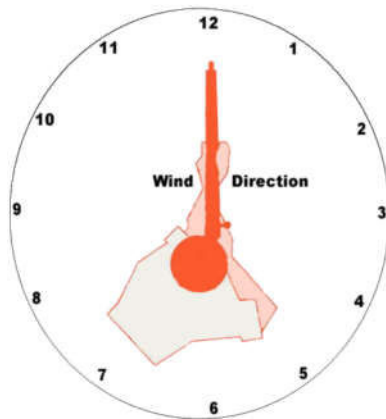


## Marksmanship Mechanics & Ballistic Tables

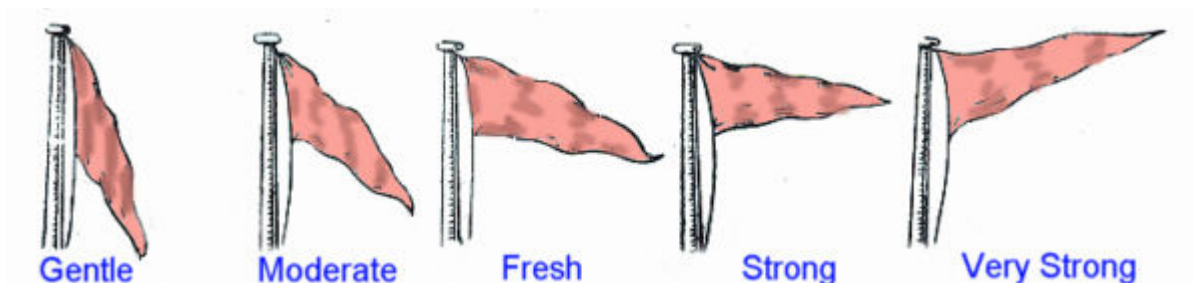
These tables are suggested approximations to allow you to "Get On The Paper" at these various ranges. In the end the Ranger should modify these tables depending on the 'Lot' and 'Type' of ammunition being used. It is recommended that the marksman tapes these tables to the rifle's butstock. In the final analysis the Ranger marksman should ultimately memorize their own developed tables.

ELEVATION TABLE (.303 British 174gr FMJ)								
Rise From	300	400	500	600	700	800	900	1000
200	3.5"	6.5"	11"	16"	22"	28.5"	36"	45"
300		3.5"	8"	13"	19"	25"	33"	42"
400			4.5"	9.5"	15.5"	22"	29"	38.5"
500				5"	11"	17.5"	25"	34"
600					6"	12"	20"	29"
700						6.5"	14"	23"
800							7.5"	16.5"
900								8.5"

The figure below displays wind direction (in relation to your position) as if the marksman is located in the centre of a clock. For example if the wind is approaching from 3 o'clock then it is hitting the right side of the marksman. Winds from 3 o'clock and 9 o'clock are known as "Full Factor Winds"



When deciding the strength of the wind, remember that when the flags on the Range are wet they do not indicate the full strength, as shown by the illustrations below. Therefore add, in such cases, an approximate of 20%, or one fifth to the figures given in the Wind Drift Chart.



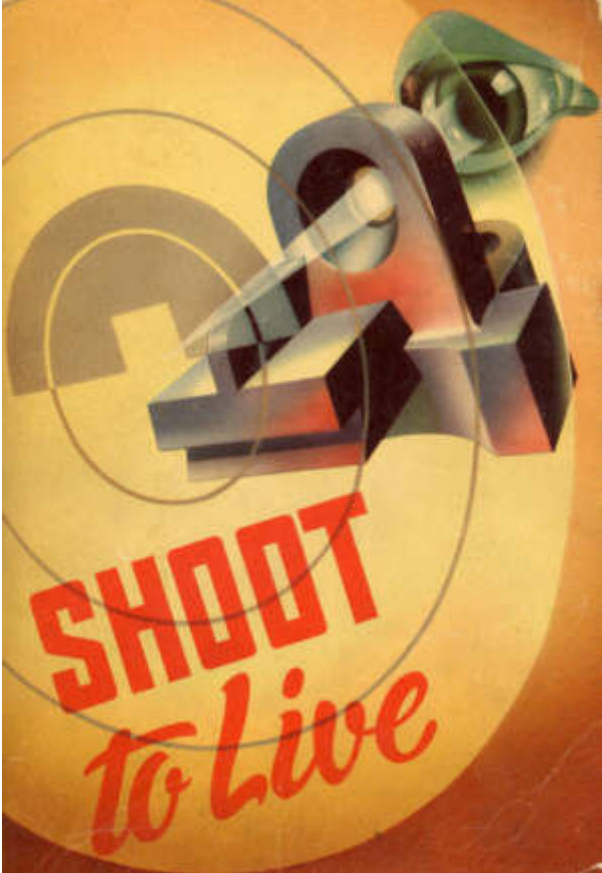
- **Wind Direction: 1 = Wind from 1, 5, 7 or 11 o'clock**
- **Wind Direction: 2 = Wind from 2, 4, 8 or 10 o'clock**
- **Wind Direction: 3 = Wind from 3 or 9 o'clock "Full Factor"**

