

truckCam™



TRUCKCAM AFTERMARKET

CAMERA WHEEL ALIGNMENT SYSTEM

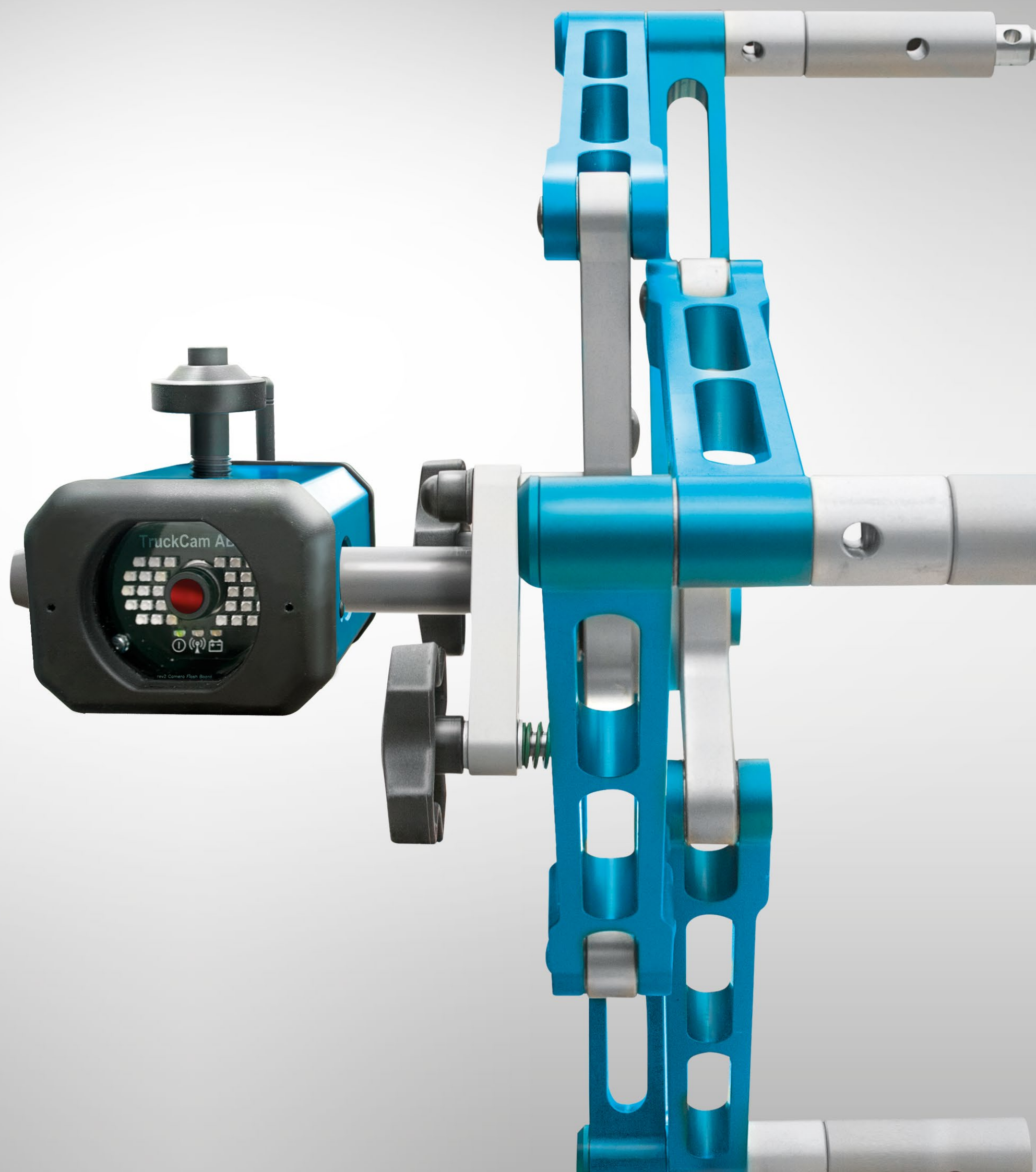
GENERAL INTRODUCTION

THE DIGITAL TRUCKCAM Camera Wheel Alignment System is one of the most advanced systems on the world market. With the integrated gyro and electronic inclinometers, precise and accurate measurements are guaranteed.

