

2003-05 ENGINE

Exhaust Systems - Repair Instructions - Z4/E85

EXHAUST SYSTEM COMPLETE

18 00 020 REMOVING AND INSTALLING COMPLETE EXHAUST SYSTEM (M54)

Special tools required:

- 31 2 220

WARNING: Scalding hazard!
Only perform this work after engine has cooled down.

Support exhaust system with jack and special tool 31 2 220 and secure against falling out.

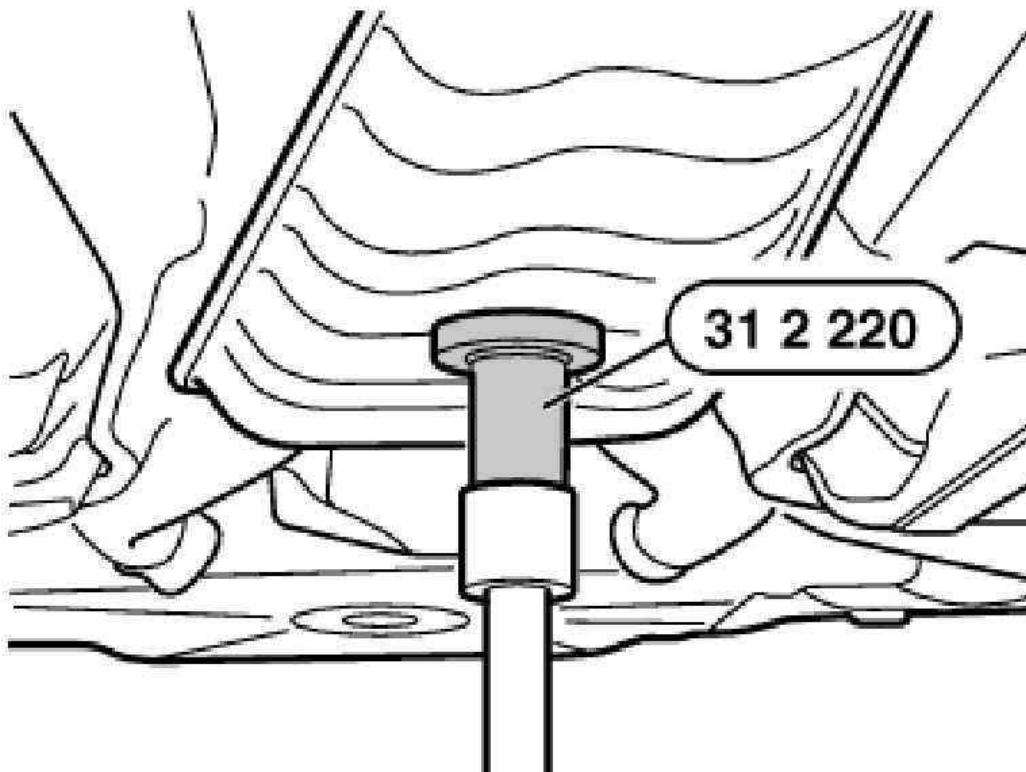
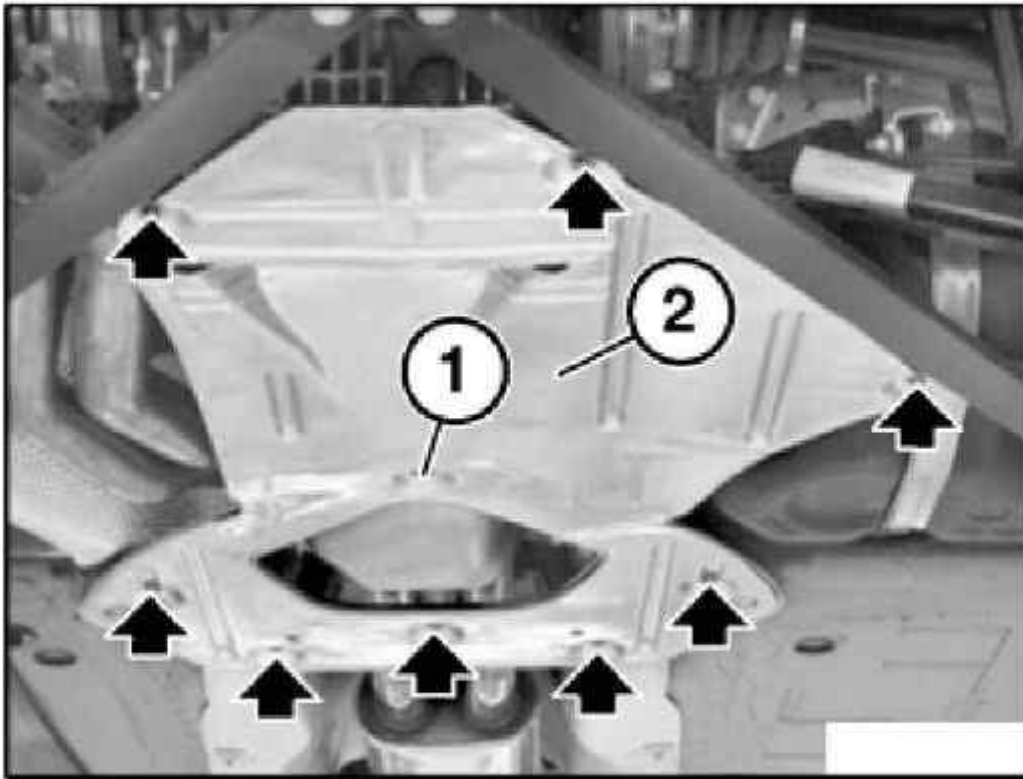


Fig. 1: Supporting Exhaust System With Jack And Special Tool
Courtesy of BMW OF NORTH AMERICA, INC.

Lift out expansion rivet (1).

Release screws and remove heat shield (2).



G03297616

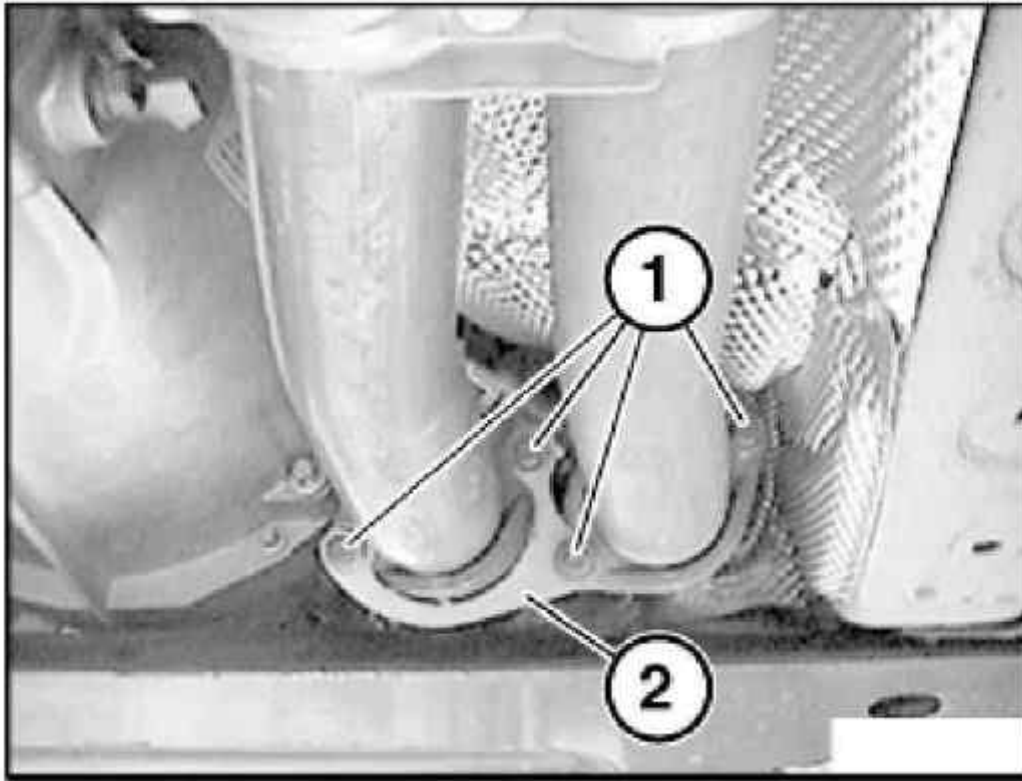
Fig. 2: Removing Heat Shield
Courtesy of BMW OF NORTH AMERICA, INC.

