

Since my 'real' job takes up varying amounts of my so called spare time, both activities have to fit in around it. Recently I have been in the fortunate position of getting several columns in ahead of schedule to our Editors. So what's the problem your might say? Well, depending on which column is used in what issue will either make this column a follow on to the X-Cell 50 Review or run out of sequence follow up in reverse! Enough of this — I'll let the Editors sort that out.

X-Cell 50: Magna Pipe Installation

Since completing the review on the X-Cell 50 I have put a fair few flying hours on it — and to put it bluntly the more I fly it the more I like it. The few snags I have run into have been self induced, but are worthy of comment in that they weren't that obvious so as to be totally avoidable.

Initially I used a standard "Kalt" type muffler on the O.S. 50, and in use it seemed to cause a minimal power loss and was also fairly quiet. One day, however during a post flying session clean-up I noticed cracking around the weld at the point where the manifold section joins the main body of the silencer. Upon removal of the muffler, I found that one of the mounting bolts had in fact 'bottomed' in the threaded exhaust flange hole. This had gone unnoticed because I had tightened the forward or upper mounting bolt first and thus the muffler was fairly solid. When the second bolt appeared to tighten up normally I thought no more of it. It was obviously fairly loose because when I removed the muffler I found 'grey' oil; i.e. aluminium dust and residual oil from the exhaust; on the joint. The solution is obvious — check the bolt lengths before assembly. Now being mean by nature I decided to try to get the cracked muffler repaired by Argon Arc welding. This appears to be totally successful, although for reasons detailed below I haven't flown it again on the X-Cell.

I had mentioned in the original review that I had purchased a Magna pipe and manifold at the time I bought the kit and engine — so now seemed like and ideal time to fit it. In sum-

Improving the Breed

John Bottomley returns to the X-Cell and views a Concept.

mary I can tell you that it is NOT a 5 minute job; but by following precisely the instructions and working slowly and carefully, a neat and robust installation will result. The Magna pipe comes complete with large diameter silicone tube and two spring clips. This is in effect the joint between the pipe and manifold. There is also a pressure nipple, two different length strips for fabricating brackets, and nuts and bolts.

I decided to go with the through-the-side-frame installation, and as a consequence had to remove some material from the sideframes — as per instructions. I formed the longer strip of material to fit around the main body of the pipe and fitted it to the pipe on a bed of silicone caulking (presumably to prevent metal-to-metal 'noise') I then noticed this strap to the side frame via a vibration isolation rubber

mount (also known as a 'lord' mount or 'metallic' mount) and a slotted 'L' bracket. This allows adjustment of the bracket both vertically and laterally. (See photo). I decided to fit the optional lower mounting at the exit end of the pipe. In this way the pipe would be securely held in three places.

