

Metal Bandsaw

The bandsaw is a Clarke CBS45M, a convertible horizontal / vertical bandsaw, designed for cutting metal bar, rod and tube down to length. It has a 1/2hp 370w motor, and is commonly fitted with a 14TPI blade.

[CBS45M Manual](#)

Status

The bandsaw is now operational. There are however some additional things we can do under the TODO list For induction see Team:Metal

Use

Rules for Use

- DO NOT press down on the top of the saw while cutting, it will take a while. We can't risk burning out the motor again after it cost 90 quids.
- DO NOT leave the motor unattended, it is tempting because the saw takes a while to get through steel, however if the motor catches / can't move then there's a risk again of damage to the motor.
- DO NOT use the saw for cutting wood.

Generally it's okay to block up the metal part being cut with a small block of wood underneath. Just try to avoid cutting any wood with it.

Tips

I've found it's best to block up the metal part being cut underneath with a small block of wood. The saw will stop once it hits the red stop button and goes all the way down so it's best to raise the part up slightly.

Try to use some cutting fluid to help cutting, use a bucket underneath to catch the oil

Maintenance

Motor

The original motor was a 500W model which seemed to be used on the older versions of this bandsaw. This motor however had burnt out and had to be replaced.

The motor has recently been replaced with a 1/2HP, 370W, 1400RPM motor which is the one Clarkes have in stock for this model of saw. All newer models seem to use this type of motor.

Replacement motors are around £90 with delivery and include the starting capacitor on the side.

Mechanical

Mechanically, the bandsaw appears to be in good condition - bearings have all been replaced and wheels realigned before we bought it.

All bits for the bandsaw are located within a small blue square box with a lid, and metal bandsaw written on the top

- The bolt that fed into the tension adjuster had been bent, this has been replaced with some threaded rod.
- The On / Off Switch has been replaced (this cost around £17 from clarkes)

TODO

spares

I Think I've managed to identify which spares we're missing for the saw

Stand Shelf / 7 / SD45007 I think this is the tool tray which keeps the frame rigid and acts as a drip tray

Vertical Cutting Plate / 55 / SD45055 This is the plate used for cutting vertically

Support Bracket / 102 / SD45056 This is a bracket that holds up the cutting plate

Drip Tray

There should be a shelf underneath the saw which is labeled on the manual as a tool shelf. This shelf is currently missing. Instead of replacing the shelf with an official one, instead we plan on replacing it with a water proof one that extends past the point of where the cut is being done to be used as a drip tray.

As well as acting as a drip tray this will also help prevent the legs from spreading out when moving the machine on the wheels. Currently thinking about making this out of wood, with a plastic inlined on the inside.

Vertical Milling Bed

The bed attachment for vertical usage is missing. Ideally we need to make a new one out of a block of aluminum.

* ["%https://www.youtube.com/watch?v=pUsMVYyHWPC%%"](https://www.youtube.com/watch?v=pUsMVYyHWPC%%)

Electronics

Safety Switches

There are two microswitches, one inside the blade guard, and one inside the belt guard. These are wired in series with the motor, and must both be actuated for it to spin up. There is also a zero-volt switch for powering up the bandsaw, which is turned 'off' by the motion of the bandsaw itself hitting the off button.

Ideally we will also add an e-stop mushroom button, as the existing off button on the zero-volt switch is right below the blade when cutting, which may prove difficult to hit in an emergency situation.

To test if the safety switches are closed / operated you can check continuity between the neutral on the plug and the blue wire feeding into input of the on / off zero volt switch

The below is the junction box below the zero power switch

Risk Assessment

Metal Bandsaw Risk Assessment



Category:Equipment Category:Metalspace Category:Team Metal

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