

Price list for your own scientific reports and your own software

All reports are available in language German (except report 10c - partially talking android app: "Traffic Accident Helper Huber" in language English). The dispatch takes place without exception only by cash on delivery. For legal reasons, an order acceptance and delivery is only possible from or to Europe (Europe in the geographical sense).

The prices are valid for one piece (1 report [mostly on CD-ROM] or 1 computer calculation program - on CD-ROM) (The package prices listed are excluded). All prices are net prices, i.e. plus any VAT (or as always otherwise stated Tax), plus cash on delivery costs (cash on delivery fee) and shipping costs.

The delivery date is considered the invoice date.

Austrian law applies. Place of fulfillment and jurisdiction is: A - 3100 St. Pölten (Österreich - Austria)

Since one or the other report is also required to develop the knowledge from my scientific reports, some reports are only offered and delivered as a package (at a package price).

ING. WOLFGANG HUBER

Engineering and expert office for traffic accident road traffic, accident analysis and accident research, including two-dimensional photogrammetric photo evaluation (photogrammetry) and for motor vehicles (Vehicle damage, etc.).

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Own homepage on the Internet (website): <http://www.kfz-unfallforschung.at/> e-mail: office@kfz-unfallforschung.at



Source: Report from ATZ-MTZ-Sonderheft (1997) 12-Passive safety of the new Porsche 911 Carrera - report by Horst Petri, Heinz Eberhardt and Herbert Klamser - there picture 4 + picture 5.

Publications on mine Items:

Letter to the editor on the subject: **"Standard for assessing occupant exposure: a or Δv ?"**

Trade Journal "Verkehrsunfall und Fahrzeugtechnik", Verlag INFORMATION Ambs GmbH Germany, issue 11 (November) 2001

"Whiplash of the cervical spine (cervical spine)"

First publication by the media owner (publisher) and editor: MANZ'sche Verlags- and Universitätsbuchhandlung GmbH, based in A-1014 Vienna, Kohlmarkt 16, 'ZVR [magazine for traffic law]', 53rd JG, issue 07/08 (July / August 2008), Pages 331-340. ISSN 0044-3662. Further information under www.manz.at.

"Whiplash of the cervical spine (cervical spine)"

Second publication by the media owner (publisher) and editor: Verlag 'Bundesanzeiger VerlagsgesmbH', Amsterdamer Straße 192, D-50735 Cologne, magazine 'Der Kfz-Sachverständige - Issue 3/2009'.

Further publications on from the media owner (publisher) and editor: Verlag 'Bundesanzeiger VerlagsgesmbH', Amsterdamer Straße 192, D-50735 Cologne, in the magazine 'Der Kfz-Sachverständige':

"Friction on the vehicle"

Issue 5/2009 Part 1

"Friction on the vehicle"

Calculation of the work of friction on the motor vehicle in the event of a "strong dragging impact" in the event of a motor vehicle / motor vehicle collision, with high relative movement under gliding.

Calculation of the friction work in a vehicle collision with a tree - friction work of the vehicle on the tree.

Calculation of the deformation work of vehicles.

Issue 6/2009 Part 2

"Friction on the vehicle"

Calculation of the work of friction on the motor vehicle in the event of a "strong dragging impact" in the event of a motor vehicle / motor vehicle collision, with high relative movement under gliding.

Calculation of the friction work in a vehicle collision with a tree - friction work of the vehicle on the tree.

Calculation of the deformation work of vehicles.

Issue 1/2010 Part 3

"Movement Speeds"

Test results of non-motorized road users.

Literature publication 1977 by Ing. (Grad) W.Eberhardt, Ing. (Grad) G.Himbert

Issue 3/2010

"What is and how long is the peak time in a vehicle collision?"

Issue 4/2010 - Part 1

"What is and how long is the peak time in a vehicle collision?"

Issue 5/2010- Part 2

"Trend development of the k- or new: ko-factors from crash-test-request cars"

Issue 3/2019 -Part 1

"Trend development of the k- or new: ko-factors from crash-test-request cars"

Issue 4/2019 -part2

The legislation and case law in (of) Austria or Austrian law apply.

The place of fulfillment and jurisdiction is: A - 3100 St. Pölten - Ing. Wolfgang Huber © Copyright. All rights reserved.

