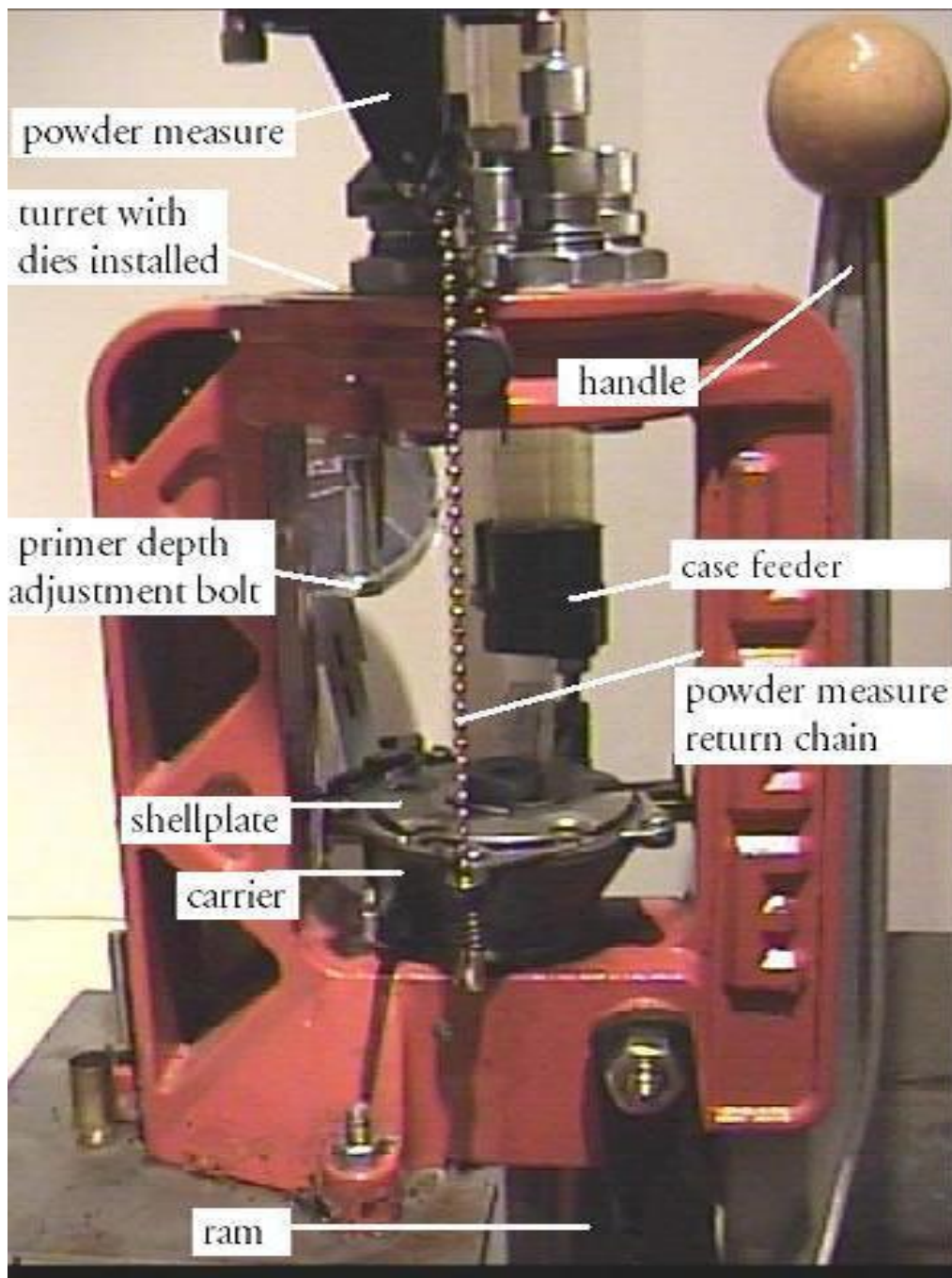
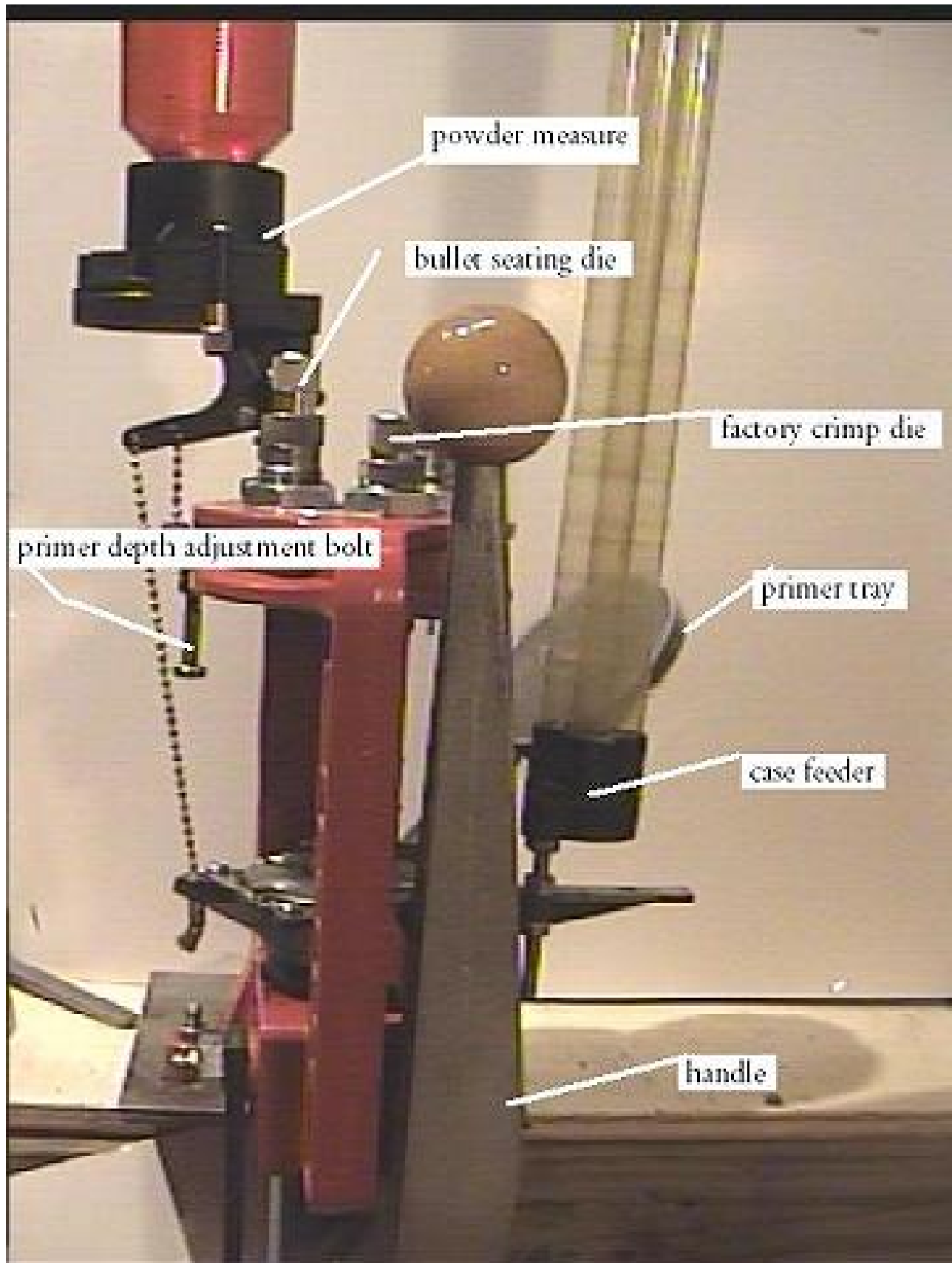


