

**Notes on
finishing the Hudson
'Spirit' &
'Kindred Spirit'**

The Renault 5 Flair
Based 3-wheel kit car

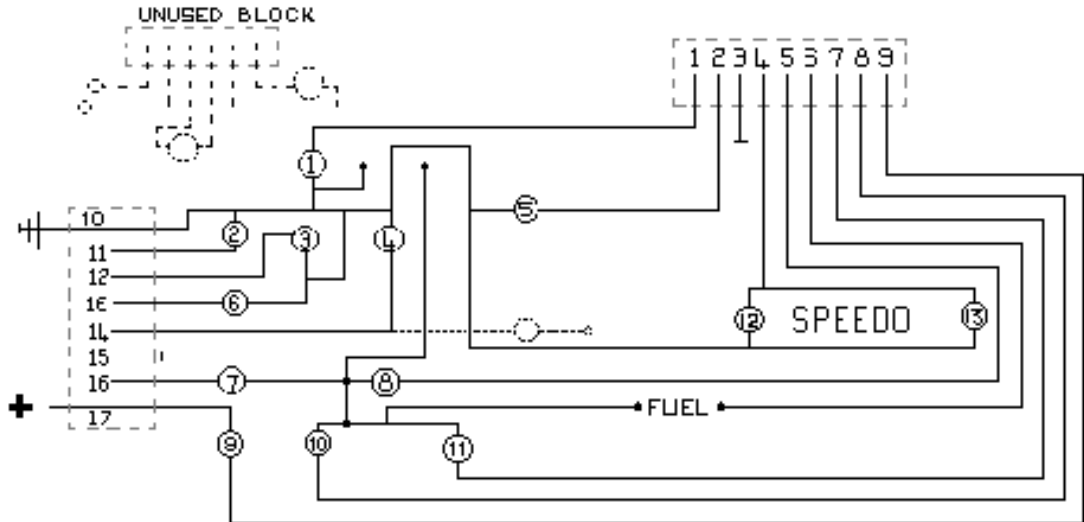


Being
Some notes on finishing touches that;
You may not have thought of,
May have wondered how to do or
Just may save your sanity.

By;
Marten Bowtle S.O.C.

The Renault 5 Flair 1984/85 dashboard circuit.

The wiring diagrams in the Haynes manual are as diabolic as the Renault wiring and as difficult to make any sense of. If you have the panel that contains the speedo, needle type petrol gauge and a display of bulbs for all other information then hopefully the following diagram should prove of use to you. The printed circuit is shown as you would view it from the rear of the panel. Unless you wish to install extra electrics in your Spirit you can discard the unused block that connects with the board and relative wiring that comes with it.

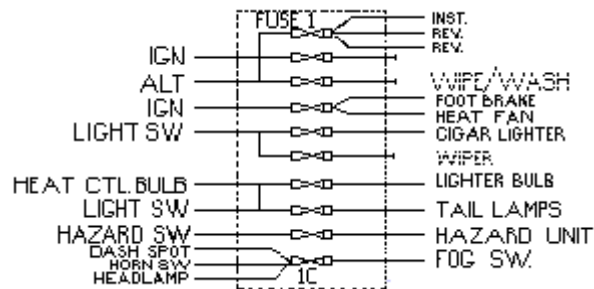


Terminal: 1= Indicators 4= Side lights 7= Oil 10= Earth 13= Hazard 16= Choke
 2= Reverse 5= Water temp. 8= Brakes 11= Main beam 14= Fog 17= Positive
 3= Blank 6= Fuel 9= Battery/Alt. 12= Demist 15= Blank
 Bulbs: 1= Indicators. 2= Main beam 3= Side lights 4= Fog lamp 5= Reverse 6= Hazard 7= Choke
 8= Water temp. 9= Battery/Alternator 10= Foot & hand brakes 11= Oil pressure 12 & 13= Speedo illumination

Note: I wired my sidelights to the old demist bulb which gives me a visual warning from inside the car that they are on.

You may not wish to use this circuit, or, may think of some other use for it.

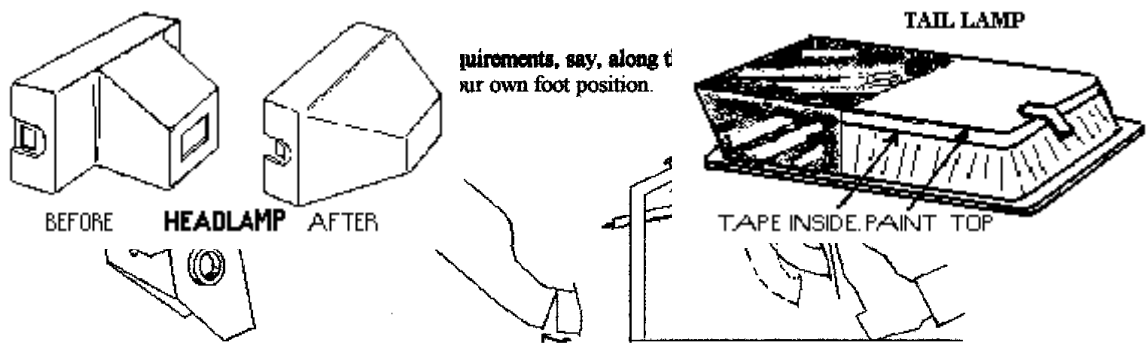
Fuse panel.



The wipe/wash positions can always be used for something else if you do not attempt to fit a hood and screen. The cigar lighter and lamp may seem a trifle ostentatious, especially for someone like me that gave up smoking years ago, but, the socket is very useful for 12v units, such as mini vacuum cleaner, coffee heater etc.

While I am dealing with electrical goods I thought it worth mentioning how I adapted the donor number plate/reversing lamp for Spirit usage. I inverted the lens and stuck 'Elephant tape' inside the horizontal surface. This was to prevent the light shining upwards into other driver's eyes. Turning the lens right way up again I masked the outside of the reversing lamp lens areas and the tail lamp section leaving the top horizontal surface untaped. I then sprayed the top surface with 'chrome' paint. (This can be the chosen colour of your finished car, of course.) When dry the masking tape was removed and the light unit screwed to the rear mudguard where both parts of the lamp perform their original functions without, I hope, breaking the law.

The headlamps were a type called 'Xanadu' and if memory serves me correctly were Honda motorcycle replacements and cost as much for a pair as one CV2 headlight would have done. They are larger and so required replacement shrouds to the fibreglass issues with the kit. These lamps came with a rather cheap looking plastic moulding that I altered by the use of more 'Elephant tape' to give it a streamlined shape which was then fibreglassed over to add strength, P38ed and sanded down and painted to match the car.

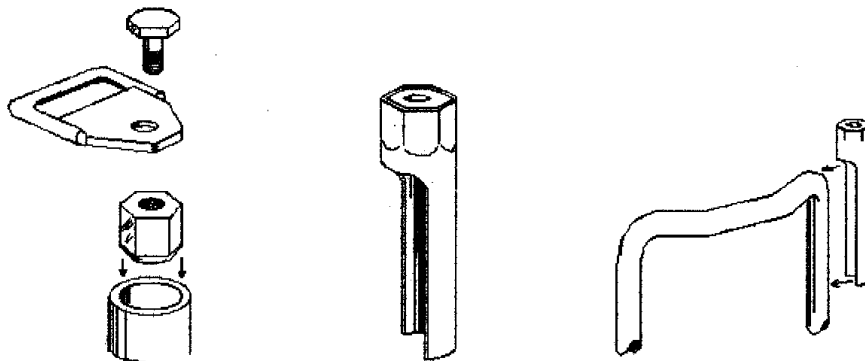


Cut a 'V' of metal out leaving enough to bend pedal back in order that the pedal is vertical enough for the driver's foot to remain approximately flat on it during the full movement while depressing the clutch.

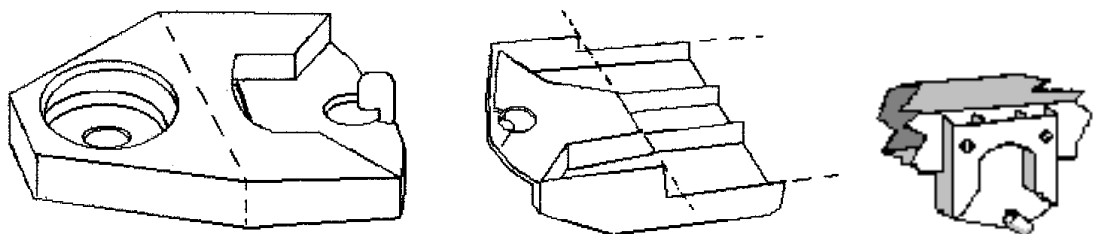
Fit the clutch return spring and cut a small slot for the hooked end to engage in the mount and exert enough pressure on the pedal to return it fully at rest.

