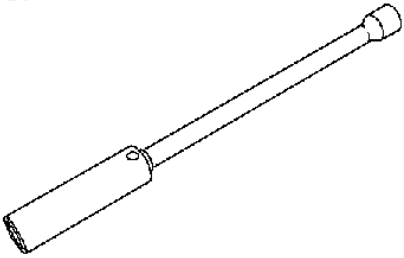


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## WM 287055 Replacing spark plugs

### Tools

| Designation                     | Type    | Number | Description   |
|---------------------------------|---------|--------|---|
| spark plug socket and extension | VW tool | 3122 B |  <p>15</p> <p>3122 B</p> |

### Technical values

| Location                                   | Description                   | Type               | Basic value          | Tolerance 1 | Tolerance 2 |
|--|-------------------------------|--------------------|----------------------|-------------|-------------|
| Electrode gap of spark plug                | V8 naturally aspirated engine | Control value      | 1.6 mm               |             |             |
| Electrode gap of spark plug                | V8 turbo engine               | Control value      | 0.8 mm               | +/-0.05 mm  |             |
| Spark plug - refitting M14 x 1.25          |                               | Tightening torque  | 25 Nm                |             |             |
| Spark plug - initial tightening M14 x 1.25 |                               | Tightening torque  | 30 Nm                |             |             |
| Ignition coil M6                           |                               | Tightening torque  | 10 Nm<br>(7.5 ftlb.) |             |             |
| Fastening screw M5 of design cover         |                               | Tightening torque  | 3.5 ftlb.            |             |             |
| Bracket for torque support M8 x 45         |                               | Tightening torque  | 23 ftlb.             |             |             |
| Bracket for torque support M6 x 40         |                               | Initial tightening | 3.5 ftlb.            |             |             |
| Bracket for torque support M6 x 40         |                               | Final tightening   | 7.5 ftlb.            |             |             |
| Fastening screw M5 of design cover         |                               | Tightening torque  | 3.5 ftlb.            |             |             |
| Secondary air pump M6 x 50                 |                               | Tightening torque  | 7.5 ftlb.            |             |             |
| Torque support to bracket M10 x 85         |                               | Tightening torque  | 44 ftlb.             |             |             |
| Torque support to body M10 x 70            |                               | Tightening torque  | 44 ftlb.             |             |             |

## Information

### Information on vehicles in China and Hong Kong



#### Modified spark plugs for vehicles in China and Hong Kong!

- Risk of engine damage if the wrong spark plugs are used!

- Always read the Technical Information. → 287000 New type of spark plug for spare parts requirements, replacement or reconditioned engine, replacement cylinder head (China and Hong Kong only)
- The instructions in the TI must also be followed for converting cylinder heads and replacement engines.

## Preliminary work

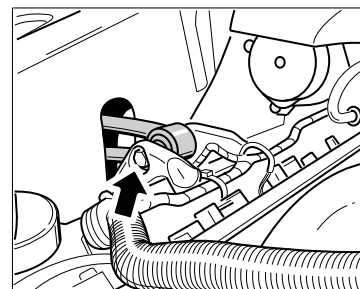
### Preliminary work

1. Switch off ignition and remove ignition key.

## Removing design cover

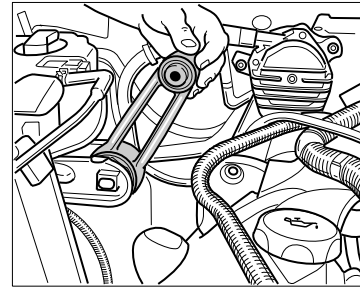
### Removing design cover of cylinder bank 1 -4

1. Remove engine compartment cover on the right and rear. To do this, undo the four bayonet screws and the fastening screw on the washer-fluid reservoir. → 700219 Removing and installing front cover (engine compartment) - chapter on "removing"
2. Detach the torque support. To do this, unscrew the fastening screw on the torque support bracket and pull it out.



