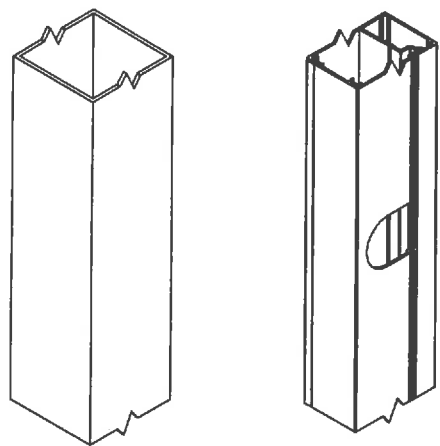
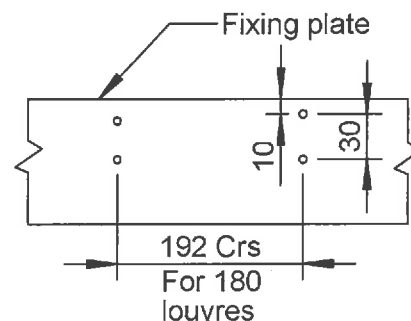


CUTTING GUIDE FOR ANGLED LOUVRE ROOFS

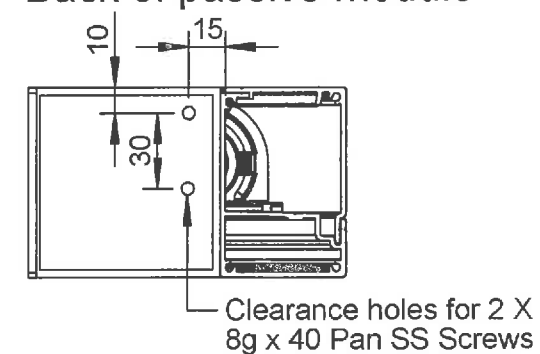


Given two lengths of 75 x 75 box section and passive frame complete with notched angle, notched at 192mm Crs.

Passive module fixing

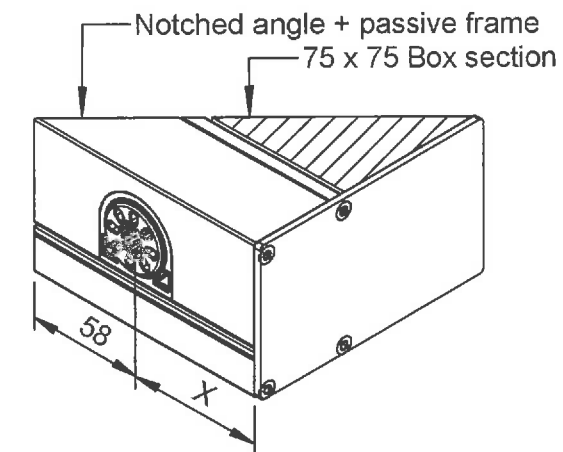


Back of passive module

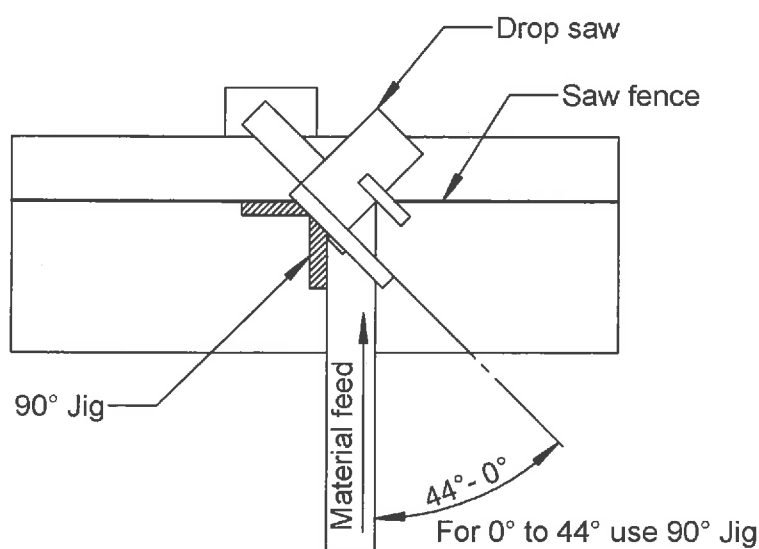
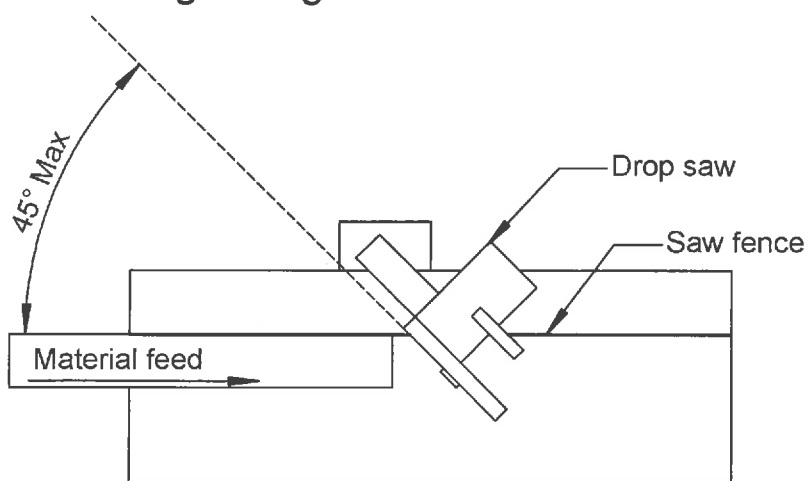


Calculating 'X'

The distance 'X' is dependant on the size of blade being used:
 For 180 Linear blades X = 63mm
 For 200 Linear blades X = 77.25mm
 Refer pg: 2.19

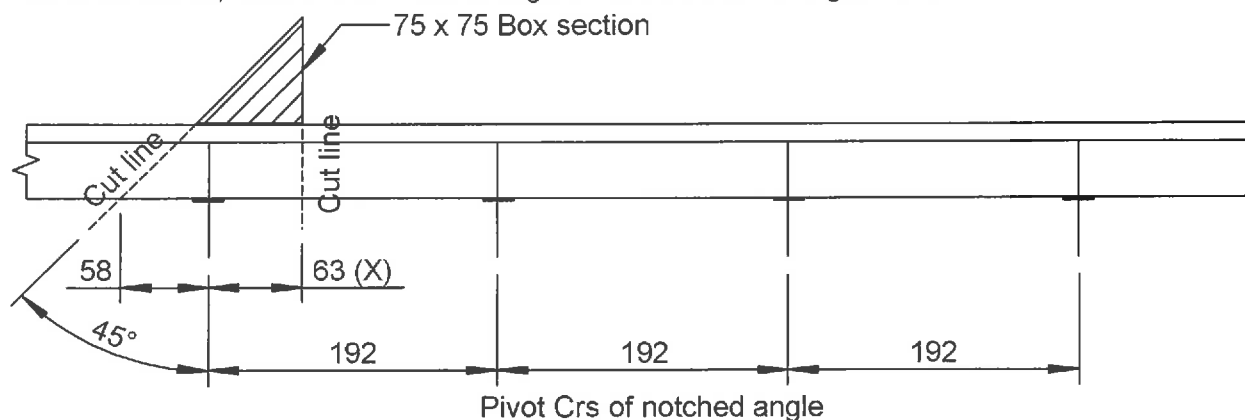


Saw swing configurations:

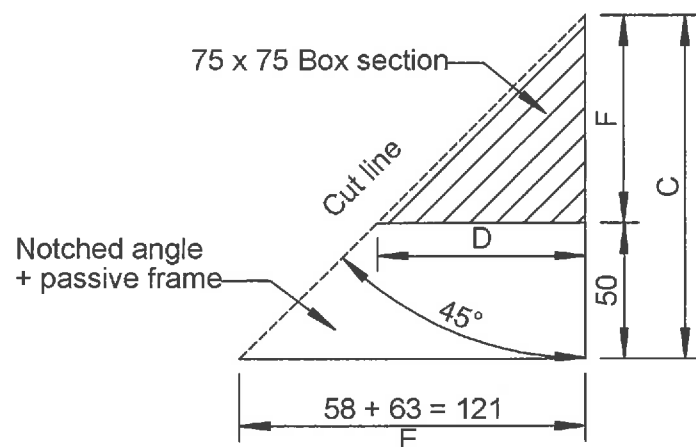


For passive frame + notched angle.

