

Basic setting as at 30.10. 2008
for 2.7/3.0 L TDI CR
Engine code letters: CANA, CANB, CANC, CAND,
CDYA, CDYB, CDYC

001 Quantity adjustment

1) Engine speed

At idle: 610 ... 810 rpm

2) Injection quantity mean

At idle: 4 ... 11 mg/stroke

3) Rail pressure actual

Check values with measured value block 020

4) Coolant temperature

Warmed-up: 70 ... 115 °C

002 Idling speed

1) Engine speed

At idle: 610 ... 810 rpm

2) Accelerator pedal position

At idle: 0 %

At full throttle: 100%

3) Accelerator pedal switch settings

X X X X X X X 1 Status AC compressor ON

X X X X 1 X X X Idling speed switch ON

X X X 1 X X X X Kickdown switch ON

X 1 X X X X X X Idling speed increased

4) Coolant temperature

Warmed-up: 70 ... 115 °C

003 Exhaust gas recirculation EGR

1) Engine speed

At idle: 610 ... 810 rpm

2) Specified intake air mass

[mg/stroke]

3) Actual air mass

[mg/stroke]

4) EGR control value

[%]

004 Main injection

1) Engine speed

At idle: 610 ... 810 rpm

2) Main injection, start of activation

[°CA]

3) Main injection, duration of activation

[ms]

4) Rail pressure actual

Check values with measured value block 020

005 Starting conditions

Stored from last engine start

1) Engine speed

[rpm]

2) Starting injection quantity

[mg/stroke]

3) Start synchronisation

001 No synchronisation between engine control unit and engine

005 Too many resynchronisation cycles Torsion between crankshaft and camshaft too large

020 Position for synchronisation set by run-out detector

033 Synchronisation present, but still being checked

036 Synchronisation present, but still being checked (slave engine control unit only)

038 No valid camshaft signal, run camshaft emergency mode to synchronise

048 Synchronisation complete --> Starting OK

060 No valid crankshaft signal, crankshaft emergency running mode

4) Coolant temperature
[°C]

006 Cruise control system CCS

1) Vehicle speed

CCS activatable: above 35 km/h

2) CCS status

X X X X X X X 1 Brake light switch pressed

X X X X X X 1 X Brake pedal switch pressed

X X X X X 1 X X Clutch pedal switch pressed

X X X X 1 X X X CCS enabled

X X X 1 X X X X ACC enabled

X X 1 X X X X X Main switch ON

0 0 X X X X X X ACC/CCS mode inactive

1 0 X X X X X X State overspill

0 1 X X X X X X ACC/CCS in control range

1 1 X X X X X X ACC not enabled

3) CCS target speed

[km/h]

4) CCS switch settings

X X X X X X X 1 Main switch ON

X X X X X X 1 X Tapped OFF

X X X X X 1 X X Tap Down, reduce

X X X X 1 X X X Tap Up, increase

X X X 1 X X X X Set

X X 1 X X X X X Resume

X 1 X X X X X X Fault message steering column module

1 X X X X X X X Main switch hardware locked ON

007 Temperature senders

1) Fuel temperature

to 70 °C

2) Oil temperature

Warmed-up: 70 ... 110 °C

3) Intake air temperature

to 90 °C

4) Coolant temperature

Warmed-up: 70 ... 115 °C

008 Limiting torques

1) Engine speed

[rpm]

2) Engine torque specification

[Nm] Driver input via accelerator pedal

3) Torque limitation

[Nm]

4) Smoke limitation

[Nm]

009 Limiting torques

1) Engine speed

[rpm]

2) CCS limiting torque

[Nm]

3) Limiting torque gearbox control unit

[Nm]

4) Limiting torque

[Nm]

010 Air quantities

1) Actual air mass

At idle: 210 ... 280 mg/stroke

At full throttle: > 1050 mg/stroke

At ambient air pressure 970 ... 1020 mbar

2) Ambient air pressure

[mbar]

3) Actual charge pressure

At idle: 950 ... 1080 mbar

At full throttle: > 2150 mbar

At ambient air pressure 970 ... 1020 mbar

4) Accelerator pedal position

[%]

- With exhaust gas recirculation switched off, e.g. due to high intake air temperature the air mass at idle may be increase In this case press the accelerator in short bursts and check whether the air mass then decreases.

- Additionally check air mass via basic setting of EGR and turbocharger basic setting.

