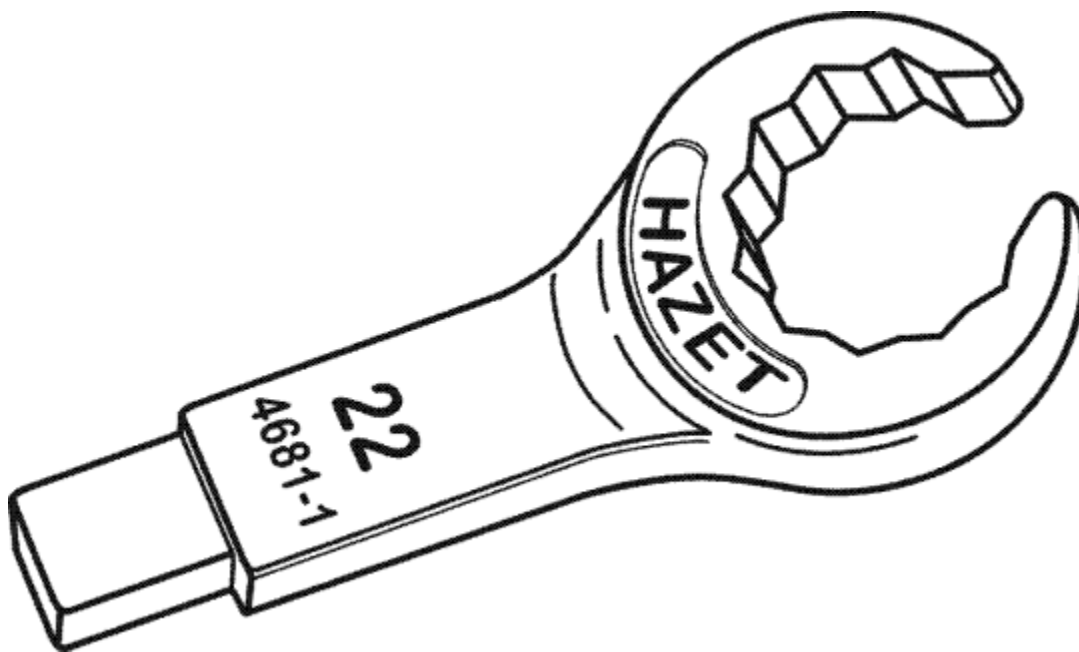


## 26 73 20 Removing and installing catalytic converters – engine installed

- Tools
- Removing and installing catalytic converters

### Tools



Item	Designation	Special tool	Explanation
	Open ring wrench (angled)	Commercially available	Refer to Workshop Equipment Manual, Chapter 2.4, No. 96-3



### CAUTION

Oxygen sensor can be damaged if handled improperly!

- Do not remove the plastic cap on the thread until just prior to fitting the oxygen sensor. The thread grease must never come into contact with the connector.
- Protect sensors – before and after fitting – against mechanical shocks.
- Sensors that were dropped on the floor must not be used owing to the risk of a broken ceramic insulator.
- The cables must not be twisted or kinked when the sensors are screwed in. Avoid pulling on the cable and connector.
- Cleanliness in the housing of the plug connections is of utmost importance for the function of the oxygen sensor. Particles of dirt can impair the function of the oxygen sensor. Therefore, the plug

must be protected against any and all types of soiling.

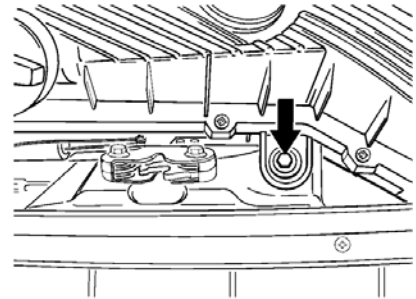
- Sensors with soiled or damaged plug must no longer be used.
- Protect the cables and plugs when transporting the exhaust system with the sensors already fitted.
- High-pressure cleaning equipment must not be used in the area of the sensors and plug connections.

## Removing and installing catalytic converters

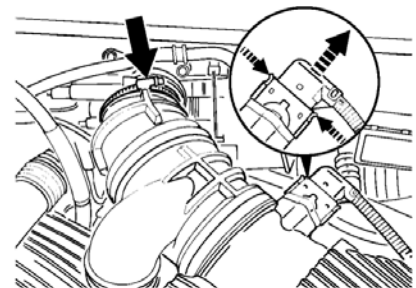
### Removing

1. Remove air cleaner assembly:

1.1 Undo hexagon-head bolt M6 x 34 (wrench size 13).



1.2 Undo hose clamp on throttle body and pull plug off the mass air flow meter. Unclip cable on air cleaner housing and remove air cleaner assembly.



