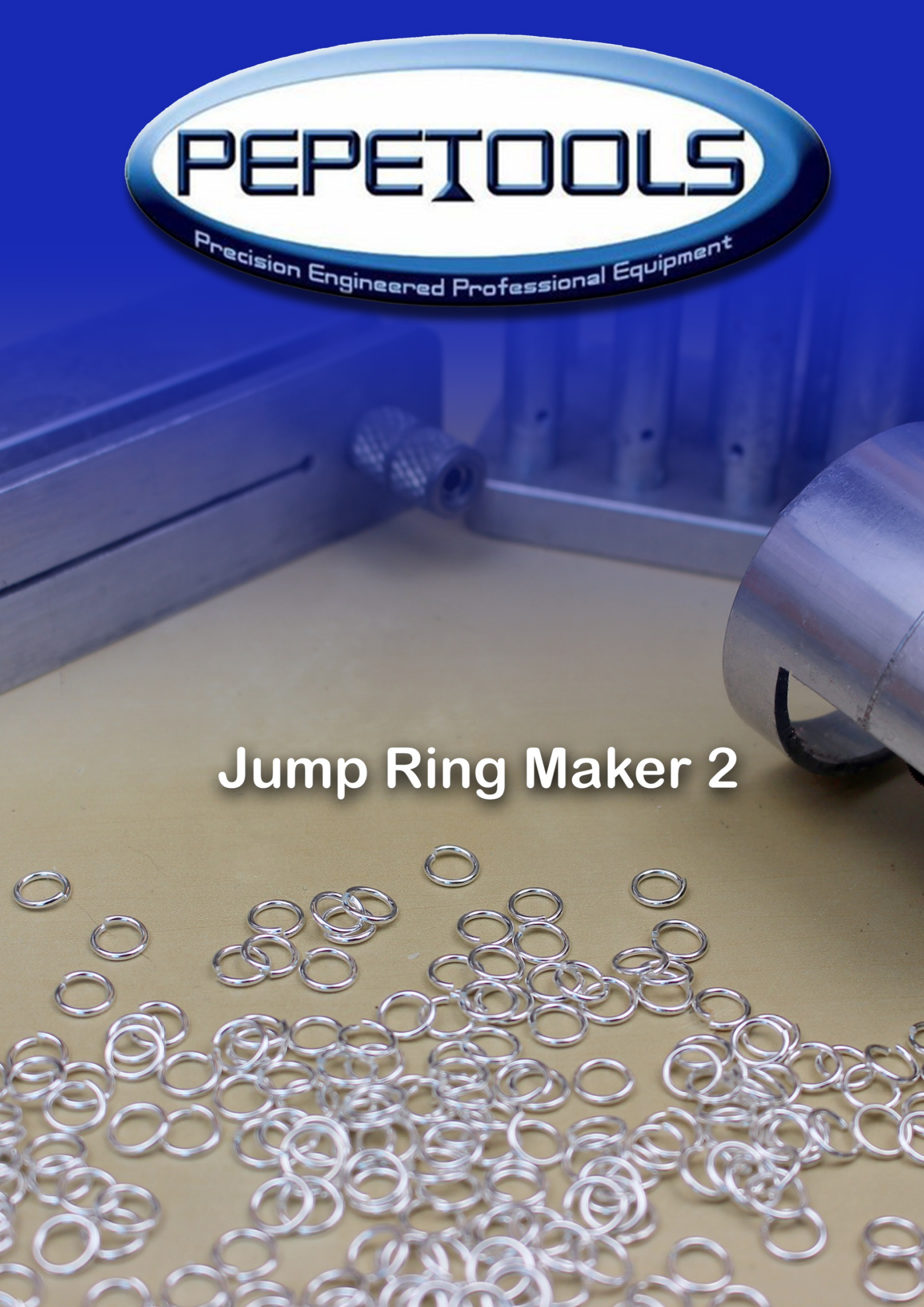


The logo for PEPETOOLS is an oval with a blue border and a white center. The word "PEPETOOLS" is written in a bold, blue, sans-serif font across the center. Below the word, the tagline "Precision Engineered Professional Equipment" is written in a smaller, blue, sans-serif font, following the curve of the oval's bottom edge.

