

Dismantling and maintaining the Huky500

By: Björn Nilsson (edtbjon) at <http://www.hukyforum.com/>
You may use this under the CC BY-NC-ND license.
(See <http://creativecommons.org/licenses/by-nc-nd/4.0/> for details.)



Here are some tips on dismantling and maintaining the Huky500 roaster. While the roaster is very simple and elegant in its construction, it still needs some cleaning now and then. How often you decide to do this is entirely up to you. This document does instead focus on how to take the machine apart and what to look out for.

I've tried to write this document in the order that you dismantle and reassemble the roaster. There may be things that I forgot to mention or other smart ways when it comes to the mechanics of the roaster. Please don't hesitate to send me a message if there's something wrong here or if you have some other tips that you think belongs in this document.

Apart from the spanners and hex keys mentioned below, you may also need some cleaning detergent and some version of Autosol if you want your Huky to look shiny.

Tools



You don't need that many tools, which I think is part of the elegance with the Huky. In the picture on the left you can see all but one tool that is needed for dismantling just about every part of the roaster.

From top to bottom, the top two spanners come with the Huky and what you need is the 7 and 10 mm (millimeter) spanners. The 14mm spanner which I've included in the picture is for dismantling the ET thermometer (or the brass adapter for the ET thermocouple).

The screwdriver is for the rubber feet and for disassembly of the fan(s) and stand/exhaust bowl.

The tool that you really should get is a 2.5mm hex which is part of that set. (The 2.5mm hex tool that comes with the Huky is in the bottom of the picture. As some of the screws are a bit "soft", a better hex tool is recommended.)

For the exhaust, you will need a few brushes. The exhaust does need cleaning now and then and some kind of bottle brush for the 1.5" pipes will make cleaning easier. The burnt grime inside the exhaust will usually dissolve after an hour in some soapy water, but if it won't budge, some espresso machine cleaning powder will dissolve it, given enough time for it to do its work.

Let's start disassembling...



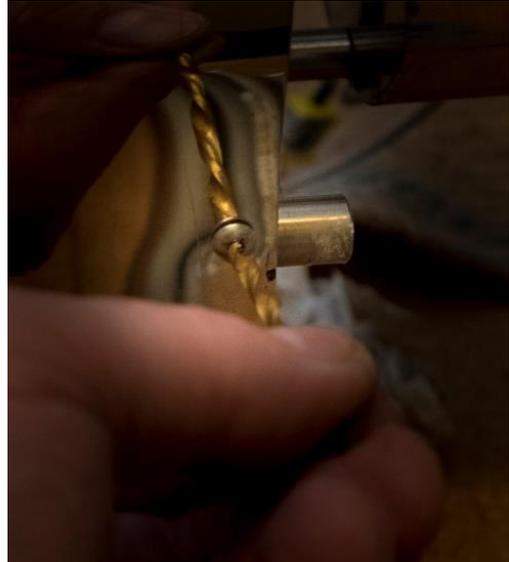
There are a lot of small screws, so get something to collect them while you go along.

As the plan for this document is to dismantle the whole roaster, take out the drum etc. so that you can get to both bearings, the first thing to do is to unscrew the small screw at the center of the front bearing. (Highlighted in the picture below.) Then I recommend that you take off the dump hatch and its counterweight. Those three screws are all 2mm hex.



It's enough to unscrew the two highlighted screws in the picture above. Then you can pull out the hatch and put it aside (after cleaning ☺).

The shroud...



These screws are somewhat notorious for being a bit soft. This is where you need that top quality 2.5mm hex key. Some patience is very good to. If a screw just doesn't want to budge, go ahead to the next one. Start with just loosening them a turn or two. Once all the screws are untightened you can take them out. You do have to wiggle the shroud a little bit as the screws does hold it in place.

A note on stripped shroud screws...

Be very careful so that you don't have to do what I show in the picture on the right. That is the very last resort if you have stripped the screw way past any salvation. In that case, you can carefully drill off the head of the screw with a 1/8" or 5/32" (3-4mm) drill bit. Please note the word "carefully"! You only need to drill some 1.5-2mm deep (1/16" or so). When the screw head is loose, it usually gets stuck on the drill bit. Once the shroud is off you can easily unscrew the rest of the screw and replace it with a spare one. (There should be a few spare screws in your toolkit.)



Once you've successfully taken out all the screws, the shroud should slip off with ease and leave you with a Huky in the nude. (In the picture to the right you can see how the MET is attached to the frontplate. If you didn't order a MET thermocouple, there's a nut and bolt instead. The BT is attached in the same way.)

