

## **TRUCKCAM REAR AXLE ALIGNMENT SYSTEM**

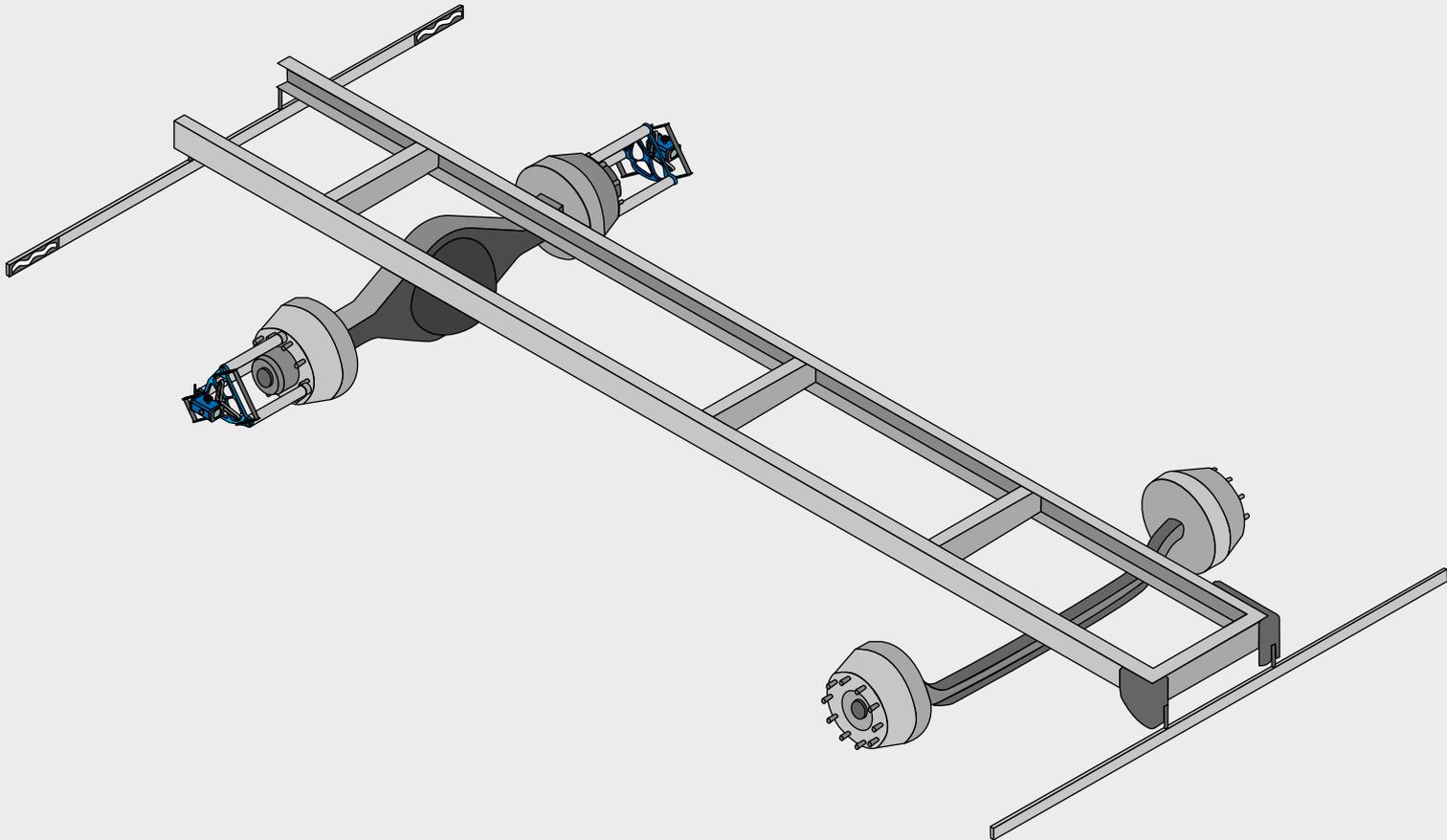
**TruckCam AB  
Wheel Alignment Systems**