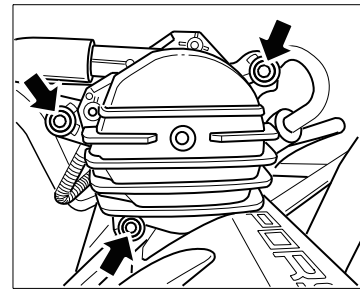
Fastening screw for torque support

3. Detach the torque support from the body and swivel upwards.



*Torque support on body*

4. Detach the secondary air pump from cylinder bank 1 -4. To do this, unscrew the three fastening screws, pull the pump out of the bracket and lay it aside.



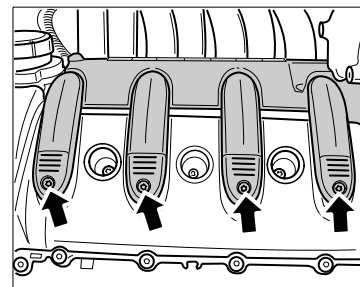
*Fastening screws for secondary air pump of cylinder bank 1 - 4*



#### Information

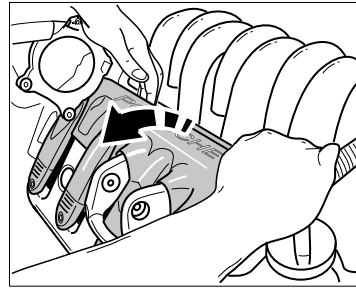
- Place a cloth between design cover and support for secondary air pump to avoid scratching cover.

5. Unscrew the four fastening screws on the ignition coil cover (illustration shows side 5 - 8).



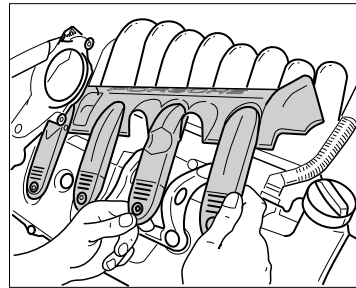
*Removing fastening screws of ignition coil cover*

6. Remove design cover from cylinder bank 1 - 4. Lift the cover slightly with both hands on the edge pointing towards the intake system until it snaps out of the fastening points.



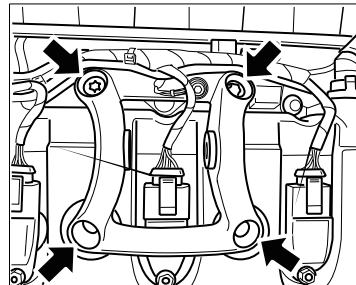
*Removing design cover from cylinder bank 1 - 4*

7. Lift the cover at the front edge and slide the ignition coil cover of the second cylinder out of the torque support bracket. Pull out cover to the front.



*Removing cover*

8. Remove torque arm bracket. To do so, undo the four fastening screws and set bracket aside.



*Tightening fastening screws of torque support bracket*

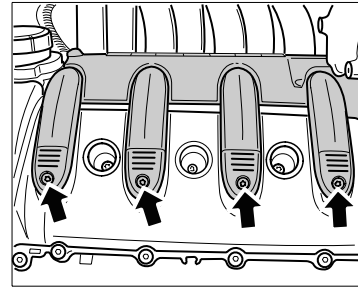
### Removing design cover of cylinder bank 5 - 8



#### Information

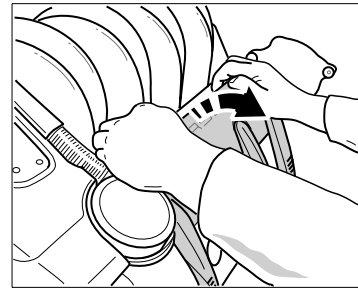
- Place a cloth between secondary air pump and design cover to avoid scratching the cover.

