

REPLACING A COLEMAN MACH FAN MOTOR

Recently the fan motor on our front AC froze up. I ordered a new motor from Amazon

https://www.amazon.com/gp/product/B007VJUB9S/ref=oh_aui_detailpage_o00_s00?ie=UTF8&psc=11

This motor is a direct replacement for the original motor right down to the color of the wires which makes trading them out pretty foolproof. I'd go so far as to say that if you can climb the ladder to the roof, operate a Phillips screwdriver and common hand tools, own some penetrating oil and a 5/32" Allen wrench, you CAN change this motor....probably in an hour or two. Note it gets hot on the roof and, if your roof is white, it can be VERY bright. I did mine about 11 AM and wished I had started earlier.

You'll need a #2 and #3 Phillips screwdriver and a battery screwdriver will make things easier and considerably faster. Also needed are a small crescent wrench, 1/4" flat blade screwdriver, 5/32 Allen wrench, wire cutters, wire stripper, three small wire nuts, some electrical tape, perhaps a small hammer should do it.

Make sure the AC and the fan is OFF. Also turn the breaker off in the breaker box. 120VAC can kill you, make you fall off the roof of the coach, or at the very least make you say ugly words.

Climb the ladder to the roof. I use a stepladder to get to the ladder on the back of the coach. Once you and your tools are up there, remove the four Phillips screws holding the AC cover down and lift it off.



Once you get it off, you'll see the motor:



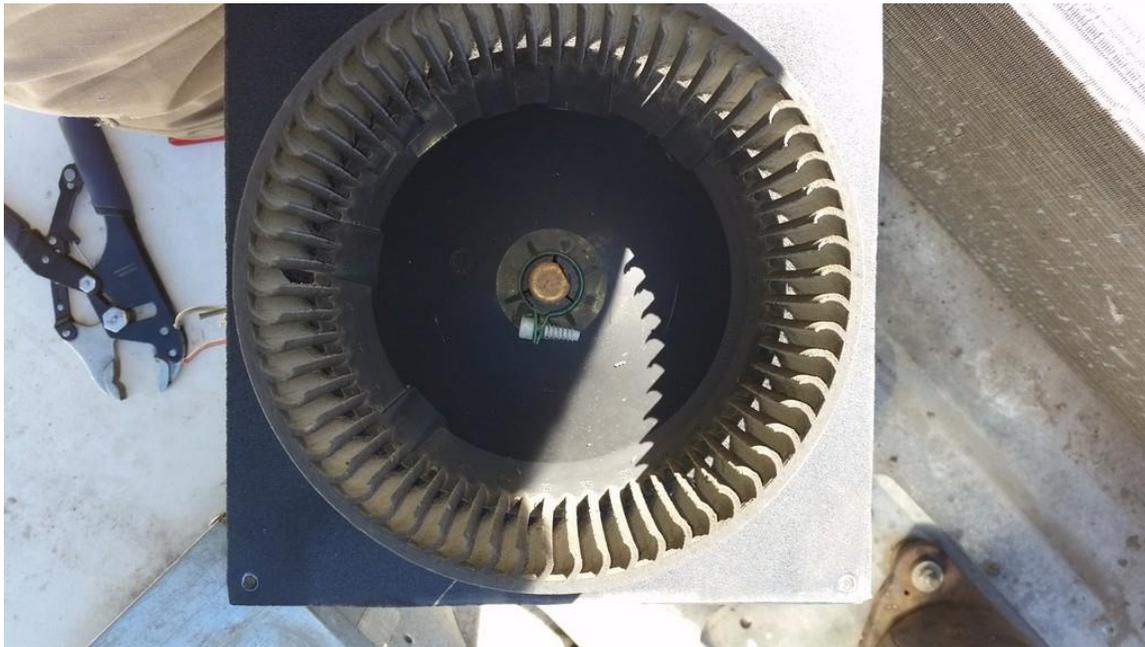


There are two fans, the bladed fan you see at the top of the above photo and a squirrel cage fan hidden in the sheet metal. Using the 5/32 Allen wrench, remove the clamp that holds the fan blade on. Squirt some penetrating oil on the shaft. It's no doubt rusty. Remove the sheet metal screws that hold the sheet metal surround of the coil and fan. Then remove the 4-5 screws that hold the panel that the rear shaft goes

through. There also are a couple screws that hold the motor to the AC pan. Remove them also. The motor should be loose but don't move it far yet.

On the side of the big box (drivers side toward the front, is a small panel that covers the area where the capacitors are, you'll see the motor wires going into the front side of this compartment. It may should have some caulking around the wires and grommet. Remove the screws and cover. Two wires go to the small capacitor. Pull them off. The other three wires go to wires of matching color codes and are tied together with crimped fasteners. Cut the wires just below the connectors. Pull all 5 wires through the grommet so the motor can be removed. Be careful not to bend any of the coil fins.

Now you can remove the motor and fans. Using the Allen wrench, remove the clamp on the rear fan. You'll probably need some penetrating oil on the fan shaft there also. You can put a small crescent wrench loosely over the shaft and, using the small hammer tap the fan's off the shaft. Be gentle, you're going to reuse the fans. I used the small flat blade screwdriver to gently open up the fan so the oil could penetrate.



Once it is off, using the crescent wrench or the proper ratchet, nutdriver, what have you, remove the metal plate on the back of the motor. Be sure and save the nuts, you'll reuse them. Note how it is oriented relative the wires coming out of the motor.

