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LEE CLASSIC TURRET PRESS
Putting Lee's Newest
Reloading Press
(and associated Lee tools)
to the Test

Article by [Mark Trope](#)

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Lee Precision Inc. is one of those companies that have an almost instinctual ability to see a market niche, and fill it with a great tool for less money than the competition. I've previously covered the story of how Lee got into the bench tool business when I reviewed the **Lee Classic Cast Press**. In that article I also laid down all the criteria that qualifies a press as "best quality", see article:

<http://www.surplusrifle.com/reviews/leepress/index.asp>

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Part I: Description and Setup

In this article we are going to look at Lee's latest offering, the **Lee Classic Turret Press**.

The **Lee Classic Cast Press** (single stage, O frame design) has been so successful; that Lee took the next step; and used that press design as a basis for a heavy-duty, compound leverage turret press. Does the **Lee Classic Turret Press** qualify as a "best quality"? Will it load ammunition fast, and accurately? Let's check it out.

figure 1

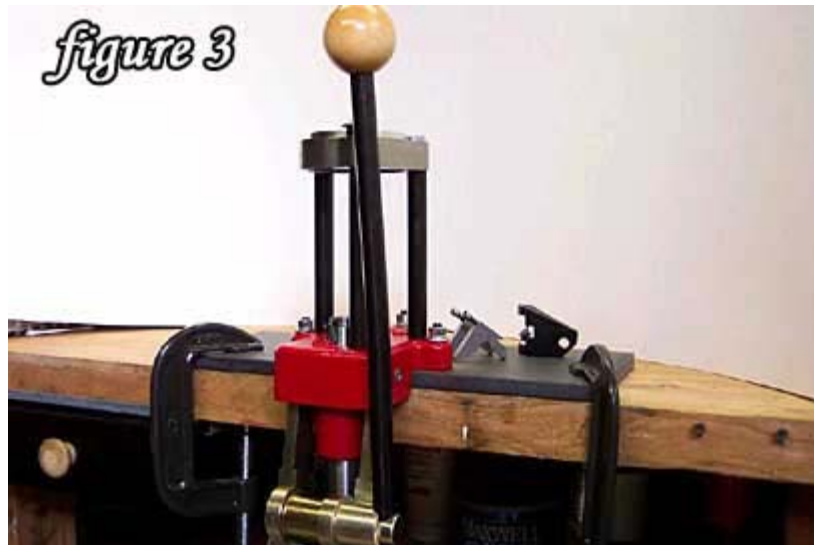


Lee Classic Cast Press

The lineage of this press is clear. The press's cast iron base is similar in design to that of the Lee Classic Cast Press, and shares the same compound linkage system, however, the base of the turret press has a wider footprint than its cousin. The wider footprint is necessary because of the turret. Both the 4-station turret, and the turret ring are quite massive. This insures positive alignment and lack of flexing.



Turret press is mounted to this plate, studs are threaded into the plate



A thick plate, and strong C clamps secure everything to the bench

My Lee Classic Cast Press is attached to a steel mounting plate assembly. The plate has holes drilled and tapped in it for mounting studs that attach the press. I put together the plate assembly in article <http://www.surplusrifle.com/shooting2005/threadfast/index.asp>. Following the procedures in that article, I drilled and tapped the other side of the plate for the base pattern of the Lee Classic Turret Press. I moved the studs to the new holes, and bolted down the new turret press. A nice feature of the turret press is the ability to change turrets without the use of tools.



Grasp turret...



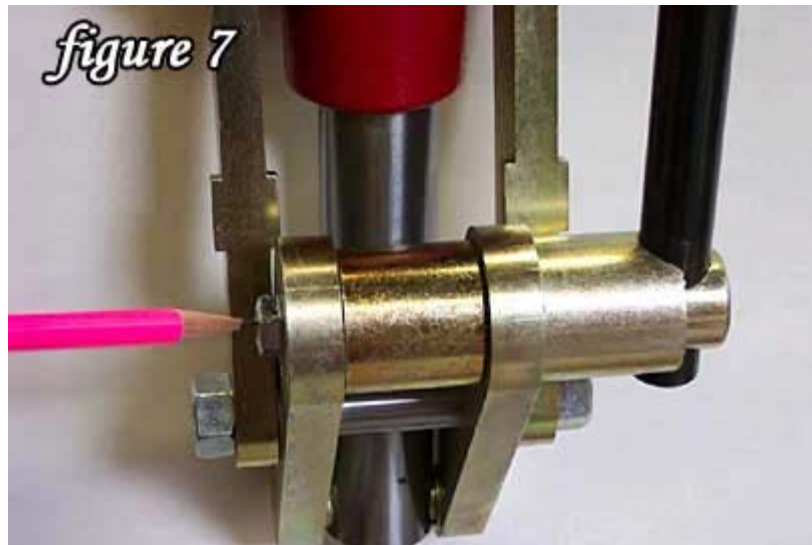
Twist backwards...



