B1E	11038	MIN	Throttle-valve actuator, activation	P2102	Throttle Actuator 'A' Control Motor Circuit Low	Throttle Actuator	Control Motor	Engine running	none	none	none	Ambient temperature > 7 °C	none	none	none	Y	- Defective throttle valve actuator motor - Defective DME	- Replace throttle valve - Replace DME			
MED17.2	0x2B1F	11039	PLAUS	Throttle-valve actuator, activation	P061F	Internal Control Module Throttle Actuator Controller Performance	Throttle Actuator	Control Motor	Engine running	none	none	none	Ambient temperature > 7 °C	none	none	none	Y	Internal communications error	1. Clear fault memory 2. Allow vehicle to completely enter sleep mode 3. Switch on ignition 4. If fault is still present, replace DME			
MED17.2	0x2B20	11040	SIG	Throttle-valve actuator, activation	P2100	Throttle Actuator 'A' Control Motor Circuit/Open	Throttle Actuator	Control Motor	Engine running	none	none	none	Ambient temperature > 7 °C	none	none	none	Y	- Open control wire(s) to throttle valve actuator motor - Defective throttle valve actuator motor - Defective DME	- Check wiring harness between DME and throttle valve - Replace throttle valve - Replace DME			
MED17.2	0x2B21	11041	MAX	Throttle-valve actuator, closing spring test	P1634	Throttle Valve Adaptation Spring Test Failed (Bank 1)	Throttle Actuator	Adaptation	Engine off	none	Terminal 15	none	Engine temperature and intake air temperature > 7 °C	none	STEUEERN_DK	none	Y	- Throttle valve returns to emergency air position too slowly or not at all - Stiction in throttle valve mechanism - Defective return spring	- Visual inspection to determine whether contamination is affecting throttle valve position - Open throttle valve by hand and check for stiction as well as consistent resistance - Allow throttle valve to close and observe whether it closes smoothly and consistently - U	none	none	
MED17.2	0x2B22	11042	MIN	Throttle-valve actuator, closing spring test	P1631	Throttle Valve Actuator Spring Test (Bank 1)	Throttle Actuator	Spring Test	Engine off	none	Terminal 15	none	Engine temperature and intake air temperature > 7 °C	none	STEUEERN_DK	none	Y	- Throttle valve opens too rapidly, too slowly, or not at all from emergency air position - Stiction in throttle-valve mechanism - Defective return spring	- Visual inspection to determine whether contamination is affecting throttle valve positional adjustments - Open throttle valve by hand and check for stiction as well as consistent resistance - Allow throttle valve to close and observe whether it closes smoothly and consistently - D	none	none	
MED17.2	0x2B25	11045	MAX	Throttle-valve actuator, opening spring test	P1629	Throttle Valve Actuator Spring Test Stop, Spring does not Open (Bank 1)	Throttle Actuator	Spring Test	Engine off	none	Terminal 15	none	Engine temperature and intake air temperature > 7 °C	none	STEUEERN_DK	none	Y	- Throttle valve returns to emergency air position too slowly or not at all - Stiction in throttle valve mechanism - Defective return spring	- Visual inspection to determine whether contaminants are preventing the throttle valve from moving optimally - Completely close the throttle valve by hand, checking for consistent resistance and signs of stiction - Throttle valve from 'fully closed' position to emergency air position			
MED17.2	0x2B26	11046	MIN	Throttle-valve actuator, opening spring test	P1628	Throttle Valve Actuator Spring Test Malfunction during Opening (Bank 1)	Throttle Actuator	Spring Test	Engine off	none	Terminal 15	none	Engine temperature and intake air temperature > 7 °C	none	STEUEERN_DK	none	Y	- Throttle valve opens too rapidly, too slowly, or not at all from emergency air position - Stiction in throttle-valve mechanism - Defective return spring	- Visual inspection to determine whether contaminants are preventing the throttle valve from moving optimally - Completely close the throttle valve by hand, checking for consistent resistance and signs of stiction - Throttle valve from 'fully closed' position to emergency air position			
MED17.2	0x2B2B	11051	PLAUS	Throttle-valve actuator, position monitoring	P1637	Throttle Valve Position Control, Control Deviation (Bank 1)	Throttle Actuator	Position Control	none	none	Terminal 15	none	none	none	STEUEERN_DK	none	Y	- Throttle valve adjustments are too fast or too slow, or throttle valve position at wrong value - Stiction in throttle valve mechanism	- Visual inspection to determine whether contaminants are preventing the throttle valve from moving optimally - Completely close the throttle valve by hand, checking for consistent resistance and signs of stiction - Replace throttle valve			
MED17.2	0x2B2F	11055	PLAUS	Throttle-valve actuator, emergency air point	P1633	Throttle Valve Adaptation Limp-Home Position Unknown (Bank 1)	Throttle Actuator	Adaptation	none	none	Terminal 15	none	Voltage in onboard electrical system >= 10 V	none	STEUEERN_DK	none	Y	Emergency air position is outside tolerance range	Replace throttle valve			
MED17.2	0x2B31	11057	MAX	Throttle-valve actuator, control range	P1639	Throttle Valve Position Control Throttle Stuck Permanently (Bank 1)	Throttle Actuator	Throttle Stuck	none	5 sec.	Terminal 15	none	Voltage in onboard electrical system >= 8.5 V	none	STEUEERN_DK	none	Y	- Throttle valve mechanism seizes continuously	- Visual inspection to determine whether contaminants are preventing the throttle valve from executing ideal positional adjustments - Completely close the throttle valve by hand, checking for consistent resistance and signs of stiction - Replace throttle valve	CC status report: WAL_1, reduced engine power!, MILNone activation control via lv_err_tps_obd, operation in emergency default mode if trigger point reached otherwise EMB + engine speed governed to 1300 rpm		

MED17.2	0x2B32	11058	MIN	Throttle-valve actuator, control range	P1638	Throttle Valve Position Control Throttle Stuck Temporarily (Bank 1)	Throttle Actuator	Throttle Stuck	none	0.6 sec.	Terminal 15	Voltage in onboard electrical system >= 8.5 V	none	none	STEURN_DK	none	Y	- Throttle valve mechanism seizes briefly	- Visual inspection to determine whether contaminants are preventing the throttle valve from executing ideal positional adjustments - Completely close the throttle valve by hand, checking for consistent resistance and signs of stiction - Replace throttle valve			
MED17.2	0x2B39	11065	MAX	Throttle-valve actuator, cancel adaptation due to environmental conditions	P1641	Throttle Valve Adaptation Stop due to Environmental Conditions			Engine off	none	Terminal 15	none	Engine temperature and intake air temperature > 7 °C	none	STEURN_DK	none	Y	No throttle valve adaptation is possible owing to failure to satisfy required environmental conditions	- Determine whether conditions for throttle valve adaptation are present: Terminal 15 on, engine off, - Ambient temperature and engine temperature between 7 °C and 105 °C; no other throttle valve faults logged in ECU; - Visual inspection to determine whether contamination affects throttle valve			
MED17.2	0x2B3A	11066	MIN	Throttle-valve actuator, cancel adaptation due to environmental conditions	P1642	Throttle Valve Adaptation Stop due to Environmental Values			Engine off	none	Terminal 15	none	Engine temperature and intake air temperature > 7 °C	none	STEURN_DK	none	Y	No throttle valve adaptation possible owing to low battery voltage	- Determine whether conditions for throttle valve adaptation are present: Terminal 15 on, engine off, battery voltage > 10 V, ambient temperature and engine temperature between 7 °C and 105 °C; no other throttle valve faults logged in ECU; - Visual inspection, whether			
MED17.2	0x2B3F	11071	PLAUS	Throttle actuator	P1635	Throttle Valve Adaptation Lower Mechanical Stop not Adapted (Bank 1)	Throttle Actuator	Adaptation	Engine off	none	Terminal 15	none	Engine temperature and intake air temperature > 7 °C	none	STEURN_DK	none	Y	- Fault during first throttle valve adaptation procedure with a new DME - Lower mechanical travel stop outside specified range, - Stiction in throttle valve mechanism - Defective throttle valve	- Visual inspection, whether			
MED17.2	0x2B43	11075	PLAUS	Throttle actuator	P1644	Throttle Valve Adaptation Stop Relearning Lower Mechanical Stop (Bank 1)	Throttle Actuator	Adaptation	Engine off	none	Terminal 15	none	Engine temperature and intake air temperature > 7 °C	none	STEURN_DK	none	Y	- Fault during repeated throttle valve adaptation procedures - Lower mechanical travel stop outside specified range, - Stiction in throttle valve mechanism - Defective throttle valve	- Determine whether conditions for throttle valve adaptation are present: Terminal 15 on, engine off, battery voltage > 10 V, ambient temperature and engine temperature between 7 °C and 105 °C; no other throttle valve faults logged in ECU; - Visual inspection, whether	CC status report: Reduced engine performance, MIL ON EMB + rpm limit 1300 rpm	Lower mechanical travel stop monitor	
MED17.2	0x2B47	11079	PLAUS	Throttle-valve actuator, amplifier calibration	P1643	Throttle Valve Actuator Start Test Amplifier Balancing Plausibility			Engine off	none	Terminal 15	none	Engine temperature and intake air temperature > 7 °C	none	STEURN_DK	none	Y	- Defective throttle valve (sensor) - Defective DME (amplifier)	- Clear fault memory - Check voltages of throttle valve sensors (sum of both voltages = 5 V) - Replace throttle valve - Replace DME			
MED17.2	0x2B49	11081	MAX	Accelerator pedal module, pedal-position sensor, signal 1	P2123	Throttle/Pedal Position Sensor/Switch 'D' Circuit High	Pedal Position Sensor	D Electrical	Engine running	none	none	none	none	none	none	none	Y	Short circuit to positive Accelerator pedal module DME	Check wiring harness between DME and accelerator pedal module Replace accelerator pedal module Replace DME	none	none	none
MED17.2	0x2B4A	11082	MIN	Accelerator pedal module, pedal-position sensor, signal 1	P2122	Throttle/Pedal Position Sensor/Switch 'D' Circuit Low	Pedal Position Sensor	D Electrical	Engine running	none	none	none	none	none	none	none	Y	Short to ground Accelerator pedal module DME	Check wiring harness between DME and accelerator pedal module Replace accelerator pedal module Replace DME	none	none	none
MED17.2	0x2B4B	11083	PLAUS	Accelerator pedal module, pedal-position sensor, signal 1	P2138	Throttle/Pedal Position Sensor/Switch 'D' / 'E' Voltage Correlation	Pedal Position Sensor	D/E Correlation	none	none	Terminal 15	none	none	none	none	none	Y	Defect in wiring harness Defective accelerator pedal module Defective DME	Check wiring harness between accelerator pedal module and DME Replace accelerator pedal module Replace DME	none	none	none
MED17.2	0x2B4C	11084	MAX	Accelerator pedal module, pedal-position sensor, signal 2	P2128	Throttle/Pedal Position Sensor/Switch 'E' Circuit High	Pedal Position Sensor	E Electrical	Engine running	none	none	none	none	none	none	none	Y	Short circuit to positive Accelerator pedal module DME	Check wiring harness between DME and accelerator pedal module Replace accelerator pedal module Replace DME	none	none	none
MED17.2	0x2B4D	11085	MIN	Accelerator pedal module, pedal-position sensor, signal 2	P2127	Throttle/Pedal Position Sensor/Switch 'E' Circuit Low	Pedal Position Sensor	E Electrical	Engine running	none	none	none	none	none	none	none	Y	Short to ground Accelerator pedal module DME	Check wiring harness between DME and accelerator pedal module Replace accelerator pedal module Replace DME	none	none	none
MED17.2	0x2B4E	11086	PLAUS	Accelerator pedal module, pedal-position sensor	P2120	Throttle/Pedal Position Sensor/Switch 'D' Circuit	Pedal Position Sensor	D Electrical	none	none	Terminal 15	none	none	none	none	none	Y	Collateral faults with 0x2B49, 0x2B4A, 0x2B4C or 0x2B4D	Repair the initial faults			Condition for FGR (vehicle speed controller) deactivation is irreversible in current cycle. Means no vehicle speed controller functionality

