

# Textbook on Transportation of Oversized Heavy Cargo



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*Troitskaya, N. A. An innovative approach to design of a system for transporting oversized heavy cargo: Textbook [Innovatsionniy podkhod k proektirovaniyu sistemy transportirovki krupnogabaritnykh tyazhelovesnykh gruzov: Uchebnik]. Moscow, KnoRus publ., 2022, 234 p. ISBN 978-5-406-09189-0.*

*The problems of transportation of oversized heavy cargo are among the most difficult in the transport sector. This is due to a wide range of weight and size parameters of the transported goods. In this regard, the publication of the textbook «An innovative approach to design of a system for transporting oversized heavy cargo», developed by Professor of the Department of Automobile Transportation of MADI, D.Sc. (Eng) Natalia Troitskaya with the participation of Associate Professor of MADI, Ph.D. (Eng) M. V. Shilimova is relevant.*

**Keywords:** logistics, organization of transportation, oversized heavy cargo, MADI, professional activities of drivers, legal documents to ensure safe transportation.

The textbook is based on a generalisation of many years of domestic and foreign experience in the field of scientific research, design and organisation of transportation of oversized heavy cargo (OHC). The results of participation of employees of the department of the Road transportation of MADI in design and implementation of the processes of transportation of OHC are reflected.

Approaches to analysis and classification of OHC, methods for constructing and transforming transport networks, formation of material and information flows, the principles for choosing vehicles and the possibilities of the transshipment process are considered.

The textbook pays great attention to the professional activities of drivers transporting OHC on the country's general transport network of roads. The emerging risks and methods for their elimination are also considered.

The content of the work covers all the most important aspects of designing a cargo transportation system from the standpoint of logistics and preventive measures at possible risk sites.

The main directions of creation of OHC transportation system are considered, taking into account their specifics and features.

The logistic principles of formation of OHC transportation system are considered. The specific features of such cargoes are revealed, taking into account the limitations of their parameters by mode of transport.

A list of legal documents to ensure safe transportation is given.

The principles of adaptation of transport networks to the specific parameters of these specific cargoes are revealed.

A methodology has been developed for forming routes in urban conditions, as well as

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*The text of the review originally written in Russian is published in the first part of the issue.  
Текст рецензии на русском языке публикуется в первой части данного выпуска.*

along intercity highways, including international traffic.

Particular attention is paid to the choice of specialised rolling stock for certain types of cargo. The world innovation trends are analyzed to create fundamentally new design solutions for the creation of efficient, reliable and safe vehicles for certain groups of OHC.

The book also reflects the security issues of transportation of such goods on a common transport network based on a logistics approach.

The authors paid particular attention to the need to develop preventive measures to reduce the degree of risks in design and transportation process.

We should not forget about the important role of weight and dimensional control of a vehicle with cargo throughout the transportation route.

Various approaches to organization of reloading operations are considered based on the analysis of the most common methods of reloading, and fundamentally new effective mechanisms for loading and unloading operations used in domestic and foreign practice are given.

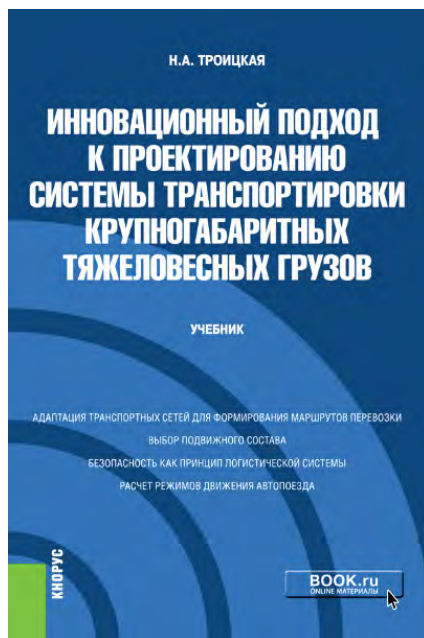
The system proposed in the work for assessing the professional qualities of drivers of specialized vehicles of heavy trucks is of particular interest.

For the first time the principles of selection of drivers by questioning are formulated.

The main possible sanctions are listed for violating the route and mode of transportation of OHC, for not having a permit for a specific route, or for exceeding the geometric and weight parameters of a road train with a load specified in the permit, for the driver, for the official responsible for transportation, and for the legal entity.

A technique for establishing rational modes of movement of a road train with OHC in the general traffic flow with identification of sludge places for passing a «pack» of cars at low speeds of a heavy truck is presented.

Attention when transporting OHC, according to the authors, should be paid to traffic safety as the main principle of building a transport system on the general road network of the city and in intercity traffic.



The textbook provides recommendations for improving the design process and practical implementation of OHC transportation.

Particular attention is paid to the following issues:

- Creation of a technically, economically and environmentally safe efficient route.
- Rationale for the choice of specialized rolling stock.
- Modernisation of the process of organizing transshipment operations in multimodal cargo transportation systems.
- Expansion of the field of implementation of logistics approaches using automated software systems.
- Creation of new normative documents regulating various aspects of the transportation process of OHC transportation.

The textbook «Innovative approach to design of a system for transporting oversized heavy cargo» meets all modern requirements for educational literature. The book is recommended by the Expert Council of educational-methodological department in the system of higher education and secondary vocational education as a textbook for the bachelor's and master's programs «System Analysis and Management».

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