

SBS-ANL-SBS1996-170196140_A2 2.0 change interval, change and check of coolant, disposal, cleaning the cooling system, VIN: [REDACTED]

ISTA system version	4.1.22.17498	Data version	R3.54	Programming data	-
VIN	[REDACTED]	Vehicle	X'/F25/off-road vehicle/X3 xDrive35i/N55/AUTO/US/LL/2015/12		
Int.lev.works	-	Int.lev.(cur.)	-	Int.lev.(tar.)	-
Mileage	0 km				

Enclosure 2 to SI 17 01 96 (140), issue 12/2005

2.0 change interval, change and check of coolant, disposal, cleaning the cooling system

Change interval, change and check of coolant

Regular testing of the coolant composition as part of inspections I and II. Due to decreasing corrosion protective effect the change interval of 4 years (3 years for M-power vehicles) has to be maintained. The antifreeze concentration of the coolant should be checked before the start of the cold season. Checking the composition is also necessary after adding coolant. When adjusting and checking the concentration, a areometer spindle is required (antifreeze tester). Mixing the approved substances with each other is allowed.

The technical advancement has made it possible, that no coolant change is required for the vehicles specified below.

- E65 from 09/2003
- E85 from market introduction
- Condition Based Service-vehicles from 09/2003
- Service interval indicator-vehicles with petrol engines from 03/2003
- Service interval indicator vehicles with diesel engine from 09/2003
- M-vehicles from 09/2003
- All vehicles with market introduction after 09/2003

Disposal

For the disposal of the coolant, the safety data sheets of the manufacturers for antifreeze and corrosion inhibitors or the legal regulations of the individual countries must be observed.

Status 04/2014

TED-TED-TDMUC1700-F251700BENZIN-N55 Coolant, Cooling System Test, BMW, F25, F26,
N55, VIN: [REDACTED]

ISTA system version	4.1.22.17498	Data version	R3.54	Programming	- data
VIN	[REDACTED]	Vehicle	X'/F25/off-road vehicle/X3 xDrive35i/N55/AUTO/US/LL/2015/12		
Int.lev.works	-	Int.lev.(cur.)	-	Int.lev.(tar.)	-
Mileage	0 km				

17 00 Coolant, Cooling System Test F25 / F26 / N55

Model series	F25, F26
Model designation	xDrive 35i
Coolant quantity on vehicles with manual gearbox	
Coolant quantity on vehicles with automatic transmission	9,6 l
Top-up quantity of coolant in the event of repair with disconnected coolant hoses. Observe the mixture ratio and filling level!	2,0 l
Testing pressure for cooling system	1,5 bar

REP-REP-RAF2551-5147490 Removing and installing/replacing underbody protection (front)
, VIN: ██████████

ISTA system version	4.1.22.17498	Data version	R3.54	Programming data	-
VIN	██████████	Vehicle	X/F25/off-road vehicle/X3 xDrive35i/N55/AUTO/US/LL/2015/12		
Int.lev.works	-	Int.lev.(cur.)	-	Int.lev.(tar.)	-
Mileage	0 km				

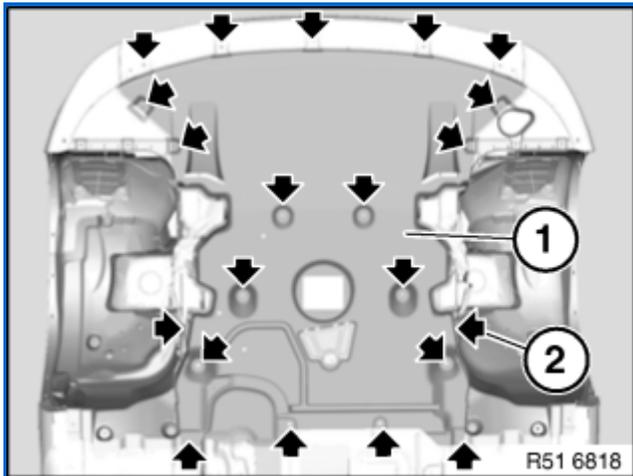
51 47 490

Removing and installing/replacing
underbody protection (front)



Note:

Illustration only an example. Detail deviations, depending on engine version, are possible.



Unfasten screws (2).

Tightening torque [51 75 1AZ](#).

Remove front underbody protection (1).

REP-REP-RAF2517N47T-1700005 Draining and topping up coolant (N20, N55, N52T, N47 D20 O 1, N57 D30 O/T 1,B47), VIN: [REDACTED]

ISTA system version	4.1.22.17498	Data version	R3.54	Programming - data
VIN	[REDACTED]	Vehicle	X/F25/off-road vehicle/X3 xDrive35i/N55/AUTO/US/LL/2015/12	
Int.lev.works	-	Int.lev.(cur.)	-	Int.lev.(tar.) -
Mileage	0 km			

17 00 008

Draining and topping up coolant (N20, N55, N52T, N47 D20 O 1, N57 D30 O/T 1,B47)



Special tools required:

- [00 2 030](#)



Warning!

