

Addendum to the Banner Frame

This Addendum is to add the Banner from the “SUPERNOVA” ToolKit; also if you have the “Night Sky Network Member Banner”, they are both the same size.

Errata in DARK RED

All pipes labeled D, E, F, G, K, M, and P will be used for this size banner

Pipes L, and N modified below

3 quick release clips

4 bungee balls

2 bungee cords 14” long (if used outside)

4 tent pegs (if used outside)

Extra Materials to modify Banner Frame:

3 Grommets (6 Grommets if doing both banners)

2 Union connectors

1 eyebolt with nut

2 Bungee cords 14” long

Gray spray paint

Pipes L and N need to be modified; cut off $8\frac{3}{4}$ ” from the gray end. Set aside the cut off pieces until the last step of this modification. Sand off about an inch from the cut end so it will slide into the unions of “M” and “K” easier if you painted the pipes white. Now the shorter pipe “N” aligns the #3 eye bolt and quick release clip to the right side grommet of these smaller Banners. Assemble the top cross bar to help with the next steps (affix “M” and “N” together and lay on the floor).

The “The Lives of Stars” Banner needs to be modified with additional grommets. Lay the “The Lives of Stars” banner on top of the #1 and #3 eyebolts. Add a grommet to the top center of the “The Lives of Stars” Banner by aligning the location of the new grommet to the #5 eyebolt. The #5 eyebolt is slightly off center of the banner by about an inch to the left. Go ahead and place the grommet so it will align with the #5 eyebolt. Now add two more grommets under the top two corner grommets. You should now have 7 grommets installed on your “The Lives of Stars” Banner instead of the initial 4 in the corners. Do the same if your club has the “Night Sky Network Member Banner”. These two Banners are the exact same size.

Now if you want to hang the reverse side of the “The Lives of Stars” Banner showing the “Table of Elements” we are going to add another eyebolt on pipe piece “M”. Placement will align with the grommet that was added earlier near the center, on the “The Lives of Stars” Banner. Measure $1\frac{3}{8}$ ” to the right of eyebolt #5 center hole towards eyebolt #2. Drill a new hole at this location and add an eyebolt and label it #7. Align the eyebolt with the others.

The $8\frac{3}{4}$ ” pieces that were cut off during the first step will need modified. First cut off $\frac{1}{8}$ ” off the $8\frac{3}{4}$ ” pieces so now they will measure $8\frac{5}{8}$ ” long. If you had painted the pipes white the white paint will need to be removed by sanding it off about an inch from the end that was cut. Glue a union to the end that was just sanded on both cut off pieces (the union adds a $\frac{1}{8}$ ” to the length). Now spray paint the

Addendum to the Banner Frame

new unions gray (protect the rest of the pipe from overspray with tape and newspaper). Label these pieces 1N and 1L respectfully. When using any of the other banners 1N and 1L pipes must be attached to the respected N and L pipes.

Add one ¼" hole on pipes "K" and "L" 4 ½" from the outside edge of the "T" fittings. Drill hole from the RED side of the "T" fitting up on both pipes. DON'T DRILL HOLE ALL THE WAY THROUGH PIPE. This is where the hook end of the 14" bungee cord will attach to the bottom side of pipes "K" and "L" when banners are used outside. You are now ready to use your modified banner frame with the additional banners.

Set aside all unused parts, they will not be used with this banner.

If possible place your banner, if setting up outside, with the smallest profile with the wind and also on grass so you can use tent pegs to secure to the ground (This was setup and tested under 27 mph wind gusts).

1. Place pieces labeled "P" about 4 feet apart parallel on the ground with the open end of the elbow on the ends facing the ground.
2. Insert pieces labeled "F" and match the purple pipe end to the purple 4 way fitting.
3. Use parts "K" (left side) and "L" (right side) for the next step. Then add pipe "D" between "K" and "L" matching the gray ends. "K" and "L" have a "T" fitting glued to one end. Match the red side of the "T" fitting onto the red pipe end of "F". Now you have a crossbar that should look similar to this.



4. [Omit this step if setting up inside.] Use the 4 tent pegs and hammer them into the ground through the holes drilled into the 4 corners of the feet. The holes are drilled at a 30° angle toward the center to help support against wind when setup outdoors.
5. Now insert the 2 pipes labeled "E" matching the green pipe ends into the green "T" fittings.
6. Assemble the top crossbar by putting pipes labeled "M", "N" and "G" together matching all the gray ends together (M and N each have 2 yellow ropes butterfly at the elbow end). Make sure the eyebolts are aligned.
7. Set the crossbar on top of the 2 pipe ends colored blue with the elbows colored blue with "M" on the left side and "N" on the right.
8. The yellow rope need only be used if setup outside. Leave them tied up if presenting inside. Unravel the butterfly rope by releasing the VELCRO strap if setting up outside. Leave the

Addendum to the Banner Frame

VELCRO strap attached to the end of the rope. **DO NOT UNTIE OR REMOVE THE ROPE.** Place the looped end of the rope around the hook side of the tent peg.



To make it easier to loop around the hook, rotate the tent peg enough to get the rope around the hook. Rotate the tent peg back parallel to the feet so the rope won't slip off. Do this for all 4 sides.

9. The frame is now ready for the banner and should look something like this.



10. Attach 3 quick release clips at the eyebolts numbered 1, 5, and 3 for "The Lives of Stars" side of the banner, or the "Night Sky Network Member" Banner. **If using the "Table of Elements" side of the Banner then use eyebolts numbered 1, 7, and 3.** Make sure the narrow side of the clip is towards the eyebolt and the spring gate is towards the front like this. It makes it easier to attach the banner this way.



11. Attach the banner through the grommets across the top of the banner; photo above left.

Addendum to the Banner Frame

12. This banner will use 4 bungee balls. Thread the bungee balls through the rest of the grommets and loop around the PVC pipe and then around the ball for a secure fit; photo above right. I added an extra grommet at the top two corners for added strength to hold the banner tight inside the frame. Bias the bottom two bungee balls downward on the vertical frame to hold it snugger. **If banner is used outside add the 2 bungee cords that are 14" long to the bottom two corners of the banner, then attach the other hook end of the bungee cords into the holes drilled into the bottom of pipes "K" and "L" (refer to image on bottom right for the addition of the 14" bungee cords when used outside).** You are now ready for your presentation. Your banner should look like one of these.



Afterwards disassemble in reverse order. Make sure to remove the banner first before releasing the guy lines. This will help under windy conditions. **DO NOT UNTIE THE KNOTS ON THE ROPES.** Butterfly them back up using the VELCRO straps attached to the bottom of the rope. To help with separating the crossbars, lightly tap with a hammer from the bottom of the pipe near the joint. **DO NOT USE THE HAMMER TO PULL THE TENT PEGS FROM THE FEET, THE PLASTIC HOOK WILL BREAK.** Pull the foot up at the elbow end and the tent peg will come up without damaging the plastic hook at the top of the peg