QuickLOAD© Quick Start Guide

By Major Rob Robinette, V1.6

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Install QuickLOAD

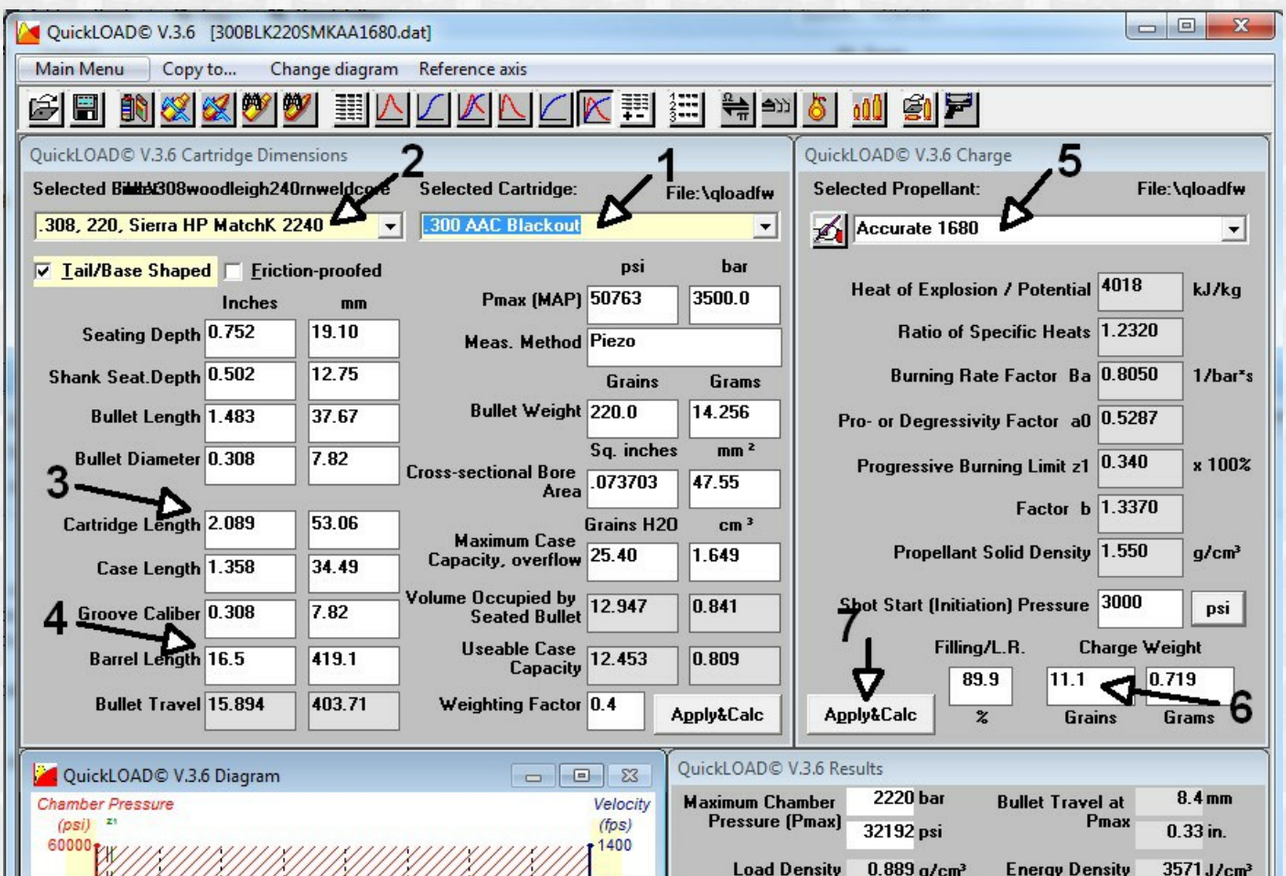
Insert the installation CD-ROM. If the installation does not begin automatically open *Windows Explorer*, navigate to the CD-ROM and double-click on *SETUP.EXE*

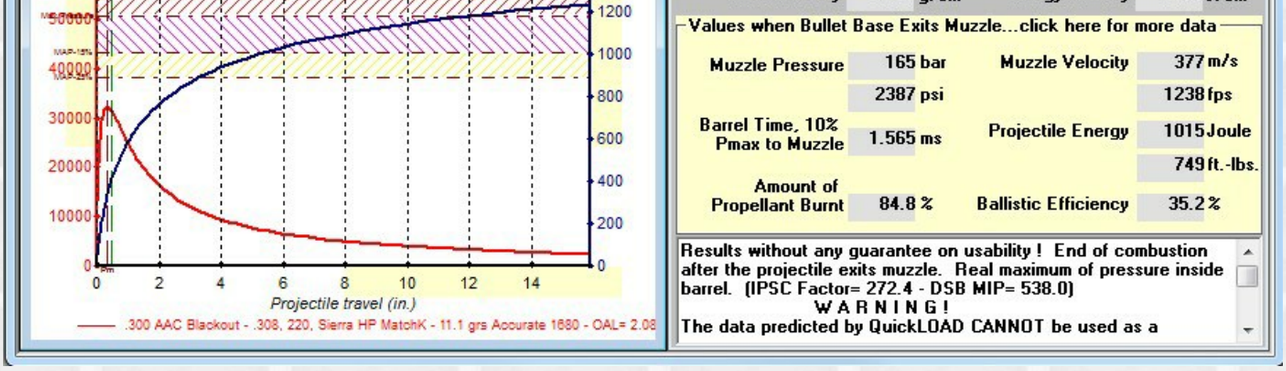
Getting Started with QuickLOAD

IMPORTANT: Numerical values shown in the illustrations are supplied for demonstration purposes only. Do NOT use values found in these illustrations as a basis for actual loads.

In the following screen captures I entered data for a common 300 AAC Blackout subsonic load.

Basic QuickLOAD Input





The following is the **minimum** input needed to calculate load data using QuickLOAD:

1. Select your cartridge from the drop-down list. **If your cartridge is not listed see *Search cartridges of same caliber* below**.

2. Select your bullet from the drop-down list. **If your bullet is not listed see *Search bullets of same diameter* below**. I selected a .308 caliber 220 grain Sierra MatchKing bullet.

3. **Enter the *Cartridge Length* (cartridge overall length COL) you actually use.** This is an important value because it determines the bullet seating depth and case capacity taken up by the bullet. This change in case capacity greatly affects pressure and velocity. **This value must be updated when you select a new bullet**.

4. Enter your gun's barrel length.

5. Select your powder from the drop-down list.

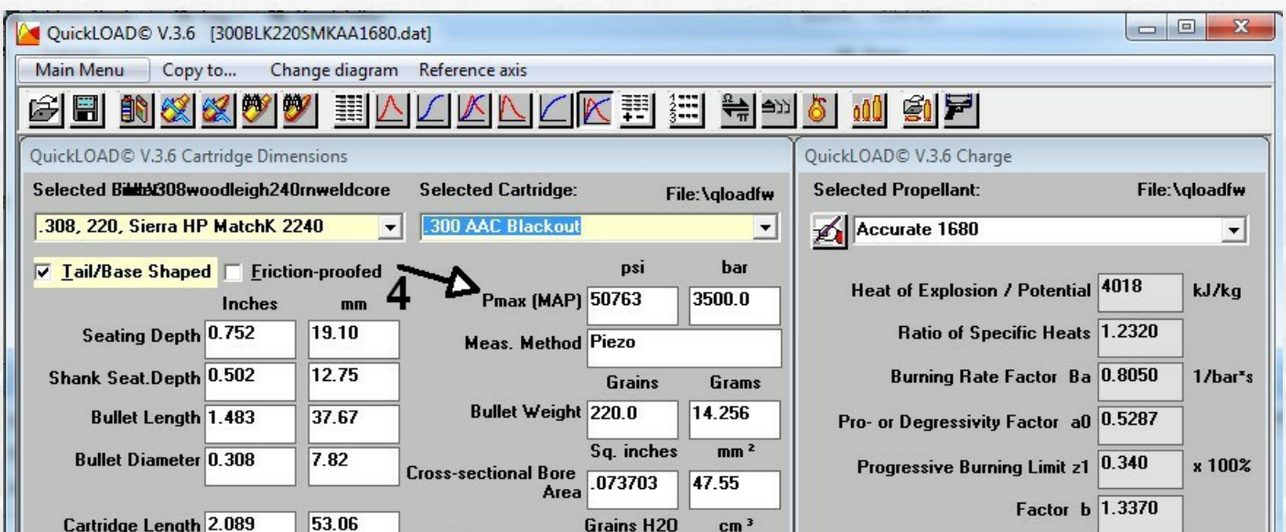
6. Enter the amount of powder in grains.