MED17.2	0x2B4F	11087	MAX	Air-mass sensor, signal	P0103	Mass or Volume Air Flow 'A' Circuit High	Mass Air Flow Sensor	Electrical	none	1 sec.	Terminal 15	none	none	none	none	Analog: 1.2 -14 kHz	N	Short circuit to positive or open wire Mass airflow sensor DME	1. Check wiring harness between DME and mass airflow sensor 2. Replace mass airflow sensor 3. Replace DME	MIL on	none	none	
MED17.2	0x2B50	11088	MIN	Air-mass sensor, signal	P0102	Mass or Volume Air Flow 'A' Circuit Low	Mass Air Flow Sensor	Electrical	none	1 sec.	Terminal 15	none	none	none	none	Analog: 1.2 -14 kHz	N	Short circuit to positive or open wire Mass airflow sensor DME	1. Check wiring harness between DME and mass airflow sensor 2. Replace mass airflow sensor 3. Replace DME	MIL on	none	none	
MED17.2	0x2B51	11089	SIG	Air-mass sensor, signal	P0100	Mass or Volume Air Flow 'A' Circuit	Mass Air Flow Sensor	Electrical	Engine running	none	none	none	none	none	none	none	Y	Short circuit or open wire A_HFM Mass airflow sensor DME	1. Check wiring harness between DME and mass airflow sensor A_HFM 2. Replace mass airflow sensor 3. Replace DME	MIL on			
MED17.2	0x2B59	11097	MAX	Air-mass sensor, plausibility	P115A	Mass or Volume Air Flow 'A' Maximum Exceeded	Mass Air Flow	Too High	Engine running	2 sec.	none	none	none	none	none	none	Y	Short circuit to positive or open wire Mass airflow sensor DME	1. Check wiring harness between DME and mass airflow sensor 2. Replace mass airflow sensor 3. Replace DME	MIL on			
MED17.2	0x2B5A	11098	MIN	Air-mass sensor, plausibility	P115B	Mass or Volume Air Flow 'A' Minimum Fallen Below	Mass Air Flow	Too Low	Engine running	2 sec.	none	none	none	none	none	none	Y	Short to ground Mass airflow sensor DME	1. Check wiring harness between DME and mass airflow sensor 2. Replace mass airflow sensor 3. Replace DME	MIL on			
MED17.2	0x2B5B	11099	PLAUS	Air-mass sensor, plausibility	P115D	Mass or Volume Air Flow 'A' Air Mass Too High Compared to Model	Mass Air Flow	Comparison to Model	Engine running	2 sec.	none	Battery voltage >11 V	none	>0.3 seconds after start			Y	HFM signal not as expected, defective HFM, throttle plate problem or mass airflow not as expected (vacuum leak)	Determine whether airflow to engine greater/less than requirement (vacuum leak, crankcase) Check connections/plugs (corrosion, water, etc.) between HFM and DME (CMI-240, CMI-209 and CME-114) Replace sensor as indicated	MIL ON			
MED17.2	0x2B5C	11100	SIG	Air-mass sensor, plausibility	P115C	Mass or Volume Air Flow 'A' Air Mass Too Low Compared to Model	Mass Air Flow	Comparison to Model	Engine running	none	none	Battery voltage >11 V	none	>0.3 seconds after start			Y	HFM not plugged in or defective	Plug in HFM Check connections/plugs (corrosion, water, etc.) between HFM and DME (CMI-240, CMI-209 and CME-114) Replace sensor as indicated	MIL ON			
MED17.2	0x2B5E	11102	MAX	Air mass sensor, correction signal	P113A	Mass or Volume Air Flow 1 Correction Signal Plausibility Period Too Long	Mass Air Flow	Correction Signal	none	1 sec.	Terminal 15	none	none	none	none	Analog: 1.2 -14 kHz	N	Short circuit or open wire Mass airflow sensor	1. Check wiring harness between DME and mass airflow sensor 2. Replace mass airflow sensor		none	none	
MED17.2	0x2B5F	11103	MIN	Air mass sensor, correction signal	P113B	Mass or Volume Air Flow 1 Correction Signal Plausibility Period Too Short	Mass Air Flow	Correction Signal	none	1 sec.	Terminal 15	none	none	none	none	Analog: 1.2 -14 kHz	N	Short circuit or open wire Mass airflow sensor	1. Check wiring harness between DME and mass airflow sensor 2. Replace mass airflow sensor		none	none	
MED17.2	0x2B64	11108	PLAUS	Intake manifold, unmetereed air	P1497	Downstream Throttle Air Leak	Air Leak	General	none	1 sec.	Terminal 15	none	none	none	none	none	N						
MED17.2	0x2B6C	11116	MAX	Intake-manifold pressure sensor, electric	P0108	Manifold Absolute Pressure/Barometric Pressure Circuit High	Manifold Absolute Pressure	General	none	1 sec.	Terminal 15	none	none	none	none	Analog: 0-5V	N	Short circuit to positive or open wire Intake manifold pressure sensor DME	1. Check wiring harness between intake manifold pressure sensor and DME M_SDF, A_SDF 2. Replace intake manifold pressure sensor B6239 3. Replace DME	CC status report			
MED17.2	0x2B6D	11117	MIN	Intake-manifold pressure sensor, electric	P0107	Manifold Absolute Pressure/Barometric Pressure Circuit Low	Manifold Absolute Pressure	General	none	1 sec.	Terminal 15	none	none	none	none	Analog: 0-5V	N	Short to ground or open wire Intake manifold pressure sensor DME	1. Check wiring harness between intake manifold pressure sensor and DME U_SDF, A_SDF 2. Replace intake manifold pressure sensor B6239 3. Replace DME	CC status report			
MED17.2	0x2B71	11121	MAX	Intake-manifold pressure sensor, plausibility	P1250	Manifold Absolute Pressure Too High	Manifold Absolute Pressure Sensor	Pressure	none	2 sec.	Terminal 15	none	none	none	none	none	N	Defect in wiring harness Defective intake manifold pressure sensor	1. If 0x2B82 has also been logged, consider the following action: a. Check operation of wastegate frequency valve (EPDW wastegate) b. Check operation of wastegate c. Determine whether accelerator pedal module fault is present d. Determine whether dump valve fault is present 2. Check wiring harness between DME and intake manifold pressure sensor 3. Replace intake manifold pressure sensor	MIL ON			
MED17.2	0x2B72	11122	MIN	Intake-manifold pressure sensor, plausibility	P1255	Manifold Absolute Pressure Too Low	Manifold Absolute Pressure Sensor	Pressure	none	2 sec.	Terminal 15	none	none	none	none	none	N	Defect in wiring harness Defective intake manifold pressure sensor	Check wiring harness between DME and intake manifold pressure sensor Replace intake manifold pressure sensor	MIL ON			
MED17.2	0x2B73	11123	PLAUS	Intake-manifold pressure sensor, plausibility	P129D	Manifold Absolute Pressure Maximum Pressure Implausible	Manifold Absolute Pressure	Plausibility	Engine running	2 sec.	none	none	none	none	none	none	N	Defect in wiring harness Defective intake manifold pressure sensor	Check wiring harness between DME and intake manifold pressure sensor Replace intake manifold pressure sensor	MIL ON			
MED17.2	0x2B74	11124	SIG	Intake-manifold pressure sensor, plausibility	P129E	Manifold Absolute Pressure Minimum Pressure Implausible	Manifold Absolute Pressure	Plausibility	Engine running	2 sec.	none	none	none	none	none	none	N	Defect in wiring harness Defective intake manifold pressure sensor	Check wiring harness between DME and intake manifold pressure sensor Replace intake manifold pressure sensor	MIL ON			



MED17.2	0x2BD2	11218	MAX	Monitoring, power supply 1, driver CY320	P0641	Sensor Reference Voltage 'A' Circuit/Open	System Voltage	1 Electrical	none	none	Terminal 15	none	none	none	none	Y	1. Wiring harness between DME and following sensors: - Refrigerant pressure sensor - Crankshaft sensor - Accelerator pedal module - Intake camshaft sensor 2. One of the sensors named in Pos. 1 is defective 3. DME	1. Connect adapter between wiring harness and DME to allow measurement at Pin 21 (DME refrigerant pressure sensor) 2. Measure voltage on Pin 21, if > 5 V -> Short to positive -> Check wiring harness if < 5 V -> Unplug following sensors (see cause) one after the other and measure, if the voltage at Pin 21 goes to 5 V, then replace the corresponding sensor, otherwise: - Check wiring harness - Replace DME if = 5 V and is logged continuously, then replace DME				
MED17.2	0x2BD3	11219	MAX	Monitoring, power supply 2, driver CY320	P0651	Sensor Reference Voltage 'B' Circuit/Open	System Voltage	2 Electrical	none	none	Terminal 15	none	none	none	none	Y	1. Wiring harness between DME and following sensors: - Intake manifold pressure sensor - Accelerator pedal module - Throttle valve - Charge-air pressure sensor 2. One of the sensors named in Pos. 1 is defective 3. DME	1. Connect adapter between wiring harness and DME to allow measurement at Pin 37 (DME - intake manifold pressure sensor) 2. Measure voltage on Pin 37, if > 5 V -> Short to positive -> Check wiring harness if < 5 V -> Unplug the following sensors (see causes) one after the other and measure, if the voltage at Pin 37 goes to 5 V, then replace the corresponding sensor, otherwise: - Check wiring harness - Replace DME if = 5 V and is logged continuously, then replace DME				
MED17.2	0x2BD4	11220	MAX	Monitoring, power supply 3, driver CY320	P0697	Sensor Reference Voltage 'C' Circuit/Open	System Voltage	3 Electrical	none	none	Terminal 15	none	none	none	none	Y	1. Wiring harness between DME and following sensors: - Rail-pressure sensor 2. One of the sensors named at Pos. 1 is defective 3. DME	1. Connect adapter between wiring harness and DME to allow measurement at Pin 22 (DME - rail-pressure sensor) 2. Measure voltage on Pin 22, if > 5 V -> Short circuit to positive -> Check wiring harness if < 5 V -> Disconnect the following sensors (see causes) one after the other and measure, if the voltage at Pin 22 goes to 5 V, replace the corresponding sensor, otherwise: - Check wiring harness - Replace DME if = 5 V and is logged continuously, then replace DME If this fault has been logged multiple times or is present constantly; Replace DME.	none			
MED17.2	0x2BD5	11221	MAX	DME, internal fault					none	15 sec.	Terminal 15	none	none	none	none	Y	DME	If this fault has been logged multiple times or is present constantly; Replace DME.	none			
MED17.2	0x2BD6	11222	MAX	DME, internal fault					none	15 sec.	Terminal 15	none	none	none	none	Y	DME	If this fault has been logged multiple times or is present constantly; Replace DME.	none			
MED17.2	0x2BD7	11223	MAX	DME, internal fault					none	15 sec.	Terminal 15	none	none	none	none	Y	DME	If this fault has been logged multiple times or is present constantly; Replace DME.	none			
MED17.2	0x2BD9	11225	PLAUS	DME, internal fault	P1603	Control Module Self-Test, Torque Monitoring	ECM Self-Test	Torque Monitoring			TR 15/TR 50	10 < UB < 16V; voltage must exist behind main relay					Actual torque monitor, fault in operational monitoring of torque comparison process	Check charge sensor, engine temperature sensor and wiring, replace control module as indicated Check wiring harness between DME and crankshaft sensor Replace crankshaft sensor Replace DME				
MED17.2	0x2BDA	11226	PLAUS	DME, internal fault	P1681	Electronic Throttle Control Monitor Level 2/3 Engine Speed Calculation Error	Throttle Control Monitor Level 2/3	RPM	Engine running	none	none	none	none	none	none	Y	Crankshaft sensor Wiring harness DME	Check wiring harness between DME and rail-pressure sensor Replace rail-pressure sensor Replace DME				
MED17.2	0x2BDB	11227	PLAUS	DME, internal fault	P323E	Control Module Monitoring Fuel Pressure Sensor	ECM Monitoring	Fuel Pressure Sensor	Engine running	none	none	none	none	none	none	Y	Rail-pressure sensor Wiring harness DME	Check oxygen sensor and wire, replace control module as indicated				
MED17.2	0x2BDC	11228	PLAUS	DME, internal fault	P3337	Function Monitoring Lambda Plausibility	ECM Monitoring	Lambda Plausibility			TR 15/TR 50	10 < UB < 16V; voltage must exist behind main relay					Fuel signal monitor fault (lambda plausibility check with LSU )	Check oxygen sensor and wire, replace control module as indicated			Detected faults are defined as irreversible in current driving cycle. For this reason they cannot be resolved when the fault source is removed, but instead only through TR 15 = OFF and ON to initiate new driving cycle.	
MED17.2	0x2BDD	11229	MAX	DME, internal fault	P3233	Control Module Monitoring Relative Charge Plausibility	ECM Monitoring	Relative Charge	none	none	Terminal 15	none	none	none	none	Y	Defective DME	Replace DME			Automatic fuel supply deactivation	
MED17.2	0x2BDE	11230	MIN	DME, internal fault	P3232	Control Module Monitoring Ignition Timing Plausibility	ECM Monitoring	Ignition Timing	none	none	Terminal 15	none	none	none	none	Y	Defective DME	Replace DME			Automatic fuel supply deactivation	
MED17.2	0x2BDF	11231	SIG	DME, internal fault	P1680	Electronic Throttle Control Monitor Level 2/3 ADC Processor Fault	Throttle Control Monitor Level 2/3	AD Converter	none	none	Terminal 15	none	none	none	none	Y	Defective DME	Replace DME			Automatic fuel supply deactivation	

