

18 00 018 Remove & install complete exhaust system

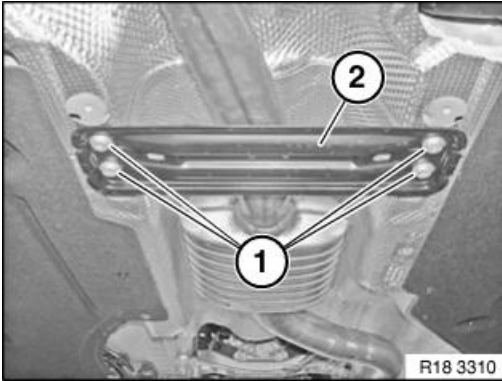
PRELIMINARY WORK

1 – Removing the reinforcement

- For equipment specification without panorama glass roof:

► Remove reinforcement plate

- Loosen the screws (1) and remove the reinforcement plate (2).



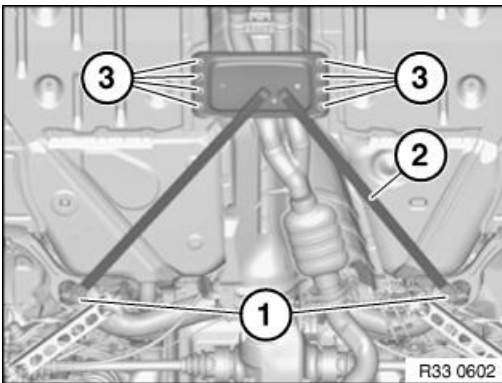
- For equipment specification with panorama glass roof:

► Remove trailing link



TECHNICAL INFORMATION

Driving without the strut brace/front end or tension strut is not permitted.



- Loosen screws (1).
- Loosen screws (3).
- Remove the tension struts (2).

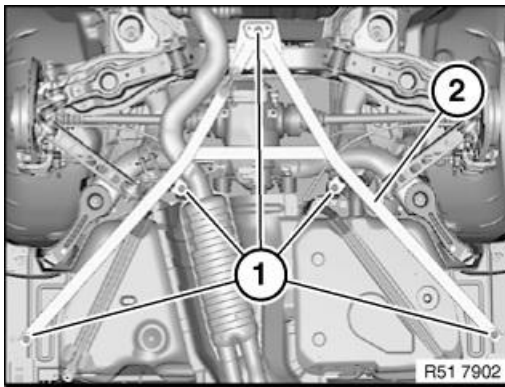
- For equipment specification with panorama glass roof:

► Removing the tension strut of the rear axle



TECHNICAL INFORMATION

Driving without the strut brace/front end or tension strut is not permitted.



- Loosen the screws (1) and remove the tension strut (2).

MAIN WORK

2 – Removing the exhaust system (without diesel particulate filter)

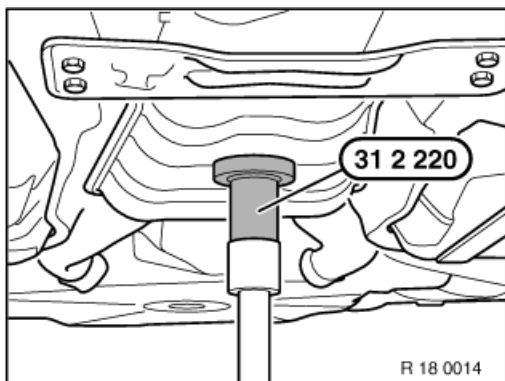


WARNING

Hot surfaces.

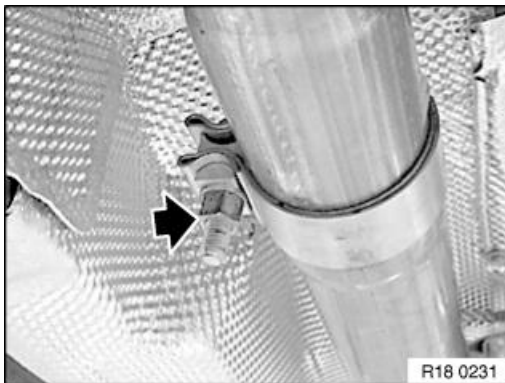
Risk of burning!

- Perform all work only on components that have cooled down.



- Support the exhaust system using the special tool **0 491 932 (31 2 220)** and secure against dropping.

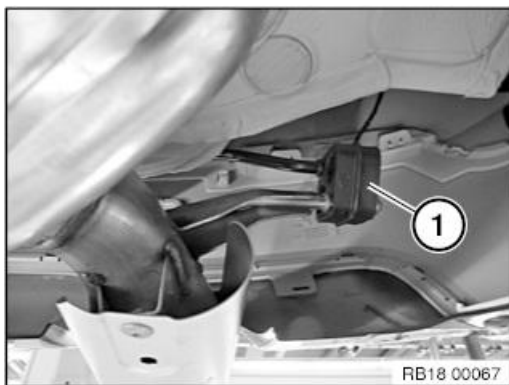
The exhaust system may weigh up to 40 kg.



- Unscrew the nut (arrow).



- Unscrew the nut (arrow).



- Pull off the rubber mount (1) from the rear silencer.



- Loosen screw (1).

- Remove exhaust system.

3 – Installing the exhaust system (diesel particulate filter installed)

- Align the exhaust system with the vehicle underbody and attach to the front of the diesel particulate filter.

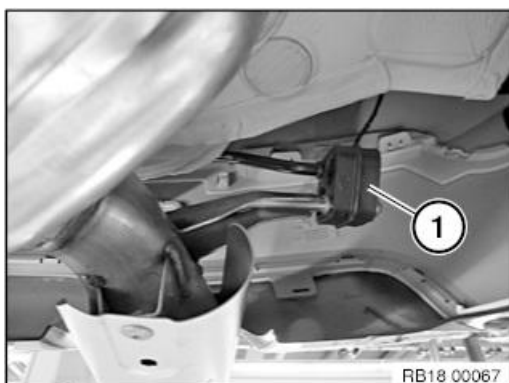


- Tighten down screw (1).

Rear silencer to body

M8

21 Nm

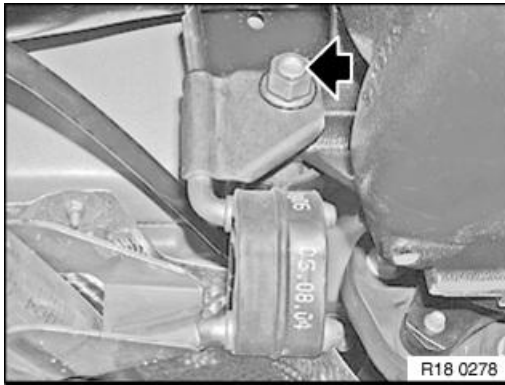


- Check the rubber mount (1) for damage and renew if necessary.
- Connect rubber mount (1) to the rear silencer.



TECHNICAL INFORMATION

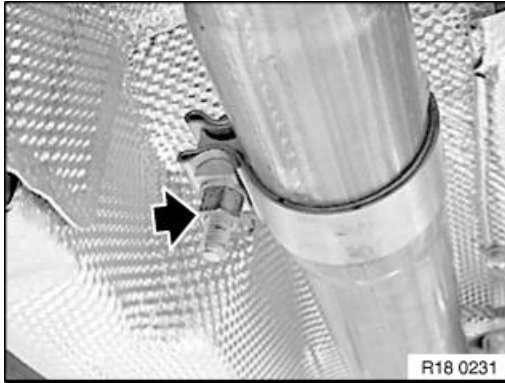
Latch mechanisms, guides and mounting elements must not be damaged or missing.



- Tighten the nut (arrow).

Exhaust system bracket

M12x20		30 Nm
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- Renew flat band clip.
- Tighten the nut (arrow).

Diesel particulate filter / primary catalytic converter to exhaust system

M8	Renew flat band clip.	26 Nm
M10	Renew flat band clip.	43 Nm

- Check exhaust system for leak tightness.

POSTPROCESSES

4 – Installing the reinforcement

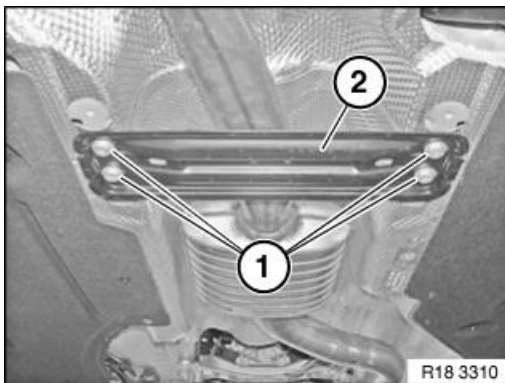
- For equipment specification without panorama glass roof:

► Installing the reinforcement plate

- Install the reinforcement plate (2) and tighten the screws (1).

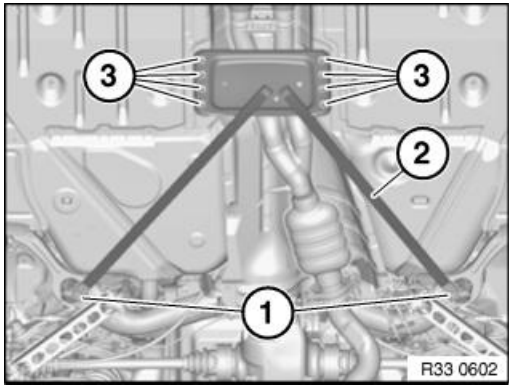
Reinforcement plate to body

	19 Nm
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- For equipment specification with panorama glass roof:

► Install the tension strut



- Install the tension struts (2).
- Tighten down screws (3).

Tension strut to body

M8		24 Nm
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- Renew screws (1).

Parts: Bolts

- Tighten the screws (1).

Tension strut to compression strut

Renew screws.

M12		Jointing torque	100 Nm
		Angle of rotation	90 °

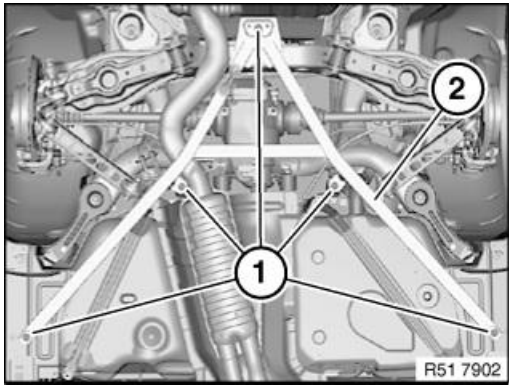
- For equipment specification with panorama glass roof:

► Installing the tension strut of the rear axle

- Install the tension strut (2) and tighten the screws (1).