011 Charge pressure control

1) Engine speed

[rpm]

2) Specified charge pressure

[mbar]

3) Actual charge pressure

At idle: 950 ... 1080 mbar

At full throttle: > 2150 mbar

At ambient air pressure 970 ... 1020 mbar

4) Charge pressure control value

[%]

012 Preheating system

1) Preheating system status

0 0 0 0 0 0 0 0 Waiting for coolant temperature

0 0 0 0 0 0 0 1 Waiting for start request

0 0 0 1 0 0 0 0 Glow period

0 1 0 1 0 0 0 0 No glow

1 0 1 1 0 0 0 0 After-glow

1 1 0 0 0 0 0 0 No start glow

1 1 1 1 0 0 0 0 Intermediate glow

0 0 1 1 0 0 0 0 Readiness glow

0 1 1 1 0 0 0 0 Start glow

1 0 1 1 0 0 0 1 Waiting for after-glow

1 1 0 1 0 0 0 0 No after-glow

1 1 1 1 0 0 0 1 Waiting for intermediate glow

1 1 1 1 1 1 1 1 No glow

2) Glow period

[s]

3) Vehicle voltage

[V]

4) Coolant temperature

[°C]

013 Smooth running control

1) Cylinder 1 injection quantity variation

[mg/stroke]

2) Cylinder 2 injection quantity variation

[mg/stroke]

3) Cylinder 3 injection quantity variation

[mg/stroke]

4) Vacant

Permissible values at idle: ± 1.5 mg/stroke

A If the permissible tolerance is exceeded first check injector IQA-IVA adaption values, if OK electrical wiring and connectors from engine control unit to injector

014 Smooth running control

1) Cylinder 4 injection quantity variation

[mg/stroke]

2) Cylinder 5 injection quantity variation

[mg/stroke]

3) Cylinder 6 injection quantity variation

[mg/stroke]

4) Vacant

Permissible values at idle: ± 1.5 mg/stroke

A If the permissible tolerance is exceeded first check injector IQA-IVA adaption values, if OK electrical wiring and connectors from engine control unit to injector

015 Fuel consumption

1) Engine speed

[rpm]

2) Actual engine torque

[Nm]

3) Fuel consumption

[litres/h]

4) Engine torque specification

[Nm] Driver input via accelerator pedal

016 Additional heater

Only A4, A5, A6

1) Additional heater enable

0 0 No enable

0 1 No enable stage 1

1 0 No enable stage 2

1 1 Enable stages 1 and 2

2) Additional heater shut-off conditions

X X X X X X X 0 No shut-off condition

X X X X X X X 1 Coolant temperature adequate

X X X X X X 1 X Alternator load signal fault

X X X X X 1 X X Battery voltage too high

X X X X 1 X X X Engine speed too low

X X X 1 X X X X Start delay active

X X 1 X X X X X Water temperature sensor, air temperature sensor or output stage defective

X 1 X X X X X X Operating switch (not active)

1 X X X X X X X Intake manifold temperature adequate

3) Additional heater relay activation

0 0 Relay not activated

0 1 Low heat output relay

1 0 High heat output relay

1 1 Both relay contacts active

4) Alternator output

017 --- For readiness code see 089

018 Rail pressure control

1) Engine speed

[rpm]

2) Fuel temperature

[°C]

3) Rail pressure control status

00 Ignition on, open-loop control mode

01 Open-loop control mode after start

02 Closed-loop control via pressure regulating valve (on switch between open-loop and closed-loop control)

03 Closed-loop control via solenoid valve (on switch between open-loop and closed-loop control)

04 Closed-loop control via pressure regulating valve (normal operating mode)

05 Closed-loop control via solenoid valve (normal operating mode)

06 Closed-loop control via pressure regulating valve (on switch to pressure regulation via quantity control valve)

07 Open-loop control (engine is stopped)

08 Open-loop control (on switch from open-loop to closed-loop control)

11 Open-loop control after running tank empty

15 Closed-loop control via pressure regulating valve and quantity control valve

16 Switch after closed-loop control via pressure regulating valve to quantity control valve

17 Switch after CPC closed-loop control

18 Switch after closed-loop control via quantity control valve

4) Vacant

020 Rail pressure control

1) Engine speed

At idle: 610 ... 810 rpm

2) Specified rail pressure

[bar]