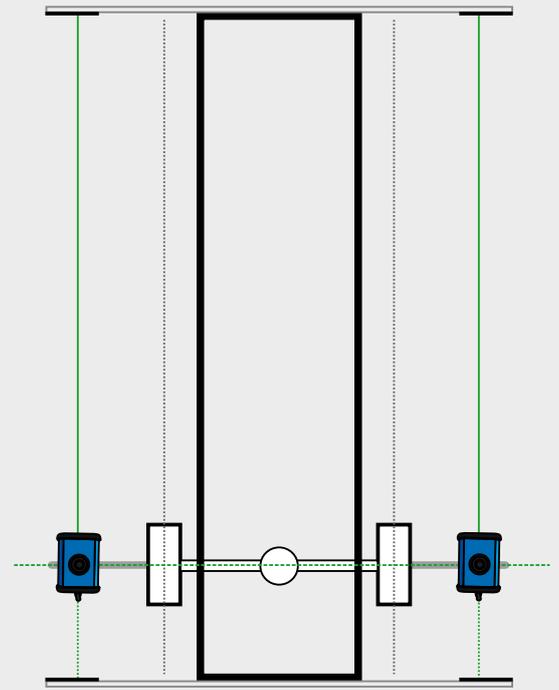
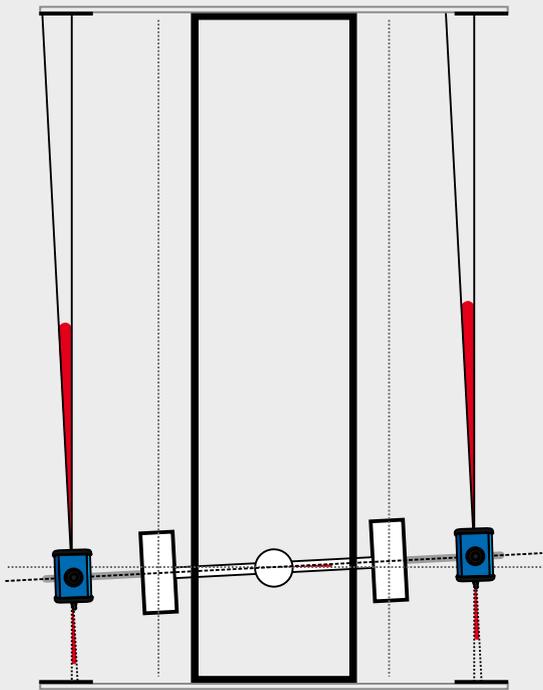


### **Introducing TruckCam Rear Axle Alignment system**

The TruckCam Rear Axle Alignment system is designed to align the driven axle perpendicular to the frame. This alignment is important to make sure that the frame will travel parallel to the road.

The main components of the system are two digital cameras mounted on pre-calibrated hub adaptors and two self centering industrial frame gauges together with PC software. The cameras and the hub adaptors are calibrated at preset intervals and each process is supervised and controlled by software. The final alignment data is stored in a database in relation to each chassis number, and can be used for quality control purposes.