Top view:
 180 Linear louvres, Passive frame + notched angle at 192mm Crs for 45° angled frame.



For 75 x 75 Box:



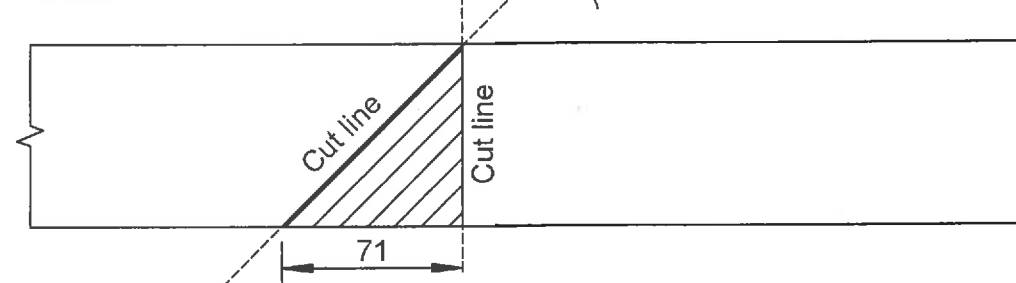
Length 'D' determines the cutting size of the 75 x 75 box and length 'C' is needed in order to calculate 'D':

$C = E \times (\tan 45)$ which in this case, $C = 121\text{mm}$
 ('E' and 'C' are only = when the cutting angle is 45°)

$C - 50$ (width of passive frame) = 'F' which will allow 'D' to be calculated.
 In this case $F = 121 - 50 = 71\text{mm}$

So: $D = F \times (\tan 45)$ which in this case, $D = 71\text{mm}$
 ('D' and 'F' are only = when the cutting angle is 45°)

75 x 75 Box section cutting guide:
 Plan view.



DRAWN IN THIRD ANGLE PROJECTION	SHEET SIZE	A3	File Name	2.22 - Cutting guide for passive modules in angled opening roofs 2
	REVISION	A	Scale	NTS
	SHEET	1 of 1	Last Saved	Tuesday, August 07, 2007
			Modeled By	Chad
		Drawn By	Chad	



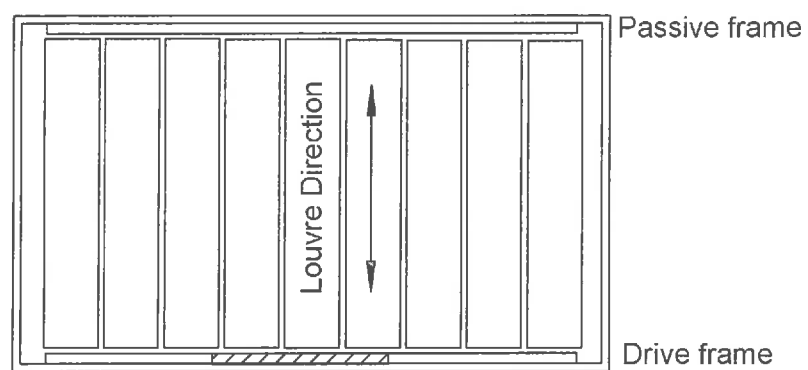
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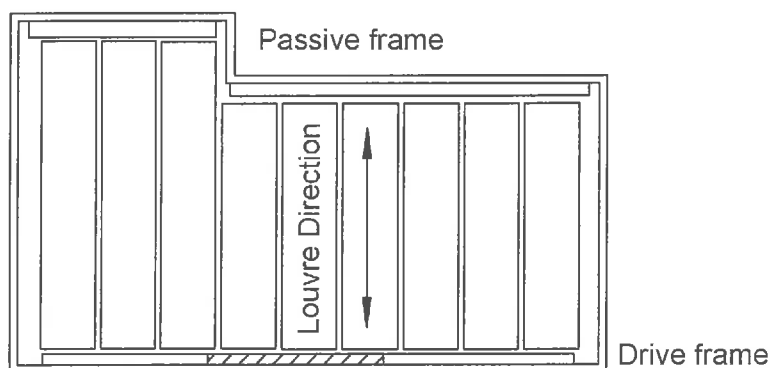
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LOUVRE ROOF PANEL CONFIGURATIONS

