



# QuickLOAD and QuickTARGET Ballistic programs

*Review by Bruce Potts*  
25.10.2012

<http://QuickLOAD.co.uk/>

## Introduction

With the prices of raw material such as lead and copper sky rocketing components rise proportionately. Never more have us reloaders carefully combined our pet loads to save wasting precious metal with inaccurate loads.

One way I save a lot of money and time is to use a ballistics program to predict and then shoot my theoretical load on my computer, in that way inappropriate loads can be dismissed without reloading them and then end up pulling the heads.

I have used for 10 years plus and would not be without the [QuickLOAD and Quick Target ballistics program from JMS Arms](#).

I am no computer expert believe me, once you start loading it becomes very addictive with predicting loads. I also use QuickLOAD and its sister program to Quick Design for all my Wildcat creations and it has been invaluable in this regard.

## Spec sheet

For £125 you get QuickLOAD, the loading part or interior ballistics of the program bundled with QuickTARGET the Exterior ballistics with data generated and saved being able to move from one and the other.

If £125 for a computer disc seems steep it is not, you will save this within the first month or so with the lack of wasted ammunition.

Broadly speaking there are 1200 cartridges stored in its data banks with new factory and wildcats updated all the time so the cartridge you are looking for will be there. You also have over 230 differing powders to choice from, some of which I have never heard of so you

can load and reload your pet load with different powders just to see the ballistic changes.

Bullet choice too is comprehensive with all the major and independent manufacturers stored with some 2500 choices that will suit all your shooting disciplines.

The beauty of QuickLOAD is that it can allow reloaders really to understand what effects pressures, velocities, energy by changing single or multiple variables in the reloading procedure.

Predictions regarding barrel length, temperature changes, friction in the bore, bullet seating depth can all be loaded to see the changes safely without firing your rifle. There are limitations such as no primer choice but used wisely you can load up your favourite cartridge and simulate its ballistics and trajectory with just a click of the mouse.

### Getting Started

With the program booted you have a main “functions” sheet in front of you that remains the same but with windows to change parameters with a variable section to display pressures, velocities barrel times or burn rate as a graph.

First up, access the cartridge window and click and pull down the tab revealing 1200 cartridge choices, here alone you will muse for hours looking at all the known and weird wildcats there are. But let's choose the .308 Win, click on this and then all the cartridges data is then projected into all the other windows such as Seating depth, Cartridge length,, max pressure, cross sectional bore, capacity and useable case capacity. Also below the main cartridge window is a cartridge spec icon, click this and you access the cartridge diagrammatic profile with all the minute measurements for oal, neck length, rim thickness etc.

Now the .308 Win is loaded you can change the barrel length to suit your rifles exact length and then alter to see what best suits your needs if you want to shorten it. I then choose a bullet from the main bullet window and again the choice is memorising. Load this and again the seating depth, shank depth, oal and bullet length windows all change to reflect your bullet choice.

You can then alter the oal and thus seating depth to suit how you want your bullet to touch, or be, say 20 thou off the lands. As you change this data the useable powder or case capacity window changes to show how much space the bullet is taking up and how much powder can be loaded. Let's say a Nosler Ballistic Tip 150 grain bullet with a seating depth of 0.408 inch and a 24 inch barrel.

The next step, go to the right of the screen for all the powder changing windows. The main window selects a powder, a good choice again here and all the relevant powder data windows including heat of explosion, burn rate, propellant load density.

The most important however are the Filling, showing load density, charge weight where you input your preferred powder weight which is shown in grains and grams. With a charge weight say of 46.0 grains of Alliant Reloader RL15 powder you now press the *Apply and calculate* button.

Miraculously QuickLOAD calculates the data you have inputted and then shows its predictions in the lower right boxed window. Pressure for that load is shown in psi and bar and is colour coded to show yellow mild, pink ok, red to high. There are 15 windows but the main ones are: amount of propellant burnt to see if the powder is all burnt in the barrel. Muzzle velocity and muzzle energy and ballistic efficiency, anything above 30% is good. Also this data is displayed as a graph in the large left hand window for a quick visual guide.

With the above load I had 54,605 PSI (pink) with 97.34% filled case and 2860 fps and 2724 ft/lbs energy. Change the seating depth from 2.800 COL to 2.765 COL and the pressure now rises to 61,673 psi (red) and a warning appears and it changes velocity to 2932 fps and energy to 2863 ft/lbs

Cut the barrel to 18 inches and muzzle velocity reduces to 2679 fps and 2391 ft/lbs and 2 grains extra powder raises the pressure to over 62,913 psi and well into the red, warning.

### Inputting QuickLOAD into Quick target

Now you have a load that is what to want you can transfer that data into Quick Target that now shoots it and gives you a predicted external trajectory path.

Click the Retrieve Data from QuickLOAD button and your data is transferred showing bullet diameter, velocity and ballistic coefficient of the bullet you have chosen. This BC can be changed or modified for multiple BC's at down range distances but that's an advanced feature. To the left of the main window you can input point blank range or more importantly sight height above bore axis and then zero range, range increments and maximum range you want calculated.

Now you have a choice of wind speed, direction and shooting angle i.e. up or down hill and finally atmospheric data for temperature pressure, air density.

Click Apply and a new box appears with your results tabulated.

You can also change the sight adjustments from metric to imperial, MOA or targets to display the results as a visual graph on a target rather than a table.

You can also show the tabulated data as BC versus velocity, BC versus flight time, peak trajectory and a lot more.

In fact there are too many variables to list here but importantly the data on downrange trajectory is matched to your QuickLOAD data and own rifle setup to give an accurate prediction of the load.

### Advanced features

Once you have mastered all the buttons and variables, hours will pass by literally as you make minute changes to the data to hone a specific load.

There are some very useful buttons to further explore ballistics such as Propellant Table setup accessed from the task bar at the top of the main page. This allows you to specify calculation parameters.

The best of these is the Barrel Timing predictions. Many people believe that if you have a load that shoots accurately and are pleased with this then this load will have a specific barrel time of combustion. What QuickLOAD does is to predict all the other combinations of loads i.e. powders that will match the barrel timing and thus give as good or better accuracy. Barrels all harmonise to a specific load so this feature is very useful and does work. My 46.0 grain RL15 load with 150gr Nosler Ballistic Tip also has the same timings, 1.095 milliseconds, as does a load of 50.3 gr of H414 or 47.9 grains of IMR 4007 SSC.

Another really useful alternative using the same button is to choose a specific maximum pressure as the parameter and QuickLOAD will then tell you all the other loads that match this pressure of your original load you like which saves you altering all the parameters one at a time. The same load as above and QuickLOAD tells me that a new load of 43.8 grains of Hodgdon Varget, 42.8 grains of Hodgdon H4895 or 41.8 grains of IMR 3031 powder will give me the same pressure so is worth a shot, this data is plucked from 130 options given to you!

## Conclusions

**Buy it! Really, it is a very useful product and I for one would be lost without it not only as a daily access to loading test rifles but for my odd Wildcat creations.**

It is very easy to use, fast and I have found accurate but you must be sensible if QuickLOAD predicts a certain load I always load a few rounds 15 % below just to check. Some data also needs to be checked as correct, as some bullet weights or diameters are wrong for some of the bullets so best practice is to measure the bullet to check the default data. As new upgrades come out I have to say it is reliable and an extremely useful piece of kit and well worth the price of £125 in my view.

Contact JMS Arms on 07771 962121 or 01444 400126

Website: <http://quickload.co.uk/>