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This paper describes the designs and manufacturing and testing features of small-size silencers developed at the Institute of Technical Mechanics of the National Academy of Sciences of Ukraine and the State Space Agency of Ukraine for arms used in enclosed space.

The topicality of the development is due to the use of stub-barreled arms by Ukrainian special subunits. With consideration for the features of existing silencers for submachine guns of special subunits, a line of compact silencer development was chosen. The paper formulates requirements for the design of silencers for stub-barreled small arms and material and manufacturing accuracy requirements for their components.

The use of silent stub-barreled small arms in enclosed space without damaging the shooter’s organs of hearing is justified. In combat operations, sound suppression allows subunits to contact with one another and their commanders to have the situation under control.

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

The paper presents the appearances, construction arrangements, and specifications of the small-size silencers developed and the results of their full-scale tests.

The sound suppression efficiency of the silencers developed was measured with a sound level meter and verified by comparison tests with basic prototypes developed earlier. The efficiency proved to be (28 – 34) dBA, which is on a level with their best foreign counterparts. The test showed that:

- the silencers do not affect firearm 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 compact silencers developed for stub-barreled submachine guns (assault rifles) are efficient and reliable.

Keywords: *firearm silencer, baffle elements, shot sound suppression, hemisphere.*

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, Colt CAR-15 Commando, SiG SG-
552 Heckler-Koch 53» [7].
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16 1965
XM177E1 [3].
Colt Commando
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« -223» « -224» « -221», « -222»,
) [8]. « » (. -

« -224» -
 « -224» Tavor MTAR21,
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 5,56×45 , 500 ,
 [8]. , , -
 « -224» , 3- 4- -
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 Colt Commando , -74 « -224».

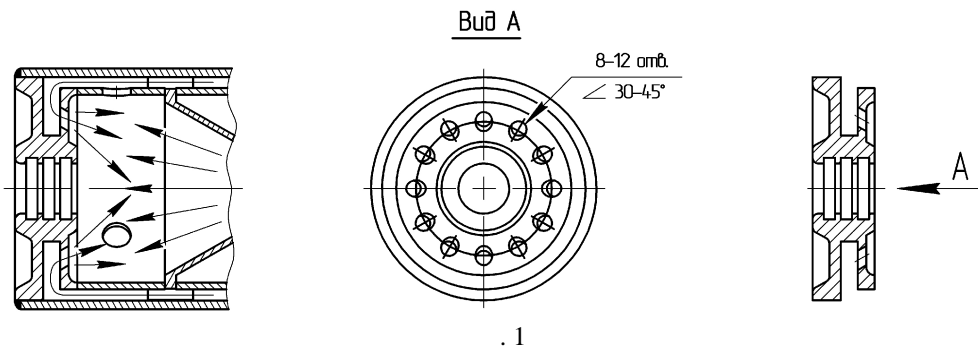
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 Colt Commando, -74 « -224» [8 - 12]

	CAR-15	XMI77E2	Model 733	Model 933	- 74	- 224	- 224
-	737	787	762	762	730	585	585
-	-	711	681	681	490	-	-
,	254	292	292	292	206,5	330	330
,	2,15	2,43	2,6	2,4	3,0	4,0	3,9
,	5,56×45	5,56×45	5,56×45	5,56×45	5,45×39	5,56×45	9×19
/ . ,	750	750	750	750	650-700	750	800-1200
,	30	30	30	30	20, 30, 45	30	30
, / -	-	838	838	838	735	890	400

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42-556		5,56	600	42	180/165	33	14x1 1/2"-28	304
Hunting rifle suppressor cal. .223	Brugger & Thomet»	5,56	313	38	134,7 / 114,7	27	24x1,5 1/2"-28	
ASE UTRA Jet-Z CQB	«ASE UTRA»	5,56	550	40	150/120	32	14x1 M17x1 M18x1 1/2"-20, 1/2"-28	
MICRO	SUREFIRE	5,56	340	38	146/102	32	—	
MINI	SUREFIRE	5,56	387	38	197/127	32	—	
MINI MONSTER	SUREFIRE	5,56	400	38	210/ 133	32	—	
MINI-T	SUREFIRE	5,56	227	38	197/127	32	—	

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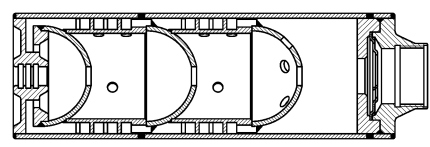
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06 .19-5,45		5,45	500	50	165/138	32	24×1,5 14×1 1/2"-28	
07 .19-5,45		5,45	420	50	123/96	20	24×1,5 14×1 1/2"-28	

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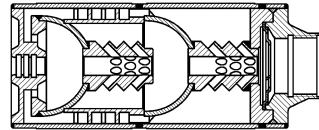


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 Ø3 , Ø7,5 -

-07 .19-5,45 .



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Ø3 , Ø7,5 ,

-11 .12-5,45 . -11 .12-5,45

(25 – 34) ; 145 ; 43 ; 435 .

-06 .19-5,45 -07 .19-5,45
 [5, 23, 24].

14 %,

.4 [5].

	-74 ,
-06 .19-5,45	31,3
-07 .19-5,45	29,2
-11 .12-5,45	32,6

7 6. , -74 (5,45×39) 5,45 ,
 11 .12-5,45 ,
 -06 .19-5,45 ,
 -07 .19-5,45 (7 / 70) ,
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 -067 .19-5,45 -07 .19-5,45 ,
 5 — . 5,45

	11 .12-5,45	06 .19-5,45	07 .19-5,45
, .	5	4	3
, , 3	173174	174390	113000
, 1, 3 / , %	35591 / 20,6	51100 / 29,4	45710 / 40,5
-74 ,	32,60	31,30	29,20
-74 ,	34,00	32,50	30,40

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