Classical Clock

Tools Required To Make this Design:

Scrolling: Mk1/2 Scroll Former
Punching: Practical Punch/Shear, (or Master Punch/Shear or XL5+ Power Bender fitted with 3mm punch block & pin)
Cutting: Practical Punch/Shear (or Master Punch/Shear or XL5+ Power Bender)
Riveting: Practical RBR
Bending: Practical RBR
Rolling: Practical RBR (or Master RBR)

Note 1 - For those who have not purchased this Design Pack from Create & Craft, to attach clock face to inner frame you will also require a drill with 3mm Drill Bit or a good epoxy resin adhesive suitable for gluing metal to metal

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 stated otherwise in the instructions. Use a fine tip marker pen, pencil or scribe for marking hole, bend, scroll, roll points on the bars.

Component 1 — Outer Half Ring (x 2)
15mm x 3mm x 750mm

Cut two lengths of 750mm out of two lengths of 15mm x 3mm steel as shown on the Design sheet overleaf. Roll each length into a complete semi-circle of diameter 475mm (approx) to form the two halves of the outer ring of the clock. Note, if you over roll this piece flip your material over and place back into the rollers of your RBR and straighten the material to start again. Lay out the two halves into a complete circle. (Note for those with 6ft lengths of 15mm x 3mm you can make the roll the outer ring as one piece out of a 1500mm length. In which case you only need to make one component 2).

Component 2 — Outer Ring Joining Strap (x2)
10mm x 1.6mm x 35mm

Cut one length of 70mm out of 10mm x 1.6mm and mark the half way point C1. Now roll a slight curve into this component as shown in Template 1 on the Design sheet overleaf. Then carefully place in the Punch/Shear tool and cut it in half at C1. Offer each strap to the inside of the two halves of the Outer Half rings where they meet and mark out hole positions to fix ring together ensuring the gap in the outer ring is closed. Rivet the strap bar to the inside of the outer ring as shown in Template 2 to create a complete circle

Component 3 — Inner Ring
15mm x 3mm x 622mm

Cut one length of 622mm out of 15mm x 3mm and mark out both H1 hole positions as shown on the Design sheet overleaf. Note that you will have to set the punch/shear platform to punch the holes 5mm in from one edge.
Once the holes have been punched you can now roll this component into a complete circle to form the inner ring of the clock.

Component 4 — Clockface Tabs (x2)
10mm x 1.6mm x 20mm

Cut two lengths of 20mm out of 10mm x 1.6mm and mark out both hole positions H1 and bend position B1 using the Design sheet overleaf. First bend a 90° angle at B1 using Template 3 on the design sheet as guide. Then punch hole positions H1 and repeat for the other tab.

Component 5 — Scrolls (x12)
10mm x 1.6mm x 400mm

Cut 12 lengths of 400mm out of 6 lengths of 10mm x 1.6mm and mark out scroll positions S1 and S2 using the Design sheet overleaf. Then using the Mk1/2 Scroll Former, form a scroll at one end so that the mark S1 on the steel just touches the segment on the scroll forming tool. Repeat at the end with scroll S2, taking care that you form a C scroll. Then using the RBR, roll a curve between marks S1 and S2 so that scroll is a close match to Template 4 and approx. 138mm across. Repeat the process to make all 12 scrolls.

Assembly

Firstly take your inner ring (Component 3) and rivet the clock face tabs into the inside of the ring leaving enough room for the clock face to fit. Place the upside down inner ring over the clock face and mark the hole positions. Drill a 3mm hole where marked on the clock face allowing you now to assemble using nuts and bolts. (Note if you have purchased this as design pack from Create & Craft, the clock face is specially pre-punched so attach the tabs to the clock face first and the hole on the leg of the tab should line up with hole H1 on Component 3—if it doesn't quite line up re-punch hole in Component 3 required to attach the tab.

Once the inner ring (Component 3) is assembled to the clock face with nuts & bolts, place in the centre of the large ring (Components 1 & 2) ensuring the joints in the large outer ring are placed at the 12 and 6 o'clock positions and the gap in the inner ring is at the 6 o'clock position. Place all twelve scrolls in position using the main diagram as a guide. Some scrolls may need altering slightly in order for a better fit. This can be done by hand manipulation as it is light gauge steel or by careful re-rolling in the RBR.

Now that the scrolls are all in position carefully mark fixing positions as shown on the main Template 5 (note—where scrolls touch inner ring it is not essential that every scroll is riveted to the inner ring. To save time, rivet every second scroll.) Taking one piece out at a time to punch will ensure an accurate alignment for holes ready for riveting. Remember to adjust the platform on the Punch/ Shear to ensure holes are always punched on the centreline when changing between 10mm x 1.6mm and 15mm x 3mm material. Once all holes are punched, assemble together using nuts and bolts placing the decorative Fleur de Lys in the correct position. Finally, remove each nuts and bolt and replace with a rivet and rivet the joint one at a time.

Once you have finished riveting your clock you can apply a colour using the appropriate paint (see note on back of leaflet). When that is dry use a strong adhesive to glue chapter ring dial onto the clock face. Then attach the quartz clock movement and rubber washer to the back of the clock with the spindle point out of the centre of the clock. Fix in place with brass nut on the spindle and the attach hour, minute and second hand to the end of spindle to finish your own beautiful hand made classical clock.

Painting

The finished item can now be painted using a suitable paint for metalwork in a variety of finishes either by aerosol or by brush application. Use the paint manufacturers guidelines on preparation and number of coats.

This classic has been painted in an attractive antique hammer finish to give a real touch of class and stylish enough to grace any room.