Before attaching the driver's seat belt to the plate at the rear, bottom right-hand corner of the chassis the belt can be held in the correct position over the right shoulder by fabricating a belt-loop holder such as shown. The bolts designed for seat belts are 11mm x 1.5mm pitch and careful scrutiny among a scrap yard's contents should produce a wheel nut or two with this size thread. Wheel nuts are longer than standard nuts which is handy as I recommend hammering it into a piece of tube. If you are scrapping a passenger seat from your donor car then a section of tube cut out of its frame should prove ideal, about six inches will do. Cut it vertically along about four and a half inches at a little less than half way across the tube. Hammer the nut into the top and also hammer the tube around the nut to take its shape snugly. Weld or braze this in place and file smooth with rounded edges to avoid damage to the seat cover. Clamp it tightly to the seat frame off-side with the portion with the nut resting on the top portion of the frame.

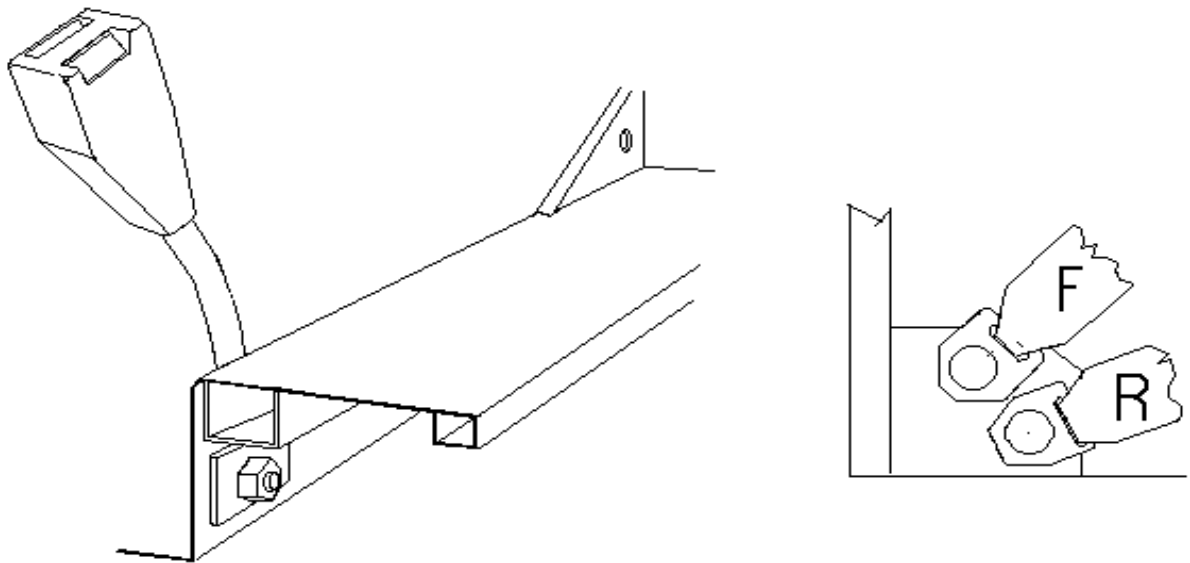
Again weld or braze the tube to the seat. When the seat is rebuilt and covered cut a hole where the nut thread is and bolt your belt loop from the donor car onto it using a standard seat belt bolt, if you also add the top hat spacer it should swivel if you require it to.



When it comes to ensuring that you are going to pass the tests by having a place to park your seat belts then I hope that you did not throw away those belt parks that hung from the door pillars in the old Renault. Cut them where shown, along the dotted line. Turn them over and cut across, level with the straight edge in the centre, down to half the height, then cut horizontally to meet that cut. Drill two holes to clear self-tapping screws and when you have decided just where you want them, i.e. on the top chassis rail, drill two smaller holes to suit the screw bore size and self-tap screw the parks into position.



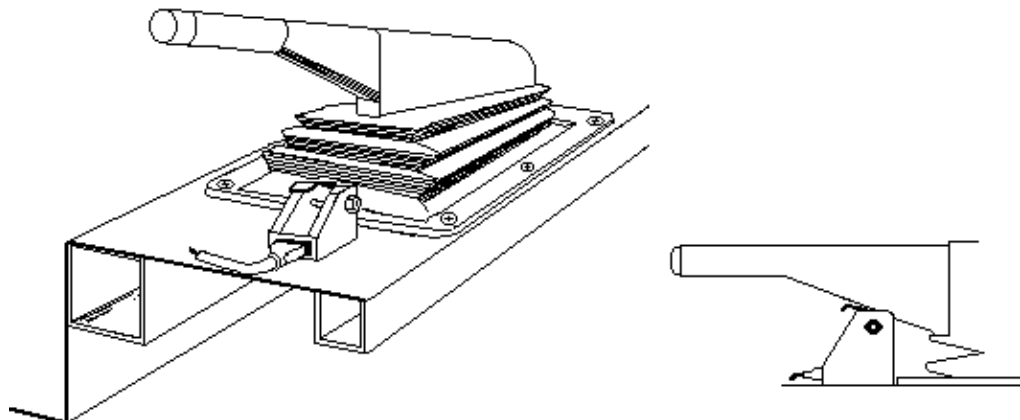
The seat belt mounting shown mid page was made in order to pass the SVA test following the guidelines for modern seat belt anchorage. Being of short stature this placed the belt too far above my shoulder for comfort, but the powers that be that dream these things up would not care about that, so once through the test when I replaced the Renault seat with a fibre glass one I built in a loop on the seat top to secure the belt just above my shoulder which passed the ordinary MOT.

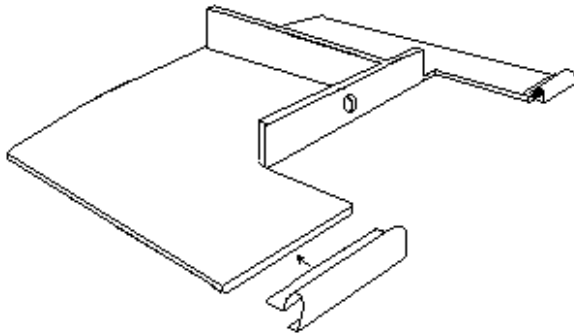


Having fitted the driver's seat into the cockpit and being happy with it's position the belt stalk should be held with the clasp held alongside your hip and the bolt eye position marked on the side wall of the floor well. Drill a hole to suit the 11mm bolt and secure the unit with a reinforcing plate and lock nut(s) The rear end of the belt can be added to the rear O/S plate with the addition of an extra hole drilled in it to ensure that the belts do not clash and wear. (If you are assembling a two-seat Kindred.)

HANDBRAKE

The handbrake-warning switch can be utilised by fitting it to the sill so that the lever is depressed by the metal edge of the lever just behind the handgrip.



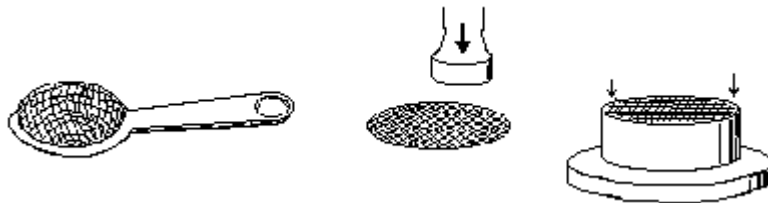


The parcel shelf that I added behind the dash was formed, once the instrument panel etc. had been installed, by building up a corrugated cardboard pattern, Scotch taped together and tested with the car's coaming placed into position. This was then fibreglassed until firm and then spray-glued and covered with foam backed felt.

The front edges were finished with the protective metal edges, from the donor parcel shelf, pop-riveted in place to prevent your nick-nacks falling onto your feet when accelerating away in your sporty Spirit. The hole is for the speedo cable, of course, and that wall is there to prevent any objects, particularly metal ones, from dropping into the electrics behind the instrument panel.

When you are working around the engine, it matters not how careful you are, it is sod's law that sooner or later something is going to fall into an open carburettor. It is bad enough if you see it happen, at least you know it is there, but when that screw or small nut, or whatever, vanishes into the venturi unnoticed then your problems begin. The moment you turn the engine over it is sucked into the cylinder and you might as well have shovelled a sack of money in there. The cylinder head is imprinted with multiple impressions of that screw, nut, bearing or whatever and the piston can suffer anything from a similar fate, increasing the cylinder capacity, to being cracked or even having a hole punched through it. I am sure that anyone with an ounce of common sense does not wish to undergo the experience of taking the engine apart and replacing a piston and maybe the head too, (and don't forget the gaskets,) at the very least.