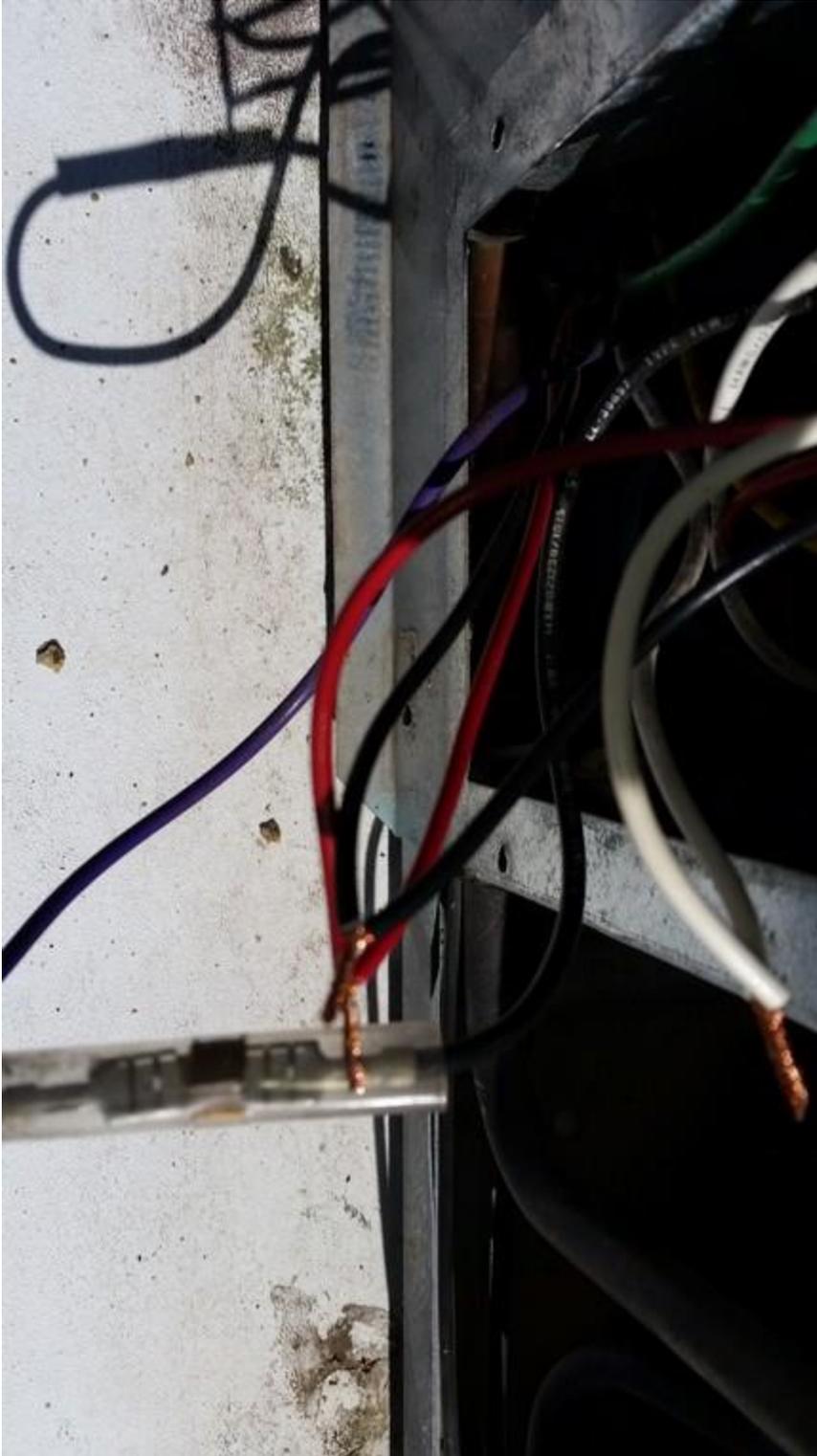
Now everything is off, and it's time to install the new motor.



Installation is the reverse of the removal. Once you have the sheet metal panel mounted on the back of the new motor using the same nuts you took off, install the fans and tighten up the clamps. Now reinsert the motor and reinstall all the sheet metal using the screws you took out. (I put all the screws in the AC pan so they wouldn't roll off the roof)

Fish the 5 new wires through the grommet. The two wires with female spade lugs go on the fan capacitor. One goes to one side, one to the other, it doesn't matter which one goes where...just be sure to put one on each of the two connector trees.

The other three wires (red, white, and black), go to the red, white, and black wires. Strip them back, twist them together, screw a wire nut over them, and securely wrap electrical tape over each one to keep the wire nuts from getting loose. If you prefer, you can use crush connectors. Personally, I'm not concerned about the wire nuts coming loose if taped well.



Re-apply the putty that was covering the grommet where the wires go through. If it is too hard to reuse, use some latex caulk or similar. Don't use silicone in case you have to take it apart down the road. You're just trying to keep mud daubers and wasps out of the compartment. They'll get in anyway somehow.

Time for a test. Climb down, turn on the breaker, and test the installation by turning on the fan. It should suck and blow in the same places as before. If it's backward it is time for professional help because the motor is probably wrong. If you got the motor referenced in the front of this article it should be fine.

Test both speeds. Now turn on the AC and be sure the compressor comes on. It should because we haven't done anything to it unless you accidentally pulled a wire off the start or run capacitors.

If everything is good, turn off the unit, climb back up top and close everything up. Make sure the front of the unit is all the way down over the wedges or it will rattle. That's it, you're done.

Kerry Pinkerton
Discovery Friend