

PROJECT 1: 'T' LIGHT HOLDER

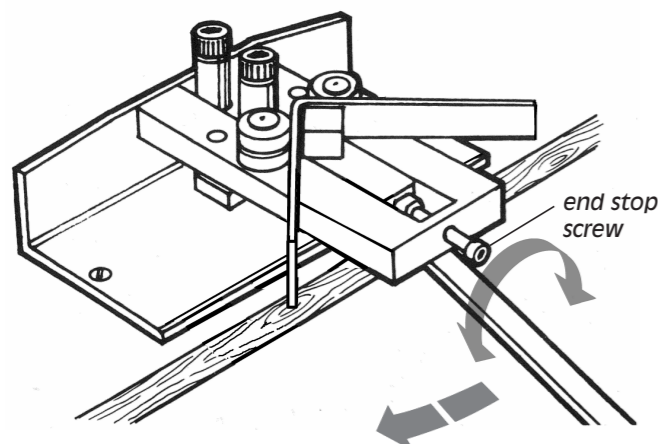
BEFORE STARTING this project read the instructions for the Practical Riveting, Bending and Rolling tool as well as those for the Practical Punch/Shear. Then familiarise yourself with these instructions and the accompanying Design Template Sheet.

1 Take a length of 12mm x 2mm (1/2" x 14 Gauge) steel strip and use a cloth to remove any excess oil or grease from the bar before bending or punching. Cut a length of 480mm (18 7/8") using the Practical Punch/Shear tool. If you don't have a tape measure or ruler simply place your steel strip alongside Template No.1 (shown on the accompanying Design Template Sheet) and mark on the steel strip where you need to cut using a fine tip marker pen or pencil. For a neater finish you can trim the corners off each end of the bar as shown in the template.

2 Next place your cut strip alongside template 1 and with a fine tip marker pen or pencil mark on the bending positions A, B, C, D, E & F and hole punch positions 'X'. Make sure you extend the marked lines to the top and bottom edges of the strip so that you can line these up accurately in the Practical Punch/Shear tool and Practical Riveting/Bending/Rolling tool.

3 Next take a length of 10mm x 1.6mm (3/8" x 16 Gauge) and use a cloth to remove any excess oil or grease from the bar before cutting. Then take the steel strip and cut 5 separate lengths of 40mm (1 1/2") using the Practical Punch/Shear tool. If you don't have a tape measure or ruler simply place your steel strip alongside template 2 (on the Design Template Sheet) and mark on the steel strip where you need to cut using a fine tip marker pen or pencil. On this item you don't really need to trim the corners off each end of each strip. After each piece has been cut, place it next to template no.2 and mark the two hole positions Y & Z and the bending position G.

4 With a small piece of spare material set up the Practical Riveting/Bending/Rolling Tool to bend an angle until you reach the angle shown (on the Design Template Sheet) in Diagram 1 (110 degrees). To check the angle lay the bent metal on this diagram. When this is achieved, adjust the end stop screw by hand (or using the allen key supplied with the tool) to set the angle so that this angle can be bent repeatedly.

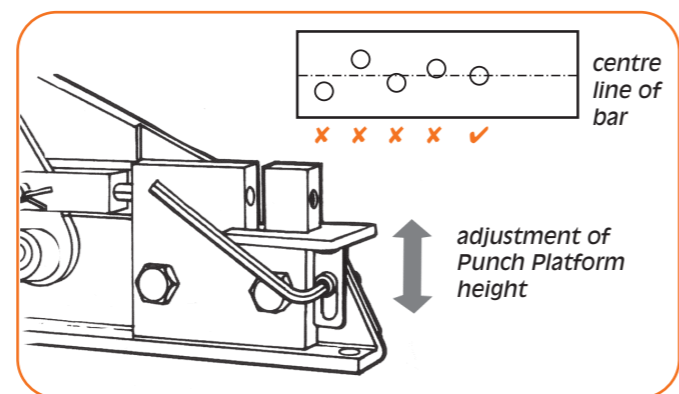


5 With the angle set at 110 degrees as per Diagram 1 place the 480mm (18 7/8") long bar into the Practical Riveting/Bending/ Rolling Tool bend the bar at the first position marked A and then flip the bar over and bend at position B. Flip the bar over and bend at the next position C, and flip the bar over again at position D. Flip the bar over again to bend at position E and flip the bar over for the last time and bend at position F. When this is done you should have a zig zag shape like the one shown in Diagram 2 (on the Design Template Sheet).

