



## Quad Ringer Instructions #1312



If you have any further queries or questions relating to your Quad Ring Jump Former, please do not hesitate to contact us:

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**These instructions contain very important safety information.**

**Please read them carefully before use.**

The Quad Ringer is manufactured to help you to mass produce jump rings using non-ferrous jewellers' metals like silver, copper, brass and gold. These instructions are for using non-ferrous materials. The Quad Ringer is used with a flex shat machine and Freedom no. 30 style handpiece. Excellent results can be achieved for wire diameters in the range 0.8 to 1.5 mm. Wire diameters beyond this range may be possible once you become more experienced with your ringer.

The supplied mandrels allow you to produce coils between 2.5mm to 12.0mm inner diameter. The coil holder allows coil lengths of up to 100mm in length.

You are advised to practice on copper wire before committing to full length coils of precious metals such as silver and gold. This will confirm that your set up is correct. It is also good practice to cut short test coils of new sizes before committing to full length coils.

For best results use fully annealed (dead soft) wire, but good results can be achieved using harder tempers of silver, gold filled and solid gold wires with practice. The thicker the wire, the more important that the wire be annealed.

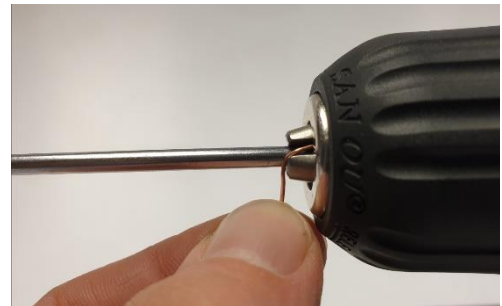
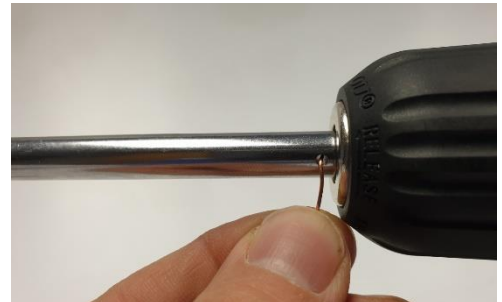
## Making a Coil

**Always wear eye protection.** The coil winder can be permanently mounted to a bench or wall if you have sufficient studio space. Alternatively, the coil winder can be mounted in a vice.

1. Select a mandrel that will be the inside diameter of your jump rings. Insert the selected mandrel into the keyless chuck with the wire holding hole just out of the chuck jaws. Tighten the chuck.



2. Make a right-angle bend at the end of your wire and insert it between two of the chuck jaws (or into the wire holding hole – mandrels 4.5mm and above). Hold the wire firmly in your left hand and turn the coil winder clockwise (up at the front and down at the back) with your right hand.



3. Hold the wire against the coil (slightly to the right of the coil end) to ensure a tight coil. A tight coil is necessary to make good jump rings. Do not wind to the very end of your wire as tension in the coil needs to be released carefully to avoid injury to your fingers.



4. Remove the coil and trim the ends.



## Preparing the Blade Holder

It is very important that the blade turns in the correct direction when cutting the coil. Failure to follow these instructions will result in poor results and could be hazardous.

The arrow on the saw blade must point in the directions shown when assembling the blade holder. Once the blade holder has been assembled, place into your Foredom H30 handpiece.

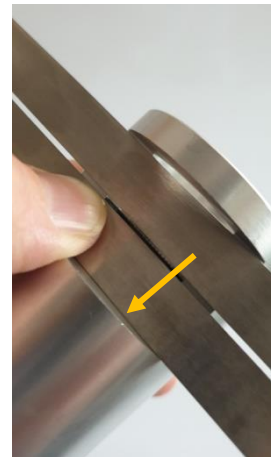
**Safety: Do not connect it to your flexshaft yet.**



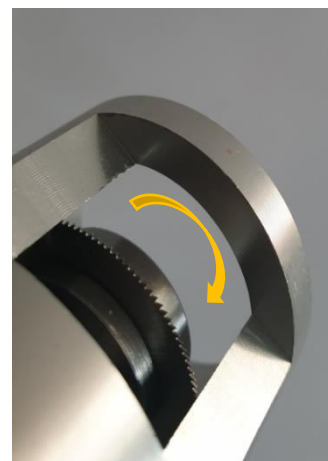
Slide the handpiece into the handpiece holder, with the blade going in last.



