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Renault F4R updated cambelt kit fitting instructions.

This cambelt kit has updated steel idlers and replaces the original automatic sprung tensioner with an elliptic mechanical tensioner.

The original plastic idlers and tensioner are a weak point on the F4R engine when tighter belt tension is used on a competition engine. This kit replaces all the plastic parts with CNC machined steel pulleys.

The bearings can be replaced easily so you can maintain the kit for very low costs.

This kit is suitable for competition use or where regular checks to the engine are made and is not suitable for large mileages on road cars due to the lack of an automatic tensioner.

WARNING:

The engines fitted to these vehicles have no keyways to locate the cam or crank pulleys.

NOTES:

Pure Motorsport accept no responsibility whatsoever for incorrect fitment of this kit. It is highly recommended that a competent and suitably trained vehicle mechanic fit this kit and have access to the correct tools.

These instructions are offered as a guide only and further information may be required in the form of a workshop manual and engine locking/cambelt replacement guide. You may need to use your experience when tensioning the belt – if you don't have the experience in knowing how tight a cam belt should be then you shouldn't be fitting this kit and should enlist the help of a professional with the required experience.

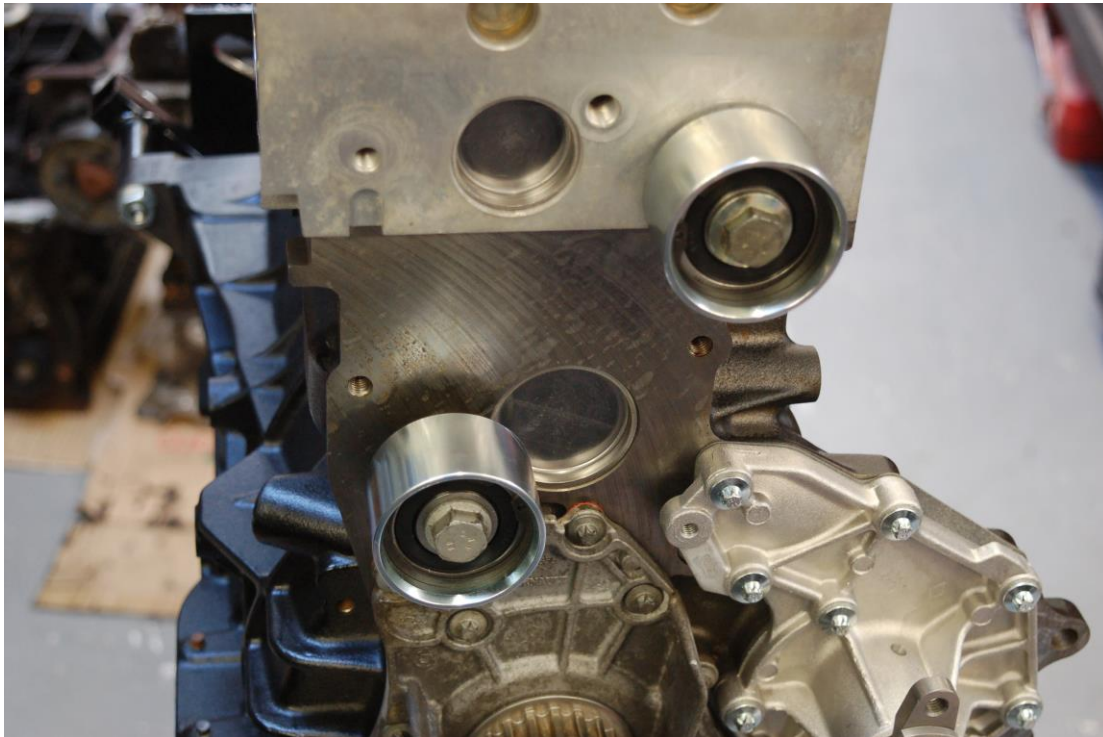
This guide is based on race engines with Vernier pulleys fitted, this will be different when using VVT and standard cam pulleys – use the workshop manual for more information.

Fit the crank sprocket (ideally using a sprocket with integral key), ensuring all surfaces are clean and free from oil and grease.

Fit the cambelt idlers using Loctite 243 to 50Nm. The rear spacers behind the idlers need to be the tapered type fitted to Clio 2 models.

Screw in the cambelt tensioner stud with Loctite 243 to 10Nm and fit the tensioner leaving loose at this stage.