6 With a small piece of spare material set up the Practical Riveting/Bending/Rolling Tool to now bend a right angle (90 degrees) as shown in diagram 3. When achieved adjust the end stop screw to limit the bend so that this angle can be bent repeatedly.

7 With the bending angle set, place one of the small 40mm (1 1/2") stem pieces into the Practical Riveting/Bending/ Rolling tool and bend at position G. Repeat this on the other 4 pieces to create the stems for the T light cups to sit on.

8 Next adjust the platform on the Practical Punch/Shear so that it is ready to punch holes in the long zig zag section. This is done by taking a small spare piece of 12mm x 2mm (1/2" x 14 Gauge) sitting it in the punch block and punching a sample hole. The hole should be on the centre line of the bar, if not, adjust punching platform height with the allen key provided on the adjustment bolt, either up or down (as necessary). Move the sample piece of bar and punch another hole to test if alignment is correct. When you have got the hole central tighten up the bolt.



9 Now place the long zig zag section into the punch block and line up the punching marks (X) on the top edge of the bar in the centre of the punch block (see Template 1) and punch the five holes. Next adjust the platform on the Practical Punch & Shear so that it is ready to punch holes in the small stem pieces. This is done by taking a small piece of spare 10mm x 1.6mm (3/8" x 16 Gauge) and again punching some sample holes until the alignment is correct to punch holes down the centre of the bar. If not adjust punching platform height with the allen key provided on the adjustment bolt, either up or down (as necessary). Move the sample piece of bar and punch another hole to test if alignment is correct. When you have got the hole central tighten up the bolt again.

10 Then, on each of the 5 stems, punch a hole in the positions "Y" and "Z" with the Practical Punch/Shear tool.

J&CR WOOD



Starter Pack 1

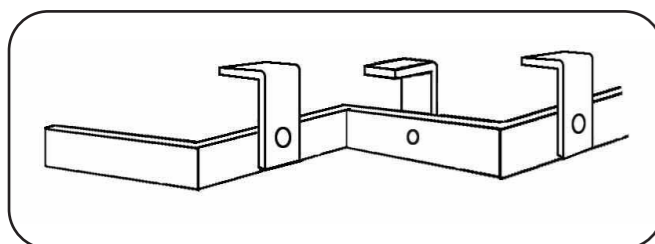
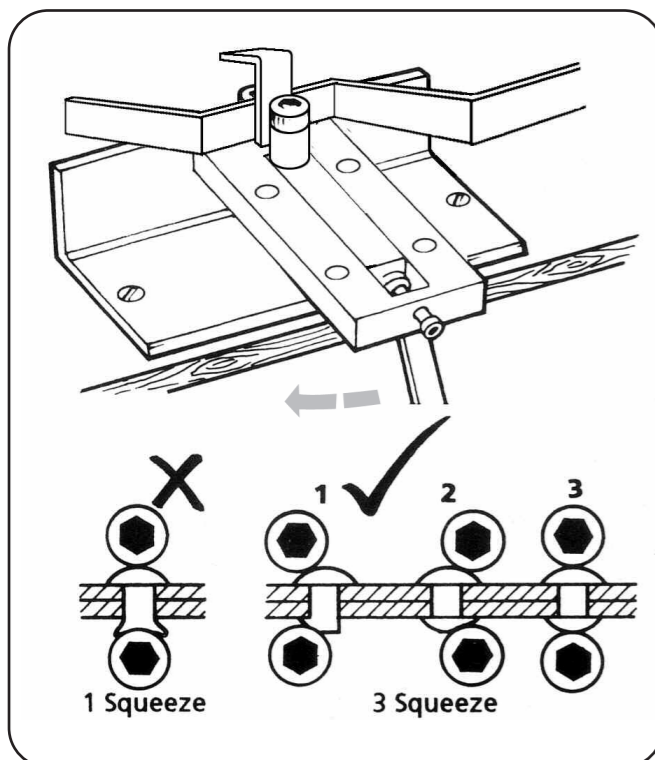
metalcraft™