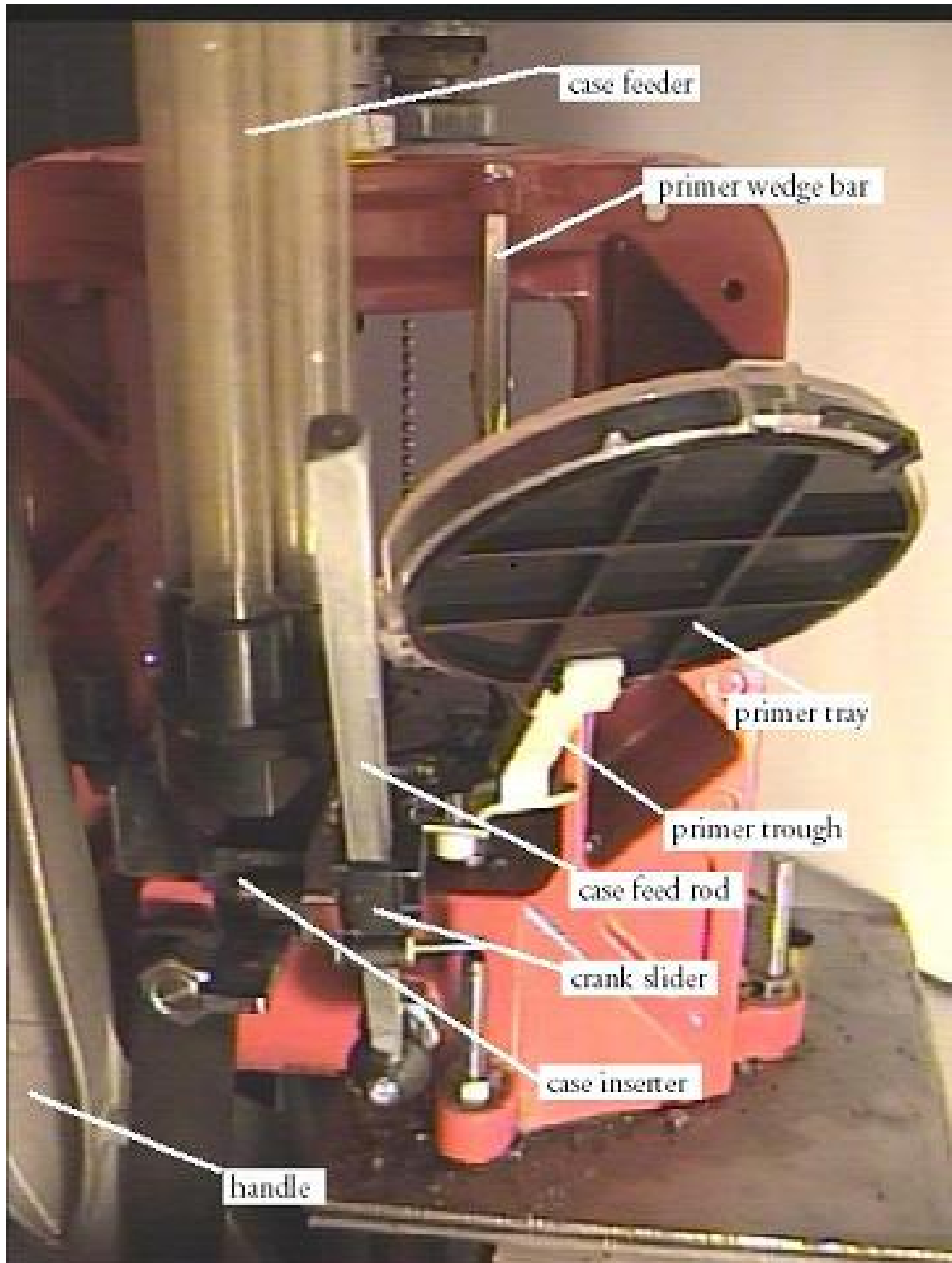
The Lee Load Master press is a progressive reloading press. As such, it performs many operations simultaneously with five cases with each pull of the handle. The case feeder inserts a case into the press. In station 1 that case is resized and the old primer is removed from the case. In Station 2 a new primer is inserted into a second case in that station. In station three, the mouth of a third case is expanded to allow for easier seating of the bullet. This case is also charged with powder. In station 4 a bullet is seated into a fourth case. This case may also be crimped here, but as the press is set up on this page, a fifth case is crimped in station 5 with a Factory Crimp die.

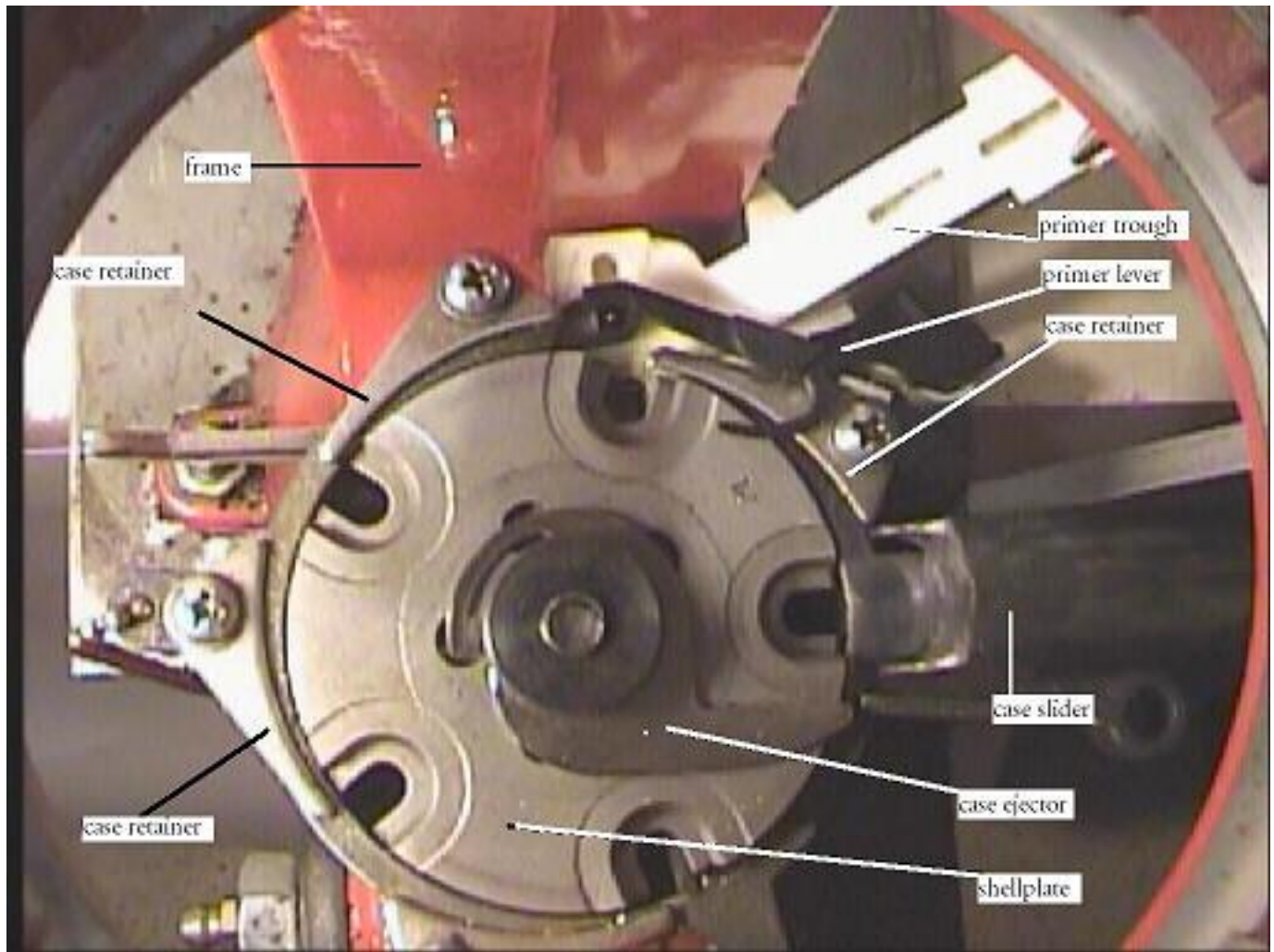
As a result of this, high quality ammunition is quickly and easily reloaded with little effort and relatively little cash outlay for the equipment. This page is dedicated to making the initial setup and troubleshooting of the Lee Load Master press as easy as possible.

