

CONSTRUCTING FLATS

FOR STAGE AND STUDIO

TWO PRIMARY TYPES

BROADWAY or SOFT FLAT

- Common for stage.
- It lays flatter making storage easier.
- Uses more wood.
- Often faced with muslin/light canvas like materials and painted.

HOLLYWOOD or HARD FLAT

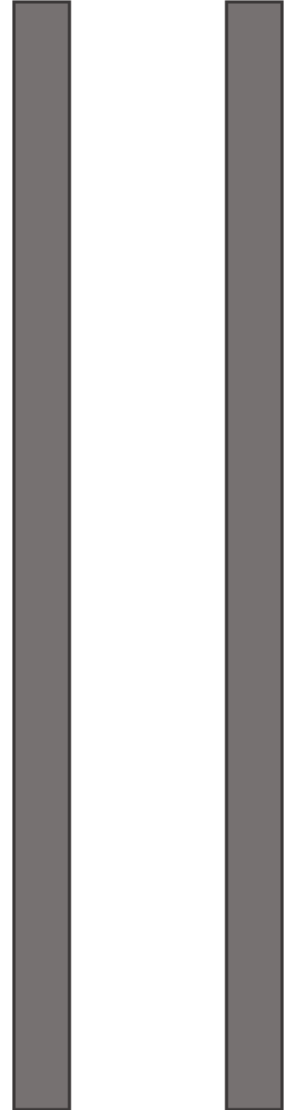
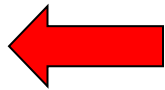
- Common for film.
- Takes up a little more storage space.
- Uses less wood (not including the facing sheets).
- Often faced with plywood and painted.

SOFT FLAT CONSTRUCTION

Based on an Australian Standard flat size of 2400mm x 1700mm x 70mm sing untreated pine framing boards of 75mm x 35mm.

Measure and cut two 2330mm sections of untreated pine timber 35mm x 70mm.

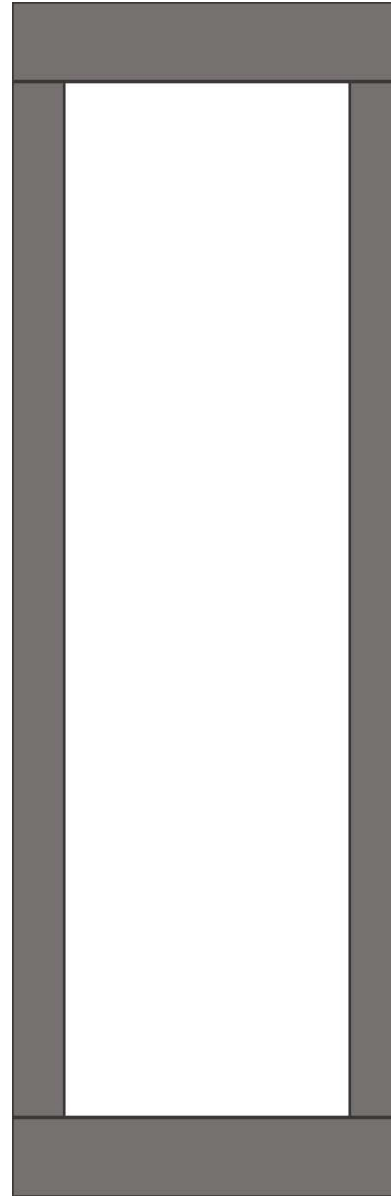
These become the **STILES**.

