

## Changing the wiper self-parking side

I wanted to change the side of the windscreen where the wipers on my 1978 lefthand drive 2CV van (AK400) parked. Mine has the wide speedo but I don't suppose the narrow speedo version is very different when it comes to removal and reassembly. My AK400 also has the old-style wiper motor: cuboid with a perforated casing. Here's how it's done.

Disconnect the battery.

Remove the five self-tapping crosshead screws that retain the dashboard. Undo the cable at the back of the speedometer. This isn't strictly necessary but makes subsequent steps a little easier. Pull the dashboard towards you carefully.

Unscrew the metal plate to which the dashboard is screwed. It's held by four 8mm bolts.

Remove the full-width plastic fascia. It's held by about six self-tapping screws. Slide it sideways out of the window to get it out of the car.

Remove the screen heater vent. It's held by two small self-tapping screws and needs a bit of a wriggle.

The wiper assembly will be in front of you. Get out of the car and pull the wipers off the spindles. Then undo the 27mm bolts retaining the spindles, along with the cosmetic cover and rubber ring underneath.

Get back in the car and remove the two cables – red and green terminated – attached to the wiper motor. Note that both of them carry +12V, the ground -12V being supplied by the metal strap under the motor assembly. One is permanently live so ensure the battery is disconnected.

Undo the two retaining 8mm bolts under the wiper assembly. Remove the assembly from the car. If you try to do all this without removing it from the car, you will have enormous difficulty remounting the motor.

Undo the four 8mm bolts holding the motor to the assembly. Remove the short arm connecting the gearbox to the wiper assembly and turn it through 180 degrees.

That's it. Reassembly is the reverse procedure.

## Appendix

For some reason, I found that the self-parking mechanism stopped working after performing the above operation so I delved deeper into the mechanism. If that's true for you, read on.

Remove the single screw holding the motor casing. Lift off the casing.

With the two holes for the retaining bolts at the bottom, you will see the electromagnet on the left and the motor on the right, with two brushes in contact with the commutator. Everything is held down by a metal plate, which is retained by two screws.

Take a careful look at the motor mechanism. Photograph it. There's a thin strip of copper that connects the two terminals on the left, next to the magnet. That's contacted by a cam sticking up out of the gearbox underneath, which then keeps the current live after the wiper switch has disconnected the current until the wipers reach their parked position, and only then cuts it off.

You will find that part of the magnet pivots to form a brake on the motor, making it stop when the wipers reach the parked position. In operation, the brake is released by the magnet. When the current stops, the pivoting part is pushed onto the motor by a spring.

On my car, the spring's force was too strong for the magnet to overcome, so the self-parking didn't work. To access the spring you need to undo the two retaining screws and remove the top plate very carefully, then the spring.

Do not lift the rest of the assembly or you run the risk either of the copper strip coming adrift from the terminal or the wires from the strip, which will then need to be soldered back in place.

You can then make the spring's force less strong by judicious bending of the spring's legs. Experimentation may be required to ensure that the spring still has enough force to brake the motor effectively. A spare car battery or 12V power supply will help if you are working on the assembly on the bench.

Reassembly is the reverse of disassembly. Make sure the brushes are correctly positioned and test that the self-parking still works at each stage of reassembly.