Computer description: Price list for report spring 2022

Report title and description	Price in EUR €
1 - Calculation of the deformation work on vehicles	250,--
<p>Part One: Passenger car, city vehicles, delivery van, large truck, bus, rail vehicle, electric locomotive, Component test, crash box, deformable barrier. The list of the stiffness and force numbers in the stiffness number and force number list (C and F list).</p> <p>Part II: Single-track vehicles - List of the stiffness figure on.</p> <p>Part III: Miscellaneous: different crash types, conditions, systems, barrier stiff nesses (force characteristics). Bibliography, calculation examples, formula list and sample calculations, extended energy consideration. Part I + Part II + Part III: approx. 600 pages (6 volumes) (including damage images, curves, diagrams, tables, etc. - pictures partly in color)</p>	
2 - Calculation examples	68,--
<p>Example 1- Calculation with the stiffness number system and calculation of the occupant load.</p> <p>Example 2- Calculation using a combination of the stiffness number system and the force number system.</p> <p>Example 3- Calculation of a front-rear collision between the front of a Renault R 19 and the Rear of a standing BMW 3 E46 using the k-factor calculation from the evaluation the a / t test curve of the AZT repair crash test of the Allianz Center Munich-Ismaning. This is done by using the dynamic stiffness number C “dyn. Conversion of d, d_{man}, C 'and C “dyn with changing k-factor.</p>	
3 - Stiffness number and force number list	62,--
<p>Stiffness and force figures of vehicles for calculating the work of deformation (approx.2500 units), system descriptions, criteria of various crash test procedures, barrier data, listing over the vehicle of the crash test attempts by EuroNCAP (Europe - evaluated by me), NASVA (old OSA) (Japan), IIHS (USA), NHTSA (USA), NRMA (Australia), C-NCAP (China). This includes the new other evaluation with essential additions, the Excel file "P22a-k-fact., CValue, P10a1, P10k1, P17b, P17c, P21-erw.11_2020".</p>	
4 - Vehicle occupant exposure	128,--
<p>Calculation of the mean body acceleration (deceleration) in vehicle collisions using the mean relative collision speed (compression, restitution) and using Body stiffness number (body force number) as well as the deformation depth (permanent or dynamic)-(Pictures partly in color). Partly from Report 20: Enlargement (change of d_{man} to d_{dyn-powerless} and d_{dyn-at force through stiffness}).</p>	
5 - Rotation in the collision phase	68,--
<p>Calculation by means of a computer program over the phase from the start of the collision to the end of the contact (Angular velocity - angular acceleration), evaluation of the rotation (twisting) of a motor vehicle from the start of the collision to the maximum compression (end of the compression phase) and to end of contact (possibly change of direction of rotation in the collision phase).</p>	
6 - Braking deceleration of various cars	66,--
<p>(also about motorcycles, Formula 1, racing cars and Leopard 2 / A4 tanks) types, models, years of construction, braking systems, from 1985 to today, separated by year - with ABS(with anti-lock braking system) - without ABS(without brake anti-lock system)</p>	
7 - Fast evasive maneuvering of a motorcycle	98,--
<p>(taking air resistance into account) color curves over X_{Fs}, Y_{Fs} and tilt, on a scale of 1: 200 for: 20, 36, 50, 70, 100, 130 km/h</p> <p>Relationship between the initial transverse acceleration when cornering and leaning position when braking.</p> <p>Curves in color. Price for both reports.</p>	
8-Sided coefficient of adhesion between tire and road surface, mean angular delay	68,--
<p>in the case of car rotation on the exit path due to a previous collision (depending on total rotation angle and delay value), graphs in color.</p>	
9 - Directory of abbreviations of the newer vehicle technology -approx. 4000 keywords	59,--
11 - Whiplash of the cervical spine (cervical spine)	114,--
<p>Abstract (summary) of my reports: 'calculation of the deformation work on vehicles', 'vehicle occupant load', 'calculation example' and 'correspondence'. Corresponding color - including the damage pictures. Partly from Report 20: Enlargement (change of d_{man} to d_{dyn-powerless} and d_{dyn-at force through stiffness}).</p>	
12 - What is and how big is the peak time in the event of a collision	84,--
<p>Evaluation of 88 real crash tests in different speed ranges (tests carried out by AGU - Switzerland and AZT Munich-Ismaning). Evaluation of test measurement curves also with regard to the ratio of the compression time to the restitution time.</p>	

