

Handbook of Automotive Engineering

Chapters include:

1 Mobility Prof. Dr. Dr. E.h. Hans-Hermann Braess

2 Requirements and Conflicting Goals

- 2.1 Product Innovation and Prior Progress Prof. Dr. Ulrich Seiffert
- 2.2 Regulatory Requirements Prof. Dipl.-Ing. Wolfgang Barth
- 2.3 New Technologies Prof. Dr. Dr. E.h. Hans-Hermann Braess

3 Vehicle Physics

- 3.1 Basics Prof. Dr. Ulrich Seiffert
- 3.2 Aerodynamics Dr. Burkhard Leie, Dr. Hein Mankau
- 3.3 Heat Transfer and Thermal Technology Dipl.-Ing. Hans Kampf
- 3.4 Vehicle Acoustics Dr.-Ing. Habil. Raymond Freymann

4 Shapes and New Concepts

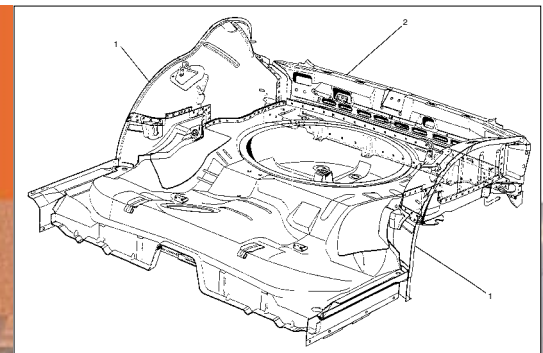
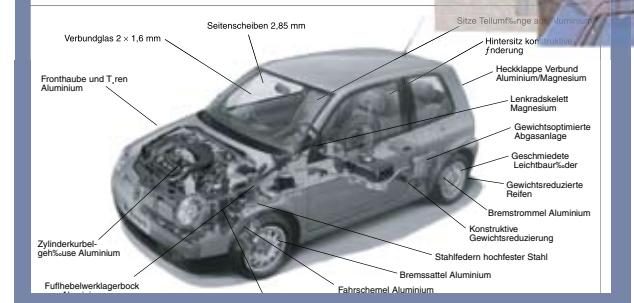
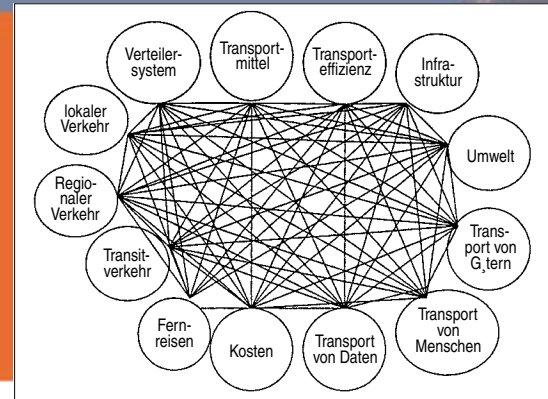
- 4.1 Design Dipl.-Designer Arnold W. Ostle
- 4.2 Vehicle Concepts and Packages in Passenger Car Development Dipl.-Ing. Dipl. Wirtsch.-Ing., August Achleitner, Dipl.-Ing. Wolfhelm Gorissen, Dr. Erwin Wüchner
 - 4.3.1 Electric Drive Systems Prof. Dr. Ferdinand Panik
 - 4.3.2 Fuel Cell Propulsion for Mobile Systems Dr. Dietmar Beck, Dr. Michael Reindl, Dr. Werner Tillmetz, Dipl.-Ing Uwe Benz
 - 4.3.3 Hybrid Drive Dr. Jörg Abthoff
 - 4.3.3 Stirling Engines, Gas Turbines, and Flywheels Dipl.-Ing. Karl E. Noreikat

5 Powerplants

- 5.1.1 Otto-Cycle Engines, Part 1: Fundamentals Dr. Hans-Joachim Oberg
- 5.1.1 Otto-Cycle Engines, Part 2: Prof. Dr. Dr. Eh. Franz Pischinger, Dr. Peter Wolters
- 5.2 Diesel Engines Dr. Karl-Heinz Neumann, Dr. Klaus-Peter Schindler
- 5.3 Supercharging Dr. Klaus-Dieter Emmenthal
- 5.4 Drivetrain Dipl.-Ing. Peter Köpf, Dr. Gerhard Wagner, Dr. Hans-Jürgen Drexler, Dr. Hans Wienholt
 - 5.5.1 All-Wheel Drive Concepts Dipl.-Ing. Herwig Leinfellner, Ing. Karl Friedrich, Dipl.-Ing. Heribert Lanzer
 - 5.5.2 Braking and Traction Control Dr. Heinz Leffler, Dr. Willibald Prestl
- 5.6 Optimization of Auxiliary Devices Prof. Dr. Ulrich Seiffert
- 5.7 The Two-Stroke Engine: Opportunities and Risks Dipl.-Ing. Bert Pinggen
- 5.8 Alternative Fuels in Comparison Dipl.-Ing. Detlef Frank, Dipl.-Ing. Wolfgang Strobl, Prof. Dr. Volker Schindler

