WIAP® Werkzeugmaschinen

Umbauten, Erneuerungen, Retrofit

Photo report collecting information WIAP 2016 WU500

The WIAP has made some remodeling projects.
Following are a few excerpts:

Detailed photo report remodeling Heid WU190

1. Conversion Retrofit railway wheel lathe

Finished machine after the rebuild. WU5291

Old conv. Machine before the conversion. WU5205

Task: The conventional copying lathe Heid is to get control of a new CNC. Through all the remodeling, it is to be a new CNC machine with automatic transmission shift, full enclosure and chip conveyor. It is a complete revision. Very simple parametric programming, conceived by WIAP and created CNC programs. New ball screws 63 it in the Z axis and in the X-axis 50's. reground the bed; New eingeschabt sled. To allow the feeding voltage for roughing and finishing with 2 clamping pressures working new tensioner with WIAP clamping concept, double clamping cylinder in operation. New, automatic lubrication system. 4-head turret for a collision-free turning of the train wheels. The machine produced in the Federal Railways. WU5205

The machine at the customer placed. That everything is always included. Everything from A to Z is made of the WIAP. No third party, thus no coordination planning for the customer needed, making the costs controllable. Here the machine is already in production. WU5290

Turn the wheel flanges is a particularly topic. But the CNC technique known as no limits. In contrast to the previous point turning certainly much easier. WU5287b

A conversion concept: Created and designed from A to Z from the WIAP without third support. This is possible because the WIAP manufactures its own CNC lathes. And has spent decades of experience in turning. And today is the second generation of WIAP there, which will be even better, which is getting easier thanks to the electronics. WU5290d

End tag Retrofit wheel set lathe
Report prepared 07092016 hpw

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Photo report remodeling MFD roll lathe WU120

2. Conversion Retrofit first rolling lathe

Task: The conventional copying roll lathe is to get control of a new CNC. With total revision. The surgeons had to copy itself usual, so very simple, parameterized, designed by WIAP and created CNC programs. Only the entries of R parameters could all be programmed after reconstruction.
New ball screws 80's in the X and Z axes. reground bed; New eingeschabt sled. New, automatic lubrication system. The 4 claws box were also revised. Insert strips made of spring steel, which we shared. WU54715

The machine consists of good, heavy cast, so this machine can turn vibration. WU4735

This sturdy, heavy, conventional roll lathe was rebuilt by the WIAP on CNC. WU4725

The Z-axis guide is designed for a very strong cross-shaft cutting pressure. The machine has 4 steels, which simultaneously rotates the roller contour. This gives a very large management burden. The machine had insert strips made of spring steel, which we shared. WU4740

End tag Retrofit roll lathe 01

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Photo report remodeling Heyligenstaedt headstock WU150

3. Repair Heyligenstaedt headstock

The shift linkage of the shift forks is controlled by cylinder. A thoughtful, intelligent switching solution. WU3420

Second Repair of headstock bearing defect. View of the expanded main spindle of the machine Heyligenstaedt. WU3470

Everything is laid on the headstock so, so that all spacer rings come back to the right place. WU3490g

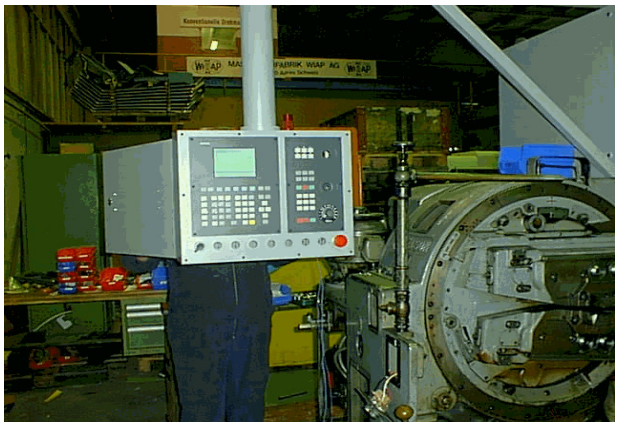
Here, the bearing is pressed with the Press Association pump. The procedure was very popular a few years. However, when such a pump is missing, which will cost about 3000 CHF, and the oil, then the removal can not take place. And

when the seat is a little damaged during assembly and the seal is not OK, 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. WU3490x

