

## Docs How To No.2

# How to Fix a Floppy Door Mirror on a BG5 TT/GTB

Number two in an occasional series of simple how to PDFs to keep for future reference - as always the reader follows this advice at their own risk as I don't really know what I am on about !

At last the ultimate how to fix your floppy with pictures - this guide will enable you to fix a slightly floppy but otherwise working mirror in less than an hour - the only real problem is removing the mirror glass - which was smashed in the case photographed so not a problem but usually it is pretty well impossible to get out without it breaking, I have managed to get one out by gently levering at the plastic surround with a feeler gauge and sort of working the glass out around the edges but have had them crack also when the sticky pads refused to let go - I warmed mine with a hot air gun first, I am not sure if that helps but may be worth trying - I got my new glass on ebay item number 370422417208 but it will probably have changed as they seem to sell like hot cakes and the listing number changes frequently.

Though this "how to" relates to the BG5 I suspect that the BH5 is similar - also mirrors that have been totally knocked off their pivot pin are fixable but a bit more fiddly, especially if the sliding contacts on the top of the pivot have been squashed at all (see photos later). The diagnostic pointer to the cause of floppiness, which is the star fastener coming loose or off the pivot pin, is vertical play in the mirror head on its mounting - there should be no vertical play at all.

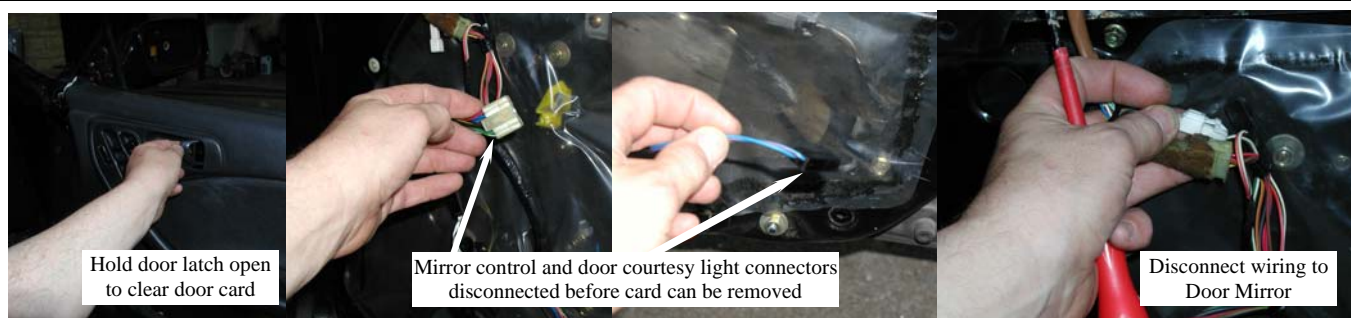
Firstly and quite time consuming unless you have done it before is actually getting the mirror off the car - I have shown this in detail to help those who don't wield a spanner too often - firstly open door and lever off the tweeter pod and then the tweeter itself



To remove the door card (need to do this just to get to the wiring for the mirror). 1- pop off the 3 screw covers and remove screws. 2- lever the door card off from the bottom and pull outward and upwards remembering to catch the fixing at the front that will fly off.



To remove the door card it is best to pull the back edge up and outwards to unhook the top edge from the top of the door frame whilst at the same time pulling the door latch out so that it will slip through the hole in the door card - lastly, to totally remove the door card, disconnect the wiring to the window controls and the door courtesy light (you can I guess just pull the plugs to the mirror at this stage and hook the door card back on the door temporarily but I think it is best removed completely and out of the way). At last you can now pull apart the mirror connectors (power and heater)



