

Vacuum control system (engine code ATW)

Notes:

- ◆ *Observe rules for cleanliness ⇒ [Page 21-39](#)*
- *Observe safety precautions ⇒ [Page 21-40](#)*
- ◆ *Always replace gaskets, O-rings and self-locking nuts and bolts.*
- ◆ *Secure all hose connections using original equipment type hose clamps:*

⇒ *Parts catalog*

- ◆ *Before performing a test or repair, check all hoses and wires for proper seating and seal.*

Rules of cleanliness

When working on the vacuum control system, charge air pressure regulation or at the secondary air system hoses, always observe the following rules of cleanliness:

- ◆ Thoroughly clean all connections and the surrounding area before disconnecting.
- ◆ Place parts that have been removed on a clean surface and cover. Use lint-free cloths only!
- ◆ Carefully cover over opened components or seal, if repairs are not carried out immediately.
- ◆ Only install clean components: Only remove replacement parts from packaging immediately prior to installation. Do not use parts that have been stored loose (in tool boxes etc.)
- ◆ If possible, do not work with pressurized air. Do not move vehicle unless absolutely necessary.

Safety precautions

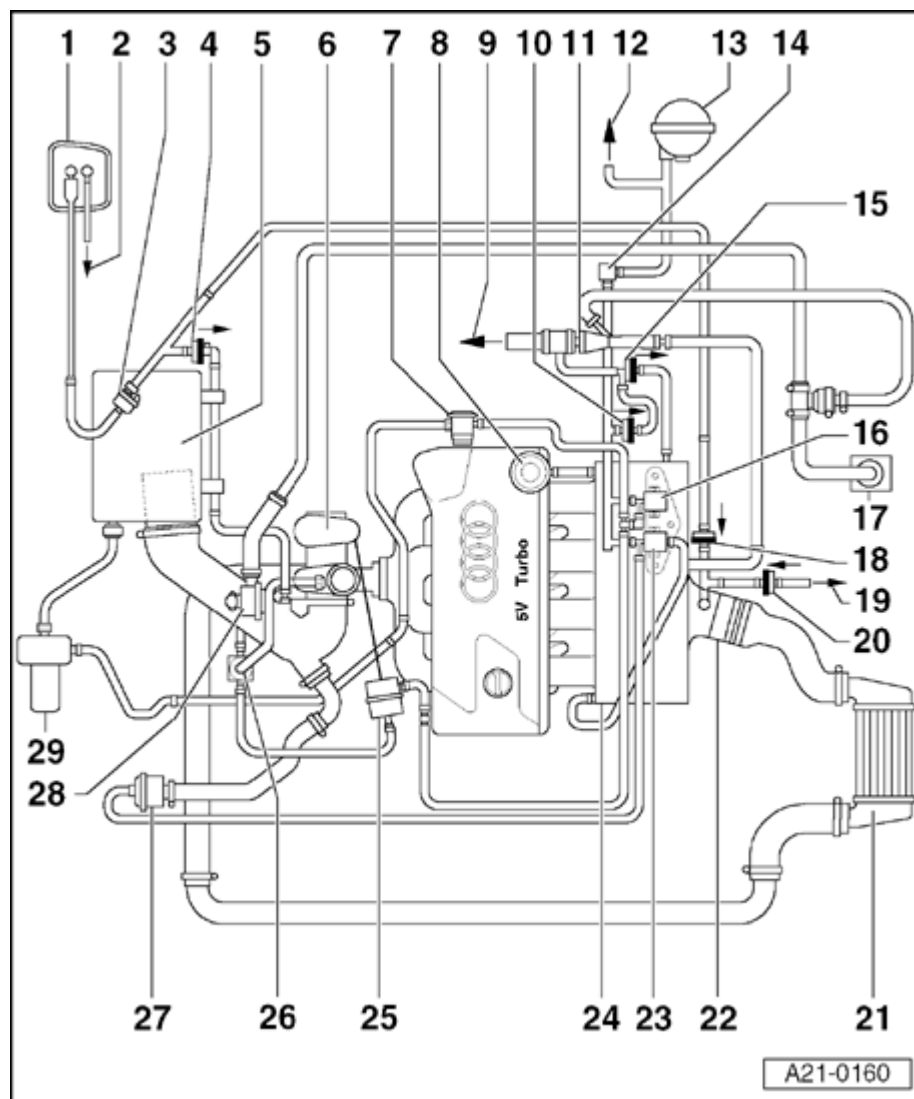
If special testing equipment is required during test drive, note the following:

Do not operate test and measuring equipment from the passenger seat. In the event of an accident involving deployment of the passenger-side airbag, the person seated there could be injured.

