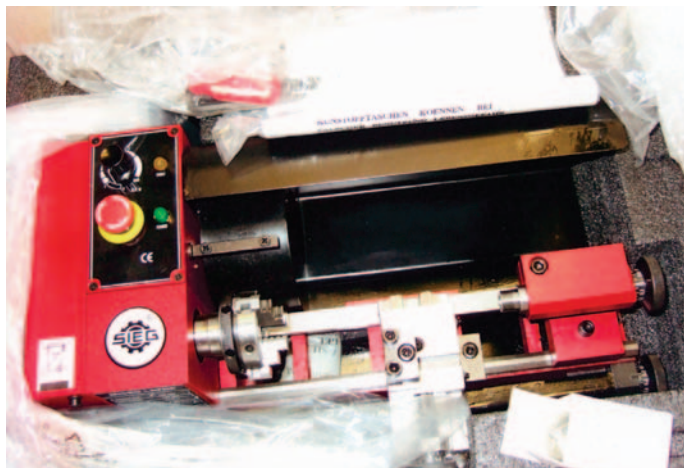


PRODUCT REVIEW

SIEG model C0 'Baby' lathe

Save £55.00 on this new small lathe, ideal for modellers. Review and photography by **Mick Nicholson**.



The lathe is very securely packed for transit and, apart from being a tight fit inside the foam plastic, it is also well greased and comes complete with a bag of 'Silica Gel' rust protector. This view also clearly shows the position of the 'Saddle Nut Screw' (104) and the tailstock locking screw (81).

For about 50 years numerous small lathes have been manufactured and marketed as suitable for the small scale model maker, probably the best known being the Austrian made 'Unimat'. Some years ago several Far Eastern manufacturers entered the machine tool business supplying a range of lathes and milling machines mainly aimed at the model engineer. One of these, 'SIEG' a Chinese concern has now turned towards us, the small scale modeller and produced a very solid miniature lathe suitable for 'table top' use. In the UK it is called the 'C0 Baby Lathe', my example being imported by Arc Euro Trade of Syston, Leicestershire.

The lathe is supplied complete with 50mm three-jaw self-centring chuck, dead centre to fit tail stock, and a 'tool kit'. Beware - the latter is just that: a set of spanners, screwdriver and Allan keys. Cutting tools are not supplied, you must provide your own. The supplier recommends 8mm square tools, but already having numerous 6mm tipped tools I used these instead, the smaller size is no deterrent, they just need a little more packing to bring them up to exact centre height.

Dismantling and cleaning

The machine comes factory-assembled and well coated in protective grease, all of which (including the accumulated dirt and residue casting sand from the manufacturing process) needs to be removed. Even so, and using only the tools supplied, I had the lathe reduced to its basic components in about ten minutes

numbers listed are those shown on pages 8 and 9 of the instruction manual supplied with the lathe, but beware that several of the part names have lost a little in the 'translation'.

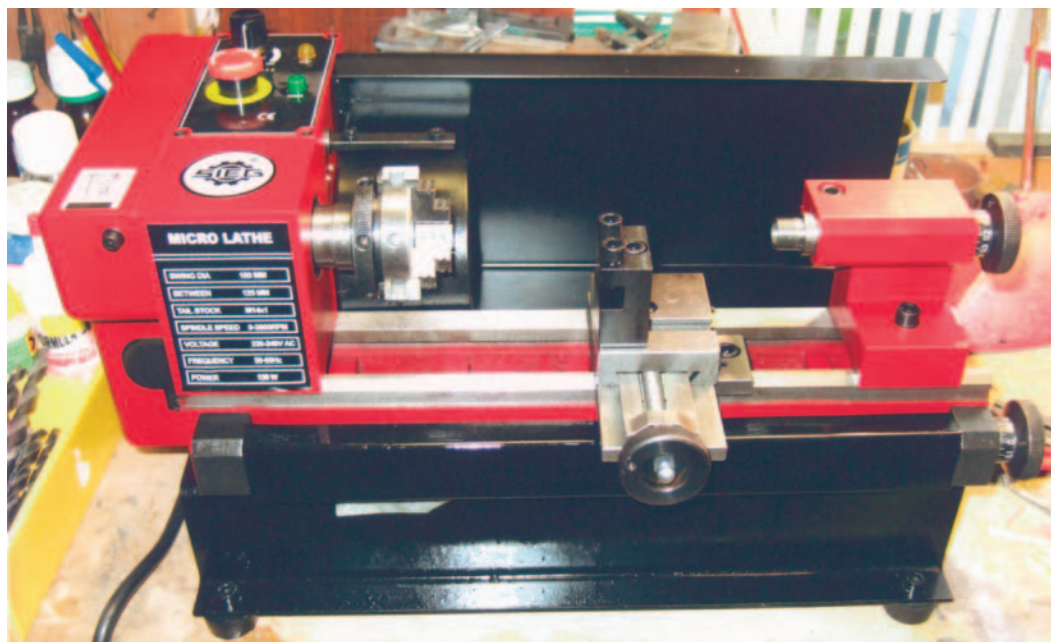
To strip and clean my own lathe I first removed the tailstock, slackening off the socket screw (81) allows the entire assembly to be slid off the bed. To take off the saddle/cross slide assembly it is necessary to remove the lead screw and nut (21 and 102) but first take off the lead screw handwheel (23). To do this hold the wheel in one hand and with the other hand and using an 8mm spanner remove the domed locknut (24), the wheel can now be drawn off. The lead screw nut (102) is secured to the saddle by two hexagonal-head set screws (3). Removing these frees the saddle and allows it to be slid off the lathe bed. With the saddle removed continue to strip down the lead screw (21) and its brackets (2 and 22). These should require no more than a good wash down with meths. The saddle and cross slide assembly is now stripped to its basic components. First take off the tool post (79), 'Knife rest' in the parts list, and put it to one side. No work should be required on this. Remove the cross slide hand-wheel (23) using the same technique as described above. This permits the cross slide to be drawn off the saddle casting. From the underside of the saddle casting either remove or slacken off the press plate (96).