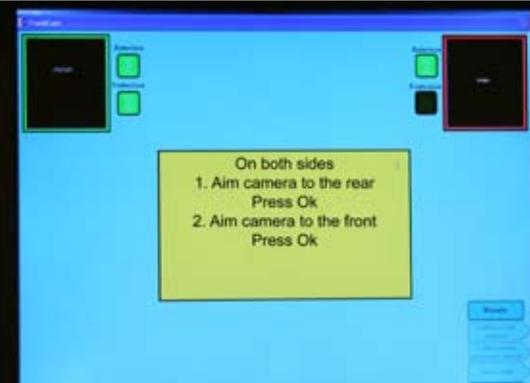
### The measurement principle

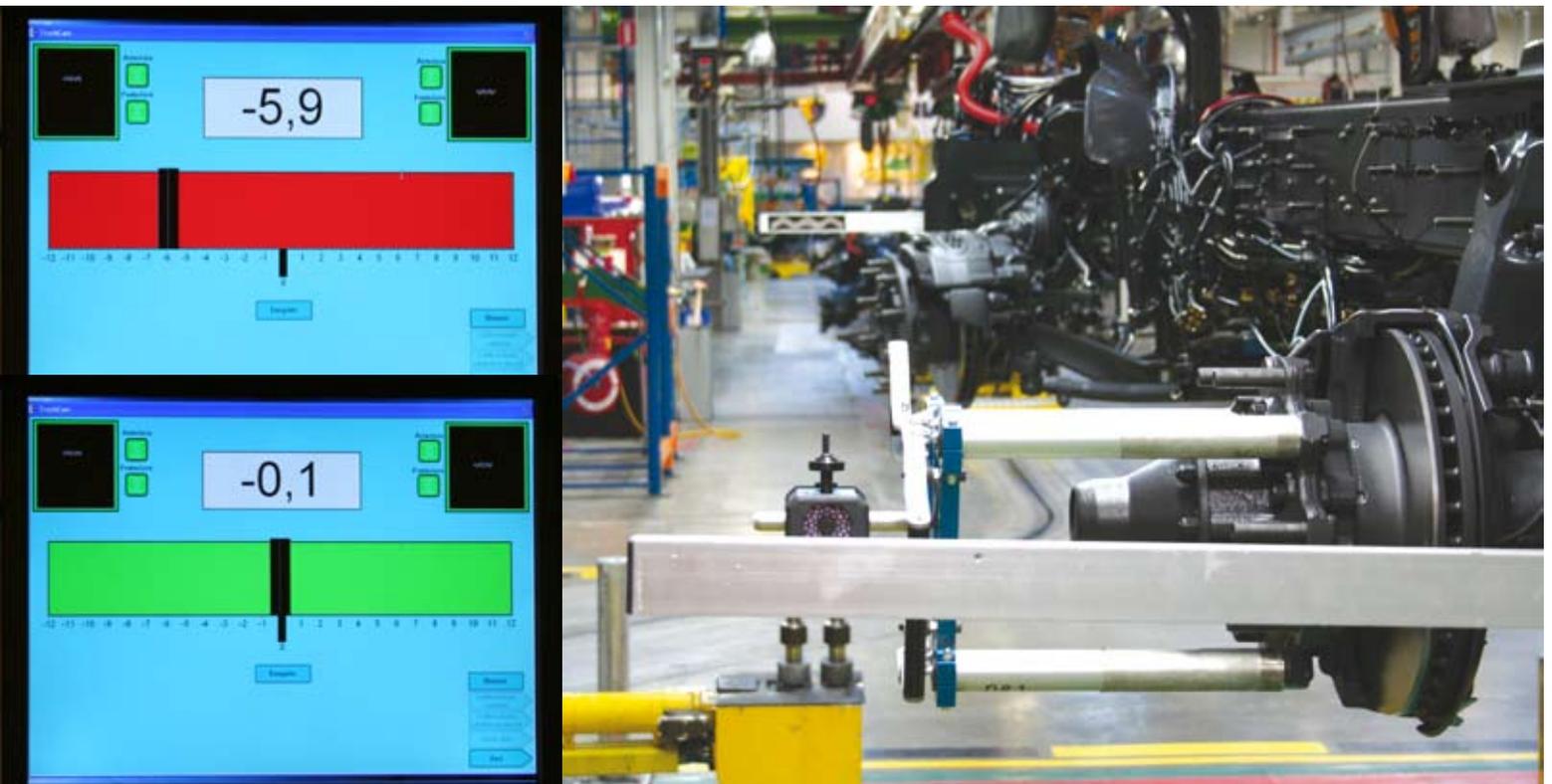
Two self centering industrial frame gauges with integrated reflective targets are mounted at a right angle to the frame, one in the front and one in the rear. This determines the frame centerline. The cameras measure at which angle the axle is positioned relative to the centerline of the frame, and shows necessary corrections on the screen.

### Measuring with a TruckCam Rear Axle Alignment system

The operator starts by entering the required vehicle data, either by use of a bar code scanner or by manual input. Self centering industrial frame gauges are mounted on the frame and pre-calibrated hub adapters with cameras are mounted on the axle hubs of the main axle.

TruckCam cameras are built for the harsh environment around a truck or bus. They are small and compact with no internal moving parts. They work independent of light conditions as they operate only with infrared light from a built-in flasher. The precision and accuracy is excellent even at long distances.