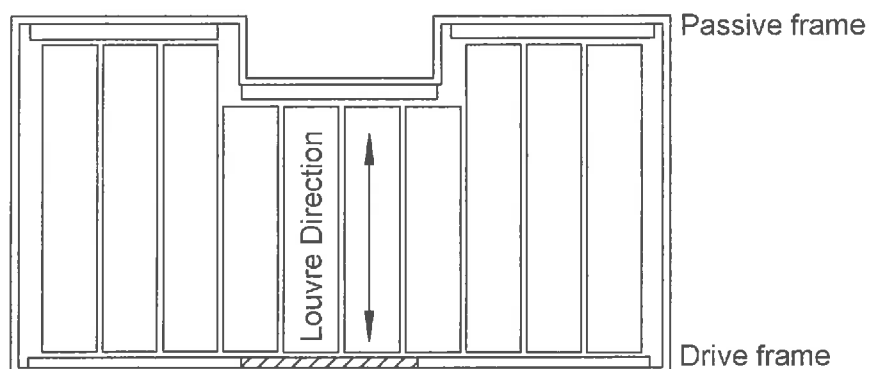
Standard Structures



Motor or hand adjustable

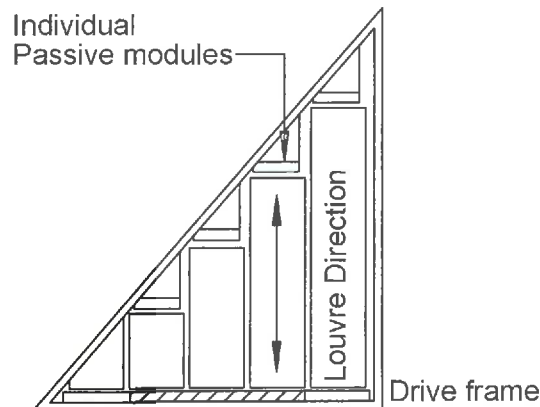


Motor or hand adjustable

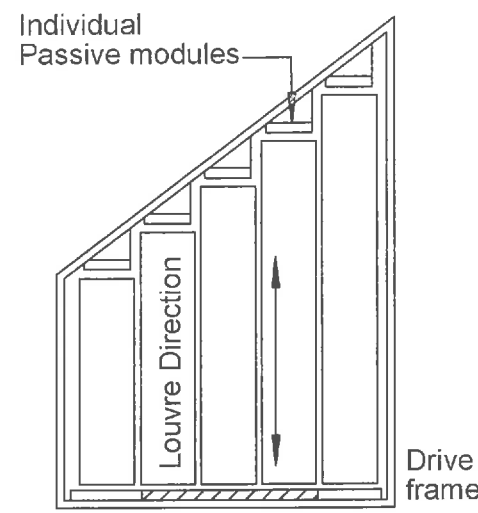


Motor or hand adjustable

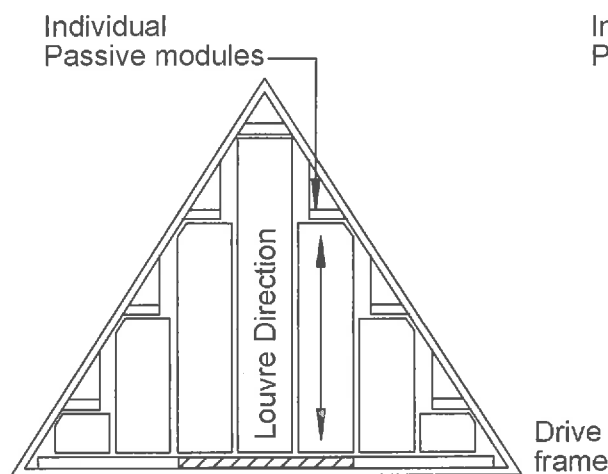
Angled Structures



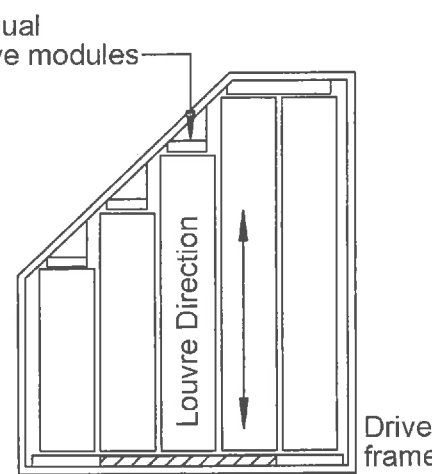
Motor or hand adjustable



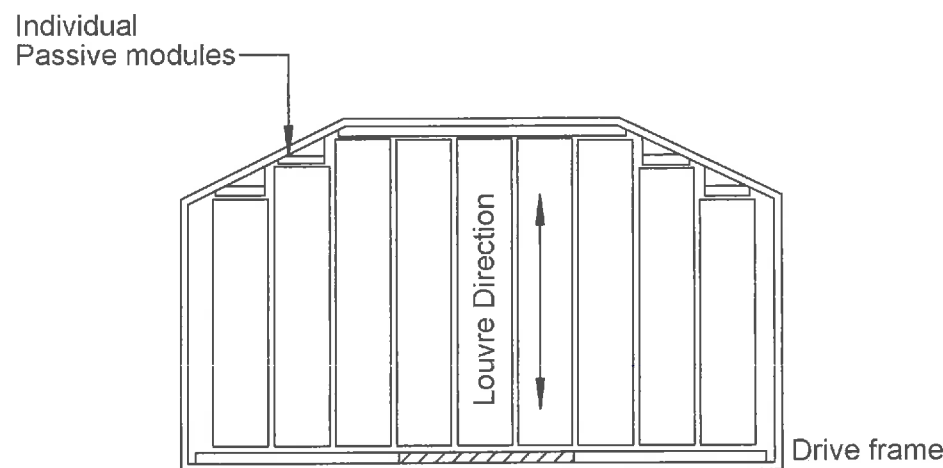
Motor or hand adjustable



Motor or hand adjustable



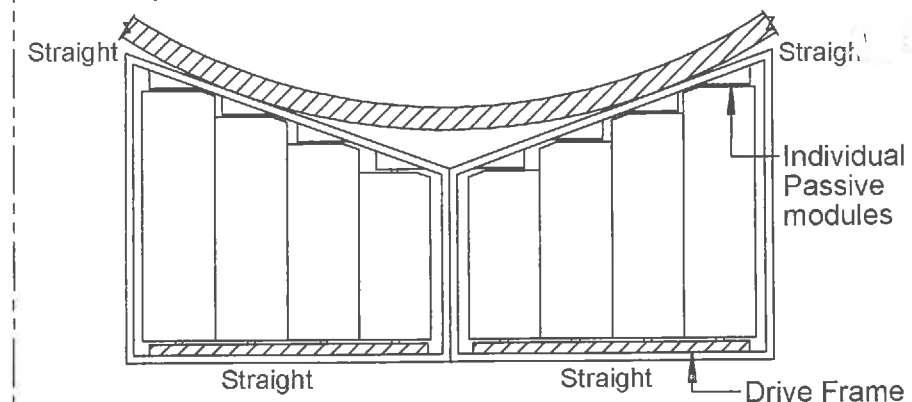
Motor or hand adjustable



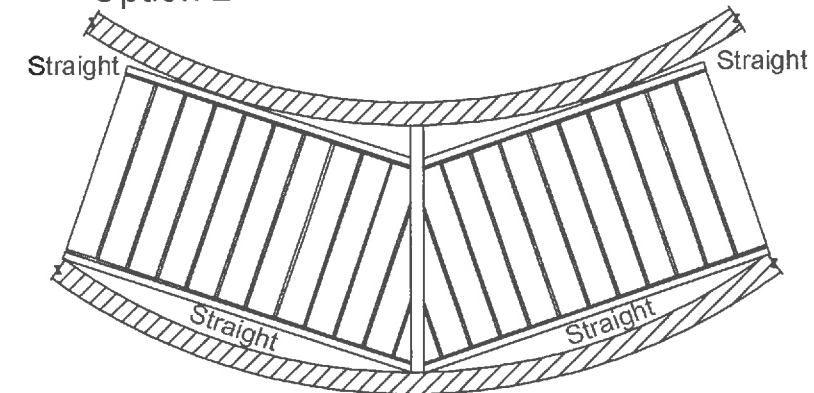
Motor or hand adjustable

Curved Structures

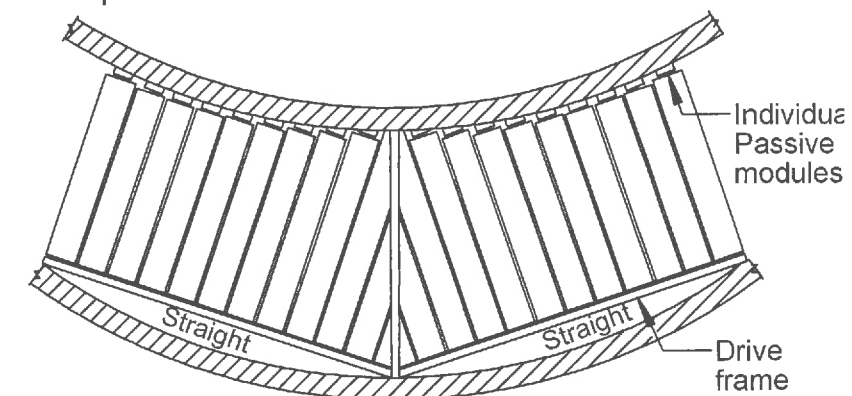
Option 1



Option 2



Option 3



Note:
Curved structures are not simple. The key is to keep the rake layout simple and break the curve down into segments. 'Option 2' above is the most economical configuration. Remember you will need to custom make gutters and flashings along with the frame to suit the curve required.

Note:
You could swap then passive and drive frames over in the configurations shown above. This would require motorisation or manual adjustment to each segment of frame, ultimately increasing the overall price.

DRAWN IN THIRD ANGLE PROJECTION	SHEET SIZE	File Name	1.4 - Louvre roof panel configs
	REVISION	Scale	NTS
	SHEET	Last Saved	Tuesday, August 14, 2007
		1 of 1	Modeled By
		Drawn By	Chad



