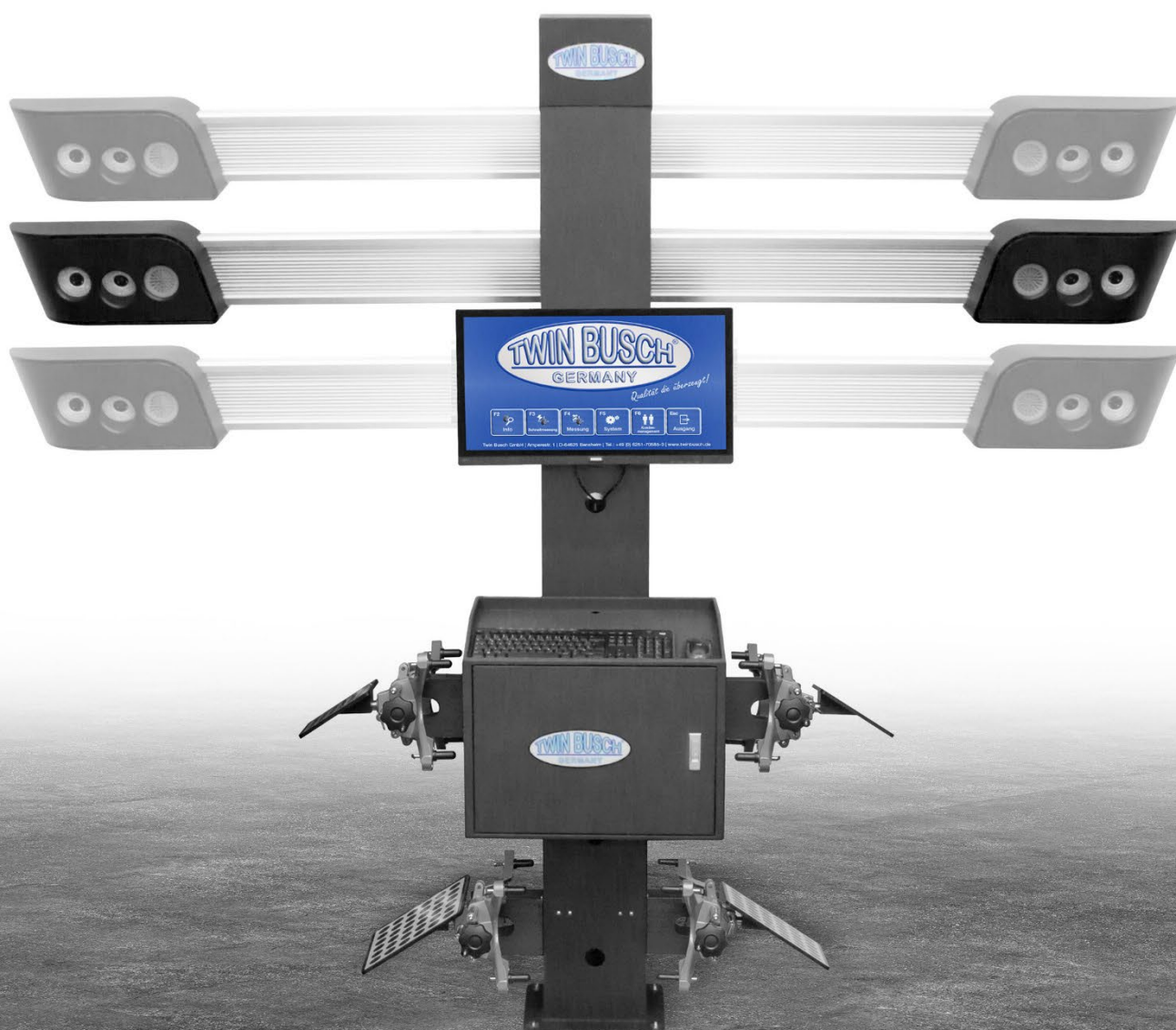


TW316 & TW316-G

INSTALLATION, OPERATION AND MAINTENANCE MANUAL



*Always read these operating instructions carefully
before operating the 3D-wheel alignment.
Follow the instructions carefully.*

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Further appendix:

- **EU Declaration of Conformity**

1. General information

The **TW316 / TW316-G** is a 3D wheel aligner with a high-speed moving camera system with 4 cameras. With this system we offer the possibility for workshops to measure and adjust cars accurately and efficiently.

Electric lifting device for camera carrier with Follow-Me function.

Step-by-step operation of the software with graphic indicator for further procedure.

The 3D measuring system enables fast/exact recording of the vehicle's ACTUAL values.

The measurement and adjustment can be done at any desired height of the lift.

The TW316-G system determines and calculates the following axle parameters on the vehicle: front axle single toe and total toe incl. toe-in curve, camber, caster, spread, included angles. Rear axle single toe and total toe, camber.

Furthermore wheelbase, wheel offset, track width, axle offset.

Database with wheel alignment parameters for more than 20,000 vehicle types.

It is possible to enter your own data into the database..

Special features of the product:

- **Top built quality with CE-certificate**
- Manufactured according to **ISO 9001**
- With English language software
- Measuring with 4 high speed camera systems
- Simple to use
- Measurement range up to $\pm 18^\circ$
- Accuracy of measurement up to $\pm 0,01^\circ$
- Wheel diameters: 22 - 60 cm (9" to 24")

2. Identification of the operating instructions

Operating instructions **TW316 & TW316-G**

of TWIN BUSCH® GmbH
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D-64625 Bensheim

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Email: info@twinbusch.co.uk

Date: -00, 05.06.2026

File: TW316_TW316-G_Wheel_alignment_Manual_uk_00_20260605.pdf

3. Technical data

Power supply	230 V / 50 Hz
Measuring range	± 18 degrees
Measurement accuracy	± 0.01 degrees
Clamping range	22 cm – 60 cm (9" – 24")
Operating environment	Ambient temperature: -20°C to +50°C
	Relative humidity: < 90%

4. Modification of the product

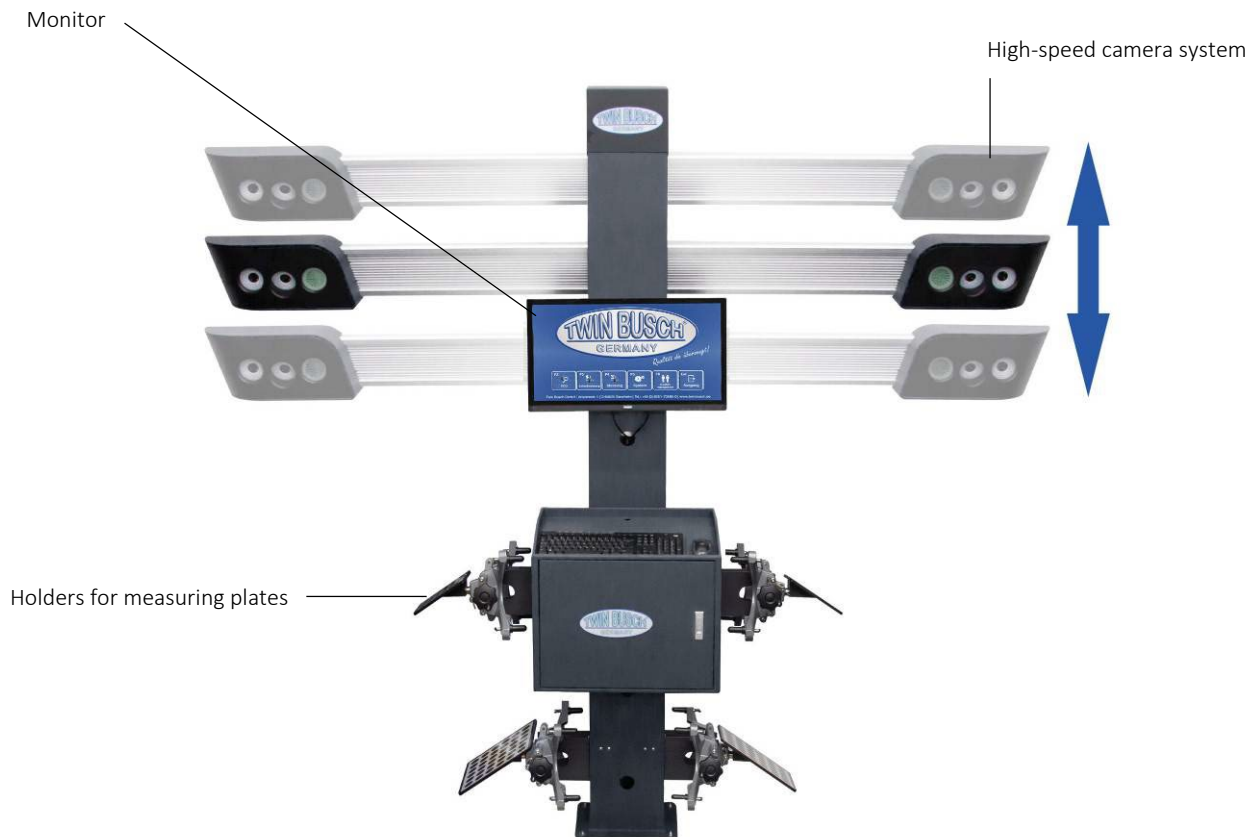
Improper use, as well as modifications, alterations and additions to the wheel alignment system and all its components that have not been agreed with the manufacturer, are not permitted. The manufacturer accepts no liability in the event of improper installation, operation or overloading. Furthermore, improper use will invalidate the CE certification and the validity of the certificate of conformity.

If you wish to make any changes, please contact your dealer or the qualified staff at TWIN BUSCH® GmbH in advance.

5. Compliance with the product

The TW316 / TW316-G wheel alignment machine is CE-certified and complies with the Machinery Directive 2006/42/EC and the standard EN ISO 12100:2010. See also the EU Declaration of Conformity at the end of the operating instructions.

6. Technical Specifications

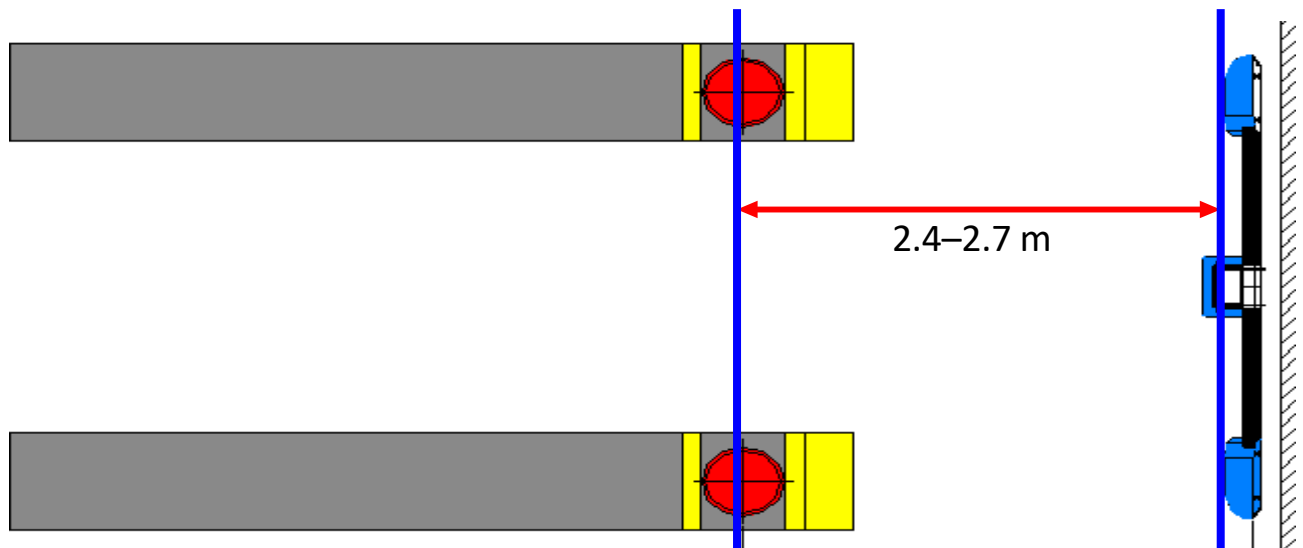


Description	Function
Monitor	Large, clear monitor with intuitive menu navigation in many languages. User-friendly, convenient software with integrated, comprehensive vehicle database.
High-speed camera system	Measuring system with 4 high-speed cameras; measurement and adjustment can also be carried out at any desired height of the post lift.
Holders for measuring plates	There are holders for the 4 measuring plates on the machine. The claws supplied for measuring value recording cover a clamping range of 22 - 60 cm when clamped from the outside.