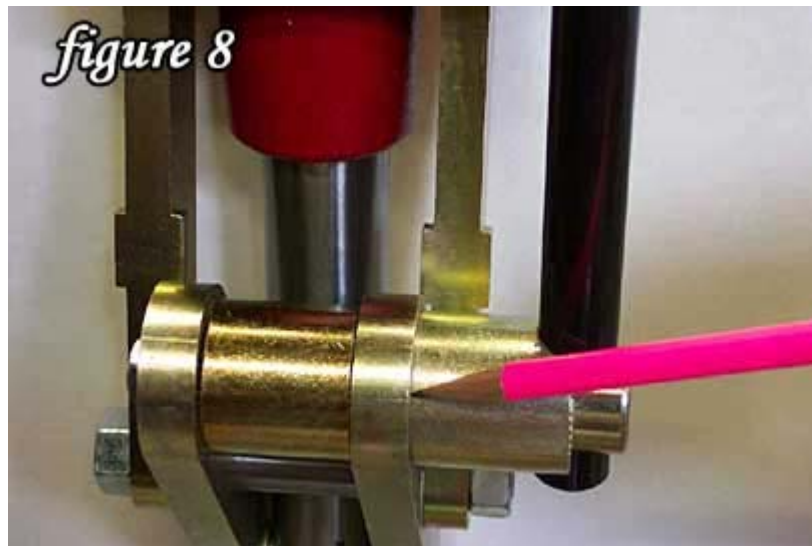
And lift out

(Notice there are plenty of locking lugs to secure turret in the turret ring)

Removing the turret is easy as grasping the turret, rotating it backwards to unlock the lugs, and lifting it out! The turret can be removed loaded with a complete set of adjusted dies. Additional turrets can be purchased and set up with dies for other calibers. A reloader could change from one caliber to another in seconds.

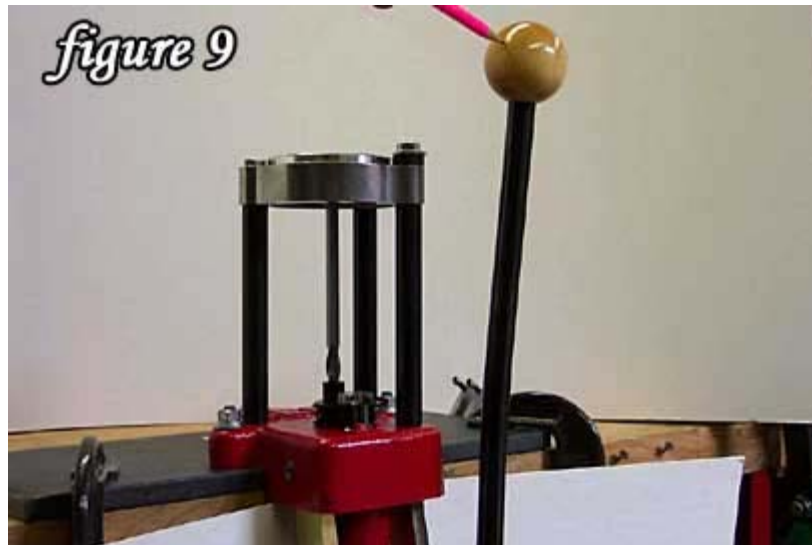


Loosen this one bolt and the angle and length of the hand lever can be changed. Remove it and the handle can be moved to the other side of the press



