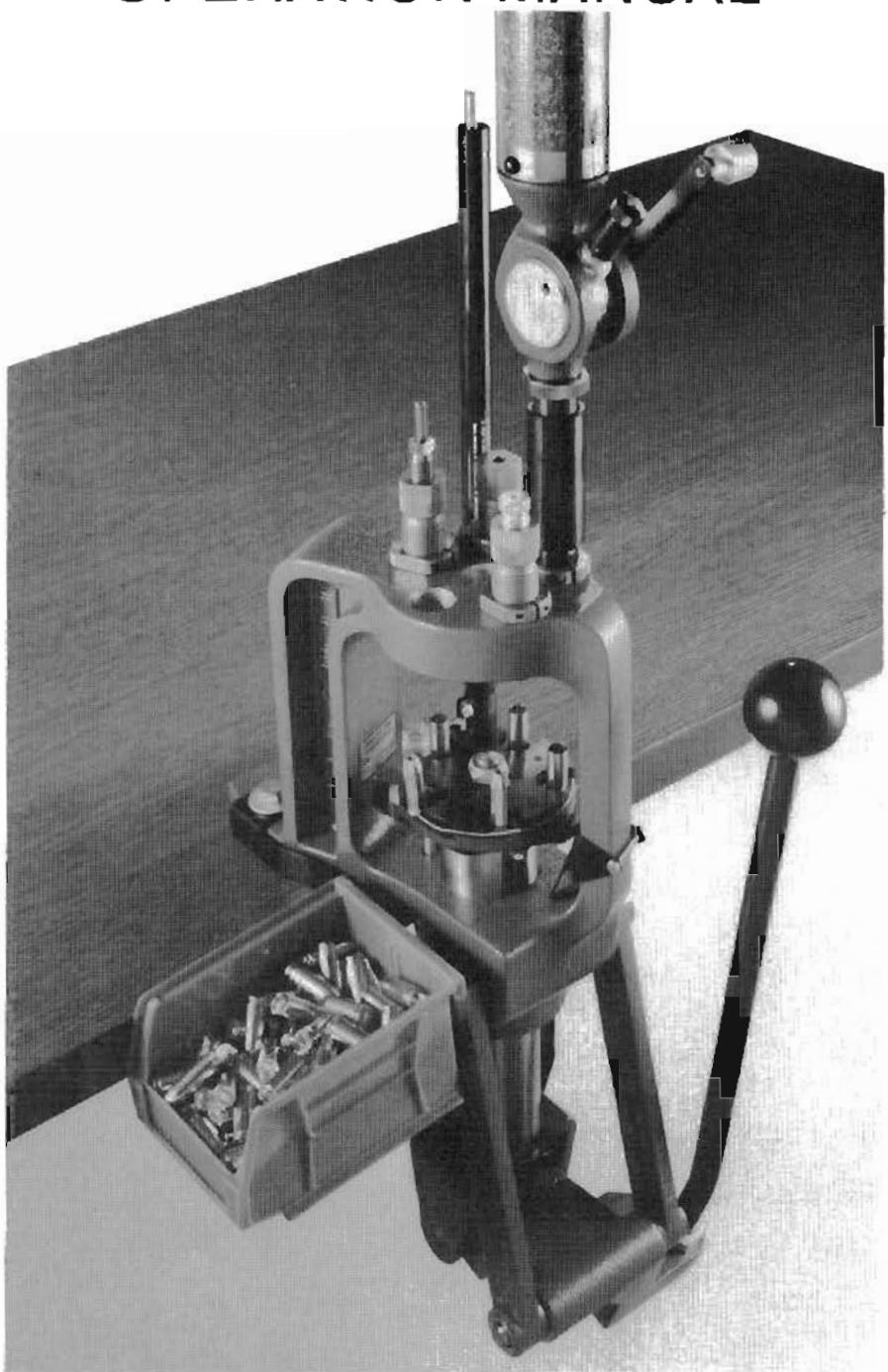




Pro-Jector™

OPERATION MANUAL





REMOVING FROM THE SHIPPING CARTON

Your new Pro-Jector reloading press has been packaged to insure minimal vibration and damage during transport. The rigid foam box insert was designed to fit the parts of the press tightly in the least amount of space. Be cautious when removing the press from the box, as the subplate may suddenly shift position if not supported, resulting in some pinched fingers.

Remove all the parts from the packing box and spread them out over a large flat surface. Refer to the parts list on Page 19 and check to make sure all necessary parts are identified. Before setting up your Pro-Jector, read through this manual. It gives step by step instructions and suggestions that will make set-up and operation easy and understandable. After you have read through this manual and feel you understand the set up procedure, begin setting up your press—working slowly and without distractions.

Remember, everything is machined to easily fit together without modification. If you find that you are forcing parts together, stop and double check the instructions and the photographs we have provided. The installation photographs depict the dies already installed. This was done for photographic purposes only. In an actual case, the dies are the last parts to be installed.

Watch your fingers when removing press from the box.

HOW YOUR PRO-JECTOR OPERATES

The Hornady Pro-Jector utilizes a high strength, aluminum alloy frame with a compound linkage system which operates the 2" diameter cylindrical ram. The ram houses a drive shaft that is attached to the shell plate at the upper end, and the index wheel at the lower end. The toggle contains two small spring-actuated pawls which alternately engage an index wheel to advance the shell holder plate through the different reloading stations.

As the handle is lowered, the right pawl contacts the index wheel, advancing the shell holder during the first inch of upward travel of the ram. With this upward travel, the cases become aligned with the dies at the top of the press. As the shell plate comes to the top of the press, it guides the cartridge cases into the five die stations to perform the reloading operations (except priming).

