

TRUCKCAM AXLE PARALLELITY SYSTEM

TruckCam AB Wheel Alignment Systems

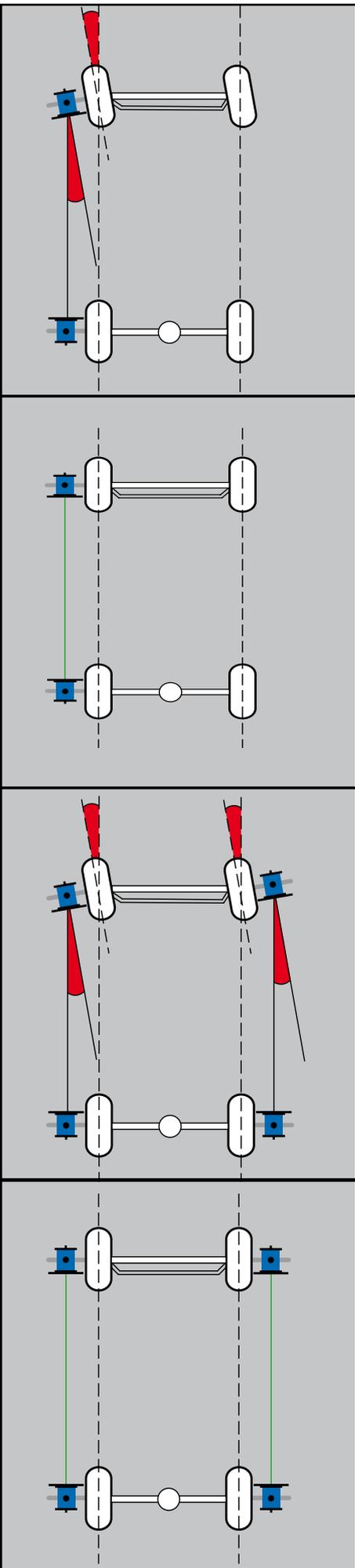


Introducing TruckCam Axle Parallellity system

The TruckCam Axle Parallellity system is based on measuring the parallelism between two axles.

One example is to align the front axle parallel to the driven axle when the steering wheel and steering gear box is centered.





Measurement principle

The goal is to get the wheels of the vehicle to roll in an optimal way on the road and not to counteract with one another causing drifts in any direction.

The camera on the steerable axle measures at what angle it is positioned relative to the target fitted on the camera mounted on the main driven axle. The camera on the main driven axle measures at what angle it is positioned relative to the target fitted on the camera mounted on the steerable axle. The system calculates the difference between these angles. When the difference is zero the axles are parallel.

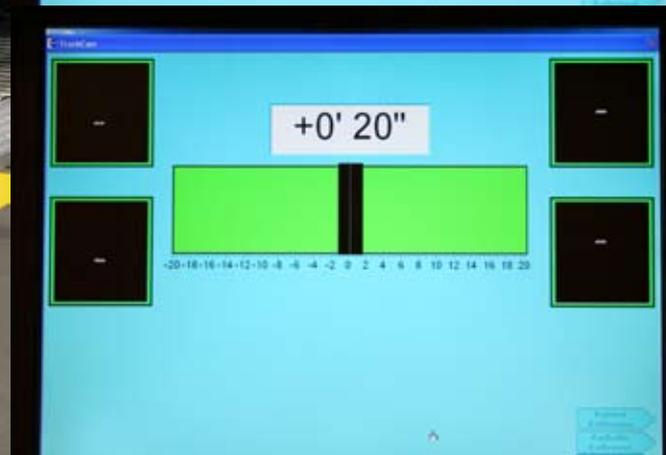
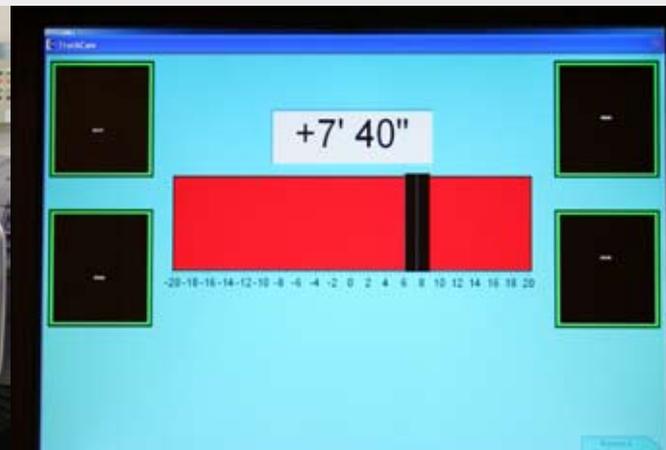
When measuring double sided parallelism using cameras on both sides of the vehicle, the system also takes into account the total toe value of the steerable axle, giving a higher accuracy and making the wheels run even more optimized on the road.

