



Workshop Manual Fox 2004 ➤

4 - Cyl. diesel engine								
Engine ID	ASY							

Edition 08.2010



List of Workshop Manual Repair Groups

Repair Group

- 00 - Technical data
- 10 - Cylinders, engine block, support, protector
- 13 - Crankshaft, pistons
- 15 - Cylinder head, valve control mechanism
- 17 - Lubrication system
- 19 - Cooling system
- 20 - Supply system - Fuel tank, fuel pump
- 23 - Supply system - mechanical injection (diesel)
- 26 - Exhaust system
- 28 - Chamber pre-heating system

Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of course, be observed.



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- Cooling system hose connection diagram ⇒ [page 74](#) .

15 - Radiator fan thermal switch -F18- , 35 Nm

- For Radiator fan -V7- .
- Starting temperatures: Stage 1 ON: 92...97° C OFF: 84° C. Stage 2 ON: 99...105° C OFF: 91° C.

16 - Radiator lower bearing

17 - 5 Nm

18 - Radiator upper support

- White.

1.2 Cooling system components in the engine

1 - Cooling system upper tube

- Fastened to the intake manifold.

2 - 10 Nm

3 - Coupling nozzle

- To heat exchanger.

4 - Coupling nozzle

- In the cylinder head.

5 - Distribution part

6 - To upper side of radiator.

- Cooling system hose connection diagram ⇒ [page 74](#) .

7 - 15 Nm

8 - Coolant temperature sensor -G62-

- For Engine control unit - J623- .
- Depressurise system before the removal.

9 - Clip

- Ensure it is fastened firmly.

10 - Sealing ring

- Replace.

11 - Sealing ring

- Replace.
- Ensure it is fastened firmly.

12 - Cooling system rigid pipe

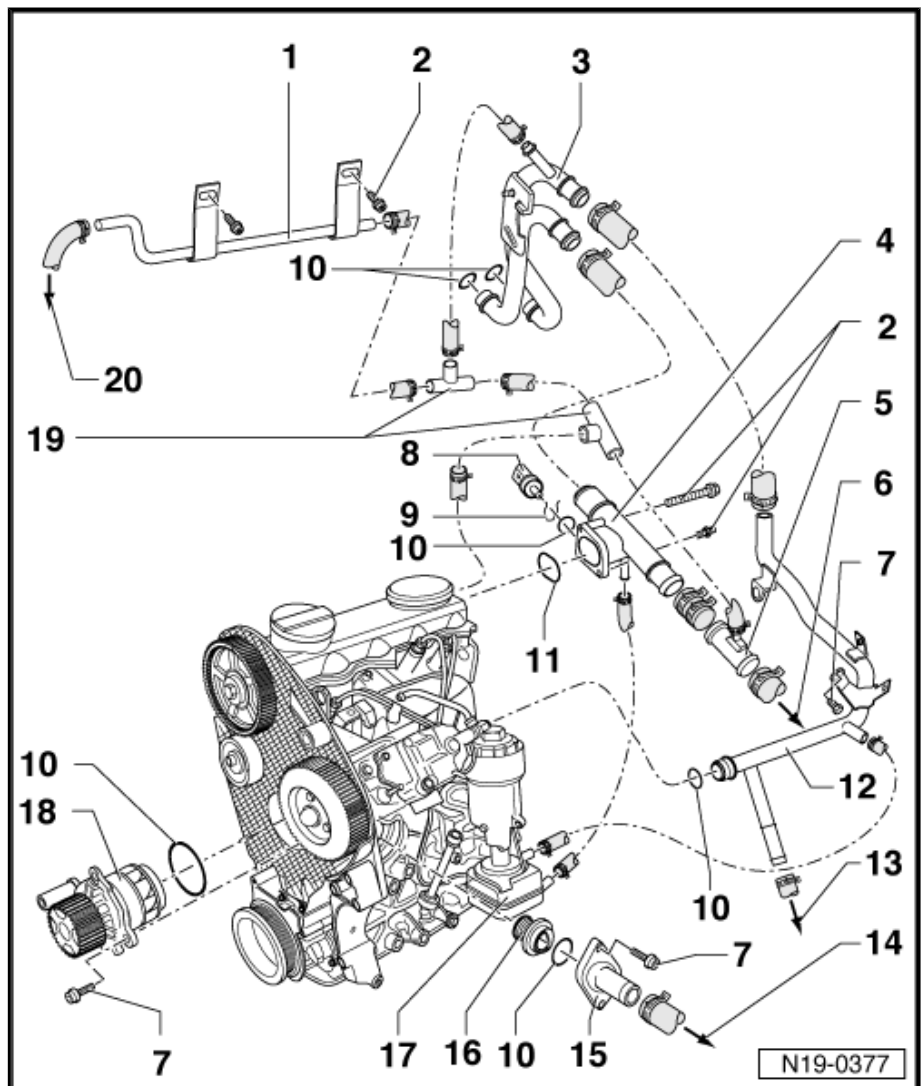
- Cooling system hose connection diagram ⇒ [page 74](#) .