The handle is then raised to complete the stroke, lowering the shell plate. When the shell plate comes to within an inch of the bottom, the left pawl engages the index wheel which advances the shell plate into position over the primer cup to seat a primer into the case that was just sized and deprimed. A slight push on the handle at the bottom of the stroke then seats the new primer into the case.

At the same time, the Brass Kicker engages at the other side of the Pro-Jector, automatically ejecting the reloaded cartridge from the final station and dropping it into the plastic bin to the left of the press.

The Pro-Jector reloading press has five stations, including the powder measure. However, not all die sets come with four dies, and not all calibers require them. For correct placement of the dies that are included in your set, refer to the instruction sheet included with the dies, and to the following photograph.

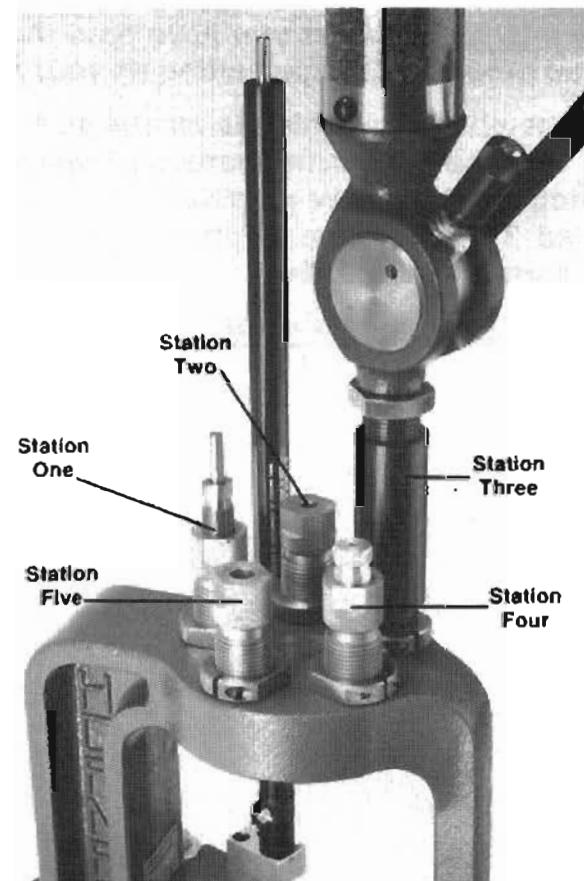
Station One sizes and deprimes the case.

Station Two bell's out the case mouth (used only with straight-walled pistol or rifle cases).

Station Three drops the powder charge.

Station Four seats the bullet (and crimps it to the case if required).

Station Five gives a taper crimp or roll crimp, if desired, on certain pistol cartridges.



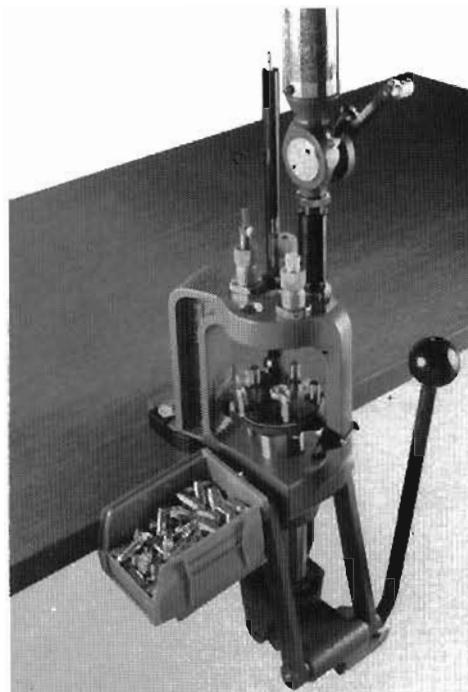
Once the dies are in place and all stations are filled, the proper sequence for reloading is: 1) Place an empty case into Station One; 2) Insert a new bullet into the powder charged case at Station Four; 3) Lower the handle; 4) Drop the powder charge into the newly primed case at Station Three; 5) Raise the handle and seat a new primer in the deprimed case that has

now moved to Station Two; 6) At the same time, a reloaded case is ejected at Station Five.

Now that the reloading process has been introduced, we can go through the steps of setting up your Pro-Jector.

MOUNTING THE PRO-JECTOR

Your Pro-Jector should be mounted securely to the edge of a solid level bench. Position it as to provide firm support for the press operations, but leaving plenty of clearance for the toggle assembly and the spent primer tube. Your work area should be well lighted and have plenty room for your reloading accessories.



While facing the press, mark and drill the mounting holes. Mount the press using 1/2" bolts that are long enough to secure the press to the bench with plenty of clearance for the nuts. We also recommend using washers at both ends of the bolts. Insert and secure the right-hand mounting bolt first. Next, insert and secure the left-hand bolt, placing the cartridge catcher bracket underneath before tightening. (See Fig. 1).

Then screw the press handle into the toggle at the bottom of the press. It is easier to screw the handle into the toggle if you first manually raise the ram cylinder until the handle's mounting hole on the toggle is horizontal. Properly installed, the handle should curve slightly outwards.



Fig. 1

INSTALLING THE BRASS KICKER

To install the Brass Kicker assembly begin by first pulling the handle down, raising the ram to the top of the press. Then mount the Brass Kicker Cam according to Fig. 2. This cam may have either a front or rear mounted bolt. In either case, the cam's mounting bolt, and the bottom edge of the cam itself, should both rest against the press casting. Don't tighten the bolt too tightly, or you may deform the cam and cause it to slip out of place.