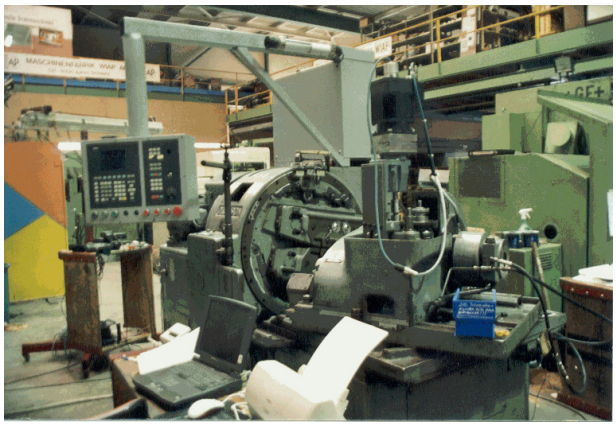
End repair Heyligenstaedt headstock bearing

Photo report remodeling Gleason planer WU180

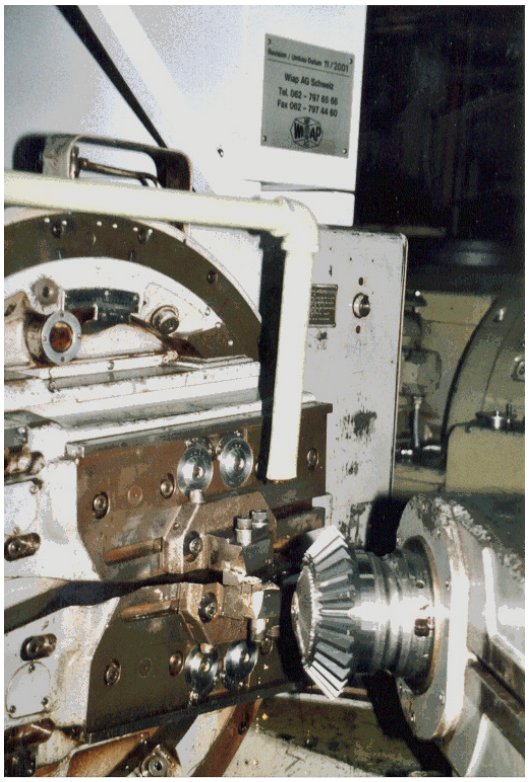
4. Conversion Gleason planer CNC



The customer has an old, conventional Gleason gear cutting machine. He wanted to upgrade this machine with a new CNC control. Anbau the new CNC control to the machine. WU5400



3 new feed motors were grown. The electrical cabinet compact, directly on the machine, fixed.WU5410



Only a few parameters, the operator can enter the number of teeth of the module and so on. A simple, quick solution to produce bevel gears.WU5420

End tag gear cutting machine Gleason

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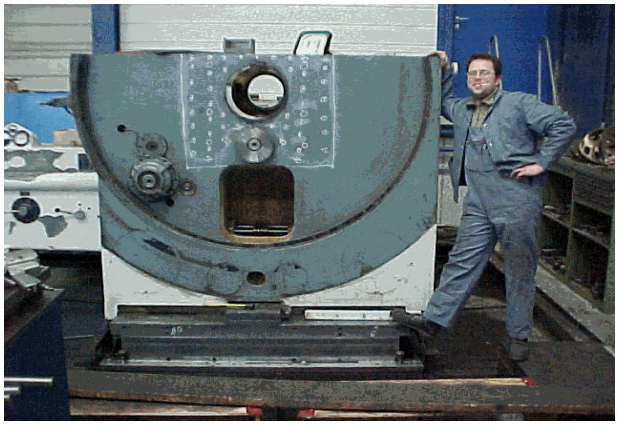
Photo report remodeling Heyligenstaedt headstock WU130