3) Rail pressure actual

[bar]

4) Pressure regulating valve activation

At idle: 13 ... 37 %

- Values for warmed-up engine

- Permissible difference between specified and actual value at

Idle: maximum +-20 bar

021 Rail quantity control

1) Engine speed

At idle: 610 ... 810 rpm

2) Specified rail pressure

Check values with measured value block 020

3) Rail pressure actual

Check values with measured value block 020

4) Quantity adjuster valve activation

At idle: 33 ... 62 %

- Values for warmed-up engine

024 Pre-injection 3

1) Engine speed

[rpm]

2) Pre-injection 3 start of activation

[°CA]

3) Pre-injection 3 duration of activation

[ms]

4) Rail pressure actual
Check values with measured value block 020

025 Pre-injection 2

1) Engine speed
[rpm]
2) Pre-injection 2 start of activation
[°CA]
3) Pre-injection 2 duration of activation
[ms]
4) Rail pressure actual
Check values with measured value block 020

026 Pre-injection 1

1) Engine speed
[rpm]
2) Pre-injection 1 start of activation
[°CA]
3) Pre-injection 1 duration of activation
[ms]
4) Rail pressure actual
Check values with measured value block 020

028 Post-injection 2

1) Engine speed
[rpm]
2) Post-injection 2 start of activation
[°CA]
3) Post-injection 2 duration of activation
[ms]
4) Rail pressure actual
Check values with measured value block 020

029 Post-injection 1

1) Engine speed
[rpm]
2) Post-injection 1 start of activation
[°CA]
3) Post-injection 1 duration of activation
[ms]
4) Rail pressure actual
Check values with measured value block 020

030 Accelerator pedal position

1) Accelerator pedal sender 1
[V]
2) Accelerator pedal sender 2
[V]
3) Accelerator pedal switch settings
X X X X X X X 1 Status AC compressor ON
X X X X 1 X X X Idling speed switch ON
X X X 1 X X X X Kickdown switch ON
X 1 X X X X X X Idling speed increased
4) Accelerator pedal position
[%]

032 Camshaft edges

1) Engine speed
[rpm]
2) Start synchronisation
001 No synchronisation between engine control unit and engine

005 Too many resynchronisation cyclesTorsion between crankshaft and camshaft too large
020 Position for synchronisation set by run-out detector
033 Synchronisation present, but still being checked
036 Synchronisation present, but still being checked (slave engine control unit only)
038 No valid camshaft signal, run camshaft emergency mode to synchronise
048 Synchronisation complete--> Starting OK
060 No valid crankshaft signal, crankshaft emergency running mode

3) Camshaft edge 1
[°CA]
4) Camshaft edge 2
[°CA]

033 Temperature protection
Only 3.0 L TDI CR
1) Engine speed
At idle: 610 ... 810 rpm
2) Exhaust gas temperature before turbocharger
At idle: 100 ... 310 °C (with radiator fluid > 75 °C)
At full throttle: 540 ... 830 °C
3) Exhaust gas temperature governing factor
At idle: 99 ... 101 % or 0.99 ... 1,01
4) Overall governing factor
At idle: 99 ... 101 % or 0.99 ... 1,01

[b]034 Charge pressure control[/b]
1) Engine speed
At idle: 610 ... 810 rpm
2) Charge pressure adjuster activation
[%]
3) Charge pressure adjuster feedback
[%]
4) Charge pressure adjuster output stage
[%]
Permissible difference between activation and feedback at
Idle: maximum +/- 2 %

036 Intake manifold flap bank 1
1) Engine speed
At idle: 610 ... 810 rpm
2) Intake manifold flaps activation
[%]
3) Intake manifold flaps feedback
[%]
4) Intake manifold flaps output stage
[%]
Permissible difference between activation and feedback at
Idle: maximum +/- 2 %

037 Intake manifold flap bank 2
1) Engine speed
At idle: 610 ... 810 rpm
2) Intake manifold flaps 2 activation
[%]
3) Intake manifold flaps 2 feedback
[%]
4) Intake manifold flaps 2 output stage
[%]
Permissible difference between activation and feedback at

Idle: maximum +/- 2 %

038 EGR valve

- 1) Engine speed
[rpm]
- 2) EGR valve activation
[%]
- 3) EGR valve feedback
[%]
- 4) EGR valve output stage
[%]