1. Unscrew the four fastening screws on the ignition coil cover.



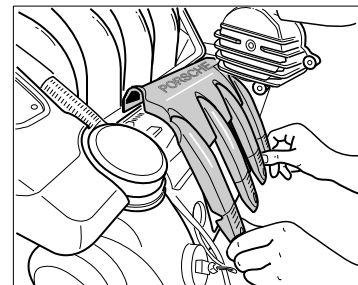
*Fastening screws of ignition coil cover*

2. Remove design cover of cylinder bank 5 - 8. To do this, lift the cover slightly with both hands at the edge pointing towards the intake system until it is released from its holder.



*Design cover of cylinder bank 5 -8*

3. Lift the front of the design cover and remove it.



*Removing design cover*

## Replacing spark plugs



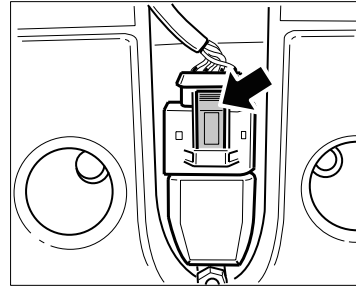
**Caution**

### Modified spark plugs for vehicles in China and Hong Kong!

- **Risk of engine damage if the wrong spark plugs are used!**

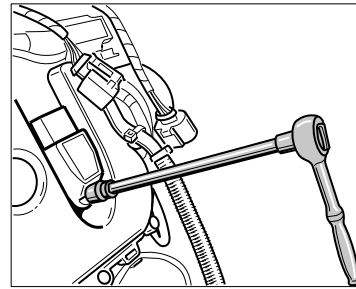
- Always read the Technical Information. → 287000 New type of spark plug for spare parts requirements, replacement or reconditioned engine, replacement cylinder head (China and Hong Kong only)
- The instructions in the TI must also be followed for converting cylinder heads and replacement engines.

1. Pull off lower hose from secondary air pump 5 - 8.
2. Separate the eight ignition coils from the wire harness. To do this, press on the button and, at the same time, pull off the plug.



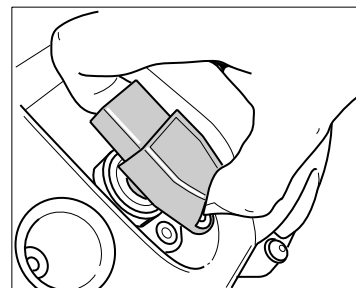
*Separating ignition coils from wire harness*

3. Loosen ignition coil. To do this, unscrew the fastening screw on the valve cover.



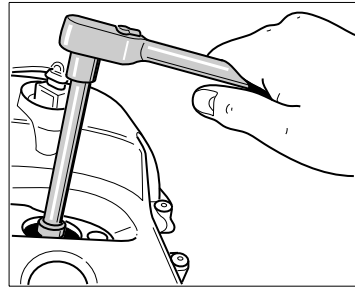
*Fastening screw on valve cover*

4. Pull out ignition coil and lay it aside.



*Ignition coil*

5. Loosen spark plugs using special tool **spark plug socket and extension 3122 B**.



Loosening spark plugs using spark plug wrench

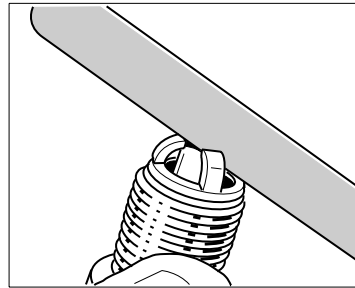
**NOTICE**

**Broken spark plug electrodes**

- Bits of electrodes can fall into the combustion chamber

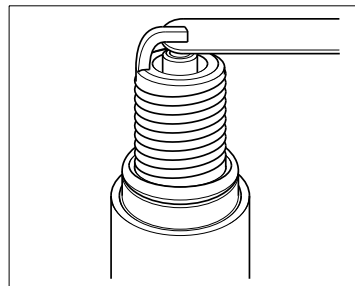
- Only check electrode gap of spark plugs, but do not bend them.
- Spark plugs with an incorrect electrode gap must be replaced.