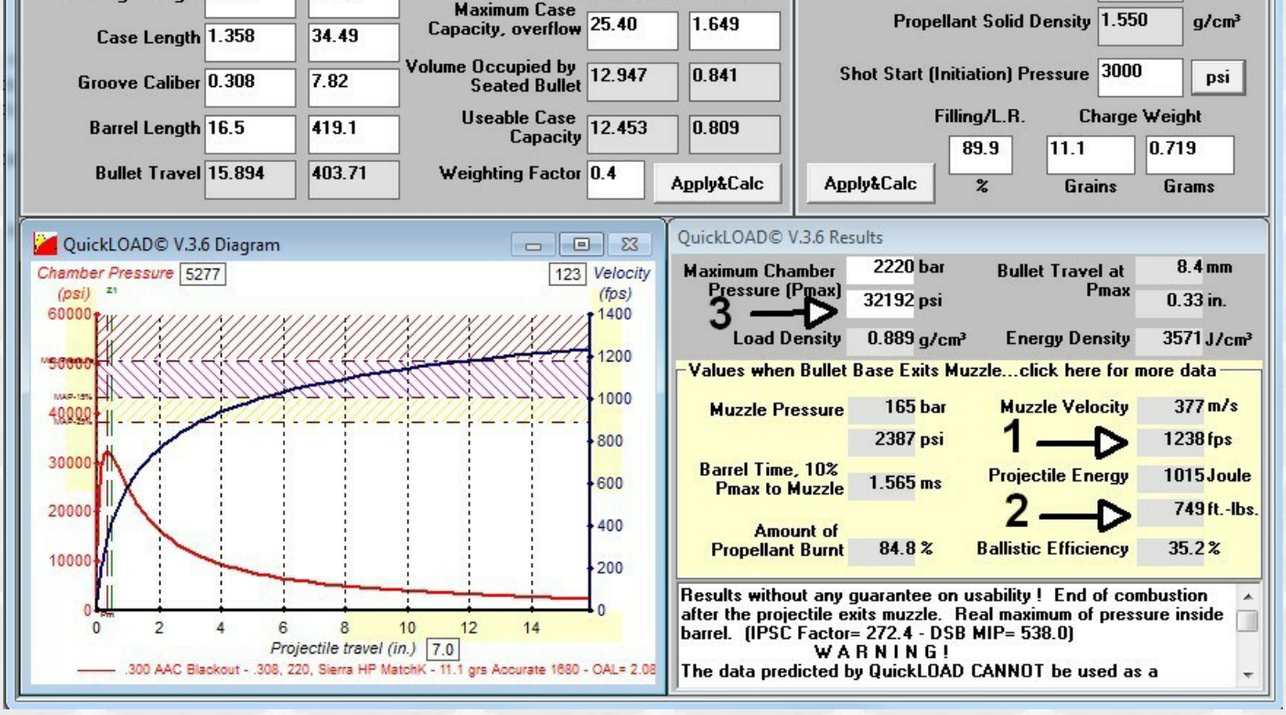
7. Click *Apply&Calc* to see QuickLOAD's calculated output.

Note: It's a good idea to measure the *Maximum Case Capacity, overflow* and input this value in the *Cartridge Dimensions* window to make QuickLOAD's calculations more reliable—this is especially true for subsonic loads. Use fired brass (not resized), weigh the case empty in grains, then fill it with water to just below the rim, tap gently to dislodge air bubbles, then fill it until the water level just bulges above the rim. Weigh it again then subtract the empty case weight to get the weight of water in grains the case will hold. Enter the weight into "*Maximum Case Capacity, overflow*". Your measured capacity will almost always be greater than QuickLOAD's default SAMMI (unfired) data.

Recommended Reading

QuickLOAD Output





1. *Muzzle Velocity* in feet-per-second and meters-per-second.

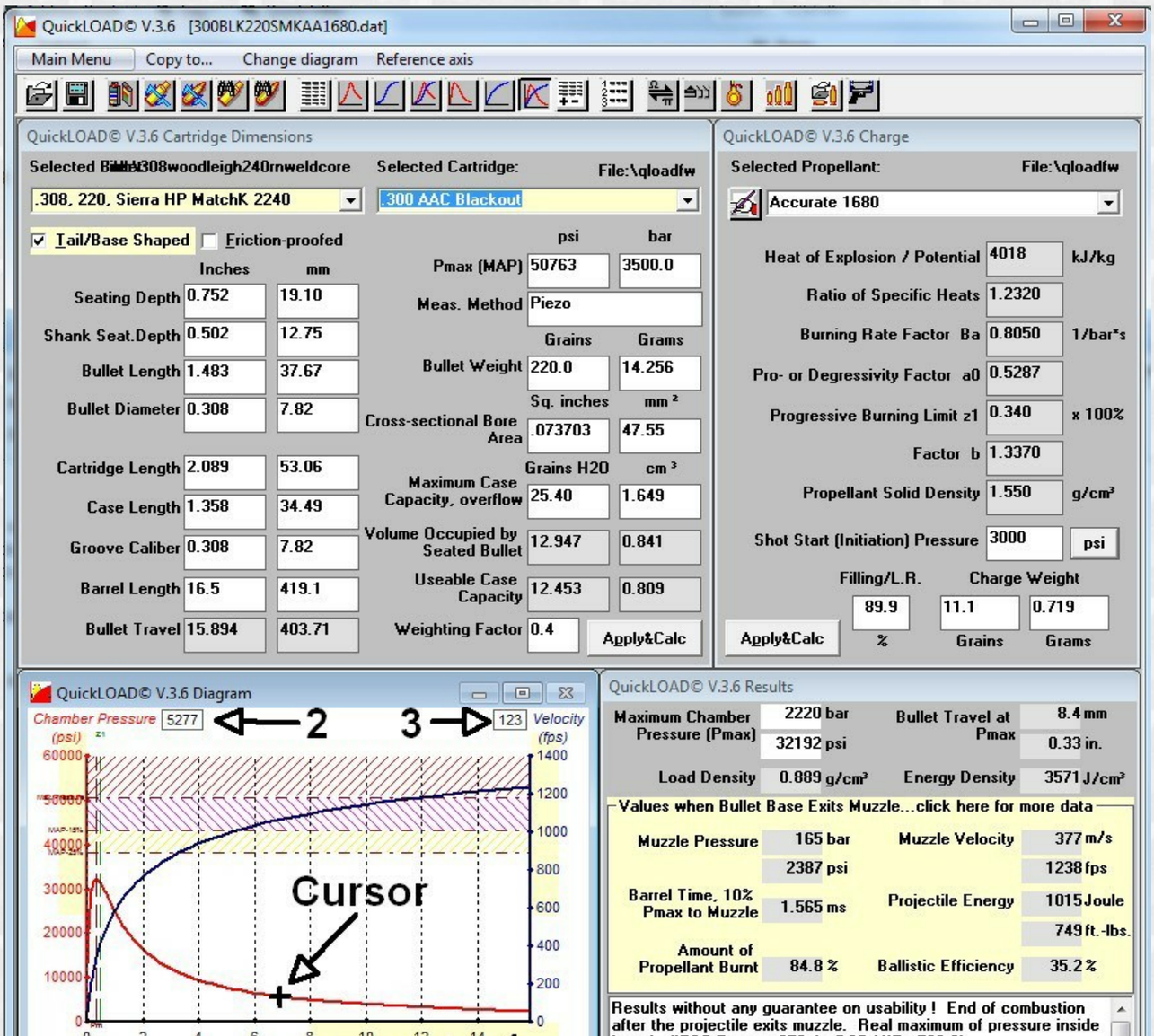
2. *Projectile Energy* at the muzzle in ft.-lbs. and Joules.

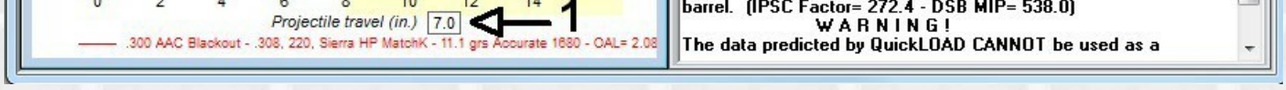
3. *Maximum Chamber Pressure* in pounds-per-square-inch and bar. The background of this output box will change color as you approach #4 *Pmax*.

4. Compare *Maximum Chamber Pressure* to *Pmax*, the maximum allowable pressure for the selected cartridge.

Notice the predicted muzzle velocity is 1238fps and 1050 is the usual target for subsonic loads. QuickLOAD over estimates muzzle velocity by around 200fps for most semi-auto subsonic loads. Using this load of 11.1 grains of AA1680 I get around 1040fps from the chronometer from my carbine length AR-15. **The gas used to cycle the rifle reduces subsonic muzzle velocity**. This effect is much less pronounced for supersonic loads.

QuickLOAD Diagram





As you move your mouse cursor around the QuickLOAD *Diagram* (above lower left) the following values track its location:

1. *Projectile travel* in inches down the barrel.