Place the coil holder lid over the blade. Ensure that the coil holder lid is pressed to the edge of the handpiece holder and the blade is in the centre of the slit in the coil holder lid. Tighten the grub screw to hold the handpiece in the handpiece holder. Do not over tighten, a 3mm allen key/wrench is required.



Note the direction of the blade when in use and the direction of the saw teeth.



## Cutting the Coil

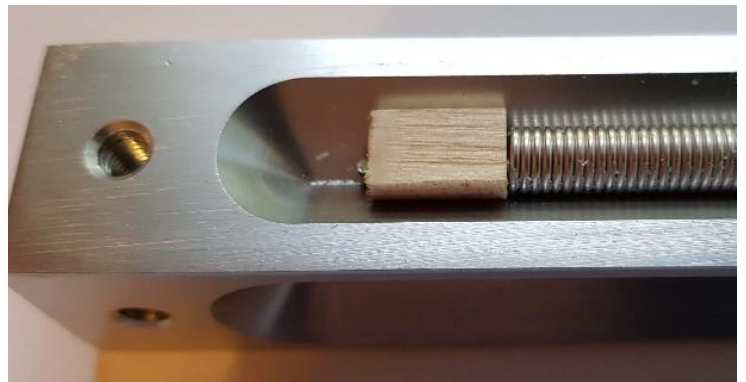
Place your coil of wire in the coil holder. Use the deepest channel so that the coil just stands proud of the top of the channel. Apply Durston Lubricant (or burr lube) along the top of the coil. Push the coil up to the stop pin.



Attach the lid. Press the lid onto the coil and hand tighten the screws evenly so that the lid just starts to arch.



It can be helpful to place a small piece of wooden dowel (trimmed to the outer diameter of the coil) between the coil and the stop pin.



Place the coil holder firmly in a vice so that the coil in the holder is closest to your body.



### **Important!**

Hold the handpiece firmly and attach the flexshaft keeping your hand and body clear of the blade.

**Check that the motor is set to FORWARD (FWD).**

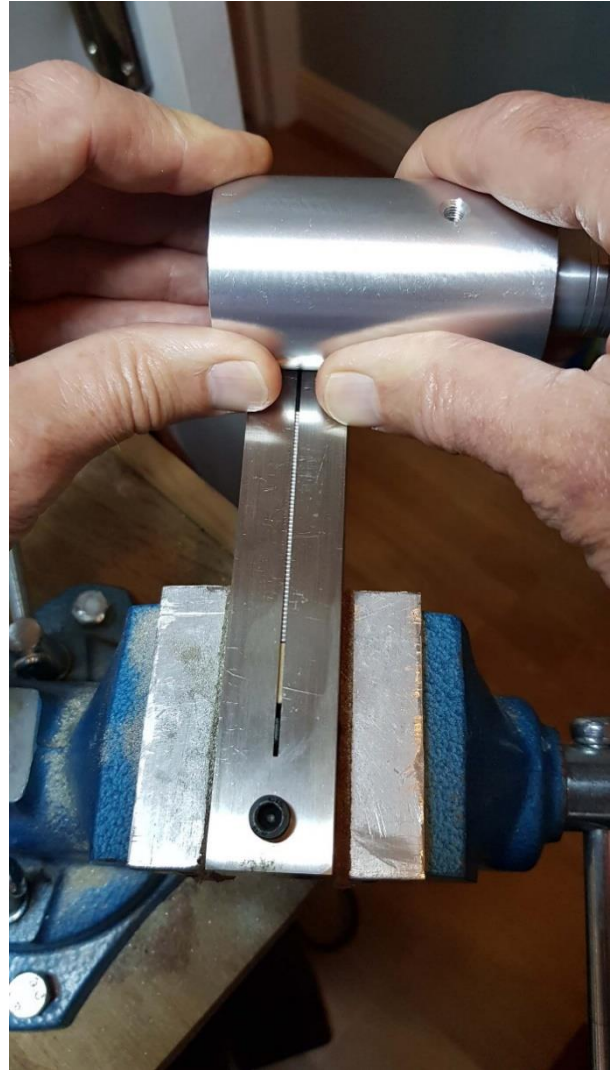
Position the handpiece and blade holder at the end of the coil holder furthest from your body in your right hand. The stop pin end is closest to your body.

