30 January 1990

TO: J.C. Hutton

Subject: Model 700 Drop Test

Muzzle drop tests, at one and three feet, were conducted using a vertical drop fixture and a Model 700 30.06 rifle. To determine the G acceleration, a PCB-305A04 accelerometer, serial 8295 with a .000923 volts/g sensitivity, was mounted on the rifle. The drop mediums were as follows:

- 1) Large rock mounted in a base of sand.
- 2) Concrete floor.
- 3) Small rock mounted in a base of sand.
- 4) Two inch patio block mounted in a base of sand.
- 5) Wooden slab mounted in a base of sand.

In all cases the rifle was dropped with the safe in the off position. The following pages contain a summary of the results of the drop test to date.

DIGITAL ANALYZER SETTINGS	MEDIUM	DROP NUMBER	PEAK VOLTAGE	G ACCELERATION
Freq. Scan 0 - 100 kHz	Large Rock in sand	1 2 3	1.6 1.7 1.6	1730 1840 1730
Full scale Sensitivity 3.2V	1 foot drops	4 5 Avg.	1.6 1.7 1.64	1730 1840 1780
		3.		2.00
Freq. Scan 0 - 100 kHz	Large Rock in sand	1 2 * 3	2.1 2.4 2.9	2280 2600 3140
Full scale Sensitivity 3.2V	3 foot drops	4 5	3.1 3.1	3350 3350
		Avg.	2.72	2950
Freq. Scan 0 - 100 kHz	Concrete Floor	1 2	.89 .67	960 720
Full scale	1 foot	3 4	.74 .67	800 720
Sensitivity 3.2V	drops	5 Avg.	.92 .778	990 840
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Freq. Scan 0 - 100 kHz	Concrete Floor	1 2 *	1.9 2.4	2050 2600
Full scale	3 foot	3 * 4	1.9 2.1	2050 2280
Sensitivity 3.2V	drops	5 Avg.	2.0	2160 2230
			2000	
Freq. Scan 0 - 100 kHz	Small Rock in sand	1 2	1.1 1.1	1190 1190
Full scale	1 foot	3 4	1.3	1400
Sensitivity 1.8V	drops	5	1.4	1510
From Egon	Small Rock	Avg.	1.22	1320
Freq. Scan 0 - 100 kHz	in sand	2	1.6 2.1	1730 2270
Full scale	3 foot	3 * 4 *	2.4	2600 2600
Sensitivity 3.2V	drops	5 Avg.	2.12	2270 2300

DIGITAL ANALYZER SETTINGS	MEDIUM	DROP NUMBER	PEAK VOLTAGE	G ACCELERATION
Freq. Scan 0 - 100 kHz	Patio Block in sand	1 2 3	.76 .47 .71	820 510 770
Full scale Sensitivity 1.8V	1 foot drops	4 5 Avg.	.82 .85 .722	890 920 780
Freq. Scan 0 - 100 kHz	Patio Block in sand	1 2	1.6 .78	1730 840
Full scale Sensitivity 2.0V	3 foot drops	3 4 5	1.1 1.0 1.1	1190 1080 1190
		Avg.	1.116	1210
Freq. Scan 0 - 100 kHz	Wooden Slab in sand	2	.23 .22 .22	240 230 230
Full scale Sensitivity 0.32V	1 foot drops	4 5 Avg.	.23 .22 .224	240 230 240
Freq. Scan 0 - 100 kHz	Wooden slab in sand	1 2 3	.31	330 260
Full scale Sensitivity 0.5V	3 foot drops	4 5 Avg.	.27 .28 .32	290 300 340 310

key:

^{*} following the drop number indicates that the rifle fired on that drop. If there is no indication then the rifle did not fire.