Report title and description	Price in EUR €
<p>13 - Calculation of the frictional work on the motor vehicle in the case of "strong abrasive impact"</p> <p>in the event of a vehicle / vehicle collision, in the event of high relative movement under gliding. Calculation of the friction work in a vehicle collision with a tree - friction work of the vehicle on the tree. Calculation of the deformation work of vehicles.</p> <p>Computer calculation software for this in the Microsoft Excel program for: Momentum, twist, rotation around the instantaneous pole, deformation work (deformation work - calculation with the stiffness or the number of forces over the deformation depth), vehicle occupant load: mean acceleration or deceleration in the compression phase - unbraked or braked, various conversion options, friction work, energy balances.</p> <p>The report contains calculation examples. The calculations are made in connection with the drive balance diagram (pulse diagram). Since the calculations are very extensive and in addition the calculation software is required, this science report is only sold as a package. 1 - Report 90,-- + 2 - calculation software 58,-- = package price 148,-- €</p>	148,--
<p>14 - Reduced value - Compensation - in the event of vehicle damage</p> <p>This report consists of 100 Pages including calculation examples, calculation examples comparison, calculation comparisons, as word and pdf-documents, as well as the computer calculation program P8a'. Vehicle value retention - fair value determination', as well as 'depreciation in the event of vehicle damage'. Calculation software of the report author in the Microsoft Excel system.</p>	98,--
<p>15 - Computer calculation program XLS-P12 + P12a - Car impairment PKW + Station wagon + commercial vehicle (greater than 3.5 t gross vehicle weight) + body + trailer</p> <p>The calculation program XLS-P12 - depreciation car + station wagon - created according to the system of Association of Insurance Companies in Austria. The calculation program XLS-P12a - Depreciation of commercial vehicle (greater than 3.5 t permissible total weight) + body + trailer - created according to the BSK model (Germany) - including a pdf document for the System description of the program P12a. Calculation software of the report author in the Microsoft Excel system. <i>"The first publication of the article can be found in the publication at the Bundesanzeiger Verlag "The vehicle expert", 3rd year, issue 5, pages 9-11. Further information under www.bundesanzeiger-verlag.de."</i></p>	58,--
<p>16 - Does the body stiffness figure of a car depend on the driving speed?</p> <p>Comparison of a front collision of a BMW 318i (model E36 with 4-cylinder engine) between a high-speed test and a 40% offset repair crash test (AZT) - with full coverage. Evaluation of a front high-speed test (approx. 48 km/h) and a front repair crash test (Allianz Center for Technology, Munich-Ismaning - AZT) (approx. 16 km/h) and verification of this, whether the a / s curve of the high-speed test or the a / t curve of the repair crash test - AZT (in each case the corresponding area from it) may or may not be used reciprocally. This report consists of 130 pages.</p>	134,--
<p>17 - The bumper test for the front and rear RCAR Bumper Test (from 2010)</p> <p>Evaluations of 40% offset repair crash tests (AZT), as Conversion to full coverage, Evaluations of the bumper tests (AZT). Comparative representations in tabular form and also in graphic form (diagram depiction as curves) in color. <u>Front:</u> BMW X1, Ford Focus III competition. <u>Rear:</u> BMW X1 (without bumper), Ford Focus III tournament. This report consists of 120 pages.</p>	130,--
<p>18 - Movement speeds - non-motorized road users</p> <p>Literature publication: Saarbrücken, March 1977, by Ing. (Grad.) W. Eberhardt, Ing. (Grad.) G. Himbert (Graduate engineer). <u>Contains:</u> correction on as shown in my article (proof of publication see 1st page of this price list), my digital evaluations of all measurement curves (269 different curves - very extensive), all 269 diagram (curve) representations in file format 'Gif' as well as 'pdf', separated by age and for: Male, female, various other (e.g.: crutches, wheelchairs, bicycles, etc.): walking, walking fast, run, run slow, run normal, jump, fast, maximum, etc. My calculation software for Microsoft Excel system (can also insert in 2-axis my digital curve data of the digital Curve evaluations in the separate diagrams for: walking, running, etc.).</p>	390,--
Package prices	
<p>Package A: When ordering a report for the first time for report no.: 1 or 2 or 3: Delivery of package A only possible. This consists of the reports no.: 1 + 2 + 3 + 4</p>	420,--
<p>Package B: When ordering report no.: 4 for the first time: Delivery of package B only possible. This consists of the reports no.: 2 + 4</p>	168,--

Report title and description
Price in EUR €
19 - Rear stiffness VW Polo IV + test EES system according to AZT
148,--

Investigation of the rear stiffness of a VW Polo IV - tested and compared as a frontal collision AGU Switzerland (AGU database, experiment no. :SG_01 ÷ SG_04, HS_35) with the AZT test 1106 (Allianz Center for Technology Munich Ismaning) rear collision with a bumper car offset links 40 %. Conversion of the rear test evaluation for use as a front crash system. Review of the EES calculation system according to Eurotax (formulas according to AZT) and the verification, that whose Formula system EES appears to be incorrect.

Development of the associated software in the MS Excel system as:

"XLS-P17a_a-t, as, ds + dt-InStageCurve-Calc.-differently, sin etc (2) F + H + S_AZT1106 + 1197 + AGUSG01-04"
 "P10a motor vehicle accident (1) + passenger pressure. With braking extended with k0 + kDef + k0Def_AGU"(See sample example: AGU database, experiment no. HS_35).

