

Diagnostic tips in practice: RATTLING NOISE

CAR MAKES A RATTLING NOISE, THE ENGINE WARNING LIGHT ILLUMINATES

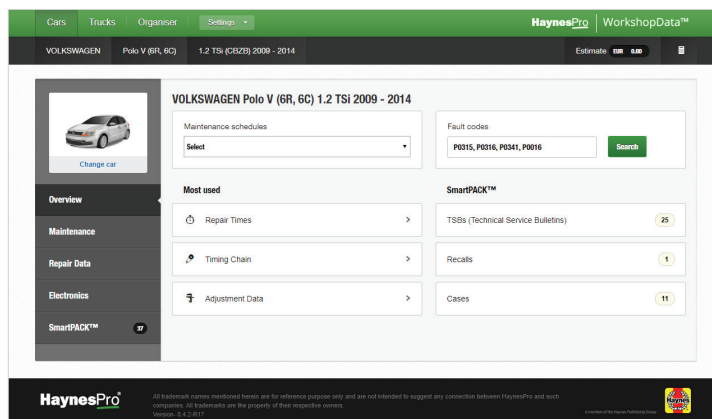
Car: VW Polo V 1.2 TSI (CBZB) 2009-14 (Type-ID 102001075)

A customer brings a VW Polo 1.2 TSI into the workshop and reports engine running problems. **There is a rattling noise** which had developed over a period of several months and the **engine warning light is on**.

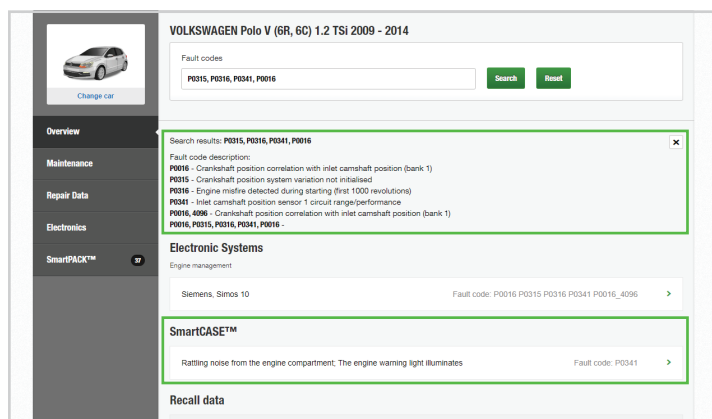
This creates potentially dangerous situations for the driver and other road users.

The initial diagnosis by the workshop reveals four stored fault codes: **P0315**, **P0316**, **P0341**, **P0016**. The technician then uses WorkshopData's built-in VRM lookup to select the correct vehicle.

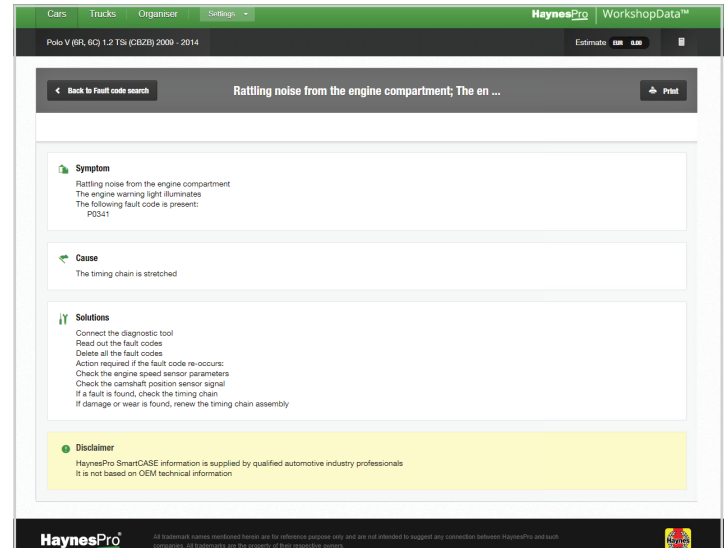
With the correct vehicle selected, the technician now enters all four fault codes into the search box.



WorkshopData reveals that the fault codes relate to both the camshaft and crankshaft sensors, with an additional misfire detected when the engine is first started.