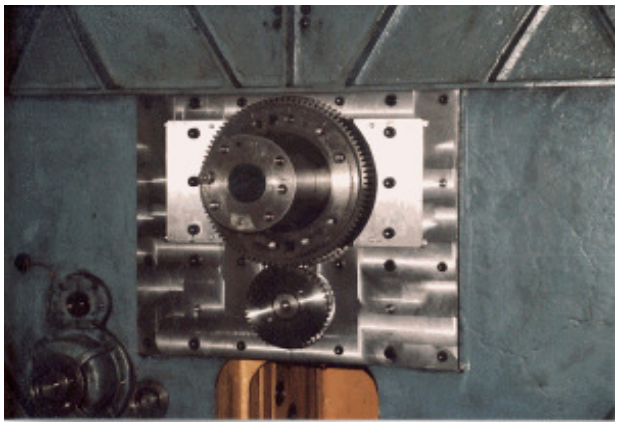
5. Repair headstock at large lathe Heyligenstaedt



Customer had clamped too big a workpiece on the machine. This has torn the headstock. Measures of WIAP: Spindle dismantled. Headstock casting repaired. New spindle bearing made. , The proven NN storage in the existing main spindle bearings installed in place. This with a two-part box, so it was mounted. Construction, dismantling and installation of WIAP AG. Processing the customer. Of execution of the project: in Switzerland.
Here we have marked out as we attach a new front panel. The headstock had split a crack across. With the large front panel we have prevented the further spreading. On a boring everything had to be milled clean and many large threads were needed to enable the pressing force coincides with the friction to continue loading large workpieces. WU3320

First, it is always dismantle this faceplate. WU3095

It takes a delicate handling by crane when a face plate must be removed from the spindle nose like that. WU3020



The new record. The spindle bearing, which was previously a slide bearing, we have replaced with a proven NN storage. The recessed spot where the slide bearing was in there, we have made with a precise two-part sleeve so that the bearings are assembled and disassembled. This storage is opposite spindle bearings, complicated to set them because the bias voltage depending on speed can be adjusted. This also the vibration behavior can be regulated. WU3340

End repair Heyligenstaedt headstock

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Photo report remodeling Megabore WU232

6. Conversion Mega Bore large CNC lathes control exchange Fanuc 18i on Sinumerik 802D sl

Machine weight of Mega Bore: over 20 tons.
WU_232_190

A hole in the casing of the Mega Bore CNC machine has caused damage to the water control Fanuc 18i. It was so complicated by the spare parts warranty-performance and the support of the manufacturer's control, that we decided to replace the CNC control incl. All engines with a new CNC control Sinumerik 802 D. We do not have spare parts in stock and Fanuc control, even after the third time in Fanuc repair, still not running. The respective repair costs with screen replacement and CPU did not lead to the goal. The stoppage was almost 3 months. After the conversion decision, the machine was running in 2 weeks. The electric plans everything in Asian writing to the PLC program text. It was still good, thanks to the experience of the many CNC machines that are already in use in Europe.

Significantly less cables that hang around there. Sure, only about 30%.WU_232_290

The whole was treated with a Z drive sub-reduction 1: 2 Construction WIAP renewed.

To ensure that all feed motors could be used without brakes, an external X brake was made from spare parts reasons, not in the engine.

Here we will soon make the first tests with external 24V. WU_232_320

End tag Mega Bore CNC

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Photo report remodeling Wotan boring machine WU160

7. Photo report 01 Wotan boring machine

Scope: Dismantling of the central drive and Einzelachsantriebe. Rotary table and CNC controlled. Cultivation of ball screws in the X, Y and Z axis and the individual Vorschubachsmotoren. Design and fabrication incl. Assembly of WIAP.

Here is the finished machine after reconstruction with the new Sinumerik CNC control. WU5009

3 linear axes, X, Y and Z and the rotary table. In addition, even a linear axis W in the supplement to the Z axis. WU5010

End tag Wotan boring machine

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Photo report remodeling Waldrich WU170

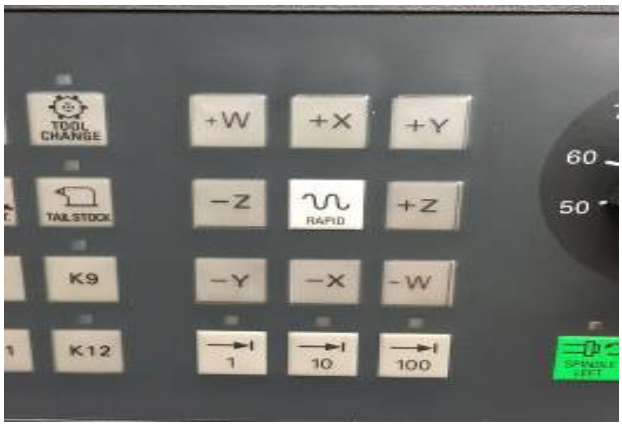
8. Photo report Waldrich planers remodeling

Project Description: The Forest Rich planing machine was rebuilt in 2001 by the WIAP, with a new control: Multitron.

