



## Umbauten, Erneuerungen, Retrofit

### Photo report WU 150

Created hpw09\_07\_2016 / 07122018  
Commitment:

Lathe for long tube processing  
Heyligenstaedt. Headstock defective  
Repair of headstock bearing defect  
by WIAP AG

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In the company's WIAP has also overhauled this machine. It was a 12 meter machine, which deep-drilled well pipes turned on. The WIAP also built a new CNC control on this machine. The bed was ground in a large Swiss company.



Figure 1: The shift linkage of the shift forks is controlled by cylinder. A thoughtful, intelligent switching solution.



Figure 2: An extremely well-designed gear a lathe.



Figure 3: Good construction. From the top of the lid is removable. The headstock damage was bearing damage. He must be opened. For this purpose the headstock was taken in our workshop.



Figure 4: A clear lubricating concept where each lubrication point is smeared.



Figure 5: Here we have expanded the spindle.

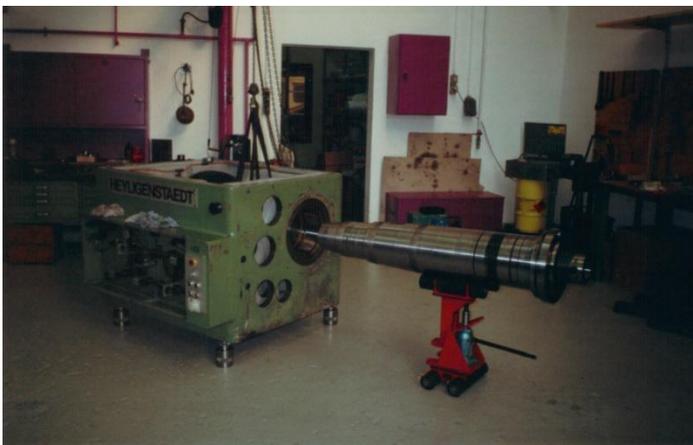


Figure 6: Second Repair of headstock bearing defect. View of the expanded main spindle of the machine Heyligenstaedt.

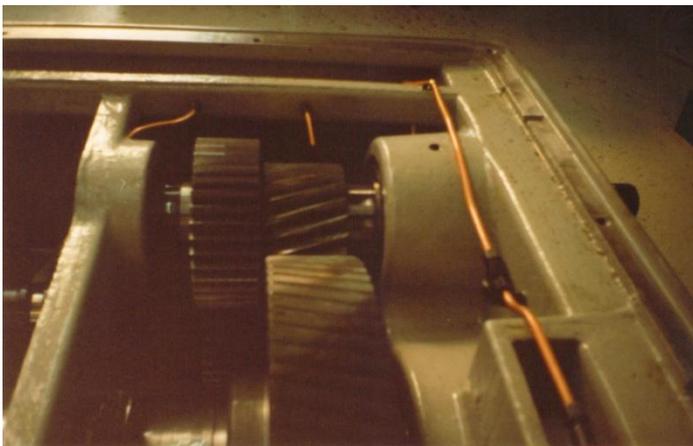


Figure 7: Here are the stable transmission gears of the different stages.



Figure 8: It needs some pullers to pull the gears and bearings.



Figure 9: raise spindle bearings again goes well with heat. A hot plate can ease much. It is important to work very clean so that no dirt can get into the camp. Back is also the oil tank for the Press Association Abpressvorrichtung.



Figure 10: Here is pressed with the Press Association pump the camp. The procedure was very popular a few years. However, when such a pump is missing, which will cost about 3000 CHF and the oil, then the removal can not take place.

And when the seat is a little damaged is not ok in the assembly and sealing, then disassembly is very complicated and requires some imagination to reach the goal. For the Abpress pressure is enormous during the press association. For example, 2500 bar. In the case of interference fit oil port on the front was at the spindle nose.



Figure 11: The drive shaft was removed from the headstock. Usually you do everything without a hammer, but with thoughtful deduction solutions.



Figure 12: Here everything is laid on the headstock so, so that all spacer rings come back to the right place.



Figure 13: gears, shafts, bushings and bearings are protected with wooden Before blows and impressions.



Figure 14: An ever good cleaning and covering before the replacement is also important so that not one state pollution affecting the service life.



Figure 15: Converted bearings are not replaced, must be handled with great care. Make sure that the cages are not damaged. Always see on which side of the large opening is so is not pressed by

mistake on the outer ring Axial and the bearing can fall apart. In general, the storage label is always on the narrow side.

Figure 18: The transmission shaft, which is installed in the headstock should be removed cleanly and without hammer and mounted again.



Figure 16: The main spindle of the lathe Heyligenstaedt has done its job even thousands of hours and can make many thousands of hours again.