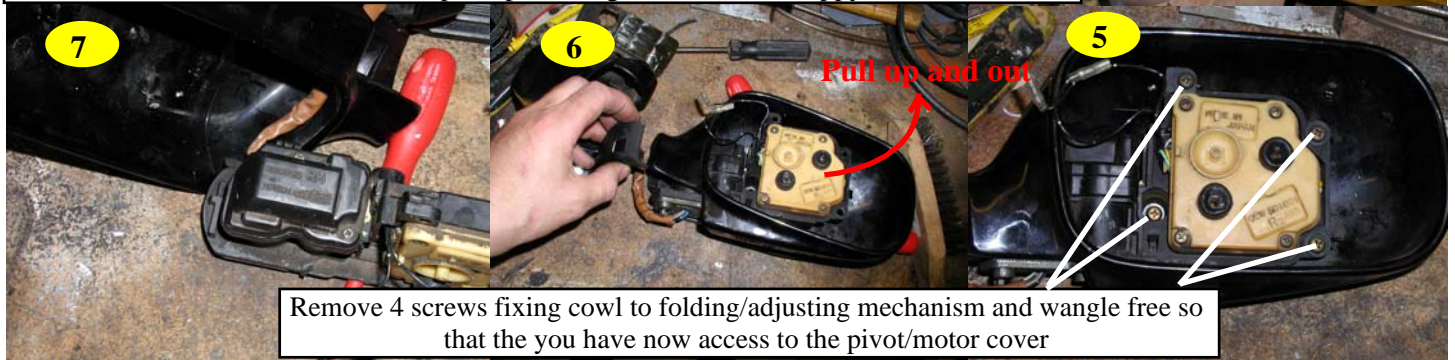


Now simply remove the 3 screws that secure the mirror to the door (one of which is covered by a rubber bung usually) so that the mirror can be pulled away from the door - if it has not been removed before then it will be a bit stubborn as the rubber will have adhered with time (even more stubborn if you haven't removed the right screws!). Ideally you then adjourn to the nice clean workbench in the privacy of your shed - but if not the kitchen or dining room table will do fine.



**1-7** With the mirror on the bench and the glass removed (notice how I again gloss over the really hard bit ) remove the centre pivot screw and keep this and the washer/spring/nylon half ball somewhere to one side and where you will hopefully find it later . It is accessing this centre pivot that requires the removal of the mirror glass - what a shame Subaru didn't just use a pop on/off centre pivot like many other makes do. Its then a matter of pulling the rubber mounting gasket back along the wires and freeing the wires from the clip on the mounting plate followed by removing the three screws that fasten the mirror head to the mounting plate so that this may also then be pulled along the wires out of the way.

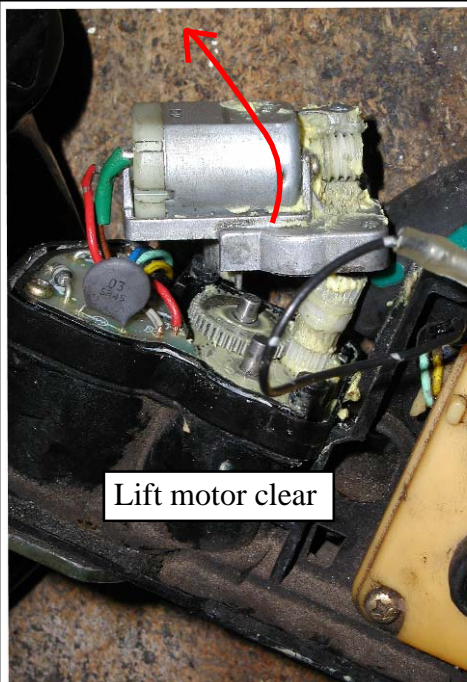
The four screws that hold all the mechanism in the mirror cowl can now be taken out and the whole shooting match wangled out of the plastic surround as shown on the photos - the clip on blanking plate will fall away during this and can be put to one side for later. Hold on in there as you are now at last getting near to the pivot pin and the star fastener that has either come off or moved up the pin enough to cause the floppy mirror!



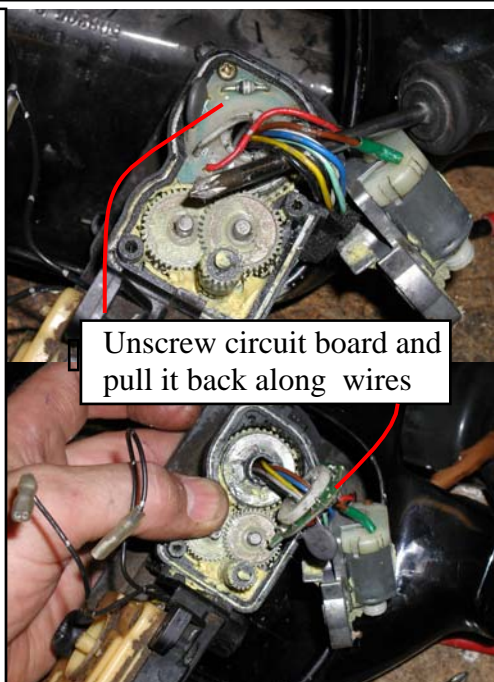
Remove the securing screws, pull off the plastic motor/gearbox cover and put the cover and screws in the same safe place that you have used to loose all the other small parts in to annoy you later on! - these screws also secure the folding motor