7. Assembly and installation

7.1 Requirements for the installation site

Ideal distance from centre of turntable to camera module:	2.2 m
Turntable front:	1.8 m
Turntable centre:	2.2 m
Rear turntable:	2.6 m



- A solid and level surface is required.
- The lifting movement of the camera beam must be free of obstructions. Movement must not be blocked.
- The measurement area between the camera system and the target objects must be free of obstructions.
- Dry and dust-free environment.
- Distance from the centre of the turntable to the camera module: 2.4 to 2.7 m.

7.2 Power supply

- The wheel alignment system requires a dedicated power supply line, isolated from high-power consumers (such as post lifts, air compressors, etc.), to avoid interference frequencies.
- The supply voltage is 230 V $\pm 10\%$ at a frequency of 50 Hz.
- The device must be connected to a Schuko plug/socket type F.

7.3 Required tools and equipment

- Suitable lifting equipment (e.g. forklift truck)
- Hammer, side cutters
- Phillips and flat-head screwdrivers
- Set of Allen keys
- Socket sets and open-ended spanners
- Impact drill

7.4 Assembly instructions

- 1) Set up the lifting column.
- 2) Fit the monitor mount and the monitor to the lifting column.
- 3) Route the cables from the monitor through the front cable opening into the lifting column.
- 4) Fit the control box to the lifting column.



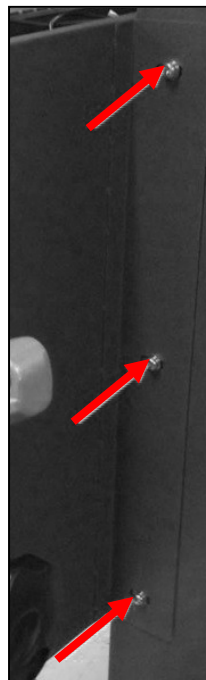
Illustration: Monitor mount on lifting column



Illustration: Mount on monitor



Illustration: Mounting the control box



- 5) Fit the bracket for the camera bar.
- 6) Place the camera bar with the integrated camera system onto the bracket and secure it securely.

Caution: This is a sensitive measuring instrument. Protect the camera bar from knocks and vibrations.

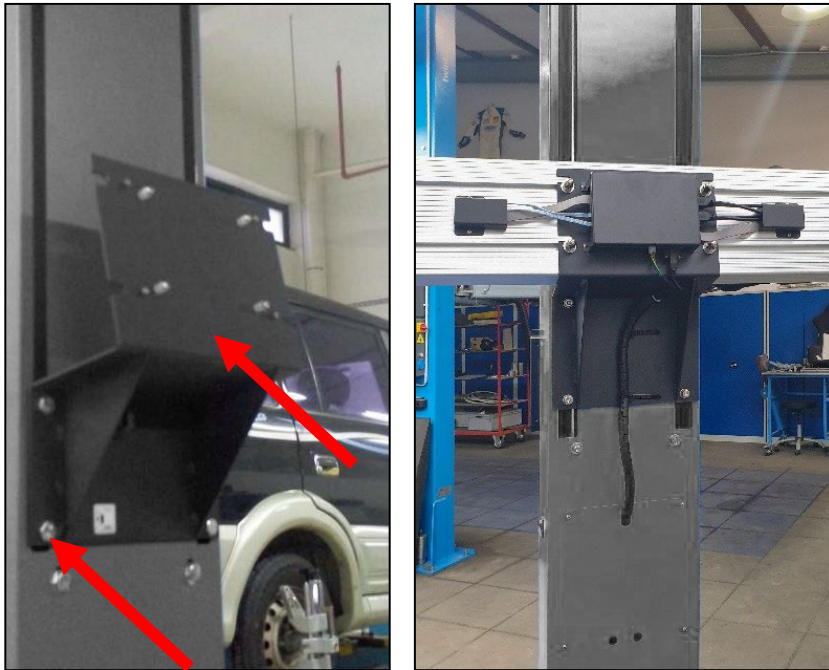


Illustration: Mounting the camera

- 7) Connect the computer. Connect the wheel alignment system exclusively to the USB hub port. Then connect the mouse and keyboard and plug the power cable into the multi-socket inside the lift column.



Illustration: Connections

8) Connecting the camera module

Connect the USB and ribbon cables to the circuit board.

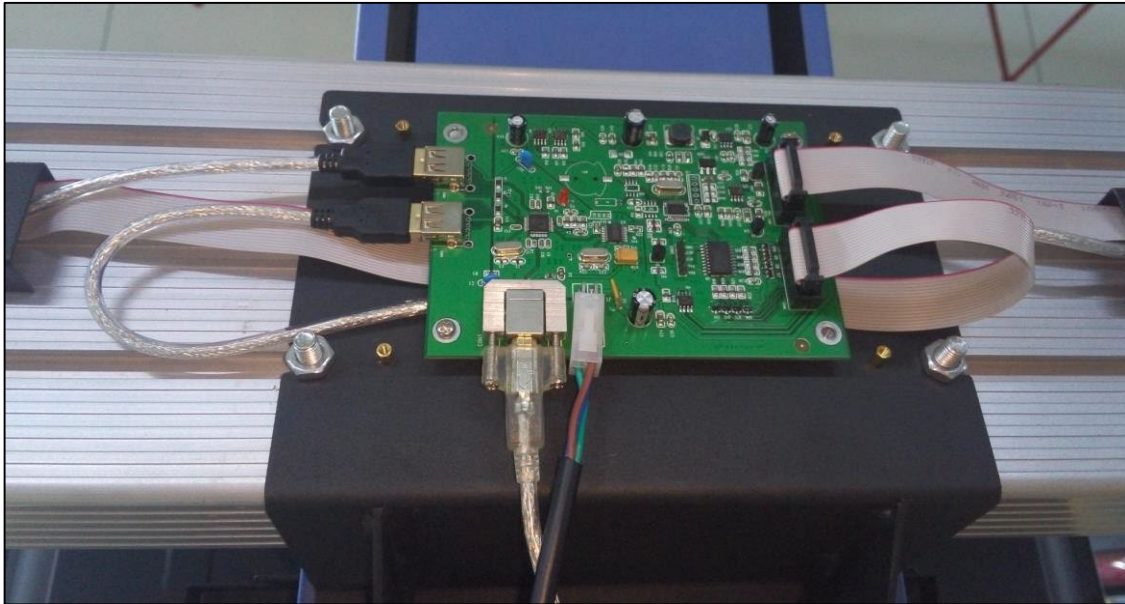


Illustration: Mounting the camera

9) Fit the protective cover.

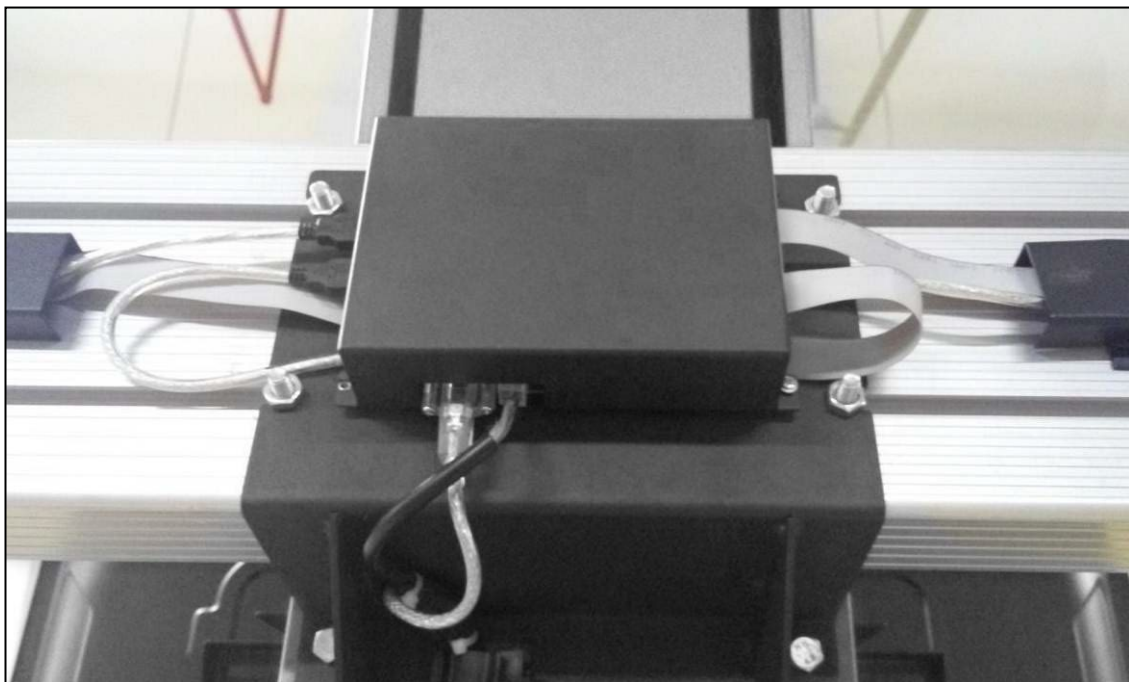


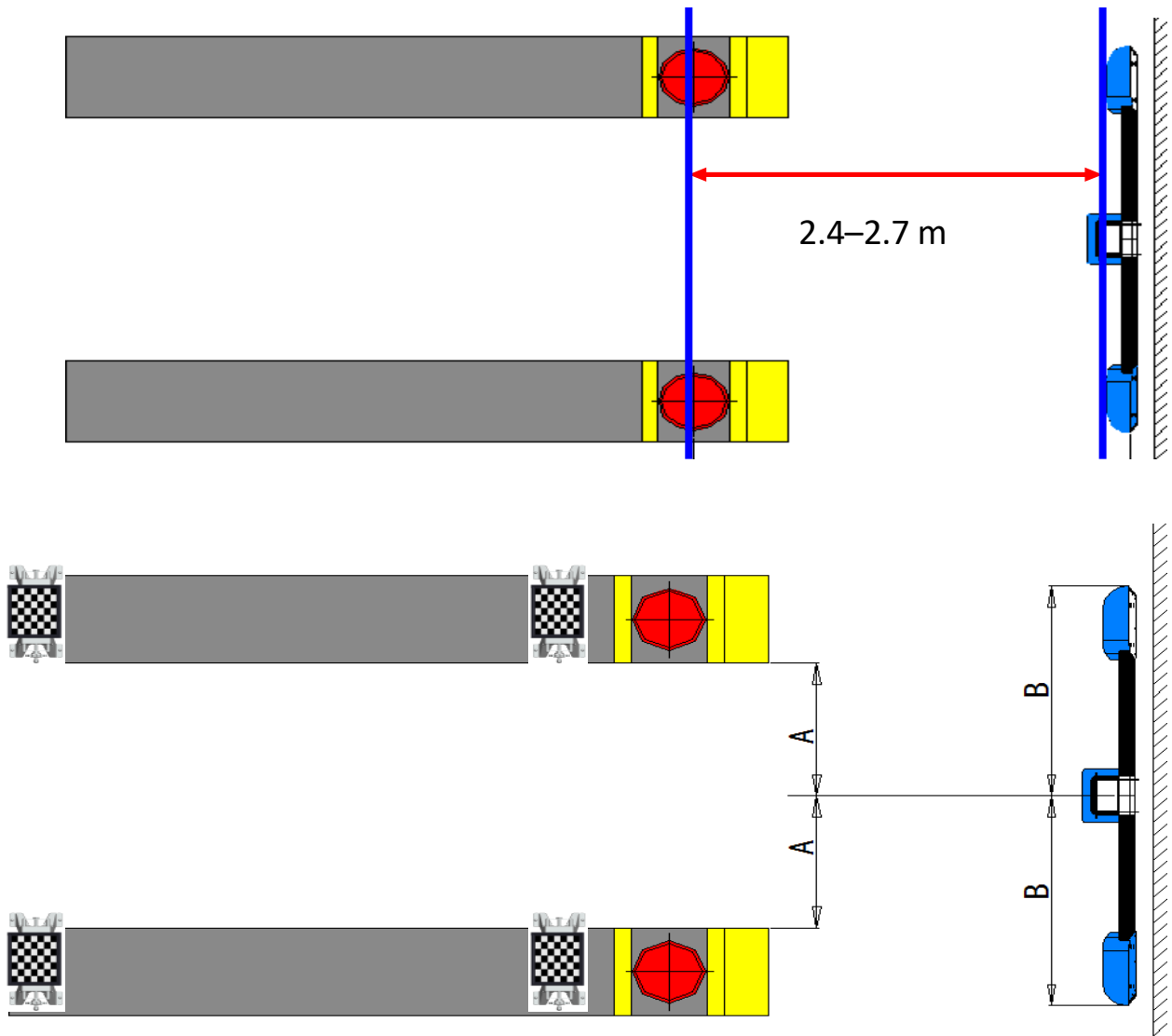
Illustration: Protective cover

10) Positioning and mounting

Position the wheel alignment system at a distance of 2.4 m – 2.7 m.