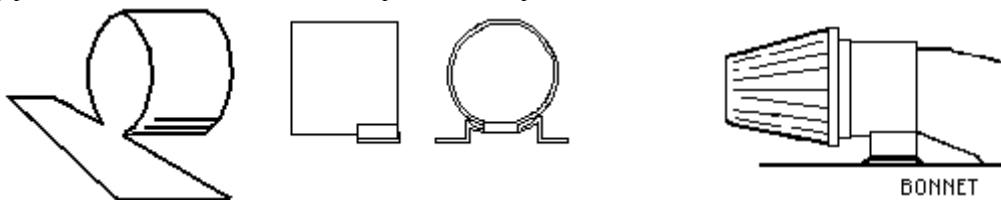
My suggestion for the upkeep of the old maxim 'Prevention is better than cure' uses a simple and inexpensive guard. (I am illustrating a single venturi Zenith carb, adapt for other types.)



Purchase, or raid the kitchen cutlery drawer, a metal net tea-strainer and with sharp snips cut the net from the handle as close as possible to the frame. With a lightweight hammer or similar flatten the net. Trim to size to suit the carburettor intake and sit on the rim. Superglue the net in this position and leave to set firmly, say overnight. Test with light finger pressure just to ensure that it is not going to come adrift too easily. You can now sleep at nights. I have left mine in position, having completed the car, as I have hinged the bonnet and the air intake seats over the intake upon closure. If you are out to squeeze every last ounce of speed out of yours you may not wish to have even a net blocking the intake, then remove it when you are ready with a knife or any method that you can devise without dropping pieces down the venturi.

This was modified at a later service with an all-metal strainer which had a rim exactly the right size to sit around the top of the carb, simply cut off the handle and push net over intake. Perfect!

While I am on the subject I may as well describe the air filter system that I devised just in case no one else has thought of it, (though I would be surprised if not.) The filter is a K&N conical filter, not cheap but effective, used by professionals and convenient for the Spirits limited space.

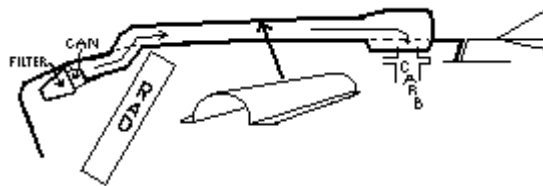


Once deciding upon the filter that you want to use, assuming that you are going to use a conical type, find a food can the right size to suit the filter's collar. (Never underestimate the power of beans!) Make a straight cut from one end to about a third of the way along the can. Then, from the end of this cut, cut the tin neatly, both ways, most of

the way around the circumference, leaving about an inch minimum of material uncut. Flatten the resulting flap then double it under the tin, shape it to follow the contour of the can a little way, then bend down to form supports and bend again to right angles to form feet. These should hold the circular opposite end of the can clear of a flat surface in order to fit the filter over the end. Having chosen the position required for the filter, fibreglass over the feet and allow to set. While the tin is still shiny and clean I would suggest giving it a coat of fibreglass resin inside and out to prevent rust taking hold.

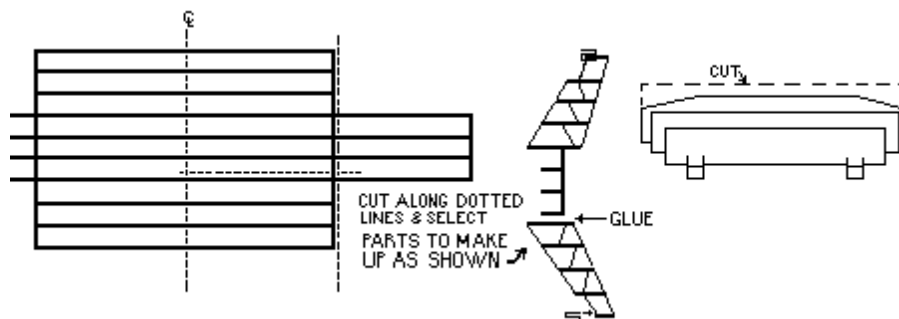
I do not know where you will decide to position your filter but mine was just inside the bonnet air-intake, by the way. I did not want you to jump to conclusions from my sketch, above, and think that I stuck mine outside the bonnet.

To finish the job a trunk had to be fabricated from the can to the carburettor. Nothing easier. Make a tube of thin card to fit inside the rear of the can, shape it to fit the inside surface of the bonnet, passing through a hole that directed the airflow up and over the radiator. Using more thin card make a semicircular tunnel from there to the carburettor hump. It can be held in position, and further improved in shape, with Scotch tape. Fibreglass over all and once finished to your satisfaction, a coat of paint will further disguise any sins.



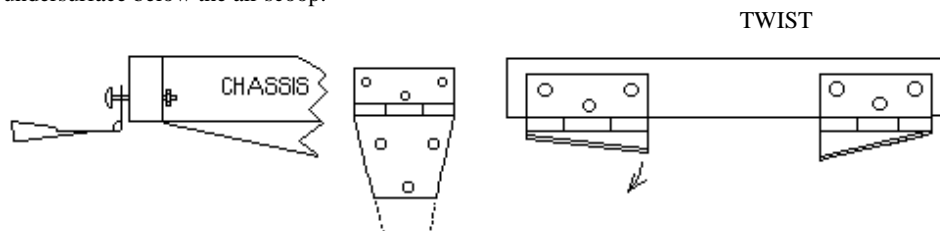
One further snippet of information that may help in fibreglassing jobs in general that I discovered by accident. Making panels etc. for the car I usually used cardboard to make the items accurately to shape and size and by adding a finishing surface of baking parchment, purchased on the roll in place of greaseproof paper, makes a wonderful release agent. Fibreglass resin refuses to adhere to this stuff, (Mind you, so does everything else, it is not always easy to get it to stay in position on the card model.) Once cured the fibreglass item is just peeled away from the original leaving a neat cast ready for tidying up and finishing. Saves money buying release agent!

For those little finishing touches around the front end, so long as you have not thrown out the plethora of plastic parts that came from the donor car, the following are just suggestions having been the methods that I used, in case you develop builder's block and cannot think of a satisfactory solution at the time. Mine was a 1984 -85 Flair by the way, items may (Probably will !) differ. Firstly, take that weird plastic radiator grill and cut it in something akin to the following fashion....



Having cut it out, tidied the edges and tried the pieces for fit, glue the two pieces together and, when firm, trim the shape to your requirements and fasten into the interior edge of the air scoop of the bonnet with the original 'S' spring clips. In the event of a minor knock this will allow the grill to slip off and into the space in front of the radiator, hopefully without damage, and you can replace it with the minimum of trouble.

The bonnet can be hinged with ordinary gate type hinges cut down in length and twisted to suit the curvature of the bonnet undersurface below the air scoop.

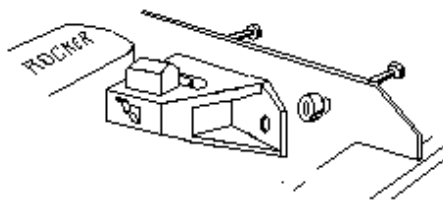


Of course, once you have hinged your bonnet (They can't touch you for it.) you will need to be able to stop it flapping in the breeze. I hope that you saved the bonnet lock from the donor car because I am going to show you how to adapt it for your Spirit.

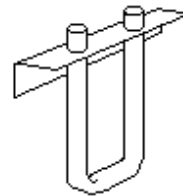
Taking the plastic bonnet latch that was just inside the front edge of the original grill, turn it through 180 degrees and offer it up to the firewall close alongside the rocker cover (Allow for engine vibration.) and mark the positions

of the mounting holes. Having drilled the holes bolt the latch to the firewall using a pair of spacers (larger nuts?) between the latch and firewall. If deciding to use the original release handle decide upon a method of mounting inside the cockpit and then plan the route for the cable keeping it held clear of the exhaust system and install a small clevis pin to prevent the cable end from becoming detached and locking you out. Purchase a standard length of 8mm silver steel rod and heat bend the centre to the same shape as the original catch loop and ensure that it works easily in the catch. Make up an angled plate from a piece of scrap sheet steel. (You did save some sheet from the panels of the donor, didn't you?)

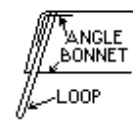
Drill two holes in the angle to take the ends of the rod. By carefully trying, marking, and trying again, determine the position for the loop in the closed bonnet and drill two holes in the bonnet to allow the loop ends to pass through. Engage the loop in the latch, close the bonnet gently ensuring that the loop ends pass through the holes drilled. Making sure that the bonnet is in the required fully-closed position, mark the ends of the rod where they emerge through the bonnet. Open up again, holding the angle over the holes inside the bonnet push the loop through the holes to the marked position and mark the positions of the loop against the angle. Cut the loop end between the two marks, weld or braze the loop into the angle. Fibreglass the assembly into the interior of the bonnet. When cured try the fit, gently in order not to pull it all apart unnecessarily. If O.K. finish glassing it securely and when cured fill the holes in the top of the bonnet. (Now you know why the loop was cut BETWEEN the marks !) And there you should have a system that looks pretty professional when you have to demonstrate what you have under the hood.



