

F2D News - January 2011

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Well, 2011 is here, and -- it's a miracle -- the world is still turning. Not only is the world still turning, but I can personally vouch that F2D is still alive and well.

Why is the persistence of F2D into 2011 such a remarkable event that it warrants a column in the F2D News? Towards the end of last year, a vigorous debate raged among the F2D community about the fate of the sport in light of the rules changes that went into effect on 1/1/11 (see the Resources section of the F2D News website for a link to the new official Sporting Code). In particular, many among our ranks were convinced that the change to a 6 mm maximum silencer outlet diameter would instantly kill the sport. Yes, the sport had been stable for a long time, and yes, it had evolved into a very enjoyable form, but external pressure from the FAI/CIAM could not be ignored, and the issue of noise had to be dealt with in one way or another. Perhaps 6 mm mufflers was not the most effective, or most efficient way of addressing this problem, but it is what we have, and it is what we will use for now. I must confess that I had many worries of my own, but after a brief trip home to southern California for some family time and F2D flying, I am extremely encouraged by the prospects for this year.

Why the sudden excitement? Within a single afternoon, my dad Chuck and I made a batch of 12 inserts that convert 8 mm outlet Fora mufflers to the new legal 6 mm size (see photos). The design of this extremely cheap and easy quick-fix solution was first conceived by Pete Athans, and then refined by another local pilot Russ Hester. Once the inserts are made, they are locked into the muffler outlet by flaring out the flange which sticks into the chamber with a long punch.

Undoubtedly, the size/shape of the silencer chamber can be optimized for the new outlet dimensions, but this method will allow you to keep flying with the equipment you already have.

But what about performance? With the insert in, the engine was slightly quieter than with the old 8 mm outlet. Admittedly, these changes aren't going to make it so that you can fly F2D in your local park/soccer field. Speedwise, we had to go to a little bit smaller/lighter prop, but after doing so, things weren't so bad. The engines (Fora) ran steady, and held their needle settings well. In combat, although the models flew a bit slower than before, line tension was not a problem. We used the Rastenis-style swing-arm shutoffs which had been set up for 2010 rules, without any additional adjustment, and did not find the need to readjust them. This observation firmly indicates that the performance is still in the same ballpark as before. Essentially, the change from 8 mm to 6 mm will take your best engine and make it run like one from the lower-middle range of your arsenal.

Although I love going fast, I can actually imagine that we may end up seeing more cuts with speeds toned down a notch. These things of course are very hard to predict, but overall I just want to make the point that based on my experience over Christmas, F2D in 2011 is going to be every bit as fun as it was in 2010. I hope to see all of you in the circle as soon as it thaws out this Spring (or before)!

All the best for 2011!

P.S. - As a group (and in the sense of preserving the sport we are really all on the same team here), we must remember that this rule is essentially a stop-gap measure which has bought us some time to come up with a better, and longer lasting solution. Now is the time when we should all be using the creativity and ingenuity that drew us to aeromodelling, and channeling it towards finding a cheaper, faster, quieter solution for the future of F2D. It's our sport, and all options are on the table. If we can find a revolutionary solution that will meet all of these goals (and I believe wholeheartedly that we can), the CIAM will be happy to have us update the sport. This is an opportunity -- let us not waste it.

Editor's Note: Please see the photos on the following two pages



Fig1: First, turn down the outside of the bar stock to the desired diameter (approximately 1/2"). This dimension will be the diameter of the flange that holds the insert from the outside. Make the center hole a bit smaller than 6mm to allow for reaming later).



Fig2: Determine the depth that the insert will extend into the muffler, and drill down to slightly less than this depth with a bigger diameter (e.g. 9/32"). Ideally, you want the 6 mm portion to be just a thin rim at the very outlet, so that flow is not restricted too much.



Fig3: Turn down the outside diameter for a snug fit into the end of the muffler. It's a good idea to measure an assortment of mufflers in advance. Although the rules state a maximum outlet diameter of 8 mm, many of the mufflers may be undersize. It's much easier to turn down the O.D. of the insert at this stage than once the part is finished.



Fig4: Turn the part around and carefully re-chuck into the lathe. The wall thickness will be quite thin now (just the difference between the approximately 8 mm O.D. and the 9/32" internal hole). Cut off the part, leaving a 1/16"-3/32" flange with the smaller (6 mm) I.D. hole.



Fig5: Ream the hole to exactly 6 mm



Fig6: Finished inserts



Fig7: More finished inserts



Fig8: To install, you will need a long punch (narrow enough to fit inside a muffler), and a hammer.



Fig9: Slip the insert into the end of the muffler.

Fig10: (To the Right) Carefully insert the punch into the muffler from the opposite end, and hit firmly with a hammer to flare out the inner flange of the insert. This will lock the part in place, and leave you with a flight-ready 6 mm outlet muffler.

