

Solutions for the diagnosis and calibration of driver assistance systems

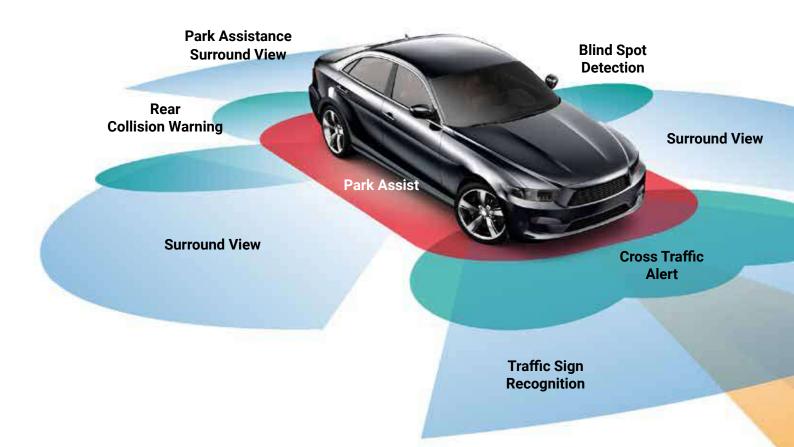


Specialists in the control of ADAS

Designed to guarantee safety and comfort while driving, the ADAS (Advanced Driver Assistance Systems) are ever more common in latest-generation vehicles.

Cameras, radars, LIDARs and sensors must be recalibrated when replaced, but even when actions that affect them are required, such as: **replacing the windscreen** and **bumper**, **repairing the suspensions**, **aligning the wheels**, **changing the tyres**, **replacing the engine control unit**, etc.

Knowing how to intervene in this field is strategical to keep pace with the times and be able to offer customers first-class assistance.



TEXA's solutions **meet the specifications required** by vehicle manufacturers and guarantee a **coverage** that is **unique on the market**:

ACURA ALFA ROMEO ASTON MARTIN AUDI BENTLEY BMW BUICK CADILLAC CHEVROLET CHRYSLER CITROEN CUPRA DACIA DAF DAIHATSU DODGE DS **EVO** FIAT

FORD FREIGHTLINER GENESIS GMC HEULIEZ BUS HOLDEN HONDA HYUNDAI INDCAR INFINITI INTEGRAL INTERNATIONAL IRISBUS IRIZAR ISUZU **IVECO** JAC MOTORS JAGUAR JEEP

KENWORTH KIA KING LONG LAMBORGHINI LAND ROVER LEXUS LINCOLN МАСК MAN MARCO POLO MASERATI MAZDA MERCEDES-BENZ MG MINI MITSUBISHI NEOPLAN NISSAN

OPEL PETERBILT PEUGEOT PORSCHE RAVON RENAULT RENAULT SAMSUNG **RENAULT TRUCKS ROLLS-ROYCE** SAAB SCANIA SCION SEAT SETRA SKODA SMART SSANGYONG SUBARU SUZUKI

TATRA TEMSA ΤΟΥΟΤΑ TROLLER VAN HOOL VDL BOVA **VDL BUS & COACH** VDL BUS CHASSIS VOLKSWAGEN VOLKSWAGEN COMMERCIAL VEHICLES VOLVO **VOLVO BUS** VOLVO TRUCKS WRIGHT BUS XEV

A complete 360-degree offer impossible to do without

TEXA helps repair professionals operate on these sophisticated active safety devices, with a **complete multi-brand offer** that includes:

- RCCS 3 EVO (CAR)
- CCS 2 Dynamics (CAR and TRUCK)
- ARAS (BIKE)
- CCS (CAR)
- A large availability of specific panels and accessories
- Specialised training.

TEXA's solutions allow performing **static and dynamic calibrations** and resetting the ADAS correctly, **guaranteeing the safety** of the drivers and of who carries out the diagnosis and calibrations.

The **IDC5 software** guides mechanics step-by-step throughout all the phases, thanks to the **helps sheets** specifically developed for each vehicle, offering a very wide **CAR, TRUCK** and **BIKE** coverage, at least 30% higher compared to other solutions on the market.

Furthermore, to know all the secrets of ADAS, there is a **specialised course** available, AOM 230 ADAS Systems for Cars, developed by TEXAEDU.

Lane Departure Warning

Emergency Braking Pedestrian Detection Collision Avoidance

> Adaptive Cruise Control

> > Long-Range Radar (~250 m) LIDAR (~150 m) Camera (~80 m) Short/Medium Range Radar (~20 m) Ultrasound (2-4 m)