Knock in the cam pulley locating dowels if using Catcams and fit the cam pulleys, just nipping up the retaining nuts at this stage.

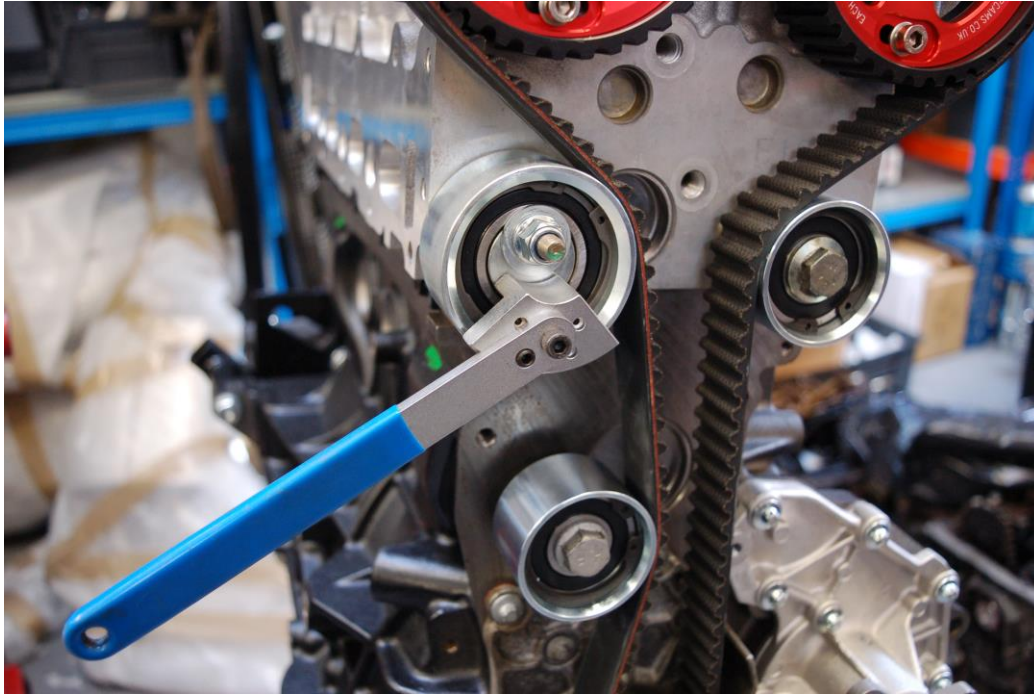


Make sure the camshaft locking tool is in place.

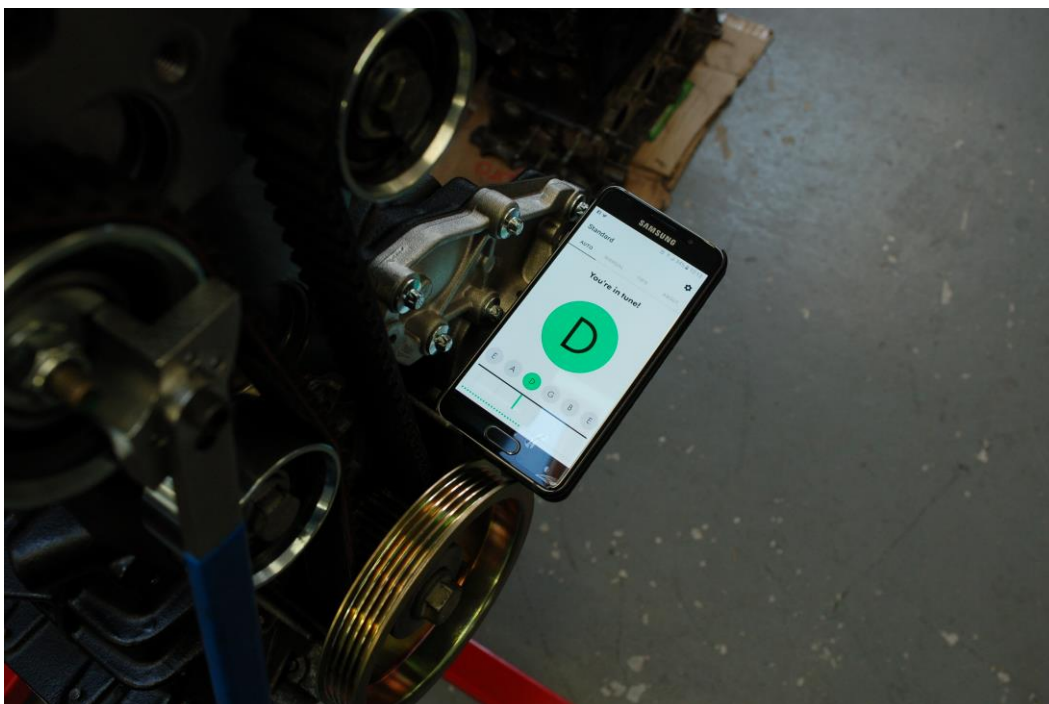
Ensure the locking pin is fitted with the crankshaft at TDC number 1 cylinder.