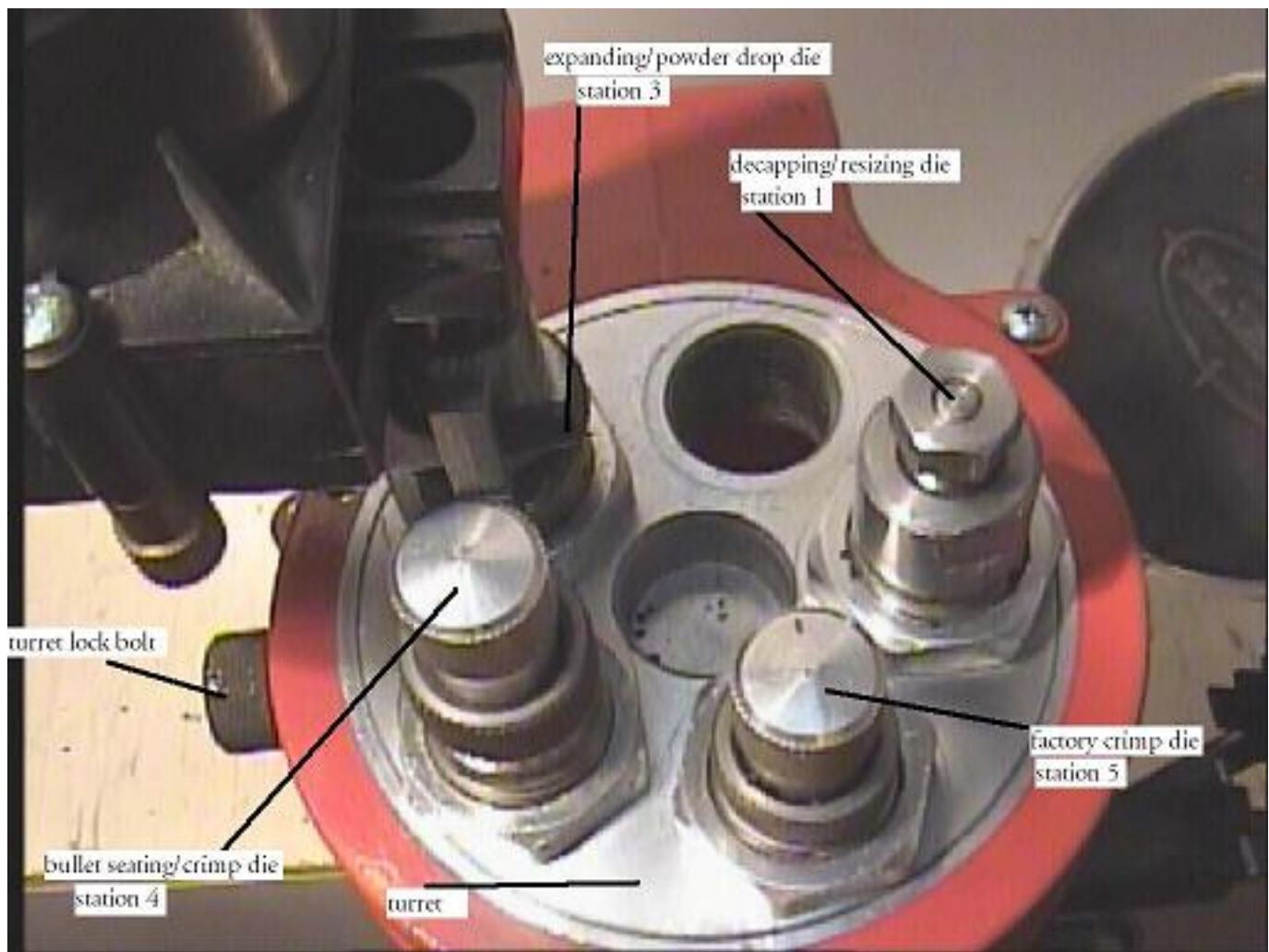
Parts identification





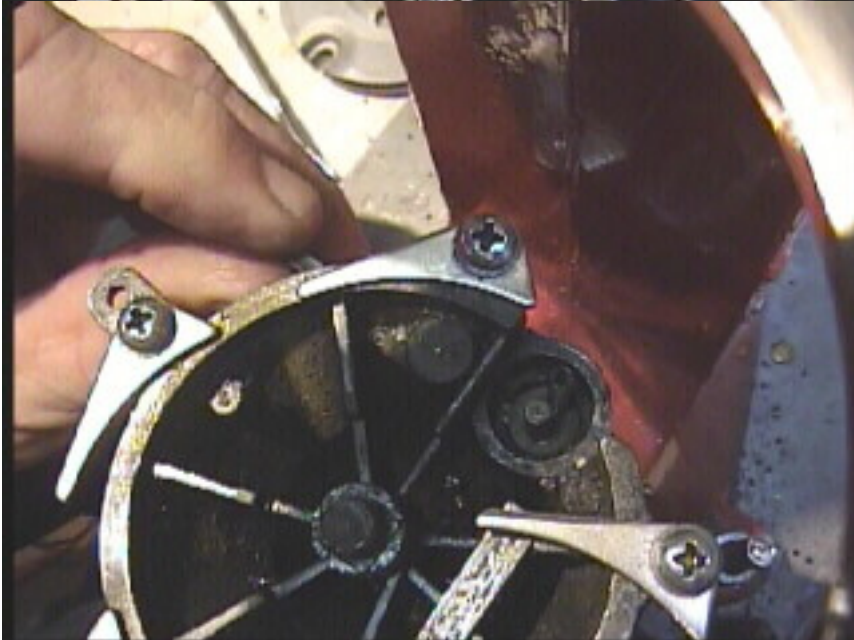
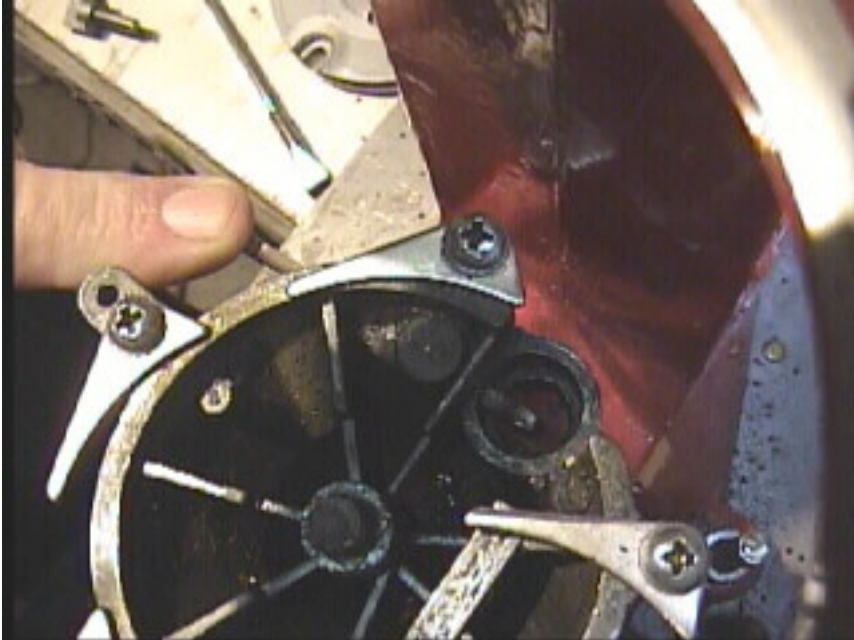