Positioning the latch



Loop and angle



How it fits

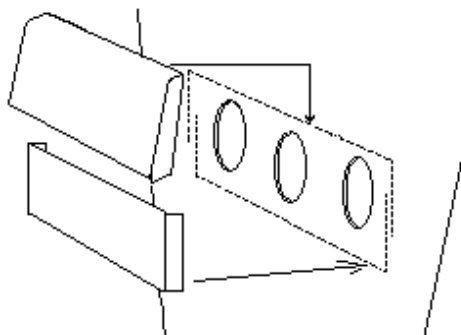
The cable was released from the end tab by gently tapping the cable grips with a small punch until the cable could be slipped out of the tab, once the cable length is decided and the inner and outers cut tin the cable end and tab with solder, slide the cable into the tab, gently tap the punch to regrip the cable and solder for that extra security.

RENAULT HEATER

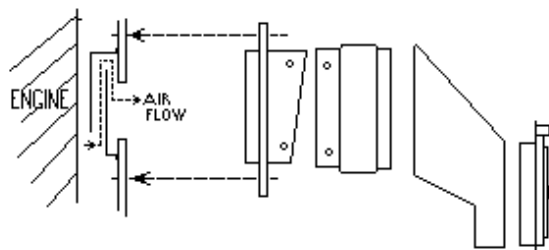
This was how I did it at the time, it has since been removed as inefficient & surplus to requirements.

Not everyone wants to include the heating system in their Spirit but as I was getting on a bit when I built mine I fancied a little of the 'home comforts'. In the absence of a suitable fan-forced air flow, however, it did not prove satisfactory and I took it out again. Just in case you want to copy it or base a method of your own upon it I include the original method.

The firewall was drilled with three holes which were then opened up with a 'cone' drill to at least 25mm diameter. Some plastic sections held over from the dismantled donor were fashioned into two overlapping guides for the airflow which were glued securely to the exterior. As the space between engine and firewall is very small I would recommend doing this before the engine goes in, it is a struggle once it is in position. The plastic connector that changed the air system from under the bonnet to the car interior on the Renault was bolted to the firewall on the inside covering the holes. The heater radiator matrix plastic cover was adapted beforehand to screw with self-tapping screws to this connector. The radiator in its case was attached and having made up a fibreglass box to contain the heat vent and control, a tin-plate shroud was fabricated from card templates to fill the gap between them while just clearing the battery which is placed below in the usual position in the trough in the floor well.



Guides



Firewall

Connector

Shroud

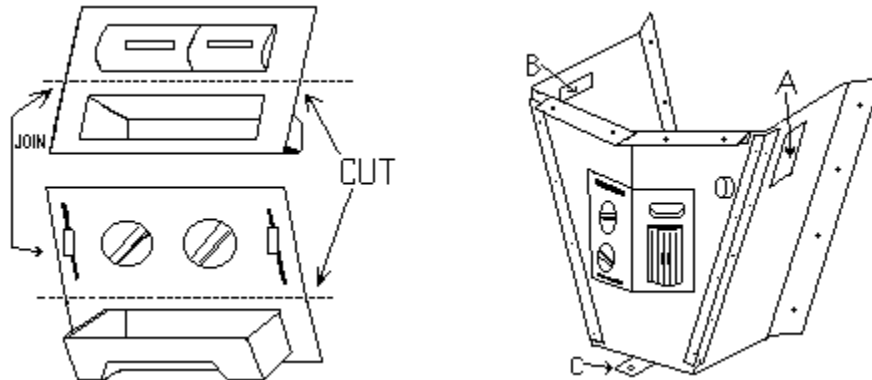
Matrix

Vent

I leave it to you to sort out the plumbing but so long as you have positioned the matrix with its plumbing emerging on the left, near side, you should have room, just, to run the pipework from water pump to matrix alongside the exhaust manifold, using metal pipework of course! with rubber connections at either end.

By cutting out the two portions of the heat control panel from the Renault and supergluing the two indicated parts together again I was able to fashion a useable control/vent by inserting it into the front face of the box that I made from fibreglass to sit around the battery.

This was made all-in-one but had to be cut apart later when it became impossible to manoeuvre under the steering wheel. So, before I cut it apart I made plastic angles by cutting up the plastic carpet savers that fitted over the interior sills of the donor. I self-tapped these to the corners of the box, removed them again and neatly cut the box apart at the corners. When it came to re-assembling the box it remained its recognisable shape and dimensions. If memory serves, without trotting out to the car, I pop-riveted the front edges so only the sides need to be screwed. The top edge is similarly screwed to the underneath of the plastic steering wheel shroud that again was adapted from the donor. This not only makes a firm fitting for the box but also stiffens up the steering column, which does tend to move about a little when you are getting in and out.



The sides are angled to match the firewall and the forward ends angled again to fit alongside the firewall sides and be joined with self-tappers. Slot 'A' is where I fitted the fuse box, time will tell if this was a wise position, slot 'B' is where the bonnet latch handle fits and does an excellent job, tab 'C' is used to fasten the base and uses the same screw that holds the gear stick surround with the odds and ends holder that came from the donor. In case you are thinking that such a set-up makes getting at the battery a devil of a job I have, hopefully, minimised that eventuality by using the live lead to the alternator to also supply an earthed socket in the engine compartment. By hooking the plug to a charger, jump-leads etc. I can charge the battery without disturbing the box.

As there is no actual vent intended as the usual air intake the blue control wheel can be left disconnected but the red heater control can easily be reconnected to the control valve on the side of the heater matrix in order to keep some command over what is directed at your crutch area with this layout.

Also shown is where the cigar lighter is fitted, above right of the vent, ready to provide power for any eventuality.

With the removal of the heater I replaced the control panel with a shaped wooden cover, spring-clipped into the hole and concealing a plastic shelf above the battery for keeping my tool bag on.

The following details show how I have tackled various problems in order to get my kit on the road and through the ministry test.

The first item that the examiners will be looking for is a safer front edge to the wishbones at the front of the car. No sharp edges must be able to come into contact with a pedestrian. The top wishbone is behind the round track rod and was exempt but the rod required some foam insulation cover. In order to get the bottom wishbone (B) through the test my solution will suffice. The rubber moulding (A) is a standard stock item (at Walkers Rubber, here in Norwich for example.) and is listed as CF2032 EPPM(?) (T003) at about £3.00 per Metre. You only require about a foot (30cm).

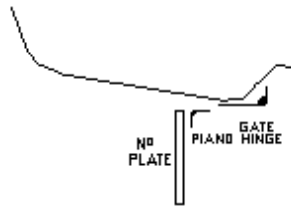


Having cut and shaped the rubber to fit I drilled the top surface of the rubber and the wishbone, gave both a liberal coating of contact adhesive and pop-riveted the rubber on before the glue dried then clamped the rubber firmly home until the glue set.

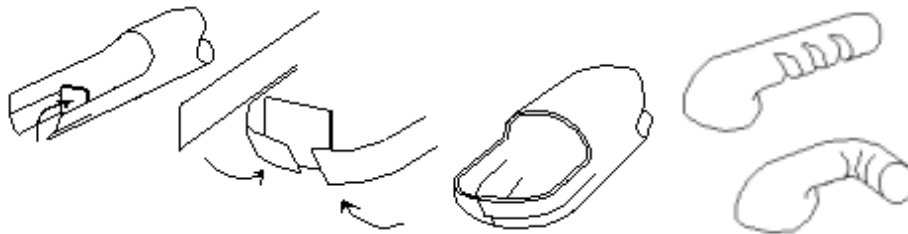
If you are hinging your bonnet and decide to place the number plate beneath the intake you will not want to fix it rigidly. (Unless you WANT to see it lying in pieces in the road as soon as you open the hood.) Attaching the plate to a piano hinge which is, in turn, attached between the hood's gate hinges (If that is what you have used.) will allow the plate to pivot forward as it meets the chassis and swing back again as the hood is shut, or until the breeze pushes it back. For this reason it may require a stop of some description to hold it vertical rather than be blown too far back and get you booked.

By the time I got around to the exhaust system my bank balance was beginning to look a bit anaemic, so, I was looking for ways to cut expenses and the following describes how I cannibalised the donor silencer temporarily.