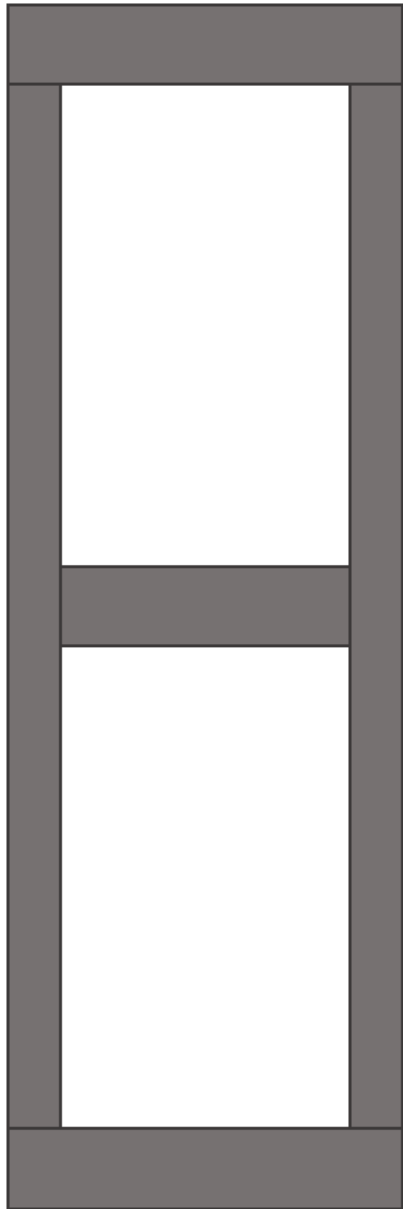


Measure and cut two 1200mm sections of pine 35mm x 70mm.

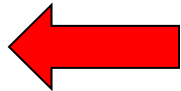
These become the **RAILS**.

Lay the pieces out on the floor in a rectangle.





Measure and cut another two pieces of 35mm x 70mm at 1130mm length to put in the interior space of the rectangle between the two stiles.



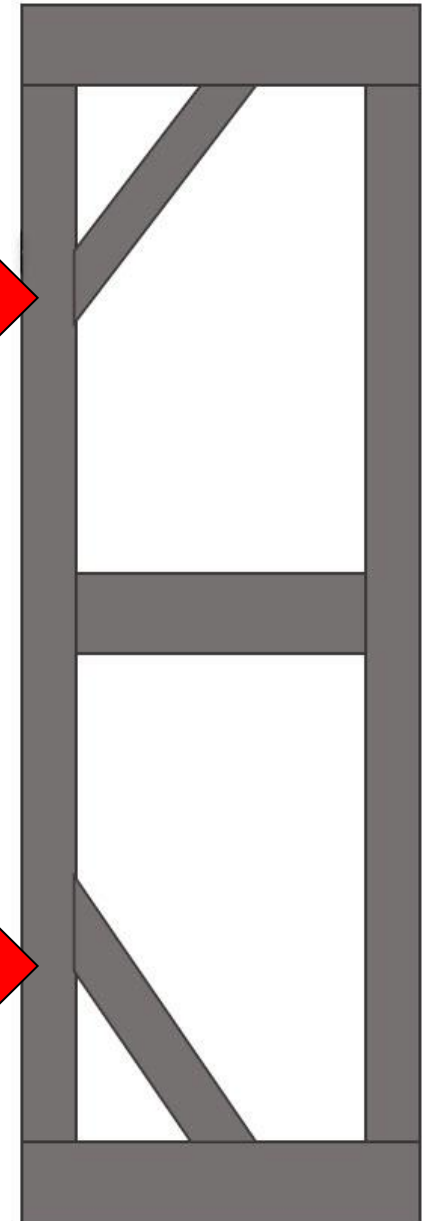
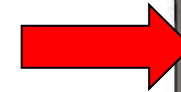
Each of these is called a **TOGGLE**. Toggles should be placed approx. every 500mm (e.g. on a 2400mm flat you would have 2 toggles).

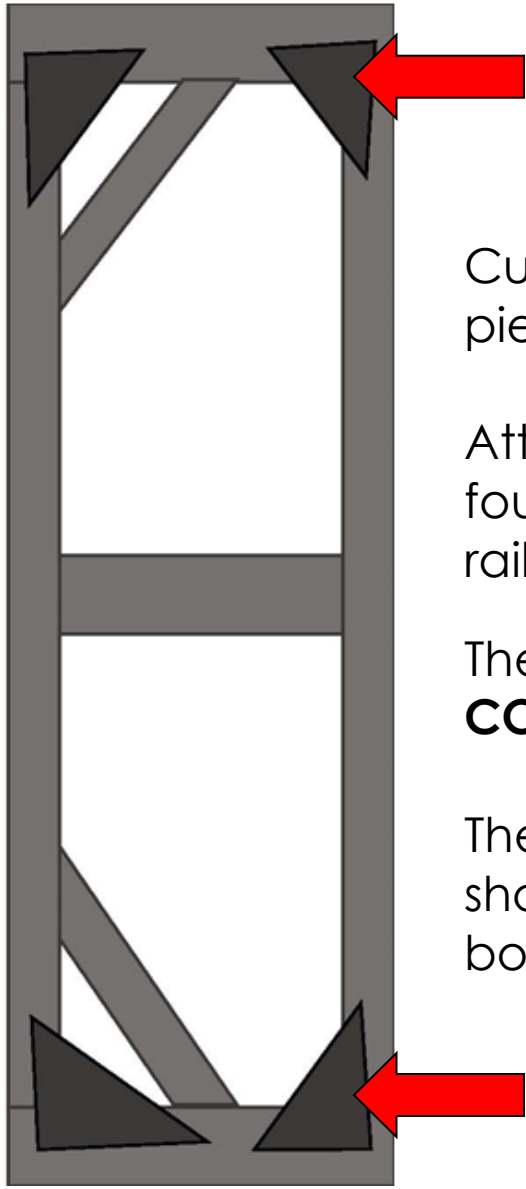
Measure and cut two pieces of 35mm x 70mm to fit across the corners as per the diagram.

