

1. Introduction

Memo scanner is newly developed, specially designed for car owners or DIYs. With a **Memo scanner**, you may quickly find out trouble causes of electronically controlled systems on your car by reading the trouble code (DTC) shown on **Memo scanner**, and checking out trouble causes with attached *MANUAL*.

Though so small, it is of the same function as special tool of its kind and applicable to all Volkswagen/Audi models with a 16-pin diagnostic socket.
Notice: AutoScanner may automatically reset while being disturbed by strong static electricity. It is normal.

2. Size

6cm×3cm×2cm(New model: 7cm×4cm×2cm; Extension cable:70cm)

3. Functions

- Reading trouble codes: Read DTCs of ENG, AT, ABS, Air Bag.
- Clearing trouble codes: After the DTCs of a system being displayed for 3 times, the **Memo scanner** will clear the DTCs automatically.

4. Operation

- When the "CHECK ENGINE" light is on, stop the car and apply the parking brake, start the engine then plug the **Memo scanner** to the 16-pin socket usually located under the instrument panel in the car.
- Trouble codes will be cleared automatically after they have displayed for 3 times, they will remain in ECU if **Memo Scanner** is put out before displaying for 3 times (or trouble codes will be cleared when press the "Erase" during displaying the trouble codes, if successfully, it will display "CLR".)

5. DTC Definitions

Please see the table below.

DTC definition table of Volkswagen/Audi vehicle

DTC	Definition
0000	Output ends
0001	Brake control unit
0002	Gearbox control unit
00ED	ABS solenoid valve front left-N59
00EE	ABS solenoid valve front right-N58
00EF	ABS solenoid valve rear left-N57
00F0	ABS solenoid valve rear right-N56
00F1	Trac.contr.press.regulating valve-N238
00F2	Engine throttle back valve-N237
00F3	Engine brake
00F4	Supply voltage for ABS valves fr+rl
00F5	Supply voltage for ABS valves fl+rr
00F6	Earth for ABS valves fr+rl
00F7	Earth for ABS valves fl+rr
00F8	Gearbox switch-E206
00FA	Switch for off-road operation-E207
00FE	Traction control setting missing
00FF	Valves for ABS
0101	ABS inlet valve,front left-N101
0102	Solenoid 1-N88
0103	ABS inlet valve,front right-N99
0104	Solenoid 2-N89
0105	ABS inlet valve,rear -N103
0106	Solenoid 3-N90
0107	Gearbox
0108	Solenoid 4-N91
0109	ABS outlet valve front left-N102
010A	Solenoid 5-N92
010B	ABS outlet valve front right-N100
010C	Solenoid 6-N93
010D	ABS outlet valve,rear-N104
010E	Solenoid 7-N94
010F	See repair group 01
0111	ABS inlet valve,rear right-N133
0112	ABS inlet valve, rear left-N134
0113	ABS outlet valve, rear right-N135
0114	ABS outlet valve, rear left-N136
0115	ABS inlet/outlet valve,front left
0116	Main ABS valve-N105
0117	Valve 1 for differential lock
0118	Valve 2 for differential lock

0119	Road speed sender -G68
011A	Throttle valve positioner-V60
011B	Speed sensor, front left-G47
011C	ABS inlet/outlet valve, front right
011D	Speed sensor, front right-G45
011E	ABS inlet/outlet valve, rear left-N139
011F	Speed sensor rear right-G44
0121	ABS inlet/outlet valve, rear right
0122	Speed sensor rear left-G46
0123	Pressure switch-F116/warn, contact-F117
0124	Hydraulic energy supply pressure level
0125	Multi-function switch-F125
0126	Pressure switch1 for gearbox condition
0127	Pressure switch2 for gearbox condition
0128	Kickdown switch-F8
0129	Gearbox speed sender-G38
012A	Switch for differential lock-E121
012B	Program switch-E122
012C	Gearbox oil temperature sender-G93
012D	ABS return flow pump-V39
012E	Solenoid valve relay-ABS-J106
012F	Function selection switch-E91
0131	Fuel consumption indicator signal
0132	Secondary air system cylinder bank 1
0133	Secondary air system cylinder bank 2
0135	Cleaning fluid dispensing pump-V135
0136	Cat. temperature sensor 1-G20
0138	Cat. temperature sensor 1-G132
0139	Catalyst
013A	Exhaust gas recirculation two-way valve
015B	Solenoid 8-N281

015C	Solenoid 9-N282
015D	Solenoid 10-N283
015E	Earth return wire, modulating piston
015F	Intermediate shaft speed sender-G265
01C0	Pre-press. pump, Hal dex coupling-V181
01C1	Pre-pressurising pump on
01C2	Pre-pressurising pump off
01C3	Four-wheel coupling disengaged
01C4	Four-wheel coupling disengaged
01C5	Functional restriction due to high temp
01C6	Four-wheel monitoring
01F7	Valve control pump/vent
01F8	No.1 cyl. pump/nozzle valve-N240
01F9	No.2 cyl. pump/nozzle valve-N241
01FA	No.3 cyl. pump/nozzle valve-N242

01FB	No.4 cyl. pump/nozzle valve-N243
01FC	No.5 cyl. pump/nozzle valve-N244
01FD	No.6 cyl. pump/nozzle valve-N245
0200	Hall sender not on reference mark
0201	Engine speed sender-G28
0202	Ignition timing sender-G4
0203	Hall sender-G40
0204	Idling switch-F60
0205	Full throttle switch-F81
0206	Throttle valve potentiometer-G69
0207	Intake manifold pressure sender-G71
0208	Air mass/flow meter-G70/G19
0209	CO potentiometer-G74
020A	Coolant temperature sender-G62
020B	Intake air temperature sender
020C	Knock sensor 1-G61
020D	Lambda probe-G39
020E	Brake light switch-F
020F	Intake manifold temperature sender
0210	Altitude sender-F96
0211	Speed information missing
0212	Throt. positioner/potentiometer-G88
0213	Air mass meter reference voltage
0214	Supply voltage
0215	Idling speed regulation
0216	Oil temperature sender-G8
0217	First knock regulation
0218	2nd knock regulation
0219	Lambda control
021A	Reference voltage
021B	Fuel temperature sender-G81
021C	Knock sensor 2-G66
021D	Slide travel potentiometer-G99
021E	Needle lift sender-G80
021F	Maximum revs exceeded
0220	Maximum boost pressure exceeded
0221	Engine/gearbox electrical connection
0222	Data cable defective
0223	Pressure control switch for ABS-F137
0224	Voltage supply for fault memory
0225	Consumption signal
0226	Injection commencement regulation
0227	Catalyst excess temperature
0228	Air flow meter potentiometer-G19
0229	Air mass meter-G70
022A	Lambda regulation II
022B	Lambda probe II-G108
022E	Mixture control lean adjustment limit

022F	Mixture control rich adjustment limit
0230	Exhaust gas recirculation system
0231	Mixture adaptation
0232	Oil level/temperature sender-G266
0233	Current consumption display-Y10
0234	Oil temperature sender
0237	Steering motor activated
0238	Position sensors in steering motor
0239	Steering motor current
023A	Steering motor relay-J509
023B	Steering coupling
023C	Steering position sender-G268
023D	Steering torque sender-G269
023E	Drive motor on
023F	Intake manifold pressure
0240	Terminal 15
0241	Knock control cylinder 1
0242	Knock control cylinder 2
0243	Knock control cylinder 3
0244	Knock control cylinder 4
0245	Knock control cylinder 5
0246	Knock control cylinder 6
0247	Knock control cylinder 7
0248	Knock control cylinder 8
0249	Temperature sensor-EGR-G98
024A	EGR system control
024B	Adjustment limit mixture regulation
024C	Airbag igniterdriver side-N95
024D	Igniter 1 for airbag passenger side-N131
024E	Igniter 2 for airbag passenger side-N132
024F	Belt switch-driver side-E24
0250	Belt switch-passenger side-E25
0251	Seat contact-driver seat-N151
0252	Airbag ignition circuit
0253	Crash data stored
0254	Short circuit between valve wires
0255	Differing wheel speed impulses
0256	Hydraulic/mechanical defect
0257	Plausibility pres/brake light switch
0258	Potentiometer in V68-G92
0259	Potentiometer in V70-G112
025A	Potentiometer in V85-G114
025B	Defroster flap motor in footwell-V85
025C	Potentiometer in V71-G113
025D	Two-way valve fresh/recircula. air flap
025E	Two-way valve coolant cut-off valve
025F	Ambient temperature indicator-G106
0260	Load state sender-G119

0261	Ignition output 1
0262	Ignition output 2
0263	Ignition output 3
0264	Ignition output 4
0265	Ignition output 5
0266	Ignition output 6
0267	Ignition output 7
0268	Ignition output 8
0269	Airbag delay sender left-G104
026A	Airbag delay sender left-G105
026B	Sender wire, left
026C	Sender wire, right
026D	Pressure reducing valve-N155
026E	Drain water from fuel filter
026F	ABS/gearbox electrical connection
0270	Air conditioner compressor cut-in
0271	Speed signal
0272	Glow period warning lamp-k29
0273	Water lever sender-G120
0274	Control element setting monitoring
0275	Brake pedal swith-F47
0276	Air conditioner switched on
0279	Igniter wiring/deceleration sender
027A	EDL series resistance-N159
027B	Lambda probe heating before Cat
027C	FR acceleration sender-G121
027D	RL acceleration sender-G122
027E	Engine/gearbox electrical connection 2
027F	Deceleration sender-G123
0280	Lambda probe heating relay-J278
0281	ATF temperature
0282	EDL change-over valve front right-N166
0283	EDL outlet valve front right-N167
0284	EDL change-over valve front left-N168
0285	EDL outlet valve front left-N169
0286	ABS-TCS/engine electrical connection 1
0287	ABS-TCS/engine electrical connection 2
0288	Lambda probe heating after Cat
0289	ABS in/outlet valve rear-N160
028A	Clutch pedal switch-F36
028B	Wiring for ignition circuit
028C	Gear monitoring
028D	Plausibility select or lever/gearbox
028E	Belt tensioner igniter(D, side)-N153
028F	Belt tensioner igniter(P, side)-N154
0290	Seat occupied sensor-G128
0291	Positioning m. for center outlets-V102
0292	Operating unit

0293	Self test
0294	Kickdown switch/throttle valve potenti.
0295	Temperature indicator
0296	Rev. counter
0297	Speedometer
0298	Fuel gauge
0299	Seat belt warning lamp-K19
029A	Gong
029B	Ambient temperature signal
029C	Vehicle voltage terminal 30
029D	Second fault lamp-K97
029E	Throttle valve positioner sender-G127
029F	CCS switch-E45
02A0	ABS hyd. pump with series resistance
02A1	Operate brakes
02A2	Release brakes
02A3	IFL:0V OFL:0V wheel FL locked
02A4	IFL:VBAT OFL:0V wheel FL locked
02A5	IFL:VBAT OFL:VBAT wheel FL free
02A6	IFL:VBAT OFL:0V wheel FL free
02A7	Lambda probe II heating before Cat
02A8	IFR:0V OFR:0V wheel FR locked
02A9	IFR:VBAT OFR:0V wheel FR locked
02AA	IFR:VBAT OFR:VBAT wheel FR free
02AB	IFR:VBAT OFR:0V wheel FR free
02AC	Lambda probe II heating after Cat
02AD	IRL:0V ORL:0V wheel RL locked
02AE	IRL:VBAT ORL:0V wheel RL locked
02AF	IRL+ADs-VBAT ORL:VBAT wheel RL free
02B0	IRL:VBAT ORL:0V wheel RL free
02B1	Unmetered air in intake air system
02B2	IRR:VBAT ORR:0V wheel RR locked
02B3	IRR:VBAT ORR:0V wheel RR locked
02B4	IRR:VBAT ORR:VBAT wheel RR free
02B5	IRR:VBAT ORR:0V wheel RR free
02B6	Lighting/switch and instruments
02B7	EDL val./hyd.-p.VBAT wheel FL/FR locked
02B8	Valve for pressure reducer left-N170
02B9	Valve for pressure reducer right-N171
02BA	Increased current draw control unit
02BB	Lambda probe after Cat-G130
02BC	Lambda probe II after Cat-G131
02BD	Coolant excess temperature test
02BE	Fuel composition sender-G133
02BF	Idling recognition Tv.poti/IDL switch
02C4	DANGER fan will be switched on
02C5	Photo-sensor 2 for sun penetration-G134
02C6	Defrost flap control motor-V107