Trailing link to rear axle

M10		50 Nm
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Additional Information

Overview of Tightening Torques

Rear silencer to body

Used in step 3

M8		21 Nm
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Exhaust system bracket

Used in step 3

M12x20		30 Nm
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Diesel particulate filter / primary catalytic converter to exhaust system

Used in step 3

M8	Renew flat band clip.	26 Nm
M10	Renew flat band clip.	43 Nm

Reinforcement plate to body

Used in step 4

		19 Nm
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Tension strut to body

Used in step 4

M8		24 Nm
----	--	-------

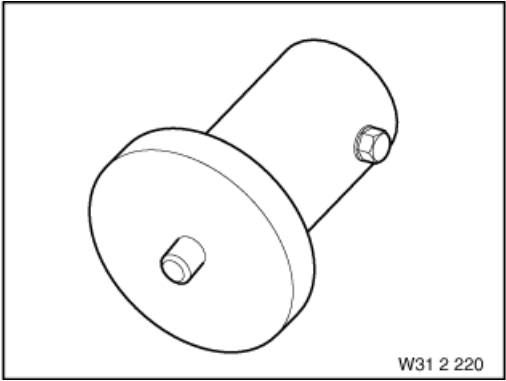
Renew screws.

M12		Jointing torque	100 Nm
		Angle of rotation	90 °

M10		50 Nm
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Overview of Special Tools

0 491 932 (31 2 220) Upholstery



Usage	(Support) For supporting the front axle support and the exhaust system during installation work
Included in the tool or work	
Storage location	B3
Replaced by	
In connection with	
SI-Number	01 06 94 (801)

**Special tools required:**

- [31 2 220](#)

**Warning!**

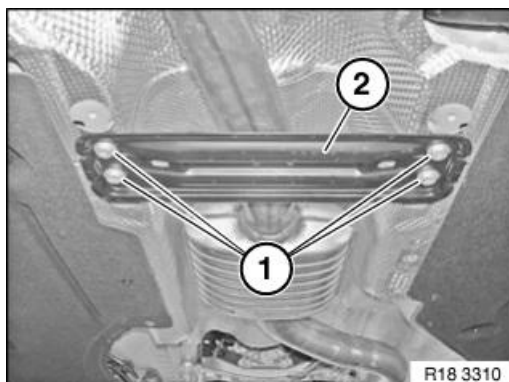
Danger of burning and other injuries!

Only perform this repair work after engine has cooled down.

Removal of the exhaust system must be carried out with the assistance of a second person.

**Necessary preliminary tasks:**

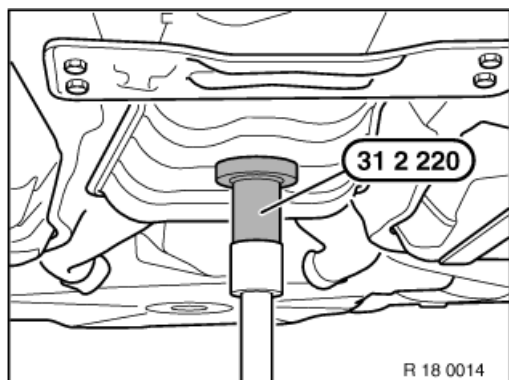
- **Only with panorama glass roof:**
Remove [trailing link](#) from rear axle final drive.
Remove [trailing link](#).

**Only for vehicles without panorama glass roof:**

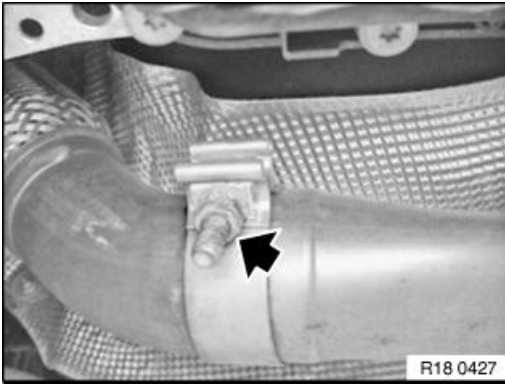
Release screws (1).

Tightening torque [18 31 5AZ](#).

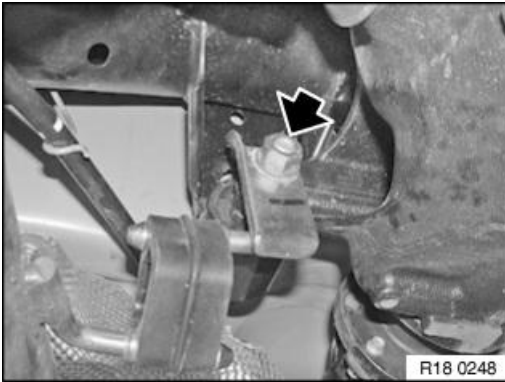
Remove reinforcement plate (2).



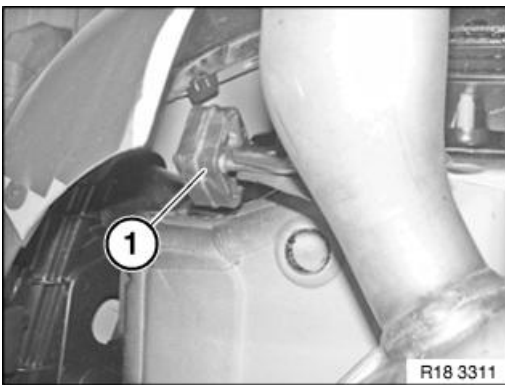
Support exhaust system with special tool [31 2 220](#).



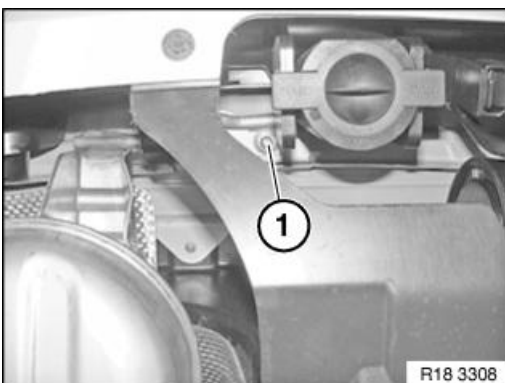
Unfasten clamp. *Installation note:*
Tightening torque [18 31 4AZ](#).



Unfasten nut. *Installation note:*
Tightening torque [18 20 5AZ](#).



Remove rear silencer from rubber mount (1).



Release screw (1).
Tightening torque [18 20 9AZ](#).
Lower and remove exhaust system with assistance of a second person.



Installation note:
Check exhaust system for leaks.
Check rubber mount for damage. Replaced damaged rubber mounts.



Warning!

Danger of burning and other injuries!

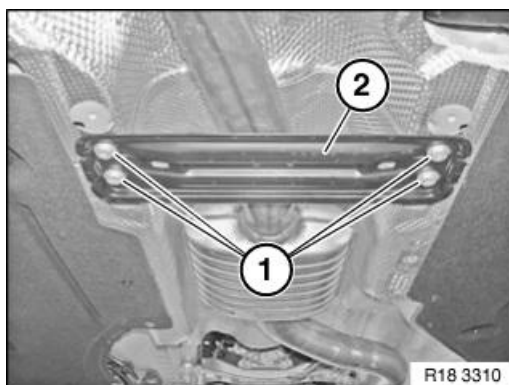
Only perform this repair work after engine has cooled down.

Removal of the exhaust system must be carried out with the assistance of a second person.



Necessary preliminary tasks:

- **Only with panorama glass roof:**
Remove [trailing link](#) from rear axle.
Remove [trailing link](#).



Only for vehicles without panorama glass roof:

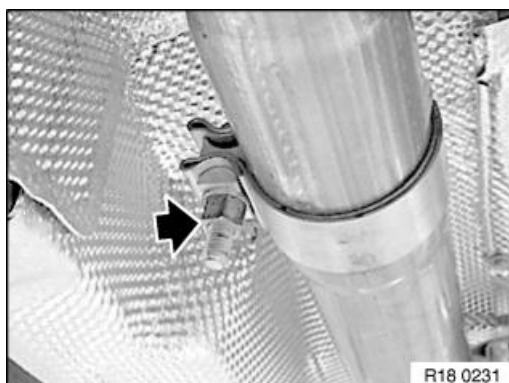
Release screws (1).

Tightening torque [18 31 5AZ](#).

Remove reinforcement plate (2).



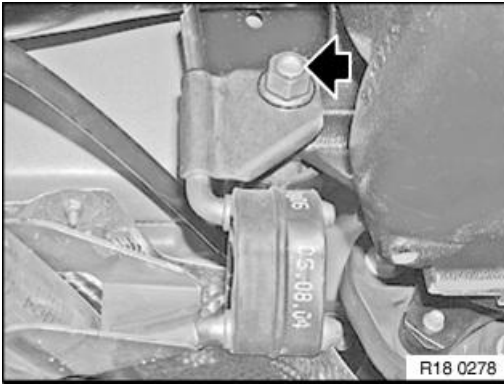
Support exhaust system with a suitable jack and secure it against falling down.



Unfasten nut.

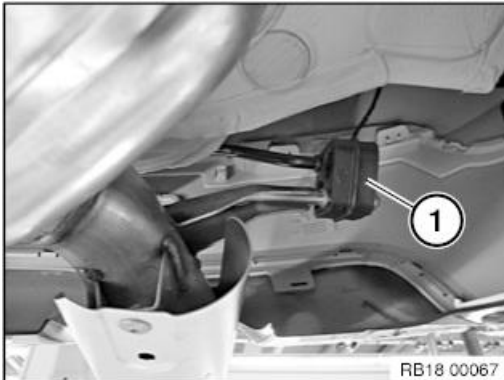
If necessary, renew clamp.

Tightening torque [18 31 2AZ](#).



Unfasten nut.

Tightening torque, [18 20 5AZ](#).



Pull off rubber mount (1) from rear silencer.



Release screw (1).

Tightening torque, [18 20 8AZ](#).



Installation note:

Replaced damaged rubber mounts.

Check exhaust system for leak tightness.

**Special tools required:**

- 83 19 2 211 603
- 83 19 2 211 602

**Warning!**

Only clean an engine that has cooled down.

In order to achieve good cleaning results, the diesel particulate filter should be no more than warm to the touch.



Follow diagnosis instruction.

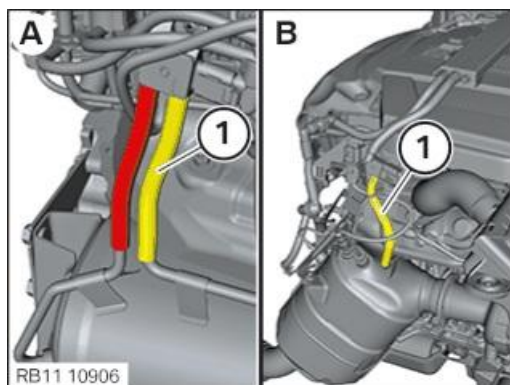
**Necessary preliminary tasks:**

- Remove [acoustic cover](#) (apart from E83)

**Note:**

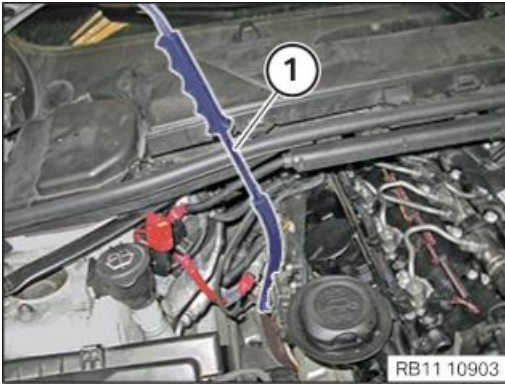
Starter kit for diesel particulate filter cleaner 83 19 2 211 603 (includes agitator cup gun with lance and 1x DPF solvent cleaner)

Fill agitator cup gun (1) with DPF-solvent cleaner 83 19 2 211 602 (2).

