

Servicing a Robert Sorby Patriot chuck. Nick Simpson

This Patriot chuck has a threaded insert to fit a Nova spindle. It differs from Nova chucks in that the key is turned clockwise to close the jaws and therefore reassembly is different and crucial.

The Patriot chuck has a backplate which keeps the insides relatively free from dust and uses a rack and pinion drive for the scroll. It is important to clean the chuck regularly and re-lubricate. This is a simple process, which is illustrated in the accompanying photographs (Patriot A-F). Details of cleaning and re-assembly are shown in the photos G2.D from my previous article.

Picture A shows the rear view of the chuck when removed from the lathe. The backplate is held in place by 3 machine screws and has been removed and placed to the rear of the chuck body. The picture shows the partial withdrawal of the two pins which retain the pinion drives. The pins must be withdrawn completely to release the pinions.

Patriot A



Picture B shows thick grease which has been used to lubricate the chuck at previous service. This grease was very thick and contaminated with wood dust.

It is important to identify the jaw carriers for re-insertion. On this chuck the jaw carriers were not individually identified so had to be marked for reassembly. I engraved a number 1-4 on the appropriate carrier. I note that the current range of Robert Sorby Patriot chucks identifies the jaw carriers by a number 1-4 stamped on the outer end of the carrier

Patriot B



To release the scroll; withdraw the pinions and invert the chuck so that the scroll can drop out. Picture C shows the jaw carriers and the scroll; all are covered with a thick coat of grease and dust.

Patriot C



Now, in a well-ventilated area with nitrile gloves and eye protection, brush off all surfaces with a brass wire brush and then steep the parts in a de-greasing solvent (G2. D). I used paraffin but any solvent will do. Dry the parts on paper towel and leave to fully dry or to speed the process blow with compressed air using the **above PPE**

G2.D

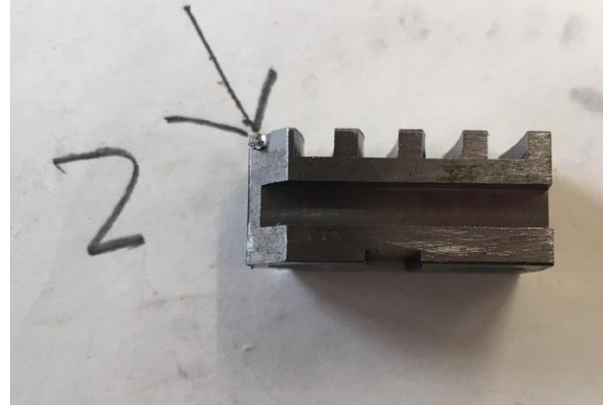


Pictures D and E show that there was slight previous damage to the inner and outer ends of the scroll and to one of the carriers. This was probably the consequence of incorrect reassembly with the carriers out of sequence at a previous service. I fettled this damage with a fine file.

Patriot D



Patriot E



Reassembly is the reverse process with certain caveats. Spray each part with lubricant prior to assembly. My preferred lubricant is PTFE spray, because it is a 'dry' lubricant, but any fine oil will do. Do NOT use grease of any grade. With the chuck on its back, insert jaw carrier labelled 1 into any slot. Now insert all the other carriers in order 2-4 into slots in an **anticlockwise** sequence.

Bring the carriers together so that their inner edges form a square and turn the whole over. You can now drop the lubricated scroll onto the jaws and with a little 'jiggling' it will engage with the carriers. Now replace the lubricated pinions and engage them with the teeth of the rack (Patriot F). Replace the retaining pins and secure the backplate by its 3 machine screws and the job is complete.

JOB DONE.

Patriot F

