Installers Responsibility:
Blauparts recommends that installers take the necessary time to thoroughly follow the steps outlined in this bulletin to prevent future labor costs, as well as any inconvenience after the installation of the water pump included in this timing belt kit. It has been noted that due to time constraints, inconvenience, and profit, many individuals and mechanics alike, do not take the extra time needed to thoroughly flush the entire vehicle cooling system prior to the installation of the new water pump. Just draining the cooling system and refilling the system is not enough! Premature water pump failure (water pump seals and bearings) can occur because of failing to take the time to flush the entire cooling system and its related components. Often when problems arise, such as a coolant leak, the new water pump is blamed as the cause when in fact the opposite is true. It is usually because the installer has neglected to follow these steps listed below.

Flushing the Cooling System:
It is imperative that the cooling system be thoroughly flushed of all accumulated silt and sediment build up, including all aftermarket cooling system additives, or stop leak products that may have been added to the cooling system, past or present. This would entail flushing the radiator, engine block, heater core and hoses etc. Use Only Tap Water to flush the entire cooling system. DO NOT USE Cooling System Flush Products since many contain muriatic and/or other acids. Remnants of such acids left in the cooling system can cause your new water pump to prematurely fail.

Water Pump Installation:
Take extra time in cleaning the water pump gasket/o-ring mating surfaces. Make sure the surface is free of all old gasket material and corrosion build up before installing your new water pump. It may be necessary to use a light abrasive scuff pad or razor blade. Gasket sealing agents should NOT be used if your water pump includes a paper gasket. If the water pump mounting surface area on the engine block is thoroughly cleaned, smooth and free from old gasket debris, gasket sealing agents (Form a Gasket products in gel or spray forms) are not needed. Sealing agents vary in composition and intended usage, and when used in conjunction with paper gaskets may affect the paper gaskets’ long term ability to compress and/or perform its sealing function. Appropriate gel like gasket sealing agents should only be used in the case of severe pitting of the engine block surface whereby an even and smooth mounting surface for the water pump is not attainable. Double check all water pump mounting bolts for tightness. A loose or missing water pump or thermostat housing bolt can result in a leak and falsely attributing the water pump as defective.

Filling the Cooling System:
IMPORTANT: Read the Warnings on the antifreeze coolant bottle, improper use is HARMFUL or FATAL. Use only Audi, Vw G-12 antifreeze coolant which was included in your timing belt kit. These bottles contain coolant that is concentrated. You must dilute the coolant. Mix 50% coolant with 50% DISTILLED WATER. DO NOT mix normal tap water with new coolant if at all possible. Tap water varies in Ph and mineral content and depending on these factors, can adversely effect your new water pump and other cooling system components.

Water Pump Break in Period:
All water pumps are inspected and air pressure tested at the factory for any leaks. However, new water pumps do have a break in period. It is not uncommon for a new water pump to have some seepage of coolant from the discharge hole below the water pump pulley shortly after start up. This is because the unique seal material in the new water pump is designed to ‘bed in’ as the impeller shaft spins. Slight weeping or dampness from or around the discharge hole or cap is allowable for at least 100 miles after installation and should not be attributed as a defective water pump.

Maintenance:
Mixing other brands of unauthorized antifreeze coolants with the approved G-12 antifreeze coolant included in your new timing belt kit can also cause an adverse chemical reaction to G-12 coolant, causing the coolant to gel and clot. This can damage the new water pump, plug the cooling system, and weaken other plastic cooling system components such as, the radiator and plastic coolant hose connections.

Environment:
Be environmentally responsible. Dispose of the old anti freeze coolant properly.
Performing work on your automobile without having proper knowledge, mechanical ability or the proper tools and safety equipment, CAN CAUSE SEVERE INJURY OR DEATH! BLAUFernügen! Inc. recommends that you have an ‘A.S.E. Certified Audi Technician’ install your parts to ensure safety.

ALWAYS: WEAR SAFETY GLASSES AND OTHER SAFETY ITEMS WHEN PERFORMING THE FOLLOWING WORK!
ALWAYS: REFER TO THE FACTORY MANUAL FOR PROPER SAFETY INSTRUCTIONS & PRECAUTIONS!
ALWAYS: REFER TO THE FACTORY MANUAL FOR PROPER INSTALLATION OF THE COMPONENTS IN THIS KIT!
ALWAYS: REFER TO THE FACTORY MANUAL FOR THE USE OF PROPER TOOLS!
IF YOU DON’T HAVE THEM, BLAUFernügen! Inc. RENTS THEM.
ALWAYS: REFER TO THE FACTORY MANUAL FOR SPECIFICATIONS ON TORQUING BOLTS AND NUTS.

