

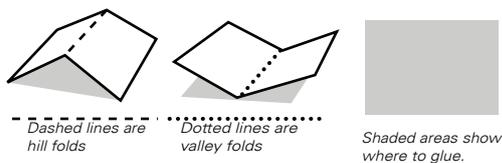
# Crank / Cam Mechanism

You will need a pair of scissors, some glue and a glue spreader. The best type of glue to use is white school glue (PVA.)

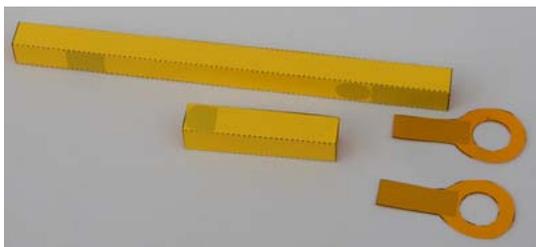
Print out the parts sheets onto ordinary thin card. Coloured card works well and makes for an attractive, colourful model. Leave the ink to dry completely before continuing.

Before cutting anything out, score along all the dotted lines. This job is easier to do on full sheets of paper.

Dashed lines are hill folds, dotted lines are valley folds. Cut along the solid lines. Grey areas show where to glue.



1



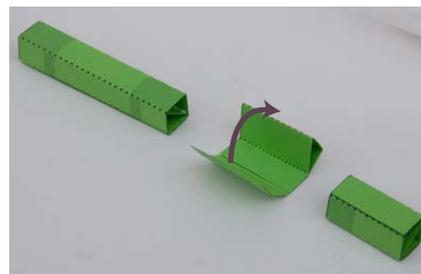
Fold round and glue together the push rod tube and the slider tube.

Fold the two push rod ends in half and glue them down to make a double thickness of card then cut out the centre hole and cut them out.

Glue the push rod ends to the push rod on the grey areas.



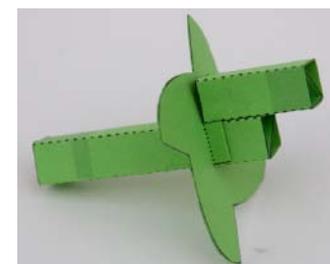
2



Fold round and glue together the three crank shaft parts as shown.

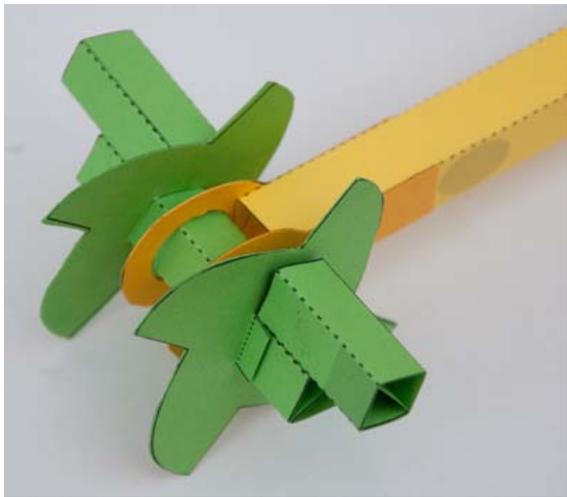
Glue together the two cams to make double thickness card.

Once the glue has dried slide one of the cams into place on the long cam shaft piece. Line up the tabs with the small grey rectangles.



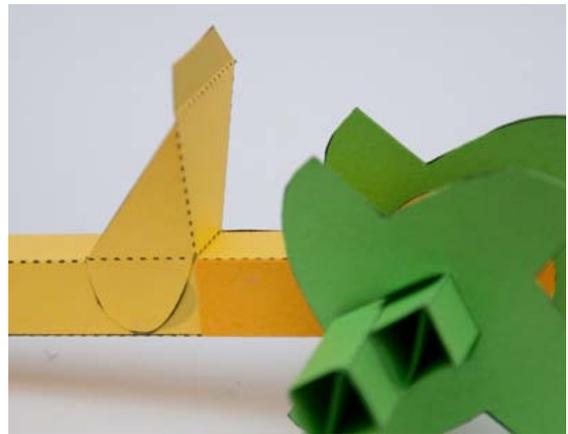
Glue the 'handle' cam shaft onto the cam centre as shown.

