



## Lacquers & Paints

### Suction systems - field balancing

case study

In addition to wear due to abrasion, fan wheels in suction systems in paint halls are also subject to irregular material and density distribution due to dust and paint mist build-up.

Over time, this change in mass distribution becomes noticeable through increased vibration values. A vibration and humming of the system is clearly noticeable and puts a particular strain on the roller bearings and the foundation. Accidental spalling of caking/material leads to particularly strong and sudden changes in the vibration behavior.

A thorough cleaning of the fan wheel becomes inevitable and it is usually dismantled for this purpose. The fan wheel is then rebalanced on a balancing bench. Anyone who now believes that everything is like new again and that the result is low-vibration running is unfortunately often disappointed. A lack of understanding about the poor result is then annoying for both sides and is usually associated with further financial expenditure.

The external service provider balanced the fan wheel perfectly according to DIN/ISO 1940 and even certified the desired balancing quality in a report. Unfortunately, the fan wheel does not work on its own. In order to fulfill its purpose, it must be mounted directly on a drive shaft or motor shaft.

In practice, additional, unavoidable errors occur during assembly due to fitting play. In addition, there are errors due to radial run-out and axial run-out deviations. 1) All of these errors cause the center of mass of the fan wheel to move outside the axis of rotation and make itself felt with renewed vibrations.

The only remedy here is the so-called "field balancing" on page 2



For many years, „Kaschub Karosserie + Lack“ has been a byword for solid craftsmanship in body construction and car painting. State-of-the-art suction systems are used to meet the high demands on the health of employees and the environment. A high system availability requires regular maintenance and care. This also includes cleaning the fan wheels from caking caused by dust and layers of paint mist. The subsequent operational balancing of the fan wheel together with the drive motor as a unit again guarantees low-vibration and safe operation of the system.