Risk of scalding!

Only carry out repair work on the cooling system when the engine has cooled down.



Important!

Life-time coolant filling:

Never reuse used coolant!

When replacing and removing components which rely on the corrosion protection effect of the coolant, it is essential to change the coolant. The cooling system must therefore be drained and refilled.

In the case of other removal work involving the draining of part quantities of coolant, replace these quantities which have been drained with new coolant.

Installation note:

Use [only recommended coolant](#).

Observe [mixture ratio](#).



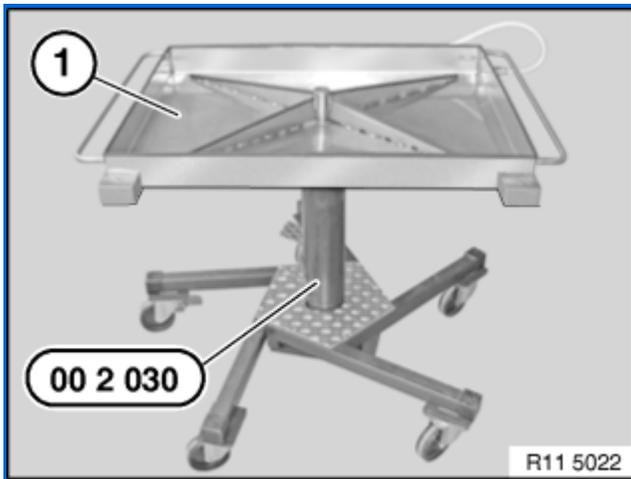
Protective measures/rules of conduct:

- Wear safety goggles
- Wear protective gloves
- Observe national/country-specific regulations



Important!

For dirt contamination of the cooling system (e.g. by engine oil), the cooling system must be rinsed with water until all dirt contamination is removed!



Important!

Risk of skidding due to coolant on the floor.

Danger of injury!

Catch and dispose of drained coolant in drip tray (1) and if necessary special tool [00 2 030](#) (universal hydraulic lifting equipment).

Recycling:

Observe country-specific waste disposal regulations.



Necessary preliminary work:

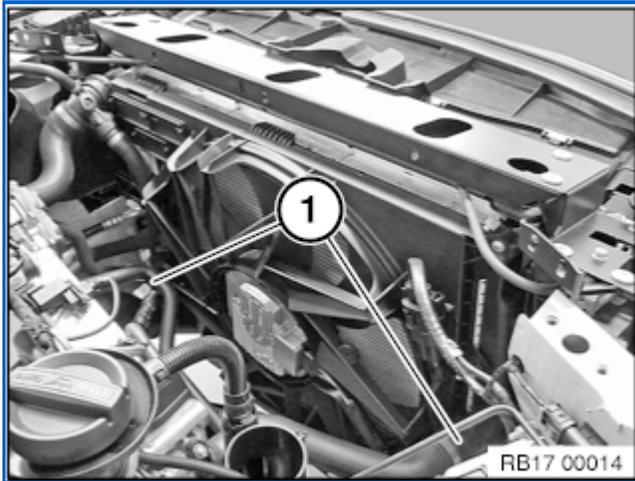
- Remove front [underbody protection](#).

Draining coolant:

Release sealing cap on the coolant expansion tank.

Release and detach coolant hoses (1) at radiator .

Drain, catch and dispose of coolant.

**Adding coolant:**

Use [only recommended coolant](#).

Observe [mixture ratio](#).

Observe [capacities](#).

Fill and vent [cooling system](#).

Observe bleeding instructions without fail.



Assemble engine.

[Check cooling system for leaks](#).

REP-REP-RAF2517N47T-1751000 Removing and installing/replacing charge air cooler (N20, N55, N47 D20 O 1, N57 D30 O/T 1, B47), VIN: [REDACTED]

ISTA system version	4.1.22.17498	Data version	R3.54	Programming data	-
VIN	[REDACTED]	Vehicle	X/F25/off-road vehicle/X3 xDrive35i/N55/AUTO/US/LL/2015/12		
Int.lev.works	-	Int.lev.(cur.)	-	Int.lev.(tar.)	-
Mileage	0 km				

17 51 000

Removing and installing/replacing charge air cooler (N20, N55, N47 D20 O 1, N57 D30 O/T 1, B47)



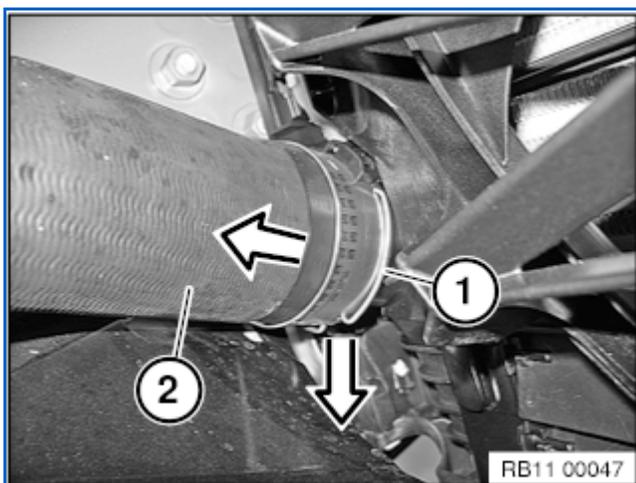
Necessary preliminary tasks:

- Remove front [underbody protection](#).