**PEPETOOLS**

Precision Engineered Professional Equipment

The image shows a close-up of a metal machine, the Jump Ring Maker 2, which is used for creating jump rings. The machine is made of polished metal and has a cylindrical body. In the foreground, a large number of small, silver-colored metal jump rings are scattered on a light-colored surface. The background is a solid blue color.

## Jump Ring Maker 2

## THE JRM2

The Pepetools JRM2 is the latest evolution of the famous Pepetools Jump Ring Maker. This innovative solution enables you to produce hundreds of jump rings, accurately and quickly, but most importantly - safely. The JRM2 isn't just a tool, it's a collection of tools which allow you to wind coils and cut jump rings.

The JRM2 comes complete with a full set of 20 mandrels ranging from 2.5mm - 12mm, a keyless winding chuck with handle, a coil holder, and the special saw attachment designed for use with a Foredom flex shaft allowing you to saw jump rings precisely in complete safety.

You will also need a flex shaft to power the saw. Pepetools recommends the Foredom SR or TX flex shaft with foot control and the H30 Handpiece. This provides the power and control for the sawing attachment.

The JRM2 has been designed for jewellers, hobbyists and crafters. It is intended for silver, gold, copper, aluminium and other non-ferrous metals in thin wire gauges, as used by jewellers. The fine blades are designed to give precise clean cuts when used as described. However the blades are not intended for heavy gauge steel wire or other tough materials.

### Top Tip...

*For speed and ease of use, it is highly useful to have a handpiece solely dedicated just for your jump ring maker. This way it can remain permanently attached in the handpiece holder and simply snapped on and off the flex shaft, when required. This avoids repeated setup and adjustment and means that you are always ready to go in an instant.*

*If you wish to polish your jump rings or indeed your finished jewellery, then check out the Pepetools Polimag magnetic polisher, which is ideal for polishing large volumes of intricate jewellery.*



Foredom H30 Handpiece and Foredom SR Flex Shaft with foot control. [www.foredom.net](http://www.foredom.net)

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# THE JRM 2



Handpiece Holder

Saw / Arbour

Storage Base

Coil Winder

- Coil Winder with Keyless Chuck
- Coil holder with spring loaded top & stainless steel knurl knobs
- Handpiece holder - designed to fit a Freedom H30 handpiece
- Stainless steel blade arbour
- 20 jump ring mandrels (2.5mm - 12mm) (#307.200) & aluminium machined mandrel base
- Aluminium organizing base – powder coated black
- PepeLube (#307.50)
- Pepetools 1 ¼ " blade (#307.20)
- Allen wrench for handpiece holder screws
- Pepetools 1 ½ " blade (#307.40) *optional*