Test curves, diagrams, diagrams (curves) for the most varied of premises are drawn automatically in the "XLS-P17a" program, comparisons also in tabular form, damage images with and without the rear apron.

Premises: d , d_{man} , d_0 , d_{0Def} , $d_{0DefOnly}$ cross member including fastening, k_{Def} , k_0 , k_{0Def} , $k_{0DefOnly}$ cross member including fastening, C' , C''_{dyn} , C'_{k_0} , $C'_{k_{0Def}}$, $C'_{k_{0DefOnly}}$ cross member including fastening, $d_{dynEtappe}$, $d_{dynKumuliert}$, Δs_{Stappe} , $s_{SKfzCummulated}$, $v_{SKfzCummulated}$, ΔE (W)compressionFocus on vehicles-accumulated from each stage (energy work) = $F * s_{SKfz}$ over time t.

red - evaluation over time Δt compression according to test curves, blue - evaluation via path $d_{dynbeideKfz}$ (intrusion) specification

20 - Summary and comparisons to:
158,--

AZT repair crash tests at the Allianz Center in Munich-Ismaning and AGU crash test-database, www.agu.ch-Switzerland (motor vehicle against motor vehicle).

Supplement to the report title: Are the repair crash tests carried out by the AZT (Allianz Center, Munich-Ismaning) (against or with a rigid {undeform able} barrier) valuable for the reconstruction of traffic accidents or not?

Are the a/t (acceleration / deceleration) test curves obtained there usable or not? If - how? Can this AZT-evaluations in the crashtest-requests from AGU - Switzerland (vehicles against vehicles) to be incorporated or not? M. options for using the AGU-Crash test database, www.agu.ch (Switzerland) for the evaluation of stiffness numbers, as a replacement, or additionally, for the stiffness numbers of the AZT repair crash tests. Is $d_{your-Stage}$ also by evaluated and used in the AGU (Switzerland) tests? Although these values could be different from those of a rigid (undeform able) partner - in the case of vehicle versus vehicle, these stage values are not known - as different d_{man} -values may be available (different stiffness figures in relation to the recordings in the a / t test measurement curve (there related to the motor vehicle center of gravity and not to the deformation point), depending on the structural stiffness of the respective partner at the respective point in time).

Own development of the associated software in the MS-Excel calculation program

"P21-10k1,P17b,P17c_div.Ber.NurAudi100 + VW Bora_car against car + AZTRepCrash_F + R + S", where summarized is the respective automatic transmission of corresponding data from a data sheet on another data sheet:

- AZT-RepLowingCrash(according to the evaluation system from 2015 - my Excel calculation program "P17c_InEtappeKurve-Calculations_nurAZTRepCrash_F + R + S_AZT") - AGU (Switzerland): Motor vehicle versus vehicle (my Excel calculation program "P17b_InEtappeKurve-Calculations_nurKfzGegenKfz_F + R + S_AGU" and "P17b+_InEtappeKurve-Calculations_nurKfzGegenKfz_F + R + S_AGU" AGU Database, try No. AZT_04.12
- Interpolating k-factors(t_{0-} and k_{Def} -Factors) (my Excel calculation program "P10k1-various calculationsOnlyAudi100 + VWBora_car against car + AZTRepCrash_F + R + S")

as: - calculation of the vehicle occupant load in the compression phase (unbraked / braked) -

change of d_{man} to $d_{dyn-powerless}$ and d_{dyn-at} force through stiffness.

"P10a1 motor vehicle accident (1) + passenger pressure at $d_{dynpowerless}$ -adult with $k_0 + k_{Def} + k_{0Def}$ _AGU"

That: 200 pages with damage images, test measurement curves, tables, lists, printouts of the evaluations in from the author of the article developed calculation system: 'Microsoft Excel' and 'Microsoft Visual Basic 2008 Express Edition'.

Report title and description	Price in EUR €
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<u>21 - Trend development of the k or new 'k₀'-factors from crash tests cars. Also comparison with the k-factor diagram from Ohmaè.</u>	138,--
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Due to the increased introduction of the soft, very yielding, and increasingly yielding, aprons on the vehicles (front and rear), the k₀-Factor system created.

In view of this, the entire dynamic deformation of this collision phase had to be expanded into: dynamic deformation depth d_{man} on d_{dyn-powerless} and dynamic deformation depth d_{man} on d_{dyn-at force through stiffness}. Therefore, all available crash tests (AZT, AGU, AGU-AZT, NHTSA-NCAP-USA and others) were evaluated in the various collision speed ranges. From 1977 up to and including 2015. 773 attempts. It also includes 23 evaluation diagrams for a wide variety of considerations.