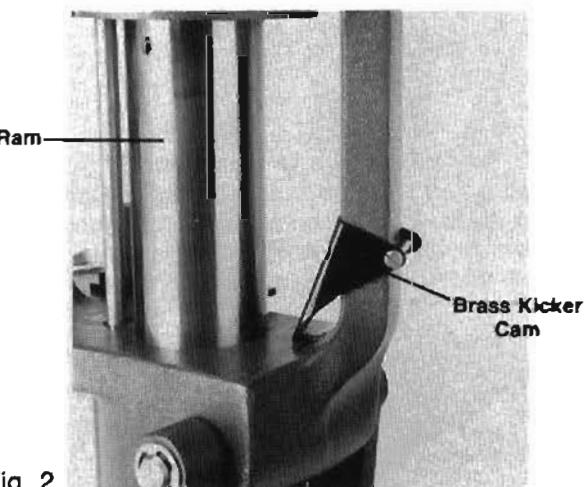
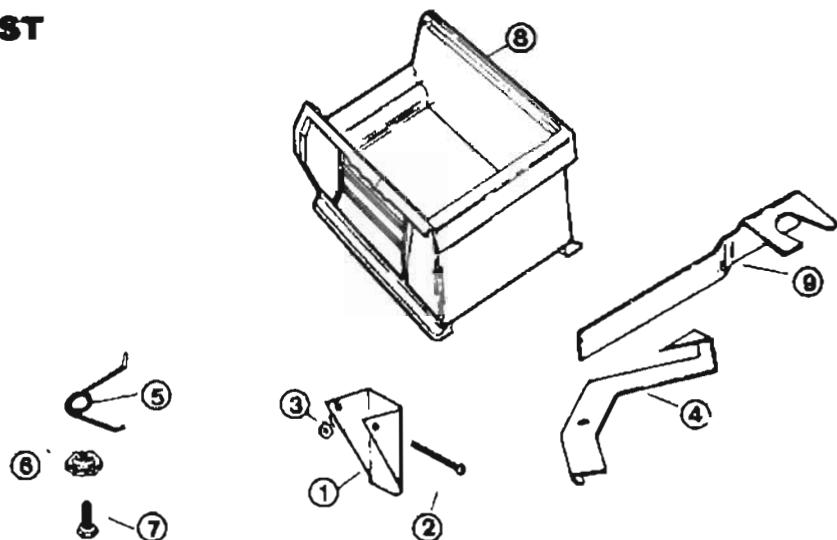


Fig. 2

INSTALLING THE BRASS KICKER (Continued)

BRASS KICKER PARTS LIST

1. Cam
2. Cam bolt
3. Cam lock nut
4. Brass Kicker arm
5. Arm return spring
6. Arm lock nut
7. Arm attaching bolt
8. Cartridge catcher
9. Bracket



Then place the Brass Kicker Arm into position. See Fig. 3. The Arm comes up from underneath the sub plate, hooking over the top of it, and curves around the cylinder. The mounting hole on the arm aligns with the corresponding hole on the sub plate. The arm will rest in position without being bolted.

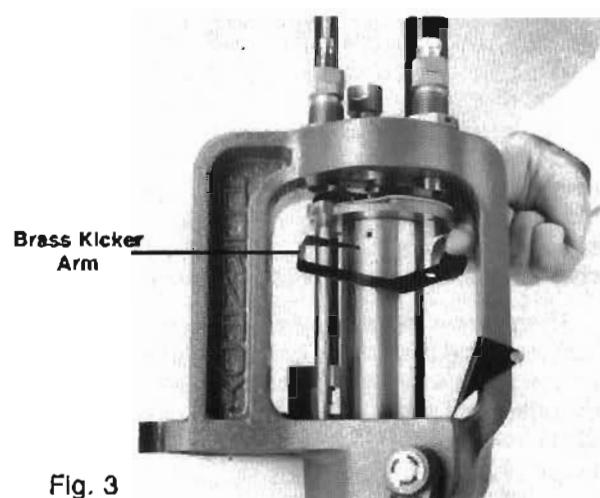


Fig. 3

Next, the Brass Kicker Arm Return Spring, is mounted using the hex nut and screw. See Fig. 4. The hex nut is mounted through the mounting hole of the Brass Kicker arm. For proper positioning, notice that both ends of the return spring are bent.

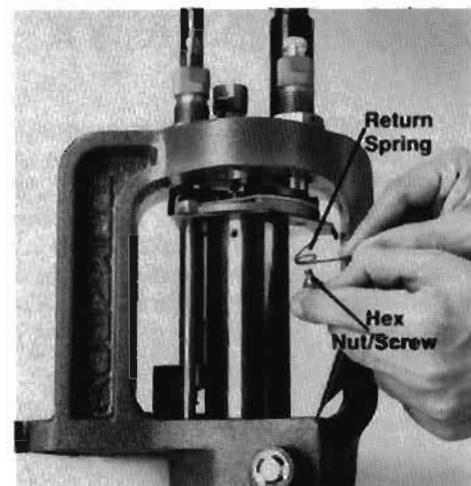


Fig. 4

INSTALLING THE BRASS KICKER (Continued)

The larger sharper bend on the return spring rests against the ram; Fig. 5. When mounted, the spring should rest lightly on the outer rim of the hex nut even after the nut is tightened down. The spring should not bind between the hex nut and the Brass Kicker arm. Tighten the hex nut/screw. This will hold both the return spring and the Brass Kicker arm in place.