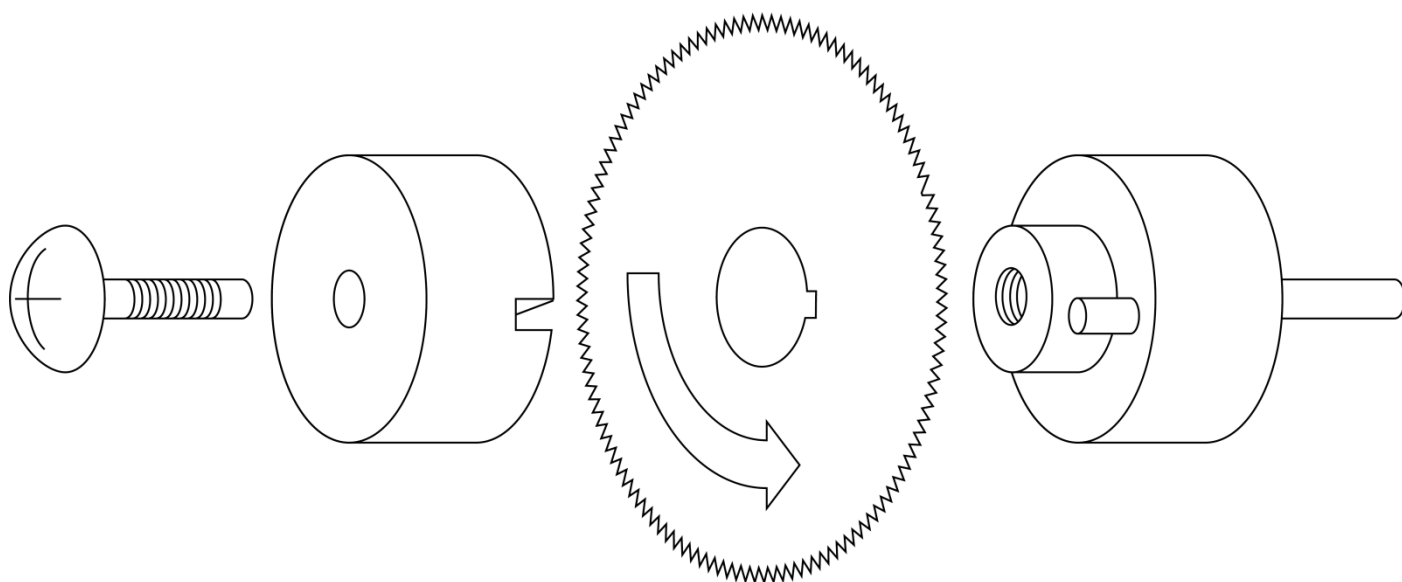
# SET UP

Begin by securing the coil winder to your bench by using screws or bolts through the holes in the base into a sturdy bench. Alternatively, you can screw it to a wooden board which in turn can be clamped to your bench whenever needed, without any damage to your bench. Mount the chuck horizontally with the handle to your right or left as per your preference.

It is vital that the coil holder is also firmly secured by removing the cover and using a screw at each end, either directly into your bench or into a board and clamped as above. This should be at 90° to the edge of your bench, with the small metal stop (inside the coil holder) to the front, nearest to you. Note you will cut your coils towards yourself. Ensure there is ample room all round the coil holder to move the flex shaft and saw attachment along the length of the coil holder without any obstruction.

Fitting the blade. The precision of the JRM2 comes from the super thin saw blades used to create a perfect cut. These blades are very thin and very sharp, so extreme caution should be observed when handling them. Begin by selecting your chosen blade. Remember that you are only cutting through the top of the coil, so with small coils, beware of cutting them completely in half if using the larger blades. If in doubt, fit the smaller blade first and change the blade as necessary. Attach the blade onto the arbour, as shown, aligning the notch in the blade with the locating pin in the arbour. Screw both sides together firmly. The arbour can be mounted for right or left handed use, but in either case the blade remains in the same orientation. Ensure that the bottom of the blade cuts towards you.

Power for cutting is provided by a Foredom flex shaft, either an SR or TX model, with foot pedal control. These high quality flex shafts offer the power needed to cut through the coils with minimal effort. The JRM2 is designed for use with the H30 chuck handpiece.



Arbour screw.