THE SYSTEM is designed for measuring all wheel angles, including parallelism between axles, on commercial (heavy duty) vehicles, such as trucks, trailers, buses, vans, mobile cranes and agricultural vehicles.

THE TRUCKCAM CAMERA Wheel Alignment System enables dynamic toe and camber measurements while in driving position, by using the unique TruckCam Rolling Method. For this measurement no lifting of the axles with Run-Out compensation is required. Of course the system also enables Run-Out compensation of wheel adaptors.

THE SYSTEM USES wireless technology for transmitting data between the measurement units and the computer. The computer program guides the user through the measuring process and prints out measuring reports of values measured before and after alignment.



MEASUREMENT PRINCIPLE

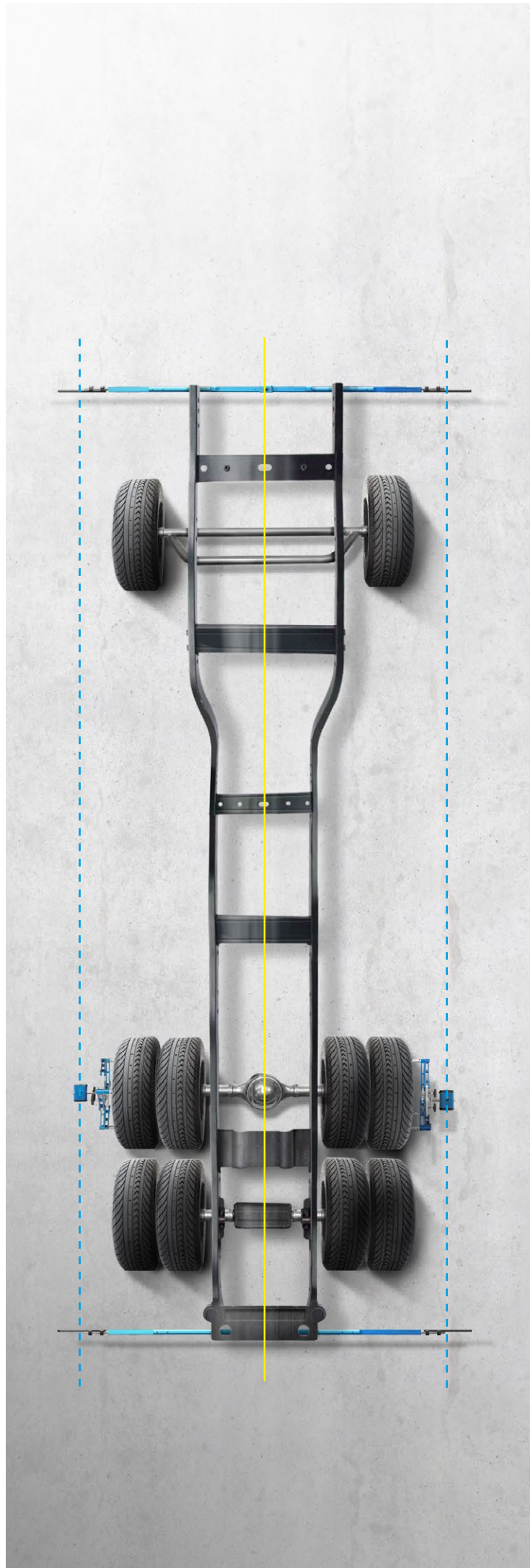
THE TRUCKCAM CAMERA Wheel Alignment System uses the centerline principle to determine the position of axles and individual wheels in relation to the vehicle centerline.

THE CENTERLINE of the vehicle is determined by the self centering frame gauges hanged in the front and rear of the chassis or body.

THE REFLECTIVE TARGETS are placed on an equal distance from this centerline, creating an imaginary line on each side of the vehicle, parallel to the vehicle centerline.