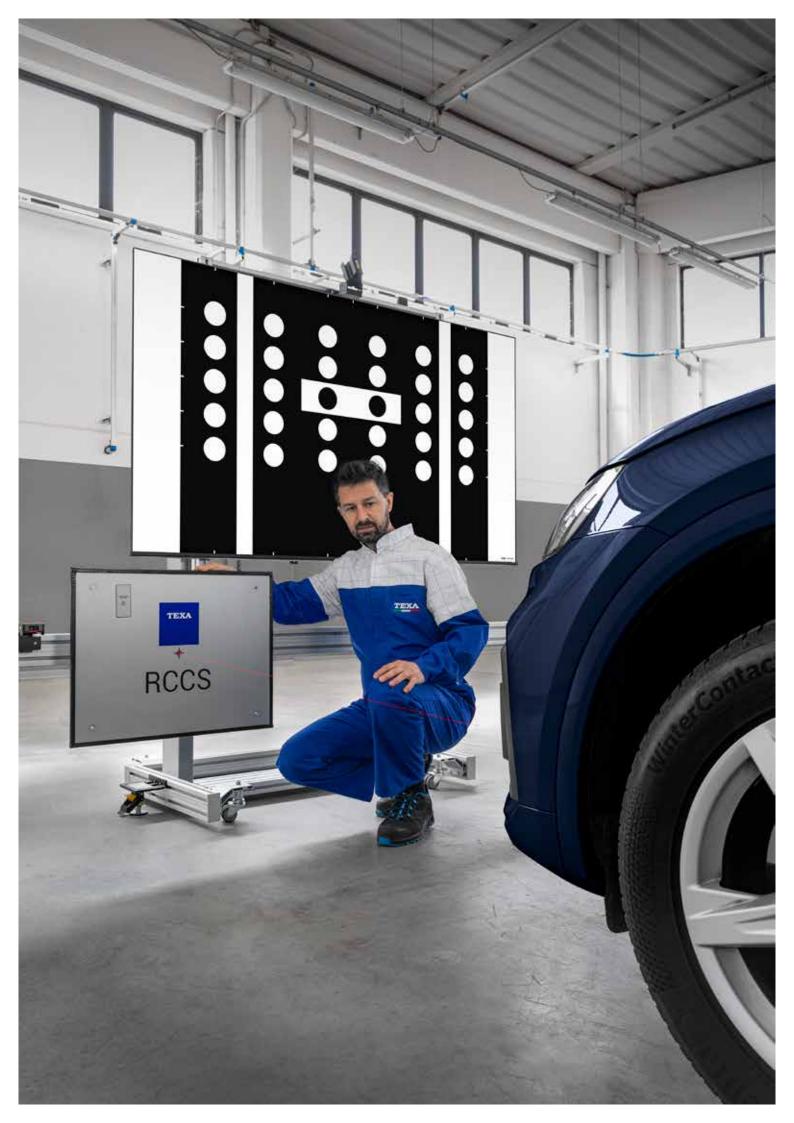
RCCS 3 EVO Easy to use, precise and reliable

For the calibration of radars, lidars, cameras and sensors, TEXA has designed and engineered RCCS 3 EVO, a **top-of-the-range solution** that includes the best production technology and exceptional components.

The version has a **wide range of possibilities of use**: it can be used with the toe and thrust axis check kit, or in optical alignment mode. The Bluetooth distance measurers, which can communicate directly with the IDC5 software, make sure the unit is positioned properly by means of a guided procedure.

Thanks to **the great ease of use and accuracy of the RCCS 3 EVO system**, you can work in an even more simple and precise way guaranteeing the accuracy of the final result and maximum safety both for the driver and for the technician performing the calibrations.





RCCS 3 EVO the digital innovation for calibrating ADAS

It is equipped with a **75-inch HD screen, 4K definition**, which always offers an optimal display, meeting the 1:1 proportion ratio in line with the specifications of every manufacturer.

Furthermore, it is important to highlight that it does not deform nor resize the images.

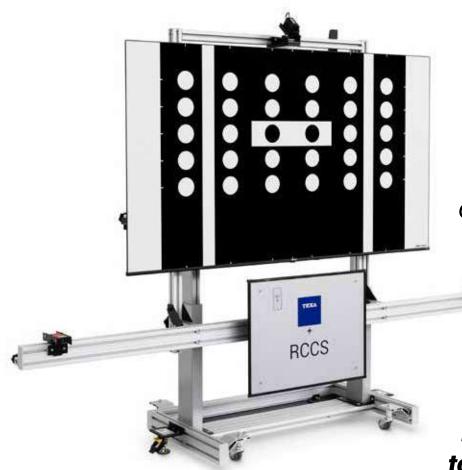
This way workshops are sure to operate in the most proper and safe way, without risking to alter the vehicle's behaviour on the road.

RCCS 3 EVO communicates with the IDC5 software and guides the mechanic, step-by-step, to the quick and automatic identification of the vehicle. The panel is selected and set in the monitor, with no possibility of error.

Thanks to continuous **software updates** that each time offer new vehicles and eventually new panels, and to the essential **help sheets** edited per make and model, users are sure to complete any operation with maximum precision and to the highest standards, relying on an extraordinary coverage.

Furthermore, the digitalisation of the panels allows **clearing considerable space in the workshop** that would otherwise be occupied by multiple physical panels.

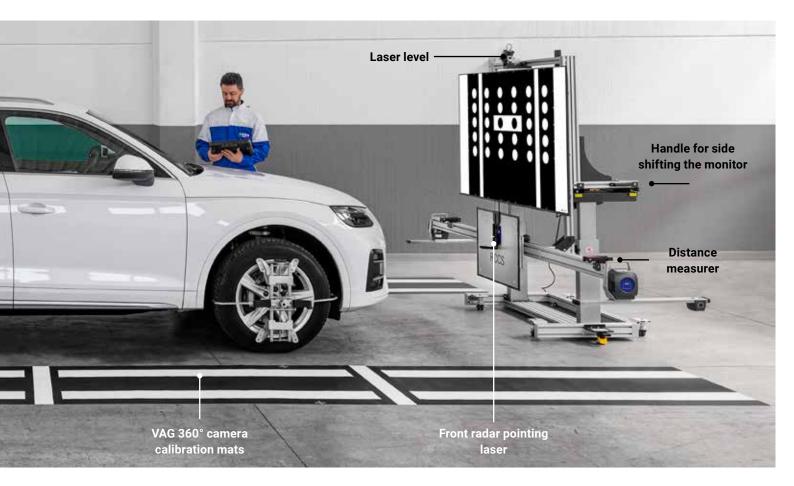




1:1 proportion ratio in line with the specifications of every manufacturer

Robust, but easy to move and adjust

Easy to use thanks to the digitalisation of the panels



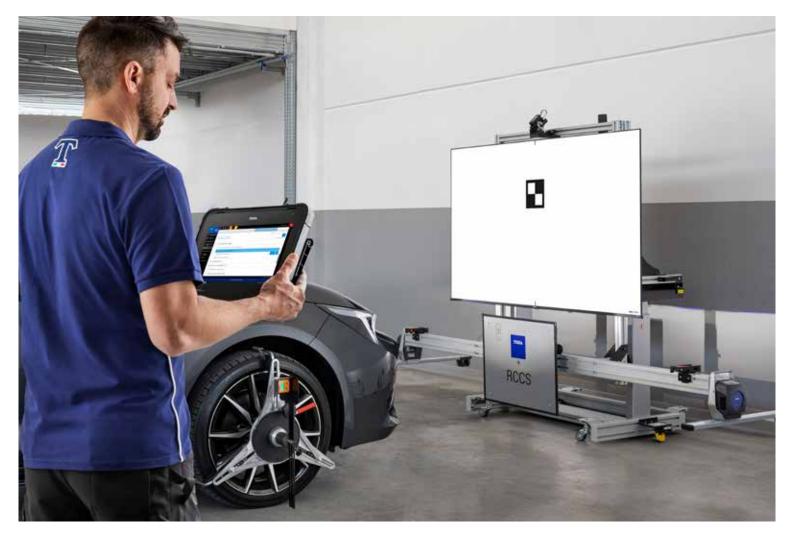
Intelligence and safety thanks to the Mini "on-board" PC

An actual **Mini PC** built into the unit, guarantees the use of an intelligent system that **synchronises the ICD5 software and the TEXA unit perfectly**.





