

A few years back, I had installed a brake line using some flexible hoses between the firewall brake line exit point and the brake cylinder.

Unfortunately, I cut them too short at that time and the line interfered with the fairings so I had to remove them again. I no longer had flexible steel braided hose available so that was problem 1.

Problem 2 is that I found some marks and evidence of orange rust like color created from the hose mesh at the location where the plastic spacer tubing encloses the hose (used to separate the line from the gear leg)

The rusty color was inside the plastic tube and definitely caused by the hose mesh and probably caused by humidity conditions in the workshop in winter conditions.

These findings convinced me to go with the traditional soft aluminum tubing that are on the plans instead of going for new flexible hoses.

The shape you need to form at the bottom side at the brake cylinder is "odd", to say the least. There is no way you can make all this bending with a tube bender.

The reason for this bend is to create stress relief on the tube. If it would be a straight line going to the AN fitting, the tube would flex, crack and break after a couple of landings because of the flexing of the wheel.

The loops allow the wheel to flex without wearing the tube.

I took out some springs which slide over the tubing and allow you to deform and shape the tube without narrowing the inner diameter.

It took a lot of tweaking to get the shape just right. You want to make sure the loops are close enough to the U-810 so that they don't interfere with the gear pants.

It's also best that the inner loop loops around the gear leg in front of the brake cylinder. as the brake cylinder itself is wide and moves.

In the image below, I'm close to finalising the loop. The tube still needs to be cut and flanged on the AN fitting.



Side view with the AN fitting installed. Notice how the line wraps around the gear leg in front of the brake cylinder body.

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Installed the line with plastic spacers temporarily at the leg and then made a bend near the fuselage to clear the hardware steel clamp body that hold the gear leg fairing.



Then finally made the inward bend towards the firewall penetration point. Cut and made the the flange. As always, be carefull not to forget to put the nut and sleeve on before you make the flange or you'll find yourself cursing and swearing.



Tested the fit with the steel clamp in place



This is a close up shot of the bend around the steel slamp.



With the fairing on, the line runs nicely through the center of the fairing.



This is how it looks like with the leg fairing on the bottom side at the brake loop.



Also here, there is a good spacing and no touching or rubbing of the line.



Satisfied with this one, time to move to the passenger side. This one is more challenging as the line is much longer and takes a couple more bends.