Dan Wesson Forum

Reloading Roundtable

Specialized Equipment

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Specialized Equipment

Let's go through the reloading process again, and talk about some of the stuff that makes the process easier, faster, more effective, and more fun.

Once again, let's start with the press.

What is the one press you would use to meet your most important reloading goal, if cost is no object? Why is it the one for your needs?

Dean: I think the Dillon 550B is the ideal press if you only could buy one. It is fast...the "550" comes from the approximately 550 rounds per hour speed with which you can reload with it. It loads accurate ammunition...I have won numerous local, state, and regional championship matches with ammo loaded on a Dillon. The 550B will load both rifle and pistol cartridges and can use any manufacturers' dies, you don't need the Dillon die sets. All you need is the quick conversion kits and both large and small pistol primer tubes come with it.

My second choice, if a progressive press is not your style, would be the Redding T-7 Turret press. Powerful compound linkage and 7 stations for holding several die sets in perfect alignment.

Phil: All my loading is performed on a Rockchucker by RCBS and it is the only press I have any experience with. I know there are faster production presses available, but I have no experience with them. For most of my loading the press I own is fine because I do not mass produce much of anything. If I were to speculate on a production press for say.45ACP or a similar caliber, Dillon offers some very terrific quality high production tools.

LB: RCBS Rockchucker- Solid, precise, and versatile. The secret to loading quality ammo is consistency. The Rockchucker (IMHO) meets all of these needs. The only trade off is speed. Single stage presses are slower than turrets and progressives.

Mike: Of all the presses I own, the LEE Pro 1000 progressive gets the most use—it is an ammo pumping machine. I get a loaded round for every pull of the handle. I crank out over 20k 9mm rounds every year. I have four of these presses—9mm, 38/357, 44, and .223. I cheat and do the sizing / priming on another press (RCBS Rockchucker). Best thing is the price – like $130 from Midway with the dies.

Andrew: Accuracy is my primary concern for rifles, while a good mix of accuracy and volume are my goals for (most) pistol rounds I load. Taking both rifle and pistol into account, I would have to go with a Forster Co-Ax single stage press. Everything about it is made for absolute repeatability, which is the key to accuracy. It's not too expensive either, at about $300.

Regarding dies, what brands and characteristics do you look for?

LB: I have used mostly RCBS and Lyman dies and have no complaint with either. The few Lee dies I have used did not have the close tolerances I like. Carbide dies eliminate the need for lube (in most cases). For bottle neck brass two dies will usually get the job done but straight wall cases require 3 or 4 dies. The steps of case mouth belling and bullet crimping can be performed in several different ways and with different dies,

which is mostly a matter of personal preference to the loader. There are many types of specialty dies for many functions, such as charge dies for powder drops. (I am not familiar with these), reforming dies to create wildcat brass, and trim dies to cut off the length after reforming.

Dean: Most dies are similar in construction, but I prefer Redding Dies. For pistols, they have a Titanium Carbide insert that gives smoother resizing with a little less effort than the carbide dies more common to other. Redding is top quality and they hold very tight tolerances. No O-rings.

Redding also makes a Profile Crimp Die, which I believe is the key to consistent revolver ammunition. It provides a tighter, more uniform crimp than any other crimp dies, but requires seating bullets in a separate operation. For me this is worth the extra step...these dies have made my revolver rounds much more accurate than any others I have used.

Besides Redding, there are other, specialty die makers that are very good. The Forster Benchrest dies, Neil Jones Competition Bushing Dies, and the Wilson Hand Die sets are excellent.

Mike: I'm an RCBS guy, but any die that is CARBIDE gets my vote, especially for straight walled pistol cases—no lube required. And if you load a lot of straight walled cases, the LEE factory crimp die is a must—makes perfect cases that fit in the tightest chamber.

Andrew: The best dies are the most consistent, and the ones that best match your chamber. The very best die would be a custom job made by someone with a few pieces of fired brass from your gun. I'm not really sure how expensive that is, but I know it's not necessary for my purposes. As far as mass-produced dies, I like Redding. Their dies are well built, show attention to detail, and the company has excellent quality control.