Start the motor at a medium speed. Keep the handpiece holder horizontal and press the handpiece holder against the left-hand side of the coil holder. Using two hands pull the handpiece holder towards you. Adjust the motor speed (if using a foot control) to maintain a constant motor speed. When you reach the end of the cut stop the motor. **Wait until it has stopped completely before removing it.** Carefully remove the handpiece from the flexshaft.

**Note to left-handed users.**

Complete the set up as described. This time you will put the coil holder in the vice with the stop pin end furthest away from you and handpiece in your left hand. Starting at the end of the coil holder nearest to you, cut the coil by pushing the flexshaft holder away from you.

Finally, remove the jump rings from the coil holder.

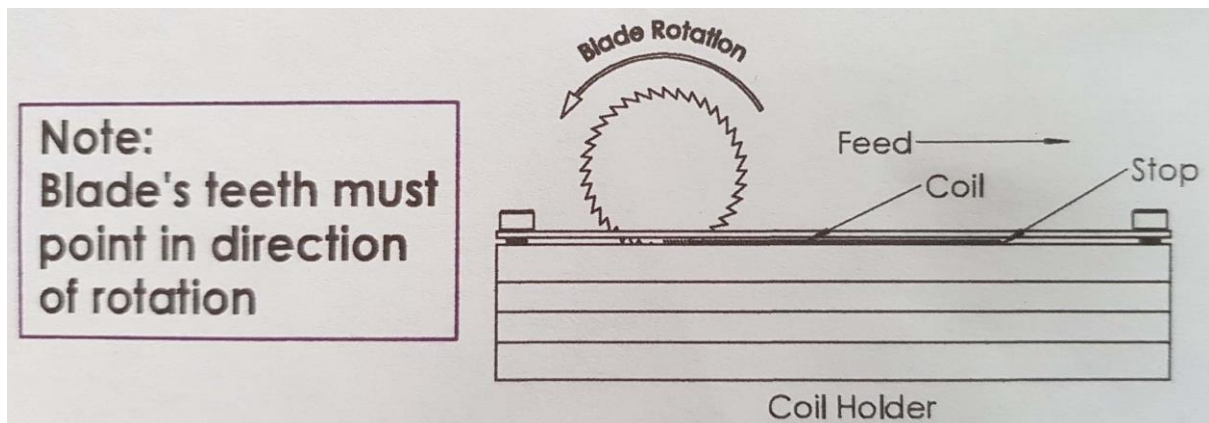


The jump rings can be cleaned in an ultra-sonic cleaner and deburred in a tumbler as required. The jump rings shown have an internal diameter of 4.5mm using 1mm sterling silver wire. A wooden dowel was used to support the end of the coil at the end of the cut. The waste is shown on the right of the right-hand photo below.



## Remember

- Wear eye protection
- This is a high-speed cutting tool and could lead to serious injury if not used correctly
- Observe all safety instructions
- Attach the handpiece to the flex shaft only when you are making your cut and remove immediately after use
- The blade must be set to that it cuts the coil upwards against the coil holder lid
- Check that the motor is set to Forward



## Problem Solving

### *The cut is not smooth*

If your blade is not cutting smoothly stop the motor immediately and check you have set up your ringer correctly. This will avoid spoiling the whole coil. Check your blade for wear/damage.

