tools for datarecovery experts

HDD Surgery™

Tools for data recovery experts

Guide for using HddSurgery™ tools

Seagate 7200.10 head change tool

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Introduction

HDD Surgery™ – guide for using tools

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, Copy-r and other products.

It is possible to recover data without HddSurgery tools. The processes which are known in many cases are effective and sufficient. The idea from which HddSurgery tools are incurred was to secure that process of replacing of damaged hard drive heads goes with no errors. Using 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 making procedures and the short training it is possible to let junior data recovery technicians handle complex tasks. With development of these tools, we are trying to eliminate the elements of luck that usually follow data recovery processes.

Experienced data recovery technician or engineer can have great success without our tools, but he can have absolute security only by using HddSurgery tools.

Non-contact head replacement implies that there is no contact between heads, heads and platters in the process of dismounting the donor heads and mounting heads on the patient drive. Traditional techniques of replacing the heads imply contact between 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 the HddSurgery 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.

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1. HddSurgery™
Seagate 7200.10 head change tool

Seagate hard drives belong in the category of disks that "park heads" above the magnetic platters.

That way of functioning implies that, in a situation when the drive is powered off, heads are located on the surface that has no sensitive magnetic material. This allows drive to start the motor to the required speed.

The purpose of Seagate 7200.10 head change tool is to enable safe heads passage over the "data" area above platters surface, and to provide non-contact transfer to patient disc.

HddSurgery Seagate 7200.10 head change tool is tool made for safe and easy head change on Seagate 7200.10, 7200.ES and 7200.8 drives with up to 3 platters. During the whole procedure of head change heads and platters do not have contact. Head are lifted over NON-data area and safely guided over the platters. In process of installing back the donor head same procedures needs to be done. Head are guided over platters with no contact and safely deployed in non-data area.

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2. Supported models for HddSurgery™ Seagate 7200.10 head change tool

Seagate 7200.10 (3 platters) head change tool		
PATA	**SATA**	**ES.2 SATA**
ST3500630A	ST3500630AS	ST3500630NS
ST3500830A	ST3500830AS	ST3320620NS
ST3400620A	ST3400620AS	ST3250620NS
ST3400820A	ST3400820AS	
ST3320620A	ST3320620AS	
ST3320820A	ST3320820AS	
ST3300620A	ST3300620AS	
ST3300820A	ST3300820AS	
ST3250820A	ST3250620AS	
ST3200820A	ST3250820AS	
ST3400832A	ST3200820AS	
ST3400632A	ST3400832AS	
ST3300831A	ST3400632AS	
ST3300631A	ST3300831AS	
ST3250823A	ST3300631AS	
ST3250623A	ST3250823AS	
ST3200826A	ST3250623AS	
	ST3200826AS	

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3. Head replacement process (9 steps)

3.a. Step 1. Mounting the tool on actuator arms

Remove screws holding flat cable contact and with a finger push contact from the bottom upwards to release it. The pressure from below may cause flat cable contacts to pop out and possibly damage platters, so hold firmly top of a flat cable contact with another hand while pushing related plastic. Before applying pressure remove screws from their holes.

Carefully center the tool over the center hole of the hard disc head. Take care that the notch on the bottom of the tool coincides with the commas in the actuator arm base. Tighten the screw to perform tool installation.
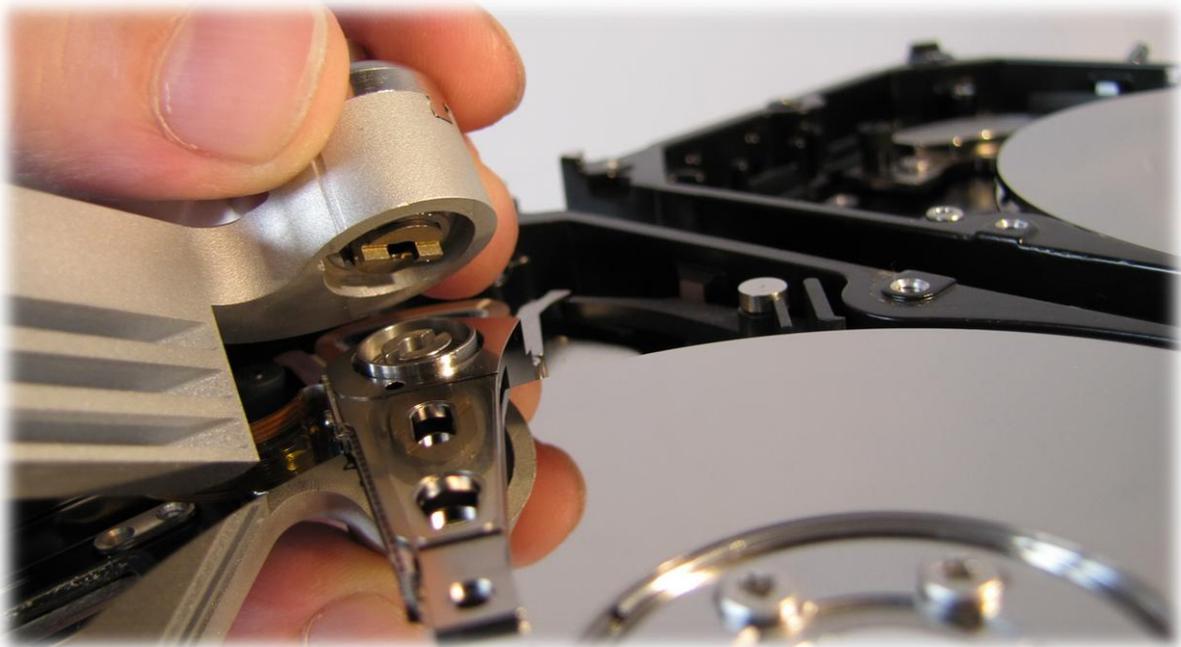
Picture 1. (mounting the tool)