Front or back plate



As you can see once you've dismantled the shroud the front and back plate are held together with six steel bars (a "chassis" in cars terminology). You can choose to dismount either plate or both, but in this document, I've chosen to take the front plate off. On the front plate, there are two small nuts under the dump hatch lip plus the four 10mm nuts in each "corner" of the front plate. The one thing to check for is the small screw (2mm hex) in the center of the bearing. Unless you take that one out, the front plate will be stuck to the drum. But as it's just a small lock-screw, a small amount of force can break it!



So, the front plate comes off, the inside of the front plate does is indeed dirty... (There's even a couple of stuck beans in the hole for the ET TC. ☺)
The drum should slide out quite easily, as there's nothing holding it in place.

You can achieve just about the same thing by taking off the back plate. If you're only to do something with the motor, you can just as well take off the back plate instead. (The drum is loose, so you can still easily take out and clean the bearings.)

Back plate and motor



The motor is held in place with 3 10mm nuts (don't lose those washers...). I think that the small black coupling between the motor and the drum still is the current model, but I know that there are older versions where which that coupling was more prone to getting lost.



A few words on motors and motor housings. You can see in the pictures above how the motor is fit into the housing, with 4 small hex screws and small nuts and washers inside the housing (not shown). I didn't bother to open up the housing, as that back plate is a very tight fit. (The screws are 2mm hex.) I've had that spare motor for two years and it's still new as the original one hasn't given up on me. I did fiddle around with changing motors in my other housing (48 rpm for perforated setup) and you need some special small tools to reach to the bottom of the housing to reach the corresponding nuts. You will also need a soldering iron for the wires to the + and - connections. (That's the easy part.)

If you decide to swap the motor in a housing, you'll probably end up with the 2mm hex screws on the inside of the housing and the nuts and washers on the outside. You'll understand what I'm talking about if you dig that deep into the motor housing.

A complete housing cost \$78 compared to the \$18 for the motor only. If you're buying both drum configurations with the intention of using 72 rpm with the solid drum and 48 rpm with the perforated drum, I advise you to buy an extra housing complete with the corresponding motor. Changing just the motor easily needs much more time and effort than rebuilding the rest of the roaster.

I still haven't heard of a motor breaking down, but if that happens having an extra motor in the cupboard will save you a week of waiting.