MED17.2	0x2BE0	11232	MAX	DME, internal fault	P3237	Control Module Monitoring Fuel Correction Error	ECM Monitoring	Fuel Correction	Engine running	none	none	none	none	none	none	Y	Defective DME	Replace DME			
MED17.2	0x2BE1	11233	MIN	DME, internal fault	P3236	Control Module Monitoring Injection Time Relative Fuel Quantity Plausibility	ECM Monitoring	Injection Time	Engine running	none	none	none	none	none	none	Y	Defective DME	Replace DME			
MED17.2	0x2BE2	11234	SIG	DME, internal fault	P3235	Control Module Monitoring Version Coding Plausibility	ECM Monitoring	Coding	Engine running	none	none	none	none	none	none	Y	Defective DME	Replace DME			
MED17.2	0x2BE3	11235	MAX	DME, internal fault	P3238	Control Module Monitoring TPU Chip Defective	ECM Monitoring	TPU Chip	Engine running	none	none	none	none	none	none	Y	Defective DME	Replace DME			
MED17.2	0x2BE4	11236	MIN	DME, internal fault					Engine running	none	none	none	none	none	none	Y	Defective DME	Replace DME			
MED17.2	0x2BE5	11237	PLAUS	DME, internal fault					Engine running	none	none	none	none	none	none	Y	Collateral fault from DME defect	If further faults are present, repair these first Replace DME only if this is not a collateral fault, and the fault is either currently present or has been logged at least 3 times			
MED17.2	0x2BE6	11238	MAX	DME, internal fault					Engine running	none	none	none	none	none	none	Y	Collateral fault from DME defect	If further faults are present, repair these first Replace DME only if this is not a collateral fault, and the fault is either currently present or has been logged at least 3 times			
MED17.2	0x2BE8	11240	PLAUS	DME, internal fault	P1686	Electronic Throttle Control Monitor Level 2/3 Pedal Position Sensor Diagnostic Error	Throttle Control Monitor Level 2/3	Pedal Position Sensor	Engine running	none	none	none	none	none	none	Y	Accelerator pedal module Wiring harness DME	Check wiring harness between DME and accelerator pedal module Replace accelerator pedal module Replace DME			
MED17.2	0x2C8D	11405	MIN	Power management, battery	P160A	Powermanagement Exhaustive Discharge	Powermanagement	Electrical	none	10 sec.	Terminal 30	Battery voltage measured by intelligent battery sensor < 9.5 V	none	none	none	Y	Voltage has been below 9V for 1 min., in contrast with undervoltage fault this fault is also detected with vehicle in sleep mode	Check standby current Check battery	No warning lamp or CC status report		
MED17.2	0x2C8E	11406	PLAUS	Power management, battery	P160B	Powermanagement Defective	Powermanagement	Electrical													
MED17.2	0x2C90	11408	MAX	Power management, vehicle electrical system	P160C	Powermanagement Overvoltage	Powermanagement	Electrical	Engine running	10 sec.	none	Battery voltage measured by intelligent battery sensor > 16 V	none	none	none	Y	Alternator voltage too high External voltage source too high Defective intelligent battery sensor	Ask customer if vehicle has been jump-started Check alternator Check intelligent battery sensor	none		
MED17.2	0x2C91	11409	MIN	Power management, vehicle electrical system	P160D	Powermanagement Undervoltage	Powermanagement	Electrical	Engine running	10 sec.	none	Battery voltage measured by intelligent battery sensor < 9 V	none	none	none	Y	Alternator voltage too low Defective intelligent battery sensor	Check alternator, check threaded connections Check intelligent battery sensor	No warning lamp or CC status report		A defective alternator produces a discharged battery and leads to vehicle breakdown in some cases
MED17.2	0x2C93	11411	SIG	Power management, vehicle electrical system	P160E	Powermanagement Operation Without Charging of Battery	Powermanagement	Electrical	Engine running	none	none	Battery voltage measured by intelligent battery sensor < 8.5 V or > 18 V	none	none	none	Y	Battery not correctly connected.	Check threaded connections on battery terminals	CC message "Check battery terminals"		Disconnected battery terminals can provoke extreme fluctuations in electrical system voltage and lead to engine failure owing to undervoltage in severe cases
MED17.2	0x2C96	11414	PLAUS	Power management, closed-circuit current violation	P160F	Powermanagement No-Load Current Error	Powermanagement	Electrical	IBS detects higher standby current draw in parked phase	none	Terminal R					Y	Standby current too high	Conduct energy diagnosis	CC message "High battery discharge when parked"	High energy draw when parked	Under the worst-case scenario, high standby current draw can discharge the battery to below the startability threshold, resulting in a breakdown vehicle
MED17.2	0x2C98	11416	MAX	System voltage	P0563	System Voltage High	System Voltage	Electrical													
MED17.2	0x2C99	11417	MIN	System voltage	P0562	System Voltage Low	System Voltage	Electrical													
MED17.2	0x2C9A	11418	PLAUS	System voltage	P0560	System Voltage	System Voltage	Electrical													
MED17.2	0x2C9C	11420	MAX	Vehicle system voltage, DME master relay	P0687	ECM/PCM Power Relay Control Circuit High	ECM/PCM Power Relay	Electrical	DME in Status Drive or Postdrive	5 sec.	none	UBatt > 16 V	none	none	none	N	Alternator Charger DME	Determine whether alternator fault is present Incorrect jump-start or faulty booster used If this fault has been logged multiple times, or is constantly present: Replace DME.	MIL on		
MED17.2	0x2C9D	11421	MIN	Vehicle system voltage, DME master relay	P0686	ECM/PCM Power Relay Control Circuit Low	ECM/PCM Power Relay	Electrical													
MED17.2	0x2C9E	11422	PLAUS	Vehicle system voltage, DME master relay	P2510	ECM/PCM Power Relay Sense Circuit Range/Performance	ECM/PCM Power Relay	Electrical	none	5 sec.	Terminal 15	none	none	none	none	N	Fuse Main relay Wiring harness	Check Fuse F03, check main relay: Switch on TERM15 and use circuit diagram to determine whether relay is making. Check wiring harness between DME and engine compartment current distributor A400a: U_HR<3	none		
MED17.2	0x2D50	11600	MAX	Super knocking	P137B	Knock Control Super Knocking Caused by Defective Knock Sensor	Knock Control System	Super Knocking	Engine operating at part-load	none	none	none	Engine temperature > 40 °C	none	none	Y	Knock sensor not plugged in correctly Short to ground or positive Defective knock sensor	1. Check installation of knock sensor 2. Check wiring harness 3. Replace knock sensor	none		
MED17.2	0x2D51	11601	MAX	Super knocking	P137A	Knock Control Super Knocking Caused by Defective Ignition Coil	Knock Control System	Super Knocking	Engine operating at part-load	none	none	none	Engine temperature > 40 °C	none	none	Y	Fault in ignition system	If faults are present in the ignition system, repair these first Check for damage: Spark plugs, ignition coils, ignition wiring harness None (delete fault)	none		
MED17.2	0x2D52	11602	MAX	Super knocking	P137F	Knock Control Fuel Cut-Off due to Super Knocking	Knock Control System	Super Knocking	Engine operating at part-load	none	none	none	Engine temperature > 40 °C	none	none	Y	Transient contamination in combustion chamber or induction tract	If a genuine defect is present additional faults will be logged	none		This fault is logged only to prevent redundant component replacements in response to customer complaints
MED17.2	0x2D53	11603	MAX	Knock control, fault check	P0324	Knock Control System Error	Knock Control System	General													
MED17.2	0x2D64	11620	MAX	High-pressure fuel injector 1, Highside, activation	P3150	Cylinder 1 High Pressure Injector High Side Circuit High	Injector High Side	Short to Batt	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	N	Short circuit to positive Injection valve DME	Check wiring harness between DME and injection valve: P_EVZ4 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		

MED17.2	0x2D65	11621	MAX	High-pressure fuel injector 3, Highside, activation	P3156	Cylinder 3 High Pressure Injector High Side Circuit High	Injector High Side	Short to Batt	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Short circuit to positive Injection valve DME	Check wiring harness between DME and injection valve: P_EVZ3 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D66	11622	MAX	High-pressure fuel injector 4, Highside, activation	P3159	Cylinder 4 High Pressure Injector High Side Circuit High	Injector High Side	Short to Batt	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Short circuit to positive Injection valve DME	Check wiring harness between DME and injection valve: P_EVZ1 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D67	11623	MAX	High-pressure fuel injector 2, Highside, activation	P3153	Cylinder 2 High Pressure Injector High Side Circuit High	Injector High Side	Short to Batt	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Short circuit to positive Injection valve DME	Check wiring harness between DME and injection valve: P_EVZ2 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D68	11624	MIN	High-pressure fuel injector 1, Highside, activation	P3149	Cylinder 1 High Pressure Injector High Side Circuit Low	Injector High Side	Short to Ground	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Short circuit to ground Injection valve DME	Check wiring harness between DME and injection valve: P_EVZ4 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D69	11625	MIN	High-pressure fuel injector 3, Highside, activation	P3155	Cylinder 3 High Pressure Injector High Side Circuit Low	Injector High Side	Short to Ground	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Short circuit to ground Injection valve DME	Check wiring harness between DME and injection valve: P_EVZ3 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D6A	11626	MIN	High-pressure fuel injector 4, Highside, activation	P3158	Cylinder 4 High Pressure Injector High Side Circuit Low	Injector High Side	Short to Ground	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Short circuit to ground Injection valve DME	Check wiring harness between DME and injection valve: P_EVZ1 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D6B	11627	MIN	High-pressure fuel injector 2, Highside, activation	P3152	Cylinder 2 High Pressure Injector High Side Circuit Low	Injector High Side	Short to Ground	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Short circuit to ground Injection valve DME	Check wiring harness between DME and injection valve: P_EVZ2 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D6C	11628	PLAUS	High-pressure fuel injector 1, Highside, activation	P3148	Cylinder 1 High Pressure Injector High Side Shorted to Coil	Injector High Side	Shorted Coil	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Intertum short circuit Injection valve DME	Check wiring harness between DME and injection valve: P_EVZ4, U_EVZ4 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D6D	11629	PLAUS	High-pressure fuel injector 3, Highside, activation	P3154	Cylinder 3 High Pressure Injector High Side Shorted to Coil	Injector High Side	Shorted Coil	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Intertum short circuit Injection valve DME	Check wiring harness between DME and injection valve: P_EVZ3, U_EVZ3 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D6E	11630	PLAUS	High-pressure fuel injector 4, Highside, activation	P3157	Cylinder 4 High Pressure Injector High Side Shorted to Coil	Injector High Side	Shorted Coil	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Intertum short circuit Injection valve DME	Check wiring harness between DME and injection valve: P_EVZ1, U_EVZ1 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D6F	11631	PLAUS	High-pressure fuel injector 2, Highside, activation	P3151	Cylinder 2 High Pressure Injector High Side Shorted to Coil	Injector High Side	Shorted Coil	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Intertum short circuit Injection valve DME	Check wiring harness between DME and injection valve: P_EVZ2, U_EVZ2 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		