PROJECT 1: 'T' LIGHT HOLDER

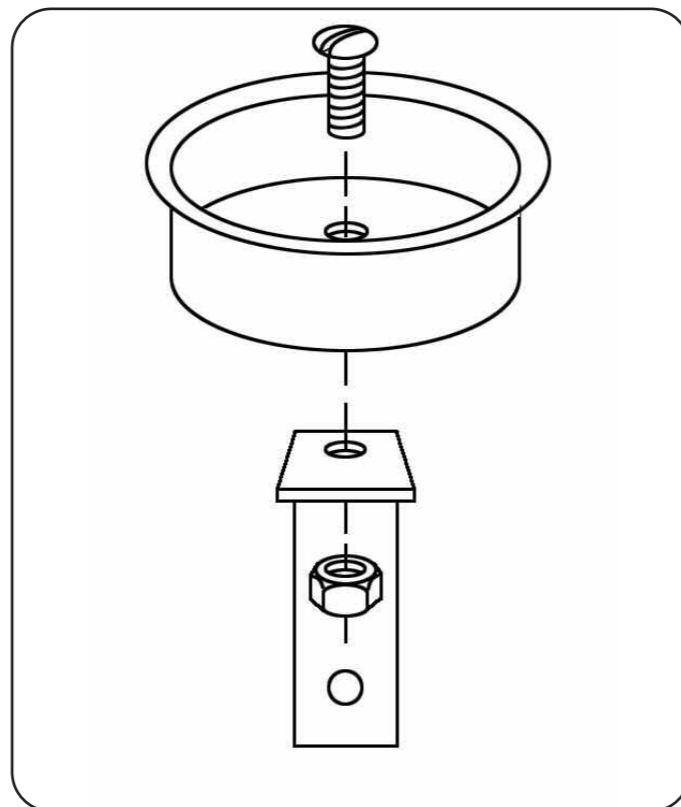


11 Next, set up the Practical Riveting/
Bending/Rolling Tool for riveting by ensuring the
two rivet posts are fitted and the Winding Handle (used
for rolling) is removed.

Then take one of the small stem pieces and match up hole
(Y) with one of the holes (X) on the zig zag section as shown
in the illustration below and place a 6mm x 3mm (1/4" x 1/8")
rivet in the hole and rivet in position. For best results try to
make sure the bottom edge of the stem is level or above
the lower edge of the zig zag section. When this is done
repeat with the other 4 stems. Once all stems are riveted,
any stems that have fallen over slightly can be straightened
with the tap of a hammer.



12 Finally, fix the five T Light Cups provided to the hole (Z)
in each stem using the 6mm x 3mm (1/4" x 1/8") Nuts &
Bolts as shown below.



13 To put the finishing touches to the design, the finished
item can be painted in a wide variety of finishes
(smooth, satin, hammer and metallic) using either
aerosol or brush application. Powder coating and plastic dip
finishes can also be applied but these type of finishes are
more commonly used on a commercial/industrial scale.

However, even with aerosol or paint finish you can make your
finished item look professional. For example, as shown below
you can paint the T light cups a separate colour to the Zig Zag
section and stems before fixing them. (In this case we used
paints from the Plasti-kote and Hammerite ranges - available
from most DIY and Painting/Decorating outlets). For best
results, always follow instructions on the tin and make sure
the metal is free of all scale, dirt, grease or rust.

Developing Your 'T' Light Holder further

Once you have gained confidence making
this straightforward but attractive idea, it
can be developed in many ways. You could
make it longer or shorter and put more or
less T lights on it. Alternatively, you might
want to use bigger materials and use
alternative candle trays for bigger candles if
preferred.

However, if we take the basic design that you have
just made, you can give it a more professional and
interesting finish by adding an extra 100mm (3 15/16")
to each end of the 480mm (18 7/8") long bar and
putting a scroll at each end as shown here.



Instead of bending a zig zag you can bend repeated
angles on the same side of the bar to create a five
sided pentagon as an alternative.