Installing the primer pin

At the rear of the carrier is a hole approximately $\frac{1}{4}$ inch in diameter. This is where the primer pin and primer pin spring go. Place the primer pin spring in the hole in the primer pin. The spring will go to the rear of the press. Start the primer pin down the hole. With your left hand push the primer rocker arm down. This raises the rocker arm under the pin. As you lower the rocker arm back to its normal position, guide the primer pin down the hole. You may have to rotate the pin slightly to line things up. As you release the primer rocker arm the primer pin should be in the hole with the pin being upright and centered in the hole. There is a ledge in this hole that the primer pin rests on a ledge. It is very important to keep this clean. Failure to do so will result in tipped primers. _



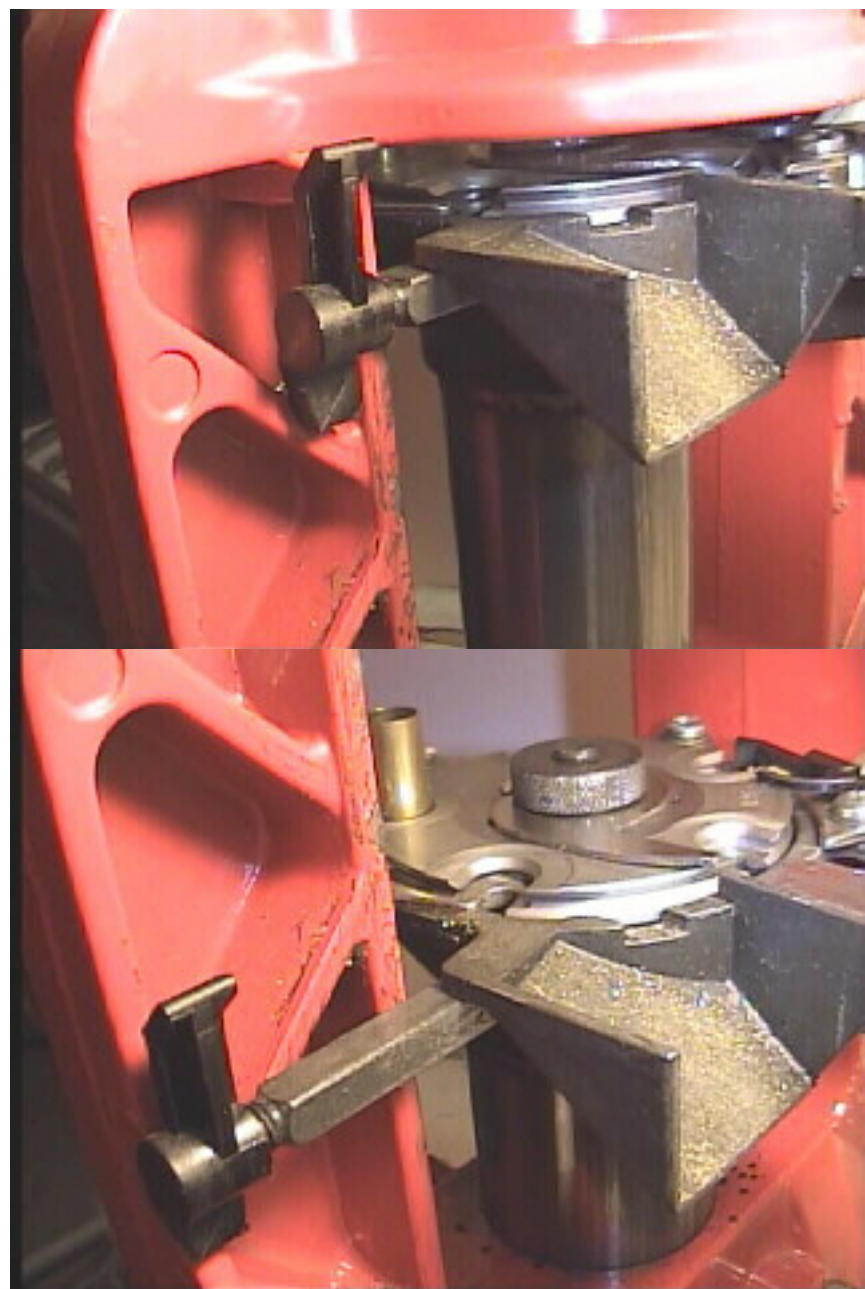
Installing the indexing rod.

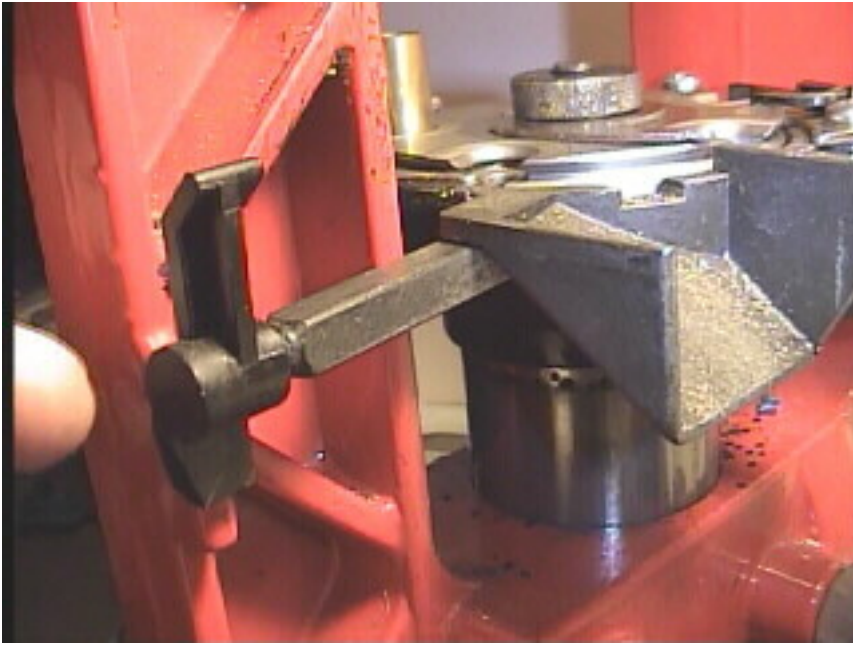
The indexing rod slides into the front of the carrier with the angled side of the flipper up. The rod's exact position in the carrier isn't critical right now. _



As the carrier rises, near the top of the stroke, the flipper on the end of the indexing rod hits a bump on the frame and rotates the indexing rod clockwise slightly. As the carrier goes down, this rotation of the indexing rod allows the bottom of the flipper to catch on a slanted extension on the frame. Further

downward movement causes the indexing rod to slide outward. As the carrier nears the bottom of the stroke, the flipper encounters yet another bump on the frame which causes the flipper, and thus the outer end of the indexing rod to move to the right. This movement allows the handle to push the indexing rod inward which causes the shellplate to rotate 72 degrees and locks the shellplate into place.