Release nuts (1) and remove connecting plate (2).

Installation:

Replace self-locking nuts.

Coat threads with copper paste.

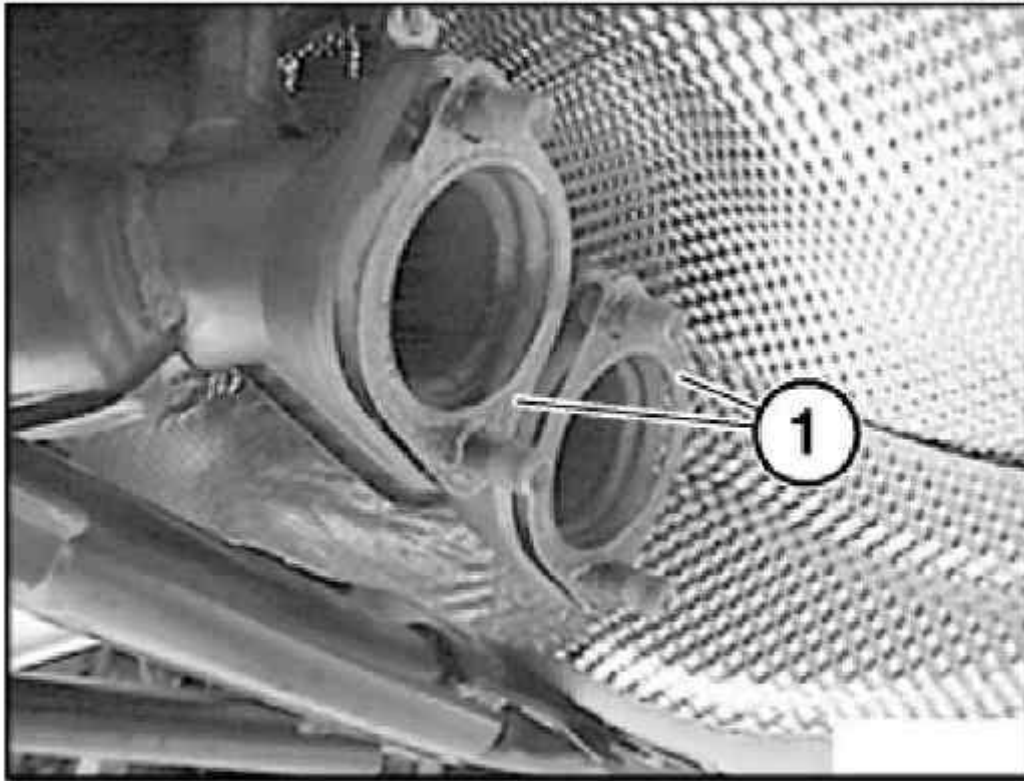


G03297617

Fig. 3: Removing Connecting Plate
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Replace both seals (1).



G03297618

Fig. 4: Replacing Seals

Courtesy of BMW OF NORTH AMERICA, INC.

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

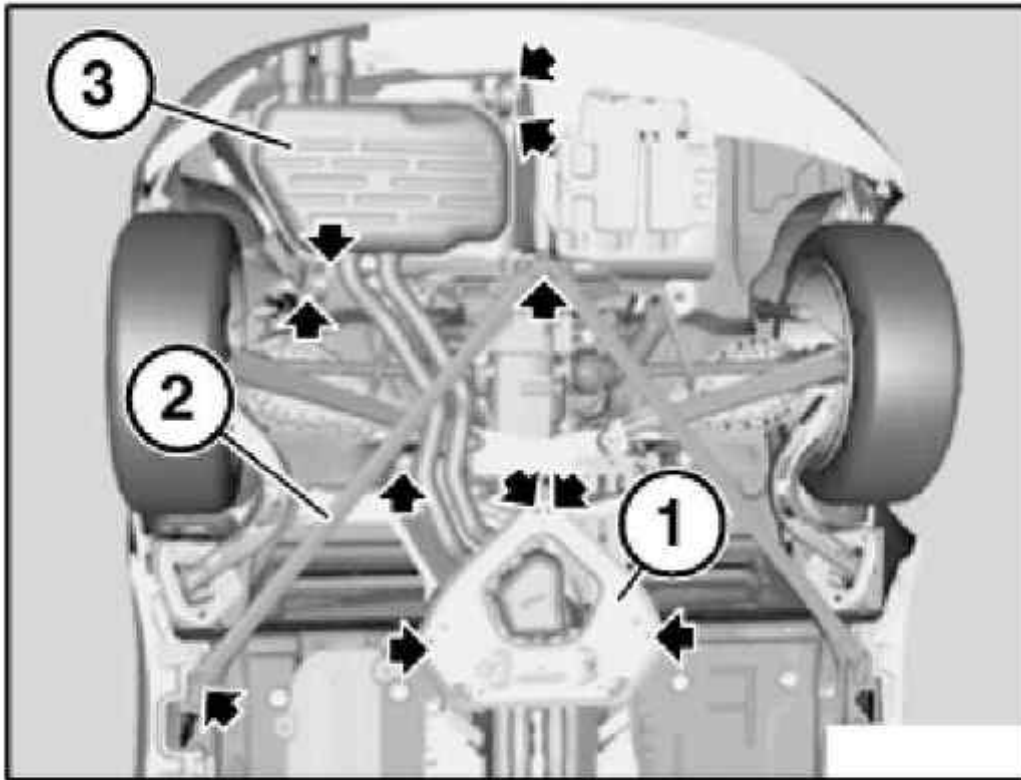
NOTE: The reinforcement plate (1) is connected via rubber mounts to the exhaust system and can remain on the exhaust system during removal.

Release screws on reinforcement plate (1). See **51 71 390 REMOVING AND INSTALLING/REPLACING REINFORCEMENT PLATE** .

Release screws and remove body reinforcement strut (2). See **51 71 482 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT TENSION STRUT** .

Release nuts on rubber mount of rear muffler (3) on left and right.

Lower exhaust system with lifter and remove.



G03297619

Fig. 5: Releasing Rear Muffler Rubber Mount Nuts
Courtesy of BMW OF NORTH AMERICA, INC.

MUFFLERS

18 12 030 REPLACING FINAL MUFFLER

Special tools required:

- 00 2 210

WARNING: Scalding hazard!

