

Rear screen heater for the Varitone

I've fitted my Varitone with a rear screen heater (demister), and I thought the details might be of interest to other ZBV owners. It won't apply directly to ZA/ZB which don't have the wraparound screen.

Need for demisting

My 1958 Magnette has been used all year round over the last 5 years or so that I've owned it. After a while looking enviously at MGB GTs with their 1960s technology, I decided that I was prepared to sacrifice a bit of originality in order to see through the rear screen, which tends to mist up in cold/wet weather more readily than the rest of the glass - experiments with anti-mist coatings were not encouraging.

Lucas Heater

My first solution was a 1970s Lucas self-adhesive heater kit, bought on ebay for around £5, and still in its original packaging.



The foil elements seemed to stick ok (after thoroughly cleaning the screen with Autoglym 'Fast Glass'), and I positioned it to be central vertically and horizontally on the glass - the width of 32" covers about two-thirds of the screen. The supply voltage was taken from the ignition switch to the rocker switch included in the kit, mounted under the right-hand side of the dash. From there I routed the single feed wire to the heater alongside the existing rear wiring loom (up the right-hand windscreen pillar), emerging just above the parcel shelf. The other end of the heater was earthed through one of the fixing screws that hold the brown plastic (bakelite ?) rear screen surround.



This heater performed reasonably well, although obviously only demisting the centre part of the screen. However after a few months the horizontal heater elements started to detach from the glass in places, so presumably the 30-year old adhesive wasn't quite so well preserved after all. I started looking around for something newer.

Self-assembly kit

It seems the only type of aftermarket heater available now is the self-assembly version shown below.



The horizontal heater elements are intended to be cut to any width needed before being joined together by vertical side strips, and measurement indicated that the maximum width was exactly that required to reach the edges of the Varitone screen.

Now I never really liked the appearance of the Lucas heater, and would ideally prefer the type I'd seen on a Rover P5 coupe, which also has a wraparound screen. That heater I believe is a factory fitment, with much thinner elements than are possible with a stick-on type, but at least with the S-Line I could achieve the same result of having the whole width covered, and the connecting strips tucked away in the edges of the screen.

The heater kit appears to be Dutch or German manufacture judging from the packaging, and is available at about £30 from a number of sources including www.holden.co.uk.

Installation

The only fitting instructions are those printed on the back of the box and they are fairly sparse. There are 3 strips of clear film that have to be pressed onto the inside of the glass, each with 3 elements at the correct spacing. The film is then peeled away to leave the element fixed to the glass - the elements are cut to length and joined at their ends with alloy strips that also carry the spade-type wiring connectors.

On a flat tailgate type of glass, positioning the film strips would be quite straightforward, but on a surface with curves in two planes it becomes an interesting exercise. You need to start at the middle to have a chance of getting it horizontal, but then it's difficult to ensure that the ends finish at the the right height. Fortunately the clear film can be removed and repositioned once or twice without the elements detaching, but it was pretty frustrating trying to smooth it out (to avoid kinks in the elements) while working in a confined space.

If you have the opportunity to fit the heater whilst the glass is out of the car it might be very much easier. When you do finally peel off the film, it's best to pull in a direction parallel to the glass, to minimize the chance of lifting the elements.

You can see in the picture below that the gaps between each group of three elements become smaller towards the edge of the screen - this is just a consequence of the curved geometry, and isn't really obvious except close-up. But it does add to the difficulty of calculating where to start the middle of the strips. For the record, mine is slightly above centre, with a gap of 8cm at the bottom and 5cm at the top.



Connecting strips

The position of the vertical joining strips at the screen edges is pretty much fixed - they only fit in one position, and need slight rounding at their ends to fit snugly against the inside of the screen rubber. The strips are actually divided two-thirds of the way along and held together by a plastic backing. The current then flows in a zig-zag from one wiring connector through the bottom three elements, back through the middle three, and finally through the top three to the other connector. This has apparently been arranged to offer a higher resistance, to control the total current flow and possibly provide better balancing of current/heating between the elements.

Despite understanding all this, I managed to stick one of the strips on so that it only connected two of the

elements, which would have resulted in those two getting twice the current of the rest. I discovered that the double-sided adhesive tape was extremely effective and could not be removed without damaging the strip... After cutting the plastic backing on the lower third of the strip I managed to detach it, but had to make a replacement from a small piece of alloy and new double-sided tape. The instructions don't explicitly mention the need for correct connection, but at least you can benefit from my experience !



Appearance and performance

This is the finished appearance. In operation the heater takes about 5 Amps. I suspect this is less than for modern cars which have many more elements, and as a result it takes a few minutes for the window to start demisting. It's also slightly less current than the Lucas heater, but the performance seems about the same. When the glass has iced up whilst parked it's almost certainly quicker to scrape it by hand...

On the positive side, at least the heater doesn't impose an unreasonable extra load on the dynamo with its 19 Amps total output. Partly for this reason, I haven't yet got round to fitting an automatic switch-off timer. It would make sense to have the heater turn off after 15 minutes or so, but there aren't any adverse effects if you forget.

I'd also like to have a proper switch on the dashboard, and being reluctant to drill any non-standard holes I've considered using the instrument lighting switch (I very rarely use it, leaving the instruments always lit).

Conclusion

I think the finished appearance is tidy if perhaps somewhat prominent, and the improved demisting area is worth the effort, although the ideal would be a heater with much thinner and less visible elements. I believe it is possible to get custom screens made with wires either laminated into the glass or otherwise permanently attached, as for a modern car. But I imagine this is only economical in a large batch, so I expect to keep my present solution for the time being.

Stephen Tickell, January 2009