040 Throttle valve

- 1) Engine speed
[rpm]
- 2) Throttle valve activation
[%]
- 3) Throttle valve feedback
[%]
- 4) Throttle valve output stage
[%]

041 Lambda probe

- 1) Lambda probe calibration value internal resistance
[Ohm]
- 2) Oxygen signal offset
[V]
- 3) Oxygen concentration
[%]
- 4) Oxygen signal calibration status
0 inactive
1 active

042 Lambda probe

- 1) Air mass throughput
[-]
- 2) Lambda probe heater activation
[%]
- 3) Lambda probe temperature signal
[V]
- 4) Lambda signal
[-]

043 Lambda probe

- 1) Air mass throughput
[-]
- 2) Ambient temperature
[°C]
- 3) Lambda probe pressure
[mbar]
- 4) Lambda probe oxygen concentration
[mV]

044 Lambda probe

- 1) Engine speed
[rpm]
- 2) Lambda probe electronics
X X X X X X X 1 Full throttle regulator on/off
X X X X X X X 1 X Full throttle
X X X X X 1 X X Control deviation negative, i.e. mixture too rich
X X X X 1 X X X System fault

X X X 1 X X X X Oxygen signal invalid or no correction by lambda probe
 adaption
 X X 1 X X X X X Engine starting
 X 1 X X X X X X Torque limitation or quantity limitation active
 1 X X X X X X X Regeneration exhaust gas treatment
 3) Lambda probe plausibility check
 001 Current oxygen concentration implausibly high
 002 Current oxygen concentration implausibly low
 004 Oxygen concentration stationary
 008 Plausibility checking enabled
 016 Oxygen concentration zero
 032 In last time interval no rich operation
 4) Lambda probe diagnosis
 004 Dynamics of signal too low
 008 Cable open circuit
 016 Oxygen signal in overrun implausibly low
 032 Oxygen signal in overrun implausibly high
 064 Oxygen signal at part throttle implausibly low
 128 Oxygen signal at part throttle implausibly high
 256 Oxygen signal at full throttle implausibly low
 512 Oxygen signal at full throttle implausibly high

 045 Fan activation
 1) Coolant temperature
 [°C]
 2) Air conditioner fan activation
 [%]
 3) Radiator fan 1 activation
 [%]
 4) Radiator fan 2 activation
 [%]

 046 AC compressor
 1) Ambient temperature
 [°C]
 2) Temperature at air conditioner heat exchanger output
 [°C]
 3) AC compressor shut-off status 1
 X X X X X X X 1 Vehicle starting off
 X X X X X X 1 X Shut-off due to starting off state
 X X X X X 1 X X Vehicle acceleration
 status
 X X X X 1 X X X Shut-off due to acceleration
 X X X 1 X X X X Shut-off due to starting
 X X 1 X X X X X System fault detected
 X 1 X X X X X X Shut-off due to system fault
 1 X X X X X X X Shut-off due to inadequate idling
 speed
 4) AC compressor shut-off status 2
 0 Compressor not switched off by control unit
 1 Compressor switched off by control unit

 051 Speed recording
 1) Engine speed
 [rpm]
 2) Camshaft speed
 [rpm]
 3) Start synchronisation
 001 No synchronisation between engine control unit and engine
 005 Too many resynchronisation cycles Torsion between crankshaft and
 camshaft too large

020 Position for synchronisation set by run-out detector
033 Synchronisation present, but still being checked
036 Synchronisation present, but still being checked (slave engine control unit only)
038 No valid camshaft signal, run camshaft emergency mode to synchronise

048 Synchronisation complete --> Starting OK
060 No valid crankshaft signal, crankshaft emergency running mode
4) Vacant

057 Engine mounting
1) Engine speed
[rpm]
2) Vehicle speed
[km/h]
3) Engine mounting valve, right, activation
[%]
4) Engine mounting valve, left, activation
[%]

059 Ancillaries
1) Engine speed
[rpm]
2) Actual engine torque
[Nm]
3) Engine torque loss
[Nm]
4) Ancillaries torque
[Nm]

060 Ancillaries
1) Engine torque loss
[Nm]
2) Clutch torque min
[Nm]
3) AC compressor torque
[Nm]
4) Alternator output
[W]

