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3.1.6 Firearms Measurements

3.1.6.1 TLW0010V - Chamber Cast

Casts of the chamber were made using Cerrosafe™. Five chamber dimensions were surveyed using the casts and the 30" optical comparator for measurements.

Chamber Dimensions (LB-153)

Rifle	.4728/ .4708 ⁽¹⁾	.4440/ .4425 ⁽¹⁾	34 Dec 30"	.3424/ .3404 ⁽¹⁾	.3105/ .3095 ⁽¹⁾
B-1	.4694	.4430	34.09	.3435	.3086
B-2	.4692	.4440	34.67	.3441	.3103
B-3	.4704	.4434	34.40	.3446	.3085
B-4	.4709	.4442	34.33	.3441	.3101
B-5	.4695	.4430	34.26	.3424	.3096
B-6	.4704	.4432	34.50	.3436	.3096
B-7	.4668	.4432	34.59	.3436	.3099
B-8	.4707	.4442	34.59	.3444	.3100
B-9	.4701	.4448	34.36	.3445	.3099
B-10	.4704	.4447	34.53	.3447	.3108
Average	.4698	.4438	34.45	.3440	.3097
Max.	.4709	.4448	34.67	.3447	.3108
Min.	.4668	.4430	34.09	.3424	.3085
St. Dev.	.0012	.0008	0.18	.0007	.0007

Notes:

- 1. Dimensions could not be taken from breach face datum. Do not compare to specification.

Dimensions taken using this method indicated that there were several firearms in the sample that did not meet specifications. After investigation it is probable that the measurements that are indicated as being out of tolerance were due to measurement error due to the lack of a physical reference to the bolt face which could not be located using only the castings. Longitudinal specifications as listed on the drawing are taken from the bolt face and are used to determine the location for taking the diameters listed above. This issue was discussed with production. Production stated that their review of the tooling indicated that the dimensions for the chamber were correct. This, along with the lack of performance problems during testing with the firearms that could be assigned to the chamber, would suggest that the measurements taken using the cast method are probably in error and that the measurements of the production tooling are a better overall measure of the chamber dimensions. (See Section TLW0010V; B.2)

Jan.2001 Design Acceptance Test Remington M/710 Centerfire Rifle;
 R & D Technical Center Project No. 241039; TLW 0100
 file: F:\Test Reports \Firearms Tests \M710_DAT_REPORT_JAN01_Rev1.doc