Since it is not easy in the market to find CNC planers, the customer has decided to re-grow a new control. Among other things also because the Ersatzeil- is discontinued warranty for the electronics usually after 10 years.The completed rebuilt planer planing the first 2 bars with the new CNC control. There are 8 and 4 tools simultaneously engaged. WU5380

The planer with the shortened side column. First, we can drill 4 40 H7 pin holes on a boring mill at 0.01 mm accuracy. WU3120

The new CNC control is the newest of the new. The customer can now expect to be able to work 20 years on again.
WU4020b



The machine has 4 axes: X, Y, Z and W axis. Each two axes operate simultaneously. X and Y, and Z and W. WU5300

The surgeon, who 15 years has worked with the old CNC and now the new learning. At the same time he trains a new man, because he is the end of the year to the pension. WU3120a

End tag Waldrich planer

Photo report remodeling roll lathe WU100

9. Photo report Revision roll lathe 02

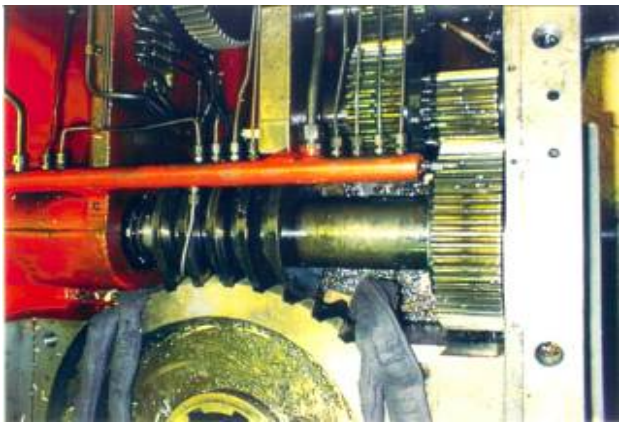
Task: The roll lathe must get control no new CNC. However, to be totally revised. The operators were accustomed to copy itself, so no CNC. The transmission had a damage. The tailstock guidance was lowered by several mm and had to be re eingeschabt. totally revise the cross-sled, all new sliding layer.
The machine could be only partially delivered to Switzerland for the revision. The breakdown of the 150 tons of machine was more expensive than to revise locally. WU4424

The machine has a spindle drive with 220 KW. The whole electrical system was renewed by us incl. The spindle drive. WU4415

These professionals of skilled workers, which rotate these rollers are unlikely talents. WU4420

The carriage was continuously loaded with a thrust of 20 tons. WU4350

The carriage guide was re-occupied by SKC. The whole lubrication improved and renewed. The complete revision sled in Switzerland lasted 6 weeks. WU4302



The whole longitudinal slide feed drive, which drive the rack was completely phased out. WU4310

This, more than 20-ton sled was finally a revised sleigh with new SKC shows ect new eingeschabten gears, lubrication system. WU4324

Finally the main gear shaft could be lifted out. Then we were able to offer the defective gear.

Thanks to a Swiss gear manufacturer, we quickly had everything organized. The customer ordered within 1 day.
Two weeks later, we had the gear to pattern. WU4125

The installation worked very well. The transmission of the MFD, hats off, we can only praise the manufacturer. Sensational, like the whole structure was made accessible from above. Perfect. Thanks to MFD. This is one of the best machines we've ever seen. WU4145

End tag roll lathe 02

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Photo report remodeling revolving machine
Solma WU300

10.Photo report Revolving machine Solma

Enable the units to a central location. automate the machine. Simplified operation. Smooth regulation. Compact. replace many more conversion to new PLC and electrical cabinet. WU5150

This cable box was arranged so as to avoid having to always open the electric oven at disturbances. All cable entries from below that in the heavily-operated with oil functions of the oil inlet is not possible. WU5130e

The panel in the final assembly phase. WU5130s

Soon finished panel of the machine. WU5130t

3 wallpapers of the machine:
Hand, semi-automatic and automatic, easy for the surgeon for safe handling. WU5130u

