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## International staff training in machine construction

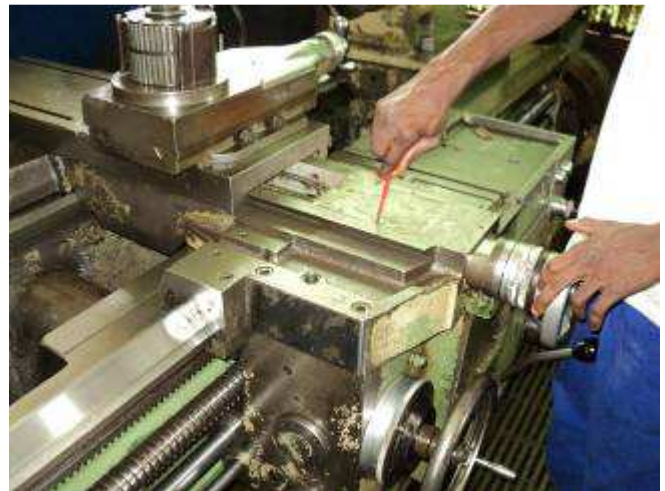
Introduction: The WIAP shouldered young and old professionals, which were new and some already decades in operation. This staff is often in practice, but it was missing you with the foundation and the theory especially if they have a professional teaching as is possible in Dual Training countries could not make to countries that have not much to do with the machine tool industry. With a special training program of WIAP which can also be designed to train production while. A cost-conscious project that increases the quality of skilled workers. Also trains the trainers WIAP that perform these training tasks.

### Image report A31: Machine maintenance Angola

Image Report 12.12.2011  
"Hans-Peter Widmer"



Figure 1: Now you have gone on the service at the Niles lathe. An ex DDR machine. Yoba during prepare.



Picture 2: Everything has to go. Among the panels often lies a lot and is only visible when the covers are wegschraubt.



Figure 4: oil change at all next machine. And clean the oil tank inside.



Figure 5: take out wedges and clean everything, ready to scrape at the next service.



Figure 6: The stripping see no longer so fresh. New rubber we have in stock.



Figure 7: The fact that lubricating points are under the screw from the X slide, is marked in the future with a red color.



Figure 8. After Niles lathe comes the Schäublin milling machine turn. There is a clear-year plan, when, what equipment needs to be serviced. All machines are serviced.



Figure 9. Right Carlo, one of the two machines doctors left a man from the processing.



Figure 10: At the Jet Cut water jet machine has been reported at a standstill again in the last days.

It always came the alarm vacuum and that is too little water or too little air as if it were there. But that was always plentiful. So other causes are sought. One was that the contacts are burnt off at 2 relays that move the Kolbe the cylinder back and forth because the thousands of times off strong sparks. We changed the relays and continued to work and watch.



Figure 11: This is also a defective pipe was welded. Through these tubes but goes beyond 3000 bar pressure, so we have organized new pipes from Switzerland, so that they can be replaced. Is not without danger.



Figure 12: Now is the CNC lathe Weisser turn. It is taken out of production.



Figure 13: The rear Z leadership has for some time ever lower tracks. We planned to lift the Z slide and examine the cause again.



Figure 14: It has running tracks. However, since this affects in contrast to a slant bed machine, only the top level, it has no major impact on the accuracy.



Figure 15: It is prepared everything to lift the sled. Under handles away. Ballscrew away etc



16: But the oil is replaced. The tank is cleaned inside. Often there are problems with the "bosses" of the "Machining" department to get the equipment for maintenance. Recently we had to them, say how many times: whether they know why almost no planes fall down today? Only because of the preventive maintenance. It was then said that one purpose is to force that they can release the machines!



Figure 17: This is the CNC control, we grew in the year of 2006. The previous Sinumerik 810T is long gone in use.



Bild18: The V-belt of the spindle motor also look not good. We have now expanded our maintenance list so all machines covers all belt with storage location that is bearing number. What is missing is ordered. The yes only cost a few dollars. But if it's not here, it costs a lot when you have to let it send by DHL. Our young people will keep but now encouraged so that they have at least once from all major machines, a set of belts in stock.



19: Yes, these V-belts must be replaced, but are not in stock.



Figure 20: Links Yoba, from behind the Antonio. Prepare the dismantling of the sled.



21: Now the carriage sits on timber and is ready to examine why the guides have these running tracks.



Figure 22 The lubrication was not ok. There have been no oil feed holes by the machine manufacturer from above. We made two new lubrication holes and installed two new oil pipelines and installed two new dossier units.



Figure 23. But the bed track lubrication container was cleaned inside. It was like many times before, a lot of dirt in the tank.



Figure 24: Carlo studied his work.



Figure 25 Yoba not see the end. There is still work to do.



Figure 26. There are still many points on the machine, waiting for the upkeep.



Figure 27: The food must also be dismantled. It looks questionable, although it breaks it down again and again.



Figure 28. When a trailing cable cover is opened, it looks like this. Dirty and waiting for maintenance.



Figure 29: This was the old Oelstelle from the old conventional system. Safe 2 liters of oil was in it and smeared the old time itself. But with the construction of a CNC machine these old grease variants were no longer used. It was attached to the central lubrication system. This are now these old oil container full of old emulsion.



Figure 30: Yoba has chosen the industrial washing area to clean.



Figure 31: Carlo installed the new lubrication lines



Figure 32: There were drilled new holes which supply the guides with oil.



Figure 33: The new Oelverteiler with 2 Dossier units. 2 pieces of type 16 lubricating points, and even a type 10 it.



Picture 34 Soon it's time again to let the sled down to the lead.



Picture 35. Here Yoba has seen some new O rings must be mounted. Measure Yoba while.



Picture 35a. Located next to the White CNC lathe, a framework was due to a small hole in the roof, installed. As one would build a hotel. This has to do with the fact that here in the camp, the company Chevron, USA, has a strong safety follows thought.



36: Then we looked in the tool room, if we can find a ruler to Rescraping the guides.



What you see there, hurts. So much rust. our maintenance people are now getting all months to send me a picture, so that something does not happen the job.



Figure 37: All rust, just because you pocketing no oil fat blend! This need not be. Our maintenance people are encouraged to always check this and make the "Store" attention.



Picture 38. It is only the rusty, which has seen no oil or grease!



Picture 39. Why do so rusted a beautiful vice? Since we will have a serious talk with the camp people. That's a lot of money that is damaged here.



Figure 40: There are also offices in Angola, where it still looks not only to work. This place is located about 8 km from the Malongo camp and was reopened in Malembo. As we were eating 11 12.2011 and on Sunday. You'd think it was a holiday!

Created: sw-jw-iw-hp Widmer

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