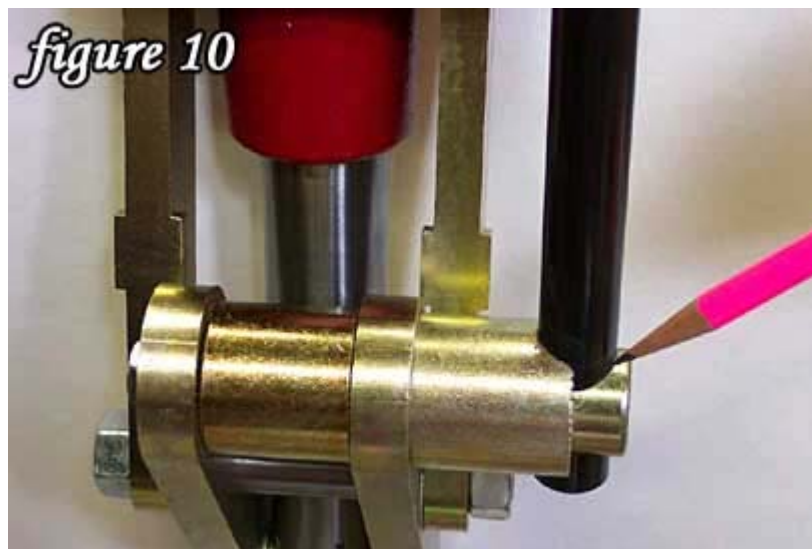
Splined lever sleeve

Like its predecessor, the hand lever of the turret press can be mounted either on the left or right side of the press. Additionally, loosening the retaining bolt can change the angle of the hand lever by moving the splined lever sleeve to any position the operator prefers.



Hardwood ball tops of hollow hand lever

The hand lever itself is interesting. It's a hollow tube, but very strong. The tube is said to have a more balanced feel than a solid bar. Being hollow keeps it light enough to retain good feel while working. The hand lever is topped off with an attractive hardwood ball.



Hand lever can be adjusted to any length, BUT, make sure the end of the hand lever tube protrudes thru the lever clamp

The length of the hand lever can also be adjusted by loosening the retaining bolt and sliding the hand lever up or down to any length the operator prefers. One might question why the operator wouldn't want to *always* keep the lever at full length where the most amount of leverage is. There are times when a more sensitive feel is required, like when working with very small, low-pressure rounds. In such a situation, a delicate feel afforded by a short lever could be a distinct advantage.

The linkage and pins are all hardened and extremely well fitted. There are even two oil holes in the upper pivot points. The compound leverage linkage is plated in dichromate, an extremely corrosion resistant coating. The linkage has a positive stop; this insures dies and shell holders cannot be damaged when the ram is raised to full height.



PVC Drain Tube For Old Primers



With cap removed, PVC Drain Tube is routed to waste container

A sore point on many brands of presses is the nasty grit from primers falling in a plastic primer catcher. Not only is the grit extremely abrasive and messy, but breathing in the dust from old primers is not good for the lungs! The Classic Turret Press's massive hollow ram ends in a nipple. The nipple is fitted with a clear PVC tube. The tube has a plastic cap, which can either be left in place, and the tube emptied of old primers whenever it's convenient, or the cap can be left off, and the tube routed to a small collection container. Every old primer went down the drain tube into the waste container.



Lee Safety Primer Feed kit

(White is for large primers, black is for small primers)

(Bracket in the middle is for the Lee Classic Cast O frame press)



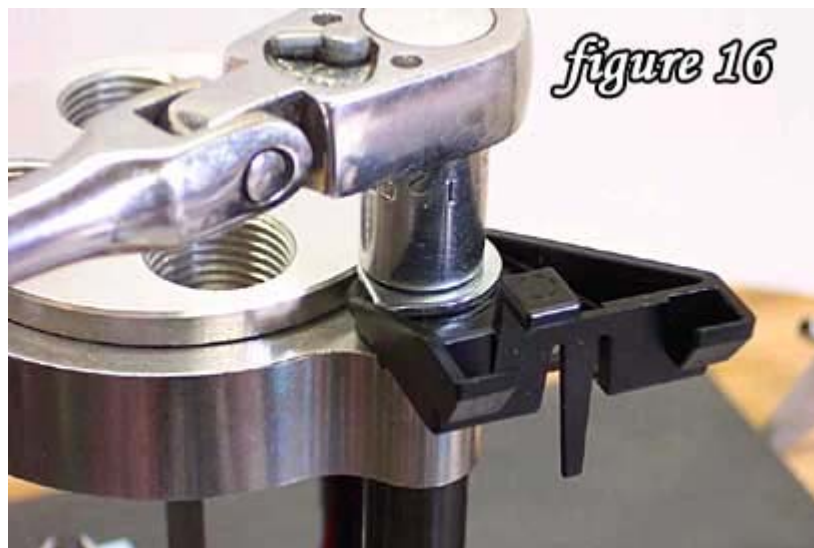
Both primer arms are included with the Lee Classic Turret Press; also included is the proper bracket for the Lee Safety Primer Feed

