

# Replacement of the pneumatic control valve for the turbocharger with pressure regulator position sensor –G581-



## Equipment and tools required

- ♦ Tool -T10422-
- ♦ Spanner -T10423-
- ♦ VAS diagnostic equipment.

### **Warning!**

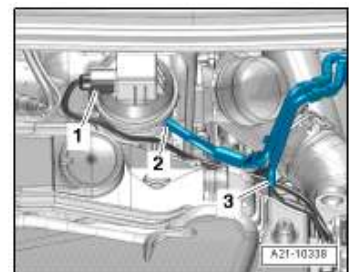
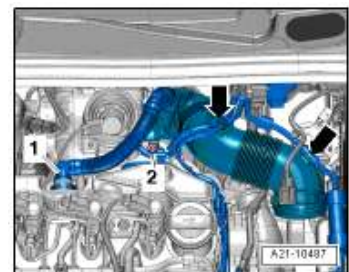
*The special tools indicated, particularly tool –T10422-, are designed exclusively for use according to the following procedure and cannot be used for other connections. There is a risk of deformation on applying greater torque values.*

### **Warning:**

*There is a spare parts kit to replace the pneumatic control valve on the turbocharger with pressure regulator position sensor -G581- which has genuine part reference no.: **03L 198 716 A***

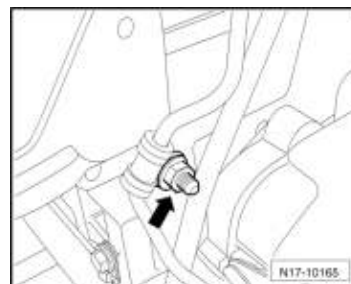
## Remove:

- Remove the air filter box with the air flow-meter and the connection pipe, as described in the SEAT Repair Manual.
- Remove the crankcase ventilation connection pipe -1- from the crankshaft of the cylinder head cover by pressing the unlock keys.
- Uncover the vacuum pipes (see arrows).
- Remove the bolt -2-, turn the air guide pipe with the intake part backwards and remove from the turbocharger.
- Close the hole in the turbocharger using the cover in the spare parts kit.
- Remove the thermal sleeve from around the electrical connector -1-.
- Cut the electrical connection -1- on the position sensor –G581- of the turbocharger pneumatic control valve.
- Remove the pressure pipe -2- from the pneumatic control valve of the turbocharger.



# Replacement of the pneumatic control valve for the turbocharger with pressure regulator position sensor –G581-

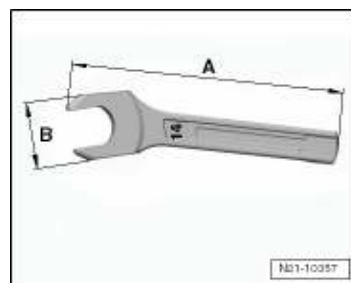
- Depending on the version, loosen the nut (see arrow) on the oil admission pipe connection.



Prepare tool SW 14 to hold the connection part of the oil admission pipe, as shown

♦ A = 110 mm

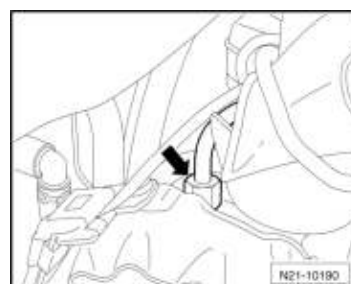
♦ B = 25 mm



## **Warning!**

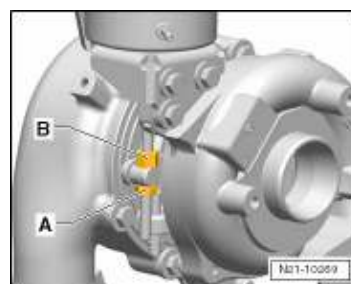
*When loosening the oil admission pipe it is important to counterhold the connection part. This could lead to faults!*

- Hold onto the connection part using the prepared spanner and remove the oil admission pipe (see arrow) from the turbocharger.



- Close the hole in the turbocharger oil admission using the cap in the spare parts kit.

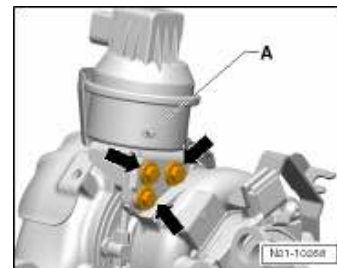
- Hold onto nut -B- using the special spanner -T10423- and nut -A- using the special tool -T10422- of the regulation rod.



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- Remove the bolts from the pneumatic control valve of the turbocharger (see arrows) and remove the pressure control valve -A-.