WARNING!

- ◆ ***When driving or riding in an airbag-equipped vehicle, NEVER hold the scan tool or other test equipment in your hands or lap while in motion. Objects between you and the airbag increase the risk of injury in an accident.***
- ◆ ***During a road test in an airbag-equipped vehicle, test equipment must always be fastened to and operated from the rear seat by a second technician.***

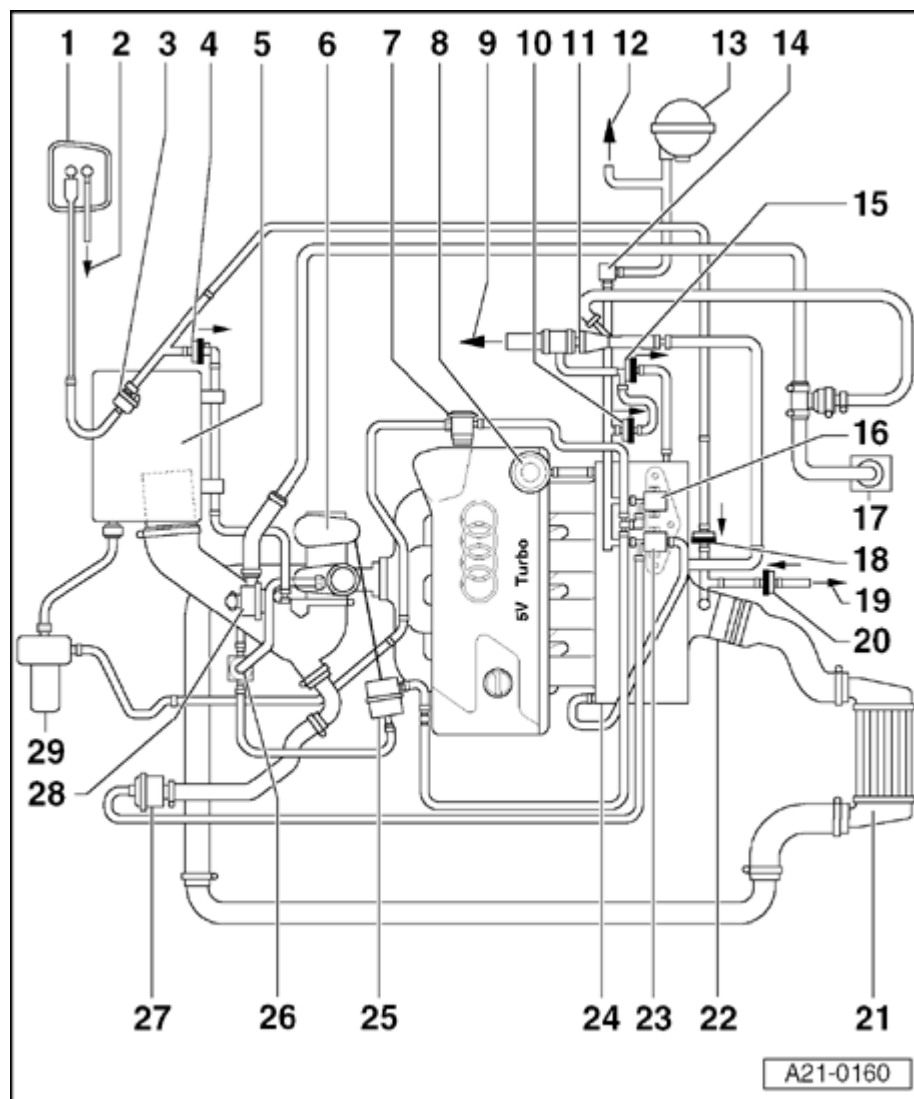
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Charge air pressure regulation and secondary air system vacuum control system

