



agricultural machinery

Combine harvester - field balancing

case study

Challenge vor VibroMatrix®

The replacement of the knives on a chopper shaft of a CASE IH 9230 combine harvester was carried out successfully. However, at this point in time, using the harvesting machine was out of the question. By replacing the knives, completely new mass distribution conditions were set on the rotor (chopper shaft), which was also noticeable through clearly excessive vibration values, measured at the bearings of the shaft.

Due to the good accessibility of all parts of the rotor and its bearings, dynamic balancing during operation is an option in this case. The effect of the imbalance is only compensated for by additionally attaching balancing weights. The size of the balancing weights and the position in which they are to be mounted is determined by measuring the vibrations on the shaft bearings.

The solution - InnoBalancer Pro®

The InnoBalancer Pro® software from the VibroMatrix® vibration measurement system offers the possibility of 2-plane balancing precisely for this purpose. All planes influences are taken into account in the installed state and ensure the greatest possible reduction in imbalance. The program guides the user step by step through the balancing procedure and gives precise instructions on how to attach test and balancing weights. The software automatically logs the entire balancing process and is then available as a finished report for distribution.



For agricultural machinery, the soil on which the plant grows is also the roadway. It is inevitable that, in addition to the harvested crop, foreign objects will also reach the inside of the machine and cause damage to rotating machine parts. Unfortunately, replacing the knives on a chopper shaft, for example, is not enough. Due to the new assembly, the shaft also needs to be balanced regularly. Removing the shaft and transporting it to an external balancer is time-consuming and expensive.

Field balancing is not only a cost-effective alternative, but also improves the result at the same time, since the rotating shafts are balanced in the installed state, i.e. in their operational storage. Installation and transport costs are eliminated.

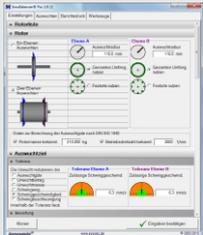
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Chopper shaft of CASE IH Axial Flow 9230

The InnoBalancer Pro ® clearly displays all parameters for recording the rotor and the presettings and also offers quick and easy handling for occasional users.



The settings can be saved for different rotor types and are immediately available for repeated measurements. The program also automatically supports compliance with tolerance limits for specified balancing quality according to DIN ISO 1940, rotor weight and speed.



The complete balance history is available in a tree diagram for selecting individual measurement runs, mass changes and unbalance results. The setting of test and balancing masses can be traced and checked at any time during the entire procedure.

Benefit for the customer

- No removal and installation of the rotor shaft
- No transport costs
- Reduced downtime
- Reduction of bearing vibrations
- Extension of the own service offer
- In-depth knowledge of the vibration behavior of various rotors
- Multiple use for one time acquisition cost

Anwendungen

- threshing drums
- turning drums
- axial rotors
- mulcher shafts
- chopper drums
- flail shafts



Set a test mass...



Measurement of bearing vibrations...



Speed detection via reflection sensor...



Setting the calculated balancing mass...



The final balance report can be made available immediately as a PDF file or in printed form. Templates can be created with your own logo and design.