WU5130w

On the side of the column to the terminals for the external panel. So that when a cable break to have to solder without the cable can be replaced quickly. WU5140

For all motors of the units we have built, each with 0.75 kW instead of protecting equal to 5 pieces of frequency. These can be adjusted continuously. From 0 to 70 Hertz, the option of up to 100 Hz. Ie twice the speed. Above the S7-1200 is arranged. WU5140c

Each unit has its own plug. So that each unit can be removed individually. There's no danger to the operator, as the unit is safely isolated from the network by unplugging the connector. WU5140e

All relays are additionally written on the cable channel, thus, be seen in troubleshooting without electric scheme, which is for what. All functions go beyond relay, so that everything can be selected externally. If there are errors in the PLC are not immediately recognized, even by the surgeon a preliminary diagnosis can already be done without electronics. ie recognize whether the error source is electrically or mechanically. WU5140f

For all units can continuously, individually, the speed to be regulated. Thus an adjustment by third parties is not inadvertently possible, we have installed a plexiglass with the rotary knobs. WU5140h

The unit 1,2,3 and 5 front had no position switches. So that they can work with a Ausschneidezeit, we have designed, manufactured and installed this shift linkage.
When the switch forwards reports the entry time on the panel, waiting to make a cut. Ie this switch must be set never because the stroke is constant 20 or 40 mm and only the switching point from

rapid to feed with a screw in accordance with image WU5140j can be adjusted. WU5140l

View of the lifting unit from above. Since the unit is back, we could use the old signal and had to install any additional switches. What would also have been a problem. Preparations are present. WU5140n

End tag revolving machine Solma

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Photo report remodeling Heyligenstaedt scraping WU140

11. Photo report Cockroaches Heyligenstaedt Lathe

The machine had a geometric error. The customer has asked us to correct this. were still electrically contactors and relays in the machine, which had for the museum. These were also replaced the same. WU3270

Now the problem with the shaving machine has been corrected. As a rule, per scraping passage, depending on the pressure, about 0002 to 0005 mm away, ie when an error in the 0.1 mm range is, but a lot needs to be scraped. WU3130

The basic training for scraping the WIAP people have acquired at the company Georg Fischer. At that time, had to continuously scrape be learned 3 months. This knowledge has been incorporated in the WIAP AG into the instructional program. WU3100

rebuild a heavier headstock for each measurement, is tedious, that is, it pays to know exactly how much hundredth be where removed by scraping. Thanks to the great experience through several reconstructions and intensive training with a lathe manufacturer, all employees were able to learn a lot and can also experience todayUSING to perform a good job. WU3025

End scraping lathe Heyligenstaedt

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12. Conversion Retrofit third roll lathe

Task: The conventional copying roll lathe is to get control of a new CNC. With total revision. The surgeons had to copy itself usual, so very simple parameterized, designed by WIAP and created CNC programs. Only a few entries with R parameters could all be typed. New ball screws 80's in the Z axis. reground bed, new eingeschabt sled. New, automatic lubrication system. The 4 claws box were also revised.
The machine during the rolling test turning. The Z ball screw with 80x10. Covered with the WIAP ball screw capping system. WU4655

The CNC Sinumerik 810T was easy to use for operators, almost no switches were needed to be able to work with the machine. WU4605

The roll lathe MFD was approximately 40 tons. The old feed gear portion was separated. WU4626

In Russia, if not boring machine was available, and elements were separated. It is something that still had to learn a machinist. WU4627

Although this work was for 1 day, it was once again boosted this work. WU4628a

End tag Retrofit third roll lathe

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13.Conversion Retrofit VTL TITAN

Task: The conventional vertical lathe TITAN is to get a new CNC control with ball screw spindles and feed motors and covers. Incl. a partial revision. The machine was ordered in Denmark in a machine dealer. The dealer has then begun with the conversion, but never cultivated the controller. Nearly 1.5 years there have been delays because no man Siemens was available for Angola for the commissioning and training. The WIAP has taken over the job where Sven Widmer and Hans-Peter Widmer made the work. When dismantling the WIAP was not involved what to build something complicated, but was realized despite the well. The electrical part was completely prepared by WIAP. Planned and built the Caroline Widmer Widmer and Jim have in Switzerland. The add-on material has been brought to Denmark and loaded into the container with the machine. In Angola, Luanda positioned and attached the new CNC control with the motors. Commissioning carried out; the

first turned parts turned and people started school.

