

Q: How can I make a spiral effect on my rose engine?

A: A basic spiral effect can be achieved with a Sine-Wave rosette with each new cut phased along from the previous cut.

You may cut a sine wave on a cylinder by pumping, or you may cut one on the surface by rocking. If pumping you move the slide parallel to the bed; if rocking you move the slide across the bed, cutting subsequent sine waves equally spaced. To achieve a spiral effect the rosette needs to be phased between cuts and various effects can be achieved according to the proportion and regularity of the phasing. For example: you could phase the pattern between cuts by any single proportion of the wave (e.g. by $1/8$, $1/4$, $1/3$ or any by any other proportion) to produce regular spirals having different helix angles. A different approach could be to make an irregular spiral by phasing by an increasing proportion followed by a decreasing proportion (e.g. by $1/8$ then $1/4$, then $3/8$, then $1/2$, then down again by $3/8$, then $1/4$, then $1/8$, etc.).

As a change from spiral patterns you might wish to progress to ‘chicken-wire’ (phasing always by $1/2$ a wave) ‘basket-weave’ (phasing alternately forwards and backwards) or ‘van-dyke’ (phasing several steps forwards followed by an equal number of steps backwards).

Experimentation is the key to discovery!