Secure the 3D wheel alignment lift column using the mounting brackets.

Note: Please note that for most vehicle alignment adjustment procedures, visual contact with the monitor must be maintained.



7.5 Order for connecting the power supply

- 1) Connect the control cabinet to the power supply after the computer system, monitor and controls have been connected. **Note: This ensures that the cameras can be correctly identified by the system.**
- 2) Ensure that the power supply for the monitor and computer is always operational.
- 3) Start the computer after switching on the power supply.
- 4) Double-click the “3DAligner.exe” icon to start uploading the data.
- 5) Once Windows has completed the upload, the start screen will appear.
- 6) Open the wheel alignment software via the corresponding icon. **Note: The main screen of the wheel alignment software will then open.**
- 7) The wheel alignment software is now ready for use.

Caution: The 230 V power supply should be connected separately. The voltage should not be converted from 400 V to 230 V. It is not possible to combine the connection cable with a wheel balancer, post lift, tyre changer or compressor. This prevents damage to the 3D wheel alignment system that may occur due to power-up or voltage spikes from other devices.

8. Wheel alignment procedure

- 1) **Diagnosis, enquiry and test:** Gather information from the vehicle owner and enquire about any issues with handling that may be caused by incorrect alignment. Check the vehicle for any history of collisions or accidents and whether any suspension components have been modified. A test drive can be used to verify the symptoms described by the vehicle owner. Check the handling to assess the fault correctly.
- 2) **Visual inspection:** Check the tyre pressure, tyre wear and the overall condition of the vehicle or chassis.
- 3) **Place the vehicle on the post lift:** Position the vehicle with the front tyres centred on the turntables of the post lift. Raise the post lift to the appropriate height and lock it into its safety catches.
- 4) **Thorough inspection of all components:** Check for unusual tyre wear or any other damage to the axle and steering systems. Also check the tyre pressure and the vehicle's body dimensions.
- 5) **Maintenance and repair:** Replace any worn or loose components before the measurement. Carry out maintenance on all system-related components.
- 6) **Securing the measuring device:** Attach the appropriate targets to the four tyres and secure the wheel clamps.
- 7) **Vehicle selection:** Select the correct vehicle data in the wheel alignment software.
- 8) **Move the vehicle:** Move the vehicle to perform roll compensation on all wheels: eliminate measurement errors caused by changes in wheel hubs and wheel clamps, as well as incorrect installation.
- 9) **Perform measurement:** Measure toe-in, camber, toe-out and other angles.
- 10) **Adjustment on the vehicle:** Make the necessary angle adjustments: When prompted by the software, please adjust the steering wheel carefully. The adjustment sequence:
 - a. Rear wheel camber
 - b. Rear wheel toe
 - c. Front wheel toe
 - d. Front wheel camber
 - e. Front wheel toe
- 11) **Check steering wheel alignment:** Readjust the steering wheel and check the front wheel alignment data. If the steering wheel is not centred, the adjustment must be repeated.
- 12) **Printout:** Please show your customer the comparison before and after alignment. Many garages can save this for future reference.
- 13) **Test drive:** Take a test drive and check that the alignment is correct. If the test is unsatisfactory, make corrections and repeat the measurement process.

8.1 Vehicle position on the post lift

Correct positioning and securing of the vehicle on the post lift is important to ensure safety and accuracy.

- 1) Ensure that the turntables and rear sliding plates are securely mounted and can move freely.
Note: We recommend following steps 2–5 to ensure that the front tyre is positioned in the centre of the turntable.
- 2) Please drive the vehicle centrally onto the parking bay/post lift and stop centrally towards the pivot point of the turntable.
- 3) Stop the vehicle (in neutral), switch off the motor, and release the handbrake. Place wheel chocks a short distance behind the rear tyres to prevent the vehicle from rolling away.
- 4) Position the turntables according to the wheelbase and ensure that the tyre is centred on the turntable.
- 5) Push the vehicle forwards onto the centre of the turntable.

This solution extends the service life of the turntables by minimising the load when positioning the vehicle.

- 6) Put the vehicle in neutral, release the handbrake, and slowly pull or push the vehicle onto the turntable. Position the vehicle, then place wheel chocks and apply the handbrake. To avoid injury or damage to property, please follow the post lift manufacturer's operating instructions and safety procedures. Raise the post lift/measuring station and bring the mounted target into the camera's field of view. Lower the post lift into the safety stops. Ensure the gear lever is in neutral and release the handbrake before aligning the vehicle.

8.2 Measurement targets

Mount the target plates on the wheels using the self-centring clamp. The large targets are mounted on the rear wheel, the small ones on the front wheel.

There are different installation methods depending on the vehicle's wheel hub. The clamping jaws offer a variety of mounting options on the wheel. The clamping jaw can rotate and adapt to different wheel configurations.

Note: The clamping jaw may have sharp edges. To avoid injury and damage, use the clamping device with care.

The clamp should be fitted using the upright vertical method (with the rotary knob at the top), unless this method cannot be used due to vehicle modifications or attachments. On these vehicles, the rear target plate on the wheel clamp can be rotated by 90 degrees. The arm behind the target plate can be released; please then rotate the target plate. Please tighten the arm, secure the target, and then attach the clamp horizontally to the wheel. Please use the installation method with the utmost care to ensure that the target cannot fall off the wheel.

Most wheels are clamped with the claws between the tyre and the wheel rim and are therefore attached to the rim from the outside.

The procedure is shown below:

- 1) Turn the adjusting screw anti-clockwise so that the clamping area increases until it is larger than the rim diameter.
- 2) Attach the upper clamp jaw to the outside of the top of the rim. Slide the clamp jaw between the tyre and the rim. Please ensure that the clamp is installed with the contact surface against the rim.
- 3) Turn the adjusting screw clockwise to move the clamps towards each other until the lower clamp rests against the rim with its contact surface.
- 4) Please press the lower clamping jaw gently between the tyre and the rim to ensure a secure fit. Once you are satisfied with the fit, continue turning the adjusting screw until the target holder is firmly and securely mounted.
- 5) Gently pull the clamp outwards to check the tightness. If the target can be removed easily, reinstall the clamps or choose the following installation method.

Attachment to the inside of the rim.

The target is attached to the wheel from the inside out. The procedure is described below (usually only for steel rims):

- 1) Turn the adjusting screw clockwise to reduce the clamping range until it is smaller than the rim size.
- 2) Attach the lower clamping jaw to the inside of the rim edge. Please ensure that the clamp is positioned against the rim with its contact surface. If the clamp is blocked by the wheel weights, move the clamp carefully further along. Position the clamping device in an approximately vertical position.
- 3) Turn the adjusting screw anti-clockwise to move the clamps apart until the upper clamp rests against the rim with its contact surface.
- 4) Gently pull the clamping system outwards to check the tightness. If the target can be removed easily, reinstall the clamps or select the installation method listed above.

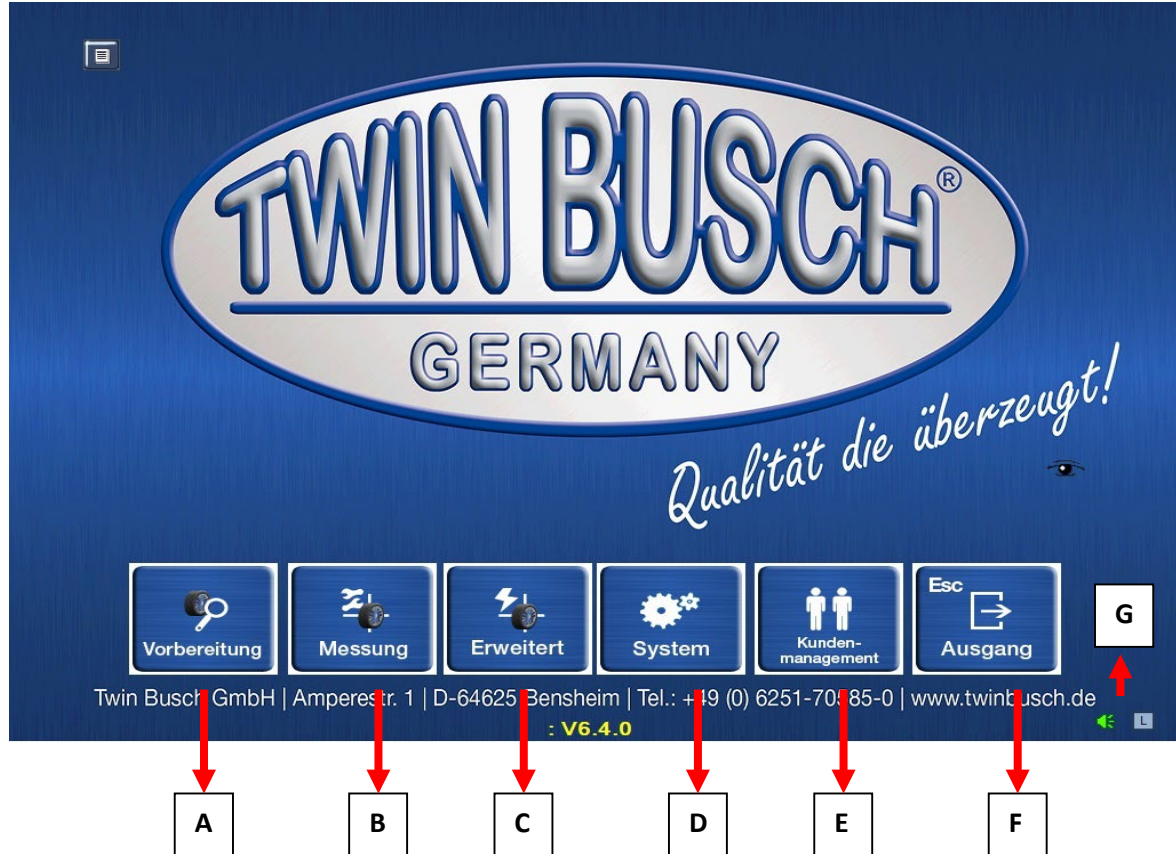
Caution: During wheel alignment, the targets must not come loose from the wheel or wobble, as this will result in distorted and inaccurate alignment data.

The reasons for wobbling and the correct tips are listed below:

- 1) If the vehicle is driven onto the post lift and you move the steering wheel in the process, this causes tension to build up. During alignment, when the vehicle is moved forwards and backwards, the release of this tension causes movement in the wheels. Please avoid steering movements before the vehicle reaches the turntables. If necessary, move the wheel back and forth a few times before alignment.
- 2) Please ensure that the wheel is not dislodged by any factors whilst the vehicle is moving. Check the gap or clearance between the front turntable and the rail surface. Check whether the wheel causes a 'skipping' effect when rolling or not.
- 3) Check the installation of the wheel clamp and ensure that the clamping jaw is securely mounted on the wheel. Any movement will cause inaccuracies in the measurement data.
- 4) Avoid lifting the vehicle again before alignment. If the vehicle must be lifted, please move it forwards and backwards a few times. Lower the targets before alignment.
- 5) Check that the front wheel is pointing straight ahead. If not, move the vehicle forwards and backwards to release the steering lock. If there is any steering angle during the measurement, this will cause the steering wheel to be misaligned and may lead to vibrations.

9. User Interface

All wheel alignment functions are launched from the main user interface. The screen contains a series of function icons relating to performance and alignment. From the main user interface in the Tools menu, you can always return to the main screen. The screen functions are as follows:



- A) **Preparation before measurement (F1)** – Please drive the test vehicle onto the post lift and carry out the preparatory work described in the programme before measuring the vehicle.
- B) **Measurement (F2) – Standard measurement procedure** – Select vehicle, enter customer details, pre-check, move the vehicle, turn the steering wheel to measure the angle.
- C) **Advanced (F3)** – This is a standard measurement that feeds into the live alignment interface; live alignment for toe, camber and caster can be performed.
- D) **System (F4)** – Setting the parameters of the alignment software.
- E) **Customer Management (F5)** – Customer contact details, vehicle type, vehicle information, and measurement and adjustment data can be managed and viewed.
- F) **Exit Programme (F6)** – Exits the measurement software and returns to the operating system interface; you can now switch off the computer as usual.
- G) **Volume control** – Control the volume of beeps during the measurement process.