delivered previously conventional TITAN VTL from Europe to Angola, converted to CNC control. WU_240_550

Setting up phase secondWU_240_40

Now the second side stand is mounted.
WU_240_50

The side stabilizer below.WU_240_60

Previously a conventional vertical lathe and now new a CNC-controlled machine.WU_240_210

Start the cabling. Sven Widmer WU_240_220

Programming on the machine. Difficult conditions: temperature above 30 degrees, now and then a sandstorm that swept through the hall.
WU_240_260

Sinumerik CNCWU_240_240

End tag Retrofit Titan

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14. Waterjet machine WIAP PL

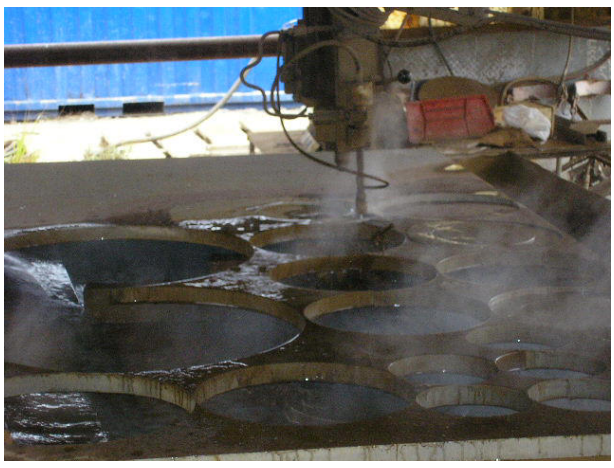
Water jet cutting is an elegant solution for stainless material, aluminum, plastics, etc. The machine goes to almost 4000 bar

Workpiece size 3000 x 4000 mm aluminum, stainless and the like:
Conversion to new CNC. August 2006, Caro and HP Widmer in Angola.

This is the new controller for the water jet machine. Again, the old Sinumerik 810M is greedy. The air conditioning system, the condensate and the aggressive air almost dissolved the boards.

Only the CNC Sinumerik 802DI_DMW. Designed with safety levels for various people that not the apprentice may be the same drive with the axes. Or that the operator can program. The machine has seven protection levels.

The "Melot" is the man who learned first to work with the new CNC. Proud as he is. It can also be. Tip top he works.



Here the machine in the production in the range 0.1 mm to intersect stainless steel, aluminum, steel, etc.

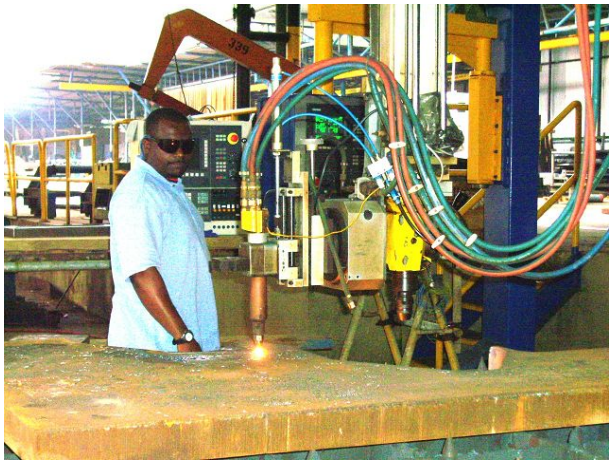
Here you can see the work of the water jet machine. You can edit plates 3 x 4 meters. Above all, we need this machine for the stainless material because with gas cutting machine (Q xy Cut) can not cut stainless.

end report

15.Oxy Cut Plasma cutting machine

The cutting installation WIAP FPL may plates up to 200mm thickness burn, CNC controlled traversable, interpolating and all possible with the machine and the CNC 802D with 3 axes

Plasma cutting machine WIAP FPL machine was built in 1993, made of a gantry of the company WMW, bought at Sulzer. Now rebuilt in September 2006 on a new CNC Sinumerik by Caroline and HP Widmer in Angola. 7 machine, all the same CNC control is the ideal for the maintenance.