With the basic press set up, I turned my attention to Lee's new **Safety Prime** primer feed system. The Safety Prime feed system is designed exclusively for both the Lee Classic Cast press and the Classic Cast Turret press. The Safety Prime kit comes with two complete primer feed assemblies. The kit includes one assembly for large primers, and one for small primers. The Safety Prime kit comes with a mounting bracket and screws to fit the Lee Classic Cast single stage, O frame press. While *all* Classic Cast presses are drilled and tapped for the Safety Prime feed bracket, the Safety Prime feed system wasn't ready for release when the Classic Cast presses hit the market, so, early release Classic Cast presses *were not* shipped with the mounting bracket and screws. The Classic Cast Turret press on the other hand, *includes* the proper press-mounted bracket to install the new primer feed system.



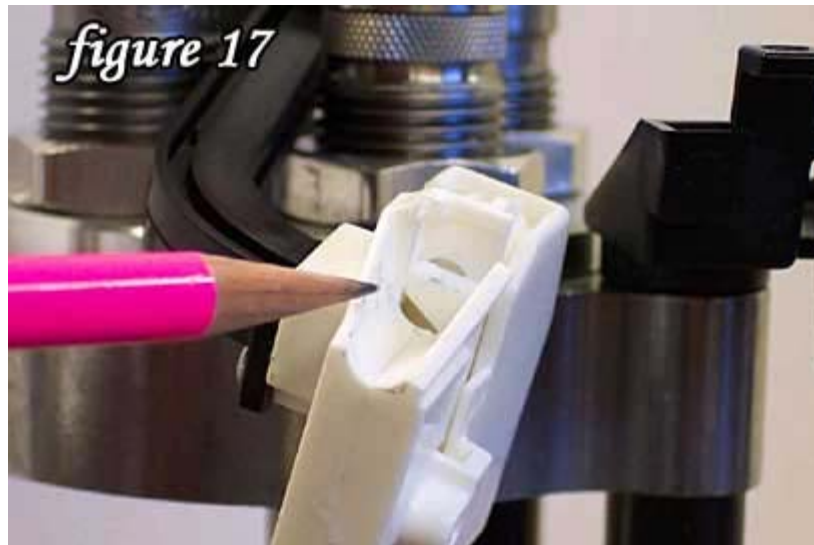
Remove this bolt to install the Lee Safety Primer Feed bracket

Removing the bolt on the column closest to the operator with a ½ inch or 13mm wrench or socket. This allows the primer feed bracket to be installed.



Installing the Lee Safety Primer Feed bracket

Reinstall the bolt. Make sure the primer feed bracket is installed **between** the black spacer and the top washer. This puts the primer feed bracket at the proper height when using the Safety Primer Feed. Don't install the bolt tight at first. Make it just tight enough so the bracket can be moved slightly when it's aligned in the next step.



This is the part of the Safety Primer Feed that slips over the primer arm when dispensing a primer



Notice the proximity of the shellholder, primer arm and primer feed
The Safety Primer Feed is slid into the bracket, and the ram is raised to full height so the bracket can be adjusted at the proper angle.



Everything lines up; and the bolt is tightened

Make sure the bracket is mounted at the proper angle, so the Safety Primer Feed assembly lines up with the presses primer arm, and rests on it when the operator pushes the Safety Primer Feed forward with the thumb. Let go of the Safety Primer Feed and it will drop back from the primer arm. Press it back and forth several times. It may take a couple of tries before the bracket is at the proper angle. When all is correct, tighten down the mounting bracket bolt.



New design primer tray works really well

Most primer trays have a series of circles to turn the primers upright when the tray is shaken. The new trays supplied with the Safety Primer have a series of tiny bumps. The new design works much better than the old! A few shakes and all the primers are upright.