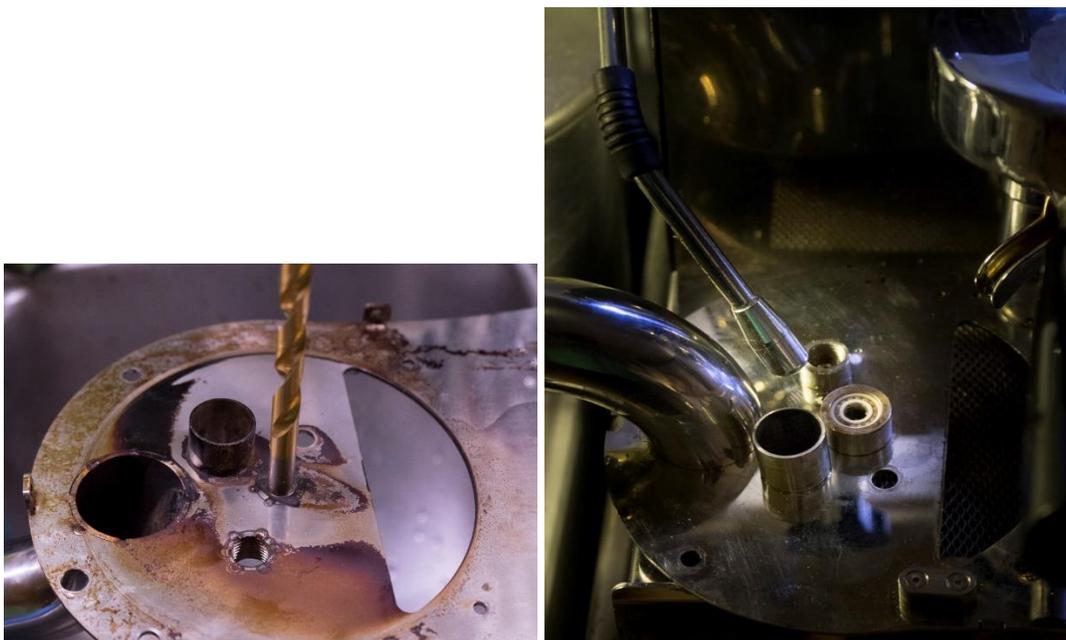
Bearings

We're finally up to some maintenance... ☺



The left picture is the exposed back bearing. The bearings are a bit tricky to get out and if you do it wrong, you can easily damage the bearings. In the first version of this document, I suggested “prying from the back with e.g. a blunt screwdriver”, which is doable if the bearing isn't stuck in the bearing holder. Now, the drum axle is exactly 8.0mm which is also the inner diameter of the bearing. Mr. Li have inserted a thin bushing on which to center the bearing holder. The inner diameter is about 8.6mm (on my about two years old frontplate #498), so you've got at least 0.5mm to play with. (Mr. Li suggested using the back of an 8.1mm drill bit to push the bearing out of the holder. Finding an 8.1mm drill bit is tricky even in a metric country, but an 8.5mm is readily available and they should be available in the US too.

The idea is to put an even pressure to the inner bearing ring. If you don't have a suitable drill bit available, you now know that any round stick with a diameter of 8.1 – 8.5mm will do the trick.



Second, if the bearing is stubborn and you don't feel like pushing hard, you can apply some heat locally to the bearing holder. A little bit will help a lot. My bearings came out quite easily, but with a bit of steam from my espresso machine the bearing almost fell out of the holder. If you don't have an espresso machine, you can boil up some water in a very small pot and put the front plate face down on top of the pot for a minute or two.

I recommend to soak the bearings in some solvent. Kerosene or maybe acetone. Just so that the grime gets washed away. Some easy rubbing with a toothbrush together with a can of compressed air will take most of the dirt away. Spin the bearing, soak, brush, repeat... Once done, repack the bearings with the supplied grease and slip them into the holders again.



Important: There's an orientation of the bearings, which is just about seen on the picture above (on the left bearing). There's a slight indentation at 10 o'clock in the outer ring and at 2.30 in the inner ring. These indentations must face inwards in the bearing holders. I.e. put that side inwards, towards the drum on both sides.

On later roasters Mr. Li supplies the bearings shown to the right in the above picture, where the "GBK 688F" printing is on "the other side", i.e. the outside. I.e. if you slip in the bearing and can see that printed text, your good. On my roaster (#498) an older type of bearing is used without that print on the outer ring, but those older bearings still have that front- and backside with the small indentations.

The grate

The grate is opened/closed with that small lever on the back of the roaster. When I first assembled the perforated drum the grate was very stiff. (It could have been because the drum and grate were "spare parts" and not from an original roaster.) I just had to press the two tubes (on which it slides) together a little bit for it to slide back and forth with ease.



If you've taken the roaster apart, you have to adjust the lever with the two nuts in the first picture above. Just adjust it so that you get the open and close positions at the end throw positions.

Assembling the roaster

Assembling the roaster is the opposite of disassembly. There are a few tricks though...



First, you should put the motor assembly in place before setting the drum in place. To make sure that these two align, don't tighten the nuts before you've felt that the drum is spinning freely with the motor. Once you've attached the front plate, you can tighten the nuts for the motor after a test run. If there's some kind of noise, it's easy to wiggle the motor a bit to find the "silent spot" and then tighten the nuts.

Those three nuts are the ones that I recommend that you tighten hard once you're satisfied with its position, as they are very hard to reach once the shroud is back in place.

Putting the shroud back on



The shroud can be tricky to refit. I recommend to get all ten screws in place before starting to tighten them. Once all of them are in place, start at the top, while still not tightening the screws until all of them are in place. If you can adjust the shroud so that the screws are easy to screw in you're doing alright. There's no need to overtighten these screws, the shroud is a cover and it's the steel rods that hold the roaster together. You can check them after the next roasting session as the steel does expand and "sets" from the heating and cooling.

Finally

Apart from the other parts, don't forget to screw in that small screw and corresponding washer at the front bearing.

You can tighten the nuts on the front and back of the roaster quite tight, but don't forget to check them after your first roasting session.

A note on thermocouplers

The parts in the roaster that obviously gets worn from use is the motor and the bearings. Apart from these parts the TC's gets worn too. The BT TC is constantly hit by the bean mass and a few beans hit the ET TC too. The MET (if you have it) doesn't suffer from any mechanical wear, but it's still a delicate piece of electronic sensor.

You can of course buy whichever TC you like, but it's easy to send Mr. Li an email and paypal him some money for a replacement within a few days.

Replacing a TC (except for the ET) takes dismantling the shroud (for the MET) and taking the front off so that you can reach the locking nut (10mm) for the BT TC.

The ET TC is mounted in a brass adapter (14mm) and you can replace it from the outside of the roaster without any dismantling. A 10mm spanner for the TC and a 14mm for the brass adapter will do the job.