Important!

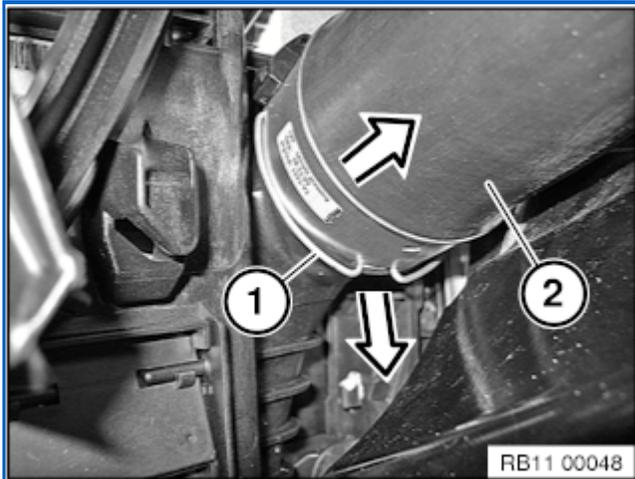
Coat sealing rings of snap fasteners with lubricant.
Pressure pipes cannot be fitted without lubricant.



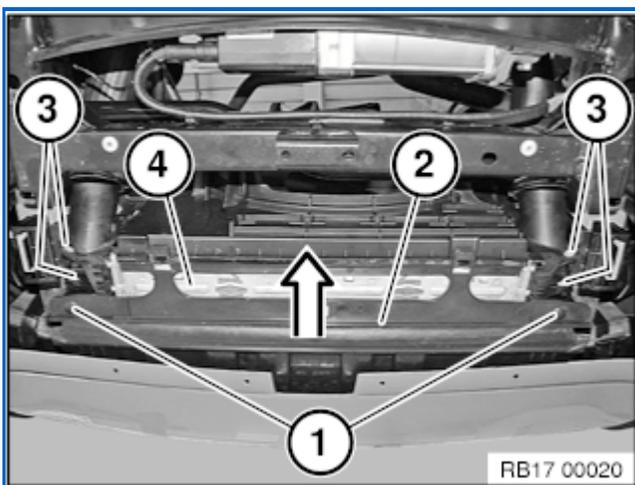
Release lock (1) with a suitable tool.

Disconnect pressure pipe (2) on left from charge air cooler.

Release lock (1) in direction of arrow.



Detach pressure pipe (2) on right from charge air cooler in direction of arrow.



Remove expanding rivets (1).

Pull back cover (2) and remove.

Release screws (3).

Tightening torque [17 10 5AZ](#).

Feed out charge air cooler (4) towards bottom and remove.



Installation note:

Charge air hoses must audibly snap into place.

Coat sealing rings of charge air hoses with lubricant.

Pressure pipes cannot be fitted without lubricant.

Check charge air system for leaks.

Assemble engine.

REP-REP-RAF2517N55-1711035 Removing and installing/replacing fan cowl with electric fan (N20, N55, N52T), VIN: [REDACTED]

ISTA system version	4.1.22.17498	Data version	R3.54	Programming data	-
VIN	[REDACTED]	Vehicle	X'/F25/off-road vehicle/X3 xDrive35i/N55/AUTO/US/LL/2015/12		
Int.lev.works	-	Int.lev.(cur.)	-	Int.lev.(tar.)	-
Mileage	0 km				

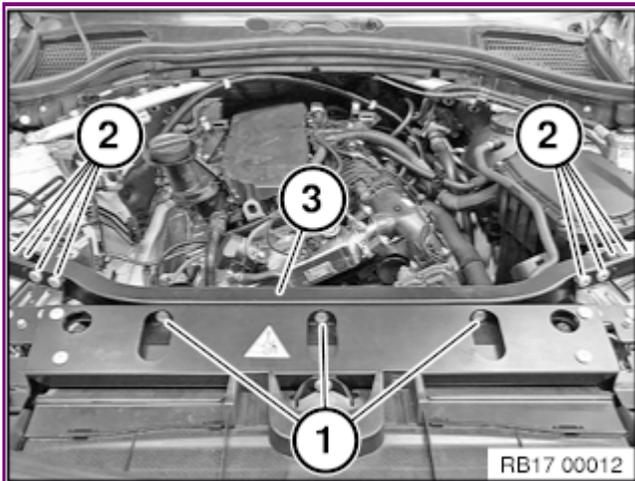
17 11 035

Removing and installing/replacing fan cowl with electric fan (N20, N55, N52T)



Necessary preliminary work:

- Switch off ignition.