The **images** of the panels are transmitted and **positioned automatically**, based on the vehicle selection made. They are displayed through a linear, safe and quick process.



Precise, simple and quick adjustments and movements

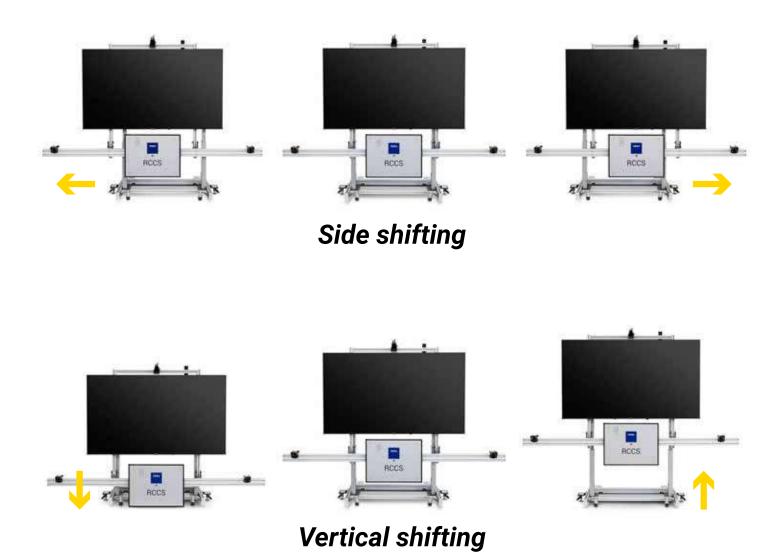
RCCS 3 EVO is made up by a very robust main support, which height can be adjusted thanks to its electrical operation. Using practical knobs, **it can be easily tilted to the side and forward**.

Furthermore, a knob allows even millimetric side movements. There is another laser level at the top of the unit that is useful for locating the centre of the vehicle simply by pointing at its front logo.

The horizontal adjustment bar is equipped with two distance measurers and a reflecting plate, the latter with a central laser for the front radar's aiming.

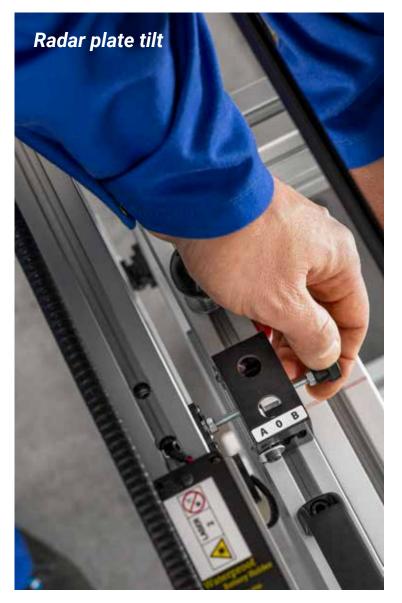
This technological equipment allows positioning RCCS 3 EVO and aligning it correctly with respect to the vehicle and to the ground **easily**, with **absolute precision** and in complete **safety**.

Radar mirror and monitor shifting













Absolute accuracy a complete, turnkey job

Before any calibration, other than verifying the alignment of RCCS 3 EVO with respect to the vehicle, it is important to also check the **ride height of the vehicle** you are working on.

To this end, in order to offer an even more complete and professional service, RCCS 3 EVO, can be equipped with **four CCD electronic detectors** that can be installed either on the wheels, using the rimclamping system, or on the sides of the horizontal adjustment bar.

The lightness of the detectors and the absence of connection cables between the front and the back, confer maximum practicality and **absolute accuracy** when measuring the vehicle angles.

Truly a complete, turnkey job.





An ad-hoc solution for wheel alignment and toe

The high accuracy when checking the vehicle ride height is also guaranteed by the use of the **TOE AND THRUST ANGLE CHECK**, the software application that allows carrying out two types of operations:

- a **quick check of the alignment** of RCCS 3 EVO with respect to the vehicle's thrust angle and to the workshop's floor;

- checking the **wheel toe**.

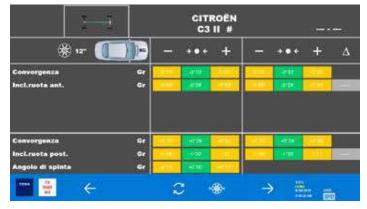
These procedures are essential for preparing the vehicle for the following camera and/or radar calibration phase.



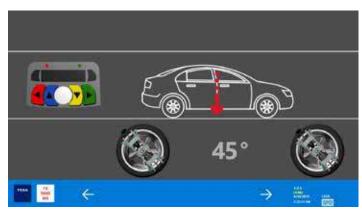
How it works

The operator first fits the four CCD detectors to the wheels and checks wheel alignment. He then removes the CCD sensors from the front wheels and mounts them on the RCCS 3 EVO's adjustment bar to align the structure correctly with respect to the vehicle's thrust line (referred to the back axle).

Below there is a practical example of **unit alignment** and **wheel toe** using the dedicated software:



During the wheel alignment check, the software lets you enter the diameter of the tires, then displays the nominal ranges for toe, semi-toe and thrust angle.



