

Company:

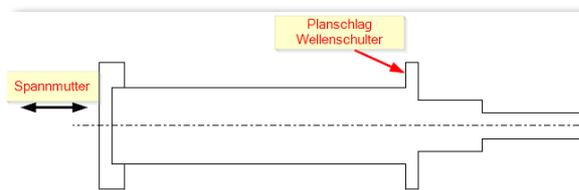
Sitting Shear

Task received from customer:

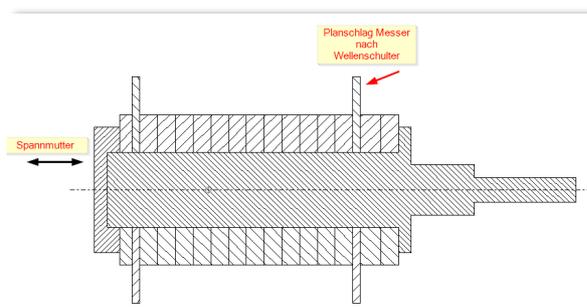
Inspection of shaft shoulder and bearings of slitting shear

Inspection of Slitting Shear

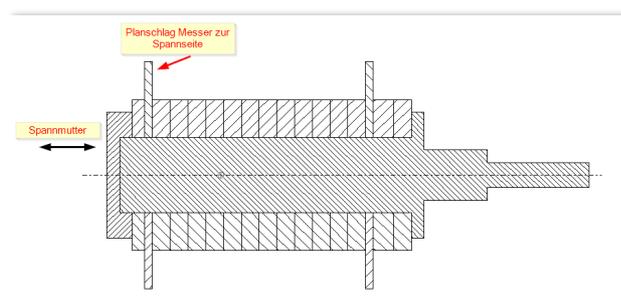
- > Measured axial run-out at shoulder of **upper** cutter shaft 0,002mm = **OK**
- > Measured axial run-out at shoulder of **lower** cutter shaft 0,001mm = **OK**



- > Axial play of **upper** cutter shaft bearing 0,001mm = **OK**
- > Axial play of **lower** cutter shaft bearing 0,002mm = **OK**
- > Axial play of **upper** eccentric bushing 0,005 mm = **OK**
- > Axial play of **lower** eccentric bushing 0,002 mm = **OK**



- > Measured axial run-out **upper** cutter shaft, first knife towards drive side 0,01 mm
- > Measured axial run-out **lower** cutter shaft, first knife towards drive side 0,01 mm



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- > Measured axial run **upper** cutter shaft, first knife towards operator side 0,03mm
- > Measured axial run **lower** cutter shaft, first knife towards operator side 0,05mm

First verification by sight of circular knives and distance rings

- > At first glance they seem to be OK.
- > A flatness verification should be carried out constantly by the operators. This can be done in a simple way by placing two circular knives onto each other and to verify the gap by a feeler gauge.
- > Also the cutting edges should be checked constantly by the operators.

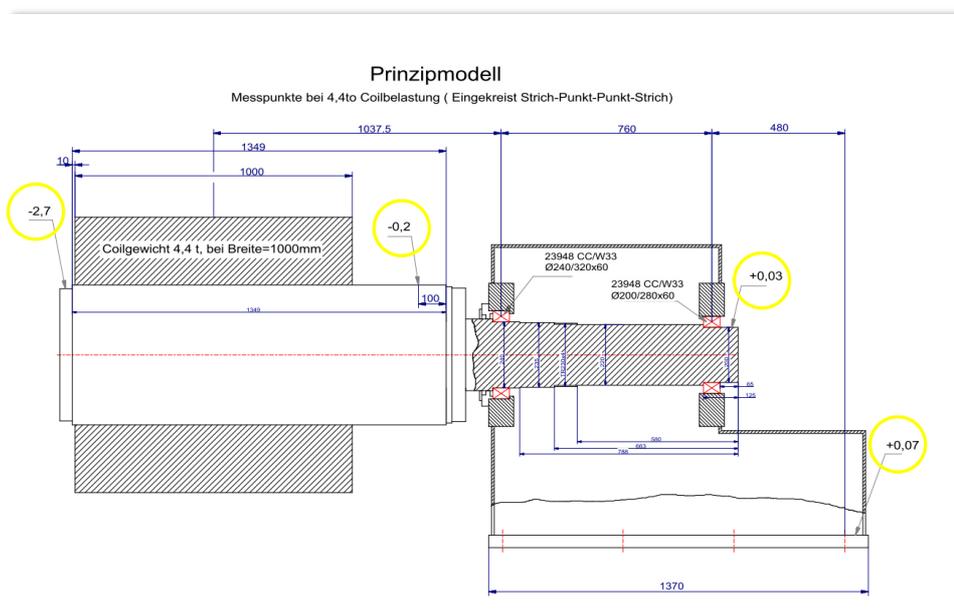
In general, the cutting tools as well as the entire procedure in setting and removing the cutter onto and from the cutter shaft left a good impression
[careful handling and 4 eye principle]

Recoiler and coil turnstile

Problem description by customer:

In case of coil weights above 3.5t moving of the slit coil rings from recoiler onto the turnstile arm is getting difficult. The reason is a deflection of the recoiler shaft by the coil weight so that at the point of coil transfer the recoiler shaft position is lower than the turnstile arm. According to the customer this problem has occurred only recently.