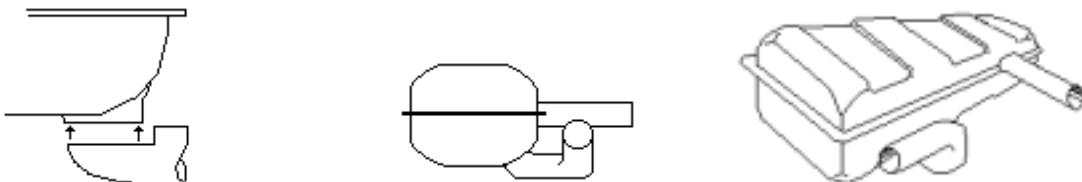
Cutting off the inlet pipe, leaving the welded rim attached to the silencer, I cut it in



Now bend the bottom, middle, section upwards making a curve rather than a right-angle. Next curve the two opposing flaps above that section around the first one. (Hammering these sections into shape whilst holding the pipe over another piece of strong pipe or rod will help.) Lastly bend the last two flaps around the others. **RIGHT!** You should have something that

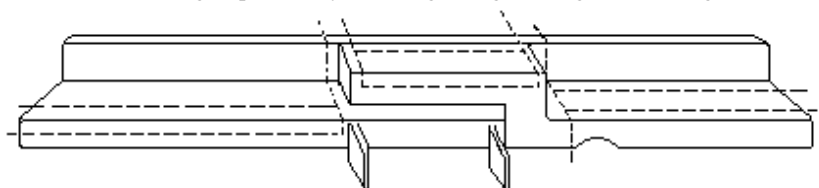


'A' Looks like a Coronation-class loco, and, 'B' should fit the hole in your silencer where the pipe was originally cut from. The weld left on the silencer will give a firm base to weld to when you come to replace it. Weld your joints. I put plenty on to strengthen the turns where hot gasses are more likely to erode the metal. Don't think that you have finished yet though! Next, cut some Vs in the pipe (I made three) and make sure that you are cutting the correct side to allow the pipe to meet the exhaust pipe from the engine, bend the pipe through a right angle, cut more if required to adjust. Weld this lot up, not so necessary to be heavy handed here as the gasses don't work so hard on the inside of a turn. Once you are happy with your handiwork check it against the silencer to make sure all is well. When satisfied weld it in place making sure that there are no holes for gasses to escape.



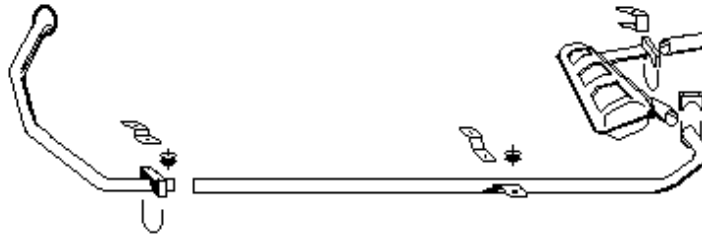
You should finish up with something that looks similar to the above. Clamped close to the floor under the rear well holds it as clear from the road as possible. This was high enough for the examiner, luckily, because the gear rod was lower than this. I now have a much better silencer that runs straight across the car from the right-angled pipe bend and came from a Ford scrap heap. Look for the one with an inch-and-a-half pipework.

Those long plastic mouldings that sat over the carpet inside the doorsills are handy things to keep hold of as, cut down in the manner shown, the angles prove very useful lightweight strengtheners and guards.



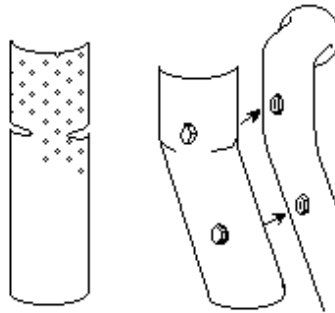
The larger angles formed I used on the interior sills of my Kindred to protect my carpet wherever feet were likely to scuff or rest regularly. The remainder fitted as I have already described before.

The complete exhaust system on my car was laid out along the following lines;

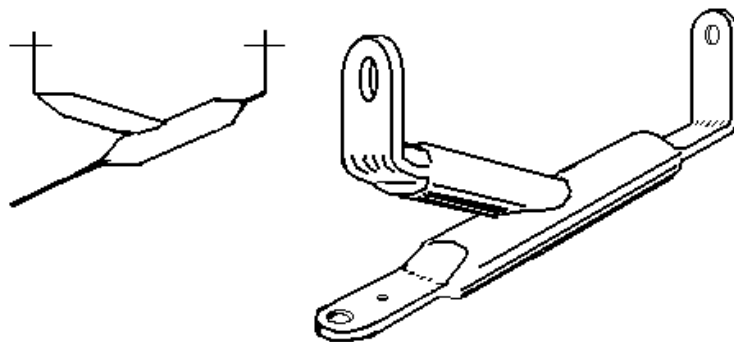


Apart from the kit replacement pipe from manifold to the long exhaust pipe it is all original donor material as luckily my donor was in reasonable condition. The 'U' clamps, rubber mounts and brackets were all new and the outlet pipe from silencer was improved with a chrome tailpipe with turned end from the local car-parts shop to keep the examiner happy.

With the new regulations I am not sure whether I needed a guard over the exhaust but thought it very desirable anyway, (and I am quite likely to stick my hand on the hot pipe as well in an unguarded moment,) so I visited my local metal suppliers and purchased an offcut of stainless steel perforated sheet.



Having tried the ubiquitous card template on the down pipe I cut the steel from either side about a third of the way across and bent it to follow the pipe's contour. Happy with this I then curved the sheet to match the pipe when held about a centimetre away. Deciding then where to place the bolts I drilled two of the perforations larger to accommodate the stainless bolts that I made 'captive' in the sheet and brazed two nuts onto the pipe in the relevant positions. This also was successful at VRO.



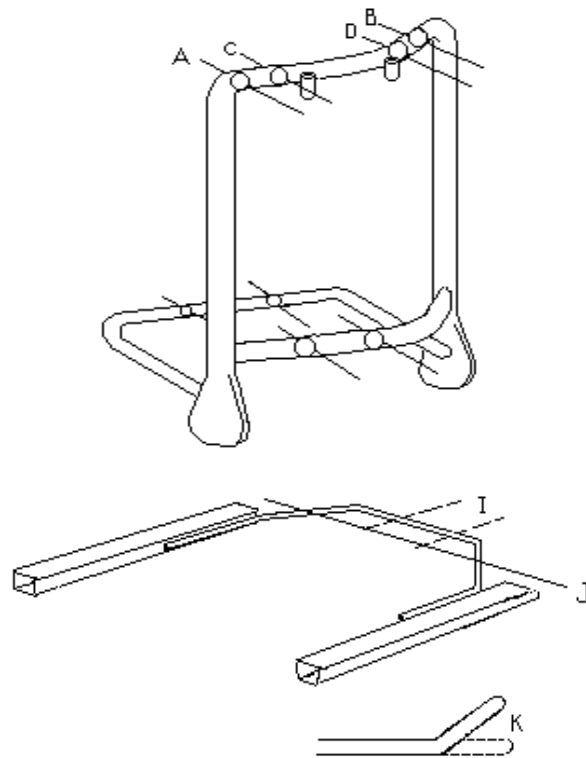
The weird and wonderful contraption above is what I devised to hold my headlamps off the deck and was fashioned from an old lawn mower handle. The ends were hammered flat and shaped to fit around the lamp housings and bolt to the holders. The second piece of tube was welded to the main piece and the large hole in the end of the main arm fits around the shock-absorber stud and is held in place with the rubber mounting and nut. The second, smaller hole is then drilled, as is the shock-absorber mounting turret and a nut and bolt used to prevent the headlamp from moving from straight ahead

When it comes to adapting the seat from your donor car for the Kindred Spirit opinions vary depending upon how much room is required for passengers to position their legs on either side of the finished item.

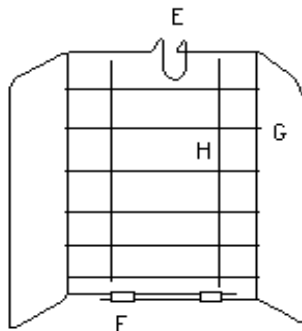
I personally removed four inches from the width of mine but this may not be enough for other people, it will probably be best to try for fit with a box or something similar.

Assuming that you are going to adapt your donor seat here is how I went about it in case the method is of use to you.

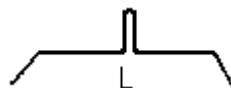
I stripped the seat of cover and sponge foam filling and removed the wire support frame and springs and the runners etc.



Deciding to retain the headrest I knew that it would be best to keep the tubes welded to the top frame intact, therefore I cut two inches out of the frame each side of the tubes at A,B,C & D. I hammered the frame at A & B to match the frame at cuts C & D, these being flattened on one side. The rest of the seat frame had four inches cut out of each cross frame and one zig-zag spring was removed from the seat area. The whole frame was then rewelded together again. Now would be the ideal time to install that seat belt runner, mentioned elsewhere, to the top frame if you are going to need it. The rods connecting the seat release handle to the hooks etc also had four inches cut out and were rejoined as did the tube 'I' forming the slide release at the seat base front. This was joined by inserting a piece of 8mm rod inside before welding. While I had this item free of the seat I bent the tube 'J' upwards about forty five degrees 'K' to prevent jamming my fingers between it and the floor or gearstick when moving the seat.



