ADAS

Solutions for the diagnosis and calibration of driver assistance systems

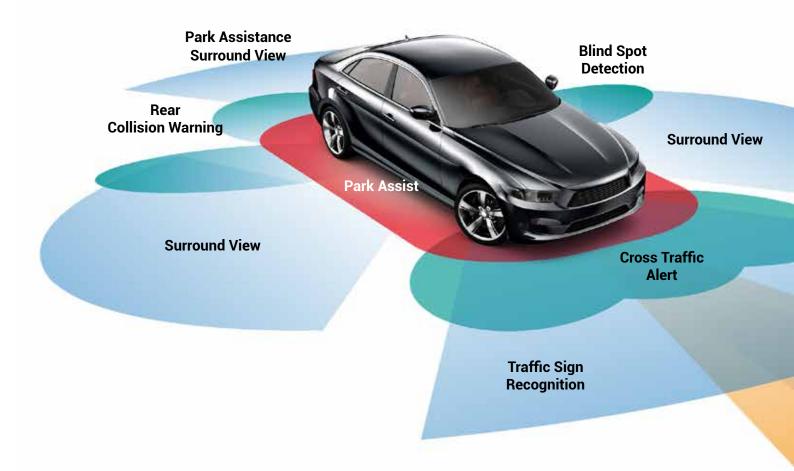


Specialists in the control of ADAS

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**:

JAGUAR

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

.IFFP KENWORTH KIA KING LONG **LAMBORGHINI** LANCIA **LAND ROVER** I FXUS LINCOLN MACK MAN MARCO POLO MASERATI MAZDA MERCEDES-BENZ MINI **MITSUBISHI**

NEOPLAN NISSAN **OPEL** PETERBILT **PEUGEOT PORSCHE RAVON** RENAULT RENAULT SAMSUNG RENAULT TRUCKS ROLLS-ROYCE SAAB **SCANIA** SCION SEAT **SETRA** SKODA **SMART**

SSANGYONG SURARU SUZUKI TATRA **TEMSA TOYOTA TROLLER VAN HOOL VDL BOVA VDL BUS & COACH** VDL BUS CHASSIS VOLKSWAGEN VOLKSWAGEN **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 BT (Radar and Camera Calibration System 3) available in two versions
- CCS (Camera Calibration System)
- A large availability of specific panels and accessories
- ADAS TRUCK kit
- 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** and **TRUCK** coverage, at least 30% higher compared to other solutions on the market.

Furthermore, to learn all the secrets of ADAS, there are two **specialised courses** available, D9C and D9T, 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 BT

two versions for a top-of-the-range solution

The unit, designed and engineered by TEXA, is available in two versions: **RCCS 3 BT with Monitor** and **RCCS 3 BT with Monitor** and **RCCS 3 BT with Monitor** and **RCCS 3 BT**

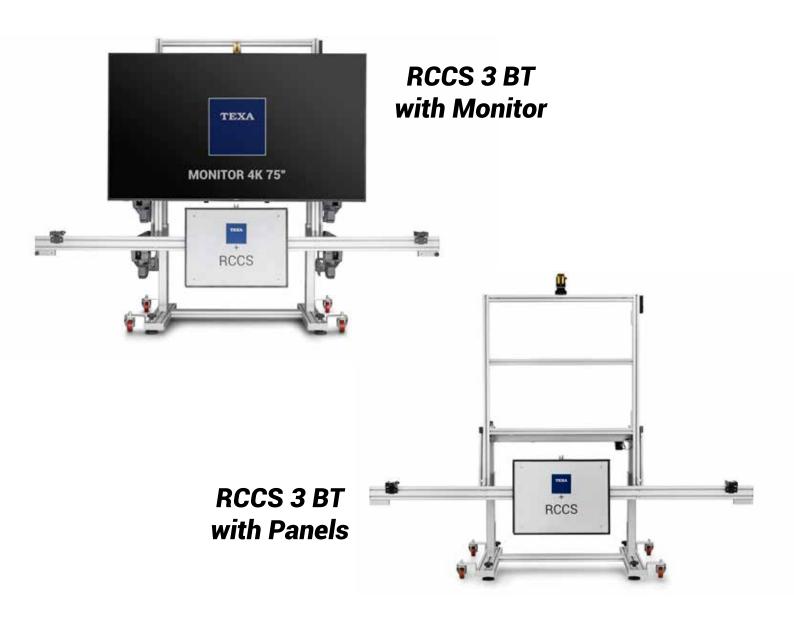
Both include **maximum constructive technology** and exceptional components.

