April 2021

Crosscut

◄ More toys from the 2020 braai.

Secretary: Lynton Dennill secretary@wwwa.org.za Editor: Trevor Pope tpope AT iafrica.com

Go to www.wwa.org.za for back issues of *Crosscut*.

Next Turners Meeting on **Monday, the 12th April 2021** from 18h00 at **Made in Workshop** – Etienne du Plooy from ProSono on woods they sell. Please note the 2nd of April is Easter Monday so the meeting is postponed to the 12th.

New Year - General Meeting on **Wednesday, the 14th April 2021** from 18h00 at **Made in Workshop**. – Discussion on wood finishing led by Lynton Dennill, Frans Joubert and Graham Swallow.

News

Main Club meeting. Wednesday, 10th March 2021. Presentation and demonstration by Tim Roy from Morrells. Tim spent many years with Chemspec before joining Morrells when they entered South Africa. Morrells is a British company that has been in existence for 115 years, so there is a good track record for their products. Tim detailed their product range on oil and water-based finishes and stains. He then showed the application of a couple of stains, overcoated with oils and gave some advice on how to successfully apply them. They have a useful selection of supplies including abrasives and staples like Danish oil at their Industria West and Sonneglans premises. Tim can be on contacted 084-888-4800 or via johannesburg@morrells.za.com Go to www.morrells.za.com for more information on their products.
A follow up demo using electric and compressor powered spray guns is scheduled for Saturday, the 17th April 2021 at the Morrells premises in Sonneglans, (across the N1 from Strydom park). Members will have received an email with the details.

All the January and February 2021 meetings, as well as the March 2021 turners' meeting were cancelled due to the Covid19 second wave lockdown.

Hobby-X 2021 has been postponed from April to November. It will take place at the Kyalami Convention Centre from the 4th to 7th November 2021. WWA will have a stand as before.

Woodworking 101 – Will resume on the 1st May 2021 – details to follow.

Schedule for Regular Events at Made in Workshop

Meetings – regular meetings in addition to those given above

1. First Saturday of the month – Bobby Bezuidenhout – Woodwork 101 for beginners. Contact Bobby on 083 873 3872 or bobbymel109@gmail.com
2. Second Saturday of month - Herman – all things turning related – 083 631 0501 hermanpotgieteresq AT gmail.com

This list is subject to change, so please consult your Crosscut each month.

Replacement Wooden Seat.

Trevor Pope

After some use, the pine seat on my Dabeb pottery wheel proved to be a pain in the proverbial. ►
Sitting for more than half an hour, caused numbness under my sitting bones. This is despite the seat being tilted forwards at 8 degrees to place the spine and pelvis at the correct angles. The tilt is important, given that some of the time is spent bent over the wheel head. When throwing, it is important to be able place one's elbows on the rim of the basin for stability.
Also, the seat is rather narrow at 21cm wide and not sculpted at all. At my age, I find my sitting bones need some support on the sides as well.

Being a wood worker, this was a challenge. I know from my shave-horse seat how ► much more comfortable a shaped seat is, even without any padding. The shave-horse seat is also tilted forwards, which helps to avoid back-ache.

This piece of white stinkwood (Celtis ► africana) was the right size and thickness, so after cutting out the shape on the bandsaw, I used hand-planes, spokeshaves and a hollowing plane to shape and hollow the seat. It is half as wide again at 32cm and hollowed about 15mm. Even this small hollow makes a surprising difference to comfort. If the seat is dished too deeply, then it tends to hold your bum in a straight-jacket.