Angle the ends with a miter saw to set the angles – each should be cut at 45 degrees angle.

Please place these pieces of wood in the left corners.

These are called **CORNER BRACES**.





Cut four triangular pieces of plywood.

Attach them to the four corners where the rails meet the stiles.

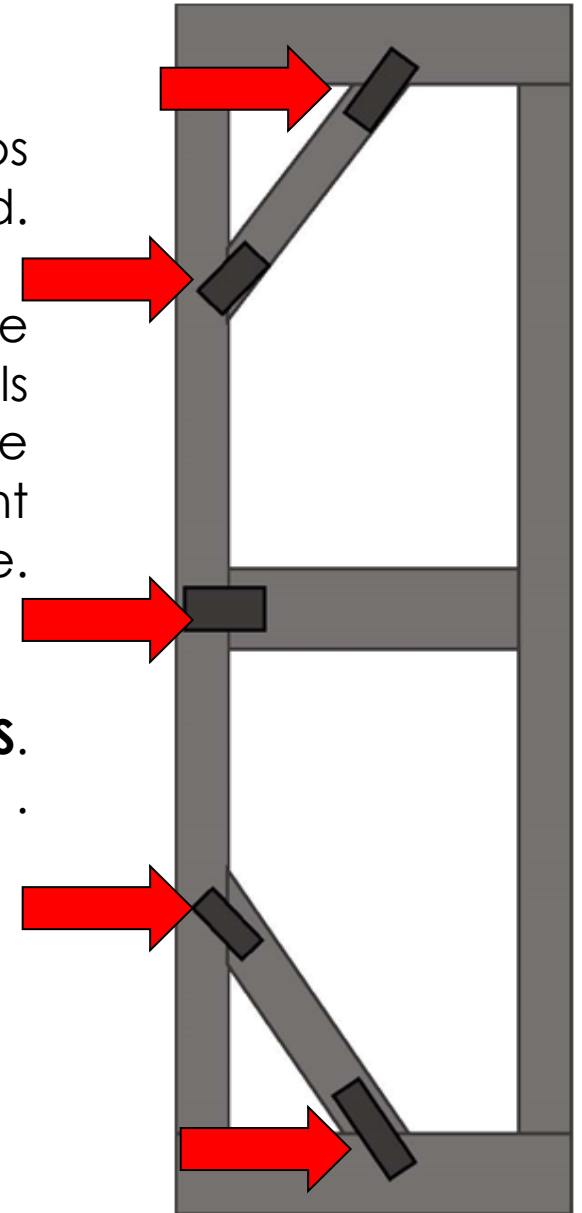
These are called **CORNER BLOCKS**.

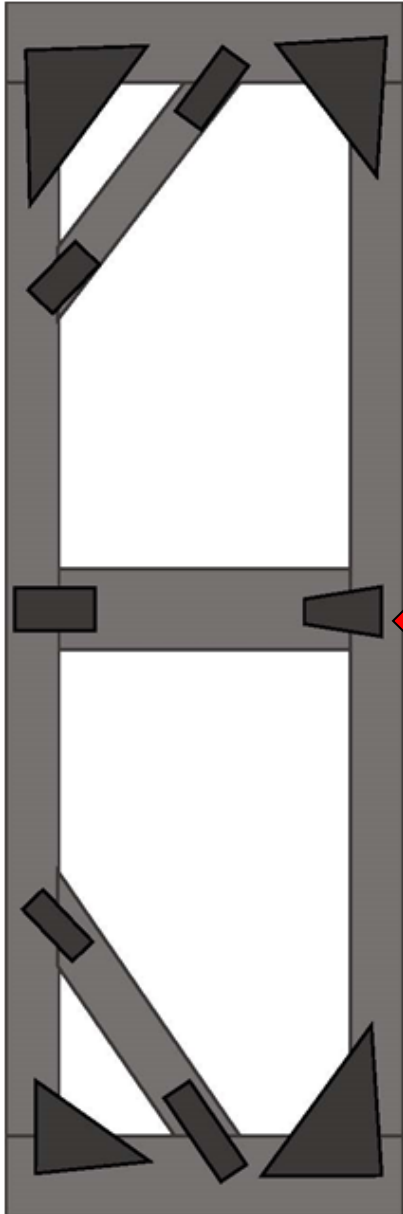
The corner blocks should be inset on both sides.

