

**HddSurgery***Tools for data recovery experts*

Guide for using HddSurgery™ head change tools:

HDDS WDC & HGST 3.5" Helium P7 Ramp Set





Table of contents:

1. Introduction	page 3
2. HDDS WDC & HGST 3.5" Helium P7 Ramp Set	page 4
3. Supported models	page 4
4. Handling the tools	page 5
5. Head replacement process (5 steps)	
Step 1 – Remove the screws from the magnet and the connector	page 6
Step 2 - Mount the tool on actuator arm	page 7
Step 3 – Remove the brake	page 8
Step 4 - Apply aluminum tape	page 9
Step 5 - Dismount the heads.....	page 10
6. Mounting the heads in a patient drive.....	page 12





1. Introduction

This guide is intended as a short course in handling of our tools for professionals in data recovery. It is assumed that the user is experienced in data recovery and familiar with "traditional" ways of saving data. This manual should not be taken as a guide for training.

Using these tools without adequate software support is not recommended. It is recommended to use some of the proven systems for cloning, such as Ace Lab, Salvation Data, Copyr and other products.

It is possible to recover data without HddSurgery™ tools. In many cases, the known processes of hard drive head replacement are effective and sufficient. The general idea behind HddSurgery™ tools was to make sure that the process of replacing damaged hard drive heads goes with no errors. The use of HddSurgery™ tools prevents the ferromagnetic read/write heads to come in any kind of contact with the platter i.e. disk surface or other read/write heads. Also, with some basic procedures and short training, it is possible to let junior data recovery technicians handle complex tasks. With the development of these tools, we are trying to eliminate the element of luck that usually accompanies the process of data recovery.

Experienced data recovery technicians or engineers can have great success even without our tools, but they can have absolute security only by using HddSurgery™ tools.

Non-contact head replacement implies that there is no contact between the heads, or between heads and platters in the process of dismounting the donor heads and mounting heads on the patient drive. Traditional technique of replacing the heads imply contact between the heads and contact of heads with the platters in data area. These problems especially come to light on drives that have suffered some form of physical damage.

A donor selection process is not covered by these guidelines. If you have questions about compatibility, you can send them to HddSurgery™ support team on support@hddsurgery.com

HddSurgery™ is not responsible for any eventual damage caused by usage of our tools.

HddSurgery™ is not responsible for the data stored on the patient or donor hard drives

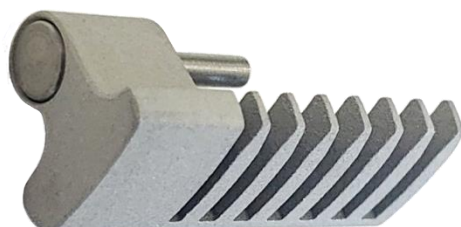




2. HddSurgery™ WDC & HGST Helium 3.5" P7 Ramp Set

The HddSurgery™ HDDS WDC & HGST 3.5" Helium P7 Ramp Set is a pair of head replacement tools designed to safely and easily replace heads on Western Digital and Hitachi 3.5" helium-filled hard drives with 7 platters, where the read/write heads are parked on a ramp.

The set includes P7 tool (pair)



3. Supported models

HDDS WDC & HGST 3.5" Helium P7 Ramp Set	
Supported models	
List of Western Digital families and models on which process of head replacement could be performed by using the ramp tools from HDDS WDC & HGST 3.5" Helium P7 Ramp Set.	
WD: HUH721008ALE600 WD100EZZ-11TDBA0 (The list will be updated)	HGST: HUH728080AL5204 (The list will be updated)
The tool supports WD and HGST helium drives with 7 platters.	





4. Handling the tools

When not in use, the tools should always be kept in a metal box delivered with the tools. This way of keeping the tools prevents any possible damage which could appear when not handled properly.

When taking the tool out of the box, always hold it for the shank. Never hold the tool in the part where the head lifting snouts are. *(picture 1)*

Due to the sensitivity of hard drive platters to dust and any kind of contamination, be sure to clean the tools before their use. Tools can be cleaned with a piece of cotton wool and alcohol.

When cleaning the head lifting snouts, be extremely gentle.