The actual measurement process starts as the operator aims the camera backwards, clicks the OK-button, turns the camera over pointing forward and clicks again. This click-turn-click procedure is done on both sides, giving the software enough input to calculate the out-of-square value of the axle in relation to the centerline of the frame. Measurement values along with any necessary adjustments are shown on the screen, and live updated values continue to show all through the adjustment of the axle.

When all necessary adjustments are completed, the measurement data is stored in a database. The operator demounts the equipment and the system is ready for another measurement.

**REFERENCES:**

TruckCam has so far supplied Rear Axle Alignment systems to IVECO and Scania.

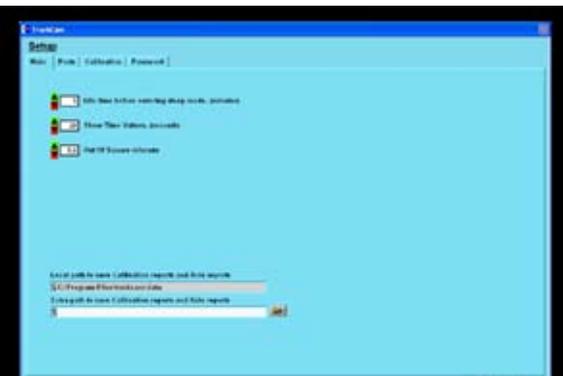
### Hardware calibration is essential

Calibration of cameras and hub adapters in the TruckCam Rear Axle Alignment system is controlled by the system's software.

When the cameras and hub adapters need to be calibrated, the software will indicate this to the operator and prevent any measurements until the hardware has been properly calibrated. This is to ensure that the measurement values presented by the system are always accurate.

Calibration itself is done by mounting the equipment (camera and hub adapter) on the calibration unit and by following the steps presented by the software. The whole calibration process is completed in only a few minutes.

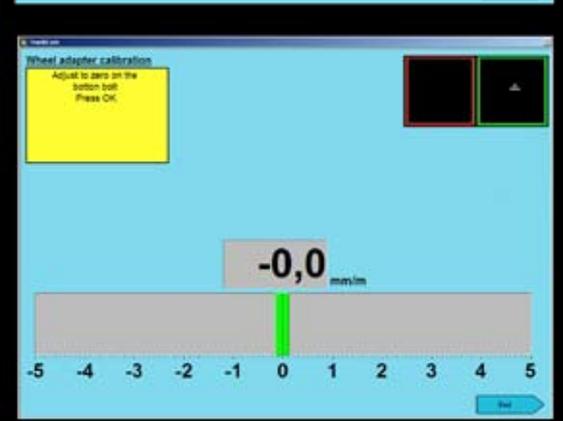
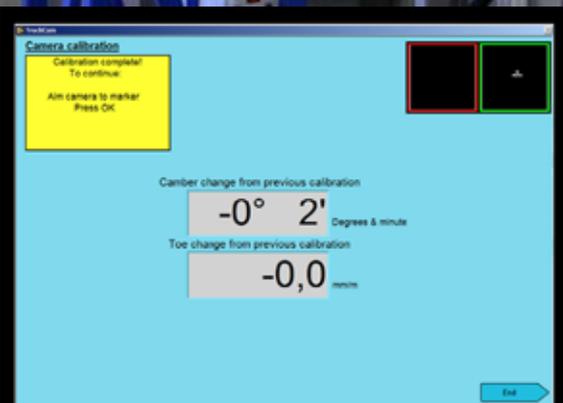




### System setup

Tolerances for axles on different vehicle types, as well as how often hardware should be calibrated, are set in the system setup.

This is also the part of the system where one can define user rights for different users, set passwords and decide whether or not the system should print a report after each measurement. The system setup is of course password protected.



## Main advantages of the TruckCam Rear Axle Alignment system

- Wireless communication
- Very short cycle time
- Pre-calibrated hub adapters eliminates need for run-out compensation
- Complete documentation of every vehicle in a database
- Secure process by easy step-by-step software
- Measurement can only be ended and stored when all values are within tolerance



TRUCKCAM – EFFECTIVE DRIVING  
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