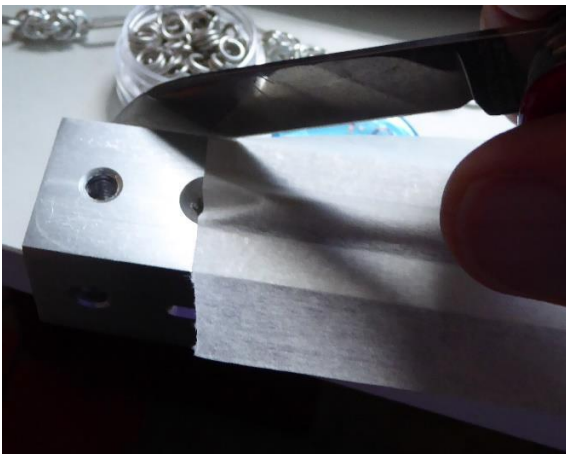
### *The final part of the cut fails*

If the coil collapses at the end of the cut this is because the coil is not fully supported by the stop pin. Use a piece of dowel trimmed to match the diameter of your coil as shown in the instructions.

### *Rings shoot out of the coil holder*

Use the deepest channel available so the coil is just above the top side of the coil holder. A piece of masking tape over the coil will help to keep the jump rings in the coil holder. Trim excess tape from the sides of the holder.

Place the coil holder lid over the coil and tape.





### ***The blade breaks – most likely caused by incorrect use or using worn/damaged blades***

Ensure that the blade is in the centre of the coil holder lid.

Hold the handpiece holder against one side of the coil holder with both hands and do not allow it to twist during the cut. Keep it horizontal.

Check your saw blade does not have broken teeth and replace when it is wearing out.

Use Durston/burr lube every time to prolong the life of your blade.

Check that your blade will turn in the correct direction during the cut.

### ***The coil slides away in the coil holder and is damaged***

Motor in reverse! **Always check your motor is set to Forwards before use.**

### ***The coil has a double cut***

Ensure that you complete the cut with one smooth action. If you stop the motor during the cut do not start up again. Remove the coil and rings from the holder and set up the remaining part of the coil up again.

## **Further Notes and Tips**

### ***Conversion Tables***

<b>American Wire Gauge</b>	<b>Diameter</b>
(AWG)	(mm)
14	1.63
15	1.45
16	1.29
17	1.15
18	1.02
19	0.91
20	0.81
21	0.72
22	0.65
23	0.57
24	0.51

<b>Standard Wire Gauge</b>	<b>Diameter</b>
(SWG)	(mm)
16	1.626
17	1.422
18	1.219
19	1.016
20	0.914
21	0.813
22	0.711
23	0.61
24	0.559
25	0.508
26	0.457

### ***Calculating the length of coil required for x jump rings.***

Example:

*50 jump rings are needed from 1mm wire.*

Make a coil  $50 \times 1 = 50\text{mm}$  plus 2 to 4mm extra

*50 jump rings from 1.3mm wire.*

Make a coil  $50 \times 1.3 = 65\text{mm}$  plus 3 to 6 mm extra

### ***Using square wire***

Do not allow the wire to twist when forming the coil. Hold the wire in parallel pliers and wind the coil slowly and carefully so that the flat side of the wire is firmly against the mandrel.

## Parts Breakdown

Description	Ordering code
Ringer Mandrel 2.5	9214
Ringer Mandrel 3	9215
Ringer Mandrel 3.5	9215
Ringer Mandrel 4	9217
Ringer Mandrel 4.5	9218
Ringer Mandrel 5	9219
Ringer Mandrel 5.5	9220
Ringer Mandrel 6	9221
Ringer Mandrel 6.5	9222
Ringer Mandrel 7	9223
Ringer Mandrel 7.5	9224
Ringer Mandrel 8	9225
Ringer Mandrel 8.5	9226
Ringer Mandrel 9	9227
Ringer Mandrel 9.5	9228
Ringer Mandrel 10	9229
Ringer Mandrel 10.5	9230
Ringer Mandrel 11	9231
Ringer Mandrel 11.5	9232
Ringer Mandrel 12	9233
Coil Holder Lid	9235
Blade Holder	9236
Flexshaft Holder	9237
Coil Holder	9238
Mandrel Holder	9239
Spare Blade	9303