Now, here is an interesting little exercise, adapting the wire frame. Slacken the clips gripping the wire frame at the bottom. Marking the top frame two inches either side of the centre line, unwind the piano-wire horizontal wires from one side only of the vertical wires down one side. Facing the wire frame front, as in the sketch, bend the top wire at the centre line mark, pulling both sides of the frame towards you. Now bend the frame backwards at the two inch marks and make all three bends neat by squashing the centre bend as flat together as possible and the two right angles as square as possible.

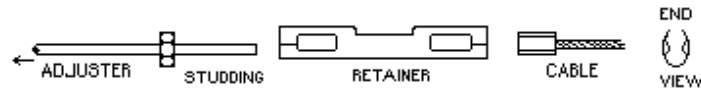


You should have something that looks like plan view 'L'. As close as you can to the top wire bend the loop downwards 'E' in order to clear the main frame when the seat is reassembled. I put a small Jubilee clip around the loop to prevent it from springing apart when weight was applied to the finished seat. Now refit the piano wires to the side wire by winding them around the wire then clipping off the excess.'G'. Slide the paper covered wires 'H' to new positions along the piano wires to equalise the spacing and ensuring that the bottom wires have slid to their new positions, i.e. four inches closer together, tighten the clips to grip once more. Refit your wire frame to the main tubular frame and you are ready to refoam and make a new cover.

Following a mishap with the handbrake adjusting screw supplied with the kit, I took the opportunity, during making the replacement, to improve on the original design a little.

The spring clip is part RADU 5126 20C13A Retainer available at your local Rover dealer for £1.19 at the time of writing.

The adjusting screw is a piece of 6mm studding 110mm long. (This may vary if your handbrake is mounted differently.) 20mm of one end is filed to a slightly triangular shape to fit snugly into the spring clip and a nut screwed up to this point to butt up against the clip. Welding it in place and making sure that the nut was also welded and the spring steel did not lose too much of its strength and making sure that the cable end will still fit in the center slot, then filing it neat completed the work on this item.



Once fitted to the handbrake cable and lever, two nuts were added to the opposite end of the studding to form lock-nuts for the adjustment. The nut that I added at the retainer clip is used to hold the unit still whilst adjusting the nuts at the lever end.

Yet another trip to Walker's Rubber provided me with another moulding. CU7309.

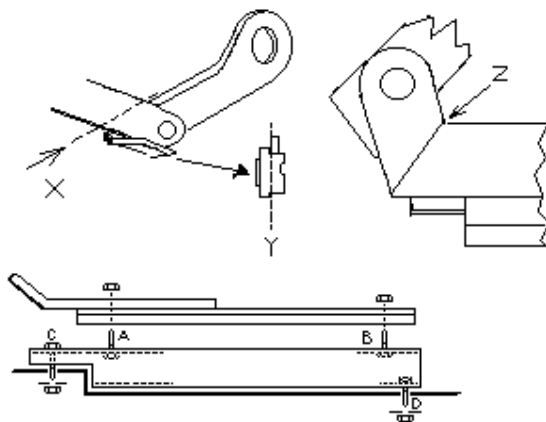


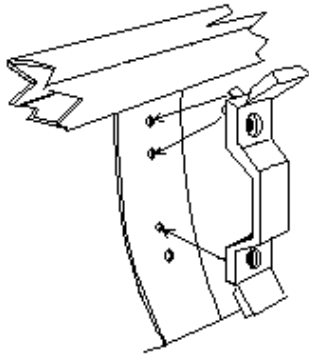
This is approximately 15mm long by 10mm wide in cross-section and serves to edge both the windscreen and fibreglass cockpit coaming edges. About 12 feet should do the job for a Kindred. The glue I purchased from Lamberts, our local pipework and tools dealers. It was Loctite 415 a high density form of superglue in a 20g bottle and industrial strength. Not cheap at £12.58 but better than the toy muck we get sold in general hardware shops and shows signs of keeping everything in place.

Looking at the base frame with the slides you will notice the front hinges that allow the seat to tilt forward. By unbolting these and cutting them as shown at 'X' just above the slide frame and then cutting the small stop 'Y' at the end of the hinge, so allowing the cut piece with the angle to pivot around the full 360 degrees, swap the hinges left to right, and vice versa, and position the cut surfaces against each other the opposite way up, as shown at 'Z'. Reweld these on both faces of each and tidy up allowing the hinge to pivot again.

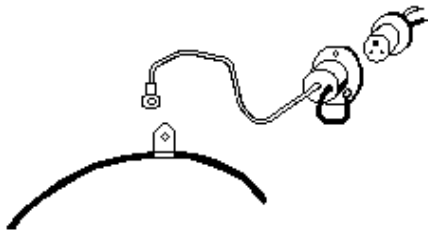
By obtaining two lengths of 1" square (25mm) box-section mild steel tube I shaped one end of each to fit over the step of the floor well as shown below. Drilling them to take the seat slide bolts 'A & B' and the floor mounting bolts 'C & D' I then drilled the floor once having determined just where these tubes needed to be for the newly narrowed seat.

Once I was happy with all the fittings I 'Superglued' the seat bolts 'A & B' inside the frame and allowed to set good and firm overnight having painted the whole thing. Bolting the tubes to the floor with some 'penny' washers and locknuts I ensured that the seat was in its fully forward position and gently lowered it onto the bolts 'A & B', making sure that I did not knock them loose, and spun the nuts on by hand so that the runners could just move for adjustment at the front. I slid the seat back to access the front bolts and fitted the nuts then tightened all four. The box section allowed the seat runners and altered front hinge to just clear the floor with a rubber mat fitted.



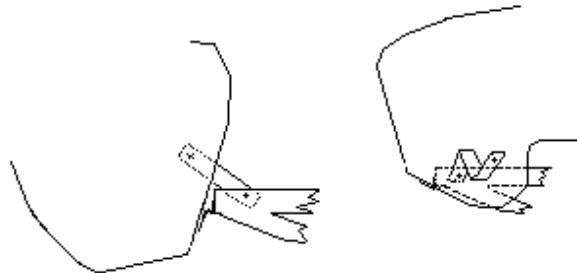


Pulling on the steering wheel when climbing out of one's Spirit is not going to be good practice for very long, something is going to give before too long. I went back to the odds box of pieces removed from the donor and discovered those two hand grips from the frames above the doors. Selecting the second chassis ribs from the front on each side I positioned the handles where I felt they would be most comfortable to grip and least likely to be a nuisance and marked the positions of the four holes necessary. Measuring the plastic 'pips' at top and bottom I drilled two clearance holes for these and tried the handle for fit. Happy with the positions I then used a small drill bit to drill through the screw holes as guides. Removing the handles I changed to a slightly larger drill bit, opened up the guide hole and then tapped the two inner holes to 5mm dia x .85mm pitch threads to take the screws that attached the handles originally. Screwing the handles on good and tight I added a small locknut to the outside end of the thread and cut the remaining thread flush with the nut face. The interior of the body side panels, being carpeted, covered these activities perfectly.



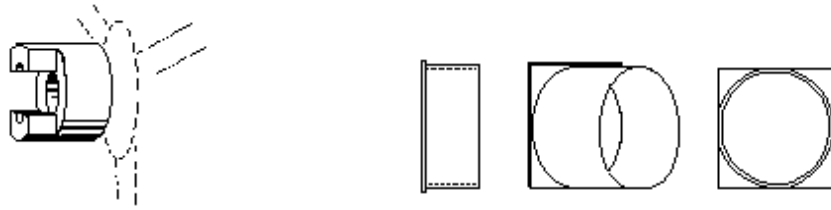
The main feed from battery to alternator had a convenient eye built into it about half way along its length which just happened to position itself nicely behind the instrument panel on the right-hand side of the car. Using a wire with another eye on one end I connected it to a small three-pin socket that I attached to the firewall facing into the engine compartment. Another short lead earthed the socket to the chassis at one of the fixing screws. The plug that formed the pair, (They come with a pin and slot in order that the plug cannot be assembled the wrong way such as earth to positive.) was given two short leads that are soldered to prevent fraying. This can then be connected to a battery charger etc.

If you have hinged the bonnet you will have noticed that some form of restraint is required to prevent it from tipping too far forward and being damaged one way or another. My solution to this was to raid one of my many oddments boxes and utilise an old, but nearly new looking, nylon strap that I had rescued from a long-defunct shoulder sports bag. About an inch and a half (40mm) wide I tried it to determine just where to fit it and cut two to suit. Mine are about a foot (300mm) long and the ends are doubled over an inch or so for extra strength. Punching a hole through both thicknesses at each end I used the bolt that holds the gearbox mounting crossmember to each side of the chassis with a large washer over the strap to hold one end of each.



Then I stretched the straps to the bonnet and marked the positions of the holes, drilled to clear 6mm diameter and secured with chromed dome-head 6mm bolts and, again, large washers. A pair of straps prevents the bonnet from twisting as it would if hung against only one. Once the bonnet is closed they drape themselves neatly over the chassis out of the way of any moving parts. Silent, lightweight and simple. What more could one ask ? (Sounds a bit like me really !)

