

Now we are going to remove top magnet to see what is under.

????????????????

[img]http://en.rlab.ru/doc/images/hdd_main_parts/magnet.jpg[/img]

HDDs use very strong Neodymium magnets. Such a magnet is so strong it could lift up to 1300 times its own weight, so don't put your fingers between magnet and steel or another magnet - it can develop great impact. You can see on this picture there is a HSA stopper on the magnet. HSA stoppers limit HSA movements, so heads wouldn't bang on the platters clamp and on the other side they wouldn't just fly off the platters. HSA stoppers may have different construction but there are always two of them and they always present on modern HDDs. On this drive the second HSA stopper located on HDA under the top magnet.

??1300??

????????????????(HSA Stopper)????????????????????????????

??

?????(HSA Stopper)????????????????????????????

????????????????HDA????????

????????????????

[img]http://en.rlab.ru/doc/images/hdd_main_parts/voice-coil1.jpg[/img]

There is the other HSA stopper. And you also can the second magnet. The Voice coil is a part of HSA, Voice coil and the magnets form Voice Coil Motor or VCM. VCM and HSA form the Actuator - a device which moves the heads. Tricky black plastic thingy called Actuator latch is a protection device - it will release HSA when drive un-parking (loading) heads normally and it should block HSA movements in the moment of impact if drive was dropped. Basically it protects (should, at least) heads from unwanted movements when HSA is in parking area.

??(VCM)?VCM?HSA????????????????????????????

??

On the next step we going to take out HSA

????????????

[img]http://en.rlab.ru/doc/images/hdd_main_parts/HSA.jpg[/img]

HSA has precision bearing to make movements nice and smooth. The biggest part of HSA milled from piece of aluminum called the Arm. Heads Gimbal Assembly or HGA attached to the Arm. HGAs and Arms usually produced on different factories. Flexible orange widget called Flexible Printed Circuit or FPC joins HSA and plate with heads contacts.

??

Enough about heads, let's continue disassembling. We going to remove top dumper.

????????????????????top dumper?

That's how it looks

top dumper????

[img]http://en.rlab.ru/doc/images/hdd_main_parts/dumper.jpg[/img]

And next picture shows HDA without the top dumper and HSA

????HDA??HSA?top dumper?

[img]http://en.rlab.ru/doc/images/hdd_main_parts/HDA2.jpg[/img]

Now the top platter is not covered, you also can see the bottom magnet

??

Let's move further and remove the platters clamp

????????????

[img]http://en.rlab.ru/doc/images/hdd_main_parts/clamp.jpg[/img]

The platters clamp squeezing platters into the platters packet, so they wouldn't move.

Platters sitting on the spindle hub, the platters clamp creates enough friction to hold platters on the hub when spindle rotates.

??

[img]http://en.rlab.ru/doc/images/hdd_main_parts/HDA3.jpg[/img]

Now when nothing holding platters on the hub we are going to remove the top platter and next picture shows what we may see under.

??

[img]http://en.rlab.ru/doc/images/hdd_main_parts/HDA4.jpg[/img]

Now you see how platters packet has room for heads - platters laying on spacer rings. You can see the second platter and the second dumper.