With your right hand make sure that the tool shank with snouts remains in the area outside of the platters.

!!! IMPORTANT !!!

Be sure to tighten the screw in order to ensure good contact and proper tool height.

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3.b. Step 2. Lifting the heads

By horizontally moving tool shank we slide the tool over platters. Construction of tools enables heads to lift on tool snouts by relatively small force. If you feel that the necessary force is greater than the expected, check tool positions and possible damage to the HDA assembly. Push the tool as far as limiter is allowing.


Picture 2. (lifting the heads)

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3.c. Step 3. Securing the tool

The tool has a hole at its edge, which coincides with the hole in the head. The leftmost position is necessary to ensure the bound between tool and actuator arm. Securing is being done with the securing pin.
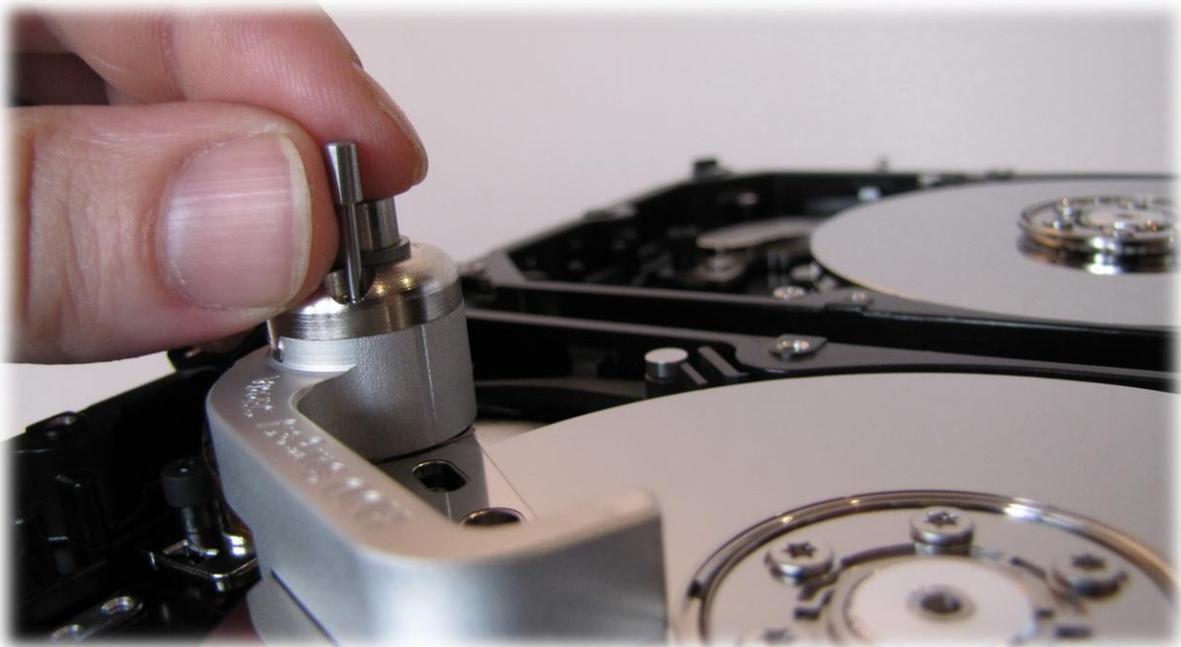
Picture 3. (securing the tool)

!!!IMPORTANT!!!

