

# Customizing a Dillon RL 550B

## by Steve Ware

It's time to come out of the proverbial closet. We all strive to load the most accurate ammunition we can. That conjures up images of a person methodically weighing each powder charge and carefully pouring powder into the cartridge case then seating the bullet to the precise overall cartridge case length. But being high volume shooters, many IHMSA competitors have found that match grade ammunition can be quickly and easily manufactured using a Dillon progressive reloading machine.

One of the great things about IHMSA is that we freely share information about equipment, loads, and shooting techniques. All you need do is visit the new IHMSA board at [www.ihmsa.net](http://www.ihmsa.net) and you will see that exchange of information taking place. Unfortunately, that sharing can cost you a few bucks as well!

Dave Whitman and I were discussing the Dillon reloader one evening, and he told me of a neat gadget he found that greatly enhanced his use of the RL 550B, a powder bar micrometer by a company named Uniquetek ([www.uniquetek.com](http://www.uniquetek.com)). The micrometer replaces the powder adjustment bolt and has a dial indicator so that the user can make precise adjustments to the powder charge and maintain a record of settings for each powder then quickly dial in the correct setting.



Dave had been using one for quite a while and was satisfied with the ease of use and accuracy so I decided to give it a try. I went to the Uniquetek website and called the company. Lee Love is the Product Manager and he answered my call. He explained how the micrometer worked and we also discussed other products the company carried for the Dillon. Two others that interested me were the Precision Powder Baffle and the 550/650 Toolhead Clamp Kit. The Clamp Kit comes in two sizes, the smaller one is for six toolheads and two reloaders and the larger one converts up to 13 toolheads and five reloaders.

I'll digress a bit here and mention that Lee was at the 2008 SHOT Show, and I had the opportunity to sit down with him and his partner and discuss Uniquetek and their products. They are people that truly care about the quality of their products and only want to offer value added merchandise that will benefit shooters.

The package of goodies arrived in a few days. All three products came with detailed instructions and I was ready to install them. First was the micrometer. I read the directions three times before starting the project. I did that not because the installation was a complex matter but rather because once installed there is no going back. The micrometer is permanently installed as everything is Loctited<sup>®</sup> together, and it is absolutely critical that the instructions are followed to the letter. Otherwise you will end up with a useless powder bar and micrometer. Installation was actually fairly simple and straightforward.

The reason that I installed the micrometer first is that the directions require that the powder bar remain undisturbed for several hours in order for the Loctite<sup>®</sup> to set properly. The micrometer is truly a precision instrument that allows the user to maintain tight tolerances when throwing powder. The distance between each division is .001" which equates to approximately .02 grains of Winchester 231 powder.

I have used my micrometer installed powder bar to load several hundred rounds of 25-20 and have found it totally reliable. I experimented by increasing and decreasing the powder charge setting randomly then returning to my original setting. I threw two charges to "settle in" the measure, and it threw the proper charge right on the money after settling in. This gadget is worth the money. Uniquetek now offers two new services – a powder bar with micrometer installed for an additional \$26 or you can send your powder bar and it will be installed for you. Option 1 is available only for large and small powder bars. If you require ones other than those, please give the company a call.