Please Note: The below guidelines are not intended to replace the instructions as outlined in the Factory Manual. If you don't have the Factory Manual we recommend you purchase one from us before beginning any installation project. The following guidelines are designed as helpful tips regarding the fundamentals of Audi/VW timing belt installation.

Verify Engine Is At Top Dead Center #1 Cylinder:  It's always beneficial to verify that the #1 cylinder is at top dead center before removing the old timing belt. Aline all timing marks as outline by the Factory Manual. This is done by using the probing devise to confirm pistons are at top dead center when all timing marks are alined. Remove #1 cylinder spark plug.

Lower Front Crank Pulley Bolt on 5 Cylinder and V8 Models:  Lock tight material is used on these threads from the factory making the bolt very difficult to loosen. To make removal easier, BRIEFLY heat the head of the crank bolt with a torch. This will soften the lock tight material and allow the bolt to be loosened.

Water Pump Installation:  After water pump is removed, clean surface area on engine block where water pump gasket makes contact. Make sure the surface area on the block is PERFECTLY CLEAN with no previous gasket material remaining. If you don't do a half hearted job and spend the time to get the gasket surface area flat and perfectly clean you won't need an form-a-gasket material. Install the new water pump using the new gasket provided. NEVER USE any form-a-gasket material in place of or in conjunction with the gasket or o-ring that's provided with the water pump. Timing The Water Pump on 4 Cylinder and 6 Cylinder Models: Torque the water pump mounting bolts to factory specs and DO NOT over tighten. Timing The Water Pump on 4 Cylinder and 6 Cylinder Models: Tighten mounting bolts snugly, but still allowing for the water pump to rotate, which is needed for performing timing belt tensioning adjustment in later steps.

Timing Belt Tensioners: Always replace them. Failure to due so will likely result in premature timing belt failure causing severe engine damage. When installing new tensioners make sure they are mounted and positioned correctly and not misaligned when secured. BE VERY CAREFUL not to over torque tensioner mounting BOLTS. Tensioners that are secured with NUTS (which perform the adjustability function of timing belt tension) can be tighter relative to the bolt size or per the Factory Bentley Manual.

Timing Belt Tension:  THIS IS CRITICAL! (V8 and V6 30 valve engines with a hydraulic tensioning damper have special tensioning requirements - see your Factory Manual.) More often installers OVER TIGHTEN the belt. Over tightening the belt WILL CAUSE: 1) WHINING noise when the engine is revved up. 2) Premature water pump failure as a result of applying too much tension or load on the water pump bearing. Proper tension for all engines is achieved when you're able to twist the belt 90° with RELATIVE EASE (see illustration). Most models can check the tension at the MIDWAY point in-between the cam sprocket and the water pump. 4 Cylinder 8 Valve and V6 12 Valve Models WITHOUT Tensioning Damper:  Tension on the belt will change as you tighten the tensioner. 5 Cylinder Models: Tightening your water pump bolts sometimes results in an OVER TIGHTENED final setting. Verify belt tension is correct by turning the engine over BY HAND. DO NOT USE THE ENGINE STARTER. Using the engine starter may cause severe engine damage! 2 or 3 full revolutions to double check that timing belt tension is correct.

Lower Front Crank Seal:  When the tool is unavailable you can improvise for removing the seal using a drywall screw. Tapping and then screwing into the face of the seal, removing using a pliers. To install use a 1/2 inch drive socket that matches the outside diameter of the seal and tap the seal in evenly. ALWAYS coat the inside diameter of the seal with a multipurpose grease to ensure long term seal reliability. NEVER coat the OUTSIDE of the seal with grease or any form-a-gasket material. ALWAYS make sure the seal is flush with the front of the oil pump housing. Do not drive the seal TOO DEEP or seal leakage may occur.

Verify Crank/Camshaft Timing:  Upon completion of installing your timing belt kit and before installing the front engine covers, slowly rotate the crank shaft BY HAND. DO NOT USE THE ENGINE STARTER. Using the engine starter may cause severe engine damage! 2 or 3 full revolutions to double check that timing belt tension is correct and that there is no interference between the valves and pistons. Double check all crank and cam timing marks aline (and distributor rotor alignment if so equipped). We also recommend removing #1 cylinder spark plug and reconfirm piston is at top dead center when all marks aline.

Over
**V6 Cooling Systems:** Remember to follow the Factory Manual instructions for burping the V6 cooling system. Failure to do so will cause overheating and possible engine damage.

**Other Considerations:** Remember it is convenient if the cooling system is drained to consider replacing your thermostat, questionable cooling hose(s), or the heater control valve.

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