Inspection of recoiler



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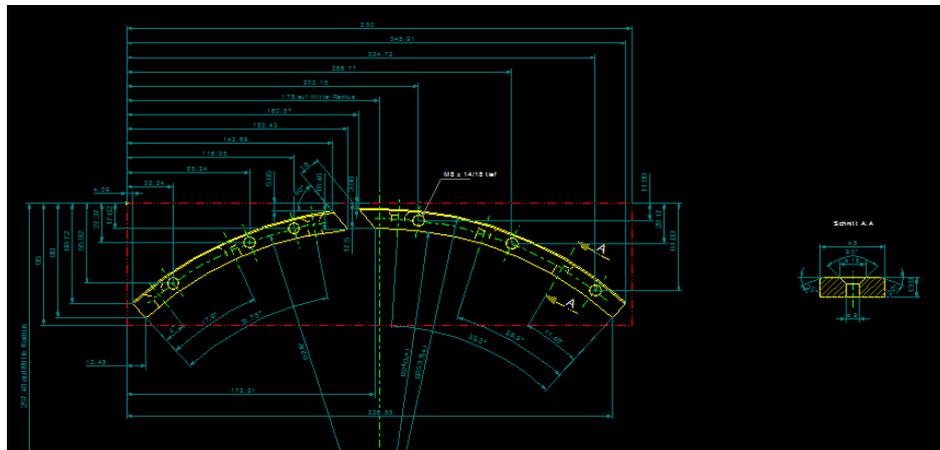
- > Measured movement on recoiler in case of 4.4 to coil load – see sketch above, measuring points are marked yellow.
- > Measuring procedure during measuring: Coil has been loaded via hall crane and sling.
- > Via crane stroke the 4.4 to coil has been lowered (charged with load) and lifted (load released) in alternation. Simultaneously the load was measured at 4 different positions as marked and measured by a dial gauge.
- > The results showed an unusual not admissible deflection of the recoiler shaft so it can be assumed that deflection does not come from the shaft but from the main bearing itself.
 - o As per calculation the deflection at the front edge of the recoiler shaft with loaded coil of 4,4to should be **0,7 mm**, however **2,7mm** were measured.
 - o The movement of the shaft in its rear bearing area shows 0,03 mm which is in the normal range.
 - o There should not be a movement of 0,07 mm of the recoiler base frame when charging with load.
 - o When checking the foundation bolts, it was found that they were not fastend tightly and could not be refixed perfectly. So fastening did not lead to an improvement of the situation.

Proposal how to solve the damage on the recoiler

- > Check foundation and fixation of anchoring bolts as well as grouting if necessary renew (foundation builder)
- > New bearing support (GEORG)

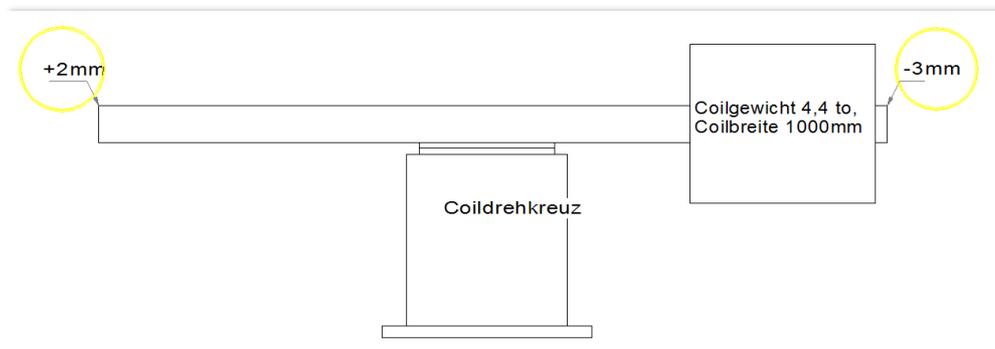
Mandrel segments on recoiler

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- > After measuring remanufactured as per new drawing (GEORG)

Turnstile check



- > Measured movement on coil turnstile with 4.4 to coil load as shown on the above sketch. Measuring points are marked in yellow.
- > Measuring procedure during measuring: Coil has been loaded via hall crane and sling.
- > Via crane stroke the 4.4to coil was placed onto the turnstile arm (charged with load) resp. lifted (load released) whilst simultaneously to the loading measurements were taken at the 2 indicated positions by dial gauge.
- > The measuring results showed that to a large extent the tilting was caused by a too large play of the swiveling bearing.

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Proposal how to solve the situation of the turnstile

- > The situation should be kept in mind and observed, at present it is not a serious problem.
- > By replacing the swiveling bearing the tilting can be considerably reduced.
- > In addition, the guides of the locking mechanism are worn and should be replaced.

Conclusion

In spite of its age the slitting line presents itself in a well maintained and clean stage. Quite obviously the slitting line has been well operated and regularly serviced.

After execution of our proposal how to remedy the problems of the recoiler a movement of the slit coils should be possible again without any problem.

We further recommend to replace the swiveling gear of the turnstile and the cylinder guide of the locking mechanism. Hereby a tilting can be absorbed as far as possible and a secure locking in the 4 positions will be possible again.