Installing the shellplate

Place the shellplate on the carrier by placing the hole over the threaded rod in the center of the carrier. Spin the shellplate around until it clicks into position. You may have to move the indexing rod in or out a little to allow the shellplate to fall into place. Once the shellplate clicks into place, install the case ejector. The long extension in the ejector goes nearest to station 5. Place the rubber O ring over the shaft, then place the knurled nut on the shaft with the smooth side up. The groove in the bottom fits over the O ring. Finger tighten the nut. Try cycling the handle to see if it indexes properly. The indexing rod should flip clockwise slightly when it reaches the top of the stroke. As the carrier goes down, at the halfway point the flipper catches on the frame which slides the indexing rod outward. At the bottom of the stroke the handle pushes the indexing rod inward which indexes the shellplate. _

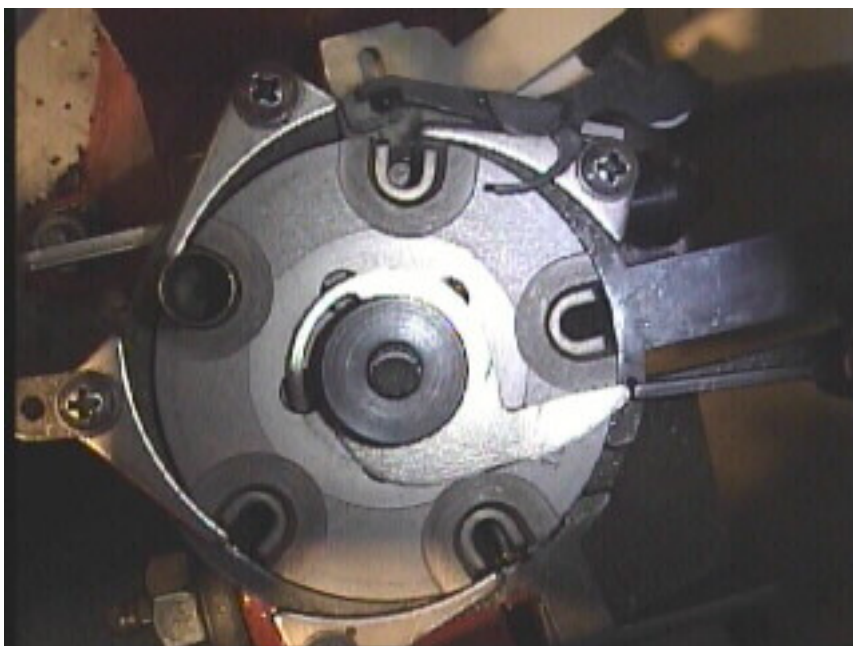


Adjusting the case retainers

The case retainers keep the cases pushed firmly into the shellplate. This assures that the cases will be properly aligned to enter the dies and to properly seat a primer.

Using a short Phillips screwdriver, make sure the case retainer screws are tight enough to hold the case retainers firmly in place. Do not over tighten the screws though.

Push each retainer inward, but not so far that the tip of it touches the shellplate. Put a case of the proper caliber into station 1. Pull the handle repeatedly to advance the case around the carrier. As the case advances to each station, it will push the case retainer at that station out the proper amount. There is usually no need to adjust them further, but as you reload check these occasionally. If they appear to not be holding the case firmly in place in the shellplate, push the tip of the case retainer in with a screwdriver until the case is pushed firmly into place. When adjusting the case retainer for station 2, be very careful with the primer assembly. If primers are present in the primer assembly, lift the primer lever (The black arm attached to the primer assembly that moves the primer slider back and forth) carefully off of the pin on the primer slider and move the primer lever carefully out of the way. Replace the primer lever after the case retainer adjustment is done. Push the primer rocker arm (The arm that the primer adjustment bolt on the left side of the press moves as the ram comes to the top of the stroke. Pushing this arm down pushes the primer pin and any primer in place upward.) down to raise the primer pin to make sure the primer slider is in it's proper position than that there is no primer waiting to be fed into a case. Failure to do so could result in two primers trying to enter the primer pocket at the same time, which could cause one or both primers to detonate. _



As the carrier rises, watch what happens when the primer wedge bar (the spike hanging down on the right rear of the press) pushes the primer arm. Sometimes the primer arm can rub on the case retainer and cause jerky movement of the primer arm, and thus the primer slider. Fixing it is easy, file sharp edges off of the case retainer and if needed file or sand on the bottom of the primer arm, too.

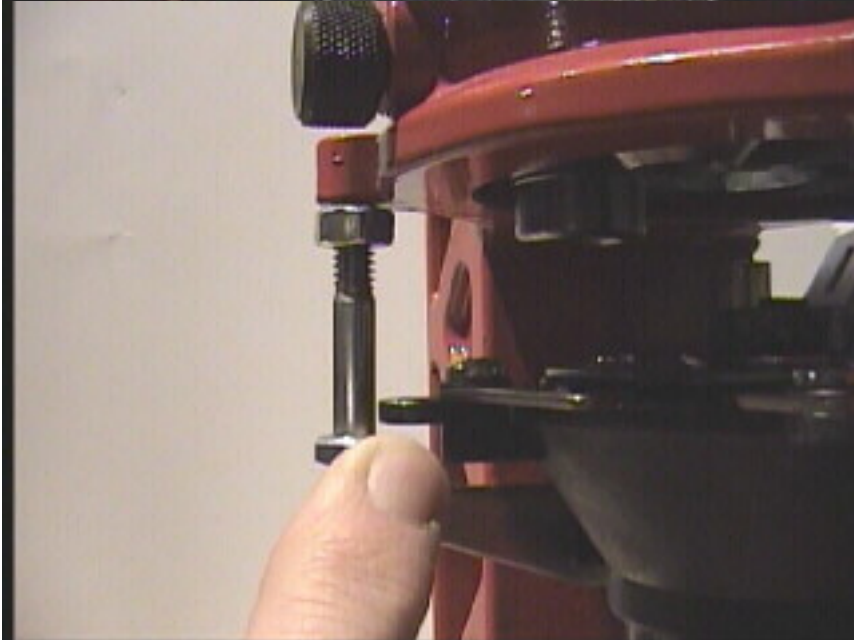


Setting the primer depth adjustment

On the left side of the press you will see a chrome bolt hanging down from the frame. This is the primer depth adjustment bolt. Using two $7/16$ " wrenches, loosen the nut with one wrench while holding the bolt with the other. Run the nut toward the head of the bolt and turn the bolt up into the press several turns.

Place a case with a spent primer into station 1. Pull the handle twice to advance the case to station 2. Push the handle all of the way down to bring the carrier all of the way to the top of the stroke.