070 Zero quantity calibration ZQC
1) ZQC learning cycle counter 1st calibration pressure
[-]
2) ZQC learning cycle counter 2nd calibration pressure
[-]
3) ZQC learning cycle counter 3rd calibration pressure
[-]
4) Vacant

072 Zero quantity calibration ZQC
1) ZQC cyl. 1 Activation time 1st calibration pressure
[ms]
2) ZQC cyl. 1 Activation time 2nd calibration pressure
[ms]
3) ZQC cyl. 1 Activation time 3rd calibration pressure
[ms]
4) Vacant

073 Zero quantity calibration ZQC
1) ZQC cyl. 2 Activation time 1st calibration pressure

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[ms]
2) ZQC cyl. 2 Activation time 2nd calibration pressure
[ms]
3) ZQC cyl. 2 Activation time 3rd calibration pressure
[ms]
4) Vacant

074 Zero quantity calibration ZQC
1) ZQC cyl. 3 Activation time 1st calibration pressure
[ms]
2) ZQC cyl. 3 Activation time 2nd calibration pressure
[ms]
3) ZQC cyl. 3 Activation time 3rd calibration pressure
[ms]
4) Vacant

075 Zero quantity calibration ZQC
1) ZQC cyl. 4 Activation time 1st calibration pressure
[ms]
2) ZQC cyl. 4 Activation time 2nd calibration pressure
[ms]
3) ZQC cyl. 4 Activation time 3rd calibration pressure
[ms]
4) Vacant

076 Zero quantity calibration ZQC
1) ZQC cyl. 5 Activation time 1st calibration pressure
[ms]
2) ZQC cyl. 5 Activation time 2nd calibration pressure
[ms]
3) ZQC cyl. 5 Activation time 3rd calibration pressure
[ms]
4) Vacant

077 Zero quantity calibration ZQC
1) ZQC cyl. 6 Activation time 1st calibration pressure
[ms]
2) ZQC cyl. 6 Activation time 2nd calibration pressure
[ms]
3) ZQC cyl. 6 Activation time 3rd calibration pressure
[ms]
4) Vacant

089 Readiness code
1) EOBD data A
X 0 0 0 0 0 0 0 No fault messages stored in engine control unit

0 X X X X X X X Emissions warning lamp (MIL) OFF
1 X X X X X X X Emissions warning lamp (MIL) ON
2) EOBD data B
- X X X - X X 1 Misfire monitoring activated
- X X X - X 1 X Fuel system monitoring activated
- X X X - 1 X X Complete system monitoring activated
- X X X - 1 X X Misfire detection monitoring activated
- X 0 X - X X X EOBD test fuel system completed with OK

- 0 X X - X X X EOBD test overall system completed with OK

3) EOBD data C
X X X X X X X 1 Catalytic converter monitoring activated
X X X X X X 1 X Catalytic converter hot monitoring activated

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X X X X X 1 X X Evaporation system monitoring activated
X X X X 1 X X X Secondary air system monitoring activated
X X X 1 X X X X Air conditioner coolant monitoring activated
X X 1 X X X X X Lambda probe monitoring activated
X 1 X X X X X X Lambda probe heating monitoring activated
1 X X X X X X X EGR monitoring activated

4) EOBD data D

X - - - - - 0 EOBD test EGR completed with OK

0 - - - - - X EOBD test EGR completed with OK

095 Starter control

1) Start request terminal 50

X X 1 Start request from driver

X 1 X Holding circuit to bridge resets active

1 X X Read-back activation status of starter

2) Interlock or P/N signal

Interlock: Signal from selector lever switch Only vehicles with automatic gearbox

P/N: Signal from clutch pedal switch for engine start

Only vehicles with manual gearbox

X X X X X X X 1 Clutch closed

X X X 1 X X X X Interlock or P/N signal

3) Starter control status 1

X X X X X X X 1 Start command

X X X X X X 1 X Engine does not turn over

X X X X X 1 X X Starter motor does not turn over

X X X X 1 X X X Power enable

X X X 1 X X X X Restart enable

X X 1 X X X X X Start command from start/stop coordinator

X 1 X X X X X X Engine speed permitted, engage starter

1 X X X X X X X Start mode announcement

4) Starter control status 2

X X X X X X X 1 Start delay active

096 Starter control

1) Start request terminal 50

X X 1 Start request from driver

X 1 X Holding circuit to bridge resets active

1 X X Read-back activation status of starter

2) Starter control shut-off conditions 1

X X X X X X X 1 New fault in starter control

X X X X X X 1 X Start by term. 15 off

X X X X X 1 X X Fast start (direct start)