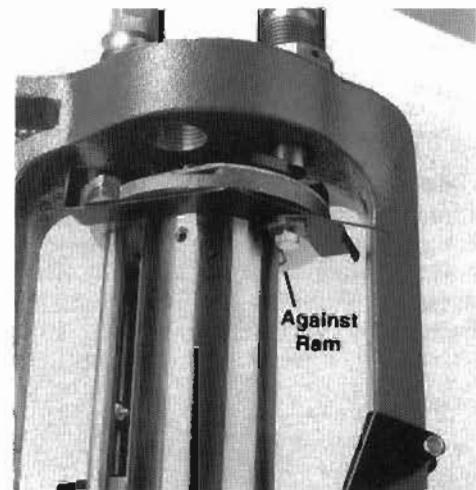


Fig. 5

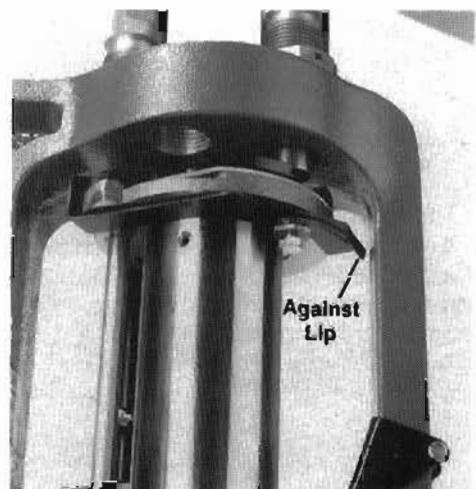


Fig. 6

With your finger, slip the free end of the return spring behind the curved lip of the Brass Kicker Arm; Fig. 6. The return spring will now be under tension. When installed, the return spring provides proper recoil for the Brass Kicker Arm to work.

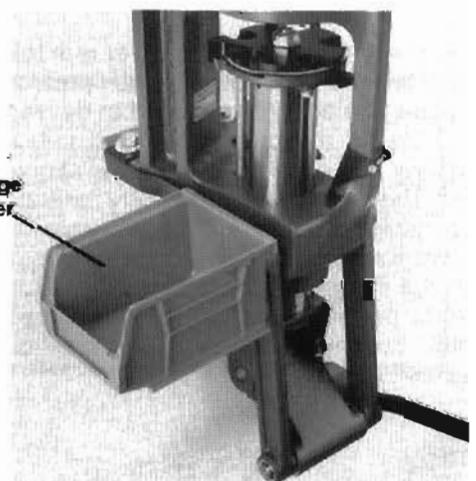


Fig. 7

Finally, slip mount the Cartridge Catcher Bin, Fig. 7, and move the press handle up and down a few times to test the action of the Brass Kicker. The action should be smooth and automatic.

AUTOMATIC PRIMER FEED INSTALLATION

Move around to the right side of the Pro-Jector and locate the two mounting holes for the Automatic Primer Feed (APF) assembly. Raise the ram to get the shell plate out of the way. Using a hex wrench (Fig. 8)(not included), loosely mount the assembly using the two hex bolts provided.

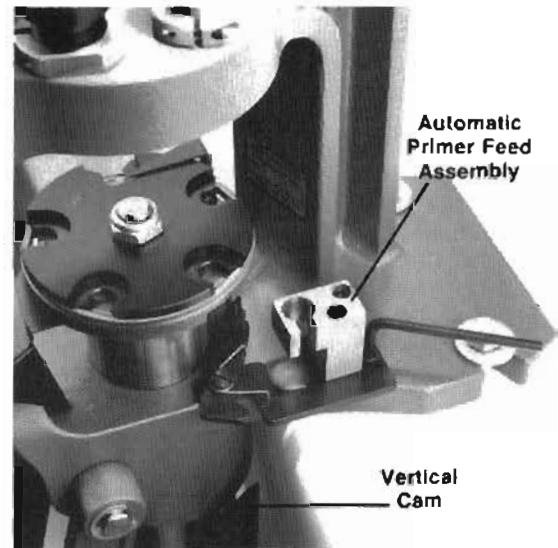


Fig. 8

Then inspect the vertical APF Cam for straightness. If it has become bent during shipping, it must be straightened before you continue your installation and adjustment of the Automatic Primer Feed.

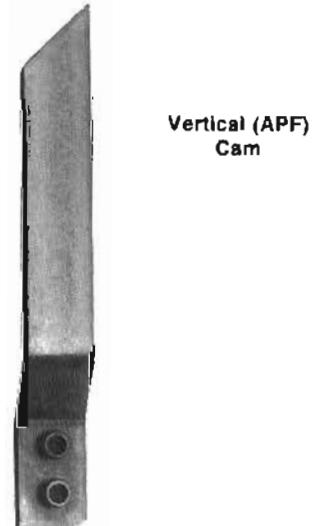


Fig. 9

You will notice that the primer arm takes the primer cup back and forth between the primer feed assembly and the primer seating station to deliver each primer. In order for the primer arm and cup to do this accurately and consistently, proper alignment is important. This means that when fully extended, the primer cup **must be centered** in the primer seating station. Lower the shell plate over the primer cup, and position the automatic primer assembly so that the primer cup is perfectly centered under the plate (Fig. 10). Then, holding the assembly in position, tighten the hex bolts firmly.

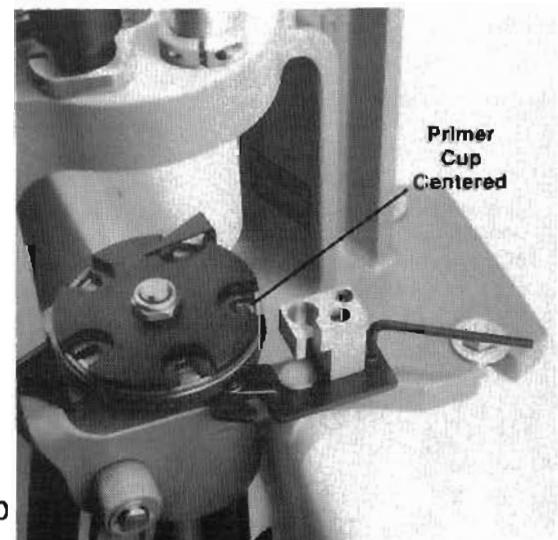


Fig. 10

AUTOMATIC PRIMER FEED INSTALLATION (Continued)

On the return trip to pick up primers, the primer cup must also be centered under the primer tube to work properly. The vertical cam moves the primer arm back into the correct position so that the primer cup can pick up primers from the primer tube. To center the cup, temporarily insert the Primer Tube Housing, with its holder spring on the bottom and facing out, into the aluminum body (Fig. 11).