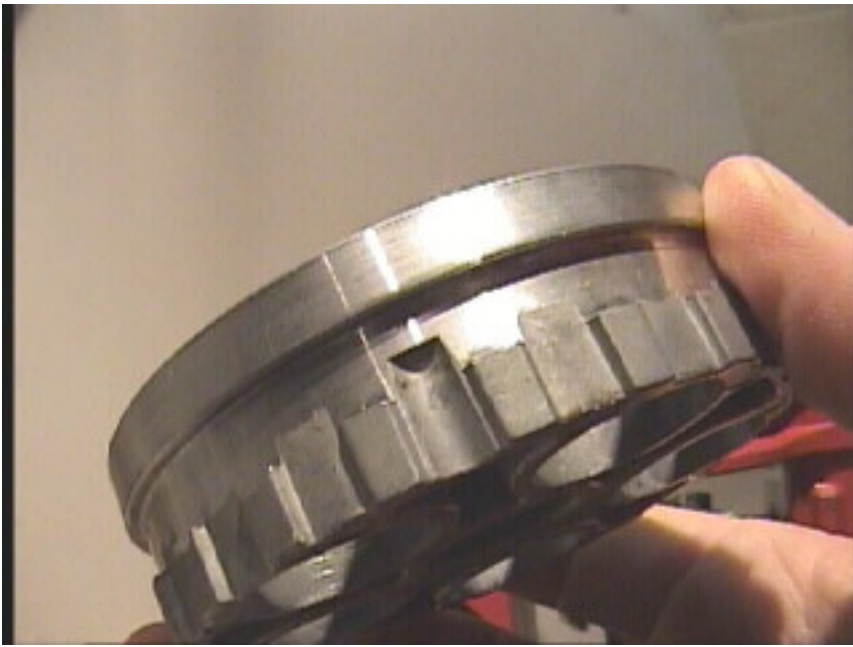
Pull down on the primer rocker arm and screw the bolt down until it makes firm contact with the rocker arm. Release the pressure by lowering the carrier slightly. Place one finger on a flat on the bolt head. Adjust the bolt so that it moves downward out of the frame two bolt flats. Hold the bolt with one wrench, being careful not to change the adjustment and tighten the nut against the frame. This is a preliminary adjustment, we will check it more carefully later.





Installing the turret

As you look at the edge of the turret you will notice that some of the grooves extend up than the rest of them do. One of these grooves should be is aligned with position for the turret lock bolt after the turret is installed. Position the turret with the smooth side up so that one of these grooves is near the turret lock bolt. Press the turret down into the frame. After it is in place, turn the turret the proper direction to get the groove behind the turret lock bolt and tighten the turret lock bolt. It may be useful to turn the turret back and forth slightly as you tighten the turret lock bolt. As you tighten the turret lock bolt, you will be able to move the turret less and less. Tighten the turret lock bolt firmly with your fingers. It may be useful to use a marker to make a mark on the turret and frame to easy alignment when installing the turret later.



Setting the dies overview

Most people reloading pistol calibers use 3 or 4 dies.

The first die, which goes into station 1 is the decapping/resizing die.

The pin in the center of this die pushes the old primer from the case as the carrier rises. As the case enters the die it is also squeezed by the resizing die, which brings the case back down to its proper size and shape. Cases expand when they are fired, the expansion being stopped by the chamber in the firearm. Carbide dies don't normally need the cases to be lubricated, although doing so can reduce the effort required to resize cases.

Station 2 normally has no die in it. This is where each case is primed with a new primer.

The second die is the expansion/powder drop die. Like the first die it performs two jobs at once. As the die enters the case it pushes up on the drop tube in the die which in turn activates the powder measure to deliver a charge of powder down into the case. At the top of the stroke, the drop tube also flares the top of the case (the neck) to ease bullet placement in the next step. The amount of flare applied is adjusted by raising or lowering the die in the frame. Lowering the die applies more flare, raising it flares the neck less.

The third die is the bullet seating/crimping die which goes into station 4. Most people reloading for semi auto pistols only seat the bullet with this die. The crimping is done in station 5 with the Factory Crimp Die. People reloading for revolvers may crimp with this die as well as seat the bullet. In this case the

Factory Crimp Die is not used.

The fourth die, which is optional but used by many reloaders is the Factory Crimp die, which goes into station 5. It applies a taper crimp which works very well, especially in semi auto guns which headspace with the neck. People reloading for revolver often apply a roll crimp with the bullet seating die. Revolvers headspace with the rim on the case, not the neck.

Setting the dies

When adjusting dies, always have the handle pulled all of the way down, which brings the carrier all of the way to the top of it's stroke when making die adjustments. Apply steady downward pressure to the handle as you adjust the dies..

Run the nuts up near the top of the threads before placing them into the press. Putting a little oil on the threads first makes the nuts easier to turn. You may find it better to discard the rubber O rings and use a wrench to tighten the lock nuts down tightly. RCBS sells a wrench for this purpose for \$6.95. Go to <http://www.rcbs.com/> and search for "wrench". If you install the dies in order, you should be able to get a wrench or a pair of slip joint pliers on each die until you get to station 5. Getting the dies properly adjusted and tightened down really well makes reloading much more successful and accurate.

On dies with an internal adjustment, like the bullet seating or factory crimp die, adjust the inner piece up until you can see the threads of the inner piece. _





Station 1 resizing/decapping die

With the handle all of the way down, run the die down until it makes contact with the shellplate. Lift the handle slightly, adjust the die another 1/4 turn downward.

Push handle back down to hold the die into place and tighten the die's nut tightly. This is the most important die adjustment, as it can also affect the primer depth adjustment. Also make sure the nut holding the decapping pin in place is tight.



Station 2

There is no die in station 2. Some people decap only in station 1 using a Universal Decapping die and remove the decapping pin from the resizing die and place that die in station 2. This ensures that the case is perfectly aligned for priming. This subject will be covered later. In the normal setup, only priming is done in station 2 and since this is the way the press is designed, it works quite well this way.

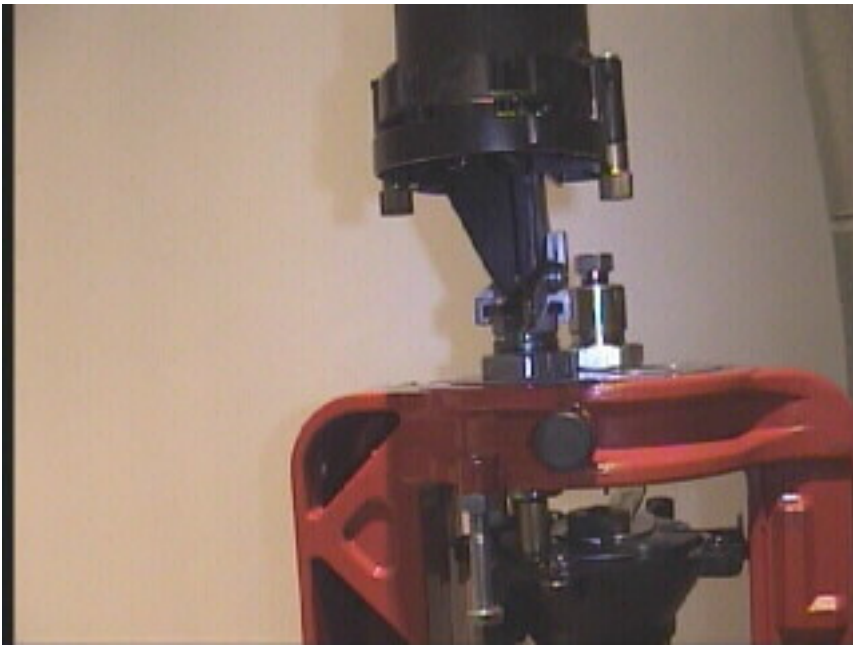
Station 3 - The expanding/powder drop die

With the handle all of the way down, screw the die in until it makes shellplate contact. Adjust the die out from between 1/2 and 3/4 turn. Tighten the nut.

Place the drop tube into the die with the tapered end down. Install the powder funnel or the powder measure onto the die and finger tighten securely. Place a case into station one, decap and resize it and advance it around to station 3. There should be no primers in the primer assembly or powder in the powder measure. Make sure the die lock nut is pretty tight.