Time will fly as you make this clock and with our range of accessories and clock components you can adapt the design as you see fit. Here someone has chosen to change the orientation of the Fleur De Lys for a different effect.
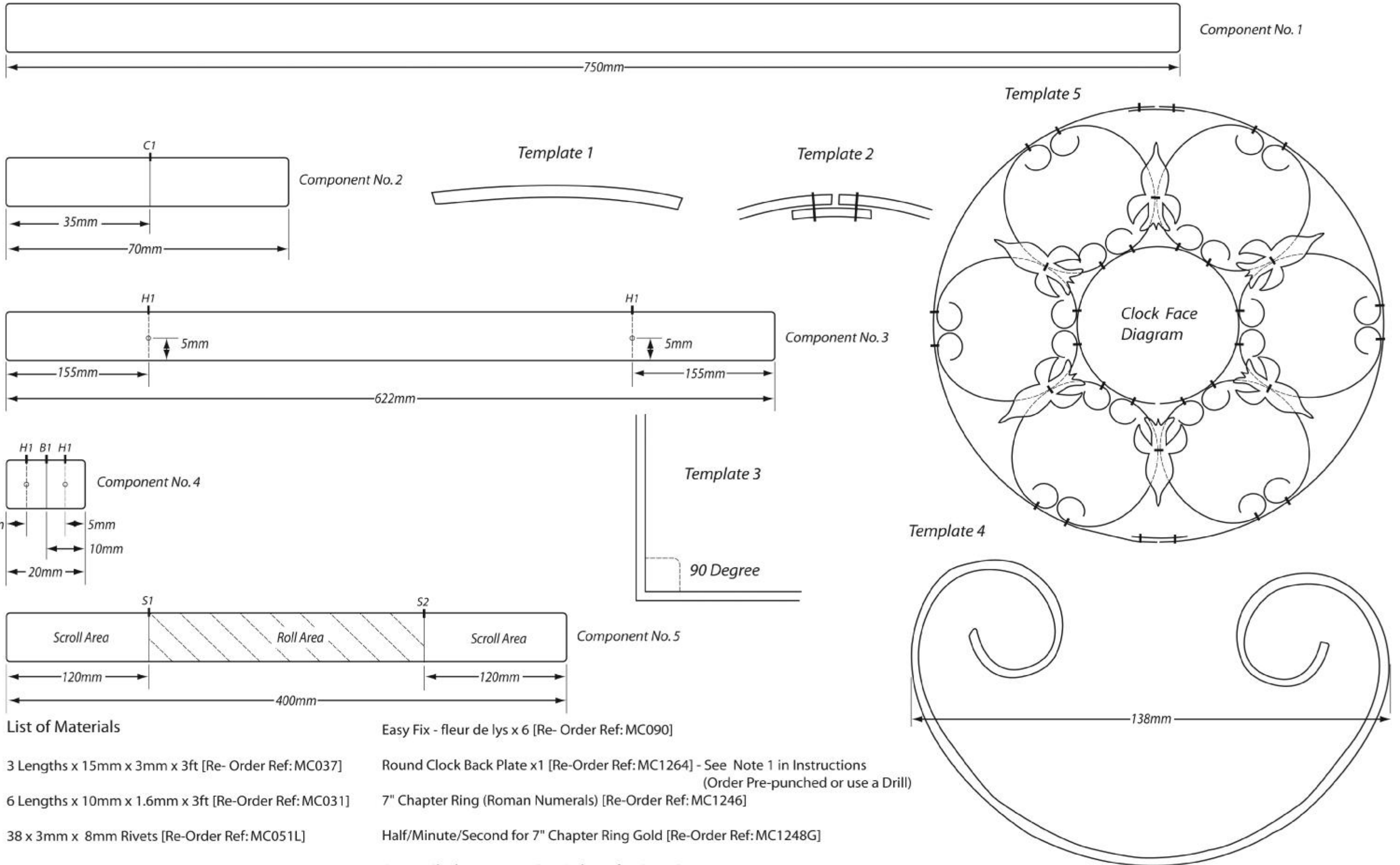

metalcraft™

Design Pack

Classical Clock

Difficulty Rating:	
Easy	
Straightforward	
More complex	✓

Design Pack: Scrolled Clock - Design Sheet

Not to Scale:

Component No. 1

—750mm—

Template 5

Component No. 2

C1

—35mm—
—70mm—

Template 1

Template 2

Clock Face
Diagram

Component No. 3

H1   H1
5mm   5mm
—155mm—   —155mm—
—622mm—

Template 3

90 Degree

Component No. 4

H1 B1 H1
5mm   5mm
10mm
—20mm—

Template 4

Component No. 5

S1   S2
Scroll Area   Roll Area   Scroll Area
—120mm—   —120mm—
—400mm—

—138mm—

List of Materials

Easy Fix - fleur de lys x 6 [Re- Order Ref: MC090]

3 Lengths x 15mm x 3mm x 3ft [Re- Order Ref: MC037]

Round Clock Back Plate x1 [Re-Order Ref: MC1264] - See Note 1 in Instructions
(Order Pre-punched or use a Drill)

6 Lengths x 10mm x 1.6mm x 3ft [Re-Order Ref: MC031]

7" Chapter Ring (Roman Numerals) [Re-Order Ref: MC1246]

38 x 3mm x 8mm Rivets [Re-Order Ref: MC051L]

Half/Minute/Second for 7" Chapter Ring Gold [Re-Order Ref: MC1248G]

38 x 3mm x 8mm Nuts & Bolts [Re-Order Ref: MC059L]

Quartz Clock Movement [Re-Order Ref: MC1240]