3



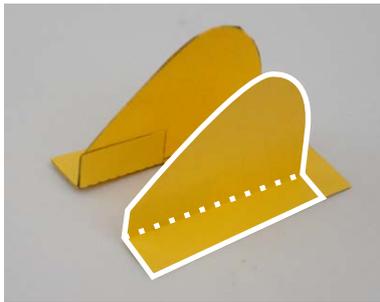
Fit the cam centre through the two holes in the push rod ends.  
 Slide the second cam into place.  
 Glue the remaining crank piece into place.  
 Set aside and allow the glue to dry.

4



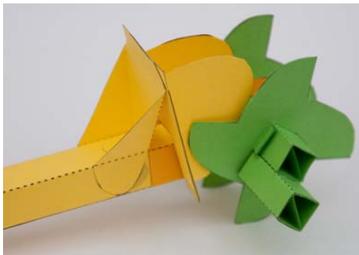
Glue the cam follower support onto the push rod. Line it up with the top of the push rod ends.  
 Makes sure that it is straight and not twisted before the glue dries.

5



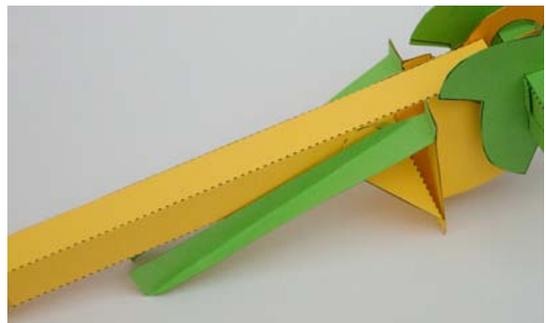
Glue together the three parts of the cam follower as shown left.

One of the cam follower sides is outlined in white here for extra clarity of placement.



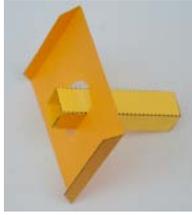
Glue the end of the cam follower to the cam follower support. There is a crease in the cam follower support so the cam follower should be free to move.

6



Glue the two linkages to the cam follower.  
 Use the picture above to help with alignment. One of the flat areas on the linkage should be adjacent to the main push rod as shown.  
 Don't glue them to the push rod though, they need to be free to move.

7



Glue the slider tube to the box lid as shown.

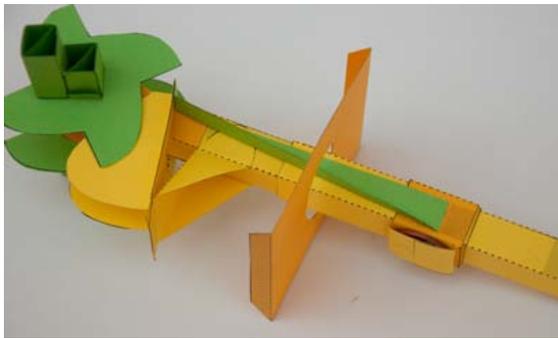
Using the second picture as a guide, fold round and glue together the collar.

Wrap a 20mm coin in the coin holder and glue it to the collar.

Thread the push rod up through the slider tube

Slide the collar over the slider tube noting the 'top' label.

Glue the two linkages to the collar.



8



On both of the box parts, fold round and glue the bottom tab to make a strong triangular tube section as shown.

Glue the two halves of the box together making sure that everything is lined up properly.



2



Glue the box top to the top of one half of the box as shown above.

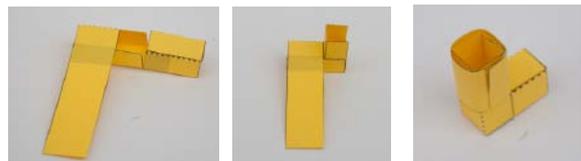
Thread the crank through the hole in the box.

Fold the box round and glue it closed with the other end of the crank through the other hole.

