

16 - Alignment bushing

- 2 pieces

17 - Lower timing chain cover

- Removing and installing --> **Lower timing chain cover, removing and installing**

Left and right timing chain covers, removing and installing**Special tools, testers and auxiliary items required**

- Hand drill with plastic brush attachment
- Protective glasses
- Sealant

Removing**NOTE:**

- **During installation, re-install all heat insulation sleeves and heat shields at the same locations.**
- **All cable ties opened or cut during engine removal must be reinstalled at the same locations during installation.**

- Remove engine --> **Engine, removing**.
- Leave engine with transmission installed on scissor lift platform VAS 6131.

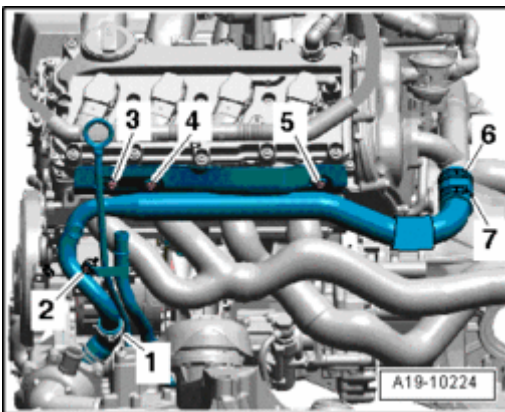


Fig. 160: Removing Bolts, Oil Dipstick Guide Tube Upward, Bolts & Hose Clips
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove bolts - 2 - and - 3 - and remove oil dipstick guide tube upward.
- Remove bolts - 4 - and - 5 -.
- Slide heat insulation sleeve over left coolant connection hose to side.
- Loosen hose clips - 1 - and - 7 -.

- Remove left coolant pipe from coolant hoses.

NOTE:

- Ignore - 6 -.

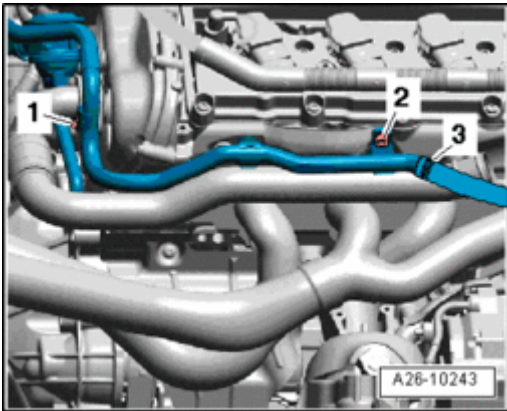


Fig. 161: Identifying Secondary Air Injection Combination Valves Air Guide Hose & Bolts
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove bolts - 1 - and - 2 -.
- Lay aside air guide pipe to secondary air injection combination valves.

NOTE:

- Ignore - 3 -.

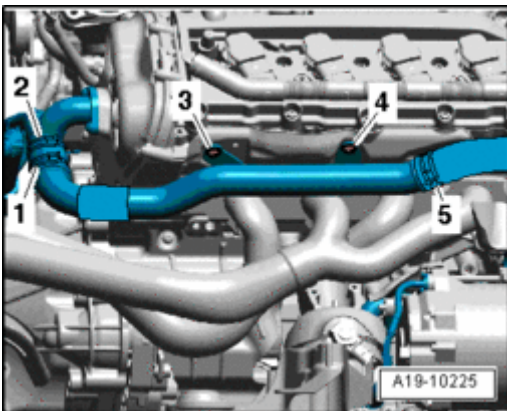


Fig. 162: Removing Bolts & Hose Clip
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove bolts - 3 - and - 4 -.
- Slide heat insulation sleeve over right coolant connection hose to side.
- Loosen hose clip - 1 -.
- Remove right coolant pipe from coolant connection hose.

NOTE:

- Ignore - 2 - and - 5 -.