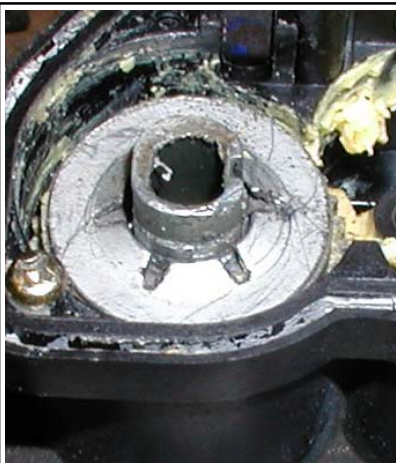
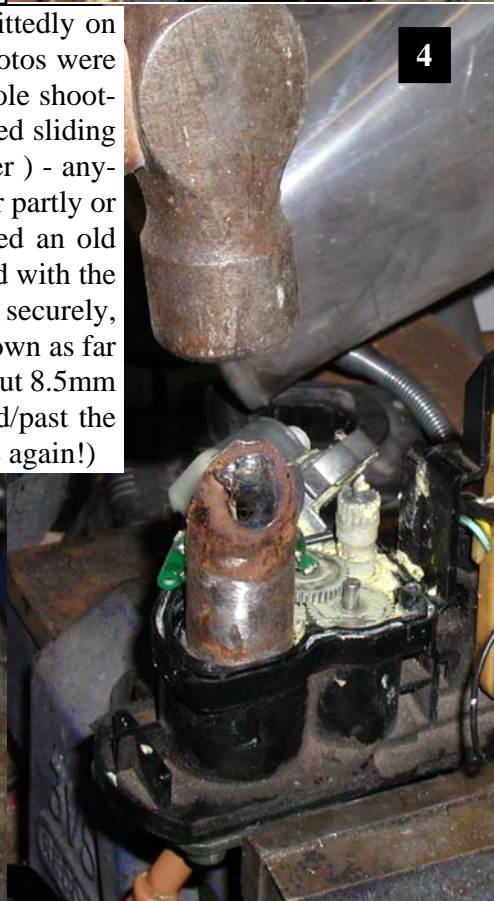
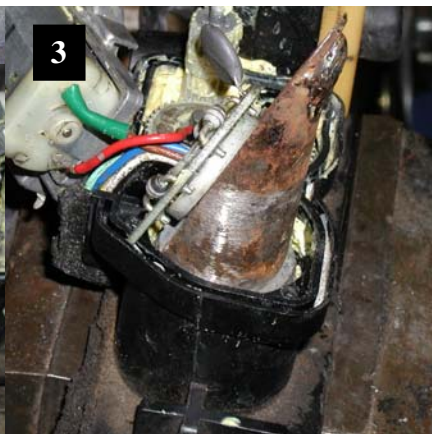




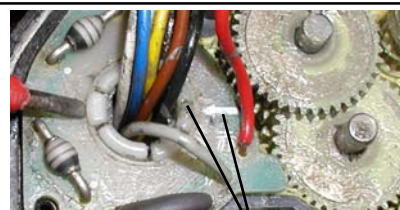
The motor itself can then be lifted gently away, being careful to make sure that the various gears don't come out with it (unless you want the fun of trying to sort out which cog goes where, actually not too bad if you have had them apart before but a pain if they all fall out) the wires that run down the centre of the pivot can be gently pulled back a little at this stage to allow the motor to be hung out of the way so that the little circuit board with the sliding contacts beneath can be unscrewed and also lifted clear of the pivot and left hanging along with the motor



Piccies 1-4 point out the culprit (admittedly on the photo already in place as these photos were taken when I had to dismantle the whole shooting match again because it had damaged sliding contacts which are fixed as shown later) - anyway assuming the star fastener is either partly or completely off the pivot then you need an old piece of pipe with a piece cut away and with the mechanism in a vice, or somehow held securely, you need to hammer the star washer down as far as the shoulder on the pivot (this is about 8.5mm from the top - don't whack it too hard/past the shoulder or the mirror will never move again!)