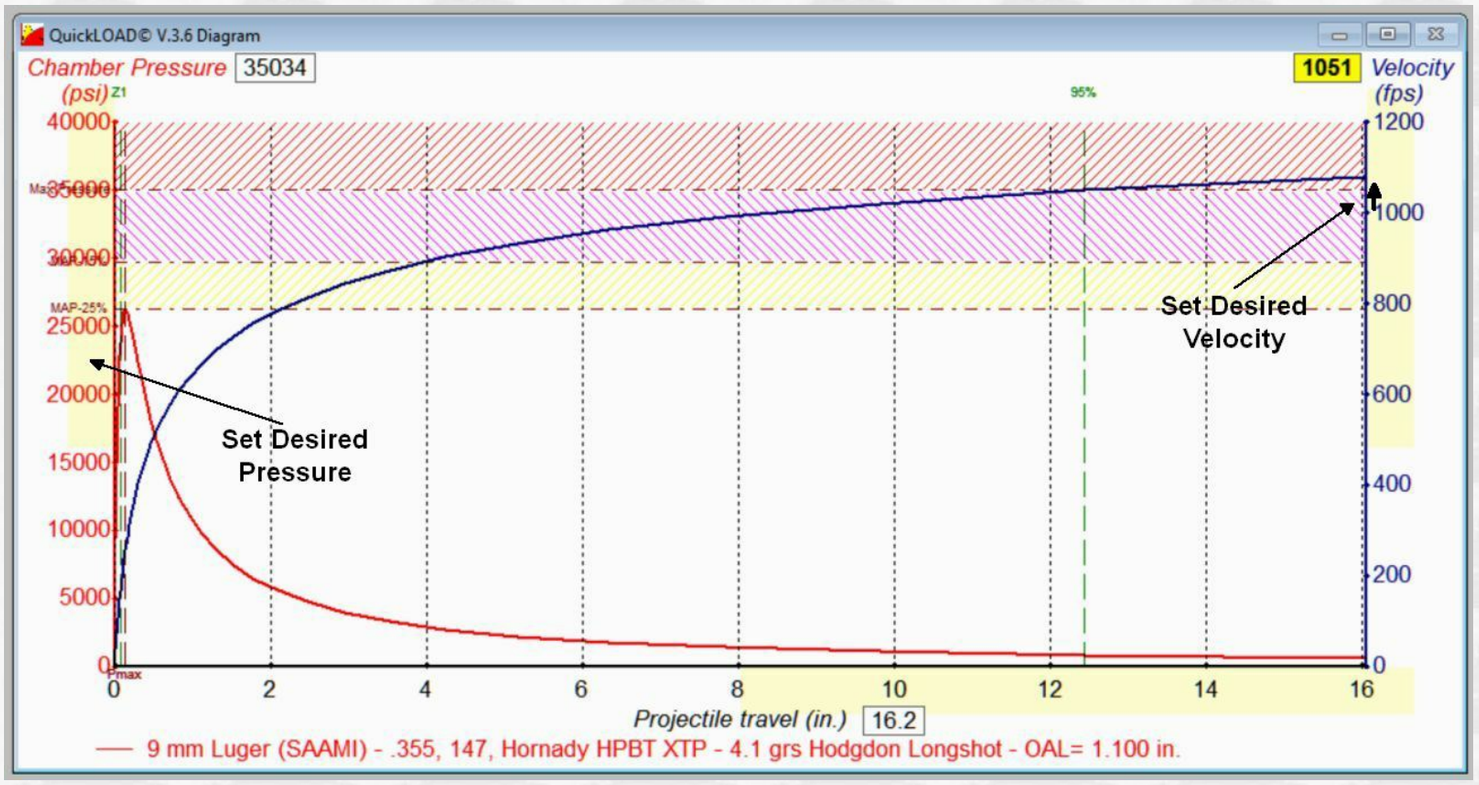
2. *Chamber Pressure* in psi.

3. *Velocity* in fps.

QuickLOAD's *Diagram* can be used to determine the pressure at the gas port of a rifle. Gas operated semi-auto rifles need a nominal amount of gas pressure at the gas port to cycle the action. This value can be critical when developing subsonic loads.

Since the gas port of an AR-15 carbine is located approximately 7 inches down the barrel you simply move your mouse cursor over the Diagram's red pressure curve at the 7 inch point and see what pressure the gas port will tap. In the screen capture above you can see the *Chamber Pressure* at 7 inches down the barrel is predicted to be 5277 which is more than enough to cycle an AR-15 carbine's action.

Set New Velocity or Chamber Pressure



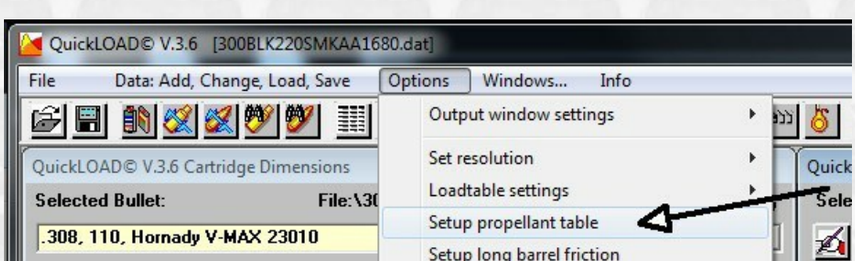
Click in the left margin (max pressure) or right margin (velocity) to set a new max pressure or velocity and QuickLOAD will adjust the powder to give that result.

This is a very cool capability offered by QuickLOAD. You can change your load by clicking in the chart's margins. Just click on the velocity you want in the right chart margin and the powder amount will be adjusted to get it. You can do the same thing to adjust the max chamber pressure in the left margin.

Create Propellant Table

One of the more powerful features of QuickLOAD is the Propellant Table. It's designed to help you find suitable powders for your loads.

Setup Propellant Table

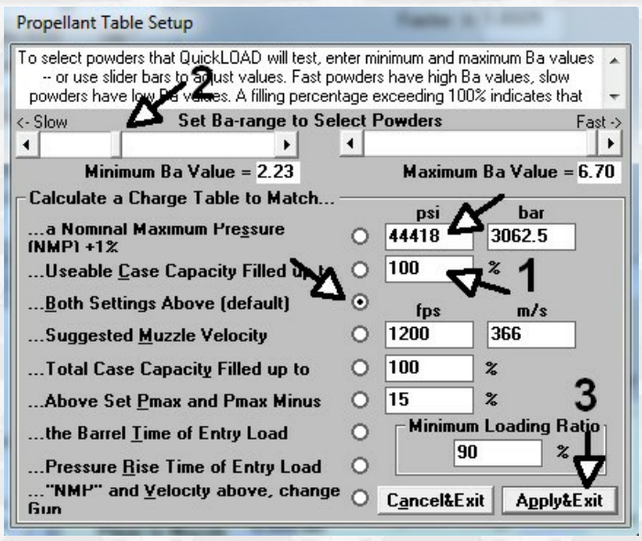


You can create a propellant table by selecting:

Options

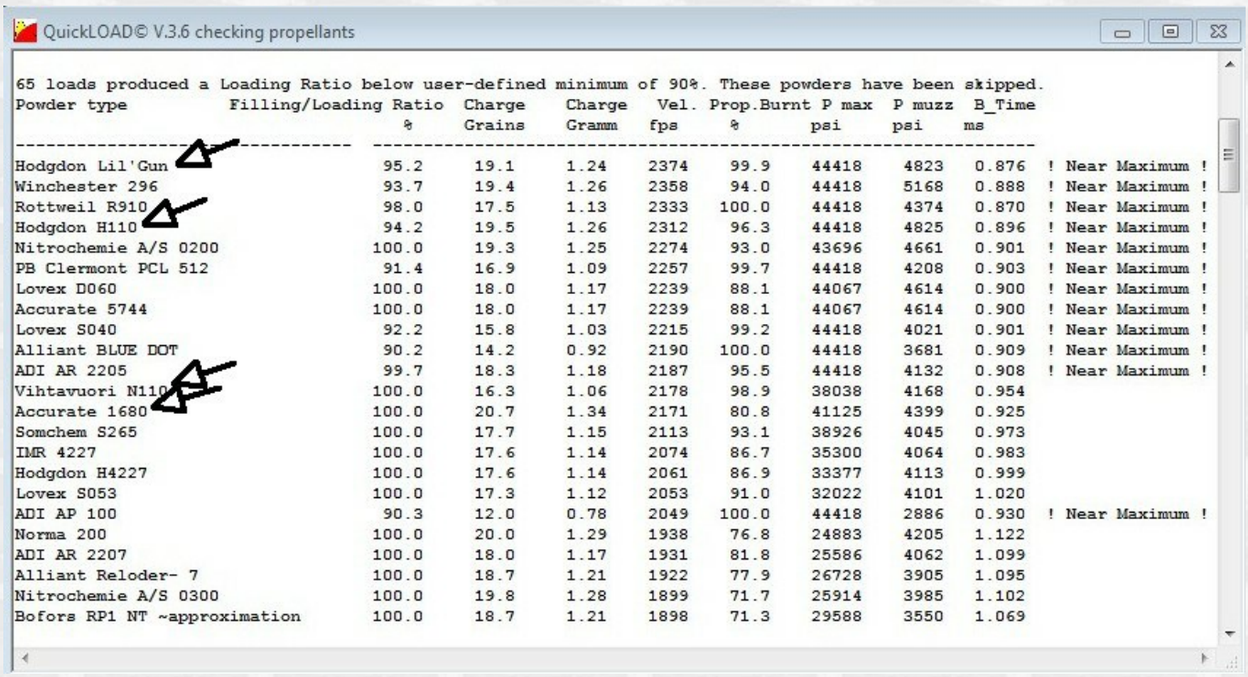
Setup propellant table

Search for Max Velocity Powder



In the above window we're searching for a relatively fast burning powder (2 - move slider) that will fill case capacity to 100% (1) and not exceed 44418 chamber pressure by selecting the "*Both Settings Above*" button. You can just move the left slider full left and the right slider full right to search all powders. Click on Apply&Exit (3) to create the propellant table.

Powder Table for 110gr V-Max Bullet with COL of 2.04"



Powder type	Filling/Loading Ratio %	Charge Grains	Charge Gramm	Vel. fps	Prop.Burnt %	P max psi	P muzz psi	B_Time ms	
Hodgdon Lil'Gun	95.2	19.1	1.24	2374	99.9	44418	4823	0.876	! Near Maximum !
Winchester 296	93.7	19.4	1.26	2358	94.0	44418	5168	0.888	! Near Maximum !
Rottweil R910	98.0	17.5	1.13	2333	100.0	44418	4374	0.870	! Near Maximum !
Hodgdon H110	94.2	19.5	1.26	2312	96.3	44418	4825	0.896	! Near Maximum !
Nitrochemie A/S 0200	100.0	19.3	1.25	2274	93.0	43696	4661	0.901	! Near Maximum !
PB Clermont PCL 512	91.4	16.9	1.09	2257	99.7	44418	4208	0.903	! Near Maximum !
Lovex D060	100.0	18.0	1.17	2239	88.1	44067	4614	0.900	! Near Maximum !
Accurate 5744	100.0	18.0	1.17	2239	88.1	44067	4614	0.900	! Near Maximum !
Lovex S040	92.2	15.8	1.03	2215	99.2	44418	4021	0.901	! Near Maximum !
Alliant BLUE DOT	90.2	14.2	0.92	2190	100.0	44418	3681	0.909	! Near Maximum !
ADI AR 2205	99.7	18.3	1.18	2187	95.5	44418	4132	0.908	! Near Maximum !
Vihtavuori N110	100.0	16.3	1.06	2178	98.9	38038	4168	0.954	
Accurate 1680	100.0	20.7	1.34	2171	80.8	41125	4399	0.925	
Somchem S265	100.0	17.7	1.15	2113	93.1	38926	4045	0.973	
IMR 4227	100.0	17.6	1.14	2074	86.7	35300	4064	0.983	
Hodgdon H4227	100.0	17.6	1.14	2061	86.9	33377	4113	0.999	
Lovex S053	100.0	17.3	1.12	2053	91.0	32022	4101	1.020	
ADI AP 100	90.3	12.0	0.78	2049	100.0	44418	2886	0.930	! Near Maximum !
Norma 200	100.0	20.0	1.29	1938	76.8	24883	4205	1.122	
ADI AR 2207	100.0	18.0	1.17	1931	81.8	25586	4062	1.099	
Alliant Reloder- 7	100.0	18.7	1.21	1922	77.9	26728	3905	1.095	
Nitrochemie A/S 0300	100.0	19.8	1.28	1899	71.7	25914	3985	1.102	
Bofors RP1 NT ~approximation	100.0	18.7	1.21	1898	71.3	29588	3550	1.069	

IMPORTANT: Numerical values shown in the illustrations are supplied for demonstration purposes only. Do NOT use values found in these illustrations as a basis for actual loads.