6 Body

- 6.1.1 Unit Body Dipl.-Ing. Karl-Peter Schütt, Dipl.-Ing. Lothar Teske, Dipl.-Ing. Helmut Gobmann
- 6.1.2 Space Frames and Cladding Dipl.-Ing. Wulf Leitermann
- 6.1.3 Convertibles Dipl.-Ing. Winfried Bunsmann, Dr. Werner Gausmann, Dr. Peter Kalinke, Sigfried Licher
- 6.1.4 Hybrid and Mixed Material Construction Prof. Dr. Hans-Günther Haldenwanger
- 6.2 Automobile Body Materials Prof. Dr. Hans-Günther Haldenwanger
- 6.3 Surface Protection Dipl.-Ing. Paul Dragovic
 - 6.4.1 Ergonomics and Comfort Dipl.-Ing. Claus Volker Gevert
 - 6.4.2 Communications and Navigations Systems Dr. Jürgen Kasser
 - 6.4.3 Interior Comfort/Thermal Comfort Dipl.-Ing. Hans Kampf
- 6.5 Vehicle Safety Prof. Dr. Ulrich Seiffert



7 Suspension

- 7.1 General *Dr. Axel Pauly*
- 7.2 Brakes *Dipl.-Ing. Gunther Buschmann, Dr. Hans-Jörg Feigel, Dipl.-Ing. Klaus Winter*
- 7.3 Tires *Dipl.-Ing. Heinrich Huinink*
- 7.4 Suspension Design *Dr. Dieter Hennecke, Dipl.-Ing. Andreas Gleser, Dipl.-Ing. Johann Niklas, Dipl.-Ing. Reinold Jurr, Dr. Dieter Konik, Dr. Axel Pauly, Dipl.-Ing. Karsten Schille, Dipl.-Ing. Ludwig Seethaler, Dipl.-Ing. Günther Seuss*
- 7.5 Evaluation Criteria *Dr. Erich Sagan, Dipl.-Ing. Thomas Unterstraber*
- 7.6 Fuel System *Dipl.-Ing. Michael Meurer, Franz j. Henkel Adam, Dipl.-Ing. Olaf Meyer*

8 Electrical and Electronic Components and Systems

- 8.1 Illumination *Dipl.-Ing. Wolfgang Hendrichsk*
- 8.2 Sensors, Actuators, and Systems Technology *Dr. Wolfgang Strauss*
- 8.3 Electrical System / CAN *Dr.-Ing. Michael Walther*
- 8.4 Multimedia Systems for Motor Vehicles *Dr. Werner Poehmüller, Dipl.-Ing. Wolfgang Baierl, Dipl.-Ing. Gerald Spreitz, Dipl.-Ing. Stephan Rehlich*
- 8.5 Electromagnetic Compatibility *Dr. Wolfgang Pfaff*

9 Materials and Manufacturing Methods *Dr. Ludwig Hamm, Dipl.-Ing. Volker Freitag*

10 The Product Creation Process *Dr. Ludwig Hamm*

- 10.1 Simultaneous Engineering and Project Management in the Product Creation Process *Dipl.-Ing. Johannes Hennecken, Prof. Dr. Rudolf J. Menne, Dr. Manfred Rechs*
- 10.2 Computation and Simulation *Dr. Werner Dirschmid*
- 10.3 Measurement and Testing Technology *Prof. Dr. Dr. E.h. Hans-Hermann Braess*
- 10.4 Quality Assurance *Prof. Dr. Dr. E.h. Hans-Hermann Braess, Prof. Dr. Ulrich Seiffert*

11 Traffic and the Automobile – How Can this Go on? *Prof. Dr. Dr. E.h. Hans-Hermann Braess*

12 Outlook - Where Do We Go from here? *Prof. Dr. Dr. E.h. Hans-Hermann Braess, Prof. Dr. Ulrich Seiffert*

