ENGINE 2.0 Liter - Turbocharger, Supercharger - Engine Code(s): CBFA & CCTA

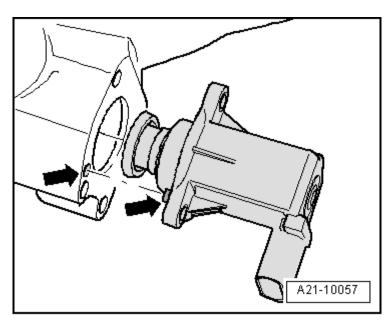


Fig. 1: Identifying Installation Position Of Turbocharger Recirculating Valve N249 Courtesy of VOLKSWAGEN UNITED STATES, INC.

DESCRIPTION AND OPERATION

CHARGE AIR COOLER SYSTEM OVERVIEW

CAUTION: The charge air pipe clamps must be tightened to 5.5 Nm. An insufficient or excessive tightening torque can cause the charge air hose to come off the charge air pipe while driving.

ENGINE 2.0 Liter - Turbocharger, Supercharger - Engine Code(s): CBFA & CCTA

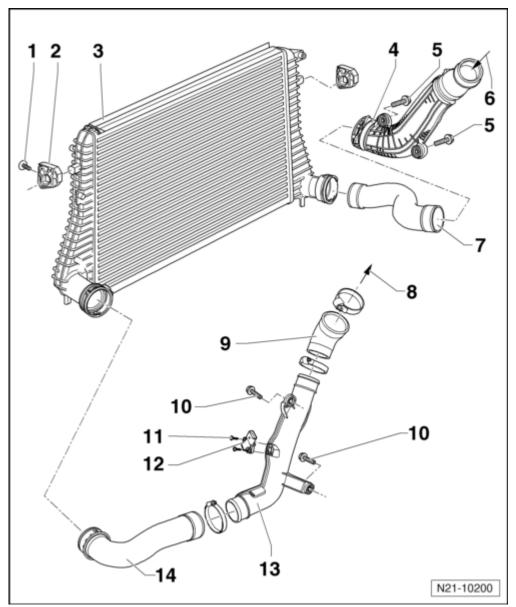


Fig. 2: Identifying Assembly Overview: Charge Air Cooler System Courtesy of VOLKSWAGEN UNITED STATES, INC.

- 1. Bolt
 - 5 Nm
- 2. Mount
 - For the charge air cooler.
- 3. Charge Air Cooler
 - Removing and installing, refer to one of the following:
 - Passat, CC and Eos, refer to **CHARGE AIR COOLER**.
- 4. Charge Air Pipe
- 5. **Bolt**

ENGINE 2.0 Liter - Turbocharger, Supercharger - Engine Code(s): CBFA & CCTA

- 10 Nm
- 6. from the Turbocharger
- 7. Charge Air Hose
 - Installing, refer to **CHARGE AIR HOSE, INSTALLING**.
- 8. to the Throttle Valve Control Module -J338-
- 9. Charge Air Hose
- 10. **Bolt**
 - 10 Nm
- 11. **Bolt**
 - 5 Nm
- 12. Charge Air Pressure Sensor -G31-
- 13. Charge Air Pipe
- 14. Charge Air Hose
 - Installing, refer to **CHARGE AIR HOSE, INSTALLING**.

TURBOCHARGER SYSTEM OVERVIEW

ENGINE 2.0 Liter - Turbocharger, Supercharger - Engine Code(s): CBFA & CCTA

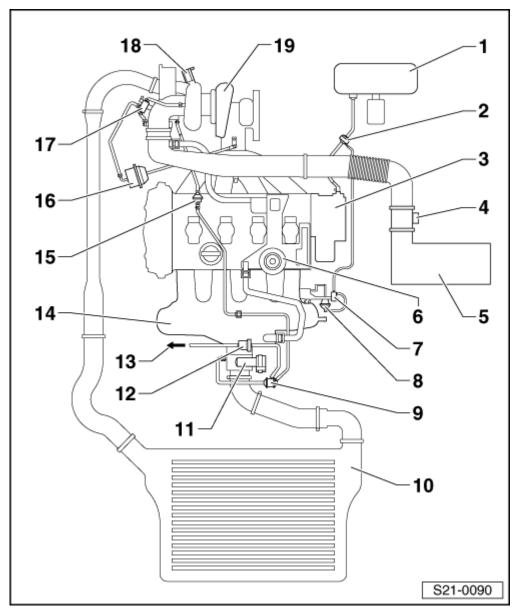


Fig. 3: Identifying Turbocharger System Overview Courtesy of VOLKSWAGEN UNITED STATES, INC.