Phil: I Use primarily Redding and RCBS dies. I have found the Redding dies to be a touch more consistent than the other brands where I have had the opportunity to use different brands in the same caliber. I feel as though the quality control at Redding may be a bit tighter than say, RCBS. I have had several instances where I had to send RCBS dies back to the factory for replacement or repair, but have never had to do this with a Redding die. That said, RCBS has always stood behind their product in those few instances.

Are more costly tumblers really better than the lower cost entry level ones?

Mike: I use the Lyman Turbo 1200's – I have three of them and they run often. I have used other brands, but I seem to revert to the Lyman. I use crushed walnut and corn cob media for all my polishing. I don't need my cases super shiny, just clean. Usually I have one tumbler for cleaning up range brass and then it goes to tumbler #2 for final polishing.

Andrew: I started off with a Franklin Arsenal tumbler. It served me well for a few years, until the motor started overheating or cutting out. I bought a Lyman Pro Magnum, and it is a solid piece of equipment- built like a tank, has a very large capacity, and is reasonably quiet. I have seen some very high volume reloaders use a cement mixer with tens of thousands of pieces of brass though!

Phil: I only have experience with the first and only rock polishing tumbler my dad started with. It is a rotary style and gets the job done. I like corn cob meal for initial cleaning, it seems to be more abrasive at the tough powder stains, but it requires diligent cleaning of the primer pockets as this media is constantly found sticking in the flash holes. I like walnut shells for a more finished cleaning process and the media is smaller and does not tend to clog the flash holes as much. With either of the previously stated media materials some Dillon polishing compound added to the mixture really helps. A group of about 4-old worn out socks for the final round in the tumbler produces a brilliant sheen on cases if that finish is desired, it is an extra unnecessary step, but sure makes the cases look like a million bucks.

Dean: I don't believe the more expensive tumblers are any better at cleaning than the cheaper ones, but they will last longer and are quieter. My tumblers are in the basement, so noise is not a factor. The quality and speed of case cleaning depends on the media used. I use a walnut media treated with Dillon Rapid Polish, or Flitz Brass Case Polish. The media will have to be replaced from time to time. It can be rejuvenated, but I don't waste my time...media is not that expensive, and the rejuvenation process takes some time.

Vibrating tumblers are preferred over the Ultrasonic ones, as they take far less time to clean the brass and you don't need to rinse cases and then wait for them to dry out.

LB: I cannot comment on commercial tumblers as I only have ever used one, and it is homemade. I have only used corn cob but I hear that walnut hull is a better media.

Other cartridge case preparation equipment?

Phil: On most all bottle neck rifle cases I measure and trim as necessary. I rarely find the need to trim straight wall pistol cases, I know some do it, but I do not. The rifle cases are always reamed and chamfered for more effective bullet seating so as to not scar the bullet while seating it. I use an old fashioned lube pad for dies that are not carbide.

Dean: A good set of calipers is indispensable...no plastic ones. Get a decent stainless steel one with digital readout. They can be had for around $35 on up.

Any of the bench-mounted trimmers will do a good job of case trimming. Redding has a new one with micrometer adjustment which is excellent, but I've been using a Hornady trimmer for many years with no problems. I also like the Wilson case trimmer with micrometer adjustment and it is great. Lee makes a hand-held trimmer that uses shellholders and a separate cutter. They work fine, but are not available for many uncommon cases. They have an automatic stop, but no way to regulate the case length. They will trim cases 0.10" under max length...if you want some other dimension, it would be a slow, trial and error job with this type.

Any of the universal chamfering/deburring tools are more than adequate for this job. Many are made by the L.E. Wilson company for others.

Neck turning, if required, or desired, can involve several different types of tools. I have used Sinclair neck

turning tools, the Model 1000 and the 1500 tools for years with outstanding results. K & M turners are also excellent. Neck turning by hand is a tedious job, but some tools can be adapted for use with a power screwdriver which really saves on effort required.