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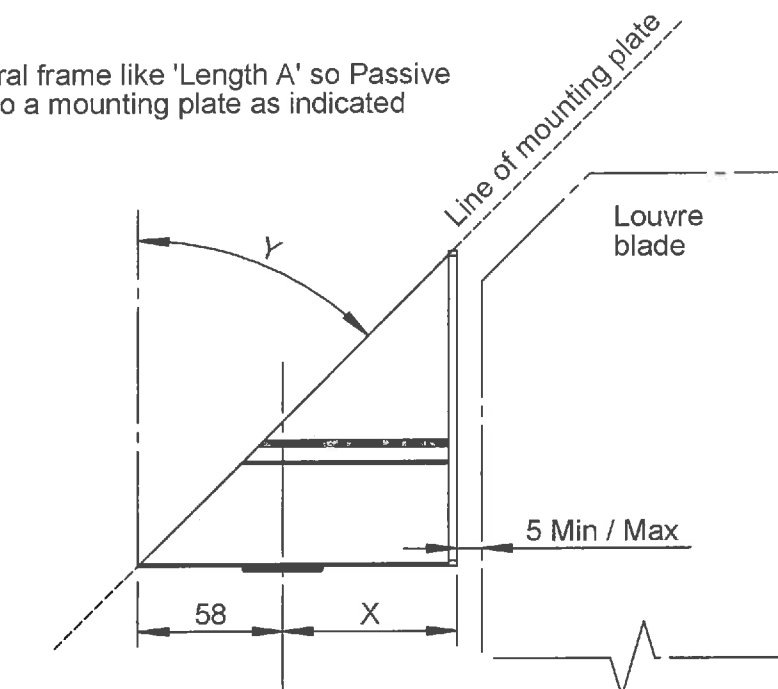
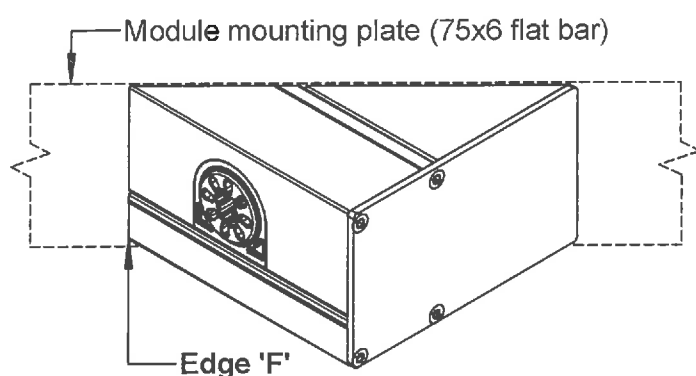


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MANUFACTURING ANGLED 200 OPENING ROOF PANELS 3

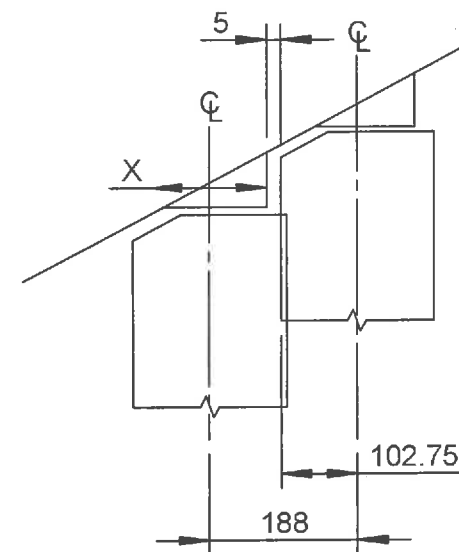
200 Linear Opening Roof, Passive Module Setup

Being on an angle, 'Length B' cannot support a straight spiral frame like 'Length A' so Passive modules are made specific to the angle 'AB', then fixed onto a mounting plate as indicated below and in the image on the right of the page.



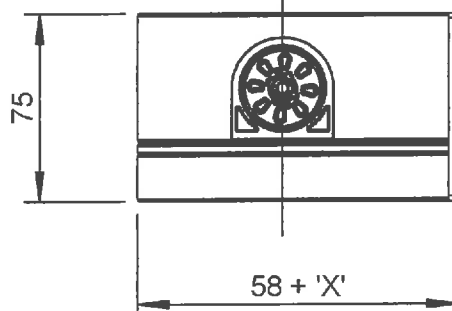
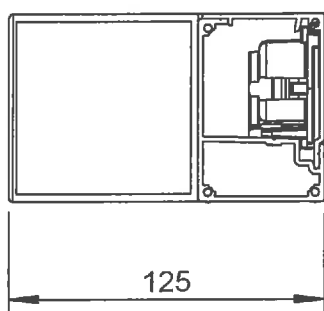
Length 'X' is dependant on the 5mm clearance between the passive module and the next louvre blade in the panel. 'X' remains constant for different frame angles but varies for the blade size.

For a 200 linear panel:



As can be seen in this diagram, in a 200 linear panel the distance from the front edge of the louvre blade to the centre pivot is 102.75mm the end cap on the passive modules is 3mm thick and the standard centres are 188mm so the distance 'X' in a 200 linear roof will be:

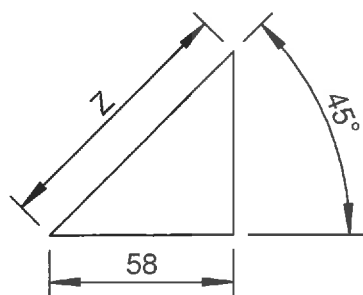
$$188 - 102.75 - 3 - 5 = 77.25\text{mm (X)}$$



Note: angle 'Y' is the angle at which the passive module must be cut in order to accept the louvre.
 'Y' = 180° - (Angle 'AB' + 90°)

Passive module positioning

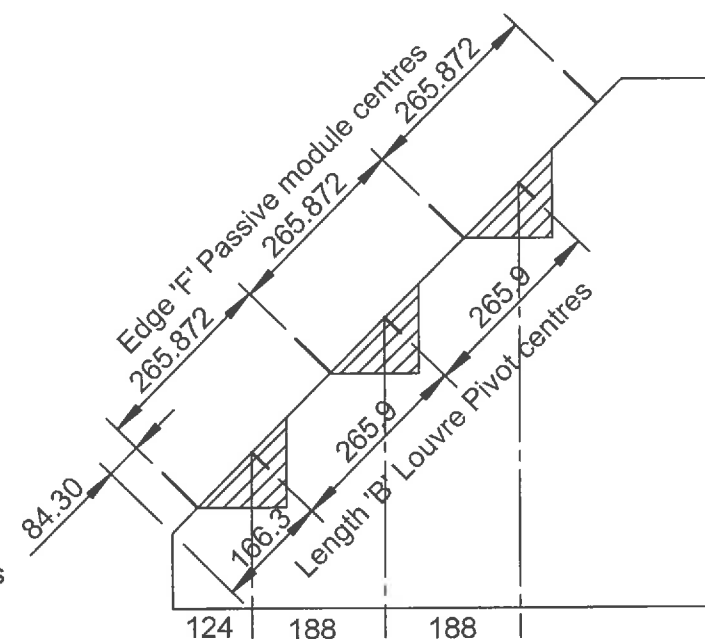
Now that the 'Length B' centres have been found, the passive modules will need to be positioned on their mounting plate. For the first louvre the louvre centre is half the width of the louvre + 15mm Min clearance to the frame. Which in this example = 124mm, the distance from the louvre pivot to the edge of the module (as above) always = 58mm, but this is a 'Length A' dimension so:



Again a scientific calculator will be needed, using the same equation as above:
 'Z' = 58 / (Cos 45°) = 82mm (Z)

This means that edge 'F' of every louvre's passive module in this example will be the blade pitch - 82mm.

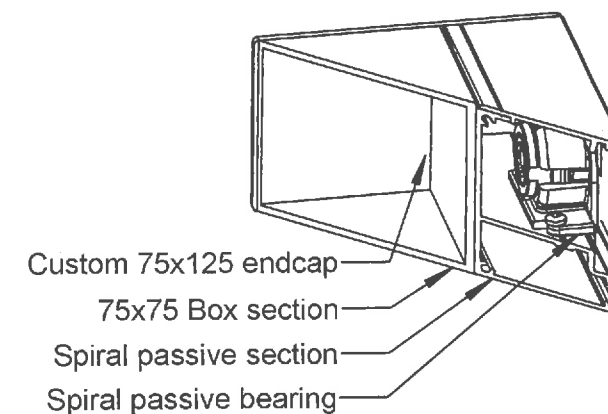
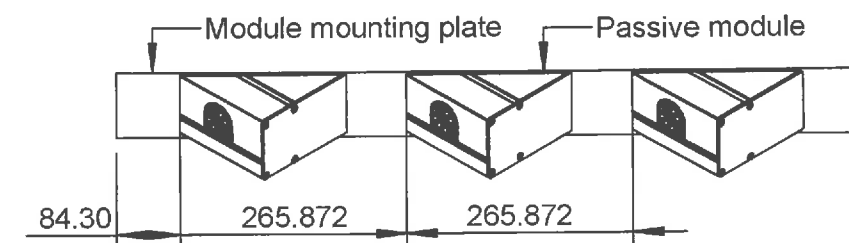
- eg:
- For 'Louvre 1' edge 'F' of the module will be: 117.6mm / (Cos 45) = 166.31mm - 82mm = 84.31mm From the corner of the frame.
 - For 'Louvre 2' edge 'F' will be: 265.872m from the previous 'Edge F' marking.