<u>10 - Software for standing device, pocket PC, mobile phone, notebook, tablet</u>	430,--
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and for others devices with the same computer language 'Microsoft Excel' or compatible with this.

My computer language software: Windows CE for Pocket PC hp (COMPAQ) and Pocket PC Excel, as well as Excel 5.0 / 95 XLS, further for Windows Mobile 5.0, for Microsoft Excel and for mobile phone Nokia N95-1. In PPC, under Windows Mobile5.0 and in Microsoft Excel of the stand-alone device, the diagrams are drawn automatically.

Also in the operating system 'Android' usable- but only those programs that are in the "Microsoft Excel Macros System" as "macros" where created. The recalculations and the diagram representations are ,after mine current selection of different Android operating programs, only in the software program "SoftMaker "or" PlanMaker Mobile "from" SoftMaker "is possible. Language: German.

All programs can be viewed as pdf-files. Total net price for No.1+2 (1 CD) - all in German.

1 - Computer calculation programs for Microsoft Excel for:

P0 - Various acceleration and deceleration calculations: e.g. maximum speed reached at specified distance, delay, reaction point, etc. Creation of tables.

Automatic drawing of diagrams (curves) about: speed, distance and time.

P1÷P6 – Avoid ability calculations - braking output speed, deceleration, braking distance, braking time, Reaction point, avoid ability speeds considering various criteria. Created from Tables.

Creation of tables for multiphase movements for two vehicles and automatic drawing of Diagrams (curves) about: speed, distance, time - for both vehicles in one diagram.

P7 - Pedestrian accident: impulse calculation, unwinding length (unwinding), throwing distance dry and wet (depending on braking deceleration and speed). Creating tables.

Automatic creation of tables and automatic drawing of diagrams (curves) via:

Longitudinal pedestrian throwing distance dry and wet (depending on the braking delay, from 0 to 100 km/h).

P8 - Vehicle value retention - fair value determination.

P8a - Vehicle value retention - determination of depreciation in the event of vehicle damage.

P8b - detailed repair costs - in the event of vehicle damage.

P8c - inspection reports repair costs: various - in the event of vehicle damage,

P9 + 11 - Cornering braking (taking into account the respective transverse acceleration over the center of gravity radius and the respective stage of the journey): speed, distance, time, longitudinal deceleration, lateral acceleration, braking deceleration, circle segment calculations - e.g. max. speed, arc radius, etc., lane changes with different adhesion ratios, cornering speed limit (also with curve super elevation), braking deceleration-acceleration on an inclined plane.

Creating tables.

P10 - Vehicle collisions: Creation of tables on momentum, impact, deformation work; deformation work - Calculation with the stiffness number or the force number over the deformation depth, d, d_{man}, d₀, rotation (ω), μ_{sacross}, α, rotation around the momentary pole, energy balance, dent calculation via the E-module, evaluation of the a/t-crash measurement curve on C "dyn values for front and C "x dyn values for rear and side. k-factor calculation from the evaluation of the a/t test curve of the AZT repair crash test at the Allianz Center Munich-Ismaning. This is done by using the dynamic stiffness number C "dyn. Conversion of d, d_{man}, C 'and C "dyn with changing k-factor:

Creation of tables and automatic drawing of diagrams (curves) via:

C ', C "dyn, delta Δt_{Compression} (in stages)- when displaying: d, d_{man}, k-factor and delta Δv_{Compression} from the damage pattern.

Interpolating C'- and C'k₀-values:

Creation of the table and automatic drawing of diagrams (curves) via: C'- and C'k₀ when specifying delta Δv_{compression}.

Vehicle occupant exposure: Practically automatic calculation of the mean acceleration or deceleration in the compression phase - unbraked or braked (for determining the occupant load).

Calculation of the frictional work on the motor vehicle in the case of "strong abrasive impact".

P10a - Car accident (1) + into these hafts pressure when braking a G-extended with: Factors: k₀+k_{Def}+k_{0Def}_AGU.

Great expansion of the various conversion options (compared to P10):

d, d_{man}, d₀, d_{0Def}, d_{0DefOnly} cross member including fastening, k_{Def}, k₀, k_{0Def}, k_{0DefOnly} cross member including fastening, C', C "dyn, C'k₀, C 'k_{0Def},

C 'k_{0DefOnly} cross member including fastening, delta ΔE (W)_{compressionFocus on vehicles}.

red - evaluation over time Δt_{Compression} according to test curves; blue - evaluation via path d_{dynbeideKéz} (intrusion) specification

P10a1- Calculation of the vehicle occupant load in the compression phase (unbraked / braked)

- Change of d_{man} on d_{dyn-powerless} and d_{dyn-at force through stiffness} (from 2018).

