

TRICYCLE
PLANT
HOLDER

Tools required to make this design

Cutting
Punching
Riveting
Rolling
Bending
Scrolling

Practical Punch/Shear (or Master Punch/Shear or XL5+ Power Bender)
Practical Punch/Shear (or Master Punch/Shear or XL5+ Power Bender)
Practical Punch/Shear (or Master Punch/Shear or XL5+ Power Bender*)
Practical RBR
Practical RBR
Mk 2/2 (H) Scroll Former

*Fitted with 3mm Punch Block & Pins.

We recommend that before starting you wipe all steel bars down so that they are free of grease, scale or dirt. After cutting any component, we also recommend that you trim the corners for a neater finish, if preferred, unless these instructions tell you otherwise. Use a fine tip marker pen, pencil or scribe for marking hole, bend, scroll, roll points on the bars.

Component 1

Front Wheel Outer Rim
15mm x 3mm x 914mm (1)

On a 15mm x 3mm x 914mm steel strip, mark hole positions H1 and H14, each 6mm in from the end of the strip. See Component 1 on Component Sheet 1. Then mark holes H2 and H13. Between holes H2 and H13, mark out 10 more holes, all the same distance apart (76mm approx). These will be the spoke fixing locations. Next mark holes H15 and H16, see Component Sheet 1 for setting these holes out. These holes will be used for attaching the cross bars and handle bar bracket. Using the Practical Riveting, Bending & Rolling Tool (PRBR), form a complete circle to create the wheel rim. Using the Practical Punch/Shear Tool (PPS), punch all the marked holes, making sure holes H15 and H16 remain clearly marked for future reference.

Component 2

Rear Wheel Outer Rim
15mm x 3mm x 600mm (2)

From 2 lengths of 15mm x 3mm x 914mm steel strip, using the PPS Tool, cut 2 lengths each 600mm long. Set aside the remaining steel strip for Components 9 and 12. Mark hole positions H17 and H27, each 6mm in from the end of the strip. See Component 2 on Component Sheet 1. Then mark holes H18 and H26. Between holes H18 and H26, mark out 8 more holes, all the same distance apart (66.5mm approx). These will be the spoke fixing locations. Next mark hole H28, see Component Sheet 1 for setting this hole out. This hole will be used for attaching the rear axle (Component 7). Using the Practical Riveting, Bending & Rolling Tool (PRBR), form a complete circle to create the wheel rim. Using the Practical Punch/Shear Tool (PPS), punch all the marked holes, making sure hole H28 remains clearly marked for future reference.

Component 3

Wheel Rim Splice
10mm x 1.6mm x 25mm (3)

From 1 length of 10mm x 1.6mm x 914mm, using the PPS tool, cut 3 lengths each 25mm long. Set aside the remaining steel for the wheel spokes, described later. Mark hole positions, H29 and H30. Using the same tool, chamfer all corners and punch both holes.

Component 4

Front Wheel Spoke
10mm x 1.6mm x 300mm (12)

From 1 length of 10mm x 1.6mm x 914mm steel strip, using the PPS Tool, cut 3 lengths each 300mm long. On each strip mark hole position H31 and Roll positions R1 and R2. Chamfer all corners. Using the PRBR Tool roll the strip between R1 and R2 until the two ends meet. Use the template for Component 4 on Template Sheet 1 as a guide. Punch hole H31. Repeat the above procedure on 3 more lengths of 10mm x 1.6mm steel strip to create 12 spokes in total.

Component 5

Rear Wheel Spoke
10mm x 1.6mm x 190mm (9)

From left over steel from Component 3, cut 4 lengths each 190mm long. On each strip mark hole position H32 and Roll positions R3 and R4. Chamfer all corners. Using the PRBR Tool roll the strip between R3 and R4 until the two ends meet. Use the template for Component 5 on Template Sheet 1 as a guide. Punch hole H32. From 2 more lengths of 10mm x 1.6mm 914mm steel strip, cut 5 more lengths each 190mm long and repeat the above procedure to create 9 spokes in total.

Component 6

Cross Bar
15mm x 3mm x 500mm (2)

From 2 lengths of 15mm x 3mm x 940mm steel strip, cut 2 lengths each 540mm long. On each strip mark hole positions H33 - H35 and Roll positions R5, R6 and R7. Chamfer all corners. Using the PRBR Tool roll the strip between R5and R6. Then turn the strip over and roll between R6 and R7. Use the template for Component 6 on Template Sheet 1 as a guide. Punch marked holes.

Component 7

Rear Axle
15mm x 3mm x 470mm (1)

From 1 length of 15mm x 3mm x 940mm steel strip, cut 1 length 470mm long. Set the remainder of the steel strip aside for Component C11. Mark hole positions H36 - H41 and Bend positions B1-B4. Chamfer all corners. Using the PRBR Tool bend the strip at locations B1-B4. Use the template for Component 7 on Template Sheet 1 as a guide. Punch marked holes.



Design Pack

Tricycle
Plant Holder

Difficulty Rating:	
Easy	
Straightforward	
More complex	✓



Component 10

Handle Bar Bracket
15mm x 3mm x 230mm (1)

From left over steel from Component 8, cut 1 length 230mm long. Mark hole positions H48, H49, H50 and bend positions B5, B6 and B7. Chamfer all corners. Bend strip at marked locations. Use the template for Component 10 on Template Sheet 1 as a guide. Punch all marked holes.

Component 9

Small Strut
15mm x 3mm x 125mm (2)

As above, please refer to assembly instruction number (8) to accurately size and punch this component. The length shown above is approximate only. (Use left over steel from Component 2.)

Component 8

Large Strut
15mm x 3mm x 200mm (1)

As this component can only be accurately sized and punched following partial assembly of the project, please refer assembly instruction number (7) for the necessary procedure. The length shown above is approximate only.