Panel frame daylight profile

Bearing module mounting plate marking out

Using the pitch distances for 'Edge F' calculated previously, mark the mounting plate for module positioning.



DRAWN IN THIRD ANGLE PROJECTION	SHEET SIZE	File Name	2.20 - Manufacturing angled 200 opening roof panels 3
	REVISION	Scale	NTS
	SHEET	Last Saved	Monday, August 06, 2007
		1 of 1	Modeled By
		Drawn By	Chad



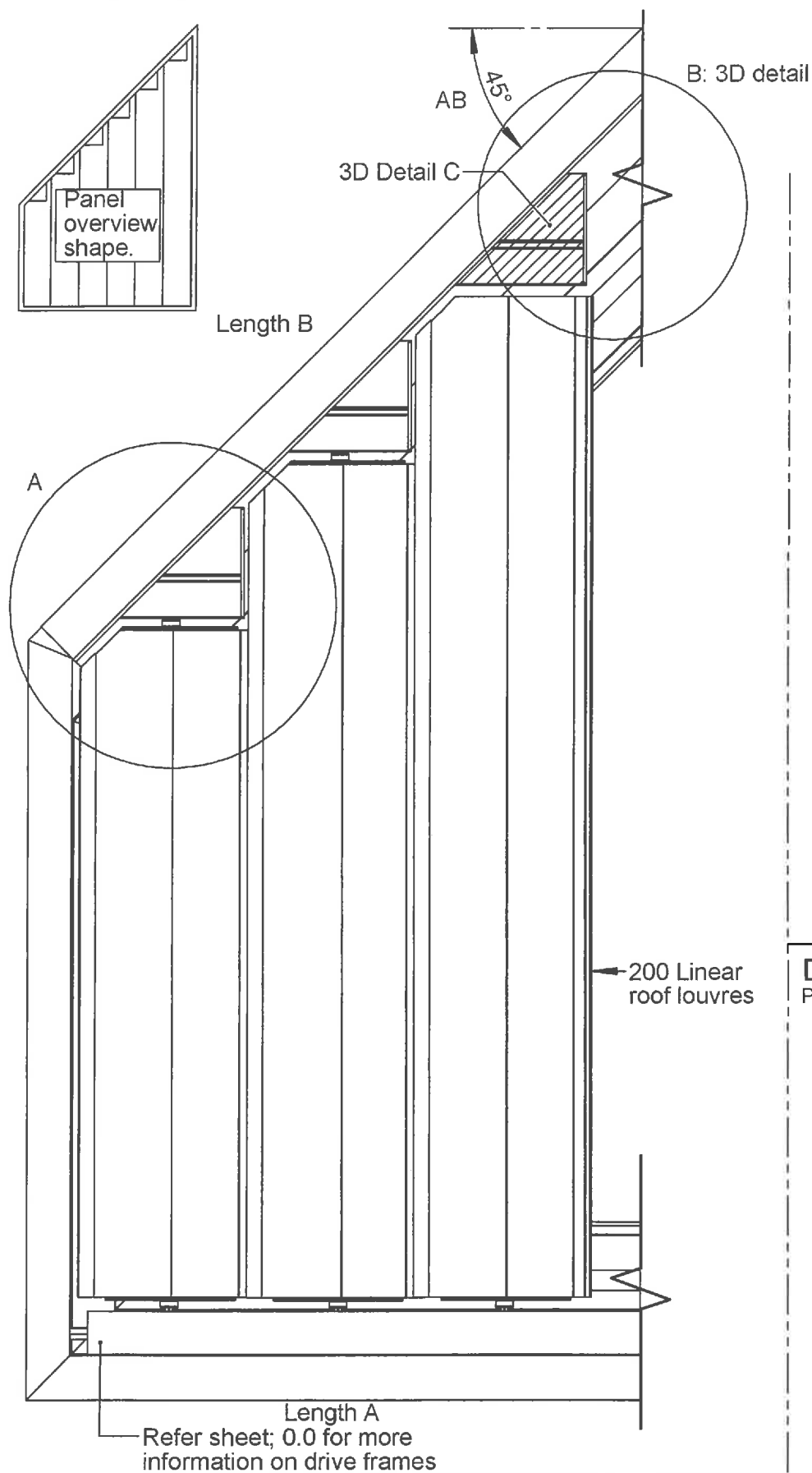
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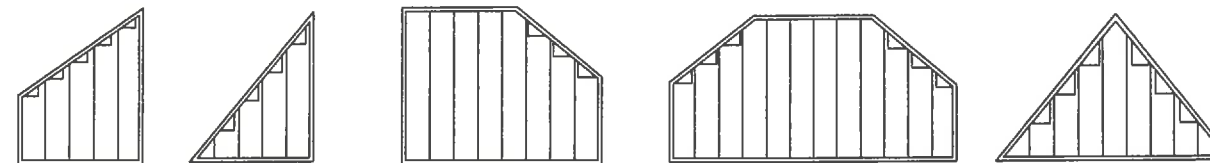
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MANUFACTURING ANGLED 200 OPENING ROOF PANELS 1

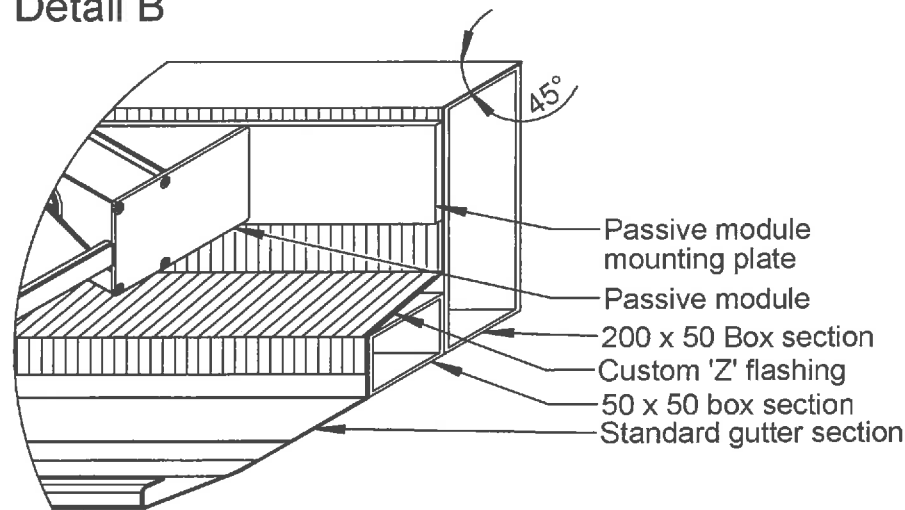
200 Linear opening Roof With One Or more Sides, Up To 45°



Possible Panel Configs:
 Note: Other configs can be done however the drive side must be straight