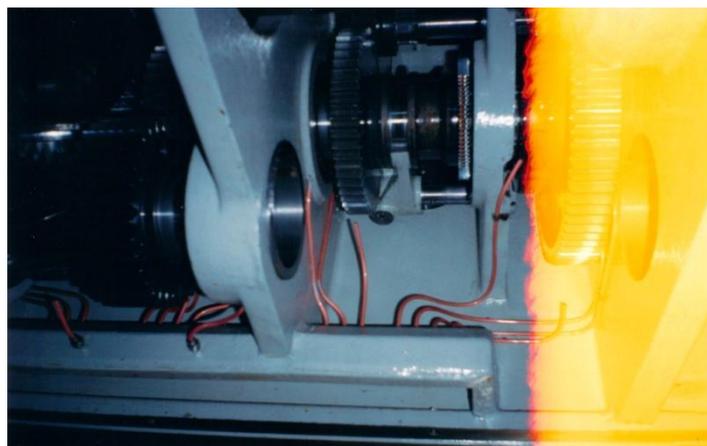


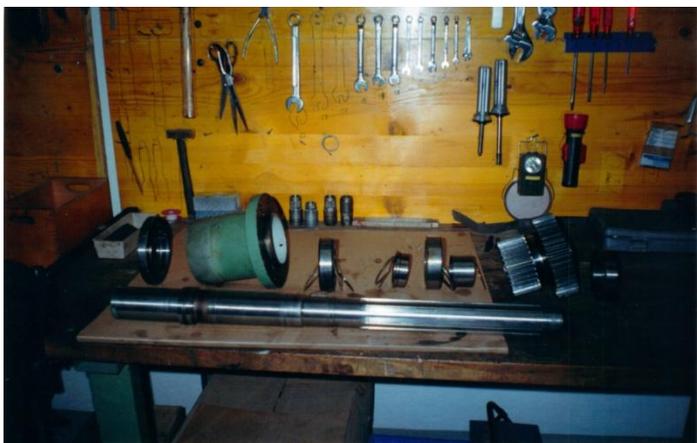
Figure 19: For the installation in such a headstock, it needs a good intuition, so that the shafts and bearings can also be pushed well into the purely just tolerated bearing seats. If there are small parts, it is one, but when the parts are heavy, often must be present high level of expertise that such an assembly also leads to a good destination.



Figure 17: components prior to replacement of Heyligenstaedt lathe.



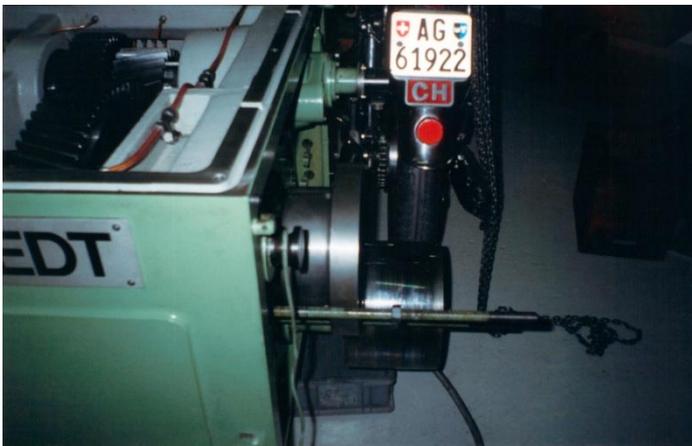
Figure 20: The headstock is now assembled and ready for a test run.



## Repair headstock test run with the headstock



Figure 21: For us, the simplest, a motorcycle was to take a drive, such as a friction wheel.



OK. Test passed. Ready for replacement at a major Swiss company owned by the federal government.



Figure 22: Once again, the side view of the improvisation of the headstock test run of the Heiligenstaedt lathe.

The WIAP AG continues to expand its machine tools and has a subcontractor base. Whether for new machines or conversions; there are usually used everywhere the same internal components. Thus, the spare parts warranty is secured.

When WIAP AG are not only the old who can do that. For years, the WIAP this training, intensified for the cockroaches. There are always more than a shaving machine handy.

The cost of a retrofit (conversion with revision) to a new machine is about 40 to 60% of a new machine, because the basic meat is available. Only an exchange of CNC without drives what is possible today, with analog drives, can not be held rare even among 10 to 20% of the machines new purchase value. Even then, you have the built latest CNC control on the machine so that the operator does not feel he has an old machine. Thanks to the WIAP alarm system design prevents incorrect operations and not know how to do something, backed with messages. This results in a very simple operation for all employees who work on a retrofitted by the WIAP machine. Thus its pleasure to work with the machine.

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