(picture 1 – proper tool handling)

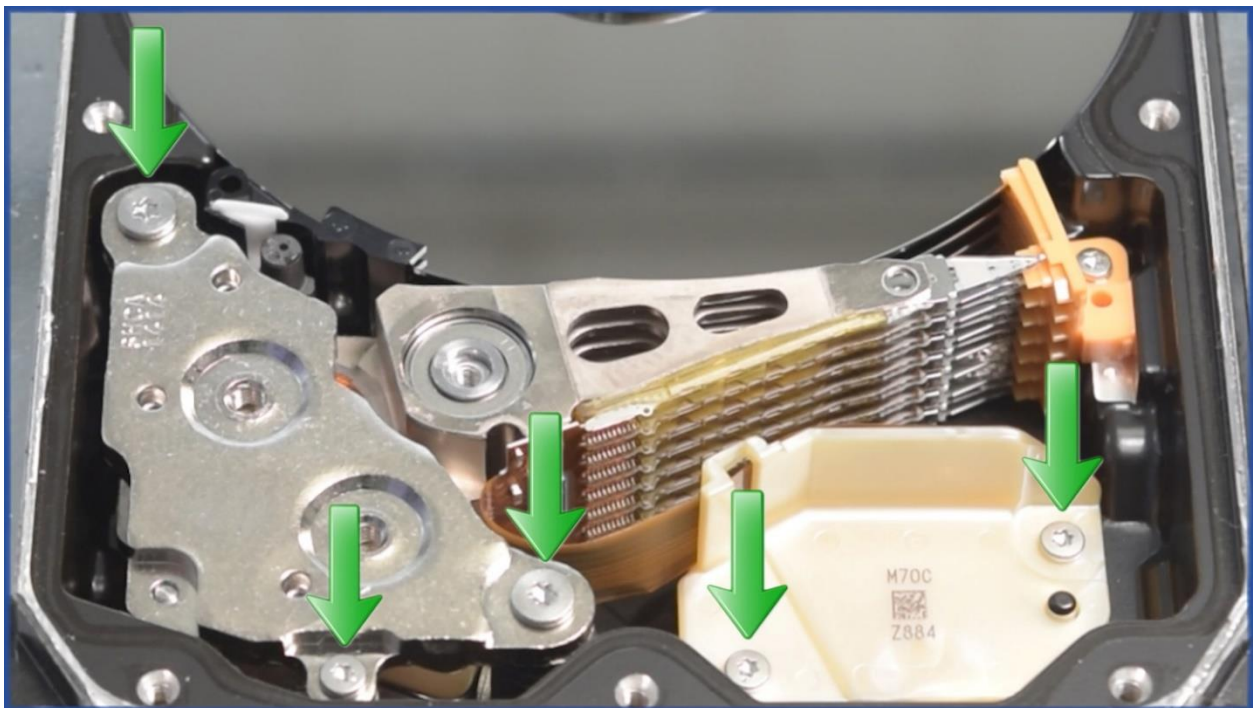




5. Head replacement process (10 steps)

Step 1 – Remove the screws from the magnet and the connector

Begin the head replacement process by removing the three screws securing the magnet and the two screws securing the connector. (*picture 2*)