Release screws (1).

Tightening torque [17 10 1AZ.](#)

Unfasten screws (2).

Tightening torque [17 10 2AZ.](#)

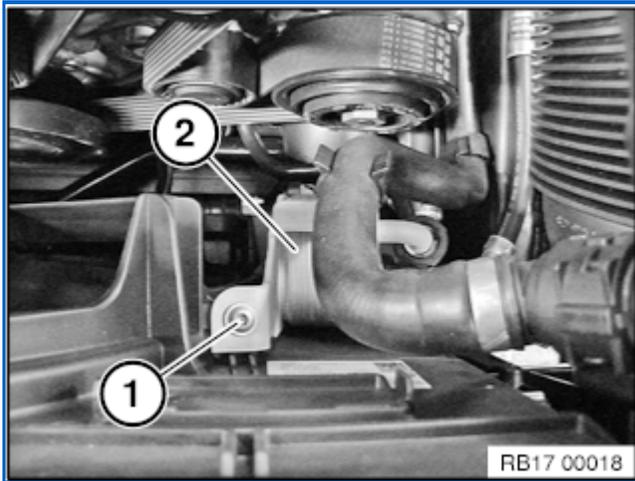
Remove cross connection (3).

Only for vehicles with automatic transmission:

Release screw (1).

Tightening torque [17 10 6AZ.](#)

Release transmission oil cooler (2) from the fan cowl.



Release screw (1).

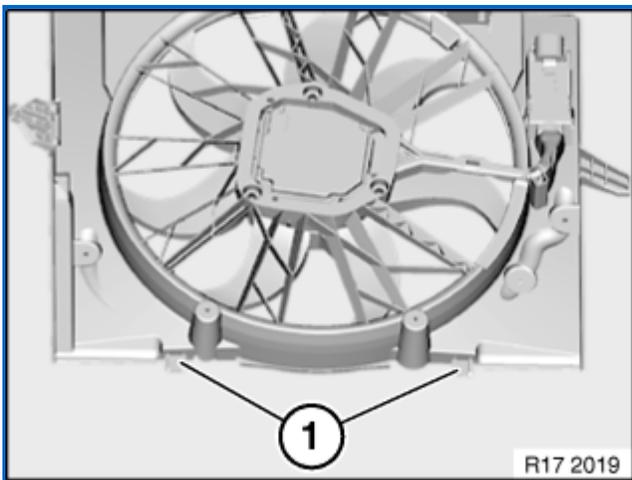
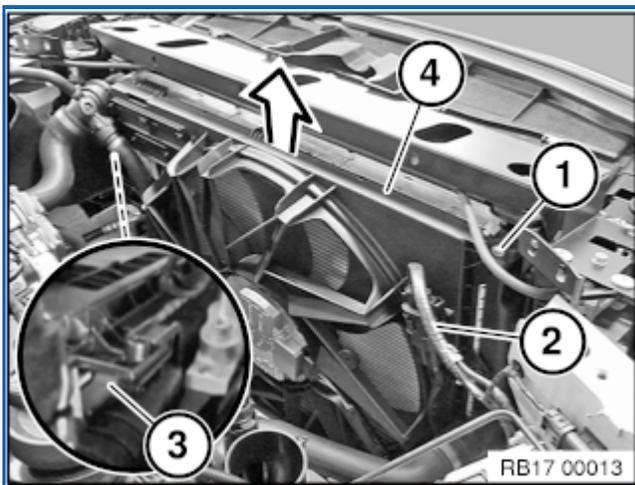
Tightening torque [17 10 3AZ](#).

Unlock and disconnect connectors (2) on fan cowl on right.

Pressing retainer (3) on fan cowl, left.

Detach coolant lines from fan cowl.

Remove fan cowl (4) towards top.



Installation note:

Insert retaining tab (1) at bottom on module carrier.



Note:

Check stored fault message.

Reassemble the vehicle.

Clear diagnostic fault entries from fault memory.

REP-REP-RAE8211N55-1153000 Removing and installing/replacing coolant thermostat (N55)
, VIN: [REDACTED]

ISTA system version	4.1.22.17498	Data version	R3.54	Programming - data
VIN	[REDACTED]	Vehicle	X/F25/off-road vehicle/X3 xDrive35i/N55/AUTO/US/LL/2015/12	
Int.lev.works	-	Int.lev.(cur.)	-	Int.lev.(tar.) -
Mileage	0 km			

11 53 000

Removing and installing/replacing
coolant thermostat (N55)

**Warning!**

Risk of scalding!

Only perform these tasks on an engine that has cooled down.

Danger of injury!

Risk of skidding due to coolant on the floor.

**Recycling:**

Catch and dispose of drained coolant in a suitable collecting vessel.

Observe country-specific waste disposal regulations.

Important!