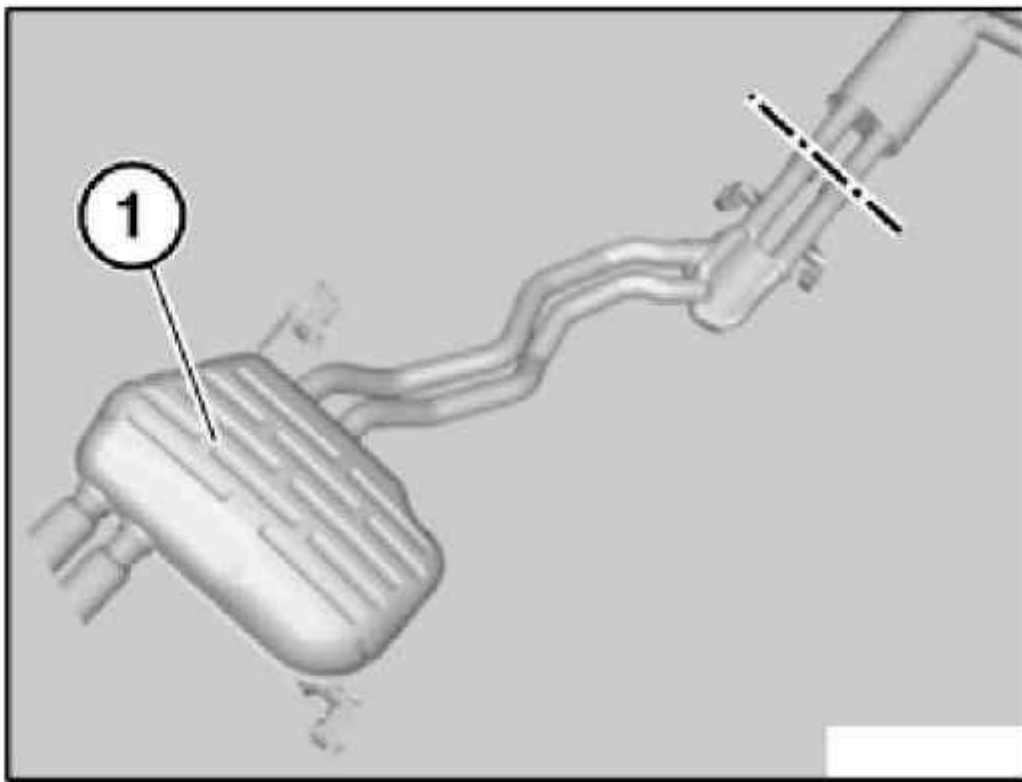
These tasks should only be carried out on an exhaust system that has cooled down!

NOTE: Illustration shows exhaust system removed.

Determining cutting line:

Carry over pipe length of new rear muffler to installed rear muffler (1).

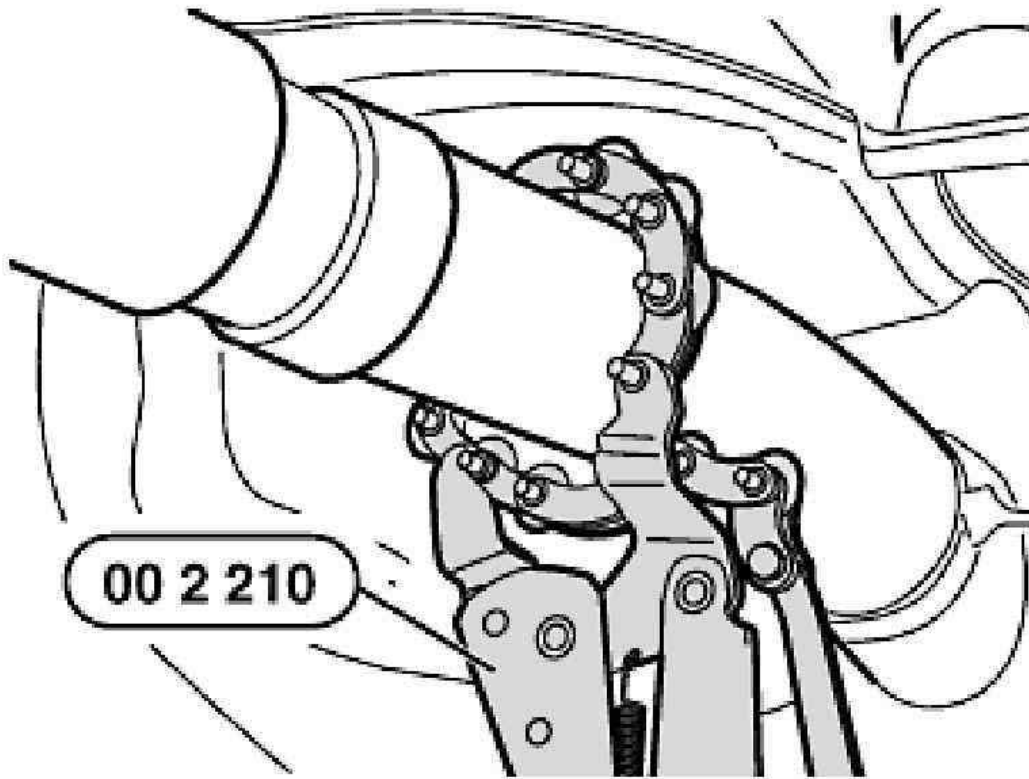
Marking cutting line.



G03297620

Fig. 6: Identifying Rear Muffler (Final Mufflers)
Courtesy of BMW OF NORTH AMERICA, INC.

Cut exhaust pipes with special tool 00 2 210 at marked points and deburr.



G03297621

Fig. 7: Cutting Exhaust Pipes With Special Tool At Marked Points (Final Mufflers)
Courtesy of BMW OF NORTH AMERICA, INC.

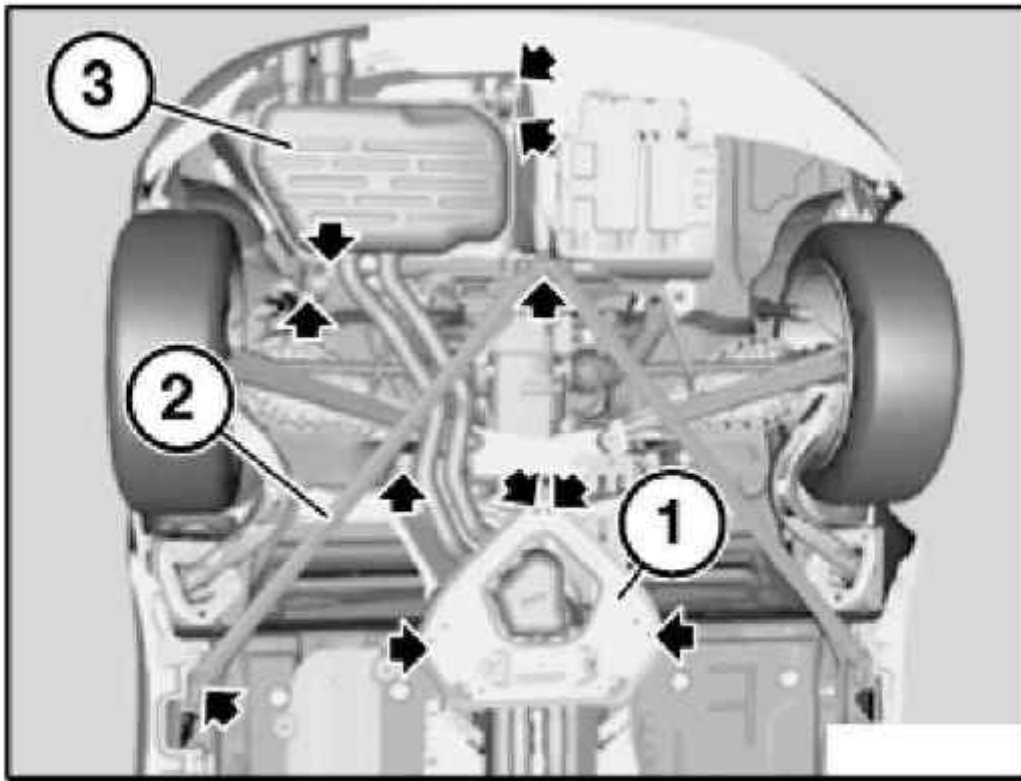
Release screws and nuts, remove reinforcement plate (1). See **51 71 390 REMOVING AND INSTALLING/REPLACING REINFORCEMENT PLATE** .

