

Volkswagen Cabriolet DIY Guide

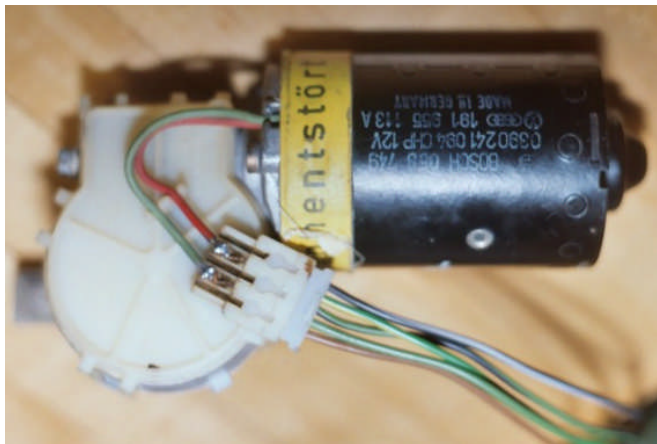
Swapping Wiper Motors

Installing an A2 (Mk2) Wiper Motor

This how-to was originally posted on VWvortex.com by "chickenfriend": <http://forums.vwvortex.com/zerothread?id=2342994> .

I got a wiper motor off of a Mk2 Jetta – 1987, I think. It is a 191955113A and is the same motor housing dimension as the 171xxx motor; same three mounts in the housing, but it does not have the flange extension like the 171 that uses a 4th bolt to attach to a rubber grommet to a bracket on the window shelf. The Mk2 motor was mounted on the passenger side of the bracket; the Mk1, or A1, was mounted on the driver's side.

Here is a picture of the Mk2 motor:



I think the rubber grommet for the 171 was to absorb vibration; can't think of any other need for it.

The xxx is the rest of the part number, the same for both motors, ex., 191**955113A**, and 171**955113A**

The 191xxx has a plastic clip on cover over the main gear and the worn gear drive. I removed this cover, cleaned out as much of the old hardened amber-clear grease (making sure to clean the metal disc and electrodes that control the parking circuit for the wipers), and re-greased it with some grease. There are specialty greases made for wiper motor gear boxes. I think a highly tacky grease, like red grease, would work in a pinch.

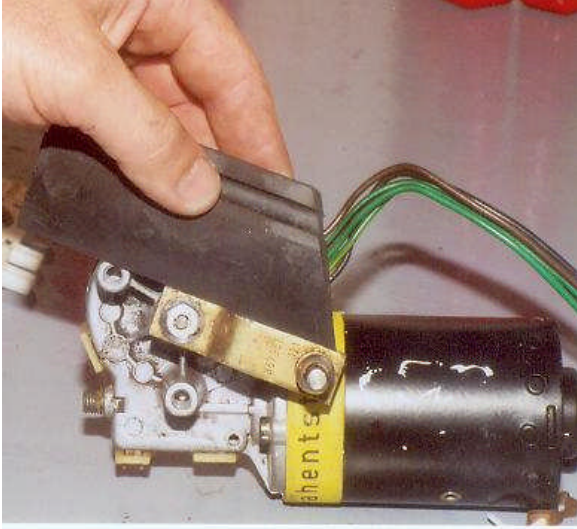
Here is a picture of the Mk2 motor with the cover removed and the grease cleaned out:



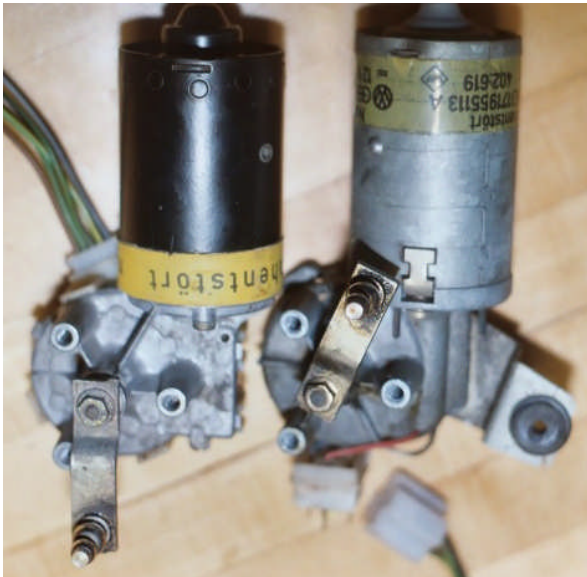
The old harness is different, but that can be fixed in 15 minutes by chucking it and using the Mk2 connectors. The color coding of the wires is exactly the same for both harnesses, so you don't need a wiring diagram.

The motor drive arm on the Mk2 motor must be rotated to the detent position on the shaft that is exactly the same as the drive arm position on the 171 motor as you removed it in resting position. Just set the 191 next to your 171 on a table. I used my 10mm wrench as a straight edge to judge the same position. This is easy to do; 5 minute job.