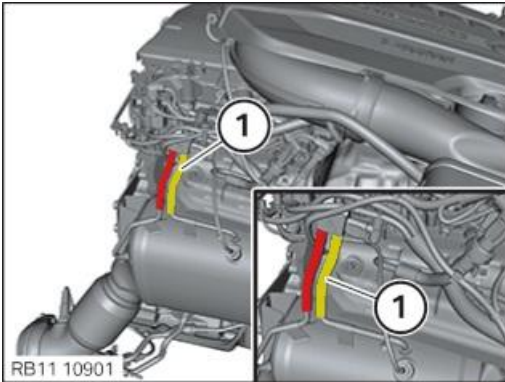
**Important!**

Note: Some engine versions have only one pressure hose (1) (version B).

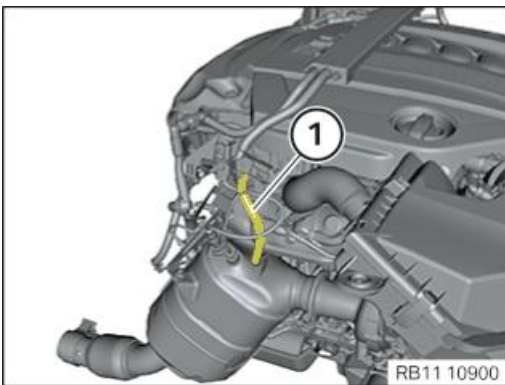
For version A, always use pressure hose (1) before the diesel particulate filter.



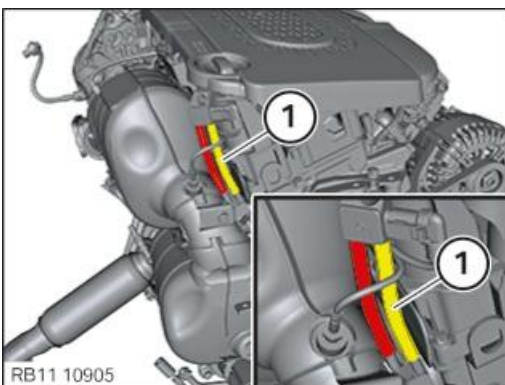
Connect the special sensor (1) directly to the diesel particulate filter.



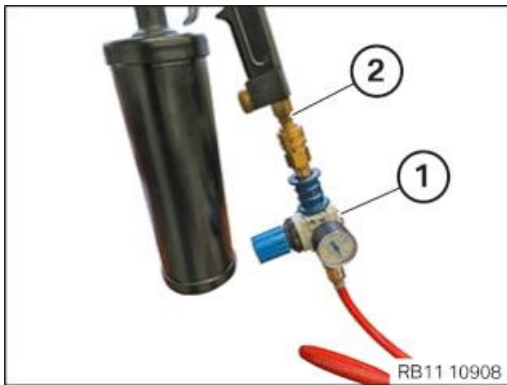
Important!
Note: Engine version A.



Important!
Note: Engine version B



Important!
Note: MINI engine version



Important!

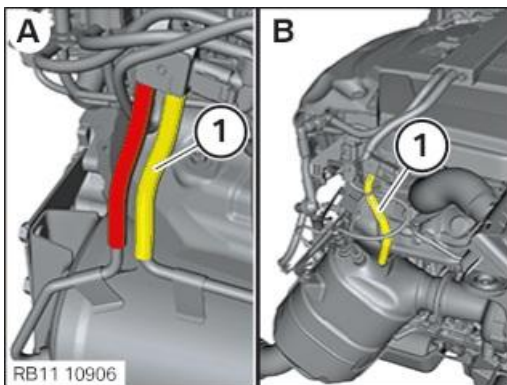
Note:

Only use supplied agitator cup gun.

Operate the agitator cup gun with no more than 2 bar.

If necessary, use a pressure reducer (1). Connect the pressure canister gun (2) to the compressed air.

Spray DPF solvent cleaner in the direction of honeycomb structure with no more than 2 bar at intervals.



Re-fasten differential pressure hose (1).



Required follow-up work:

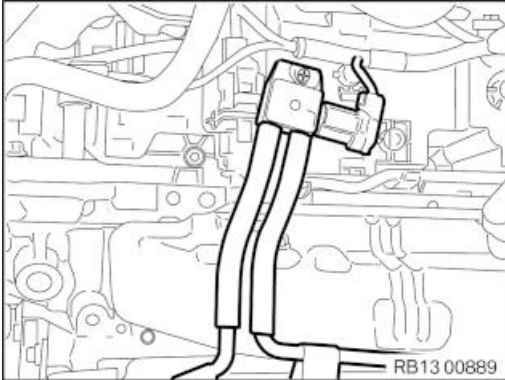
- Install [acoustic cover](#) (excluding E83)
- Check oil level:
- Delete the fault memory and take the vehicle for a regeneration drive.



Warning!

Risk of burning!

Only perform this repair work on an engine that has cooled down.



Important!

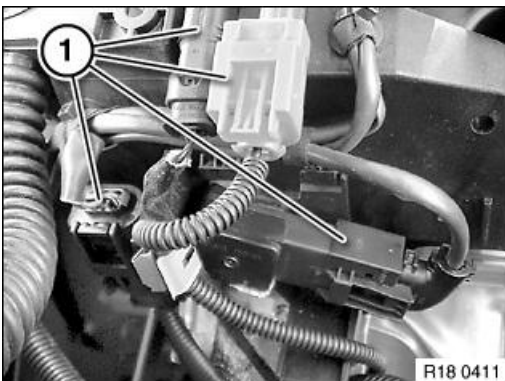
When removing the diesel particulate filter or differential pressure sensor, the pressure hoses between the diesel fuel particulate filter and the differential pressure sensor must be replaced.

Note: Some engine versions have only one pressure hose.



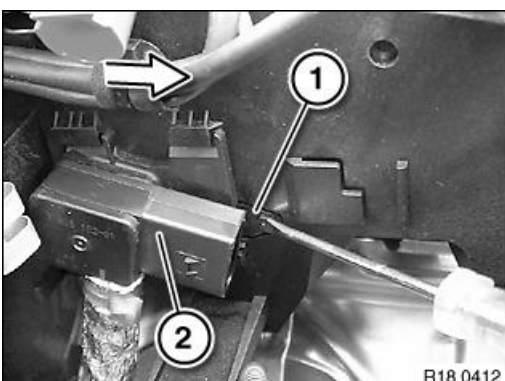
Necessary preliminary tasks:

- Remove [intake silencer housing](#).
- Remove [exhaust system](#).
- Remove [pedestrian protection](#).
- **All-wheel drive vehicles only:**
Lower [front axle support](#).



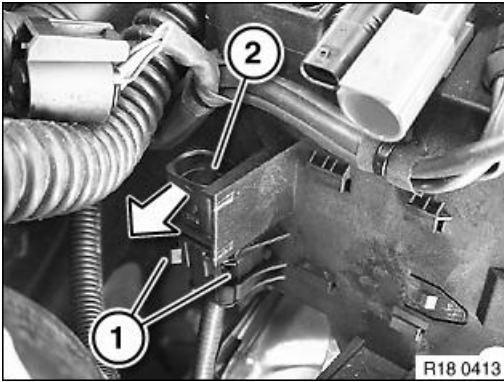
Disconnect plug connection (1).

Unclip cable from brackets.



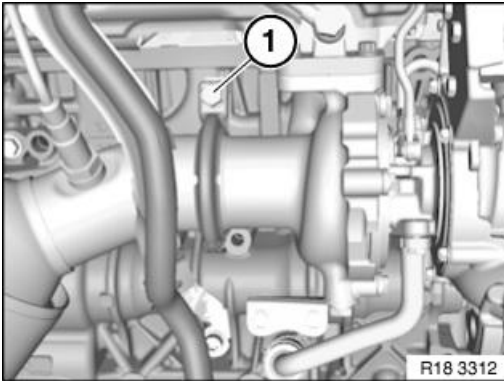
Press in fastener (1) with screwdriver and slide exhaust backpressure sensor (2) down in direction of arrow. *Installation note:*

Renew the pressure hose on the exhaust gas pressure sensor.



Press fasteners (1) apart.

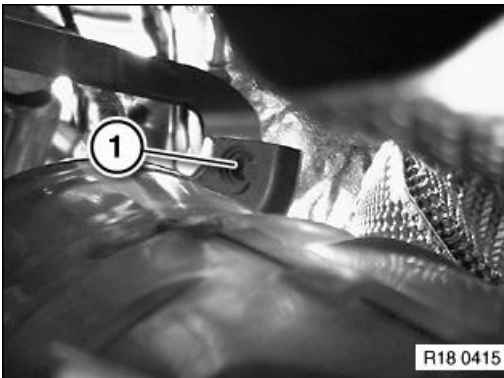
Slide oxygen sensor connector (2) down in direction of arrow.



Release screw (1) of clamp between diesel particle filter and turbocharger. *Installation note:*

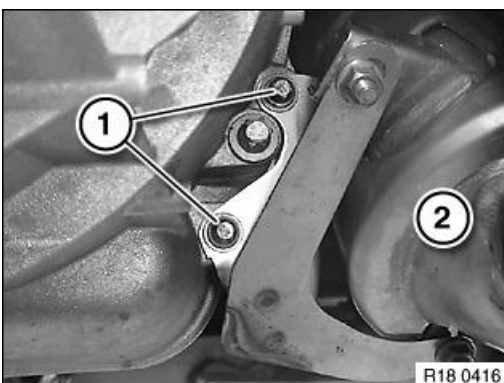
Clamp must be replaced after removal.

Tightening torque [18 31 1AZ](#).



Release screw (1). *Installation note:*

Tightening torque [18 20 2AZ](#).



Release screws (1) and remove diesel particulate filter (2) towards bottom. *Installation note:*

Tightening torque [18 20 1AZ](#).



Installation note:

Assemble engine.

Check exhaust system for leaks.

When replacing diesel particulate filter, remount oxygen sensor, pressure hose and exhaust temperature sensor.

After replacing the diesel particle filter, reset adaptation via the BMW diagnosis system.