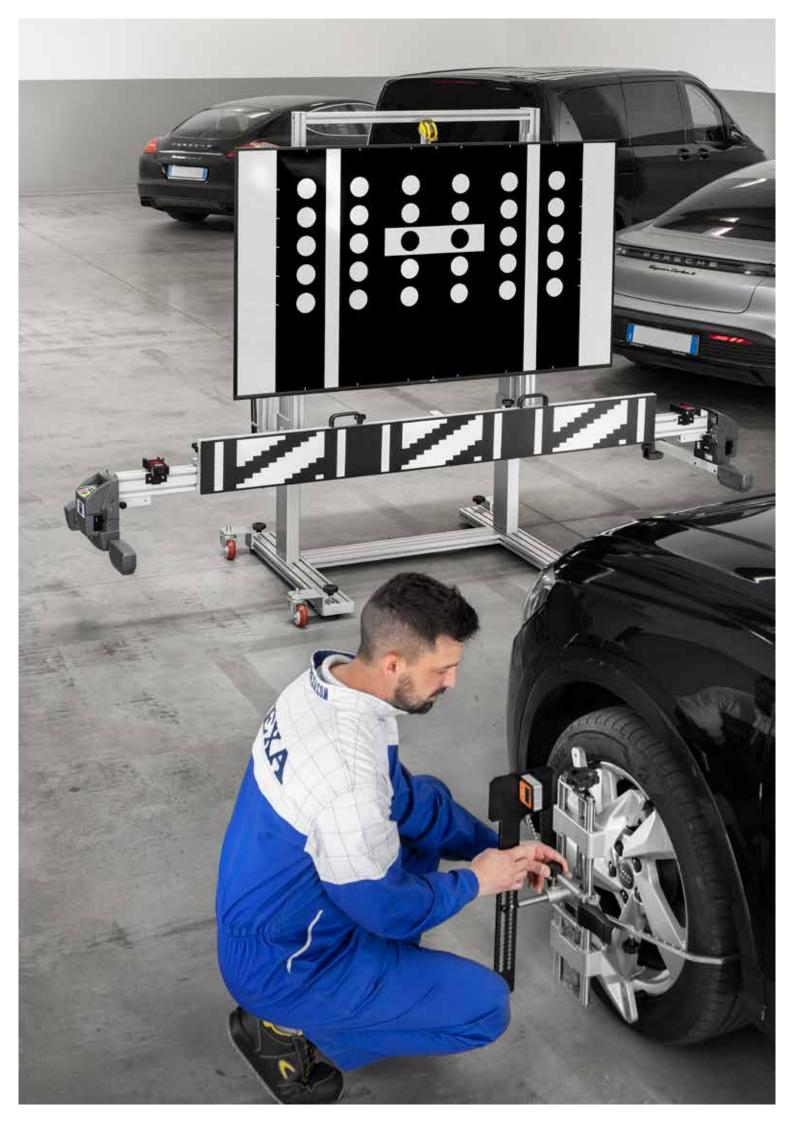
RCCS 3 BT with Monitor is the top product in terms of performance and speed as it uses the digital representation of the panels, whereas RCCS 3 BT with Panels is intended to guest physical targets.

The **Bluetooth distance measurers**, capable of communicating directly with the IDC5 software, guarantee a **correct positioning** through a guided procedure. The positioning is ever more **fast**, **simple** and **efficient**.

TEXA's solutions guarantee vast handling possibilities through a simple, quick, precise adjustment and can be used both with the **toe and thrust axis check kit** and in the **optical alignment mode**.

Two versions, two ways to approach work, but a unique result: **maximum safety for drivers and for who performs the calibrations**, made possible by the high practicality and precision of RCCS 3 BT.





RCCS 3 BT with Monitor the digital innovation for calibrating ADAS

RCCS 3 BT with Monitor is TEXA's solution for setting radars, LIDARs, cameras and sensors through the digital representation of the panels.

In fact, 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.

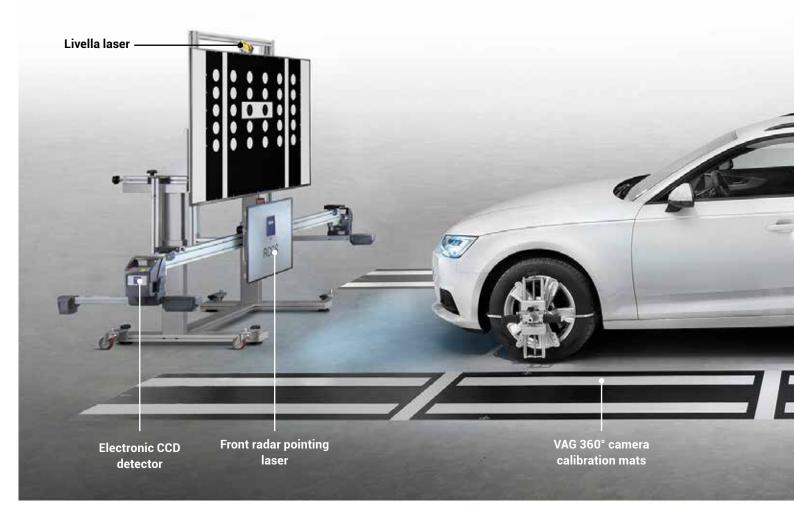
Furthermore, it is important to highlight that it does **not deform nor resize** the images.

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 BT 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.





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, installed in the version RCCS 3 BT with Monitor, 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

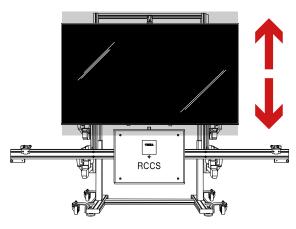
RCCS 3 BT is made up by a very robust main support, which height can be adjusted thanks to its electrical operation. Using practical knobs, it can be easily tilted to the side and forward.

A handhwheel and a laser level allow also performing millimetric side movements. On top of the unit there is another laser level, very useful for finding the centre of the vehicle simply pointing it onto the front logo.

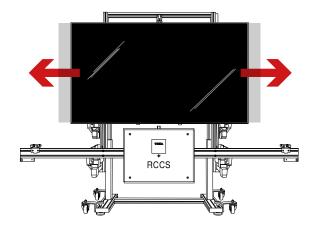
The horizontal adjustment bar is equipped with two distance measurers and a reflecting plate, the latter with a central laser for the front radar's aiming.

RCCS 3 BT is easy to move within the workshop thanks to its oversized pivoting wheels.