MED17.2	0x2D70	11632	MIN	DME, internal fault	P16A5	Timeout Control Module Multiple Output Stage SPI-Bus	ECM	Multiple Output Stage	Engine running	1.1 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	HW defect in DME	Replace DME	MIL on and CC message		
MED17.2	0x2D71	11633	PLAUS	DME, internal fault	P16A5	Timeout Control Module Multiple Output Stage SPI-Bus	ECM	Multiple Output Stage	Engine running	1.1 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	HW defect in DME	Replace DME	MIL on and CC message		
MED17.2	0x2D72	11634	SIG	DME, internal fault	P16A5	Timeout Control Module Multiple Output Stage SPI-Bus	ECM	Multiple Output Stage	Engine running	1.1 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	HW defect in DME	Replace DME	MIL on and CC message		
MED17.2	0x2D73	11635	MAX	High-pressure fuel injector 1, Lowside, activation	P3102	Cylinder 1 High Pressure Injector Low Side Circuit High	Injector Low Side	Short to Batt	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Short circuit to positive Injection valve DME	Check wiring harness between DME and injection valve: U_EVZ4 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D74	11636	MAX	High-pressure fuel injector 3, Lowside, activation	P3110	Cylinder 3 High Pressure Injector Low Side Circuit High	Injector Low Side	Short to Batt	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Short circuit to positive Injection valve DME	Check wiring harness between DME and injection valve: U_EVZ3 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D75	11637	MAX	High-pressure fuel injector 4, Lowside, activation	P3114	Cylinder 4 High Pressure Injector Low Side Circuit High	Injector Low Side	Short to Batt	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Short circuit to positive Injection valve DME	Check wiring harness between DME and injection valve: U_EVZ1 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D76	11638	MAX	High-pressure fuel injector 2, Lowside, activation	P3106	Cylinder 2 High Pressure Injector Low Side Circuit High	Injector Low Side	Short to Batt	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Short circuit to positive Injection valve DME	Check wiring harness between DME and injection valve: U_EVZ2 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D77	11639	MIN	High-pressure fuel injector 1, Lowside, activation	P3101	Cylinder 1 High Pressure Injector Low Side Circuit Low	Injector Low Side	Short to Ground	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Short circuit to ground Injection valve DME	Check wiring harness between DME and injection valve: U_EVZ4 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D78	11640	MIN	High-pressure fuel injector 3, Lowside, activation	P3109	Cylinder 3 High Pressure Injector Low Side Circuit Low	Injector Low Side	Short to Ground	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Short circuit to ground Injection valve DME	Check wiring harness between DME and injection valve: U_EVZ3 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D79	11641	MIN	High-pressure fuel injector 4, Lowside, activation	P3113	Cylinder 4 High Pressure Injector Low Side Circuit Low	Injector Low Side	Short to Ground	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Short circuit to ground Injection valve DME	Check wiring harness between DME and injection valve: U_EVZ1 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D7A	11642	MIN	High-pressure fuel injector 2, Lowside, activation	P3105	Cylinder 2 High Pressure Injector Low Side Circuit Low	Injector Low Side	Short to Ground	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Short circuit to ground Injection valve DME	Check wiring harness between DME and injection valve: U_EVZ2 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D7B	11643	PLAUS	High-pressure fuel injector 1, Lowside, activation	P3103	Cylinder 1 High Pressure Injector Low Side Booster Time Error	Injector Low Side	Booster Time Error	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Interturn short circuit Injection valve DME	Check wiring harness between DME and injection valve: P_EVZ4, U_EVZ4 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D7C	11644	PLAUS	High-pressure fuel injector 3, Lowside, activation	P3111	Cylinder 3 High Pressure Injector Low Side Booster Time Error	Injector Low Side	Booster Time Error	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Interturn short circuit Injection valve DME	Check wiring harness between DME and injection valve: P_EVZ3, U_EVZ3 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		

MED17.2	0x2D7D	11645	PLAUS	High-pressure fuel injector 4, Lowside, activation	P3115	Cylinder 4 High Pressure Injector Low Side Booster Time Error	Injector Low Side	Booster Time Error	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Intertum short circuit Injection valve DME	Check wiring harness between DME and injection valve: P_EVZ1, U_EVZ1 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D7E	11646	PLAUS	High-pressure fuel injector 2, Lowside, activation	P3107	Cylinder 2 High Pressure Injector Low Side Booster Time Error	Injector Low Side	Booster Time Error	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Intertum short circuit Injection valve DME	Check wiring harness between DME and injection valve: P_EVZ2, U_EVZ2 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D7F	11647	SIG	High-pressure fuel injector 1, Lowside, activation	P3100	Cylinder 1 High Pressure Injector Low Side Circuit Open	Injector Low Side	Open Circuit	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Open wire Injection valve DME	Check wiring harness between DME and injection valve: U_EVZ4 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D80	11648	SIG	High-pressure fuel injector 3, Lowside, activation	P3108	Cylinder 3 High Pressure Injector Low Side Circuit Open	Injector Low Side	Open Circuit	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Open wire Injection valve DME	Check wiring harness between DME and injection valve: U_EVZ3 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D81	11649	SIG	High-pressure fuel injector 4 low side, activation	P3112	Cylinder 4 High Pressure Injector Low Side Circuit Open	Injector Low Side	Open Circuit	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Open wire Injection valve DME	Check wiring harness between DME and injection valve: U_EVZ1 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D82	11650	SIG	High-pressure fuel injector 2, Lowside, activation	P3104	Cylinder 2 High Pressure Injector Low Side Circuit Open	Injector Low Side	Open Circuit	Engine running	5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Open wire Injection valve DME	Check wiring harness between DME and injection valve: U_EVZ2 Interchange injection valves and determine whether the fault follows the valve, if yes: Replace injection valve. Replace DME.	CC status report		
MED17.2	0x2D8B	11659	MAX	Knock sensor, electric	P0328	Knock Sensor 1 Circuit High (Bank 1 or Single Sensor)	Knock Sensor	Sensor 1	Engine running	none	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Short to positive: Positive wire between DME and knock sensor	Check positive wire between DME and knock sensor, replace knock sensor, replace DME	MIL on		
MED17.2	0x2D8C	11660	MIN	Knock sensor, electric	P0327	Knock Sensor 1 Circuit Low (Bank 1 or Single Sensor)	Knock Sensor	Sensor 1	Engine running	none	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Short circuit to ground: Positive wire between DME and knock sensor	Check positive wire between DME and knock sensor, replace knock sensor, replace DME	MIL on		
MED17.2	0x2D8D	11661	MAX	Knock sensor, electric	P0328	Knock Sensor 1 Circuit High (Bank 1 or Single Sensor)	Knock Sensor	Sensor 1	Engine running	none	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Short to positive: Ground wire between DME and knock sensor	Check ground wire between DME and knock sensor, replace knock sensor, replace DME	MIL on		
MED17.2	0x2D8E	11662	MIN	Knock sensor, electric	P0327	Knock Sensor 1 Circuit Low (Bank 1 or Single Sensor)	Knock Sensor	Sensor 1	Engine running	none	Terminal 15	9 V < Battery voltage < 16 V	none	none	none	U	N	Short circuit to ground: Ground wire between DME and knock sensor	Check ground wire between DME and knock sensor, replace knock sensor, replace DME	MIL on		
MED17.2	0x2D9B	11675	MAX	Knock sensor, signal	P0328	Knock Sensor 1 Circuit High (Bank 1 or Single Sensor)	Knock Sensor	Sensor 1	Engine at part-load Engine speed > 1200 rpm No additional faults logged No limp-home mode	none	none	none	Engine temperature > 40 °C	3 sec.	none	none	Y	Defective or loose ancillary components causing mechanical engine noise Knock sensor loose or installed incorrectly Defective knock sensor	1. Check engine for mechanical defects and loose ancillary components 2. Check knock sensor installation 3. Replace knock sensor	none		
MED17.2	0x2D9C	11676	MIN	Knock sensor, signal	P0327	Knock Sensor 1 Circuit Low (Bank 1 or Single Sensor)	Knock Sensor	Sensor 1	Engine at part-load Engine speed > 1600 rpm No additional faults logged No limp-home mode	none	none	none	Engine temperature > 40 °C	3 sec.	none	none	Y	Knock sensor not plugged in correctly Short to ground or positive Defective knock sensor	1. Check installation of knock sensor 2. Check wiring harness 3. Replace knock sensor	none		

MED17.2	0x2DA5	11685	MAX	High-pressure fuel injector 1, mechanical	P301A	Injector 1 Stuck Open	Injector	Stuck	Engine running	none	N	Valve sticking, rail-pressure sensor error, wiring harness fault	<ul style="list-style-type: none"> <li>1. Check whether valve is sticking;</li> <li>2. Check rail-pressure sensor;</li> <li>3. Check rail-pressure sensor wire;</li> <li>4. Check flow-control valve;</li> <li>5. Check high-pressure pump;</li> <li>6. Check temperature sensors for mechanical or thermal damage, intact installation and wiring (ambient air, intake air, coolant); plausibility check on sensor data (for instance, a shop temperature of roughly 20 °C should be reflected in the sensor data)</li> <li>7. Check vehicle speed signal</li> <li>8. Adapt system according to 'supplementary instructions' (must be defined! Cannot be defined until after strategy is determined. Is currently still under development)</li> <li>9. Replace valve</li> <li>10. Replace rail-pressure sensor</li> <li>11. Replace flow-control valve</li> <li>12. Replace high-pressure pump</li> </ul>	Limp-home; RPM and power limited; MIL = on									
MED17.2	0x2DA8	11688	MAX	High-pressure fuel injector 3, mechanical	P301C	Injector 3 Stuck Open	Injector	Stuck	Engine running	none	N	Valve sticking, rail-pressure sensor error, wiring harness fault	<ul style="list-style-type: none"> <li>1. Check whether valve is sticking;</li> <li>2. Check rail-pressure sensor;</li> <li>3. Check rail-pressure sensor wire;</li> <li>4. Check flow-control valve;</li> <li>5. Check high-pressure pump;</li> <li>6. Check temperature sensors for mechanical or thermal damage, intact installation and wiring (ambient air, intake air, coolant); plausibility check on sensor data (for instance, a shop temperature of roughly 20 °C should be reflected in the sensor data)</li> <li>7. Check vehicle speed signal</li> <li>8. Adapt system according to 'supplementary instructions' (must be defined! Cannot be defined until after strategy is determined. Is currently still under development)</li> <li>9. Replace valve</li> <li>10. Replace rail-pressure sensor</li> <li>11. Replace flow-control valve</li> <li>12. Replace high-pressure pump</li> </ul>	Limp-home; RPM and power limited; MIL = on									
MED17.2	0x2DAB	11691	MAX	High-pressure fuel injector 4, mechanical	P301D	Injector 4 Stuck Open	Injector	Stuck	Engine running	none	N	Valve sticking, rail-pressure sensor error, wiring harness fault	<ul style="list-style-type: none"> <li>1. Check whether valve is sticking;</li> <li>2. Check rail-pressure sensor;</li> <li>3. Check rail-pressure sensor wire;</li> <li>4. Check flow-control valve;</li> <li>5. Check high-pressure pump;</li> <li>6. Check temperature sensors for mechanical or thermal damage, intact installation and wiring (ambient air, intake air, coolant); plausibility check on sensor data (for instance, a shop temperature of roughly 20 °C should be reflected in the sensor data)</li> <li>7. Check vehicle speed signal</li> <li>8. Adapt system according to 'supplementary instructions' (must be defined! Cannot be defined until after strategy is determined. Is currently still under development)</li> <li>9. Replace valve</li> <li>10. Replace rail-pressure sensor</li> <li>11. Replace flow-control valve</li> <li>12. Replace high-pressure pump</li> </ul>	Limp-home; RPM and power limited; MIL = on									

