From TVMGOC newsletter January 2016

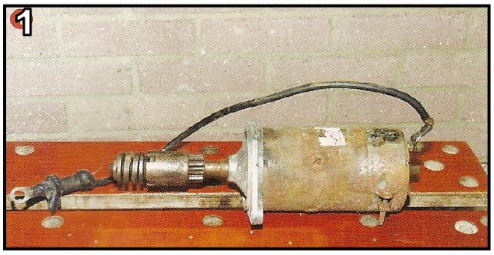
STARTING OVER

Most people opt to buy an exchange unit when their starter motor gives up the ghost but, you could strip down the unit yourselves. It's a relatively straightforward job and the pri30nciple is basically the same for the motors in most other MGs. (*This is from a Midget*)

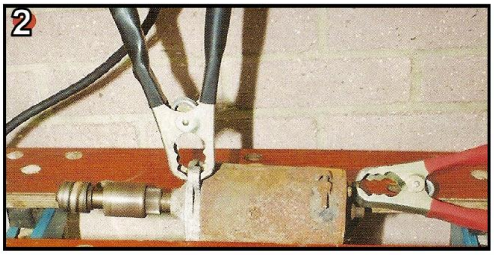
WHAT YOU'LL NEED

7/16in & 1/2in AF Spanners
A Selection of Screwdrivers
Jump Leads
Fully-Charged Battery
Purpose-designed compressor tool

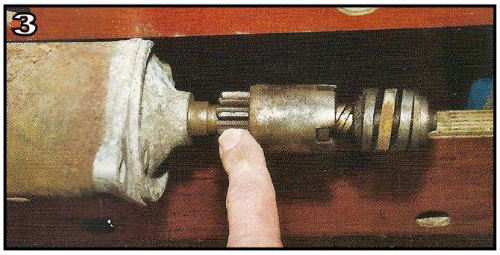
(*only necessary if dismantling Bendix drive gear assembly***)**



The starter motor as it came off the MG. It's physical condition beneath the dirt appeared to be really quite good, even if it is running slow.

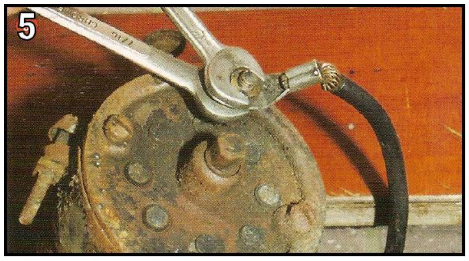


Before dismantling the motor, it's worth finding out whether it works or not. Clamp the unit securely and wire it up from the battery, and test it. If it works at once it is a good sign.

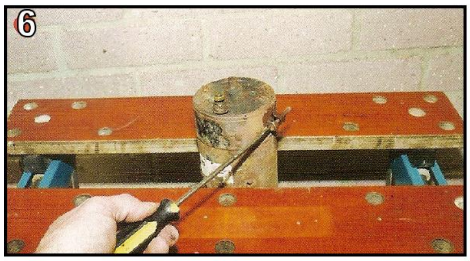


Check teeth on the main drive pinion, they should have clear-cut profiles. If they are severely worn, you will need to replace. (special tool needed)

Pull back the drive pinion/barrel assembly and ensure that it returns easily on its own. A spray lubricant can free up sticky unit, but don't use oil, attracts dirt which in turn clogs up the mechanism.

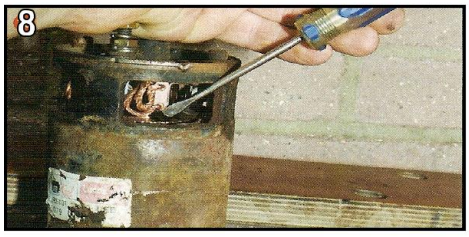


Remove the power lead from the main terminal on the motor. Use a 7/16in AF open-ended spanner to hold steady the inner nut on the pillar, while releasing the outer nut (***also a 7/16in AF***)

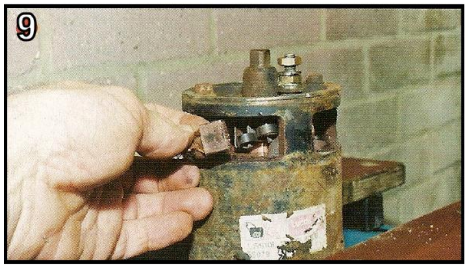


Unscrew the unit's end-cover, released carefully ease the cover off the motor's body. This exposes the apertures in the casing through which the brush gear can be examined and reached.

Examine the brushes and establish how far down in their holders they are sitting (***which indicates how worn they are***). Check also whether the brushes move freely within their holders (***if not, gently file brush edges***)



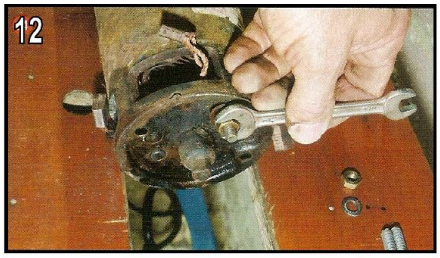
Use a small-bladed screwdriver to ease back the springs which apply pressure to the brushes (holding them in contact with commutator). Hook spring ends away from brushes and onto edges of brush holders.



