



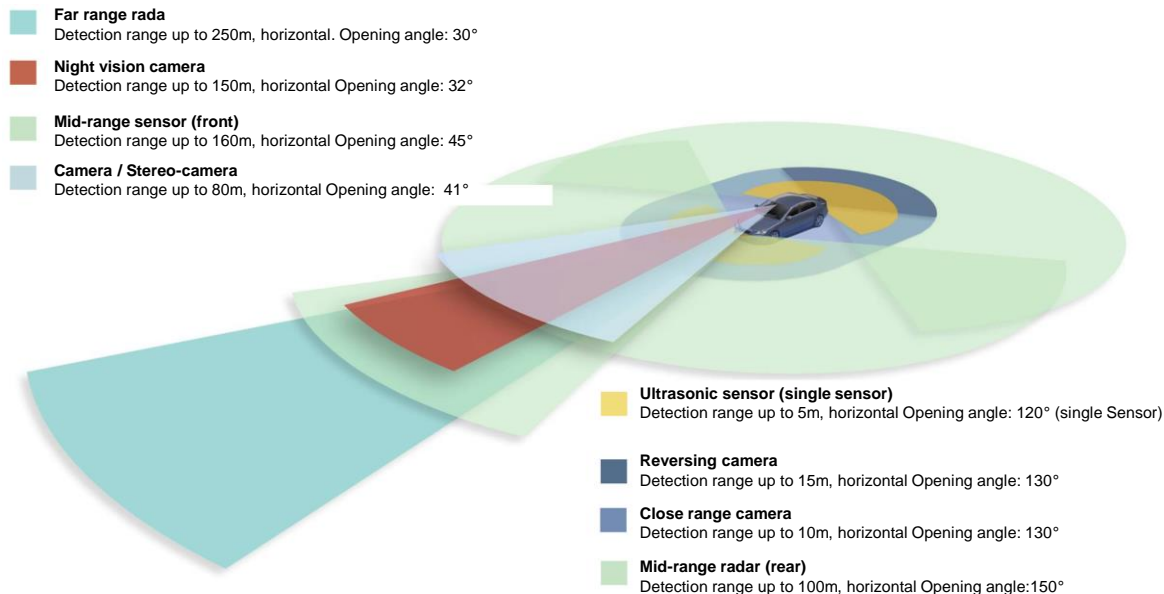
DAS-SOLUTIONS

DAS-SOLUTIONS

Beissbarth BBFAS Portfolio

Übersicht: Fahrerassistenzsysteme

Predictive emergency breaking
Evasion assistance
Lane assistance
Predictive pedestrian protection
Turn- and crossing assistance
Driver monitoring
Dynamic light assistance
Traffic sign recognition
Park and manoeuvre assistance



Calibration type

Manufacturer	Dynamic calibration	Static calibration	BBFAS 800 BBFAS 1000	BBFAS 1410	BBFAS 415
Alfa Romeo		•	•	-	-
Audi		•	•	-	-
BMW	•				
Chrysler	• 2) 3)				
Citroën	•		-	○	○
Fiat	•	•	-	•	•
Ford	•				
Honda	• 4)	•	-	•	•
Hyundai		•	-	•	•
Jaguar	•				
Jeep	• 2) 3)		-	○	○
KIA		•	-	•	•
Land Rover	•				
Mazda		•	-	•	•
Maserati			-	○	○
Mercedes-Benz		• 1)	-	•	•
Mitsubishi	○	○	-	○	○
Nissan		•	-	•	•
Opel	•				
Peugeot	• 2) 3)		-	○	○
Porsche		•	-	-	-
Renault	• 2) 3)		-	○	○
Seat		•	•	-	-
Škoda		•	•	•	•
Smart		•	•	•	•
Subaru		•	-	•	•
Suzuki	○	○	-	○	○
Toyota		•	-	•	•
Volkswagen		•	•	-	-
Volvo	•				

1) Je nach System kombiniert mit Kalibrierfahrt; 2) Kalibrierfahrt mit einfacher Initialkalibrierung; 3) Für einzelne Fahrzeugtypen auch statische Kalibrierung verpflichtend; 4) Für einzelne Fahrzeugtypen auch dynamische Kalibrierung; - nicht anwendbar; ○ in Vorbereitung

Vehicle manufacturer

Dynamic calibration

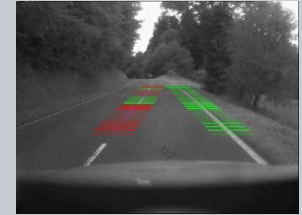
Static calibration

Static- & dynamic calibration

Radar sensor



Front camera



ADAS Sensors under normal circumstances are aligned on the geometric driving axis.
In exceptions the vehicle's center line is the reference.