MED17.2	0x2DAE	11694	MAX	High-pressure fuel injector 2, mechanical	P301B	Injector 2 Stuck Open	Injector	Stuck	Engine running	none	N	Valve sticking, rail-pressure sensor error, wiring harness fault	<ul style="list-style-type: none"> <li>1. Check whether valve is sticking;</li> <li>2. Check rail-pressure sensor;</li> <li>3. Check rail-pressure sensor wire;</li> <li>4. Check flow-control valve;</li> <li>5. Check high-pressure pump;</li> <li>6. Check temperature sensors for mechanical or thermal damage, intact installation and wiring (ambient air, intake air, coolant); plausibility check on sensor data (for instance, a shop temperature of roughly 20 °C should be reflected in the sensor data)</li> <li>7. Check vehicle speed signal</li> <li>8. Adapt system according to 'supplementary instructions' (must be defined! Cannot be defined until after strategy is determined. Is currently still under development)</li> <li>9. Replace valve</li> <li>10. Replace rail-pressure sensor</li> <li>11. Replace flow-control valve</li> <li>12. Replace high-pressure pump</li> </ul>	Limp-home; RPM and power limited; MIL = on									
MED17.2	0x2DB1	11697	MAX	High-pressure fuel injectors 1 and 3, electrical	P301E	Injector 1 or 3 Stuck Open	Injector	Stuck	Engine running	none	N	Valve sticking, rail pressure error, wiring harness fault, DME output circuit defective	<ul style="list-style-type: none"> <li>1. Check whether valve is sticking;</li> <li>2. Check valve output circuit;</li> <li>3. Check rail-pressure sensor;</li> <li>4. Check rail-pressure sensor wire;</li> <li>5. Check flow-control valve;</li> <li>6. Check high-pressure pump;</li> <li>7. Check temperature sensors for mechanical and thermal damage, intact installation and wiring (ambient temperature, intake air, coolant); plausibility check on sensor data (for instance, a shop temperature of roughly 20 °C must be reflected in the sensor data)</li> <li>8. Check vehicle speed signal</li> <li>9. Adapt system according to 'supplementary instructions' (must be defined! Cannot be defined until after strategy is determined. Is currently still under development)</li> <li>10. Replace valve</li> <li>11. Replace valve driver circuit (DME)</li> <li>12. Replace rail-pressure sensor</li> <li>13. Replace flow-control valve</li> <li>14. Replace high pressure pump</li> </ul>	Limp-home; RPM and power limited; MIL = on									
MED17.2	0x2DB4	11700	MAX	High-pressure fuel injectors 2 and 4, electrical	P301F	Injector 2 or 4 Stuck Open	Injector	Stuck	Engine running	none	N	Valve sticking, rail pressure error, wiring harness fault, DME output circuit defective	<ul style="list-style-type: none"> <li>1. Check whether valve is sticking;</li> <li>2. Check valve output circuit;</li> <li>3. Check rail-pressure sensor;</li> <li>4. Check rail-pressure sensor wire;</li> <li>5. Check flow-control valve;</li> <li>6. Check high-pressure pump;</li> <li>7. Check temperature sensors for mechanical and thermal damage, intact installation and wiring (ambient temperature, intake air, coolant); plausibility check on sensor data (for instance, a shop temperature of roughly 20 °C must be reflected in the sensor data)</li> <li>8. Check vehicle speed signal</li> <li>9. Adapt system according to 'supplementary instructions' (must be defined! Cannot be defined until after strategy is determined. Is currently still under development)</li> <li>10. Replace valve</li> <li>11. Replace valve driver circuit (DME)</li> <li>12. Replace rail-pressure sensor</li> <li>13. Replace flow-control valve</li> <li>14. Replace high pressure pump</li> </ul>	Limp-home; RPM and power limited; MIL = on									

MED17.2	0x2DBD	11709	MAX	High-pressure fuel injection, relay activation	P2148	Fuel Injector Group 'A' Supply Voltage Circuit High	Supply Voltage Injector	Electrical	Engine running	0.5 sec.	Terminal 15	none	none	none	none	U	N	Short to positive	Check connection between DME and injection valve relay S_EVZ, replace injection valve relay K6327, replace DME.	CC status report	Engine fails to start
MED17.2	0x2DBE	11710	MIN	High-pressure fuel injection, relay activation	P2147	Fuel Injector Group 'A' Supply Voltage Circuit Low	Supply Voltage Injector	Electrical	Engine running	0.5 sec.	Terminal 15	none	none	none	none	U	N	Short to ground	Check connection between DME and injection valve relay S_EVZ, replace injection valve relay K6327, replace DME.	CC status report	Engine fails to start
MED17.2	0x2DBF	11711	SIG	High-pressure fuel injection, relay activation	P2146	Fuel Injector Group 'A' Supply Voltage Circuit/Open	Supply Voltage Injector	Electrical	Engine running	0.5 sec.	Terminal 15	none	none	none	none	U	N	Open circuit	Check connection between DME and injection valve relay S_EVZ, replace injection valve relay K6327, replace DME.	CC status report	Engine fails to start
MED17.2	0x2DC0	11712	MAX	Super knocking	P137D	Knock Control Torque Limitation Caused by Too High Number of Super Knocking	Knock Control System	Super Knocking	Tmot >40 °C, from part-load		Terminal 15, engine running	+/-5V	-40 ° to +130	none	none	N		Low-quality fuel High oil consumption Inadequate intercooling Loose engine-mounted ancillaries (turbo bracket) Defect in ignition system Contaminants in induction tract or combustion chamber Poor oil separation in crankcase ventilation system	If the fault has been logged only once or if the entry is old, delete the fault If possible, question customer to determine fuel quality If possible, determine oil consumption Check intercooler Check for loose engine-mounted ancillaries Check spark plugs, ignition coils and ignition wiring harness for damage Inspect induction tract for contamination, focusing on oil contamination Check crankcase ventilation Check combustion chamber for deposits	none	
MED17.2	0x2DC1	11713	MAX	Super knocking	P137E	Knock Control Permanent Torque Limitation Caused by Too High Number of Super Knocking	Knock Control System	Super Knocking	Tmot >40 °C, from part-load		Terminal 15, engine running	+/-5V	-40 ° to +131	none	none	N		Low-quality fuel High oil consumption Inadequate intercooling Loose engine-mounted ancillaries (turbo bracket) Defect in ignition system Contaminants in induction tract or combustion chamber Poor oil separation in crankcase ventilation system	If the fault has been logged only once or if the entry is old, delete the fault If possible, question customer to determine fuel quality If possible, determine oil consumption Check intercooler Check for loose engine-mounted ancillaries Check spark plugs, ignition coils and ignition wiring harness for damage Inspect induction tract for contamination, focusing on oil contamination Check crankcase ventilation Check combustion chamber for deposits	none	
MED17.2	0x2DC2	11714	MAX	Super knocking	P136C	Knock Control Super Knocking Detected	Knock Control System	Super Knocking	Engine operating at part-load	none	none	none	Engine temperature > 40 °C	none	none	Y		Low-quality fuel High oil consumption Inadequate intercooling Loose engine-mounted ancillaries (turbo bracket) Defect in ignition system Contaminants in induction tract or combustion chamber Poor oil separation in crankcase ventilation system	If the fault has been logged only once or if the entry is old, delete the fault If possible, question customer to determine fuel quality If possible, determine oil consumption Check intercooler Check for loose engine-mounted ancillaries Check spark plugs, ignition coils and ignition wiring harness for damage Inspect induction tract for contamination, focusing on oil contamination Check crankcase ventilation Check combustion chamber for deposits	none	
MED17.2	0x2DCA	11722	MAX	Fuel shutoff due to super knocking, cyl. 4	P13A3	Knock Control Fuel Cut-Off due to Super Knocking Cylinder 4															
MED17.2	0x2DCB	11723	MAX	Fuel shutoff due to super knocking, cyl. 2	P13A1	Knock Control Fuel Cut-Off due to Super Knocking Cylinder 2															
MED17.2	0x2DCC	11724	MAX	Fuel shutoff due to super knocking, cyl. 1	P13A0	Knock Control Fuel Cut-Off due to Super Knocking Cylinder 1															
MED17.2	0x2DCD	11725	MAX	Fuel shutoff due to super knocking, cyl. 3	P13A2	Knock Control Fuel Cut-Off due to Super Knocking Cylinder 3															
MED17.2	0x2E1C	11804	MAX	No BSD message from generator	U1132	Lost Communication With Generator via BSD (Bit Serial Data Interface)			none	25.5 sec.	Terminal 15	none	none	none	none	N		Open BSD wire between DME and alternator	1. Check wiring harness between alternator and DME (D_BSD) 2. Replace alternator 3. Do not replace DME unless all communications between BSD components have been suspended	Charge indicator lamp	

MED17.2	0x2E20	11808	MAX	Alternator	P325A	Generator Electrical Error Calculated		Engine running No field current	51 sec.	none	Battery voltage < 11.5V	none	none	none	none	Y	Alternator not being powered No field current	If multiple entries of the fault have been logged, or the fault is present continuously, respond by checking the alternator drive Replace the alternator	Charge indicator lamp	
MED17.2	0x2E24	11812	MAX	Alternator	P0620	Generator Control Circuit		Engine running	25.5 sec.	none	none	none	none	none	none	Y	Alternator not being powered No field current	If multiple entries of the fault have been logged, or the fault is present continuously, respond by checking the alternator drive Replace the alternator	Charge indicator lamp	
MED17.2	0x2E28	11816	MAX	Alternator	P324C	Generator Over Temperature Calculated		Engine speed < 1400 rpm	25.5 sec.	none	none	Alternator intake air < 140 °C	none	none	none	Y	Alternator overheated	If multiple entries of this fault have been logged: Check to determine whether additional electrical devices that consume substantial energy or reduce the flow of cooling air have been installed, determine whether dirt and contaminants are obstructing alternator cooling	Charge indicator lamp	
MED17.2	0x2E2C	11820	MAX	Alternator	P0A3B	Generator Over Temperature		Engine running	25.5 sec.	none	none	none	none	none	none	Y	Alternator overheated	If multiple entries of this fault have been logged: Check to determine whether additional electrical devices that consume substantial energy or reduce the flow of cooling air have been installed, determine whether dirt and contaminants are obstructing alternator cooling	Charge indicator lamp	
MED17.2	0x2E30	11824	MAX	Alternator	P0A3B	Generator Over Temperature		Engine running	none	none	none	none	none	none	none	Y	Alternator overheated	If multiple entries of this fault have been logged: Check to determine whether additional electrical devices that consume substantial energy or reduce the flow of cooling air have been installed, determine whether dirt and contaminants are obstructing alternator cooling	Charge indicator lamp	
MED17.2	0x2E31	11825	MIN	Alternator	P3225	Generator Communication Error		Engine running	none	none	none	none	none	none	none	Y	Incorrect alternator installed Communications errors causing intermittent fault	Replace the alternator only if this fault is always present	Charge indicator lamp	
MED17.2	0x2E32	11826	PLAUS	Alternator	P3223	Generator Mechanical		Engine running	none	none	none	none	none	none	none	Y	Alternator not being powered No field current	If multiple entries of the fault have been logged, or the fault is present continuously, respond by checking the alternator drive Replace the alternator	Charge indicator lamp	
MED17.2	0x2E33	11827	SIG	Alternator	P0620	Generator Control Circuit		Engine running	none	none	none	none	none	none	none	Y	Alternator not being powered No field current	If multiple entries of the fault have been logged, or the fault is present continuously, respond by checking the alternator drive Replace the alternator	Charge indicator lamp	
MED17.2	0x2E34	11828	MAX	Alternator	P3223	Generator Mechanical		Engine running	25.5 sec.	none	none	none	none	none	none	Y	Alternator not being powered No field current	If multiple entries of the fault have been logged, or the fault is present continuously, respond by checking the alternator drive Replace the alternator	Charge indicator lamp	
MED17.2	0x2E38	11832	MAX	Alternator				none	25.5 sec.	Terminal 15	none	none	none	none	none	N	Incorrect voltage regulator installed Communications error causes intermittent fault	Replace the voltage regulator only if this fault is always present	none	
MED17.2	0x2E3C	11836	MAX	Alternator				none	25.5 sec.	Terminal 15	none	none	none	none	none	N	Incorrect alternator installed Communications errors causing intermittent fault	Replace the alternator only if this fault is always present	none	
MED17.2	0x2E40	11840	MAX	Intelligent battery sensor, self-diagnosis 2	P150D	Battery Sensor Temperature Error		none	none	Terminal 15	none	none	none	none	N	Short to ground in TERM15/Wakeup wire 15WUP from intelligent battery sensor Defective intelligent battery sensor	1. With battery sensor removed, check TERM15/Wakeup wire 15WUP for short circuit to ground 2. Check for unapproved electrical equipment connected to TERM15/Wakeup wire 3. Replace the battery sensor if the fault is currently present or has been logged multiple times	No warning lamp or CC status report		