Mike: Yep, I have it all…. If you are into precision shooting, case prep means a lot. I weigh my cases, sort them, debur the primer pockets, trim to length, chamfer in/out, etc. Granted I only do this on stuff I expect to group into one hole at a long distance. Other stuff, like the .223 for the Mini-14 doesn't get any case prep at all. Some only get partial prep—like handgun cases that require a crimp—all cases MUST be the same length to get an even crimp on them. So they all get measured and trimmed.

Dean: Primer pocket prep involves primer pocket uniforming and flash hole deburring. Here again, Sinclair tools are used, as is Wilson pocket cutters. You will need a small rifle/pistol tool, one for large rifles and one for large pistols, as they are not cut to the same depth. Sinclair makes several combo kits with everything you need, and they can be adapted for power use also.

Flash hole deburring tools come in two types. One uses stop collars that require cases to be trimmed to exact length first. The other type has a stop that bears inside on the case web. This is the faster method, and the one I use, again with a Sinclair tool, the Generation II model. A few quick turns is all you need for each case, and it never has to be repeated.

LB: When prepping cartridges you will need an array of stuff to trim, clean, measure and debur. Most of these tools will be a matter of taste to the loader. Most use dial calipers to measure, micrometers can be handy and there are various gauges for pre determined tasks. Once trimmed, cases need to be deburred. This is usually done with a small tool turned by hand against the case but there are power models. Primmer pockets need cleaning and again a small hand tool is all that is needed. Some loaders uniform primer pockets to make them all alike. Lube can be sprayed on or rolled on a pad. It is just a matter of preference. Sometimes lube can be avoided with carbide dies as lube is a mess no matter how you do it.

Dean: As far as case lube, I like the RCBS or Redding Water Soluble lube, applied from a lube pad. I don't do any heavy wildcat case reforming, so this does a good job for me. After sizing, cases are rinsed off in tap water, then dried in a warm oven for about 45 minutes. Let them cool to room temp and you can reload. Ordinary lubes need some kind of solvent to remove the lube. Most folks throw the brass back in the tumbler to remove the lube. Although this works just fine, it gunks up your tumbling media, which will need changing more often then.

Andrew: I had the chance to use a Giraud trimmer a few times, and I believe it is well worth the money. A good micrometer and digital (or dial calipers) can be your best friend. The machine shop at work (they work on aircraft and jet turbines and such) all use Mitutoyo stuff, but be prepared to drop a few hundred on a micrometer and even more on calipers. I have a set of used Starret calipers that I picked up at a garage sale for 40 bucks, and they are fantastic. I'm not sure how much they retail for, but it's probably not cheap.

Powder measure? Powder scale?

Andrew: I use a Lyman 1200 DPS3 Powder Measure. It drops and weighs whatever charge I want. It is accurate, but I've noticed when the humidity is higher, I have to recalibrate it throughout a long session. With a digital scale, there is no mistaking what a number says. You can always misread tick marks or a dial, but a number staring you in the face is pretty tough to screw up.

Dean: As far as I am concerned, digital is the way to go for all reloading needs. No more squinting at small balance beam numbers, delicate tabs, and easily disturbed bases. Wind is always a factor, even breezes from heater/air conditioner vents, or someone just walking by, so make sure it is in a draft-free spot.

Most come with check weights...use them for each loading session. Also, I believe the battery powered ones are a bit less accurate and repeatable, and they don't work well with rechargables. My scale is an older PACT and it is very consistent. The RCBS Rangemaster is the same unit. They now offer them with a combination scale and dispenser. Something I might try some day...looks like the way to go now.

LB: The easiest will be a simple scoop. A loader can get fairly consistent with a little practice, however for any loader who wants precision (and we all do), you need a powder drop to repeat the same load again. Of course one can weigh every charge and I do for utmost precision, such as load development, but once the drop is set I weigh every tenth charge to be sure it hasn't changed. I prefer a drop with a micrometer type adjustment to make it easy to return to a favorite charge. I have yet to try the digital/electronic ones.

I use a simple Hornady balance beam scale. It's simple and accurate. I purchased an electronic scale but have yet to try it out.

