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WM 213019 Removing and installing turbocharger

Technical values

| Location | Description | Type | Basic value | Tolerance 1 | Tolerance 2 |
|---|-----------------------------------|--------------------|----------------------|-------------|-------------|
| Turbocharger holder to cylinder head | Screw, M8 x 35 | Tightening torque | 23 Nm (17 ftlb.) | | |
| Turbocharger to exhaust manifold | Hexagon nut, M8 - only use once | Initial tightening | 10 Nm (7.5 ftlb.) | | |
| Turbocharger to exhaust manifold | Hexagon nut, M8 - only use once | Final tightening | 25 Nm (19 ftlb.) | | |
| Intake pipe to turbocharger | Screw-type clamp - always replace | Tightening torque | 5.5 Nm (4 ftlb.) | | |
| Intake pipe to air intake | Screw-type clamp | Tightening torque | 3 Nm (2 ftlb.) | | |
| Moulded hose (low-pressure side) on turbocharger and charge-air guide | Screw-type clamp | Tightening torque | 5.5 Nm (4 ftlb.) | | |
| Oil and coolant lines to turbocharger | M6 screw - replace O-rings | Tightening torque | 10 Nm (7.5 ftlb.) | | |
| Holder for oil and coolant lines to turbocharger | M6 screw | Tightening torque | 10 Nm (7.5 ftlb.) | | |

Preliminary work

Preliminary work for right turbocharger

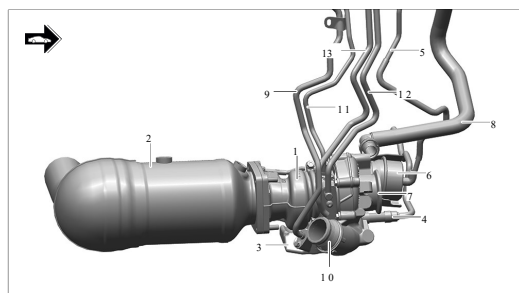
1. Drain coolant. → *193817 Draining and filling coolant - section on "Draining"*
2. Remove rear right wheel. → *440519 Removing and installing wheel - section on "Removing"*
3. Remove exhaust system. → *260119 Removing and reinstalling exhaust system - section on "Removing"*

Preliminary work for left turbocharger

1. Drain coolant. → *193817 Draining and filling coolant - section on "Draining"*
2. Remove left exhaust manifold. → *261019 Removing and installing exhaust manifold - section on "Removing"*

Component information

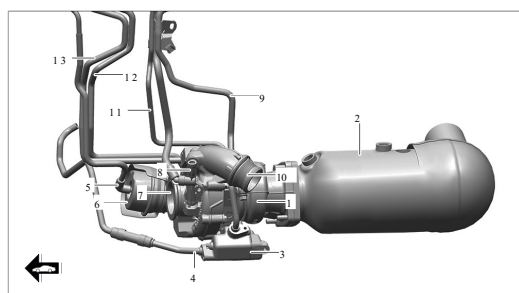
Component information for right turbocharger



Component information for right turbocharger

- 1 - Turbocharger
- 2 - Catalytic converter
- 3 - Oil tank
- 4 - Oil return line
- 5 - Vacuum hose
- 6 - Bypass control box
- 7 - Intake manifold
- 8 - Positive crankcase ventilation pipe
- 9 - Oil tank line
- 10 - Charge air hose
- 11 - Oil supply line
- 12 - Coolant line
- 13 - Coolant line

Component information - left turbocharger



Component information - left turbocharger

- 1 - Turbocharger
- 2 - Catalytic converter
- 3 - Oil tank
- 4 - Oil return line
- 5 - Vacuum hose

- 6 - Bypass control box
- 7 - Intake manifold
- 8 - Tank ventilation line
- 9 - Vent line
- 10 - Charge air hose
- 11 - Oil supply line
- 12 - Coolant line
- 13 - Coolant line

Removing turbocharger

Removing right turbocharger



Danger of objects or loads falling down

- Risk of squashing or crushing

→ Secure components to prevent them from falling down.



Hot fluid

- Danger of scalding

→ Let the fluid cool down.