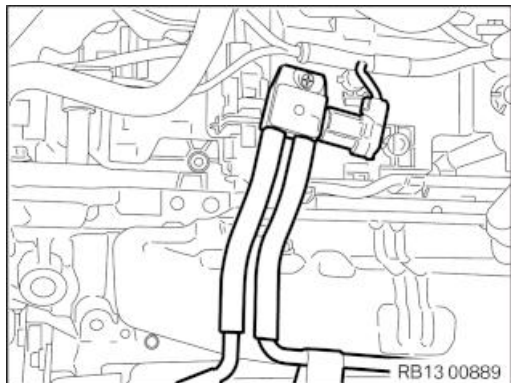
18 31 080 Removing and installing/replacing diesel particulate filter (N47 D20 U/O/K 1)



Warning!

Risk of burning!

Only perform this repair work on an engine that has cooled down.



Attention!

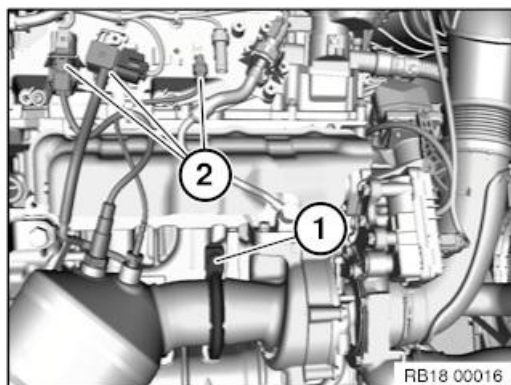
The pressure hoses between the diesel particulate filter and the differential pressure sensor must be replaced when the diesel particulate filter or the differential pressure sensor is removed.

Note: Some engine versions have only one pressure hose.



Necessary preliminary work:

- Remove [acoustic cover](#)
- Remove [intake silencer housing](#).
- Remove front [underbody protection](#).
- Remove [exhaust system](#).
- **Only E84 and if installed:**
Remove [pedestrian protection](#).
- **All-wheel drive vehicles only:**
Lower [front axle support](#).



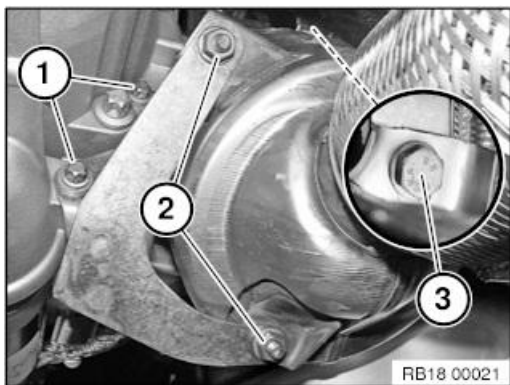
Release clamp (1).

Replace clamp (1) and gasket between diesel particulate filter and exhaust turbocharger.

Tightening torque [18 31 1AZ](#).

Release plug connections (2) from bracket.

Unlock and detach plug connections (2).



Release screws (1).

Tightening torque [18 20 7AZ](#).

Slacken nut (2).

Tightening torque [18 20 1AZ](#).

Remove screw (3) above diesel particulate filter.

Tightening torque [18 20 2AZ](#).

Remove diesel particle filter in downward direction.



Installation note:

When replacing diesel particulate filter:

- Remount the [exhaust gas pressure sensor](#).
- Remount the [oxygen sensor](#).
- Remount the [exhaust-gas temperature sensors](#).



Installation note:

Assemble engine.

Check exhaust system for leaks.

After replacing the diesel particulate filter: Reset adaptation using BMW diagnosis system.

18 31 160 Replacing flexible tube for diesel particulate filter (M47TU2, M57TU/TU2, N47)



Prerequisite:

To carry out this repair work, the mechanic must be trained in the use of welders.

Identify the part number of the diesel particulate filter fitted in the vehicle! The right replacement part can only be selected from the Electronic Parts Catalogue based on that number.

Additionally required:

- MAG (metal active gas) welder
- **Stainless steel welding wire** (European material number 1.4370)
- (Wire cannot be obtained through the BMW dealer organisation!)
- Mixed gas (82 % argon, 18 % carbon dioxide)



Warning!

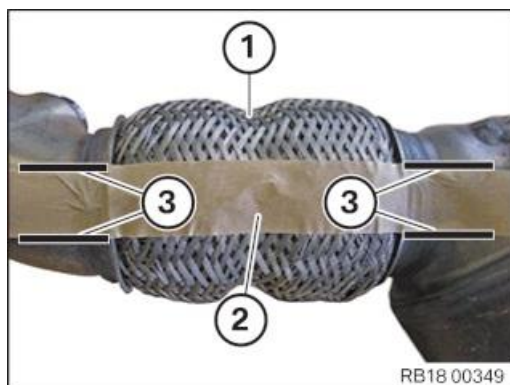
Risk of burning!

Only perform this repair work on an engine that has cooled down.



Necessary preliminary tasks:

- Remove the [diesel particulate filter/primary catalytic converter](#)



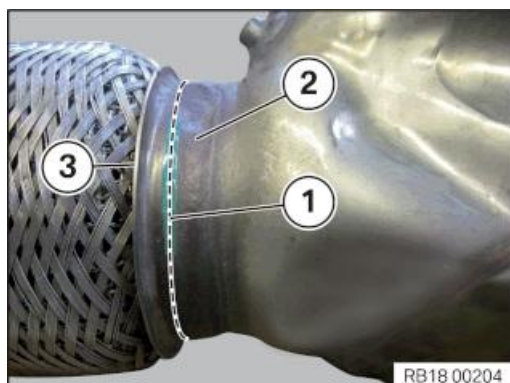
Removing faulty flexible tube:

Note:

Marks must be made to prevent changes to the installation position of the exhaust system.

Align (1) flexible tube and affix adhesive tape (2) as shown.

Carry over reference marks (3) along the adhesive tape (2) to diesel particulate filter and exhaust pipe.



Cut in marking (1) along the weld seam (2) by 2 to 3 mm.

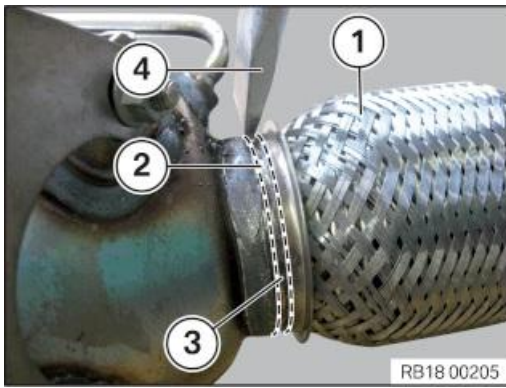
Attention!

Exclusively separate the outer shell.

Do not completely cut through flexible tube; inner pipe must remain intact.

Make sure that cut lines (1) are parallel to flexible tube edge (3).

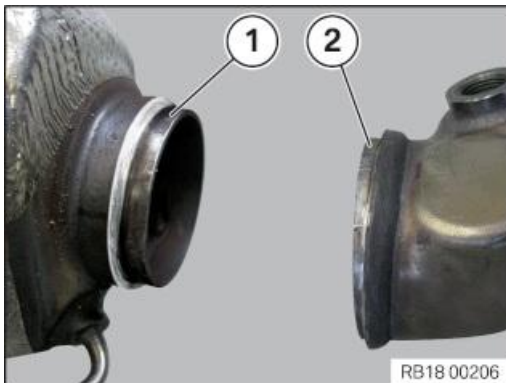
Perform process in the same way at other end of flexible tube.



Cut uniformly all around until the flexible tube (1) can be disconnected from the weld seam (2) with a suitable tool (4).

Inner pipe (3) must stay on the weld seam (2).

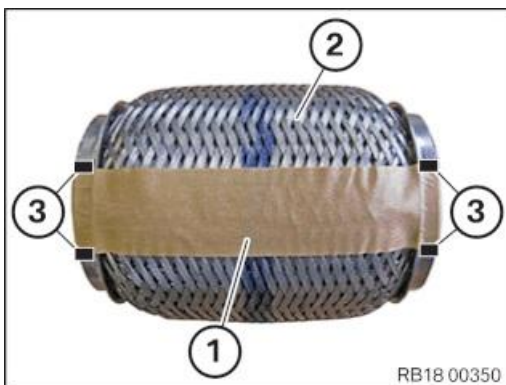
Perform process in the same way at other end of flexible tube.



Note:

Inner pipe (1) on diesel particulate filter must remain intact.

Inner pipe (2) on exhaust pipe must remain intact.

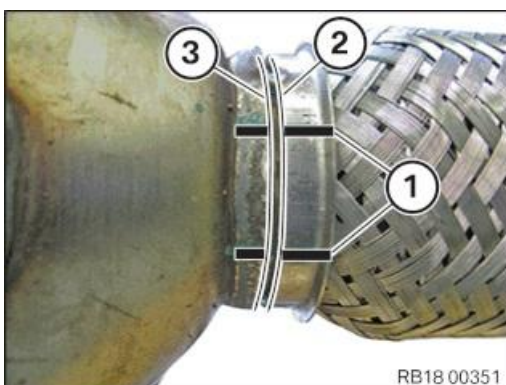


Installing new flexible tube:

Align adhesive tape (1) as shown and affix to new flexible tube (2).

Carry over reference marks (3) along the adhesive tape (1) to flexible tube.

Remove adhesive tape (1).



Connect new flexible tube to the inner pipe of the diesel particulate filter and align.

Note:

Marks (1) must be aligned.

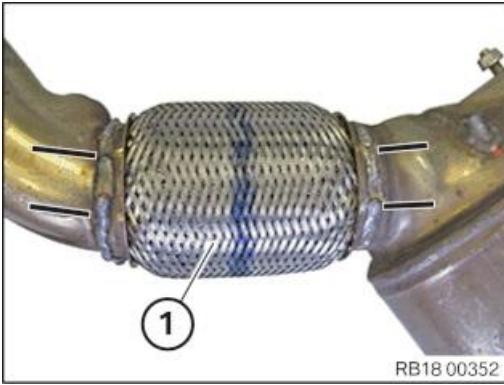
Make sure that flexible tube (2) is parallel to cutting edge (3).

Observe distance of approx. 1-2 mm between flexible tube (2) and weld seam (3).

Use stainless steel welding wire.

Attach flexible tube with several welding spots.

Procedure identical on the opposite side.



Note:

All layers of the connection must be welded completely.

Use stainless steel welding wire.

Align marks and staple three times on each side.

Weld flexible tube (1) all around on both sides.



Required follow-up work:

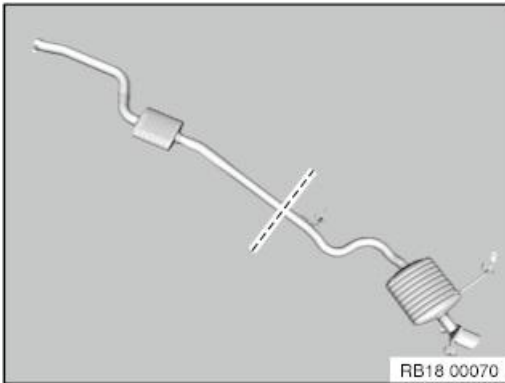
- Installing the [diesel particulate filter/primary catalytic converter](#)
- Check exhaust system for leaks.