Mike: I have the older balance beams as well as digital. They both serve their purpose, but I use the digital a LOT… Everybody MUST have a manual scale to double check their weights—never trust the digital scale. I usually check every 10th load. I use RCBS 5-0-5 beam scales and an RCBS Chargemaster combo digital. When it comes to scales you get what you pay for. The Chargemaster combo is AWESOME!!!.

Phil: I use two powder measures. My go to measure is an adjustable Redding with two different reservoirs for different types of powders and differing capacities. I also use an RCBS Little Dandy which utilizes preset measures aimed at pre determined loads. This is primarily used for practice or target loads in calibers like 45ACP and 38 Special by me, but can be used for much more.

I still use a balance scale, only because I have never spent the money to upgrade it. A digital would be nice, but mine works, I am not a high production loader. I enjoy the time doing the task and am not really in a hurry.

Do you use a Chronograph?

Andrew: I don't have one (yet!), but an Oehler Model 35P is probably about as good as it gets.

Phil: I need educated on this one. I do not own a Chronograph, but would like to.

Mike: I have a Chrony F-1 – I use it a lot when developing cast bullet loads as well as my long range ammo. It is nice to compare your loads for velocity changes. There are a lot of models out there. I would prefer one with a bench read-out, so I don't have to squint to see my Chrony.

LB: A chronograph is the only way to **KNOW** the velocity at which your loads are firing, which is a direct indicator of how consistent your loads are. I have only recently acquired a chronograph and have not yet done a lot of testing but it will take a lot of mystery out of load development.

Dean: I used to use a chronograph for all my load workups, but I haven't had mine out but once in the last 12 years. Part of reason is that I don't have as much time anymore to work up loads, the other part is that mine is an older Oehler 33, which takes a lot more time to set up, besides the 6 D-cell batteries needed.

When working up a load, after picking suitable powder/bullet combos I wanted to try, I would chronograph each group of 5 and write down the data on a note pad, numbered to the target shot off the bench. Later at home I would peruse the data and compare groups, looking for the lowest extreme spread and standard deviations. The lowest deviations with the smallest groups were usually picked as the best.

Now, with limited time, I just load up test rounds and shoot on silhouette targets, testing them at 100 meters first. The best of those loads are shot at 200 meters on full-size rams. Then, out of those, the ones that looked the best are shot on the half-size steel targets. If I can get as many as I normally do with known loads, I feel that is good enough and don't test anything else.

If you are interested in the highest velocities for hunting or lowest standard deviations for target shooting, then a chronograph would be a good investment. The PACT Model 1 $130, Competition Electronics ProChrono $120, Shooting Chrony Beta $110, all would be good choices. Anything made by Oehler is top notch, but more expensive.

Other incidental equipment and accessories?

Dean: Bullet seating depth comparators are far better than measuring loaded round overall length to get seating depth. Bullets can vary in length by upwards of .020" in the same lot, so using O.A.L. can be frustrating when you want to get an exact depth compared to the start of the lands. Comparators take the measurement off the ogive for more accurate die adjustments. Using dummy rounds, once you've found where the bullet contacts the rifling, you measure the dummy with the comparator and record it. Then you can adjust the bullet seating depth, using the comparator to get them right where you want, say 0.10" off the lands. Record those settings from the comparator and you can return to that measurement easily any time. Sinclair makes a hex-head comparator which is drilled for common bullet diameters, or you can use one that attaches to your calipers and uses different nose pieces for bullet diameters. Stoney Point made one, now produced under the Hornady label and I use the Davidson Seating Depth Checker.