02C7	Left footwell flap control motor-V108
02C8	Right footwell flap control motor-V109
02C9	Center left vent control motor-V110
02CA	Center right vent control motor-V111
02CB	Rear footwell vent control motor-V112
02CC	Air recirculation flap control motor
02CD	ACF flap control motor-V114
02CE	Switch for top left vent-F179
02CF	Switch for top right vent-F180
02D0	Switch for lower left vent-F181
02D1	Switch for lower right vent-F182
02D2	Switch for centre left vent-F183
02D3	Switch for centre right vent-F184
02D4	Switch for left rear footwell vent-F185
02D5	Switch for R rear footwell vent-F186
02D6	Switch for Ce rear footwell vent-F187
02D7	Potentiometer in V107-G135
02D8	Potentiometer in V110-G136
02D9	Potentiometer in V111-G137
02DA	Potentiometer in V102-G138
02DB	Potentiometer in V108-G139
02DC	Potentiometer in V109-G140
02DD	Potentiometer in V112-G140
02DE	Potentiometer in centre vent-G142
02DF	Potentiometer in V113-G143
02E0	Potentiometer in V114-G144
02E1	Left heat regulation valve-N175
02E2	Right heat regulation valve
02E3	Coolant circulation pump-V50
02E4	Cylinder 1 recognition sender-G145
02E5	Brake pedal monitoring
02E6	Main vehicle battery venting system
02E7	Battery ventilation sender-G146
02E8	Main vehicle battery temperature control
02E9	Insulation monitoring
02EA	Main vehicle battery cell failure
02EB	Front battery temperature sender-G52
02EC	Rear battery temperature sender-G53
02ED	Vent flap
02EE	Fault lamp
02EF	Main vehicle battery charge state display
02F0	Fan and battery heating
02F1	Elec. connections wheel speed impulse
02F2	Overheating warning lamp
02F3	Oil pressure warning lamp-K3
02F4	Left vent temperature sender-G150
02F5	Right vent temperature sender-G151
02F6	Secondary air system

02F7	Left vent tempera.adjuster-G155
02F8	Right vent temperature adjuster-G156
02F9	Fault stored in engine control unit
02FA	Injector-N181
02FB	Gas press. sender(driver side)-G147
02FC	Gas press. sender(passenger side)
02FD	Modulating piston movement sender-G149
02FE	Front vent temperature sender-G152
02FF	Rear vent temperature sender-G153
0300	R heat exchanger temperature sender
0301	Coolant temperature sender engine outlet
0302	Coolant temp. sender radiator outlet-G83
0303	Fuel gauge sender-G
0304	Oil pressure switch-F22
0305	Oil pressure sender-G10
0306	Self levelling sender RL-G76
0307	Self levelling sender RR-G77
0308	Self levelling sender FL-G78
0309	Accelerator position sender-G79
030A	Steering angle sender-G85
030B	Ambient temperature sensor-G17
030C	Vertical acceleration sender-G90
030D	Front left motor-V76
030E	Front right motor-V77
030F	Rear left motor-V78
0310	Rear right motor-V79
0311	Dash panel temperature sensor-G56
0312	Roof temperature sensor-G86
0313	Fresh air intake temperature sensor
0314	Footwell 2-way valve defrost flap-N118
0315	Reversing light switch-F41
0316	Fresh/recirculating air flap

0317	Evaporator temperature swith-E33
0318	Air conditioner pressure switch-F129
0319	Brake pedal position sender-G100
031A	Hydraulic pump sender-G101
031B	Vertical acceleration sender-G102
031C	Blower for temperature sensor-V42
031D	Sunlight penetration photo sensor-G107
031E	Segment test
031F	Coolant temperature sender-G110
0320	Temperature sensor blower-G109
0321	High pressure switch magnetic coupling
0322	Air conditioner low pressure switch-F73
0323	Front right spring travel sender-G116
0324	Front left spring travel sender-G115

0325	FL suspension strut valves-N148
0326	FR suspension strut valves-N149
0327	RL suspension strut valves-N150
0328	RR suspension strut valves-N151
0329	Brake servo ESP
032A	Brake pressure senders 1/2
032B	System not ready for interrogation
032C	Brake pressure solenoid trip switch-F-84
032D	Brake pressure sender -2-G214
032E	Brake pressure solenoid-N247
032F	Brake recognition switch-F238
0330	Steering assistance sensor-G250
0331	Steering assistance temp. protection
0332	Evaporator exit air temp.sender-G263
0333	High pressure sender-G65
0334	Brake recognition switch ESP-F83
0338	TCS warning lamp-K86
0339	Heated drive+AGA-s seat-Z6
033A	Heated passenger seat-Z8
033B	Radiator fan relay-J26
033C	Relay for radiator fan 3rd speed-J135
033D	Heating control unit-J162
033E	Convertible top operation ctrl unit-J2-56
033F	Radiator fan ctrl unit speeds 1J293
0340	Operating and display unit-E87
0341	Heated windscreen actuating signal
0342	Heated rear window actuating signal
0343	Connection to CU,convertible operation
0344	Valve 1 for gear selection,forward-N284
0345	Valve 2 for gear selection,forward-N285
0346	Valve 3 for gear selection-N286
0347	Valve 4 for gear selection-N287
0348	Gearbox hydraulic pump relay-J510
0349	Gearbox hydraulic pressure sender-G270
034B	Selector lever poti.fwd./rev.-G272
034C	Selec.lever gate recognition SW-F257
034D	Selector lever N recognition SW-F258
034E	Selec. lever Stop recognition SW-F259
034F	Consumer switch-off relay-J511
0350	Direct-shift gearbox hydraulic pump-E262
0351	Contact on ign.starter switch
0352	Ctrl output active ampli.on radio
0353	Loudspeaker
0354	Loudspeaker f
0355	Loudspeaker r
0356	Output radio display dash panel insert
0357	Connection to CD changer
0358	Aerial,on the radio

0359	CD changer-R41
035A	Connect. radio midrange outp.,aeri. amp
035D	Connecti0n to computer for navigation
035E	Navigation aerial (GPS)-R50/R52
035F	TV aerial -1-R55
0360	TV aerial -2-R56
0361	TV aerial -3-R57
0362	TV aerial -4-R58
0363	Connection to ABS control unit
0364	Angle of turn sensor-G208
0366	Bass tone loud speaker fl-R21
0367	Bass tone loud speaker fr-R23
0368	Bass tone loud speaker rl-R15
0369	Bass tone loud speaker rr-R17
036A	treble tone loud speaker fl-R20
036B	treble tone loud speaker fr-R22
036C	treble tone loud speaker rl-R14
036D	treble tone loud speaker rr-R16
036E	Connections to loud speakers fl
036F	Connections to loud speakers fr
0370	Connections to loud speakers rl
0371	Connections to loud speakers rr
0372	Program selection control unit-E200
0373	Ignition starter switch(S terminal)
0374	Ignition starter switch(X terminal)
0375	Ignition starter switch(terminal 50)
0376	Turn signal switch-E2
0377	Button for hazard warning lights-E229
0378	Intermittent wiper switch-E22
0379	Horn plate-H
037A	Button for heated rear window-E230
037B	Button for remote tailgate rele.-E233
037C	Release button,tailgate lock cyl-F248
037D	Release button,tailgate handle-E234
037E	Button for exterior mirror heating-E231
037F	CSS switch-E45
0380	Tailgate locking unit-F256
0381	Windscreen washer pump-V5
0383	Fuse for wiper motor S128
0384	Fuse for horn/dual tone horn-S194
0385	Reversing lights
0386	Fuse for remote tailgate release-S195
0387	Fuse for exterior mirror heating-S196
0388	Fuse for selector lever lock-S197
0389	Fuse for reversing lights-S40
038A	Horn/dual tone horn -H1
038B	Load management intervention
038D	Windscreen wiper dotor-V(speeds1,2)

038E	Hazard warn. light-sys. warning lamp-K6
038F	Heated rear window warning lamp-k10
0390	Front left electric window switch-E40
0391	Fr electric window switch,driver-E81
0392	RI electric window switch,driver-E53
0393	RR electric window switch,driver-E55
0394	Rear elec.window iso.switch-E39
0396	Rear window wiper motor-V12
0398	Heated exterior mirror(Z4/Z5)
0399	Heated exterior mirror warn. lamp-K153
039A	Intermittent wiper switch-E22(speed 1)
039B	Intermittent wiper switch-E22(speed 2)
039C	heatlight washer system relay-J39
039D	Fuse(30) for interi or lighting-S261
039E	Terminal 30
03A0	Locking unit for CL driver+AGA-s side-F220
03A1	Locking unit for CL pass. side-F221
03A2	Locking unit for CL rl-F222
03A3	Locking unit for CL rr-F223
03A4	Electr.window motor,driver+AGA-s side-V147
03A5	Electr. window motor,pass.side-V148
03A6	Electr. window motor rl-V26
03A7	Electr. window motor rr-V27
03A8	Window lifter switch,pass.side-E107
03A9	Window lifter switch,rl-E52
03AA	Window lifter switch,rr-E54
03AB	Mirror adjust. motor,driver+AGA-s side-V149
03AC	Mirror adjust. motor,pass side-V150
03AD	Ext.mirror retract.-motor,driv.side-V121
03AE	Ext.mirror retract.-motor,pass.side-V122
03AF	Heated exterior mirror,driver+AGA-sside-Z4
03B0	Heated ext. mirror,front pass.side-Z5
03B1	Crash sensor for front airbag-G190
03B2	Interior light-W
03B3	Tail gate remote control switch-E188
03B4	Signal close sliding roof
03B5	Central locking motor,tailgate-V53,LOCK
03B6	Centr.locking motor,tailgate-V53,UNLOCK
03B7	Rel.for t/gate rem.ctrl.switch.-J398
03B8	Signal driver+AGA-sdoor open
03B9	Time limit interior light
03BA	Starter inhibitor relay(ATA)-J433
03BB	Key 1
03BC	Key 2
03BD	Key 3
03BE	Key 4
03BF	Warning lamp CL safe
03C0	Switch for central locking,dr.side-F59