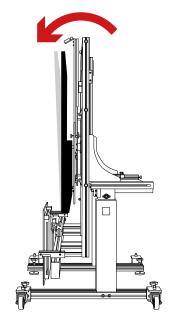
This technological equipment allows positioning RCCS 3 BT and aligning it correctly with respect to the vehicle and to the ground **easily**, with **absolute precision** and in complete **safety**.



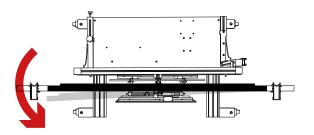
Upward moving



Side shifting only in the version with Monitor



Forward tiltingonly in the version with Monitor



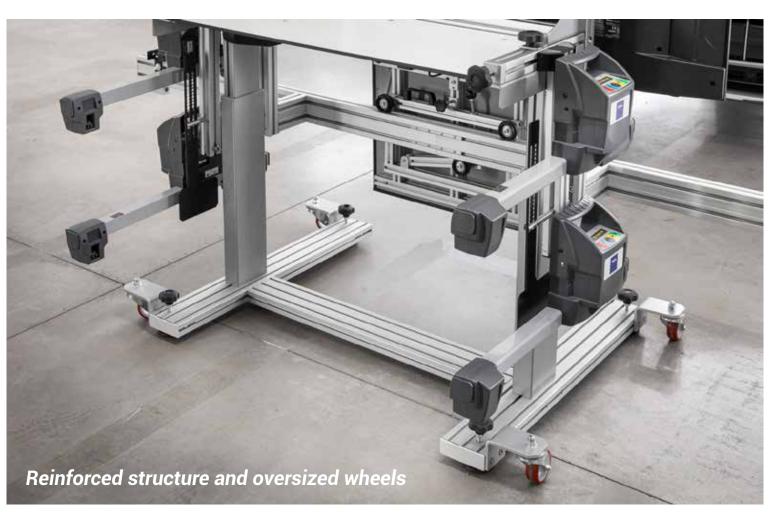
Side tilting











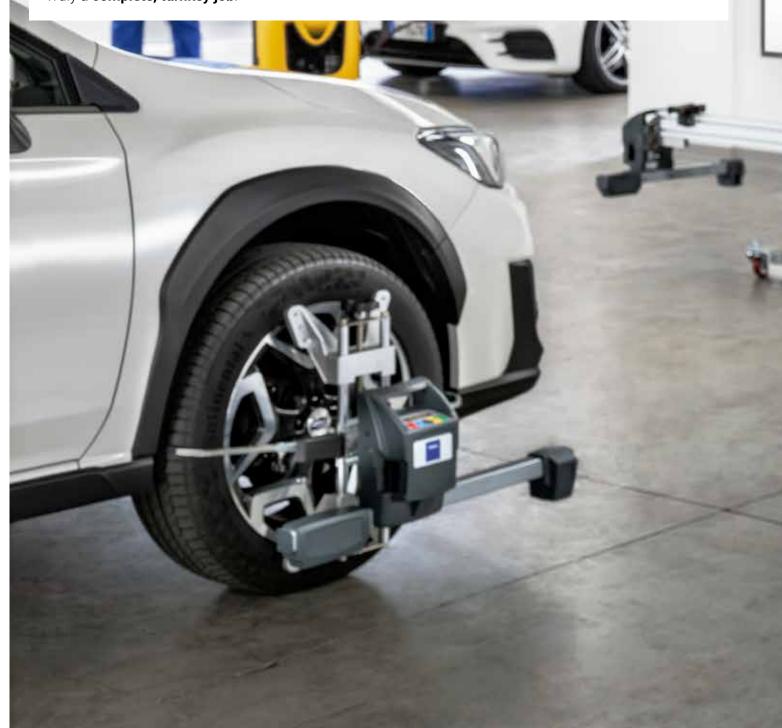
Absolute accuracy a complete, turnkey job

Before any calibration, other than verifying the alignment of RCCS 3 BT 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 BT, in both versions, can be equipped with **four CCD electronic detectors** that can be installed either on the wheels, using the rim-clamping 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.



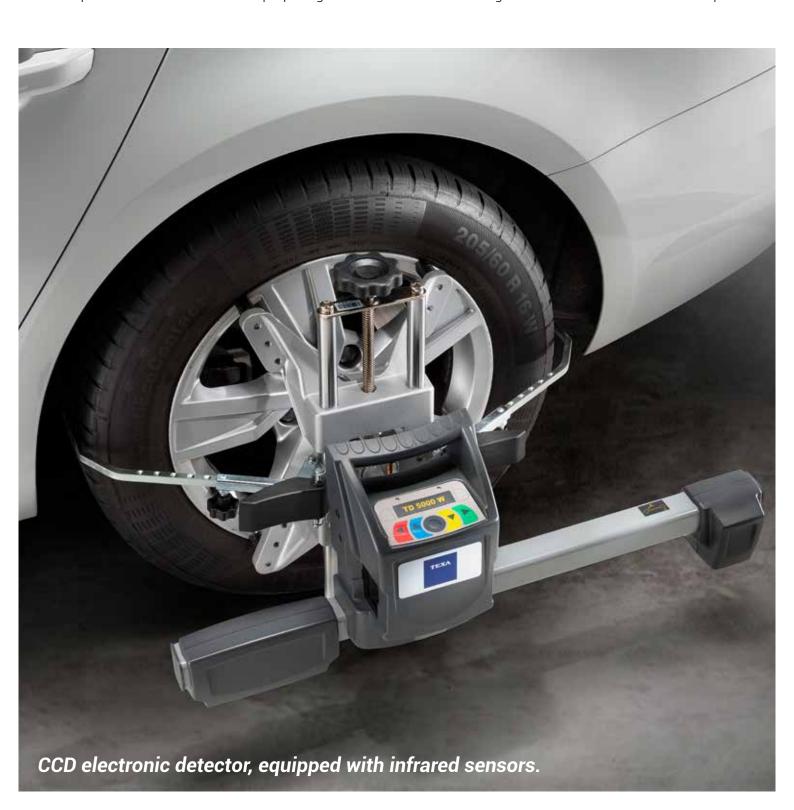


An ad-hoc solution for wheel alignment and toe

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 BT with respect to the vehicle's thrust angle and to the workshop's floor;
- checking the wheel toe.