Measure and cut five strips of plywood.

Use them to attach the corner braces to the rails and stiles and the right side of the toggle to the right stile.

These are called **STRAPS**.





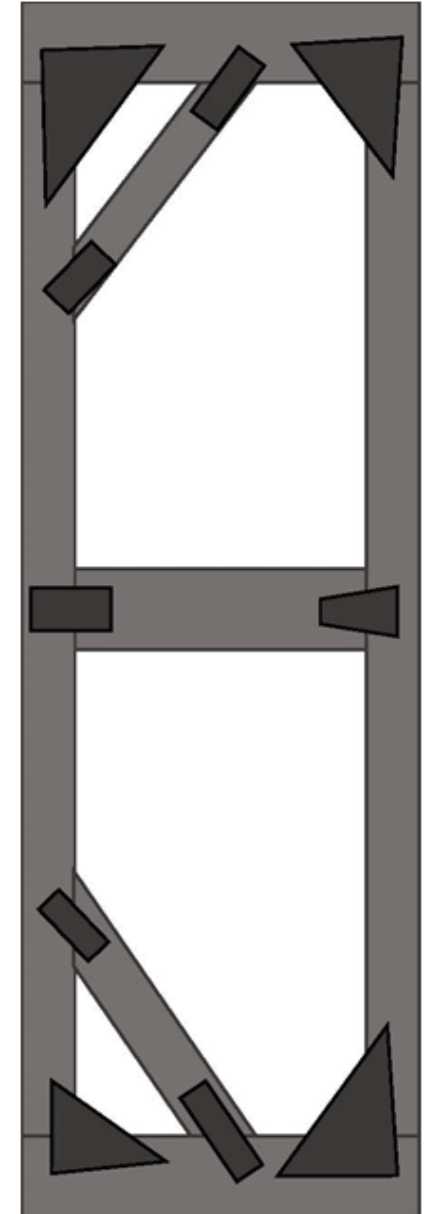
Measure and cut a trapezoidal piece of plywood. Use it to attach the right side of the toggle to the right stile.

This is called the **KEYSTONE**.

This is the back of the flat.

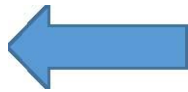
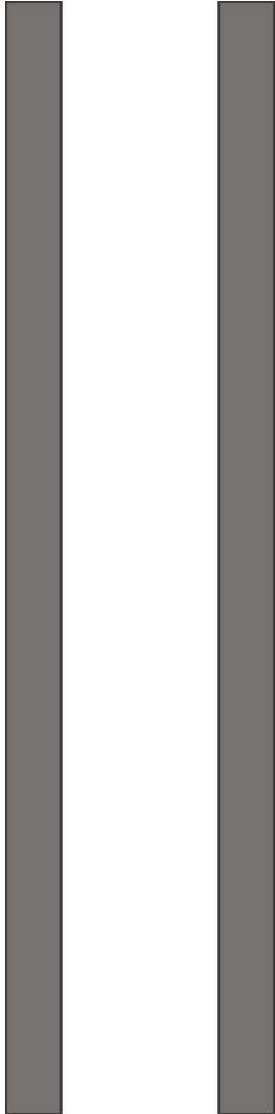
To finish the flat, it is traditionally covered with muslin (canvas) and stapled to the frame. When the muslin is painted and dries it shrinks and tightens around the frame.

The flat can also be made a "hard flat" by using a thin sheet of plywood typically between 3mm and 7mm.



HARD FLAT CONSTRUCTION

Based on Australian Standard flat size of 2400mm x 1700mm x 70mm sing untreated pine framing boards of 75mm x 35mm.



Measure and cut two 2330mm sections of untreated pine timber 35mm x 70mm.

These become the **STILES**.