Read and comply with [General Notes](#).

Protect plug connections against coolant and dirt contamination.

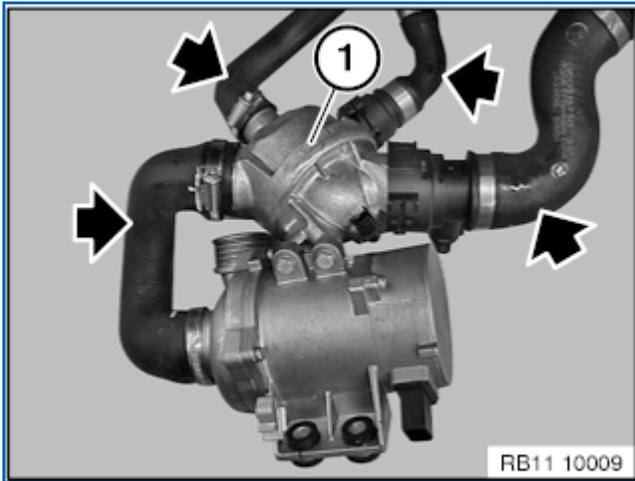
Cover plug connections with suitable materials.

Necessary preliminary tasks:

- Remove front [underbody protection](#).



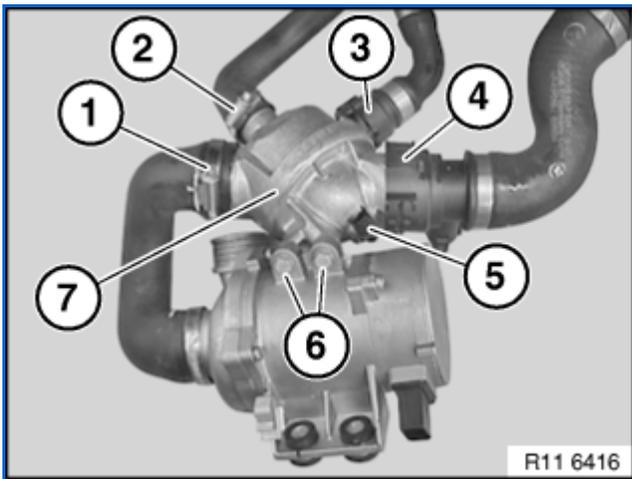
- E70, E71:
Remove reinforcement plate.
- E82, E84, E88, E90, E91, E92, E93, F25:
Remove [charge air cooler](#).
- Remove [fan cowl](#).
- Place oil drip tray for coolant under engine compartment.



Note:

Illustration shows coolant thermostat removed.

Disconnect coolant hoses (arrows) on the thermostat (1) with clamping tongs.



Release hose clamp (1) and detach coolant hose.
 Release hose clamp (2) and detach coolant hose.
 Unlock and detach coolant hose (3).
 Unlock and detach coolant hose (4).
 Disconnect plug connection (5).
 Release screws (6).
 Tightening torque [11 53 1AZ](#).
 Remove coolant thermostat (7).

Note:

Illustration shows coolant thermostat removed.



Assemble engine.
[Fill the cooling system](#).
 Observe [capacities](#).

Installation note:

Check coolant hoses for cracks and damage.

Renew coolant hoses as required.

Recommendation:

On vehicles older than five years, renew coolant hoses.

Check function of cooling system.

REP-REP-RAF2511N55-1151000 Removing and installing/replacing coolant pump (N55)
, VIN: [REDACTED]

ISTA system version	4.1.22.17498	Data version	R3.54	Programming - data
VIN	[REDACTED]	Vehicle	X/F25/off-road vehicle/X3 xDrive35i/N55/AUTO/US/LL/2015/12	
Int.lev.works	-	Int.lev.(cur.)	-	Int.lev.(tar.) -
Mileage	0 km			

11 51 000

Removing and installing/replacing
coolant pump (N55)

**Warning!****Risk of scalding!**

Only perform this work after engine has cooled down.

**Attention!**

If a coolant pump that has already been operated is reused, it must be filled with coolant after removal.

Mixture ratio, water: coolant = 1 : 1

Protect plug connections against coolant and contamination.

**Recycling:**

Catch and dispose of drained coolant in a suitable container.

Observe country-specific waste disposal regulations.

Installation note:

1. All screws, nuts, bolts and hose clamps removed



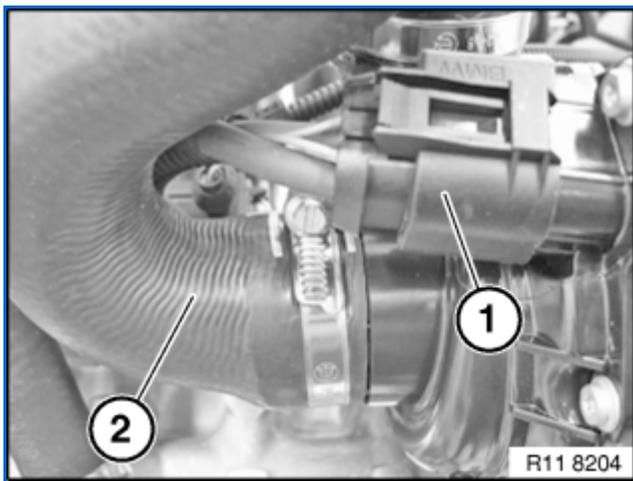
during the repair must be replaced.