03C1	Switch for centr.locking,pass.side-F114
03C5	Alarm horn fuse-S158
03C6	Turn signal fuse-S1-47
03C7	Turn signals left
03C8	Turn signals right
03C9	Heated rear window individual fuse-S41
03CB	Heated windscreen relay,left-J403
03CC	Heated windscreen relay,right-J404
03CD	Heated rear window switch-E15
03CE	Heated windscreen switch-E180
03CF	Heated rear window--Z1
03D0	Heated windscreen warning lamp-K122
03D1	Dipped beam l
03D2	Bulb f.dipped beam headlight,l-M29
03D3	Bulb f.dipped beam headlight,r-M31
03D4	Left dipped beam fuse-S152
03D5	Right dipped beam fuse-S153
03D6	Left side light fuse S154
03D7	Right side light fuse-S155
03D8	Tail light bult,left -M4
03D9	Tail light bulb,right-M2
03DA	Brake light fuse-S156
03DB	Brake light bulb,left-M9
03DC	Brake light bulb,right-M10
03DD	Consumer switch-off fuse-S157
03DE	Consumer switch-off
03DF	Interior lighting
03E0	Consumer switch-off active
03E1	Consumer switch-off inactive
03E2	Dr.seat front height adj.sender-G215
03E3	Dr.seat rear height adj.sender-G216
03E4	Dr.seat head restr.hght adj.sender-G217
03E5	Motor for driver+AGA-seat for/aft adj.V28
03E6	Driver+AGA-s seat backrest adj.motor-V45
03E7	Motor for dr.seat front hght adj.-V29
03E8	Motor for dr.seat rear hght adj.-V30
03E9	Dr.seat head restr.adj.motor-V103
03EA	Dr.seat front hght adj.button,up-E208
03EB	Dr.seat front hght adj.button,down-E209
03EC	Dr.seat rear hght adj.button,up-E210
03ED	Dr.seat rear hght adj.button,down-E211
03EE	Dr.seat longit.adj.forwards-E212
03EF	Dr.seat longit.adj.backwards-E213
03F0	Note:Emerg.switch-off switch operated
03F1	driver.seat longitu.adj.sender-G218
03F2	Driver+AGA-s seat backrest sender-G219
03F3	Dr.seat head restr.adj.butt.,up.-E214
03F4	Dr.seat head restr.adj.butt.,down.-E215

03F5	Air cond. comp. load signal
03F6	End stage for fan thermo
03F7	Radiator fan ctrl
03F8	Valve of air pump-Air suspension-N106
03F9	Compressor-Air suspension-V65
03FA	Radiator fan-V7
03FB	Relay
03FC	Water pump-V36
03FD	Warning lamp for differential locking-K81
03FE	In-car light
03FF	Buzzer/clock-3
0401	Service indicator
0402	Rear evaporator fan-V20
0403	Rear heater fan-V47
0404	Fan relay-J323
0405	A/C relay-J32
0406	Key button CL driver side,lock
0407	Key button CL driver side,unlock
0408	Key button CL pass.side,lock
0409	Key button CL pass.side,unlock
040A	Driver window therm.protect.active
040B	Pass. window therm.protect.active
040C	Rear left window therm.protection
040D	Rear right window therm.protection
040E	Central locking thermal propection
040F	Coolant temperature indication sensor-G2
0410	ABS/Transmission circuit connecting cable
0411	Any drive wheel skid fault
0412	Control unit not coded
0413	Control unit:wrong software version
0414	ECU coding error
0415	Electric needle valve switch-F189
0416	Brake pads inspection indicator-K32
0417	Braking indicator-K7
0418	Diesel engine electrical system indicator-K104
0419	Terminal post voltage-50
041A	Glow plug monitoring device
041B	Fuel gauge servo motor-V117
041C	Load potentiometer-G157
041D	Cold start injection valve-N182
041E	Terminal post 30 relay-J317
041F	Fuel injection supply starting sensor-G158
0420	Charging compensation function
0421	Constant voltage charging function
0422	Constant current charging function
0423	Rotor position sensor-G159
0424	Armature coil temperature sensor-G160
0425	Armature coil temperature sensor/coil end-G161

0426	Signal for battery current reduction
042C	Hydr.pump rel.,clutch positioner-J498
042D	Brake servo pressure system
042E	Starter relay-J53
042F	Clutch sensor-G162
0430	Clutch vacuum valve-N183
0431	Clutch pressure system
0432	Clutch bleeding valve-N184
0433	Vacuum pump relay-J318
0434	Clutch hydraulic pump relay-J319
0435	Brake booster vacuum switch-F190
0436	Shift switch-F191
0437	Hydraulic steering relay-J320
0438	Power steering switch-F192
0439	Priority switch valve-N185
043A	Fuel level indicator-K105
043B	Detergent insufficiency indicator-K106
043C	Temperature 0°C warning lamp-K107
043D	Temperature 4°C warning lamp-K108
043E	Vehicle speed sensor-G22
043F	Basic adjustment can't be done
0440	Air/fuel mixture integrate 2#
0441	Chain tensioning block down-F204
0442	Chain tensioning block up-F203
0443	Roof switch-202
0444	Roof removal switch-F171
0445	Roof compartment cover switch-F201
0446	Left roof compartment cover switch 3#-F195
0447	Left roof compartment cover switch 2#-F197
0448	Left roof compartment cover switch 1#-F198
0449	Roof locking switch-F172
044A	Trunk closing switch-F206
044B	Trunk locking switch
044C	Trunk opening switch
044D	Central door lock switch-F205
044E	Right roof compartment cover switch 3#-F196
044F	Right roof compartment cover switch 2#-F198
0450	Right roof compartment cover switch 1#-F200
0451	Solenoid valve 8-N186
0452	Window lifter down relay
0453	Roof inspection lamp-K98
0454	Window lifter up relay-J292
0455	Hydraulic pump relay-J321
0456	Central door lock solenoid valve-N187
0457	Trunk lock servo motor 1
0458	Power supply current for servo motor 1 and 2
0459	Trunk lock motor 2
045A	Parking brake control switch-F9

045C	Roof opening motor
045D	Load signal at terminal post DF of alternator
045E	Engine warm up
045F	Gear identification signal
0460	Adjust camshaft timing 1
0461	Adjust camshaft timing 2
0462	Hall sensor 2-G163
0463	Fault active
0464	Charging time monitoring
0465	Intake manifold switching
0466	Engine speed signal
0467	Fuel level indicator-K16
0468	Anti-theft read coil D2
0469	Contact S-H15
046A	ABS working state
046B	Flash light control
046C	Front infrared sensor-G166
046D	Rear infrared sensor-G167
046E	Alarm horn-12
046F	In-car monitoring sensor
0470	Starter motor interrupt
0471	Central door lock switch: Locking contact
0472	Driver's door opening switch
0473	Front passenger door opening switch
0474	Trunk opening switch
0475	Trunk opening switch-E165
0476	Central door lock motor; driver's door and fuel tank cover close
0477	Central door lock motor; driver's door and Trunk open
0478	Central door lock motor; front passenger door closing motor
0479	Central door lock motor; Rear door motor circuit
047A	Central door lock motor; front or rear passenger door closing motor
047B	Trunk cover locking motor-V120
047C	Door safety lock insurance function
047D	Door safety insurance function off
047E	Analogue display
047F	Diesel engine limit switch-F207
0480	Gear monitoring switch-F209
0481	Automatic switch-E163
0482	Clutch system pressure switch-F210
0483	Clutch
0484	Gear identification switch-F208
0485	Alarm horn power supply system
0486	Turn lamp power supply system
0487	Safety system circuit
0488	Coolant heating element relay-325
048D	Throttle control unit-J338
048E	Engine torque signal
048F	Full load shutoff valve-N194

0490	Idle speed increasing valve
0491	Front left door contact switch-F2
0492	Injection duration sensor-G175
0493	Temperature sensor, passenger seat-G60
0494	Driver's seat temperature sensor-G59
0495	Driver's seat longitudinal adjustment motor-V28
0496	Driver's seat height adjustment motor-V138
0497	Driver's seat temperature regulation unit-94
0498	Key
0499	ECU
049B	Key coding error
049C	Engine/air conditioning circuit connecting wire
049D	Initialization: only two keys can be identified
049E	Altitude matching
049F	Catalytic converter indicator-K72
04A0	Rear air outlet temperature sensor-G174
04A1	Rear fresh air blower-V80
04A2	Rear air regulation servo motor-V136
04A3	Rear temperature flap servo motor-V137
04A4	ECU/electromagnetic clutch electrical connection
04A5	Posit.motor for air distri.front-V145
04A6	ECU/servo motor electrical connection
04A8	Torque converter lock-up clutch
04A9	Lower level heating air output relay-J359
04AA	Higher level heating air output relay
04AB	End
04AC	Engine/transmission connecting bus
04AD	Engine/transmission connecting lead A
04AE	Engine/transmission connecting lead B
04AF	Engine/ABS circuit connecting wire
04B0	ABS valve power supply circuit
04B1	ABS pump power supply circuit
04B2	Self-diagnostic unit
04B3	ABS/Dash pan.ins.electr.consumer
04B4	Engine temp.sender-G27
04B5	Climatronic relay- J254
04B6	Ign.time period signal off
04B7	Additional heating control unit-J364
04B8	Data changed in control unit
04B9	Speed sign. generator terminal W
04BA	Ctrl learns adjustm.range
04BB	Rear belt tensioner ignit.,dr.side-N196
04BC	Rear belt tensioner ignit.,pass.s.-N197
04BD	Rear belt tensioner igniter,centre-N198
04BF	Seat occup.sens.driver+AGA-s side rear-G177
04C0	Seat occup.sens.,pass.side rear-G178
04C1	Side airbag igniter,driver+AGA-s side-N199
04C2	Side airbag igniter,pass.side-N200

04C3	Rear airbag igniter,driver+AGA-s side-N201
04C4	Rear airbag igniter,pass.side-N202
04C5	Crash sens. side airbag driv.side-G179
04C6	Crash sens. side airbag pass.side-G180
04C7	Central lock open signal
04C8	Control unit does not match vehicle
04C9	Auxiliary heater radio receiver-R64
04CA	Crash data side airbag DS stored
04CB	Crash data side airbag PS stored
04CC	Airbag switch-off SW,pass.side-E224
04CD	Humidity sender for A/C system-G260
04CE	Air vent temp.sender L foot well-G261
04CF	Air vent temp.sender R foot well-G262
04D0	A/C compressor regulator valve-N280
04D1	Coolant shut-off valve,heating-N279
04D2	Heated windscreen Control unit-J505
04D3	Secondary air injection valve-N112
04D4	Shift lever locking solenoid valve-N110
04D5	Fuel shutoff valve-N109
04D6	Adjust ignition angle
04D7	Throttle regulator bypass valve-N97
04D8	Throttle air flow regulation valve-N117
04D9	Canister solenoid valve 2#-N115
04DA	ECU output
04DB	Power supply regulator air intake change-over valve-N156
04DC	λ probe heater-J208
04DD	Differential pressure control-N73
04DE	Intake manifold warm up relay-J81
04DF	Canister 1# solenoid valve-N80
04E0	Reversible valve/throttle full load enrich-N54
04E1	No.1 cylinder fuel injector-N30
04E2	No.2 cylinder fuel injector-N31
04E3	No.3 cylinder fuel injector-N32
04E4	No.4 cylinder fuel injector-N33
04E5	No.5 cylinder fuel injector-N83
04E6	Injector, cylinder 6-N84
04E7	Injector, cylinder 7-N85
04E8	Injector, cylinder 8-N86
04E9	Idling stabilization valve-N71
04EA	Chock valve positioner-V63
04EB	Fuel pump relay-J17
04EC	Overrun cut-off valve-N65
04ED	Lambda control frequency valve-N7
04EE	Boost pressure control solenoid-N75
04EF	Cold start valve-N17
04F1	EGR valve-N18
04F2	Glow plug relay-J52
04F3	Automatic glow period control unit-J179