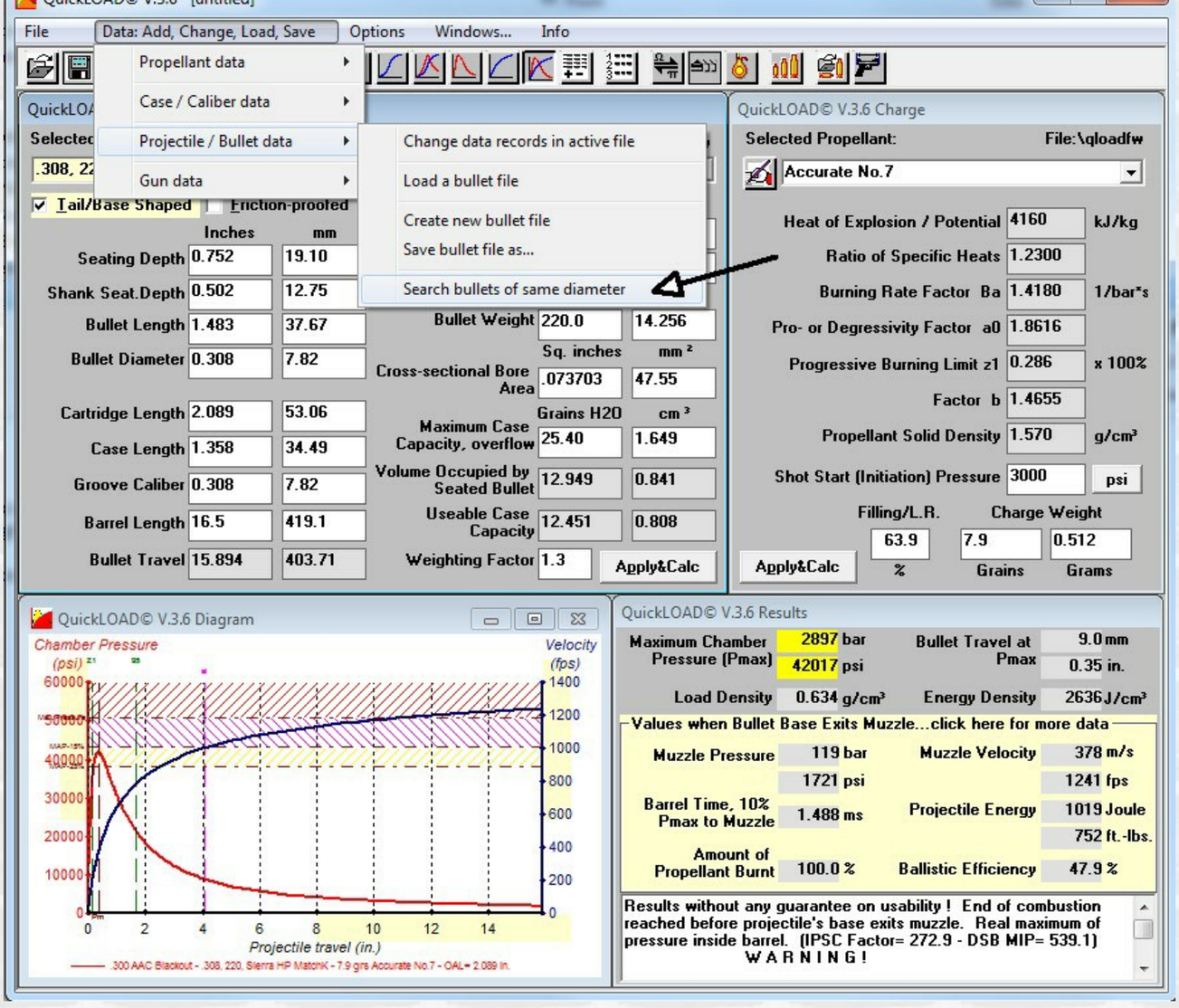
The resulting table is sorted by velocity so the fastest loads are at the top of the table and sure enough QuickLOAD suggests the four most popular powders used with 300BLK loads, Hodgdon Lil' Gun, Hodgdon H110, Vihtavuori N110 and Accurate Arms 1680.

Once the table is created you can sort it by other values by clicking on the table then selecting: *Sort by...* in the top menu.

Want to see what more case capacity will give you by seating the bullet a little shallower? Change the *Cartridge Length* input and run the table again. The *Propellant Table* feature is powerful and can save you time and money developing loads.

See this 6mm BR page for in depth information on using QuickLOAD.

Search Bullets of Same Diameter



When you first start using QuickLOAD many of its bullets are not shown in the *Selected Bullet* drop-down list. You can get QuickLOAD to load it's complete list of bullets by selecting:

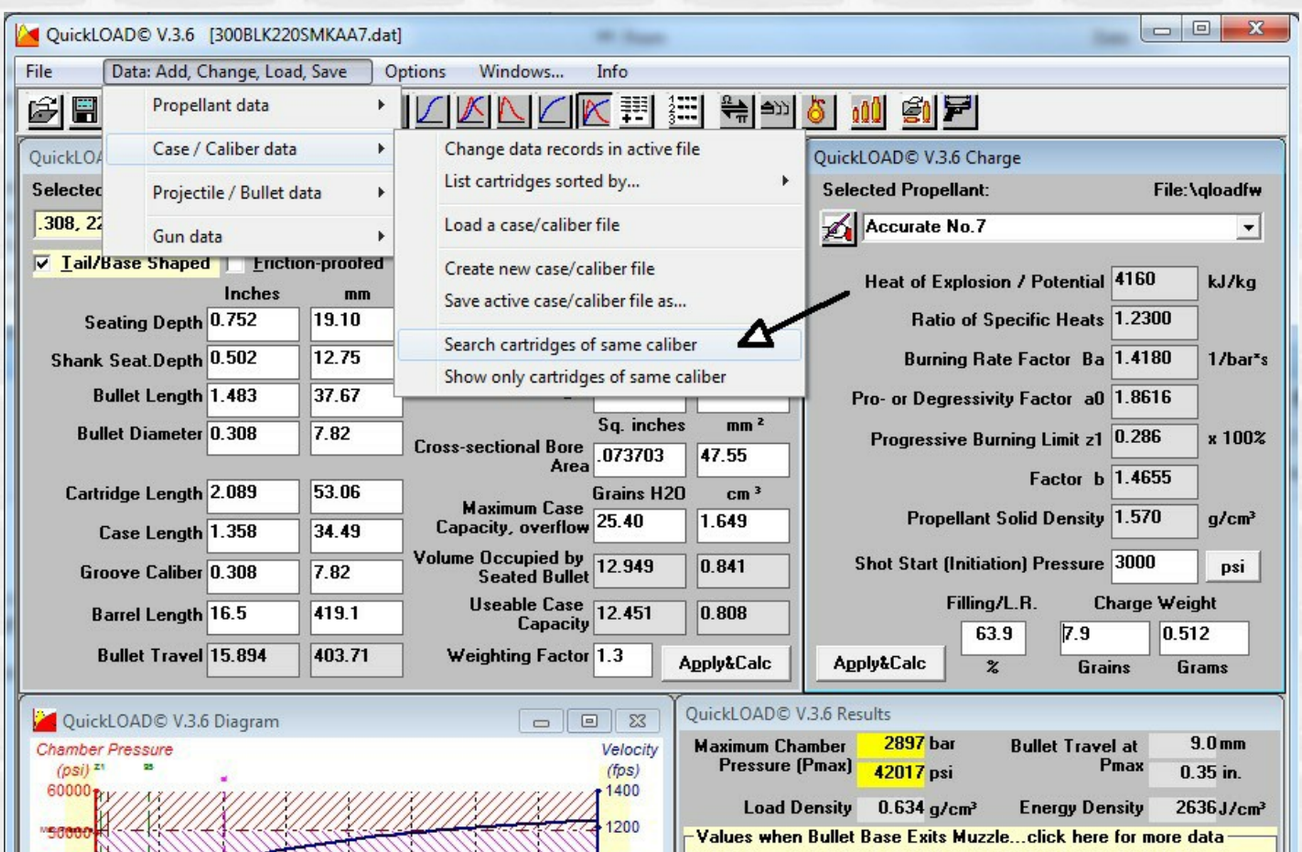
Data: Add, Change, Load, Save

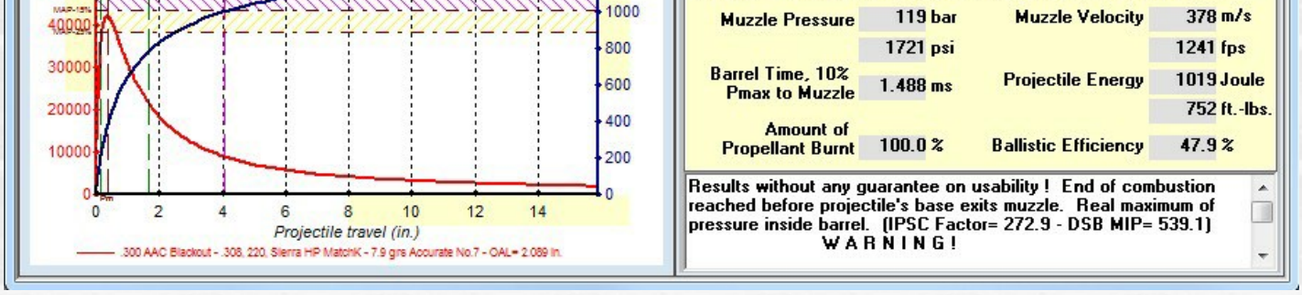
Projectile / Bullet data

Search bullets of same diameter

Enter the diameter of the desired bullets (i.e. .308 for 300BLK) and QuickLOAD will insert them into the *Selected Bullet* drop-down list.