THE CAMERA measures distance and position in relation to the front and rear targets. Thanks to this the system software is able to calculate all wheel angles for that particular wheel and axle in relation to the centerline, for example total toe, individual toe, out of square and parallelism between axles.

WHEN MEASURING caster, KPI and turn angles, the system uses the position of the camera relative to the targets in combination with the data given by the integrated gyroscope and inclinometers.



THE ROLLING METHOD

A DYNAMIC MEASUREMENT is carried out just as the vehicle stands on the floor, with full weight on the axles, followed by rolling the vehicle so that the wheels turn half a turn and the cameras automatically take the readings.

BY THIS METHOD the TruckCam system is able to measure before, during and after rolling, and automatically corrects for errors from the wheel adapter and/or the rim, without the need for any separate Run-Out compensation.

TOE AS WELL AS camber values will be displayed automatically after the rolling measurement. Now the user is able to make adjustments according to the live values shown on the computer screen.

This method can be used to measure a vehicle axle by axle, or to measure two axles simultaneously by rolling the vehicle once.





MEASURING CASTER, KPI AND TURN ANGLES

THIS MEASUREMENT is based on a single continuous movement of the wheels, from straight ahead position to maximum left, via maximum right position and back to the starting position.

DURING THIS PROCEDURE the built-in gyroscope and inclinometer are constantly transmitting data to the computer, which calculates the castor, KPI and turn angles in different wheel positions.

The whole procedure can be carried out in a matter of minutes.

DURING THIS MEASUREMENT the TruckCam Inclinometer Unit is very important, as it is able to compensate for both lifting height and horizontal level of the measured axle. This eliminates any need for compensation lifting of the vehicle and/or manual horizontal levelling of the axle beam.

THE TRUCKCAM SYSTEM with the rolling method is completely portable. It gives the possibility, for instance, to diagnose a fleet of vehicles outdoors as well as indoors in a very short time.

SINCE THE CAMERAS work only with light in the infrared spectrum, sunlight or indoor light have no influence, the system works in every light condition.

WITH THE ADDITIONAL Inclinometer Unit, the system is able to compensate for any influences on measurement from ground and/or tyres. The compact and durable design of the cameras also contributes to the portability of the system.





MEASURING DIFFERENT VEHICLE TYPES

THE TRUCKCAM CAMERA Wheel Alignment System with its various adaptors and accessories is able to measure every possible commercial (heavy duty) vehicle on the market.

FOR EXAMPLE, using the TC-126 Bus / Van adaptors to fit the frame gauges to the outside of the vehicle body simplifies measuring all kinds of vehicles which have no internal frame structure like buses and vans.

THE TRUCKCAM WHEEL Adaptor fits all rim sizes from 14" to 24", and thus the system in combination with the TC-121 frame gauges is suitable for measuring light commercial vehicles like vans and minibuses, as the frame gauges can be altered in width.



Bus equipped with TC-126 Bus/Van kit



Van with TC-121 Compact Frame Gauge, TC-175 Wheel Adapter and TC-152 Low Friction Plate



THE ALL IN ONE SOFTWARE CONCEPT

THE ALL IN ONE software concept represents the most complete and multifunctional software for wheel alignment, frame check and wheel angle diagnosis available on the market.

THE SOFTWARE CONCEPT has been developed with one single purpose: Multiple measurement functionalities in one package; like wheel alignment software, frame check software, twin rolling functionality, ACC radar adjustment, TruckCam AutoData vehicle database, and additionally a multi rolling diagnostics software for the fastest and most accurate vehicle diagnosis available.

THE FRAME CHECK software allows the operator to perform measurements of frames and chassis without adding any additional hardware. Frame deformations like side sway, vertical bend and torsion are measured electronically in the shortest time possible.

FULLY INTEGRATED in the wheel alignment software is also the function for aligning the ACC Radar unit, articulated vehicles and the possibility to measure and adjust using our proven rolling method (for one as well as multiple axles) or by lifting and performing a run-out compensation.