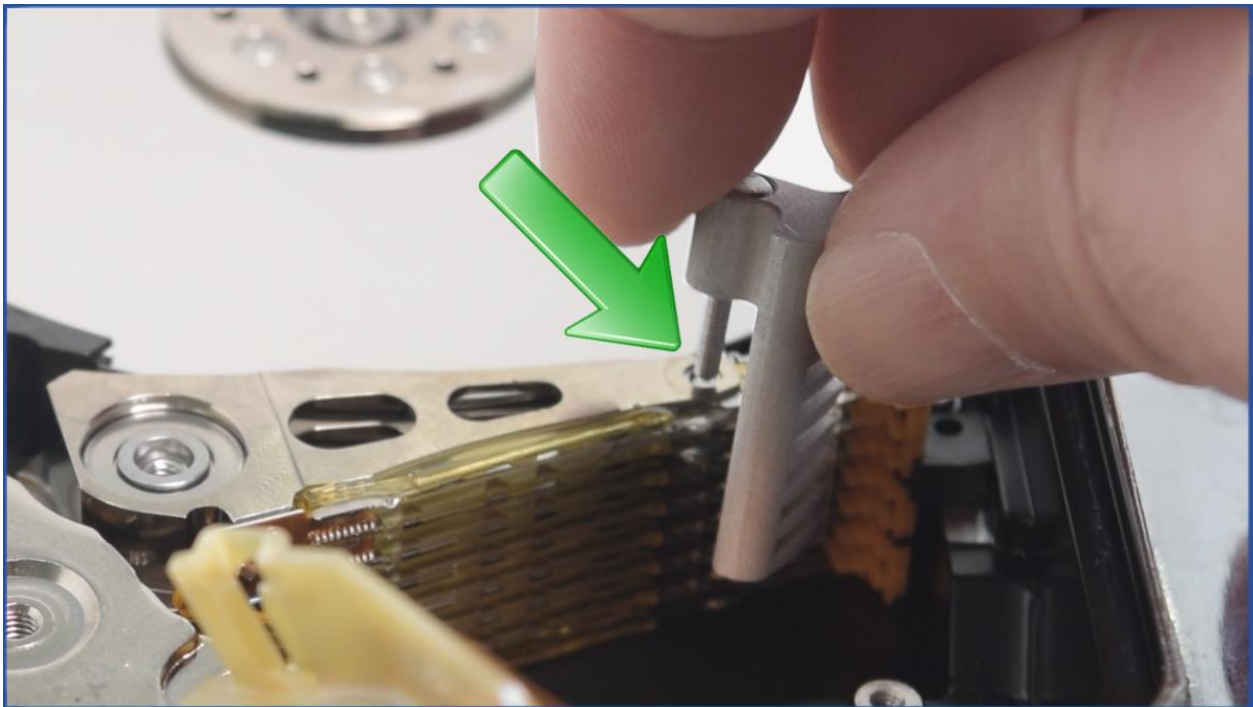
(*picture 2 – screws on the magnet and the connector*)





Step 2 - Mount the tool on actuator arm

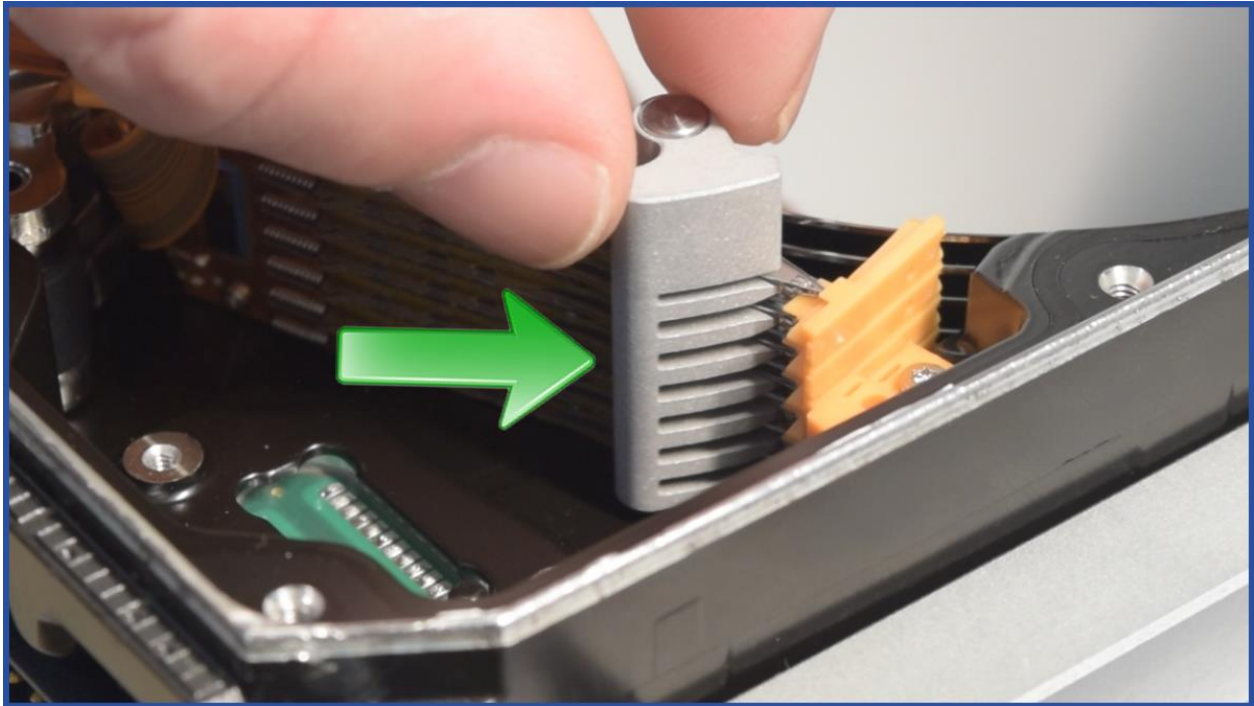
To mount the tool, first insert the tool pin into the appropriate hole on the Head Stack Assembly (HSA). *(picture 3)*