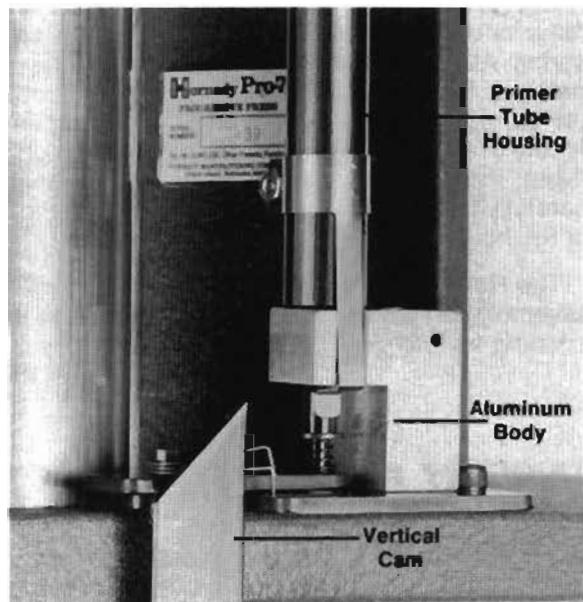


Fig. 11

Sight down into the housing until you see the primer cup (Fig. 12). If the cup is not centered under the housing, you will need to adjust the vertical APF cam so that it moves the primer arm in the appropriate direction until the primer cup is centered under the housing. You can adjust the vertical APF cam by loosening one or both of the hex bolts that mount it to the press body and slightly moving the cam forward or back. After you have moved the cam, and have centered the primer cup under the housing, hold the cam in position and retighten the hex bolts.

Also, the two mounting bolts on the aluminum body provide extremely small adjustments for this same purpose. If needed, loosen the bolts and adjust the aluminum block until the cup is perfectly centered under the Primer Tube Housing. When properly adjusted, the primer cup will be centered both underneath the Primer Tube Housing for consistent primer pick-up, and underneath the shell plate at the primer pickup station, to provide primer seating into your empty cartridge cases.

Once the Automatic Primer Feed is centered, check the alignment of the primer cup once more with the shell holder in the down position. The primer punch should rise up inside the primer cup and be slightly above the top level of the sub plate when the sub plate is fully lowered. If the punch is too high or too low, the primers will not seat properly in the cartridge cases. The height of the primer punch is adjusted with the hex bolt holding the Brass Kicker in place. You can adjust this hex bolt up or down until the primer punch is correctly set. Be sure to retighten the hex bolt after any adjustment. During actual priming, you may have further adjustments depending on cases and primers.

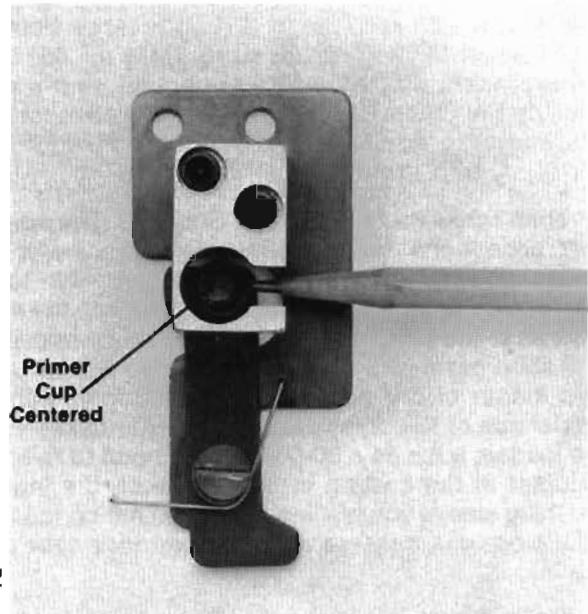


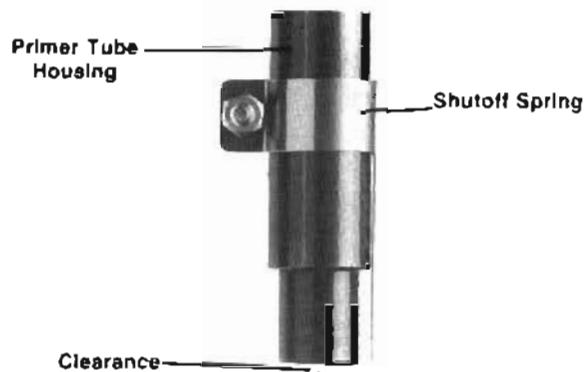
Fig. 12

Note: When actually seating primers, don't slam the shell plate and cartridge case over them. Primers are explosive and could detonate if you are careless while reloading. Using a smooth handle stroke, simply ease the shell plate down over the primer cup and push the handle back. This will seat the primer properly and safely.

PRIMER FEED SHUTOFF ASSEMBLY

Attach the shutoff spring as shown at the left. Do not over tighten the holding bolt, or you may warp the spring. Allow no more than the thickness of the spring between the bottom of the housing and the bottom of the spring for clearance. This will allow ample room for the primer arm to swing back and pick up primers. (Note: If the spring has been bent during shipping, carefully bend it back until it is parallel with the sides of the housing.)

