

New SAE International Book Explores Design and Theory of Heavy-Duty Wheeled Vehicles

Translated from Russian, a new SAE International book narrates the history of heavy-duty wheeled vehicles (HDWVs) and presents the theory and calculations required to design them.

Warrendale, Pa. ([PRWEB](#)) January 16, 2014 -- Translated from Russian, a new [SAE International book](#) narrates the history of heavy-duty wheeled vehicles (HDWVs) and presents the theory and calculations required to design them. It summarizes results of the authors' academic research and experience and presents innovative technical solutions used for electric and hydrostatic transmissions, steering systems, and active safety of these vehicles.

“[Heavy-Duty Wheeled Vehicles: Design, Theory, Calculations](#),” consists of three parts, covering history and general design methods, information needs for designing HDWVs and the basic theory and calculation of innovative technical solutions, as well as special requirements for component parts.

Heavy-duty wheeled vehicles (HDWVs) are all-wheel-drive vehicles that carry 25 tons or more and have three or more axles. Used in a variety of industries (mining, logging, construction, energy), they are critical to a country's economy and defense. These vehicles have unique development requirements due to their high loads, huge dimensions, and specific operating conditions. Hauling efficiencies can be improved by increasing vehicle load capacity; however capacities are influenced by legislation, road limits, and design.

This comprehensive title provides the following information about HDWVs:

- History of design and manufacture
- Manufacturers' summary design data
- Background data on sample vehicles
- Component calculation examples
- Overview of motion theory, which is useful in design and placement of bulky cargo

“Heavy-Duty Wheeled Vehicles: Design, Theory, Calculations,” is authored by Boris Nikolaevich Belousov and Sergey D. Popov.

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For more information, including free front and back matter, or to order “Heavy-Duty Wheeled Vehicles: Design, Theory, Calculations,” visit: <http://books.sae.org/r-419/>.

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