MED17.2	0x2EE5	12005	SIG	Map thermostat, activation	P0597	Thermostat Heater Control Circuit/Open	Thermostat	Electrical	Engine running	none	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEURN_KFK	U	N	Open circuit	Check fuse, check wiring harness between DME and thermostat, replace thermostat, replace DME	Engine temperature too high/low			
MED17.2	0x2EE6	12006	MAX	Electric fan, activation, power stage 1	P0692	Fan 1 Control Circuit High			Engine running	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEURN_E_LUEFTER	U	N	Short to positive	Check wiring harness between Relay K21 and DME: T_ELUE Replace relay, replace DME.	Engine temperature too high/low			
MED17.2	0x2EE7	12007	MIN	Electric fan, activation, power stage 1	P0691	Fan 1 Control Circuit Low			Engine running	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEURN_E_LUEFTER	U	N	Short to ground	Check wiring harness between Relay K21 and DME: T_ELUE Replace relay, replace DME.	Engine temperature too high/low			
MED17.2	0x2EE8	12008	SIG	Electric fan, activation, power stage 1	P0480	Fan 1 Control Circuit			Engine running	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEURN_E_LUEFTER	U	N	Open circuit	Check fuse F05 Check wiring harness between relay K21 and DME: T_ELUE Check wiring harness between relay K21 and fuse F05: U_HR-5 Relais tauschen, DME tauschen.	Engine temperature too high/low			
MED17.2	0x2EEE	12014	MIN	Intake-air temperature on cold start	P105D	Cold Start Intake Air Temperature - Too Low	Intake Air Temperature	Cold Start	No absolute definition possible for service use	2 sec.	Terminal 15	none	none	none	none	none	N	Defect in wiring harness Defective intake air temperature sensor Defective DME	1. Check wiring harness between DME and intake air temperature sensor 2. Replace intake air temperature sensor 3. Replace DME	MIL ON			
MED17.2	0x2EF1	12017	MAX	Intake-air temperature sensor, signal	P0113	Intake Air Temperature Sensor 1 Circuit High (Bank 1)	Intake Air Temperature Sensor	1 Electrical	none	2 sec.	Terminal 15	none	none	none	none	Analog: 3.3 -0V over response curve in -40.5 - 134.3°C	Y	Short to ground Intake temperature sensor DME	1. Check wiring harness between intake temperature sensor and DME A_TANS, U_DSB 2. Replace intake temperature sensor B6123 3. DME	none	none		
MED17.2	0x2EF2	12018	MIN	Intake-air temperature sensor, signal	P0112	Intake Air Temperature Sensor 1 Circuit Low (Bank 1)	Intake Air Temperature Sensor	1 Electrical	Engine running	2 sec.	none	none	none	30 sec. after engine start	none	Analog: 3.3 -0V over response curve in -40.5 - 134.3°C	Y	Short circuit to positive Intake temperature sensor DME	1. Check wiring harness between intake temperature sensor and DME A_TANS, R_DSB 2. Replace intake temperature sensor B6123 3. DME	none	none		
MED17.2	0x2EF9	12025	MAX	Intake air temperature sensor, plausibility	P111E	Intake Air Temperature Sensor 1 Maximum Temperature Implausible (Bank 1)	Intake Air Temperature Sensor	1 Temperature	Engine running	2 sec.	none	none	none	none	none	none	N	Defect in wiring harness Defective intake air temperature sensor Defective DME	1. Check wiring harness between DME and intake air temperature sensor 2. Replace intake air temperature sensor 3. Replace DME	MIL ON			
MED17.2	0x2EFB	12027	PLAUS	Intake air temperature sensor, plausibility	P0111	Intake Air Temperature Sensor 1 Circuit Range/Performance (Bank 1)	Intake Air Temperature Sensor	1 Plausibility	No absolute definition possible for service use	2 sec.	Terminal 15	none	none	none	none	none	N	Defect in wiring harness Defective intake air temperature sensor Defective DME	1. Check wiring harness between DME and intake air temperature sensor 2. Replace intake air temperature sensor 3. Replace DME				
MED17.2	0x2F07	12039	PLAUS	Map thermostat, mechanism	P0128	Coolant Thermostat (Coolant Temperature Below Thermostat Regulating Temperature)	Thermostat	Functional Check	Engine starting temperature < 65 °C 960 rpm < Engine speed < 6000 rpm 10 km/h < Vehicle speed < 95 km/h	none	Terminal 15	8.5 V < Battery voltage < 17.9 V	Engine starting temperature < 65 °C	none	STEURN_KFK	none	N	Thermostat physically seized	Replace thermostat	Engine temperature too high/low	tmot rises more slowly		
MED17.2	0x2F19	12057	MAX	Coolant temperature sensor, signal	P0118	Engine Coolant Temperature Sensor 1 Circuit High	Engine Coolant Temperature Sensor	1 Electrical	none	0.5 sec.	Terminal 15	none	none	none	none	Analog: 3.3 - 0V through response curve to -45 - 140°C	Y	Short to ground Coolant temperature sensor DME	1. Replace coolant temperature sensor 2. Check wiring harness between coolant temperature sensor and DME 3. Replace DME	MIL on	none		
MED17.2	0x2F1A	12058	MIN	Coolant temperature sensor, signal	P0117	Engine Coolant Temperature Sensor 1 Circuit Low	Engine Coolant Temperature Sensor	1 Electrical	none	0.5 sec.	Terminal 15	none	none	none	none	Analog: 3.3 - 0V through response curve to -45 - 140°C	Y	Short circuit to positive or open wire Coolant temperature sensor DME	1. Replace coolant temperature sensor 2. Check wiring harness between coolant temperature sensor and DME 3. Replace DME	MIL on	none		
MED17.2	0x2F22	12066	MIN	Engine temperature, plausibility	P112B	Engine Coolant Temperature Sensor 1 Minimum Temperature Implausible	Engine Coolant Temperature Sensor	1 Temperature	Engine running	none	Terminal 15	none	none	none	none	none	N	Wiring harness Coolant temperature sensor Collateral fault from defective thermostat Collateral fault stemming from defective water pump DME	Repair any thermostat faults that may be present Check operation of water pump Replace coolant temperature sensor Check wiring harness Replace DME	MIL ON			
MED17.2	0x2F23	12067	PLAUS	Engine temperature, plausibility	P0116	Engine Coolant Temperature Sensor 1 Circuit Range/Performance	Engine Coolant Temperature Sensor	1 Plausibility	No clear diagnosis possible in field service operations, can only be detected using special test technology	none	Terminal 15	none	none	none	none	none	Y	Engine temperature changes less than in model Wiring harness Defective coolant temperature sensor Collateral fault from defective thermostat	If a thermostat fault is present, repair this first Check wiring harness Replace coolant temperature sensor	MIL ON			
MED17.2	0x2F25	12069	MAX	Ambient temperature sensor, signal	P0073	Ambient Air Temperature Sensor Circuit High	Ambient Air Temperature Sensor	Electrical	none	5 sec.	Terminal 15	none	none	none	none	none	Y	I-cluster transmits invalid value	Continue fault diagnosis with I-cluster	MIL ON			
MED17.2	0x2F26	12070	MIN	Ambient temperature sensor, signal	P0072	Ambient Air Temperature Sensor Circuit Low	Ambient Air Temperature Sensor	Electrical	none	5 sec.	Terminal 15	none	none	none	none	none	Y	I-cluster transmits invalid value	Continue fault diagnosis with I-cluster	MIL ON			
MED17.2	0x2F28	12072	SIG	Ambient temperature sensor, signal	P110F	Ambient Air Temperature Sensor Faulty CAN Signal	Ambient Air Temperature Sensor	Signal	none	18 sec.	Terminal 15	none	none	none	none	none	Y	I-cluster transmits implausible value	Continue fault diagnosis with I-cluster	MIL ON			

MED17.2	0x2F2F	12079	PLAUS	Ambient temperature sensor, plausibility	P0071	Ambient Air Temperature Sensor Range/Performance	Ambient Air Temperature Sensor	Plausibility	Engine running	5 sec.	none	none	none	none	none	Y	I-cluster transmits implausible value	Continue fault diagnosis with I-cluster	MIL ON		
MED17.2	0x2F30	12080	SIG	Ambient temperature sensor, plausibility	P0071	Ambient Air Temperature Sensor Range/Performance	Ambient Air Temperature Sensor	Plausibility	Engine running	5 sec.	none	none	none	none	none	Y	I-cluster transmits implausible value	Continue fault diagnosis with I-cluster	MIL ON		
MED17.2	0x2F35	12085	MAX	Auxiliary water pump, activation	P023C	Charge Air Cooler Coolant Pump Control Circuit High			Engine running	none	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEUERN_WAPUT	U	N	Short to positive	Check wiring harness between turbocharger coolant pump and DME: S_TC Check operation of turbocharger coolant pump and replace as indicated, replace DME.	Message	
MED17.2	0x2F36	12086	MIN	Auxiliary water pump, activation	P023B	Charge Air Cooler Coolant Pump Control Circuit Low			Engine running	none	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEUERN_WAPUT	U	N	Short to ground Stiction in pump	Check wiring harness between turbocharger coolant pump and DME: S_TC Replace turbocharger coolant pump, replace DME.	Message + limp-home mode	
MED17.2	0x2F37	12087	SIG	Auxiliary water pump, activation	P023A	Charge Air Cooler Coolant Pump Control Circuit/Open			Engine running	none	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEUERN_WAPUT	U	N	Open wire S_TC Voltage supply to turbocharger coolant pump	Check wiring harness between turbocharger coolant pump and DME: S_TC Check voltage supply to turbocharger coolant pump Check operation of turbocharger coolant pump and replace as indicated, replace DME.	Message	
MED17.2	0x2F3C	12092	MAX	Electric fan, activation, power stage 2	P0694	Fan 2 Control Circuit High			Engine running	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEUERN_E_LUEFTER	U	N	Short to positive	Check wiring harness between Relay K22 and DME: T_ELUE2 replace relay, replace DME.	Engine temperature too high/low	
MED17.2	0x2F3D	12093	MIN	Electric fan, activation, power stage 2	P0693	Fan 2 Control Circuit Low			Engine running	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEUERN_E_LUEFTER	U	N	Short to ground	Check wiring harness between Relay K22 and DME: T_ELUE2 replace relay, replace DME.	Engine temperature too high/low	
MED17.2	0x2F3F	12095	SIG	Electric fan, activation, power stage 2	P0481	Fan 2 Control Circuit			Engine running	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	STEUERN_E_LUEFTER	U	N	Open circuit	Check Fuse FL9 Check wiring harness between Relay K22 and DME: T_ELUE2 replace relay, replace DME.	Engine temperature too high/low	
MED17.2	0x2F40	12096	MAX	Engine-ventilation heating, activation	P118A	Engine Oil Separator Heating Circuit High	Engine Oil Separator Heating	Electrical	Engine running	0.5 sec.	none	none	none	none	STEUERN_KGEH	Voltage on oil separator heater relay	N	Short to positive	Check wiring harness between DME and Relay K6539: S_BBHR Replace relay K6539 Replace DME	none	When line is frozen excessive crankcase pressure can cause leaks
MED17.2	0x2F41	12097	MIN	Engine-ventilation heating, activation	P118B	Engine Oil Separator Heating Circuit Low	Engine Oil Separator Heating	Electrical	Engine running	0.5 sec.	none	none	none	none	STEUERN_KGEH	Voltage on oil separator heater relay	N	Short to ground	Check wiring harness between DME and Relay K6539: S_BBHR Replace relay K6539 Replace DME	none	When line is frozen excessive crankcase pressure can cause leaks
MED17.2	0x2F42	12098	SIG	Engine-ventilation heating, activation	P118C	Engine Oil Separator Heating Circuit/Open	Engine Oil Separator Heating	Electrical	Engine running	0.5 sec.	none	none	none	none	STEUERN_KGEH	Voltage on oil separator heater relay	N	Open circuit	Check wiring harness between DME and Relay K6539: S_BBHR Replace relay K6539 Replace DME	none	When line is frozen excessive crankcase pressure can cause leaks
MED17.2	0x2FAA	12202	PLAUS	Brake-light switch	P0571	Brake Switch 'A' Circuit	Brake Switch	Electrical	none	Brake activated 120 sec. if wire is open 10 brake activations of 2 sec. duration each if implausible	Terminal 15	none	none	none	STATUS_SCHALTERSTATI	U	N	Implausible signal Open wire Brake light switch DME	Check wiring harness between DME and brake light switch Replace brake light switch Replace DME		
MED17.2	0x2FAC	12204	PLAUS	Engine switch-off time, plausibility	P1515	Engine Off Timer Plausibility	Engine Off Timer, External	Electrical	none	10 sec.	Terminal 15	none	none	none	none	CAN	Y	Received CAN time from I-cluster not plausible relative to internally calculated time	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with I-cluster	none	Power loss / Starting problems / Rough engine running
MED17.2	0x2FAD	12205	SIG	Engine switch-off time, plausibility	P1551	Engine Off Timer Timeout	Engine Off Timer, External	Electrical	none	5 sec.	Terminal 15	none	none	none	none	CAN	Y	No time received from I-cluster	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with I-cluster or SPEG	none	Power loss / Starting problems / Rough engine running
MED17.2	0x2FB7	12215	MIN	Energy-saving mode					none	none	Terminal 15	9 V < Battery voltage < 16 V	none	none	STATUS_ENERGIESPARMODE	none	N	Vehicle in FETRAWE mode	Delete FETRAWE mode with ENERGY SAVING MODE	none	Energy saving mode for production, shipping and service
MED17.2	0x2FC1	12225	SIG	Clutch switch, signal	P0704	Clutch Switch Input Circuit			Vehicle speed > 30 km/h If less than 2 clutch-release cycles have been detected during 15 gearshifts	none	none	none	none	none	none	Y	Defect in wiring harness Defective clutch switch Defective DME	Check wiring harness between DME and clutch switch Replace clutch switch Replace DME	none		
MED17.2	0x2FC2	12226	MAX	Brake vacuum-pressure sensor	P0558	Brake Booster Pressure Sensor Circuit High			none	none	Terminal 15	none	none	none	0.2 .. 4.88 V	N	Short circuit to positive Defective brake vacuum sensor Defective DME	Check wiring harness between DME and brake vacuum sensor Replace brake vacuum sensor Replace DME	-Automatic start/stop button: LED = ON -Symbol and CC message: "Automatic start/stop failure!"	-No engine shutdown from automatic start/stop	