Release screws and remove body reinforcement strut (2). See **51 71 482 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT TENSION STRUT** .

Release nuts on rubber mount of rear muffler (3) on left and right and remove rear muffler (3).

Installation:

Fit rubber mount of rear muffler on new rear muffler.



G03297622

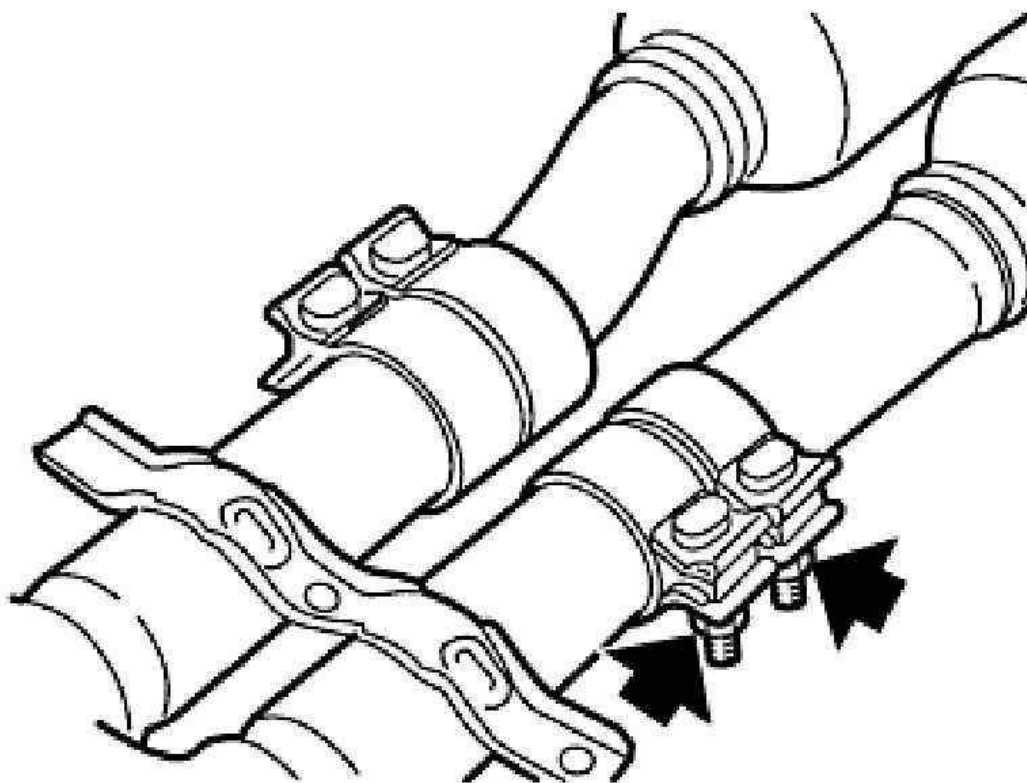
Fig. 8: Releasing Rear Muffler Rubber Mount Nuts (Final Mufflers)
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Connect new rear muffler and front muffler by means of clamping sleeves.

Cutting point is in middle of clamping sleeve.

Align exhaust system and clamping sleeves so that there is sufficient distance to the adjoining components.



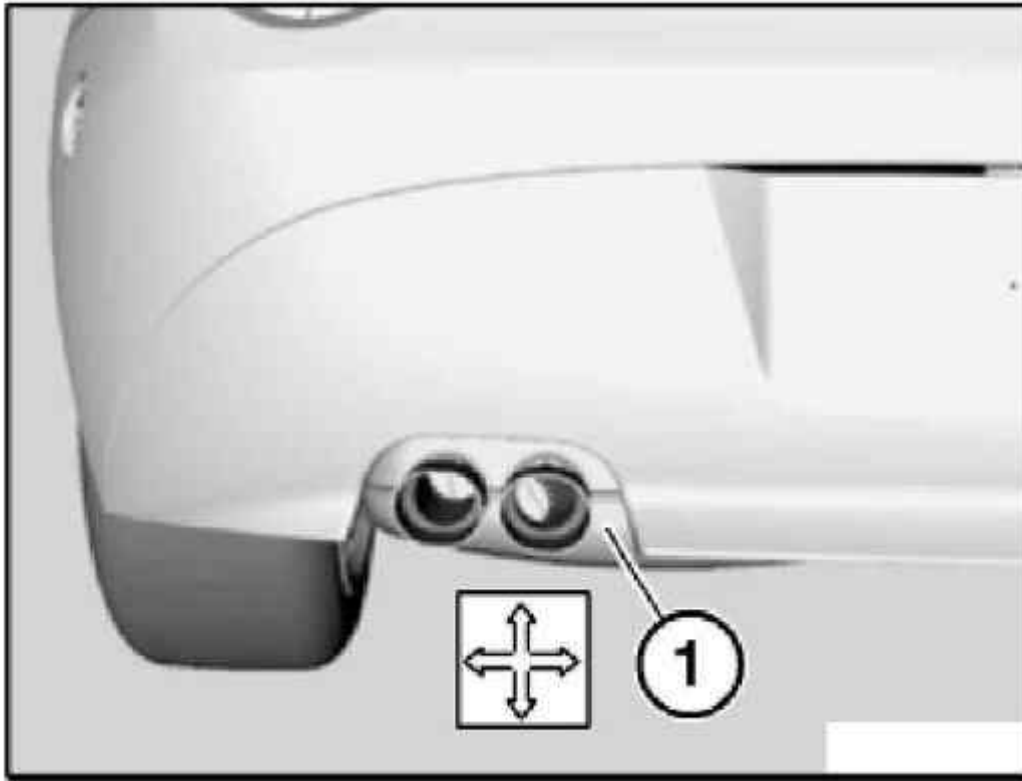
G03297623

Fig. 9: Connecting Rear Muffler And Front Muffler (Final Mufflers)
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Check position of tailpipes (1) to body cutout.

Tighten down screws of clamping sleeves.



G03297624

Fig. 10: Identifying Tailpipes Position (Final Mufflers)

Courtesy of BMW OF NORTH AMERICA, INC.

18 12 040 REMOVING AND INSTALLING/REPLACING FRONT MUFFLER (M54)

Special tools required:

- 00 2 210

WARNING: Scalding hazard!