(picture 3 - correct mounting hole for attaching the tool)

Carefully slide the tool between the heads. **NOTE:** If you feel resistance, this may be common due to the large number of heads. However, please proceed with greater care to avoid any damage to the tool snouts or the HSA. *(picture 4)*



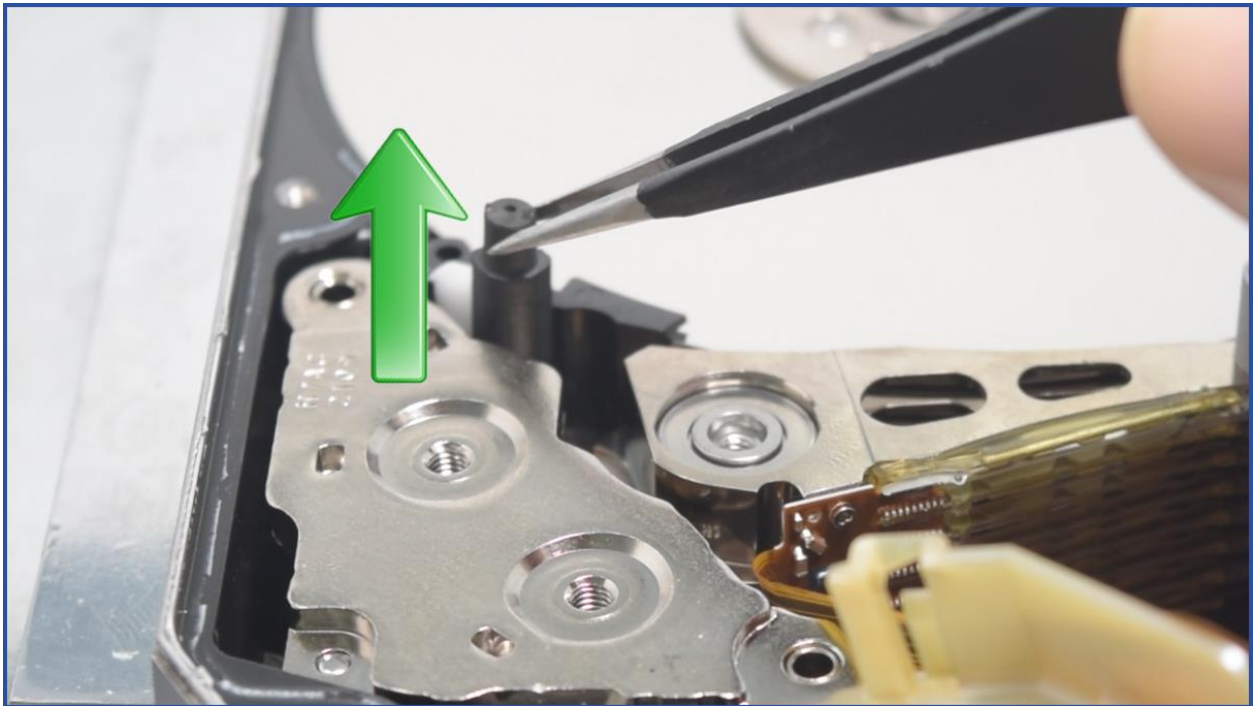


(picture 4 – sliding the tool between heads)

Step 3 – Remove the brake

Using tweezers, carefully remove the brake. Pay attention to the brake's orientation to make it easier to reinstall it correctly. *(picture 5)*