LB: There are a lot of accessories to make loading easier, and which ones you use will be subjective to the individual. Examples: load blocks to hold cases, funnels, a bullet puller, several small containers to hold components during case prep stages, I use a ton of zip lock freezer bags to store brass and to separate different loadings during development. But most importantly you will need a means of keeping good notes and

records. You need to log every load recipe and its outcome so you can recreate the good stuff and avoid duplicating the bad. I use and old fashion notebook but a more modern loader may use his computer. Either way, the devil is in the details, because sloppy work at the loading bench or in the load book (such as a misplaced decimal point or a transposed number) can be disastrous

Mike: The bench and lighting!!! Although you can bolt a press to pretty much anything, a good solid heavy bench makes life easy. Especially when you need to resize some big cases in the magnum arena like 300 win mag. My bench is from Sam's and is solid steel with 1 ½" wood top. It gives me plenty of room on top for working area. I put a ¾" plywood shelf on the lower supports and have ALL my lead bullets stored on it—probably about 700 pounds worth—my bench doesn't move at all!!! The RCBS Rockchucker is permanently bolted to the right side corner, the bench vise is set up for the left side and is quick detach. A couple Kennedy top boxes are on the back top of the bench for my gunsmith tools. I also have an overhead shelf bolted to the back of the bench. None of this is any good without some great lighting so you can see what you are doing.

Phil: I like the hand held Lee Autoprime tool for fast production priming. Priming is probably my least favorite of the loading tasks. You can take the tool and products out of the loading room and perform this task while in your easy chair, if you like.

DWF Virtual Dollars

Now for the FUN part! Please spend $1000 in "DWF Virtual Dollars" to upgrade and improve your current metallic cartridge reloading equipment.

Andrew: I would buy a Forster Co-Ax ($300) for use solely as a .308 press. I would also get a custom neck sizing die made. I estimate the cost of that to be about $250. Next up is a Redding Competition Bullet Seating die. It is the cat's meow when it comes to accurate and consistent bullet seating from start to finish. That's about another $100. I'll finish out with an RCBS Chargemaster Combo for dispensing and weighing powder quickly and accurately.

LB: Well I would first start with a Dillon RL 550 B progressive press ($430.00) and 3 or 4 caliber changes ($60.00 each). I have never used a Dillon but the reputation is awesome. This would only speed up the loading process allowing more range time. Next I might purchase several new bullet molds to expand my collection of bullet styles. This would about wipe out the $1000.00.

Dean: I like spending other people's money. Here's what I would add:

A second Dillon 550B...so I could have one set up for large primers and the other set up for small primers...that way I don't waste time changing primer feed tubes and primer bars. $429.95

Wilson/Sinclair Ultimate Case Trimmer...these are the finest case trimmers, and super precise with the micrometer adjustment. $159.95

Sinclair Hand Priming Tool...already have one, it is the best. A second one would preclude having to change from large to small primer sizes. $119.75

PACT Digital Powder Dispenser and Scale...I have always wanted to try one of the combo units. It might be faster or easier, but I won't know until I use one. $248.99

Total - $958.64

Mike: Definitely another RCBS Chargemaster –I'd run them side by side and double my loading speed.

Better lighting, you can never have enough good lighting. You need to look inside cases for powder level, the light has to be from all angles.

More storage, you need to be kind of organized to keep yourself safe/sane. No point in getting aggravated trying to find something so you can get started.

Believe it or not – I really could use a second bench to match the first. I have a ton of reloading equipment to include several presses. A second bench would give me more than enough space to really maximize my loading room.

Now even more FUN! Spend $3000 of those "DWF Virtual Dollars" on a complete Dream Reloading Starter Metallic Cartridge System for your reloading needs/interests.

Dean: This should be fun!

Dillon 550B-two of them, one for large primers, one for small primers. Saves time needed to switch required parts when changing calibers. $429.95 each = $859.90

Redding Boss Single Stage press...need a basic press for small lots of ammo that would be inefficient resetting the Dillon for and the calibers that don't get shot enough to warrant reloading on the progressive press. $124.99

PACT Digital Powder Dispenser and Scale, all electronic for speed and accuracy. $248.99

Sinclair Ultimate Trimmer...for the most accurate case trimming you can get. Necessary for any rounds that need crimping so that the crimps are more uniform. $159.99

Sinclair Primer Pocket Uniformer kit, include all the uniformers for the various size primer pockets. $77.95

Sinclair Gen II Universal Flash Hole Deburring Tool...a necessary benchrest case prep operation that is simple to do and only needs to be done once with each case. $18.50