Component 11

Handle Bars
15mm x 3mm x 400mm (1)

From left over steel from Component 7, cut 1 length 400mm long. Mark hole position H51, roll positions R8 and R9, bend positions B8 & B9 and scroll positions S1 & S2. Chamfer all corners. Using the PRBR Tool, roll between R8 and R9. Using the Mk 2/2 (H) Scroll Former, scroll the strip ends up to S1 and S2. Bend the strip at B8 and B9. Use the template for Component 11 on Template Sheet 1 as a guide. Punch hole H51.

Component 12

Handle Bar Pot Ring
15mm x 3mm x 300mm (1)

The following instructions are for a 4" pot. Adjust the strip length accordingly for other pot sizes. From left over steel from Component 2, cut 1 length 300mm long. Mark hole position H52. Using the PRBR Tool form a complete ring and punch hole H52. Use the template for Component 12 on Template Sheet 1 as a guide.

ASSEMBLY INSTRUCTIONS

GENERAL NOTES

1)
It is recommended that the project is assembled in the first instance using nuts and bolts, loosely tightened. This provides an opportunity for component adjustment and substitution of amended components if necessary prior to final riveting (where applicable) or full bolt tightening. Note bolted connections can be made “permanent” with a dab of strong adhesive over the nut.

2)
Please note that the photograph is for illustrative purposes only and is intended as a guide to the appearance of the finished article.

1

Using 6 x 3mm rivets, fix 1 no. Component 3 to the inside face of Component 1 using holes H29 and H30 on Component 3 and holes H1 and H14 on Component 1. The outer rim of the front wheel is now complete.

2

Using 6 x 3mm rivets, fix 1 no. Component 3 to the inside face of Component 2 using holes H29 and H30 on Component 3 and holes H17 and H27 on Component 2. The outer rim of one of the rear wheels is now complete. Repeat assembly procedure for the other rear wheel.

3

Using 6 x 3mm rivets, fix 12 no. Component 4's to the inside face of Component 1 using hole H31 on Component 4 and the remaining holes on Component 1. Note **do not** use holes H15 and H16 which are for the attachment of other components.

4

Using 6 x 3mm rivets, fix 9no. Component 5's to the inside face of Component 2 using hole H32 on Component 5 and the remaining holes on Component 1. Note **do not** use hole H28 which is for the attachment of another component.

5

Using a 12 x 3mm rivet, attach the 2 cross bars (Component 6) to the top of the front wheel using hole H33 on Component 6 and hole H16 on Component 1.

6

Using 8 x 3mm rivets, attach the 2 cross bars to the underside of the rear axle using hole H35 on Component 6 and holes H37 and H40 on Component 7. Note a slight twist in both of the crossbars may be required to complete the attachment.

7

Using hole H34 on both of the Cross Bars (Component 6), measure the distance between both cross bars (outside edge to outside edge) to establish the length of the Large Strut (Component 8). This should be approximately 200mm as shown on Component Sheet 2. Cut a length of 15mm x 3mm steel strip to the required size and chamfer all corners. Using hole H34 on both Cross Bars, mark corresponding positions at both ends of Component 8 for holes H42 and H45. Punch both holes. Using 8mm x 3mm bolts, temporarily attach Component 8 to the underside of both Cross Bars.

8

Using holes H38 and H39 on Component 7 as a location, measure the distance between the Rear Axle (Component 7) to the far side of the Large Strut (Component 8), outside edge to outside edge to establish the length of the Small Struts, Component 9. This should be approximately 125mm as shown on Component Sheet 2. Cut a length of 15mm x 3mm steel strip to the required size and chamfer all corners. Using holes H38 and H39 on the Rear Axle, mark corresponding holes on Component 9 for hole H47. Keeping the Small Strut at right angles to the rear axle, mark holes H46 on Component 9 and holes H43 and H44 on Component 8. Punch holes H46 and H47 on Component 9.

9

Un bolt Component 8 from the two Cross Bars and punch holes H43 and H44. Using 8 x 3mm rivets, attach Component 8 to the underside of the Cross Bars (Component 6) using holes H42 and H45 on Component 8 and hole H34 on Component 6.

10

Using 8 x 3mm rivets, attach both the Small Struts (Component 9) to the underside of the Large Strut (Component 8) and to the underside of the Rear Axle (Component 7) using holes H46 and H47 on Component 9, holes H43 and H44 on Component 8 and holes H38 and H39 on Component 7.

11

Using 8 x 3mm rivets, attach the rear axle (Component 7) to the top of both rear wheels using holes H36 and H41 on Component 7 and hole H28 on each of the rear wheels.

12

Using a 8 x 3mm rivet, attach the Handle Bar Pot Ring (Component 12) to the Handle Bar Bracket (Component 10) using hole H52 on Component 12 and hole H50 on Component 10.

13

Using a 8 x 3mm rivet, attach the Handle Bar Bracket (Component 10) to the Front Wheel Outer Rim (Component 1) using hole H49 on Component 10 and hole H15 on Component 1.

14

Using a 8 x 3mm rivet, attach the Handle Bars (Component 11) to the Handle Bar Bracket (Component 10) using hole H51 on Component 11 and hole H48 on Component 10.