Operator observes the cutting process.

June 2006 Angola: 15 years later. Again HP Widmer a few years older, as the machines. The old Sinumerik are finished. The controls are verfressen sulfur in air, and the high humidity which is often to 110%. But the mechanics still makes with!

Here, a section is prepared by a 100 mm thick steel plate.

Now the machine does everything automatically. The programming for the preheating and the div. Valves was still a few hours of work, because the whole process needs a little experience.

People learn all the new CNC, because all also on the CNC lathes get the same control, but first the two cutting systems were rebuilt.

Operators in discussing.

end report

16. Revision Weisser CNC lathe Angola of WIAP

The first CNC lathe, we conversions in Angola down between the two portals. Conversion November 2006. Caroline and HP Widmer

Photo: Here you are at the PLC programming with the lap top.

Photo: There are some things that need to go as revolver gear. Then the security is very important.

Photo: Here is our Maintenance (Service) man Joba.

Photo: During commissioning, the lubrication will not the way we want it. No pressure build-up. Joba investigated. Then you see that the pump is faulty, so a conversion also helps error that can cause expensive consequences, are found before the damage.

Photo. Maintenance of the machine. That's the future. Our two servicemen Joba and Carlo.

Photo: The machine in production. All were glad that with the new control could have been in production the first CNC again. What was coming with the new programs, was then aware when they saw how easy it produced over 10 years with a very simple system. All parameters programmed. A program looked it. For each oil thread like this. Enter only 15 values and a thread was ready.

Photo: This machine. Wherever it is, we have often worked dripping wet. The sweat was one from the pores like crazy. The humidity is often above 100%. If you made passage, one had to train strong, sometimes ear pain. So not easy to cope in Africa with life as Euro man there.

Photo: Here you can see after the completion of the rebuild what daily life is going on. Jo studying for the next project in the drawings.

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Photo 1: engine is not running for several days. Spindle drive does not work. replace def. decision immediately the CNC.

Photo 2: Here you have prevents water from running into the CNC, nevertheless was always wet. It looks like a large amount of condensation. The aircon was always running at full speed.

17.Conversion Gornati Angola. Start 08.26.2007. From 0700 to 1200, then from Monday, 27/08/2007

Location: Cabinda / Angola, oil Camp Malongo

Photo 4: Only rust.

Photo 8: All that was cable away. (We had an idea, Wireles). The sources were too large, the machine had so much in it such as fairs, break monitoring Driven tools C axis. But you never brauchet it. The machine was fully occupied with pipe turning, so we have only the bare minimum before it for maintenance.

Photo 20: Here you build the old Siemens from regulators.

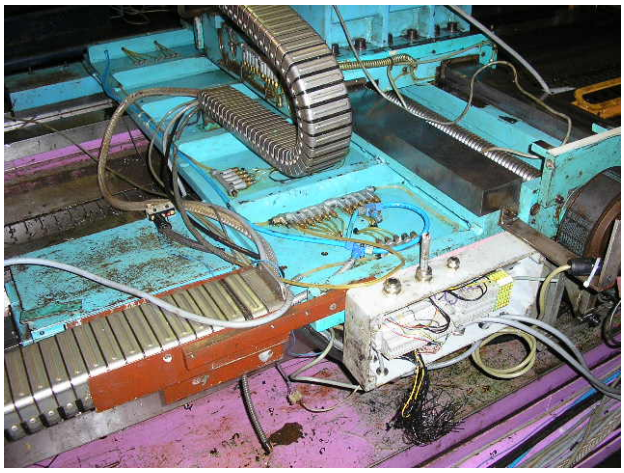

Photo 24: In the past, the lubrication on Z sled, new back of the headstock was. There are fewer El lines that need to Z slide and is operator friendly.

end report

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18. Conversion Fuji Seiki

Machine for Angola with a new CNC control whole geometry is made better than a new machine, the casting is aged. reground bed.
Mounting Fujii Seiki
April 2007, machine for Angola with a new CNC control
Whole geometry is made better than a new machine, the casting is aged.
reground bed.