**Special tools required:**

- [31 2 220](#)

**Warning!****Risk of burning!**

This repair work may only be carried out on an exhaust system which has cooled down.

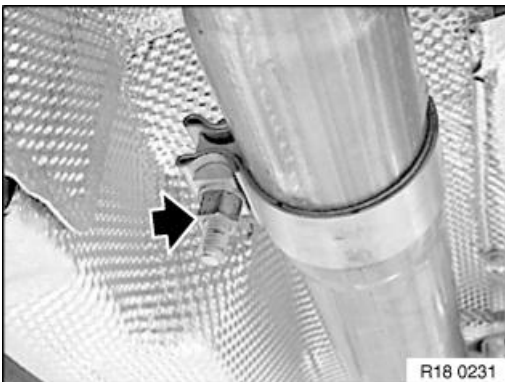
**Note:**

If the separation point is not marked by a punch mark on the pipe, determine the separation point by means of the pipe length on the new front silencer.

Carry over separation point to faulty front silencer and mark.

Secure front silencer against falling out.

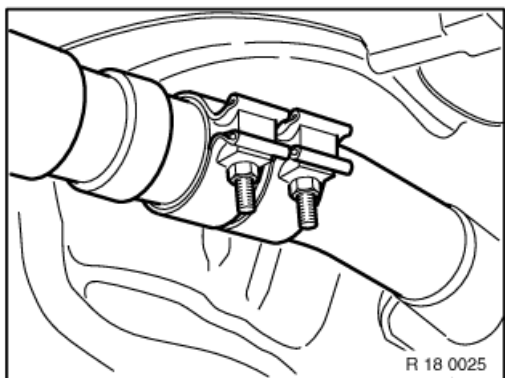
Cut through exhaust pipes at marked point with a suitable tool and deburr.



Unfasten nut.

Tightening torque [18 31 2AZ](#).

Lower and remove front silencer with assistance of a second person.

**Installation note:**

Connect front silencer to rear silencer by means of clamp and align.

Align clamp and tighten down.

Tightening torque [18 31 3AZ](#).

Align clamp so that:

- Nuts point downwards.
- Cutting line is in middle of clamping sleeve.
- There is sufficient spacing to adjoining components.



Reassemble the vehicle.
Check exhaust system for leaks.

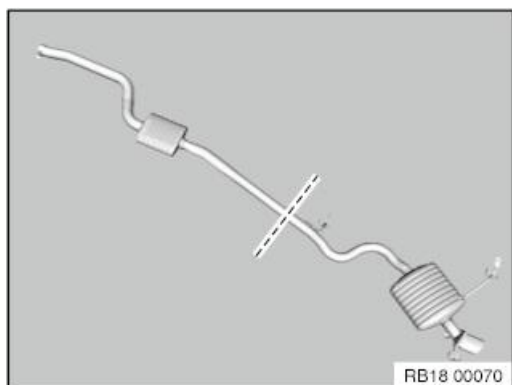
**Special tools required:**

- [31 2 220](#)

**Warning!**

Risk of burning!

This repair work may only be carried out on an exhaust system which has cooled down.

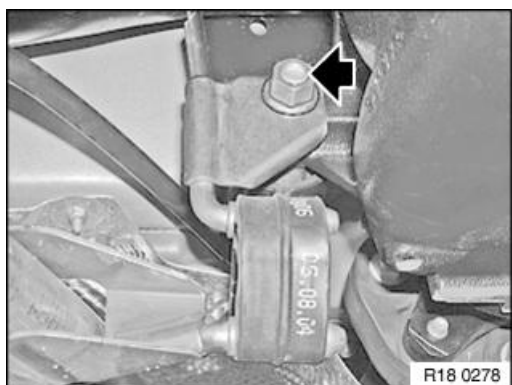
**Note:**

If the separation point is not marked by a punch mark on the pipe, determine the separation point by means of the pipe length on the new rear silencer.

Carry over separation point to faulty rear silencer and mark.

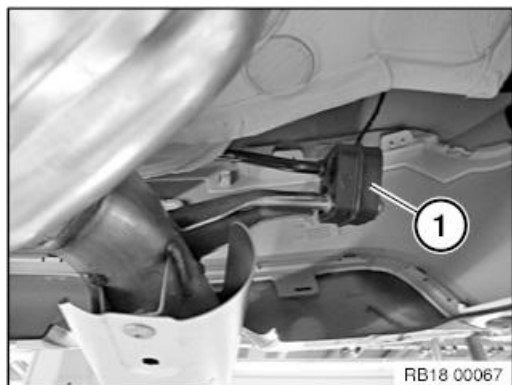
Secure rear silencer against falling off.

Cut through exhaust pipes at marked point with a suitable tool and deburr.



Unfasten nut.

Tightening torque, [18 20 5AZ](#).



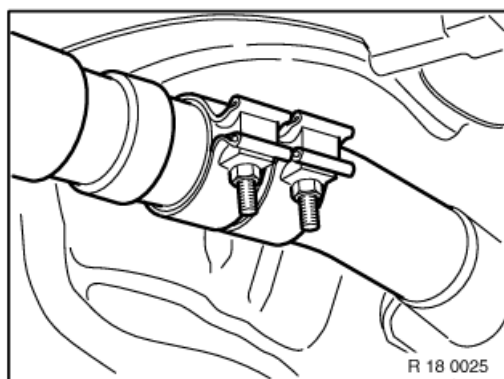
Pull off rubber mount (1) from rear silencer.



Release screw (1).

Tightening torque [18 20 8AZ](#).

Lower and remove rear silencer with assistance of a second person.



Installation note:

Connect rear silencer to front silencer by means of clamp and align.

Align clamp and tighten down.

Tightening torque [18 31 3AZ](#).

Align clamp so that:

- Nuts point downwards.
- Cutting line is in middle of clamping sleeve.
- There is sufficient spacing to adjoining components.



Reassemble the vehicle.

Check exhaust system for leaks.



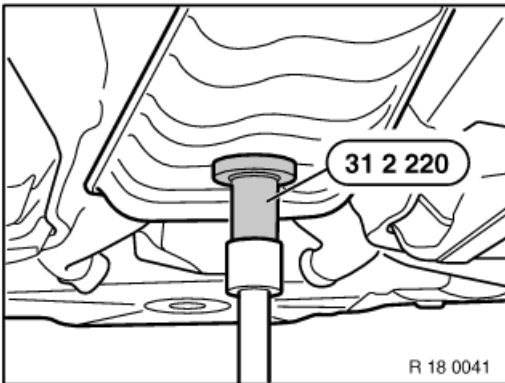
Special tools required:

- [31 2 220](#)



Warning!
Scalding hazard!

Only perform these tasks after exhaust system has cooled down.



Support centre silencer with jack and special tool [31 2 220](#) and secure against falling out.

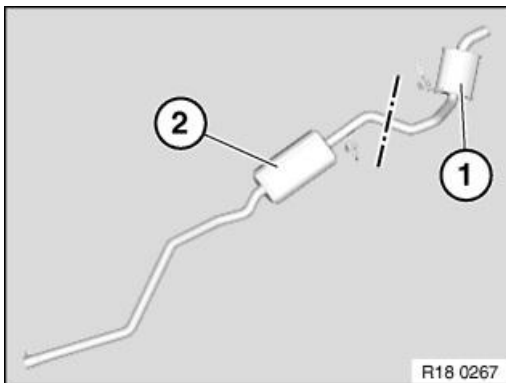


Illustration shows exhaust system removed:

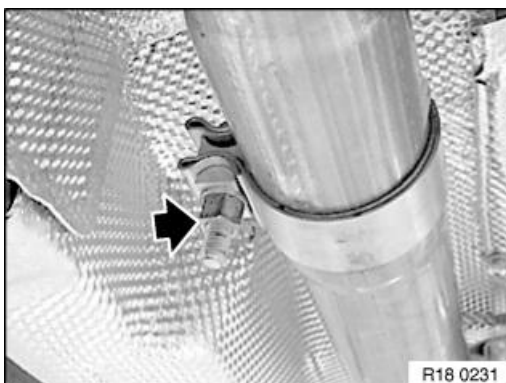
Cutting line between centre silencer (2) and rear silencer (1).

Determine pipe length on new centre silencer (2).

Carry over measurement to faulty centre silencer (2) and mark cutting lines.

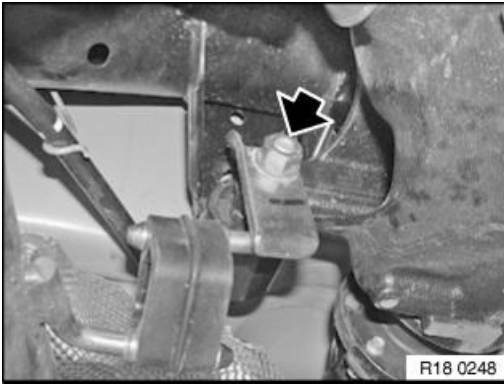
Cut exhaust pipe with suitable tool at marked points.

Deburr exhaust pipe.



Unfasten nut.

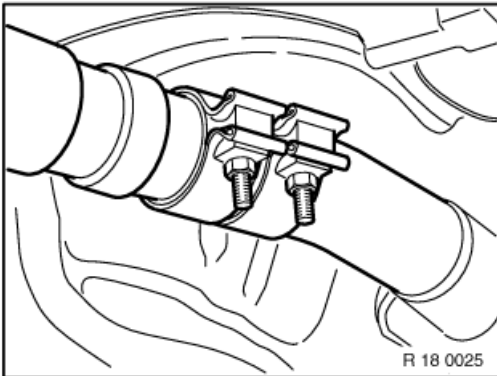
Tightening torque [18 31 4AZ](#).



Unfasten nut.

Tightening torque [18 20 5AZ](#).

Remove centre muffler.



Adjust centre silencer and connect to rear silencer. *Installation:*
Align clamping sleeves so that:

- Nuts point downwards.
- Separation point is in middle of clamping sleeve
- There is sufficient spacing to adjoining components.
- Tighten clamp

Tightening torque [18 31 6AZ](#).



Reassemble the vehicle.

Check exhaust system for leaks.

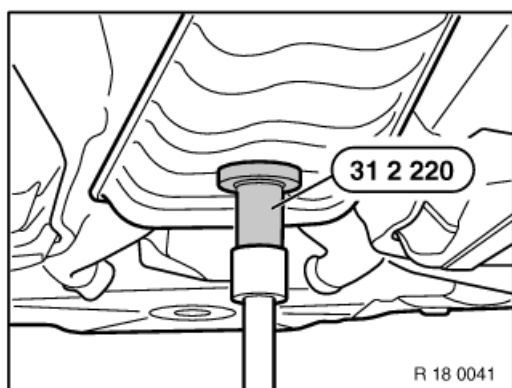
**Special tools required:**

- [31 2 220](#)

**Warning!**

Scalding hazard!