17 years cooperation experience with Volkswagen AG systems

VAS 6041/
VAS 6190



VAS 6430/6



VAS721001



VAS 6430/10



VAS 6430/12



2003

2020



VAS 6430



VAS 6905/A



VAS 6658 /
VAS721003 /
VAS721005 /
VAS721007

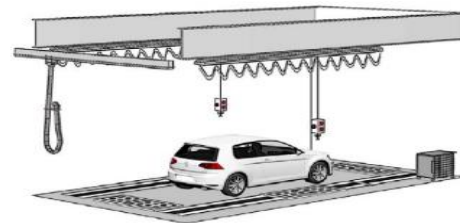
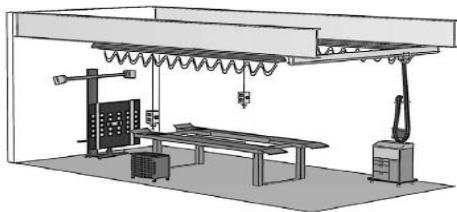


VAS 6430/11

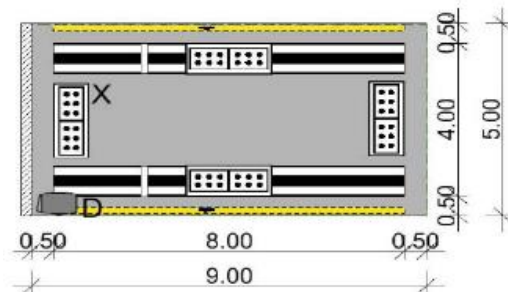
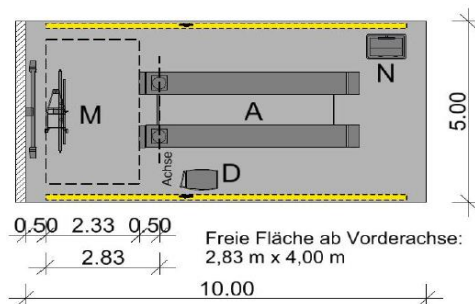
Accuracy requirements

VW Modul concept service centre

- ▶ Most important characteristic equipment to fulfill requirements of Volkswagen AG



FAS-working bay
„VAS 6430“



FAS-work bay
„Surround view camera“

Mandatory: ± 2 arc minutes for toe/camber accuracy and reproducibility

Professional calibration set

The combined solution to adjust driver assistance systems of Volkswagen Group vehicles:

- ▶ VAS 6430 measurement modules aligned square towards the driving axis (Thrust line) by 3D wheel aligner