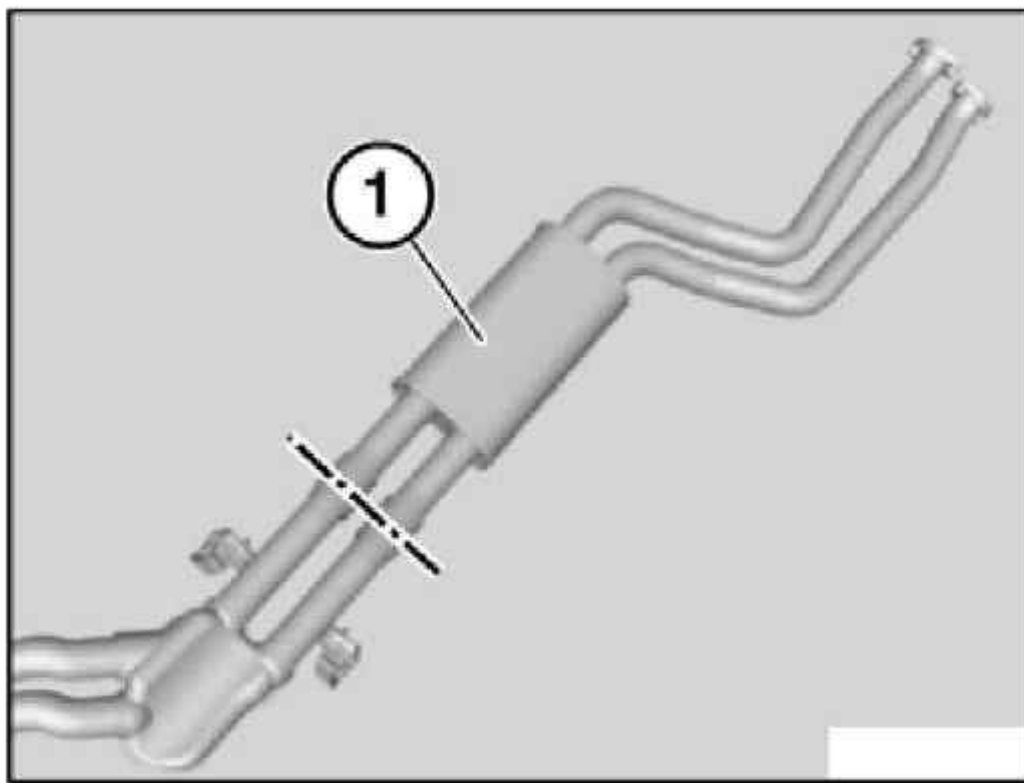
These tasks should only be carried out on an exhaust system that has cooled down!

NOTE: Illustration shows exhaust system removed.

Determining cutting line:

Carry over pipe length of new front muffler to installed front muffler (1).

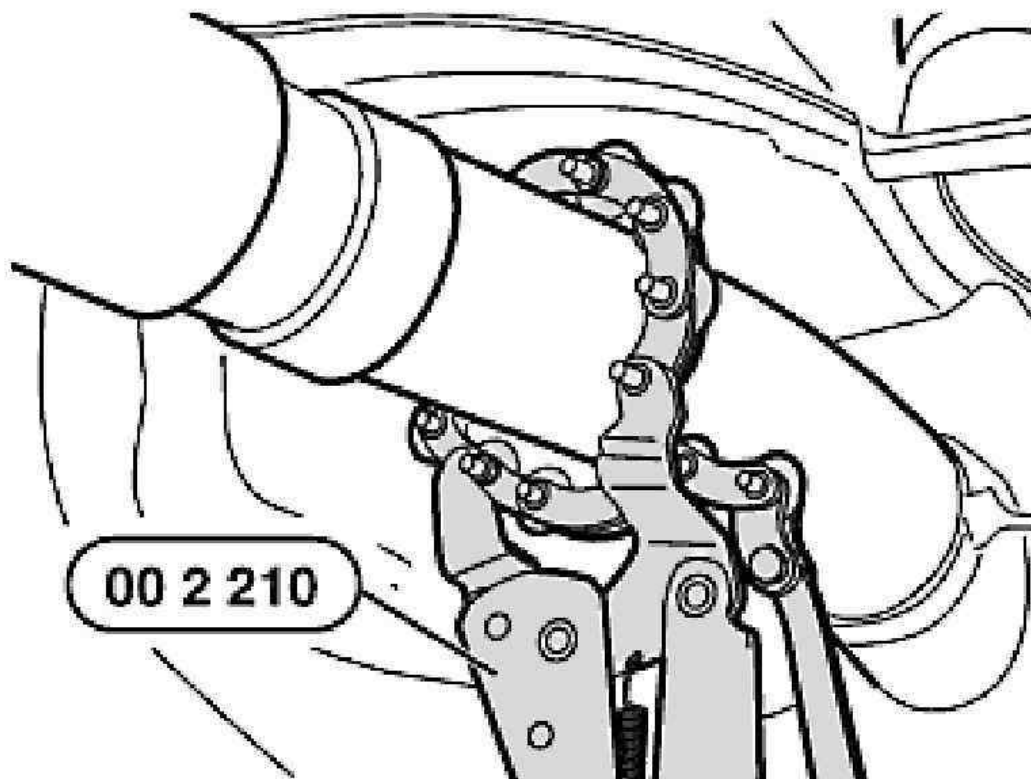
Marking cutting line.



G03297625

Fig. 11: Identifying Front Muffler (Front)
Courtesy of BMW OF NORTH AMERICA, INC.

Cut exhaust pipes with special tool 00 2 210 at marked points and deburr.



G03297626

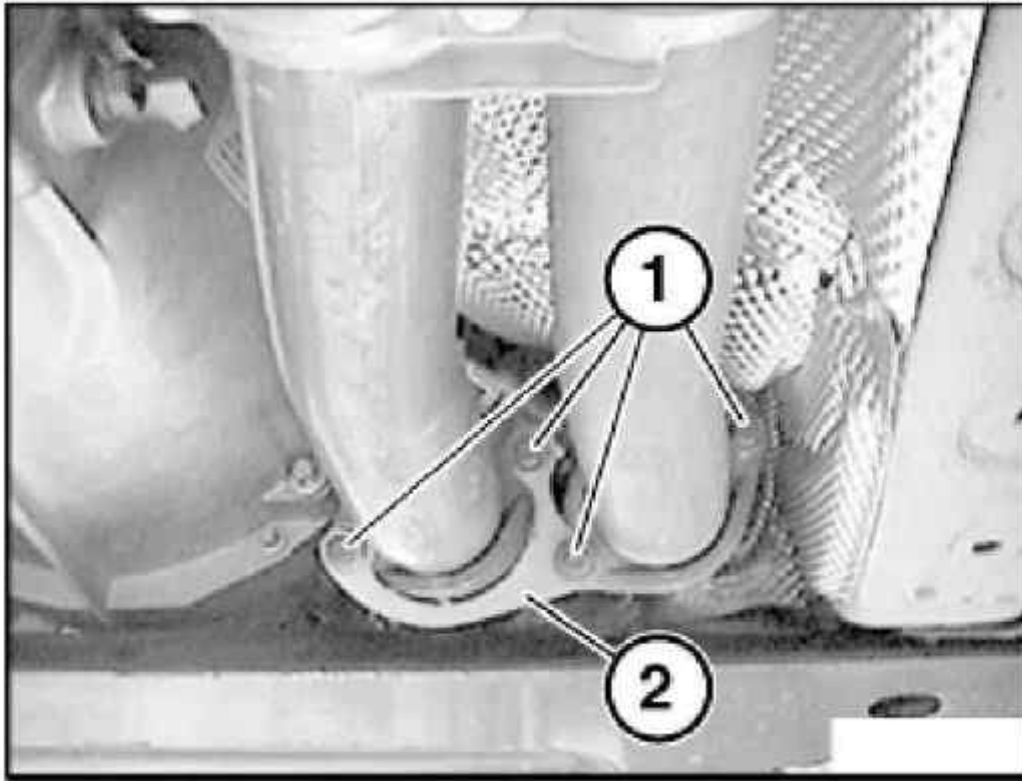
Fig. 12: Cutting Exhaust Pipes With Special Tool At Marked Points (Front)
Courtesy of BMW OF NORTH AMERICA, INC.