Glue the two base flaps down.

Fold round and glue the four tabs into place inside the box. These give the box strength and rigidity.

2



Make the Handle in three steps.

Fold up and glue the two square sections.

Fold the handle in half to make an L shape.

Roll round the long tab and glue it down

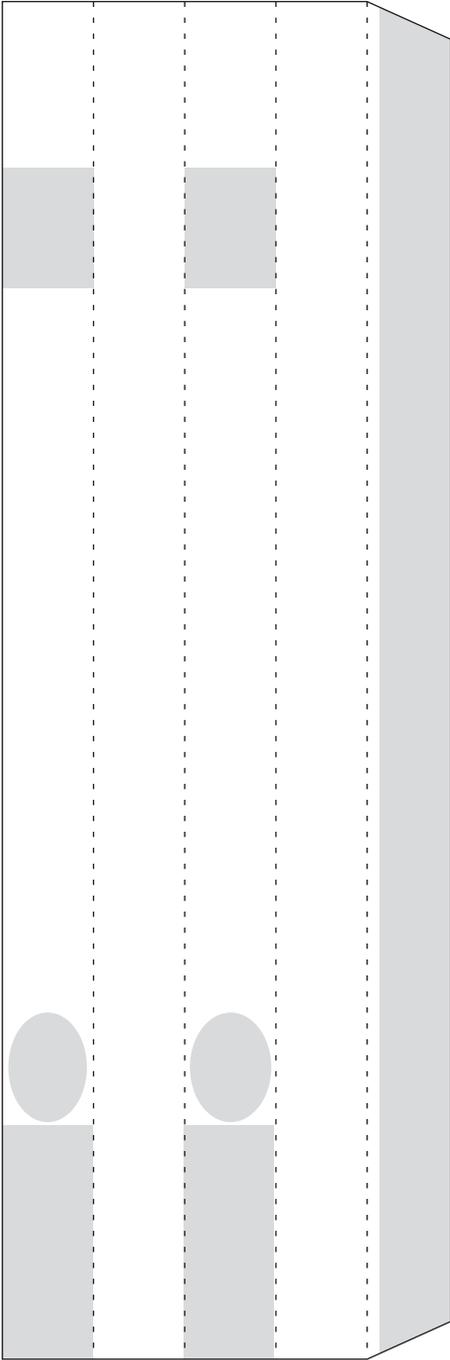
Glue the handle to the box to complete the model.

You now have a completed mechanism. Time to use it to bring to life a interesting character!

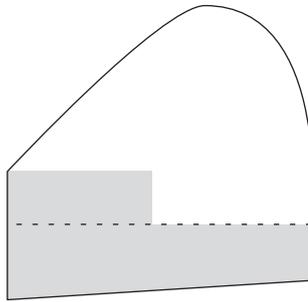
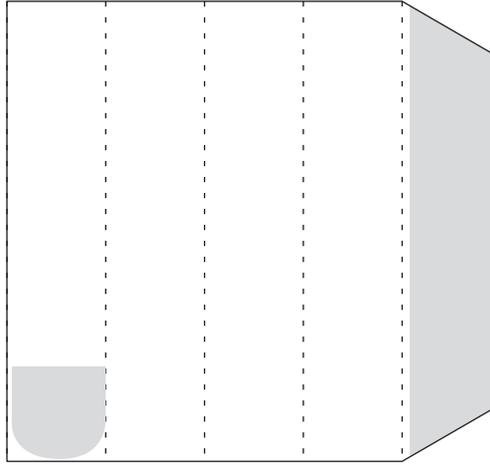
Over to you.