These tasks should only be carried out on an exhaust system that has cooled down!



Support exhaust system with jack and special tool [31 2 220](#) and secure against falling out.

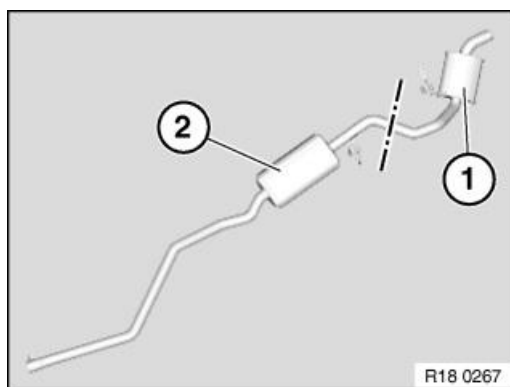


Illustration shows exhaust system removed:

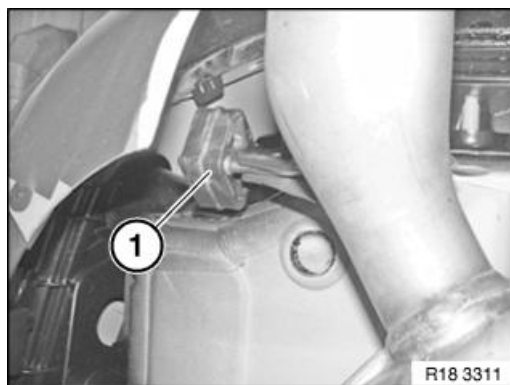
Cutting line between centre silencer (2) and rear silencer (1).

Determine pipe length on new rear silencer (1).

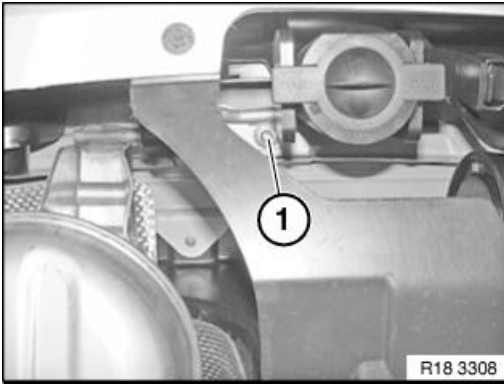
Carry over dimension to faulty rear silencer (1) and mark cutting line.

Cut exhaust pipe with suitable tool at marked points.

Deburr exhaust pipe.

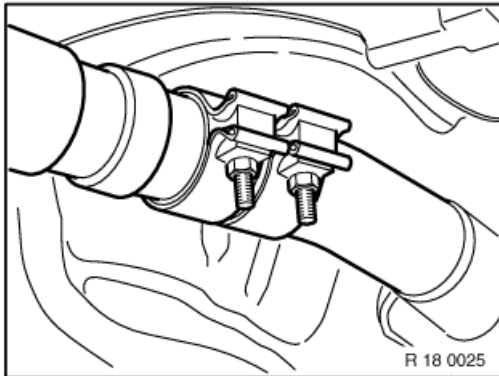


Remove rear silencer from rubber mount (1).



Release screw (1).

Tightening torque [18 20 9AZ](#).



Adjust rear silencer and connect to centre silencer. *Installation:*
Align clamping sleeves so that:

- Nuts point downwards
- Separation point is in middle of clamping sleeve
- There is sufficient spacing to adjoining components
- Tighten clamping sleeve

Tightening torque [18 31 6AZ](#).



Reassemble the vehicle.

Check exhaust system for leaks.

**Special tools required:**

- 83 19 2 211 603
- 83 19 2 211 602

**Warning!**

Only clean an engine that has cooled down.

In order to achieve good cleaning results, the diesel particulate filter should be no more than warm to the touch.



Follow diagnosis instruction.

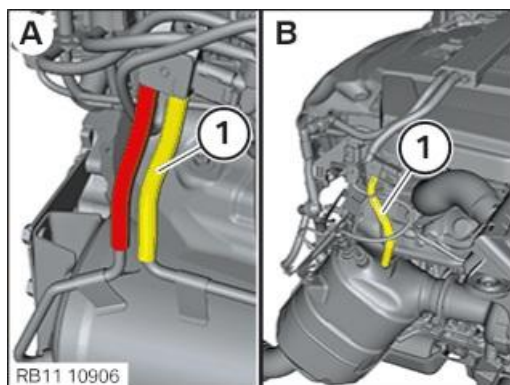
**Necessary preliminary tasks:**

- Remove [acoustic cover](#) (apart from E83)

**Note:**

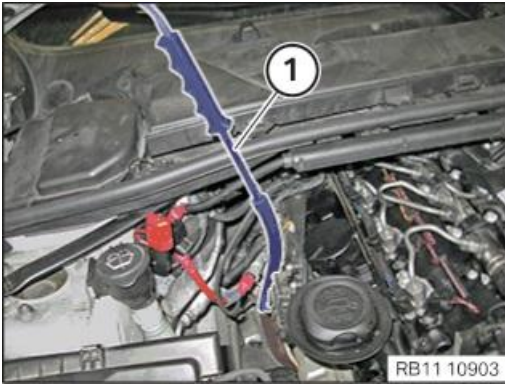
Starter kit for diesel particulate filter cleaner 83 19 2 211 603 (includes agitator cup gun with lance and 1x DPF solvent cleaner)

Fill agitator cup gun (1) with DPF-solvent cleaner 83 19 2 211 602 (2).

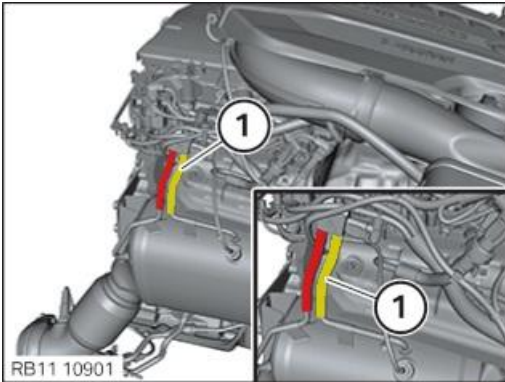
**Important!**

Note: Some engine versions have only one pressure hose (1) (version B).

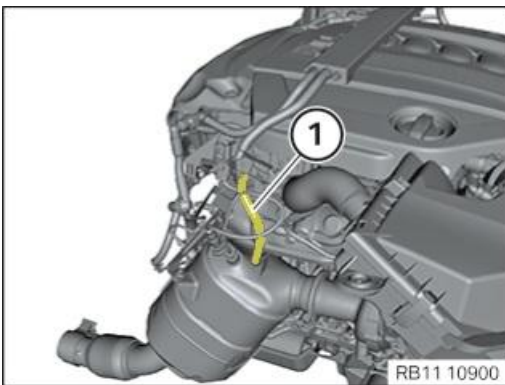
For version A, always use pressure hose (1) before the diesel particulate filter.



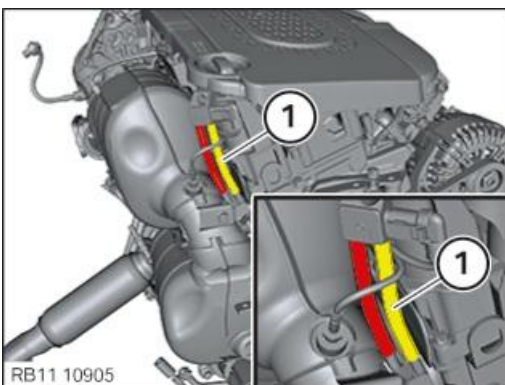
Connect the special sensor (1) directly to the diesel particulate filter.



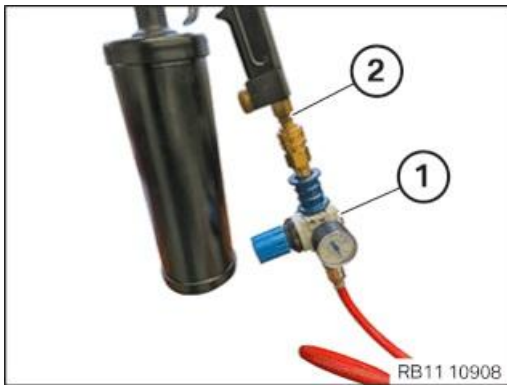
Important!
Note: Engine version A.



Important!
Note: Engine version B



Important!
Note: MINI engine version



Important!

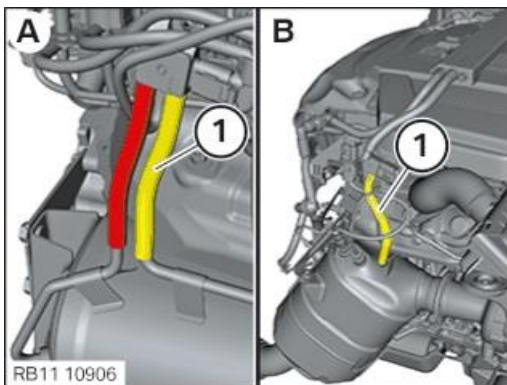
Note:

Only use supplied agitator cup gun.

Operate the agitator cup gun with no more than 2 bar.

If necessary, use a pressure reducer (1). Connect the pressure canister gun (2) to the compressed air.

Spray DPF solvent cleaner in the direction of honeycomb structure with no more than 2 bar at intervals.



Re-fasten differential pressure hose (1).



Required follow-up work:

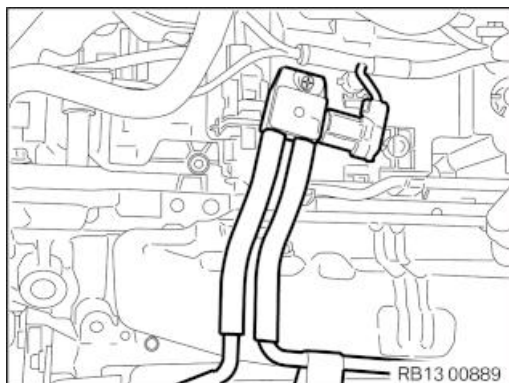
- Install [acoustic cover](#) (excluding E83)
- Check oil level:
- Delete the fault memory and take the vehicle for a regeneration drive.



Warning!

Risk of burning!

Only perform this repair work on an engine that has cooled down.



Important!