APPLIED FINISH AND DECORATION

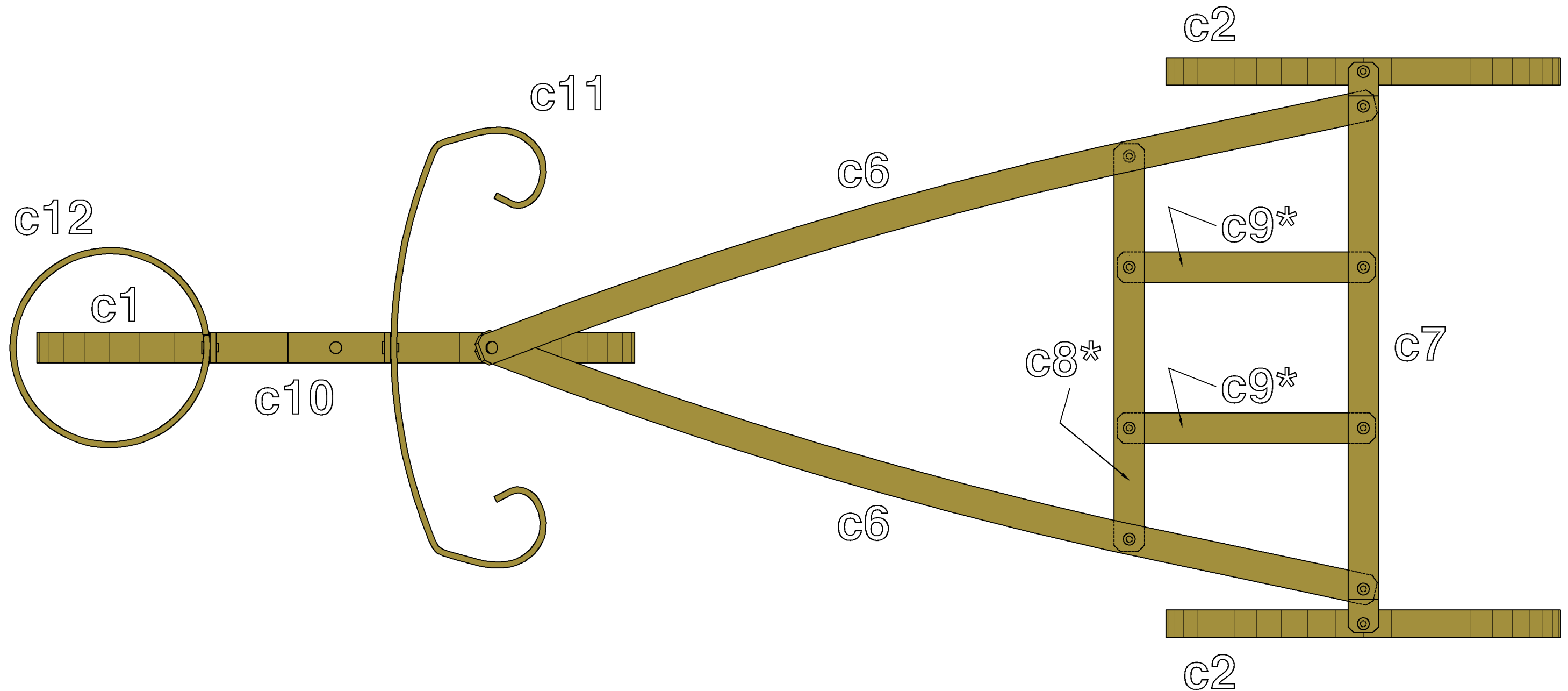
The finished item can now be painted in a wide variety of finishes (smooth, satin, hammer and metallic) either by aerosol or by brush application. Powder coating and plastic dip finishes can also be applied but these type of finishes are more for commercial/industrial finishing.

However, even with aerosol or paint finish you can make your finished item look professional. In this case we use 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.

KEY

© denotes component

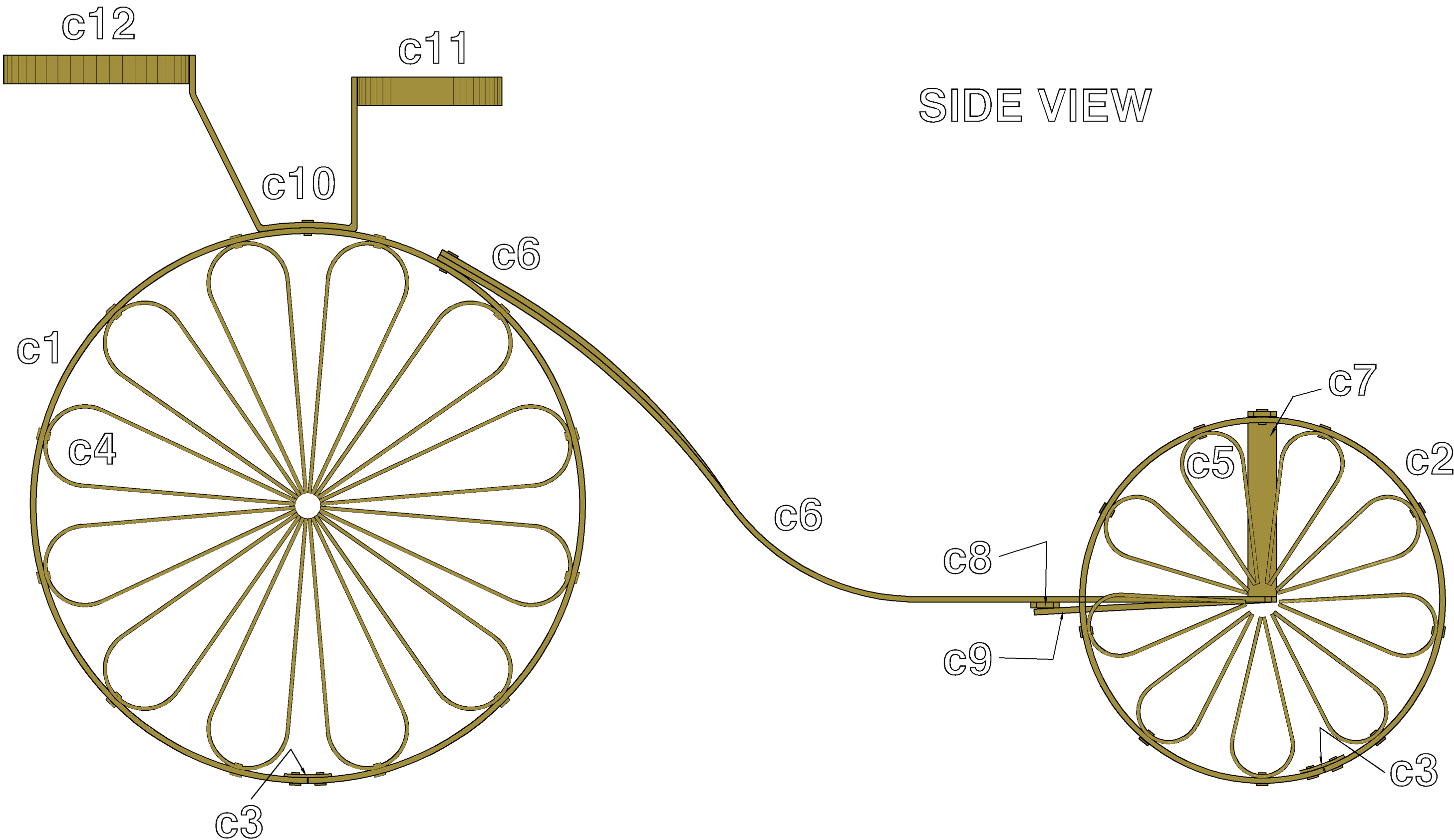
* See Note for Components 8 & 9 on Component Sheet 2.