While you have the beast in pieces, assembling for all you are worth, it is better to do those fiddly little jobs that can make life so much more pleasant in the future, isn't it ! So, once you have the steering wheel off the donor do not throw it away before you saw off the indicator trips behind it.



It is some while since I saw mine so if the sketch above is not a hundred percent likeness forgive me, but it should look something like it. Cut a half inch length of 15mm bore water pipe which should be about seven eighths of an inch O.D. Open the bore to fit your steering column. Fit this into the trip bore making sure that it is firmly fixed, (grub screws, superglue, whatever.) Position on the column to line up with the indicator switch return triggers and ensure that, with the road wheels in a straight-ahead position, the gap between the trips is not activating a trigger and superglue it well in position.

With the steering wheel dropped into position on the splines before fitting the nut to the column, flip the indicator switch left or right, turn the wheel in the corresponding direction and the trigger should ride over the trip and still indicate. Turn the wheel back to straight ahead and the trip should activate the trigger and the switch should be cancelled. Check that it works in the opposite direction also. There! Isn't that easier than remembering to cancel your indicators every time you use them? And it prevents all that angry hooting from other drivers when you have forgotten.

Before you tighten that nut on the column, there is an unattractive gap behind the steering wheel that could do with hiding and if you are using the plastic panelling that came from the donor to surround the instrument panel and column perhaps you would care to copy my method of tidying that space up. Visit your local plumbing hardware supermarket and have a look among the plastic drainpipe fittings. You should find a plastic adapter that looks like the second item above and usually in black. Position one of these behind the steering wheel, the flat flange against the fascia, centralise it behind the wheel in its final position then superglue it to the fascia and hold until set. Doesn't that finish it off rather well? Especially if you have taken the trouble to remove sharp edges, moulding lines etc. and finished off with a little polish.

A further thought on heating.

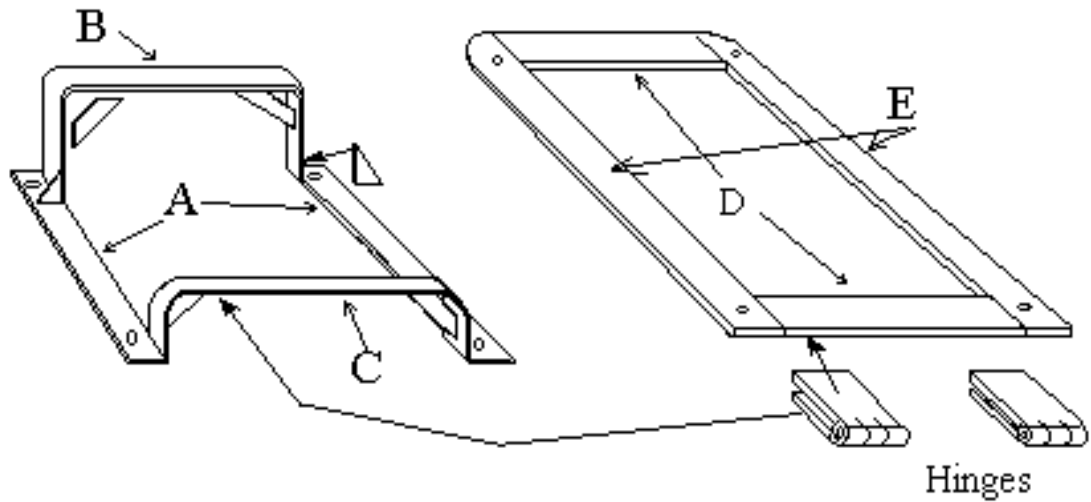
It is always easier to be wise after the event and it occurred to me later that a simple heating system should work as follows and be added before adding the body side panels;

From the 'In / Out' hoses for the original heating system lead pipework through either side of the cockpit firewall to connect with one long length of copper central heating pipe. If bent in a simple 'U' shape to run along each bulged fairing at the bottom of each side panel and pass across the rear cockpit floor under the rear seat edge it should be conveniently out of the way whilst still in a very good position to provide warmth to the whole cockpit area. Make guards for any exposed pipe that may be touched accidentally. Stop cocks in the engine compartment would turn off the supply during the summer although it just might provide a good way of further cooling the coolant by its extra length of run.

I offer it as an untried idea that A) ought to work and B) is beautifully simple.

I purchased one of 'Wizard' White's fibreglass seat pans later which required further alterations as follows.

FIBREGLASS SEAT PAN FRAME



All frame sections 1.25"(32mm) wide X 3mm mild steel.

A-21.5" Strengthening corner brackets made from scrap offcuts.

B-21" Hinges made by cutting one strong steel hinge in half and welding to under one end of seat frame and on top of base frame C.

C-18" Part B is bent to form a frame 3.75" high, part C bent to form

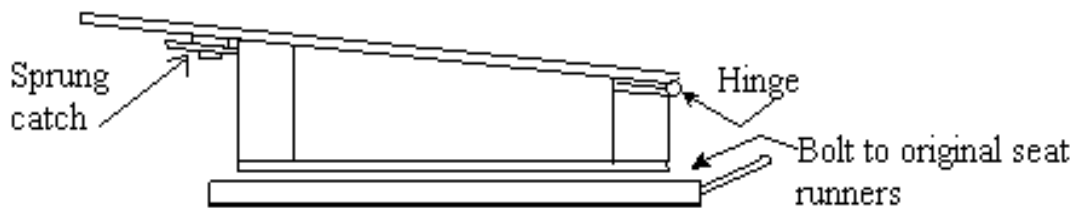
E-16.5" one 2.25" high.

The frame shown is as I have made mine and which I adapted as I proceeded.

I have not detailed the sprung catch that I have made as I am not entirely happy with it and you may think of something better. If you are really stumped for a design then you can always contact me and I will pass on what I have done in case it is required, it passed the MOT test for me.

The fibreglass seat pan had to be added to in the form of a raised seat back with a slot in to accommodate the seat belt and hold it in the position required by SVA rules.

I also had to cut away each side to allow freedom for the passenger's legs. This also necessitated a reinforcing, bolted on strip, each side which was then fibreglassed over before finishing with the foam padding and seat cover.



Side view

FOG

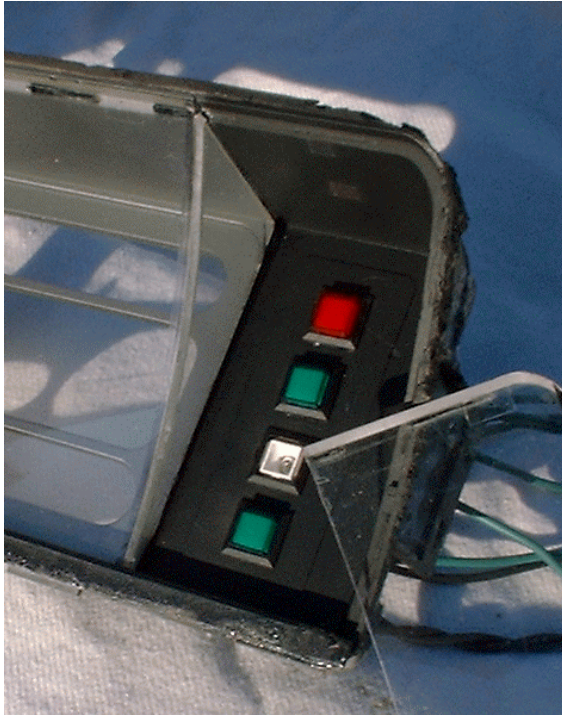
FUEL

PUMP

DASH

The computer generated sticker for the new switch panel
Detailed below.

Biggle's Bullet gets a face-lift.



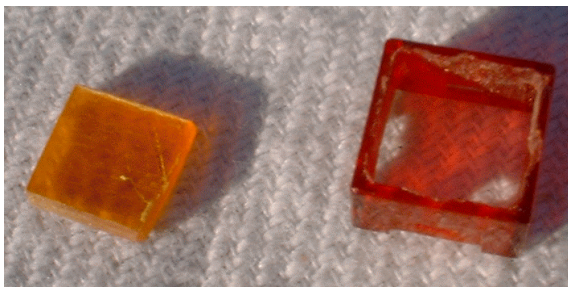
Having carefully removed the right-hand end of the clear plastic dash cover I made up a piece of flat plastic to fit the gap and glued this in place to protect the instruments. Marking out the positions of the switches I drilled and filed the half-inch square holes necessary, spray painted the recess matt black and fitted the switches, having pre-wired and soldered each.

When I went to purchase the switches I had intended to buy one of each four colours but by the time I got to the shop two had been dropped from their list (Amber and White) so I had to buy two each of Red and Green.

These switches come with little opaque white diffusers to even out the illumination from the miniature bulbs. By leaving a diffuser in the top Green lamp and removing the one from the bottom one I have two different Greens that I can easily distinguish between.

