Literature

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Fitting Doors

by

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Before starting this project I spoke to John Hoyle who was very helpful and after explaining what I intended to do he pointed me in the right direction, many thanks to John.

I intended to make a 3/4in 18-gauge frame to go around the door opening and the door. The thinking behind this was to return the strength to the body that will be lost by the door cut outs (hopefully), allow the doors to close under their own weight when "slammed" and be able to use the frames to true up the doors to the cut outs.

I started by making a hardboard template of the door. This allowed me to make sure my jigsaw could manage the radius that I needed. I then clamped the template to the body and carefully cut out the door, making no attempt to true up the door skin or opening at this stage (pic 1).

To say I was surprised at the amount of rigidity lost would be an understatement (John did warn me).

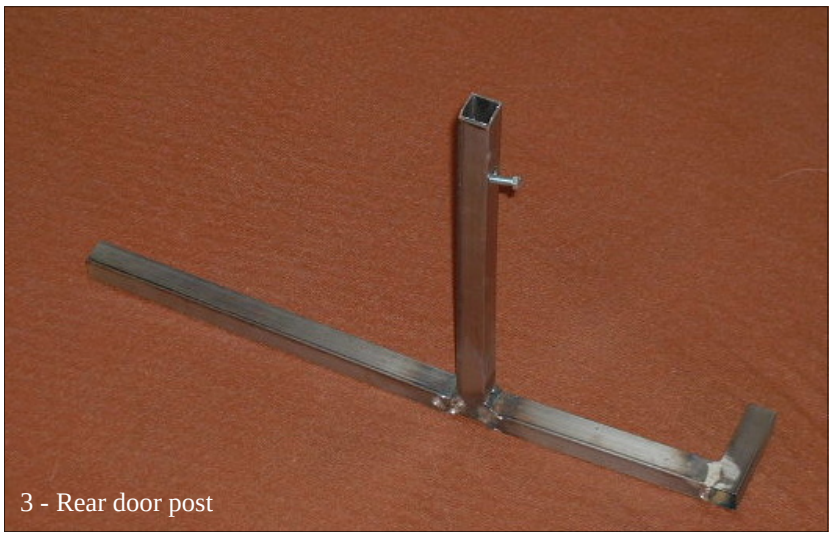
1 - Door cut out

I then made the frames for each opening one front and one for the back of each side, these need to be shaped to the contour of the body. Note the small return at the back of the rear post this really stiffens up the assembly (pic 2, 2a, 3).


2 – Finished hoop

Now for bending square tube, you need a vice and a lump hammer (don't laugh it works as can be seen). I cut the tube and bent it to the required contour, making sure it followed the panels as close as possible (this is important because when it is fibre-glassed in, curing could cause distortion). I then made a hoop to join both front frames which went around the scuttle, this was made from 3/4in 18-


2a


3 - Rear door post

gauge round tube bent to shape with a plumbers tube bender, made in two halves, aligned in car and welded up.


4 - Hinge plate

I drilled the holes for the door hinges oversize and a hole in the back of the frame to take a retaining bolt for the hinge plate, this would allow for alignment. The hinge plate was cut from 6mm plate drilled and tapped for 5mm bolts, two for the hinge and a centre hole for the retaining bolt (to stop the plate from disappearing if the hinge is removed pic 4).


5 - Door frame

I then glassed in the front frames only, and then made the frames for the doors (pic 5).

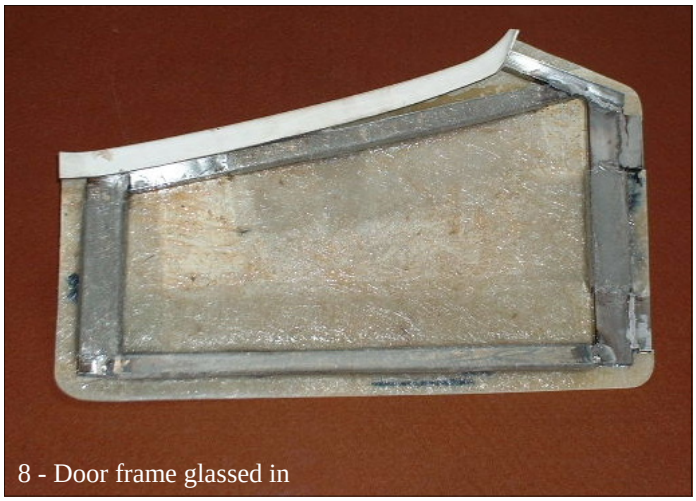
These were then fitted to the front frames, the door skins filed to fit (only the minimum was removed to allow the door to fit and the top return edges to line up). The door skins were clamped to the frames and aligned, small packing being used for final truing (pic 6).

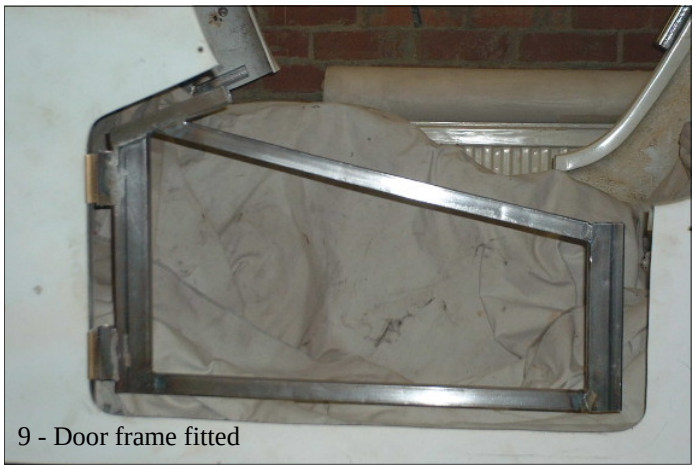

6 - Door frame with skin


7 - Rear of door

Now I could see the back of the body opening had sprung out (pic7).

I started the job on axle stands for a better working height but put the car down on its wheels as I thought there might be some distortion by being on the stands. The doors were then glassed to the frames (pic 8) and the doors were then refitted.


8 - Door frame glassed in


9 - Door frame fitted

The rear frames had striker plate retainers fitted the same way as the hinge plates were and then glassed in along the base only. When they had cured I adjusted the body to the door (clamped) and glassed them in. Then the door locks were fitted. I then made 18gauge right angle strip to take the draught excluders and pop riveted them to the frame.

The opening between the doors and body was now evened out to a uniform gap.
The body strength has been returned, the doors close with a reassuring clunk as they weigh 8lbs each and all that is left to do is fit external handles and trim the doors.


10 - Finished door