13 - For coolant reservoir

- Cooling system hose connection diagram ⇒ [page 74](#) .

14 - To lower part of radiator

- Cooling system hose connection diagram ⇒ [page 74](#) .





15 - Thermostat valve flange

16 - Thermostat valve

- Check: heat the valve in double boiler.
- Opening start approx. 188.5 °F.
- Minimum opening travel 7 mm at 210...221 °F.

17 - Oil radiator

18 - Water pump

- Check mobility.
- In case of damages and leaks, replace completely.
- Remove and install → [page 79](#) .

19 - Distribution part

1.3 Cooling hose connection diagram.

1 - Radiator

2 - Oil radiator

3 - Thermostat valve for the cooling system

4 - Water pump

5 - Cylinder head/crankcase

6 - Coolant reservoir

7 - Cooling system upper tubing

8 - Coupling nozzle

- In the cylinder head.

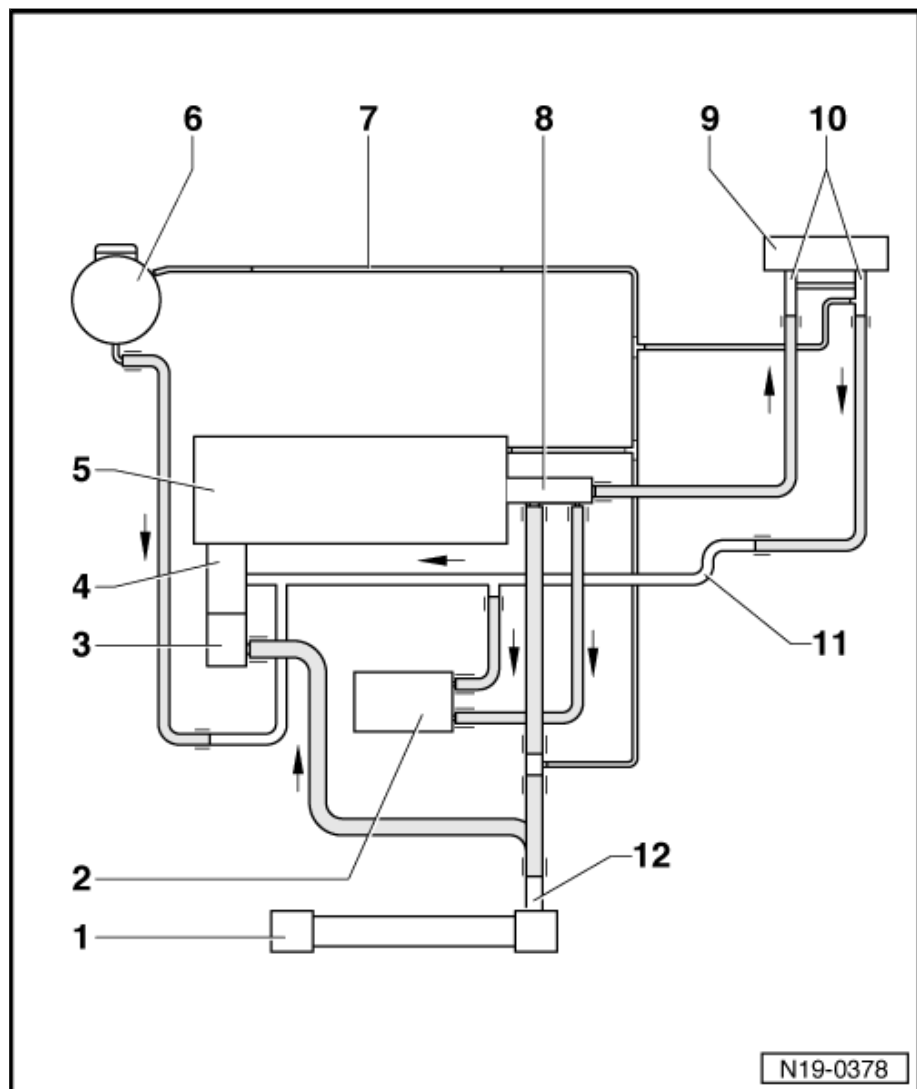
9 - Heat exchanger for heating

10 - Coupling nozzle

- To heat exchanger.

11 - Cooling system pipe

12 - Quick coupling

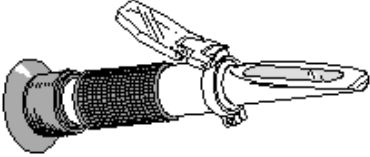
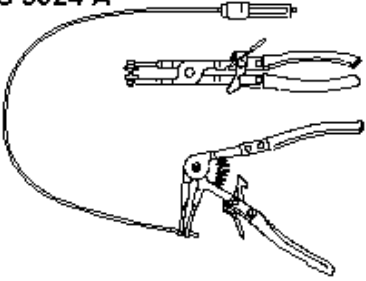
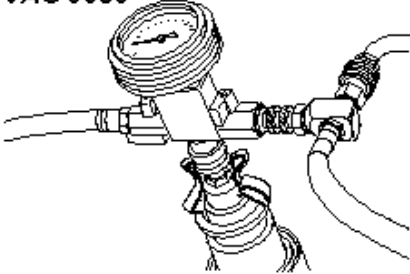