Detail B

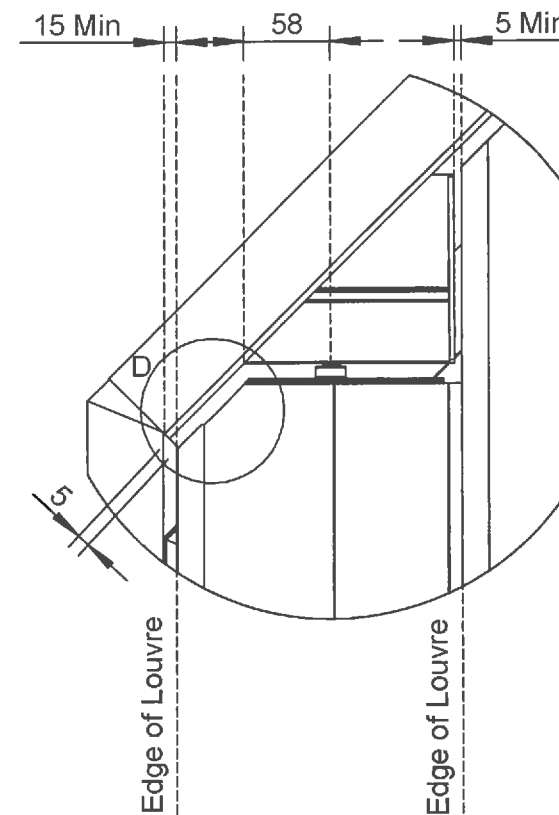


Points to Consider

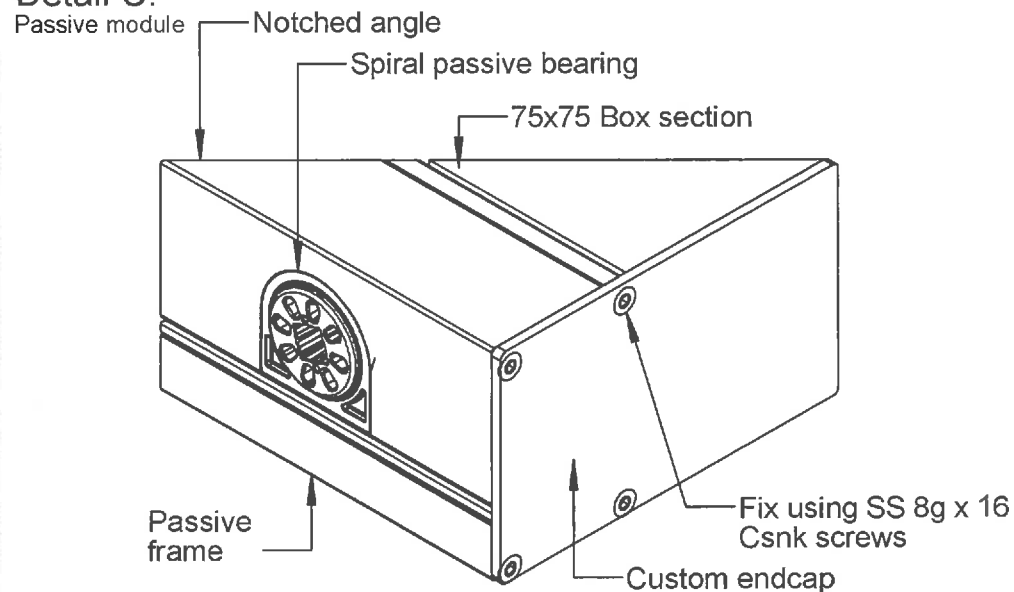
- One side (drive side) must be straight to drive louvres.
- When louvre length is below 400mm, they must be fixed in place.

Detail A

Scale 1:5

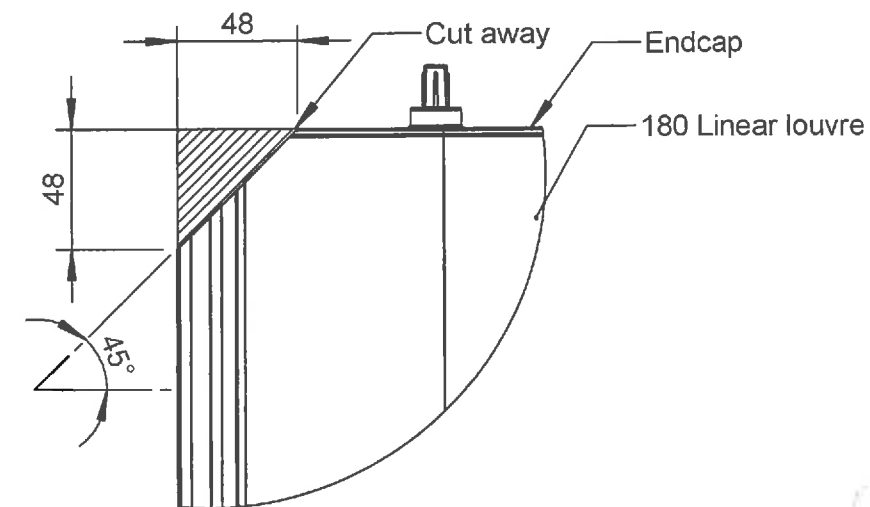


Detail C:



Detail D:

Blade edge clearance



DRAWN IN THIRD ANGLE PROJECTION



SHEET SIZE	A3	File Name	2.18 - Manufacturing angled 200 opening roof panels 1
REVISION	B	Scale	NTS
		Last Saved	Tuesday, August 07, 2007
		Modeled By	Chad
SHEET	1 of 1	Drawn By	Chad



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MANUFACTURING ANGLED 200 OPENING ROOF PANELS 2

200 Linear Opening Roof, One Or More Sides Up To 45° Calculations

Preparation

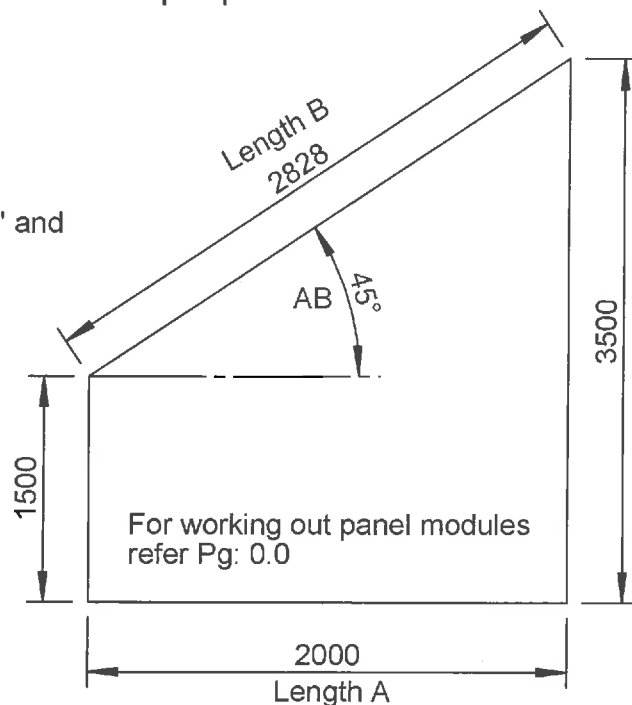
Step 1. Find daylight measurements of panel including angle 'AB'.
For assistance in calculating panel sizes refer sheets: 2.6

Note: Angle 'AB' cannot exceed 45 Degrees.

Length 'B' will be where the passive boxes will be fixed with their mounting plate. Length 'B' is driven by Length 'A' and angle 'AB' shown.

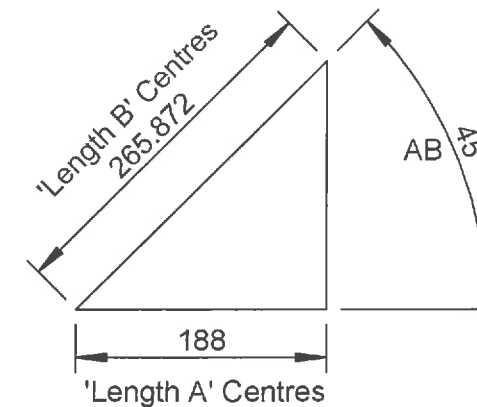
Note: 'Length A' (drive side) must be straight.