→ Wear personal protective gear.



Hot components

- Risk of burns

→ Let hot components cool down.

→ Wear personal protective gear.

NOTICE

Mixing fluids

- Risk of damage to components

→ Close off all openings immediately after exposing them (with adhesive tape, suitable stoppers).



Information

The seals must always be replaced following removal.

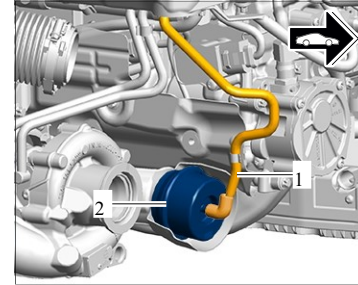
**Information**

- Open connections and lines must be closed off using suitable stoppers or caps.

**Information**

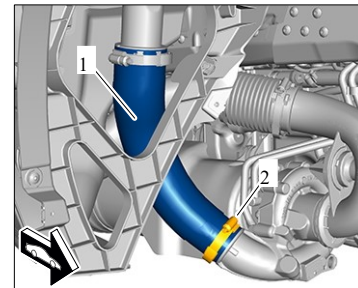
Collect escaping fluids.

1. Pull vacuum hose **-1-** off the bypass control box **-2-** .



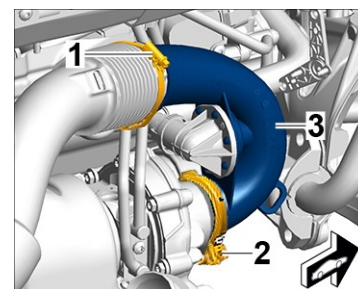
Vacuum hose on bypass control box

2. Loosen screw-type clamp **-2-** .
3. Remove charge-air hose **-1-** from the turbocharger.



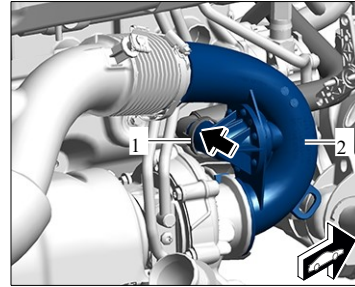
Charge-air hose on turbocharger

4. Loosen screw-type clamp **-1-** .
5. Loosen screw-type clamp **-2-** .
6. Remove intake pipe **-3-** as far as required until the positive crankcase ventilation pipe is accessible.

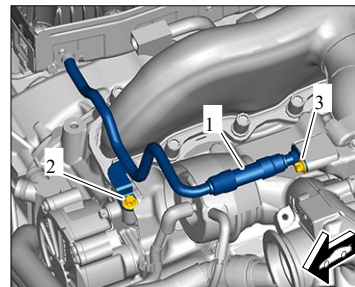


Intake pipe on turbocharger

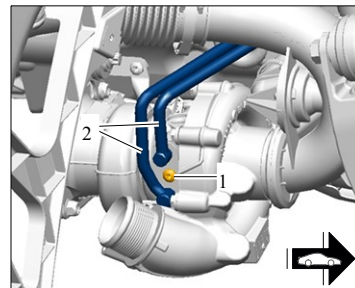
7. Release positive crankcase ventilation pipe coupling **-1-** and pull it off the intake pipe **-2-** (**-arrow-**).
8. Remove intake pipe **-2-** .

*Positive crankcase ventilation pipe*

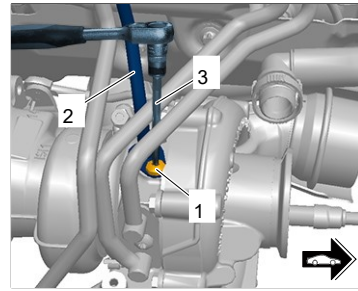
9. Disconnect oil line **-1-** .
 - 9.1. Unscrew and remove fastening screw **-2-** .
 - 9.2. Unscrew and remove fastening screw **-3-** .
 - 9.3. Remove oil return line **-1-** from the turbocharger and carefully bend it aside slightly.