If the connection of tool and actuator arms is not properly engaged, heads slipping is possible during disassembling.

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3.d. Step 4. Moving the tool outside of platters area

By vertical scrolling move the tool (previously secured by pin) to the initial position.

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Picture 4. (moving secured tool with heads outside of platters area)

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3.e. Step 5. Dismounting the heads

With the help of a standard flat screwdriver unscrew the tool together with the heads. Hold the tool with one hand because of the possibly contact with the platters. Turn screw driver counter clockwise until heads are free.

Picture 5. (dismounting the heads)

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3.f. Step 6.   Mounting the heads in a new drive

Use the same screwdriver to screw the heads on new hard drive. When screwing the heads tighten the screw too, just in case it got loosen up during the manipulation. This operation is necessary because of possible changes in height! Turn the screw driver clockwise.


Picture 6. (mounting the heads on a patient drive)

By horizontal force return the head back towards the central section of the platters.

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3.g. Step 7. Removing the pin

Carefully remove the securing pin when heads are above the parking zone.
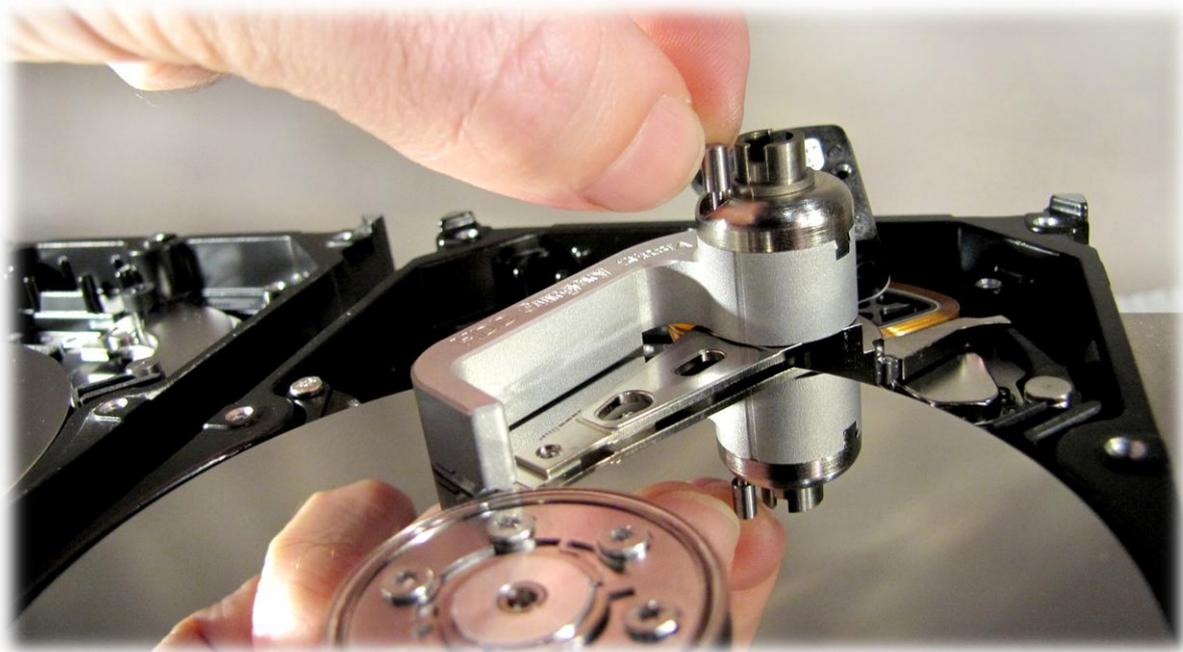
Picture 7. (remove the securing pin)

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![HddSurgery logo]

3.h. Step 8. Removing the tool outside of platters

Horizontally push tool shank with a finger to return the tool outside of platters.

!!! IMPORTANT !!!

With another hand hold back side of head arm (magnetic coil) to prevent heads from moving.

Picture 8. (returning the tool outside of platters)

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3.i. Step 9. Dismounting the tool

Takeout the screw and remove the tool. While loosening use the assisting tool to make counter force.

Picture 9 (removing the tool, using the assisting tool)

Put the lid back and close the disc. Put pcb back and clone the drive.

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