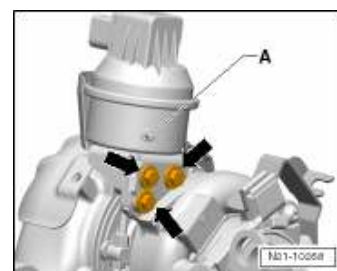


## **Fitting**

### **Warning!**

**Use new nuts and bolts from the spare parts kit only!**

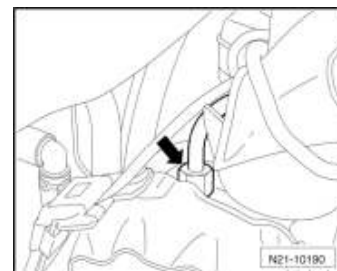
- Where necessary, remove the lower set nut from the regulation rod of the new pneumatic control valve on the turbocharger.
- Turn the lock nut on the regulation rod fully by hand towards the pneumatic control valve.
- Pass the regulation rod through the turbocharger adjustment lever, fit the pneumatic control valve -A- and retighten the bolts.
- Tighten the bolts (see arrows) to 8 Nm.



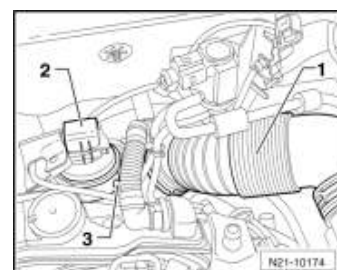
### **Warning:**

**Make sure the guide part moves easily over the regulation rod.**

- Remove the protective cover, fit the oil admission pipe (see arrow) to the turbocharger and tighten to 22 Nm.



- Fit the plug -2- to the pressure regulator position sensor -G581- and close the heat protection panel.
- Connect the VAS diagnostic equipment.



# **Replacement of the pneumatic control valve for the turbocharger with pressure regulator position sensor –G581-**



## **Select the service mode:**

- Press the button for self-diagnosis on the display.

## **Select vehicle system:**

- Press 01 – engine electronics on the display.
- The display indicates the identification and coding of the engine control unit.

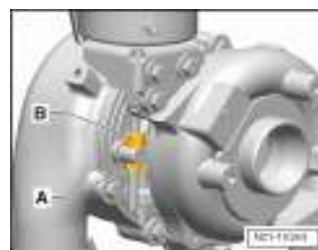
## **Select diagnostic function:**

- Press 011 – measurement values on the display.
- Enter the value block „120“ using the tens keypad and confirm using the „Q“ button.
- Connect the hand vacuum pump -VAS 6213- to the pneumatic control valve on the turbocharger.
- Set to a voltage of 0.760 V by generating pressure and observe the lowest value of the value block.

### ***Warning!***

***During the following regulation rod adjustment, the vacuum and, therefore, the voltage of 0.760 V must remain constant.***

- Lower nut -B- on the regulation rod by turning it slowly by hand. The adjustment lever is at the lower limit.
- Counterhold nut -B- and turn nut -A- on the regulation rod against the adjustment lever. Tighten slightly using the special spanner -T10423-.
- Release the vacuum from the pneumatic control valve on the turbocharger.
- Observe the lowest value of the value block, without pressure it should be set to a value of 3.30 ... 3.90 V.
- Fit the special tool -T10422-, counterhold nut -B- using the special spanner -T10423- and tighten nut -A-.



### ***Warning!***

***A vacuum of  $0.75 \pm 0.05$  bar must be generated on the pneumatic regulator rod to ensure the adjustment lever is at the limit. This should set the voltage to 0.760 V.***

# **Replacement of the pneumatic control valve for the turbocharger with pressure regulator position sensor –G581-**

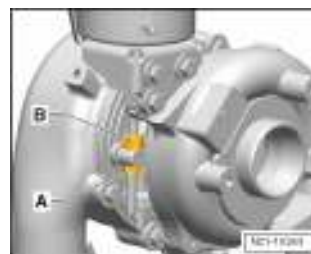
## **Correct voltage:**

- Tighten the safety plate by hand on the regulation rod and turn 90° in the direction of the arrow.
- Seal the connection of the regulation rod/lock nut using sealing paint from the spare parts kit.



## **Incorrect voltage.**

- counterhold nut -B-, loosen nut -A- on the regulation rod and correct the value by turning nut -B-.
- Counterhold nut -B-, counterturn nut -A- and tighten using the special tool -T10422-.



- Tighten the safety plate by hand on the regulation rod and turn 90° in the direction of the arrow.
- Seal the connection of the regulation rod/lock nut using sealing paint from the spare parts kit.



## **Continuation.**

- Depending on the version, fit the nut (see arrow) on the oil admission pipe/vacuum pipe connection at the cylinder head and tighten. Remove the closing cover from the turbocharger.
- Complete the engine.
- Start the engine and delete the fault codes using the VAS diagnostic equipment.
- Check the adjustment as follows:



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### **Select diagnostic function:**

- Press 006 - basic adjustment on the display.
- Enter the value block „120“ using the tens keypad and confirm using the „Q“ button.
- Press „activate“ on the lower half of the screen.
- Observe the value on the lower screen, which must range between 0.65..0.85 V and 3.30..3.90 V  
(the pneumatic control valve passes alternately between both limits).

### **If the voltage is correct:**

- End the basic adjustment.