04F4	Metering control-N146
04F5	Commencement of injection valve-N108
04F6	A/C magnetic coupling-N25
04F7	Motor for temperature flap-V68
04F8	Motor for central flap-V70
04F9	Fresh air blower-V2
04FA	Motor for air flow flap-V71
04FB	Solenoid relay
04FC	ABS hydraulic pump-V64
04FD	ABS hydraulic pump relay-J185
04FE	EDL cut-off relay J263
04FF	Longitudinal acceleration sender-G251
0500	Airbag passenger side switched off
0501	Airbag driver+AGA-s side switched off
0502	Intake manifold flapch.-over valve-N239
0503	Intake manifold flap motor-V157
0504	Side airbag driver+AGA-side switched off
0505	Side airbag passenger side switched off
0506	Belt tensioner dr.side switched off
0507	Belt tensioner pass.side switched off
0510	Centre vent temp.sender-G191
0511	Footwell vent.temp sender-G192
0512	Warming lamp test combi instrument
0514	Nav.with CD drive control unit-J401
0515	Speech input control unit-J507
0516	Telematic control unit-J499
0517	Telephone transmitter/receiver unit-R36
0518	Radio
0519	Data bus display
051A	Rapid data bus display
051B	Optical fibre data bus display
051C	Roof electronics control unit
051D	Steering assistance control unit-J500

051E	Self levelling suspension CU-J197
051F	Data bus information
0520	Data bus drive
0521	Data bus drive in emerg.mode
0522	Engine control unit
0523	Gearbox control unit
0524	Brake control unit
0525	Control unit in dash panel insert-J285
0526	Control unit for injection pump-J399
0527	Control unit for distance control-J428
0528	Control unit for Climatronic-J255
0529	Control unit for Airbag-J234
052A	Multi-function unit control unit-J501

052B	Automatic clutch control unit-J439
052C	Four-wheel drive control unit-J492
052D	Tyre pressure monitoring contr.unit-J502
052E	Multi-func.steering wheel ctrl.unit-J453
052F	Parking aid control unit-J446
0530	Data bus Convenience
0531	Data bus conven.in emerg.mode
0532	Convenience sys. central ctrl.unit-J393
0533	Door control unit drive+AGA-s side-J386
0534	Door control unit passenger side-J386
0535	Door control unit r1-J388
0536	Door control unit rr-J389
0537	Ctrl unit for seat/mirror pos.driver
0538	VW Group convenience data bus
0539	Inner door handle illumination
053A	Doors not shut
053B	Open door light,mounted in door
053C	Mirror adjustment switch
053D	CU,dash panel dspl.conv. data bus-J285
0540	Gas discharge lamp
0541	Gas discharge lamp ignition module-N195
0542	Wire to ignition module
0543	Wire to gas discharge lamp
0545	Alarm from front anti-theft sensor
0546	Alarm from rear anti-theft sensor
0547	Communication wire to earth
0548	Frequency signal wire,front, 5V level
0549	Frequency signal wire,rear, 5V level
054A	Release signal immobilizer
054B	Signal- open all windows
054C	Signal- close all windows STR
054D	Tank flap lock motor-V155
054E	Internal CL switch,driver side-E150
054F	Internal CL switch,pass. side-E150
0550	Open ATW switch
0551	Close ATW switch
0552	Close switch for tailgate-F124
0553	Switch for CL driver door-F59
0554	Switch for CL passenger door-F114
0555	Lock/unlock switch/button int.
0556	Opened via crash signal
0557	Switch off via CL pump
0558	Alarm via luggage compart.switch
0559	Alarm via bonnet switch
055A	Alarm via interior scanning
055B	Alarm via door contact switch driv.side
055C	Alarm via door ctact. switch rear pass.
055D	Alarm via radio earth contact

055E	Alarm via terminal 15
055F	Engine mounting valve stage 1
0560	Rev signal for injection pump
0561	Left ultra-sonic sens. for ATW-G170
0562	Right ultra-sonic sens. for ATW-G171
0563	Interior monitor switch-E183
0564	Alarm via ATW sensor rl
0565	Alarm via ATW sensor rr
0566	Alarm via ATW sensor fl
0567	Alarm via ATW sensor fr
0568	Alarm via glass break sensor
0569	Alarm via warning lamp-K95
056A	Create active alarm
056B	Power supply wiring
056C	Signal pulse wire
056D	Open switch for t/gate-F124
056E	Activate interior scanning
056F	Simulate crash signal
0570	Next final ctrl:operate
0571	Sender for self-level.susp.-G84
0572	Warning lamp for self-level.susp.-K134
0573	Self-level.susp.compress.electr.mot.V66
0574	Rear strut valves N-150
0575	Pressure relief solenoid-N111
0576	Signal from CL:doors open
0577	Comp./self level.susp relay-J403
0578	Self levelling suspension
057A	Data wire from navigation
057B	Glass break sensor rear
057C	Engine mouting valve stage 2
057D	EGR valve 2-N213
057E	No flame
057F	Flame stop
0580	Insuff.voltage switch-off/pre-det.valve
0581	Repeated flame interruption
0582	Heating unit overheated
0583	Temperature sensor-G18
0584	Glow plug with flame monitor-Q8
0585	Metering pump-V54
0586	Combustion air blower-V6
0587	Recirculating pump--V55
0588	Fresh air blower activation sign
0589	Water heating activation signal
058A	Switch valve 1 f.drive dyn.ctrl.-N225
058B	Switch valve 2 f.drive dyn.ctrl.-N226
058C	High pressure valve 1 for DDC-N227
058D	High pressure valve 2 for DDC-N228
058E	Hydraulic pump f.drive dyn.ctrl.-V156

058F	Sensor for lateral acc.-G200
0590	Signal wire,yaw rate sender-G202
0591	Reference wire,yaw rate sender-G202
0592	Operating unit in steering wheel-E221
0593	Radio louder
0594	Radio quieter
0595	Radio station search UP
0596	Radio station search DOWN
0597	Telephone memory
0598	Next telephone memor
0599	Loudspeaker (telephone/navigation)-R39
059A	Braek light suppresSion relay(ESP)-J508
059B	Brake pressure sender -1,-G201
059C	Brake fluid level too low
059D	Ctrl pos.not learnt
059E	Vehicle is being lifted
059F	Check inclination
05A0	Fuel level signal
05A1	Fuel shortage sender-G210
05A2	Misfiring due to lack of fuel
05A3	Matching to battery not carried out
05A4	Insuff.voltage switch-off(automatic)
05A5	Dr.seat longit.adj.Sender-G227
05A6	Dr.seat bckrest adj.sender-G230
05A7	Dr.seat height adj.Sender-G231
05A8	Dr.seat rake adj.sender-G232
05A9	Dr.seat rake adj.-E-222,backwards
05AA	Dr.seat rake adj.-E-222,forwards
05AB	Switch f.dr.st hght+longit.adj.-E61,up
05AC	Switch f.dr.st hght+longit.adj.-E61,dwn
05AD	Switch f.dr.st hght+long.adj.-E61,forw
05AE	Switch f.dr.st hght+longit.adj.-E61,bck
05AF	Switch f.dr.st bckrest adj.-E96,forw
05B0	Switch f.dr.st bckrest adj.-E96,bck
05B1	Signal for mirror position
05B2	Signal from central locking
05B3	Memory seat driver 1 button-E218
05B4	Memory seat driver 2 button-E219
05B5	Memory seat driver 3 button-E220
05B6	ATA ultra sonic sensor-G209
05B7	Alarm via sensor for ATA
05B8	Brake pressure/lat.acceleration sender
05B9	Signal wiring from combi-instrument
05BA	Signal wiring to combi-instrument
05BB	Front left tyre pressure sender-G222
05BC	Front righth tyre pressure sender-G223
05BD	Rear left tyre pressure sender-G224
05BE	Rear right tyre pressure sender-G225

05BF	Spare wheel tyre pressure sender-G226
05C0	Aerial for monitor fl tyre pressure-R59
05C1	Aerial for monitor fr tyre pressure-R60
05C2	Aerial for monitor rl tyre pressure-R61
05C3	Aerial for monitor rr tyre pressure-R62
05C4	Aerial for monitor tyre press.spare-R63
05C5	System switched off
05C6	Monitor for spare wheel switched off
05CA	Motors for central locking
05D0	Coolant temperature Sender,heating-G241
05D1	Overheating sensor G189
05D2	Flame monitor-G64
05D3	Glow plug for heater-Q9
05D4	Function lock
05FC	Combi-instrument signal wire
05FD	Terminal 56(headlight)
05FE	L headlight range ctrl posit.motor-V48
05FF	R headlight range ctrl posit.motor-V49
0600	Vehicle is lowered
0601	Sender for veh.level/supp.volt.
0602	Motors for beam adjustment.-V48/V49
0603	Headlights not set
0604	Headlights are being lowered
0605	Headlights are being raised
0606	Wheel angle sender G202
0607	Parking aid warning buzzer-H15
0608	Parking aid warning lamp-K136
0609	Rl parking aid sender-G203
060A	Rl,ctr.parking aid Sender-G204
060B	Rr,ctr..parking aid Sender-G205
060C	Rr. parking aid sender-G206
060D	Voltage supply for parking aid sender
060E	Reverse gear signal
060F	Signal for closing central locking

0610	Ctrl.lock.motor,dr.door-V56,LOCK
0611	Ctrl.lock.motor,pass.door-V57,UNLOCK
0612	Motors for cent.locking doors rear,LOCK
0613	Motors for central locking,SAVE
0614	Motors for central locking,UNLOCK
0615	Cont' switch in locking cyl.DS-F241,open
0616	Cont' switch in lock.cyl.DS-F241,close
0617	Driver's door
0618	Passenger door
0619	Door rear left
061A	Door rear right
061B	Int.lock.switch,dr.S.-E150,LOCK

061C	Int.lock.switch,dr.S.-E150,UNLOCK
061D	Luggage compartment light-W3
061E	Activate signal for int.monitoring
061F	Contact switch for ATA-F120
0620	Signal for comfort opening
0621	Signal for comfort closing
0622	Switch-off delay,Term.15
0623	Signal for seat memory
0624	Alarm via ldoor contact SW,pass.side
0625	Alarm via door contact switch rear left
0626	Alarm via door contact SW rear right
0627	Control switched off
0629	Switch off due ot excessive temperat.
062A	Pass.s.airbag deactivate.warn.lamp-K145
062B	Seat occup.sender,pass.side-G128
062C	Child seat occup.send.,pass.side-G211
062D	Wrong component recognised
062E	Signal for coolant temp.
062F	Leak in system recognised
0630	Vehicle too low,pump up started
0631	Contact switch locking cyl.PS-F242,open
0632	Contact SW licking cyl.PS-F242.close
0633	Igniter 2 for Airbag Driver's side-N250
0634	Ign.for head Airbag Driver's side-N251
0635	Igniter for Airbag passenger side-N252
0636	Igniter for interruption battery-N253
0637	Warning lamp f.Airbag out,Drv.side-K144
0638	Air purity sensor G-238
0639	Heated front window-Z2
063A	Alternator switch-on relay-J442
063B	Tyre pressure control button-E226
063C	Fresh/recirc.air flap positi.motor-V154
063D	Drive battery precharging circuit
063E	Drive battery voltage
063F	Main relay for electr.operation-J437
0640	Throttle valve signal from engineCU
0641	Rotor pos. sender in e-engine
0642	Electric drive motor-V141
0643	Converter-C21
0644	Potentiometer 1 for gear recogn.-G239
0645	Potentiometer 2 for gear recogn.-G240
0646	Battery monitoring Signal
0647	Excessive current switch-off
0648	Warning lamp test
0649	Ventilator in control unit
064A	Operating mode switch-E228
064B	Switch duo-switch toe-drive
064C	Coupling positioner valve-N255

