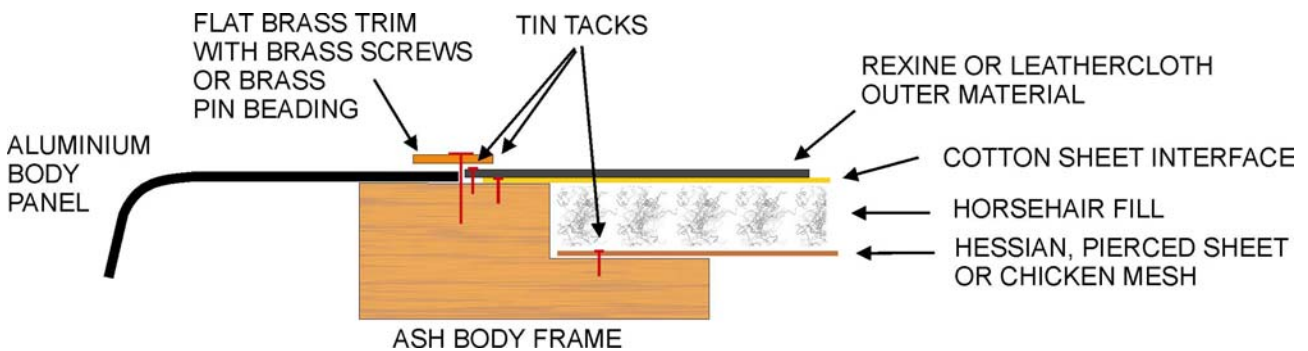


A NEW BIG TOP (How to replace the soft top section of a coach-built roof)

Quite why pre-war cars had a soft section in the roof is beyond me – no doubt someone will let me know. However because of its construction it is prone to cracking and eventually to letting in water. Our cars are used for weddings and it doesn't do for brides to have the umbrella up inside the car as well as outside. One of our cars, a Rolls-Royce Wraith with a Barker Landaulette body was particularly bad and last August's sharp downpours certainly revealed the watertightness of the soft roof section. The folding Landaulette back had been relatively recently restored prior to us purchasing the car but the soft roof panel looked original. It was badly cracked and attempts had obviously been made in the past to re-seal with something like a paint and latterly we used silicone sealant to make 'first aid' repairs to keep the car on the road this summer. When the last wedding had been completed I decided to replace this section. First stop was to our Registrar, Tony James for advice as to what lay beneath the soft top and how it was fitted.

The next illustration shows a section through the roof and how this is made up.



As shown the trim covering the join between the fabric section and the aluminium body is either a flat brass strip secured with brass screws or half round brass beading with integrated pins and this is the first to be removed.



Above with brass strip removed – note deterioration of the leathercloth.

Brass pin beading will probably not be re-useable but can be readily obtained. Our car had brass strip and it was simply a case of find the screws below several layers of paint, dig down to them and unscrew. Because they were brass screwed into wood they were relatively easy to remove. Before removing either type of trim the paint should be scored between the trim and the body to avoid major paint damage to the body. Once removed the outer leathercloth cover can be removed. Take care when doing this and try to remove it in one piece so that it can be used as a template for the new material. I found the tacks to be very rusted and all were removed. A new piece of exterior quality leathercloth sheeting was purchased from Woolies.



Deterioration was worst at the rear of the roof

The cotton interface was found to be relatively undamaged despite the amounts of water that must have gone through it but as shown it was badly stained and had come free at one corner where the rain had penetrated most so I decided to replace it.



Cotton was looking a bit tired but sill mainly intact

I bought a piece of crease resistant polycotton curtain lining for this purpose, not that I needed crease resistance but it so happened that this was a heavier quality. The old sheet was removed by removing all the old rusted tacks as above and the piece was then used as a template for the new. Take note of the positions of where these two types of sheeting are tacked, one slightly in front of the other, the cotton being the inner sheet.



Water had taken it's toll on the woodwork at the back of the roof.

As shown a small area of rot was found on the ash roof cross member where the Landalette hood closes. The wood had turned to a crumbly dust which was removed with a sharp screwdriver and the area thoroughly cleaned. Three small brass screws were screwed in along the affected length so that the flat heads were level with the finished woodwork. This would give the filler strength and give a guide to the finished level when filed and sanded. Marine grade Plastic Padding two part filler was used to repair the damage. This is set in 10 minutes but is best left overnight before filing and sanding.