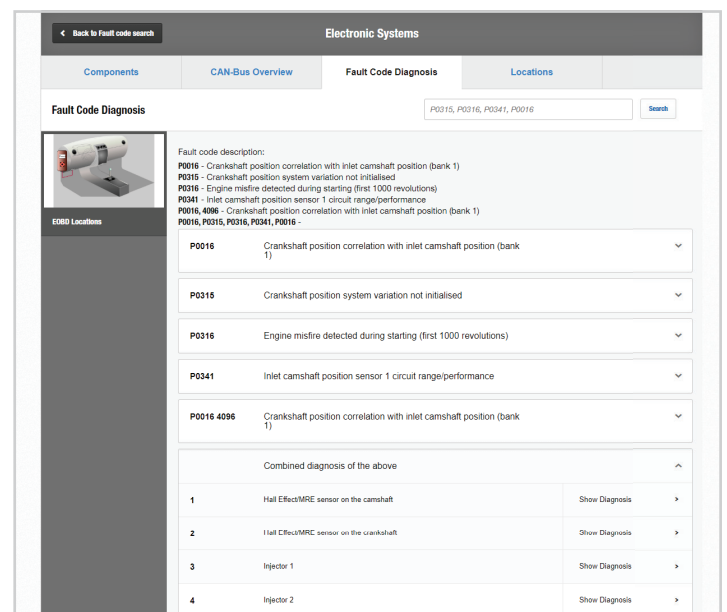
WorkshopData's genius lies in its additional searches for SMART data linked to these fault codes. In this case WorkshopData reveals a SmartCASE linked to fault code P0341; its description relates to our Polo's symptoms.

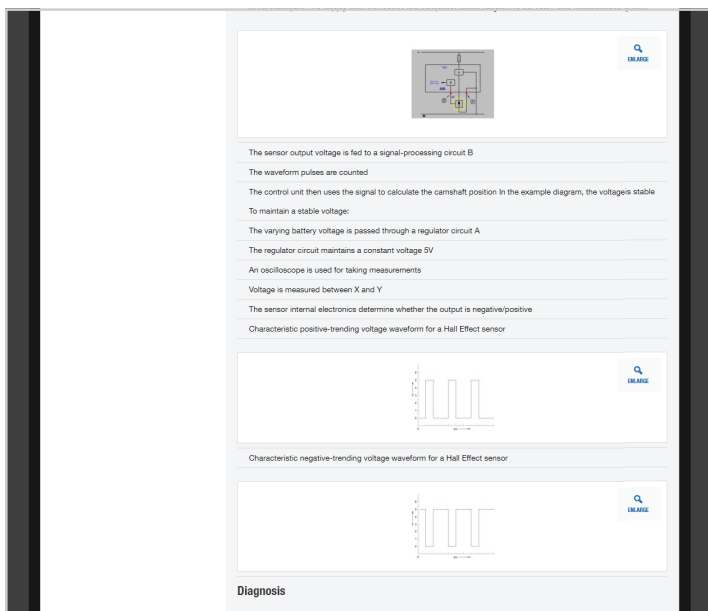
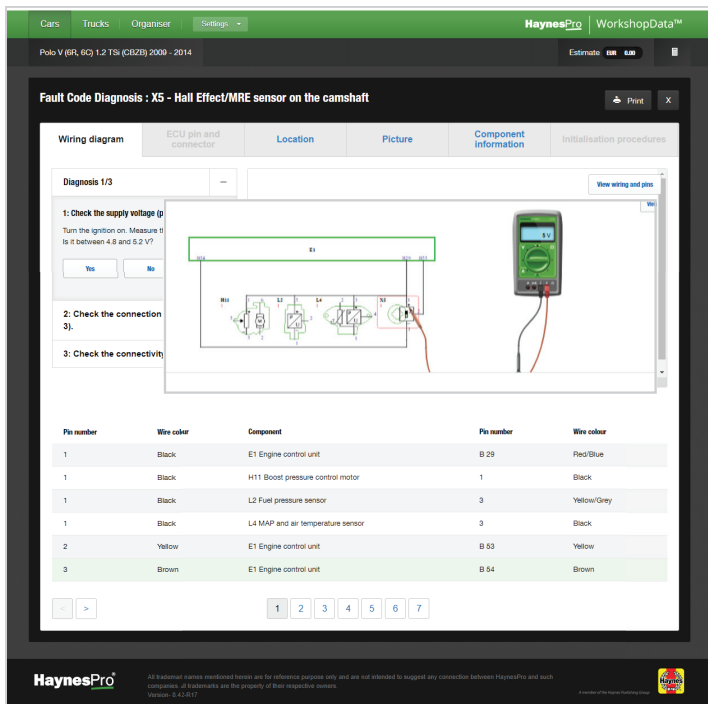
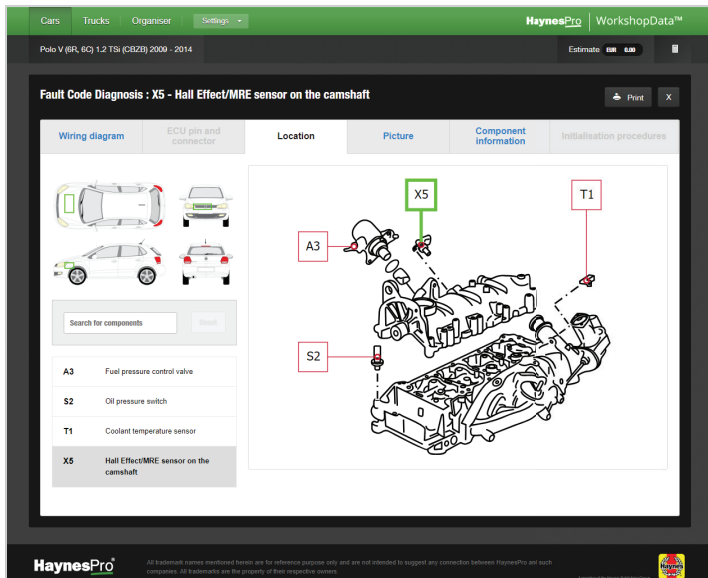