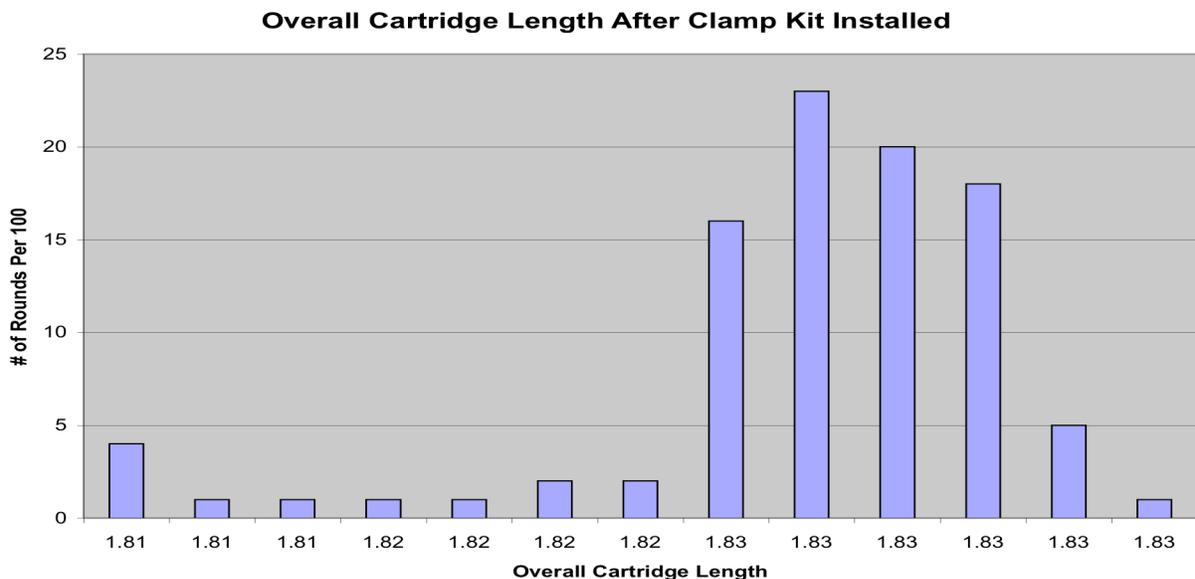
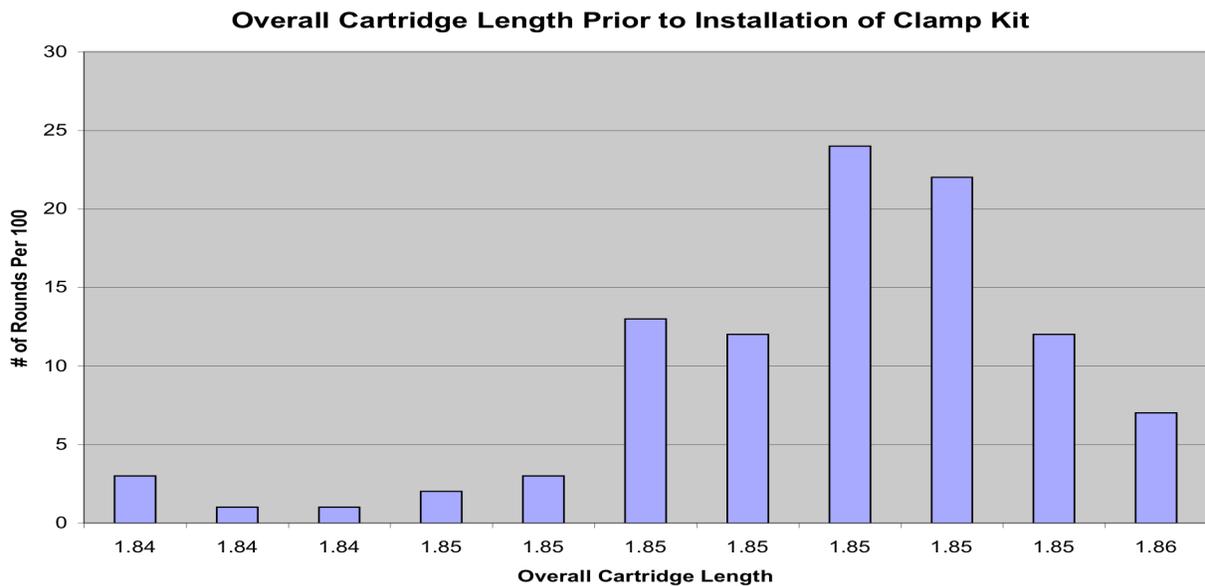
The next product that was installed was the Precision Powder Baffle. This was the easiest installation of the three. It was simply a matter of taking the powder hopper tube off and dropping the powder baffle in place then reinstalling the tube on the hopper. The purpose of the powder baffle is simple to understand. The baffle is a circular piece of water jet cut 20 gauge aluminum that is formed in the shape of an upside down "V". A notch is cut at the bottom of each half of the "V" allowing powder to flow into the hopper. When properly installed, it sits just above the hopper. The function of the baffle is to maintain a constant volume of powder in the hopper thus throwing a more uniform amount of powder as the powder column is reduced. Without the baffle the weight of the powder is constantly being reduced by the amount of each charge thrown. As the weight diminishes the powder charge begins to vary from charge to charge. Keeping this ever-changing column above the supply of powder being dispensed greatly improves the uniformity of the powder charge from throw to throw.

I have the habit of checking powder charges every 5 rounds and have found that using the powder baffle totally eliminated the need to make powder bar adjustments as the powder supply diminishes. (But, I will continue to check every 5 rounds just in case!) The price of \$6.95 makes this a real bargain!

The final customization was Uniquetek's toolhead clamp kit. I highly recommend installing the kit using a drill press, as you want a straight hole. Since I don't have one, I asked Charlie Dean for help. The purpose of the kit is to clamp the toolhead to the reloader to eliminate movement thus producing ammunition with less variance in overall cartridge length (OCL).

The kit consists of a drill bit, tap, Allen head bolts and washers, and Heli-Coil® inserts. Installation is simple. First drill out the toolhead with the drill bit then run the tap through the hole and finally insert the Heli-Coil®. The reloader remains as manufactured and can be used with unmodified toolheads and the original pins provided by Dillon.

I had recently reloaded 100 rounds of 25-20 ammunition and measured the OCL of each round. I then reloaded the same 100 cases using the modified toolhead and measured each case. The two charts show a 12.33% improvement selecting the four OCL that contain the most cases. Note, that I did not adjust the bullet seating die and discovered that reducing the movement of the toolhead meant that the OCL was a bit shorter. I'll have to readjust the die the next time I reload this cartridge.



The clamp kit did improve the uniformity of the ammunition I produce, and I will be installing additional clamp kits on the remainder of my toolheads.

I did talk to one of the Dillon representatives at the SHOT Show and mentioned these products. Dillon Precision does not recommend them, and I do not know what impact their use has on the no BS Dillon warranty. However, they are aware that Dillon customers have modified their reloaders. I particularly discussed the micrometer, and the answer I received was that Dillon believes the adjustment bolt offers less opportunity for a third party to make malicious changes to the powder charge that the owner is not aware of thus producing ammunition that may be over or under charged.

Personally, I feel that these additions to my RL 550B allow me to produce higher quality ammunition, and I am glad that Dave told me about the unique company even though my wallet is a few sawbucks lighter. I'll have to return the favor sometime.

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