Ensuring the cam pulley adjustment bolts are tight, use the Renault camshaft pulley holding tool 0000150901 to lock the cam pulleys into place and tighten the two cam pulley retaining nuts to 30Nm followed by 86 degrees.

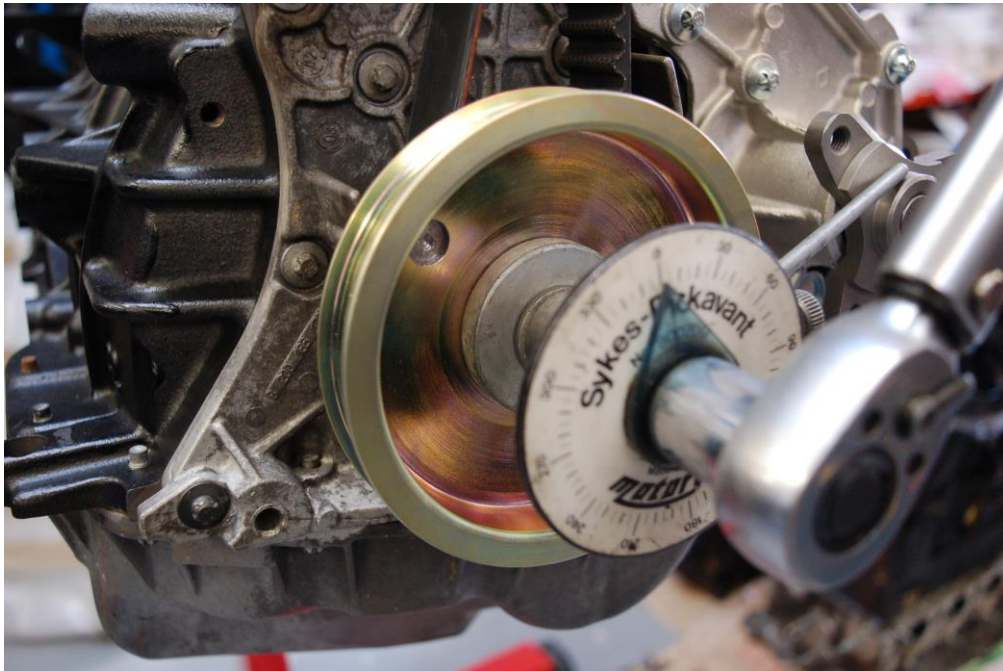
Slacken the M6 cam pulley adjustment bolts. Fit the cam belt to the pulleys so that the adjustable pulleys are around the midway point of adjustment. Using the VAG tensioning tool turn the tensioner **anti clockwise** until the desired tension is gained.



To measure tension very accurately we use a guitar tuning app on a smartphone and tune by 'plucking' the longest front section of belt to an 'A' 110hz for hydraulic lifter engines and a 'D' 146hz for solid lifter conversions with stiffer valve springs and longer durations cams. This may seem tight but once bedded in the belt relaxes very quickly. Torque tensioner retaining nut to 28Nm.



Using a new bolt, liberally coated in Loctite 243, tighten crank pulley bolt to 40Nm + 110 degrees.



Ensuring the cam locking tool is still fitted to the cams, torque the M6 cam pulley bolts to 9Nm. Remove the locking pin from crank and locking tool from cams, rotate the engine four revolutions and refit the crank pin, number 1 cylinder at TDC. Make sure the weld up cam timing tool can easily be inserted into the cams, if not slacken the cam pulley adjustment bolts, move the cams as required and re-torque the bolts. Repeat the turning of the engine and checking the cam timing until the weld up cam timing tool can be inserted easily.