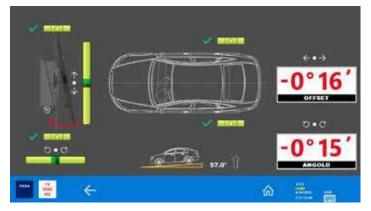
Mount the 4 sensors on the clamps and check run out. Push the vehicle back until the clamps are at an angle of 45°. Now push the vehicle forwards to return the clamps to the vertical position.



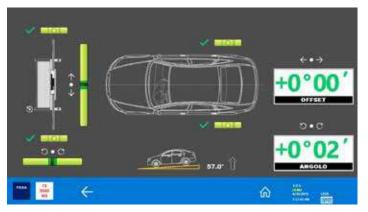
The 4 CCD detectors must be parallel to the work surface and the steering must be centralised. When these conditions are achieved, the display reads out "STOP".



Summary screen showing data measured by the four CCD sensors compared to the manufacturer's nominal figures. Provided the measured values fall within the range of tolerance, the RCCS 3 EVO structure can now be positioned.



The message "OFFSET" shows how much the RCCS 3 EVO structure is misaligned with respect to the vehicle's centreline. "ANGLE" shows the structure's angle of yaw with respect to the vehicle's centreline.



The structure is correctly aligned with the vehicle and the radar or camera system can now be calibrated.

High performing even with the optical alignment

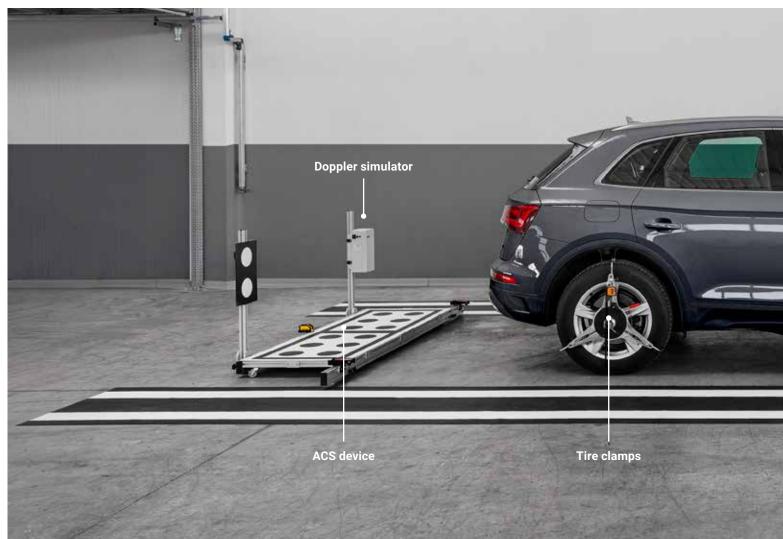
Other than the version with toe and thrust axis check, RCCS 3 EVO is also available in the **highly performing optical alignment** mode. This configuration uses **wheel clamps** and was designed to complete all the operations on radars and cameras in a quick and precise way.

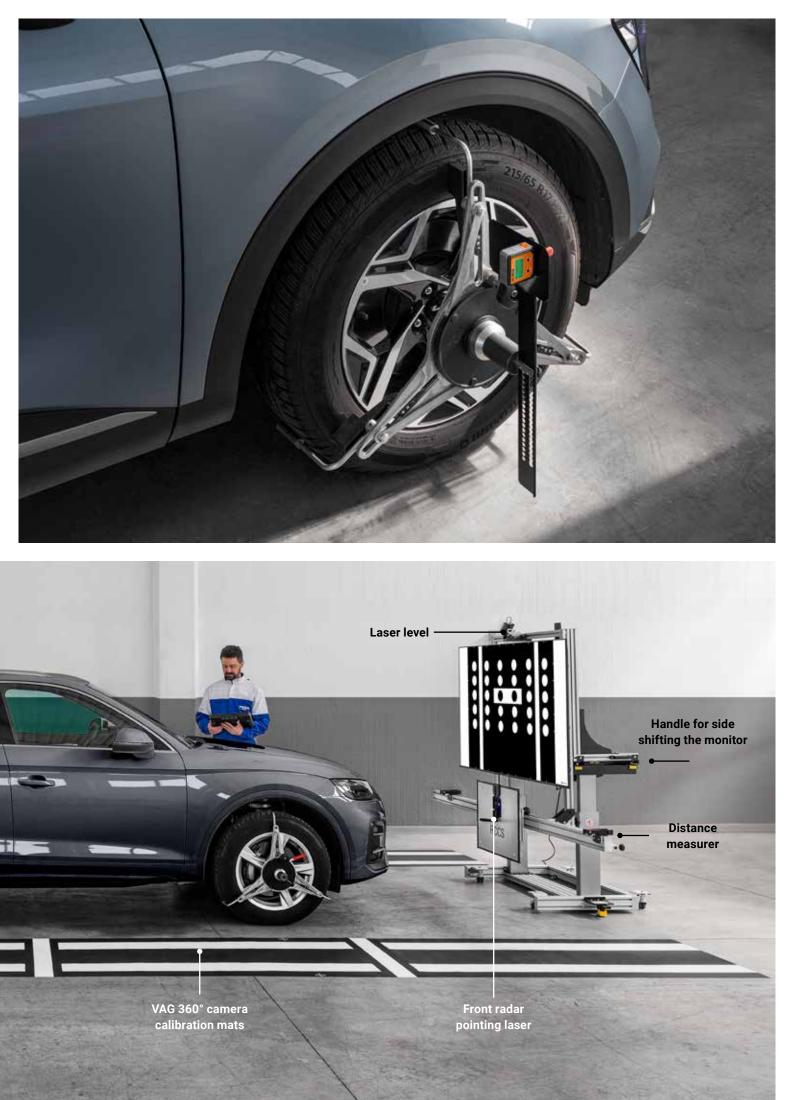
In order to align the vehicle, two practical aiming bands are used, onto which the lasers of the two distance measurers on the unit's main axis are addressed.



