(i) Tech Tips

## Timing belt clinic Malcolm Short, Schaeffler Peugeot 206 1.4 HDi 8HX/8HZ

Timing belt replacement is due every 140-160,000 miles, or 10 years whatever comes first, depending on date of manufacture, but always check the manufactures recommendations. INA takes a closer look at this popular model.

he 1.4 HDi engine was exclusive to L Peugeot and Citroën, but in 1998 a joint venture between PSA and Ford produced a range of new diesel engines. The joint venture makes identical engines which are fitted to a variety of vehicles from many manufacturers including Peugeot, Citroën, Ford, Toyota, Mazda and Suzuki.

The timing belt system may look a little tricky to change, but with a little know-how and the appropriate tools, it will prove to be an ideal repair for an independent garage.

The engine has been identified as an interference type, so in the event of the timing belt failing, chance of engine damage is extremely high. It is important to install a new timing belt system on an engine while it is at ambient room temperature. Always adhere to turning the engine in the normal direction of rotation unless advised otherwise by the OEM installation instructions. Recommended torque values should always be used. It is recommended that all the tensioners, idlers and fixings are replaced as advised by the manufacturer during the timing belt replacement.

A two post ramp is ideal for carrying out timing belt replacements, it is also vital that the appropriate timing belt replacement tools are available and used, and these are readily available from most motor factors. If the vehicle is equipped with alloy wheels, it's a good idea to locate the adaptor key before you start.

Once the vehicle is on the ramp, for safety reasons and best practice, we disconnected the negative battery lead.

Remove the O/S/F wheel and wheel arch liner; this gives access to a plastic shield which can then be removed. The auxiliary drive belt is now fully visible and accessible (fig 1), make a



note of routing if required, rotate the auxiliary belt tensioner clockwise to the released position, lock with a pin, remove the auxiliary belt and check for wear and deterioration. Replacement is advised during timing belt replacement.

This vehicle was also fitted with an Over Running Alternator Pulley (OAP) which should also be tested for correct operation and replaced if necessary. At this point, unclip the wiring harness from the lower timing belt cover that goes to the crank sensor and detach from the crank sensor and remove the auxiliary belt tensioner.

Lower the vehicle close to ground level, unclip the wiring and fuel pipes from the top timing belt cover, support the engine either by means of an engine brace or engine support beam, remove the engine control unit from the engine bay, remove the engine mount cover, rubber bump stop and the engine mount. Undo the five bolts in the top timing belt cover and remove

Raise the vehicle, insert the crank locking pin from the back of the engine through and into the back of the flywheel (this is a locking device not a timing location), located in a central position (fig 2). Undo the centre bolt on the crankshaft pulley and remove pulley and locking pin, remove the crankshaft position sensor and shield. Undo the five lower







timing belt cover bolts and remove the cover. Refit crankshaft pulley bolt and rotate engine until crank, cam and fuel pump locations align. Lock crank, cam and fuel pump with pins (figs 3 and 4), slacken the tensioner and remove, and then remove the timing belt.

Carry out a thorough inspection of the timing belt area including pulleys and water pump. Replace the timing belt tensioner, making sure it is located correctly (fig 5), idler and fixings supplied. Replace the tensioner



bolt, the idler and stud. Fit the new timing belt in the following order, crankshaft, idler, camshaft, water pump, fuel pump and then the tensioner. Tension the belt by aligning the marks on the tensioner and torque bolt. As per instructions, rotate the engine ten revolutions and recheck timing and tension, (when we carried this out the fuel pump locking pin did not line up, after two more rotations it all aligned and locked with the pins).

Refit all components, reconnect battery lead and remember to reset the clock, radio code, electric windows and remote locking. Run the engine to ensure all is correct.

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