

HOW TO LOAD COWBOY FAST DRAW CARTRIDGES

By: *Cal Eilrich* a.k.a. Quick Cal, Executive Director CFDA

Revised: November 27th, 2016

In 2007, we began researching various methods used to load Cowboy Fast Draw Cartridges for CFDA Titled Championship events. Everyone seemed to have their own formula. Some loaded them by hand and some loaded them on progressive loading presses. We found a wide variety of results, some even within the same tournament in which there was found 300+ (fps) variations in velocities. This meant that championships could have been decided because of ammunition variations of as much as 2 hundredths of a second (.020), which is a huge amount of time in Cowboy Fast Draw. We simply had to do better.

In reality there will always be some variations in velocities even in factory live ammunition, at 15 – 20 fps. Bullseye shooters use techniques such as matched brass, matched bullets and a trickle powder charge to get it tighter than that. We also have to keep in mind that wax bullets, due to density variances, can never be manufactured and sized as exact as lead or jacketed bullets can be.

After extensive testing, we have found that it is possible to reduce the velocity variances to around 30 – 40 fps, which only amounts to a few thousandths of a second. This is true with both CFD Cartridges and Shotgun Primer Loads.

This article is about addressing, not only various components, but also loading techniques, and the best equipment used to load them.

• BRASS •

Brass is the first step in producing consistent cartridges, make sure that you tumble them thoroughly, before removing the primers. While they make look clean from the outside, in the past few years we have come to realize that **cleaning the inside of the brass may be at least as important as how well the outside is cleaned**. Why? Because the combination of primer compound, powder residue and burnt wax begins to build up on the inside of the brass after the first use and worsens with subsequent uses. This leads not only to velocity variances caused by drag, but also this drag can cause wax bullet fracturing to take place during the reloading process.

Solution: At CFDA we are now pre-tumbling with a vibratory unit with walnut shell, this removes most of the dirt and burnt wax from the outside, but falls far short of really cleaning the inside of the casings.

After trying several options, we finally found the best answer for us, since we have to load over 30,000 rounds for FGA each year. It's a **Rotary Tumbler, from Frankford Arsenal Reloading Tools**, which can be purchased on Amazon for under \$150, plus don't forget to get the Stainless Steel Media and Transfer Magnet. The **Stainless Steel Media is the key component** that makes the inside of brass appear just like new.

Sizing brass - is also a decision that each loader must make. Because once you size your brass for wax bullets, you are permanently committed to using a bullet seating dye from that point forward. You must understand that all wax bullets are produced at a diameter that can be hand pressed into factory specification .45lc brass. Due to the fact that 95% of all wax bullets are handloaded and shot using unsized shotgun primer brass.

Flash Holes - must be enlarged, we recommend Starline Brass .45 Colt Blank Brass, which have enlarged primer pockets, just the right size so that primer anvils cannot also become a projectile. If standard flash holes are used the primer detonation will cause too much pressure resulting in primers backing out, which causes cylinders to jamb in revolvers.

• PRIMERS •

Federal Large Pistol Primers are recommended. Federal primers have the softest hull on the market and will detonate the most consistently, especially with some of the lightened main springs used in some action jobs. Winchester are the next best alternative, avoid CCI primers, as they have the hardest hull on the market. Large rifle primers are not recommended. **Note:** Sometimes only Federal Match Primers can be found, they are a little more expensive, but the only real difference is a matter of quality control, they still detonate just fine.

• POWDER •

Hodgdon 777 Black Powder Substitute is the only powder recommended in CFD Cartridges, we also recommend 3FFF or 4FFFF. This provides the smoke effect we are after in spectator venues, plus it is easy to clean when compared with actual black powder.

• WAX BULLETS •

There are currently four brands approved by CFDA: Dead Eye EZ Loaders, Bandit, C & R and Spitfire Wax Bullets, and Royal Wax, they all have their differences. Since CFDA itself is a supplier of wax bullets, it's not appropriate for us to make ratings or recommendations in this context.

• RECOMMENDED PROGRESSIVE LOADING PRESS & EQUIPMENT •

There are several brands of progressive loading presses on the market. Whatever brand you choose, please know that you usually get what you pay for. You may like the price, but if you dread it for years to come, you will not be happy. I am admittedly a huge fan of Dillon Precision, they won me over decades ago with their "No-

B.S.” Warranty and how they have stood behind it. Based upon this, I will stick with what I know, and personally own and have extensively used including Dillon Square Deal “B”, RL550-B, XL650, and a Super 1050. I have reloaded over 1 million rounds in my shooting career and created loading data in several areas, one of which you are currently reading.