Search Cartridges of Same Caliber





When you first start using QuickLOAD many of its cartridges are not shown in the *Selected Cartridge* drop-down list. You can get QuickLOAD to load it's complete list of cartridges by selecting:

Data: Add, Change, Load, Save

Case / Caliber data

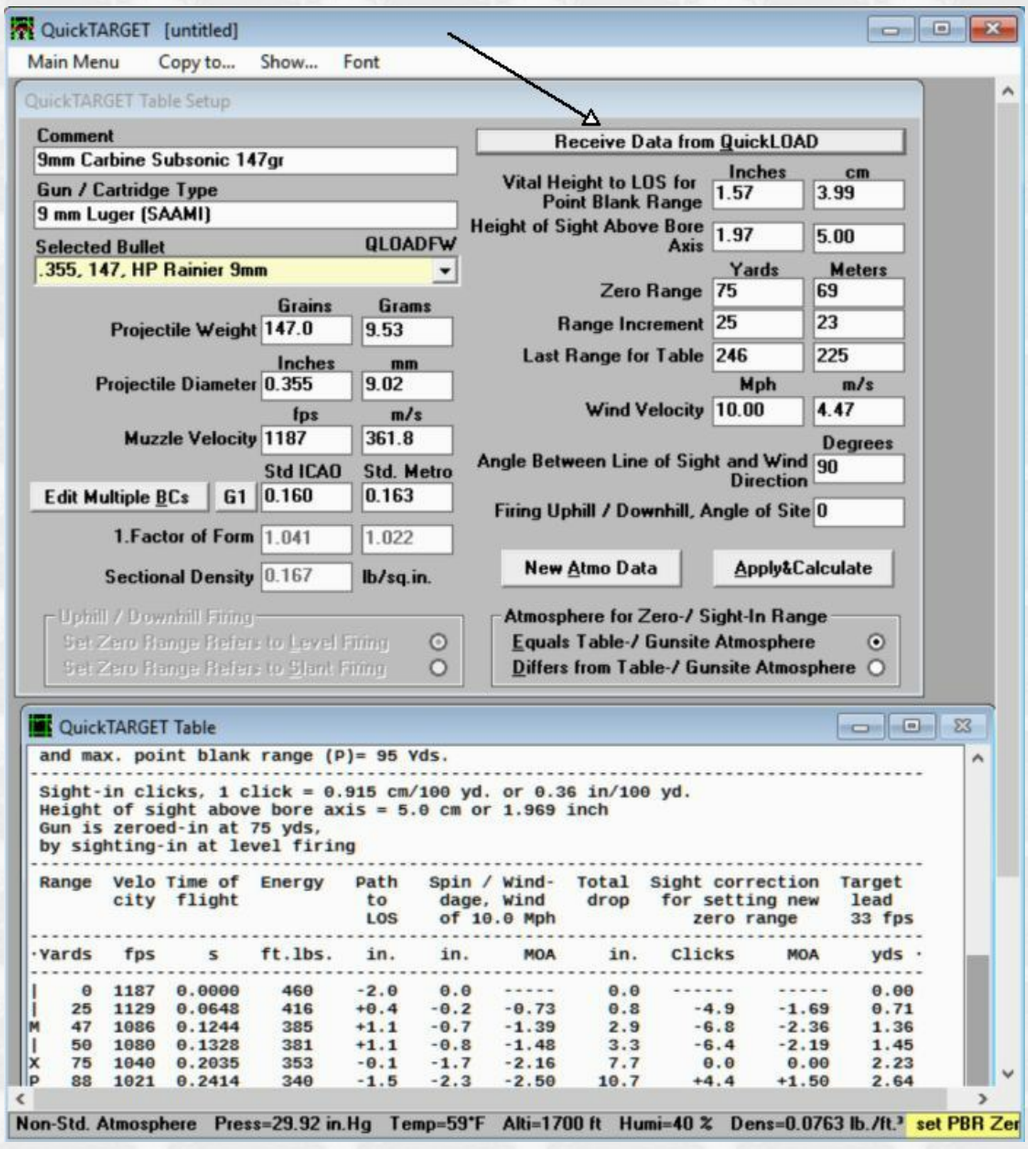
Search cartridges of same caliber

Enter the caliber (i.e. .308 for 300BLK) of the desired cartridge and QuickLOAD will insert them into the *Selected Cartridge* drop-down list.

QuickTARGET

QuickTARGET is included with the purchase of QuickLOAD and is installed when QuickLOAD is installed. **QuickTARGET is a simple to use *external* ballistic program that pulls data from QuickLOAD with the push of a button.** Open QuickTARGET and click the "*Receive Data from QuickLOAD*" button and the latest cartridge, bullet and muzzle velocity data will be imported and results will be automatically displayed. QuickLOAD does not need to be running to download data into QuickTARGET.

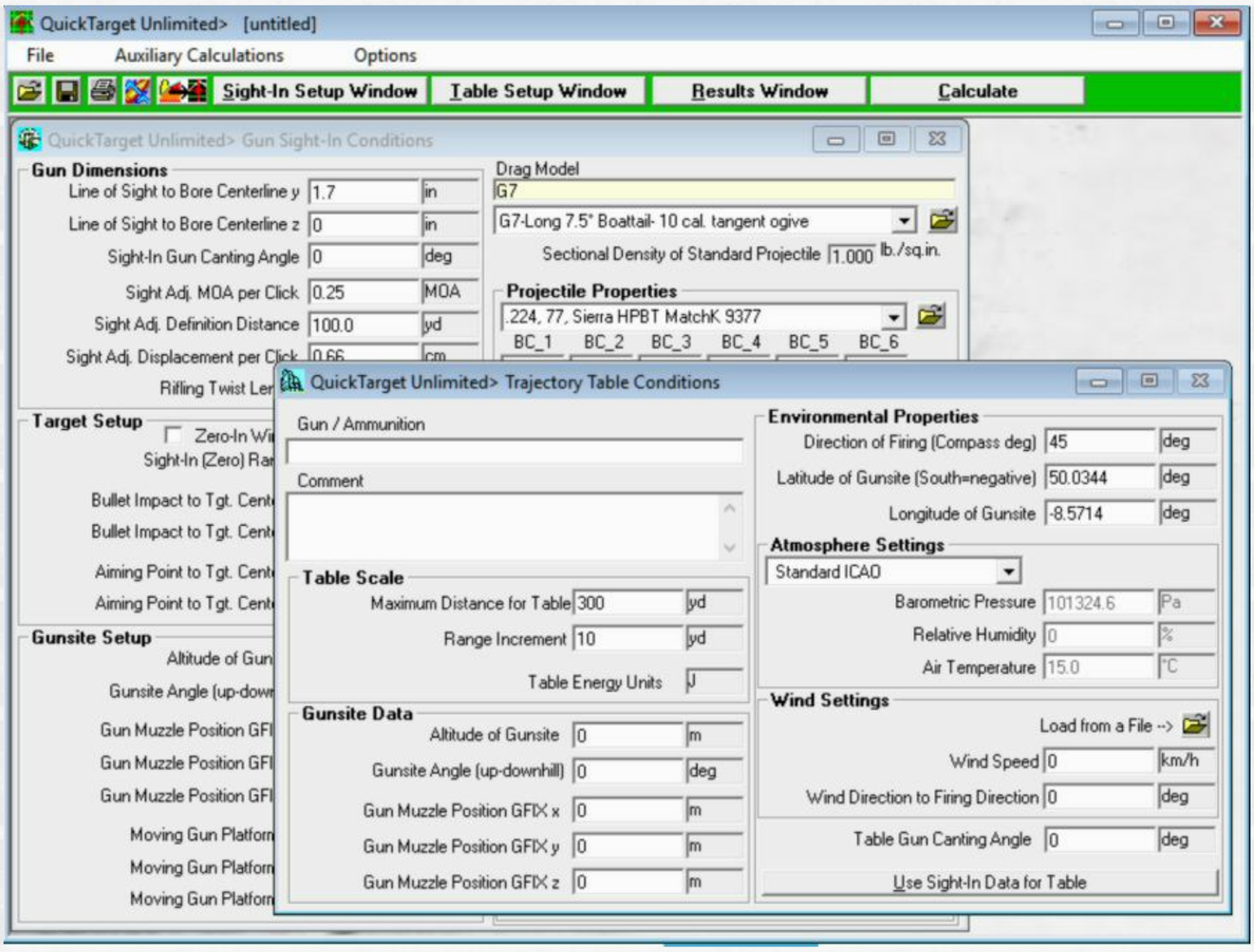
QuickTARGET



QuickTARGET Unlimited

QuickTARGET Unlimited is included with the purchase of QuickLOAD. It is a more **powerful but complicated** external ballistic program designed for advanced users. Most reloaders will be fine using the more user friendly QuickTARGET.

