

Chassis Design: Principles and Analysis

Based on previously unpublished technical notes by Maurice Olley
William F. Milliken and Douglas L. Milliken

Maurice Olley, one of the great automotive design, research and development engineers of the 20th century, had a career that spanned two continents. Olley is perhaps best known for his systematic approach to ride and handling. His work was so comprehensive that many of the underlying concepts, test procedures, analysis and evaluation techniques are still used in the auto industry today. Olley's mathematical analyses cover design essentials in a physically understandable way. Thus, they remain as useful today as when first developed. For example, they are easily programmed for study or routine use and for checking the results of more complex programs.

Chassis Design: Principles and Analysis is based on Olley's technical writings, and is the first complete presentation of his life and work. This new book provides insight into the development of chassis technology and its practical application by a master. Many examples are worked out in the text and the analytical developments are grounded by Olley's years of design experience.

Chapters cover:

- Maurice Olley—His Life and Times
- Steady-State Cornering—Slip Angle Effects (Primary)
- Steady-State Cornering—Steer Effects (Secondary)
- Transient Cornering
- Ride
- Oscillations of the Unsprung
- Suspension Linkages
- Roll, Roll Moments and Skew Rates
- Fore-and-Aft Forces
- Leaf Springs—Combined Suspension Spring and Linkage

Well-illustrated with over 400 figures and tables, as well as numerous appendices.

About the authors

As President and Vice President of Milliken Research Associates, Inc., authors Bill and Doug Milliken have collaborated on research programs for race teams, automobile and tire companies for over 25 years. Bill met Maurice Olley in 1952 and maintained a close technical and personal relationship with him for 20 years. Bill and Doug are also the authors of the SAE best-selling book *Race Car Vehicle Dynamics*.