HOW TO MAKE JAC's

(**J**ohn's **A**ngle **C**utters)

MATERIALS

- Clear Plastic 1/8" to 3/16" thick.
- A plastic ruler will do, but it must be clear.
- Bristol Board
- Double sided tape
- 180 deg. Plastic protractor

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1. Cut - 8Pc - 8" long 2" wide.
2. File, grind or plane a chamfered edge equal to approximately 2/3 the width on both sides
3. Cover under side with double sided tape.
4. Place on Bristol board and cut around.

7PC. JAC'S TO BE CUT

1. 3 deg. & 12 deg. 15 Pc
2. 5.deg. & 12.86 deg. 14 Pc
3. 13.85 deg. & 15 deg. 13 Pc - 12 Pc
4. 16.36 deg. & 18 deg. 11 Pc - 10 Pc
5. 20 deg. & 22.5 deg. 9 Pc - 8 Pc 180
6. 25.71 deg. - 30 deg. 7 Pc - 6 Pc 180
7. 36 deg. & (Special) 5 Pc 180

CUTTING ANGLES

PLEATED DESIGN

Tape 18 deg. angle sections securely with veneer tape to desired size. Because a point is not required, cut the pieces to allow a ¼" to 3/8" cut off as shown. However, all pieces will be cut to the same width.

PLEATED JAC

For pleated design:

1. Cut 18 deg. wedge with JAC.
2. Place on JAC & mark with pencil
3. Remove Bristol board and glue film.

Turn over and slide all other pieces in - cut off where shown

Having assembled the angle segments either a circle or oval shape can be selected.

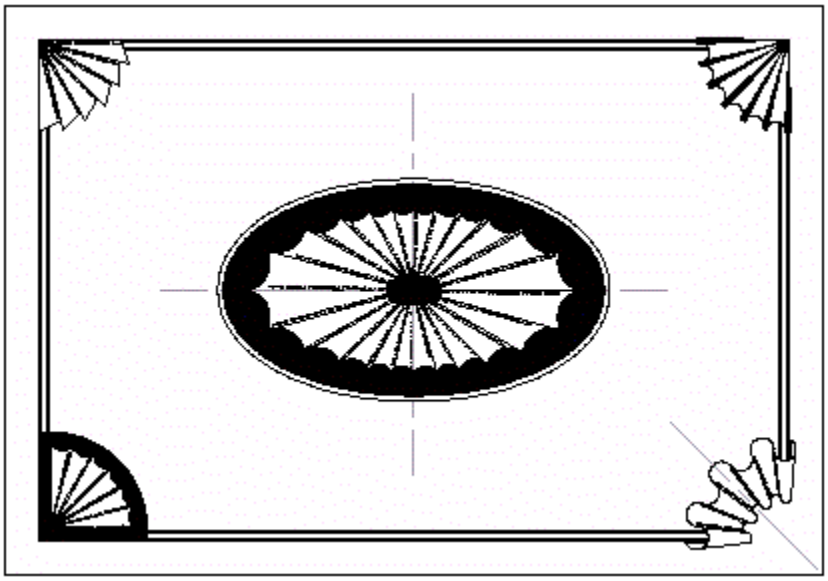
DIMENSION VARIABLES

When deciding to make any of these patters, it is important to remember the potential problems. The jig will cut the exact angle every time. However, the angle may be slightly out, in which case the more pieces, the greater the compound error, e.g. (11Pc for 180 deg.) angle is 16.36 deg. If the error was 1.5 deg. the compound error would be 11 x 1.5 deg.=16.5 deg. In general the pieces you cut will be slightly bigger than the measured angle, principally because you cannot place each piece so tight that no gap exists. If only .2 deg. error exists due to placement, then at 11Pc the compound error is 11 x .2 deg.=2.2 deg. Such things as the angle of your knife or how sharp it is will generate small errors. Fear not - the answer is - be consistent, use a sharp knife and make the angle slightly negative rather than positive. "SMALL" negative template errors will usually offset positive cutting errors. Finally, test the segments through 180 deg. and adjust your cutting template accordingly.

SAND/LEAD SHADING

Previously I mentioned the shrinking effect due to heat. This will obviously vary with the degree of scorching and the veneer species. However, all will shrink to some degree. If only one edge requires shading, cut the angle after shading. This will do two things. First the angle will be correct - Second the point of the segment will remain intact.

If you are familiar with sand shading, you will know that any point of veneer tends to distort and burn off. This is because the heat cannot dissipate as with a larger area. With the traditional production saw cutting method the angle must be made to compensate for shrinkage and each different species and tonal variation requires adjustments to the pre-cut angle. In addition, because the points burn and distort they are replaced with a full or part circle of black veneer.



This does not look unattractive and you may wish to cut the points off and be traditional - the option is yours.

VARIATIONS

Another variation of this design shown previously is a pleated or folded fabric design. This can be used in conjunction with banding as a corner motif. Veneer pieces are cut at a low angle, preferably 12 deg., as it is part of the recommended angle templates to be made. For veneer, I prefer "YEW" as it is very stable during shading joined to A pear or a cherry border stringer

3 to 5 or 7 pieces can be used as desired - tape them together after cutting one motif to the desired shape - position over each of the remaining pieces and mark around with a pencil. Cut in using a saw or knife. If a saw is used the waste from the sections can be simultaneously cut along with the waste from the corners.

Using the J.A.C.'s will give you quick precision cuts with no set-up time. If you keep them together in a box they will always be available to make up a quick inlay motif.