Example panel



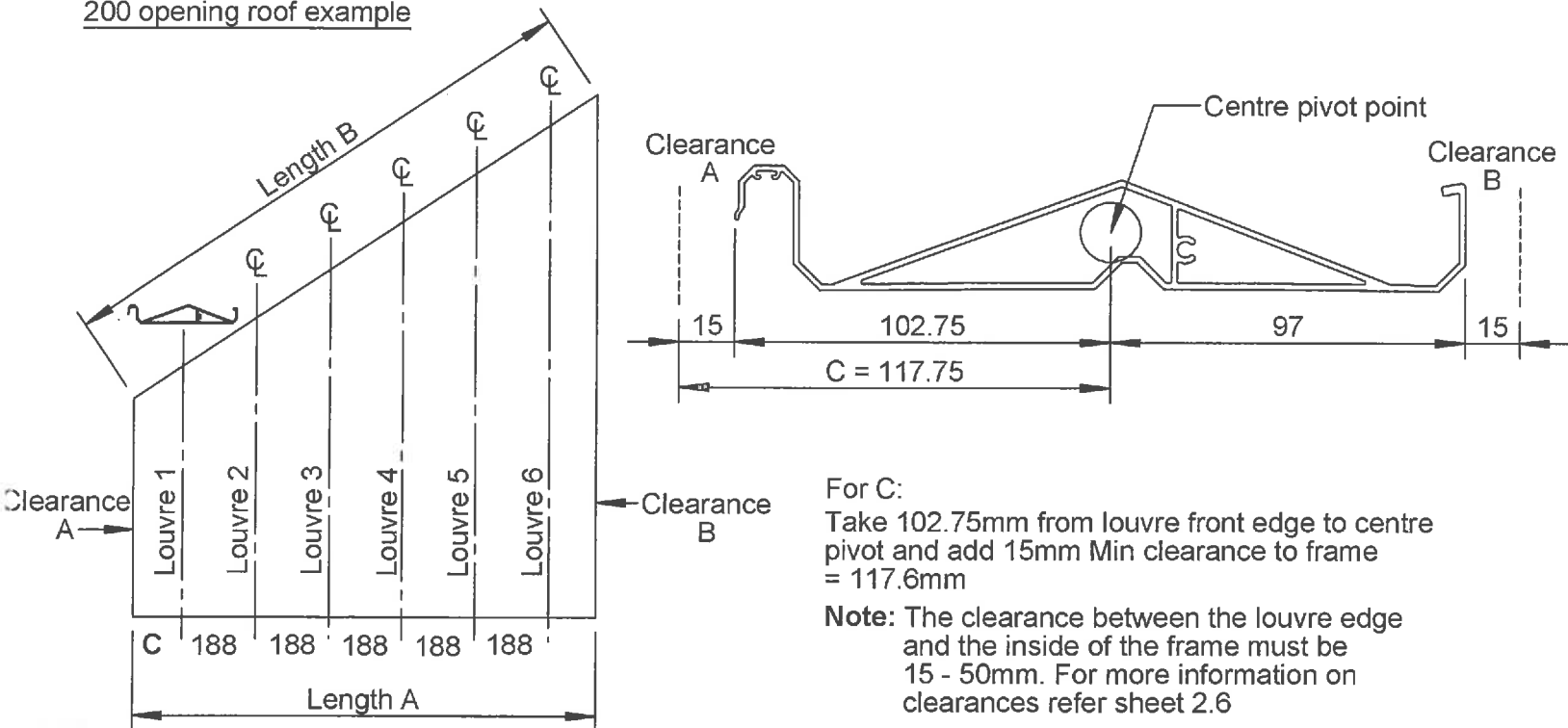
Step 3. Now panel measurements are known and the louvre centres along 'Length A' have been selected. The louvres will meet along 'Length B' at different centres than those along 'Length A' due to angle 'AB', to find these centres, a scientific calculator will be needed, then use the following calculation:

'Length A' centres = 188mm
Angle 'AB' = 45 Degrees
'Length B' centres = ?
So: B centres = A Centres / ('Cos' 45)
In this case: B centres = 188 / ('Cos' 45)
= 265.872mm



Step 2. Sketch the daylight profile of the panel and draw lines signifying the pivot axes of each louvre. The first louvre will be positioned a minimum of 15mm inside the frame (refer to sheet 0.0 for more information on clearances). Take half of the louvre width, from front tip to centre pivot and add 15mm, this will be the distance 'C' of the first louvre axes from the inside of the frame. The rest of the louvres will be at the standard louvre centres along Length 'A'

200 opening roof example



For C:
Take 102.75mm from louvre front edge to centre pivot and add 15mm Min clearance to frame = 117.6mm

Note: The clearance between the louvre edge and the inside of the frame must be 15 - 50mm. For more information on clearances refer sheet 2.6

DRAWN IN THIRD ANGLE PROJECTION	SHEET SIZE	File Name	2.19 - Manufacturing angled 200 opening roof panels 2
	A3	Scale	NTS
	REVISION	Last Saved	Tuesday, August 07, 2007
	B	Modeled By	Chad
	SHEET	Drawn By	Chad
	1 of 1		

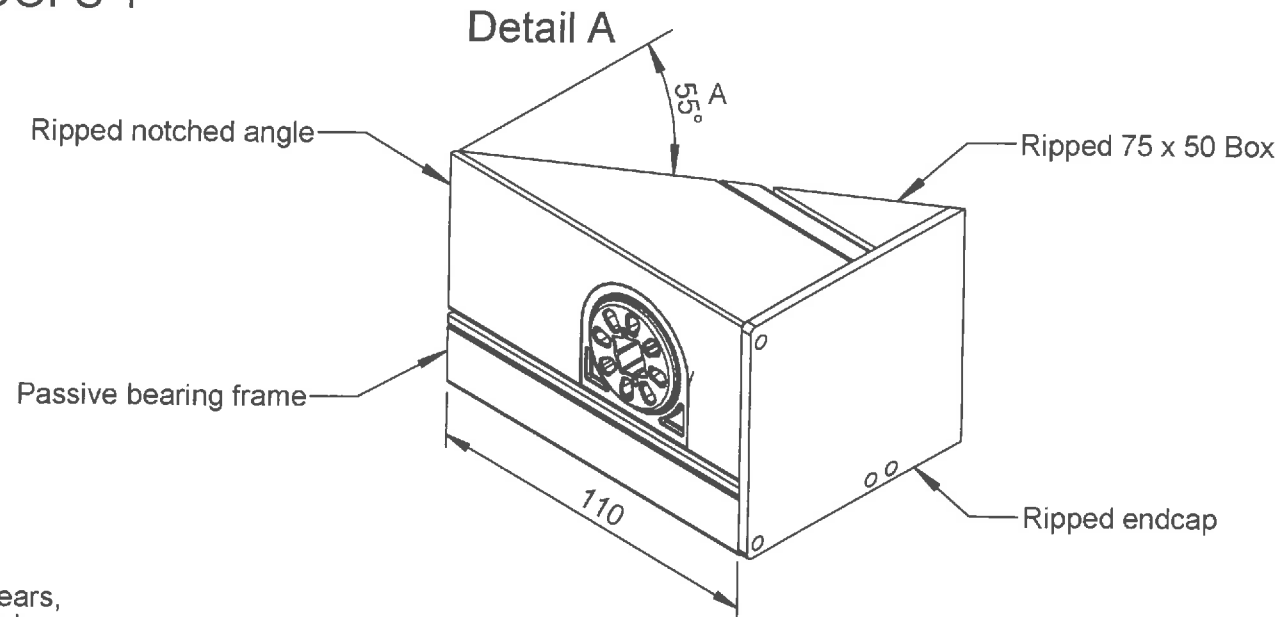
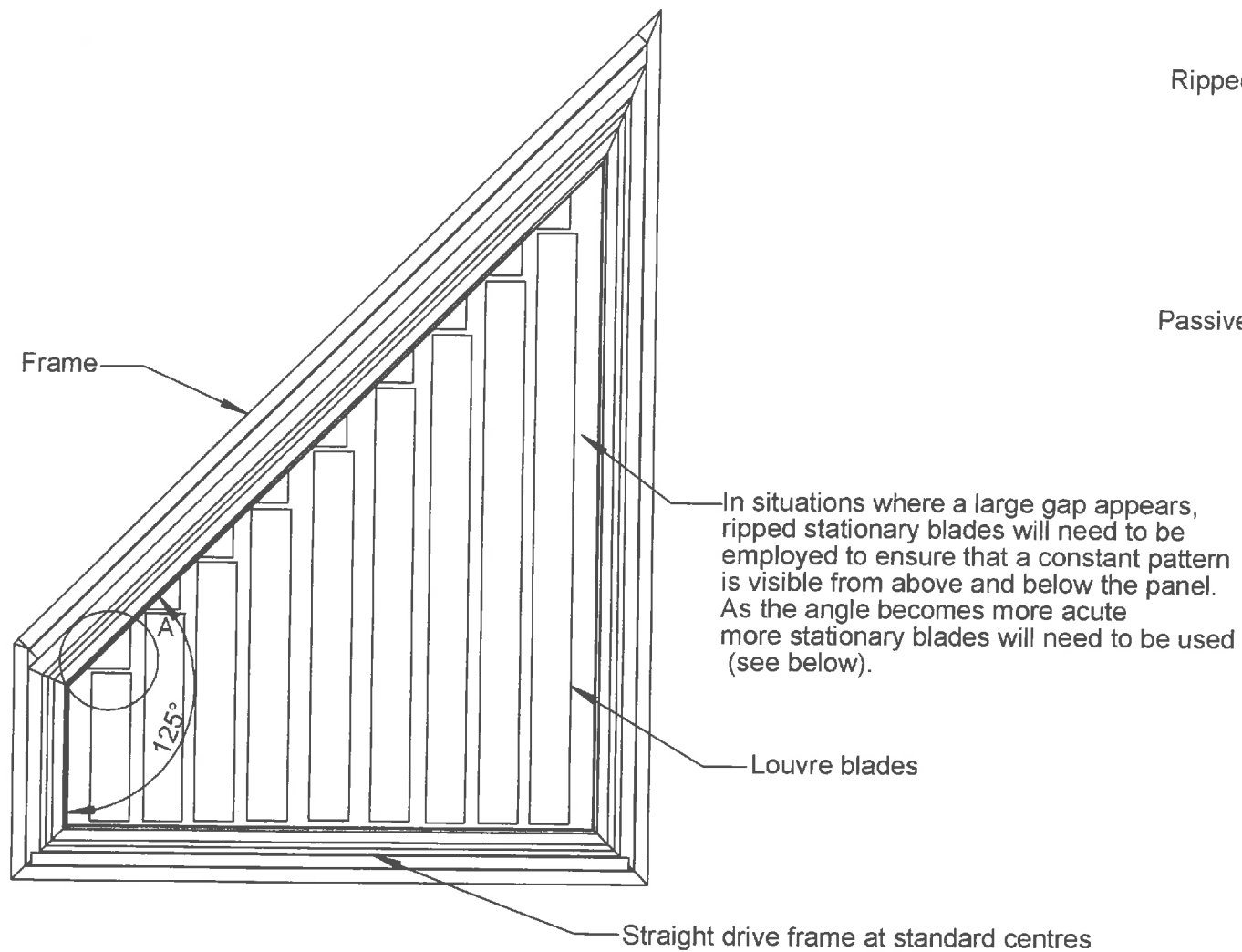