*Oil return line on turbocharger*

10. Unscrew and remove fastening screw **-1-** .
11. Remove coolant lines **-2-** from the turbocharger.

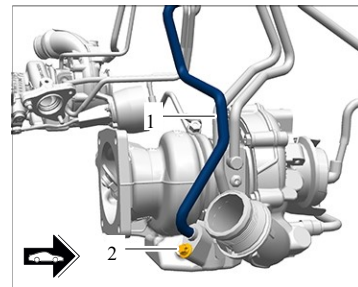
*Coolant lines on right turbocharger*

12. Unscrew and remove fastening screw **-1-** using a suitable tool **-3-** .
13. Remove oil supply line **-2-** from the turbocharger.



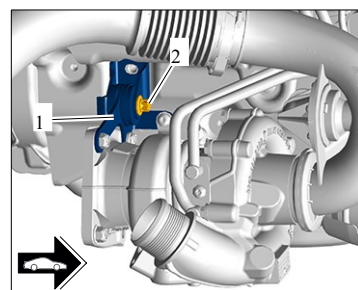
Oil supply line on turbocharger

14. Unscrew and remove fastening screw **-2-** .
15. Remove oil tank line **-1-** from the turbocharger.



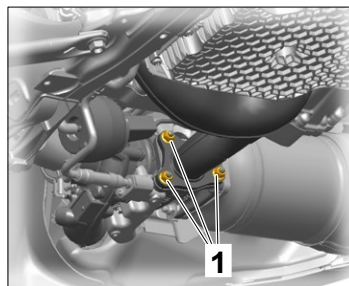
Oil tank line on turbocharger

16. Unscrew and remove fastening screw **-2-** from the turbocharger holder **-1-** .



Turbocharger holder

17. Screw off fastening nuts **-1-** .



Fastening nuts securing turbocharger to exhaust manifold

18. Remove turbocharger from the exhaust manifold and guide it out past the lines.

Removing left turbocharger

WARNING

Danger of objects or loads falling down

- Risk of squashing or crushing

→ Secure components to prevent them from falling down.

WARNING

Hot fluid

- Danger of scalding

→ Let the fluid cool down.

→ Wear personal protective gear.

Caution

Hot components

- Risk of burns

→ Let hot components cool down.

→ Wear personal protective gear.

NOTICE

Mixing fluids

- Risk of damage to components

→ Close off all openings immediately after exposing them (with adhesive tape, suitable stoppers).



Information

The seals must always be replaced following removal.

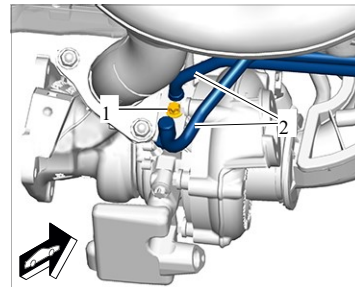
**Information**

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**Information**

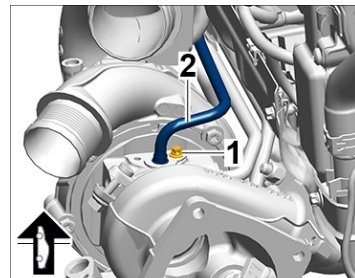
Collect escaping fluids.

1. Unscrew and remove fastening screw **-1-**.
2. Remove coolant lines **-2-** from the turbocharger.



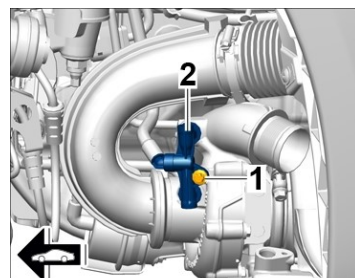
Coolant lines on left turbocharger

3. Unscrew and remove fastening screw **-1-** using a suitable tool.
4. Remove oil supply line **-2-** from the turbocharger.



Oil supply line on left turbocharger

5. Unscrew and remove fastening screw **-1-**.
6. Remove tank ventilation flange **-2-** from the turbocharger.



Tank ventilation on turbocharger



Information

The help of a second person is required for the following step.

7. Guide turbocharger out past the lines.

Installing turbocharger

Installing right turbocharger



Information

- Fit new O-rings on engine oil lines.
- Grease O-rings with a light coating of Klüber Syntheso Glep.
- Remove stoppers before fitting the engine oil lines.



