

Richard's Splitter

tpatena Tue Sep 11 20:27:01 PDT 2012

I like this splitter and been thinking of doing something similar. What materials did you use and how is it attached? Nice work.

richard2402r Wed Sep 12 06:13:32 PDT 2012

It is deliberately made of inexpensive materials because I didn't know how it would work out; also it's vulnerable to kerbing etc. The splitter itself is 6mm (1/4") marine ply, the piece blending it to the car is 40mm dia black thermoplastic drain pipe cut in half with a tapered section at each end to blend to the car. I bent the ends to the shape of the "join flange" under the car by heating with a 2kW air gun and forming over a 16" bike rim, less tyre of course, easier than I thought it would be. The half pipe is pop-riveted to the ply in 4 places and the ends are secured to the car with 4mm bolts. The splitter extends under the car back to a transverse line joining the start of the front wheel apertures and has 6 x 6mm bolts through the plywood and underside to hold it to the car.

So far it appears to be a considerable improvement in crosswinds, doesn't feel significantly worse than an average modern car, it will be staying without modification now.

ocelotspost Thu Sep 13 20:14:17 PDT 2012

Richard this is awesome! I was going to just take your design and not even comment, but I have to give you a pat on the back for your ingenuity. This now renders my carbon Kevlar splitter with titanium inlay obsolete! Fantastic Jason H

tpatena Fri Sep 14 09:34:14 PDT 2012

Richard, great description of your construction. Ingenious, I'm going to give this a go on my s1. Thanks

richard2402r Sun Sep 16 13:16:31 PDT 2012

Thanks for those few kind words. One more tip. if you match the profile of the forward edge of the plywood to the nose profile rather than the underside flange profile as I did it will look better from a normal eyeline... it's also much easier to achieve, e.g. by projecting a shadow of the nose onto the sheet of ply. Whole job actually only takes a couple of days and most of that is spent watching the paint dry.

Ken Wed Feb 20 2013

I have one question; is it mounted in contact with that underside flange, or lower down?

richard2402r Feb 20 2013

It sits on the lower edge of the GF flange; further back under the nose it fits where it touches so to speak. Actually ends up with a very small upward angle, but the purpose is to restrict the amount of air flowing under the car, so that doesn't matter.

BTW, my reasoning for using thin ply was to make the splitter the weak link in case of hitting kerbs etc, rather have the ply break than the bit it's attached to.

richard2402r Oct 10 2014

Hi Ken,

The fillet was made from this black plastic waste water piping

<http://www.wickes.co.uk/Wickes-Black-Solvent-Weld-Waste-Pipe-40mm-x-1500mm/p/160074>

I cut the fillet shape prior to bending, reasoning that the required taper was easier to judge with a straight pipe than with a curved one. A 16" folding bike rim was used to form the curve, heating was with an electric heat gun, didn't need to get it very hot, it bends very easily. Exact profile wasn't that critical because it remains quite flexible until it's rivetted to the plywood splitter, you can see these rivets in the picture John Collier linked to.

BTW, having previously said that my splitter sits on the ridge we've been debating, going to contradict myself now...

I think it only touches at the outer extremes by the wheel arches, where a rivet holds the end of the fillet piece in place. IIRC the majority of the contact is in fact with the centre underbelly portion at the rear of the plywood, where I placed a couple of bolts pulled up 'tight', these locate the splitter firmly relative to the car. Other bolts somewhat forward of these are only used to pull the plywood upwards and hence bring the upper edge of the fillet into contact with the nose section of the car. Consequently not all these forward bolts are pulled up absolutely 'tight', nylock nuts ensure no loosening. It also makes the actual profile of the fillet piece less critical because it simply get pulled into contact with the body and there isn't any gap. Surprisingly easy to make a neat job.

Hope this makes sense.

cheers

Richard

<https://groups.yahoo.com/neo/groups/LOTUSEUROPA/photos/albums/267397331/lightbox/411128135?orderBy=ordinal&sortOrder=asc&photoFilter=ALL#zax/411128135>