TOP VIEW

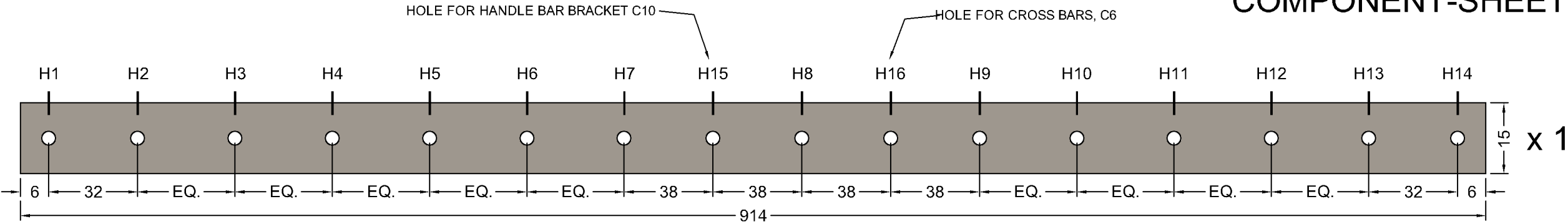
NOT TO SCALE

KEY
© denotes component

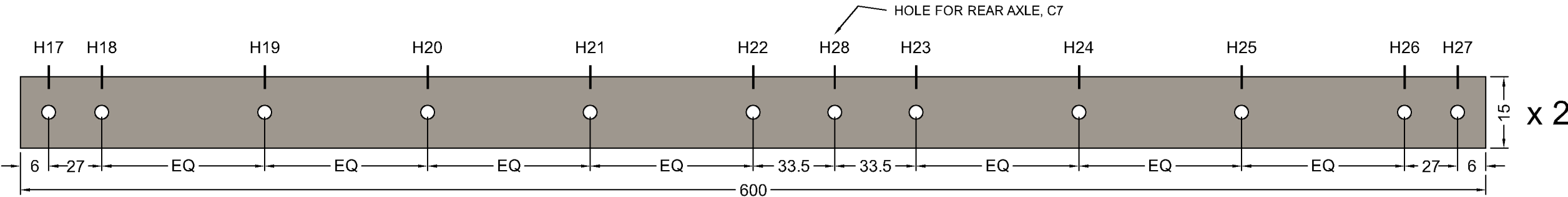


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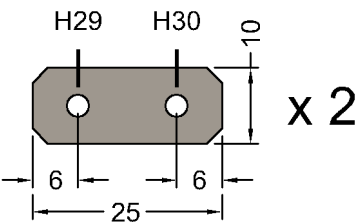
Component 1
914 x 15 x 3mm