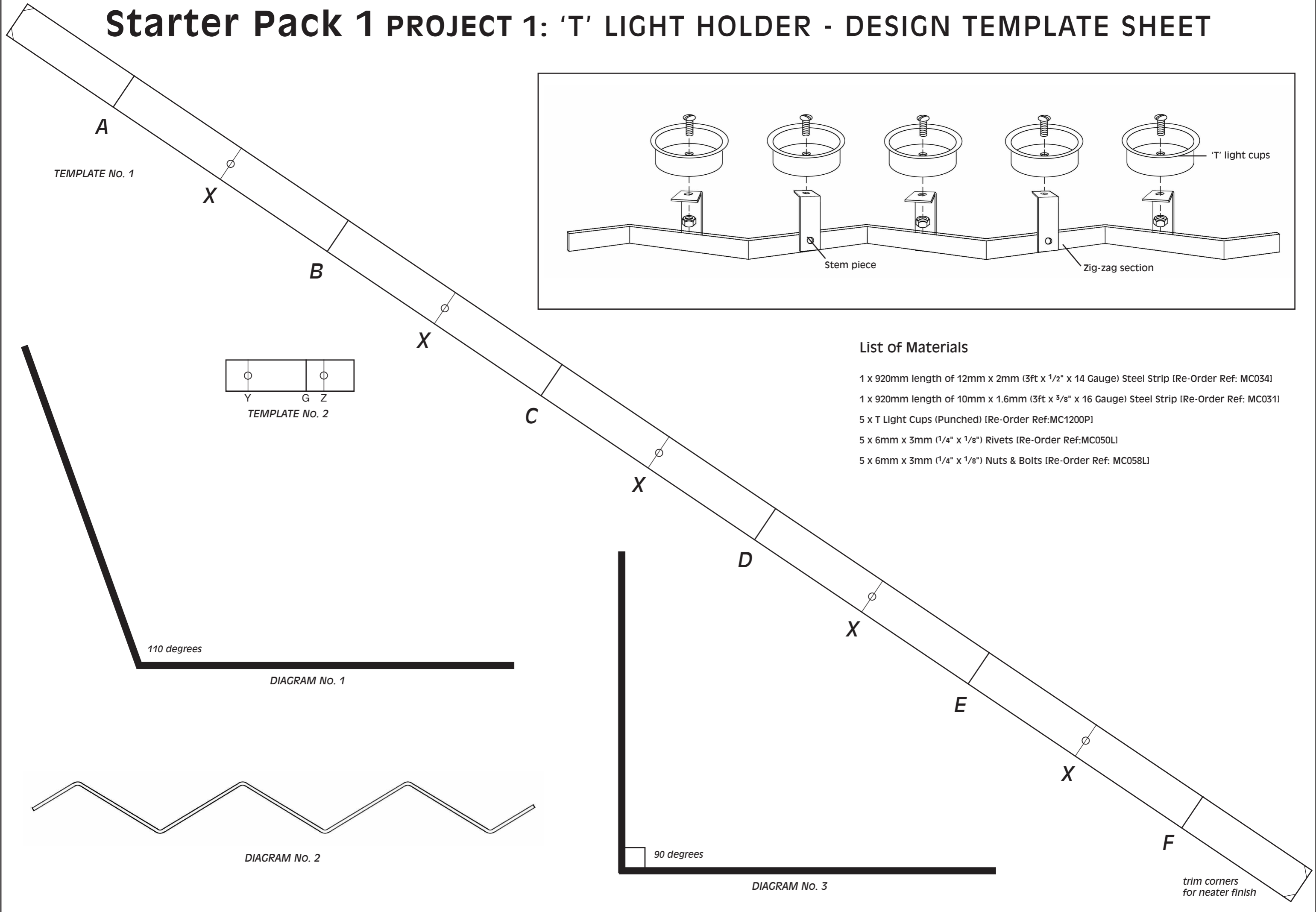
As an alternative to bending a zig zag, curves can be
produced instead by using the rolling facility on the
Practical Riveting, Bending and Rolling tool. By
marking the half way point you can roll a curve
between end and the halfway point and then switch
the bar over and roll an opposing curve as in the first
example. Alternatively you can divide the bar into
smaller sections and roll each section in opposing
ways to create this more detailed ripple effect in the
second example.



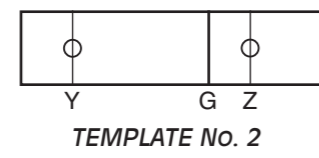
Finally, you can take this idea further by making this
take away / plate warmer. This simple stand is made
from end sections made up of two scrolls with two
bends, joined by two cross bars. It then has two of
our new Base Plates fitted to it to form a hot plate.
These are simply punched on the Punch & shear tool
and riveted into place.