QuickTARGET Unlimited



Reloading 300BLK Subsonic

The first thing to consider when developing subsonic loads for 300 AAC Blackout is whether the ammo is for a bolt action rifle, semi-auto or both. You must use a slower burning powder to provide the gas pressure to cycle a semi-auto rifle but that leads to less powder burned and higher pressure at the muzzle which leads to more muzzle blast noise. If QuickLOAD reports less than 100% powder burn then the powder is still burning when the bullet exits the muzzle which leads to high muzzle pressure and more muzzle blast—not what you want for a quiet suppressed rifle. **For bolt action rifles you can use a faster powder for more powder burn and less muzzle pressure and noise**. The standard day speed of sound is around 1100fps but you should shoot for around 1050fps to prevent transonic noise.

Another factor to consider in load development is case fill%. A higher case fill% leads to more consistent powder burn and velocity and therefore accuracy.

For semi-autos including carbine gas AR-15s Accurate Arms AA1680 is the popular, hands-down winner. AA1680 will cycle AR carbines with their gas port at 7 inches down the barrel. QuickLOAD shows a gas port pressure of 5277 at 7 inches so use that pressure as a guide when searching for subsonic powders that will cycle a semi-auto rifle. An AR-15 with a pistol length gas port can use a faster burning powder but I have not developed loads for them. AR-15 gas ports are 4 inches down the barrel for a pistol, 7" for a carbine and 9" for a mid-length rifle. **When using QuickLOAD for semi-auto loads be sure and bump up your desired subsonic velocity by about 200fps** to compensate for the gas that will be siphoned off to operate the action. I use 1280fps as my subsonic target in QuickLOAD with AA1680 which puts the chronometer in the 1050fps ballpark.

For 16” bolt action guns or the Handi-Rifle, Vihtavuori N130 is a good fit for the Sierra MatchKing 220gr bullet. 10gr will give you a 97% case fill and 79% burn with relatively low muzzle pressure and noise. I discovered N130 by clicking on the *Propellant Table Setup* button, clicking *Suggested Muzzle Velocity* and setting *1050fps* then clicking *Apply&Exit*. The table created is sorted by case fill % so I went down to 105% (slight powder crush) and started looking at the data. N130 had the best case fill% and burn% so I gave it a try. N130 is way too fast of a powder to cycle a semi-auto but it’s excellent in bolt action 300BLK rifles.

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224 Valkyrie in QuickLOAD

224 Valkyrie is truly the "next big thing" in the MSR (Military Service Rifle or standard AR-15 size rifle). It fires

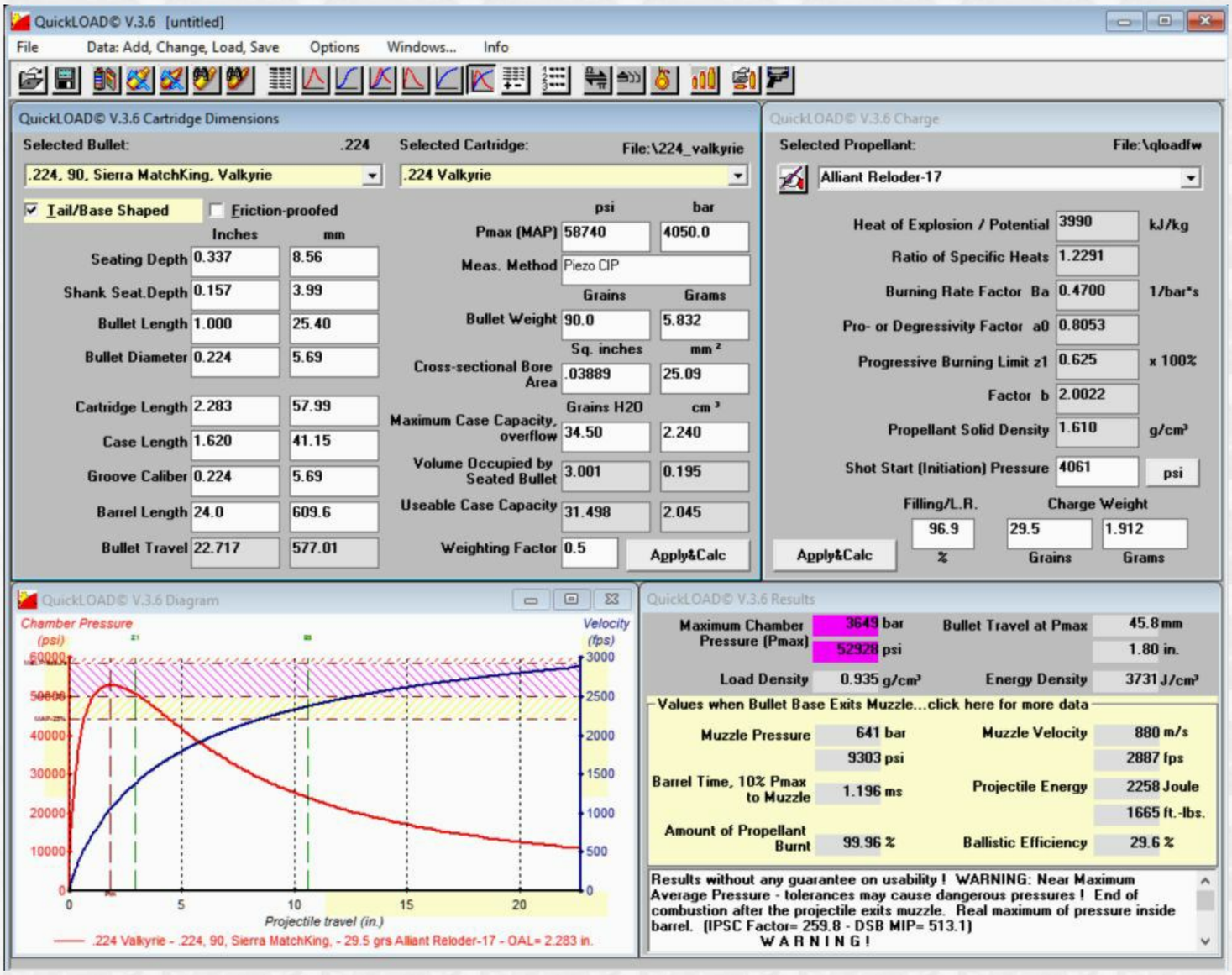
heavy (up to 100gr), high BC .224 caliber bullets. .224 is the same caliber as .223 and 5.56. It shoots extremely flat and stays supersonic out to beyond 1300 yards. Federal is working on ammo with 90gr Sierra MatchKing OTM (open tip match) bullets with a G1 ballistic coefficient of .563 (no, that's not a typo)! 60gr varmint, 75gr training and 100gr hunting rounds are also in the works from Federal. 224 Valkyrie MSR uses standard 6.8 SPC bolts and magazines so to convert an AR to 224 Valkyrie you'll need a 224 Valkyrie barrel and a 6.8 SPC bolt and magazine.

Federal is expected to release the official 224 Valkyrie cartridge specs after they are approved by SAMMI (possibly at the January 2018 Shot Show) but we can begin to play with QuickLOAD load development with the following estimates. The 224 Valkyrie case is based on a necked down 6.8 SPC so we can start with that case. In the QuickLOAD main menu select "*Data: Add, Change, Load, Save*", "*Case / Caliber data*", "*Search cartridges of same caliber*" and enter "*.277*", scroll down and select "*6.8 Rem SPC*". Then change the "*Case Length*" to "*1.620*", change the "*Groove Caliber*" to "*.224*", set "*Maximum Case Capacity, overflow*" to *"34.5*" grains, change "*Cross-sectional Bore Area*" to "*.03889*" and set your barrel length to your rifle or use the Federal standard of 24 inches.

To set the barrel twist you need to create a gun file. In the QuickLOAD main menu select *"Data: Add, Change, Load, Save", "Gun data", "Change data records in active file" and enter Gun, Caliber, Barrel Length, Rifling Twist Length per Turn, Height of Sight above Bore Axis and Gun weight*. Federal used a 24 inch barrel with a 1:7 twist to develop their ammo. Then click "*Save Data*" and then "*OK/Apply*".

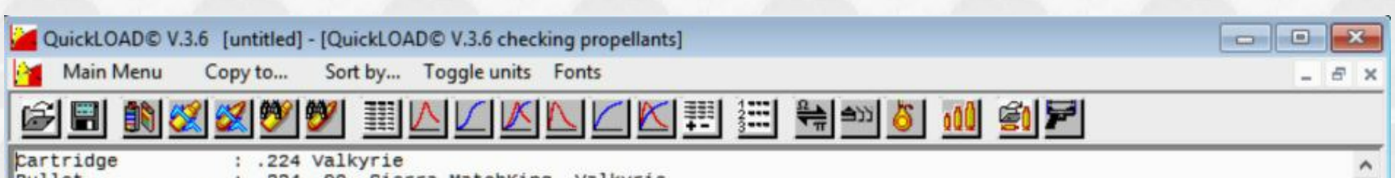
You can save the cartridge data in QuickLOAD by changing the name of the "*Selected Cartridge:*" to something like "*.224 Valkyrie*", selecting "*Data: Add, Change, Load, Save*", "*Case / Caliber data*", "*Save active case/caliber as*" from the main menu. You can save the bullet data by selecting from the main menu: "*Data: Add, Change, Load, Save*", "*Projectile / Bullet data*", "*Save bullet file as*".