The Housing Tube is installed into the primer feed assembly AFTER the primers are loaded. (see Primer Loading Instructions, page 12).



INSTALLING THE POWDER DROP ADAPTER

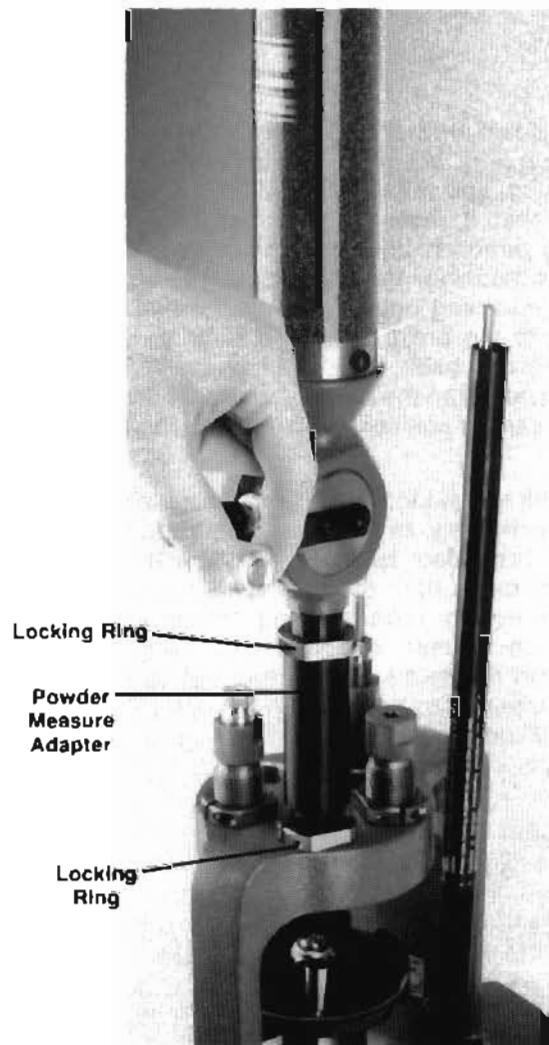
The Powder Drop Adapter mounts on top of the Pro-Jector in Station 3. Before mounting, clean the inside of the adapter to remove any packing oil. The Adapter comes with two internal powder bushing sleeves. These can be found inside the Spent Primer Bottle. The small sleeve is used when loading cases ranging in size from .22 to .270. The large sleeve is used when loading cases sized 7MM to .45. Each sleeve has a shallow well on one side, and a deep well on the other. Choose the correct sleeve for your desired case size and drop it into the Powder Drop Adapter, with the deep well facing up.

Then screw the Adapter into Station 3. The adapter will accept the Hornady Powder Measure, or any other powder measure with standard 7/8 to 14 threads. How far you screw the adapter into the press relates to the length of the case you will be reloading. If a short case such as a 380 Auto or 45 ACP is used, the mouth of the adapter should be flush with the underside of the press casting. If longer cases are to be loaded, such as a 30-06, you will need to raise the adapter in the casting in order to keep the internal bushing sleeve you just installed from hitting the base of the powder measure when the cartridge case rises up into it.

Tighten the lock rings on the adapter and the powder measure, securing them together. The handle of the powder measure may be on either the right or left side. But be sure it has free movement and doesn't interfere with other press operations. DO NOT fill the powder measure at this time.

Clean the adapter at the end of each reloading session with a clean dry cloth to prevent a buildup of excess powder. This helps prevent the internal sleeve from sticking and spilling powder around the cartridge cases as they are loaded.

Safety Note: Be safe! Double check your powder loads at frequent intervals to insure the powder charge is working properly!



SPENT PRIMER BOTTLE INSTALLATION

Insert the Spent Primer Bottle around the Spent Primer Tube underneath the press (Fig. 13). The bottle will easily hold about 50 spent primers. If you plan to reload more cases than that, the bottle will need to be emptied at regular intervals. The bottle has been provided for your convenience. If you reload large quantities of cartridges, it may be better to temporarily remove the bottle and allow the spent primers to drop into a coffee can or wastebasket. If spent primers fill up the bottle and are allowed to back up inside the spent primer tube, they may damage the moving parts of your press.

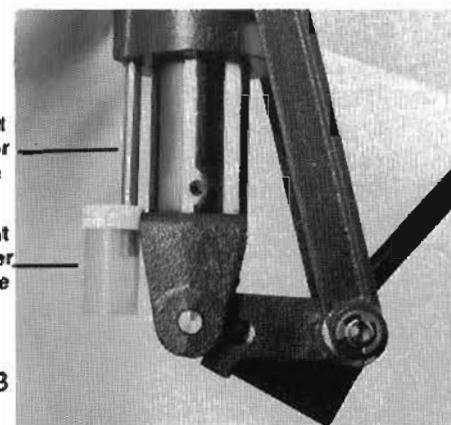


Fig. 13

DIE MOUNTING INSTRUCTIONS

For more complete die installation instructions, please refer to the instruction sheet that came with your die set. When tightening the lock rings, it is sometimes easier to back the dies out of the casting a few turns first. This will allow you to tighten the rings without freezing the dies into the casting. After the rings are tight, thread the dies back into the casting. Subsequently, when you remove and replace dies, their proper depth will already be indicated by the position of the lock rings. See Fig. 14 for die sequence.