ACC / AICC RADAR ALIGNMENT

THE ACC/AICC sensor assists the driver to adapt the speed of the vehicle in relation to the distance of the vehicles in front. This sensor needs to be properly aligned parallel to the driving direction of the vehicle.

THIS MEANS that the narrow radar beam needs to follow the road ahead at an accurate angle. TruckCam introduces a stand alone solution that measures and adjusts all types of ACC/AICC Radar sensors in a very efficient and accurate way.

THERE ARE MULTIPLE main advantages of the Truck-Cam ACC/AICC Radar Alignment; for example a quick and accurate measurement and adjustment of ACC/AICC radar sensor position, suiting all available ACC/AICC radar sensors on the market.

This stand alone system is working independently of any other measurement equipment.





FRAME CHECK

FRAME CHECK SOFTWARE and targets can be added to the **TruckCam Camera Wheel Alignment system (TC-2001, -2002, -2003 or -2004)**, offering deformation measurements of frames and chassis.

THE SYSTEM MEASURES side bend, vertical bend, tilt and twist. Up to 6 measurement points along the chassis can be included in the graphical 3D report generated by the software.

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.

MAIN ADVANTAGES OF THE FRAME CHECK SYSTEM

- Quick and accurate measurement of all deformations.
- No lifting or levelling of vehicle
- All values are stored in Data base
- 15 minutes measuring time, including mounting of equipment.
- Operator errors reduced to a minimum

THE ALL IN ONE SOFTWARE

THE ALL IN ONE software includes measurement features like:

FIG. ① WHEEL ALIGNMENT SYSTEM

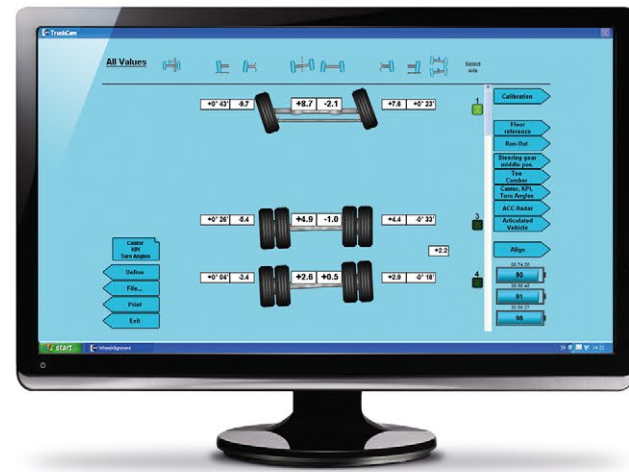
for commercial vehicles from 3,5 tons and upwards. The new wheel alignment software enables the operator to measure vehicles based on the center line principle as well as the thrust line principle.

FIG. ② ACC.

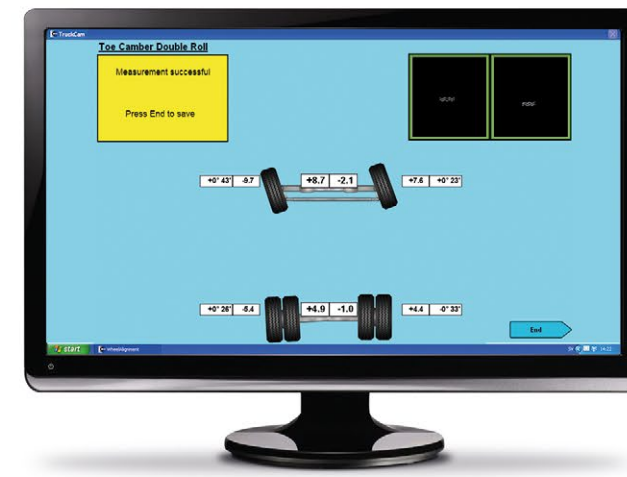
ACC (Adaptive distance cruise control) adjustment integrated in the wheel alignment software. This software function assists the operator while adjusting the ACC unit by using the TruckCam cameras.

FIG. ③ FRAME CHECK.