224 Valkyrie 90gr Sierra MatchKing and Alliant Reloader-17



Warning: This data is based on necked down 6.8 SPC case pressure and size specifications and should not be used for actual load development.

224 Valkyrie Propellant Table



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Bullet                : .224, 90, Sierra MatchKing, Valkyrie
Useable Case Capaci: 31.498 grain H2O = 2.045 cm³
Cartridge O.A.L. L6: 2.283 inch = 57.99 mm
Barrel Length       : 24.0 inch = 609.6 mm

Predicted Data for Indicated Charges of the Following Powders.
Matching Maximum Pressure: 53000 psi, or 365 MPa
or a maximum loading ratio or filling of 107 %
These calculations refer to your specified settings in QuickLOAD 'Cartridge Dimensions' window.
C A U T I O N : any load listed can result in a powder charge that falls below minimum suggested
loads or exceeds maximum suggested loads as presented in current handloading manuals. Understand
that all of the listed powders can be unsuitable for the given combination of cartridge, bullet
and gun. Actual load order can vary, depending upon lot-to-lot powder and component variations.
USE ONLY FOR COMPARISON !

169 loads produced a Loading Ratio below user-defined minimum of 90%. These powders have been skipped.
```

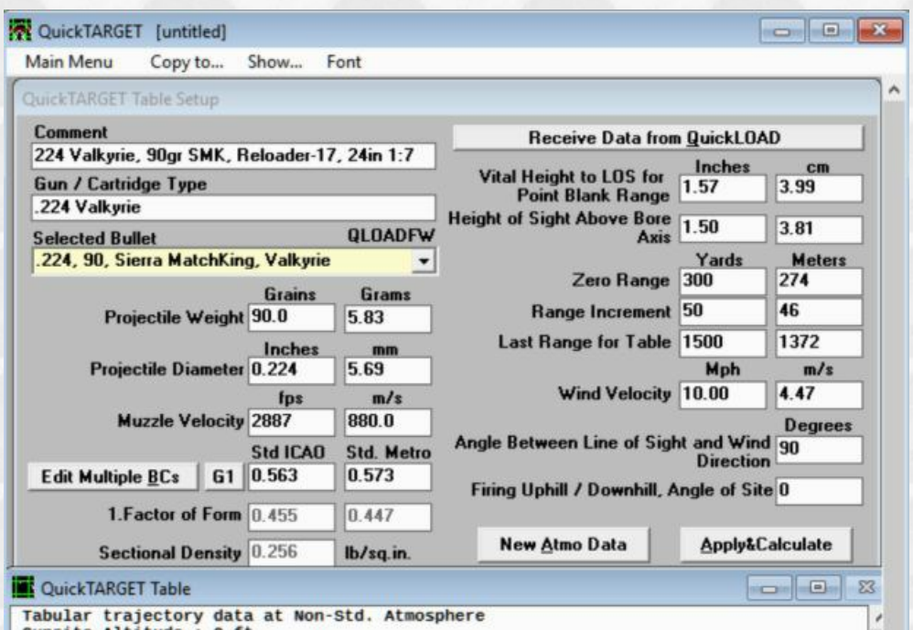
Powder type	Filling/Loading Ratio %	Charge Grains	Charge Gramm	Vel. fps	Prop.Burnt %	P max psi	P muzz psi	B_Time ms	
Alliant Reloder-26	107.0	33.4	2.16	2920	98.8	51024	10422	1.210	! Near Maximum !
ReloadSwiss RS 60	97.8	29.8	1.93	2908	100.0	53000	9360	1.189	! Near Maximum !
Alliant Reloder-17	96.9	29.5	1.91	2888	100.0	53000	9305	1.195	! Near Maximum !
Elcho 17	96.9	29.5	1.91	2888	100.0	53000	9305	1.195	! Near Maximum !
ReloadSwiss RS 70	103.9	32.2	2.08	2877	97.0	53000	9908	1.192	! Near Maximum !
Somchem S365	104.4	30.1	1.95	2874	100.0	53000	8900	1.204	! Near Maximum !
Norma MRP	107.0	32.4	2.10	2869	96.2	50681	10133	1.219	! Near Maximum !
Alliant Reloder-16	103.9	29.4	1.90	2867	99.7	53000	9175	1.205	! Near Maximum !
ReloadSwiss RS 62	100.8	30.7	1.99	2859	99.0	53000	9324	1.213	! Near Maximum !
PB Clermont PCL 511	98.3	30.4	1.97	2842	97.8	53000	9329	1.206	! Near Maximum !
PB Clermont PCL 518	102.4	30.7	1.99	2842	97.5	53000	9365	1.206	! Near Maximum !
Ramshot Hunter	101.6	30.5	1.97	2840	97.8	53000	9315	1.206	! Near Maximum !
Hodgdon H414	95.8	29.4	1.91	2830	97.0	53000	9251	1.211	! Near Maximum !
Winchester 760	95.8	29.4	1.91	2830	97.0	53000	9251	1.211	! Near Maximum !
Accurate 4350	100.7	29.2	1.90	2828	99.1	53000	9058	1.230	! Near Maximum !
Norma URP	101.0	29.0	1.88	2828	99.1	53000	9035	1.214	! Near Maximum !
Bofors RP19 ~approximation	101.0	29.0	1.88	2828	99.1	53000	9033	1.214	! Near Maximum !
Vihtavuori N550	97.9	29.1	1.88	2825	99.0	53000	9124	1.221	! Near Maximum !
IMR 7828 SSC	107.0	31.9	2.07	2825	92.4	51939	9668	1.207	! Near Maximum !
Alliant Reloder-19	105.9	30.8	1.99	2824	95.0	53000	9363	1.204	! Near Maximum !
Bofors RP14 ~approximation	106.7	31.0	2.01	2817	94.9	53000	9291	1.205	! Near Maximum !
ADI AR 2209	105.0	30.3	1.96	2814	94.7	53000	9259	1.200	! Near Maximum !
ReloadSwiss RS 52	91.7	27.5	1.78	2813	100.0	53000	8508	1.221	! Near Maximum !
IMR 4831	106.1	29.5	1.91	2812	99.2	53000	8864	1.224	! Near Maximum !
SNPE Vectan SP 11	94.0	28.2	1.83	2810	99.7	53000	8719	1.216	! Near Maximum !
Ramshot Big Game	91.0	28.2	1.82	2804	99.7	53000	8628	1.216	! Near Maximum !
Hodgdon Hybrid 100V	103.9	29.2	1.89	2802	99.9	53000	8405	1.210	! Near Maximum !
Somchem S385	106.5	31.3	2.03	2798	96.2	53000	9057	1.224	! Near Maximum !
Norma 204	100.3	30.1	1.95	2797	94.7	53000	9077	1.207	! Near Maximum !
Raufoss RA4	103.5	30.1	1.95	2797	94.7	53000	9077	1.207	! Near Maximum !
Bofors RP4 ~approximation	103.5	30.1	1.95	2797	94.7	53000	9077	1.207	! Near Maximum !
Vihtavuori N560	107.0	31.7	2.06	2796	91.1	48633	9823	1.245	
IMR 4895	90.3	26.2	1.70	2794	99.8	53000	8605	1.228	! Near Maximum !
ADI AR 2213	107.0	31.4	2.04	2789	91.8	50876	9472	1.220	! Near Maximum !
Bofors RP4 NT ~approximation	101.1	29.8	1.93	2784	96.6	53000	8885	1.221	! Near Maximum !
Norma 203B	91.6	26.6	1.72	2784	99.7	53000	8511	1.229	! Near Maximum !
Bofors RP11 ~approximation	91.1	26.4	1.71	2783	99.5	53000	8555	1.229	! Near Maximum !
Raufoss RA11	91.1	26.4	1.71	2783	99.5	53000	8555	1.229	! Near Maximum !
Alliant Reloder-15	91.1	26.4	1.71	2783	99.5	53000	8555	1.229	! Near Maximum !
Bofors RP3	93.3	27.4	1.77	2783	100.0	53000	8433	1.241	! Near Maximum !
Norma 203 old	93.3	27.4	1.77	2783	100.0	53000	8433	1.241	! Near Maximum !
Bofors RP5/NP ~approximation	107.0	31.4	2.04	2780	93.7	47909	9620	1.256	
Raufoss RA15	107.0	31.4	2.04	2780	93.7	47909	9620	1.256	
Alliant Reloder-22	107.0	31.4	2.04	2780	93.7	47909	9620	1.256	
Hodgdon H4831 SC	106.8	31.4	2.03	2778	92.0	53000	9018	1.206	! Near Maximum !
Rottweil R903	95.4	27.4	1.78	2776	99.9	53000	8363	1.241	! Near Maximum !
Winchester Supreme 780	104.5	32.0	2.07	2774	94.6	53000	8868	1.209	! Near Maximum !
Hodgdon H380	92.6	27.5	1.78	2773	98.7	53000	8627	1.233	! Near Maximum !
IMR 4320	93.1	26.6	1.72	2771	99.7	53000	8262	1.212	! Near Maximum !
Lovex S070	100.0	28.7	1.86	2768	97.1	53000	8743	1.234	! Near Maximum !
Somchem S355	95.1	27.0	1.75	2767	99.9	53000	8337	1.237	! Near Maximum !
IMR 3031	90.6	24.6	1.59	2762	100.0	53000	7656	1.230	! Near Maximum !

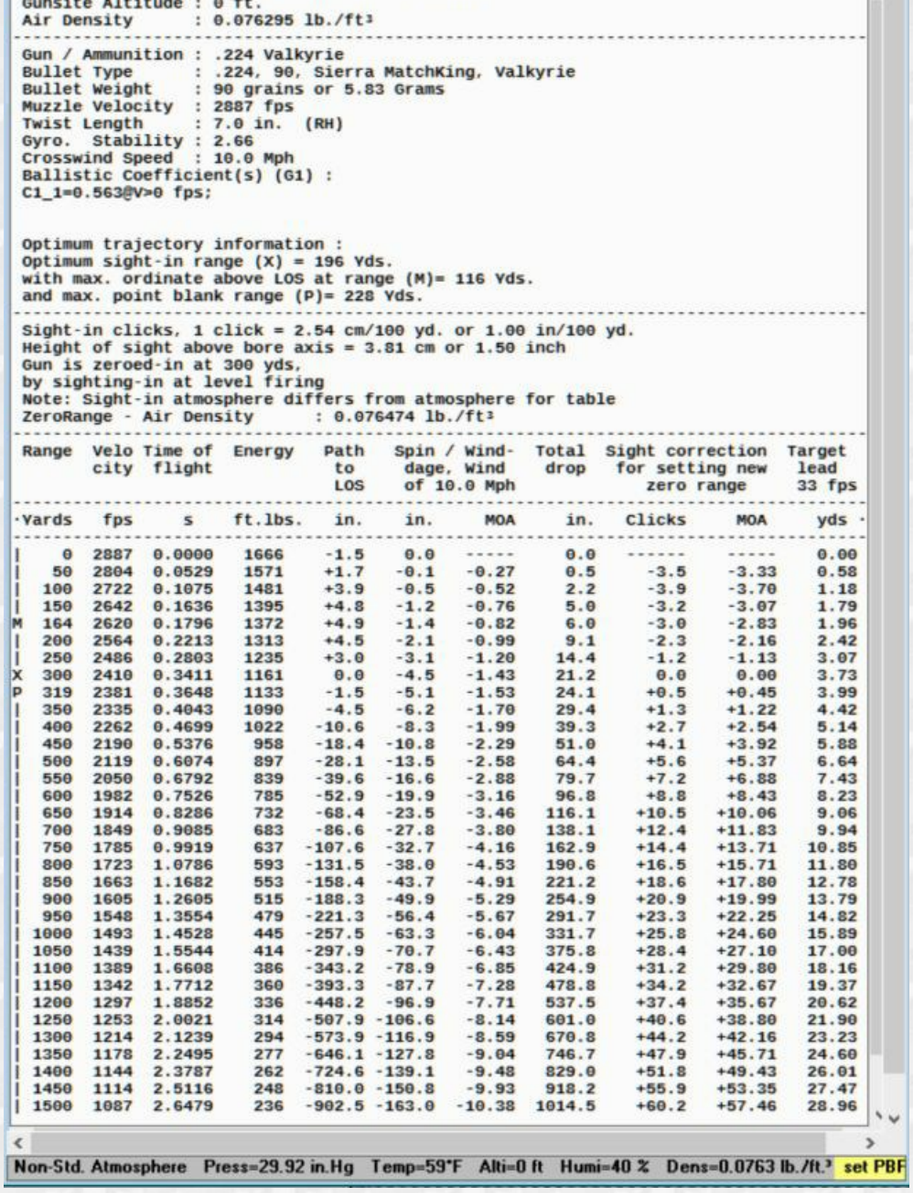
Warning: This data is based on necked down 6.8 SPC case pressure and size specifications and should not be used for actual load development.

224 Valkyrie in QuickTARGET

Open QuickTARGET and click on "*Receive Data from QuickLOAD*" and change the *G1 BC* to "*.563*". You can save the data in QuickTARGET by selecting "*Edit / Save*" from the main menu, then "*Bullets*", "*Save projectile file as*". Click "*Apply&Calculate*" to create a ballistics table.

QuickTARGET 224 Valkyrie Ballistic Table