Report title and description	Price in EUR €
P10k - Car accident (1)+Into these hafts pressure when braking a G-extended with Factors: Interpolation: k_{Def} , k_0 , d , d_{man} , d_0 , d_x , C' , C''_{dyn} , C'_{k_0} . Great expansion of the various conversion options (compared to P10).	
P10k1 - Interpolating k-factors (t_{0-} and k_{Def} -factors) (my excel calculation program "P10k1-various calculations Only Audi100 + VW Bora_car against car + AZT Rep crash_F + R + S")	
P12, a, b, c, d - Depreciation (passenger car, passenger car / station wagon / van, motorcycle, commercial vehicle + body, vintage car): depending on of age, severity of damage, market factor, etc. Creation of tables.	
P13 - Motor vehicle rotation: rotation time, $\mu_{s_{across}}$, α . Creating tables.	
P14 - Simulation - motor vehicle movement during rotation: rotation (angle changes), deceleration from tire skew, μ_s , center of gravity radius, total change in angle. Creation of tables and automatic drawing of diagrams (curves) over all values of the table.	
P15 - Leaning throw - free fall (with and without air resistance): Throwing distance, speed, time. Creation of tables and automatic drawing of diagrams (curves) over all values of the tables: Throw parabola, throw distance, speed and time.	
P16 - broken glass. Creating tables.	
P17 - Trigonometric Calculations: Conversion of the a/t crash measurement curve, conversion of the (F=Force) / s crash measurement curve - based on C''dyn values, etc. Creation of tables.	
P17a - Extension of P17: angle function calculations; conversion of the a / t crash measurement curve on C ''dyn-Values, conversion of the a (F=Force) / s crash measurement curve - to C''dyn values, conversion of the a/t-, $\Delta s + \Delta t$ -Curve in the curves stages and accumulated on C''dyn values, creating tables and automatic drawing of diagrams (curves) of these various evaluations; for: front-, rear- and side tests. d , d_{man} , k_{Def} , k_0 , C' , C''_{dyn} , $d_{dynEtappe}$, $d_{dynKumuliert}$, $d_{dynKumuliertBeide\ vehicles}$ (relatives s_s), Δs , Δs_{Etappe} , $s_{SKfzCumulated}$, $v_{SKfzCumulated}$, ΔE (W) _{compression} Focus on vehicles- the end each stage cumulative (energy work) = $F * s_{SKfz}$ - over time t.	
P17b - DTC AGU (Switzerland): vehicle versus vehicle (my Excel calculation program "P17b_in stage curve-calculations only car against car_F + R + S_AGU", "P17b+_ in stage curve-calculations only car against car_F + R + S_AGU"AGU database, try No. AZT_04.12) and -AZT-RepLowingCrash(according to the evaluation system from 2015 - my Excel calculation program "P17c_InStageCurve-Calculations_only AZTRepCrash_F + R + S_AZT")	
P18 - rotation in the collision phase: Creation of tables and automatic drawing of diagrams (curves) over: time, shock drive, angular velocity omega (ω), angular acceleration alpha (α), rotation angel phi (ϕ), everything for both vehicles for the compression phase and cumulatively for the compression + restitution phase.	
P19 - BAK, Ideal Weight, BMI and WHR-Computer.	
P20 - travel expenses: simple - extended.	
P21 - Combination of calculations - connection with sub-sheets - P10k1, P17b, P17c (extension of P10k + extract from P17a) -various calculations: from: Audi100+VWBora: Vehicle against vehicle +AZT- RepLowingCrash try F+R +S. 2- Computer documents for word via: several (including a full description)	

10a - Software for Windows: XPSP3, Vista, Win7-10(Base: Microsoft Visual Basic 2008 Express Edition with Microsoft .NET Framework4.5.2)-and very extensive literature

(see sample in the pdf file 'description including information above the individual programs'):

as**10a0'**Vehicle appraisals and traffic accident reconstruction'-IntV 960,--

Contains the following programs: P0, P1-P6, P8 car / station wagon, P8 two-wheeler, P10 motor vehicle accident, P10 occupant exposure, P19 BAK, P19 BMI + WHR, P12 car / station wagon, P12a commercial vehicles + trailer, P12b car / station wagon with different systems, P12c motorcycle, P12d old-timer + check list, P12 km, P21- including descriptions.