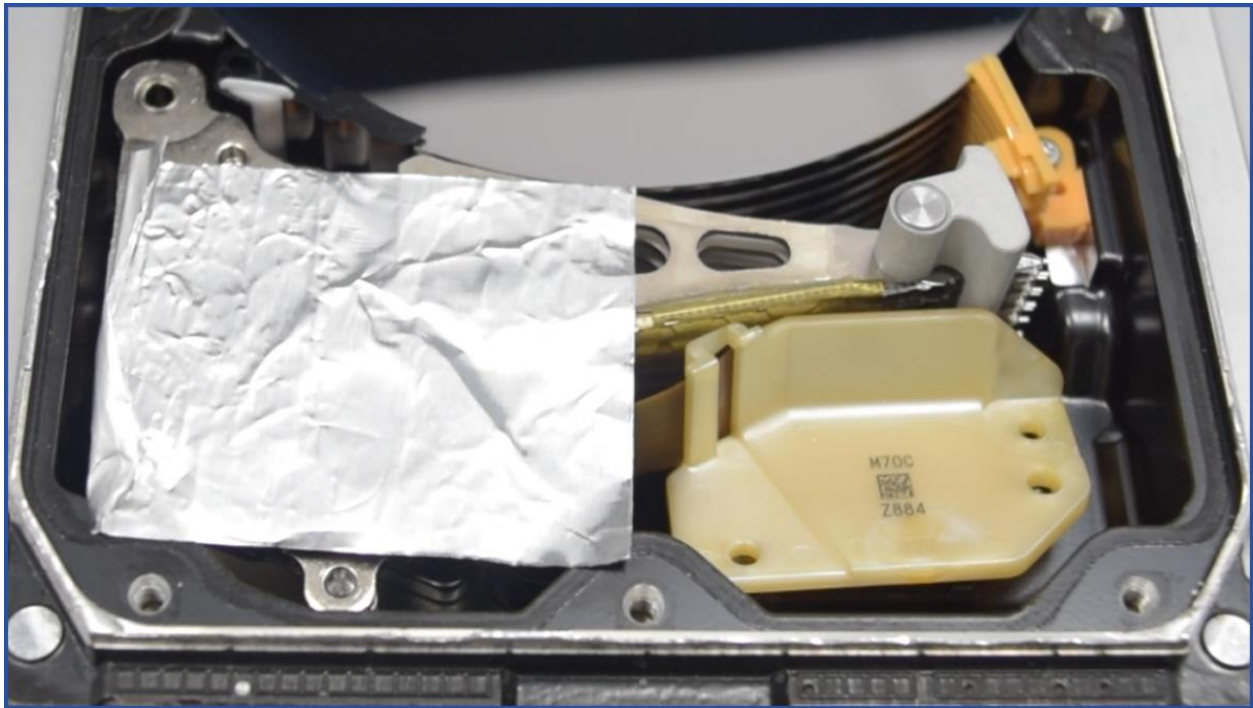


(picture 5 – removing the brake)

Step 4 - Apply aluminum tape

While holding the HSA in position with one hand, carefully use the other hand to attach a piece of aluminum tape over the magnet and HSA. Make sure the tape is securely fastened, as it must maintain the integrity of the connected components and withstand the removal of the heads and magnet from the casing. *(picture 6)*