### Sequence when removing the catalytic converters:

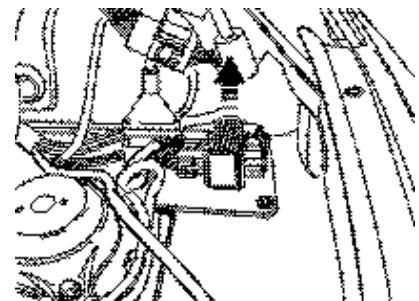
#### Remove catalytic converter of cylinder bank 4 - 6

1. In the engine compartment, pull the oxygen sensor plug connection from its holder, unlock and disconnect.

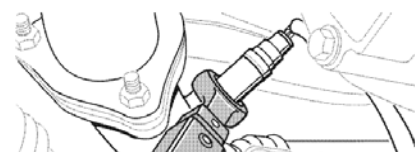
Black connector – oxygen sensor in front of the catalytic converter

Grey connector – oxygen sensor behind the catalytic converter

2. Unclip cable on engine carrier.



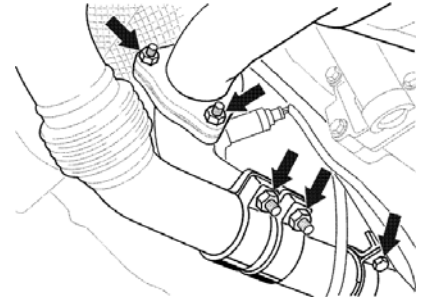
3. Undo oxygen sensors, e.g. using a commercially available open-end ring wrench (wrench size 22).



**Note**

- Do not unscrew and remove the oxygen sensors until the catalytic converter has been removed.

4. Undo three hexagon nuts on the connection flange (wrench size 13), two hexagon nuts on the clamping sleeve (wrench size 17) and one hexagon-head bolt (wrench size 13) on the engine carrier holding clamp.
5. Remove catalytic converter for cylinder bank 4 – 6, taking care not to damage the loosened oxygen sensors.
6. Unscrew the oxygen sensors whilst simultaneously turning the cable with them.

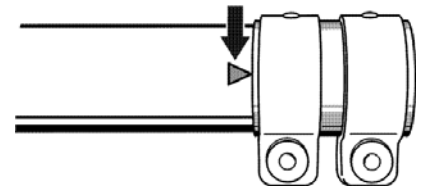
**Installing**

1. Fasten oxygen sensors with open-end ring wrench. Tightening torque: 50 - 60 Nm (35 - 44 ftlb.)

**Note**

- Different values if the suggested tool is used:
- Tightening torque: 50 Nm (37 ftlb.)

2. Slide a new clamping sleeve onto the catalytic converter tube.
3. Fit catalytic converter with new seal. Fasten "three-point flange".
4. Align clamping sleeve. The position is designated by embossed arrowheads. The clamping sleeve is positioned in the centre between the arrowheads. Tighten clamping sleeve. Tightening torque: 46 Nm (34 ftlb.)
5. Fasten the clamp between catalytic converter and engine carrier.



Tightening torque: 17 Nm (12.5 ftlb.)

6. Route the oxygen sensor cable to the plug connection in the engine compartment. "Black" plug connection to "black" plug of the oxygen sensor. "Grey" plug connection to "grey" plug of the oxygen sensor. (Black – in front of the catalytic converter) (Grey – behind the catalytic converter)

**Removing catalytic converter of cylinder bank 1 - 3**

1. In the engine compartment, pull the oxygen sensor plug from its holder, unlock and disconnect.
2. Unclip cable on engine carrier.
3. Undo oxygen sensors using a commercially available open-end ring wrench (wrench size 22).

**Note**

- The oxygen sensor behind the catalytic converter must be removed for reasons of space.

4. Loosen the connection flange, clamping sleeve and holding clamp on the engine carrier.
5. Remove catalytic converters.
6. Unscrew oxygen sensor in front of catalytic converter.

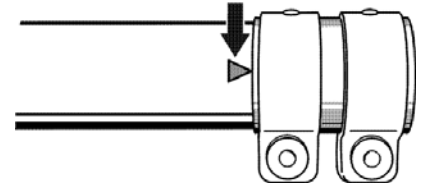
## Installing

1. Fasten oxygen sensors with open-end ring wrench. Tightening torque: 50 - 60 Nm (35 - 44 ftlb.)



### Note

- Different values if the suggested tool is used:
  - Tightening torque: 50 Nm (37 ftlb.)
2. Slide a new clamping sleeve onto the catalytic converter tube.
  3. Fit catalytic converter with new seal. Fasten "three-point flange".
  4. Align clamping sleeve. The position is designated by embossed arrowheads. The clamping sleeve is positioned in the centre between the arrowheads. Tighten clamping sleeve. Tightening torque: 46 Nm (34 ftlb.)
  5. Fasten the clamp between catalytic converter and engine carrier.



Tightening torque: 17 Nm (12.5 ftlb.)

6. Fasten oxygen sensor behind catalytic converter.
7. Route the oxygen sensor cable to the plug connection in the engine compartment. "Black" plug connection to "black" plug of the oxygen sensor. "Grey" plug connection to "grey" plug of the oxygen sensor. (Black – in front of the catalytic converter) (Grey – behind the catalytic converter)

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996110, 996111, 996310, 996311, 996410, 996411, 996440, 996441, 996610, 996611, 996120, 996121, 996630, 996631