Latest generation laser technology

The Bluetooth distance measurers provided by TEXA are the ideal solution to meet the most severe professional and precision criteria requested by workshops worldwide.





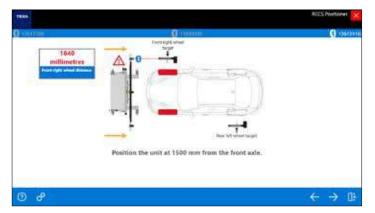
Positioning with Bluetooth distance measurers A new guided procedure

Thanks to a clear and precise messaging system all the vehicle preparation phases are extremely easy and quick.

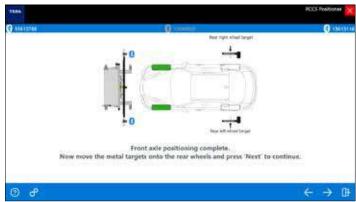
The POSITIONER management software will guide the operator step by step to position the RCCS 3 EVO unit safely.



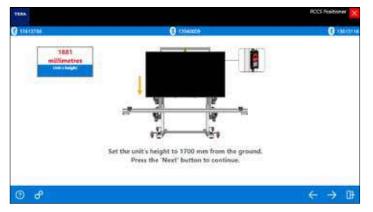
Below there is a practical example of **positioning the unit** using the dedicated software:



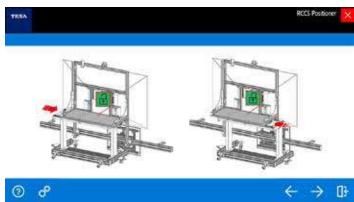
Place the provided clamps on the indicated points to start the guided positioning procedure.



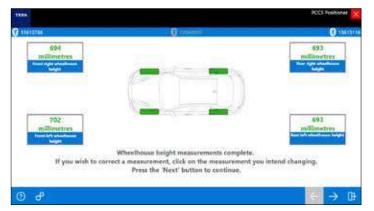
Front axle positioning completed successfully, proceed with the rear axle.



The unit must be moved electrically in order to position it at the correct height.



Centre the TV monitor with respect to the vehicle following the guided procedure.



The unit is properly aligned with the vehicle, proceed with the calibration of the radar or camera.



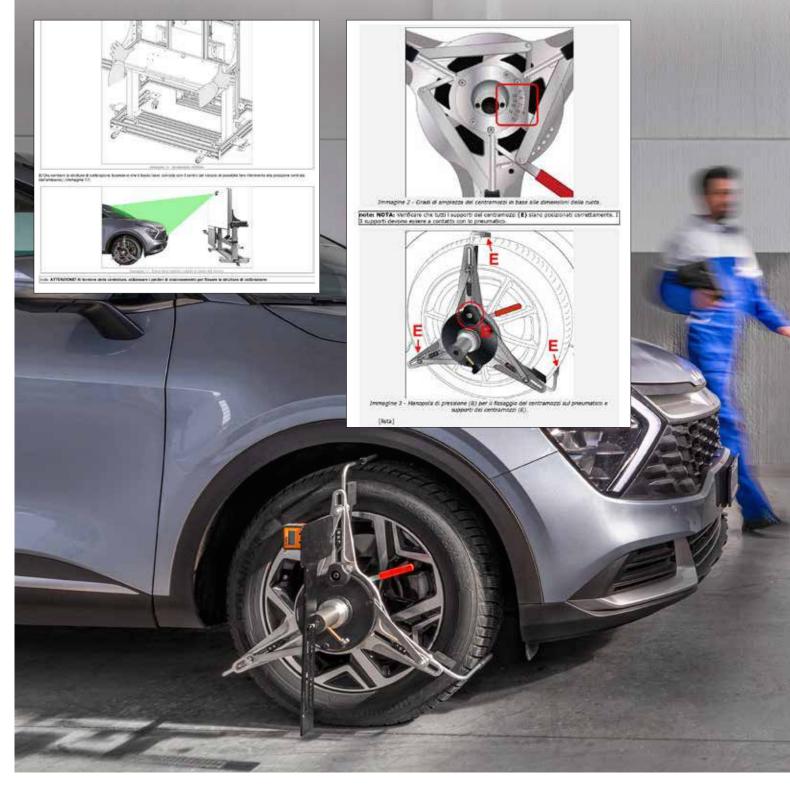
Once the unit is positioned, proceed with the chosen diagnostic function.

With the IDC5 software all the information to support all operations

TEXA's solutions must be used in combination with the **IDC5 diagnostic software** that allows completing any operation quickly.

In fact, the application provides specific **diagnostic help sections** for each make/model, with the instructions (such as panel height, distance from the vehicle, alignment, etc.) for the **correct positioning of the unit**, guiding you step-by-step throughout the procedures.

Furthermore, at the end of the calibration, you can print a report to hand over to the customer with the evidence of the operations carried out.











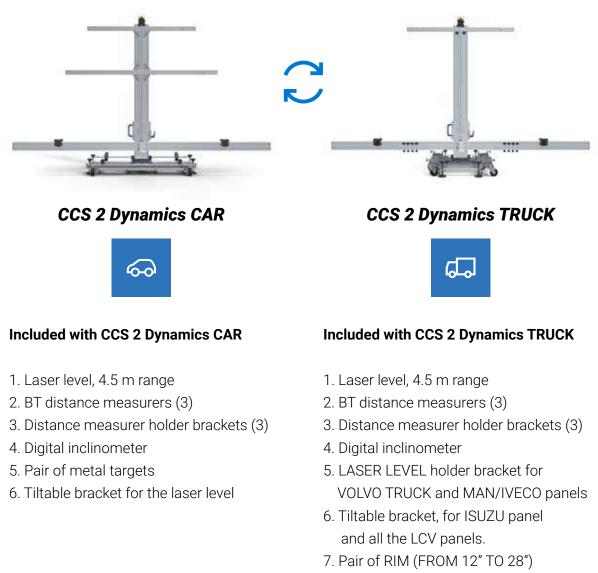
CCS 2 Dynamics

CCS 2 Dynamics is the **transportable solution** by TEXA for the **calibration of cameras** on **cars**, **light commercial vehicles** and **heavy-duty vehicles**. CCS 2 Dynamics is characterised for being **compact**, **stable**, easily **disassembled** and **transported** in a small-sized van. CCS 2 Dynamics can be configured in **two versions** dedicated to the **CAR** and **TRUCK** environments with specific accessories. The

Bluetooth distance measurers, capable of communicating directly with the IDC5 software, guarantee a correct positioning through a guided procedure.