Report title and description	Price in EUR €
<p>as 10a1'Vehicle appraisals and traffic accident reconstruction'-V</p> <p>Contains all programs such as report 10 - without graphical representations - with the exception of P7: Throw parabolas for dry and wet are drawn, as well as P15; flight curves for with and without air resistance are drawn (in color). (Program size: installed approx. 70 MB). Additional program: P10 - Darkness accident - visibility range. Consisting of: 27 calculation programs (masks), 2 graphic display programs, 17 literature masks.</p>	1860,--
<p>as 10a2' Vehicle appraisals and traffic accident reconstruction including graphic representations of the vehicle movements and the pulse diagrams'-GrafV</p> <p>Includes all programs like report 10a1 as well as: detailed calculation of repair costs, inspection report + expert opinion. Calculation of vehicle value stability using various depreciation curves. Calculation of waste motor vehicle. Furthermore: Graphic representations in different scales in color of the vehicle movements (also multi-phase movement of 2 vehicles: speed / distance / time diagram) including rotations for: in the collision phase and on the exit path after a collision (simulation displays for two vehicles at the same time including drawing the course of the wheel tracks), representation of the pulse diagrams (in color), as well as curve travel with and without trailer (1-axle or 2-axle) (depictions for two vehicle combinations at the same time + vehicle 2 as two-way traffic - for more details see below Software 10b - P14a- (z)). (Program size: installed approx. 260 MB). Consisting of: 55 calculation programs (masks), 17 graphic display programs, 22 literature masks, as well as other masks - not for the calculation.</p>	3460,--
10b- Software graphic for floor standing device, pocket PC, mobile phone, notebook, tablet	
	580,--
<p>and for other devices with the same computer language <i>'Microsoft Excel'</i> or compatible with this. These are only those programs which are true to scale the speed-path-time curves, respectively the vehicle movements, to draw. These are listed as follows. <u>My computer language software:</u> The diagram-, curve and motion representations drawn automatically. Even (mostly?) can be used in the 'android' operating system - but only those programs that were created as "macros" in the "Microsoft Excel macros system" (possibly also without macros - with the exception of "arc travel"). The recalculations and the diagram-, curve and motion representations are, according to my current selection of various android operating programs, only in the software program "SoftMaker", or "PlanMakerMobile" from "SoftMaker", possible. <u>Language:</u> German. All programs can be viewed as pdf-files. Total net price for No.1+2 (1 CD) - all in German.</p>	
1 - Computer calculation programs for Microsoft Excel for:	
<p><u>P1With÷P6With-</u> Avoid ability calculations - Brake output speed, Deceleration, braking distance, braking time, reaction point, avoid ability speeds considering various criteria. Created from tables. Creation of tables for multiphase movements for two vehicles and automatic drawing of Diagrams (curves) about: speed, distance, time - for both vehicles in one diagram.</p>	
<p><u>New:</u> Measure true-to-bar drawing of the speed-distance-time-diagrams (curves) in color, at the same time for both vehicles, in 5 different variants as 'multiphase movements'. For more details see the pdf file.</p>	
<p><u>P14(With)- Simulation - vehicle movement during rotation:</u> Rotation (angle changes), deceleration from tire skew, μ_s, Center of gravity radius, total change in angle. Creation of tables and automatic drawing of diagrams (curves) over all values of the table.</p>	
<p><u>P14(z) expanded to:</u> <u>P14a-(With):</u> additionally with „Bow ride“: Bow ride for vehicle with and without a trailer (1-axle {even saddle up-lying} or 2-axle). Bow ride even when accelerating or braking (taking into account the lateral acceleration - the maximum possible values at the various given Road conditions). Also taking into account the maximum possible steering angle, as consideration this with the maximum possible turning circle diameter to. Steering wheel rotation with programmable for a variable time. Ratio of steering wheel rotation to the steering angle of the front wheels can be entered variably (transmission ratio).</p>	
<p><u>New to P14 (z):</u> True-to-scale drawing the both vehicles in color during the simulation process in x- and y-direction, contemporaneous for both vehicles. With calibrates the complete simulations process and the given End position depiction the both vehicles of vehicle focus path and the wheel contact points. Additional see in the pdf- file. <u>New to P14a-(With):</u> True-to-scale drawing in different scales of vehicle or vehicle combination in color in x and y directions. Draws the complete sequence of movements and the specified end position. Representation of the vehicle, of the vehicle path as the intersection of the vehicle's longitudinal axis with the rotational pole axis of the vehicle, and the wheel contact points. Representation of the trailer, the trailer route as the intersection of the longitudinal axis of the trailer with the axis of rotation of the trailer. For more details see the pdf-file.</p>	
<p><u>P15(With)- Leaning throw - free fall (with and without air resistance):</u> Throwing distance, speed, time. Creation of tables and automatic drawing of diagrams (curves) over all values of the tables: Throw parabola, throw distance, speed and time.</p>	

New: True-to-scale drawing of the speed-distance curves in color in x and y directions.

More see in the pdf-file.