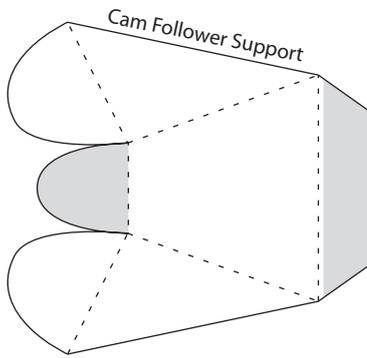
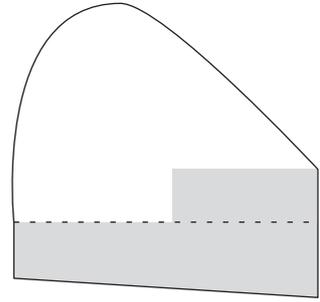
Push rod



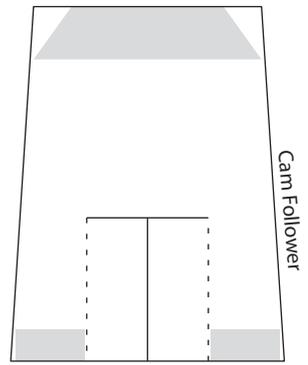
Slider Tube



Cam Follower Sides

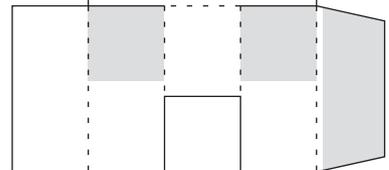
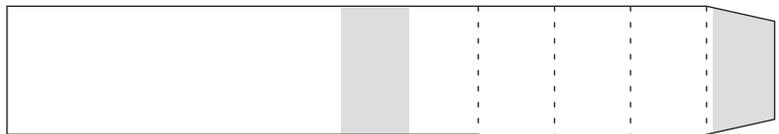


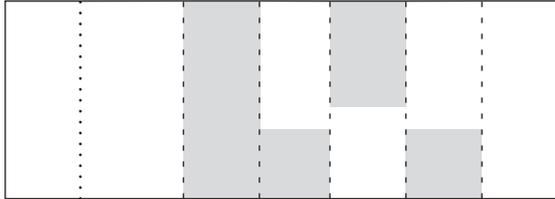
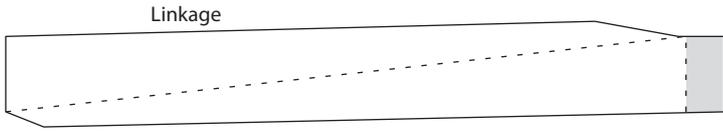
Cam Follower Support