It is important to thoroughly clean the areas of contact of the cotton and leathercloth on the roof with aluminium oxide paper then vacuum away the resulting dust, brushing at the same time. Further cleaning with white spirit should also be done.



Horsehair and Hessian were in reasonable condition

On our car the horse hair and supporting hessian sheet were in good condition and whilst the tacks were rusted they were sound and so these components were not replaced. But, if any sort of degradation of these are found it's best to replace at this time since it will be a long time before they are exposed again. Horsehair now comes 'rubberised' (Woolies) and is easier to apply since it is in sheet form.

It's also a good idea at this point to repair any damaged paintwork around the opening since whilst the seal that will be used is over-paintable it's easier at this stage. I didn't and it made re-painting much more difficult.

At this point the new components can now be assembled. After cutting the cotton sheet to size (add a quarter of an inch – 5 mm oversize to allow for any shrinkage of the original) tack this to the woodwork. If you are a purist you will use tin tacks as the original but I used stainless steel staples for longevity and these were fixed at about 2 inch intervals. Start at one corner with one staple then take tension on the cloth and staple at the other corner on the same side. Then a third staple should be placed at the corner opposite the first staple again taking up the tension on the cloth. Don't stretch the cloth too much since the staples or tacks may tear through the edge of the cotton – just enough to take out the creases. Staple along the longest side with staples about an inch (2 or 3 cm) apart taking tension on the cloth along the way. When you arrive at the corner staple which was put in when started you may have surplus material so remove the staple and re-staple after tensioning cloth. Go back to the corner where you started and staple along the length in the opposite direction repeating the corner process if necessary. Finally staple the remaining two sides tensioning along the way. Trim off with scissors or a new blade in the Stanley knife any excess material. You should finish up with a perfectly smooth cotton cover.



Cotton sheeting should just fall short of the aluminium bodywork. Finished cotton should appear smooth and tight.

Use the old leathercloth top as a template and cut the new material to size. If the old leathercloth disintegrated or has bits missing it's a good idea to make a template from newspaper or brown paper first and check for fit before cutting out the new material. Place the shaped leathercloth over the cotton and staple to the woodwork as with the cotton making sure that the staples are about a quarter inch (5mm) from the edge. The leathercloth has very little stretch but has enough to ensure that it domes over the top so take up as much tension as it will allow by hand.

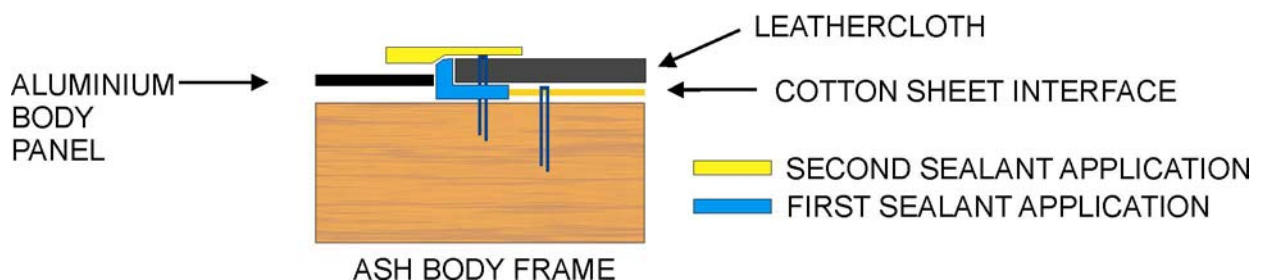


Leathercloth should completely cover cotton and almost meet the aluminium body.



After completely stapling leathercloth

Next, sealing the leathercloth to the woodwork and aluminium top which is done in two stages using Sikoflex or Bodyline PU adhesive sealant (Bodyline is Brown Bros own brand equivalent and is about half the price but just as good and was used on my job). This product is an excellent sealer and is much more permanent than normal silicone sealant. There are two main grades. Used professionally the body sealant is used for sealing welded seams on steel bodies and the window sealant is used for bonding windscreens to the steel opening on modern vehicles. I used the body seal grade for this job. However, it takes no prisoners – you must get it right first time. If you've never used it before try it out on a small test piece of leathercloth stapled to a bit of wood. It is an extremely strong adhesive and sealant, if you get it on your hands and don't remove it immediately with white spirit or thinners it will be there for a week. If you have any sort of skin allergy, use protective gloves but these can be a problem if they are rubber or latex since the sealant will bond to them. Less convenient are polythene gloves but they will work. Remove it from paintwork using white spirit only. It has a very short shelf life – typically 6 months, and will cure inside the cartridge. However when it does don't throw it away – you can saw through it and use for bushing as you would with rubber. It comes in a cartridge and is applied using a standard sealant gun. First, apply a small bead of sealant underneath the quarter inch gap at the edge of the leathercloth then another small bead into the gap between the leathercloth and aluminium body and smooth level with a plastic or wooden spatula. After you have gone around the whole roof you can, if required, make the sealant smooth by dipping a finger into a strong solution of washing-up liquid and smoothing as you would with silicone sealant. Leave overnight to cure.

