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# To the Determination Transmission Gear Ratios During the BTR-70 Modernization

[Volodymyr Sakhno](#), [Akif Gasimov](#), [Oleksandr Dykykh](#),  
[Anatolii Kryvorot](#)  & [Dmytro Yashchenko](#)

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## Abstract

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The problems arising on motor vehicles when replacing an internal combustion engine are analyzed and the need to optimize the transmission ratio is substantiated. In determining the transmission vehicle gear ratios, it is considered appropriate to use analytical research methods. The minimum and maximum gear ratios transmission vehicle BTR-70, and the gear ratio of the additional gear are determined. It is shown that when modernizing the studied vehicle with two diesel

engines D245.30E2 with a 115 kW capacity, the best individual performance of traction and velocity properties are achieved by different transmissions. According to the present study, the best option is a Mercedes-Benz G 85-6/6.7 gearbox. However, the MAZ-5335 8-stepped transmission can also be recommended. The final choice of the transmission to vehicle BTR-70 needs to be carried out taking into account the fuel efficiency.

## Keywords

**Gear ratios**      **Traction and velocity properties**

**Transmission**      **Vehicle**

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## Author information

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Authors and Affiliations

**National Transport University, 1, Mykhaila Omelianovycha - Pavlenka Str., Kyiv, 01010,**

**Ukraine**

Volodymyr Sakhno, Oleksandr Dykykh & Dmytro  
Yashchenko

**Azerbaijan University of Architecture and  
Construction, 5, Ayna Sultanova, Baku, 1073,  
Azerbaijan**

Akif Gasimov

**National University «Yuri Kondratyuk Poltava  
Polytechnic», 24, Pershotravnevyy Ave., Poltava,  
36011, Ukraine**

Anatolii Kryvorot

Corresponding author

Correspondence to [Anatolii Kryvorot](#).

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Editors and Affiliations

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