

As we all know, the MK1 Wiper motor leaves little to be desired. With that said, I was able to perform a MK3 Motor swap in about 20 mins and I wanted to share the details with everyone.

Please note that your result may vary. Side effects may include, clearer vision, satisfied feeling in chest area, and a non-removable grin from ear to ear!

Tools you will need for this swap-

22mm Wrench
13mm Wrench
10mm Wrench
Soldering Iron
Standard Screw Driver
Bottle or Can of your favorite beverage

The MK3 and MK1 motor assemblies are almost identical with two exceptions.

One- The back plate on the MK1 motor has a stabilizer bracket on it that allows you to bolt it to the mount in your rain tray. The MK3 does not have the mount. Instead the MK3 mount is built into the wiper assembly. No worries, we have a simple fix for that. The bracket I speak of is shown here.



This is the back plate from a MK3. Notice the lack of bracket.



Two- The wiring plug in is completely different lay out however the wiring is exactly the same.

You will note that the MK3 splined shaft is a bit different as well. This difference will have no effect on this install. Difference is noted below.



Lets get started! First remove the entire wiper assembly from the car (this might be obvious for some but not for others) 🛠️ Remove the linkage arm from motor. Remove the motor from the assembly. Break out your soldering iron and remove the RED and GREEN wires running from the motor to the back plate. If your assembly has these diodes (shown below), you can use the soldering iron to remove them as well. The MK3 motor will not require them.



Now remove the back plate. Hang on to this you are going to need it later.

Now take the MK3 Motor in hand and remove the rear plate. Take your soldering iron and remove the same RED and GREEN wires from the back plate. Your MK3 motor may have a little plastic cap over the soldered ends. Just use a screw driver to remove this cap. Discard the MK3 plate, you won't need it. At this time you may want to smear around some of the excess grease around in there to keep the gears well lubed.

Now take the plate from your MK1 motor and bolt it on to the MK3 assembly. Careful to make sure the gasket is in place. Now solder the GREEN wire to the YELLOW post on the back plate and solder the RED wire to the RED post. See pic below (I am using the MK3 plate in this pic but the lay out is the same)



Take sip of favorite beverage. You deserve it!

Now bolt the motor assembly into the wiper assembly. Leave it loose as you will need to adjust it in a moment. DO NOT install the linkage yet!

Install the wiper assembly in the car. With the motor loose you can move it around to align the bracket with the mount in the rain tray. Now tighten everything up! With the linkage still off the motor (IMPORTANT), install the wiring plug. Turn the ignition on, turn on the wipers (make sure the shaft is turning). Now turn them off and let the motor park (don't forget to turn off the ignition... you don't want to burn up your points). With the motor in the parked position install linkage at the 3o'clock position (this is if you are standing in front of the car looking at the wiper assembly) and tighten it down. Install the wiper arms.

Now sit back and enjoy your new found goodness (go get another beverage at this time!)

EDIT- I just did this swap on my Swallowtail and discovered that the early car (just like their aircooled brothers) can have SWF motors instead of Bosch. These two motor are almost identical. Here is break down on how to use a MK1 SWF cover plate

Mk3 Bosch Motor



MK1 SWF Motor

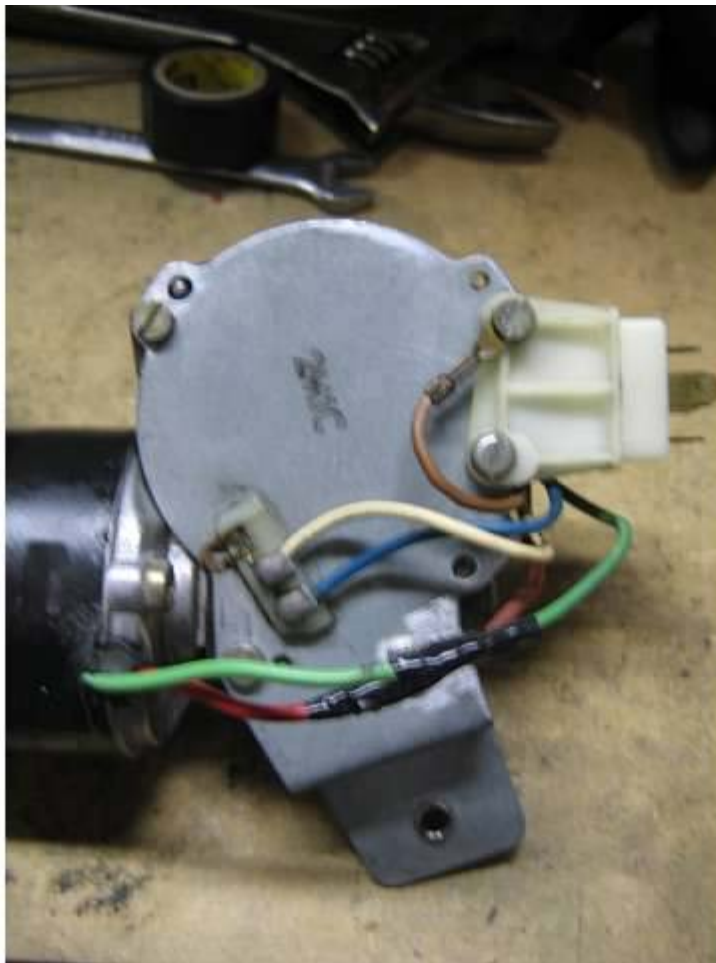


The plate on the SWF motor is riveted on. Take out a chisel or grinder and remove the top of the rivets. Then lightly tap the plate to remove it from the motor.

The MK1 plate is missing a couple of needed holes in order to mount it to the MK3 motor. Use the MK3 gasket as a guild to mark the holes. You will also note the the existing holes are not quite spot on. I recommend drilling the holes a little bigger to give you some room to align them.



The SWF plate internal contacts are spot on for the MK3 Bosch motor. All you need to do is solder the red and green wires together and you are set to go!



EDIT: interesting observations regarding MK3 and MK1 motors.

So I had a couple of these sitting around and decided to open a them up. I learned a few things I thought I would share. First off as suspected there is a huge difference in the windings between the MK1 and the MK3 motors. The MK3 appear to have fewer windings of larger gauge wire. No surprise here as to why they are a lot faster and stronger motors.

They are very similar in design and some of the parts are interchangeable too. If you have a need to open up one and get the case back on they are held to the gearbox by square nuts. Putting them back together requires a couple tricks. First set the armature back into place in the gearbox so you can get the three brushes back on. Then pull off the yellow cloth tape, and use a magnet to slip the nut back into place from the outside.

Another trick is that the main gear is interchangeable. Somehow the original MK1 gear wasn't worn out. But I went through the trouble of the swap to discover that the MK3 motor gear was worn. Be careful when you disassemble the linkage from the motor. The nut on one of mine was frozen. I used an electric impact. Unfortunately because I held the gearbox and not the linkage, it finished off the plastic main gear.

Note: The MK1 motor is the one with green putty on it.