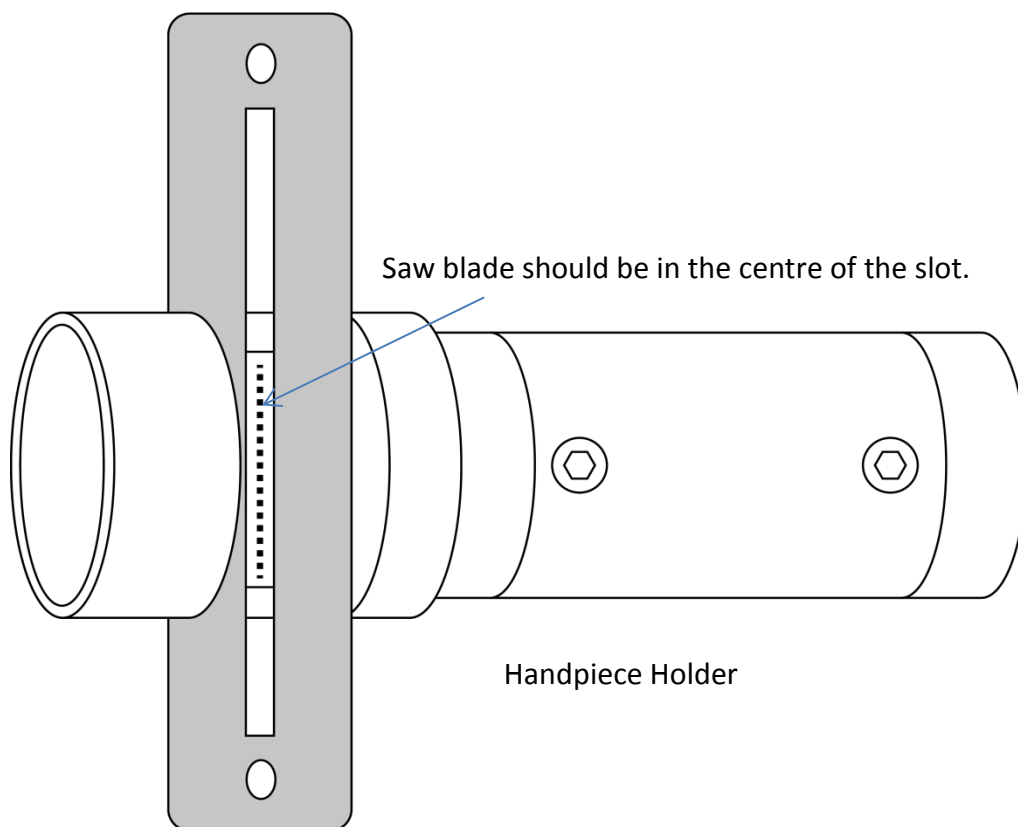
Note the bottom edge of the saw is cutting towards you.

Flex shaft at the right.

## SET UP

With the handpiece separated from the flex shaft, secure the arbour into the handpiece, taking care when handling the blade. Ensure the chuck of the handpiece is tight, as is the screw in the end of the arbour. Check again that the blade cuts towards you when held in the appropriate hand. At this point it is a good opportunity to lubricate the blade with a generous application of PepeLube. Be careful as the blade is very sharp. Slip the handpiece holder over the handpiece and align the blade with the two marks on the handpiece holder. Place the top cover of the coil holder over the blade, ensuring that the blade protrudes through the slot in the cover. Adjust the position of the handpiece within the holder until the blade is perfectly centred within the slot. It is vital to perform this check whenever changing the blade.

Top plate from the Coil holder.



Now tighten the grub screws in the handpiece holder to secure it to the handpiece. Don't overtighten as the holder and handpieces are aluminium. Remove the coil cover plate. The handpiece saw assembly can now be attached onto your Freedom flex shaft. Keeping fingers well away from the saw blade, run the flex shaft slowly and note which way the saw is rotating. When holding the handpiece horizontally the bottom of the blade must be cutting towards you and be rotating in that direction.

