



533 Ever broken a stud removing parts you're your engine?

It happens, particularly on studs that are exposed to the elements and to heat, as exhaust manifold studs invariably are. Here **Nic Houslip** recalls having the front most stud holding the exhaust manifold shear off just below the nut on a car that he was working on and was able to remove the residue with a stud remover. (Nov 17)



I was able to remove all the other fixings and the manifold leaving me with about 1/2" of 3/8" UNF stud protruding from the cylinder head. In cases where the stud breaks flush with or below the surface, you have no option but to drill down centrally and use a stud extractor, but this is really a "head off and take it to a machine shop" job. They will then have to drill accurately down into the stud, remove it if it will come free with a "screw in" extractor that has a coarse lefthand thread; or if that fails, to drill down with larger drills until the root thread diameter is reached and pick out the remaining

bits of thread from the hole. This is a difficult and time consuming job and best avoided, or better still left to an expert.



In this instance there was just enough stud protruding to be able to do something about it, but a first attempt with a self-grip wrench failed because it wasn't possible to exert enough pressure to grip and turn the stud. Over the years I've bought various unusual tools at events and auto jumbles, mostly on the basis that "it'll come in handy if I never use it". One tool I have had for a long time but never tried was a stud remover that had a cam shaped wheel with a knurled surface inside a strong circular body that was supposed to grip the stud. Unfortunately it needed about a half turn to get a good grip, by which time the body of the tool was up against the timing chest.

Time for a search on the internet. Less than 15 minutes later I had located a device that looked like a big sturdy version of a drill chuck. This seemed to be the tool for the job so next morning I set off to the local Machine Mart to get one.

The photo alongside shows the device mounted onto the stud. It clamps on like a drill chuck, and is designed to be used with an

impact wrench, although it could be used with a ½" square drive ratchet or breaker bar. Turning the black hexagon shaped part anticlockwise tightens the jaws, chuck fashion, onto the stud, the more it is turned the tighter the grip and the teeth inside the jaws bite into the stud. The teeth produce longitudinal marks that can be seen below, it is these that grip the stud tightly.



Setting it to run anticlockwise the impact wrench screwed the remainder of the stud out of its hole in about 15 seconds, the length of time showing how tightly it was held by the rust of the ages. It is possible to use a ½" drive bar but this might not be as easy as using an impact wrench, unless you have a very long one and the space to manoeuvre it.

I can honestly recommend this tool as being something that works exceptionally well, it was made by Laser Tools www.lasertools.co.uk and is called the ½" D. It will remove studs from 6mm-12mm (¼" – ½") diameter. It can also be used to remove rounded or rusted nuts with external dimensions similar to the stud diameter, such as those with hexagon heads from ¼" AF to ½" AF or 6mm to 12mm AF. I bought mine from the Machine Mart at Great Barr in Birmingham. <https://www.machinemart.co.uk/p/tool-connection-tc3986-impact-stud-extractor/>

At £21.59 it was worth every penny.