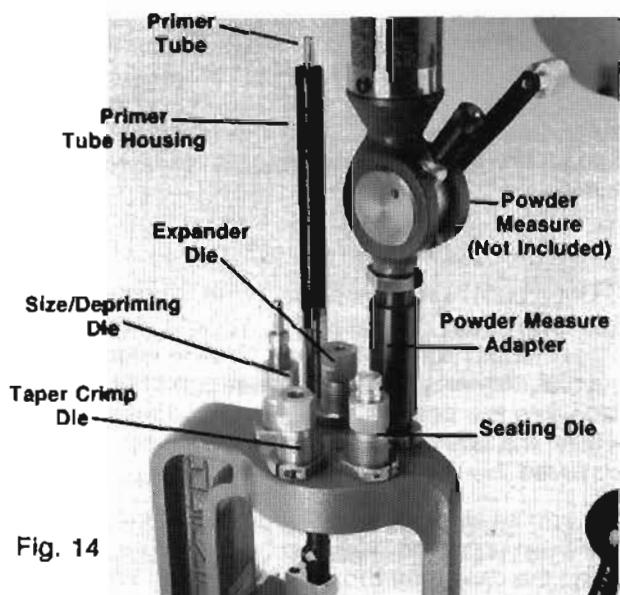


Fig. 14

Size/Depriming Die — Thread the size/depriming die into the press at Station One. Adjust the decapping spindle so the decap pin extends slightly below the shell plate when it is raised all the way (Fig. 15). This will insure complete removal of the spent primers. The spent primers will drop down the brass tube into the plastic bottle below. Note: If you don't hear the primers drop, stop and look. A new primer will not seat if the old one is still in the case, and the shell plate may not rotate.

Expander Die — Included in 3-die pistol sets, the expander die is inserted into Station Two. This expands the case mouth of straight-walled pistol and rifle cases. This station is not used with bottleneck rifle cases. To install, thread the die into the press. With an empty test case in place, lower the expander die by small increments until the case mouth receives a slight bell when the ram is raised and lowered. The mouth needs only enough flare to accept a new bullet without shaving copper from bullet. (No Photo Shown.)

Note: Excess flare will prevent the case from entering the seating die, and will weaken the case.

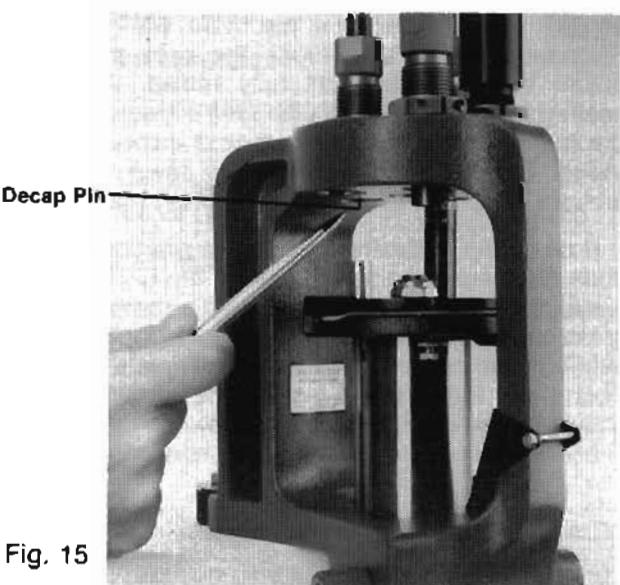


Fig. 15

DIE MOUNTING INSTRUCTIONS (Continued)

Seating Die — The seating die is positioned in Station 4 on your press. Insert a sample case into the shell holder below Station 4, (Fig. 16) and raise the ram completely so the case sticks out of the top of the casting. Place the seating die over the case and thread into the casting. The Internal floating alignment sleeve will be riding on top of the case as it enters the die. Stop threading the die when you meet resistance. Secure the seating die locking ring at this position and lower the ram with the case still in the shell holder.

To determine proper bullet seating depth, back the seating stem out of the die until you reach a rubber O-ring. Place a sample bullet over your empty sample case and raise the ram until the bullet comes in contact with the floating alignment sleeve. Release the bullet and the sleeve will align it as it continues to travel up into the die. Once the case has traveled up as far as it will go, it will contact the seating stem inside the die. Lower the case and check to see if the bullet has seated at all into the empty case. If not, thread the seating stem down a few turns and try again.

Once bullet seating has occurred, remove the case and bullet from the press (Fig. 17) and measure it for proper length against the data given in your reloading manual for that particular cartridge. Re-insert the case into the seating station and continue to slowly adjust the seating stem downward until you have achieved the proper cartridge length.

If you so desire, once the proper cartridge length has been achieved, you can further adjust the die to crimp the case after the bullet is seated. With the ram lowered, loosen the seating die locking ring. Thread the seating die into the press an additional 1/3 turn. Then back the seating stem out of the die a few turns. Raise the ram, with your sample cartridge in the shell holder, fully up into the die. You will feel some resistance as the die crimps the case around the bullet. With the ram still fully raised, thread the seating stem down into the die until it meets the top of the bullet. Now lower the ram and inspect the cartridge. There should be medium to heavy crimp now on your cartridge. Lock the die down in that position.

If no crimp is desired, follow the previous instructions but instead back the seating die OUT 1/3 turn. Back the seating stem out of the die as before and fully raise the ram with the sample cartridge. Thread the seating stem back into the die until it meets the bullet. Then lower the ram and inspect the cartridge. There should be no crimp. Lock the die down in that position.