- 1. Brake Booster
- 2. Non-Return Valve
- 3. Vacuum Pump
- 4. Mass Airflow Sensor -G70-
- 5. Air Filter Housing
- 6. Pressure Regulator Valve
 - For crankcase ventilation.
- 7. Intake Manifold Tuning Valve -N156-
- 8. Vacuum Diaphragm for the Variable Intake Manifold

ENGINE 2.0 Liter - Turbocharger, Supercharger - Engine Code(s): CBFA & CCTA

9. Non-Return Valve

- Allocations for differing versions.
- 10. Charge Air Cooler
- 11. Throttle Valve Control Module -J338-
- 12. EVAP Canister Purge Regulator Valve 1 -N80-
- 13. to the Evaporative Emission (EVAP) Canister
- 14. Intake Manifold
- 15. Non-Return Valve
- 16. Charge Air Regulation Vacuum Diaphragm
- 17. Wastegate Bypass Regulator Valve -N75-
- 18. Turbocharger Recirculation Valve -N249-
- 19. Turbocharger

TURBOCHARGER COMPONENT OVERVIEW

ENGINE 2.0 Liter - Turbocharger, Supercharger - Engine Code(s): CBFA & CCTA

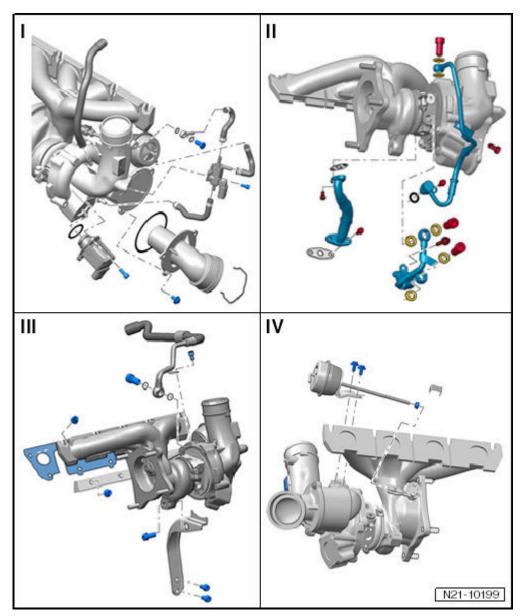


Fig. 4: Identifying Assembly Overview: Turbocharger Component Courtesy of VOLKSWAGEN UNITED STATES, INC.

- 1. I WASTEGATE BYPASS REGULATOR VALVE -N75- AND TURBOCHARGER RECIRCULATION VALVE -N249-
- 2. II COOLANT SUPPLY AND OIL PIPES
- 3. III TURBOCHARGE AND COOLANT RETURN PIPE
- 4. IV VACUUM DIAPHRAGM

WASTEGATE BYPASS REGULATOR VALVE -N75- AND TURBOCHARGER RECIRCULATION VALVE -N249-

ENGINE 2.0 Liter - Turbocharger, Supercharger - Engine Code(s): CBFA & CCTA

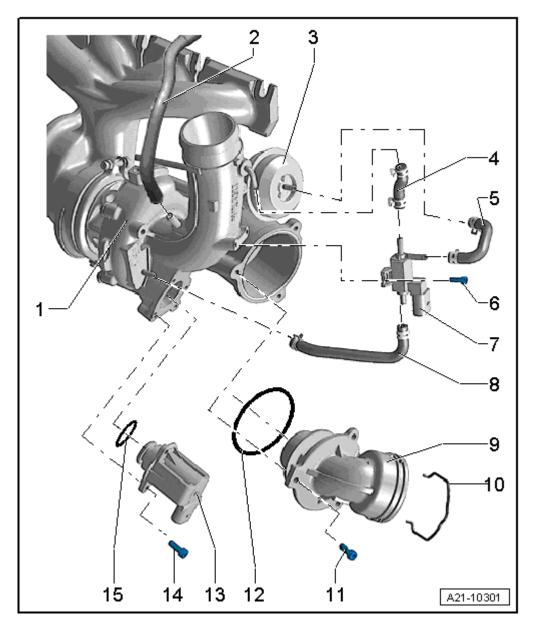


Fig. 5: Identifying Assembly Overview: Turbocharger - Part I Courtesy of VOLKSWAGEN UNITED STATES, INC.

1. Turbocharger

- Can only be replaced with the exhaust manifold and the vacuum diaphragm.
- Removing and installing, refer to **TURBOCHARGER**.
- 2. to the Evaporative Emission (EVAP) Canister
- 3. Turbocharger Vacuum Diaphragm
 - Checking, refer to **TURBOCHARGER VACUUM DIAPHRAGM, CHECKING**.
 - Removing and installing, refer to **TURBOCHARGER VACUUM DIAPHRAGM**.
- 4. Hose