Reassembly

With all parts thoroughly cleaned reassembly can proceed, but first check the inside edges of both the front and rear bedway (1) for burrs. These are easily detected with your finger tip. Should any be found carefully rub them away with a fine oil stone, drawing the stone the full length of the bed. Then clean down the bed casting - it's important all traces of the oil stone are removed. Refix or fully tighten the press plate (96) to the saddle and after applying a little machine oil to both bed ways attempt a trial fit. Almost certainly it will be too tight, and require several shims to obtain a nice sliding fit. If so, start off with a 10thou shim, placed between the casting and the press plate, tighten up and try again. It may still be tight and a little time and patience will be called for. If so, add a further shim, say 3thou, and try again. In simple terms a tight fit requires a further shim and conversely if slack remove one.

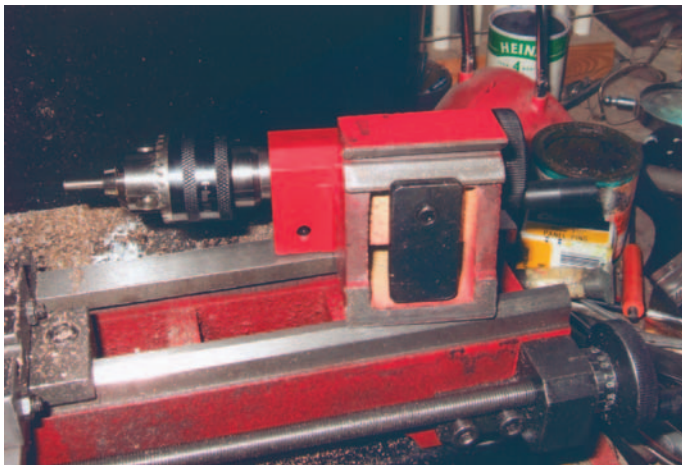
Once the correct combination of shims is achieved the saddle should slide effortlessly. The saddle nut (95) will also need to be correctly adjusted. I found it necessary to insert a 10thou shim between the nut (95) and the saddle casting (103). With the shim(s) in place fully tighten the hexagonal-headed screw (104). You should now be able to slide the saddle the full length of the bed without any noticeable shake in either plane.

The leadscrew, nut and hand



Straight out of the makers' box, untouched and in pristine condition.

PRODUCT REVIEW



Tailstock removed from bed to show underside and 'Pinch Plate' (89), wrongly referred to as 'Baffle' in the parts list.

wheel can now be reassembled, once lubricated it should be possible to wind the saddle smoothly from end to end. A tiny amount of clearance is necessary between the hand wheel and the bed casting. Holding the lead screw between fingers push it tight towards the right-hand end of the bed casting and screw on the hand wheel then lock in place with domed nut (24). You may need more than one attempt to get it spot on, but a few minutes perseverance will soon have it right. If too tight, slacken the dome nut a fraction and very slightly back off the hand-wheel then relock the domed nut. Should there be too much slack or end play follow the same procedure but instead very slightly tighten the hand wheel.