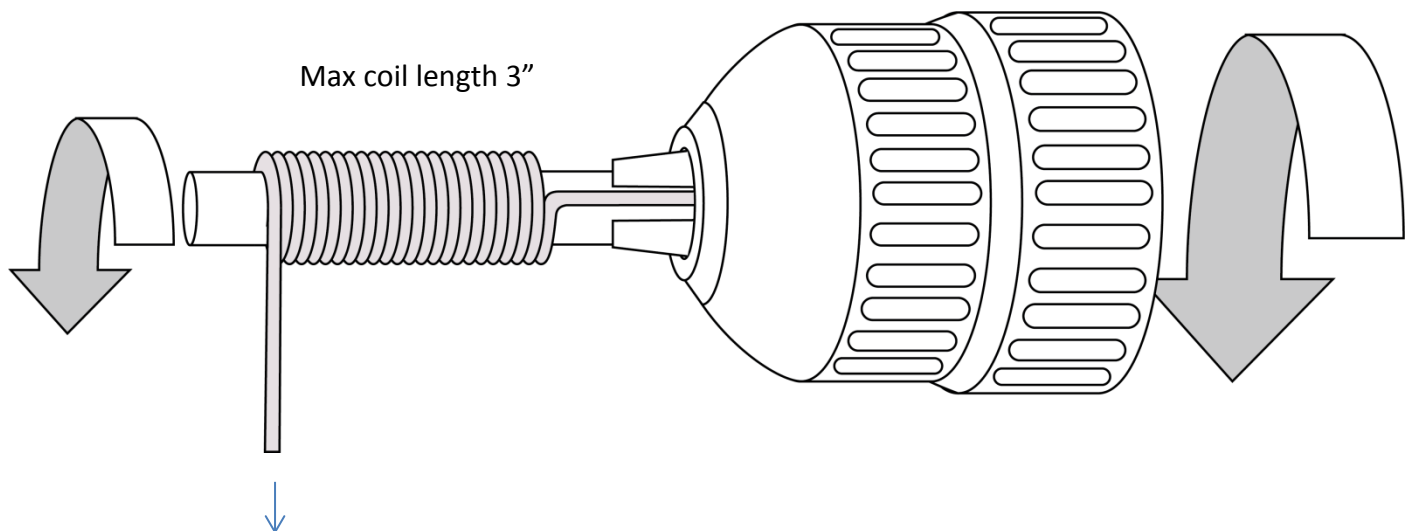
Having secured everything to your bench and attached your saw, you are now ready to make jump rings.

## Making Coils

The first stage in making jump rings is to wind your wire into tight coils.

Begin by selecting the mandrel you want to use. Note that the mandrel corresponds to the inside diameter of your jump rings. Place the mandrel into the jaws of your winding chuck and tighten firmly by twisting the chuck with both hands in opposite directions (no key required). You will note that the larger mandrels have holes drilled through them. The holes can be used to start the coil, by inserting the end of the wire into the hole and winding a couple of turns.