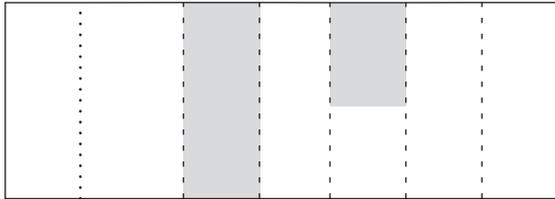
Cam Follower

Handle

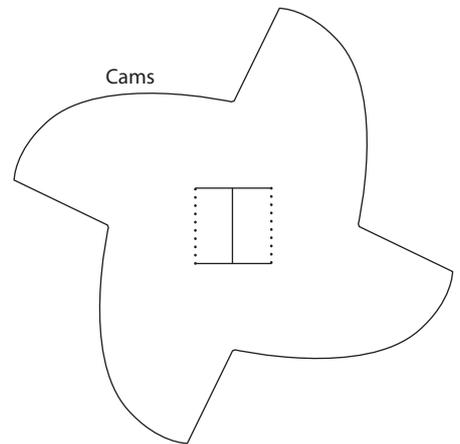
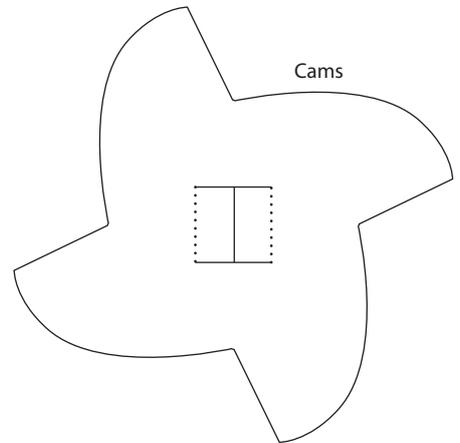
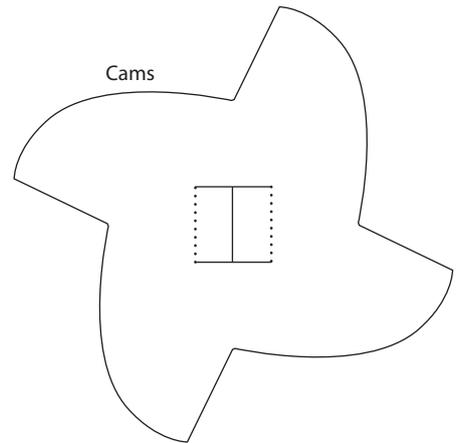
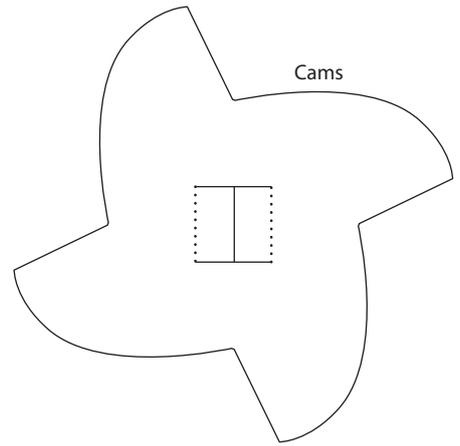
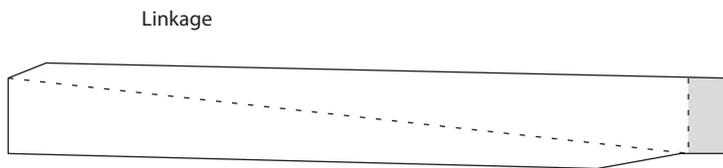
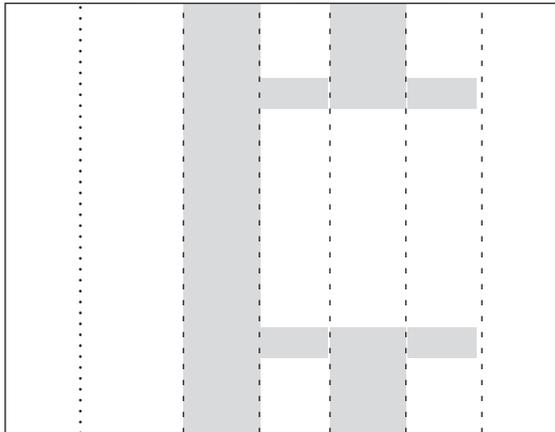