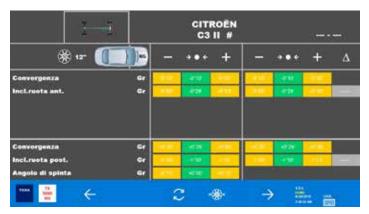
These procedures are essential for preparing the vehicle for the following camera and/or radar calibration phase.



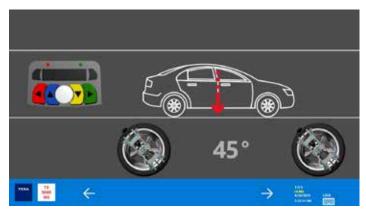
How it works

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 BT's adjustment bar to align the structure correctly with respect to the vehicle's thrust line (referred to the back axle).

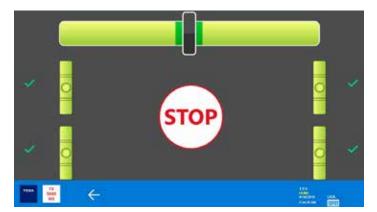
Below there is a practical example of **unit alignment** and **wheel toe** using the dedicated software:



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.



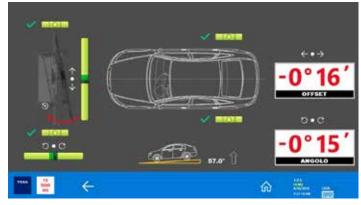
Mount the 4 sensors on the clamps and check run out. Push the vehicle back until the clamps are at an angle of 45°. Now push the vehicle forwards to return the clamps to the vertical position.



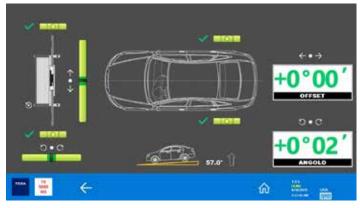
The 4 CCD detectors must be parallel to the work surface and the steering must be centralised. When these conditions are achieved, the display reads out "STOP".



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 BT structure can now be positioned.



The message "OFFSET" shows how much the RCCS 3 BT 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.

Very performing even with the optical alignment

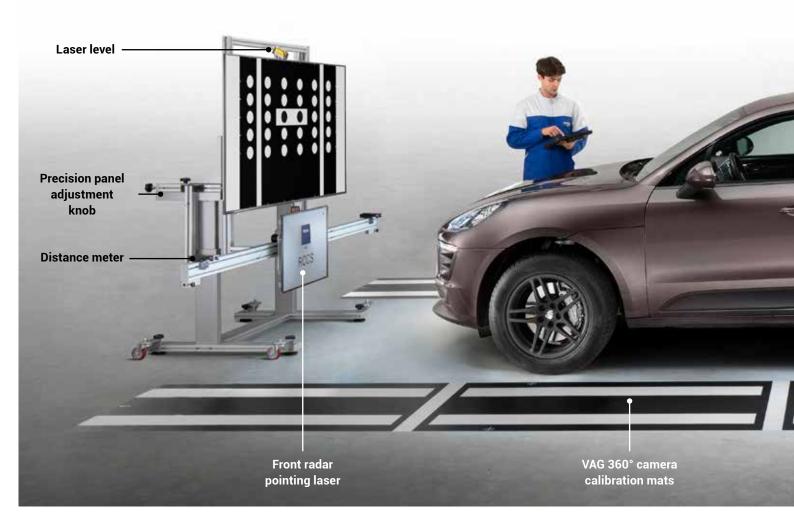
Other than the version with toe and thrust axis check, RCCS 3 BT is also available in the **highly performing optical alignment** mode. This configuration uses **wheel clamps** and was designed to complete all the operations on radars and cameras in a quick and precise way.

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

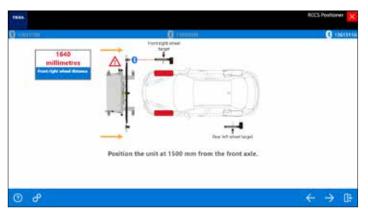
A new guided procedure

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

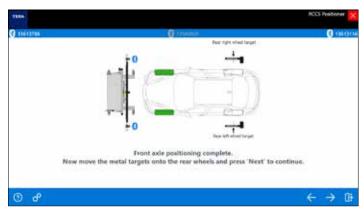
The POSITIONER management software will guide the operator step by step to position the RCCS 3 BT unit safely.



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



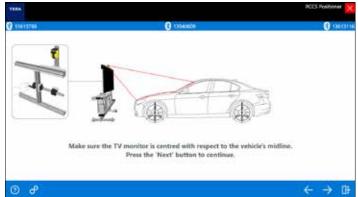
Place the provided clamps on the indicated points to start the guided positioning procedure.