MED17.2	0x2FC3	12227	MIN	Brake vacuum-pressure sensor	P0557	Brake Booster Pressure Sensor Circuit Low				none	none	Terminal 15	none	none	none	0.2 .. 4.88 V	N	Short to ground or open wire Defective brake vacuum sensor Defective DME	Check wiring harness between DME and brake vacuum sensor Replace brake vacuum sensor Replace DME	-Automatic start/stop button: LED = ON -Symbol and CC message: 'Automatic start/stop failure!'		-No engine shutdown from automatic start/stop
MED17.2	0x2FC4	12228	PLAUS	Oil-pressure switch, plausibility	P0520	Engine Oil Pressure Sensor/Switch Circuit			DME in shutdown phase	3 faults detected consecutively	Terminal R	none	Oil temperature between 100 and 150 °C	DME in shutdown phase for at least 3 s.	none	none	N	Defective oil pressure switch Defect in wiring harness	Check wiring harness between oil pressure switch and DME Replace oil pressure switch	none	none	
MED17.2	0x2FC5	12229	MAX	DME, internal fault	P2229	Barometric Pressure Sensor 'A' Circuit High	Ambient Pressure Sensor	Electrical	Engine running	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	U	N	Internal DME fault	Replace DME				
MED17.2	0x2FC6	12230	MIN	DME, internal fault	P2228	Barometric Pressure Sensor 'A' Circuit Low	Ambient Pressure Sensor	Electrical	Engine running	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	U	N	Internal DME fault	Replace DME				
MED17.2	0x2FCD	12237	MAX	Ambient-pressure sensor, plausibility	P321E	Ambient Pressure Sensor Maximum Pressure Implausible	Ambient Pressure Sensor	Pressure	none	2 sec.	Terminal 15	none	none	none	none	N	Defective DME	Do not replace DME unless this fault has been logged multiple times or is entered continuously	MIL ON			
MED17.2	0x2FCE	12238	MIN	Ambient-pressure sensor, plausibility	P321F	Ambient Pressure Sensor Minimum Pressure Implausible	Ambient Pressure Sensor	Pressure	none	2 sec.	Terminal 15	none	none	none	none	N	Defective DME	Do not replace DME unless this fault has been logged multiple times or is entered continuously	MIL ON			
MED17.2	0x2FCF	12239	PLAUS	Ambient-pressure sensor, plausibility	P323C	Ambient Pressure Sensor Comparison Current to Last Driving Cycle Implausible	Ambient Pressure Sensor	Driving Cycle Comparison	none	2 sec.	Terminal 15	none	none	20 sec.	none	N	Defective DME	Do not replace DME unless this fault has been logged multiple times or is entered continuously	MIL ON			
MED17.2	0x2FD0	12240	SIG	Ambient-pressure sensor, plausibility	P322A	Ambient Pressure Sensor Continuity Error	Ambient Pressure Sensor	Pressure	none	2 sec.	Terminal 15	none	none	20 sec.	none	N	Defective DME	Do not replace DME unless this fault has been logged multiple times or is entered continuously	MIL ON			
MED17.2	0x2FD6	12246	MIN	EWS anti-tampering protection	P1667	EWS (Electronic Immobilizer) Start Value not yet Programmed			none	1 sec.	Terminal 15	none	none	none	none	N	No start value yet programmed.	Return the DME to the factory	none	Start data can only be programmed at the factory	none	
MED17.2	0x2FD7	12247	PLAUS	EWS anti-tampering protection	P1665	EWS (Electronic Immobilizer) Tampering via Rolling Code			none	1 sec.	Terminal 15	none	none	none	none	N	Communications error between DME and CAS stemming from mutual interchange	Return to installation status prior to interchange Check CAS bus wiring harness	none	New control modules can only be calibrated at the factory the control modules were mutually switched	none	
MED17.2	0x2FD9	12249	MAX	Interface EWS-DME	P165A	EWS (Electronic Immobilizer) Interface to ECM, Hardware Error			Engine off	2 sec.	Terminal 15	none	none	none	none	N	Problem with communications between CAS and DME Defective DME	If the fault has been logged more than 5 times or is present continuously, respond by replacing the DME	none	none	none	
MED17.2	0x2FDA	12250	MIN	Interface EWS-DME	P1660	EWS (Electronic Immobilizer) Telegram Error			Engine off	2 sec.	Terminal 15	none	none	none	none	N	Telegram structure not as expected	Continue problem diagnosis with CAS	none	none	none	
MED17.2	0x2FDB	12251	PLAUS	Interface EWS-DME	P165B	EWS (Electronic Immobilizer) Interface to ECM, Checksum Error			Engine off	2 sec.	Terminal 15	none	none	none	none	N	Telegram structure not as expected	Continue problem diagnosis with CAS	none	none	none	
MED17.2	0x2FDC	12252	SIG	Interface EWS-DME	P1661	Timeout EWS (Electronic Immobilizer)-Telegram			Engine off	2 sec.	Terminal 15	none	none	none	none	N	Problem with communications between CAS and DME Defective CAS Defective DME	Check CAS bus wiring harness If the fault has been logged more than 5 times or is present continuously, then replace the CAS, replace DME	none	none	none	
MED17.2	0x2FDD	12253	MAX	DME, internal fault	P165C	EWS (Electronic Immobilizer) Data, No Available Storage Possibility			Calibration procedure	none	Terminal 15	none	none	none	none	N	Defective DME	Replace DME	none	none	none	
MED17.2	0x2FDE	12254	MIN	DME, internal fault	P165D	EWS (Electronic Immobilizer) Data, Faulty Release Code Storage			Calibration procedure	none	Terminal 15	none	none	none	none	N	Enable code storage defective	Replace DME	none	none	none	
MED17.2	0x2FDF	12255	PLAUS	DME, internal fault	P165E	EWS (Electronic Immobilizer) Data, Checksum Error			Terminal 15	none	Terminal 15	none	none	none	none	N	Fault in checksum for EWS data content	Replace DME if fault is currently present or has been logged at least 3 times	none	none	none	
MED17.2	0x2FE0	12256	SIG	DME, internal fault	P1668	EWS (Electronic Immobilizer) Start Value Destroyed			Terminal 15	none	Terminal 15	none	none	none	none	N	EWS code defective	Replace DME if fault is currently present or has been logged at least 3 times	none	none	none	
MED17.2	0x2FE2	12258	MIN	Message EWS-DME incorrect	U1166	Message Monitoring EWS (Electronic Immobilizer) - Frame Error			Engine off	2 sec.	Terminal 15	none	none	none	none	N	Telegram structure not as expected	Continue problem diagnosis with CAS	none	none	none	
MED17.2	0x2FE4	12260	SIG	Message EWS-DME incorrect	U0167	Lost Communication With Vehicle Immobilizer Control Module			Engine off	2 sec.	Terminal 15	none	none	none	none	N	Messages are not received	Problem diagnosis with CAS and/or SPEG	none	none	none	
MED17.2	0x2FE5	12261	MAX	Starter motor, activation	P0617	Starter Relay Circuit High			Engine running	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	U	N	Short to positive	Check connection between CAS and DME: S_START Continue fault diagnosis with CAS Replace DME.				
MED17.2	0x2FE6	12262	MIN	Starter motor, activation	P0616	Starter Relay Circuit Low			Engine running	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	U	N	Short to ground	Check connection between CAS and DME: S_START Continue fault diagnosis with CAS Replace DME.				
MED17.2	0x2FE7	12263	SIG	Starter motor, activation	P0615	Starter Relay Circuit			Engine running	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	U	N	Open circuit S_START	Check connection between CAS and DME: S_START Continue fault diagnosis with CAS Replace DME.				
MED17.2	0x2FF2	12274	MAX	DME, internal fault	P0634	PCM/ECM/TCM Internal Temperature 'A' Too High	ECM/TCM	Internal Temperature	Engine running	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	U	N	Internal DME fault	Replace DME	CC status report			
MED17.2	0x2FF3	12275	MIN	DME, internal fault	P163A	PCM/ECM/TCM Internal Temperature Too Low	ECM/TCM	Internal Temperature	Engine running	0.5 sec.	Terminal 15	9 V < Battery voltage < 16 V	none	none	U	N	Internal DME fault	Replace DME	CC status report			
MED17.2	0x2FF4	12276	MAX	Vehicle speed, plausibility	P1577	Speed Indication Signal Instrument Pack			none	0.5 sec.	Terminal 15	none	none	none	none	Y	I-cluster transmits invalid value	Continue fault diagnosis with I-cluster	none	none		
MED17.2	0x2FF5	12277	PLAUS	Vehicle speed, plausibility	P15B5	Speed Indication Instrument Pack / DSC Signal Correlation			none	0.5 sec.	Terminal 15	none	none	none	none	Y	I-cluster or DSC/ASC transmits implausible value	Continue fault diagnosis with I-cluster or DSC/ASC	none	none		
MED17.2	0x2FF6	12278	MAX	Vehicle speed, signal	P0503	Vehicle Speed Sensor 'A' Intermittent/Erratic/High	Vehicle Speed Sensor	Electrical	none	3 sec.	Terminal 15	none	none	none	none	Y	Implausible speed signal	Continue fault diagnosis with DSC/ASC				
MED17.2	0x2FF7	12279	MIN	Vehicle speed, signal	P0500	Vehicle Speed Sensor 'A'	Vehicle Speed Sensor	Electrical	Vehicle speed > 10 km/h	10 sec.	Terminal 15	none	none	none	none	Y	Speed signal from right front wheel sticks at one value	Continue fault diagnosis with DSC/ASC				