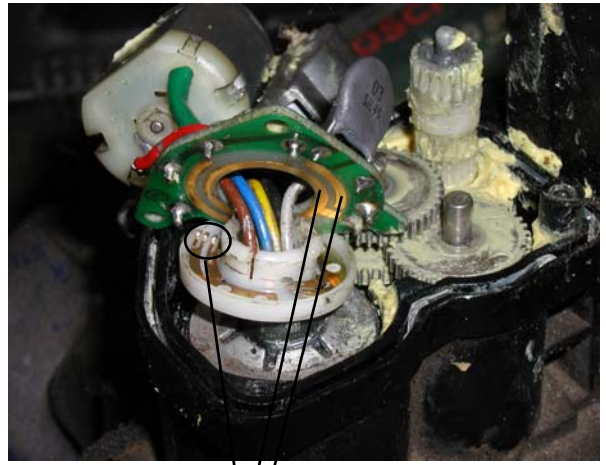
All that's required now is to reverse all the latter to put it all together again and I would recommend that you hook the mirror up to its power supply to test it functions correctly before you fit it to the door and certainly before fitting a new glass otherwise you will have all the fun of trying to get the glass out again if things are not all well - indeed in this case the photos were taken when it failed to fold reliably. Pictured here is a clear shot of the star fastener on a defunct mirror with no wires in the way



NB the rotary switch on the small circuit board must locate onto the spindle and be correctly lined up - there is a little arrow and dimple that line up as shown above



This little appendix is regarding the contacts in the rotary switch which are compressed if the mirror has been vandalised, particularly if the star fastener has come off the pivot completely. The mirror will either not fold or will intermittently stop half way etc. if the switch is not 100% - the two halves of the switch can be easily separated by releasing the little catches, one of which is pointed out by the screw driver on the last picture - this then allows you to bend the contacts so that they are at about 45 degrees to the board and also clean any grease off that may have got in there. As already mentioned it is best to test the mirror before fixing to the door and maybe even worth, as I do, fitting the mirror to the door, leaving the glass out for a few days and keep folding the mirror every time you use the car just to make sure it is reliable before fitting the glass. I would tend to assume that the contacts need bending and check them anyway as it is quicker than removing everything again as I have had to do - the mirror appeared to be fine but started to act up after a few days on the car.



Bend contacts to about 45 degrees and clean contact surfaces

Test mirror function by hooking up to supply before fitting to door or fitting the glass



As an aside - the heating elements can be removed from a broken glass with the judicious use of a hot air gun - if done correctly the adhesive should stay on the broken mirror and the heating elements should be left undamaged - using heat resistant double sided adhesive sheet from a craft shop this can then be stuck on the replacement mirror (Of course you may get new elements already with the replacement but I didn't despite ordering a heated glass)

I hope that this helps some of you and apologise if some of it seems too simple and detailed to those used to pulling things apart - with practice it can all be done in about 30-40 minutes - I am getting pretty good as I seem to be unlucky with idiots vandalising mine - I have again got 2 floppy mirrors at the moment (WTF someone thought that my neatly folded mirrors needed kicking around is beyond me) and one is not folding under its own power so it looks like they will both be off the car again soon - I am toying with the idea of cutting a groove for the star fastener to locate into or even putting a groove and circlip on to stop the star fastener coming off so easily (I say easily but once located I have not been able to lever one off with a screwdriver so they don't come off without a fair whack) - One last thing I have not mentioned as it rarely happens - there are ball bearings in dimples between the mounting plate and main body of the folding mechanism - these will not normally fall out but if the mirror has developed enough vertical play ie the star fastener has come off completely, it is possible for them to fall out without being noticed. If both go AWOL then there will be no positive location and the mirror will not "click" into its "in use" position properly. They will not have gone missing in a usual floppy mirror case.