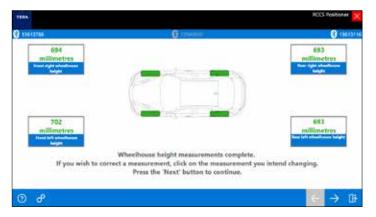
Front axle positioning completed successfully, proceed with the rear axle



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



Centre the TV monitor with respect to the vehicle using the specific micro-adjustment.



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



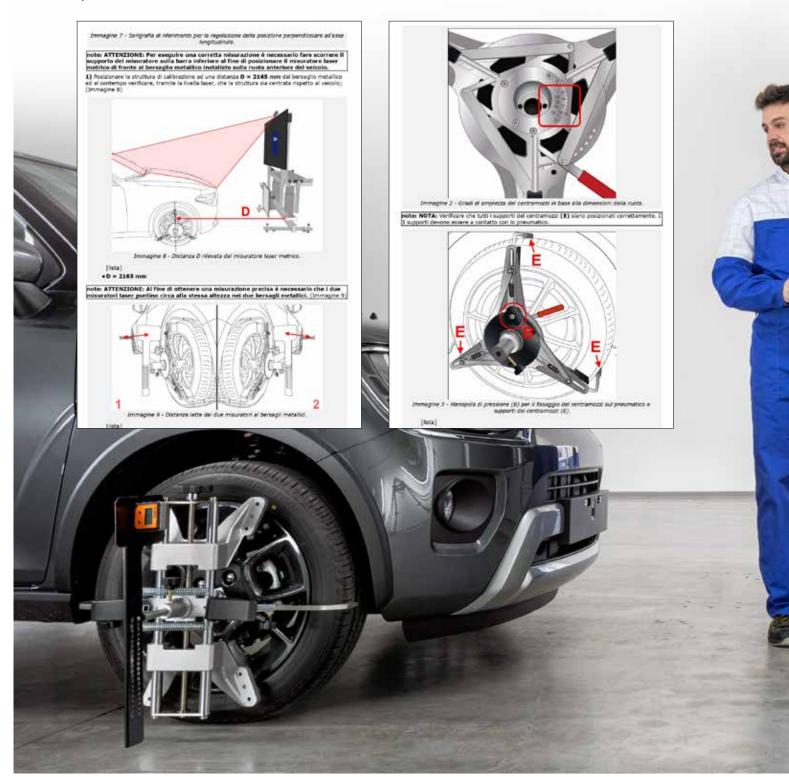
Once the unit is positioned, proceed with the chosen diagnostic function.

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.

It can be configured in two dedicated versions for the **CAR** and **TRUCK** environments with the specific accessories. For camera calibrations, TEXA offers a **large range of specific targets and accessories** that can be perfectly integrated with RCCS and CCS.







CCS 2 Dynamics CAR

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

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.

The configuration can be changed easily and quickly.



Features



Included with CCS 2 Dynamics CAR

- 1. laser level, 4.5 m range
- 2. BT distance measurers (3)
- 3. distance measurer holder brackets (3)
- 4. digital inclinometer
- 5. Pair of metal targets
- 6. Tiltable bracket for the laser level



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.

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 **transverse and axial** adjustment.

The configuration can always be changed easily and quickly.



Features



Included with CCS 2 Dynamics TRUCK

- 1. laser level, 4.5 m range
- 2. BT distance measurers (3)
- 3. distance measurer holder brackets (3)
- 4. Digital inclinometer
- 5. LASER LEVEL holder bracket for Volvo Truck and MAN/Iveco panels
- 6. Tiltable bracket, for ISUZU panel and all the LCV panels.
- 7. Pair of RIM (FROM 12" TO 28") SELF-CENTRING clamps
- 8. Pair of metal targets



Combinable with:



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



CCS

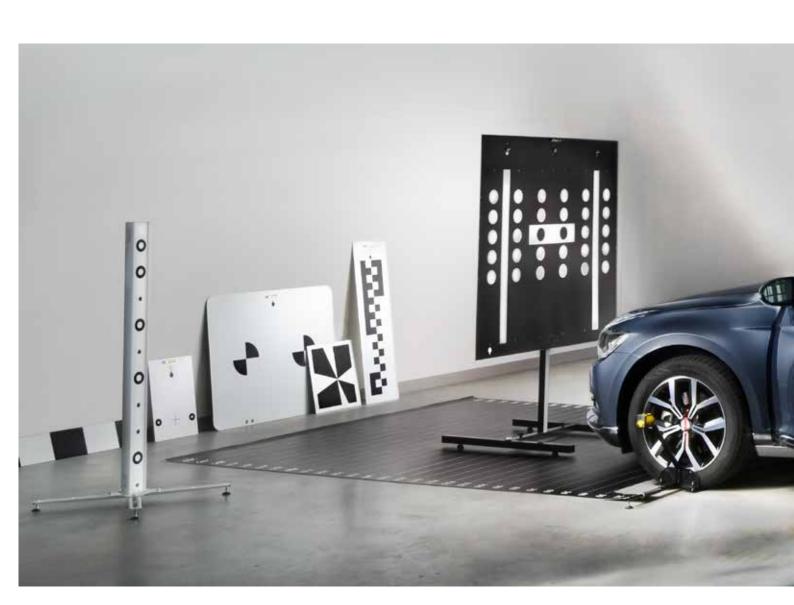
the multi-brand kit for the calibration of cameras

