

SKF Technical Bulletin

Switchable and Mechanical repair solutions

VKMC 01278, VKPC 81278 / VKMC 01278-1, VKPC 81178



VAG engines: 1.6 TDI, 2.0 TDI (EA288 engine)



SKF Switchable and Mechanical repair solutions with Fitting instructions



SKF kit	SKF Water pump Technology	OE Nb	OE Water pump Technology
VKPC 81278	Switchable	04L 121 011	Switchable
	Switchable	04L 121 011 E	Switchable
	Switchable	04L 121 011 L	Switchable
VKPC 81178	Mechanical	04L 121 011 H	Mechanical
	Mechanical	04L 121 011	Switchable
	Mechanical	04L 121 011 E	Switchable
	Mechanical	04L 121 011 L	Switchable
VKMC 01278	Switchable	-	-
VKMC 01278-1	Mechanical	-	-

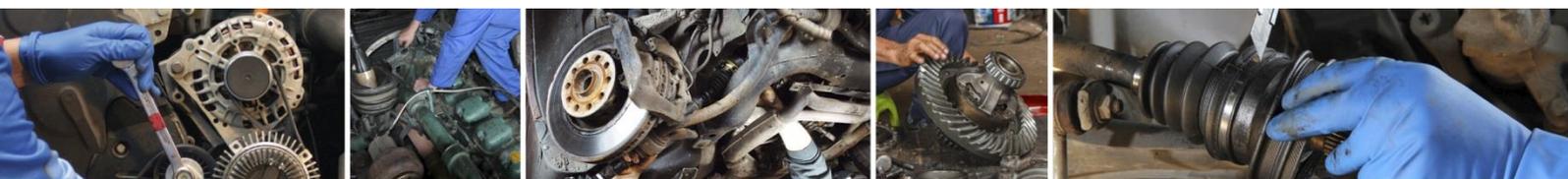
In compliance with VAG Group, SKF is offering a Switchable and Mechanical water pump for above engines. The SKF Water pumps VKPC 81178 (Mechanical) and VKPC 81278 (Switchable) are in line with OE product quality and performance.

Note! Replacing a switchable water pump by a mechanical water pump can increase the engine warm-up time!

Please find below an example of a specific car model:

TecDoc Nb	Car Model	SKF Kits	Kit criteria
55597	Audi A3 Sportback (8VA, 8VF) 2.0 TDI - Engine code CRLB	VKMC 01278 VKPC 81278	Switchable water pump, with integrated disabling contact. Impeller material: Plastic
		VKMC 01278-1 VKPC 81178	Mechanical water pump, without integrated disabling contact. Impeller material: Metal

Please refer to the latest SKF catalogues to select the right kit for the right application



SKF Switchable and Mechanical repair solutions

Switchable

Includes integrated disabling actuator



VKMC 01278

Timing belt and water pump kit
With Switchable mechanism



VKPC 81278

Water pump kit
With Switchable mechanism

Mechanical

Does not include integrated disabling actuator
The removed actuator must be re-used!



VKMC 01278-1

Timing belt and water pump kit
With Mechanical mechanism



VKPC 81178

Water pump kit
With Mechanical mechanism

Warning! Always follow the vehicle manufacturer instructions when working on the engine. The SKF kits are designed for the automotive repair professional and must be fitted using tooling used by these professionals. These instructions are to be used as a guideline only.

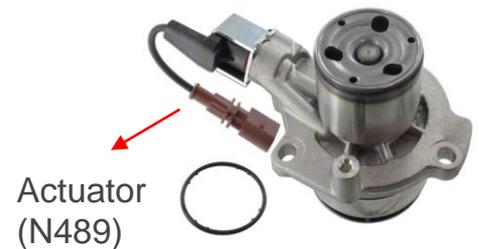
Fitting recommendations

VKMC 01278-1 / VKPC 81178 (SKF Mechanical water pump)

In case of OE Switchable water pump removal

1) Remove the water pump and dismount the actuator (N489) that will be re-used

2) Fit the new SKF Mechanical Water pump VKPC 81178 with the re-used actuator



Note! If the actuator connected to the SKF Mechanical water pump VKPC 81178 is not fitted correctly, defect code and warning light may appear on the car dashboard!