Lee Deluxe Carbide Pistol Die Set includes shellholder and powder scoop

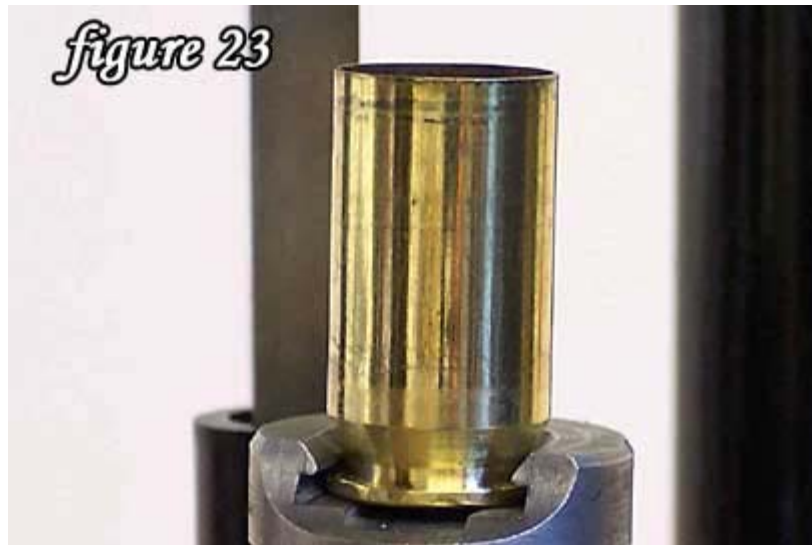
The **Lee Deluxe Pistol Die** set is a 4-die set. It includes a shellholder, powder scoop and charge table. Before installing the dies, I cleaned them of shipping lube per the procedures outlined in this article,

<http://www.surplusrifle.com/shooting2006/dieprep/index.asp>.



Lee carbide resize and decap die is installed and touching the shellholder

After adjusting the bracket to the proper angle and tightening it down, I slid the Safety Primer Feed out and set it aside for the moment. Now it's time to install the dies. The carbide-resizing die is installed so it just touches the shellholder. Like all Lee dies, the decapping pin is held by a collet. If an obstruction is encountered in the brass case, the decapping pin simply slides up in the die, instead of breaking. A $\frac{1}{2}$ inch (or 13mm) wrench and a $\frac{3}{4}$ wrench are required if you ever have to re-adjust the position of the decapping rod.



Resized case; cases glided thru the resizing die

Lee carbide dies resize a case with very little effort, and the bottom of the case doesn't have a "belt mark", as can happen with some brands of dies. This is due to the shape of Lee's carbide insert. The insert has a continuous curve shape, insuring the case wall remains straight.



Screw the Lee expander die in until it touches the shellholder, and then back out one full turn.

The Lee expander die has a hollow, powder-thru-the-expander feature. The die is supplied with a threaded insert. If a person is using the supplied powder scoop, simply push a Lee powder funnel into the top of the threaded insert, and drop the powder in the funnel when the case is in the die.



Removing threaded funnel adapter



Lee Auto-Disk Riser



Threading Lee Auto-Disk Riser in top of expander die



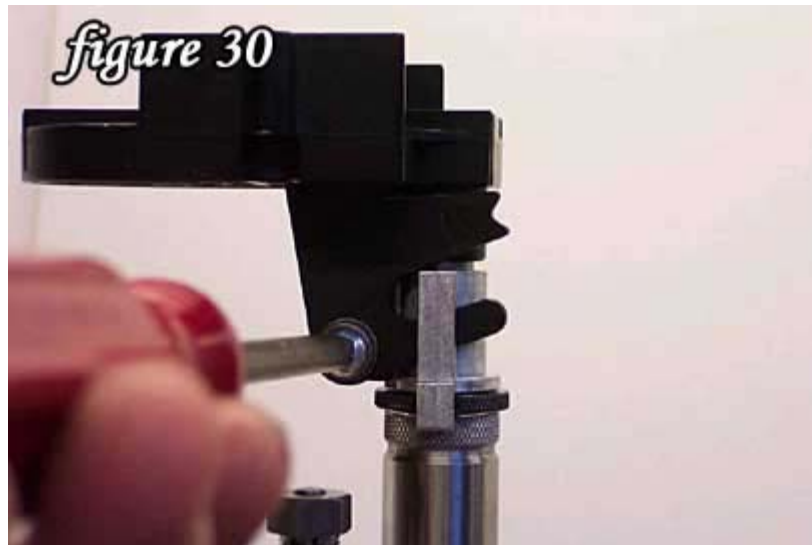
Lee Pro Auto-Disk Powder Measure kit

Since we will be using a Lee **Pro Auto-Disk Powder Measure**, the first thing to do is remove the threaded insert from the top of the Lee expander die. A Lee riser tube is installed in place of the threaded insert to raise the powder measure so it clears the Safety Prime primer tray.