064D	Pump relay,fuel cooling-J445
064E	Loss of capacity,driving battery
064F	Tank flap remote unlocking switch-E204
0650	Signal wire for interor monitoring
0651	Interrogate int.monitoring fault mem.
0652	Power-operated soft top valve-N272
0653	Motors for convertible top box
0654	Switch for convert.top operation-E137
0655	Mians socket not in bracket
0656	Voltage transformer (264V/12V)-A13
0657	Signal for alternator charging
0658	Switch for drive type-E228,start pos.
0659	Front parking aid warning buzzer-H22
065A	Front right parking aid sender-G252
065B	Front right centre park.aid sender-G253
065C	Front left parking aid sender-G254
065D	Front left centre park.aid sender-G255
065E	Igniter,addl.airbag driver`s side-N277
065F	Igniter,addl.airbag pass.side-N278
0660	Loss of high voltage capacity
0661	Thermal management failure
0664	Ignitor,rear tensioner,dr.s.-N196
0665	Ignitor,rear tensioner,ps.s.-N197
0666	Rear side airbag crash sens.,dr.s.-G256
0667	Rear side airbag crash sen. ps.s.G257
0668	Rear belt tensioner,driver`s side-E258
0669	Rear belt tensioner,passenger side-E259
066A	Seat occupied sensor dr. side rear-G177
066B	Seat occupied sensor ps. side rear-G178
066C	Rear side airbag,dr.side turned off
066D	Rear side airbag,ps.side turned off
066E	Head airbag, drive side turned off
066F	Head airbag, passenger side turned off
0670	Rear belt tensioner,dr. side turned off
0671	Rear belt tensioner,ps. side turned off
0672	Rear side airbag crash data dr.s.stored
0673	Rear side airbag crash data ps.s.stored
0674	Airbag cut-off switch, driver`s side
0675	Driver`s airbag warning lamp deactivat.
0676	Shoulder belt warning lamp
0677	Child seat switch
0678	Crash signal
0687	Left distance control sender-G258
0688	Right distance control sender-G259
0689	Pot.meter, diaphragm travel, brake servo
068A	AICC trip switch in brake servo
068B	AICC trip sw./pot.meter,diaphr. Trav
068C	AICC trip switch/pressure in bra. servo

068D	AICC braking valve
068E	Distance selection Switch,AICC-E260
068F	Speed signal from ABS(FL wheel)
0690	Speed signal from ABS(FR wheel)
0691	Speed signal from ABS(RL wheel)
0692	Speed signal from ABS(RR wheel)
0693	Wheel speed signal/vehicle speed
0694	CU 2 diesel direct inject. sys. -J494
0695	Air mass meter 2-G246
0696	Radiator fan run-on control unit-J138
0697	Charge press. ctrl.solen. valve 2-N274
0698	Relay for coolant pump -J235
0699	Gearbox mounting valves
069A	Fuel pressure sender-G247
069B	Fuel pressure control valve -N276
069C	Relay or additional coolant pump -J496
069D	Valve for throttle butterfly -N211
069E	Signal wire from airbag
069F	Fuel temperature sender 2-G248
06A0	Rear left footwell bulb -W45
06A1	Rear right footwell bulb -W46
06A2	Window lifter release signal
06A3	Central locking motor,tailgate -V53
06A4	Anti-theft alarm horn -H8
06A5	Interiro light dimming
06A6	Left foot well light-W9
06A7	Right foot well light -W10
06A8	Terminal 58 illumination dimming
06A9	Mirror adjustment change-over SW -E48
06AA	Mirror adjustment switch -E43
06AB	Door contact switch,passenger side-F3
06AC	Rear left door contact switch -F10
06AD	Rear right door contact switch -F11
06AE	Central locking motors,drivers side
06AF	Central locking MT passenger side
06B0	Central locking motors rear left
06B1	Central locking motors rear right
0711	Positioning motor for temp.flap l-V158
0712	Positioning motor for temp.flap r-V159
0731	Potentiometer in V158-G220
0732	Potentiometer in V159-G221
4041	Air control valve for injectors-N212 implausible signal
4042	Air control valve for injectors-N212 short to earth
4043	Air control valve for injectors-N212 short to positive
4066	Air mass meter signal too low
4067	Air mass meter signal too high
4069	Lambda Air mass meter-G70 Implausib.
406A	Intake manif.press./air press=>-G71/-F96 Implausible

406B	Intake manif.press./air press=>-G71/F96 Signal too small
406C	Intake manif.press./air press=>-G71/F96 Signal too large
4070	Intake air temp.sender-G42 Signal too small
4071	Intake air temp.sender-G42 Signal too large
4074	Coolant temp.sender-G62 Implausible signal
4075	Coolant temp.sender-G62 signal too small
4076	Coolant temp.sender-G62 signal too large
4078	Throttle valve potentiometer-G69 Electrical fault in current circuit
4079	Throttle valve potentiometer-G69 Implausible signal
407A	Throttle valve potentiometer-G69 signal too small
407B	Throttle valve potentiometer-G69 signal too large
407D	Lambda probe coolant temp. not reached
4080	Coolant circuit valve-N214 Temperature below control range
4082	Bank1-Prob1 Electrical fault in current circuit
4083	Bank1-Prob1 Voltage too low
4084	Bank1-Prob1 Voltage too high
4085	Bank1-Prob1 Signal too slow
4086	Bank1-Prob1 No activity
4087	Bank1-Prob1,Heating element circuit Electrical fault
4088	Bank1-Prob2,Electrical fault in current circuit
4089	Bank1-Prob2 Voltage too low
408A	Bank1-Prob2 Voltage too high
408B	Bank1-Prob2 Signal too slow
408C	Bank1-Prob2 No activity
408D	Bank1-Prob2,Heating element circuit electrical fault
4096	Bank2-Prob1 Electrical fault in current circuit
4097	Bank2-Prob1 Voltage too low
4098	Bank2-Prob1 Voltage too high
4099	Bank2-Prob1 Signal too slow
409A	Bank2-Prob1 No activity
409B	Bank2-Prob1,Heating element circuit electrical fault
409C	Bank2-Prob2 Electrical fault in current circuit
409D	Bank2-Prob2 Voltage too low
409E	Bank2-Prob2 Voltage too high
409F	Bank2-Prob2 Signal too slow
40A0	Bank2-Prob2 No activity
40A1	Bank2-Prob2,Heating element circuit Electrical fault
40AA	Bank1,fuel measuring system Faulty
40AB	Bank1,Fuel measuring system System too lean
40AC	Bank1,Fuel measuring system System too rich
40AD	Bank2,Fuel measuring system Faulty
40AE	Bank2,Fuel measuring system System too lean
40AF	Bank2,Fuel measuring system System too rich
40B6	Fuel temperature sender-G81 Short to earth
40B7	Fuel temperature sender-G81 Interrup./short to positive
40C5	Oil temperature sender-G8 Signal too low
40C6	Oil temperature sender-G8 Signal too high
40C9	Injector,cylinder 1-N30 Fault in electrical circuit

40CA	Injector,cylinder 2-N31 Fault in electrical circuit
40CB	Injector,cylinder 3-N32 Fault in electrical circuit
40CC	Injector,cylinder 4-N33 Fault in electrical circuit
40CD	Injector,cylinder 5-N83 Fault in electrical circuit
40CE	Injector,cylinder 6-N84 Fault in electrical circuit
40CF	Injector,cylinder 7-N85 Fault in electrical circuit
40D0	Injector,cylinder 8-N86 Fault in electrical circuit
40D7	Fuel shut-off valve -N109 Malfunction
40D8	Commencement of injection valve-N108 malfunction
40DB	Maximum engine speed exceeded Signal too high
40DD	Angle sender 2,throttle valve drive G188 Implausibel signal
40DE	Angel sender2,throttle valve drive Signal too low
40DF	Angel sender2,throttle valve drive G188 Signal too high
40E1	Accelerator pedal position sender-G79 Voltage supply
40E2	Acceler.pedal pos.Senders 1+2-g79+g185 Implausible signal
40E3	Accelerator pedal position sender-G79 Signal too low
40E4	Accelerator pedal position sender-G79 Signal too high
40E6	Fuel pump relay-J17 Fault in electrical circuit
40EA	Charge pressure control Control range surpassed
40EB	Charge pressure control Control range not achieved
40EC	Charge pressure sender-G31 Implausible signal
40ED	Charge pressure sender-G31 Signal too small
40EE	Charge pressure sender-G31 Signal too large
40F3	Solenoid valve,charge press.ctrl.-N75 Interruption/short to earth
40F4	Solenoid valve,charge press.ctrl.-N75 -short to earth
40F6	Solenoid valve,charge press.ctrl.-N75 Short to positive
40FC	Injection commencement control Deviation
4105	injector,cylinder 1-N30 Short to earth
4106	injector,cylinder 1-N30 Short to positive
4108	injector,cylinder 2-N31 Short to earth
4109	injector,cylinder 2-N31 Short to positive
410B	injector,cylinder 3-N32 Short to earth
410C	injector,cylinder 3-N32 Short to positive
410E	injector,cylinder 4-N33 Short to earth
410F	injector,cylinder 4-N33 Short to positive
4111	injector,cylinder 5-N83 Short to earth
4112	injector,cylinder 5-N83 Short to positive
4114	injector,cylinder 6-N84 Short to earth
4115	injector,cylinder 6-N84 Short to positive
4117	injector,cylinder 7-N85 Short to earth
4118	injector,cylinder 7-N85 Short to positive
411A	injector,cylinder 8-N86 Short to earth
411B	injector,cylinder 8-N86 Short to positive
412C	Misfire detected
412D	Cyl.1 Misfiring recognised
412E	Cyl.2 Misfiring recognised
412F	Cyl.3 Misfiring recognised
4130	Cyl.4 Misfiring recognised

4131	Cyl.5 Misfiring recognised
4132	Cyl.6 Misfiring recognised
4133	Cyl.7 Misfiring recognised
4134	Cyl.8 Misfiring recognised
4139	Misfiring recognised Reason:Fuel shortage
413A	Misfiring in individual cylinders
4141	Engine speed sender-G28 Implausible signal
4142	Engine speed sender-G28 No signal
4145	Knock sensor 1-G61 Fault in electrical circuit
4146	Knock sensor 1-G61 Implausible signal
4147	Knock sensor 1-G61 Signal too small
4148	Knock sensor 1-G61 Signal too large
414C	Knock sensor 2-G66 Signal too small
414D	Knock sensor 2-G66 Signal too large
414F	Engine speed sender-G28 Malfunction
4150	Engine speed sender-G28 Missing tooth
4151	Crankshaft pos.sensor=>Sensor-G4 Signal too small
4154	Camshaft pos./crank Shaft pos. sens.wrong allocation
4155	Camshaft pos.-sensor=>Sensor-G40 Implausible signal
4156	Camshaft pos.-sensor=>Sensor-G40 Signal too small
4157	Camshaft pos.-sensor=>Sensor-G40 Signal too large
415F	Ignition activation cylinder 1 Malfunction
4160	Ignition activation cylinder 2 Malfunction
4161	Ignition activation cylinder 3 Malfunction
4162	Ignition activation cylinder 4 Malfunction
4163	Ignition activation cylinder 5 Malfunction
4164	Ignition activation cylinder 6 Malfunction
4165	Ignition activation cylinder 7 Malfunction
4166	Ignition activation cylinder 8 Malfunction
417C	Glow plugs (engine) -Q6 Fault in electrical circuit
4190	Exhaust gas recirculation system Fault
4191	Exhaust gas recirculation system Through-flow too small
4192	Exhaust gas recirculation system Flow rate too high
4193	EGR valve-N18 Malfunction
4194	Exhaust gas recirculation system Deviation
4195	Temperature sensor EGR-G98 Signal too low
4196	Temperature sensor EGR-G98 Signal too high
4197	Exhaust gas recirculation poti.G212 signal too low
4198	Exhaust gas recirculation poti.-G212 signal too high
419A	Secondary air system Faulty
419B	Secondary air system Througr-flow defective
419C	Secondary air inletvalve-N112 Electric al fault in current circuit
41A2	Secondary air pump relay-J299 Malfunction
41A4	Bank1,Catalyst system Efficiency too low
41A6	Bank1,Main catalyst Efficiency too low
41AB	Catalyst temperature sensor I-G20 Short to earth
41AC	Catalyst temperature sensor I-G20 Interruption/short to positive
41B0	Bank2,Mian catealyst Efficiency too low