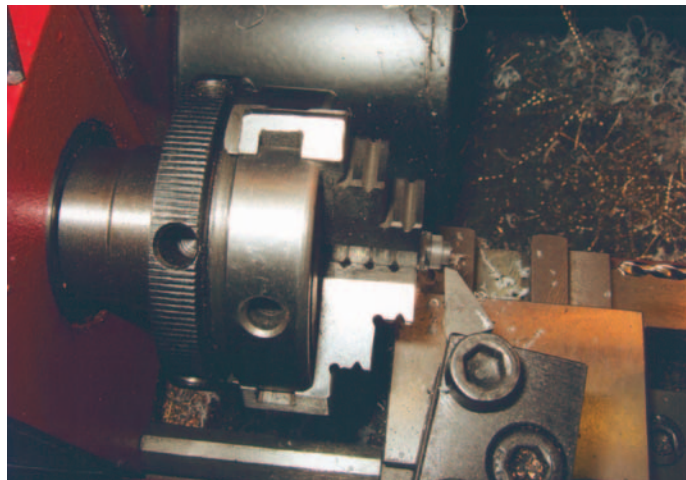
Before replacing/reassembling the cross slide, check for any burrs on the saddle casting and remove them as previously explained. Apart from the cross slide (106) working on conventional 'Dovetails' and being adjusted by means of a 'Gib Strip' reassembly of the feed screw and hand-wheel differs little from

when setting up the saddle. Page 7 of the instruction manual details how to set up and adjust the gib strip (105), wrongly called 'Saddle Wedge'. I will not repeat it here.

Using the lathe

Basic instructions for using the machine are given in the first few pages of the manual, and novice or not, no harm will be done by reading and fully digesting these first seven pages. All feed screws are 1mm pitch and therefore one complete turn of the respective hand-wheel advances or retracts the saddle, cross slide or tailstock barrel 1mm. Each wheel is further calibrated with 0.1mm divisions which I found to be accurate.

Prior to putting these notes together, on my own machine I turned from brass, plastic, cast iron and perspex bar numerous Imperial to metric conversion bushes. These will eventually be used by a friend to update several 1970s Tri-ang Hornby diesel locos. Another job was to turn from 3/32" diameter brass rod a complete 2mm scale tubular signal post. With tailstock support, a sharp tool dead on



An almost finished perspex insulating bush being turned on the 'Baby' lathe.



Saddle, cross slide and lathe bed. The front 'Shear' takes the form of an inverted 'V', the back one is oblong in profile. The cross slide adjusting screws and toolpost fixing 'Tee Slot' are clearly shown.

centre height and a little care I easily archived the required 0.8mm finished diameter of the long upper section, the thicker lower part or 'Butt' scaling at 1.2mm diameter presented no difficulty. ,

A final test piece was to turn from 10mm dia. brass bar several component parts required for an 18.2mm EM roller gauge. Again I had no trouble machining any of these parts, and this included parting off 0.9mm wide spacers. Once more the calibrated hand-wheels came into their own and again proved accurate.

Additional accessories

In addition to the basic lathe as described, several accessories are available. Worthwhile purchases for our use are face plate, two-way tool post, compound slide and tailstock chuck. The latter, if nothing else, is an essential purchase.

Aftersales

Unfortunately my own 'Baby Lathe' failed after only an hour or so of use, undoubtedly - I'm sure - no more than pure bad luck. The problem was the electronic control circuit card which had developed some fault or other and only allowed the lathe to run at maximum speed and for all purpose rendered it useless. A phone call to Arc Euro Trade soon had the matter sorted and within a week a replacement card had been delivered to my address.

With the lathe safely upturned on the dining room table the damaged card was out and the new one correctly installed in less than ten minutes. Since then the machine has given no further trouble, and speaking as one who has owned a lathe since 1969 (I presently have three), I thoroughly recommend the 'Baby', as a good

and strong small scale model makers tool.

Further Reading

Many books have been published on using small lathes. One of the best, and the one I cut my teeth on almost 40 years ago and still in print, is *Using the Small Lathe* (L C Mason 1963). There are of course others available, a good source is Camden Miniature Steam Services, Rode, Frome, Somerset BA11 6UB. Tel: 01373 830151. Website: www.camdenmin.co.uk

Details

Scale/gauge: Will handle any task up to/including gauge 1.

Manufactured by: SIEG

Imported by: Arc Euro Trade, 10 Archdale Street, Syston, Leicester LE7 1NA.

Tel: 0116 269 5693

email:

information@arceurotrade.co.uk

or visit:

www.arceurotrade.co.uk

Overall dimensions:

440 x 270 x 210mm

(1'5" x 1'11" x 9")

Swing over bed: 110mm

(4.25")

Distance between centres:

125mm (6")

Spindle and Tailstock bore:

10mm (3/8")

Cross slide travel: 50mm (2")

Spindle speed: 100-3,800 rpm

Price: Normally £165.00 (plus £15.00 carriage) - BRM reader offer price £118.00 (plus £7.00 carriage to most of UK). Special offer prices also available on all CO 'Baby Lathe' accessories - call 0116 269 5693 for details.