Scraping the geometry Per times about 0.004 mm

Photo: It is so boring that you can mount the lubrication lines of the chip area. Down here there is then a Belchdeckel.

end report

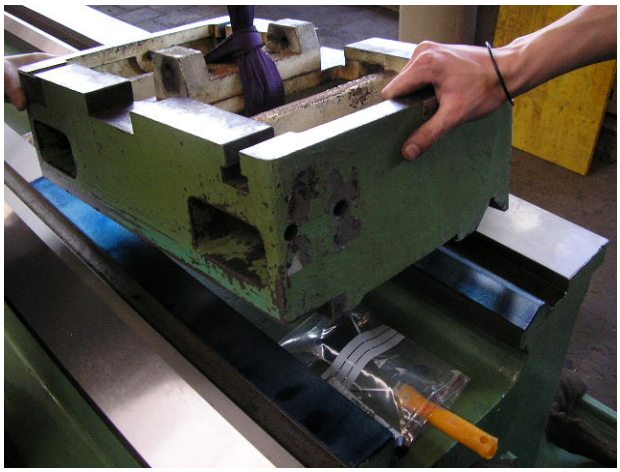

Photo: Abduschieren the tailstock

Photo: Caro drilled new lubrication holes in the sled.

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19.Photo report Angola revision Graziano CNC lathe

July 2007-09-28

Photo: The machine we delivered from a CH customers to Angola.

Photo: Dan, one finds the rust under all covers, almost like in Angola! So you decide to unscrew many sheets.

Photo: Here Carlo Wired still new after saw the clips from the
Water suffering.

Photo: When the tank turret, the first grate prior notice.

Photo: Assembly.

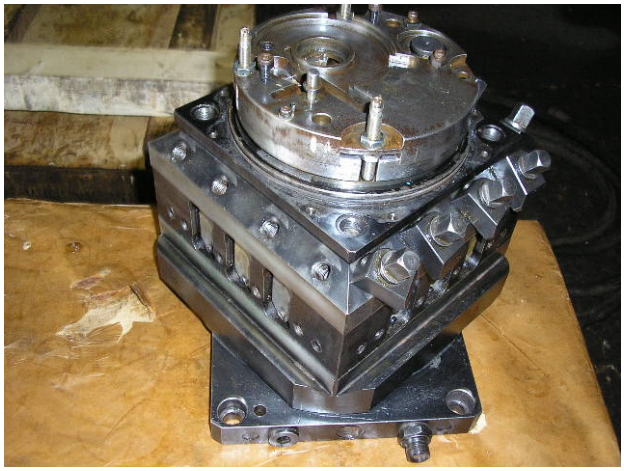
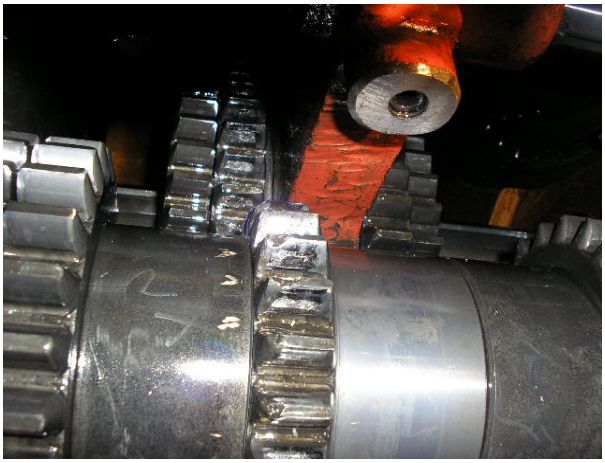


Photo: Bald ready-mounted turret, tested everything by hand, it locks beautiful.
Tip top.

end report

20. Revision CNC lathe Oilfield Lathe Sleigh bed and WIAP DM4C, headstock Gurutzpe

P2: So the machine looked before the renovation. Caroline Widmer in programming



P4: gears from the main gear stage are defective. There were teeth on the gear ground. We now choose different levels and lock electrically the defects.

P8: Now you begin the reconstruction of the CNC.

P12: Gear tag for mounting to circuit breakers so that the transmission can not be connected incorrectly. Especially without gear stage no speed.

P29: Preparation of stand Z sled, you looked as tracks and wanted to know what's going on

P36: Important: Before letting the sled down, lubrication must be checked. On the machine you have months instead slides oil, used rust protection. Some lines were shut good that we dismantled it. Carlo blows with the mouth; We use compressed air.

end report