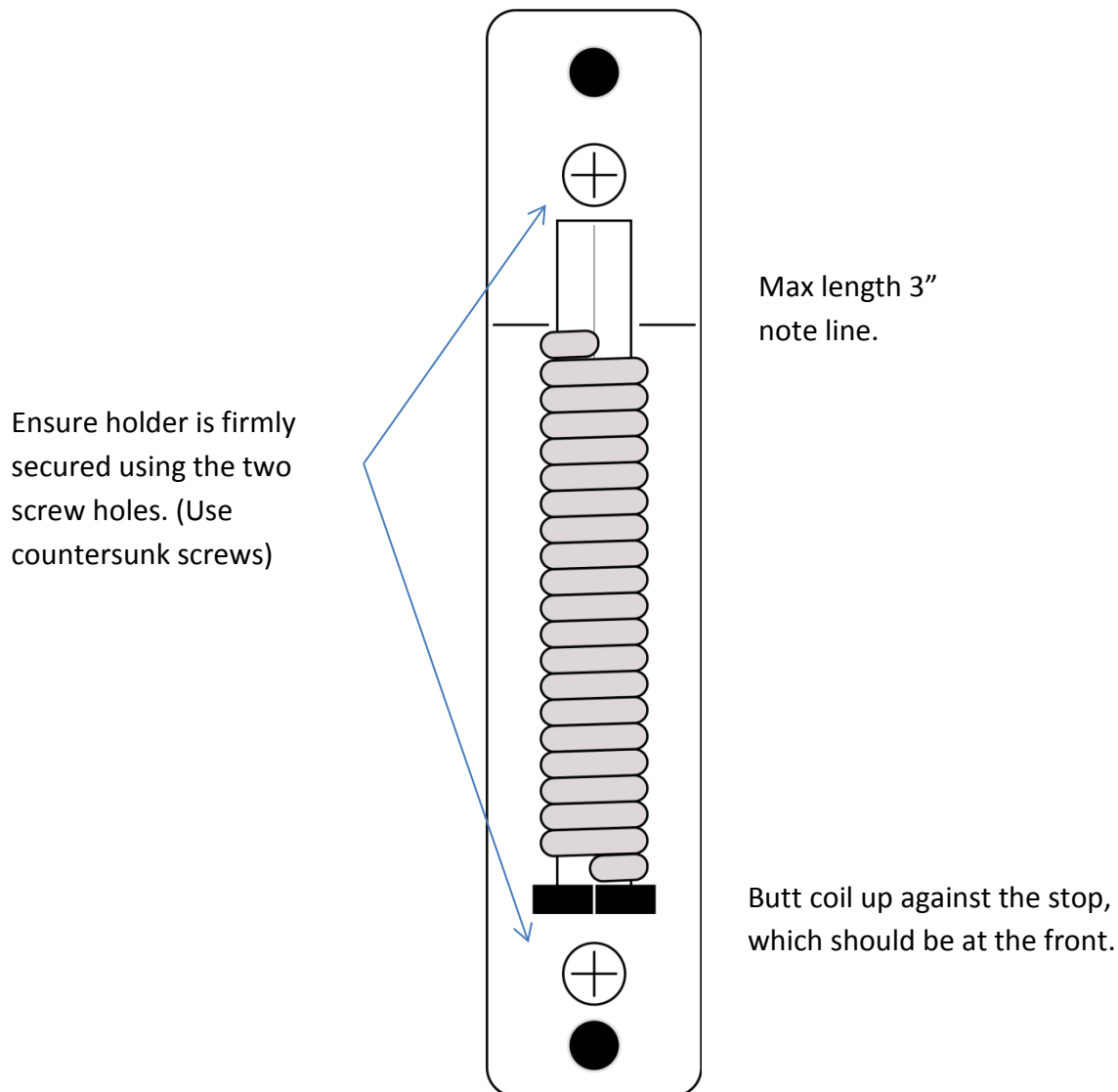
For smaller mandrels without holes, a great tip is to bend a few mm at the end of the wire and insert it between the jaws of the chuck alongside the mandrel. Wind a couple of turns carefully to get the coil started. It is important to ensure that in both cases the mandrel is held firmly and straight in the chuck so that it rotates properly. With the mandrel horizontal, wind the coil so that the uppermost part rotates away from you. As you rotate the handle, use your other hand to apply a light downward pull on the wire to maintain tension. Each turn of the handle is effectively one jump ring. As you wind, keep the wire pulled slightly towards the handle and try to avoid gaps in the coil. Your coil should be tight and uniform. Stop your coil a little way short of the end of the mandrel. Your coils must not exceed 3" in length. When you have the required length, snip the end of the wire as close as possible to the coil. Slip the coil off the mandrel. If using the larger mandrels with the holes you will need to cut the end of the coil where it enters the hole. Once removed, use flush cutters to clean up the ends of the coil.



## Cutting Rings

The coils are cut with a high speed rotating saw blade which is powered by the Freedom flex shaft. Although the blade is completely enclosed within the tool, it is still a sharp power tool and so common sense and safe working practice should be observed at all times. Safety glasses should be worn whilst using any power tools.