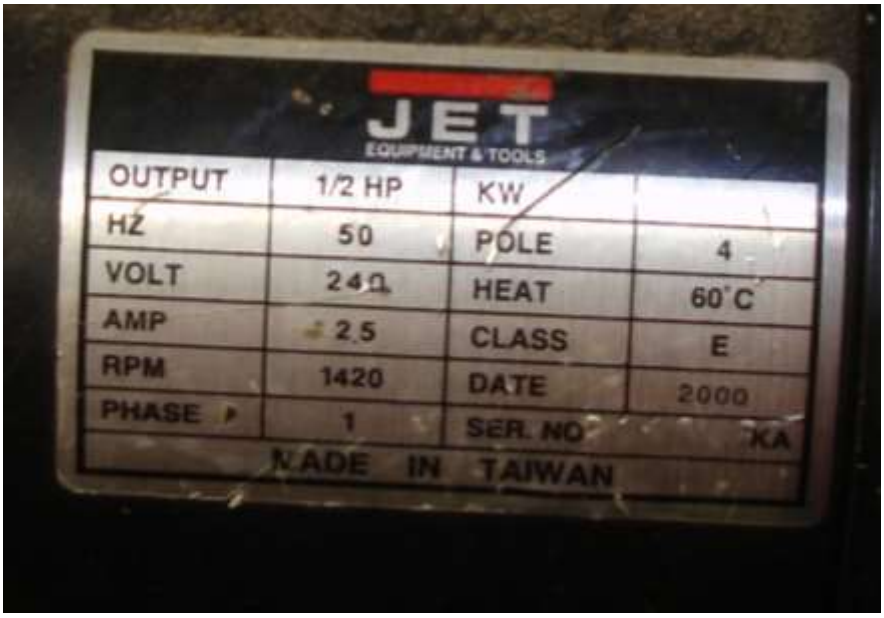
Finish is water-based Rystix Timbacare Armadek Clear. Being water-based, it doesn't yellow the wood, which I prefer.

No-volt Release Switch for Jet 1014 Mini Lathe

Trevor Pope

The power switch on the WWA Jet 1014 mini lathe was damaged in the move or subsequently at MiW, so the lathe could not be used. Due to the limited spare parts carried by Jet in SA, it was decided to replace the switch with a **No-Volt-Release** (NVR) motor starter switch. This was a comparatively simple process, which I have recorded here in case you wish to undertake something similar.

The OEM switch was a simple toggle switch, with a removeable key to prevent unauthorised use of the lathe if desired. The picture shows the switch partly removed. You can see the damage to the sides of the switch.



A **No-Volt-Release** motor starter is an electromagnetic relay for starting and stopping a machine. When selecting a motor starter, it is important that the starter is correctly rated for motor power. This is because induction motors directly connected to the supply at start-up draw a much higher current than listed on the nameplate until they get up to speed, and the starter contacts need to be rated to supply this.

When an induction motor is connected to an AC supply, the initial starting current is limited only by the DC resistance of the windings, and can be many multiples of the full-load rated current. As the motor runs up to speed, the interaction of the stator and rotor windings create an impedance that reduces the current to the steady state.
Consulting the name-plate of the motor will give you the information you need. The motor is rated at ½ horsepower = 375 W, so with a 230V AC supply, this gives a rated steady state current of 375 W / 230 V = 1.6 A.
The nameplate states 2.5 A which is probably a peak value, indicating a reasonable setting for overload protection, should there be any.

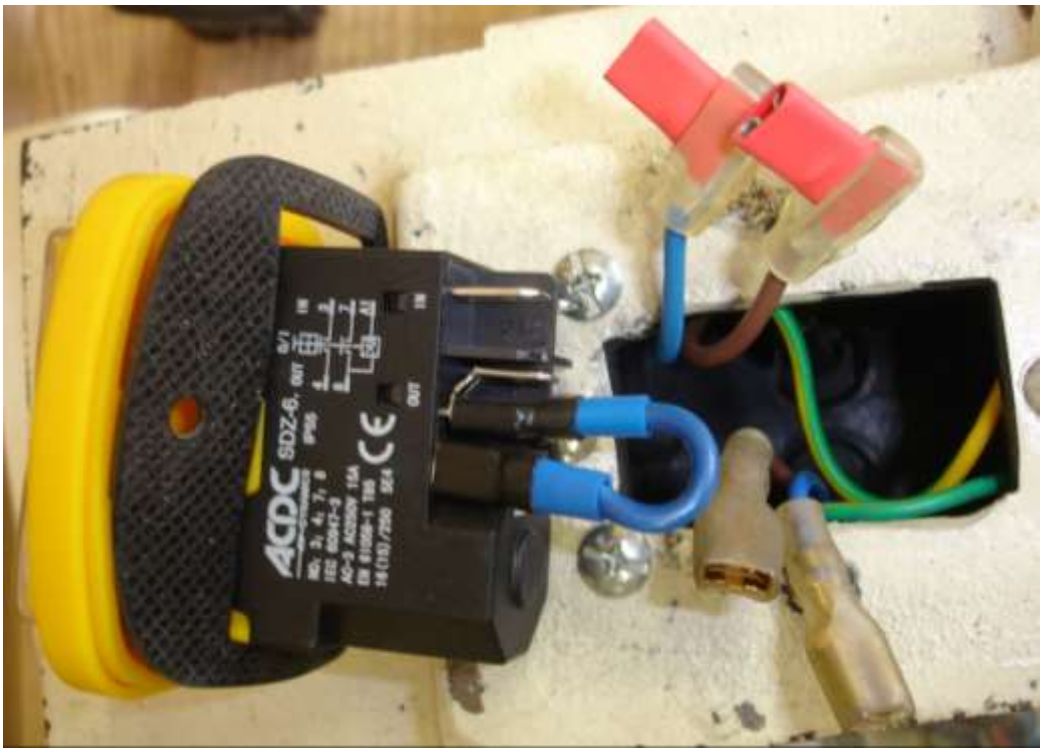
The starter switch rating is 15A as per the nameplate on the relay shown below. So, it is between 6 and 9 times over-rated for the steady-state current draw and can be expected to cope with the starting in-rush current draw of the motor.

