



# ***Dominion of Canada Rifle Association*** ***Association de Tir Dominion du Canada***

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## **BALLISTIC LIMITS AT 2017 FCNC & ICFRA FCWC**

**INTENTION:** The Dominion of Canada Rifle Association is deeply committed to ensuring that all competitors entering the 2017 Canadian F-Class National Championships and ICFRA F-Class World Championships are doing so with safe ammunition that complies with the DCRA's ballistic limits for Connaught Ranges. With this in mind we will be examining competitor ammunition this year to ensure that the projectiles and muzzle velocities are within the rules, and are what was stated on the competitor's ammunition declaration.

**BALLISTIC LIMITS:** The following table lists the maximum permitted muzzle velocity for most of the common projectiles in use in long range competition today:

<b>Bullet</b>	<b>G1 BC</b>	<b>Max MV (fps)</b>
Berger 7mm 180 gr Hybrid	0.68	3007
Berger 7mm 180 gr VLD	0.683	3000
Berger 7mm 195 gr Hybrid	0.755	2813
Berger .30 Cal 200 gr Hybrid	0.616	3108
Berger .30 Cal 210 gr VLD	0.621	3100
Berger .30 Cal 215 gr Hybrid	0.691	2986
Berger .30 Cal 230 gr Hybrid	0.717	2928
Lapua 7mm 180 gr Scenar-L	0.661	3035
Lapua .30 Cal 220 gr Scenar-L	0.647	3057
Sierra 7mm 183gr MatchKing	0.707	2957

Additional bullets may be added to this list as needed. For "custom" bullets please provide supporting material from the manufacturer, including published BC data and if possible, dimensional drawings.

**EQUIPMENT:** We will be using two measuring devices to verify the bullet and its muzzle velocity; a GemPro 250 for bullet weight (with appropriate check weights), and a Magnetospeed V3 chronograph to measure muzzle velocity. The Magnetospeed V3 has been certified against an MS Instruments 858 Optical Detector by Dolphin Gun Company.

**TEST METHODOLOGY:** The following is intended to clarify how the testing procedure will be conducted. The Range Officer (or other designated individual) will randomly select 4 loaded rounds from a competitor's ammunition, bag them, and provide a receipt and time/location for the competitor to come for testing with their rifle. When the competitor arrives there will be 2 tests conducted:

Bullet Weight: Of the 4 random samples provided 1 of the loaded cartridges will be disassembled and the bullet weighed, measured, and compared to the information listed on the ammunition declaration. If the bullet weight is the same and the external measurements are consistent with the claimed bullets this will be deemed a "pass".

Muzzle Velocity: The Match Referee (or designated official) will affix the chronograph to the barrel of the competitor's rifle, and the remaining 3 rounds will be fired by the competitor, recorded, and an average muzzle velocity will be calculated. If the average muzzle velocity does not exceed the published maximum velocity (+ 0.5% of the reading) for the bullet in question that will be deemed a "pass".

Should a competitor be found to be using ammunition that exceeds the ballistic limits all prior scores (team and/or individual) will be invalidated and they will not be able to resume shooting until they can prove to the satisfaction of the Chief Range Officer and Match Referee that their ammunition is compliant. Competitors who have made erroneous statements on their ammunition declaration will also have their prior scores invalidated and will not be permitted to resume shooting until they can demonstrate the compliance of their ammunition. Scores that have been invalidated will not be restored.

***If the Chief Range Officer and/or Match Referee consider that there may have been a false statement made on the ammunition declaration then the matter will be referred to the Match Committee and at which both the CRO and Match Referee will be present.***

**IT IS THE COMPETITORS RESPONSIBILITY TO TEST THEIR AMMUNITION FOR ANY ENVIRONMENTAL CONDITIONS THAT THEY COULD ENCOUNTER AT CONNAUGHT RANGES. THIS INCLUDES HIGH TEMPERATURES (>+40C), DIRECT SUNLIGHT, AND RAIN.**

**COMPETITORS MUST HAVE A MINIMUM OF 4 EXTRA ROUNDS WITH THEM ON THE FIRING POINT FOR THE RANGE OFFICER TO SELECT FROM**

**PROCURING TEST EQUIPMENT:** The Magnetospeed V3 that we will be using for measuring muzzle velocity was provided by March Scopes UK, and certified by Dolphin Gun Company. If you are interested in obtaining a certified Magnetospeed V3 please contact Gary Costello at March Scopes UK.

For technical questions on the measuring equipment or their use please contact Kenny Proulx, at [kennyproulx@videotron.ca](mailto:kennyproulx@videotron.ca).

Best regards,



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