

## Window Glass - Replacing the front windscreen

by Tom Jones

If you replace the glass in your 20hp windows, the new glass **must** conform to modern standards. The front windscreen must be WHP (windscreen high performance) laminated glass, which is a 0.76mm sheet of PVB (polyvinyl butyral) plastic sandwiched between two layers of 3mm glass, this is known as 6.76 laminated glass. WHP glass is subjected to further tests including head impact, optical distortion, light transmission levels, mechanical impact, abrasion resistance, resistance to the environment. For all these reasons, WHP glass is only available from authorised dealers such as National Windscreens. Apparently some suppliers will cut and sell ordinary laminated glass “provided you don’t tell them it’s for a vehicle”. This is illegal and there may be insurance implications!

Triplex laminated glass is not new: it has been available for windscreens in France from 1911 and in Britain from 1912. It has good UV absorption properties: the majority of UV-B is absorbed by the glass itself, and any remaining UV-B together with most of the UV-A is absorbed by the PVB bonding layer.

For side and back windows “ordinary” laminated glass can be used. This has a 0.38mm layer of PVB sandwiched between two 2.5mm layers of glass, ie 5.38 laminated glass. Alternatively, polycarbonate plastic can be used for side and back windows.

Cutting laminated glass is a job for experts. First the glass must be cracked separately on both sides of the plastic interlayer, and then the interlayer is cut with a very thin blade by bending the glass and slightly opening the crack on one side.

The windscreen frame of my 20hp was in dire need of refurbishing. I removed the window plus frame, dismantled the frame and removed the (now illegal) glass. I sent the frame for repairs, including the remanufacture of some of the clips and fittings. Photograph 1 shows the repaired frame, waiting to be sent for electroplating. Colin Hughes told me that it should be dull nickel plated and polished – not bright nickel plated. In 1927 bright nickel plating had not been invented. Dull nickel plating followed by polishing to a bright finish gives a slightly different colour to conventional bright nickel, due to the extra chemicals used in the latter process. It is generally supposed that polished dull nickel is the more durable finish. Note that not all electroplating establishments can offer dull nickel plating.

Finally the glass: I was pointed to National Windscreens who were most helpful. They stock sheets of 6.76mm laminated glass specially for their vintage vehicle customers, and will measure the frame, cut out the glass, polish the edges if necessary and fit it into the frame using closed cell foam polymer mouldings; they advised me not to use mastic in this application.

The very enthusiastic technicians found it very difficult to make the two thin curved triangles in the base of the window, but after a couple of breakages they succeeded! See Photographs 2 and 3.

Another possibility suggested to me by John Ball is to cut the windscreen glass from a commercially available Land Rover windscreen, but here again, a job for the specialist.



**Photograph 1 Window frame, repaired and prior to dull nickel plating**



**Photograph 2 Window frame dull nickel plated, polished and glass fitted**



**Photograph 3 All sorted**