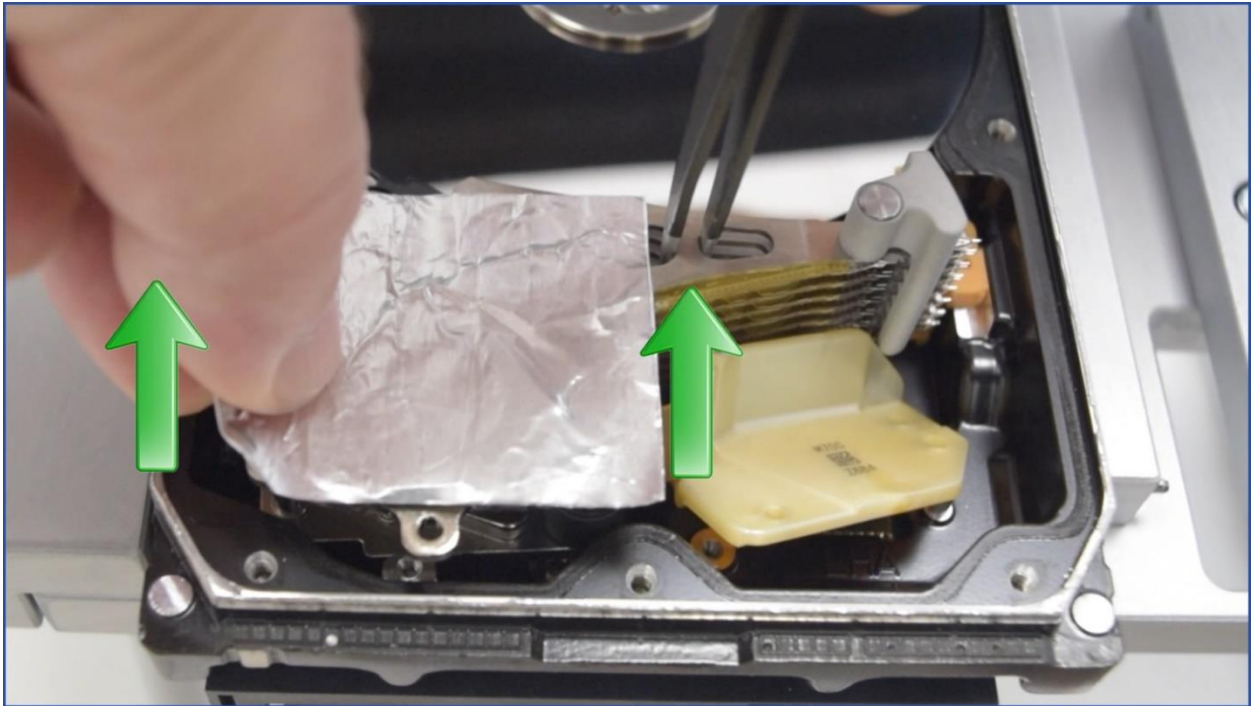


(picture 6 – aluminum tape applied over magnet and HSA)

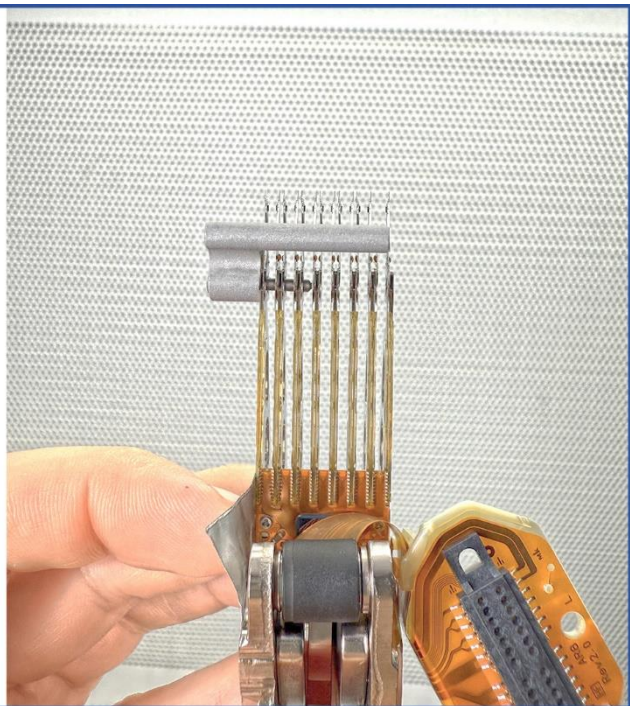
Step 5 – Dismounting the heads

Using tweezers, hold the HSA while using your other hand to grip the piece of aluminum foil. With steady, even force, carefully detach the HSA from the shaft and gently remove the magnet and HSA together as one unit. *(picture 7)*





(picture 7 – lifting the heads)



(HSA and the magnet secured with the aluminum tape)





6. Mounting the heads in a patient drive

Place the head assembly into the patient hard drive using tweezers, assisting with your other hand to hold the aluminum tape. With the HSA and the magnet secured by the aluminum tape, ensure they are properly positioned. While holding the HSA with one hand, carefully remove the aluminum tape with the other. After removing the tape, slowly slide the heads onto the ramp. Reattach the brake, then carefully remove the HDDSurgery P7 tool. Reinsert the screws for the magnet and the connector, and close the drive casing.

Thank you for using HDDSurgery™ data recovery tools.

You can find more information about this tool and many other tools used for data recovery on our website.

<http://www.hddsurgery.com/>

Also, you can watch the videos that show how this tool works on our YouTube channel.

<http://www.youtube.com/user/HddSurgery>