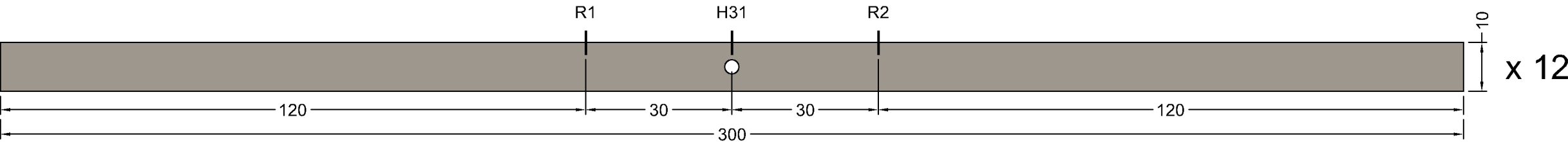
Component 2
600 x 15 x 3mm



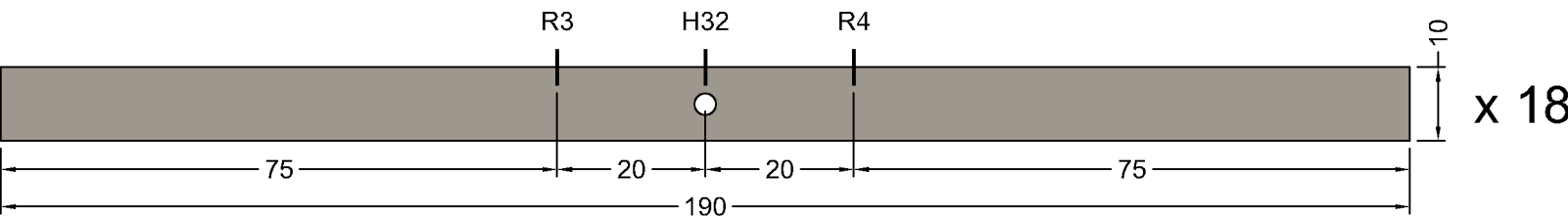
Component 3
25 x 10 x 1.6mm



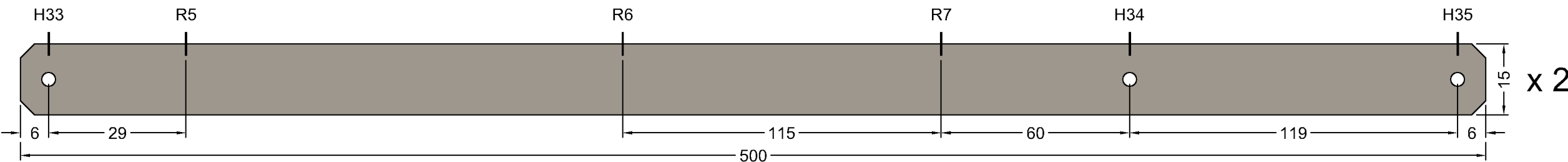
Component 4
300 x 10 x 1.6mm



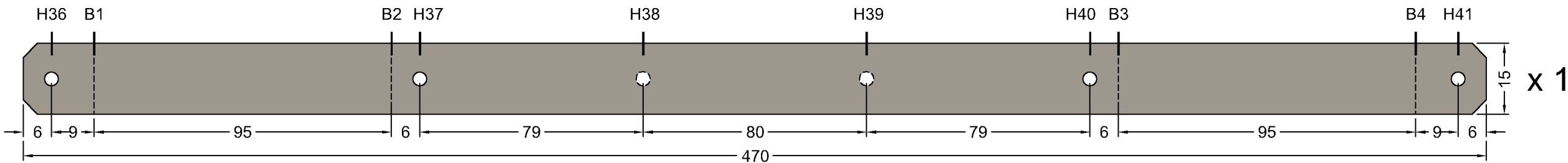
Component 5
190 x 10 x 1.6mm



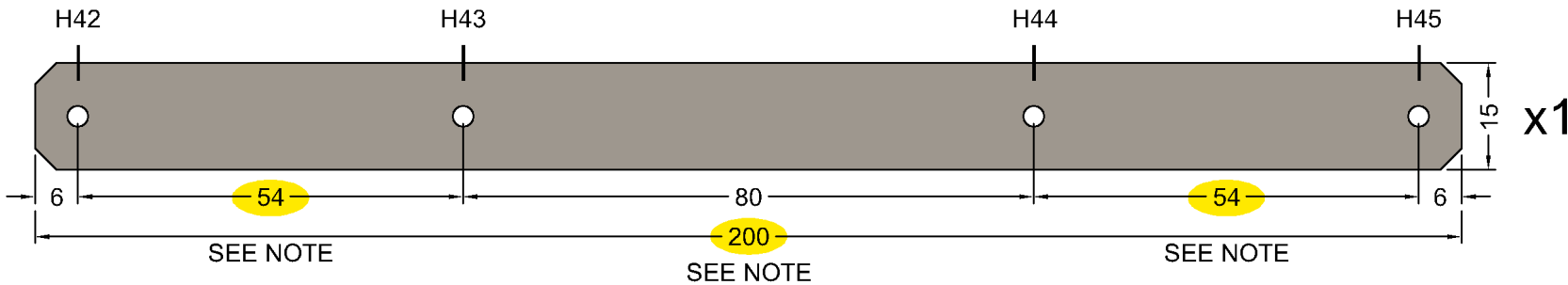
Component 6
500 x 15 x 3mm



Component 7
470 x 15 x 3mm



Component 8
200* x 15 x 3mm
* See note



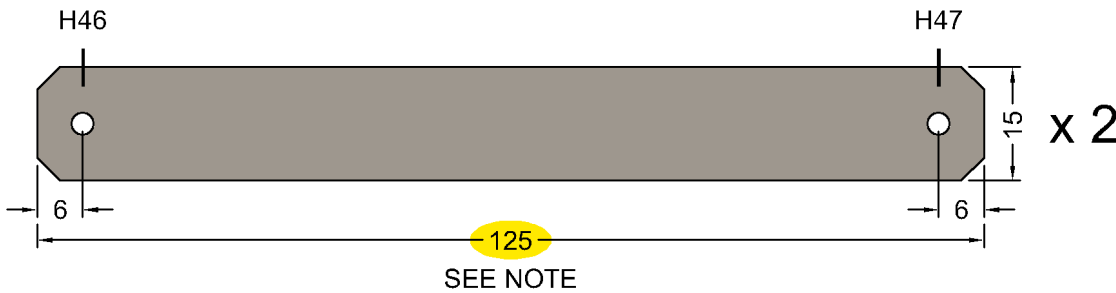
Important Note:

COMPONENTS 8 AND 9

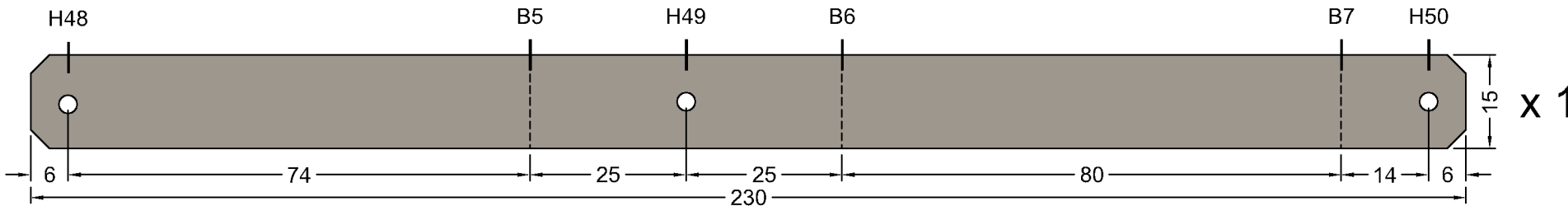
The dimensions highlighted are for guidance only and may vary.