9.1 Preparation before measurement

- 1) Click on the 'Preparation' icon to launch the preparation programme.



- 2) Please carry out the process in accordance with the relevant instructions and/or the voice prompts on the user interface until the four targets are displayed.

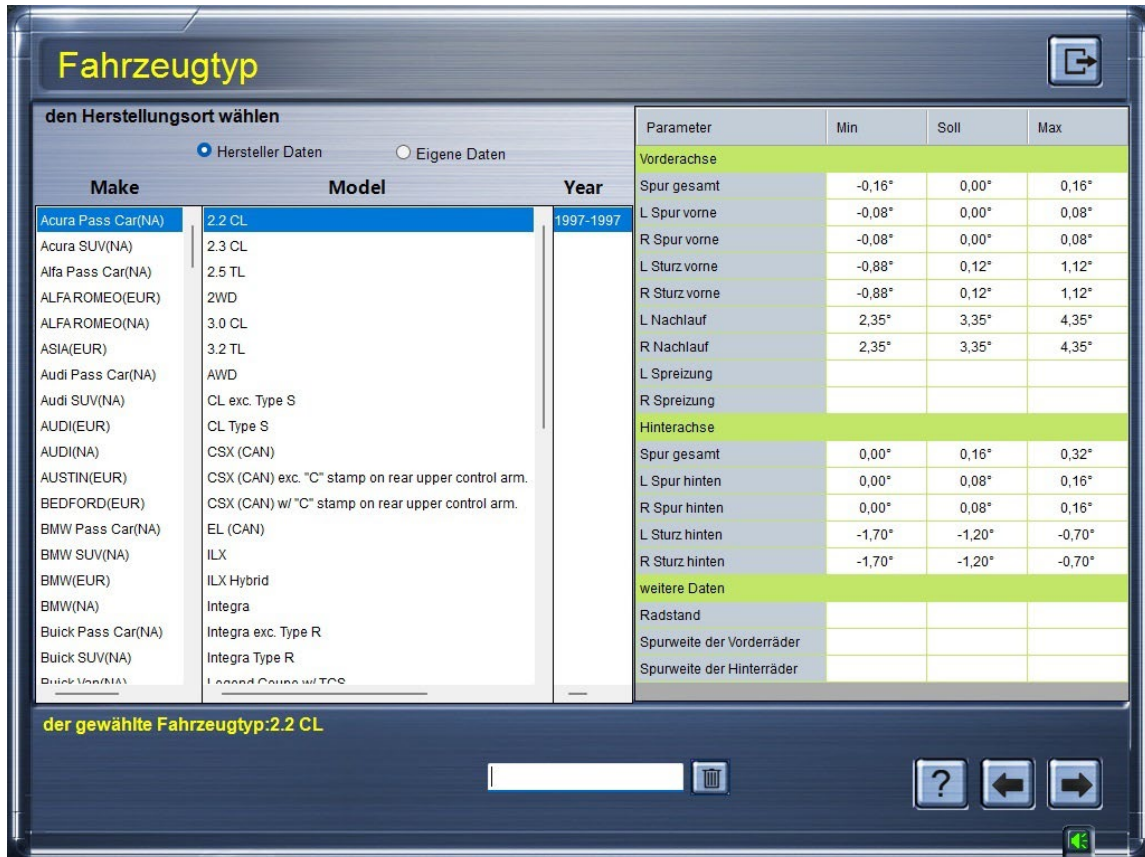


9.2 Wheel alignment

1) Once the entire “Preparation” process is complete, the software automatically switches to the “Measurement” user interface.

2) Select vehicle:

Select the required vehicle data from the vehicle database. (You can search for and select the vehicle data you require using the search function.)



Make	Model	Year
Acura Pass Car(NA)	2.2 CL	1997-1997
Acura SUV(NA)	2.3 CL	
Alfa Pass Car(NA)	2.5 TL	
ALFA ROMEO(EUR)	2WD	
ALFA ROMEO(NA)	3.0 CL	
ASIA(EUR)	3.2 TL	
Audi Pass Car(NA)	AWD	
Audi SUV(NA)	CL exc. Type S	
AUDI(EUR)	CL Type S	
AUDI(NA)	CSX (CAN)	
AUSTIN(EUR)	CSX (CAN) exc. "C" stamp on rear upper control arm.	
BEDFORD(EUR)	CSX (CAN) w/ "C" stamp on rear upper control arm.	
BMW Pass Car(NA)	EL (CAN)	
BMW SUV(NA)	ILX	
BMW(EUR)	ILX Hybrid	
BMW(NA)	Integra	
Buick Pass Car(NA)	Integra exc. Type R	
Buick SUV(NA)	Integra Type R	
Buick Van(NA)	Legend Coupe w/ TCS	

Parameter	Min	Soll	Max
Vorderachse			
Spur gesamt	-0,16°	0,00°	0,16°
L Spur vorne	-0,08°	0,00°	0,08°
R Spur vorne	-0,08°	0,00°	0,08°
L Sturz vorne	-0,88°	0,12°	1,12°
R Sturz vorne	-0,88°	0,12°	1,12°
L Nachlauf	2,35°	3,35°	4,35°
R Nachlauf	2,35°	3,35°	4,35°
L Spreizung			
R Spreizung			
Hinterachse			
Spur gesamt	0,00°	0,16°	0,32°
L Spur hinten	0,00°	0,08°	0,16°
R Spur hinten	0,00°	0,08°	0,16°
L Sturz hinten	-1,70°	-1,20°	-0,70°
R Sturz hinten	-1,70°	-1,20°	-0,70°
weitere Daten			
Radstand			
Spurweite der Vorderräder			
Spurweite der Hinterräder			

a) You can search by manufacturer or vehicle model in the search field at the bottom

b) The minimum, standard and maximum values for the vehicle parameters can be viewed in the list on the right-hand side.

3) Preliminary check:

Carry out a preliminary check on the vehicle. The preliminary check is an important tool for identifying faulty vehicle parts. The test report can be printed out and saved as a workshop document or handed to the customer. This will improve understanding of the repair work or any work required prior to the alignment. In most cases, worn or damaged components affect the quality of the wheel alignment.

Vorprüfung

✔ -normal
 ✕ -reparieren
 ✕ -wechseln

Prüfpunkte	normal	repariere	wechseln	Erklärung
Reifen Luftdruck				
Reifengröße				
Reifenverschleiß				
Reifenbeschädigungen				
Stoßdämpfer prüfen				
Fahrwerk/Federn prüfen				
Hinterachse prüfen				
Feststellbremse auf freigängigkeit prüfen				
Motorauflösung prüfen				
Getriebeaufhängung prüfen				
Spurstangenköpfe prüfen				
Lenkgetriebe prüfen				
Stabilisatoren prüfen				
Radlager prüfen				
Bremsschleifschleifverlust				

Fahrzeugauswahl: 2.2 CL

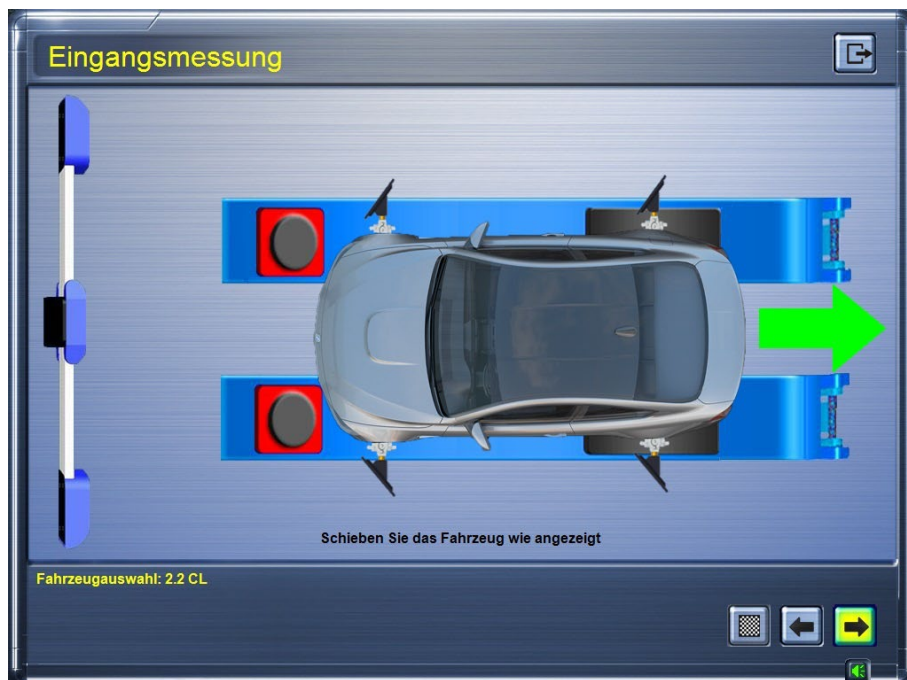





- In the image, a green tick ✔ indicates a normal condition.
- In the image, a red cross ✕ indicates that the components need to be replaced.
- In the image, a green cross ✕ indicates that the components need to be repaired.

4) Pushing the vehicle:

Push the vehicle when prompted.

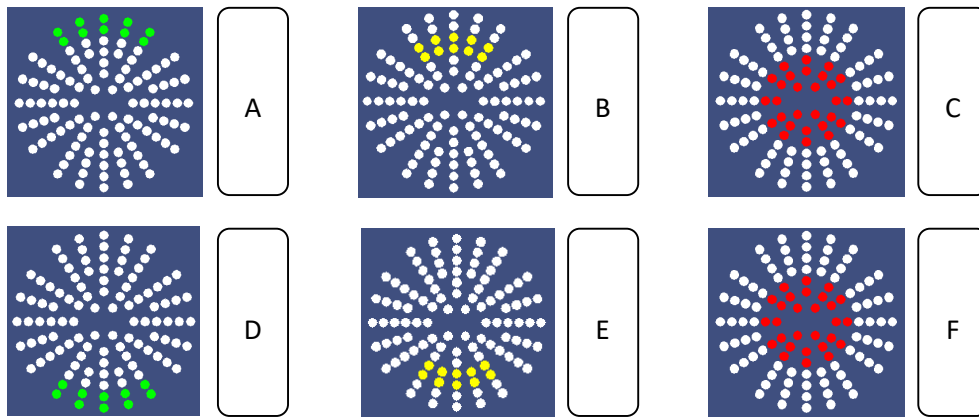


- You can push the vehicle in the direction of the green arrow in the image.

Stop moving when the STOP symbol appears.



- You can observe the colour change of the indicator light on the bar and then start pushing the vehicle.



- Select 'Push vehicle' on the interface. The indicator light on the bar display will illuminate.
- When "A" is lit green, push the vehicle forwards.
- If "B" is lit in yellow, you should slow down the vehicle.
- If "C" is lit red, the vehicle should be stopped.
- If "D" is lit green, the vehicle should be pushed backwards.
- If "E" lights up yellow, you should slow down the vehicle.
- If "F" lights up red, the vehicle should be stopped.

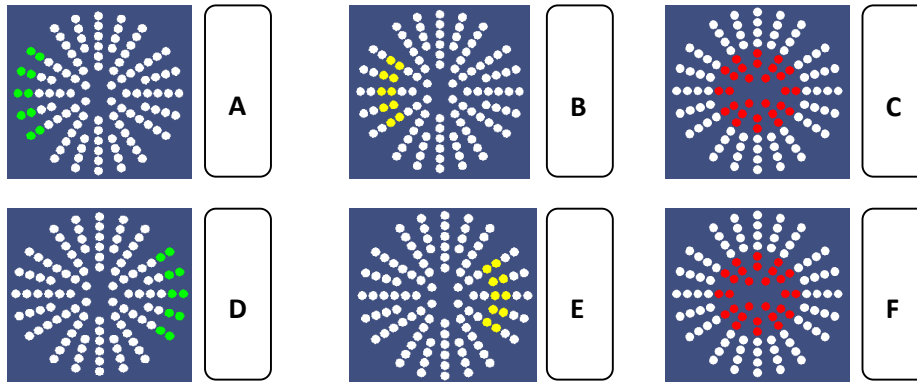
5) Measuring toe-out – After pushing the vehicle, the steering wheel must be turned. Follow the instructions.



a) Please turn the steering wheel in accordance with the blue arrow or the instructions.

When the STOP symbol appears , stop turning the steering wheel.

b) When turning the steering wheel, note the colour change on the bar display.