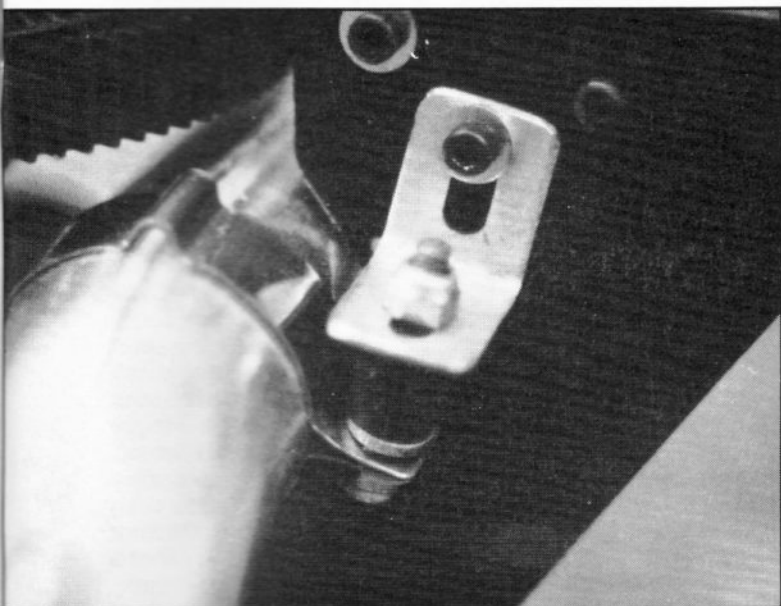
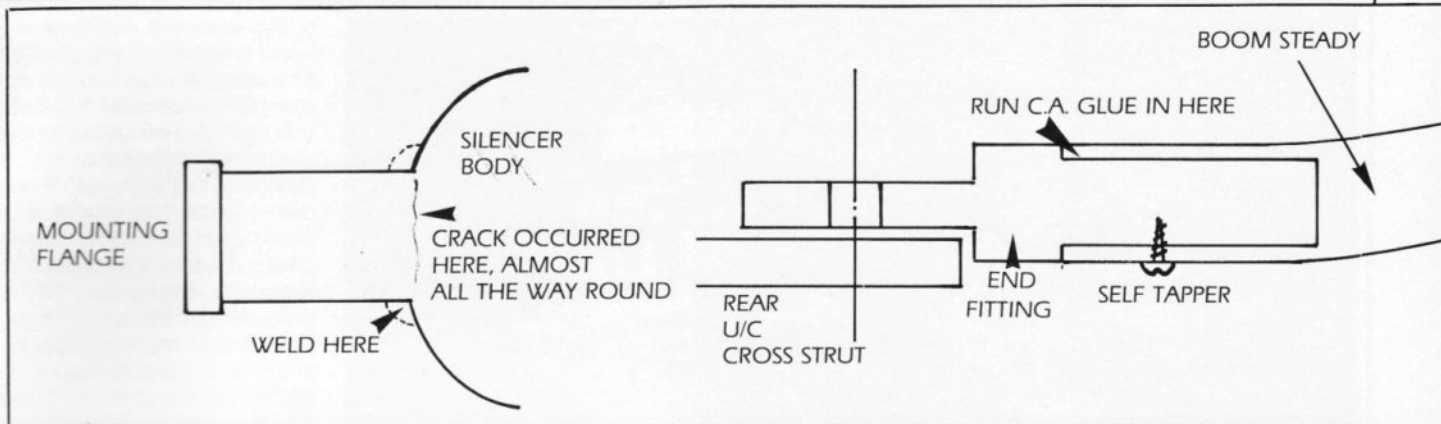
Referring the sketches, I made my aluminium bracket by firstly cutting one out of thin card until I had the holes, etc in the right place. Dimension 'A' will vary from installation to installation. You will recall I used the spacers which come with the larger tuf-strut undercarriages to provide a little more ground clearance. Since the bracket is bolted between the sideframe and the U/C cross strut it is necessary to remove material from the spacer to allow for this (see photo). The final step is to do a 'dry' run with all the parts in place and make sure that when everything is connected and aligned, there is no unnecessary strain on the brackets, silicone connector etc. A final check should also be made to ensure that the Magna pipe does not foul or rub on the sideframes, main gear, cooling fan shroud, etc.

Well, how does it go? The answer is a very subjective one,



The new M.A.S. X-Cell 30. This machine was on the Modtec stand at Sandown. Points of interest to the writer included a top and bottom cone start courtesy of an OS32 with integral rear cone. Also note the rearward gyro mount and the mini quiet pipe. This small M/C will do to the 28/32 market what the 50/60 has done to the fullsize.

but I'll try to comment as truthfully as I can. Initially the main gear mesh was a little tight due to a small amount of mould sink or ovality of the main gear — this in turn produced a fair amount of transmission noise. The initial flying allowed everything to 'bed-in' and loosen up. I also took the opportunity to reset the main gear mesh whilst I was changing mufflers. The end result is a much quieter and



Close up of 'Magna pipe' upper mount. The metal strap is bent around the pipe and bedded down on clear silicone RTV compound. The slotted 'L' bracket is fully adjustable up/down and in/out with any misalignment and vibration being taken care of by a 'metallic' or 'Lord' type mount.

smoother machine. There is at the time of writing still a slight tair boom 'buzz' which I can't eliminate. I'm convinced that the head is balanced as accurately as possible — so it may be a resonance. More news anon. The performance is even more sparkling and I think quieter. The model is now totally oil free; the post flight clean up being reduced to removing 'fly squash' from the rotor blades

and putting a tissue bung in the end of the magna pipe. All in all I'm very pleased with the X-Cell 50 and I would strongly recommend this size of machine. It has all the performance of the slightly larger '60' size; plus its slightly smaller size makes it easier to transport. The '50' size motor is more economical too! I therefore find it hard to believe that the '60' size outsells the '50' size by 100:1. Perhaps it is the "Macho" image of the '60' that does it!

X-Cell Development

I'm quite sure a number of the chopper flyers who visited Sandown this year will have seen the new 'baby' on the Modtec Stand (see photos). I personally didn't see the 'X-Cell 30' fly; but if it handles like its bigger brothers then the smaller end of the market is going to become very competitive indeed. The most popular machines, in my area, are various varieties of 'shuttle' and "Baron 20/20MX". I think the 'X-Cell 30' will have to be competitively priced to break into the cartel. During recent communications with Ted Schoonard, of miniature aircraft USA, concerning upgrades and modifications to

the larger X-Cells, I learnt something of the philosophy behind the smaller machines. Apparently their market research has led them to the conclusion that public opinion is fed up with a perceived declining quality, longevity, and per-

Lower 'Magna pipe' mount. The bracket itself is made from light alloy and is sandwiched between the 'tuf-strut' and the side frame. The outboard hole is sized to be a push fit over the silicone extension once it is fitted to magna pipe.