The wiring diagram for the starter is also shown on the side of body. It is a conventional NVR starter, except the holding coil is connected separately to pin A1. This type of NVR starter has contacts that are mechanically closed by pushing the green button, and mechanically opened

by pushing the red button. In between starting and stopping, to keep the motor running, the holding coil is energised to keep the contacts closed. In order to provide the option of an additional emergency stop or some sort of safety interlock, one side of the coil is brought out to Pin A1. In this case, we do not need an additional emergency stop or safety interlock, so A1 is connected to Pin 4 by the blue wire link as shown. This was made up using pre-insulated lugs with additional black heatshrink to improve touch safety.

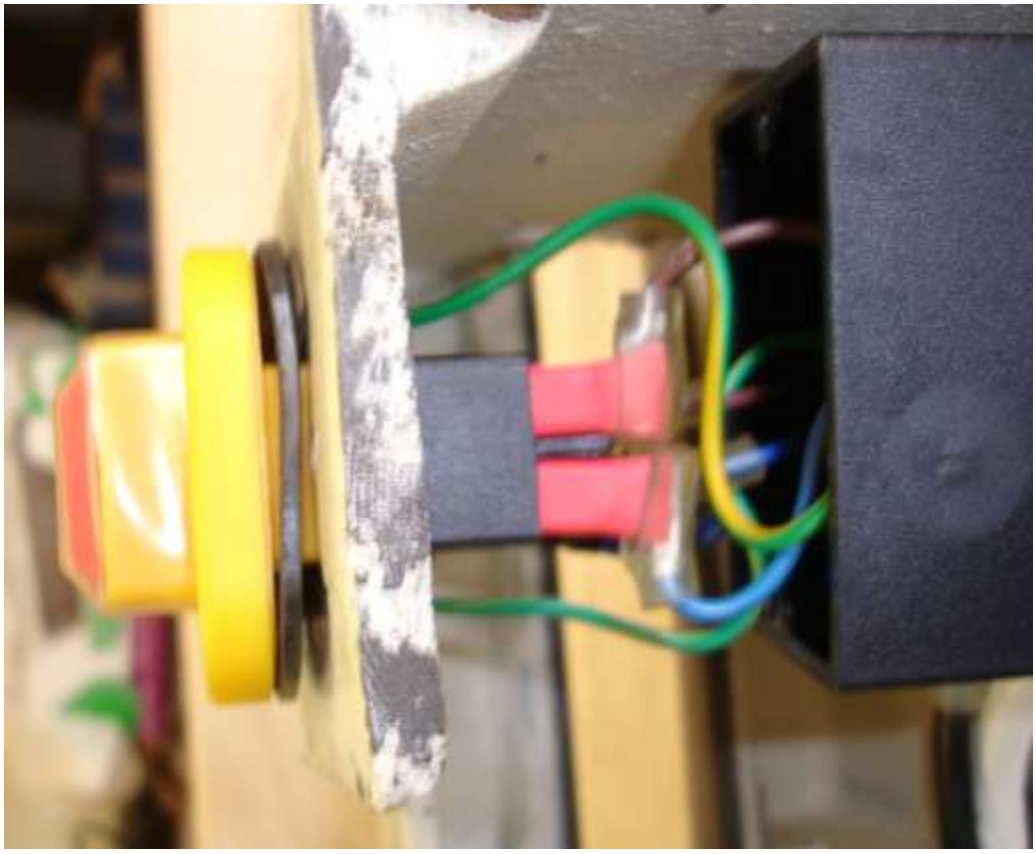
An NVR starter is so named because if the power is interrupted, then the relay drops out, and when the power returns, the motor will not restart until the start button is pushed again. This is an important safety feature, particularly given our history of power interruptions in South Africa.