Components 8 and 9 should only be made once the main tricycle frame has been assembled using nuts and bolts and finger tightened. This way the required overall lengths of these strips can be accurately established using holes, H34 on Component 6 and holes H38 and H39 on Component 7. As a check, holes H43 and H44 on Component 8 should be "in line" with holes H38 and H39 on Component 7 to ensure the Small Struts (Component 9) are at right angles to Component 7 and Component 8.

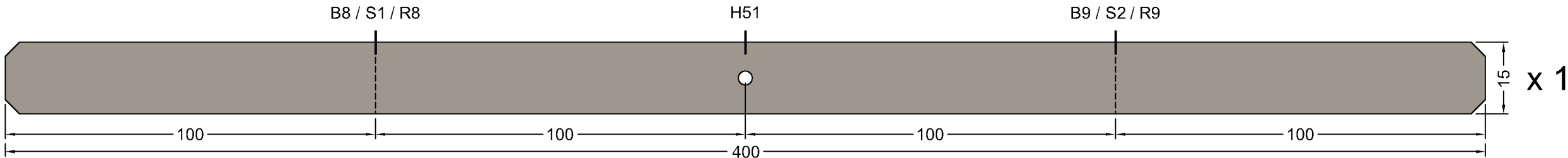
Component 9
125* x 15 x 3mm
* See note



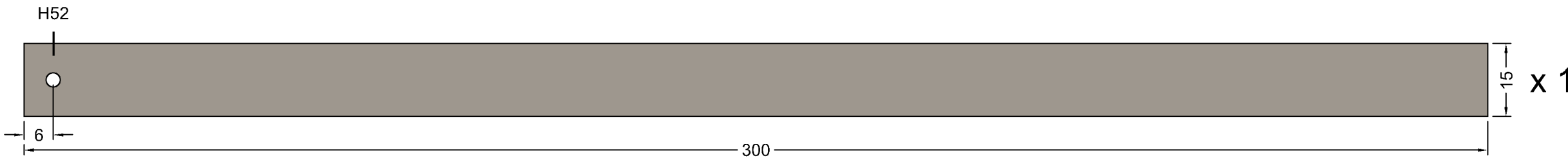
Component 10
230 x 15 x 3mm



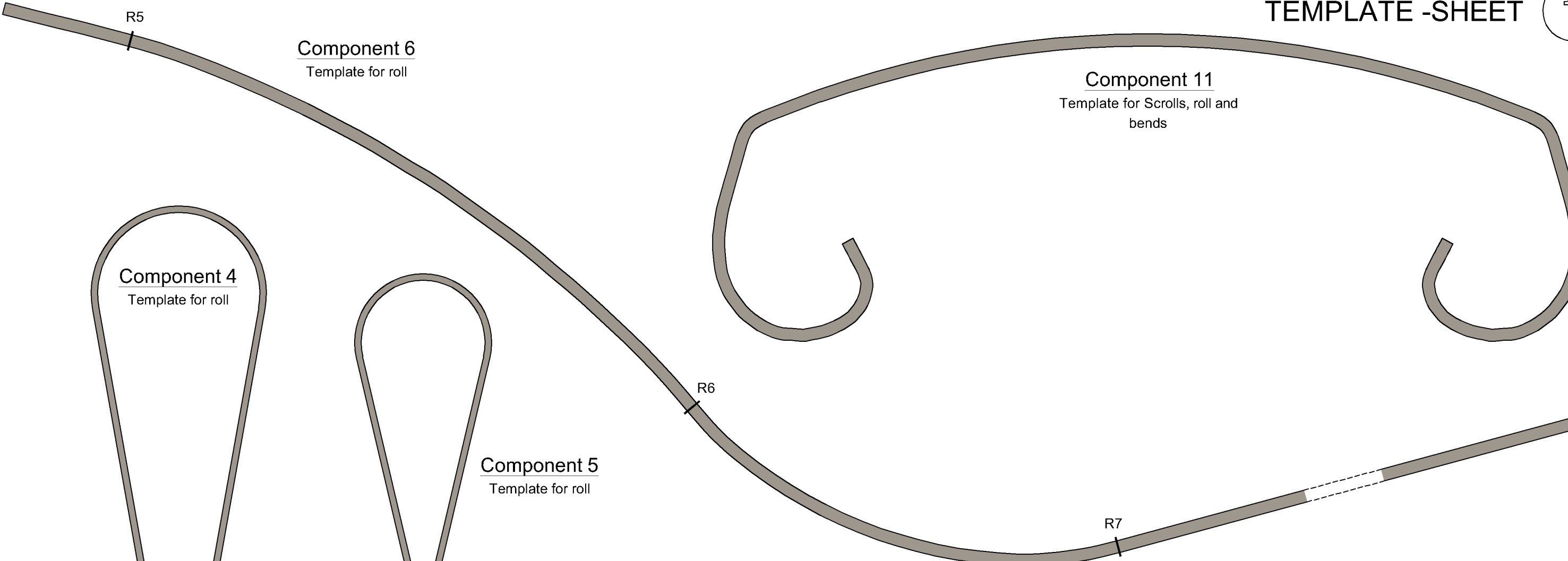
Component 11
400 x 15 x 3mm



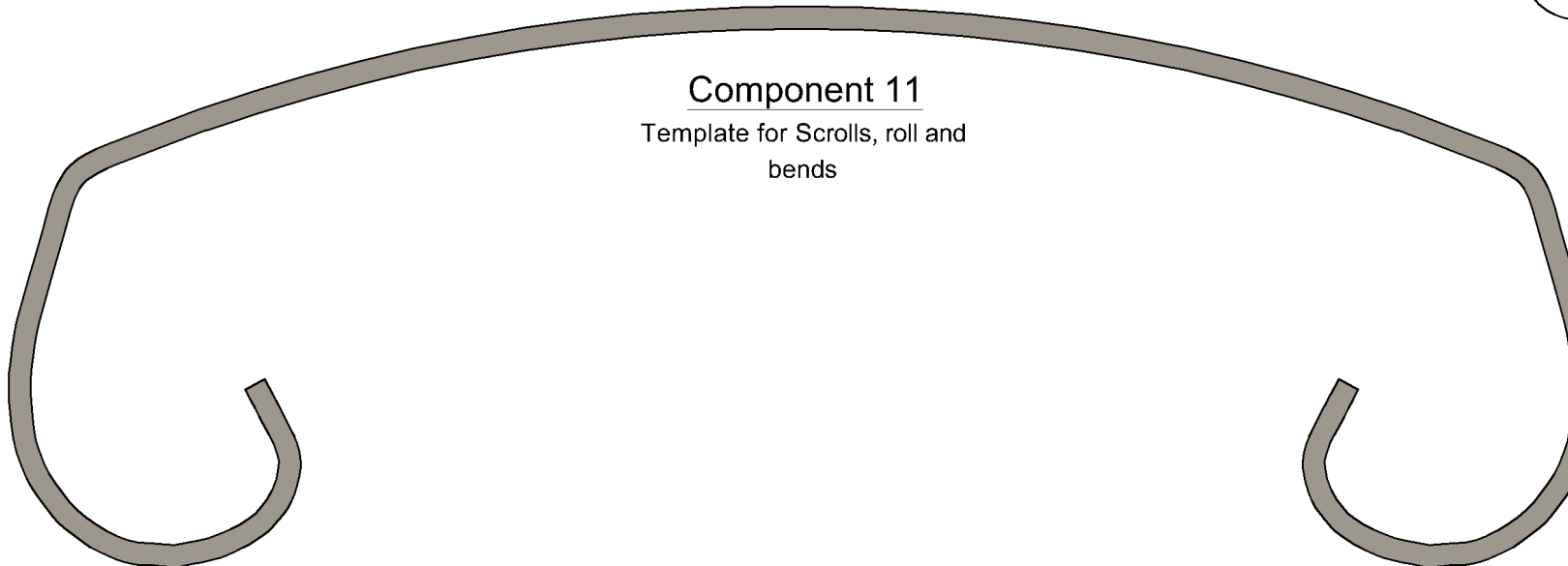
Component 12
300 x 15 x 3mm



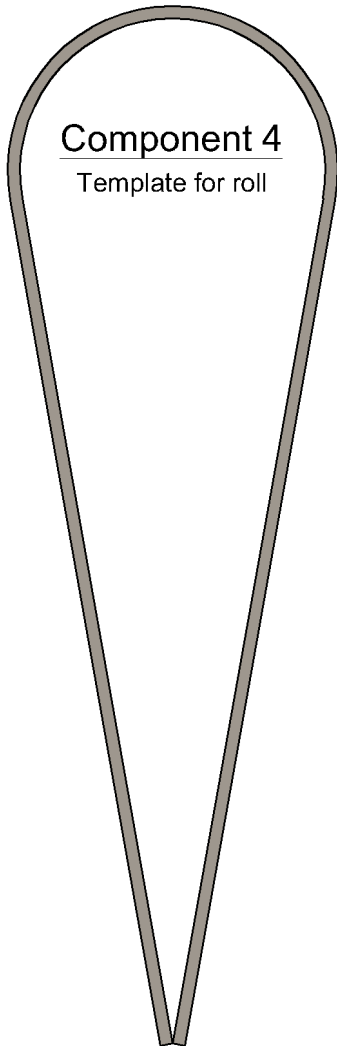
Component 6
Template for roll



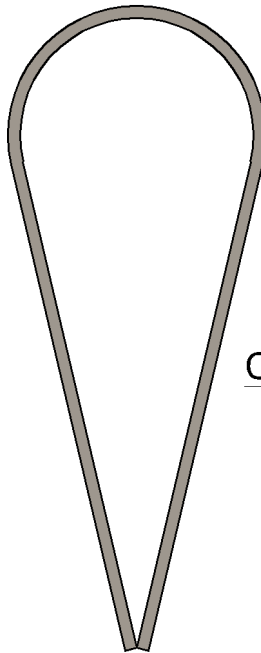
Component 11
Template for Scrolls, roll and bends



