



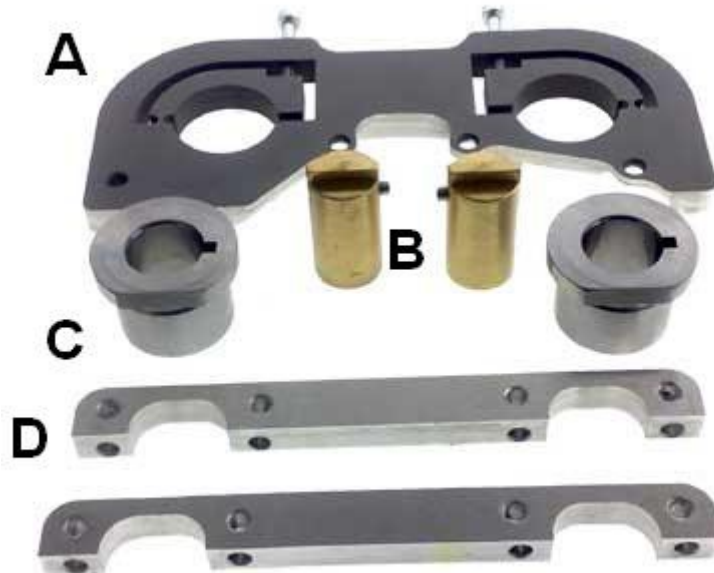
RENAULT F4R :: TIMING & LOCKING TOOL

A/ PROBLEM

The original timing tool is a quick and easy method to install original camshafts, but it does not allow checking and adjusting the lift @ TDC. The F4R cylinder head also has a few extra challenges:

- cam bearing caps are integrated with the rocker cover, so dummy bearing caps are required to hold the camshafts in place
- installation of the rocker cover is only possible when the cam pulleys are removed from the camshafts. However, the camshafts have no reference pin to lock the pulleys, so a different indexing method is required

To solve this problem, Catcams have manufactured a new adjustable timing tool:





B/ SOLUTION & PROCEDURE

- the locking plate (part A) is fitted at the rear end of the cylinder head. The waterpump housing can stay in position without losing water – only 3 bolts will have to be removed
- insert the steel rings (part C) into the locking plate (part A)
- insert the bronze timing shafts (part B) into the steel rings (part C)
- install the camshafts in the cylinder head and keep in place with the 2 dummy bearing caps (part D)
- slide the lip of the bronze timing shaft (B) into slot at the rear end of the camshaft: when rotating the camshafts, the bronze timing shaft (B) and the steel ring (C) will also rotate
- set the camshaft timing as required and tighten the bolts of the locking plate (A) to clamp the steel rings (C) so the rotation is fully locked
- you can now pull back the bronze timing shafts (B) and remove the cam wheel pulleys and camshafts. The steel rings (C) will stay clamped in the correct position so the camshafts can be installed at the correct angle after installing the valve cover

C/ REMARKS

- the timing shafts (B) have a thread to hold a degree wheel
- the timing rings (C) have a flat reference to keep a digital level gauge
- during installation, always use camshaft assembly lube or grease
- after installation, use excessive engine oil on all cam followers at startup

CAMSHAFTS SHOULD BE INSTALLED BY ENGINE PROFESSIONALS WHO HAVE THE CORRECT TOOLS, SKILLS AND PATIENCE TO DO THE JOB CORRECTLY. WRONG INSTALLATION CAN CAUSE SEVERE ENGINE DAMAGE. PLEASE CONTACT CAT CAMS IN CASE OF DOUBT.