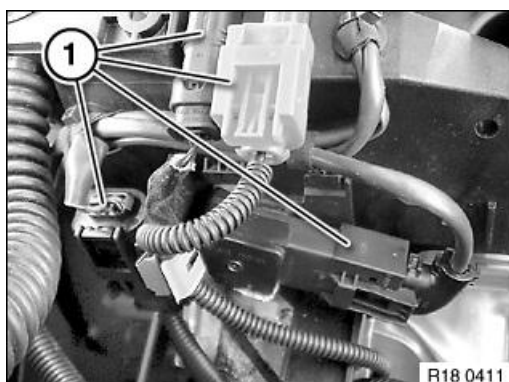
When removing the diesel particulate filter or differential pressure sensor, the pressure hoses between the diesel fuel particulate filter and the differential pressure sensor must be replaced.

Note: Some engine versions have only one pressure hose.



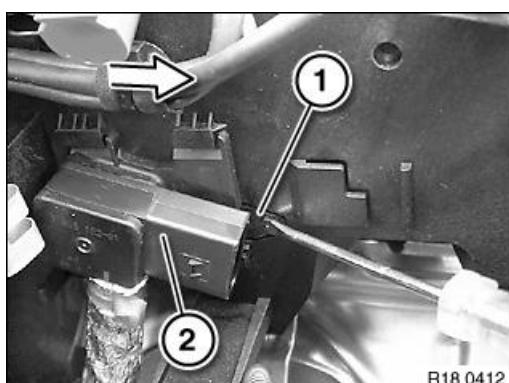
Necessary preliminary tasks:

- Remove [intake silencer housing](#).
- Remove [exhaust system](#).
- Remove [pedestrian protection](#).
- **All-wheel drive vehicles only:**
Lower [front axle support](#).

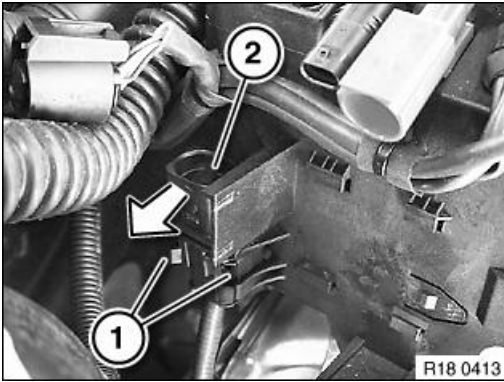


Disconnect plug connection (1).

Unclip cable from brackets.

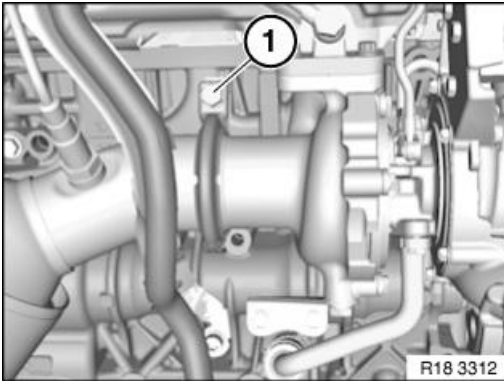


Press in fastener (1) with screwdriver and slide exhaust backpressure sensor (2) down in direction of arrow. *Installation note:*
Renew the pressure hose on the exhaust gas pressure sensor.



Press fasteners (1) apart.

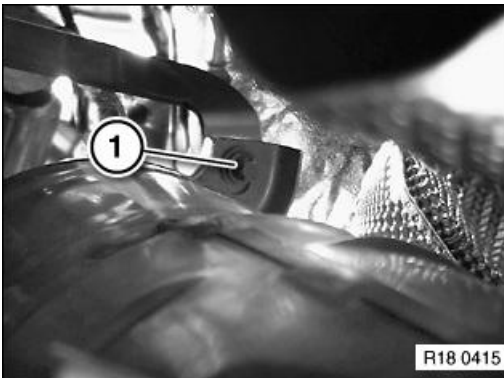
Slide oxygen sensor connector (2) down in direction of arrow.



Release screw (1) of clamp between diesel particle filter and turbocharger. *Installation note:*

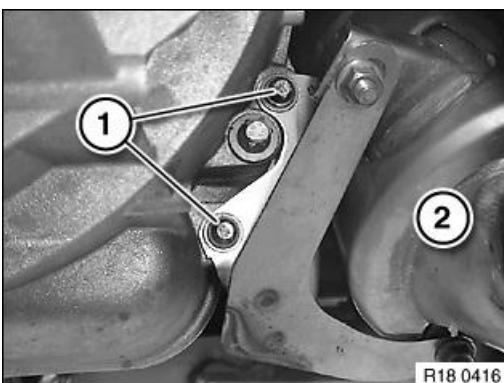
Clamp must be replaced after removal.

Tightening torque [18 31 1AZ](#).



Release screw (1). *Installation note:*

Tightening torque [18 20 2AZ](#).



Release screws (1) and remove diesel particulate filter (2) towards bottom. *Installation note:*

Tightening torque [18 20 1AZ](#).



Installation note:

Assemble engine.

Check exhaust system for leaks.

When replacing diesel particulate filter, remount oxygen sensor, pressure hose and exhaust temperature sensor.

After replacing the diesel particle filter, reset adaptation via the BMW diagnosis system.

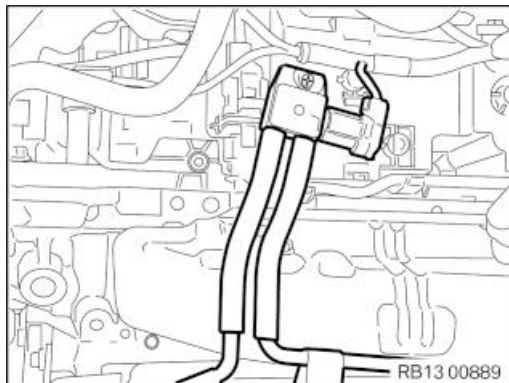
18 31 080 Removing and installing/replacing diesel particulate filter (N47 D20 U/O/K 1)



Warning!

Risk of burning!

Only perform this repair work on an engine that has cooled down.



Attention!

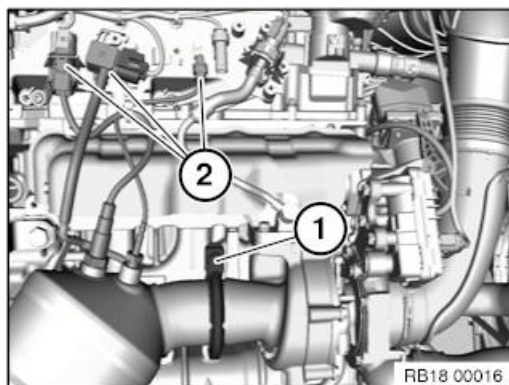
The pressure hoses between the diesel particulate filter and the differential pressure sensor must be replaced when the diesel particulate filter or the differential pressure sensor is removed.

Note: Some engine versions have only one pressure hose.



Necessary preliminary work:

- Remove [acoustic cover](#)
- Remove [intake silencer housing](#).
- Remove front [underbody protection](#).
- Remove [exhaust system](#).
- **Only E84 and if installed:**
Remove [pedestrian protection](#).
- **All-wheel drive vehicles only:**
Lower [front axle support](#).



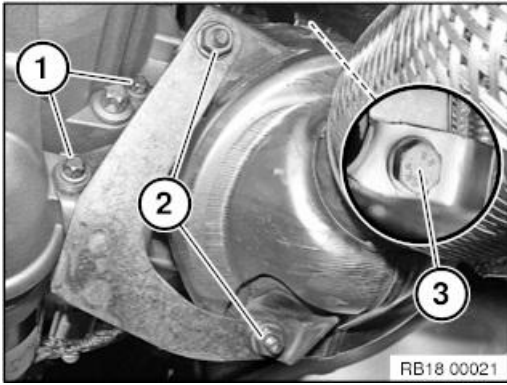
Release clamp (1).

Replace clamp (1) and gasket between diesel particulate filter and exhaust turbocharger.

Tightening torque [18 31 1AZ](#).

Release plug connections (2) from bracket.

Unlock and detach plug connections (2).



Release screws (1).

Tightening torque [18 20 7AZ](#).

Slacken nut (2).

Tightening torque [18 20 1AZ](#).

Remove screw (3) above diesel particulate filter.

Tightening torque [18 20 2AZ](#).

Remove diesel particle filter in downward direction.



Installation note:

When replacing diesel particulate filter:

- Remount the [exhaust gas pressure sensor](#).
- Remount the [oxygen sensor](#).
- Remount the [exhaust-gas temperature sensors](#).



Installation note:

Assemble engine.

Check exhaust system for leaks.

After replacing the diesel particulate filter: Reset adaptation using BMW diagnosis system.

18 31 160 Replacing flexible tube for diesel particulate filter (M47TU2, M57TU/TU2, N47)



Prerequisite:

To carry out this repair work, the mechanic must be trained in the use of welders.

Identify the part number of the diesel particulate filter fitted in the vehicle! The right replacement part can only be selected from the Electronic Parts Catalogue based on that number.

Additionally required:

- MAG (metal active gas) welder
- **Stainless steel welding wire** (European material number 1.4370)
- (Wire cannot be obtained through the BMW dealer organisation!)
- Mixed gas (82 % argon, 18 % carbon dioxide)



Warning!

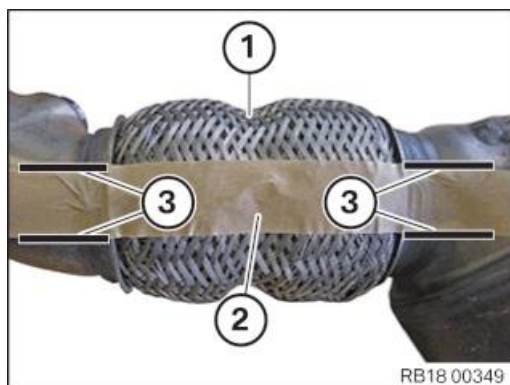
Risk of burning!

Only perform this repair work on an engine that has cooled down.



Necessary preliminary tasks:

- Remove the [diesel particulate filter/primary catalytic converter](#)



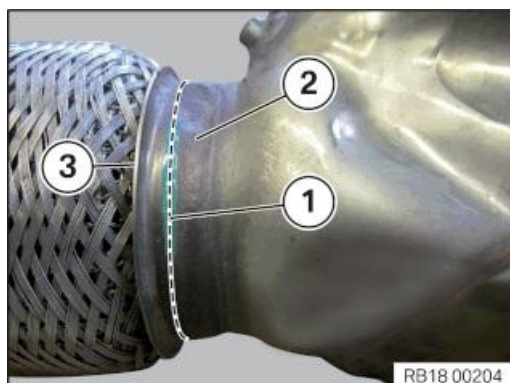
Removing faulty flexible tube:

Note:

Marks must be made to prevent changes to the installation position of the exhaust system.

Align (1) flexible tube and affix adhesive tape (2) as shown.

Carry over reference marks (3) along the adhesive tape (2) to diesel particulate filter and exhaust pipe.



Cut in marking (1) along the weld seam (2) by 2 to 3 mm.