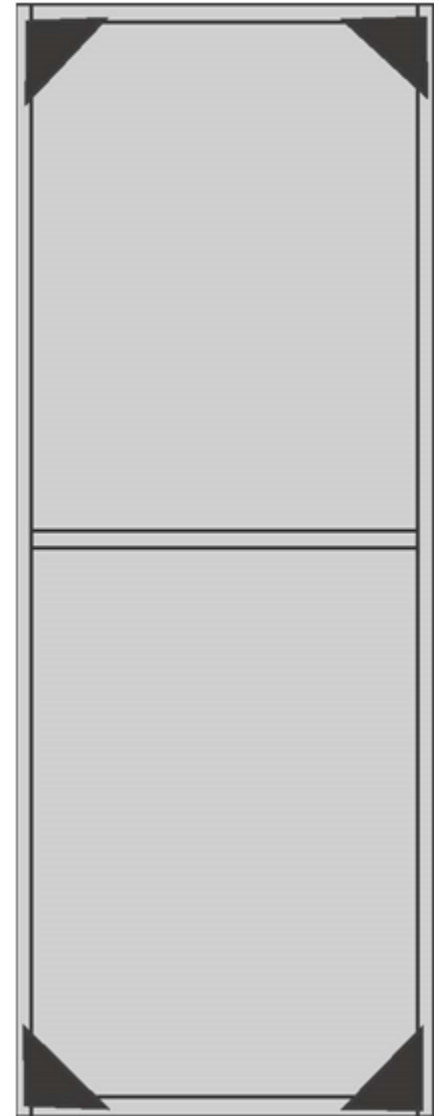
Measure and cut two 1200mm sections of pine 35mm x 70mm.

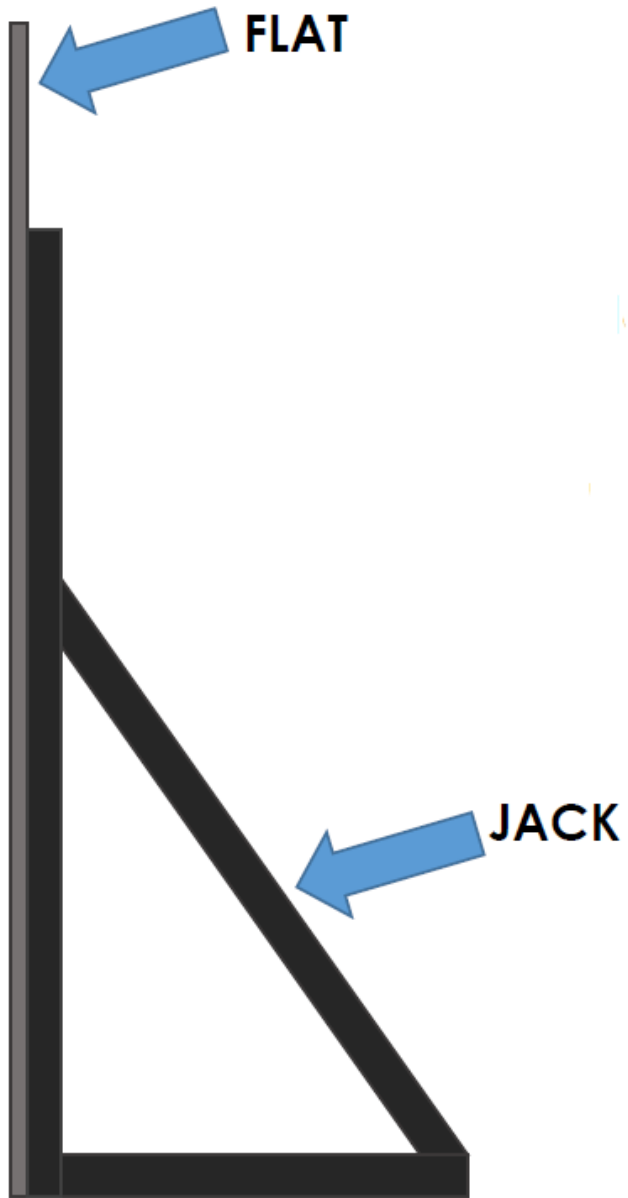
These become the **RAILS**.

For a Hollywood flat, the stiles and rails lay on their edge. Hollywood flats still use toggles, however, instead of using straps to attach it to the stiles, they are nailed or screwed directly to each other.

For added support corner blocks can be added, however, the rigidity of the plywood sheeting typically makes this unnecessary.

Alternately, both sides can be faced with plywood to have a reversible flat.





While soft flats can be flown in on battens, hard flats do not generally make use of the fly system.

Flats, both soft and hard, can use a stand to hold the flat up called a **JACK**.