```
Gunsite Altitude : 0 ft.
Air Density      : 0.076295 lb./ft³
-------------------------------------------------------------------------------
Gun / Ammunition : .224 Valkyrie
Bullet Type      : .224, 90, Sierra MatchKing, Valkyrie
Bullet Weight    : 90 grains or 5.83 Grams
Muzzle Velocity  : 2887 fps
Twist Length     : 7.0 in.  (RH)
Gyro.  Stability : 2.66
Crosswind Speed  : 10.0 Mph
Ballistic Coefficient(s) (G1) :
C1_1=0.563@V>0 fps;


Optimum trajectory information :
Optimum sight-in range (X) = 196 Yds.
with max. ordinate above LOS at range (M)= 116 Yds.
and max. point blank range (P)= 228 Yds.
-------------------------------------------------------------------------------
Sight-in clicks, 1 click = 2.54 cm/100 yd. or 1.00 in/100 yd.
Height of sight above bore axis = 3.81 cm or 1.50 inch
Gun is zeroed-in at 300 yds,
by sighting-in at level firing
Note: Sight-in atmosphere differs from atmosphere for table
ZeroRange - Air Density      : 0.076474 lb./ft³
-------------------------------------------------------------------------------
 Range  Velo Time of  Energy   Path   Spin / Wind-  Total  Sight correction  Target
        city  flight           to     dage, Wind   drop   for setting new   lead
                               LOS    of 10.0 Mph          zero range      33 fps
-------------------------------------------------------------------------------
·Yards   fps     s    ft.lbs.   in.     in.     MOA     in.   Clicks     MOA     yds ·
-------------------------------------------------------------------------------
|    0  2887  0.0000   1666    -1.5    0.0    -----     0.0   ------    -----    0.00
|   50  2804  0.0529   1571    +1.7    -0.1   -0.27     0.5     -3.5    -3.33    0.58
|  100  2722  0.1075   1481    +3.9    -0.5   -0.52     2.2     -3.9    -3.70    1.18
|  150  2642  0.1636   1395    +4.8    -1.2   -0.76     5.0     -3.2    -3.07    1.79
M 164  2620  0.1796   1372    +4.9    -1.4   -0.82     6.0     -3.0    -2.83    1.96
|  200  2564  0.2213   1313    +4.5    -2.1   -0.99     9.1     -2.3    -2.16    2.42
|  250  2486  0.2803   1235    +3.0    -3.1   -1.20    14.4     -1.2    -1.13    3.07
X 300  2410  0.3411   1161     0.0    -4.5   -1.43    21.2      0.0     0.00    3.73
P 319  2381  0.3648   1133    -1.5    -5.1   -1.53    24.1     +0.5    +0.45    3.99
|  350  2335  0.4043   1090    -4.5    -6.2   -1.70    29.4     +1.3    +1.22    4.42
|  400  2262  0.4699   1022   -10.6    -8.3   -1.99    39.3     +2.7    +2.54    5.14
|  450  2190  0.5376    958   -18.4   -10.8   -2.29    51.0     +4.1    +3.92    5.88
|  500  2119  0.6074    897   -28.1   -13.5   -2.58    64.4     +5.6    +5.37    6.64
|  550  2050  0.6792    839   -39.6   -16.6   -2.88    79.7     +7.2    +6.88    7.43
|  600  1982  0.7526    785   -52.9   -19.9   -3.16    96.8     +8.8    +8.43    8.23
|  650  1914  0.8286    732   -68.4   -23.5   -3.46   116.1    +10.5   +10.06    9.06
|  700  1849  0.9085    683   -86.6   -27.8   -3.80   138.1    +12.4   +11.83    9.94
|  750  1785  0.9919    637  -107.6   -32.7   -4.16   162.9    +14.4   +13.71   10.85
|  800  1723  1.0786    593  -131.5   -38.0   -4.53   190.6    +16.5   +15.71   11.80
|  850  1663  1.1682    553  -158.4   -43.7   -4.91   221.2    +18.6   +17.80   12.78
|  900  1605  1.2605    515  -188.3   -49.9   -5.29   254.9    +20.9   +19.99   13.79
|  950  1548  1.3554    479  -221.3   -56.4   -5.67   291.7    +23.3   +22.25   14.82
| 1000  1493  1.4528    445  -257.5   -63.3   -6.04   331.7    +25.8   +24.60   15.89
| 1050  1439  1.5544    414  -297.9   -70.7   -6.43   375.8    +28.4   +27.10   17.00
| 1100  1389  1.6608    386  -343.2   -78.9   -6.85   424.9    +31.2   +29.80   18.16
| 1150  1342  1.7712    360  -393.3   -87.7   -7.28   478.8    +34.2   +32.67   19.37
| 1200  1297  1.8852    336  -448.2   -96.9   -7.71   537.5    +37.4   +35.67   20.62
| 1250  1253  2.0021    314  -507.9  -106.6   -8.14   601.0    +40.6   +38.80   21.90
| 1300  1214  2.1239    294  -573.9  -116.9   -8.59   670.8    +44.2   +42.16   23.23
| 1350  1178  2.2495    277  -646.1  -127.8   -9.04   746.7    +47.9   +45.71   24.60
| 1400  1144  2.3787    262  -724.6  -139.1   -9.48   829.0    +51.8   +49.43   26.01
| 1450  1114  2.5116    248  -810.0  -150.8   -9.93   918.2    +55.9   +53.35   27.47
| 1500  1087  2.6479    236  -902.5  -163.0  -10.38  1014.5    +60.2   +57.46   28.96
```

Non-Std. Atmosphere Press=29.92 in.Hg Temp=59°F Alti=0 ft Humi=40 % Dens=0.0763 lb./ft.³ set PBR

As soon as Federal releases the 224 Valkyrie case specs I'll update this page. Check back here for the update.

QuickLOAD's main website is: https://quickload.co.uk

For QuickLOAD users in the USA you can purchase QuickLOAD and data updates at: http://www.neconos.com
Their bullet and powder update sells for $15.95 + shipping.

I hope this *Quick Start Guide* will help get some of you up to speed quicker with QuickLOAD.

Major Rob Robinette