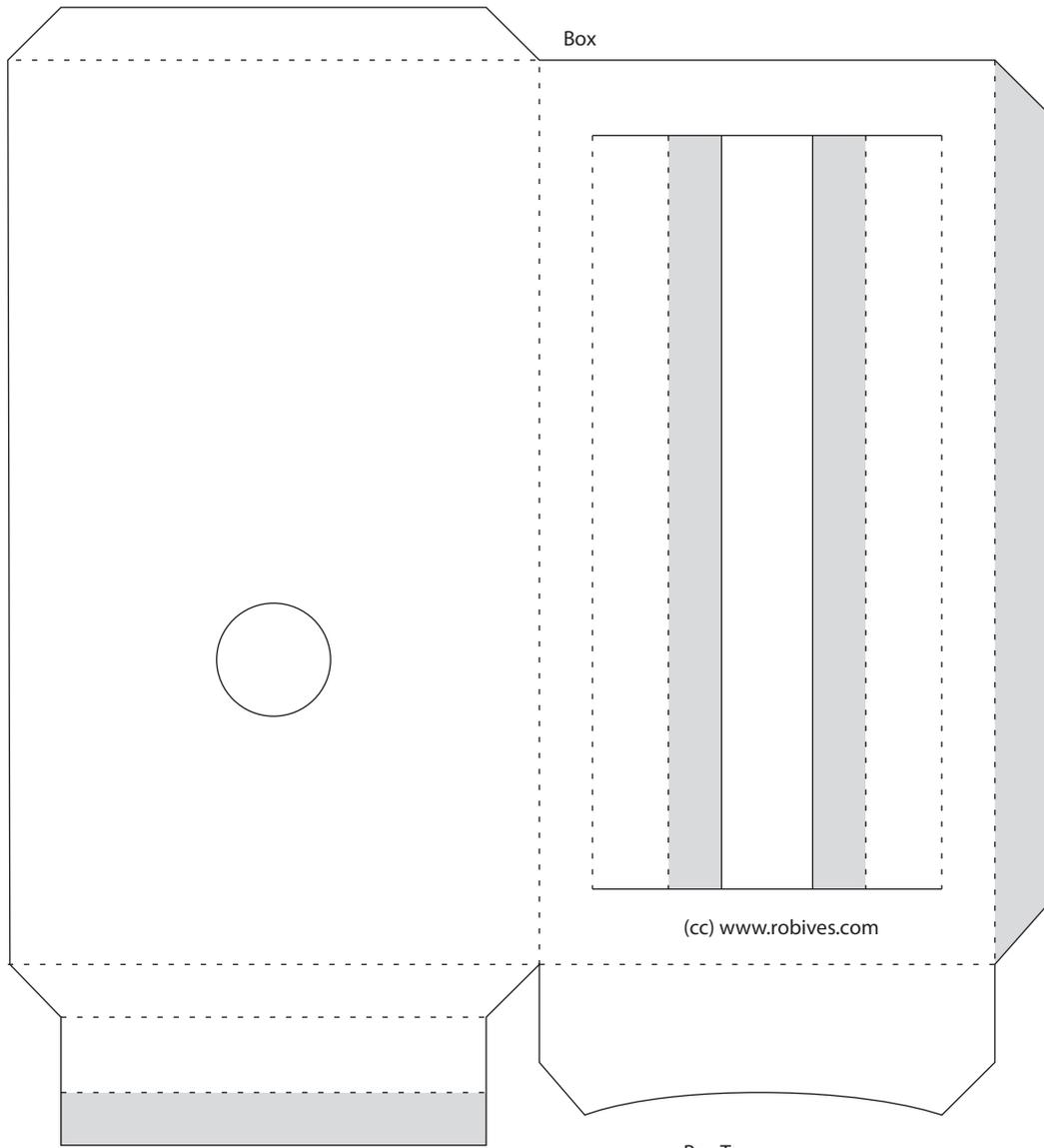


Crank Shaft

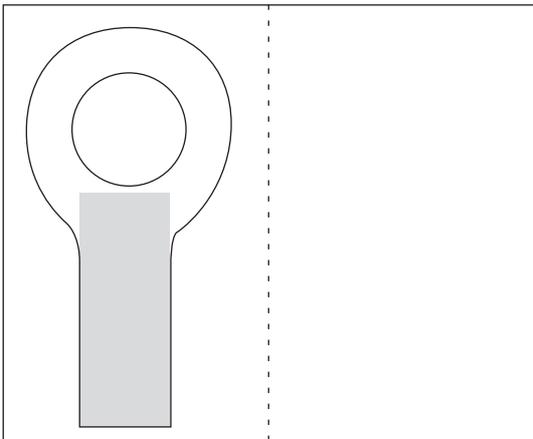


Crank Shaft