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

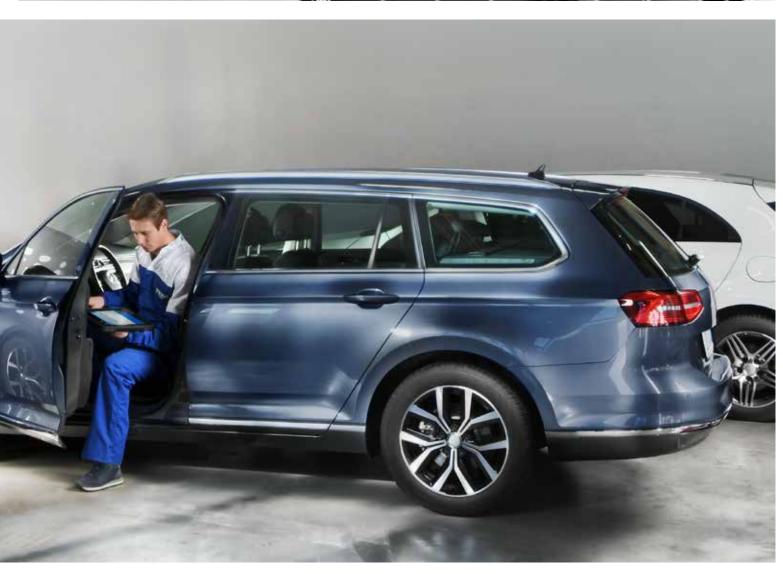
It is made up by a robust support on which the several panels divided by make are to be positioned. CCS can also be used with a graduated mat and two supports to centre the wheel axle through laser levels.

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

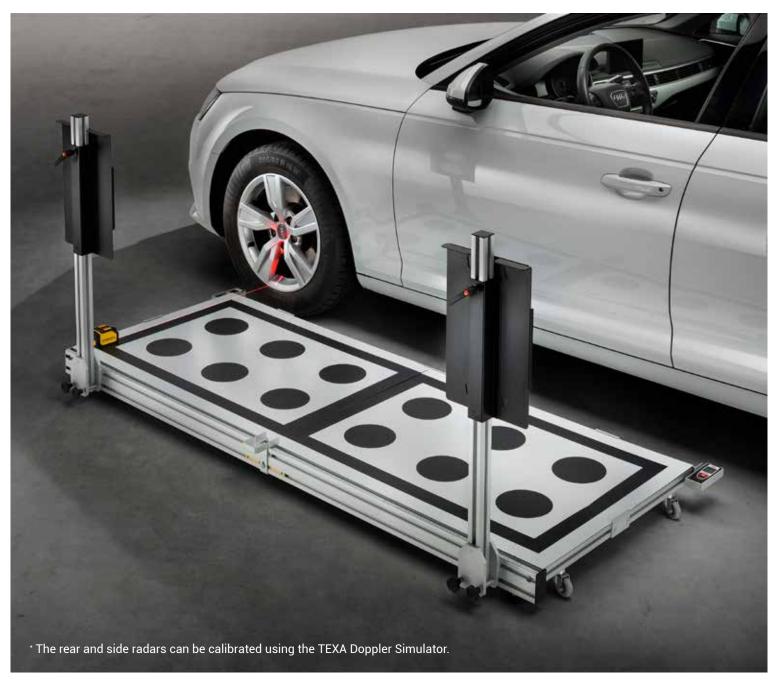
TEXA's ADAS solutions can be used in combination with other optional devices to work in depth on other electronic driver assistance systems, among which:

ACS (All-Around Calibration System)

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

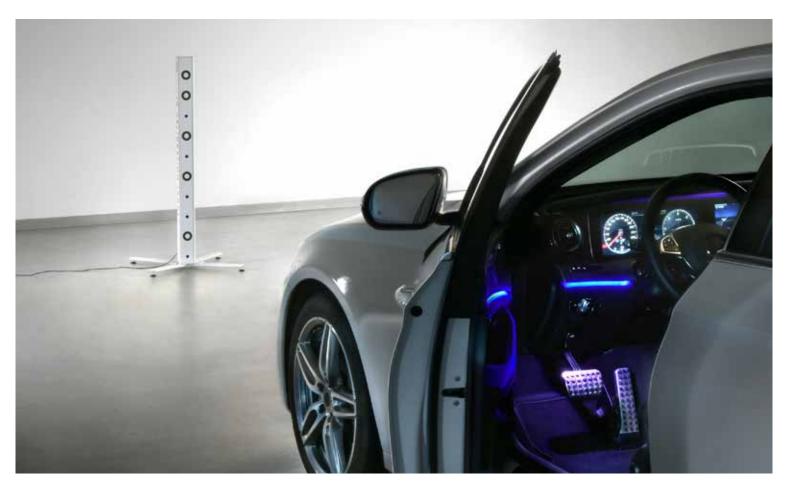
It is made up by an aluminium structure that has two horizontal panels and two vertical magnetic boards. The base has three housings for three distance measurers dedicated to verifying the correct alignment with respect to the vehicle.

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.