Release nuts (1) and remove connecting plate (2).

Installation:

Replace self-locking nuts.

Coat thread with copper paste.

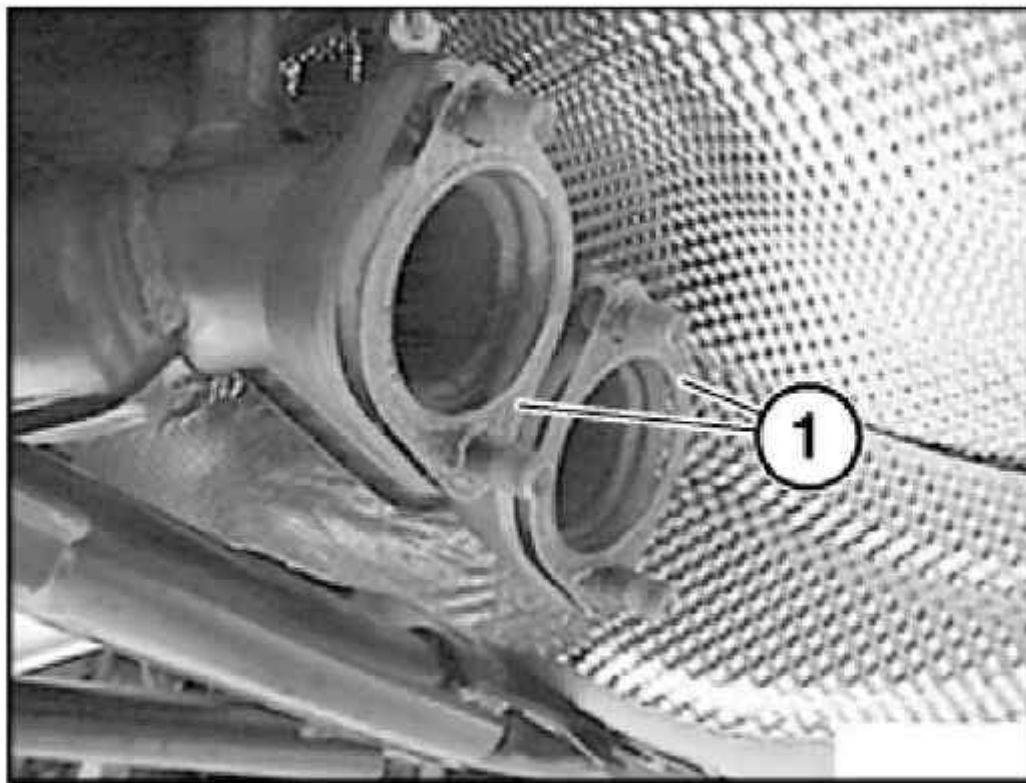


G03297627

Fig. 13: Removing Connecting Plate (Front)
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Replace both seals (1).



G03297628

Fig. 14: Replacing Seals (Front)

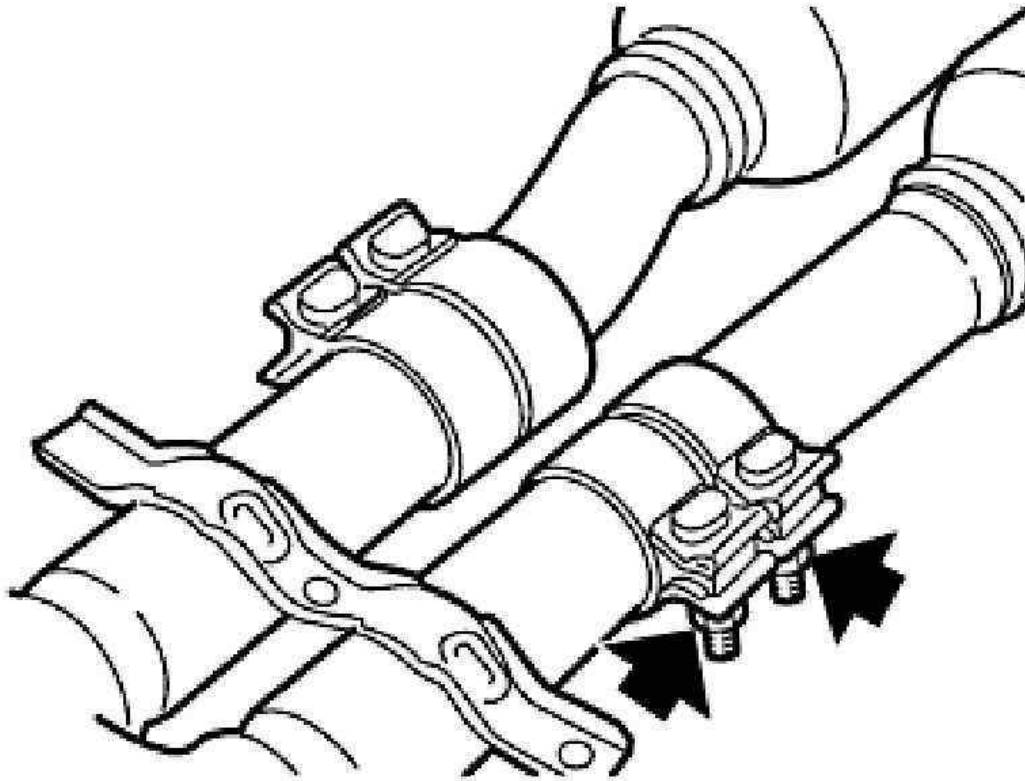
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Connect new front muffler and rear muffler by means of clamping sleeves.

Cutting point is in middle of clamping sleeve.

Align exhaust system and clamping sleeves so that there is sufficient distance to the adjoining components.



G03297629

Fig. 15: Connecting Rear Muffler And Front Muffler (Front)
Courtesy of BMW OF NORTH AMERICA, INC.

EXHAUST MANIFOLD

18 40 030 REMOVING AND INSTALLING/REPLACING BOTH EXHAUST MANIFOLDS (M54)

Necessary preliminary tasks:

- Secure engine in installation position . See **11 00 050 REMOVING AND INSTALLING ENGINE (M54)** .
- Remove front engine underguard
- Remove reinforcement plate . See **51 71 390 REMOVING AND INSTALLING/REPLACING REINFORCEMENT PLATE** .
- Remove entire exhaust system . See **18 00 020 Removing And Installing Complete Exhaust System (M54)** .
- Remove bracket between exhaust manifold and transmission

2005 BMW Z4

2003-05 ENGINE Exhaust Systems - Repair Instructions - Z4/E85

- Detach grounding cable from body
- Remove right engine support arm with engine mount.
- Release nuts on heat shield at bottom
- Remove right tension strut . See **51 71 371 REMOVING AND INSTALLING/REPLACING TENSION STRUT ON LEFT OR RIGHT** .
- Remove air pump . See **11 72 000 REMOVING AND INSTALLING/REPLACING AIR PUMP** .
- Release heat shield at top and remove

NOTE: **The oxygen sensors are in danger of being damaged when the exhaust manifolds are removed and installed.**

Remove oxygen control sensors. See **11 78 513 REPLACING BOTH OXYGEN CONTROL SENSORS** .

