

INTRODUCTION.

When I learnt to swim I jumped right in and never needed water wings. But after years of flight simming, spoilt with semi-automatic everything from radar to HSI, when I came to diving with SC, I struggled at first to master the manual sonar. Initially I was going nowhere fast. Back to the drawing board to start again. I really needed some mechanical aids, like water-wings, to get me going and gain the confidence to swim. So I assembled my own. You have to learn manual sonar, free of auto assistance for much MP gameing. It can be a very steep learning curve stretching the diving newcomer to breaking point. Given a high density contact environment, and the need to avoid civilian kills, manual is not easy. Many divers become discouraged and may leave highly competitive fleet situations, never realising their potential. Many given the right environment and support would have gone on to be leading players. I hope in a small way that this kit and its procedures will encourage and support many new DW divers to progress in the early learning stages. Repayment, in kind, for the friendly support given to me by some quite remarkable individuals.

I propose introducing the 'system' in three parts, namely :-

PART 1. SETTING UP THE KIT.

PART 2. PROCEDURES.

PART 3. PRACTICAL TRAINING EXERCISE SCENARIO/S.

PART ONE.

THE KIT.

SA has given us few drawing aids so I gathered together my own basic learning kit to help in filtering, categorising and plotting sonar contacts. (Radar, Periscope, ESM and active sonar lie outside this brief and are relatively more straightforward) It is not expensive to get up. (See Photo – Assembling)

VISUAL AIDS.

We need a visual aid plotter and a progress chart. Luckily we have the 'dry wipe and cork combo board' available at leading stationers for about 10 Euro. Size 60 x 40 cm. Get a pack of the larger (1.25cm head) Coloured Push Pins and a couple of coloured dry markers**. You are going to plot on the cork section and keep your progress chart on the other area. (See Photo – Board)

PLOTTER.

We place and glue a 360 degree protractor to the center of the cork area. I dont like the plastic ones in the shops for two reasons - the bearings dont show well in low light conditions and the orientation of the bearing digits gives you neck ache.

Cont.

Instead I used a CD which I inscribe on the play side (sic) with the 16 main bearings written vertically and inked over with indelible. This shows up well and is easy to read and judge intermediate bearings. Glue it in the center of the cork area.

KEY.

Create your own key at a convenient position. List the different sonar contact types and assign a different colour pin to each. I had Sphere, TA., Merged, Stable, NoBB *, Classified and Target. (* NoBB for NB contacts that have no matching BB contact.) I don't want to get too paltry here, but I liked white for TA - seemed suitable for ghost track sorting. Insufficient colours - use small coloured cardboard squares for the sphere contacts and butterfly pin them with the TA pins for the 'merged.' But more about the process later. (See Photo – Key)

WAA.

Seawolf divers may find it helpful to draw a couple of circles on the cork at increasing diameters from the CD to provide, by approximate pin placement, a rough guide to WAA range. (See Photo – Plotter)

THE BAT.

Or blind area tracker. Believe me it's all too easy to forget or miscalculate the sphere and TA baffled or blind spot arcs. And where is your opponent? - you got it! So if it helps you, let's make a BAT. Sounds like a recipe, but kebab the following on a 2 inch flat headed nail. First cut and fit a 2 inch approx. cardboard disk then carefully push on a kids plastic pie chart. Usually a bit smaller than the CD, it has a center bar. Top off with a finger protecting, turning knob. Mark a course arrow on the pie chart and use indelible ink to mark out the blind areas. 60 degrees at the prow and stern for TA and sphere. You will find your BAT sits in the CD hole neatly. Finally - watch out for that nail head - stick a rubber on it. (Whoops that's an Eraser) As you progress, later if you need anything, a Helix Angle Measure may be enough. (See Photo of BAT)

BOOMERANG THE BAT.

Now if you need further reminders, to check the blind (Baffled) areas and as an aid to selecting the specific bearing arcs, try this. Cut out a couple of pieces of clear plastic in a boomerang shaped arcs matching the 60 deg. blind cones to fit snugly against the CD circumference. Each will have a different coloured drawing pin through the center. Before you turn your sub, pin these to the blind prow and stern areas. Yes I know - soon enough you won't need such 'water-wings' (See Photo of Boomerangs)

Cont.

PROGRESS CHART.

Cut an A3 sheet to size and draw your chart. Then cover it with clear plastic and pin it to the 'dry marker' area. Its a matter of choice whether to use dry wipe **or Staedtler nonpermanent soluble markers. I like the latter's F, fine size.

Lay out the chart, with vertical headings of Tracker, Reference, Bearing, Merged. WAA (SW)TPK and Classification. Continue with Frequencies (5 subdivisions), and the Filters of Nobb, Stable and Target. I have an area right at the top of the chart for reminders like Layer, SSP, conversion factors etc. Then draw plenty of horizontal columns for your contact progress. This worksheet will live on with you beyond pinning.(See Spreadsheet)

Finally place the board horizontally alongside your keyboard, cork East. Mine sat wedged on the top drawer of my desk. Stopwatch and calculator, optional, but handy. Now you are ready to go !

CONCLUSION.

Here you have a basic sonar aid kit. A prop - 'water-wings' to get you started. Remember this that SAS drill calls for pre-mission briefings with mini-maps often crudely drawn in the sand. Car manufacturers stick gear plans next to the lever. Basic Visual Aids ? Yes I know its a long time since we saw the SAS wearing water-wings.

In PART 2 we will look at the procedures which will help us to learn some basic techniques.

The Bellman.

22/6/05.