2. Retaining elements on chassis and suspension and steering parts must be replaced.



Necessary preliminary tasks:

- Follow diagnosis instructions.
- Remove [engine splash guard](#).
- Drain [coolant](#).
- Remove [thermostat](#).



Disconnect plug connection (1).

Release coolant hose (2).

Installation note:

Note installation hose clamps.

Tightening torque [11 53 9AZ](#).



Release coolant hose (1).

Installation note:

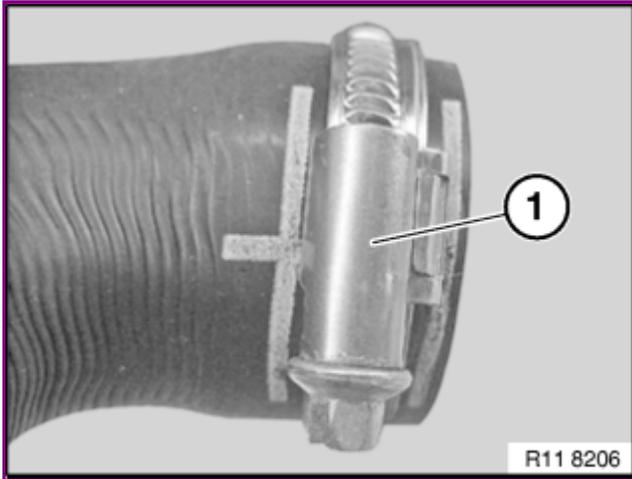
Note installation hose clamps.

Tightening torque [11 53 5AZ](#).

Follow assembly instructions:

Installation note:

Hose clamps (1) must be installed in the centre of the marked area (see graphic).

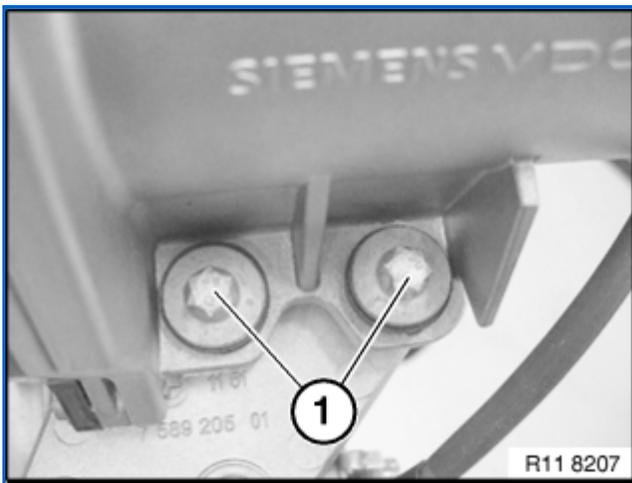


Release screws (1).

Tightening torque [11 51 2AZ](#).

Installation note:

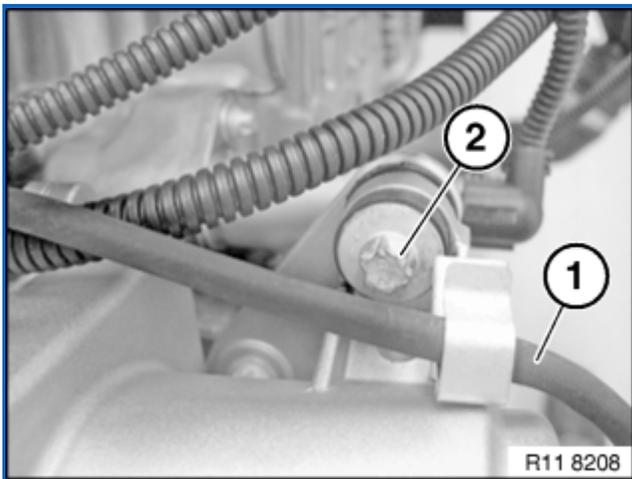
Replace screws.



Unclip cable (1) from bracket.

Release screw (2).

Tightening torque [11 51 2AZ](#).



Installation note:

If the electric coolant pump is reused, it must be rotated one turn due to the breakaway torque at the impellers.

Assemble engine.

[Bleeding instructions](#) must be observed without fail.

REP-REP-RAF2517N55-1700039 Bleed cooling system and check for watertightness (N52T, N55)
, VIN: [REDACTED]

ISTA system version	4.1.22.17498	Data version	R3.54	Programming - data
VIN	[REDACTED]	Vehicle	X'/F25/off-road vehicle/X3 xDrive35i/N55/AUTO/US/LL/2015/12	
Int.lev.works	-	Int.lev.(cur.)	-	Int.lev.(tar.) -
Mileage	0 km			

17 00 039

Bleed cooling system and check for watertightness (N52T, N55)



Warning!

