



Atomic Performance Products

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Instructions for use of On-car Valvespring removal and replacement tool.

Thank you for purchasing Atomic valve spring removal tool #100704. Its simple, yet unique design is patented (Patent # 2006100221) and it is specially designed to allow the removal of valve springs on BA Ford Twin Cam Barra engines without the need to remove the cylinder head from the vehicle. To enjoy trouble free operation it is imperative the tool is used in the correct manner - failure to follow these instructions may lead to ineffective operation of the tool and the possibility of engine damage.

Step 1.

Remove the rocker cover and coil packs from the engine and rotate the engine until the camshaft timing links are lined up with the corresponding marks on the VCT sprockets. Loosen the VCT retaining bolts by securing the camshafts from rotating - holding them with a shifting spanner on the cast flats provided at the front of the VCT units. **Refer figure 1.**

Step 2.

Undo the camshaft saddles, noting their positions relative to the engine. Remove the camshafts, noting which cam is the intake and which is the exhaust. (they are different) Remove the VCT units and secure the timing chain to the side of the timing cover. It is suggested to mark the cams and then place them in the upturned rocker cover to ensure they are replaced in the correct position in the engine. Remove rocker arm assemblies, noting their positions in the engine.



Figure 1 – Loosening VCT bolts

Step 3.

Remove the spark plug in cylinder #1 and mount the #100704 tool above the cylinder using the 4 x 6mm flange-head bolts provided. Please note the rounded end of the tool is to face the passengers (inlet) side of the engine and the 10mm threaded holes are to be splayed outwards. **Refer figure 2.** Fill the cylinder with compressed air and gently tap the edges of the valvespring retainers to loosen the wedged fit of the collets inside the retainer. Fit the valvespring retainer compressing collar over the retainer, insert the 10mm bolt in the threaded hole directly above the valve and turn in a clockwise motion to push the collar down, releasing the collets. **Refer figure 3.** Remove the collets by way of the magnetic tool provided and then unwind the threaded 10mm bolt to raise the collar, allowing removal of the spring/retainer assembly. Reassembly is simply the reverse of the above procedure. **Refer figure 4.**



Figure 2 – installation of tool on head



Figure 3 – fitment of collar and compressing of spring



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Installation instructions continued

Step 4.

To remove springs in other cylinders, simply follow the instructions as set out in step 3. It is recommended that the spark plug is refitted to the cylinder once the springs have been changed to minimise the chance of foreign material falling into the cylinder.

Step 5.

Reset the timing chain tensioner, re-install the rocker gear, camshafts, camshaft saddles, VCT units and align the timing marks on the timing chain with the marks on the VCT units, torquing all bolts to manufacturers' specifications. Refit the rocker cover, coil packs and ancillary equipment.



Figure 4 – removing the collets with the magnetic tool

Remember, if you encounter any problems whatsoever with the use of this tool, please call Atomic direct - we are here to help!

Cheers,
The Team at Atomic