Tighten nut "hand tight" only

Next, the base of the Pro Auto-Disk Powder Measure is installed in the top of the expander die. The retaining nut needs only to be hand tight.



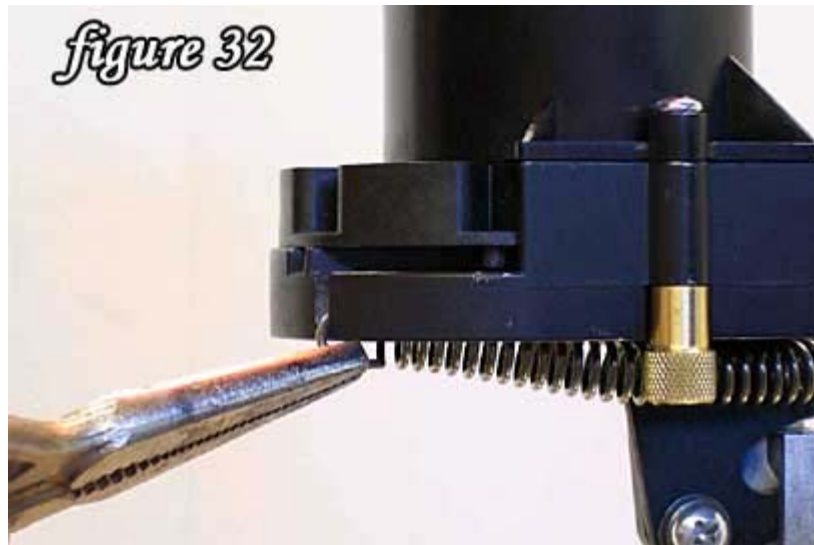
Installing the spring return lever

The Pro Auto-Disk Powder Measure kit (if shipped as a single product, as was mine) is set up with the **pull back lever** installed. However, the **spring return lever and spring** for use with the Classic Turret Press is included in the Pro Auto-Disk Powder Measure kit. Installation is a snap. Remove and replace the lever with a Phillips screwdriver.



Start spring in the lever notch

Next, hook the return spring in the V notch of the right side of the lever. The spring insures the powder measure returns to the ready position after dispensing a charge.



Carefully hook other end of spring in powder measure platform's slot

Hook the other side of the spring to the slot in the left side of the powder measure platform with a set of locking pliers. Be careful, the spring is strong. Just in case the spring goes flying when you hook it up (no, this didn't happen when I hooked mine up), wear shooting glasses and don't have another person or pet in the area when you hook up the spring.



The top of the return spring lever protrudes thru the bottom of the powder measure platform. It actuates the measure when the brass case is expanded



The top of the return spring lever engages the slots in the powder disk to make it move; and dispense a charge of powder



Hole in the disk next to .71 will dispense 5 grains of Red Dot®

Consult the charge table included with the Pro Auto-Disk Powder Measure and find the proper numbered hole to give the charge of powder you have in mind. The charge table said the starting charge of Alliant® Red Dot® with a 230 grain jacketed bullet is 5 grains, that would be hole .71 on the disk. When the Pro Auto-Disk Powder Measure is actuated, while the case neck is being flared, the hole in the disk next to .71 will slide across the hole in the base of the powder measure, and the charge is dispensed into the flared cartridge case.



Lowering powder hopper...



Installing brass hopper nuts

After the proper disk is installed and aligned, place the hopper in top of the platform and secure it with brass nuts.



Lee bullet seater die

(Note 45 degree chamfer on bottom of die)



Lee bullet seater die installed

Screw the bullet-seating die in until it touches the shellholder, and then back out 3 full turns. The bullet seating screw in the top of the die adjusts seating depth.



Lee crimp and post size die



Lee crimp and post size die installed

Screw the Lee crimp and post size die in till it touches the shellholder. Back off the adjusting screw. Insert a loaded round in the shellholder and raise the ram. Turn down the adjusting screw until you feel it just touch the case mouth. Lower the ram slightly, and turn the adjusting screw a $\frac{1}{2}$ turn for a light crimp, and one complete turn for a heavy crimp. I found the $\frac{1}{2}$ turn adjustment to be plenty.

