

## Applications:

Audi and VW 2.0L TSI engines CAED and CAEB

## Coverage:

2008 – 2014  
Audi A3, A4 and A5

2008 – 2014  
VW CC, EOS, GTI, Jetta, Passat and Tiguan w/ 2.0L TSI non SULEV engines (45 U.S. states and Canada)

## SERVICING WATER PUMP FAILURES

**The problem:** Pump has high failure rate.

Audi and VW 2.0L TSI engines CAED and CAEB engines run very hot. The thermostat starts to open at 203 °F and does not fully open until it reaches 221 °F. Additionally, the design of this pump is external and connected to a “Duroplastic” thermostat assembly housing, which is bolted onto the engine. The pump is driven by a small balance shaft belt, which in turn is cooled by the fins of the water pump belt drive gear.

Excessive heat is one of the major contributors of this pump’s high failure rate. The other contributors are contamination and replacement pump installation problems.

**Troubleshooting telltales:** Look for coolant leaks

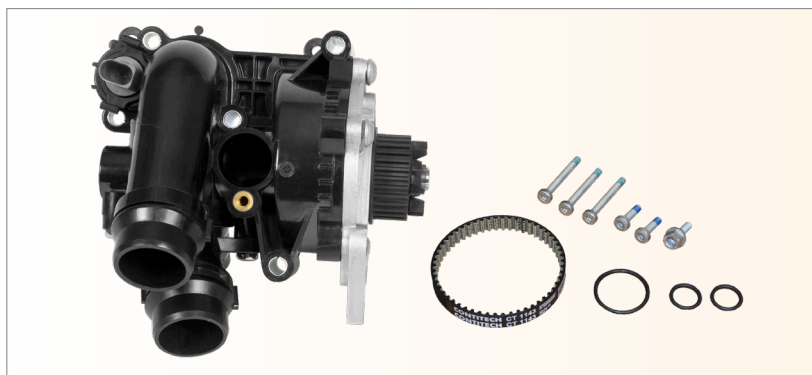
Coolant loss is not easy to trace. It can most likely be found at the thermostat housing of the assembly. Typically, the housing is cracked around the bolt mounting holes (hard to detect visually) or out near the top gasket that seals the thermostat housing against the block.

Note: The OE part is only sold as an assembly with the thermostat housing.

### Probable causes:

- Leakage caused by failing gaskets used to seal pump to engine or thermostat housing around the mounting bolts.
- Leakage caused by incorrect torque specs used during assembly.
- Leakage caused by thermostat misalignment.
- Gasket swelling originates from a cam girdle oil leak, which ultimately leaks past the manifold onto the pump.
- Incorrect balance shaft belt tension on the water pump creates excessive stress on the bearing, leading to premature pump failure.  
Note: Proper torque of the bolt on the balance shaft belt should set the tension.
- Antifreeze issues – with engines that run very hot, using the wrong or contaminated antifreeze, or an incorrect mixture can lead to premature water pump failure.

Rein Automotive  
Water pump kit P/N  
WPL0016 includes  
pump, thermostat  
assembly, temperature  
switch, balance shaft  
belt, o-rings and  
mounting hardware.



## Applications:

Audi and VW 2.0L TSI engines CAED and CAEB

## Coverage:

2008 – 2014  
Audi A3, A4 and A5

2008 – 2014  
VW CC, EOS, GTI, Jetta, Passat and Tiguan w/ 2.0L TSI non SULEV engines (45 U.S. states and Canada)

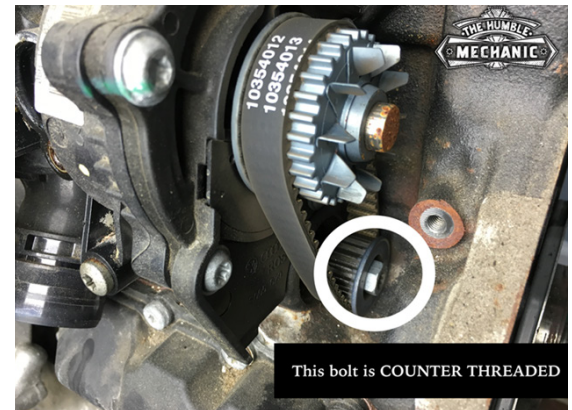
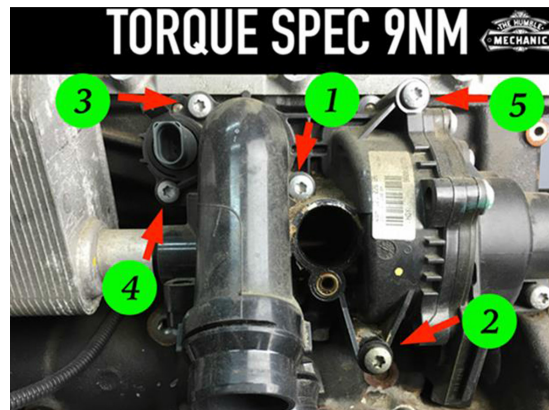
## Service solutions:

CRP Automotive has developed the following service steps to provide guidance with the installation:

- Use the top alignment holes to get the pins set. Be sure to use the right torque values in proper sequence. (Shown below)
- Repair any oil leakage that could have caused gaskets to swell.
- Replace the OE pump assembly with a new OE quality Rein-Dolz Water Pump.
- CRP Automotive offers three types of water pump assemblies:
  - Water pump only – WPR0016
  - Water pump assembly WPC0016 (Includes: pump, thermostat assembly and temperature switch)
  - Complete water pump kit P/N WPL0016 (Includes: pump, thermostat assembly, temperature switch, balance shaft belt, o-rings and mounting hardware)
- CRP Automotive engineers recommend using the kit as the ideal solution. Reusing the old hardware and the old belt can lead to premature failures.

## Water pump assembly torque sequence:

Please use the following procedure for tightening the bolts and screws provided in the water pump kit.



More information and service details are available from the following YouTube videos:

- [youtube.com/watch?v=\\_DDb7ZQ0tIE](https://www.youtube.com/watch?v=_DDb7ZQ0tIE)
- [youtube.com/watch?v=PqJ9C2N429M](https://www.youtube.com/watch?v=PqJ9C2N429M)