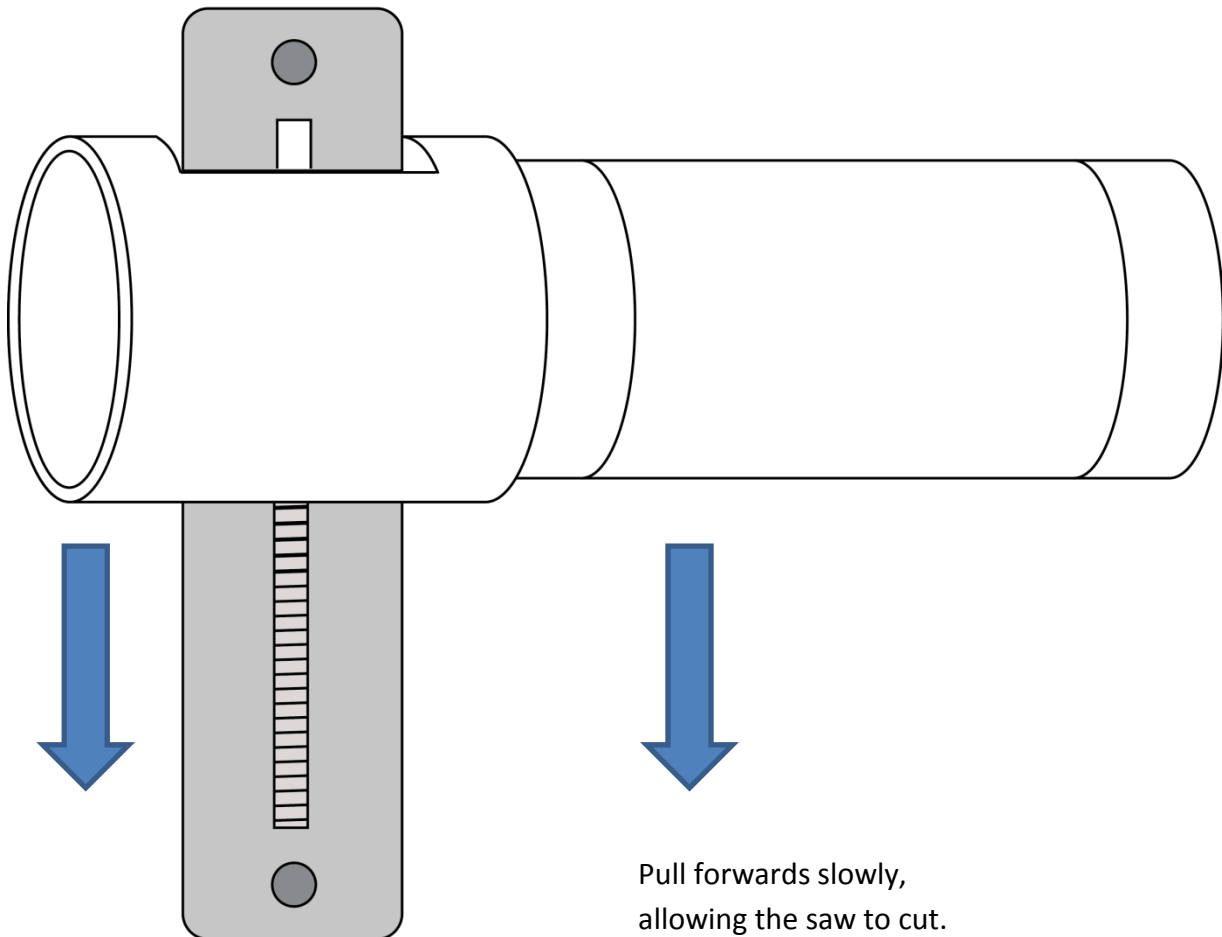
Once you have wound the required number of coils, you are now ready to cut them into jump rings. Ensure that the coil holder is firmly attached to your bench and if necessary remove the cover plate. Insert your coil into the holder ensuring that it butts up against the metal stop, which should be nearest to you. Ensure that the coil does not extend past the mark, as space is required at the end to insert the blade. At this stage you may wipe a little PepeLube along the top edge of the coil. Replace the cover and screw down finger tight only; there is no need to overtighten. Ensure the cover is level.



## Cutting Rings

Attach the handpiece and holder assembly to your flex shaft and slot it over the coil holder such that the saw fits into the slot furthest from you. Ensure the flex shaft is free to move, and whilst firmly holding the handpiece cover, start the flex shaft (with foot pedal). Allow the saw to start rotating for a second then pull is steadily towards you, whilst keeping a firm grip on the handpiece holder and sliding it along the top of the coil holder. You should feel and hear the saw cutting. If at any point you feel the saw is not cutting properly, stop immediately before carefully removing the saw from the coil. Once the saw reaches the end closest to you, stop the flex shaft and ensure the saw has fully stopped before lifting it vertically out of the slot, being careful not to twist or bend the blade. For safety, turn off your flex shaft.

Unscrew the thumb screws and remove the coil cover. You should find that all your rings have been cut. Remove the rings (tip - use a piece of scrap wire and thread it through the cut rings).