41B4	Catalyst temperature sensor II-G132 Implausible signal
41B5	Catalyst temperature sensor II-G132 short to earth
41B6	Catalyst temperature sensor II-G132 Interruption/short to positive
41B8	Tank breathing system Faulty
41B9	Tank breathing system Flow rate faulty
41BA	Tank breathing system Small leak recognised
41BB	Activated cahr.filter sys. solenoid-N80 Fault in electrical circuit
41C4	Pressure sens. for tank breathing system Signal too small
41C5	Pressure sens. for tank breathing system Signal too large
41C7	Tank breathing system Large leak recognised
41CD	Fuel status signal Implausible signal
41CE	Fuel gauge sender-G Signal too low
41CF	Fuel gauge sender-G Signal too high
41F5	Vehicle speed signal plausibility
41FA	Idling speed control Revs below specification
41FB	Idling speed control Revs above specification
41FE	Idling speed switch -F60 Faulty
4213	Air conditioner compressor load signal Implausible signal
4214	A/C pressure sensor Signal too low
4215	A/C pressure sensor Signal too high
4227	Power asst. steering/pressure switch F88 Implausible signal
4230	Voltage supply Implausible signal
4232	Voltage supply voltage too low
4233	Voltage supply voltage too high
4238	CCS-E45 Implausible Signal
423B	Brake light switch-F Implausible signal
4258	Data bus drive Message missing
4259	Control unit defective
425A	Control unit prograammung Malfunction
425B	Control unit defective
425C	Control unit defective
425D	Control unit defective
425E	Control unit defective Implausible signal
4282	Knock control Control unit defective
4285	Air conditioning input/output

428A	Exhaust warning lamp-K83 Fault in electrical circuit
428E	Engine speed output Signal Fault in electrical circuit
4290	Fuel consumption signal Fault in electrical circuit
42BC	Control unit defective
42BE	Control unit defective
42BF	Brake light switch-F Electrical fault in current circuit
42C1	Driving range sensor=>-F125 Electrical fault in current circuit
42C2	Driving range sensor=>-F125 Implausible signal
42C3	Driving range sensor=>-F125 Signal too Small
42C4	Driving range sensor=>-F125 Signal too large
42C6	Sender for gearbox oil temp.-G93 Electricla fault in current circuit

42C7	Sender for gearbox oil temp.-G93 Implausible signal
42C8	Sender for gearbox oil temp.-G93 Signal too small
42C9	Sender for gearbox oil temp.-G93 Signal too large
42CB	Sensor for gear input speed-G182 Electrical fault in current circuit
42CC	Sensor for gear input speed-G182 Implausible signal
42CD	Sensor for gear input speed-G182 No signal
42D1	Sensor for gear output speed-G195 Implausible signal
42D2	Sensor for gear output speed-G195 No signal
42D5	Speed signal from engine control unit Electrical fault in current circuit
42D6	Speed signal from engine control unit Implausible signal
42D7	Speed signal from engine control unit No signal
42DA	Geat-/ratio monitoring Wrong ratio
42DB	1. Gear Wrong ratio
42DC	2. Gear Wrong ratio
42DD	3. Gear Wrong ratio
42DE	4. Gear Wrong ratio
42DF	5. Gear Wrong ratio
42E4	Lock-up clutch coupling mechanical fault
42E5	Lock-up clutch coupling no power transmission
42EC	Pressure control valve Electrical fault in current circuit
42EE	Switch valve 1=>Solenoid 1-N88 Malfunction
42EF	Switch valve 1=>Solenoid 1-N88 Open circuit/Short to earth
42F0	Switch valve 1=>Solenoid 1-N88 Short to positive
42F1	Switch valve 1=>Solenoid 1-N88 Electrical fault in current circuit
42F4	Switch valve 2=>Solenoid 2-N89 Open circuit/short to earth
42F5	Switch valve 2=>Solenoid 2-N89 Short to Positive
42F6	Switch valve 2=>Solenoid 2-N89 Electrical fault in current circuit
42F9	Switch valve 3=>Solenoid 3-N90 Open circuit/short to earth
42FA	Switch valve 3=>Solenoid 3-N90 Short to Positive
42FB	Switch valve 3=>Solenoid 3-N90 Electrical fault in current circuit
4300	Switch valve 4=>Solenoid 4-N91 Electrical fault in current circuit
4305	Switch valve 5=>Solenoid 5-N92 Electrical fault in current circuit
4316	Program switch-E122 Electrical fault in current circuit
441B	Air control valve for inject. va.-N212 Electrical fault in current circuit
441C	Air control valve for inject. va.-N212 Open circuit
441D	Air control valve for inject. va.-N212 Short to Earth
441E	Air control valve for inject. va.-N212 Short to Positive
441F	Air recirc. valve for turbocharger-N249 Open circuit
4420	Air recirc. valve for turbocharger -N249 Short to Positive
4421	Air recirc. valve for turbocharger-N249 Short to Earth
4465	B1-S1 heating current circuit short
4466	Bank1-Probe1,Heating elemnet circuit Short to Positive
4467	Bank1-Probe1,Heating element circuit Performance too low
4468	Bank1-Probe2 Voltage too low/Air leakage
4469	Bank1-Probe2,Heating element circuit Short to Positive
446A	Bank2-Probe1 Voltage too low/Air leakage
446B	Bank2-Probe1,Heating element circuit Short to Positive
446C	Bank2-Probe1,Heating element circuit Performance too low

446D	Bank2-Probe2 Voltage too low/Air leakage
446E	Bank2-Probe2,Heating element circuit Short to Positive
446F	Lambda control(bank1) System too lean
4470	Lambda control(bank1) System too rich
4471	Bank 1,Probe 1 Internal resistance too great
4472	Bank 1,Probe 2 Internal resistance too great
4473	Bank1-Probe1,Heating element circuit short to earth
4474	Bank1-Probe1,Heating element circuit open circuit
4475	Bank1-Probe2,Heating element circuit short to earth
4476	Bank1-Probe2,Heating element circuit open circuit
4477	Bank2-Probe1,Heating element circuit short to earth
4478	Bank2-Probe1,Heating element circuit open circuit
4479	Bank2-Probe2,Heating element circuit short to earth
447A	Bank2-Probe2,Heating element circuit open circuit
447B	Bank1,Mixture adaption air (add.)System too rich
447C	Bank1,Mixture adaption air (add.)System too lean
447D	Bank2,Mixture adaption air (add.)System too rich
447E	Bank2,Mixture adaption air (add.)System too lean
447F	Bank1,Mixture adaption air (mult.)System too rich
4480	Bank1,Mixture adaption air (mult.)System too lean
4481	Bank2,Mixture adaption air (mult.)System too rich
4482	Bank2,Mixture adaption air (mult.)System too lean
4483	Bank2,Probe 1 Internal resistance too great
4484	Bank1+2-Probe1,Heating element circuit Short to Positive
4485	Bank1+2-Probe1,Heating element circuit Electrical fault
4486	Bank1+2-Probe2,Heating element circuit Short to Positive
4487	Bank1+2-Probe2,Heating element circuit Electrical fault
4488	Bank1,Mixture adaption (add.)System too lean
4489	Bank1,Mixture adaption (add.)System too rich
448A	Bank2,Mixture adaption (add.)System too lean
448B	Bank2,Mixture adaption (add.)System too rich
448C	Bank2,probe2 Internal resistance too great
448D	Load determination
448E	Load determination Level not reached
448F	Load determination Level exceeded
4490	Air mass meter-G70 Open circuit/Short to Earth
4491	Air mass meter-G70 Short to Positive
4492	Air mass meter-G70 Supply voltage
4493	Lambda control bank 2 System too lean
4494	Lambda control bank 2 System too rich
4495	Lambda control bank 1 Implausible control valve
4496	Lambda control bank 2 Implausible control valve
4497	Bank1,miixture adaption region 1 Below lean limit
4498	Bank1,miixture adaption region 2 Below lean limit
449A	Intake manifold changeover Faulty
449B	Sensor for Intake manifold pressure-G71 Short to Positive
449C	Sensor for Intake manifold pressure-G71 Opne circuit/Short to earth
449D	Sensor for Intake manifold pressure-G71 Supply voltage

449E	Sensor for Intake manifold pressure-G71 Implausible signal
44A0	Sensor for manifold temp.-G72 Short to earth
44A1	Sensor for manifold temp.-G72 Open circuit/Short to Positi-ve
44A2	Sensor forfuel temp.-G81 Short to earth
44A3	Sensor forfuel temp.-G81 Open circuit/-Short to Positive
44A4	Fuel temperature sender-G81 Implausible signal
44A5	Bank1,mixture adaption,rance 1 Richness limit surpassed
44A6	Bank1,mixture adaption,rance 2 Richness limit surpassed
44AB	Angle sens. 2 for throt.valve drive- G188 Implausibe signal
44AC	Angle sens. 2 for Throt.valve drive G188 Signal too small
44AD	Angle sens. 2 for Throt.valve drive G188 Signla too large
44AE	Bank 1,fuel measurement system Deviation in injection timing
44B0	Bank1,Lambda corr.rear cat.Control limit reached
44B1	Bank2,Lambda corr.rear cat.Control limit reached
44B2	Linear lambda probe/pump current Interruption
44B3	Linear lambda probe/pump current Short ot earth
44B4	Linear lambda probe/pump current short to positive
44B5	Linear lambda probe/reference voltage Interruption
44B6	Linear lambda probe/reference voltage Short to earth
44B7	Linear lambda probe/reference voltage Sort to positive
44B8	Linear lambad probe/common earth wire Interruption
44B9	Linear lambda/common earth wire Short to earth
44BA	Linear lambda / common earth wire Short to positive
44BB	Linear lambda probe/compens. resist interruption
44BC	Linear lambda probe/compens. resist short to earth
44BD	Linear lambda probe/compens. resist short to positive
44BE	Linear lambda probe/reference voltage Implausible signal
44C4	Bank1-Probe1,Heating element circuit Electrical fault
44C5	Bank2-Probe1,Heating element circuit Electrical fault
44C6	Bank1-Probe2,Heating element circuit Electrical fault
44C7	Bank2-Probe2,Heating element circuit Electrical fault
44C9	Injector Cyl.1-N30 Electrical fault in current circuit
44CA	Injector Cyl,2-N31 Electrical fault in current circuit
44CB	Injector Cyl,3-N32 Electrical fault in current circuit
44CC	Injector Cyl,4-N33 Electrical fault in current circuit
44CD	Injector Cyl,5-N83 Electrical fault in current circuit
44CE	Injector Cyl,6-N84 Electrical fault in current circuit
44CF	Injector Cyl,7-N85 Electrical fault in current circuit
44D0	Injector Cyl,8-N86 Electrical fault in current circuit
44D1	Inlet shut-off vale f.cyl. deactiv Short to earth
44D2	Inlet shut-off vale f.cyl. deactiv Short to positive
44D3	Inlet shut-off vale f.cyl. deactiv Interription
44D5	Injector Cyl.1-N30 Short to positive
44D6	Injector Cyl.2-N31 Short to positive
44D7	Injector Cyl.3-N32 Short to positive
44D8	Injector Cyl.4-N33 Short to positive