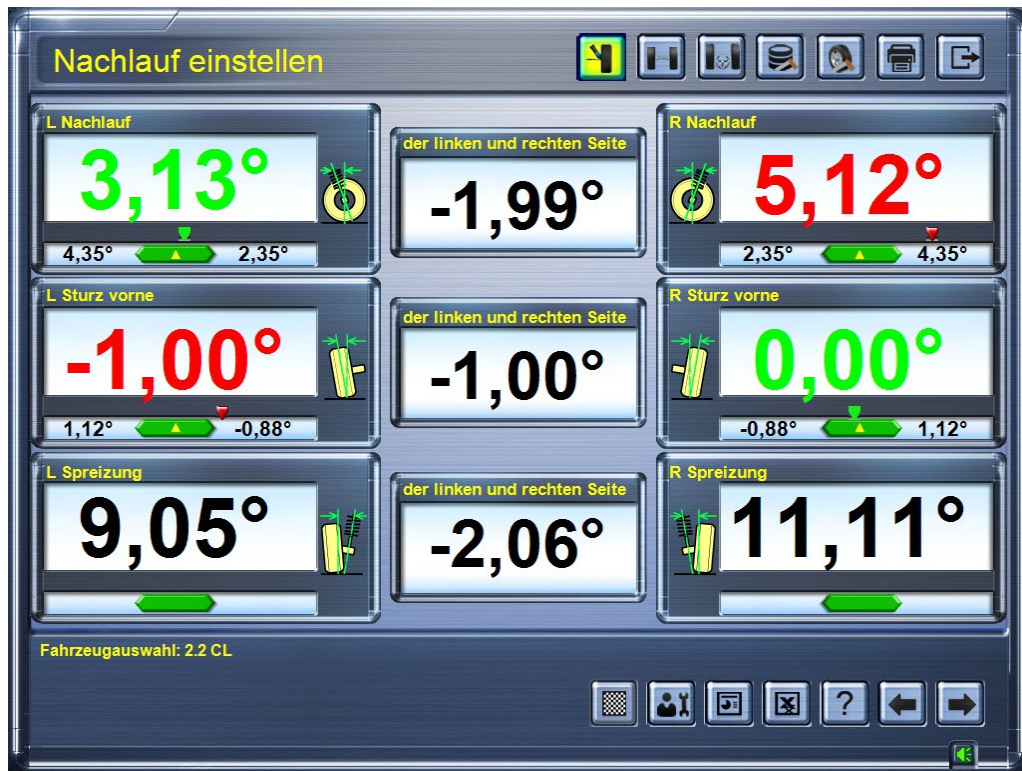


- Select 'Measure spread' on the interface. The indicator light on the bar display lights up.
- When 'A' lights up green, you should turn the steering wheel to the left.
- If "B" lights up yellow, you should steer slowly.
- If "C" lights up red, you should stop steering.
- If "D" lights up green, you should turn right.
- If "E" lights up yellow, you should steer slowly.
- If "F" lights up red, you should stop steering.

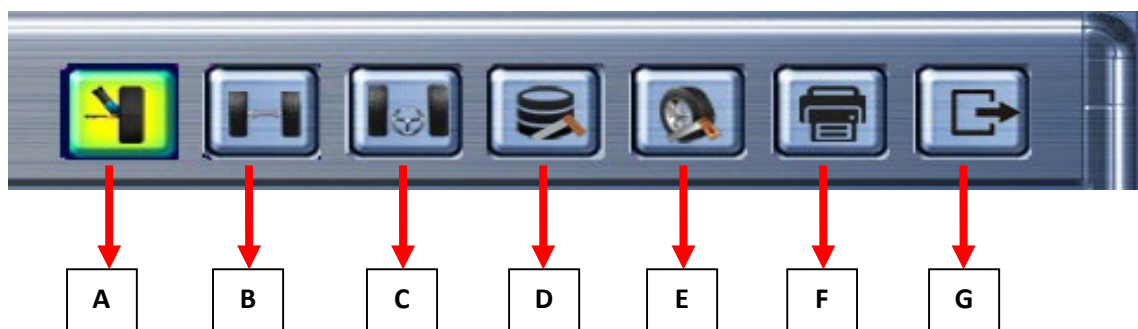
6) After measuring the toe-out, the software automatically switches to adjustment mode.

10. Measurement and adjustment

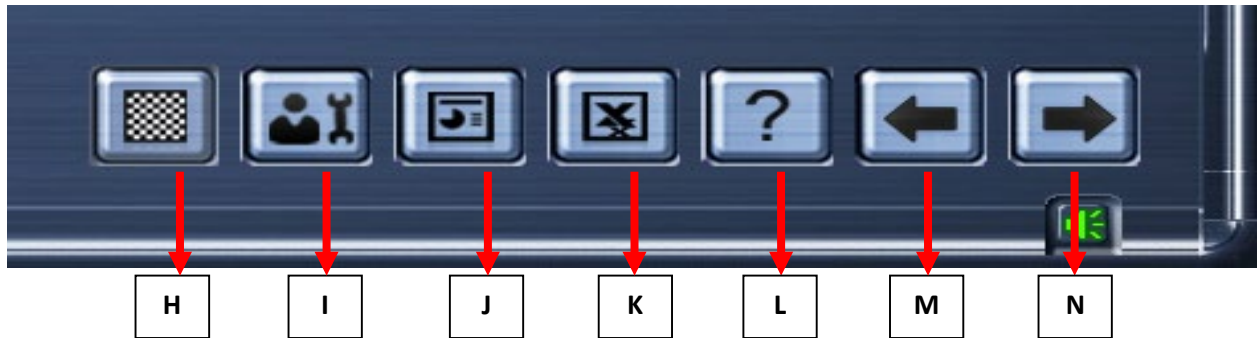
1) The adjustment mode is displayed as follows:



2) Functions in adjustment mode:



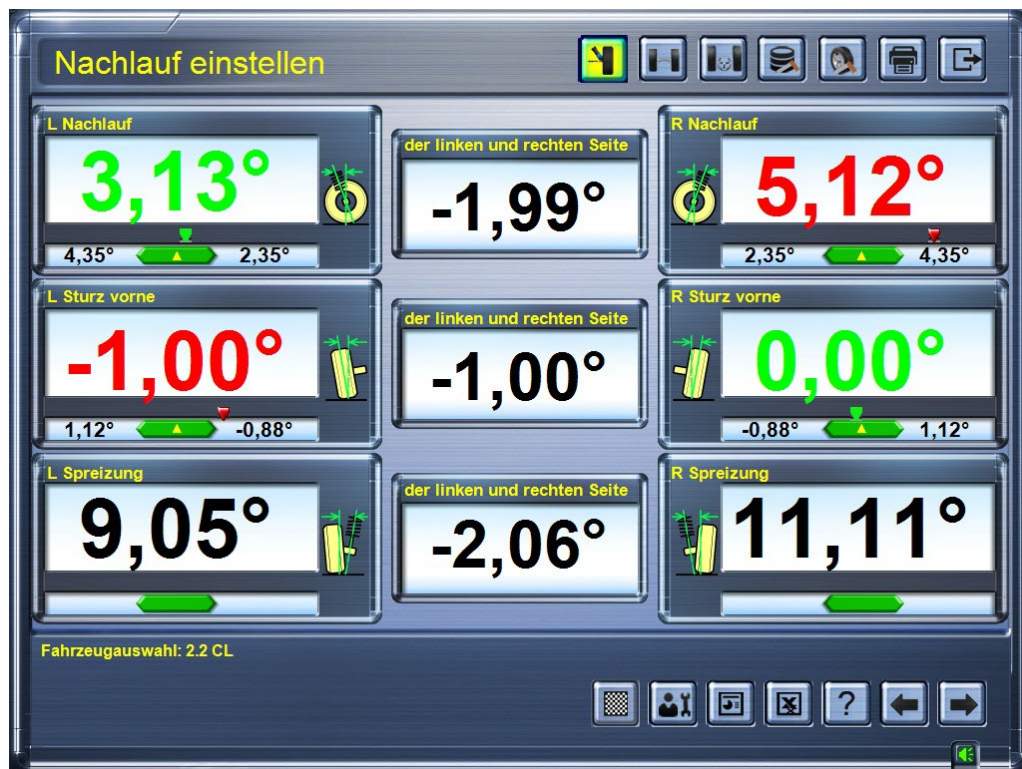
- A: Caster adjustment
- B: Rear axle adjustment
- C: Front axle adjustment
- D: Additional measurement
- E: Repeat measurement after alignment
- F: Print report
- G: Back to user interface



- H: Camera view
- I: Comments
- J: Live graphics
- K: General graph
- L: Help
- M: Back
- N: Next

3) Trail setting:

Click on the toe-in/toe-out adjustment icon. You will now be taken to the toe-in/toe-out screen. The data is displayed in real time. You can adjust the toe-in/toe-out settings on this module; the data on the screen will update in real time.



- a) The data module displays data in red if the setting parameter deviates from the default value of the original vehicle data. Alignment is then required. During alignment, the data is updated in real time. When the data changes from red to green, the parameters have been adjusted and the default value for the vehicle type has been achieved.

- b) If the tested data appears green, the setting parameter can still be adjusted to the mean value.
 - c) The green bar below the setting value indicates the original range of setting values for the selected vehicle type between the minimum and maximum values. As soon as the red triangular arrow is within the range of the green bar, it automatically changes to green.
- Click the left mouse button (double-click) on a desired data module. The module will be enlarged so that the operator can see it more clearly from a distance. See **Illustration** (e.g. front camber):



Click the '  ' icon with the left mouse button. The user interface switches to the live graph, as shown in the image:



The live image display is divided into three status types:

Image A: If the red arrow is between two green lines, this indicates that the toe-in parameter is within the range of the vehicle manufacturer's original data.

Image B: If the red arrow is to the left of two green lines, including the angle, this means that the caster angle parameter is above the vehicle manufacturer's original data.

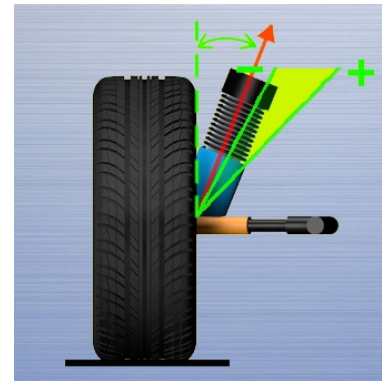
Image C: If the red arrow is to the right of two green lines, including the angle, this means that the caster angle parameter exceeds the vehicle manufacturer's original data.