Part II: Loading Ammo

Ok, the press, dies, primer system and powder measure are all setup and adjusted. I filled the measure with Alliant® Red Dot®, and the primer tray with standard large pistol primers. I have a box of .45 cal. 230 grain JHP's. Time to load some ammo!



Let's do it!



A fired case in the shellholder...



Raise ram, resize case and expel fired primer...



Seat new primer in primer arm...



New primer in primer arm...



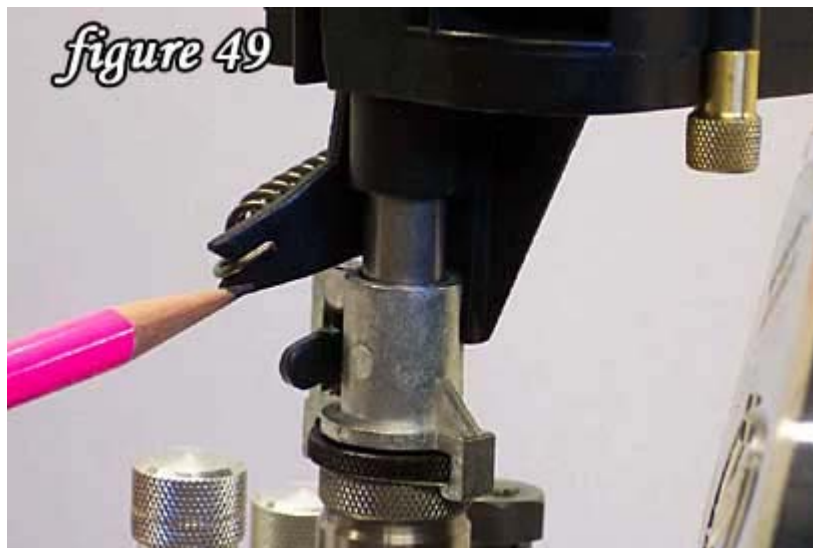
New primer is now seated and brass case is moving toward the expander and

powder measure...

(The turret press priming arm works perfect and has great sensitivity, you can feel the primers as they seat to the proper depth)



Note to position of the powder measure before ram pushes the brass case into the expander die...



Ram pushes the brass case into the expander die; raising the powder measure...



Expanding the case mouth and dispensing a charge of powder...



Place a bullet in the case mouth...



Round has been through the bullet seating die and the crimp and post size die. A

complete round of ammo!

Part III: A few points of discussion

► I loaded some rounds of ammo, and realized the Lee Classic Turret press loaded ammo fast! I decided to see just how fast. *Without rushing*, it took about 22 seconds to turn a fired pistol case into a round of reloaded ammunition!

► The press ram and die station is perfectly aligned as the turret rotates, cases entered the dies easily.

► I wanted to check just accurate the Pro Auto-Disk Powder Measure was. I drew 10 charges, put them all in the pan and weighed them together on my scale. That equaled 49 grains. Divided by 10 gives us 4.9 grains per round. That's not exactly the 5 grains the charge table allowed, but it's plenty close. Besides powder scales are only accurate to .01 of a grain anyway. The powder measure works!

► I twisted the hopper to one side to close it off, and worked the measure a few times with an empty brass case to dispense what powder remained **inside** the measure. I then emptied the powder from the hopper into the Alliant® powder container. Then I wondered if ALL the powder was gone from the measure. It only took a few seconds to remove the brass hopper retaining nuts, and separate the hopper. I found a few flakes of powder remained **inside** the measure.

Check out the picture below (brass case is for size comparison). It's only a few flakes, and doesn't reflect badly on the measure. It's just something to watch out for. It only takes a minute to remove the hopper and dust off any remaining powder flakes.



► The Lee Safety Primer Feed does take some getting used to. I found by pressing my index finger against the side of the primer arm as I pressed the trigger with my thumb, the primer feed worked well. Make sure the primer feed is seated square on the primer arm before pressing the trigger, if not, you will drop a primer. Always make sure a primer in the primer arm before pulling the lever again.

► Once set up and adjusted the Lee Classic Turret Press quickly and easily turned out pistol ammo. As I said before, I turned out a round every 22 seconds, however, speed isn't a benefit unless the ammo is high quality. The Lee Classic Turret Press turned out top quality ammo.

► Does the Lee Classic Turret Press rate the title "best quality"? Yep, sure does! If you are considering a turret press, the Lee Classic Turret Press fits the bill.

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