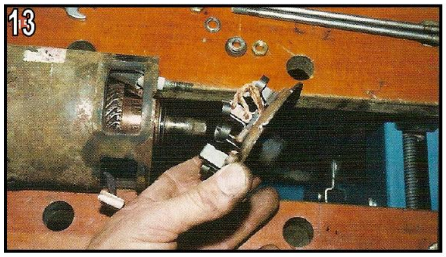
The brushes can now carefully be eased out of their holders (past their retaining springs). Check length of each brush, if less then 9.5mm, renew them as a set.

Loosen the two long through-screws running the length of the starter motor. These are often very tight, so apply some penetrating oil in advance and then use a good sturdy screw-driver to release them.

Make sure that the motor is horizontal before finally releasing and pulling out the two through-screws. (***otherwise the motor may come apart and its components will land on the floor, causing damage and swearing!***)



Unscrew the inner nut from the main terminal pillar at the motor's end plate. Remove the washers from the pillar (noting their relative positions), and store them in a safe place.

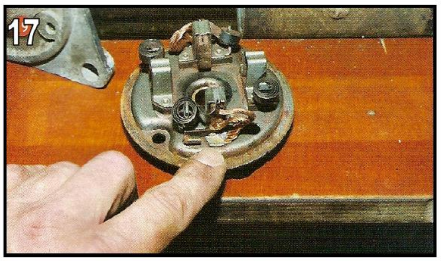


Carefully prise/pull off the motor's end plate, complete with the two brushes attached to the assembly. If you are planning to re-use the brushes, take care not to damage them or their cables.

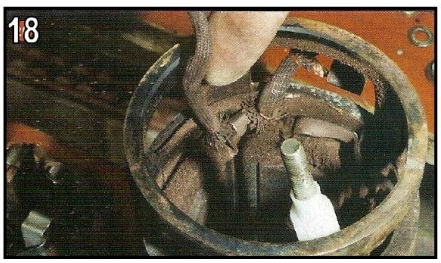
Extricate the commutator/armature assembly, taking great care not to damage this, nor the comparatively delicate field coils within the casing, as the commutator/ armature assembly is removed.

Examine the field coils within the motor casing. If these are found to be damaged, the best bet is to obtain a new starter. Carefully wipe out any accumulated dust from within the unit.

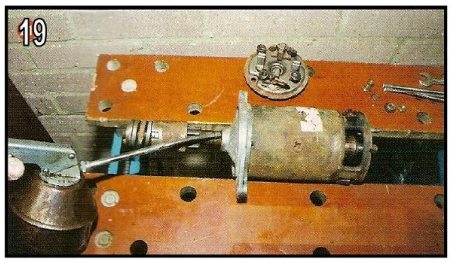
Gently clean the commutator, using a cloth moistened in petrol. If necessary apply a little fine glass paper to remove minor burning marks. Do not use emery cloth because the particles will cause damage.



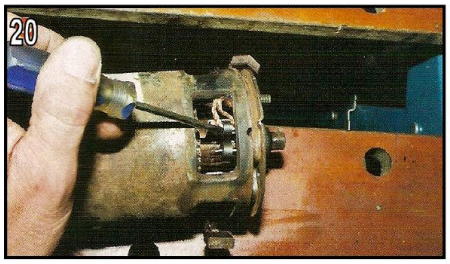
The brushes had plenty of life left but, if it is necessary to replace the brushes attached to the end plate, in each case you will need to solder the cable of the replacement to the terminal post.



The brushes attached to the field coils are secured via flexible cables. To replace the brushes, these wires need to be cut and the cables of the replacements soldered to them.

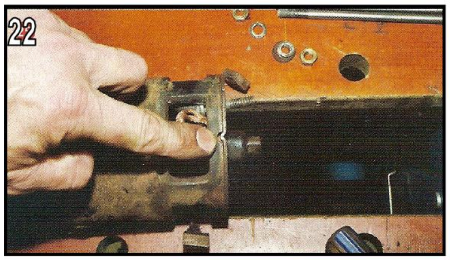


Using fresh engine oil, very lightly re-lubricate the bushes at each end of the motor prior to re-assembly. Don't over do the oiling it will find its way into the working. Before re-fitting the unit's end plate, ensure that the brush springs are located on the edge of each holder, so the brushes can pass over the commutator.

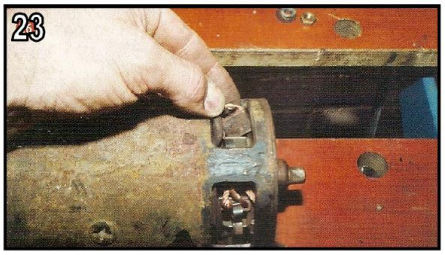


As the end plate is guided home, hook the pressure springs for each of the end plate brushes into their correct positions - acting in the centre of each brush (***between the two copper braids attached to the brush***)

Ensure that the plastic insulator on the motor's main terminal is correctly located within the body of the starter motor. ***(with the curved outer shield of the insulator against the inner wall of the motor casing)***



As the unit is re-assembled, ensure that the pip on each end plate engages fully with corresponding cut-out in the motor's casing. Don't force the end plates home if they won't easily locate, investigate/try again.



Re-fit field winding brushes within their holders, then re-locate the pressure springs. A small screwdriver is ideal for this ***(or a length of wire bent to a hook shape)***. Check that all brushes are properly installed.

Use carburettor-cleaner spray to spruce up the aluminium end plate adjacent to the Bendix drive gear. Leave final preparation for repainting until the unit is re-assembled. **(*to avoid internal contamination*)**

With the unit's casing lightly rubbed down using fine wet/dry paper, employed dry, and having wiped the surface with a spirit wipe solution ***(to remove dust)***, we applied black engine lacquer to finish off the job.