Risk of scalding!

Open sealing cap only after engine has cooled down.



Important!

Electric coolant pump!



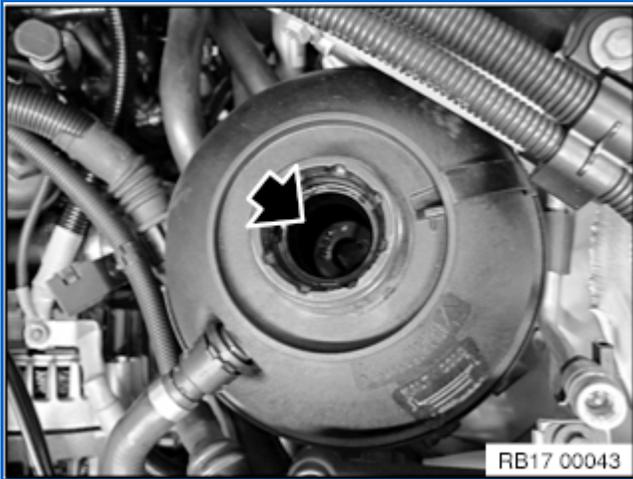
Important!

Lifetime coolant filling:

Never reuse used coolant!

When replacing and removing components which rely on the corrosion protection effect of the coolant, it is essential to change the coolant. The cooling system must therefore be drained and refilled.

In the case of other removal work involving the draining of part quantities of coolant, replace these quantities which have been drained with new coolant.



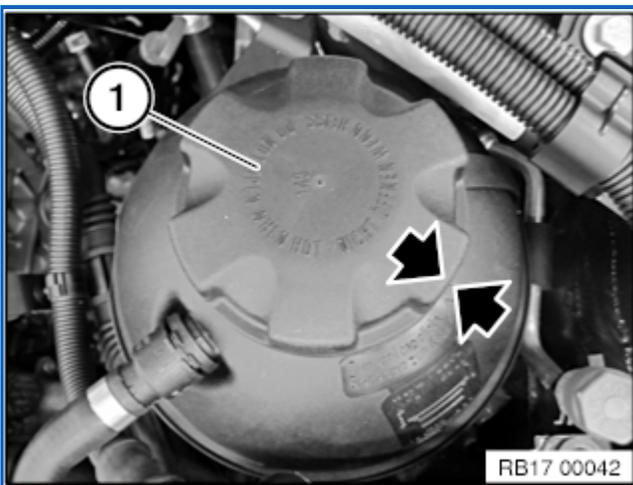
Only when refilling!

Use [only recommended coolant](#).

[Observe](#) mixture ratio.

Perform filling operation slowly.

Adjust coolant level to maximum.



Close coolant expansion tank.

Installation note:

Close the sealing cap (1) until the arrows line up.



Important!

The following bleeding procedure is necessary when a part is replaced in the cooling system or when the cooling system is refilled.



Adding coolant:

Note:

Fill coolant expansion tank up to lower edge of filler neck with recommended [coolant](#).

Observe [mixture ratio](#).

Observe [filling capacities](#).

Close cap on expansion tank.

Installation note:

Have a cleaning cloth ready to catch escaping coolant.



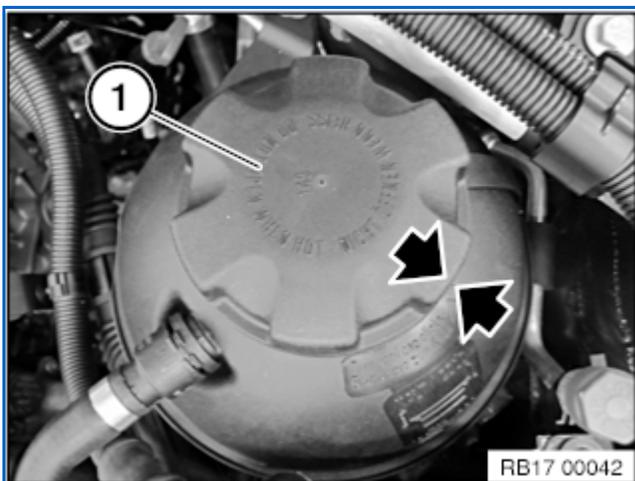
Bleed cooling system!

Note:

Do not open the coolant expansion tank cap during the bleeding procedure.

Switch on the low-beam headlights to perform the bleeding procedure. If the low-beam headlights are not switched on, the ignition (Terminal 15) will switch off automatically after a certain period of time and interrupt the bleeding procedure.