Upgrade kits available for Mercedes, Toyota, Nissan, Honda, Kia/Hyundai

Upgrade kits available for new Volkswagen Group vehicles

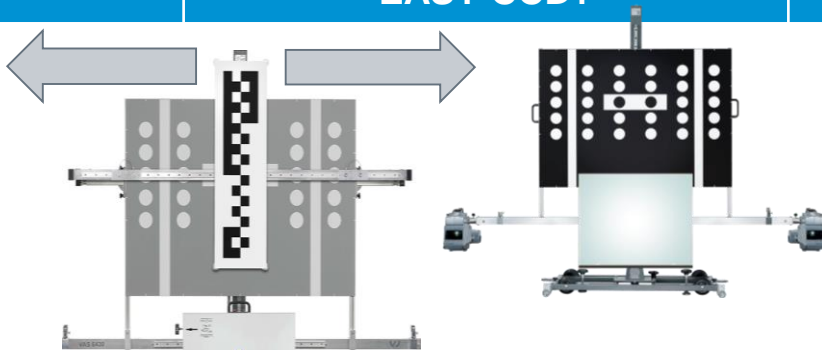


System overview

**BBFAS 1000 calibration device
+
EASY 3D +**



**BBFAS 1000 calibration device
+
EASY CCD+**



**Multi-Target-Shop
BBFAS1410 / 1415**



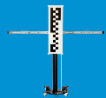

**BBFAS 415
Calibration device +
Line-Laser**

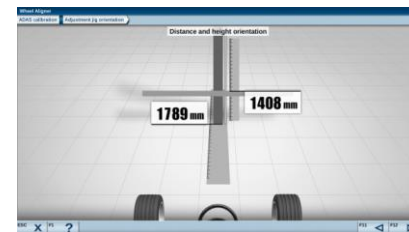


- ▶ Universal fixture with Front Radar / Camera measurement modules (static calibration)
- ▶ Volkswagen homologation (VAS 6430), capable for future upgrades
- ▶ Wheel aligner determine thrust line, software guided jig orientation ($\pm 0,1^\circ$ square to driving axis)
- ▶ High efficiency, precision, usability for Collision repair, Glass fitter and professional IAM Workshops
- ▶ Coverage: complete car park (with VW Group)

- ▶ Jig for Front Camera calibration
- ▶ Special line laser for jig orientation towards the vehicle center line
- ▶ Coverage: Mercedes, J/K OEM, Fiat, Opel, Renault (w/o VW Group)

BBFAS system comparison

	 EASY 3D + BBFAS1000	 EASY CCD + BBFAS1000	 BBFAS 415	 Hella CSC
Wheel Alignment Check / Adjustment by Manufacturer Specs	X	X	-	-
Live Distance and Hight control for Camera target.	X	-	-	-
Quick & easy alignment of the camera calibration target to vehicle symmetry axis	X	X	-	-
Real-time screen display for alignment to geometrical drive axis	X	X	-	-
Precision spirit levels for fine alignment in horizontal and yaw direction	X	X	X	-
Planar tilting mirror for radar sensor adjustment / calibration	X	X	-	-



Real-time!
Distance and height control for
Camera Target.

Real-time!
Screen guide to align Camera
target board to geometrical drive
axis.



BBFAS 1000 calibration set

Basic set (required for 3D / CCD)

- ▶ BBFAS1000/1 Column with linear unit and adjustment bar
- ▶ BBFAS ACC Reflector mirror for active adjustment of radar sensors
- ▶ BBFAS1000/4 calibration target for front cameras
- ▶ BBFAS1000/8 Base frame (mobile)



Nr. 8 900 380 003

3D Upgrade-Kit

- ▶ Standard FAS measuring boards for BB 3D wheel alignment system (EASY 3D+)



Nr. 1 690 701 119

3D upgrade kit for 4-post lift

- ▶ Special FAS measuring board for BB 3D wheel alignment system (EASY 3D+) + 4-post lifts



Nr. 1 690 701 152

Complete coverage: VW, Audi, Skoda, Seat, Porsche
 Upgrades available for : Nissan, Honda, Toyota, Subaru, Kia, Hyundai, Mercedes....

Multi-target shop solution

Replaceable camera calibration targets

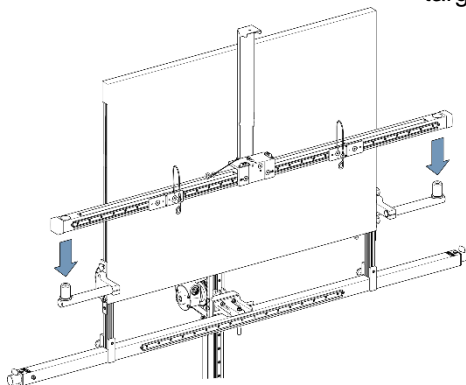
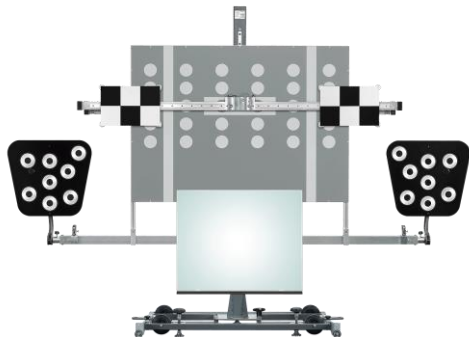


BBFAS 141x

Upgrade kit for BBFAS 1000 to equip for multi-brand calibration system.