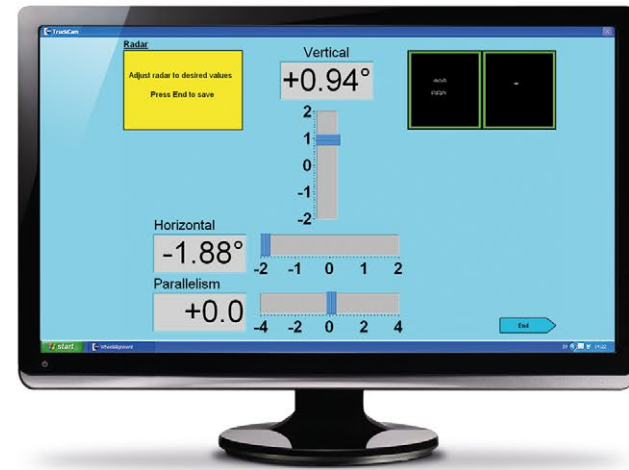
The frame check software provides measurements of frames and chassis without any additional hardware. Frame deformations like side sway, vertical bend and torsion can be measured electronically in the shortest time possible.



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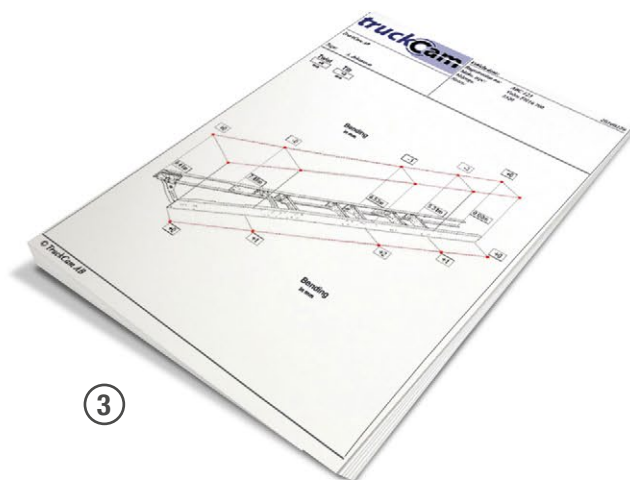
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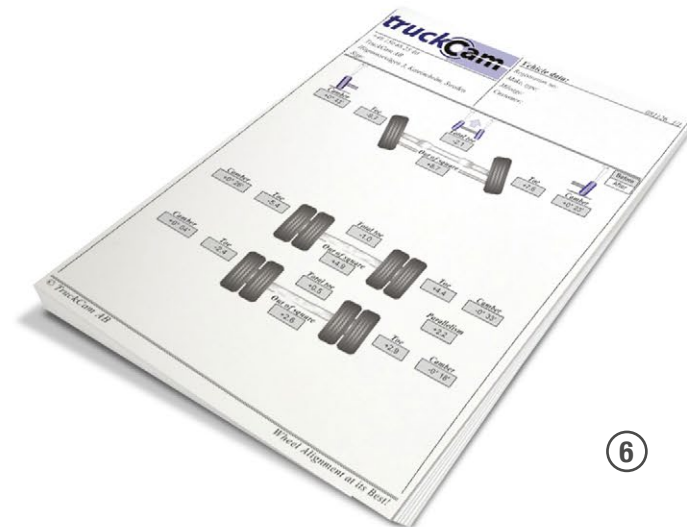
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ADDITIONALLY, the software also includes features like:

FIG. ④ TWIN ROLLING.

The twin rolling software is one of the quickest diagnostic measurement systems available. By rolling the vehicle forward only once, the system measures two axles at the same time in a matter of minutes.

FIG. ⑤ PRECONFIGURED VEHICLES.

This feature simplifies the selection of vehicle type, while also allowing the operator to create own vehicle types of up to 10 axles.

FIG. ⑥ ACTIVE GRAPHICAL APPEARANCE OF WHEELS AND AXLES.

The print-out report sheet as well as the measurement window graphically shows the actual position of axles and wheels before and after adjustment.

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