Here is a picture of the proper position of the arm on the Mk2 motor for your Mk1 car, shown using a straight edge. I use the edge of the bolt hole as a guide:



Here are pictures of the two motors originally configured, and the relative difference in the lever arm is obvious:



The 191 is mounted on my A1 car the same position as the 171 was: on the driver's side of the bracket. Three bolts. Better leave the harness plugged in the motor as you install it, making sure to clear the wires from the wiper drive linkage, because the connector will be in a hard place to get to if you have big hands.

Now here is the great news: the 191 rotates on high at **58** RPM 🖱; the old 171 was going at 42 RPM on high 🖱.

Addendum: I pulled a wiper motor off a Fox. It was a 321955119A. It appears to be the same as the 191xxx, with the same connector; **however, the drive lever on the motor shaft is only 50mm long, while the 171 and 191's are 60mm.** It has an easily removable plastic gear cover like some of the 191's, and was made in Germany.

So, if you wanted to swap out your 171 with a 321 Fox motor, you would need to salvage your old drive lever, after carefully measuring the position of the drive lever in relation to the housing of the 171, so you can position it the same way on the 321.

I also pulled another 191xxx, but found it did not have the plastic cover; instead, it had a metal riveted cover (similar to the Mk1 171's). It was made in Canada. So, there is a little variation in the Mk2 motor design, apparently depending on where the motor was manufactured.

Installing an A3 (Mk3) Wiper Motor

This how-to was originally posted on VWvortex.com by "WCHLVR": <http://forums.vwvortex.com/zerothread?id=3465098> .

Tools needed:

- 22mm wrench
- 13mm wrench
- 10mm wrench
- Soldering iron
- Standard screwdriver
- A3 (Mk3) wiper motor
- Favorite beverage

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 minutes and I wanted to share the details with everyone.

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

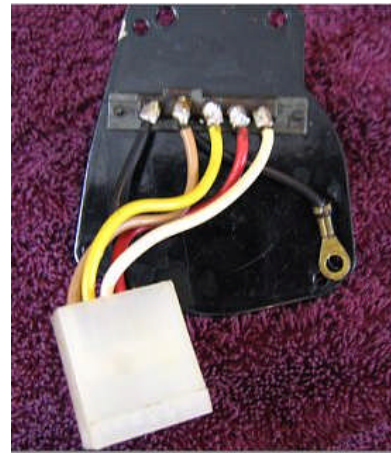
The Mk3 and Mk1 motor assemblies are almost identical with two exceptions:

A. 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:

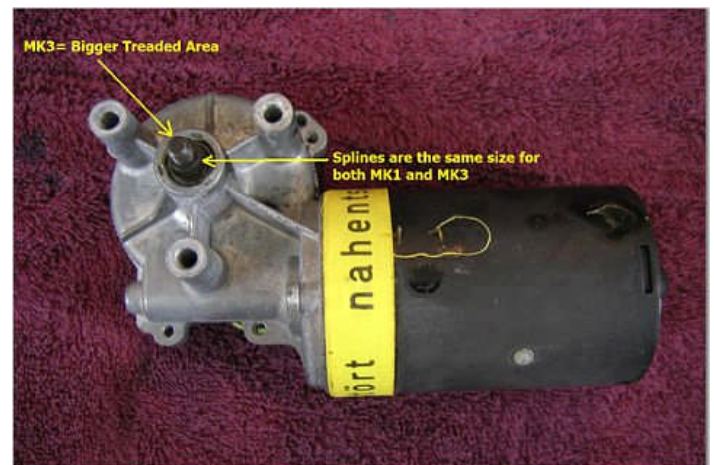


This is the back plate from a Mk3. Notice the lack of bracket.

B. The electrical plug wire *layout* is completely different; however, the wiring itself 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.



Let's get started!

Step 1	Step 2	Step 3
<p>First remove the entire wiper assembly from the car (this might be obvious for some but not for others). 😊</p>	<ul style="list-style-type: none">• Remove the linkage arm from the motor.• Remove the motor from the assembly.	 <p>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 above), you can use the soldering iron to remove them as well. The Mk3 motor will not require them.</p>
Step 4	Step 5	Step 6
<ul style="list-style-type: none">• 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.	<p>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 screwdriver to remove this cap.</p>	<p>Discard the Mk3 plate; you won't need it. At this time you may want to smear some of the excess grease around in there to keep the gears well lubed.</p>
Step 7	Step 8	Step 9
<p>Now take the plate from your Mk1 motor and bolt it onto the Mk3 assembly. Careful to make sure the gasket is in place.</p>	 <p>Now solder the GREEN wire to the YELLOW post on the back plate and solder the RED wire to the RED post. See picture below (I am using the Mk3 plate in this picture, but the layout is the same). Take sip of favorite beverage. You deserve it!</p>	<ul style="list-style-type: none">• 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.
Step 10		Step 11
<p>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 3 o'clock position (this is if you are standing in front of the car looking at the wiper assembly) and tighten it down.</p>		<ul style="list-style-type: none">• Install the wiper arms.• Now sit back and enjoy your new-found goodness (go get another beverage at this time!)

**** Remember, you are responsible for working on your car; Cabby-Info.com, "chickenfriend", "WCHLVR", VWvortex.com, VAG, VWoA, or anyone else are not responsible if anything goes wrong while you are working on, in and under your car! Use this information at your own risk!***