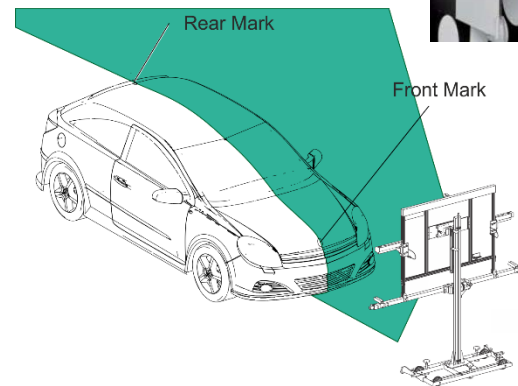
BBFAS 1410

- Universal cross bar for fixing camera calibration targets for further vehicle manufacturers



BBFAS 1415

- Universal cross bar in combination with the line laser module: P-Assist S5
- For quick alignment of camera calibration targets



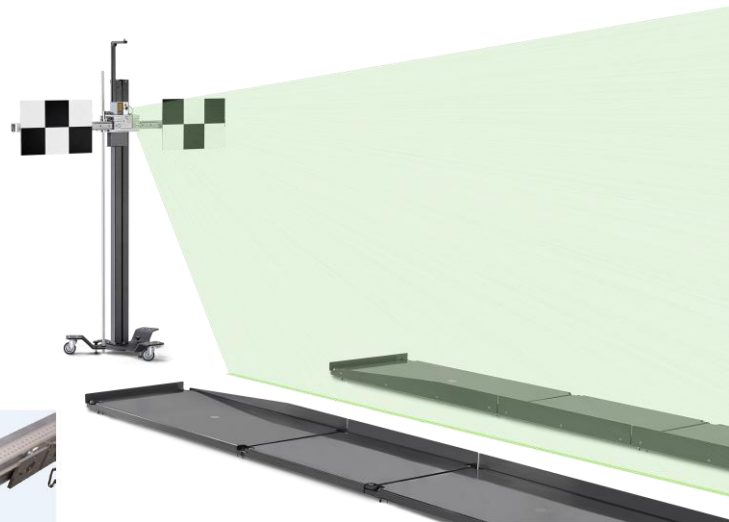
Order Nr. 8 900 380 006

Order Nr. 8 900 380 007

Camera claibration device BBFAS 415

BBFAS 415

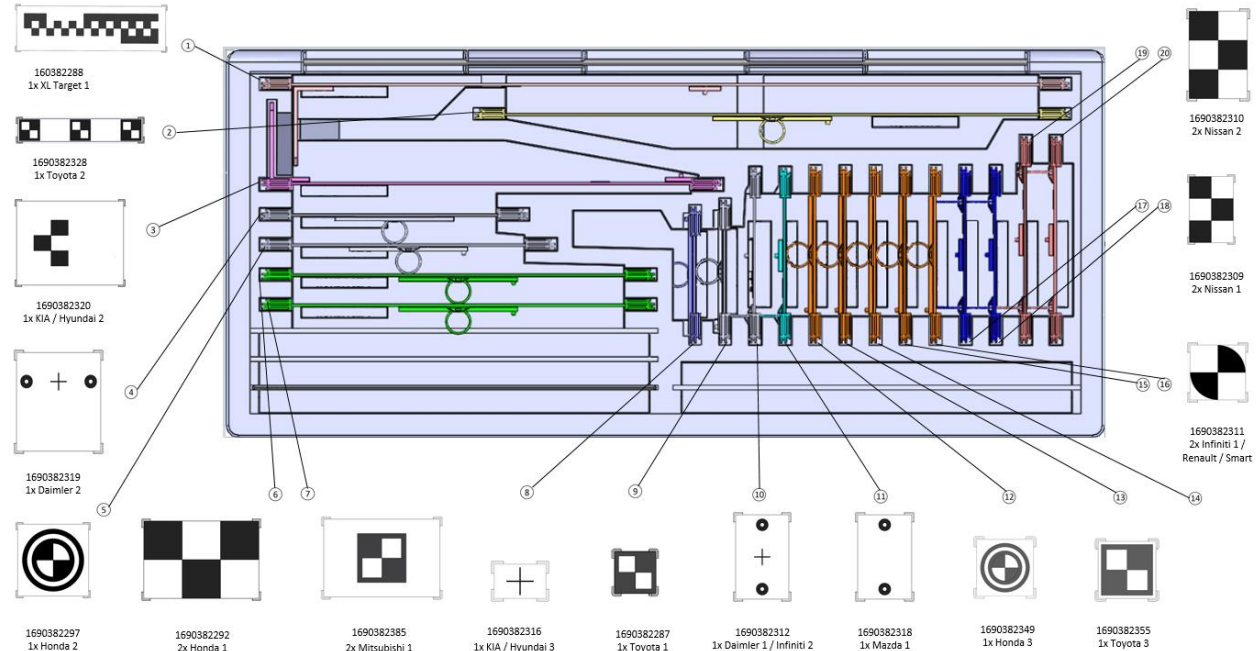
- ▶ Is the flexible front camera calibration device for the multi-brand solution
- ▶ Scope of delivery:
 - ▶ Precision measuring bar with 2 sliders for magnetic mounting of calibration targets
 - ▶ 4-wheel trolley with stable column to hold the measuring bar
 - ▶ Line laser module (P-Assist S5) for alignment of the calibration device
 - ▶ Ruler for height measurement
 - ▶ Additional support arm for XL calibration targets
 - ▶ 5m tape measure + universal bracket