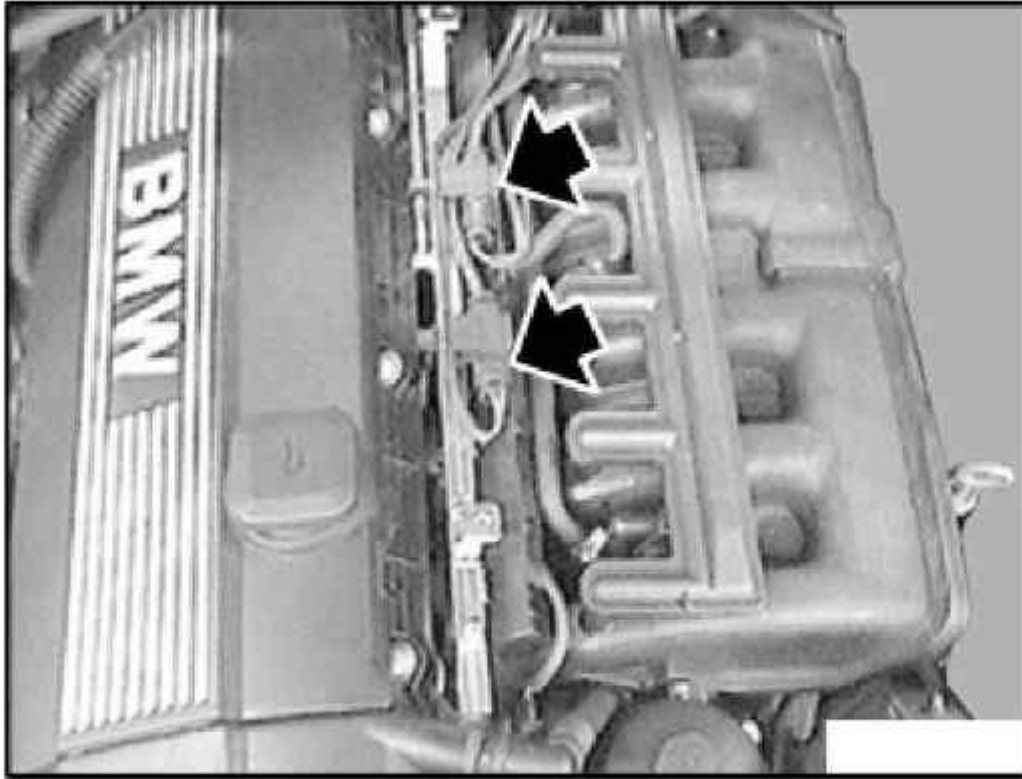
Remove cover from injection valves.

NOTE: **Do not mix up oxygen monitor sensors for cylinders 1 to 3 and 4 to 6 at plug connection to wiring harness.**

Mark plug connections.

Unclip the cable from the retainer. Disconnect plug connection. Unclip cable on rear side of engine from cable guide.

Remove oxygen monitor sensor from cylinders 1 to 3 from above. See **11 78 611 REPLACING OXYGEN MONITOR SENSOR** .



G03297630

Fig. 16: Removing Cover From Injection Valves
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: Rear exhaust manifold with catalytic converter can only be removed after front exhaust manifold with catalytic converter has first been removed.

Remove front exhaust manifold with catalytic converter. See 18 40 050 Removing And Installing/Replacing Front Exhaust Manifold (M54) .

Remove oxygen monitor sensor from cylinders 4 to 6. See 11 78 612 REPLACING OXYGEN MONITOR SENSOR .

Unscrew nuts.

Remove exhaust manifold (1).

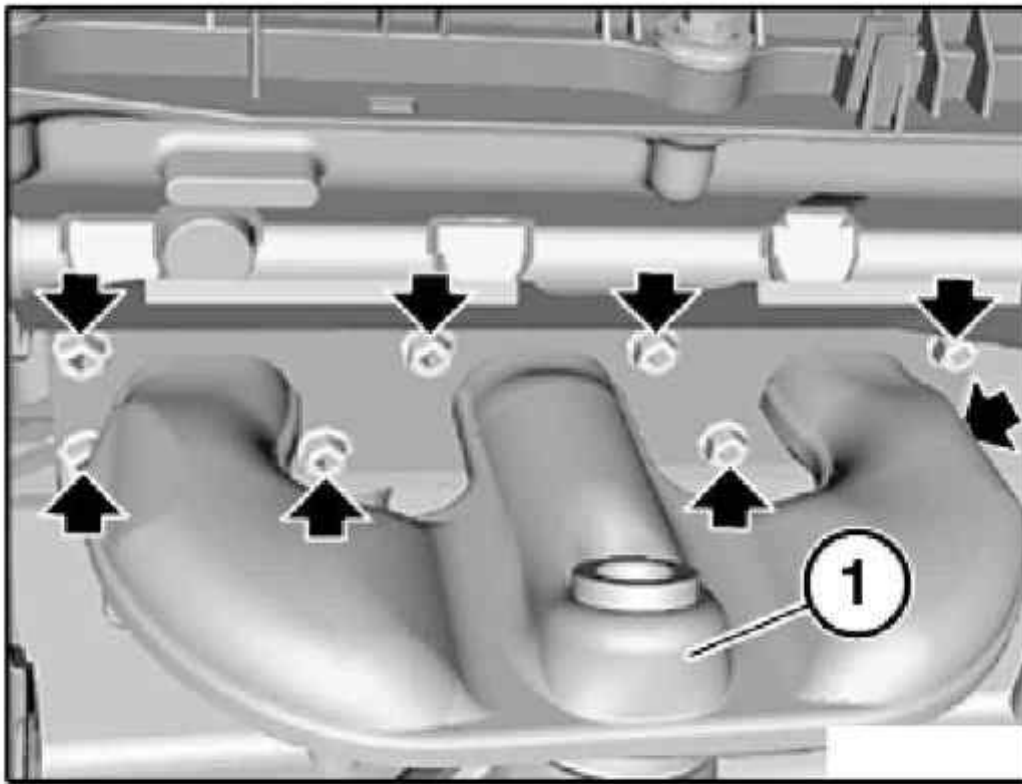
Installation:

Clean sealing faces, replace gaskets.

Coat threads with copper paste.

Replace nuts.

Tightening torque, see 11 62 1AZ in **ENGINE - TIGHTENING TORQUES** .



G03297631

Fig. 17: Removing Exhaust Manifold

Courtesy of BMW OF NORTH AMERICA, INC.

18 40 050 REMOVING AND INSTALLING/REPLACING FRONT EXHAUST MANIFOLD (M54)

Necessary preliminary tasks:

- Secure engine in installation position. See **11 00 050 REMOVING AND INSTALLING ENGINE (M54)**
- Remove front splash guard.