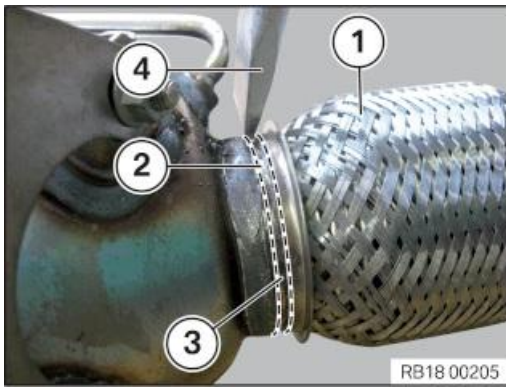
Attention!

Exclusively separate the outer shell.

Do not completely cut through flexible tube; inner pipe must remain intact.

Make sure that cut lines (1) are parallel to flexible tube edge (3).

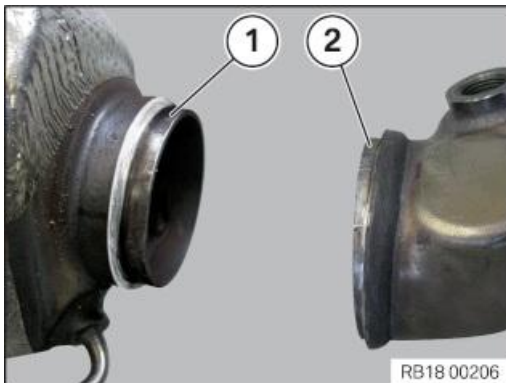
Perform process in the same way at other end of flexible tube.



Cut uniformly all around until the flexible tube (1) can be disconnected from the weld seam (2) with a suitable tool (4).

Inner pipe (3) must stay on the weld seam (2).

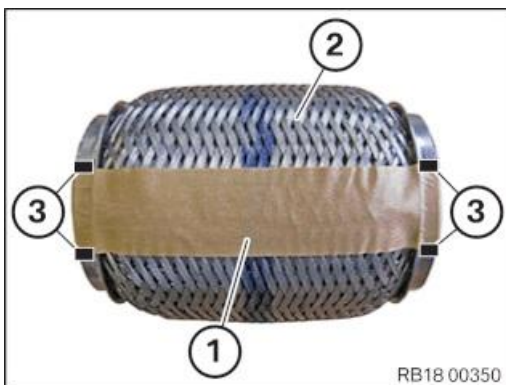
Perform process in the same way at other end of flexible tube.



Note:

Inner pipe (1) on diesel particulate filter must remain intact.

Inner pipe (2) on exhaust pipe must remain intact.

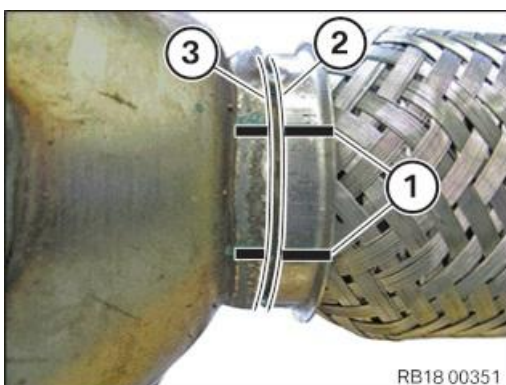


Installing new flexible tube:

Align adhesive tape (1) as shown and affix to new flexible tube (2).

Carry over reference marks (3) along the adhesive tape (1) to flexible tube.

Remove adhesive tape (1).



Connect new flexible tube to the inner pipe of the diesel particulate filter and align.

Note:

Marks (1) must be aligned.

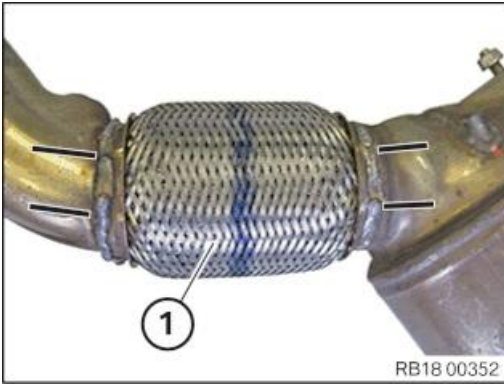
Make sure that flexible tube (2) is parallel to cutting edge (3).

Observe distance of approx. 1-2 mm between flexible tube (2) and weld seam (3).

Use stainless steel welding wire.

Attach flexible tube with several welding spots.

Procedure identical on the opposite side.



Note:

All layers of the connection must be welded completely.

Use stainless steel welding wire.

Align marks and staple three times on each side.

Weld flexible tube (1) all around on both sides.



Required follow-up work:

- Installing the [diesel particulate filter/primary catalytic converter](#)
- Check exhaust system for leaks.

18 40 040 Removing and installing, sealing / replacing the exhaust manifold (N47 D20 U/O/K1)



Warning!

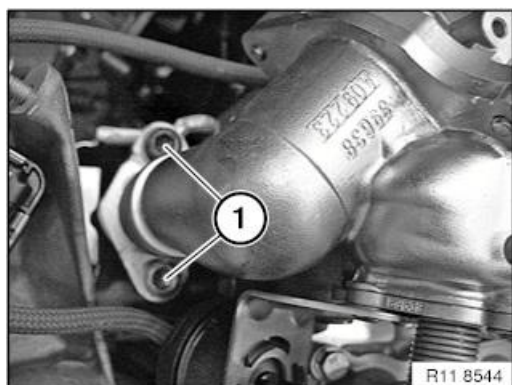
Risk of burning!

Only perform this repair work on an engine that has cooled down.



Necessary preliminary tasks:

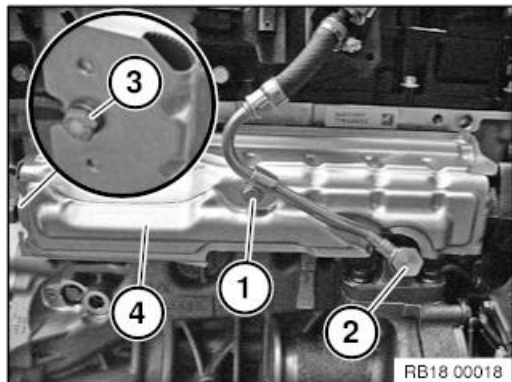
- Remove [exhaust turbocharger](#).



Release screws (1). *Installation note:*

Grease screws with [assembly paste 4.2](#).

Tightening torque [11 71 1AZ](#).



Slacken nut (1).

Tightening torque [18 31 6AZ](#).

Unfasten banjo bolt (2).

Tightening torque [13 62 7AZ](#).

Replace sealing rings.

Important!

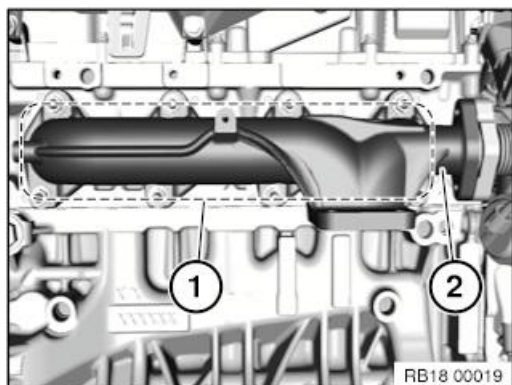
To ensure operational reliability, use stainless steel sealing washers.

Set exhaust pressure pipe onto its side.

Release screw (3).

Tightening torque [18 31 7AZ](#).

Remove heat shield (4).



Release nuts along dashed line (1).

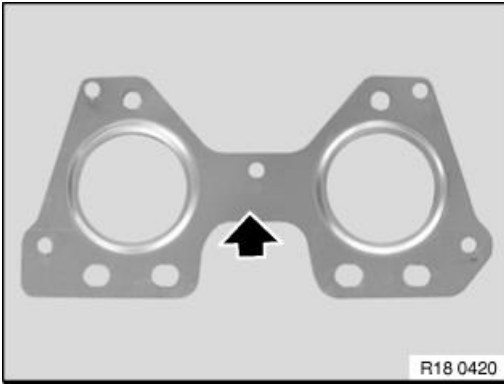
Tightening torque [11 62 1AZ](#).

Remove exhaust manifold (2) from cylinder head.

Installation note:

Clean connection points.

Replace gaskets.



Important!

Manifold gaskets are graphite-coated on one side!

The graphite coating must be fitted on the manifold side.



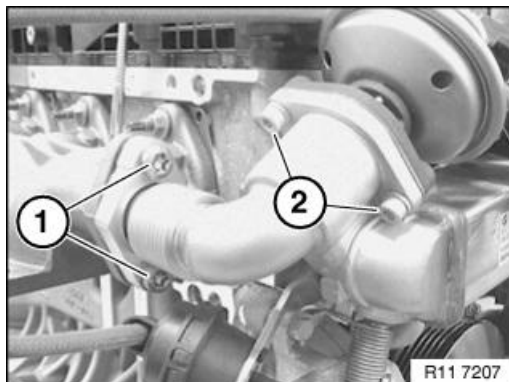
Assemble engine.

Check function of DDE.



Necessary preliminary tasks:

[Remove exhaust turbocharger](#)

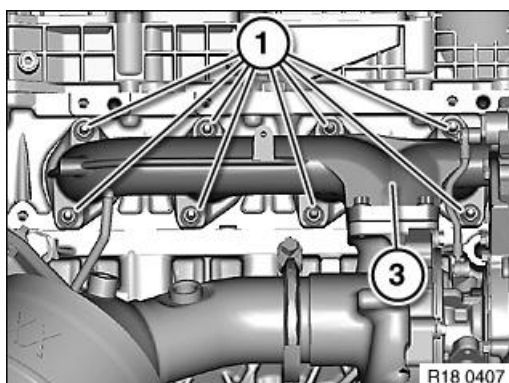


Release screws (1).

Tightening torque, [11 71 1AZ](#).

Note:

The exhaust turbocharger is removed for clearer illustration.

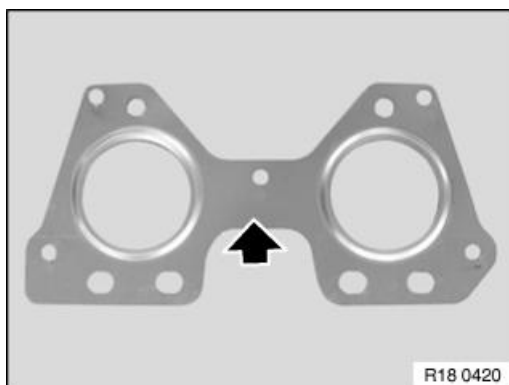


Release nuts (1), remove exhaust manifold (3) from cylinder head.

Installation:

Tightening torque: [11 62 1AZ](#)

Clean connection points and fit new seals.



Important!

Manifold gaskets are graphite-coated on one side!

The graphite coating must be fitted on the manifold side.



Assemble engine.

Check function of DDE.