Multi-target storage box



Storage box for targets



Multi-target basic kits

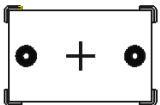




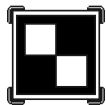
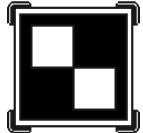
Image	Part number	Type
	8 900 382 312	Mercedes 1 / Infinity 2
	8 900 382 318	Mazda 1
	8 900 382 349	Honda 3
	8 900 382 288	Universal 1
	8 900 381 139	Nissan 1

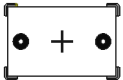
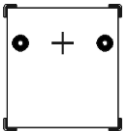

Image	Part number	Type
	8 900 382 287	Toyota / Lexus 1
	8 900 382 355	Toyota / Lexus 3



Basic Kit 1:
Includes 7 target boards
covering the most common
vehicles

Order Nr. 8 900 380 001

Multi-Target basic kits

Image	Part number	Type
	8 900 382 312	Mercedes 1 / Infinity 2
	8 900 382 319	Mercedes 2
	8 900 382 288	Universal 1



Basic kit 2:
Includes 3 target boards
covering the most common
vehicles

Multi-Target-Shop




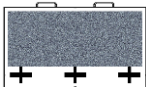
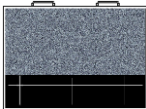
Image	Part number	Type
	8 900 382 297	Honda 2
	8 900 382 349	Honda 3
	8 900 381 142	Universal 2 (Renault/ Smart/ Infinity)
	8 900 382 608 Previous version (1690382329)	Subaru 2SS (Australia only)
	8 900 382 590 Previous version (1690382349)	Subaru 3S

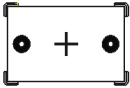
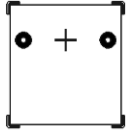




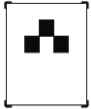



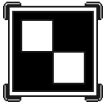

Image	Part number	Type
	8 900 382 312	Mercede s 1 Infinity 2
	8 900 382 319	Mercede s 2
	8 900 381 139	Nissan 1
	8 900 381 140	Nissan 2
	8 900 382 318	Mazda 1
	8 900 382 570 Previous version (8900382288)	Universal 1S

Image	Part number	Type
	8 900 382 320	KIA/Hyun dai 2
	8 900 382 316	KIA/Hyun dai 3
	8 900 382 287	Toyota /Lexus 1
	8 900 382 328	Toyota 2
	8 900 382 355	Toyota / Lexus 3
	8 900 381 143	Honda Set 1

Radar sensor rough calibration adapter

Mercedes- Benz
RSAD 100
Front-Radar



Chrysler / Fiat
for LRR3
Front-Radar



LRR Sensor



Thank you!

Beissbarth GmbH
Hanauerstraße 101
80993 Munich

BEISSBARTH.COM