Information

- Fit new O-rings on coolant lines.
- Coat O-rings lightly with Klüber Plus Gel.
- Remove stoppers before fitting the coolant lines and hoses.



Information

Fill the turbocharger with the specified engine oil through the oil supply opening before installation. This ensures that the turbine shaft of the turbocharger will be lubricated sufficiently when the engine is first started.

1. Installation is performed in reverse order to removal.

Observe tightening specifications!

New lock nuts securing turbocharger to exhaust manifold: [Initial tightening 10 Nm \(7.5 ftlb.\)](#)

New lock nuts securing turbocharger to exhaust manifold: [Final tightening 25 Nm \(19 ftlb.\)](#)

Fastening screw for turbocharger holder: [Tightening torque 23 Nm \(17 ftlb.\)](#)

Fastening screw for oil tank line: [Tightening torque 10 Nm \(7.5 ftlb.\)](#)

Fastening screw for oil supply line: [Tightening torque 10 Nm \(7.5 ftlb.\)](#)

Fastening screw for coolant lines: [Tightening torque 10 Nm \(7.5 ftlb.\)](#)

Fastening screw for oil return line holder: [Tightening torque 10 Nm \(7.5 ftlb.\)](#)

Fastening screw for oil return line: [Tightening torque 10 Nm \(7.5 ftlb.\)](#)

Screw-type clamp securing intake pipe to turbocharger: [Tightening torque 5.5 Nm \(4 ftlb.\)](#)

Screw-type clamp securing intake pipe to moulded hose: [Tightening torque 3 Nm \(2 ftlb.\)](#)

Screw-type clamp securing charge-air hose to turbocharger: [Tightening torque 5.5 Nm \(4 ftlb.\)](#)

Installing left turbocharger



Information

- Fit new O-rings on engine oil lines.
- Grease O-rings with a light coating of Klüber Syntheso Glep.
- Remove stoppers before fitting the engine oil lines.



Information

- Fit new O-rings on coolant lines.
- Coat O-rings lightly with Klüber Plus Gel.
- Remove stoppers before fitting the coolant lines and hoses.



Information

Fill the turbocharger with the specified engine oil through the oil supply opening before installation. This ensures that the turbine shaft of the turbocharger will be lubricated sufficiently when the engine is first started.

1. Installation is performed in reverse order to removal.

Observe tightening specifications!

Fastening screw for tank ventilation: [Tightening torque 10 Nm \(7.5 ftlb.\)](#)

Fastening screw for oil supply line: [Tightening torque 10 Nm \(7.5 ftlb.\)](#)

Fastening screw for coolant lines: [Tightening torque 10 Nm \(7.5 ftlb.\)](#)

Fastening screw for turbocharger holder: [Tightening torque 23 Nm \(17 ftlb.\)](#)

Subsequent work

Subsequent work for right turbocharger

1. Install the exhaust system. → *260119 Removing and installing exhaust system - section on "Installing"*
2. Install right rear wheel. → *440519 Removing and installing wheel - section on "Installing"*
3. Fill in coolant. → *193817 Draining and filling coolant - section on "Filling"*
4. Check engine-oil level and correct it if necessary. → *170101 Checking engine-oil level*

Subsequent work for left turbocharger

1. Install left exhaust manifold. → *261019 Removing and installing exhaust manifold - section on "Installing"*
2. Fill in coolant. → *193817 Draining and filling coolant - section on "Filling"*
3. Check engine-oil level and correct it if necessary. → *170101 Checking engine-oil level*

991110, 991111, 991120, 991121, 991140, 991141, 991150, 991151, 991310, 991311, 991320, 991321, 991340, 991341, 991410, 991411, 991420, 991421, 991440, 991441, 991510, 991511, 991520, 991521, 991540, 991541, 991610, 991611, 991620, 991621, 991640, 991641

Model year as of 2017

C00, C02, C05, C06, C07, C08, C09, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C32, C33, C34, C35, C36, C37, C38, C39, C41, C45, C45, C46, C96, C97, C98, C99