- 1 - EVAP canister
- 2 - From fuel tank
- 3 - Evaporative Emission (EVAP) canister purge regulator valve -N80-
- 4 - Check-valve for EVAP canister
 - ◆ Between EVAP canister and intake manifold before turbocharger
 - ◆ Installation position (light/dark side): Arrow points in direction of flow, as shown
- 5 - Air cleaner

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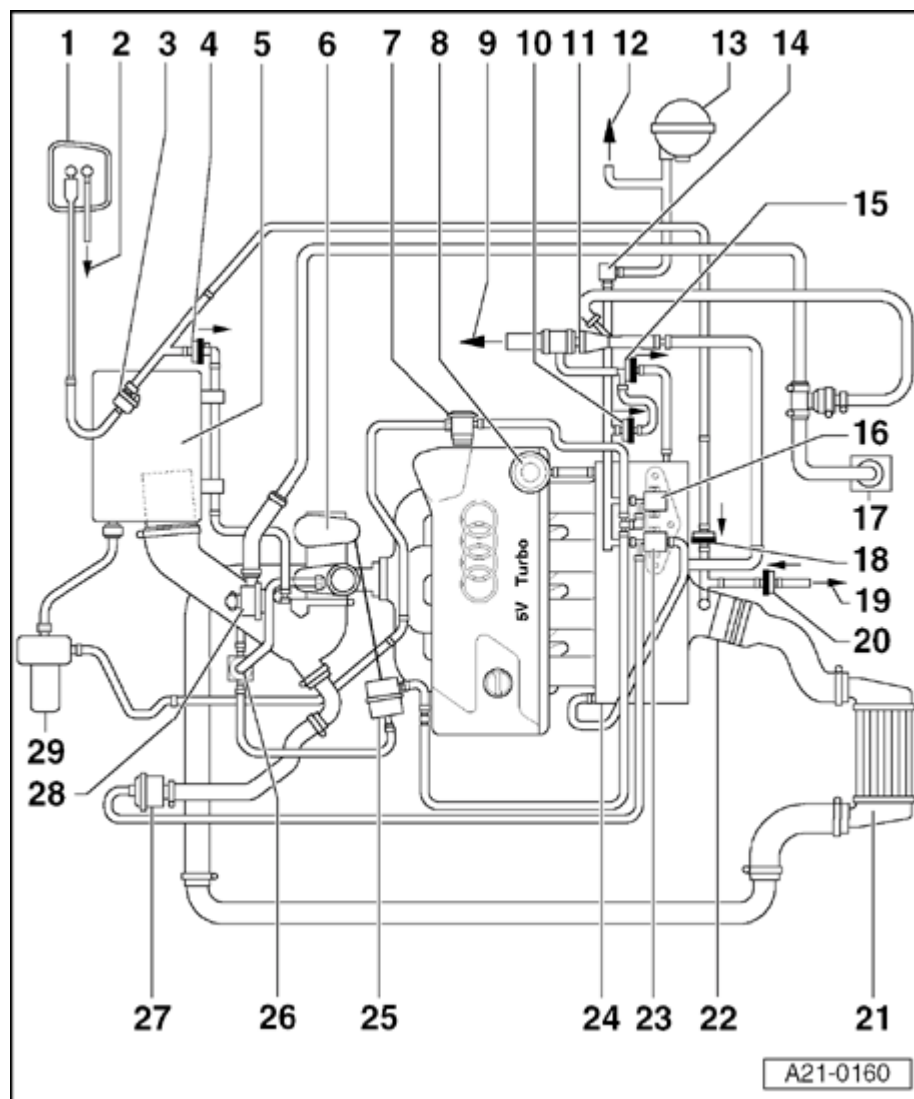
**6 - Turbocharger**

- ◆ Check charge air pressure ⇒ [Page 21-54](#)