44D9	Injector Cyl.5-N83 Short to positive
44DA	Injector Cyl.6-N84 Short to positive
44DB	Injector Cyl.7-N85 Short to positive
44DC	Injector Cyl.8-N86 Short to positive
44DD	Exhaust deactiv.valve f.cyl.shut-off Short to earth
44DE	Exhaust deactiv.valve f.cyl.shut-off Short to position
44DF	Exhaust deactiv.valve f.cyl.shut-off Interruption
44E1	Injector Cyl.1-N30 Short to earth
44E2	Injector Cyl.2-N31 Short to earth
44E3	Injector Cyl.3-N32 Short to earth
44E4	Injector Cyl.4-N33 Short to earth
44E5	Injector Cyl.5-N83 Short to earth
44E6	Injector Cyl.6-N84 Short to earth
44E7	Injector Cyl.7-N85 Short to earth
44E8	Injector Cyl.8-N86 Short to earth
44ED	Injector Cyl.1-N30 open circuit
44EE	Injector Cyl.2-N31 open circuit
44EF	Injector Cyl.3-N32 open circuit
44F0	Injector Cyl.4-N33 open circuit
44F1	Injector Cyl.5-N83 open circuit
44F2	Injector Cyl.6-N84 open circuit
44F3	Injector Cyl.7-N85 open circuit
44F4	Injector Cyl.8-N86 open circuit
44F5	Sensor for Needle lift-G80 Short to Earth
44F6	Sensor for Needle lift-G80 Implausible Signal
44F7	Sensor for Needle lift-G80 Open circuit/Short to Positive
44F8	Commencement of injection control Control difference
44F9	Fule consumption signal Fault in electrical circuit
44FA	Fuel status too low
44FB	Commencement of injection valve-N108 short to Positive
44FC	Commencement of injection valve-N108 open circuit/Short to Earth
44FD	Fuel consumption signal Short to earth
44FE	Fuel consumption signal Short to positive
44FF	Sensor for coolant temp.-G62 Short to Earth
4500	Sensor for coolant temp.-G62 Open circuit/Short to Positive
4501	Valve for coolant circulation-N214 Open circuit
4502	Valve for coolant circulation-N214 Short Positive
4503	Valve for coolant circulation-N214 short Earth
4518	Air control valve for inject. va.-N212 Through-flow too small
452C	Combustion misfiring recognised Reason: Lack of fuel
453F	Knock sensor 1-G61 Short to earth
4540	Knock sensor 2-G66 Short to earth
4541	Knock sensor 3-G198 Signal too small
4542	Knock sensor 3-G198 Signal too large
4543	Knock sensor 4-G199 Signal too small
4544	Knock sensor 4-G199 Signal too large
4545	Knock control Cyl.1 Control limit reached
4546	Knock control Cyl.2 Control limit reached

4547	Knock control Cyl.3 Control limit reached
4548	Knock control Cyl.4 Control limit reached
4549	Knock control Cyl.5 Control limit reached
454A	Knock control Cyl.6 Control limit reached
454B	Knock control Cyl.7 Control limit reached
454C	Knock control Cyl.8 Control limit reached
454F	Engine torque monitoring 2 Control limit surpassed
4550	Engine torque monitoring Control limit surpassed
4551	Bank1,Camshaft pos.-sensor=>-G163 Short to Earth
4552	Bank1,Camshaft pos.-sensor=>-G163 Open circuit/Short to Positive
4553	Crankshaft pos.-/Engine rev sender interchanger
4554	Crnkshaft pos.-/Crankshaft pos.sens. wrong allocation
4555	Ignition output 1 Short to Earth
4556	Ignition output 1 Short to positive
4557	Ignition output 2 Short to Earth
4558	Ignition output 2 Short to positive
4559	Ignition output 3 Short to Earth
455A	Ignition output 3 Short to positive
455B	Bank 2,cam/crankshaft position sensor Wrong allocation
455C	Ignition output 1 Interruption
455D	Ignition output 2 Interruption
455E	Ignition output 3 Interruption
4562	Mod.piston movement Sender-G149 Electrical fault in current circuit
4563	Ignition circuit cylinder 1 Interruption
4564	Ignition circuit cylinder 1 Short to Positive
4565	Ignition circuit cylinder 1 Short to earth
4566	Ignition circuit cylinder 2 Interruption
4567	Ignition circuit cylinder 2 Short to Positive
4568	Ignition circuit cylinder 2 Short to earth
4569	Ignition circuit cylinder 3 Interruption
456A	Ignition circuit cylinder 3 Short to Positive
456B	Ignition circuit cylinder 3 Short to earth
456C	Ignition circuit cylinder 4 Interruption
456D	Ignition circuit cylinder 4 Short to Positive
456E	Ignition circuit cylinder 4 Short to earth
456F	Ignition circuit cylinder 5 Interruption
4570	Ignition circuit cylinder 5 Short to Positive
4571	Ignition circuit cylinder 5 Short to earth
4572	Ignition circuit cylinder 6 Interrupti on
4573	Ignition circuit cylinder 6 Short to Positive
4574	Ignition circuit cylinder 6 Short to earth
4575	Ignition circuit cylinder 7 Interrupti on
4576	Ignition circuit cylinder 7 Short to Positive
4577	Ignition circuit cylinder 7 Short to earth
4578	Ignition circuit cylinder 8 Interrupti on
4579	Ignition circuit cylinder 8 Short to Positive
457A	Ignition circuit cylinder 8 Short to earth
4582	Control unit defective

4583	Control unit defective Short to earth
4584	Control unit defective
4587	Bank2,Camshaft pos.sensor=>-G40 Short to Earth
4588	Bank2,Camshaft pos.sensor=>-G40 Open circuit/Short to positive
4589	Ignition output 1 electrical fault in current circuit
458A	Ignition output 2 electrical fault in current circuit
458B	Ignition output 3 electrical fault in current circuit
458C	Engine speed sender-G28 missing tooth
458D	Sender wheel for engine speed Adaption limit reached
458E	Engine speed signal,TD Short to earth
458F	Engine speed signal,TD Short to positive
4590	Valve for exhaust gas recirculation Electrical fault in current circuit
4591	Valve for exhaust gas recirculation -N18 Short to Earth
4592	Valve for exhaust gas recirculation -N18 Short to Positive
4593	Exhaust gas recirculation system Control difference
4594	Exhaust gas recirculation system Basic Settings not performed
4596	Temp.sensor for exhaust gas recirc.-G98 Implausible signal
4597	Temp.sensor for exhaust gas recirc.G98 Signal too small
4598	Temp.sensor for exhaust gas recirc.G98 Signal too large
45A1	Sensor for fuel reserve-G signal too Small
45A2	Sensor for fuel reserve-G signal too large
45A5	Secondary air inlet valve-N112 Short to Earth
45A6	Secondary air inlet valve-N112 Short to Positive
45A9	Tank breathing valve-N80
45AA	Tank breathing valve-N80 Open circuit
45B0	Secondary air inlet valve-N112 open circuit
45B1	Relay for secondary air pump-J299 Open circuit
45B2	Relay for secondary air pump-J299 Short to Positive
45B3	Relay for secondary air pump-J299 Short to Earth
45B7	EGR potentiometer- G212 fault in basic Setting
45B8	EGR valve-N18 Open circuit
45B9	EGR valve-N18 Open circuit/Short to earth
45BA	Exh. gas recir. potentiometer-G212 Signal too great
45BB	Exh. gas recir. potentiometer-G212 signal too small
45BC	Exh. gas recir. potentiometer-G212 implausible Signal
45BD	Catalyst temp.sensor 2-G132 Implausible Signal
45BE	Catalyst temp.sensor 1-G20 Short to Earth
45BF	Catalyst temp.sensor 1-G20 Open circuit-/Short to Positive
45C0	Catalyst temp.sensor 2-G132 Short to Earth
45C1	Catalyst temp.sensor 2-G132 Open circuit/Short to Positive
45C2	Secondary air system Short to Positive
45C3	Secondary air system Short to Earth
45C4	Secondary air system Open circuit
45C5	Exhaust temperature Sender 1-G235 Open circuit/Short to Positive
45C6	Exhaust temperature Sender 1-G235 Short to Earth
45C7	Exhaust temperature Sender 1-G235 control limit reached
45C8	Exhaust temperature control Bank1 control limit reached
45C9	Exhaust temperature Sender 2-G236 Open circuit/Short to Positive

45CA	Exhaust temperature Sender 2-G236 Short to Earth
45CB	Exhaust temperature Sender 2-G236 Implausible signal
45CC	Exhaust temperature control Bank2 control limit reached
45CD	Exhaust temperature control Bank1 Implausible signal
45CE	Exhaust temperature control Bank2 Implausible signal
45D1	Cleaning fluid metering pump-V135 Short to Positive
45D2	Cleaning fluid metering pump-V135 Open circuit/Short to Earth
45D3	ACF solenoid 2-N115 Short to Positive
45D4	ACF solenoid 2-N115 Short to Earth
45D5	ACF solenoid 2-N115 Interruption
45D6	Leak diag. pump tank breathing system electrical fault in current circuit
45D7	Leak diag. pump tank breathing system short to Positive
45D8	Leak diag. pump tank breathing system short to earth
45D9	Leak diag. pump tank breathing system open circuit
45DA	ACF solenoid 2-N115 Fault in electrical circuit
45DB	Leak diag. pump tank breathing system faulty/No signal
45DC	Leak diag. pump tank breathing system faulty/Vacuum too low
45DD	Leak diag. pump tank breathing system faulty
45DE	Leak diag. pump tank breathing system hose blocked, recog
45F5	Fuel pump relay-J17 Short to earth
45F7	Load signal alternator terminal DF Imp-lausible signal
45F8	Air intake system leak recognised
45F9	Idling speed switch-F60 does not close/Open circuit
45FA	Idling speed switch-F60 does not open/Short to Earth
45FB	Idling speed sys.taught value lower level reached
45FC	Idling speed sys.taught value upper level reached
45FD	Idling speed stabilisation valve-N71 Electrical fault in current circuit
45FE	Idling speed stabilisation valve-N71 Short to Positive
45FF	Intake manif.charge over valve-N156 electrical fault in current circuit
4600	Intake manif.charge over valve-N156 short to positive
4601	Intake manifold charge-over valve 2-N261 Short to positive
4602	Intake manifold charge-over valve 2-N261 Short to Earth
4603	Intake manif.charge over valve-N156 Short to Earth
4604	Intake manif.charge over valve-N156 open circuit
4605	Main relay=>-J271 Electrical fault in current circuit
4606	Main relay=>-J271 short to positive
4607	Bank1, Variable valve timing Faulty
4608	Intake manifold charge-over valve 2-N261 Interruption
4609	Intake manifold charge-over valve 2-N261 Electrical fault in current circuit
460A	Bank2, Variable valve timing Faulty
460B	Crash signal from airbag control unit Implausible signal
460D	Bank1, Variable valve timing =>-N205 Electrical fault in current circuit
460E	Bank1, Variable valve timing =>-N205 short to positive
460F	Bank1, Variable valve timing =>-N205 short to Earth
4610	Bank1, Variable valve timing =>-N205 open circuit
4611	Variable valve timing short to positive
4612	Variable valve timing short to earth
4613	Variable valve timing Interruption