All of WorkshopData's SMART data lists the necessary diagnostic steps according to symptom, cause, and solution, so the technician follows the suggested solution:

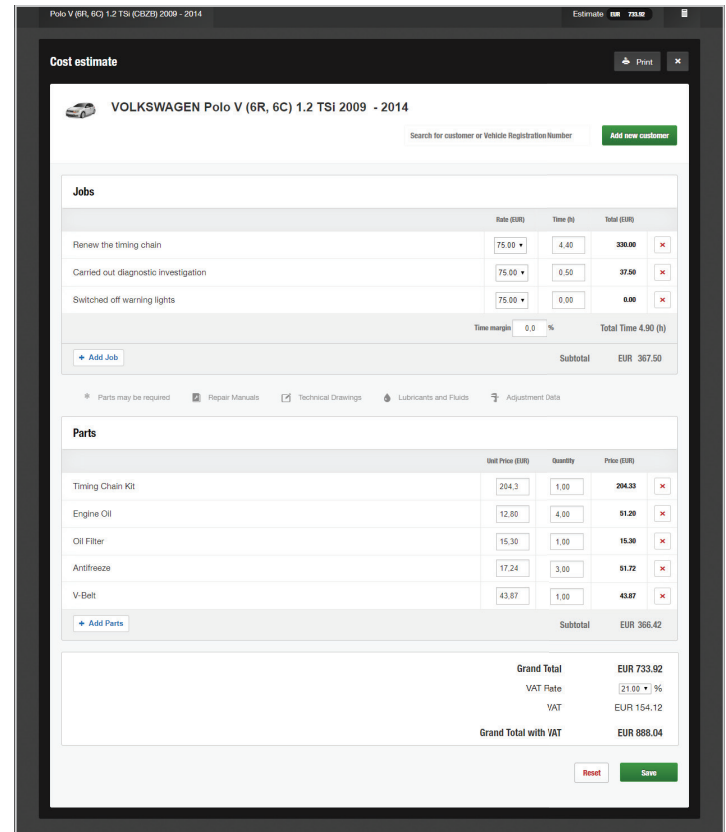
Step 1. The first step is to erase the stored fault codes. Unfortunately after the engine is run for a few minutes the engine warning light illuminates again, with the same codes again stored.

Step 2. Using HaynesPro's unique VESA feature, the technician then follows the suggested step-by-step diagnostic route to confirm that the wiring for both sensors is correct. The scope patterns of both sensors also appear to be correct. With closer inspection and while revving the engine, fluctuations in the timing between crankshaft and camshaft are noticed; a typical symptom of a worn timing chain.

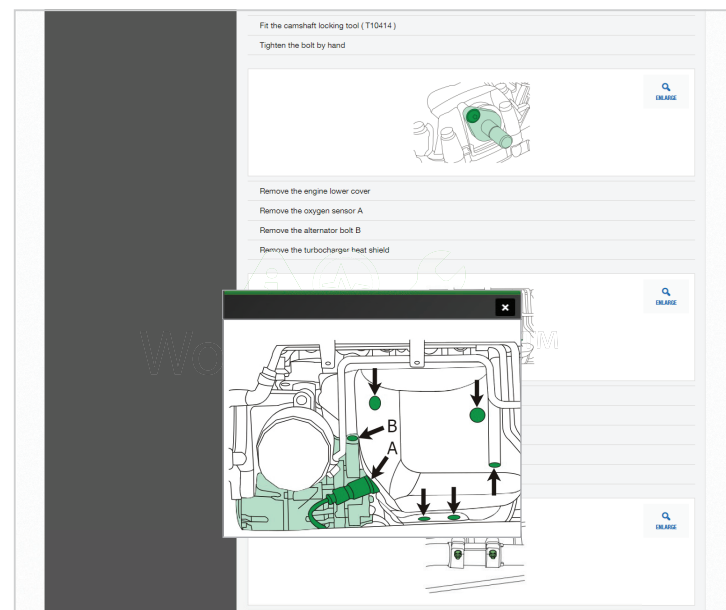




Step 3. With both the crankshaft and camshaft sensors working correctly and the timing chain verified as the cause of the problem, the time has come to notify the owner. WorkshopData is now used to create a cost estimate. Using the timing chain repair manual, the technician identifies the parts and time required for the repair.



Step 4. The owner agrees to the required repair and the work is carried out. Using the detailed step-by-step HaynesPro repair manual, the work is completed both accurately and efficiently.



Step 5. The vehicle is returned to its satisfied owner.

End.