Pull the handle down all of the way, applying some firm pressure at the top of the stroke. Back the handle off a bit and run a finger up the side of the case. You are feeling the amount of flare is present at the top of the case, at the neck. If you feel little or no flare, adjust the die down further in the press by loosening the die lock nut and the powder measure, if present. Then turn the die down into the press and re-tighten the nut and powder measure, if present. Try again until you get the right amount of flare. You don't need much, only enough to allow the bullet to enter the case without splintering material off of the bullet. The flare also makes it easier for the bullet to sit upright as the bullet is about to be seated. Too much flare can cause the case neck to crack prematurely. If you find you have too much flare in the case, you must start with a new case. Adjusting the die upwards won't remove flare already present in the case. Once you have the adjustment done, tighten the die lock nut, being careful not to allow the die adjustment to change.





Station 4 - The bullet seating die

As with the dies installed so far, the bullet seating/crimp die can do 2 jobs at once. Many or most people using the Load Master do the bullet seating only with this die and crimp separately.

There are two ways to set up this die. With a finished round or with the case from station 3 and placing a bullet at the time of die adjustment. We will cover using a finished round first, as it is easier to do.

Pull the case retainer in station 4 out enough to insert a finished round into station 4. With the handle all of the way down, adjust the die inward until it makes firm contact with the round. If you are going to use the Factory Crimp Die in station 5 to crimp, tighten the die lock nut and proceed to the bullet depth adjustment.

Die adjustment with a finished round

With the finished round in place in station 4, lower the handle to raise the carrier and round firmly into place at the top of the stroke. Screw the bullet depth portion of the die down until it makes firm contact with the bullet. You will have to check the OAL (overall length) with calipers when you start to reload. Bullet shape can change the OAL and you want to make sure that you have this right. Rounds that are too long can fail to feed into the firearm properly and rounds that are too short can cause dangerously high pressures. _

Die adjustment without a finished round

Advance the case that you flared in station 3 to station 4. Place a bullet on top of the case and lower the handle all of the way. Continue applying pressure to the handle while making all adjustments to the die. Screw the die downward until you make firm contact with the case. Finger tighten the die lock nut.

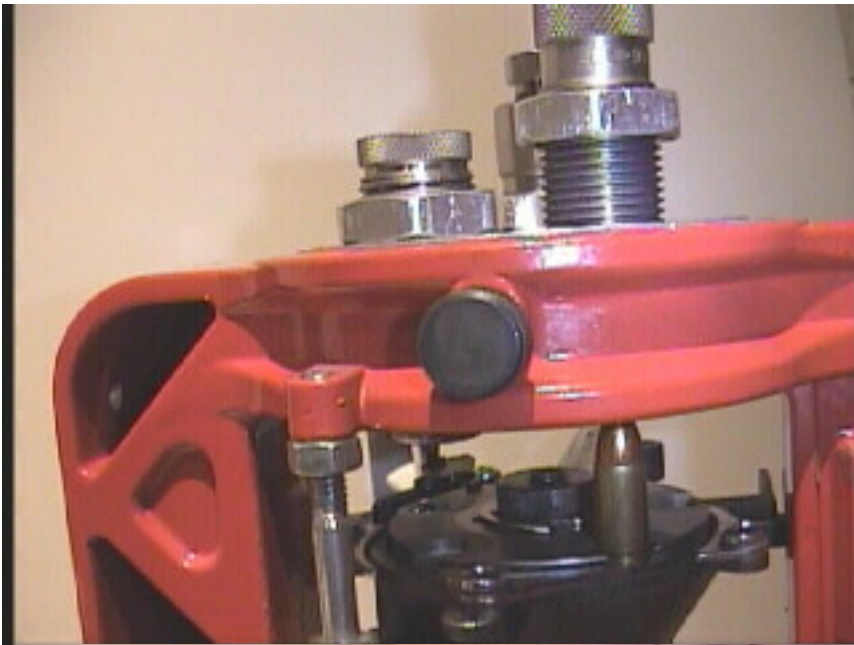
Screw the bullet seating adjuster inward. You will feel resistance as it pushes the bullet down into the case. Raise the handle enough to see the round. Check to see how far the bullet is pushed into the case. If it is clearly too long, lower the handle and tighten the bullet adjustment a bit more. Work in small increments. Pull the case retainer out and remove the round. Check the OAL with calipers. If it is too long, return the round into station 4 and repeat the process, tightening the bullet seater a little at a time. Recheck the length after every adjustment. If it gets too short you must start gain with a new round./ backing the bullet seater depth will not make the round in station 4 longer. Once you get the length right tighten the lock nut securely. _

Crimp adjustment

If you are going to use this die to crimp the round, you add more crimp by adjusting the die down further. First place a bullet in the case, set the bullet depth for the OAL then back off the seating adjuster. Lowering the die also lowers the bullet seating adjuster, so as you adjust for more crimp you are also shortening the OAL if you don't do this. You decrease the crimp by adjusting the die upward. . Lower the handle fully which raises the carrier completely to the top of the stroke. Lower the carrier a bit and remove the round. You normally want to only crimp enough to remove the flare from station 3. People reloading for revolvers, especially with lead bullets, may apply a deeper crimp.

Adjust the die deeper until you get the proper amount of crimp. If you go too far you must start checking with a new round. Adjusting the die upward will reduce the amount of crimp applied but will not remove crimp already there. Once you get this set properly, tighten the die lock nut and set the bullet depth as above with a finished round.

You will find it useful to make a round with no primer or powder to use as a template later. This is especially useful if you load various calibers, bullet weights, bullets shapes, etc.





Station 5 -The factory crimp die

This die applies a taper crimp, much like that applied at the factory. This die is very popular with reloaders because it applies a consistent crimp, even if case lengths vary a bit. The crimp in station 4 is very sensitive to case length. Case length is not often a problem in pistol calibers.

With the handle all of the way down adjust the die down until it makes shellplate contact. Tighten the die lock nut. Place a round into station 5. Lower the handle fully and while applying pressure to the handle, tighten the adjuster on the die until it makes firm contact with the round. Back the carrier off a bit and tighten the adjuster an additional $\frac{1}{2}$ turn. Using a marker to make a mark on the adjuster makes it easier to see how much you are adjusting it. _





Filling primer tray

Fill the primer tray up, put it on the press and tap the side of it slightly to insure that the primers slide down the primer trough properly. _





Powder measure setup

Remove the powder bin by removing the two knurled nuts and pulling the bin upwards.

Determine the proper disk opening for the starting load for the caliber / powder / bullet type and weight. Place the hole marked with the proper disk size nearest the hole in the base of the powder measure. You will see a slot in the bottom of the disk. It goes over the tab sticking out of the base of the measure. Try to slide it each way to ensure that it is properly seated in place. Replace the bin by placing the bolts down through the holes in the base and replacing and tightening the knurled nuts. Fill the bin with

