

John Rumming.

Making Custom Foam Inserts.

I, like plenty of people out there, need foam holders for quite a few of my models that sometimes come without boxes, or just to keep them in one area in groups. I ordered a 12 pack foam wagon insert container from America, and it ended up costing a packet! I sat down and thought “there must be a better way of doing my own custom inserts!”

A few days later while driving my truck, I decided to call into a Clark Rubber store here in the Perth area. What I found was briefcase foam, a firm grey foam block that is easily cut, holds its shape well and still has a good sponge property. This was perfect for what I needed. If I stacked one on top of the other, they would create a padded cell for the wagons. Hmm, but what could I carry them in?

The answer was about 500 meters down the road at my local Bunnings store. I also found them in the Supercheap store, and later at some other stores. They were an aluminium case with a handle and dividers inside. Discarding the dividers, I had a nicely lined and strong case to store them in, and if you get 5 of the 25mm briefcase foam, they sit very well in the case. Right! I have the basics. Let’s see what I can do with them.

Below are the steps I do to make these inserts. I am showing you the wagon way as this will be the most popular idea. If you are doing the same idea for locos, then you have to have a stronger base. I use most of the same steps, but instead of reinserting the bases back in, get a 12mm block of the same foam and glue the cut out area straight on to it. This creates a base that is not only stronger but does not need to be modified. To fit nicely in the case, another 12mm block will be needed, either placed loosely in the top or another loco foam inset done. This will keep the distances correct.

OK. So let’s get started.

Here are some basic items you will need. A block of briefcase foam, a SHARP knife (the sharper the better as it will slice through the foam), a tube of Tarzans Grip, a ruler, a pen marker (thinner the better for lines) and a few of your models you are going to put in.

You may also need a calculator and a sheet of spare paper for you calculations and testing the sizes before cutting.



An aluminium case for the job



The tools required .

I have 5 cases and each one has been painted a different colour. I have done this so I can differentiate between Australian, American, English, Universal wagons and also one for loco's & passenger items.



Start by cutting the foam to the size of the case with a small 5mm gap all around. You will need this to lift out the sperate sections. While you are at it, cut a small edge off one of the corners as seen in the bottom right of the picture.

Draw a 15mm edge around the foam. This will be the outside edge for the maximum where the model will be going. Next figure out where all the models will be going.

Points to remember before you start!

- A minimum 15mm border around model
- 10-15mm or larger between models
- Small squares create a stronger and not so bendy foam insert.
- Long cut-outs mean that the rigidity is reduced
- The insert block can flex and bend when getting out. This is good as it aids the removal from the case.
- A new SHARP blade will slice through the foam. A blunt one will rip the foam causing a lot of problems.
- All the squares do not need to be cut out at once. Got 23 wagons but the marks show 24? Either cut out all so you can just place the 24th one in, or leave it blank until you need it. It's your decision.

- The cut-out area should be the height of the wagon, and the length of the wagon including couplers.



You can make larger areas for unusual items. See the roadtrailers left for example. I have all the wagons in one size, but the frontrunner and the rear one require a special bogie, so they have their own separate compartment on the right at the top. As you can see, the area is larger. I have also cut an extra slot ready for another roadtrailer. I also have not done the last row for them yet, as I can do this at another time if needed.



Once the area is all marked out, you are ready to start cutting. I have done mine for some petrol tankers, and they are 9cm x 3.3cm. This leaves a 12mm gap between the 1st and 2nd, and 3rd and 4th areas. Between the 2nd and 3rd, there is a 15mm gap for better strength. You do not have to have them all the same size. Examples of this are shown at the end of this document. Using a piece of paper or two you can work out where you want the areas to go.



This is where you need the really sharp knife. A sharp one will quickly and easily slice through the foam requiring little sawing action. This may take a little practice, but about 5 minutes you will have the idea! Keep the knife as upright as you can, and cut about 90% of the way through both the long and short areas of it. The reason for not cutting right through will be shown in the next steps.



Turn the foam over and number each one of the small cuts. Mark the foam in the main area and again on the piece that will be taken out. These must correspond next to each other so when you put them back in; they will fit perfectly to where they came out. If you do not do this, you will find it extremely hard to match up the pieces, as every cut you made WILL be different!



Finish the cutting of the pieces. I found that if you bend the foam slightly, it is easier to see the cut-outs and also see where it is still joined. Try not to over cut into the main block of foam. You only require the cut-out areas to be sliced out!



Next you have to cut the bases for the holes. Use something hard that is 5mm thick as a base. The picture shows 2 Life Like train tops from their plastic packaging. These are 5mm thick, and perfect for the job. By bending the blade slightly, you can get a straight cut of 5mm by a slight sawing action across the two tops as shown in the photo. Once again, a sharp blade does a terrific job! Ensure that the numbered side is facing down!



Here is one base completely cut through. When you do cut it as above, use enough pressure to hold the foam in place, because if you use too much pressure, it will distort and cut more than 5mm. The numbers are facing the ground, as this is the piece you need to glue back in to place. Note how the thickness is the same as the two train lids. This is a perfect 5mm slice of foam.



Once you have done all you need, you should have 3 different things. The main cut out area, a group of bases and a group of blocks. You can throw away the 20mm blocks as they are of no use now. The next step requires you to glue the bases back in. Chose a piece of base to be glued in, and I randomly do this because it gives other pieces time to bond better before getting near them for the next piece.



Use the Tarzans Grip and glue the 4 sides of the base piece to put in. As in the picture, put in place by slightly opening the cut-out areas and place the section in while the whole lot is upside down. Turn the whole thing the correct side up on a flat surface and push down lightly on the piece you just glued in making it level with the bottom of the main piece. Turn it upside down again and check it is level. Ensure all corresponding numbers are correct!



Having all the numbers next to each other it ensures that the pieces you cut out are correct and the same shape, and will keep the foam in a square shape. Finish all the other ones and put aside for a few hours to completely dry. The photo to the left is the completed model.



Here is a photo of the completed foam inserts in the case. See how all the models look nice and neat. Also, you do not have to keep separate boxes for individual items. I actually need 1 more small tanker to finish off this set, but it is in readiness for it.

Here are a few photos of some of my foam inserts. You can see how they can be individually made to suit any item you have. I hope you have fun doing them, and I'm sure that you will find that it is an easier way to move your models.



Westrail Wheat & 4 wheel carriages.



English HST set



Westrail Coal hoppers



RCC wagons for my coal tippler.



Wheat & Woodchip Hoppers



Robe Ore Cars

In the last picture of the ore wagons, I made long cut-outs. As there is virtually no strength from the top to the bottom, when you pick this one up, it literally folds up. This was one problem I found with doing long single runs. However, as this one will always be on the bottom, I had decided to leave it there.

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