308 win - Sierra 180grn - 819m/s

sabato, 7. marzo 2015
16:27

RICARICA 308win-Sierra hpbt 180grn

WARNING: Since we have no control over equipment or data which may be used with this program, no responsibility is implied or assumed for results obtained through its use. Input data and results may be incorrect or wrong. Therefore the use of this data for loading ammunition can cause serious injury to personnell and material. The computer-results had to be checked against data available in current loading manuals.
LOT-TO-LOT VARIATIONS OF POWDERS, PRIMER SUBSTITUTION AND COMPONENT CHANGE OFTEN RAISE PRESSURES TO UNSAFE LEVELS. THE USER MUST ASSUME THE ENTIRE RISK OF USING THIS DATA FOR LOADING PURPOSES.

User Data:

Date:7-mar-2015 **Time:16:25:02** **File: 308winrs50-sierra180grhpbt2220c-45.4grn-819m**

Cartridge / Caliber	**.308 Win. (CIP)**		**Bullet**	**.308, 180, Sierra HP MatchK**	
Maximum Average Pressure, allowed	4150 bar	60191 psi. (Piezo CIP)		with boattail	
Groove Caliber	7.82 mm	0.308 in.	Bullet Weight	11.66 gm	180.0 gr.
Case Capacity, overflow	3.636 cm³	56.0 gr. H2O	Bullet Length	32.51 mm	1.280 in.
Case Length	51.16 mm	2.014 in.	Bullet Seating Depth	13.16 mm	0.518 in.
Cartridge O.A. Length	70.5 mm	2.776 in.	Barrel/Tube Length	660.4 mm	26.0 in.
Shot Start / Init Pressure	250.0 bar	3626 psi.	Cross Section Area of Bore	0.4751 cm²	0.07364 in.²
Propellant type	**ReloadSwiss RS 50**				
Charge Weight	2.942 gm	45.4 gr.	Load Density	0.966 gm/cm³	244.3 gr./in.³
Heat of Explosion, Potential	3815 J/gm	247.2 J/gr.	Energy Density of Charge	3686 J/cm³	60403 J/in.³
Propellant Solid Density	1.61 gm/cm³	407.15 gr./in.³	Used Ratio of Specific Heats cp/cv	1.239	
Burning Rate Factor Ba	0.52 1/s		Weighting Factor	0.5	
Burning Function Limit Z1	0.394		Prog.-/ Degressivity Factor a0	1.231	
Factor b	1.565		Bulk Density	0.957 gm/cm³	242.0 gr./in.³

Calculated and Estimated Data:

Bullet Shank Seating Depth	9.6 mm	0.378 in.	Capacity Displaced by Seated Bullet	0.591 cm³	0.0361 in.³
Useable Case Capacity	3.045 cm³	0.1858 in.³	Bullet Travel at Muzzle Exit	622.4 mm	24.5 in.
Loading Ratio("Density") / Filling	101.0 % = compressed		Charge Fraction Burnt at Shot Start	1.13 %	
Predicted Data:					
Maximum Chamber Pressure	4088 bar	59288 psi.	Bullet Travel at Pmax	31.7 mm	1.25 in.
at Muzzle Exit:					
Bullet Velocity	818.7 m/s	2686 fps.	Pressure at Muzzle	461 bar	6689 psi.
Bullet Energy	3909 Joule	2883 ft.lbs.	Bullet Barrel Time	1.251 ms	
Propellant Burnt	98.8 %		Ballistic Efficiency	34.8 %	

Additional Data:

Powder Lot	Primer Type and Lot
Bullet Lot	Case Manufacturer
Measured Muzzle Vel., StdDev.	Measured Pressure, StdDev.

WARNING: Near Maximum Average Pressure - unknown tolerances may cause dangerous pressures !
Real maximum (peak) of pressure is reached while bullet moves within barrel.
End of combustion occurs after the bullet's base passes muzzle.