Wind-Drift Chart (Minutes of Angle M.O.A.) for .303 British 174gr FMJBT bullets																											
Range (yards)	200			300			400			500			600			700			800			900			1000		
Wind Direction	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Gentle	0.5	0.5	1	0.5	1	1	1	1	1.5	1	1.5	2	1.5	2	2.5	1.5	2	3	2	3	3.5	2.5	3.5	4.5	3	4	5
Moderate	1	1	1.5	1	1.5	2	1.5	2.5	3	2	3	4	2.4	3.5	4.5	3	4	5	3.5	5.5	7	4.5	6.5	8.5	5	7	9.5
Fresh	1	2	2.5	2	2.5	3	2.5	3	4	3	4.5	6	3.5	5.5	7	4.5	6	8	5.5	8	10.5	6.5	9	13	7	11	14.5
Strong	1.5	2.5	3	2.5	3.5	5	3	5	6.5	4	6	8	4.5	7	9.5	6	8.5	11.5	7.5	10.5	14	8.5	13	17.5	10	14.5	20
Very Strong	2	3	4	3	4.5	6	4	6	8	5	7.5	10	6	9	12	8	11.5	15	10	13.5	18	11.5	16.5	22	14	19	25

**EXAMPLE:** A "Fresh" Wind from 3 o'clock at 500 yards will require the Ranger to hold sights six (6) minutes of angle (or 36") off the target into the direction of the wind to compensate for bullet drift.

**NOTE TO READER:** One Minute of Angle = 1" at 100 yards, 2" at 200 Yards, 3" at 300 yards, etc...

**Recommended Reading:**



**'SHOOT-TO-LIVE"**

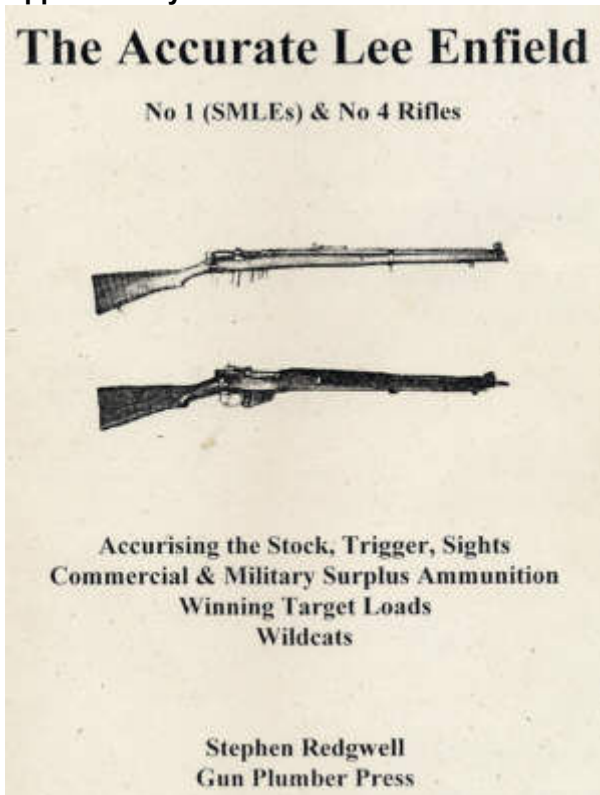
**THE JOHNSON METHOD OF MUSKETRY COACHING**

Shoot To Live is an absolute MUST for any Canadian Ranger that wants to take his or her marksmanship to the next level (if you can find a copy). In publishing this handbook for officers, warrant officers and non-commissioned officers of the Canadian Army, an attempt has been made to present a sound, simple and sensible method of teaching men to shoot correctly, effectively and consistently.

The Johnson Method of Coaching was developed by Lt. Col. Stephen Johnson over a period of 20 years' experience in the art of shooting. During that time, Lt. Col. Johnson had earned an enviable reputation as one of Canada's outstanding rifle shots, winning several championships and being five times a member of Canada's Bisley team.

During the war he put his ideas into practice in the training of the Canadian Army with excellent results, and his methods have been put together in this handbook for the guidance of future instructors in musketry.

Supplementary Information:



**This Publication is available through Stephen Redgwell's web site at [www.303british.com](http://www.303british.com)**

**ABOUT THE AUTHOR:** Steve Redgwell joined the Canadian Forces in 1978 as an Air Force armourer. His initial trades training was taken at the Canadian Forces School of Electrical and Mechanical Engineering (Small Arms) and the Canadian Forces School of Aerospace and Ordnance Engineering (Aircraft Weapons & Explosives).

After graduating in 1979 he was posted to Germany with 1 Canadian Air Group Maintenance Squadron working with CF-104's, explosives and small arms maintenance.

In 1983, he joined 434 (Tactical Fighter) Squadron and was selected for EOD (Explosives Ordnance Disposal) training.

In 1998, his duties took him to Canada's West Coast with 407 (Maritime Patrol) Squadron - anti-submarine ops. He worked as NCO in charge of Torpedo Electronics and later in aircraft crash and safety investigations.

In 1992, as a result of his experiences with weapons and explosives, he was selected as an instructor and posted to the Canadian Forces School of Aerospace Technology and Engineering. He taught weapons and explosives courses there until his retirement in 1999.

- Accurising the Stock, Trigger & Sights
- Commercial & Military Surplus Ammunition
- Winning Target Loads
- Wildcat Cartridges based off the .303 case.