Sinclair NT-1500 Neck Turning Tool...turning case necks can make a big improvement in fit of your brass to your chamber and bullet alignment. It may also be necessary when forming wildcats. $112.96

Sinclair Priming Tool...absolutely the best primer seater for uniform seating of every primer. Does not use a tray, but is worth the extra time it takes to seat primers one at a time. $119.75

Hornady Cam-Lock Bullet puller...you will make mistakes and need to pull bullets at some time. This one is a

collet type. $24.95

Dial Caliper 6" Mitutoyo...digital readout in inches or millimeters $136.95

Hornady Lock-N-Load OAL Gauge, indispensible for determining bullet seating depth $34.95

Davidson Seating Depth Checkers, used in conjunction with the Hornady OAL Gauge for more accurate bullet seating at the proper depth. $14.95

Redding Case Lube Pad...needed for resizing bottleneck cases or straightwall cases if you're not using carbide dies. $16.95

Wilson Case Mouth Deburring tool, for removing the burrs caused by case trimming. $14.95

Sinclair Concentricity Gauge...measures case runout or bullet runout, which lets you know if your dies are properly set up or if there are any die problems. $99.95

RCBS Vibratory Case Tumbler and Media...got to have clean cases. Keeps dirt and grit out of your dies so your brass isn't scratched up, which may lead to chambering problems. $79.99

Total = $2146.67

Wow, didn't come close to the $3000 limit. I guess one could buy some of the more obscure tools from Sinclair that some of the benchrest shooters use, but that would be highly specialized.

Andrew: Dillon XL650 for either 9mm or .357 Magnum (it's tough to decide): $550 for the press +$200 for the electric casefeeder

- Dillon XL650 for 5.56mm: $550 for the press +$200 for the electric casefeeder
- Forster Co-ax listed above, with dies for .308: $650
- Giraud Power Trimmer for .5.56mm: $425
- RCBS Chargemaster combo: $250

Total: $2825

This sets me up for high quality, high volume reloading of my two most commonly shot calibers, as well as an extreme accuracy setup for long range precision shooting.

LB: Ok, I would start with a RCBS Rock chucker kit ($350). Add the incidentals such as calipers, load blocks and all the little stuff. A quality tumbler ($100- $150, electronic scale powder drop charge system ($300-$500), and chronograph ($100 - $300). Next I will add a progressive such as the Dillon 550 B with several caliber changes. Then for bullet casting, a lead furnace, ($300) a lube/sizer ($175) and an assortment of molds ($75-$100 each). Then after the set up and incidentals, if I had the spare funds I would add extra progressive presses specific to a caliber.

Mike: Wow—here we go…

- Lyman turbo 1200 $85
- Media separator $35

- Media x2 $40
- Good digital caliper $200
- RCBS hand primer $40
- RCBS Chargemaster x2 $660
- RCBS 505 scale $90
- RCBS Rockchucker press $150
- Sam's Club Seville bench $200
- Lee Pro 1000 press $170
- Sam's Club storage cabinet x2 $376
- Lee lead pot $53
- Lyman case trimmer $93

OK—that is $2192 so far !!!!

- Vise (yes, you'll use it for reloading) $50
- Tool chest – price varies $100
- Lighting 8' fluorescent $40
- Magnifier light $100
- Swivel bar stool $75
- RCBS uniflow powder measure $85
- Uniflow stand $25
- RCBS turret press $209

OK-- that is $2876

The leftover $124 is for incidentals like case lube, collets, oil, rags, etc. And believe me $124 won't cover all the little stuff. I included the bench, lights, etc because frankly $3000 is PLENTY to equip an entire loading room. I have more "stuff" than most people. I've been reloading since I was big enough to pull the handle. If I can build an effective room for $3k, anybody else should be able to do it for way less and spend the rest on powder and primers/lead. My prices are current retail from Midway/Sam's/Lowe's/etc. You can find it used or on sale for a lot less.

This completes Section Five, and the Reloading Roundtable Discussion. My sincerest thanks go to our Experts, who have provided some great, "real world" experience. In addition, thanks to Jody who puts this into a presentable form and executes the publishing on DWF.