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Investigation of Vibration in Diesel-Fueled Motoblocks in the Case of Supplying Different Types of Fuel Mixture

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Abstract : At present, where most of the soils of Georgia have a small contour, the demand for small-capacity technical means, in particular motoblocks, has increased. Motoblocks perform agricultural work for various purposes, where the work process is performed by the operator, who experiences various magnitudes of vibration, impact, noise, and in general, as a result of long-term work production, causes body damage, dynamic load, and respiratory diseases in people. In the scientific paper, the dependence on the vibration of different types of diesel fuel is investigated in the case of five different revolutions in the internal combustion engine. Studies have shown that fuel and engine speed are the only risk factors that contradict the ISO 5349-2(2004) international standard. The experience of four years of work studies showed that 10% of operators received various types of injuries as a result of working with motoblocks. Experiments also showed that the amount of vibration decreases when the number of revolutions of the engine increases, and in the case of using biodiesel fuel, the damage risk factor is 5-10%, and in the case of using conventional diesel, this indicator has gone up to 20%.

Keywords : engine, vibration, biodiesel, high risk factor, working conditions
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