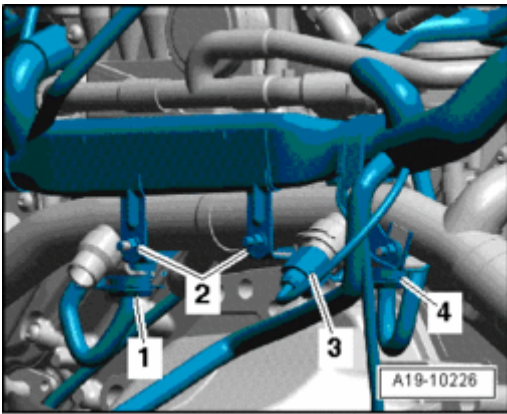


Fig. 163: Identifying Nuts, Wiring Harness Bracket From Rear Coolant Pipe, Engine Coolant Temperature (ECT) Sensor G62 Electrical Connector & Rear Coolant Pipe Bracket Electrical Connectors

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove nuts - 2 - and remove wiring harness bracket from rear coolant pipe.
- Disconnect electrical connector - 3 - on Engine Coolant Temperature (ECT) Sensor G62.
- Remove electrical connectors - 1 - and - 4 - from bracket at rear coolant pipe.

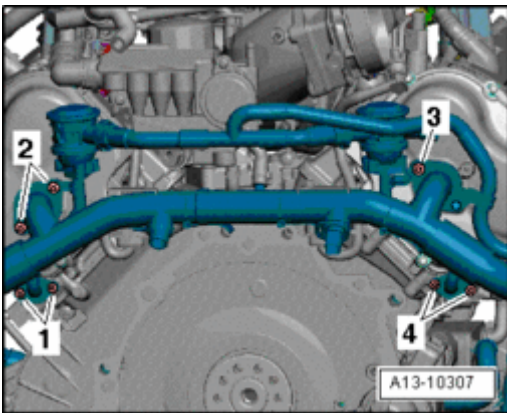


Fig. 164: Removing Bolts, Rear Coolant Pipe & Secondary Air Injection Combination Valves

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove bolts - 1 to 4 -.
- Remove rear coolant pipe and secondary air injection combination valves.

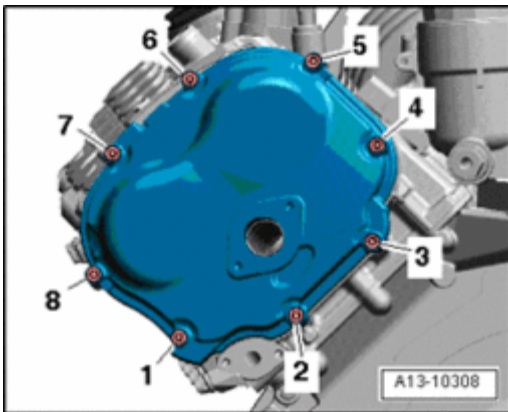


Fig. 165: Identifying Left Timing Chain Cover And Tighten/Removing Bolts Sequence
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove bolts - 1 to 8 - and remove left timing chain cover.

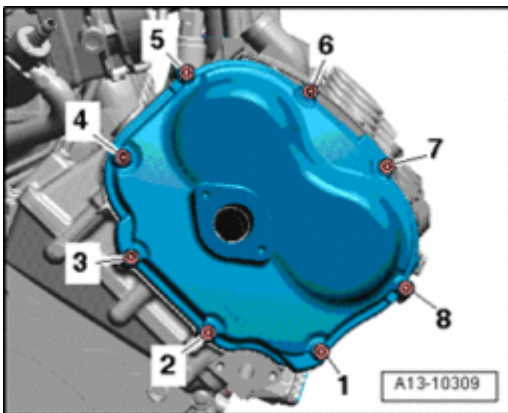


Fig. 166: Removing Bolts And Right Timing Chain Cover
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove bolts - 1 to 8 - and remove right timing chain cover.

Installing

NOTE:

- Replace O-rings.
- Secure all hose connections using hose clamps appropriate for the model type .
- During installation, re-install all heat insulation sleeves and heat shields at the same locations.
- During installation, all cable ties must be re-installed at the same location.

CAUTION: Wear safety glasses.