CCS 2 Dynamics is equipped with four castor wheels that guarantee a fast positioning, and it can be stabilised thanks to its practical feet. In the CAR configuration it can be adjusted in height, longitudinally and horizontally. In the TRUCK version, it can be adjusted horizontally and axially. The CAR configuration can be completed with **two alignment modes**: **optical**, by purchasing clamps, selecting between the tyre or rim version or based on the thrust axis, in combination with the toe and **thrust axis** check kit. The configuration can be quickly and easily changed even after purchasing the unit.

For camera calibrations, TEXA offers a **large range of specific targets and accessories** that can be perfectly integrated with RCCS and CCS.



- SELF-CENTRING clamps
- 8. Pair of metal targets



CCS 2 Dynamics CAR

The unit can be **adjusted in height**, is equipped with four castor wheels for a quick positioning and can be stabilised by acting on its adjustable feet. It features longitudinal and transverse adjustment.

The CAR configuration can be completed with **two alignment modes**: optical alignment, by purchasing clamps, selecting between the tyre or rim version and alignment based on the thrust axis, in combination with the toe and thrust axis check kit.



Combinable with:



Pair of self-centring tyre clamps



Pair of rim clamps, expandable in the top-of-the-range version



Toe and thrust axis check kit complete with CCD measuring heads and 2 pairs of rim clamps

CCS 2 Dynamics TRUCK

With the TRUCK configuration, CCS 2 Dynamics allows **intervening in the calibration of LCV and TRUCK cameras completely**, extremely easily and precisely.

Even in this case the unit has different types of **height adjustments**, **transverse** and **axial**. Furthermore, it is equipped with 4 floating castors for a quick positioning and can be stabilised thanks to practical adjustable feet.



Combinable with:



Pair of rim clamps, expandable in the top-of-the-range version



Optional MAN & SCANIA radar

ARAS

The TEXA device has been specifically designed for the **motorcycle manufacturers that equip their vehicles with rider assistance systems**. It is an innovative tool that aims at ensuring the utmost accuracy when calibrating the radar systems.

The solution includes adjustable stands, mounting brackets and laser pointers, thus making up an advanced system that provides a complete package to carry out the **calibration of the ARAS in a quick, precise and safe manner**.



CCS the multi-brand kit for the calibration of cameras

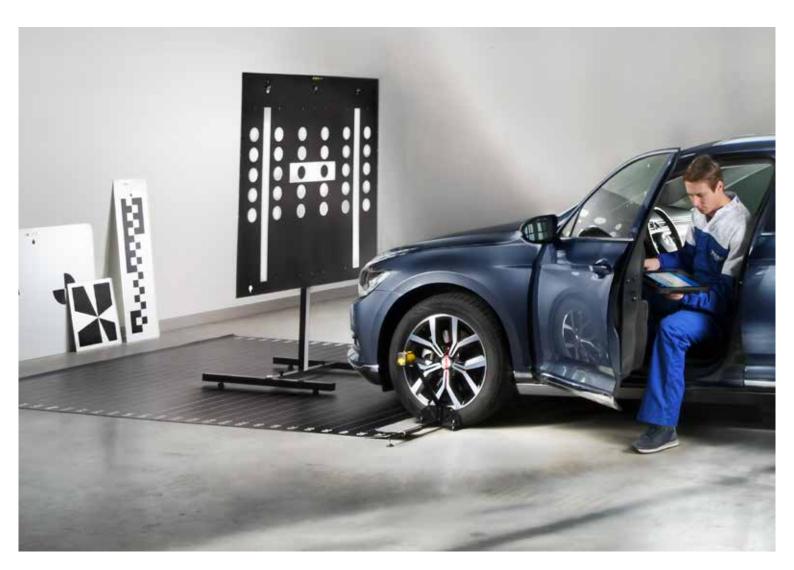
CCS (Camera Calibration System) is designed to create the best combination according to your operational needs.

It is made up by a robust support on which the several panels divided by make are to be positioned.

CCS can also be used with a graduated mat and two supports to centre the wheel axle through laser levels.

The manufacturing features of the Kit make it a **basic solution that is extremely easy to use**, handy and easy to carry, even outside the workshop.

CCS is perfect for those technicians who cannot permanently dedicate an area of their workshop only to the calibration of cameras: in fact, once the operations on one or several vehicles are complete, all the **equipment can be disassembled and easily stored in a small space**.



A large range of accessories for a complete solution

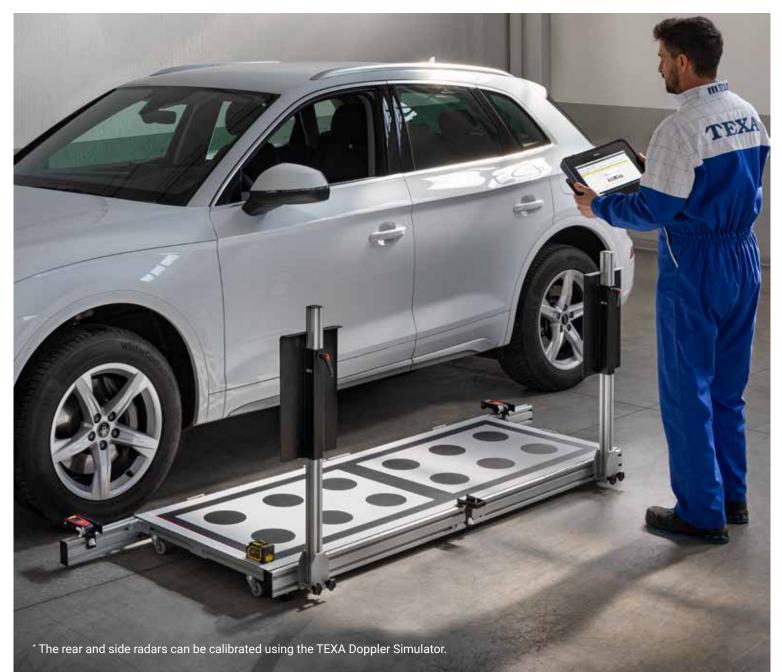
TEXA's ADAS solutions can be used in combination with other optional devices to work in depth on other electronic driver assistance systems, among which:

ACS (All-Around Calibration System)

ACS allows calibrating 360° cameras and Dopplers^{*} for VAG Group (AUDI, SEAT, SKODA, VOLKSWAGEN, LAMBORGHINI) vehicles.

