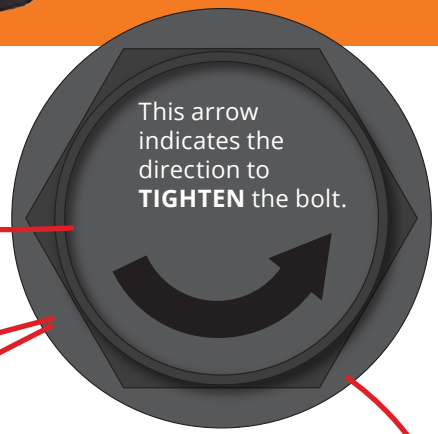
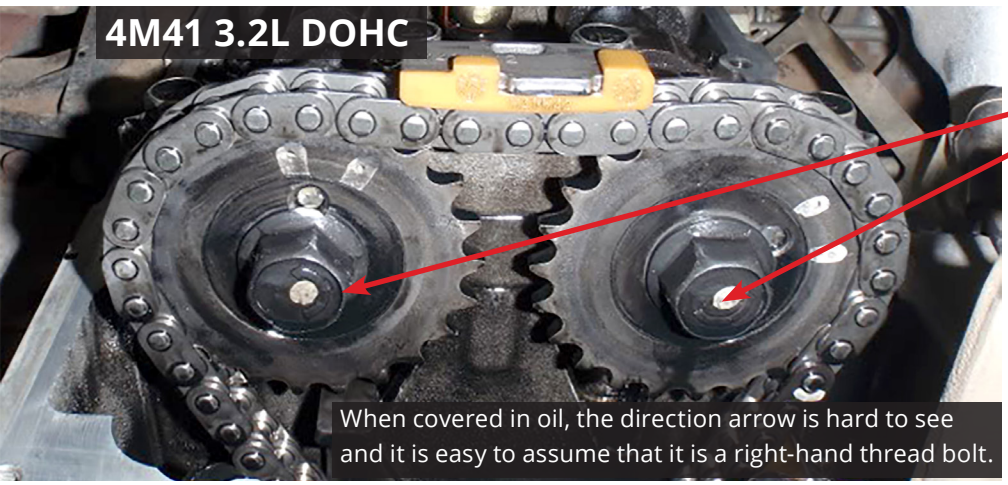
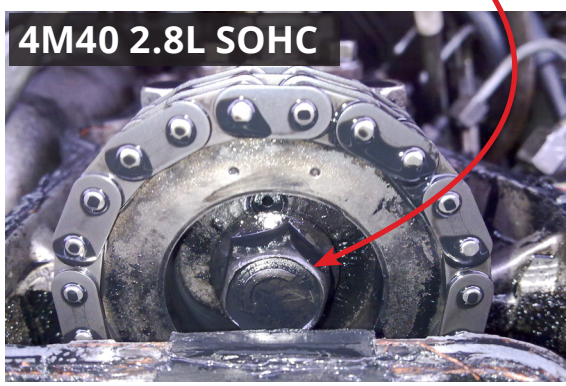
4M40 / 4M41: Left Hand Thread Camshaft Bolts:

1994 - 2018 Mitsubishi Pajero 2.8L / 3.2L
2006 - 2009 Mitsubishi Triton 3.2L
1995 - 2004 Mitsubishi Delica 2.8L





When covered in oil, the direction arrow is hard to see and it is easy to assume that it is a right-hand thread bolt.



All Head Services has a recurring problem of customers destroying camshafts, and either stripping threads or shearing camshaft sprocket bolts on Mitsubishi 4M40 and 4M41 engines. This is caused by the fact that these bolts have a left-hand thread.

In the July 2018 issue of Tech Talk (page 4536) we discussed the typical applications of left-hand threads and how they are marked. The convention for identifying a nut or bolt with a left-hand thread is with grooves cut into the corners of the hexagon. However, Mitsubishi have gone their own way.

The camshaft bolts on the 4M40 and 4M41 engines have an arrow cast into the head of the bolt to indicate the tightening direction, which in this case is anti-clockwise.

When these black bolts are covered in black and possibly sludgy diesel oil, these arrows cannot be seen, and the bolts do not have the grooves cut into the corners of the hexagon to make it evident that they are a left-hand thread. As a result, technicians are applying excessive torque in the wrong direction to try and undo the bolts which is leading to expensive damage.

If you have been using a rattle gun on these bolts, then realise that you are turning them the wrong way, it is recommended that you replace the bolts, as is it is highly likely that you have stretched the bolt beyond its yield point.

When loosening or tightening the camshaft bolts on these engines, you should hold the camshaft with an open-ended spanner on the hexagon part of the camshaft. Do not use the timing chain to hold the camshaft as you could damage components or skip teeth. The torque specification for these camshaft bolts are:
4M40: **90 Nm**
4M41: **88 Nm**

Using a left-hand thread on the camshaft sprocket is rare, and using an arrow on the end of the bolt to identify it is unconventional. This is another trap to remember when working on these engines.

We would like to thank Geoff, from All Head Services, for sharing this information
www.allhead.com.au
1300 416 181