7 - Combination valve for secondary air injection (AIR)**8 - Fuel pressure regulator****9 - To power brake booster****10 - Check valve**

- ◆ Installation position (light/dark side): Arrow points in direction of flow, as shown

11 - Vacuum booster**12 - To Leak Detection Pump (LDP)****13 - Vacuum reservoir**



14 - Distributor piece

15 - Check valve

◆ Installation position (light/dark side): Arrow points in direction of flow, as shown

16 - Secondary Air Injection (AIR) solenoid valve -N112-

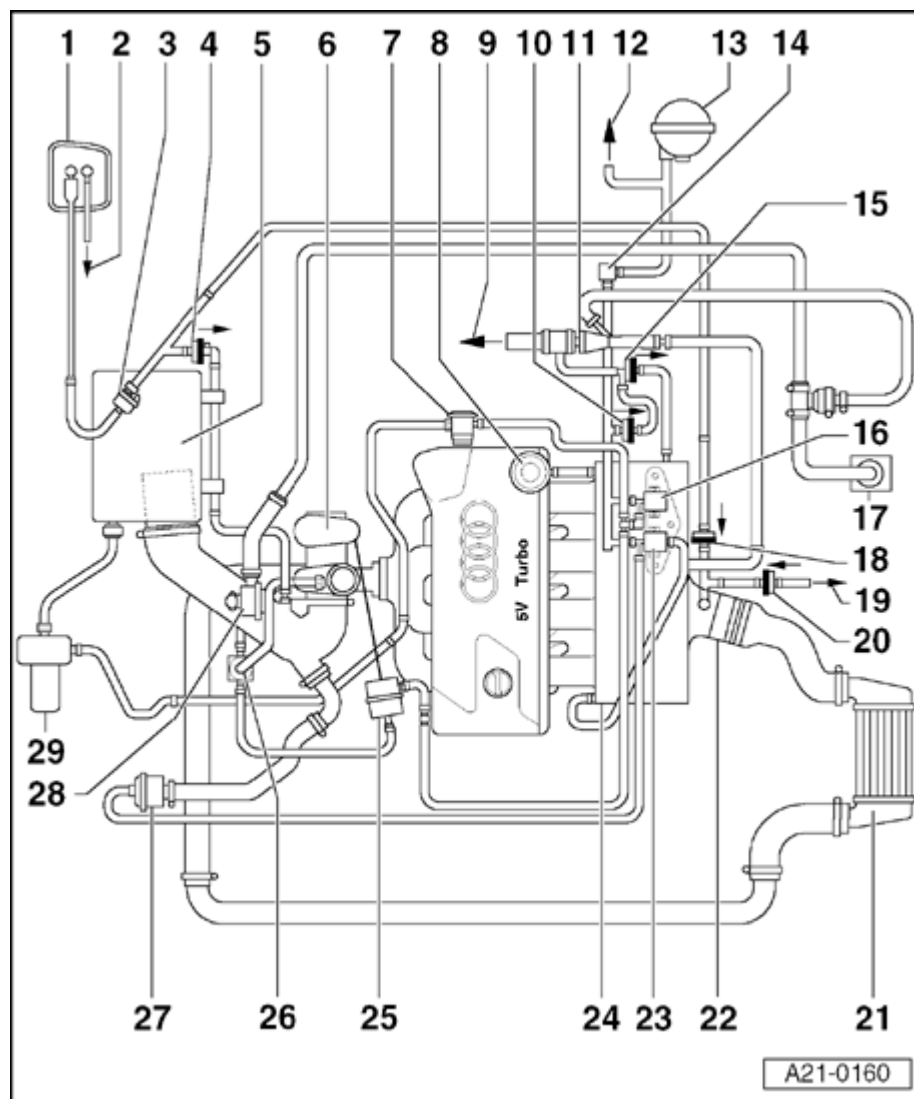
17 - Crankcase vent

18 - Check valve

◆ Installation position (light/dark side): Arrow points in direction of flow, as shown

