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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 personnel 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.

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User Data:	Date:8-Apr-2015	Time:22:30:20	File: xpert 25-06 ackley imp 80gr.dat	
Cartridge / Caliber	.25-06 Ack Imp.	Bullet	.257, 80, XPERT	
Maximum Average Pressure, allowed	59988 psi.	4136 bar (Wildcat)	with flatbase	
Groove Caliber	0.257 in.	6.53 mm	Bullet Weight	80.0 gr. 5.18 gm
Case Capacity, overflow	73.0 gr. H2O	4.74 cm ³	Bullet Length	1.063 in. 27.0 mm
Case Length	2.496 in.	63.4 mm	Bullet Seating Depth	0.488 in. 12.4 mm
Cartridge O.A. Length	3.071 in.	78.0 mm	Barrel/Tube Length	24.0 in. 609.6 mm
Shot Start / Init Pressure	3625 psi.	249.94 bar	Cross Section Area of Bore	0.05118 in. ² 0.3302 cm ²
Propellant type	Somchem S355			
Charge Weight	50.0 gr.	3.24 gm	Load Density	189.4 gr./in. ³ 0.749 gm/cm ³
Heat of Explosion, Potential	253.4 J/gr.	3910 J/gm	Energy Density of Charge	48014 J/in. ³ 2930 J/cm ³
Propellant Solid Density	404.63 gr./in. ³	1.6 gm/cm ³	Used Ratio of Specific Heats cp/cv	1.2291
Burning Rate Factor Ba	0.5 1/s		Weighting Factor	0.55
Burning Function Limit Z1	0.39		Prog.-/ Degressivity Factor a0	2.36
Factor b	1.774		Bulk Density	227.6 gr./in. ³ 0.900 gm/cm ³

Calculated and Estimated Data:

Bullet Shank Seating Depth	0.488 in.	12.4 mm	Capacity Displaced by Seated Bullet	0.0254 in. ³	0.416 cm ³
Useable Case Capacity	0.2639 in. ³	4.324 cm ³	Bullet Travel at Muzzle Exit	21.99 in.	558.6 mm
Loading Ratio("Density") / Filling	83.3 %		Charge Fraction Burnt at Shot Start	1.98 %	

Predicted Data:

Maximum Chamber Pressure	45287 psi.	3122 bar	Bullet Travel at Pmax	2.99 in.	75.8 mm
at Muzzle Exit:					
Bullet Velocity	3277 fps.	998.9 m/s	Pressure at Muzzle	10806 psi.	745 bar
Bullet Energy	1908 ft.lbs.	2587 Joule	Bullet Barrel Time	1.167 ms	
Propellant Burnt	98.9 %		Ballistic Efficiency	20.4 %	

Check Loading Manuals for Safe Minimum Charge Weight to Avoid Hazardous Ignition Conditions like Secondary Explosion Effects !
 Real maximum (peak) of pressure is reached while bullet moves within barrel.
 End of combustion occurs after the bullet's base passes muzzle.