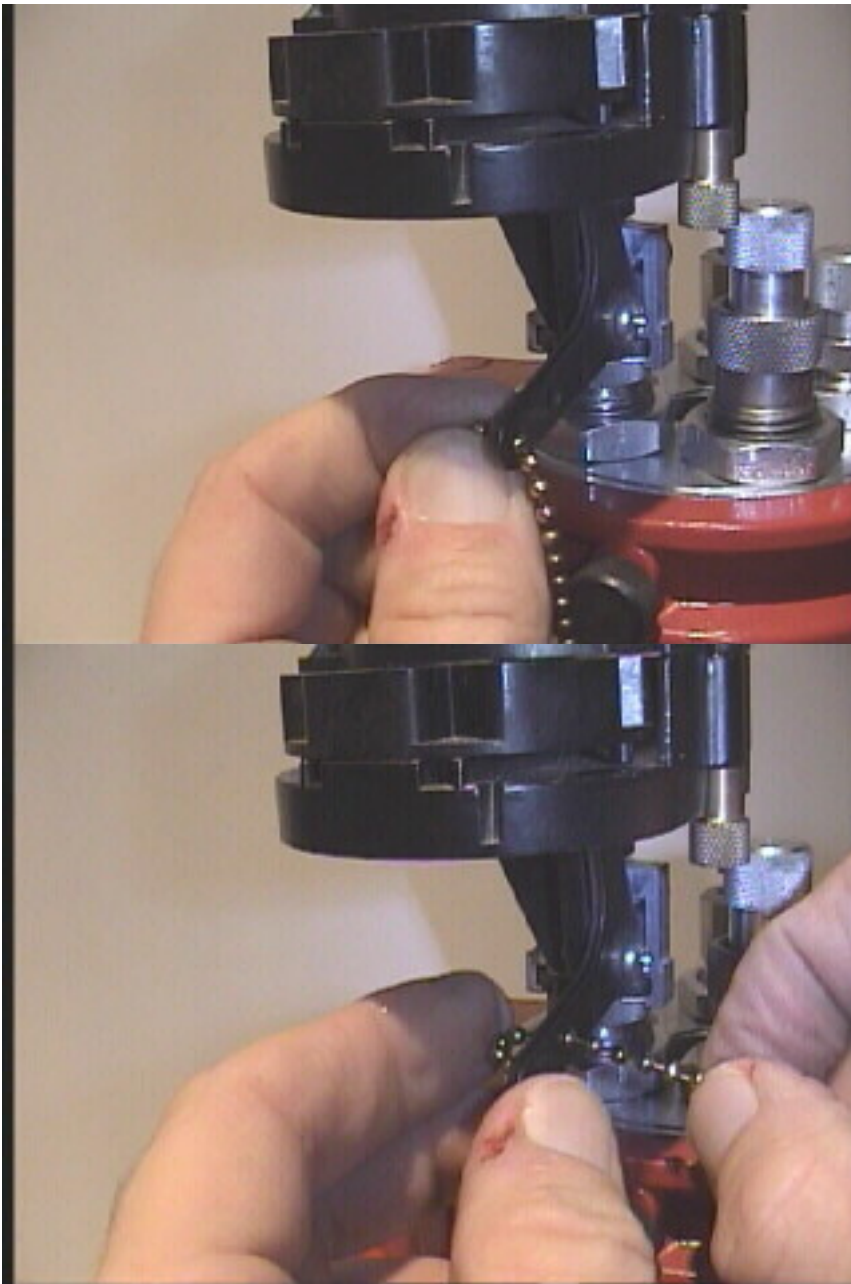
powder, remembering to place the lid back on the bin. Turn the bin to the “On” position. Place a case or other container under the die at station 3 and work the lever a few times, catching the powder and dumping it back into the hopper. If you are using a case you will probably have to dump it after every charge.

Place the end piece on the end of the chain. Slide the spring down the chain. There is a small tab on the left side of the carrier with a small hole in it. Push the chain up through that hole. Raise the handle completely to lower the carrier completely. The arm for the powder measure should be directly above this hole. Pull the arm down and push the chain through the hole on the outer end of this arm. Pull the chain tight. Raise the carrier slightly and pull the chain through the hole until it clicks – it's like pulling one more ball through the hole, but that isn't necessarily what happens. Just feel for the click. Once that happens lower the carrier again to hold the chain tight. Push the chain through the other hole in the powder measure arm and pull it tight. This is a very easy adjustment to make, but very important. If it is adjusted too tightly the chain may break. If it is adjusted too loosely the powder measure won't reset properly which could be dangerous. _









Final adjustments

Place a case into station 1 and pull the handle down firmly as far as it will go. This removes the old primer and resizes the case. As you raise the handle the case advances to station 2. Do not add another case to station 1.

As the carrier advances, watch the primers through the slots in the primer trough. Make sure that you see them drop a bit as the case advances to station 2. This is a very good habit to get into. You should do this on every stroke while reloading, too.

Lower the handle which places a new primer into the primer pocket in the case. As you raise the handle

the case advances to station 3. Slide the case retainer for station 3 out of the way, which will allow to you remove the case to inspect it.

Look at the primer.

Is the top of it even with or a bit below the head of the case? If the primer can be felt to stick out of the primer pocket it is not seated deeply enough. Adjust the primer adjustment bolt out of the frame one bolt flat at a time. Feed a new round as you did this one, checking each one at station 3 until the primer is fully seated.

If the primer has an indentation in it, it may be seated too deeply. A little bit of an indentation may be okay, but not much. If you feel the primer is seated too deeply, adjust the primer adjustment bolt up into the press, one bolt flat at a time. Feed a new case through each time until you get it right.

Place the case back into station 3. Lower the handle which will flare the case and drop the powder charge. Take the case out and dump the powder onto your scale. Weigh the charge and make sure that you get the proper charge. Once you have done that, return the powder to the case and return the case to station 3 and raise the handle to advance it to station 4. You can move the handle all of the way down and halfway up before placing the case back in at station 3 if you like as long as there are no cases in the press. Be careful that you do not double charge the case. Once you have done that, push the case retainer back in on station 3.

Place a bullet on top of the case at station 4 and lower the handle. Raise the handle enough to remove the round after moving the case retainers out of the way. Check the length. If it is too long, tighten the bullet seater in the die SLIGHTLY and check again. If it is too short or becomes too shot, you will need to start with a new round. Once you get it right, return it to station 4, push the case retainer back in and advance the round to station 5. Pull the handle down one last time. As you raise the handle the case will eject from the press.

CONGRATULATIONS. YOU JUST LOADED YOUR FIRST ROUND OF AMMO ON YOUR NEW PRESS.

Now run another case all of the way through the press and check it like you did the first one. Check as it advances to station 2 to make sure the primers drop. Visually check the powder charge at station 4 before placing the bullet. **DO THIS FOR EVERY ROUND YOU LOAD!!!**

After the round ejects, check the primer, the OAL and the crimp.

Continue feeding cases through one at a time until you get comfortable with that. Then feed a case every other stroke. Work your way up gradually until you are feeding a case every stroke. Don't worry about the case feeder until you are sure everything is running smoothly. _

Lubrication

Lubrication of the Lee Load Master press is simple, but very important. They are lubricated at the factory before shipment.

There is a small oiling point on the left side of the frame. Push the tip of an oil can tightly against this and pump the oil can as you work the ram up and down. Do this every time you use your press.

The other lubrication points can be done every couple of thousand rounds.

There are three grease fittings in the linkage at the bottom of the press. Use a grease gun to lubricate these.

Remove the shellplate. Add just a little thick grease to the end of the indexer rod, the upper side of the side of the indexer rod closest to the center of the shellplate (it will be shiny) and the backside of the indexer rod. You just want to use a little bit of grease - too much and grease will work it's way into the priming assembly.

Put just a little grease in the center hole of the shellplate. You can instead apply a little grease to the shaft the shellplate hole fits around instead.

A thin coat on the bottom of the ejector, especially near the center. Again, be careful not to overdo it, you don't want grease working it's way into the priming system.

Put a little grease on on the end of the primer rocker arm where it touches the adjustment bolt.

There are three places on the frame that the indexing rod flipper touches as the press indexes. Rub just a tiny bit of grease on each of these points.

Rub a little bit of STP Oil Treatment or grease to the bottom of the tongue that holds the case inserter if you use it.