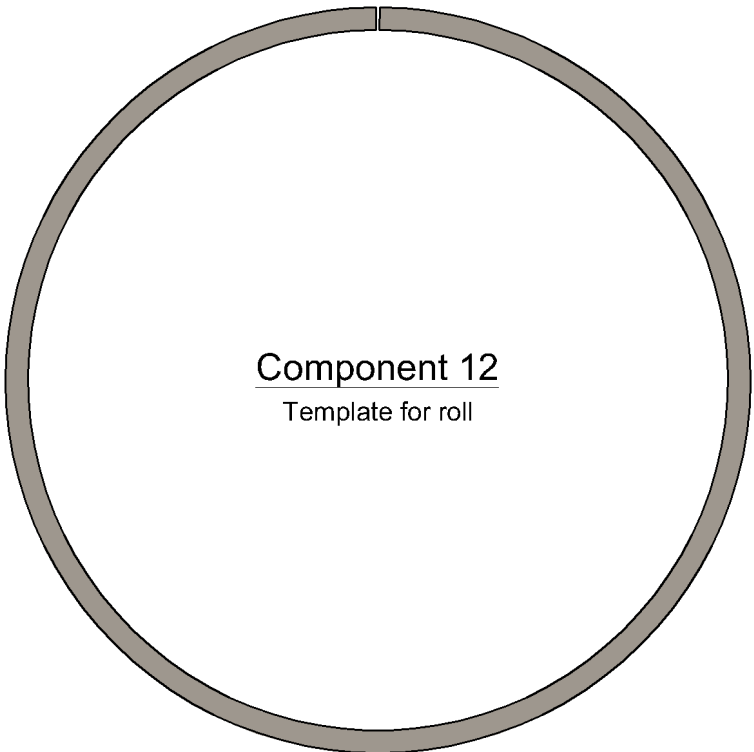
Component 4
Template for roll



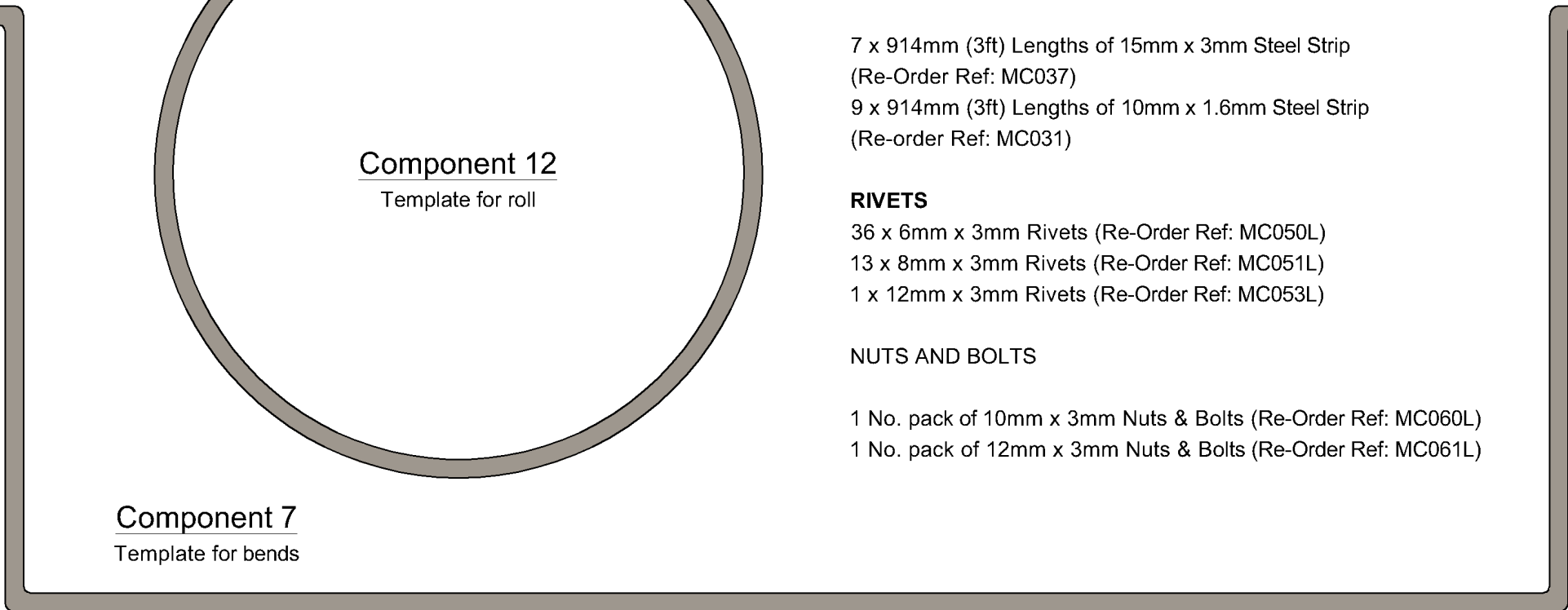
Component 5
Template for roll



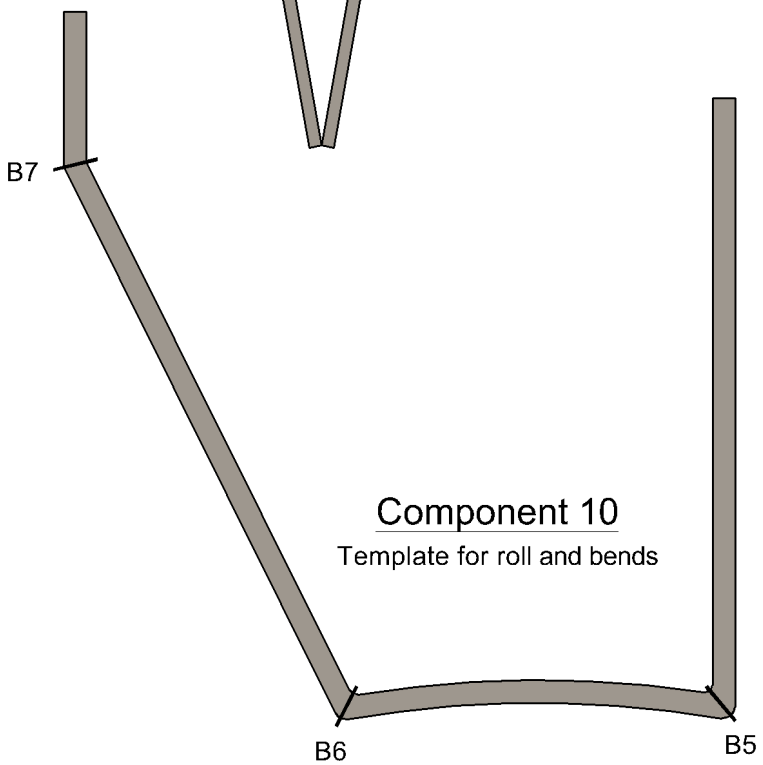
Component 12
Template for roll



Component 7
Template for bends



Component 10
Template for roll and bends



List of Materials Required:

STRIP

7 x 914mm (3ft) Lengths of 15mm x 3mm Steel Strip
(Re-Order Ref: MC037)
9 x 914mm (3ft) Lengths of 10mm x 1.6mm Steel Strip
(Re-order Ref: MC031)

RIVETS

36 x 6mm x 3mm Rivets (Re-Order Ref: MC050L)
13 x 8mm x 3mm Rivets (Re-Order Ref: MC051L)
1 x 12mm x 3mm Rivets (Re-Order Ref: MC053L)

NUTS AND BOLTS

1 No. pack of 10mm x 3mm Nuts & Bolts (Re-Order Ref: MC060L)
1 No. pack of 12mm x 3mm Nuts & Bolts (Re-Order Ref: MC061L)