



The majority of these tips have appeared in club newsletters over the years. Please note that you use them at your own risk as neither the Bristol Austin 7 Club nor the authors can be responsible for the results of trying to follow the instructions given.

Some thoughts on Screw Threads

Most nuts and bolts on an A7 are British Standard Whitworth (with one or two exceptions to be mentioned later). They may have a fine pitch (BSF) or a more coarsely pitched thread (BSW). The pitch will be the number of threads per inch. A set of first and third (plug) taps in BSF and BSW for 1/4" and 5/16" sizes will do for most jobs on the Seven. They should be used for cleaning out old gunged-up tapped holes before refitting the mating bolt. Put a dab or two of grease on the tap to collect the grot and any swarf. Keep your eyes open for the odd nut/bolt or stud that has been swapped by someone for a metric thread. A M8 thread with a 1.25 (metric) pitch is deceptively like a 5/16" BSF thread. Thread pitch gauges and thread taps can often be found on autojumble stalls, but for new taps, dies, gauges etc try mail order firms such as **Chronos Engineering Supplies** – tel:- 01582 471900 or **Tracy Tools**, Torquay - tel:- 01803 328603.

If a tapped thread has stripped, it is common practice to tap it the next larger size. If a stud goes into this hole you will then need to procure a stepped stud or, just possibly, drill out the clearance hole in whatever goes over the stud and use a larger stud – OK sometimes, but not usually. A better option is to insert a Helicoil. Again this involves tapping out to a larger size, but the special Helicoil tap has the same pitch as the original tapping. The Helicoil which is to be inserted, looks rather like a spring made with diamond shaped wire. It screws into the newly tapped thread and has a replica of the original thread on its inside diameter.

Bolts come in various grades of strength and the ones that have any serious work to do on an A7 (or any other machine) will be stamped with a letter on their head. Go for "R" bolts and be wary of all others. The coarse pitch 1/4" BSW bolts, as found on the front and sumps of coil engines are particularly prone to necking! When held up to the light it can be seen that their diameter necks in where the bolt has reached its limit and has started to go long and thin (as does

a piece of chewing gum!). Not only is such a bolt ready to shear off e.g. when being tightened, it is also likely to damage the associated female thread because of its distorted pitch, particularly if it's an aluminium component. Throw it away. Beware that on earlier (mag) engines, these 1/4" tapped holes will have a BSF thread. Always check big-end bolts very carefully. Use a pair of calipers or a micrometer to check there is no necking and use a thread gauge, or place against a good thread, to ensure there is no change of pitch. Best of all bin them and fit new! Many a failed big-end will have a stretched old con-rod bolt as its root cause.

On modern cars it will be found that nuts and bolts are secured with a thread locking adhesive rather than spring washers. This practice can sometimes be followed on the A7 with the added advantage of stopping oil coming up through the screw thread. British Standard Pipe (BSP) threads are used for oil and grease. Some larger threads, e.g. those on the wheel hubs and bearings are specials; all small ones will be BA. All except on the Zenith carb, which is metric throughout. Most of it is the same as ISO metric but some threads have a non-standard very fine pitch, which is nigh impossible to clean out. Avoid allowing any carburettor threads to dry out/rust up. Standard threads are found on carb bowl – M7 x 1mm; butterfly spindle, slotted screw + brass pin for choke gear – M6 x 1mm; slow running air screw, throttle adjusting screw and nut on brass pin for choke gear – M5 x .75mm.

Finally a couple of thoughts on bolted up items. Cylinder heads can sometimes be very hard to remove because of binding of the studs on the head, so make your own luck. Before refitting a cylinder head check all of the studs and remove any burrs that may have been caused when the stud was screwed in. Polish off any rust on the studs. Check that all the studs are upright! Run a 21/64" drill through all of the stud holes in the cylinder head and make a trial check that it drops freely on to the block. Coat studs and nuts with copperslip.

If you have had the cylinder block off the crankcase, check the oil jet cover screws before fitting the block. Remember you will not have enough room to go up a size and you will need to remove these cover screws from time to time if you are unhappy about high oil pressure and fear blocked jets. Now is the time to check out the threads and fix any dodgy ones!

Chronos Engineering Supplies - <http://www.chronos.ltd.uk>

Tracy Tools - <http://www.tracytools.com>