



WIPER DELAY UNIT REPAIR

How to test, strip and repair this overlooked item that is so useful in this rainy country.

Many regard this unit as a somewhat mysterious piece of equipment that either works or it doesn't, and has to be replaced if it is the latter. This is very seldom the case however as there is not very much to go wrong with them and in most cases can be repaired with only a small spanner to remove it from the car, a pair of scissors, a small screwdriver, a piece of fine emery, and some soft sponge rubber.

The unit is basically a changeover switch operated by the plunger. The delay is controlled by the needle valve on the steering column. When the plunger is pushed in air is expelled through a very simple non return valve and at the same time operates the internal switch, air is then allowed to enter at a controlled rate via the needle valve allowing the plunger to slowly release and so change the switch contacts back.

First of all, a visual check should be made to make sure that the nylon slider which operates the delay unit is moving up and down when the wiper motor is operating and that the plunger on the delay unit is going in and out. With the control on the steering column set to the longest delay ie clockwise, plunger should release slowly. Check that the plastic tubing which controls it is actually still fitted. This tube which goes from the needle valve on the steering column to the unit, hardens with age particularly at the delay unit end. When this happens it either leaks air or it jumps off altogether. When this happens the unit cannot function. The remedy in this case is quite simple. Cut a small piece from the hardened end and refit. A word of warning though, just make sure that you have enough slack to allow it to reach after cropping. Sometimes you can heat the tubing with a hair drier to soften and refit.

To check the tube itself and the needle valve, remove tube from delay unit and blow through it. Get someone to operate the needle valve whilst doing this. By turning the valve anticlockwise ie. away from the driver you should be just able to blow through the tube, and by turning it in the opposite direction clockwise ie. toward you it should be a bit more difficult to blow through, indicating that the tubing and the valve are functioning. If you can blow through freely then there must be a leak.

To test the unit leave the tube disconnected, push in the plunger that is normally operated by a nylon slider on the wiper gearbox, and with a finger pressed tightly over the tube connector on the unit, release the plunger. If the plunger stays in or releases very very slowly then the air side of the unit is ok. If however the plunger comes back out immediately then the unit needs to be removed and a little repair made. The unit is held to a bracket by three Philips head self tappers but as these are a bit inaccessible it is easier to loosen the two small hex head self tappers which hold the bracket to the wiper motor by using a small ratchet fitted with a 6mm socket. By using the ratchet to firstly loosen the screws, the ratchet can be removed and the socket turned by hand to undo. Remove the lucar connectors, firstly noting their positions. These should be top



inboard-Gr/Br, top outboard-Gr/Y, and bottom centre double Gr/Br. Remove the three screws and bracket noting the position relative to the unit.

To repair, scribe a line across the join of the two halves for re-assembly purposes or make a small sketch. With a small screwdriver prise off the four retaining clips (without losing) which hold the two halves together. There is a light spring inside which can pop out as you separate the two halves. Remove the small nylon cap on the end of the plunger and retain in a safe place as it is essential. It just clips into a small groove in the plunger. Remove plunger and diaphragm, inspect and clean as required. Clean the internal contacts with fine emery or wet and dry. While the unit is dismantled note that there is a small adjusting screw for the outer contact and it is sealed with red paint. This requires a 1/16" Allen key to adjust if required. On the half with the air connection there is a spring steel clip which has to be prised out (again without losing it). Underneath this there should be a small piece of foam sponge. This often rots away. Under this should be a small neoprene disc. This disc is a non-return valve and the sponge rubber is the retaining spring for it, and the spring clip holds it all in place. Cut a new piece of sponge about 1/2" dia by about 1/4" to 3/8" thick. and fit in place with clip. Assemble both halves with spring clips and test by pushing in plunger and then holding finger over outlet, release plunger. This time it should now stay in until finger is released. You may need to experiment a little with the sponge thickness but it is pretty simple stuff. When satisfied, you may wish to check the electric contacts. With the plunger released the outer and centre contact should be made and the inboard and centre open. With the plunger pressed in the inboard and centre should be made and the outboard and centre open. If the outer and centre do not make use the adjusting screw until it does. If everything is ok then re-fit the bracket and fit to car remembering to fit the nylon cap to end of plunger. If wiper does a half sweep and stops then try adjusting the small Allen screw a little, this should cure the problem. If you have any problems give me a ring or email: tmj.wilson@virgin.net

REAR BRAKE PAD REPLACEMENT TIP

When replacing the rear pads, I find that the most difficult part is to pull the drive shaft flange back in close enough to the disc to get the bolts started. A simple way to do this is to get two screwed rods of about 2" long entered through two opposite holes and then run a nut down each, thereby pulling the flanges together. The tip is to use two old door hinge bolts with the pintle sawn off of the end. Make sure that the nut runs freely up and down the thread and enters into the bolt holes. An 8mm socket fits the end nicely; and run the nuts down with a 9/16" A/F spanner. When the flanges are close enough to get the proper bolts started remove and fit the other two bolts. It is possible to do it without removing the pintle, but you cannot rotate the disc, making it difficult to work on.

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