Ministry of Education and Science of the Republic of Belarus
BELARUSIAN STATE POLYTECHNIC ACADEMY

MATERIALS

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In 2 parts

Part 1
Trends: "AUTOMOTIVE AND TRACTOR INDUSTRY", "MACHINE INDUSTRY", "INSTRUMENT ENGINEERING", "ROBOTICS", "METALLURGY", "ARCHITECTURE AND URBAN PLANNING", "SOCIAL SCIENCES"

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Hydraulic brake gear

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The application of antiblock systems (ABS) stipulates the equipment of a vehicle with a brake system using an external power source. If in the case of heavy-duty vehicles and road trains equipped with a hydraulic brake gear the application of the ABS requires the increase of the compressor production and compressed air storage only, than the other types of vehicles, as a rule, use the active hydraulic brake gear with a pump station driven by the engine, vehicle-mounted electrical system or wheels.

The analysis of the power take-off methods for the pump station drive demonstrates that the most promising and securing the reduction of costs for the production and operation is the pump station drive from motor car's wheels. Such drive guarantees the favorable conditions for the work of the ABS until the very application of the alternative, moreover, it allows refusing the utilization of hydraulic accumulators and their control systems.

The necessary response of the brake gear is secured by the relevant selection of the pump station parameters and matching gearbox, It shall be noted that the pump station of such gear does not implies the strict requirements in respect to the volumetric efficiency.

When using the abovementioned brake gear the latter shall contain the blocking device that guarantees the fixation of the vehicle in an immobile state without the usage of the parking brake.