6. Check electrode gap in V8 naturally aspirated engine. → **Control value: 1.6 mm**



Electrode gap of spark plug in V8 naturally aspirated engine

7. Check electrode gap in V8 turbo engine. → **Control value: 0.8 mm +/- 0.05 mm**



Electrode gap of spark plug in V8 turbo engine

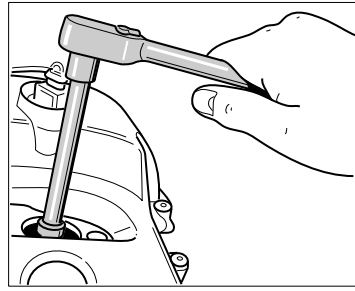


**Information**

- Only use spark plugs approved by Porsche AG!
- Check electrode gap before screwing in a new spark plug.

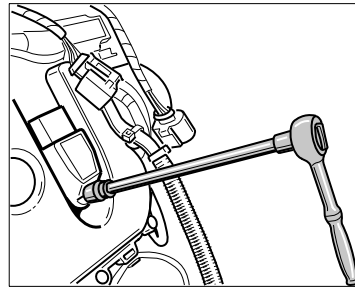
- 8.

Tighten spark plugs using special tool **spark plug socket and extension 3122 B**. → **Tightening torque: 25 Nm**, → **Tightening torque: 30 Nm**



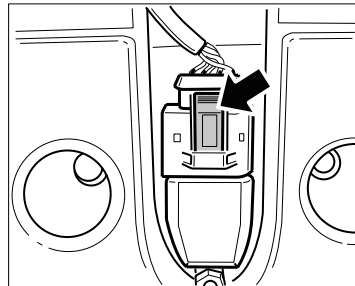
*Tightening spark plugs using spark plug wrench*

9. Reconnect the ignition coil. Tighten the fastening screws. → **Tightening torque: 10 Nm (7.5 ftlb.)**



*Fastening screw on valve cover*

10. Connect ignition coil. To do this, push on the connector until it locks with an audible click.



*Connecting ignition coil*

11. Push lower hose onto secondary air pump 5 - 8.

## Installing design cover

### Installing design cover of cylinder bank 5 - 8

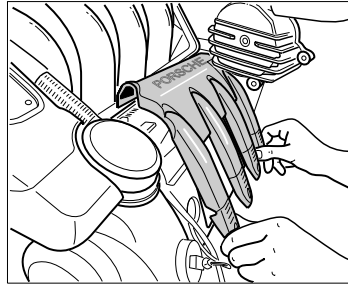


#### Information

- Place a cloth between secondary air pump and design cover to avoid scratching the cover.

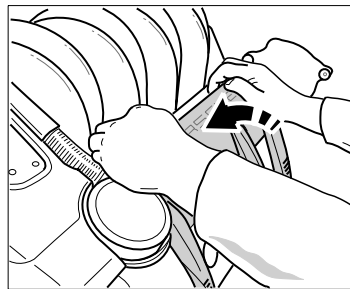
1. Slide the design cover under the secondary air pump as illustrated.





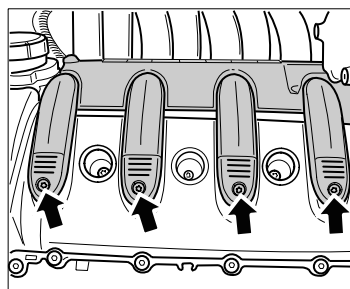
*Sliding design cover under secondary air pump*

- Then press in the two rubber mountings on the bracket. The rubber mounts must be felt to engage.