A



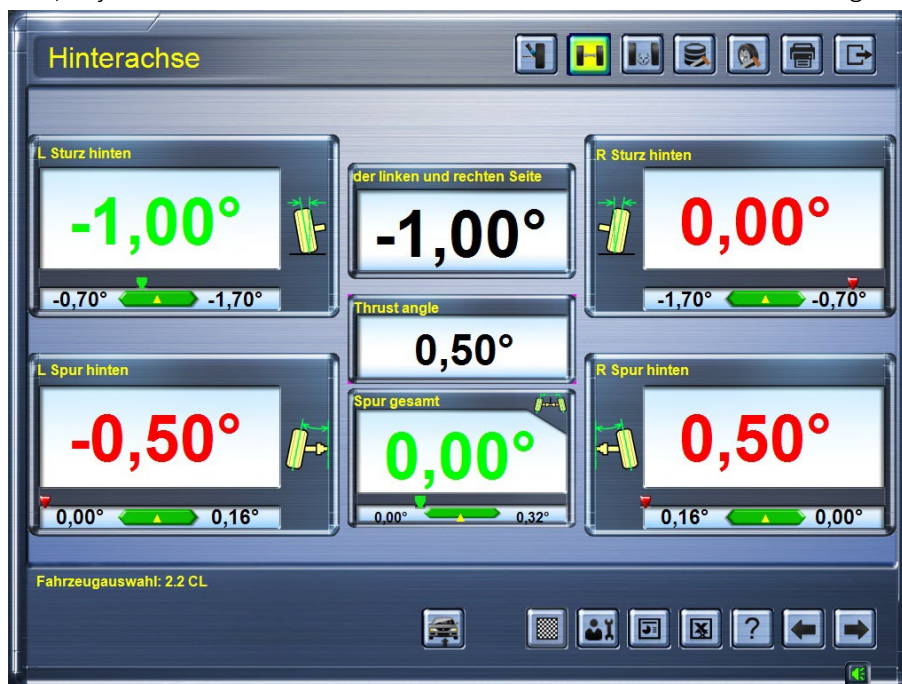
B



C

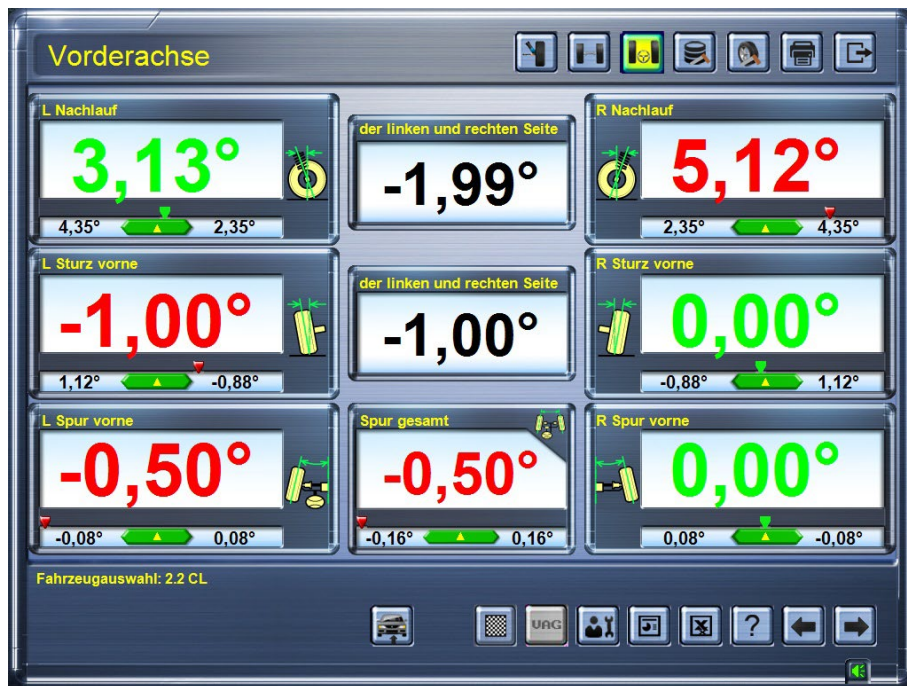
- 4) Rear axle alignment/adjustment:  Click on the icon for rear axle alignment/adjustment, or click 'Continue' if no adjustments are required. The data is displayed in real time. You can adjust the rear camber and toe.

In this module, adjust the rear camber and front toe. The data on the screen changes in real time.



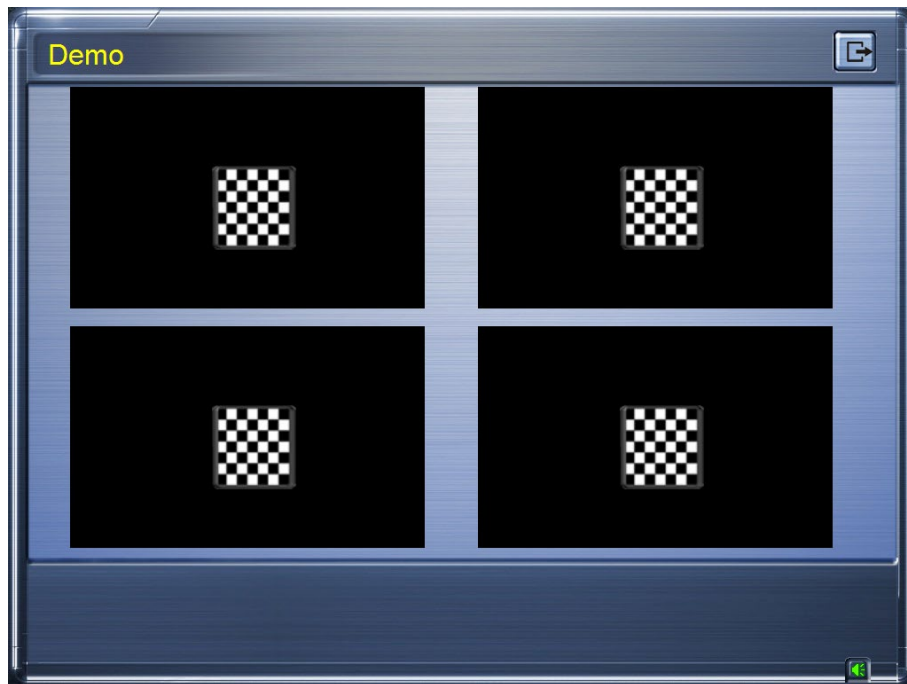
- 5) Front axle alignment/adjustment:  Click on the icon for front axle alignment or continue. The data is displayed in real time during alignment.

You can adjust the caster, camber and front toe for the front wheel. The changes are displayed in real time.

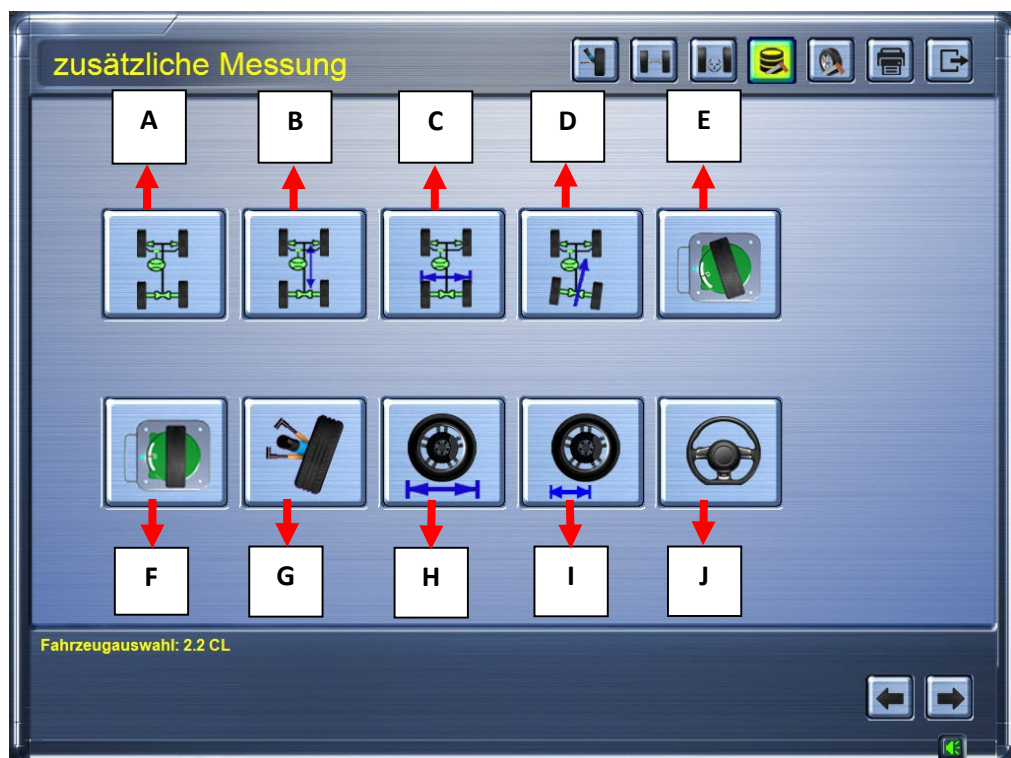


- 6) **Adjusting post lift/working height:**  Click on the icon. Used to activate the automatic camera bar tracking (Follow-Me). The post lift can now be raised to the desired working height. Ensure that the four measuring devices are within the field of view; to do this, click on the camera view  :





- 7) **Advanced measurement:** Click on the icon for advanced measurement. You can click on the relevant function module to perform additional measurements according to your requirements.



A: Wheelbases/Offset

C: Track width

E: Steering angle

G: Caster measurement

I: Wheel radius/wear

B: Wheelbase

D: Wheel offset

F: Zero toe camber

H: Wheel diameter

J: Steering wheel return



- 8) **Re-measurement after adjustment:** Click on the icon for re-measurement after adjustment. Once you have adjusted the relevant parameters for the axle alignment, carry out the re-measurement.



- 9) **Print:** After taking the measurement, click on the print icon. You can print a report containing all the measurement results. The printout includes the customer details, the preliminary check and the actual measurement result.

Drucken

KFZ Kennzeichen:

KFZ Fahrgestellnummer:

Name des Kunden: ...

Telefonnummer:

Adresse:

Name Mechaniker: ...

die Kundenerinnerungen: ...

Fehlerbeschreibung:

☐ abweichen ☐ Reifen Verschleiß

☐ Lenkgrad vibriert ☐ Lenkgrad steht nicht gerade

☐ Weiteres

Bemerkungen:

Parameter	vor der Repara...	Min	Max	nach der Repa...
Vorderrad				
Spur gesamt	0,00°	-0,16°	0,16°	-0,50°
L Spur vorne	0,00°	-0,08°	0,08°	-0,50°
R Spur vorne	0,00°	-0,08°	0,08°	0,00°
L Sturz vorne	0,00°	-0,88°	1,12°	-1,00°
R Sturz vorne	0,00°	-0,88°	1,12°	0,00°
L Nachlauf	1,51°	2,35°	4,35°	3,13°
R Nachlauf	1,22°	2,35°	4,35°	5,12°
L Spreizung	7,00°			9,05°
R Spreizung	5,52°			11,11°
L Spreizung				
R Spreizung				
maximale Spreizung links				
maximale Spreizung rechts				
Hinterrad				
Spur gesamt	0,00°	0,00°	0,32°	0,00°
L Spur hinten	0,00°	0,00°	0,16°	-0,50°
R Spur hinten	0,00°	0,00°	0,16°	0,50°
L Sturz hinten	0,00°	-1,70°	-0,70°	-1,00°
R Sturz hinten	0,00°	-1,70°	-0,70°	0,00°
Radversatz	0,00			0,50

Fahrzeugauswahl: 2.2 CL

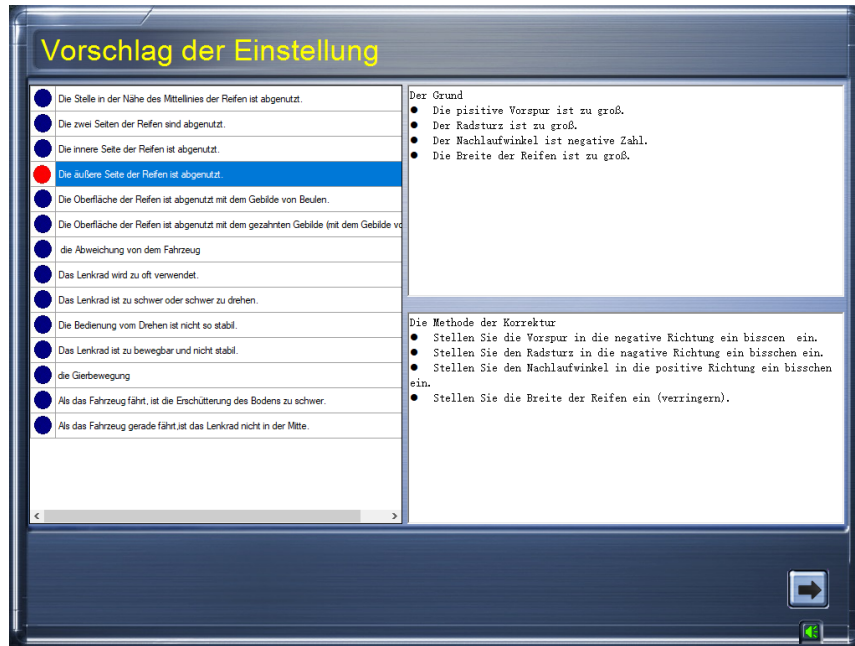
- 10) **Back:** After adjusting the measurement, please do not perform any operations on the adjustment module



interface. Click on the relevant icons to print or to save



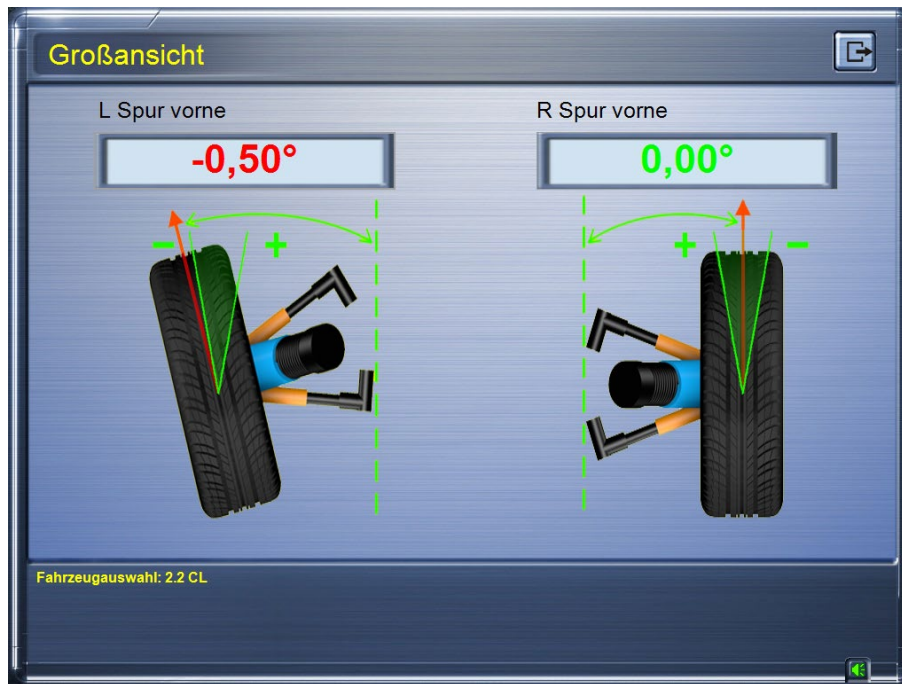
- 11) **Error analysis/suggested solutions:** Click on this icon to view the suggestions, as shown in the following image. Solutions to the problems are provided on the screen.