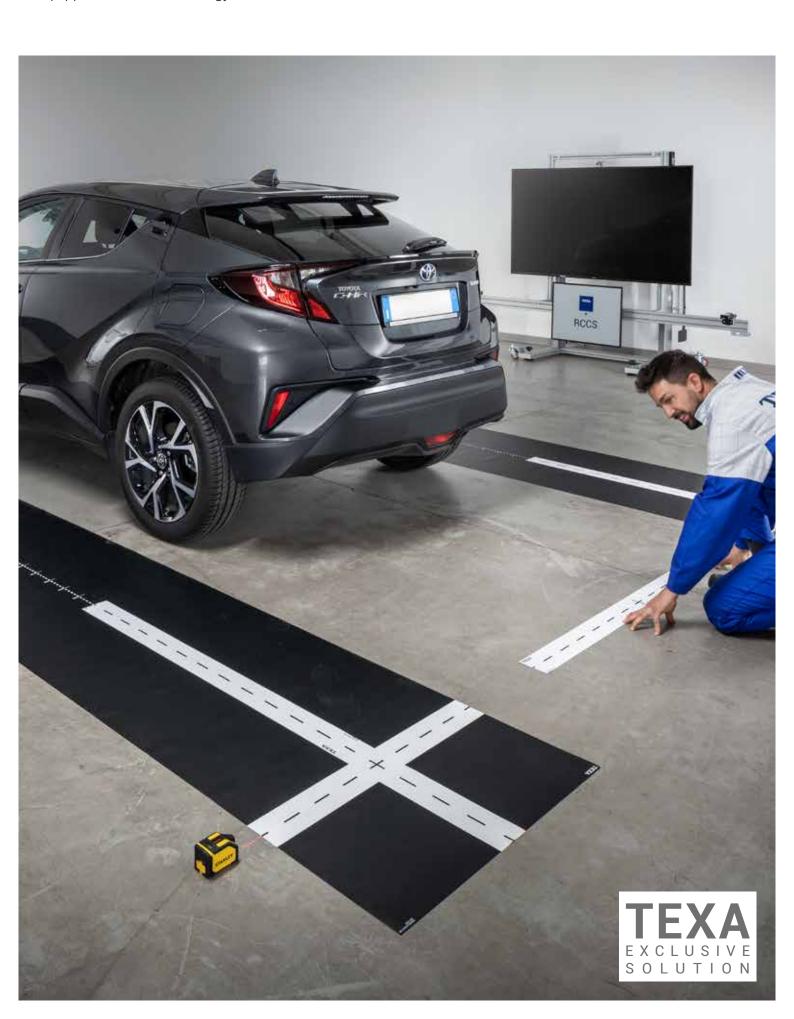
Doppler Simulator

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 and SUZUKI

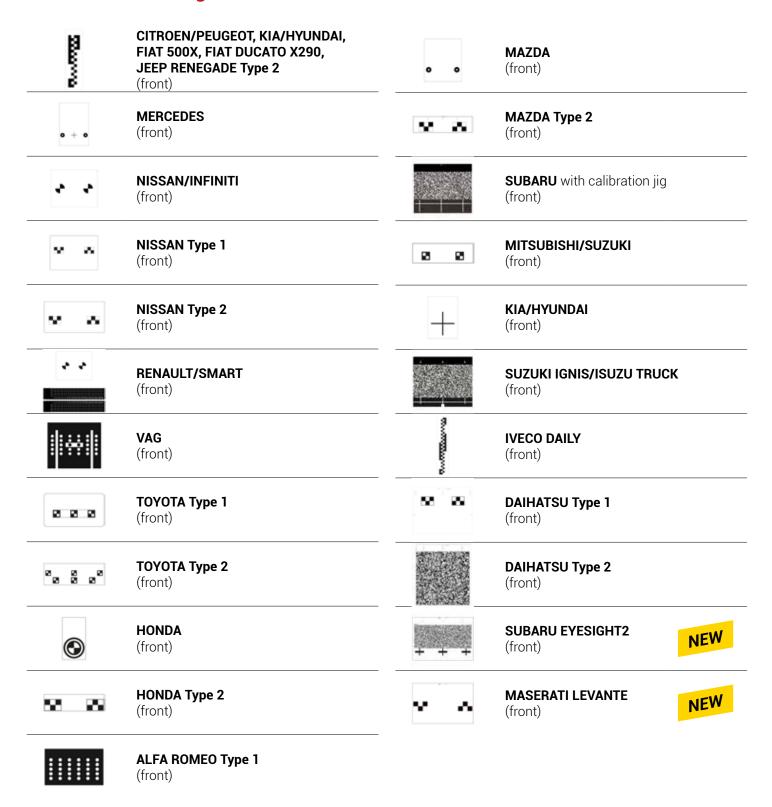
A modular kit that allows calibrating the 360° vision system in **TOYOTA, LEXUS, SCION** and **SUZUKI** vehicles equipped with this technology.



Calibration targets and accessories

For the calibration of the ADAS, TEXA offers a wide range of targets and specific accessories, which guarantee the most complete coverage in the market worldwide.

CAR calibration targets



CAR Radar calibration devices and additional kits



ACS (All Around Calibration System)



Calibration jig SUZUKI **rear radar**





Doppler Simulator **VAG** and **MAZDA**



Blind spot cone support kit



Radar Calibration Frame **MAZDA**



Blind spot cone
TOYOTA/SUBARU/HONDA



VAG night vision (front)



Blind spot cone **KIA/HYUNDAI/MAZDA**



MERCEDES night vision (front)



Blind spot cone **MITSUBISHI**



Positioning jig kit **RADAR VOLVO**



Positioning jigs
Parking sensors
TOYOTA/LEXUS/SCION





Radar calibration panel **DAIHATSU**



Right/Left side rear-view mirror camera calibration panel for **HONDA/ACURA**





LASER SCANNER (LIDAR) VAG (front)

CAR 360°/rear camera calibration



VAG (rear)



MITSUBISHI

(rear)



VAG (360° cam.)