P18(With)- Rotation in the collision phase:

Creation of tables and automatic drawing of diagrams (curves) over: time, shock drive, angular velocity ω (rad/s), angular acceleration α (rad/s²), rotation-angle ϕ (rad), everything for both vehicles for the compression phase and cumulatively for the compression + restitution phase. **New:** True-to-scale drawing of the two vehicles in color during the simulation process in x- and y- direction, at the same time for both vehicles. Draws the complete simulation sequence and the given End position. Representation of the two vehicles, the vehicle center of gravity and the pulse diagram (Stoßantriebsbalance-diagram). For more details see the pdf-file.

2 - Computer documents for word about: several (including a full description)

Report title and description

Price in EUR €

10c -Partially Talking AndroidApp: „Traffic Accident Helper Huber“:

for: Floor standing device (e.g. Windows 10, connectable mobile with one operating system android), mobile phone, notebook, netbook, tablet (all with android operating system), with language (in language English).

Demo version: costs free without time limit for 3 calculation programs: P1-P6, P12 mercantile depreciation Car / station wagon part 1, Date difference.

Full version:

80,--

P0 - Various acceleration and deceleration calculations: e.g. maximum achieved speed at a given distance, deceleration, reaction point.

P1÷P6 - Avoid ability calculations - braking output speed, deceleration, braking distance, braking time, reaction point, avoid ability speeds considering various criteria.

P8 - Vehicle value stability - determination of current value: With additional Internet links for various used car offers.

P8a - Vehicle value retention - determination of depreciation in the event of vehicle damage.

P10 - Motor vehicle accident: Vehicle collisions: calculation of momentum, impact, deformation work (deformation work

- Calculation with the stiffness or the force number over the deformation depth, d , d_{man} , d_0 , d_0Def), rotation (ω), $\mu_{sacross}$, α , rotation around the momentary pole, energy balance.

Conversion of d , d_{man} , C and C_{dyn} with changing $k = k_0$ -factor.

P10 - Calculation of the vehicle occupant load in the compression phase, in the restitution phase and in the total phase (unbraked / braked) - change of d_{man} to $d_{dyn-powerless}$ and $d_{dyn-at force through stiffness}$ (from 2018).

P11 - lane change with different adhesion ratios, cornering speed limit (also with excessive curve), braking deceleration-acceleration on an inclined plane.

P12 - Mercantile depreciation (car + station wagon): depending on age, severity of damage, market factor. P12a - Mercantile depreciation (commercial vehicles + body + trailer): depending on age, severity of damage, market factor.

P12c - Mercantile depreciation (motorcycle): depending on age, severity of damage, market factor.

P12d - Mercantile depreciation (old-timers): depending on age, severity of damage, market factor.

P19 -Blood alcohol concentration BAK.

P19 -Ideal weight: Body-Mass-Index BMI, Waist-to-Hip Ratio WHR.

P21 - waste motor vehicles.

Date difference.

For calculations - information - ratings:

Button: Rating - Page 27 ÷ 29: Internet links, e-mail addresses, telephone numbers.

Information provided in the demo version and in the full version:

Crash videos:

Car → bicycle
 Motorcycle → car / station wagon
 Car → pedestrian
 Deformable mobile barrier (as a small overlap) → inclined car front
 AGU: cars braked → unbraked car (including test evaluation and various calculations)
 Car → car (directions of movement of the occupant in the pushed car)
 Car → car (serial collision)
 EuroNCAP: Crash and safety tests Volkswagen ID.3 2020

Extensive literature:

Button: pdfViewer - page 30÷32

In my homepage can be viewed on the Internet in (pdf-file on):

All program representations for the computer language: 'Microsoft Excel'.

All program masks for the computer language: 'Microsoft Visual Basic 2008 Express Edition with Microsoft .NET Framework4.5.2.'

Overviews of my reports.

All reports are available only in language German (except report 10c - partially talking android app: "Traffic Accident Helper Huber" in language English).

For legal reasons, an order acceptance and delivery is only possible from or to Europe (Europe in the geographical sense).

All information and data have been compiled and researched with the necessary care, everything has been compiled to the best of our knowledge.

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The use of the system is also prohibited for publications - unless authorized by the publisher.

The list of stiffness and force numbers can be purchased on request if either my seminar has been attended or my specialist brochure "Report - calculation of deformation work on vehicles" has been obtained. This report will be supplemented after further publications.

Eurotax has given permission to publish it and the stiffness figures from the repair crash tests at Allianz-Centrum Munich-Ismaning, which I calculated from them, are included in my list of stiffness and force figures and are marked with an "x". These crash attempts are published by EurotaxGlass's Switzerland with color photo documentation of the damage images and further information in their "crash-test" folder.

AGU has the permission to publish before: AGU crash test database, www.agu.ch.

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