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MONOBLOCK SILENCERS FOR PISTOLS

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This paper presents the stages of development of silencers with monoblock spreaders for pistols.

The features of two groups of monoblock silencer designs (with and without a central tube) are identified and described. The use of different materials for different silencer parts is substantiated: the body and the monoblock are made of an aluminium alloy, the covers and the unions are made of a titanium alloy, and the perforated tubes are made of steel or titanium.

The paper shows the features of design solutions and describes the design of internal components and their effect on the operating efficiency for different embodiments of theirs.

The mamufacture of silencers of this design is less labor intensive in comparison with silences with discrete components (bodies, bushings, etc.), thus offering a lower cost due to the use of advanced technologies in the manufacturing of the silencer components and the silencer as a whole.

The paper presents the results of firing range and shooting gallery full-scale tests of monoblock silencers with Glock 17 and Fort 14 pistols using 9×18 mm i 9×19 mm cartridges. The results show that:

- in sound suppression efficiency, the silencers compare well with their best foreign counterparts and outperform the standard silencers of Research and Production Company Fort at comparable dimensions and mass. The efficiency of the silencers developed was measured with a precision pulsed sound level meter and verified by comparison tests with basic prototypes developed earlier and foreign silencers. The efficiency proved to be (25 – 36) dB(A).
- the silencers do not affect pistol automatics and sustain standard firing regimes,
- the silencers do not affect the shot grouping characteristics, and
- the silencers do not affect other performance characteristics either.

Hence the silencers for Fort or similar pistols developed at the Institute of Technical Mechanics of the National Academy of Sciences of Ukraine and the State Space Agency of Ukraine are efficient and reliable.

Keywords: *firearm silencer, baffle elements, shot sound suppression, monoblock, central tube.*

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