

# Special Spanner for Starter Upper Bolt

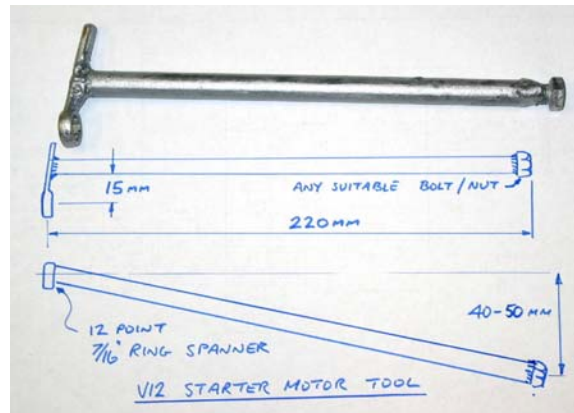
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## **Background**

Fifteen years ago when I had to pull the starter motor to fix a leak in the exhaust gasket above it, I was puzzled at how to get at the bolt at the top. You just can't get at it with any standard tool in the box. Perhaps Jaguar has a special tool, but the typical DIY can't afford to invest in very many "special tools."

## **Solution**

Here is the tool I made myself for the job. I cut a 7/16" 12-point ring spanner (box-end wrench) in half and welded it to a length of 1/2" steel bar, as shown in Figure 1. On the other end of the bar I welded an old bolt head to which a standard socket can be applied. Note the 10 to 12 degree angle of the spanner head with respect to the bar. If you have a welder and bench grinder or something to cut the spanner in half, it shouldn't take you more than about 20 minutes to make the tool. If you aren't equipped to do this yourself you can probably get a welding shop to do it for you for a lot less than buying a special tool from Jaguar. Needless to say, it is best to tack it together and make sure it fits before final welding.



**Figure 1** The starter spanner.

## **Usage**

The bar is angled down the side of the transmission with a normal spanner fitted over the welded bolt.