MED17.2	0x2FFF	12287	MIN	Vehicle speed, plausibility	P152B	Vehicle Speed Sensor, Speed Too Low Compared to Reference in Coast Down	Vehicle Speed Sensor	Plausibility	Vehicle speed > 4 km/h 1500 rpm < Engine speed < 4500 rpm	7 sec.	none	none	Tmot > 40 °C	none	none	none	Y	Vehicle speed is higher than measured	Continue fault diagnosis with DSC/ASC		
MED17.2	0x3000	12288	PLAUS	Vehicle speed, plausibility	P0501	Vehicle Speed Sensor 'A' Range/Performance	Vehicle Speed Sensor	Plausibility	Vehicle speed > 40 km/h	3 sec.	none	none	none	none	none	none	Y	Vehicle speed does not correlate with calculated speed	Continue fault diagnosis with DSC/ASC		
MED17.2	0x301C	12316	MAX	Enable line, MSA: activation					- MSA start - Automatic Terminal 15 deactivation	none	Terminal 15	Battery voltage > 10 V	none	none	none	none	N	1.) Short circuit to positive (MSA_Enable or MFS) 2.) CAS defective 3.) DME defective	1.) Check wiring harness 2.) Replace CAS 3.) Replace DME	MSA deactivated (ID450)	- MSA fails to start when fault appears the first time, - no MSA start after stalling the engine, - MSA function is not available, - no automatic deactivation of Terminal 15 is available
MED17.2	0x301D	12317	MIN	Enable line, MSA: activation					Diagnosis function encoded	none	Terminal 15	Battery voltage > 10 V	none	none	none	none	N	1.) Short to ground (MSA_Enable or MFS) 2.) Defective CAS 3.) Defective DME	1.) Check wiring harness 2.) Replace CAS 3.) Replace DME	MSA deactivated (ID450)	- MSA fails to start when fault appears the first time, - no MSA start after stalling the engine, - MSA function is not available, - no automatic deactivation of Terminal 15 is available
MED17.2	0x301E	12318	SIG	Enable line, MSA: activation					Diagnosis function encoded and - three test pulses following Terminal 15 = ON; - or MSA start request; - or confirmation of automatic Terminal 15 deactivation	none	Terminal 15	Battery voltage > 10 V	none	none	none	none	N	1.) Open wire (MSA_Enable or MFS) 2.) Defective CAS 3.) Defective DME	1.) Check wiring harness 2.) Replace CAS 3.) Replace DME	MSA deactivated (ID450)	- MSA fails to start when fault appears the first time, - no MSA start after stalling the engine, - MSA function is not available, - no automatic deactivation of Terminal 15 is available
MED17.2	0x3028	12328	MAX	Zero-gear sensor, signal					none	none	Terminal 15	none	none	none	none	none	N	1.) Defective sensor 2.) Magnet not installed correctly on shift shaft 3.) Defective DME	1.) PWM signal test with diagnosis job 'STATUS_NULLGANG_ERKENNUNG' ->should not exceed 94 % in any transmission position; 2.) If PWM signal is not OK replace the neutral sensor and reinitialize the neutral position using tester job 'STEUERN_NULLGANG_LERNEN'; 3.) If the fault appears again, check shift shaft to ensure that magnet is installed correctly -> if not, replace transmission and reinitialize neutral position using tester job 'STEUERN_NULLGANG_LERNEN' 4.) If transmission is OK replace engine management and reinitialize neutral position using tester job 'STEUERN_NULLGANG_LERNEN'	MSA deactivated (ID450)	- MSA non-starter when fault appears the first time, - No MSA start after engine is stalled, - MSA functionality is not available
MED17.2	0x3029	12329	MIN	Zero-gear sensor, signal					none	none	Terminal 15	none	none	none	none	none	N	1.) Defective sensor 2.) Magnet not installed correctly on shift shaft 3.) Defective DME	1.) PWM signal test with diagnosis job 'STATUS_NULLGANG_ERKENNUNG' ->should not fall below 6 % in any transmission position; 2.) If PWM signal is not OK replace the neutral sensor and reinitialize the neutral position using tester job 'STEUERN_NULLGANG_LERNEN'; 3.) If the fault appears again, check shift shaft to ensure that magnet is installed correctly -> if not, replace transmission and reinitialize neutral position using tester job 'STEUERN_NULLGANG_LERNEN' 4.) If transmission is OK replace engine management and reinitialize neutral position using tester job 'STEUERN_NULLGANG_LERNEN'	MSA deactivated (ID450)	- MSA non-starter when fault appears the first time, - No MSA start after engine is stalled, - MSA functionality is not available
MED17.2	0x302E	12334	MAX	Zero-gear sensor, signal					none	none	Terminal 15	none	none	none	none	none	N	1.) Wiring harness between neutral sensor and DME 2.) Defective neutral sensor 3.) Defective DME	1.) Check wiring harness: - Short between +5V sensor supply and sensor signal wire - Open sensor signal wire - Open circuit in +5V power supply to sensor - Open circuit in ground to sensor 2.) Replace neutral sensor and reinitialize neutral position using tester job 'STEUERN_NULLGANG_LERNEN' 3.) Replace DME and reinitialize neutral position using tester job 'STEUERN_NULLGANG_LERNEN'	MSA deactivated (ID450)	- MSA non-starter when fault appears the first time, - No MSA start after engine is stalled, - MSA functionality is not available
MED17.2	0x302F	12335	MIN	Zero-gear sensor, signal					none	none	Terminal 15	none	none	none	none	none	N	1.) Wiring harness between neutral sensor and DME 2.) Defective neutral sensor 3.) Defective DME	1.) Check wiring harness: - Short circuit between ground and sensor signal wire 2.) Replace neutral sensor and reinitialize neutral position with tester job 'STEUERN_NULLGANG_LERNEN' 3.) Replace DME and reinitialize neutral position using tester job 'STEUERN_NULLGANG_LERNEN'	MSA deactivated (ID450)	- MSA non-starter when fault appears the first time, - No MSA start after engine is stalled, - MSA functionality is not available



MED17.2	0x3099	12441	SIG	No CAN message, EGS	U0101	Lost Communication With TCM	Communication	TCM	none	0.5 sec.	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	none	none	N	EGS control module	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with EGS	none	Determine whether CAN interface is present for control module: EGS	
MED17.2	0x309D	12445	SIG	No CAN message, IHKA	P3215	CAN Message Monitoring IHKA (Automatic Heating and Air Conditioning) No Signal			none	5 sec.	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	none	none	N	IHKA control module	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with IHKA or SPEG	none	Determine whether CAN interface is present for control module: IHKA	
MED17.2	0x309F	12447	MIN	CAN message, instrument cluster	U112A	Message Monitoring Instrument Pack Status Alive Check	Communication	Instrument Pack	none	0.2 sec.	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	none	none	N	I-cluster	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with I-cluster or SPEG	none	Determine whether alive signal from CAN interface is correct for control module: I-cluster	In the worst case the I-cluster is completely off
MED17.2	0x30A0	12448	PLAUS	CAN message, instrument cluster	P3217	CAN Message Monitoring Instrument Pack Plausibility	Communication	Instrument Pack	none	6 sec.	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	STEUERN_MIL	none	N	I-cluster	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with I-cluster or SPEG	none	Determine whether MIL activation control is correct (control module: I-cluster)	In the worst case the I-cluster is completely off
MED17.2	0x30A1	12449	SIG	No CAN message, instrument cluster	U112B	Lost Communication With Instrument Pack Status	Communication	Instrument Pack	none	0.5 sec. or 5 sec. or 50 sec. (depends on the message)	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	none	none	N	I-cluster	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with I-cluster or SPEG	none	Determine whether CAN interface is present for control module: I-cluster	In the worst case the I-cluster is completely off
MED17.2	0x30A4	12452	MIN	CAN message, SZL	P3219	CAN Message Monitoring SZL (Switch Cluster Steering Column) Alive Check			none	0.5 sec.	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	none	none	N	SZL/LWS control module	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with SZL/LWS	none	Determine whether alive signal from CAN interface is correct for control module: SZL/LWS	
MED17.2	0x30A5	12453	PLAUS	CAN message, SZL	P3221	CAN Message Monitoring SZL (Switch Cluster Steering Column) Plausibility			none	0.5 sec.	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	none	none	N	SZL/LWS control module	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with SZL/LWS	none	Determine whether checksum for CAN interface is correct for control module: SZL/LWS	
MED17.2	0x30A6	12454	SIG	No CAN message, SZL	P3220	CAN Message Monitoring SZL (Switch Cluster Steering Column) No Signal			none	1 sec.	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	none	none	N	SZL/LWS control module	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with SZL/LWS	none	Determine whether CAN interface is present for control module: SZL/LWS	
MED17.2	0x30A7	12455	PLAUS	Message (terminal status, 130)	U111F	Message Monitoring Terminal Status Check Sum Error			none	none	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	none	none	N	CAS control module	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with CAS or SPEG	none	Determine whether checksum and alive signal are correct for CAN message: Terminal status	
MED17.2	0x30A8	12456	SIG	No message (terminal status, 130)	U111E	Lost Communication With Terminal Status			none	0.5 sec.	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	none	none	N	CAS control module	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with CAS or SPEG	none	Check whether CAN message is present: Terminal status	
MED17.2	0x30A9	12457	SIG	No message (status, crash deactivation, electric fuel pump, 135)	U112D	Lost Communication With Control Crash Cut-Off EKP (Electrical Fuel Pump)			none	50 sec.	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	none	none	N	ACSM control module	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with ACSM or SPEG	Airbag	Check whether CAN message is present: Check EKP crash deactivation	
MED17.2	0x30AA	12458	SIG	No message (operation, MSA, 195)					none	25.5 sec.	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	none	none	N	SPEG control module	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with SPEG	MSA switch	Check whether CAN message is present: MSA switch user-activation	
MED17.2	0x30AD	12461	SIG	No message (time/date, 2F8)	U113C	Lost Communication With Time/Date			none	50 sec.	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	none	none	N	I-cluster	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with I-cluster or SPEG	none	Check whether CAN message is present: Time/date	
MED17.2	0x30AE	12462	SIG	No message (status, central locking, lids, 2FC)	P113A	Mass or Volume Air Flow 1 Correction Signal Plausibility Period Too Long	Mass Air Flow	Correction Signal	none	18 sec.	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	none	none	N	CAS control module	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with CAS or SPEG	none	Check whether CAN message is present: ZV and valve status	
MED17.2	0x30AF	12463	PLAUS	Message (vehicle mode, 315)	U1116	Message Monitoring Vehicle Mode Status Check Sum Error			none	none	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	none	none	N	SPEG control module	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with SPEG	none	Determine whether checksum and alive signal are correct for CAN message: Vehicle mode	
MED17.2	0x30B0	12464	SIG	No message (vehicle mode, 315)	U1115	Lost Communication With Vehicle Mode Status			none	25 sec.	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	none	none	N	SPEG control module	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with SPEG	none	Check whether CAN message is present: Vehicle mode	
MED17.2	0x30B2	12466	SIG	No message (status, reverse gear, 3B0)	U1129	Lost Communication With Reverse Status			none	3 sec.	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	none	none	N	FRMFA control module	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with FRMFA or SPEG	none	Check whether CAN message is present: Reverse-gear status	
MED17.2	0x30BA	12474	SIG	No message (sport mode EGS, 1D2)	U1169	Lost Communication with OBD-Sensor	Communication	OBD Sensor	none	25.5 sec.	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	none	none	N	EGS control module	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with EGS	none	Check whether CAN message is present: OBD_SENSOR_DIAG_STATUS	
MED17.2	0x30BB	12475	SIG	No message (diagnosis status, OBD sensor, 5E0)	U116F	Lost Communication With Sports Mode ETC			none	1.2 sec.	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	none	none	N	I-cluster control module	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with I-cluster or SPEG	none	Check whether CAN message is present: Display_Transmission	
MED17.2	0x30C0	12480	PLAUS	Message (driver detection, 2F1)					none	none	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	none	none	N	ACSM control module	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with ACSM	none	Check whether CAN message is plausible: Driver recognition	
MED17.2	0x30C1	12481	SIG	No message (driver detection, 2F1)					none	3 sec.	Terminal 15	Battery voltage > 10 V	none	0.8 sec. after Terminal 15	none	none	N	ACSM control module	If this fault has been entered frequently and/or is currently present; continue fault diagnosis with ACSM or SPEG	none	Check whether CAN message is present: Driver recognition	