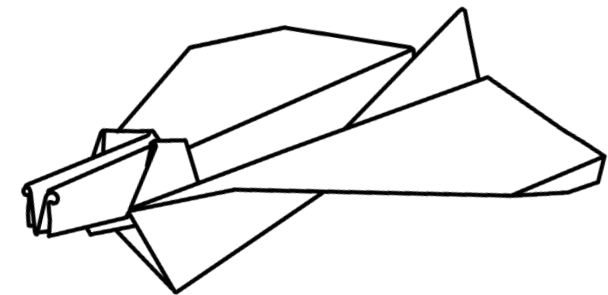


We had flying boats, Sunderlands, Catalinas and others. They provided a refreshing mobile diving pontoon capability that was unmatched.

Aussies love the water, fitting our Air Force once aquaplaned into lakes, estuaries and beaches to show off their bombies. Some say the Sunderland looked like a swimming dog, the Germans called it 'The Flying Porcupine', whatever your take is, here are the flat pack instructions to fold your fleet of 'Sea Rovers'.

Centenary snippet

Surrounded by bush in an idyllic bay of Lake Macquarie is the suburb Rathmines, once a major RAAF seaplane base. Famously this base reduced the weight of 'Black Cats'. No, not overweight 'moggies', Catalina Seaplanes. They did this so they could fly long range sea mine laying missions deep into the South West Pacific to counter the insurgent Japanese fleet. It was one of the most important Allied aircraft of the Pacific War.



MISSION - MATERIAL MATTERS

Experimenting with different paper weights affects the inertia a plane carries through the air. The scale of relative air density to an object is known as a 'Reynolds Number'. For example, you have no issues pushing through the air, your size relative to tiny air molecules is no match. But imagine being the size and weight of a bee, air around you would feel like you were swimming through honey.

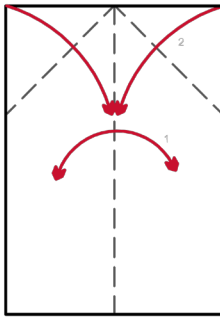
Paper plane world record holder Takuo Toda uses special low GSM paper made with sugar cane fibre to optimise fold strength. With clever folds in the nose to lock dihedral in place, along with his impressive throw, he set the record for time aloft (27.9s). If you feel adventurous try folding this plane with both regular and light waterproof paper and observe the difference.

INSTRUCTIONS

Follow steps to fold 'The Sunderland Sea Rover'.

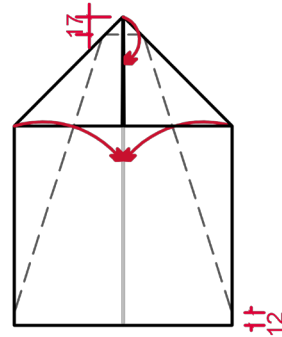
— — VALLEY FOLD

— — — MOUNTAIN FOLD



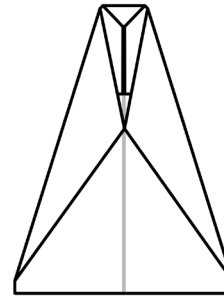
STEP 1

First fold the paper in half then unfold. Then fold the top corners in to meet the centre crease



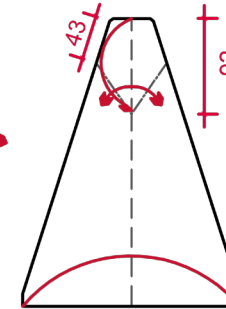
STEP 2

Fold down at top. Then fold sides in as shown.



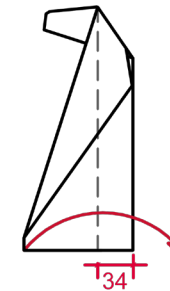
STEP 3

Now flip the paper over ready for the next step.



STEP 4

Fold the nose back inside on itself. This is called an inverted fold.



STEP 5

Fold the wings down matching on both sides. Note the dimension provided.



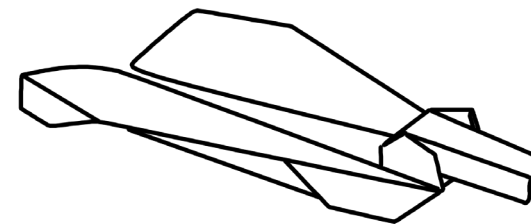
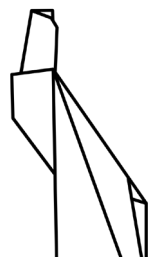
STEP 6

Mountain fold in wingtips on both wings. Then invert fold the nose as shown so it projects forward.



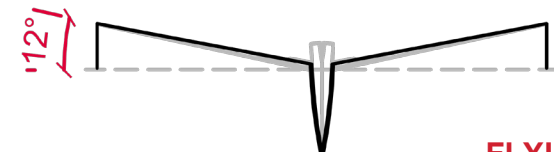
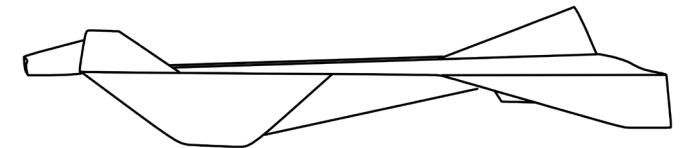
STEP 7

Zoomed in on the nose here. Squash fold the inside nose flap on each side down as shown.



STEP 8

Voila, 'The Sunderland Sea Rover'.
Optional extra folds to experiment with:
1) Shape 'nostrils' into the nose with a pen.
2) Add a vertical tail fin with another inverted fold as shown. Does it improve the flight?



FLYING TIP

Trim dihedral angle and unfurl wingtips as shown. Pinch in small elevator adjustments as needed.