*Pressing down rubber mountings on bracket*

- Tighten the four fastening screws on the ignition coils. → **Tightening torque: 3.5 ftlb.**



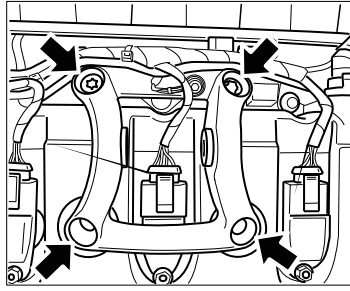
*Fastening screws of ignition coil cover*

### Installing design cover of cylinder bank 1 - 4



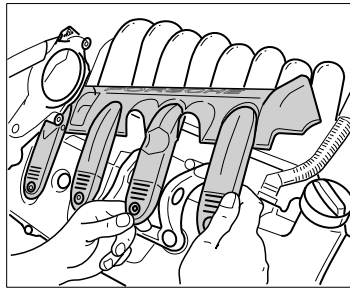
#### Information

- Place a cloth between secondary air pump bracket and design cover to avoid scratching the cover.
- Install bracket for the torque support. The M8 x 45 Torx screws are tightened at the upper screw points. → **Tightening torque: 23 ftlb.** At the lower screw-mounting points (centre of valve cover) the M6 x 40 are first tightened to → **Initial tightening: 3.5 ftlb.** and then to → **Final tightening: 7.5 ftlb..**



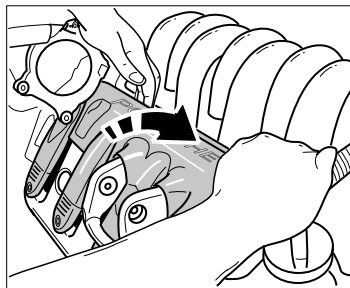
*Tightening fastening screws of torque support bracket*

2. Slide the design cover of cylinder bank 1 - 4 under the secondary air pump bracket as shown in the illustration and then slide the cover of the second ignition coil through underneath the torque support bracket.



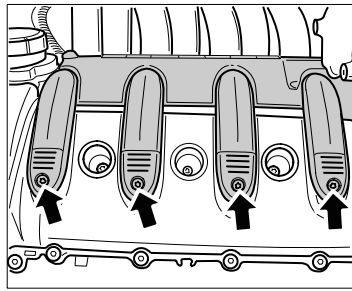
*Inserting cover*

3. Press down the two rubber mounts on the bracket. The rubber mounts must be felt to engage.



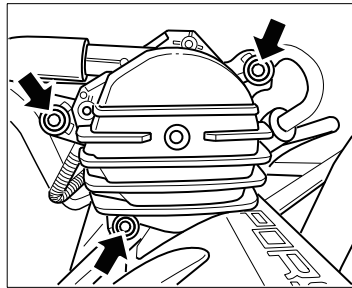
*Pressing down rubber mountings on bracket*

4. Tighten the four fastening screws on the ignition coils (illustration shows side 5 - 8). → **Tightening torque: 3.5 ftlb.**



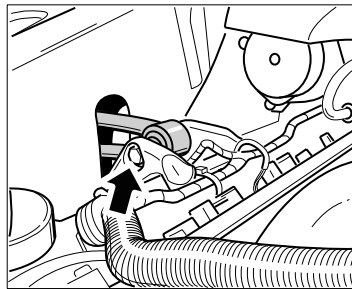
*Fastening screws of ignition coil cover*

5. Reinstall secondary air pump. Tighten the three fastening screws. → **Tightening torque: 7.5 ftlb.**



*Fastening screws for secondary air pump of cylinder bank 1 - 4*

6. Reinstall torque support. Install the fastening screw (M10 x 85) with a new lock nut on the bracket. → **Tightening torque: 44 ftlb.**



*Fastening screw for torque support*

7. Tighten torque support fastening screw on the body (M10 x 70) . → **Tightening torque: 44 ftlb.**
8. Install the engine compartment cover at the right and rear. To do this, tighten the four bayonet screws and the sheetmetal screw on the washer-fluid reservoir. → *700219 Removing and installing front cover (engine compartment) - chapter on "installing"*

9PAAE1, 9PAAE7, 9PAAF1, 9PAAJ1, 9PAAK1

Model year as of 2003

C00, C02, C05, C07, C08, C09, C10, C11, C12, C13, C14, C15, C16, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C32, C33, C34, C35, C36, C37,

C38, C39, C45, C46, C98, C99