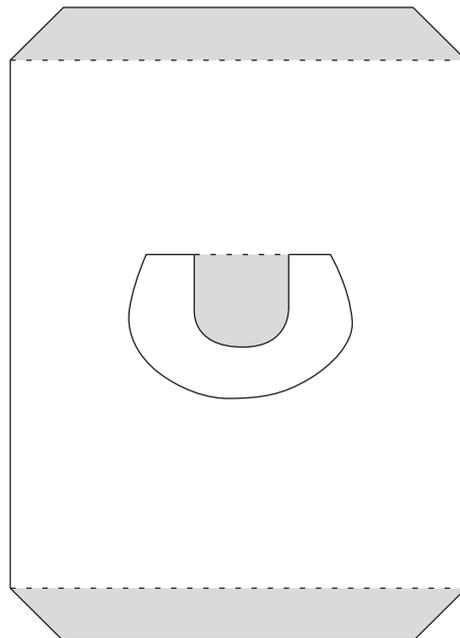


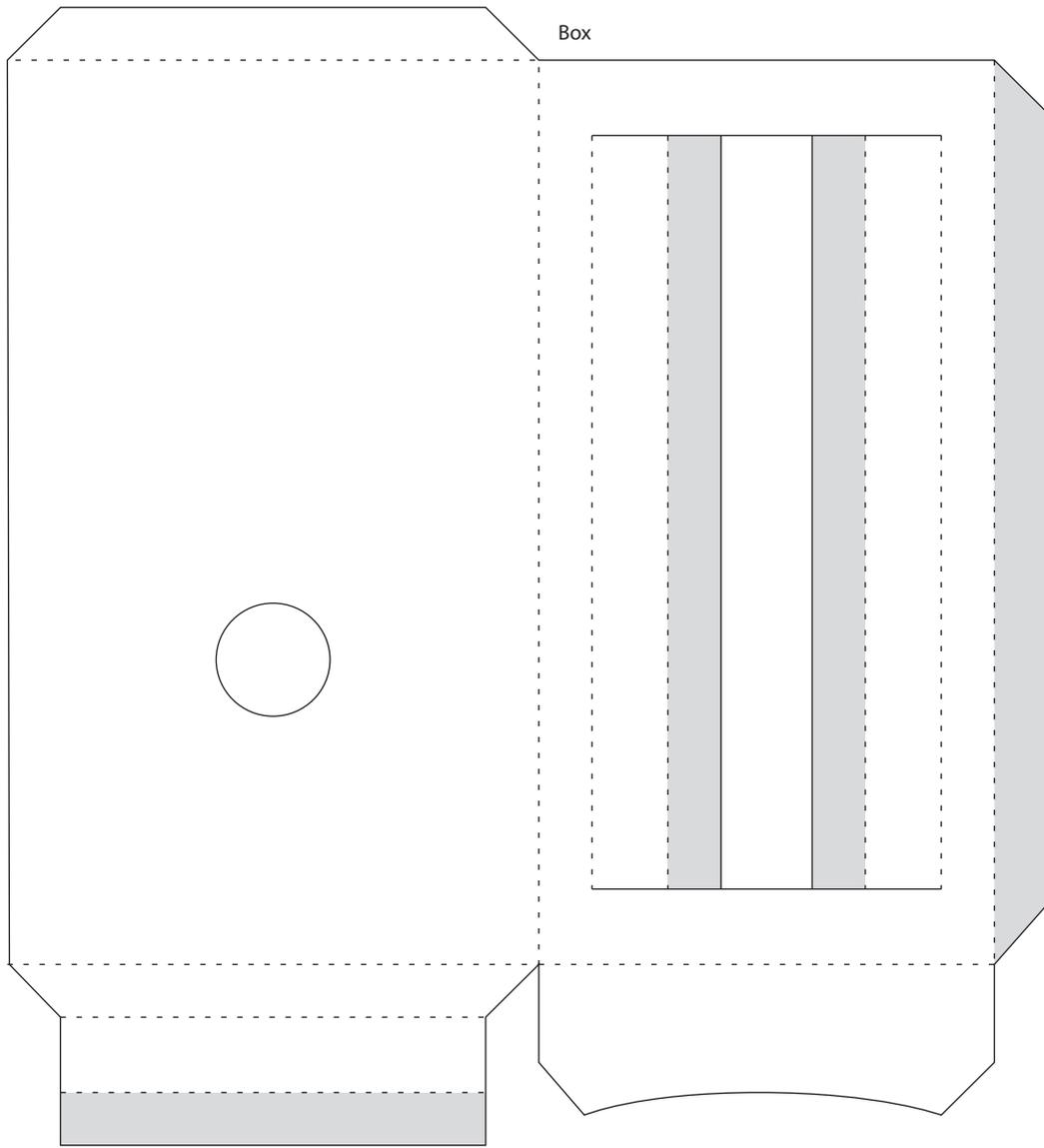


Push Rod End



Box Top





Push Rod End