Should you wish to add an emergency stop or safety interlock to this starter, this would be of the type that interrupts the circuit when you wish the motor to stop. Then the holding coil will be no longer energised and the contacts drop out, removing power to the motor. You should replace the blue wire with a circuit that includes the emergency stop or interlocks. The type of interlocks you may wish to include could be a microswitch on a door or cover for a belt or a blade such for a bandsaw. On this very simple lathe, the manufacturer did not think it necessary to add any such options.
As an example, my bandsaw has switches on the blade access covers. It also has two emergency stop buttons, which are wired in series, so if any doors are open or either emergency stop button is pushed, the circuit energising the coil is opened and the starter drops out, removing power to the motor.



Upon removing the existing OEM Jet switch, there was a rather ragged hole in the casting. This proved to be slightly too small for the replacement starter, so some filing was required to allow it to fit neatly. The wiring

was simply reconnected using the same spade connectors as shown in the photograph. Red heatshrink was added to the incoming connectors to provide an extra degree of touch safety.



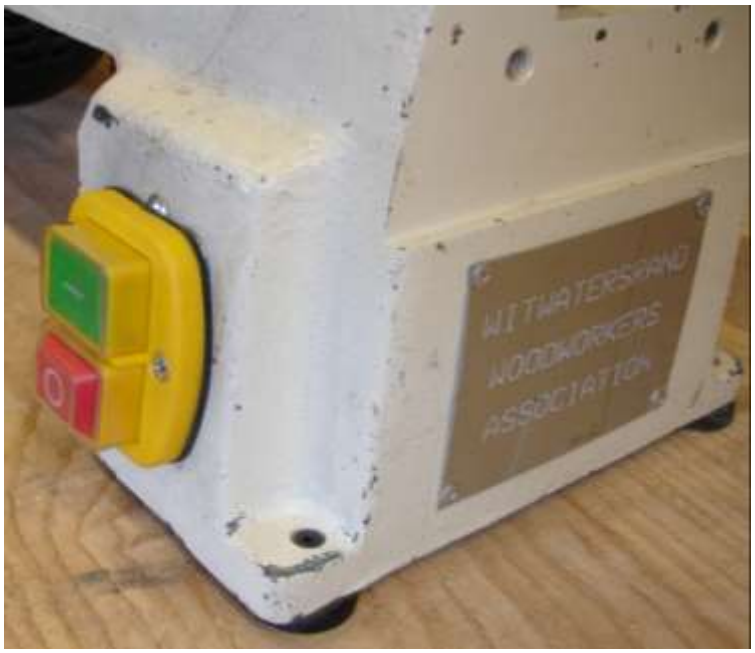
The lower picture shows the new starter switch in place with the connections made. Red incoming go to the IN terminals, Brown (Live) to Pin 7 and Blue (Neutral) to Pin 3. The motor side goes to Pin 8 Brown (Live) and Pin 4 Neutral (Blue).

The two Green/Yellow Safety Earth wires are connected to the two earth terminals on either side of the switch as before.

The space is quite tight, so the order of assembly is important. Once all the wires were connected, the black cover, on the right of the picture, had to be screwed down before the starter switch could be attached from the front.

An insulation check was done between the live parts and earth, with 4.6 GΩ at 533V being recorded. This included the motor, which is excellent.

The final installation is neat and doesn't protrude more than the original.



As you may have noticed from the motor nameplate, the date of 2000 suggests the lathe is about 20 years old.

The NVR starter was bought from ***AC/DC Express*** under part number SDZ-6B. It retails for about R300-.