Measuring with a TruckCam Paralleliity system

The operator starts by entering the required data into the TruckCam system either by use of a bar code scanner or by manual input.

Pre-calibrated wheel clamps with cameras are mounted on the wheels of the main driven axle and the front axle. Each camera is equipped with a reflective target, and the cameras are mounted face to face, looking at these targets.

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 starts as the operator clicks the OK-button on one of the cameras, to indicate that the equipment is in place on the vehicle. The software calculates the parallelism of the front axle, using the main driven axle as the reference axle.

Live values are shown on the computer screen all through the adjustment of the straight ahead position of the front axle. When all necessary adjustments are done, the final value is stored in a database. The operator demounts the equipment and the system is ready for another vehicle, this all in a matter of minutes.

REFERENCES:

TruckCam has so far supplied Axle Parallelity systems to MAN and Renault Trucks.

Hardware calibration is essential

Calibration of cameras and wheel clamps in the TruckCam Axle Parallellity system is controlled by the system's software. The maximum number of vehicles to be measured between calibrations are set in the software setup. When the cameras and wheel clamps needs 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 wheel clamp) on the calibration unit and by following the steps presented by the software. The whole calibration process is completed in only a few minutes.

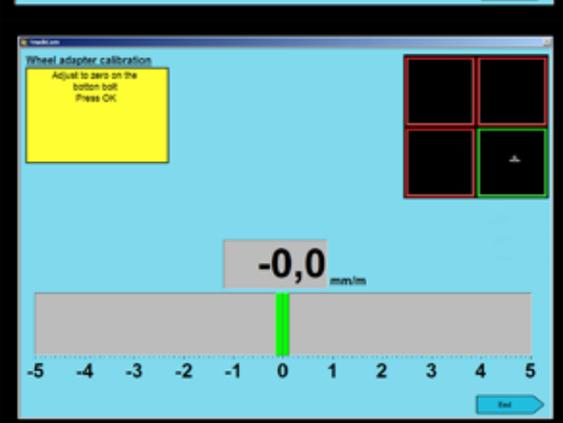
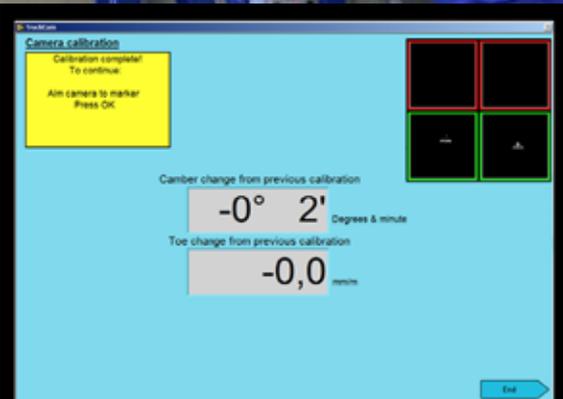




System setup

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 Axle Parallelity system

- Wireless communication
- Very short cycle time
- Precalibrated wheel clamps eliminates run-out compensation
- Calibration of equipment scheduled by software
- Complete documentation of every vehicle in a database
- Secure process by easy step-by-step software
- Measurements can only be ended and stored when all values are within tolerance



TRUCKCAM – EFFECTIVE DRIVING
WHEEL ALIGNMENT SYSTEMS

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