Dillon XL650 - with a case feeder (Under \$800)

1. **Case Feeder** - I wouldn't think of mass loading ammunition without a case feeder on a machine. A case feeder increases your production by as much as 300%.
2. **Powder Check Station** - The XL650 is a 5 station press and has a powder check station. Whereas, the RL550 is only a 4 Station Press, and does not have a powder check station. That is crucial! It gives a buzzer when you either don't have the proper range of powder charge in the casing. Why is this so crucial? Safety First! If you miss a powder charge in one cartridge not only do you have to face the embarrassment of providing a squib load to a championship event, but you better start wondering even more about “double-charges”! A double-charge can increase the velocity of the wax bullet to over 1,500 fps! I have test loaded wax bullets and recorded over 2,500 fps! Most of our backstops set up in public venues would not withstand these velocities. That is a major reason we now require an approval of CFD Cartridge Loaders.
3. **Easy Cleaning** - Even if you have the funds to buy the Dillon Super 1050 (\$1,750), I would choose the XL650 for loading CFD Cartridges. As great as the 1050 is (once personally loading 10,000 rounds of .38 specials in one day), the XL650 is superior to use for wax bullet reloading. It's easier to keep clean, which is more challenging when loading wax bullets. The 650 also comes apart much easier, with a detachable die tool head and much easier to remove shell plate turret.

Personal Note: With a Dillon XL650 and 20 pre-loaded primer tubes, I can repeatedly load 2,000 rounds of CFD Cartridges in a 3 hour session, which includes, re-loading the primer tubes and cleaning the press for the next session.

Other Recommended Equipment: CFDA Wax Bullet Seating Die (\$60); Electronic Digital Scale (\$140); Chronograph (\$100-\$200); Primer Tube Loading Tray (\$20), Extra Large Pistol Primer Tubes (4 for \$25).

(Total Budget: \$1,200 - \$1,300)

• LOADING THE ROUNDS • (DEPTH EQUALS VELOCITY)

Casing Capacity - is one of the main reasons, besides powder charge that alters wax bullet velocity. When wax bullets are seated evenly with the front of the casing, it leaves a very large area to fill with a very small powder charge. Therefore, it's very important to control how far your bullet is recessed into the casing, as this dimension can have a drastic effect on velocity and variance.

We start by loading 5 rounds, with wax bullets seated into the casing 3/8” from the rim. This significantly reduces the casing capacity in the detonation chamber of the cartridge. This results in much more consistent powder detonation of the recommended charge of Hodgdon Triple 7 of 3.5 grains, by weight.

Next to the chronograph, fire the 5 shots and record the velocity of each one, eliminate the fastest and slowest velocities, and then average the middle 3 shots. This average velocity cannot exceed 750 fps, according to CFDA rules.

If this test exceeds 750 fps, then decrease the amount the wax bullet is recessed into the casing (counter-clockwise) by 1/4 turn, and repeat the test. If a velocity increase is needed then reverse this process. Repeat this process until desired results are achieved.

One Major Difference between reloading live ammunition and wax bullet cartridges is that it is highly recommended to regulate velocities by adjusting how much the wax bullet is recessed, rather than adjusting powder charges.

DESIRED TARGET RESULTS: VELOCITIES AVERAGE 725 FPS. GROUPS OF 1-3/4” AT 21’

Note: Occasionally wax bullets can fragment and it can depend on several factors including brand of bullet, resized casings, interior fouling of casings, fractured on loading presses, fouled barrels, forcing cone issues, etc.

Note: Due to variances in head spacing, compete primer seating is critical. Just because they work in one gun, they may hang up in others. We have found Ruger Vaqueros have the tightest head spacing, with some even tighter than others. We suggest spot spin-checking the ammunition in the tightest guns you can find. There are also some colt and colt clones that have burrs next to the fire pin hole, usually caused by dry-firing without snap-caps.

Warning: *Wax Bullet Ammunition can cause physical injury and bodily harm, always handle them with full safety precautions. They can penetrate plywood and damage property, they must always be used with proper care and adult supervision. CFDA only allows approved CFD Cartridge Loaders to supply wax bullet ammunition. We do not recommend using this type of ammunition for practice or to be loaded by anyone not authorized to use this data.*

Disclaimer: Since reloading practices are beyond our control, we, Cal Eilrich, Cowboy Fast Draw Association, LLC, its officers, employess, clubs, or members hereby disclaim all liability for damage, injury, or death that may result.