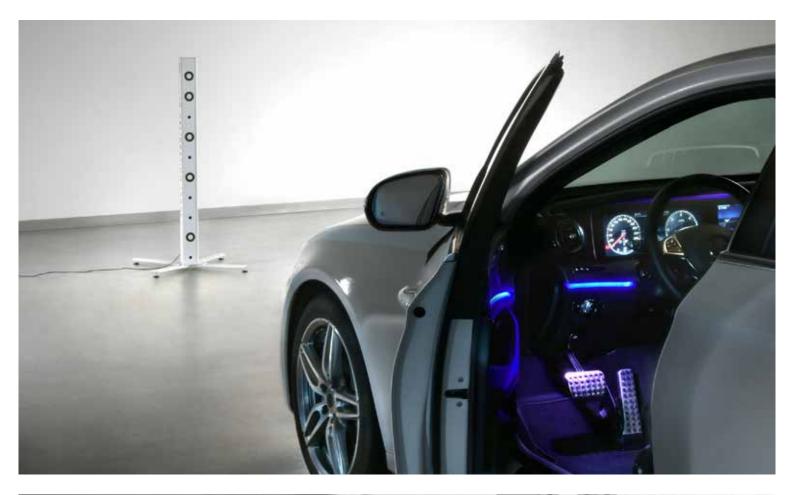
It is made up by an aluminium structure that has two horizontal panels and two vertical magnetic boards. The base has three housings for three distance measurers dedicated to verifying the correct alignment with respect to the vehicle.

TEXA's solution is featured by a **great practicality** being equipped with wheels that allow moving quickly within the workshop.



IR Calibration Target and Night Vision System

They are two very useful accessories as they allow **calibrating the infrared camera**, in a short time and with maximum precision, for the **MERCEDES** and **VAG GROUP** vehicles in which it is installed. It is an essential device from the point of view of road safety, which helps drivers detect in advance people or animals in the dark. Positioned in front of the vehicle, the IR Calibration Target and Night Vision System **simulate the presence of a warm body**.





Blind spot radar reflector

It is an essential device for calibrating the ultrasonic radars installed in vehicles of the makes **HYUNDAI**, **HONDA**, **KIA**, **LEXUS**, **MAZDA**, **MITSUBISHI**, **SUBARU**, **TOYOTA**. It is made up by a metal reflector cone, a laser and a goniometer jig to help the technician position the pyramid cone correctly. It can be used both for the **front radars** and for the **side** and **rear** radars.



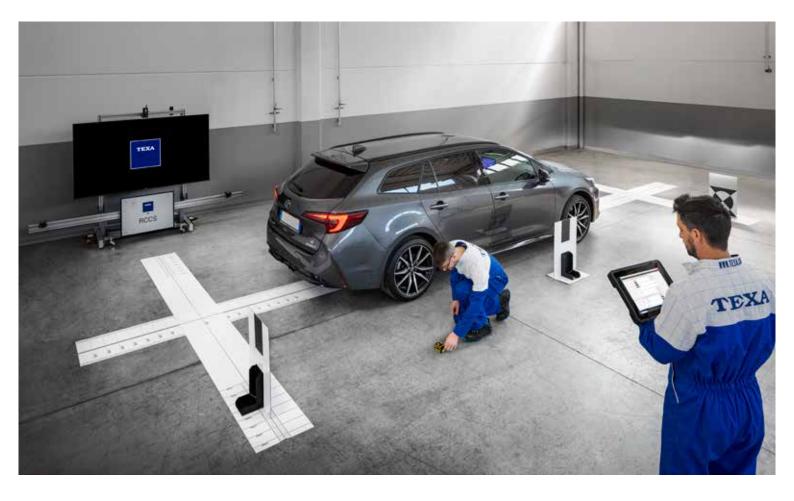
Doppler Simulator

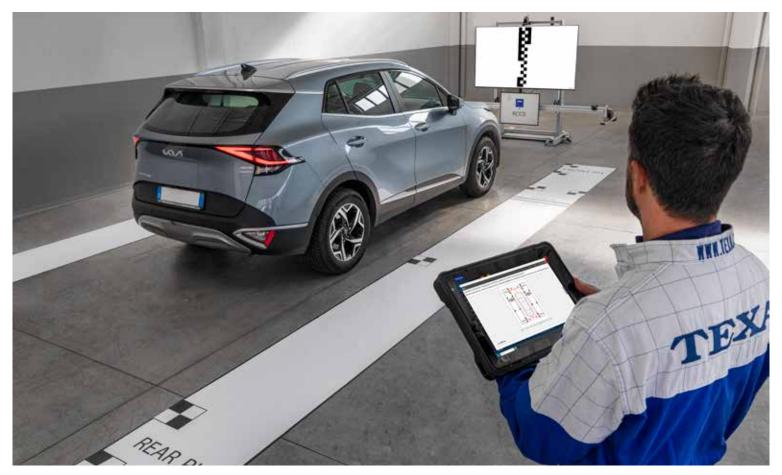
This accessory also is needed to calibrate the blind spot radar. However, in this case it is an active simulator that responds to the frequency generated by the rear radar in **MAZDA** and **VAG Group** vehicles.