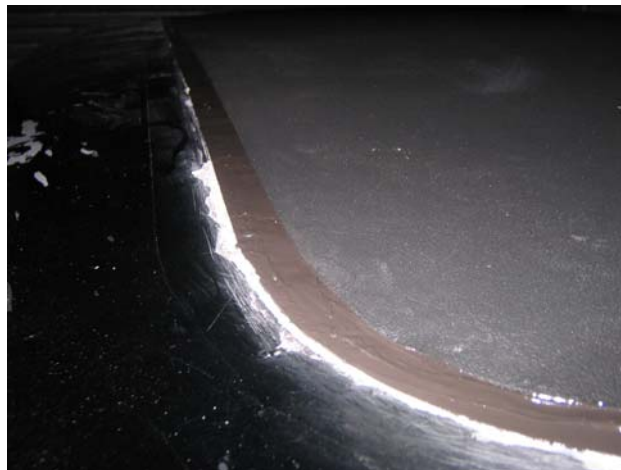


Sealant is applied in 2 stages



Taping up to create the final seal

The second part of the sealing process will make a seal which is the width of trim bead and cover the whole joint between leathercloth and body. Place the brass trim strip in place on the roof and hold in place with 3 or 4 screws. Using masking tape, tape either side of the strip so that when the strip is removed you have a gap representing where the strip will fit. This procedure will be more difficult if you are using pin bead since you cannot lay it in place and effectively tape so you may have to tape up by measurement. Apply Sikaflex to the gap and smooth to a depth of about 2 to 3 mm overlapping onto the masking tape. After applying around the roof immediately remove the masking tape to reveal the new seal. It is important that you do this before the Sikaflex cures since when it has you will remove some of the seal or not be able to remove the tape. Gently removing the masking tape should leave an neat edge. Again leave overnight to cure.



Final seal after removing masking.

All that remains is re-fit the brass strip (after removing any old paint and repainting if needed – I prefer to see the bare brass even when weathered).



After re-paint - job finished!

Test the watertightness of the roof by hosing plenty of water onto the roof with a pressure at least as hard as heavy rain. With brass strip which is screwed to the roof there can be water ingress via the screw holes. If this happens remove the screws in the affected area and refit with a small quantity of Sikaflex on the screw threads. As a belt and braces exercise you could also run a small bead of Sikaflex around both sides of the trim but this will make removing the trim at some later stage difficult and prone to damage of the surrounding paintwork on one side and the leathercloth on the other.



Stand back and admire.

Materials Required:	Suppliers	Approx cost (£)
Exterior quality leathercloth	Woolies 01778 347347 www.woolies-trim.co.uk Vintage Supplies 01692 650455 www.vintagesupplies.com	38.50
Cotton interface (poly-cotton curtain lining)	Dunelm Mill (branches throughout UK) 0845 1 65 65 65 www.dunelm-mill.com	5.00
Stainless steel staples 8mm (leg length) 2000 Supplier dependant on your staple gun type	Handtools-UK 01306 740 433 www.handtools-uk.com Tooled-Up.com www.tooled-up.com World of DIY www.worldofdiy.com Mackays of Cambridge Ltd www.mackay.co.uk	17.50
Sikaflex PU sealant or Bodyline PU sealant for seams	Brown Bros Motor Factors Branches throughout UK	5.50
Solid brass screws for trim (200)	Any good hardware shop	4.00
	Total (at 2006 prices)	70.50

Time to complete – approximately 16 hours but dependant on condition of surrounding paintwork and condition of woodwork on frame.

PU sealant can be a hazardous product and so you should ask for a Safety Data Sheet when purchasing or if using Sika branded product you can download a copy from www.sika.co.uk website.

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GRE05714