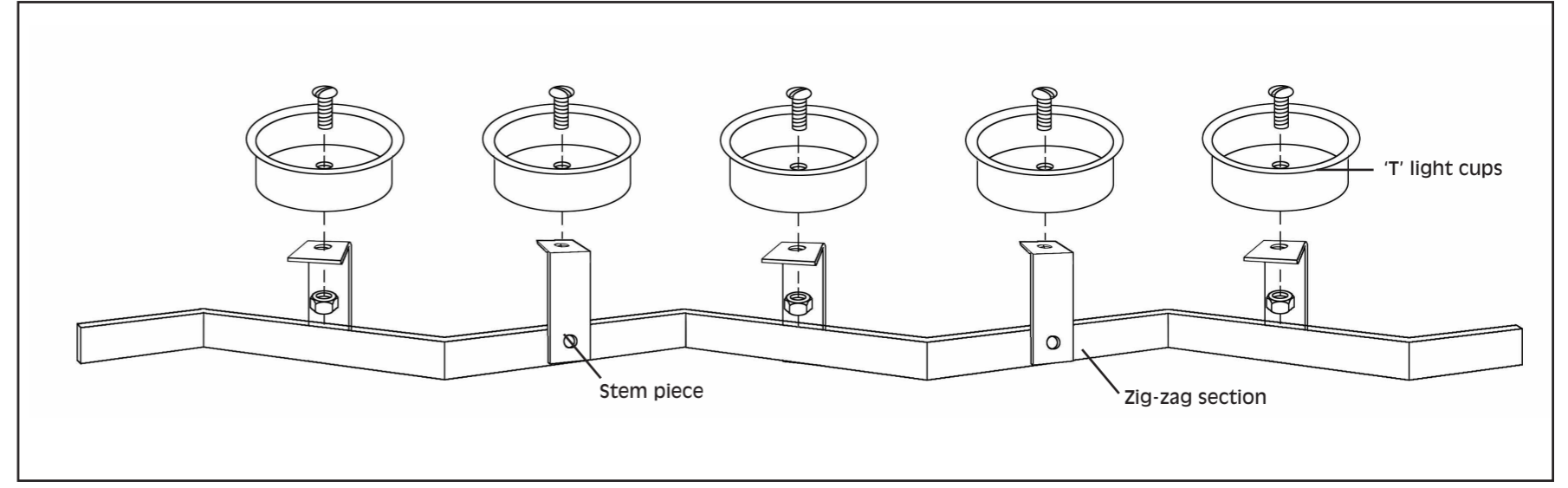
Starter Pack 1 PROJECT 1: 'T' LIGHT HOLDER - DESIGN TEMPLATE SHEET



TEMPLATE No. 1



TEMPLATE No. 2



List of Materials

- 1 x 920mm length of 12mm x 2mm (3ft x 1/2" x 14 Gauge) Steel Strip [Re-Order Ref: MC034]
- 1 x 920mm length of 10mm x 1.6mm (3ft x 3/8" x 16 Gauge) Steel Strip [Re-Order Ref: MC031]
- 5 x T Light Cups (Punched) [Re-Order Ref:MC1200P]
- 5 x 6mm x 3mm (1/4" x 1/8") Rivets [Re-Order Ref:MC050L]
- 5 x 6mm x 3mm (1/4" x 1/8") Nuts & Bolts [Re-Order Ref: MC058L]

110 degrees

DIAGRAM No. 1

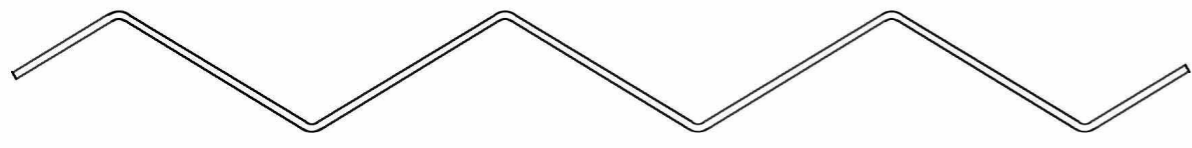


DIAGRAM No. 2

90 degrees

DIAGRAM No. 3

trim corners for neater finish