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How to change a starter motor

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This article will assume that you have performed other tests and that replacing the starter motor is the only way of fixing the problem.

Starter motors are most typically found on very awkward places in the engine bay.

They will most likely only be held on by 2 bolts, but these may be difficult to get too, or to get tools in to. Also, other parts may need to be removed in order to access the starter motor and solenoid.

I have always purchased a '[workshop manual](#)' for every car I have owned. They are only £15-20 and may pay for themselves in a very short time.

Replacing a starter motor is certainly one of those jobs where a '[workshop manual](#)' could prove invaluable in saving you time and avoiding scrapped knuckles. It will give you instructions that are specific to your particular make and model of car.

All that we can do in this article is give you some general pointers that should show you the places around the engine to look for your starter motor and what to expect when you find it.

[Price up a starter motor for your car](#)

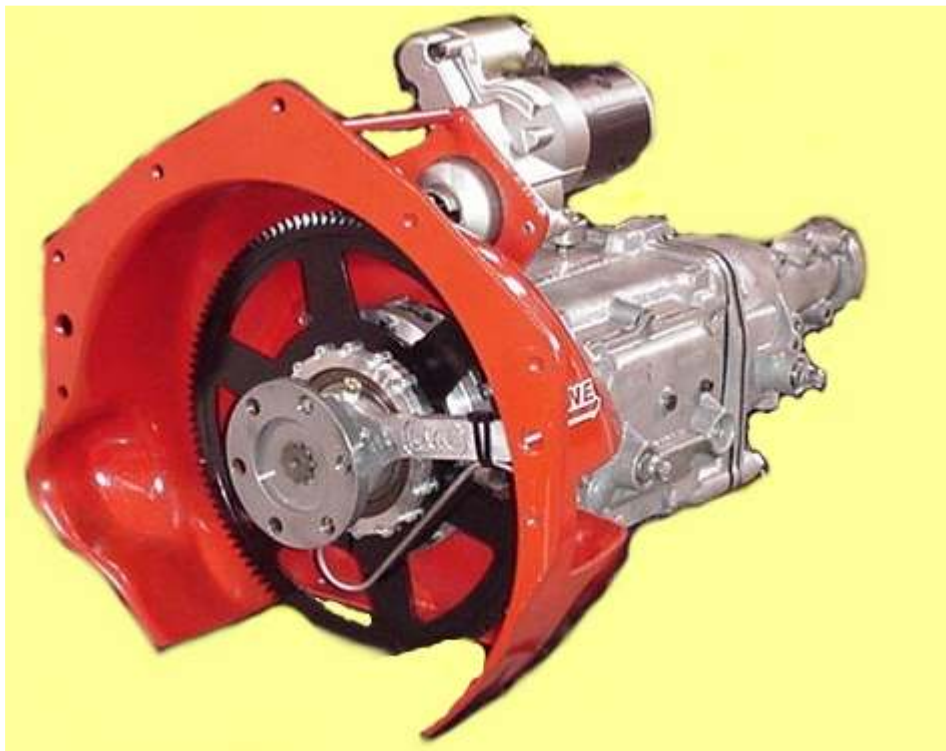
How long does it take ?

Well that's the million dollar question, they are only held on by 2 bolts, and the time it takes to get the starter motor off will be determined by where it is mounted. Where there has been easy access to the starter motor by looking down through the engine bay. I have owned other cars where the only means of access have been from underneath the engine.

One job took 10 minutes the other took over 1 hour.

Where is the starter motor ?

As we explained in the '[What is a starter motor](#)' article, the starter motor will turn the flywheel and so it is normally mounted on or in the area of the flywheel housing.



Starter motor is bolted to the flywheel housing where the driving pinion protrudes through the housing to turn the flywheel (black ring with teeth on the left).



This is quite a typical setup, Flywheel teeth on the left and the end of the starter motor on the right. Access to this starter motor is from under the engine bay.



You can see here that the starter motor is mounted right at the bottom of the engine. There are many more parts to be fitted onto this car that will make it even more difficult to get to. You would definitely need to access this from beneath.

So how do I remove the starter motor ?

As we mentioned, the starter will most likely only be held on with 2 bolts.

These could be normal 'hex' bolts like this ;



These can be undone with a open-ended or ring spanner like this ;



Or the bolts could be 'Torx' type like this ;



These can be undone with 'Torx' tools like this ;



This is a typical Torx set that will fit onto the end of a ratchet like this ;



or the bolts could be 'Allen' bolts like this ;



These can be undone with 'allen keys' or 'allen sockets' like ;



The allen socket is an attachment for your ratchet.

Finally

Once you have removed the bolts and the starter if loose, all that is needed is to undo the wiring from the terminals at the back of the starter.

Make sure you remember where is wire goes.

Fitting of the replacement starter will be a direct reversal of what you did to get the old one.

NOTES

ALWAYS - disconnect the battery terminals before starting any engine work .

If you have to work under the car, do it safely and tell someone what you are doing. If an accident does happen and you are unable to move for a period of time, at least people will know where to look to find you.

Make safety your first priority, read our article on [How to safely jack up a car](#)', and '[How to use car ramps](#)'.

TIP

I would certainly use the internet to find someone else who has already done a starter motor change on your particular car. For example use your favourite search engine to search for '*change starter motor on vw golf*'. If that doesn't bring up something useful then try some other search engines as you may get completely different results. Try these ; google, msn, ask, yahoo, altavista etc.

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