19 - To tank Leak Detection Pump (LDP) - V144-

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**20 - Check valve**

- ◆ Installation position (light/dark side): Arrow points in direction of flow, as shown

21 - Charge air cooler

- ◆ With charge air pressure sensor -G31-

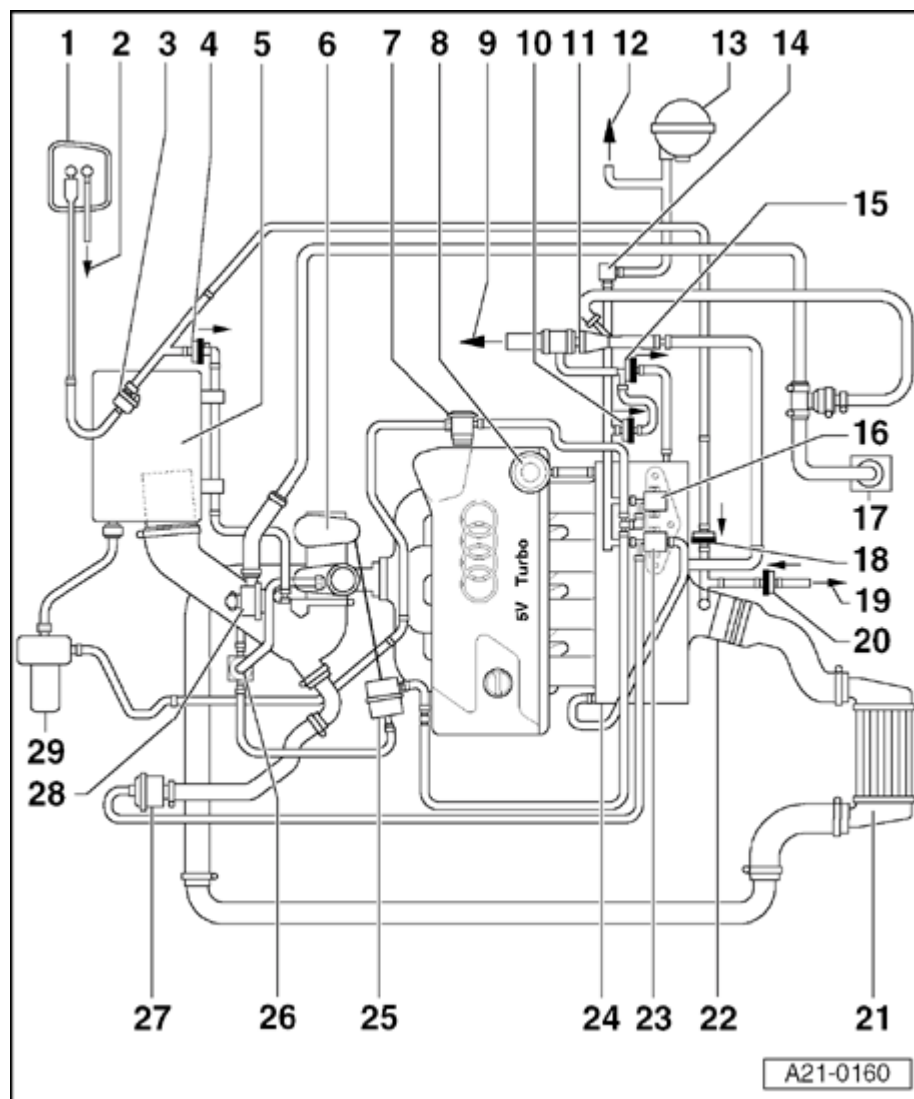
22 - Throttle valve control module -J338-**23 - Recirculating valve for turbocharger - N249-**

- ◆ Checking ⇒ [Page 21-48](#)

24 - Intake manifold

- ◆ With Intake Air Temperature (IAT) sensor - G42-

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25 - Pressure unit for charge air pressure regulation

26 - Wastegate bypass regulator valve -N75-

27 - Mechanical recirculation valve

◆ Checking ⇒ [Page 21-46](#)

28 - Pressure control valve for crankcase ventilation

29 - Secondary Air Injection (AIR) pump motor -V101-