- 12) **General graph:** Click on the icon to access the general graph. You will be taken to the general graph, which displays all the angle parameters of the front and rear axles.

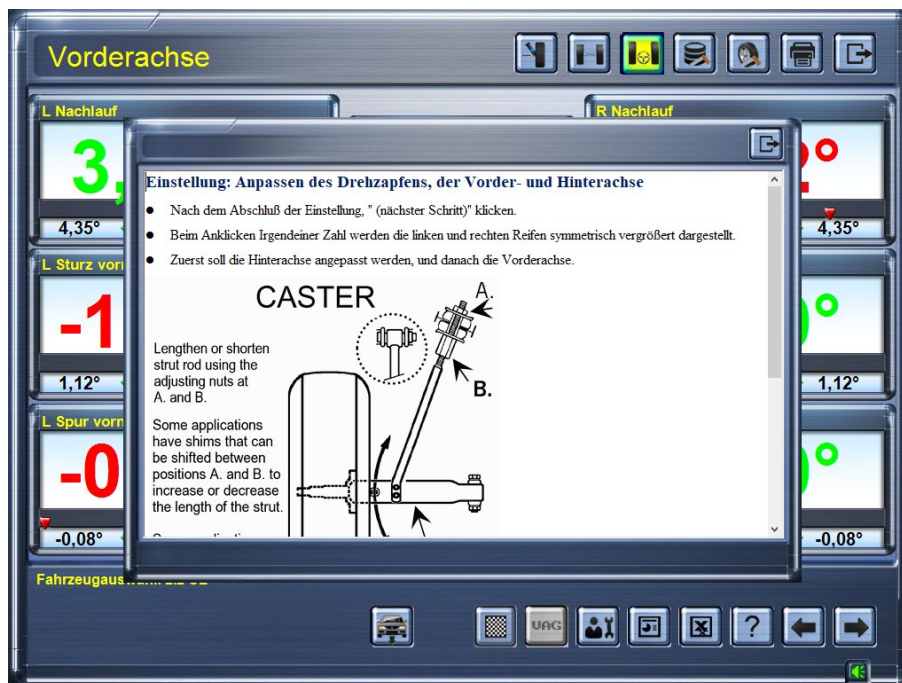


- 13) **Zoom:** Double-click on an illustration of the desired parameters in the General graph . The data zoom module will open.



Help: Click on . Further information is displayed.

See the following illustration:



14) **Next/Back:** Click  to go forward or back.

11. Customer Management



In the main menu, click on the icon . This takes you to the customer management menu. Here you will find all saved data and can quickly search for customer information, check, delete and print data.

Archiv

Kundenamen	Adresse	Telefonnummer	Parameter	vor der Repa...	Min	Max	nach der Re...
test			Vorderrad				
Busch			Spur gesamt	0,00°	-0,16°	0,16°	-0,50°
			L Spur vorne	0,00°	-0,08°	0,08°	-0,50°
			R Spur vorne	0,00°	-0,08°	0,08°	0,00°
			L Sturz vorne	0,00°	-0,88°	1,12°	-1,00°
			R Sturz vorne	0,00°	-0,88°	1,12°	0,00°
			L Nachlauf	1,51°	2,35°	4,35°	3,13°
			R Nachlauf	1,22°	2,35°	4,35°	5,12°
			L Spreizung	7,09°			9,05°
			R Spreizung	5,52°			11,11°
			L Spreizung				
			R Spreizung				
			maximale Spreizung links				
			maximale Spreizung rechts				
			Hinterrad				
			Spur gesamt	0,00°	0,00°	0,32°	0,00°
			L Spur hinten	0,00°	0,00°	0,16°	-0,50°
			R Spur hinten	0,00°	0,00°	0,16°	0,50°
			L Sturz hinten	0,00°	-1,70°	-0,70°	-1,00°
			R Sturz hinten	0,00°	-1,70°	-0,70°	0,00°
			Radversatz	0,00°			0,50°

Kennzeichen: HP-TW-111 Fehlerbild: 21.04.2023 12:...

- 1) Click on . The system will search for the customer information.
- 2) Click on the magnifying glass  to access the advanced search engine:

absuchen

Kennzeichen: von: Dienstag, 11. April

Kundenamen: bis zu: Freitag, 21. April

629Name des Kunden	630Telefonnumr	631Adresse	632die Nummer des Autokennzeichen	KFZ Fahrgestellnumr	633der Operator	634der Produzent	635der Fahrzeugtyp	636der Jaahrestyp	637die Grünk
test			df	id	operator1	1997-1997	Acura Pass Ca.	2.2 CL	
Busch			HP-TW-111	6516164114	Schorsch	1997-1997	Acura Pass Ca.	2.2 CL	

Here you can search by number plate or repair date.

- 1) In the report interface, click on the customer and then on . The customer data will be deleted.
- 2) In the report interface, click on the customer and then on . The customer data will be printed.

12. System administration



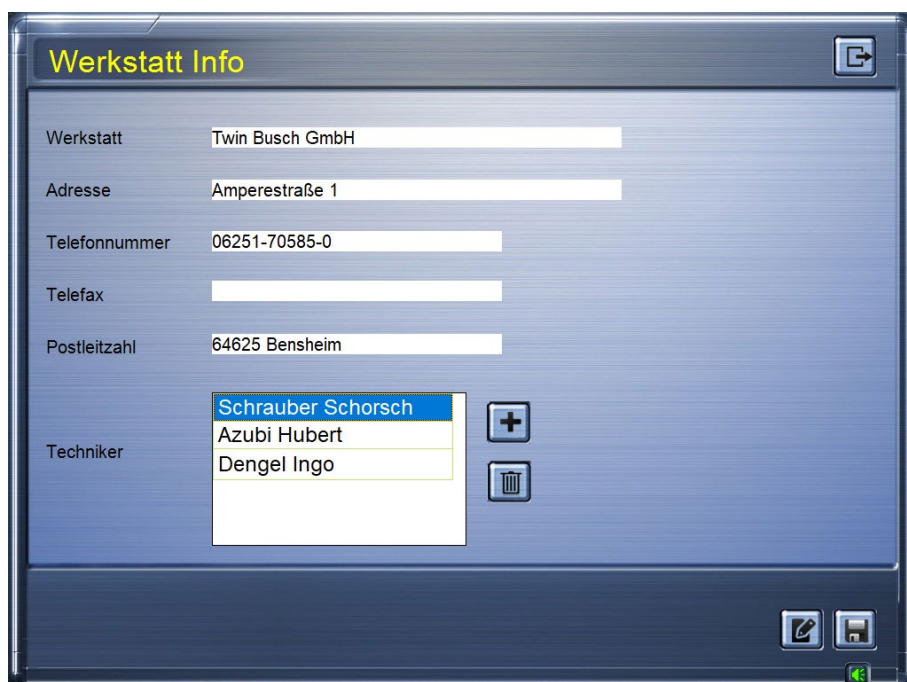
Click on 'System' in the main menu. You will enter system mode, see Illustration:



12.1 Workshop information



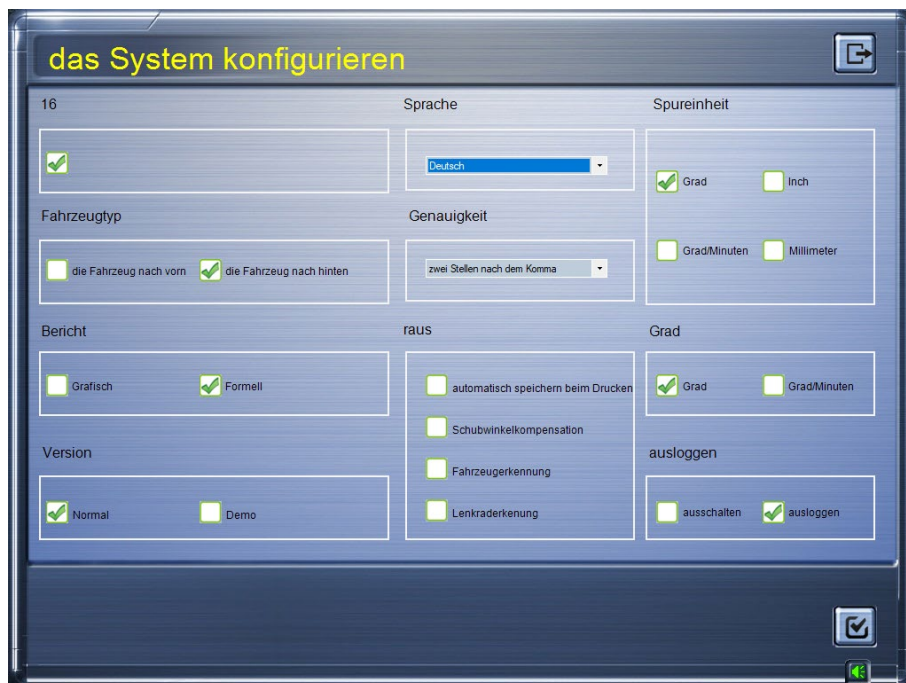
In System Management, click on 'Workshop'. You can enter the workshop details here, see Illustration:



Click on  here. You can now enter the workshop name, address, telephone number, fax number, postcode and multiple users. Click on  to add a new user. You can select a user, then click on , to delete the user. Click on  to save the user data you have entered.

12.2 System settings

In System Management, click on . This will take you to the system settings, see Illustration:

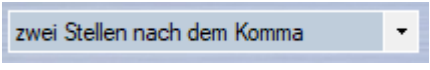


- 1) Version: Normal, Demo
 - a. The 'Normal' version (with manoeuvring animation) is particularly suitable for new users. A 3D animation guides the user through the individual surveying steps.
 - b. The "Demo" version is particularly suitable for training purposes. No camera system needs to be connected. The individual surveying steps can be carried out, which helps new users to understand and use the software.

- 2) Language settings:

Open the drop-down menu  in the language column. Here you can select the desired language. German is the 6th option in the language list.

- 3) Track unit: Depending on national requirements or personal preference, the user can set the track unit to per cent, degrees, inches or mm.

- 4) Database visualisation: You can choose between a graphical or tabular view.
- 5) Measurement accuracy: Open the drop-down menu in the measurement accuracy column. You can select one or two decimal places  .
- 6) Angle unit: You can choose between degrees or degrees/minutes.
- 7) Move vehicle: Depending on the space available, you can choose between forward and reverse.
- 8) Exit: You can choose between 'Exit Software' and 'Shut Down Computer'.

Once you have finished configuring all settings, click  . The settings will be saved and you will exit the system settings.

12.3 Error report

In System Management, click on  . You will be taken to the error report mode, see Illustration:

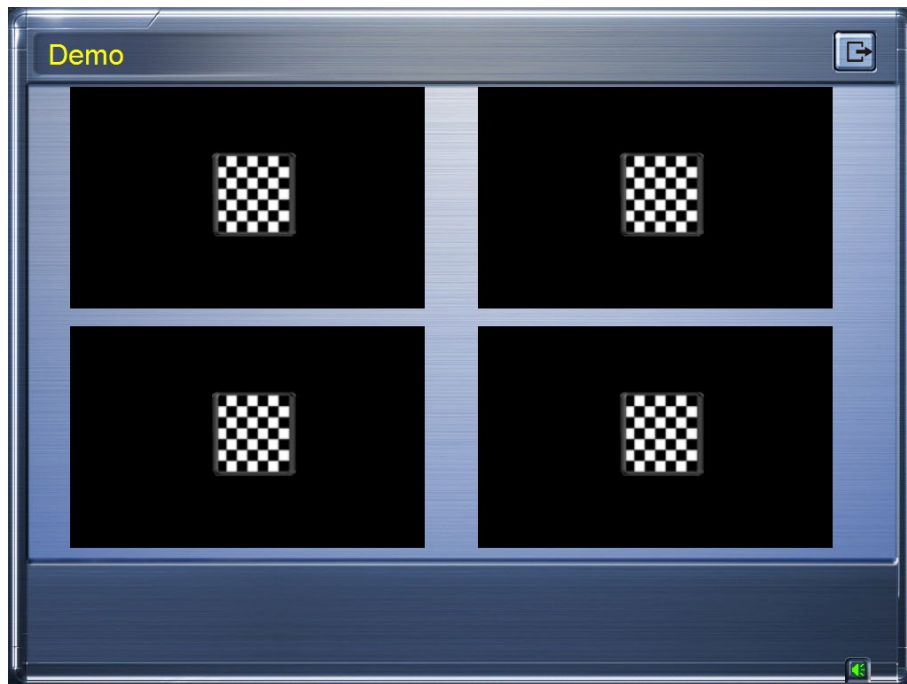


The error report primarily records the camera's operational status when the measuring devices are within the field of view. It provides the service technician with a basis for deciding how to provide remote support.