3) Starter control shut-off conditions 2

X X X X X X X 1 Start rejection speed reached

X X X X X X 1 X Engine speed reached and term.50 off

X X X X X 1 X X Maximum operating time exceeded

X X X X 1 X X X Term.50 off after number of time false starts

X X X 1 X X X X Abort panic start

X X 1 X X X X X Power detected

X 1 X X X X X X Vehicle speed exceeded

1 X X X X X X X Abort semi-automatic start

4) Vehicle voltage

[V]

098 EGR cooler coolant pump

1) Coolant temperature

[°C]

2) Coolant temperature at radiator outlet

[°C]
3) EGR cooler coolant pump, activation
[%]
4) EGR temperature
[°C]

099 Exhaust gas temperature

1) Engine speed
[rpm]
2) Exhaust gas temperature before turbocharger
[°C]
3) Exhaust gas temperature before particulate filter
[°C]
4) Exhaust gas temperature before particulate filter
[°C] Only on vehicles with particulate filter
The temperature sender is not fitted on the Q7. The
readout is calculated.

100 Service regeneration

Only on vehicles with particulate filter

Note:

Starting service regeneration is possible via Guided Fault Finding
if the <service regeneration> test procedure was
entered in the test plan.

1) Engine speed
In service regeneration: approx. 1500 rpm
2) Surface temperature of filter
[°C]
3) Service regeneration current regeneration time
0 ... 255 or 0 to max. 1200 s
Total duration: 10 to 40 minutes, depending on loading state
4) Service regeneration abort detected
0 = Not aborted
1 = Aborted

101 Service regeneration

Only on vehicles with particulate filter

Note:

With this measured value block fault causes can be located
if the service regeneration was aborted by the engine control unit

1) Service regeneration enable conditions 1

Before start of service regeneration:

0 0 0 0 0 0 0 OK, because no service regeneration
active

After start of service regeneration:

1 1 1 1 1 1 1 All enable conditions 1 OK

X X X X X X X 1 Minimum waiting time before start of service
regeneration with engine running
observed

X X X X X X 1 X Coolant temperature OK

X X X X X 1 X X Oil temperature OK

X X X X 1 X X X Ambient air pressure OK

X X X 1 X X X X Fuel temperature OK

X X 1 X X X X X Battery voltage OK

X 1 X X X X X X No clutch pressed

1 X X X X X X X No gear engaged

2) Service regeneration enable conditions 2

Before start of service regeneration:

0 0 0 0 0 0 0 OK, because no service regeneration
active

After start of service regeneration:

1 1 1 1 1 1 1 1 All enable conditions 2 OK
X X X X X X X 1 Road speed = 0
X X X X X X 1 X Engine speed OK
X X X X X 1 X X Injection quantity OK
X X X X 1 X X X Accelerator pedal not pressed
X X X 1 X X X X Particulate filter temperature bank 1 OK
X X 1 X X X X X Particulate filter temperature bank 2 OK
X 1 X X X X X X Pre-catalyst temperature bank 1 OK
1 X X X X X X X Pre-catalyst temperature bank 2 OK

3) Service regeneration enable conditions 3

Before start of service regeneration:

0 0 0 0 0 0 0 0 OK, because no service regeneration
active

After start of service regeneration:

1 1 1 1 1 1 1 1 All enable conditions 3 OK
X X X X X X X 1 Soot mass in particulate filter in permissible
Range
X X X X X X 1 X No faults in particulate filter functions
X X X X X 1 X X No faults in engine functions
X X X X 1 X X X Maximum regeneration time not exceeded

--> If not OK:

Consumers not switched on,
ambient temperature too cold
X X X 1 X X X X Exhaust gas system heat-up time bank 1
within permissible limits

--> If not OK:

Consumers not switched on,
ambient temperature too cold
X X 1 X X X X X Exhaust gas system heat-up time bank 2
within permissible limits

--> If not OK:

Consumers not switched on,
ambient temperature too cold
X 1 X X X X X X Maximum temperature before particulate filter
bank 1 not exceeded
1 X X X X X X X Maximum temperature before particulate filter
bank 2 not exceeded