1. Connect battery charger.
2. Switch the ignition on.
3. Switch on low-beam headlight.
4. Set heating to maximum temperature. Take back blower to smallest stage.
5. Driving experience switch must not be set to ECO PRO!
6. Press accelerator pedal for 10 seconds to floor.
Engine must not be started.
7. The bleeding procedure was started by pressing the accelerator pedal and takes approx. 12 min. (the electrical coolant pump was activated and switches off automatically after approx. 12 min).
8. Then adjust fluid level in the coolant expansion tank to maximum.
9. Check the coolant system for [leaks](#).
10. If the ventilation has to be performed again, deactivate DME completely (remove ignition key for approx. 3 minutes). Then repeat from point 3.



Close coolant expansion tank.

Installation note:

Close the sealing cap (1) until the arrows line up.

AZD-AZD-AZDMUC1153-N55 Thermostat and Connections; VIN: [REDACTED]

ISTA system version	4.1.22.17498	Data version	R3.54	Programming	- data
VIN	[REDACTED]	Vehicle	X'/F25/off-road vehicle/X3 xDrive35i/N55/AUTO/US/LL/2015/12		
Int.lev.works	-	Int.lev.(cur.)	-	Int.lev.(tar.)	-
Mileage	0 km				

11 53 Thermostat and Connections

	Type	Thread	Tightening specification	Measure
1AZ Thermostat housing to coolant pump.	N55	M6 x 25		8 Nm
2AZ Thermostat housing to holder.	N55			9 Nm
3AZ Holder to radiator	N55		Self-tapping screw	3 Nm
4AZ Feed line to crankcase.	N55	M6x16		8.5 Nm
5AZ Feed line to coolant pump.	N55	L42-48	Hose clamp	3 Nm
6AZ Oil-to-water heat exchanger (ÖWWT) feed line.	N55	L18-24	Hose clamp	3 Nm
7AZ Coolant line to cylinder head (short-circuit line).	N55	M6 x 23		8.5 Nm
8AZ Coolant line to thermostat.	N55		Hose clamp with corrugated spring	3 Nm
9AZ Coolant hose from thermostat to coolant pump	N55	L42-48		3 Nm
10AZ Radiator supply and drain line to exhaust turbocharger	N55	M6 x 16		8 Nm
11AZ Coolant return line to crankcase.	N55	M6 x 16		8 Nm

AZD-AZD-AZDMUC5175 Underbody panelling&comma; VIN: [REDACTED]

ISTA system version	4.1.22.17498	Data version	R3.54	Programming	- data
VIN	[REDACTED]	Vehicle	X'/F25/off-road vehicle/X3 xDrive35i/N55/AUTO/US/LL/2015/12		
Int.lev.works	-	Int.lev.(cur.)	-	Int.lev.(tar.)	-
Mileage	0 km				

51 75 Underbody panelling

	Type	Thread	Tightening specifications	Dimension
1AZ Underbody panelling on body	F-series	Bolt, non-metric thread		3 Nm
		Screw M6		8,8 Nm
		Nut		2.5 Nm
2AZ Wheel arch cover to body	F-series	Screw		3 Nm
		Nut		2,6 Nm
3AZ Underbody protection front	F18 National-market version	M8x33	Replace screw	28 Nm
		M10x35	Replace screw	28 Nm

AZD-AZD-AZDMUC1710-F25N47T Radiator, expansion tank (N20, N55, N52T, N47 D20 O 1, N57 D30 O/T 1, B47), VIN: XXXXXXXXXX

ISTA system version	4.1.22.17498	Data version	R3.54	Programming - data
VIN	XXXXXXXXXX	Vehicle	X'/F25/off-road vehicle/X3 xDrive35i/N55/AUTO/US/LL/2015/12	
Int.lev.works	-	Int.lev.(cur.)	-	Int.lev.(tar.) -
Mileage	0 km			

17 10 Radiator, expansion tank (N20, N55, N52T, N47 D20 O 1, N57 D30 O/T 1, B47)

	Type	Thread	Tightening specifications	Dimension
1AZ	Cross connection, front, to cross connection, rear	N20 / N55 / N52T / N47 D20 O 1 / N57 D30 O 1 / N57 D30 T 1 / B47	M6	11 Nm
2AZ	Cross connection to carrier support	N20 / N55 / N52T / N47 D20 O 1 / N57 D30 O 1 / N57 D30 T 1 / B47	M8	20 Nm
3AZ	Fan cowl on radiator	N20 / N55 / N52T / N47 D20 O 1 / N57 D30 O 1 / N57 D30 T 1 / B47		4 Nm
4AZ	Radiator on module carrier	N20 / N55 / N52T / N47 D20 O 1 / N57 D30 O 1 / N57 D30 T 1 / B47		4 Nm
5AZ	Intercooler to module carrier	N20 / N55 / N47 D20 O 1 / N57 D30 O 1 / N57 D30 T 1 / B47		4 Nm
6AZ	Transmission oil heat exchanger to fan cowl	N20 / N55 / N52T / B47		4 Nm
7AZ	Bleeder screw	N20		3 Nm