1.4 Cooling system - drain and fill

Special tools and workshop equipment required

- ◆ Refractometer for analysing the cooling system liquid -EQ 7093- or Refractometer for analysing the cooling system liquid - T10007-
- ◆ Standart-type clamp pliers - VAS 5024A- or Standart-type clamp pliers -VW 5162-
- ◆ Oil trap -VAG 1306-
- ◆ Cooling system supply unit -VAS 6096-

<p>T10007</p> 	<p>VAS 5024 A</p> 
<p>VAS 6096</p> 	
	<p style="text-align: right;">W19-10006</p>

1.4.1 Drain

- Remove coolant reservoir lid.

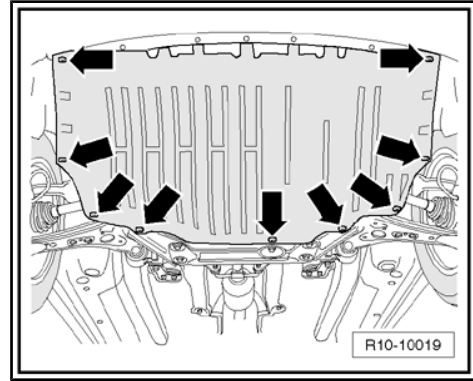


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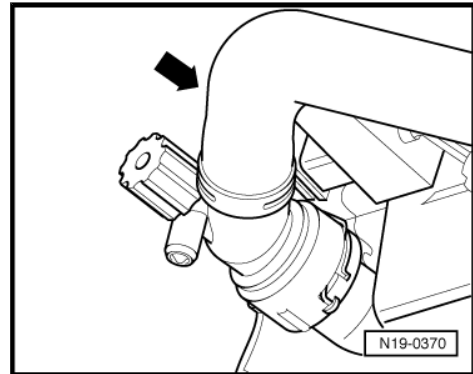
Hot vapours may escape when the coolant reservoir is opened; cover it with a cloth and open carefully.



- Remove the lower noise insulation from the engine.
- Drain the cooling system ⇒ [page 75](#) .
- Remove the hoses from the engine with Standart-Type clamp pliers -VW 5162 (VWB) - ou - VAS 5024A- .



- Also remove the lower hose in the radiator -arrow- .

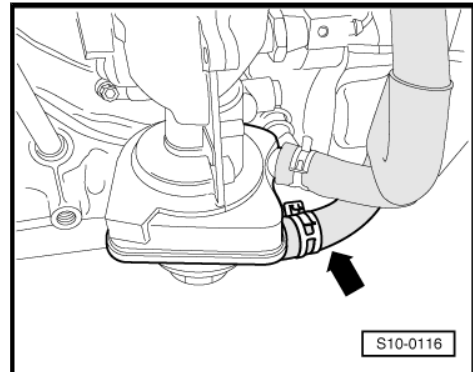


- To drain the engine cooling system, remove also the oil radiator cooling hose -arrow-.



Note

Observe the disposal regulations for coolants!





1.4.2 Replenish



Note

- ◆ Use only G12 as coolant additive, according to TL -VW 774 F-. Feature: violet color
- ◆ G 12 violet (as per TL -VW 774 F-) may be mixed with the G 12 red additive used to this date!
- ◆ G 12 and coolant additives with the note "compliant with TL - VW 774- F" prevent corrosion damages and calcium sedimentation, in addition to increase the boiling temperature. Due to this reason, the cooling system must be replenished throughout the year with antifreeze and anti-corrosive additives.
- ◆ Especially in countries with tropical climate, the high boiling point of the coolant with the engine running at higher speed regimes contributes to work safety.
- ◆ Antifreeze must be active down to approx. -13 °F (in Arctic climate countries up to approximately -31° F).
- ◆ The coolante concentration in hot season or countries with tropical climate must not be reduced by water addition. The minimum additive proportion must be 40%.
- ◆ If due to climatic reasons, it is necessary to use a more efficient antifreeze, it is possible to increase G 12 addition, but only to 60 % (Antifreeze up to approx. -40 °F); otherwise, the anti-freeze is reduced again and the cooling action is worsened.
- ◆ For determining the current antifreeze effect, it is recommended the use of Refractometer for analysing the cooling system liquid -EQ 7093- or Refractometer for analyzing the cooling system liquid - T10007- .
- ◆ In case of changing the radiator, heat exchanger, cylinder head or cylinder head gasket, do not reuse the old coolant when replenishing.

Recommended mixture proportions:

Antifreeze effect up to	Antifreeze proportion	G 12 ⁴⁾	Water ⁴⁾
-13 °F	40 %	2.0 l	3.0 l
-31 °F	50 %	2.5 l	2.5 l

4) The coolant volume may vary according to the vehicle's accessories.

- Install lower hose in the radiator -arrow- .