4) Service regeneration phase

X X X X X X X 1 Normal operation
X X X X X X 1 X Start
X X X X X 1 X X Heat-up 1
X X X X 1 X X X Heat-up 2
X X X 1 X X X X Regeneration
X X 1 X X X X X Cool-down
X 1 X X X X X X Regeneration successful
1 X X X X X X X Regeneration active

102 Exhaust gas cleaning

Only on vehicles with particulate filter

1) Exhaust gas temperature after pre-catalyst A5, B8, Q5, C6
[°C]
2) Vacant
3) Particulate filter differential pressure
0 ... 950 mbar
4) Differential pressure offset particulate filter
[mbar]

103 Field regeneration

Only on vehicles with particulate filter

1) Field regeneration status 1

X X X X X X X 1 Normal operation
 X X X X X X 1 X Regeneration mode
 2) Field regeneration status 2
 X X X 1 X X X X Normal operation
 X X X 1 X X 1 X Regeneration mode
 3) Field regeneration request
 X X 1 Request by fuel consumption
 X 1 X Request by operating time
 1 X X Request by distance driven
 4) Field regeneration block
 0 Regeneration disabled
 1 Maximum regeneration time elapsed

104 Particulate filter
 Only on vehicles with particulate filter
 1) Oil ash
 [Ltr]
 2) Soot mass calculated
 [g]
 3) Soot mass measured
 [g]
 4) Distance since last regeneration
 [km]

107 Particulate filter
 Only on vehicles with particulate filter
 1) Loading limit 4
 [g]
 - Value depends on software version and fitted Particulate filter
 - If the soot mass ("calculated" or "measured", see measured value block 104, zone 2 or 3) exceeds this limit, field and service regeneration is disabled.
 - If after a test drive (approx. 20 minutes at > 2500 rpm) one of the soot mass values is still higher than load limit 4, the particulate filter must be replaced.
 2) Loading limit 3
 [g]
 - Value depends on software version and fitted Particulate filter
 - If this limit is exceeded, the engine switches to emergency running and the fault memory entry "Particulate filter overloaded" is stored
 3) Loading limit 1
 [g]
 - Value depends on software version and fitted Particulate filter
 - If this limit is exceeded, an attempt is made to start field regeneration (during driving)
 4) Exhaust gas volumetric flow particulate filter
 [m³/h] Calculated value

110 Adaptive cruise control ACC
 1) ACC specification adjustment
 001 Specification adjustment free-wheeling
 002 Specification adjustment ON
 003 Specification adjustment OFF
 2) ACC status
 X X X X X X 0 0 ACC inactive
 X X X X X X 0 1 ACC active
 X X X X X X 1 0 ACC passive
 X X X X X X 1 1 ACC initialisation
 X X X X X 0 X X No neutral value
 X X X X X 1 X X Neutral value
 X X 0 X X X X X Not permitted

X X 1 X X X X X Permitted

3) Vehicle speed

[km/h]

4) Vacant

125 CAN communication

1) CAN communic. Automatic gearbox

2) CAN communic. ABS/ESP

3) CAN communic. Instrument cluster

4) CAN communic. Airbag

0 = inactive

1 = active

126 CAN communication

1) CAN communic. AC

2) Vacant

3) Vacant

4) CAN communic. ACC

0 = inactive

1 = active

127 CAN communication

1) CAN communic. 4WD

2) CAN communic. Level

3) CAN communic. Drive authorisation

4) CAN communic. Steering column module

0 = inactive

1 = active

128 CAN communication

1) CAN communic. Gateway

2) CAN communic. Battery energy management

3) CAN communic. Steering angle sender

4) CAN communic. Parking brake

0 = inactive

1 = active

CAN = Controller Area Network

The CAN bus is a network for local interconnection of control units.

202 Oil pressure pump

1) Engine speed

[rpm]

2) Control oil pump activation

3) Oil low-pressure switch active

4) Oil high-pressure switch active

Basic setting

for 2.7 L and 3.0 L TDI CR as at 30.10. 2008

Engine code letters: CANA, CANB, CANC, CAND, CDYA, CDYB, CDYC

KNote:

To start the "Basic setting" function from Guided

Fault Finding:

1) Press mode button

2) Choose "Vehicle self-diagnosis" menu option

3) Self-diagnosis

003 Basic setting: Exhaust gas recirculation

1) Coolant temperature at least 80 °C

- 2) Switch off ignition briefly, then start engine
- 3) Start basic setting
- 4) Follow driver instructions
(pedals must be pressed)
- 5) Wait for the engine speed rise to approx. 1000 rpm