360° mats for TOYOTA, LEXUS, SCION, SUZUKI and KIA

A modular kit that allows calibrating the 360° vision system in **TOYOTA, LEXUS, SCION, SUZUKI** and **KIA** vehicles equipped with this technology.

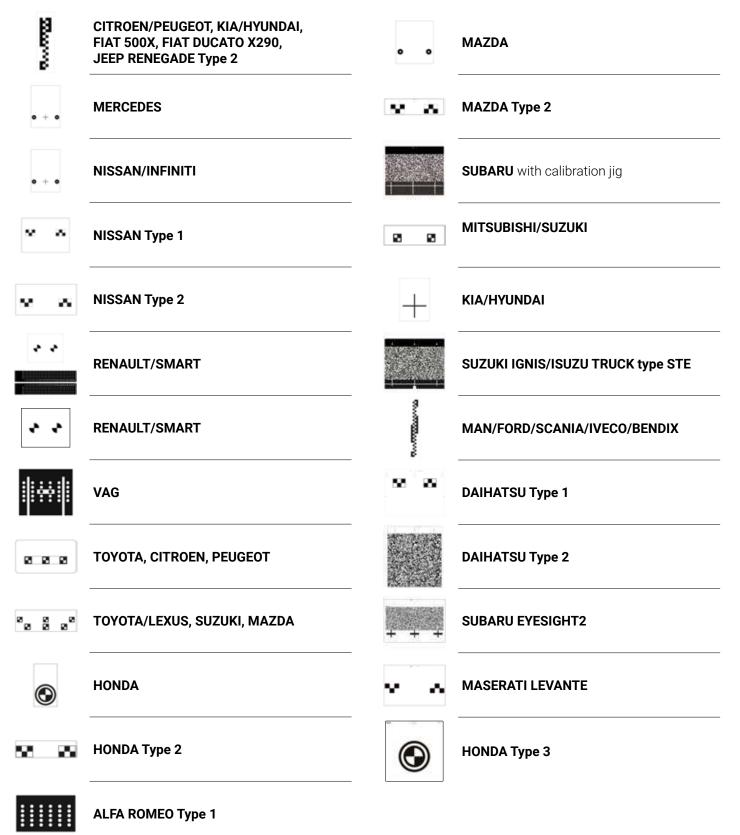




Calibration targets and accessories

For the calibration of the ADAS, TEXA offers a wide choice of targets (digital and physical) and specific accessories, which guarantee the most complete coverage now available on the market.

Calibration targets for front cameras



CAR 360°/rear camera calibration

••••	VAG (rear)	• • •	NISSAN X-TRAIL (rear)
	VAG (360° cam.)		OPEL INSIGNIA (rear)
	MERCEDES Type 1 (rear)	::::	MITSUBISHI, NISSAN, MAZDA (360° cam.)
XXX	MERCEDES Type 2 (rear)	X	SSANGYONG (rear)
• • •	NISSAN QASHQAI (rear)	• · · —•	TOYOTA/LEXUS/SCION/SUZUKI (360° cam.)
	MITSUBISHI (360° cam.)	—	Calibration band 360° camera for HONDA/ACURA
0-20-2-20 0720-2-10	KIA/HYUNDAI (360° cam.)	∞ ****	PSA and OPEL GROUP (180° and 360° cam.)



CAR Radar calibration devices and additional kits





Specific training for the world of ADAS

TEXA believes offering customer training to be particularly important. Adequate technical competence and the correct use of diagnostic tools are critical factors for the success of a workshop business.

The teaching methods used in the courses are based on an ideal mix of theory and practical elements.

Practice plays a fundamental part, as it combines testing and simulations with the TEXA diagnostic tools owned by the repairers, stimulating a more active and dynamic participation and effective learning.



D9C: ADVANCED DIAGNOSIS AND CALIBRATION OF DRIVING ASSISTANCE SYSTEMS

AIM: Learn the technical features and the operating modes of the advanced driver assistance systems and the operating modes, position and functions of the RADAR, LIDAR, camera, infrared camera, ultrasonic sensor technologies involved.

Learn the operating principle of the Park Assist, Lane Departure Warning, Adaptive Cruise Control, Forward Collision Warning, Adaptive High Beam Control, Pedestrian Detector, Blind Spot Detection, Park Assist, Night Vision, Drowsiness Detection systems.

Be able to carry out diagnostic and troubleshooting procedures using the diagnostic tool, and to interpret the errors, parameters, statuses, activations and adjustments pages.

DURATION: 8 hours (available also on-line)



D9T: DIAGNOSIS AND CALIBRATION OF THE DRIVER ASSISTANCE SYSTEMS - TRUCK ADAS

AIM: By attending the D9T course, you will study the technical features and operating modes of the advanced driver assistance systems on heavy-duty vehicles, such as the lane departure warning, adaptive cruise control, blind spot detection.

Furthermore, the teaching module helps learning the position and functions of the technologies involved: radars, multifunction camera, sensors and actuators, infrared camera, ultrasonic sensors. Practical examples of static and dynamic calibration will be introduced, performing diagnostic and troubleshooting procedures using TEXA equipment.

DURATION: 8 hours (available also on-line)



D9B: Advanced diagnosis and calibration of rider assistance systems - ARAS

AIM: Learn the operating modes of the advanced rider assistance systems on motorcycles, such as the Adaptive Cruise Control and the Blind Spot Detection.

Learn the operating principle of the front and rear radars used to support these technologies. The educational module allows becoming an expert in installing and configuring these crucial devices, guaranteeing that all maintenance works will be successful. Practical examples of static and dynamic calibration will also be presented, performing diagnostic procedures and troubleshooting using TEXA tools.

DURATION: 6 hours (available also on-line)



Simplifying the present, anticipating the future



Founded in 1992 30,000 covered sq. m in an area of over 100.000 mg 2 new plants



8 subsidiaries in the world



Approximately 1,000 TEXA employees in the world over 400 technical profiles



700 Distributors over 200,000 active customer workshops



Patents 58 Master, 110 total



Certifications **ISO 9001 IATF 16949** E.P.A. **ISO/IEC27001** TISAX ISO 14001:2015

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