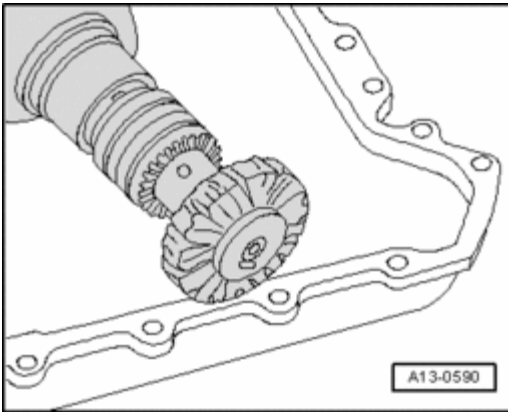


Fig. 167: Using Rotating Plastic Brush To Remove Any Sealant Residue From Sealing Flange, Cylinder Block And Upper Part Of Oil Pan

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove sealant residue on timing chain covers and cylinder head, e.g. with a rotating plastic brush.

CAUTION: Make sure that no sealant residue enters the engine.

- Clean sealing surfaces, they must be free of oil and grease.

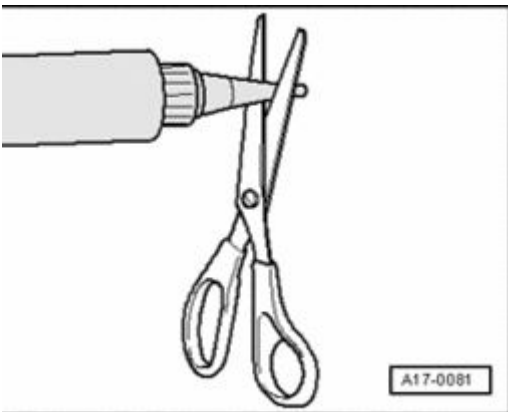


Fig. 168: Cutting Tube Nozzle At Front Marking

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Cut off nozzle on tube of sealant at front mark (dia. of nozzle approx. 2 mm).

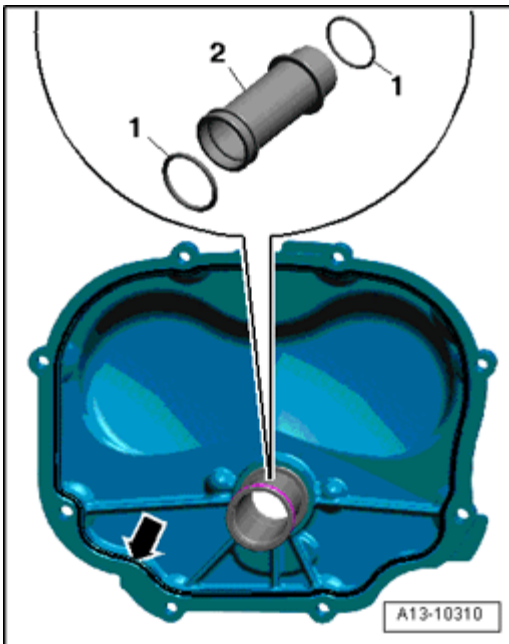


Fig. 169: Driving Left Coolant Intermediate Pipe Out Of Left Timing Chain Cover With Suitable Drift
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Drive left coolant intermediate pipe - 2 - out of left timing chain cover with a suitable drift.
- Replace O-rings - 1 - at coolant intermediate pipe.
- Insert coolant intermediate pipe in left timing chain cover.
- Apply sealant bead - **arrow** - on clean sealing surfaces of left timing chain cover, as shown in illustration.
- Thickness of sealant bead: 2.5 mm.

NOTE:

- **Covers for timing chain must be installed within 5 minutes after applying sealant.**

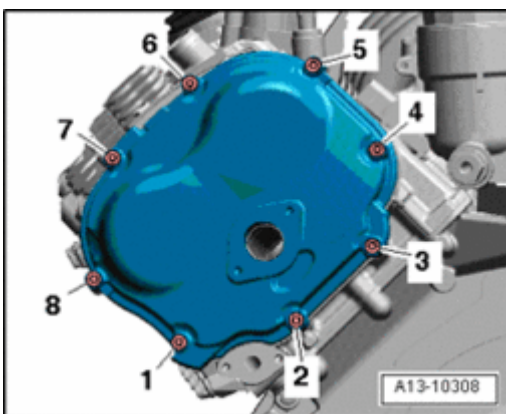


Fig. 170: Identifying Left Timing Chain Cover And Tighten/Removing Bolts Sequence
Courtesy of VOLKSWAGEN UNITED STATES, INC.