

Servicing Diesel direct injection system

Dynamically checking and adjusting commencement of injection

Special tools, workshop equipment, testers, measuring instruments and auxiliary items required

- Fault reader V.A.G 1551 (or vehicle system tester V.A.G 1552) with cable V.A.G 1551/1 or V.A.G 1551/3.

Notes:

- Dynamically checking and correcting commencement of injection is only possible in function 04 "Engine basic setting".
- The commencement of injection must always be checked after renewing the toothed belt or loosening the injection pump bolts or toothed belt sprockets and if necessary adjusted.

Checking and adjustment conditions

- Mechanical engine basic setting OK.
- Toothed belt tension OK (camshaft drive toothed belt) =>Repair group13; Dismantling and assembling engine; Removing, installing and tensioning camshaft toothed belt (02.95)
- Coolant temperature at least 80 °C

Checking commencement of injection

- Connect the fault reader V.A.G 1551 (V.A.G 1552). Engine must be running at idling speed. Press PRINT key and select engine control unit with the "Address word" 01.
(Connecting fault reader and selecting engine control unit => Page [01-4.](#))

→ Indicated on display:

Rapid data transfer HELP
Select function XX

- Press keys 0 and 4 for the function "Introduction of basic setting" and confirm entry with Q key.

→ Indicated on display:

Basic setting HELP
Input display group number XXX

- Press key 0 three times for "Display group number 0" and confirm entry with Q key.

→ Indicated on display:
(1...10 = Display zones)

System in basic setting 0
1 2 3 4 5 6 7 8 9 10

In order to read the commencement of injection in display zone 2, the fuel temperature in display zone 9 must be in the range between 120 and 190.

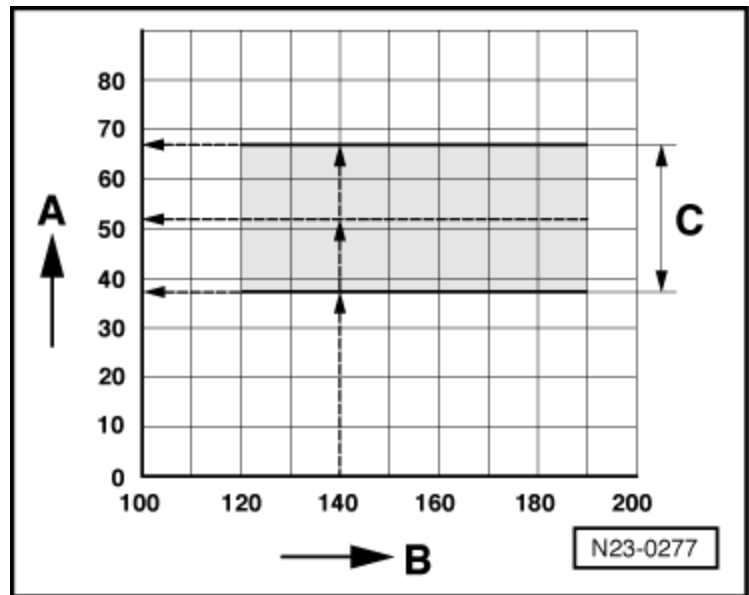
- A - Display zone 2 commencement of injection
- B - Display zone 9 fuel temperature
- C - Specified range for commencement of injection

Example:

The numerical value 140 in display zone 9 (B) corresponds to a numerical value range of 38...67 in display zone 2 (A).

Note:

- If when checking the commencement of injection the specifications are within zone -C- then no adjustment is required. After repairs e.g. removing and installing injection pump, adjusting timing then the commencement of injection is to be set to the mean value (dashed line) of specification zone -C-.

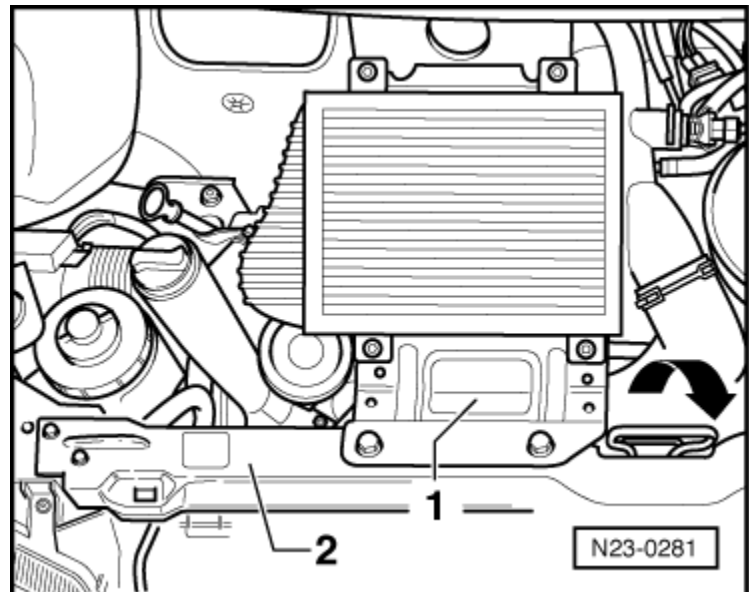


Setting commencement of injection

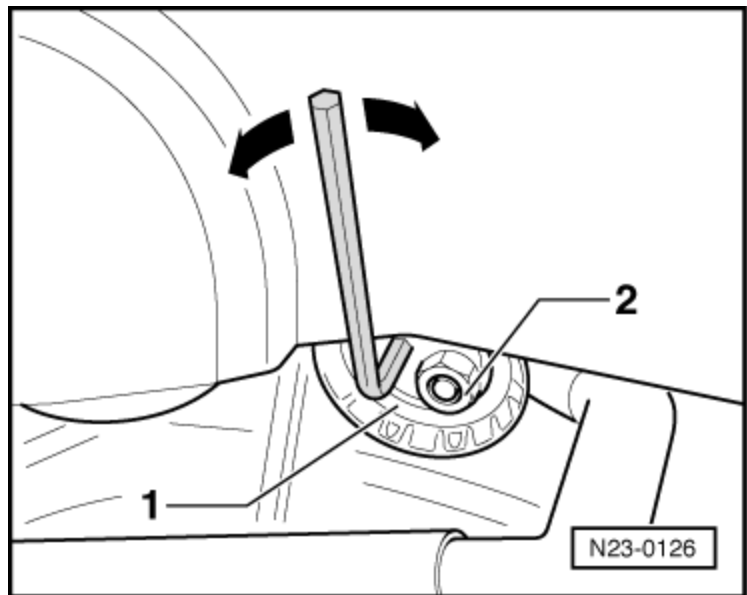
- Remove radiator grille.

[=> General body repairs; Repair group 66; Servicing radiator grille; Removing radiator grille](#)

- → Remove the mounting bracket for charge air cooler -1- (engine codes ACV, AUF and AYC only).
- Remove the securing bolts from the lock carrier -2- on left and right.
- Fold lock carrier with radiator(s) forwards.



- → Loosen tensioning roller -1- securing nut -2-.
- Observe value in display zone 2 and if necessary repeat adjustment until the value displayed remains at mean value of specified range -C-.
- Tighten securing nut -2- to 20 Nm.
- Press the key.
- Press keys 0 and 6 for the "End data transfer" function and confirm input with the Q key.
- Fold lock carrier and radiators back.



- → Tighten the securing bolts for the lock carrier plate -2- on left and right to 25 Nm.

Engine codes ACV, AUF, AYC

- Install charge air cooler mounting -1-.
- Tighten securing bolts to 10 Nm.

Continued for all vehicles

- Install radiator grille.