In case of OE Mechanical water pump removal



1) Remove the used water pump



2) Fit the new SKF Mechanical VKPC 81178

VKMC 01278 / VKPC 81278 (SKF Switchable water pump)

In case of OE Switchable water pump removal



1) Remove the used water pump



2) Fit the new SKF Switchable VKPC 81278 that already includes the actuator (N489)

Fitting instructions for SKF Switchable & Mechanical water pumps repairs (1)

Cooling system structure

The cooling system must be bled using the vehicle diagnostic tester. It contains 5 systems in order to cool different engine components:

1. Main cooling system for the engine
2. Secondary cooling system for the engine
3. Additional cooling system for the turbocharger radiator
4. Additional cooling system for the heater radiator
5. Additional cooling system for the gearbox radiator

Warning! If the bleeding is not correctly done, it could lead to the following consequences:

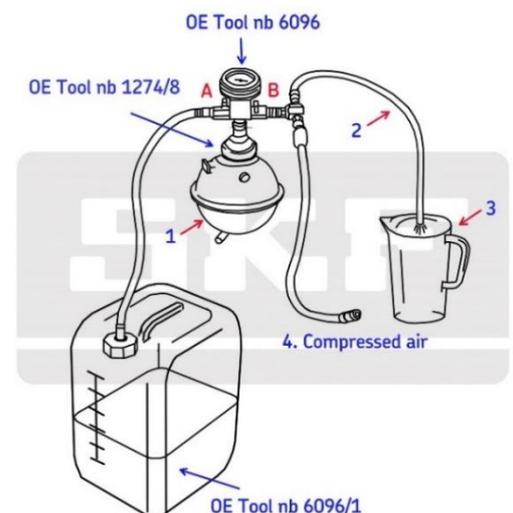
- ✓ Electrical pumps damages of the secondary's cooling system.
- ✓ Longer engine warm-up time, or abnormal increase of the engine temperature.
- ✓ Engine damage in case of insufficient filling/bleeding

Bleeding procedure with recommended tools

- ✓ Fill the reservoir of the OE tool nb 6096 with a minimum of 8 liters of premixed coolant.
- ✓ Place the filled reservoir on a high surface (workshop trolley or engine/gearbox jack).
- ✓ Fit the adapter of the expansion cooling tank (1) until OE tool nb 6096 to adapt OE tool nb 1274/8.
- ✓ Install vent hose (2) into a small container (3).

Note! The vented air draws along a small amount of coolant, which should be collected.

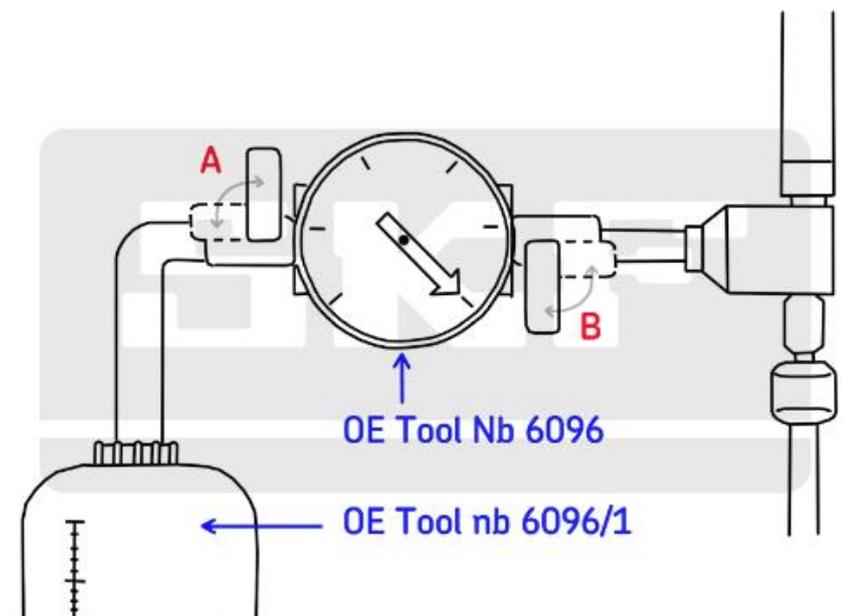
- ✓ Close valves (A) and (B) by turning lever at 90° towards flow direction.
- ✓ Connect hose (4) to compressed air supply.
- ✓ Put pressure between 7...10 bars
- ✓ Open valve (B) by turning lever towards flow direction



Fitting instructions for SKF Switchable & Mechanical water pumps repairs (2)

- ✓ The pump generates a vacuum in the cooling system. The pointer of the indicator must move in the green area of the manometer.
- ✓ Open the valve (A) by turning the lever towards flow direction in order that the hose fills well from coolant reservoir.
- ✓ Close the valve (A).
- ✓ Leave the valve (B) open during 2 minutes.
- ✓ The pump continues to generate a vacuum in the cooling system. The pointer of the indicator should stay in the green area of the manometer.
- ✓ Close the valve (B).
- ✓ The pointer of the indicator should stay in the green area, the vacuum inside the cooling system is sufficient for a filling.
- ✓ Repeat the procedure until the pointer is in the green area.
- ✓ In case of the vacuum drops significantly, check the sealing of the cooling system.
- ✓ Remove the air compressed hose.
- ✓ Open the valve (A).

Note! Always check that the coolant level is on max position (1).



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