



BRT Flags

(Annie & Stuart Elliott)

Description:

The principle of the flags operation involves a balanced propeller mounted on 2 precision stainless steel ball bearings and a vane made of Koreflute which is shaped to track the wind direction accurately. All this is mounted upon a central axle assembly which contains a pivot housing two stainless steel ball bearings, the propeller bearing assembly also has twin precision stainless ball bearings and the tubing at the rear to support the vane. The propeller is assembled around a central rotor which is connected to the bearing assembly. Uniquely the colours on the propeller are arranged in such a way to give instant information of the wind angle and the velocity. A brilliant lime green sail cloth tail is attached to the rear of the vane to indicate wind strength. The red and green colours on the vane give straight forward direction indication, L to R and R to L. This is an international colour direction standard. Wind direction from the left is Red and wind from the right is Green. The white border around these colours helps make them stand out against any background. The shape of the vane gives maximum visibility and positive, accurate tracking of the wind direction with minimal overall length. The lime green tail is made of a special sail cloth and is very strong yet light enough to be responsive. It will not flip and twist over to get caught up on a pole or the vane which can occur with other tails especially when they are wet. A "U" shape is formed length ways down the sail tail so it holds its form better to swing more like a pendulum. This makes it much easier to judge wind force and velocity especially on the flags placed further down the range. A stainless steel clip is fitted to the top of the sail tail to connect it to the top of the vane. Also as an option we have available a special wide lime green sail tail with a curved form. Basic surveyors tape can be also be used but we have found the sail tails are much better.

The propeller consists of three colours, Red, White and Blue. They should be assembled with the red colour to the rear. It is extremely sensitive in light breezes with those subtle velocity changes but also in high winds. Changes in the blur can be effectively judged. The most useful purpose of the three colours is to give easy indication of the wind angle. This is how it works. If we talk about wind direction like on the clock face and have a wind coming from the left at 9 O'clock the vane will be pointing right (showing vane colour red). The propeller will show all three colours as it spins, red, white and blue, because the flag position is at 90° to the shooter. Once this wind angle changes coming from 9 to 10 O'clock the propeller colour presented to the shooter is then only red and white and further wind angle changes towards 11 O'clock show only red prop. Conversely if the wind direction comes from the 8 O'clock area the prop colour is blue and white. On the opposite side, if the wind is coming from the right at 3 O'clock position the vane colour is green. The prop colour will be red, white and blue because it is at 90° to the shooter. Once the wind angle changes to 2 O'clock the prop colour is only red and white. From 4 O'clock etc it will be blue and white on so on. In summary, winds from the upper quadrants of the clock face (9 O'clock and above and 3 O'clock and above) give red prop colour and from the lower quadrants give a blue prop. The complete system is so easy to see in the shooters peripheral vision. A shooter does not have to keep focusing intensely and alternatively on each individual flag to see and understand what is actually going on. With a little practice a shooter can develop a real sense of what is happening. It soon becomes second nature.

Assembly:

The flags are easily assembled by one person. At first lay out the components. The vane, the axle bearing assembly, the sail tail, the propeller and rotor mount. Start by fitting the propeller to one end of the rotor mount with the blue color facing to the inside and red to the outside. Hold the axle assembly in one hand and the propeller (still opened out) in the other and then screw the rotor mount onto the bearing assembly (see photos.). Tighten but do not over tighten. Then fold the two wings around to the front of the rotor mount and fit them followed by the plastic nut. If the Prop is slightly twisted or misaligned just carefully twist it into a balanced shape and do a final tighten of the nut. There is no need to over tighten anything. The Blue colour should now be on the inside and red facing to the rear (vane). Then fit the vane into the tubing at the rear of the axle bearing assembly. The slot in the vane aligns with the top part of the tubing here. Now, unclip the SS clip on the tail and fit it through the orange loop at the tip of the vane. The tail is installed with the BRT sticker to the rear (see photos.). The 'U' or curved shape in the tail is to allow the tail to swing up like a pendulum instead of flapping around like surveyors tape. It is important to fit it the correct way round otherwise the tail will not respond correctly. The 'U' faces up towards the sky.



3.

Setting the Flags on the range:

As a general rule we set our flags in a line "from barrel to target" underneath the line of sight. Range situations and topography vary a lot so, how the windflags will be set may have to be adjusted to suit individual places. There are several other options of flag sets which other people do use. These include a tangent line starting left of the shooter (for right handed shooters) almost in front of the next bench and crossing the shooting line to finish on the right of the target frame. There is also the staggered line method. We like the "from barrel to target" method for several reasons. Being a straight line directly under the shooting line of sight helps when shooting in those wind conditions which are straight up or down range. The exact angle of the wind to the shooting position is much easier to relate with this system. Also it keeps your flags out of the way of others on the adjoining benches. Also when the target frames are moved to the longer distance it is a simple matter of adding flags to the line (assuming the target frames are in alignment).

The distances on the range at where to place these flags depends upon the topography and/or structures, which may determine the position most critical for an unusual wind pattern. For centrefire benchrest shooting we normally place 4 flags out to 100, or for 200 we place a total of 5 or 6 flags. This is per row of our rotation. The approximate distances (from the bench) are 15, 35, 60, 90, 120 and 160 yards. If only 5 flags are to be used then we suggest this arrangement - 15, 35, 60 and 90 yards for shooting at 100yds and for the 200yd stage move the flag at 60yds to 75yds. Move the flag at 90yds and place it at 115yds. Place the 5th flag at 160yds. Therefore the flag set for 200yds with only 5 flags is would be 15, 35, 75, 115, 160yds.

Start by setting up the last flag in the line first. That is the flag closest to the targets. An assistant is needed at the bench and both should preferably use two way radios. The assistant at the bench uses a rifle on rests or a spotting scope positioned to about the same position as the rifle scope would be in relation to the bench. The assistant needs to indicate the placement position of the flag pole to be directly under the target. The ground spike is then placed in the ground and the *bubble tool* is used to get this ground spike perpendicular. This is most important and cannot be over emphasized. All flags, no matter whose design, need a perpendicular mount to sit on otherwise they will not behave correctly. Once the ground spike is installed correctly and the adjustable pole fitted, the flag head assembly is then placed on top. The overall height is now to be adjusted. The assistant at the bench should indicate the height to be as high as can be allowed so that the top of the vane is just under the target position. Remember that in some cases the rules for maximum flag height is a line from the bench top to the target bottom (NBRSA and WBC etc). Now coming towards the benchline set the next flag in this row. Have it placed in the line with the flag already positioned but adjust it's height to be slightly lower. How much lower depends on the target frame heights etc and the general topography. Think of the "window" which all these flags must fit into. Generally we would adjust the height of this flag to be between a ½ to 1 full vane below the position of the flag further back. Then coming towards the benchline again set the next flag and adjust it's height to be between a ½ to 1 full vane below the previous one etc. Continue on until all flags in the row are set. Then proceed to place flags in another row if required (ie. if bench rotation is used). This will have all the flags fitting into the narrow "window" yet still allow them all to be clearly visible. A little practice will get it right. The shape of the windflag allows visibility even if it is placed almost directly behind another.

Summary:

This is why we believe these are the finest flags available. We have the results to show and now there are nearly 500 of them worldwide. Place them properly, learn to trust them and you will consistently shoot well. It will be lifetime investment in quality product and great results.