## Top Tips

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### Dave's top Tips:-

*“Due to the nature of the designs I make, I need a lot of jump rings. I can't always buy the exact size and gauge that I require. However, the JRM2 allows me to make the exact rings I need in whatever volume I require. All produced within a matter of minutes, quickly and safely. This ability to make my own rings on demand means more flexibility in my designs, coupled with huge cost savings over pre-made rings. Plus, no waiting around for the next delivery to arrive.”* Dave Wilson. – [Celticdreams.co.uk](http://Celticdreams.co.uk)

**Stick it down.** Whilst you may apply a little PepeLube to the top of the coil before sawing, it is vital that coil is held firmly in place. Therefore, ensure the unit is always clean and avoid excessive PepeLube, as this can cause the rings to slip once cut and fly out or jam the saw blade. So don't use too much. Place a strip of double sided tape into the bottom of the coil holder under the coil. This helps keep your rings in place when being cut. I also place a sticky paper label (or masking tape) over the top of the coil whilst in the holder to totally secure it before *'lightly'* screwing down the cover plate.

**Not too fast.** Especially when working with precious metals, there is no need to run the saw at very high speeds, this can cause excessive friction and heat. 'Pulse' the saw by pumping the foot pedal up and down. Cut slowly and steadily. Don't try to force it, let the saw do the work.

**Tumble.** The JRM2 leaves a great flush finish on your jump rings, but there may be tiny burrs. A quick half hour polish, in a tumbler with some steel pins, will remove any burrs and lubricant. It will also polish the rings and help to toughen them a little. Check out Pepetools Polimag, a magnetic polisher which is ideal for this job.

**Anneal.** If making chain mail, then you know that the dimensions of your jump rings can be highly critical. You may notice that when you release your grip after you've wound a coil, the wire can sometimes spring back a little. This can mean that the final rings have a fractionally larger inner diameter than the mandrel. This is normal. Hard (non annealed) wire, which you may have drawn through a plate or your mill, will spring back much more. So to reduce this spring back, ensure you always anneal your wire first, or purchase pre-annealed "soft" wire.

**Label your rings.** You've found a box of left over jump rings. How big are they? What aspect ratio? You will have to use a caliper to measure the wire and then test out different mandrels to get the one that fits. It's much easier to just label them in the first place. Note the wire gauge, mandrel (or what you used as one), aspect ratio, outer diameter, material and the project they were made for. I also note the order code for the wire used. Simple tip, but you'll thank me later.

**Thread Lock.** In order to prevent the arbour from coming loose, add a drop of thread lock adhesive (or super glue) to the arbour screw. Just a drop on the screw head, to prevent it from unscrewing.

**Wrap it up.** Use paper around your mandrels to adjust the diameter by very precise amounts.

# Troubleshooting

*Remember that the Pepetools Jump Ring Maker II is designed for use by jewellers and crafters, using non-ferrous and precious metals. The fine blades are not intended for use with steel wire or similar hard materials.*

## **Heat and smoke coming from the coil holder when sawing:**

- Heat is caused by friction. Reduce your speed and ensure the blade is lubricated. It may be that the blade is getting blunt or is not cutting in the right direction.
- It may also be that the material you are using is too hard.
- Smoke is caused by oil or lube burning off with friction. Avoid too much lubrication.

## **Not cutting:**

- Used blade - Check the blade. Use a loupe and check for broken or blunt teeth. If so, replace the blade.
- New blade. Check that the blade is the correct way round, with the saw teeth cutting in the right direction towards the coil.
- Ensure the flex shaft is rotating in the correct direction. (Forward for right handed use).

## **Rings flying out:**

- Avoid overtightening the coil holder
- See the tip about using double sided tape and sticky labels over the coil to keep the rings in place.

## **Rings not cutting through properly:**

- Swap the blade for the larger diameter blade. Remember to disconnect the saw from the flex shaft. When changed, re-align the new blade as before.

## **Rings cut through both sides:**

- The blade is too big, when using small coils and fine gauges the blade is cutting right through both sides of the coil. Swap for the smaller diameter blade.

*If you have any concerns or questions, just get in touch.*

*.....We are here to help.*