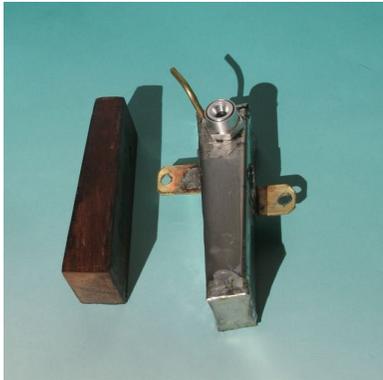


A SIMPLE TANK DESIGN FOR CLASS B TEAM RACE

John Hallowell, Melbourne, Australia

In response to some requests, here is the way I currently set up my tanks for Classic B or Vintage B racing. It closely follows the KISS principle and depends on a few key parts, the most important being Sid Robinson's fantastic tank valve and filler system. (See photos below) They are now available from Duncan Bainbridge in Oz who



distributes Sid's Gear on this side of the planet. This highly efficient system means you don't waste a drop of fuel and more importantly, nothing flows down to the hot exhaust. Both a long and a short

version of the filler valve are made. I prefer to use the short valve that measures 25 mm. The tank is designed for this. The bigger valve will need a slightly larger tank as it takes up more room inside and may lose a cc.

The combined unflow/overflow is aimed well clear of the model at an angle of around 45 degrees. So again, no waste fuel goes near the hot engine. Angling the pipe directly into the circular airflow also seems to give a more consistent run than having it facing straight forward.

The basic long, thin tank design was developed from the highly successful Vintage A 15 cc tank we used to win the Richmond Nats with Keith Baddock's Voodoo. This Keith-built tank worked a treat and gave as close to a perfect run as is possible. Bigger 30 cc versions also worked well and have been used to win quite a few State and National championships.

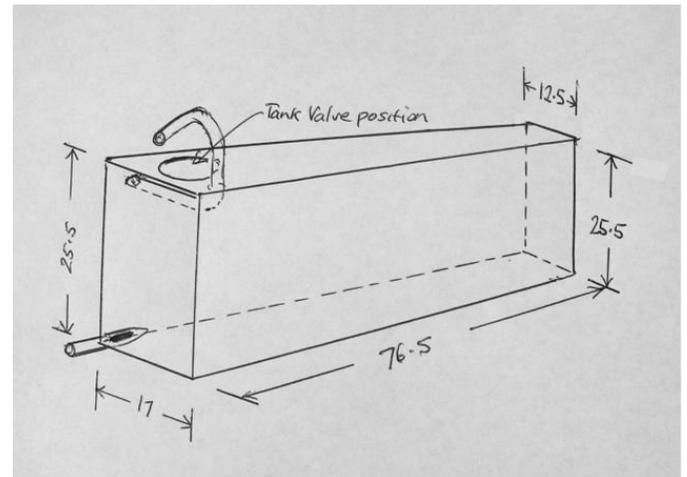
Have tried a few chicken hopper style tanks but have found them to be not worth the trouble. Why bother when a simple tank correctly positioned can give as good a run as you want with a really clean cut out.

Also, a Sid. Robinson valve fill system will save you seconds per fill compared to a Dalesman type cell tank. That's around 5 seconds at the end of a race or the difference between making a final or helping with the lap



counting. A good tip is to tilt the inboard wing down when filling to ensure the overflow is at its highest point and doesn't overflow prematurely. You can easily get a few extra laps this way.

A block of the exact size is made from ramin or similar hardwood. See the size on the sketch below. All measurements are in mm. Then a cardboard template is made and scribed onto the sheet metal. I prefer to make the tank ends separately as it's easier to check that everything is in the correct position inside. Solder on the back end last.



After making the template, marking the tin and cutting out the shape, it is simply bent around the block (use softer 'round' bends rather than hard hammered right angles) and the longitudinal seam is soldered with the block inside. A 3 mm overlap is all that is needed. Include that in your pattern. The block is then gently tapped out and your tank is well on the way to being finished. The tinplate used measures 0.25 mm. Nice and easy to bend around the block.

The unflow/overflow pipe sits in the top corner just in front of the filler valve about 1 mm from the sidewall. The feed pipe is soldered about 4 mm

back inside the tank and then carefully flow shaped and scalloped with a Dremel so it's all smooth inside. It's stronger this way and won't come loose.

The solder I prefer is the high strength flux cored silver solder bought at the local hardware store. It is used in conjunction with a Weller 80 watt iron. When finished, the tank is always processed with a burette. I find methylated spirits the ideal fluid to check capacity. If it's a touch over, carefully dent the side away from the seam until it is just under size at around 29.8 cc. Make sure you include the fuel tubing and filter when you measure.



In the model, the tank is positioned and angled out board to give a rich on the ground, lean in the air feed. The final tank position will often be determined by where the shutoff is located.

Unless you are quite sure of the best tank position, it pays to have elongated slots on the tank brackets so during flight practice, you can move the tank inboard or outboard or change the angle to get the best feed. It does make a difference! When the engine runs without variation and cuts cleanly, the position is correct. When you have the final and best location, fix in position with a thin film of silicone underneath the tank to help absorb any vibration.

I know there are many other ways to make a B tank, but this design is relatively simple and really does work giving very consistent runs in a variety of models. Best of all, it does not encourage the calling of the local Fire Brigade...

Tank making has often been associated with the black arts. No one has ever claimed it is easy. As the late and great Dennis Ward said in his wonderful article on Vintage B tanks in the SIG newsletter from Jan. 2002, "So far to date I have made 26 tanks of which 4 work exceptionally good".

That tells us you have to be prepared to work very hard in pursuit of that often elusive perfect tank run for Vintage of Classic B.

A couple of B-TRs with this type of tank installation are Streak (blue) and Rocket (orange). Both racers have OS 25FX engines.



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