- Remove reinforcement plate. See **51 71 390 REMOVING AND INSTALLING/REPLACING REINFORCEMENT PLATE** .
- Remove complete exhaust system. See **18 00 020 Removing And Installing Complete Exhaust System (M54)** .
- Remove bracket between exhaust manifold and transmission.
- Detach grounding cable from body.
- Remove right engine support arm with engine mount.
- Release nuts on heat shield at bottom.
- Remove right tension strut. See **51 71 371 REMOVING AND INSTALLING/REPLACING TENSION STRUT ON LEFT OR RIGHT** .
- Remove air pump. See **11 72 000 REMOVING AND INSTALLING/REPLACING AIR PUMP** .
- Release heat shield at top and remove.

NOTE: **The oxygen sensors are in danger of being damaged when the exhaust manifolds are removed and installed.**

Remove front oxygen control sensor. See **11 78 513 REPLACING BOTH OXYGEN CONTROL SENSORS** .

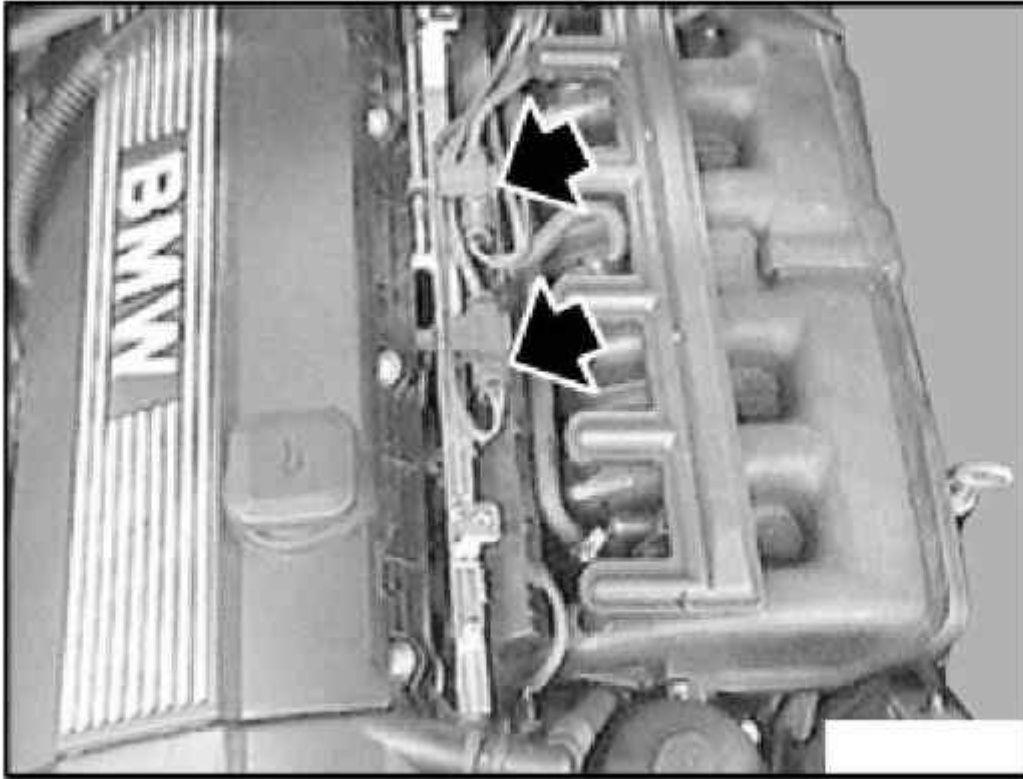
Remove cover from injection valves.

NOTE: **Do not mix up oxygen monitor sensors for cylinders 1 to 3 and 4 to 6 at plug connection to wiring harness.**

Mark plug connections.

Unclip the cable from the retainer. Disconnect plug connection. Unclip cable on rear side of engine from cable guide.

Remove oxygen monitor sensor from cylinders 1 to 3 from above. See **11 78 611 REPLACING OXYGEN MONITOR SENSOR** .



G03297632

Fig. 18: Removing Cover From Injection Valves (Front Exhaust Manifold)
Courtesy of BMW OF NORTH AMERICA, INC.

Unscrew nuts.

Remove exhaust manifold (1).

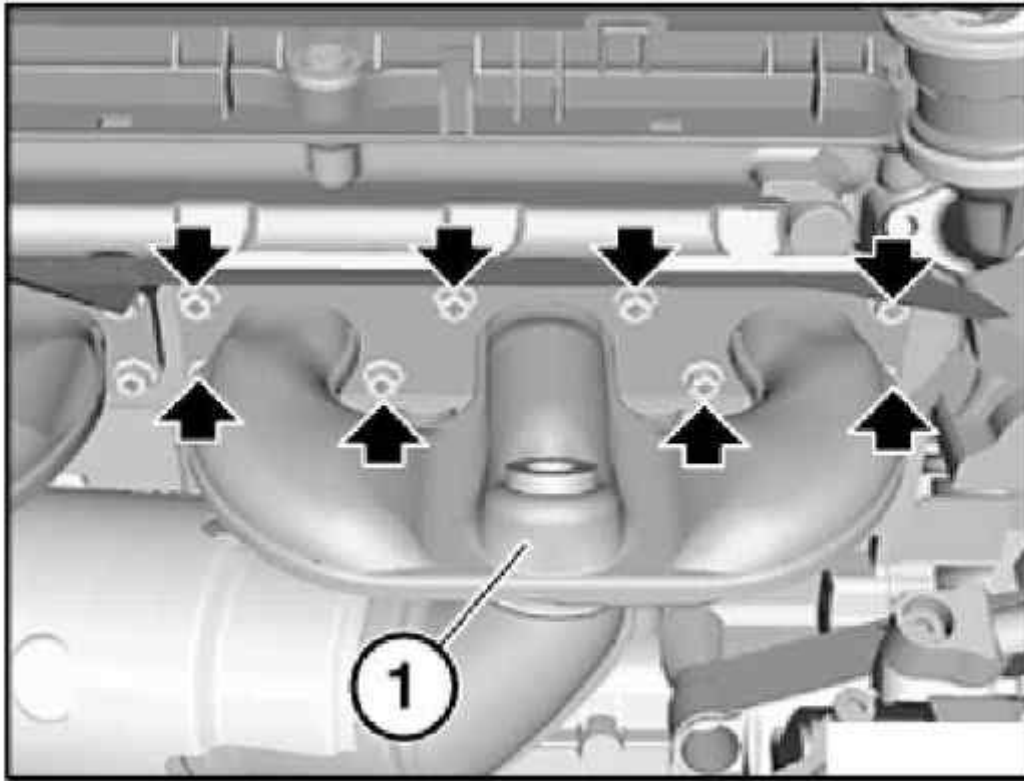
Installation:

Clean sealing faces, replace gaskets.

Coat threads with copper paste.

Replace nuts.

Tightening torque, see 11 62 1AZ in **ENGINE - TIGHTENING TORQUES**.



G03297633

Fig. 19: Removing Exhaust Manifold (Front Exhaust Manifold)

Courtesy of BMW OF NORTH AMERICA, INC.

18 40 060 REMOVING AND INSTALLING/REPLACING REAR EXHAUST MANIFOLD (M54)

Rear exhaust manifold with catalytic converter can only be removed after front exhaust manifold with catalytic converter has first been removed.

Procedure is described in **18 40 030 Removing And Installing/Replacing Both Exhaust Manifolds (M54)** .