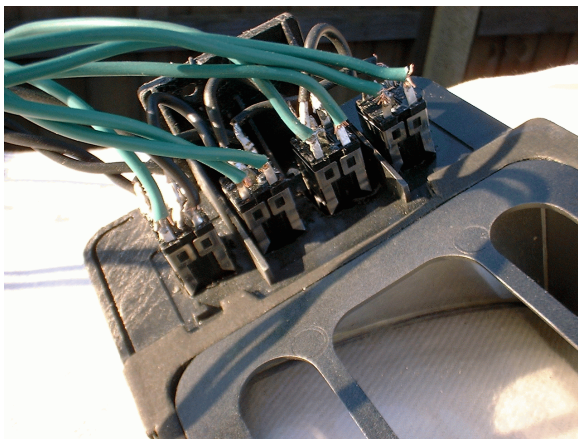
Because the test centres create wholesale if lamps are not different colours for different purposes I drilled out the top face of one of the red lenses, filed it neat and cut up a portion of broken amber tail lamp lens to glue in it's place, making my own acceptable Amber lamp.

I may yet remove the second Green lens face and replace it with the White diffuser.



Showing the lens frame cut and filed and the Amber lens prepared for super-gluing in place.

My past model-making experience came in handy for this fiddly job, particularly as those indicator lenses are so brittle.



Ready for the wiring job. Simpler than it looked from this pre-attachment view because the earth connections were then all joined together and then to one source.

The power connections took a bit of experimentation, due to Renault's weird and wonderful wiring system, of course. Nothing more gratifying than to press the switch and see it light up and also work the correct item though.

Red for the fog lamp.

Top Green for a lamp to illuminate the fuel filler.

Amber for the electric fuel pump (For priming only)

Bottom Green for the interior lamp for illuminating the ignition switch hole on those dark nights.



Taking shape and the benefits begin to become obvious.

Easily accessed and identifiable switches, instantly spotted forgotten 'on' switches and, once made more presentable, the right-hand entry into my parcel shelf that had been all but inaccessible due to the bank of Renault switches that had been there.

Biggle's Bullet gets a face-lift part 2



Having tried the idea and found it suitable my temporary set up with a lamp to illuminate the ignition switch at night or in dark car parks etc. will get an update.

In order to prevent the lamp from shining in my eyes I had taped it over except for the underneath. This provided more than enough light for the relevant portion of the cockpit.

However, it did prevent me from noticing that I had knocked the switch on during daylight hours resulting in a battery with not a glimmer of power in it the next time I wanted to use the car.



Once the electrics were all sorted the next job was finishing the seat. Having bought one of Dave (Wizard) White's fibreglass buckets I found that the grandchildren's circulation was being cut off when their legs were squeezed between it and the cockpit walls. Cutting a curved recess each side weakened the seat back so I had to bolt a metal strip each side then fibreglass over each to smooth it all off.

Having solved that problem I needed to re-sew the seat cover but was holding off because I was still undecided as to how I wanted the finished article to look.

The 'Innovations' catalogue through my door provided an answer.

A black leather seat cover that I was able to employ sewed onto the front of the original cover, saving me much reworking.

My unsuccessful heating system was removed and the box around the battery was better utilised as a valuable tool space on a plastic shelf provided by my old rear number plate, until necessity had me replace the battery with a larger model, now my tools rest elsewhere.

So, my forays down to the 'smoke' twice at the beginning of this year should see me much improved with a new radiator, switching and seat.

All I will need to do for now is to improve the 'In-car-entertainment', at present this consists of a miniature radio in my pocket hooked up to earphones in my flying helmet.

A future major task is improving the stern, following the SVA updates, and fitting a larger fuel tank once the space is cleared.

In the mean time I am enjoying my motoring wholesale, especially during the summer when the mood takes me and I cruise the Norfolk back lanes looking for a suitable tavern to sit in the sun and sample their lunch.

Isn't it time we had a 'Spirit's Day' here in Norfolk? A parade through town to show that mine is not a one-off and then a gentle run out to somewhere nice for lunch and, perhaps, a paddle by the sea. How about it gang?

Marten.



Pictured with the original Renault number plate, before Swansea notified me that it had been changed a month after the SVA test.

Also before I fitted my 'improved' air intake and filter.

Following a bit of trouble with uneven tyre-wear on the front, the inner edge was vanishing much faster than the outer. Much improved since I employed straight ahead steering, no toe-in or out.



Biggle's Bullet. Continuing the saga.

Whenever the Spirit stood for some time the petrol in the carburettor would evaporate. This necessitated the starter turning the engine over several times before there was enough fuel to start. Having equipped the car with a smaller battery, in order to fit the battery pan in the floor, it does not have much staying power for a prolonged cranking of the engine. It would frequently run out of gasp before the engine started.

I had long contemplated the solution to this and had searched out an old Triumph Herald fuel pump that I knew I had kept, due to its priming hand lever, the handiest item ever added to a vehicle after the starting handle.

I removed the lever that drove it from the camshaft, did a lot of trotting around trying to replace parts. A new diaphragm for example, only to find that no one supplied the tube nuts for the fuel pipework any longer.

In the end I purchased a small, FAI Automotive, EFP1 electric pump from my local 'Wilco's, a couple of plastic 'T' junctions, reinforced fuel hose, fresh in-line fuel filter and set to work.

Fixing the pump to one of the few remaining spaces under the hood I attached it to the flat above the brake pedal.

Removing the fuel line from the Renault fuel pump 'in' connector I removed the used in-line filter and fitted the new one. I then connected this to a length of new fuel hose and drew the whole thing upwards between the steering column and the engine, trimmed the hose to length and inserted one of the 'T' connectors, added fuel hose to the opposite side and trimmed it to fit to the 'in' side of the new electric pump.

The remaining connection on the 'T' was then reconnected to the 'in' connector on the engine fuel pump.

In this way the engine fuel pump draws the fuel from the tank and delivers it to the carb in the normal manner.

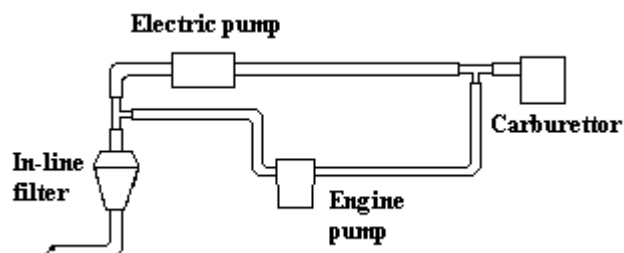
The 'out' side of the electric pump was then equipped with three or four inches of the hose.

Moving to the carburettor I removed the hose and replaced it with a section containing the other 'T' connector which was then connected to the carb so completing the engine supply.

Attaching another short section of hose to the remaining connection on the 'T' I made up a shaped length of metal tube to pass from the 'T' connection, over the engine alongside the original fuel pipe, to a short way in front of the electric pump.

Curving the hose round to meet it I connected the two and now my by-pass system was ready for connecting to the power and testing.

Having prepared the switch and wiring when I installed the new switch bank on the dash the pump was very suitably placed for an easy connecting job. Black wire to a handy earth, red and black wire to the power-out wire of the illuminated switch.



Time for the big test, I eased into the cockpit and turned on the ignition. Reaching up to my new switch bank I pressed the orange one and was immediately rewarded by the sound of a series of rapid ticks that soon faded as the pressure built in the now full carb. Switch off pump, key start.

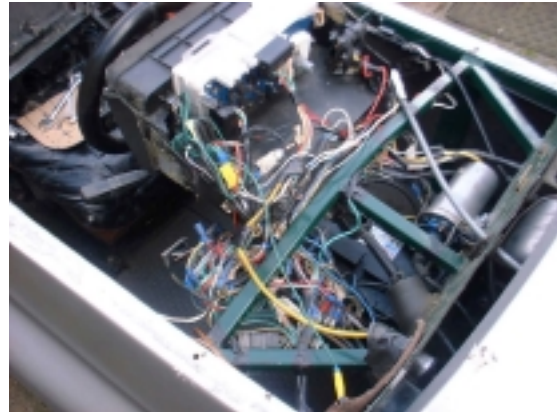
My self-satisfied smile revealed my relief at the theory working first time and the engine bursting into immediate life.

One more item to get around to was the occasional problem of damp getting into the distributor in this wet winter, it does not take much to stop modern engines starting. I bought a pair of rubber kitchen gloves and doctored one to fit over the five leads then drew it down tight over the distributor body having first enclosed a small bag of silica gel on top. (P.S. The rubber soon deteriorated however, may



be suitable just for winter period.)

The reversed instruments being re-assembled.



The rewire and reversing of the dash instruments.

I am getting there, each improvement making life a bit better and, when so many eyes watch the Kindred as I travel about, (isn't it so much better when it behaves perfectly?) and I was much happier about my imminent proposed runs to the 'Smoke'.
Now then! What have I got in the shed that will make up into a mini cockpit hood to the rear seat?