KNote:

The exhaust gas recirculation is now switched on and off intermittently.
Specifications with "EGR not active":

Engine speed: approx. 1000 rpm
Activation: EGR not active
Actual air mass: 380 ... 550 mg/stroke
EGR valve feedback: 0 ... 2 %
Specifications with "EGR active":
Engine speed: approx. 1000 rpm
Activation: EGR active
Actual air mass: 140 ... 270 mg/stroke
EGR valve feedback: 80 ... 100 %

033 Basic setting: Turbocharger

- 1) Coolant temperature at least 80 °C
- 2) Switch off ignition briefly, then start engine
- 3) Start basic setting
- 4) Follow driver instructions
(pedals must be pressed)
- 5) Wait for the engine speed rise to approx. 1000 rpm

KNote:

The turbocharger is now activated at intervals at different duty cycles.

Specifications at "closed":

Engine speed: approx. 1000 rpm
Activation: closed
Actual charge pressure: 970 ... 1150 mbar
Charge pressure adjuster feedback: 98 ... 100 %

Specifications at "open":

Engine speed: approx. 1000 rpm
Activation: open
Actual charge pressure: 910 ... 1050 mbar
Charge pressure adjuster feedback: 0 ... 2 %
Charge pressure difference between "closed/open": 50 ... 135 mbar OK is OK

044 Basic setting: Intake manifold flap bank 1

- 1) Coolant temperature at least 80 °C
- 2) Switch off ignition briefly, then start engine
- 3) Start basic setting
- 4) Follow driver instructions
(pedals must be pressed)
- 5) Wait for the engine speed rise to approx. 2800 rpm

KNote: The bank 1 intake manifold flaps are now alternately opened and closed at intervals.

Specifications with "flap open":

Engine speed: approx. 2800 rpm
Activation: Flap open
Actual air mass: [mg/stroke]
Intake manifold flap bank 1 feedback: 3 ... 7 %

Specifications with "flap closed":

Engine speed: approx. 2800 rpm
Activation: Flap closed

Actual air mass: [mg/stroke]
Intake manifold flap bank 1 feedback: 93 ... 97 %

Air mass difference between "flap open/closed": min. 20 mg/stroke

055 Basic setting: Intake manifold flap bank 2
1) Coolant temperature at least 80 °C
2) Switch off ignition briefly, then start engine
3) Start basic setting
4) Follow driver instructions
(pedals must be pressed)
5) Wait for the engine speed rise to approx. 2800 rpm

KNote:

The bank 2 intake manifold flaps are now alternately opened and closed at intervals.

Specifications with "flap open":
Engine speed: approx. 2800 rpm
Activation: Flap open
Actual air mass: [mg/stroke]
Intake manifold flap bank 2 feedback: 3 ... 7 %

Specifications with "flap closed":
Engine speed: approx. 2800 rpm
Activation: Flap closed
Actual air mass: [mg/stroke]
Intake manifold flap bank 2 feedback: 93 ... 97 %

Air mass difference between "flap open/closed": min. 20 mg/stroke

063 Adapting kickdown point
Not AUDI A8
Only vehicles with automatic gearbox
1) Switch off ignition briefly, then ignition on
2) Start basic setting
3) Press down accelerator pedal until status ADP OK is displayed

4) Value is only stored in engine control unit after
approx. 10 seconds ignition OFF.

Specifications:
Sender 1 Accelerator position: 12 ... 97 %

Status: ADP.OK
159 Basic setting: Oil pressure valve
1) Engine oil temperature at least 60 °C
2) Switch off ignition briefly, then start engine
3) Start basic setting
4) Follow driver instructions
(pedals must be pressed)

KNote:

First the low pressure stage is run for 8 seconds. During this time the engine speed is increased to 2300 rpm. Then the system switches to the high pressure stage, which is likewise active for 8 seconds.

Specifications in the low pressure stage:
Oil pressure switching valve: 1 (low pressure requested)
Low-pressure switch: 1 (closed)
High-pressure switch: 0 (open)

Specifications in the high pressure stage:

Oil pressure switching valve: 0 (high pressure requested)

Low-pressure switch: 1 (closed)

High-pressure switch: 1 (closed)