12.4 Monitor target device



In System Management, click on . You will be taken to the monitoring module, see Illustration:



- 1) Function of the module: Ensures the precise positioning of the four fixtures within the camera's field of view; the black background represents the field of view of the four cameras. The measuring fixtures must be within the camera's field of view. This ensures the reliability, effectiveness and accuracy of the entire test process.
- 2) Open the interface when the post lift rises. This checks whether the height is sufficient and that the devices do not leave the cameras' field of view.

12.5 Camera calibration

Warning: This function should only be carried out by trained personnel!



Click on . This takes you to the module where you can calibrate the camera.

This module is used when the camera has been replaced. Professional equipment is required for calibration, and it must be carried out by a trained technician.

12.6 Standard database



In System Management, click on ' '. This will take you to the standard database, see Illustration:

Standard Datenbank durchsuchen			
Datenbank			EUR
der Hersteller	der Fahrzeugtyp	Baujahr	Parameter
ALFA ROMEO(EUR)	145/146, 1.3/1.4/1.6/1.7, 145=VIN 405	1994-1997	Min
ASIA(EUR)	145/146, 1.3/1.4/1.6/1.7, 145=VIN 405		Soll
AUDI(EUR)	145/146, 1.4/1.6 TS 16V, 145=VIN 405		Max
AUSTIN(EUR)	145/146, 1.4/1.6 TS 16V, 145=VIN 405		Vorderachse
BEDFORD(EUR)	145/146, 1.8/2.0 TS 16V, 145=VIN 405		Spur gesamt
BMW(EUR)	145/146, 1.8/2.0 TS 16V, 145=VIN 405		L Spur vorne
CADILLAC(EUR)	145/146, 1.9 TD, 145=VIN 4058042, 14		R Spur vorne
CHEVROLET(EUR)	145/146, 1.9 TD, 145=VIN 4058043, 14		L Sturz vorne
CHRYSLER(EUR)	145/146, Junior 1.4 TS, 145=VIN 4058		R Sturz vorne
CITROEN(EUR)	145/146, Junior 1.4 TS, 145=VIN 4058		L Nachlauf
DACIA(EUR)	147		R Nachlauf
DAEWOO(EUR)	147, GTA		L Spreizung
DAIHATSU(EUR)	155, 2.5 V6, VIN 67684		R Spreizung
DAIMLER(EUR)	155, 2.5 V6, VIN 67685-		Hinterachse
DODGE(EUR)	155, Cloverleaf 4		Spur gesamt
DS(EUR)	155, VIN 67684		L Spur hinten
FIAT(EUR)	155, VIN 67685-		R Spur hinten
FORD(EUR)	156, 1.6/1.8/1.9D, Sport		L Sturz hinten
FRONTIER(EUR)	156, 1.6/1.8/1.9D, Sport		R Sturz hinten
			weitere Daten
			Radstand
			Spurweite der Vorderräder
			Spurweite der Hinterräder

- 1) The standard database can only be viewed and checked; it cannot be edited.
- 2) Click on the drop-down menu for vehicles at the top of the database category, from which you can select as required. The standard database for vehicles on the European market is EUR.

12.7 Custom Database



In System Management, click on ' '. This will take you to the 'Own Database', see Illustration:

Eigene Datenbank			
der Hersteller	der Fahrzeugtyp	Baujahr	Parameter
AUDI(EUR)	Coupe	1979-1983	Min
BMW(NA)	M35i Package	2018-2019	Soll
EIGENBAU(IE)	Bierkiste 250ccm	2016-2017	Max
FIAT(EUR)	500, std	2007-2017	Vorderachse
NISSAN(EUR)	Micra, (K14)	2017-2017	Spur gesamt
OBRRACING(IE)	Strandbuggy 4x4	2018-2019	L Spur vorne
VOLVO(EUR)	S60, 4x4	2002-2009	R Spur vorne
			L Sturz vorne
			R Sturz vorne
			L Nachlauf
			R Nachlauf
			L Spreizung
			R Spreizung
			Spur gesamt
			L Spur hinten
			R Spur hinten
			L Sturz hinten
			R Sturz hinten
			Radstand
			Spurweite der Vorderräder
			Spurweite der Hinterräder
			Reifentyp
			Durchmesser der Räder (mm)
			Durchmesser der Räder (Inch)

- 1) You can check, add, edit and delete data in the Custom Database.
- 2) Click on the database. The system automatically creates a new row where you can enter the vehicle data. When you enter the data, the system automatically creates an empty column. You can enter further information in this column.
- 3) Click on . You can import and edit the data normally used from the standard database.
- 4) Select an item and click on . The vehicle data will be temporarily deleted. Click on  to permanently delete the vehicle data.
- 5) Click on  to save the imported, deleted or added data. Otherwise, the changes will not be saved.
- 6) Exiting the system. Click on  in the Start menu. The software will close.

12.8 Volume control

Click on  in the main menu. The volume control will appear. Click the left mouse button on the volume slider. As shown in the image, the volume can be adjusted by dragging the volume slider.



13. Product maintenance

13.1 Computer maintenance

- The main frame and monitor should be secured to the work platform. The system must not be placed near sources of radiation or heat, or in extremely dry, hot, cold or damp environments.
- The computer must not be exposed to vibrations whilst in operation and should not be moved during use.
- The computer is used for surveying. It is prohibited to install any other software on this computer.
- It is prohibited to dismantle the computer or tamper with the cabling and hard drive.
- During prolonged use, the keyboard, main frame and monitor are exposed to dust and grease. Wipe them down with a neutral cleaning agent. Do not use oily or acidic agents.

13.2 Camera maintenance

- Minimise exposure to dust and moisture in the operating environment. This can damage the camera.
- The camera is a precision electronic instrument. Never take it apart. If the camera is damaged whilst unpacking, you will be liable for the damage.

13.3 Maintenance of the measuring device

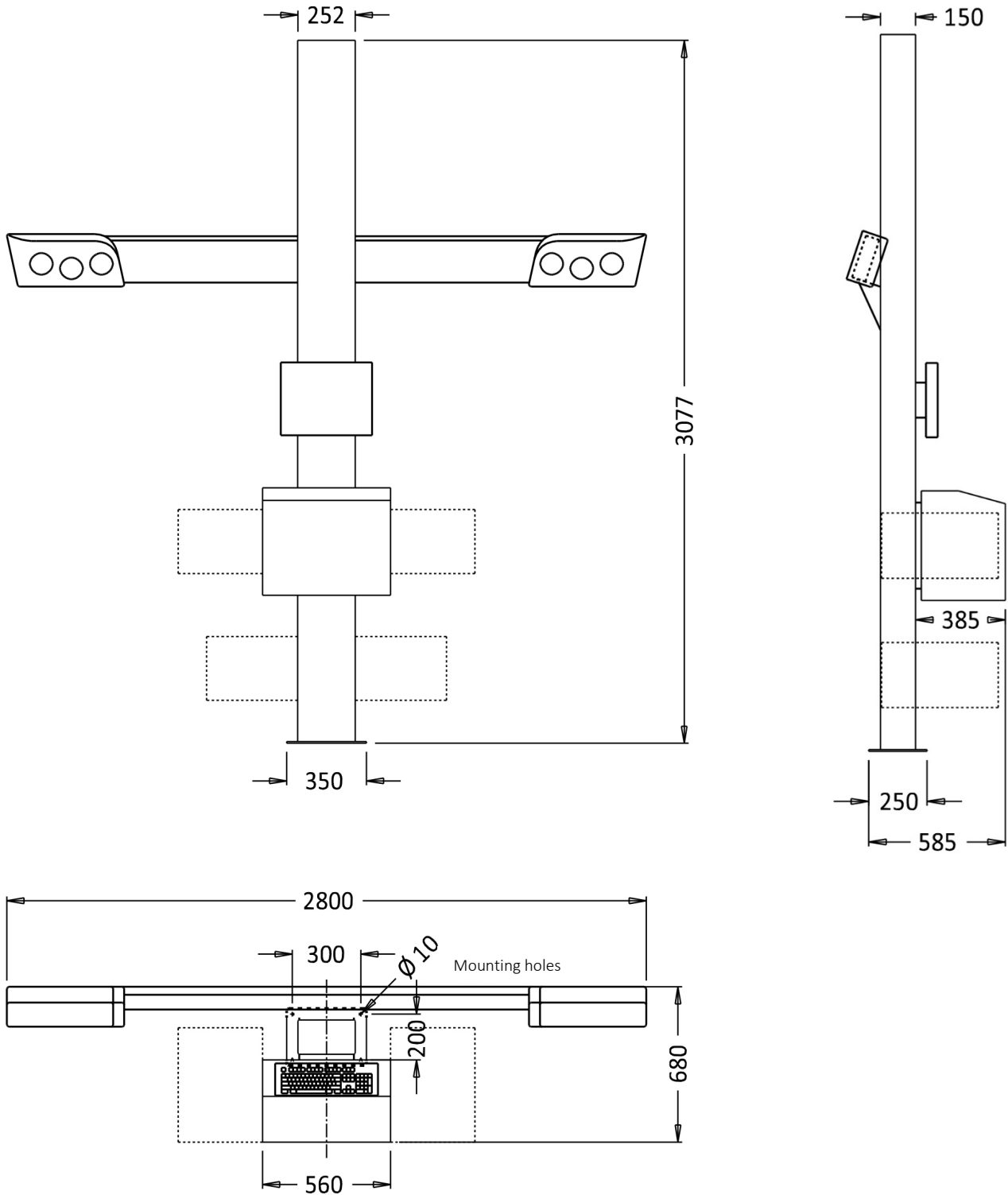
- During prolonged use, the devices are exposed to dust and dirt. Wipe them down with a neutral cleaning agent. Do not use oily, corrosive or acidic agents.
- Take great care when using the devices. Do not drop them. The casing or protective film may be damaged.

13.4 Printer maintenance

- Read the printer manual.
- Install the printer driver correctly and ensure that the printer settings are correct.
- After prolonged use, the printout may become illegible; check the ink level. Replace the cartridge in good time.

14. Appendix

14.1 Dimensions





The company

Twin Busch GmbH | Amperestr. 1 | D-64625 Bensheim

declares hereby, that the **wheel aligner**

TW115, TW316

(E315, T75A)

serial no.

in the configuration placed on the market by us, meets the relevant safety and health requirements, as required by the following EC directive(s) in it's/their current version(s).

EG-directive(s)

**2006/42/EC machinery, 2014/35/EU low voltage,
2014/30/EU electromagnetic compatibility**

Applied harmonized standards and regulations

**EN ISO 12100:2010, EN 60204-1:2018, EN 61000-6-4:2007+A1:2011, EN
IEC 61000-3-2:2019, EN 61000-3-3:2013+A1:2019, EN IEC 61000-6-
2:2019**

CE Certificate

0S201217.S3TWD67

date of issue:	17.12.2020
place of issue:	Valsamaggio
technical file no.:	58250SC00053801S

Certification body

Ente Certificazione Macchine Srl,
Via Ca' Bella, 243, Loc.Castello di Serravalle
40053 Valsamoggia (BO) - ITALY
Notified Body Appointment No. 1282

Any alteration to the equipment, improper use or installation void this declaration.

Authorized person to compile technical documentation is: Michael Glade (adress as below)



TWIN BUSCH GmbH
Amperestr. 1 • 64625 Bensheim
Tel. 06251 / 70585-0 • Fax: 70585-29

Authorized signatory: Michael Glade
Bensheim, 18.12.2020 Qualitätsmanagement

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You can find more products at:

twinbusch.co.uk