4615	Bank2, Variable valve timing =>-N208 electrical fault in current circuit
4616	Bank2, Variable valve timing =>-N208 short to positive
4617	Bank2, Variable valve timing =>-N208 short to Earth
4618	Bank2, Variable valve timing =>-N208 open circuit
4619	Fuel cut off valve N109 Faulty
461A	Fuel cut off valve N109 Open circuit/short to Earth
461B	Clutch pedal switch -F36 Implausible signal
461C	Vehicle speed signal too large
461D	Fuel pump relay-J17 Open circuit
461E	Angle sender for throt.val.drive-G187 Implausible signal
461F	Angle sender for throt.val.drive-G187 Signal too small
4620	Angle sender for throt.val.drive-G187 Signal too large
4621	Throttle valve control Faulty
4622	Charge press.control solenoid valve-N75 Short to positive
4623	Charge press.control solenoid valve-N75 Short to Earth
4624	Charge press.control solenoid valve-N75 Open circuit
4625	Charge press.control solenoid valve-N75 Open circuit/Short to Earth
4626	Charge pressure Control difference
4627	Altitude sensor-F96 Short to Positive
4628	Altitude sensor-F96 Open circuit/Short to Earth
4629	Alt. sens./Int.mainif.press.signal Implausible ratio
462A	Throttle valve control unit-J338 Basic Setting conditions not met
462B	Maximum Charge pressure surpassed
462C	Charge pressure control Regulating limit not reached
462D	Charge pressure control Regulating limit surpassed
462E	Throttle valve drive-G186 Electrical fault in current circuit
462F	Throttle valve control unit-J338 fault in base setting
4630	Maximum engine revs Surpassed
4631	Quantity adjuster N146 control difference
4632	Quantity adjuster N146 upper stop valve
4633	Quantity adjuster N146 lower stop valve
4634	Throttle valve control unit-J338 low voltage at base setting
4635	Throttle valve control unit-J338 lower Stop is not reached
4636	Load signal from A/C compressor Implausible signal
4637	Load signal from A/C compressor No signal
4638	Throttle valve control unit-J338 Mechanical fault
4639	CSS switch-E45 Implausible signal
463A	Engine control unit blocked
463B	Solenoid,left for engine mounting-N144 Short to positive
463C	Solenoid,left for engine mounting-N144 Short to Earth
463D	Solenoid,left for engine mounting-N144 Interruption
463E	Solenoid,left for engine mounting-N144 Electrical fault in current circuit
463F	Solenoid,right for engine mounting-N145 Short to positive
4640	Solenoid,right for engine mounting-N145 Short to Earth
4641	Solenoid,right for engine mounting-N145 Interruption
4642	Solenoid,right for engine mounting-N145 Electrical fault in current circuit
4643	Throttle valve control unit-J338 Adaption not started
4644	Throttle valve drive Bank1 faulty

4645	Throttle valve control unit-J338 Basic setting not performed
4646	Idling speed control Adaption limit reached
4647	Gearbox mounting valves Short to positive
4648	Gearbox mounting valves Short to Earth
4649	Gearbox mounting valves Interruption
464A	Solenoids for engine mounting-N144/N145 Short to positive
464B	Solenoids for engine mounting-N144/N145 Short to Earth
464C	Solenoids for engine mounting-N144/N145 Interruption
4658	Voltage supply kl.15 voltage too low
465A	Voltage supply kl.30 voltage too low
465B	Control unit defective
465C	Control unit defective
465D	Poor road/acceleration sensor Electrical fault in current circuit
465E	Poor road info/eng.Sp.mom.from ABS CU Electrical fault in current circuit
465F	Road speed signal fault message from combi-instrument
4660	Steering angle signal Electrical fault in current circuit
4661	Crash switch-off triggered
4663	Request warning lamp be switched on Short to Earth
4664	Exhaust control unit Wrongly coded
4665	Request warning lamp be switched on Open circuit/Short to positive
4666	Request warning lamp be switched on Implausible signal
4667	Oil temperature sender-G8 Implausible Signal
4668	Glow period warning lamp-K29 Short to positive
4669	Glow period warning lamp-K29 Open circuit/Short to Earth
466A	Glow plugs relay-J52 Short to positive
466B	Glow plugs relay-J52 Open circuit/Short to Earth
466C	Signal for coolant temperature Open circuit/Short to positive
466D	Signal for coolant temperature Short to Earth
466E	Signal for coolant temperature Implausible signal
466F	Data bus drive No Communication
4670	Request warning lamp be switched on active
4671	Data bus drive Implausible message from gearbox CU
4672	Data bus drive No Message from gearbox CU
4673	Data bus drive No Message from injection pump CU
4674	Data bus drive No Message from steering angle sender
4675	Data bus drive No Message from AICC CU
4676	Accelerator position sender-G79 Signal too small

4677	Accelerator position sender-G79 Signal too large
4678	Accelerator position sender-G79 Supply voltage
4679	Accelerator position sender 2-G185 Signal too small
467A	Accelerator position sender 2-G185 Signal too large
467B	Data bus drive No message from air cond. CU
467C	Data bus drive No message from airbag CU
467D	Data bus drive No message from elec.CU
467E	Data bus drive No message from coupling CU
467F	Accelerator position sender 1/2-G79+G185 Implausible signal

4680	Control unit defective
4681	Please interrogate air cond. CU fault memory
4682	Please interrogate airbag CU fault memory
4683	Please interrogate elec. CU fault memory
4684	Please interrogate the coupling CU fault memory
4685	Data bus drive No message from 4WD elec.
4686	Please interrogate 4WD elec. fault memory
4687	Please check coding/versions of control units in drive train data bus
4688	Drive train data bus defective
4689	Drive train data bus message from ABS control unit missing
468A	Drive train data bus message from combi instrument missing
468B	Drive train data bus message missing
468C	Please interrogate fault memroy of gearbox control unit
468D	Please interrogate fault memroy of ABS control unit
468E	Please interrogate fault memroy of combi-instrument
468F	Please interrogate fault memroy of AICC control unit
4690	Air conditioning input/output Short to earth
4691	Air conditioning input/output Short to positive
4692	Drive train data bus Implausible message from AICC ctrl.unit
46A4	Electr.throttle control fault lamp-K132 Electrical fault in current circuit
46A5	Electr.throttle control fault lamp-K132 Short to positive
46A6	Electr.throttle control fault lamp-K132 short to Earth
46A7	Electr.throttle control fault lamp-K132 Open circuit
46A9	Control unit programming programming not finished
46AC	Control unit programming Fault in data transfer
46AE	Control unit defective Programming fault
46B2	Warning lamp for self-diagnosis-K83 Electrical fault in current circuit
46B3	Warning lamp for self-diagnosis-K83 open circuit
46B4	Warning lamp for self-diagnosis-K83 short to Earth
46B5	Warning lamp for self-diagnosis-K83 short to positive
46B6	Warning lamp for self-diagnosis-K83 Open circuit/short to Earth
46C0	Kick-Down-switch-F8 Electrical fault in current circuit
46C1	Gear/ratio monitoring Adaption limit reached
46C7	Speed sensor1=>fl G47 Implausible signal
46CC	Speed sensor2=>fr-G45 Implausible signal
46D1	Speed sensor3=>rl-G46 Implausible signal
46D3	Signal for starter inhibitor Open circuit
46D4	Signal for starter inhibitor Short to Earth
46D6	Speed sensor4=>rr-G44 Implausible signal
46D8	Different wheel speeds Implausible signal
46D9	Signal for starter inhibitor Short to positive
46DD	Tiptronic switch,back-F189 short to earth
46E3	Tiptronic switch,up-F189 short to earth
46E4	Clutch temperature monitoring
46E5	Clutch pressure adaption Adaption limit reached
46E6	Clutch torque adaption Adaption limit reached
46E7	Clutch slip monitoring signal too large
46E8	Tiptronic switch,recognition-F189 short to earth

46E9	Supply voltage for Solenoid Short to Positive
46EA	Supply voltage for Solenoid Electrical fault in current circuit
46EB	Supply voltage for Solenoid Open circuit/Short to earth
46EC	control unit defective
46ED	Control unit for automatic gearbox Wrong coding
46EE	Voltage supply Voltage too low
46EF	Voltage supply Voltage too high
46F0	Voltage supply Implausible signal
46F8	Select.lev. lock=> Solenoid-N110 Electrical fault in current circuit
46F9	Select.lev. lock=> solenoid-N110 Short to earth
46FA	Select.lev. lock=> solenoid-N110 short to positive
46FB	Select.lev. lock=> solenoid-N110 open circuit
46FC	Gearbox temperature monitoring
46FD	Sensor 2 for Hydrauliv pressure G194 Adaption level reached
46FE	Throttle valve signal from engine CU Open circuit/Short to positive
46FF	Throttle valve signal from engine CU short to earth
4700	Sensor 2 for Hydrauliv pressure-G194 signal too large
4701	Sensor 2 for Hydrauliv pressure-G194 signal too small
4702	Load signal from engine CU implausible Signal
4703	Load signal from engine CU Open circuit/short to positive
4704	Load signal from engine CU short to earth
4705	Sensor 1 for Hydrauliv pressure-G193 signal too large
4706	Sensor 1 for Hydrauliv pressure-G193 signal too small
4707	Sensor 1 for Hydrauliv pressure-G193 Adaption level reached
4708	Autom.gearbox hydr.press. sender 1-G193 Implausible signal
4709	Autom.gearbox hydr.press. sender 2-G194 Implausible signal
470A	Valve 7 Electrical fault in current circuit
470C	Engine cut-in plausibility
470D	Signal for Torque reduction Open circuit/short to earth
470E	Signal for Torque reduction short to positive
4710	Up/down switch circuit Open circuit/short to earth
4711	Up/down switch circuit short to positive
4712	Signal for reversing light open circuit
4713	Signal for reversing light short to earth
4714	Signal for reversing light short to positive
4715	Idling speed influence fault message from engine CU
4716	Signal for selector level display open circuit
4717	Signal for selector level display short to earth
4718	Signal for selector level display short to positive
4719	Sensor 2 for gearbox output speed-G196 no signal
471B	Signal for driving Speed open circuit
471C	Signal for driving Speed short to earth
471D	Signal for driving Speed short to positive
471E	Sensor 2 for gearbox output speed-G196 implausible signal
471F	Sensor 2 for gearbox output speed-G196 revs too high
472D	Pressure control valve 1-N215 Electrical fault in current circuit
472E	Pressure control valve 1-N215 Open circuit/short to earth
472F	Pressure control valve 1-N215 short to positive

4732	Pressure control valve 2-N216 Electrical fault in current circuit
4733	Pressure control valve 2-N216 Open circuit/short to earth
4734	Pressure control valve 2-N216 short to positive
4737	Pressure control valve 3-N217 Electrical fault in current circuit
4738	Pressure control valve 3-N217 Open circuit/short to earth
4739	Pressure control valve 3-N217 short to positive
473C	Pressure control valve 4-N218 Electrical fault in current circuit
473D	Pressure control valve 4-N218 Open circuit/short to earth
473E	Pressure control valve 4-N218 short to positive
4741	Pressure control valve 5-N233 Electrical fault in current circuit
4742	Pressure control valve 5-N233 Open circuit/short to earth
4743	Pressure control valve 5-N233 short to positive
4749	Engine/gearbox control unit Versions to not match each other
474A	Please interrogate fault memory of combi-instrument
474B	Please interrogate fault memory of AICC control unit
474C	Please interrogate fault memory of electronic central electrics
474F	Please interrogate the ABS control unit
4750	Please interrogate the engine control unit
4751	Please interrogate the gearbox control unit
4752	Data bus drive Info missing from engine CU
4753	Data bus drive Info missing from ABS CU
4754	Data bus drive Implausible missing from engine CU
4755	Data bus drive Implausible missing from ABS CU
4756	Data bus drive defective hardware
4757	Data bus drive Software monitoring
4758	Throttle valve potentiometer-G69 Fault message from engine CU
4759	Load signal Fault message from engine CU
475A	Rev signal from engine CU Fault message from engine CU
475B	Brake light switch-F Fault message from engine CU
475C	Kick-Down-switch-F8 Fault message from engine CU
475D	Accelerator position sender-G79 Fault message from engine CU
475E	Drive train data bus Message from combiinstrument missing
475F	Drive train data bus Message,steering angle sender missing
4760	Drive train data bus Message from AICC control unit missing
4761	Drive train data bus Message from elect.cent. elect.missing
4762	Drive train data bus Message missing
FFFF	PCM fault