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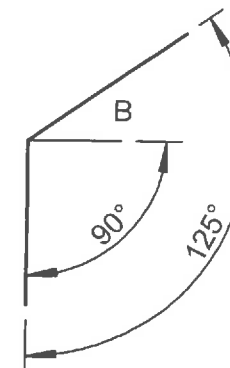
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CUTTING GUIDE FOR PASSIVE MODULES IN ANGLED OPENING ROOFS 1

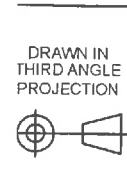
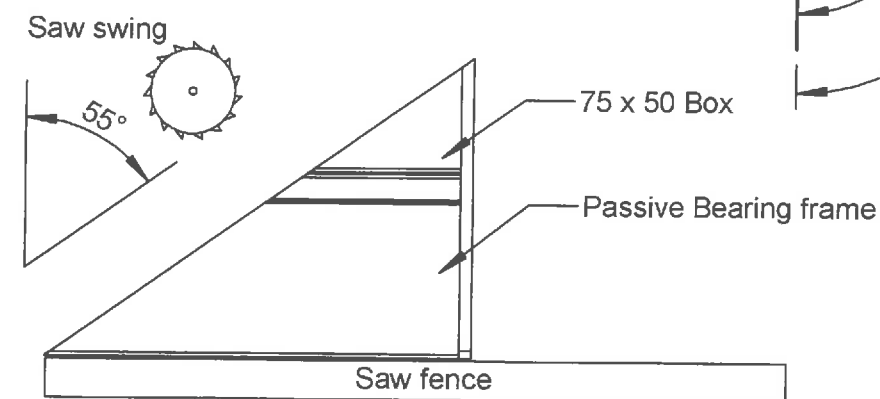
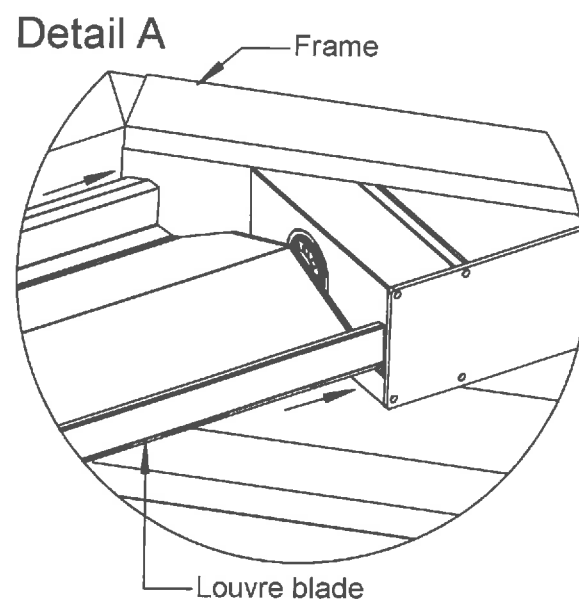
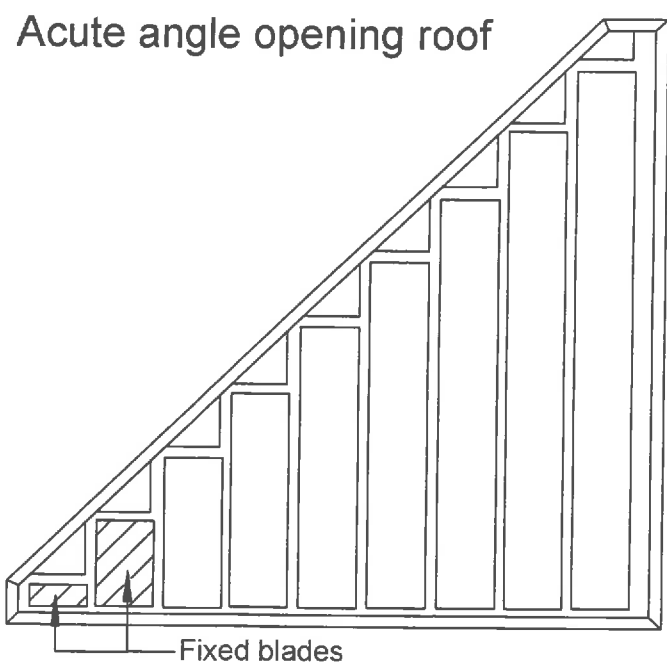
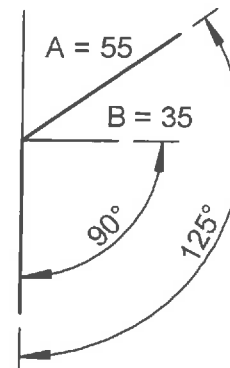


Given the main angle of 125 degrees, the cut angle 'A' for the 75 x 50 packing box and the bearing frame can be found.

Step 1 Take the main angle (125) and subtract 90 Degrees, in order to find 'B'.



Step 2 In this case 'B' = 35 degrees. So take 'B' and subtract a further 90 Degrees to get 'A'. In this case 'A' = 55 Degrees, this is the cutting angle.



SHEET SIZE	A3	File Name	2.21 - Cutting guide for passive modules in angled opening roofs 1
REVISION	A	Scale	NTS
		Last Saved	Monday, August 06, 2007
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