MITSUBISHI, NISSAN, MAZDA





MERCEDES Type 1 (rear)



KIA/HYUNDAI (rear)



MERCEDES Type 2 (rear)



NISSAN X-TRAIL (rear)



OPEL INSIGNIA



SSANGYONG (rear)



TOYOTA, LEXUS, SCION, SUZUKI (360° cam.)



Calibration band 360° camera for **HONDA/ACURA**





NISSAN QASHQAI (rear)

An ad-hoc system for the TRUCK environment

The importance of ADAS for the safety of people is even clearer when applied to the world of heavy-duty vehicles. In fact, it is essential that trucks comply with certain behaviours when on the road, such as the distance from the preceding vehicle, the speed, how to overtake and therefore changing lanes, the capability of braking safely, etc.

Therefore, even some truck and commercial vehicle makes need appropriate equipment to properly set the multifunction cameras, radars and sensors that control essential systems such as: the Adaptive Cruise Control, the Lane Departure Warning System, the Forward Collision Warning, the Advanced Emergency Braking System.

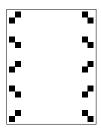
TEXA offers an adjustment system that includes a **measuring bar**, **panels** divided by make – dedicated to cameras and **laser devices** – that are essential for the correct alignment and calibration of WABCO, TRW and TRW/Knorr radars.

The **TRUCK ADAS Kit** also includes a set of clamps with laser pointers, the laser needed to adjust the Adaptive Cruise Control.

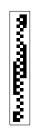
The **TRUCK IDC5 software** remains essential as it guides the operator step-by-step even through operations on vehicles that require a dynamic calibration with the on-road adaptation procedure.



TRUCK calibration targets



VOLVO/RENAULT **TRUCKS Euro 6**



MAN **SCANIA IVECO DAILY 2014**



VOLVO EU6, RENAULT TRUCKS EU6 (MAN LCV TGE, VW Crafter)



VAG (front)



MERCEDES (front)



KIA/HYUNDAI, FIAT 500X, FIAT DUCATO X290 and JEEP RENEGADE Type 2 (front)



ISUZU





Magnetic graduated scale for checking chassis alignment



Laser for Adaptive Cruise Control



Set of clamps with laser pointer



MERCEDES TRUCK MirrorCam calibration adhesive templates



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)

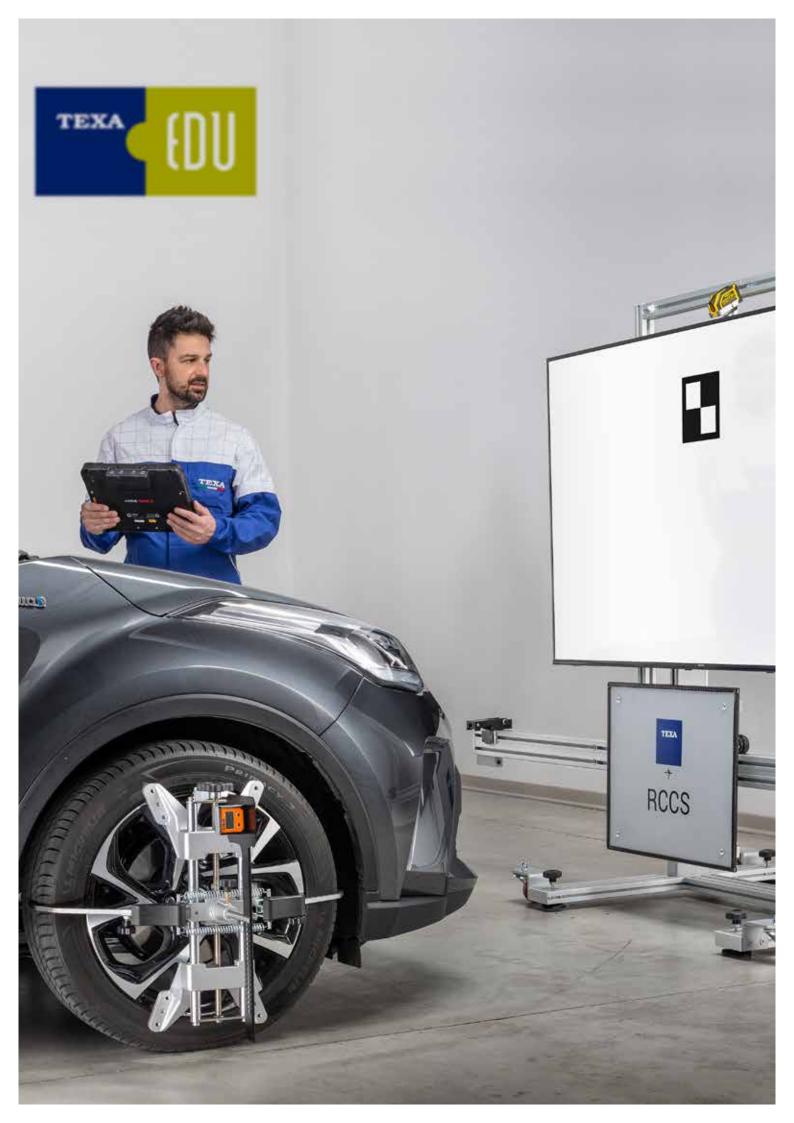


D9T: DIAGNOSIS AND CALIBRATION OF THE DRIVER ASSISTANCE SYSTEMS - TRUCK ADAS

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)



Simplifying the present, anticipating the future

...and we have been doing it for 30 years



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



Over 850 TEXA employees in the world over 150 specialised R&D engineers



Patents 58 Master, 110 total



8 branches in the world



700 Distributors over 200,000 active customer workshops



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

WARNING

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