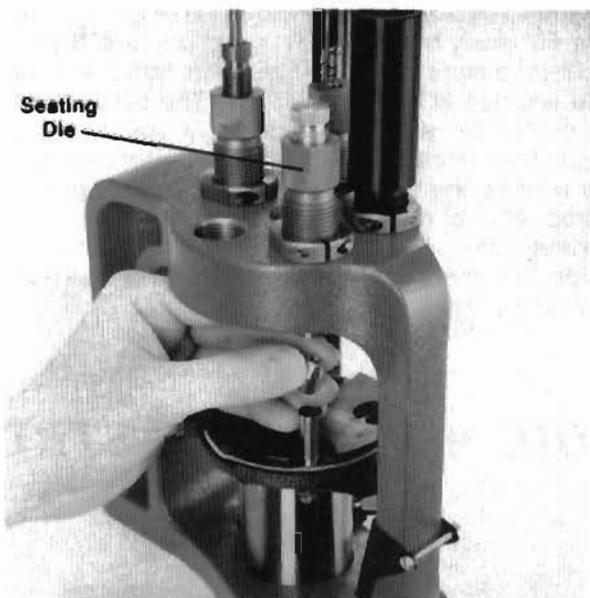


Fig. 16



Fig. 17

DIE MOUNTING INSTRUCTIONS (Continued)

Taper Crimp Die — Positioned in Station 5, (Fig. 18) a taper/roll crimp die is used when loading pistol cartridges that headspace at the mouth; for example: 9MM. Properly adjusted, a taper crimp die removes all case-flare from the expander die without damaging or cutting into the bullet. If a taper crimp die is used, fully raise the ram with an unprimed sample cartridge in the shell plate, and thread the taper crimp die over it until you feel resistance. Lower the ram and thread the die into the press an additional turn. Again, raise the ram with the sample cartridge into the die. Then lower the cartridge and inspect. The sides of the cartridge should be parallel. If they still bell out, continue to thread the die down 1/8th of a rotation at a time until the bullet sides are parallel.

These are minute adjustments. If you notice the bullet gets looser in the case, the die is too low and is actually squeezing the bullet smaller. If too much crimp is on the cartridge, the bullet may become deformed and shooting accuracy will suffer.

Note: Since this die relates to the length of the case and not with the length of the overall cartridge, be sure that all of your cases are trimmed to the same length before loading them. Refer to your reloading manual for this data.

Also, you may find that the regular seating die can be adjusted to give a satisfactory crimp, and a taper crimp die can be left off the press. The cases still need to be trimmed for correct length, however.

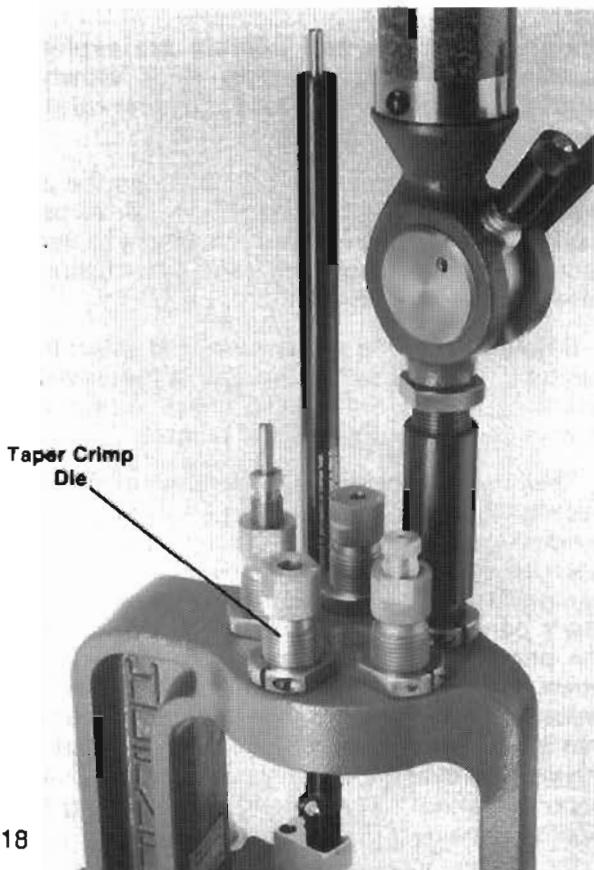


Fig. 18

Handloading is very safe, but before reloading any cases, please read the following warnings!!

WARNING

1. Primers may explode if subjected to percussion or intense heat.
2. The Prime Tube Housing is a safety device. Never operate the Pro-Jector press unless this housing is properly installed. The housing has been designed to fit only the Hornady Pro-Jector press and no other.
3. Keep away from the open end of the primer tube at all times.
4. Variations may occur with different brands of cartridge cases, which can cause inconsistent primer and bullet seating. Always sort your cases according to brand name before reloading.
5. Verify your powder charges at frequent intervals to insure consistency.
6. Careless or improper handloading techniques can result in serious personal injury. Make sure there are no distractions while you are reloading.
7. Before operating this press, be sure you have read and understand all the instructions contained in this manual, and that you understand the principles of hand loading.

BE SAFE AND TEACH OTHERS TO BE SAFE!!

- Have all the necessary components and accessory tools on hand before you begin your reloading session.
- Have your reloading manual open to the correct loading data.
- Always refer to your reloading book—don't reload from memory.
- Have all your cartridge cases sorted according to brand, cleaned and lubed for smooth operation in the sizing die.

Be sure your work area has no outside distractions. It is easy to miss a critical step, or be accidentally careless, in the reloading procedure if you are distracted or called away.

LOADING THE PRIMER TUBE

Warning: Powders and primers are explosive if handled carelessly! Always work slowly and carefully without distractions and wear safety goggles!!

Once all the dies are in position, load the powder measure with the recommended powder as per your loading manual, and adjust the measure to throw the required amount according to the instructions that came with your measure.

Before loading the primer tube, first select the proper tube (either small or large) to fit the primers you intend to use. Again, double check your reloading manual for proper selection of primers.

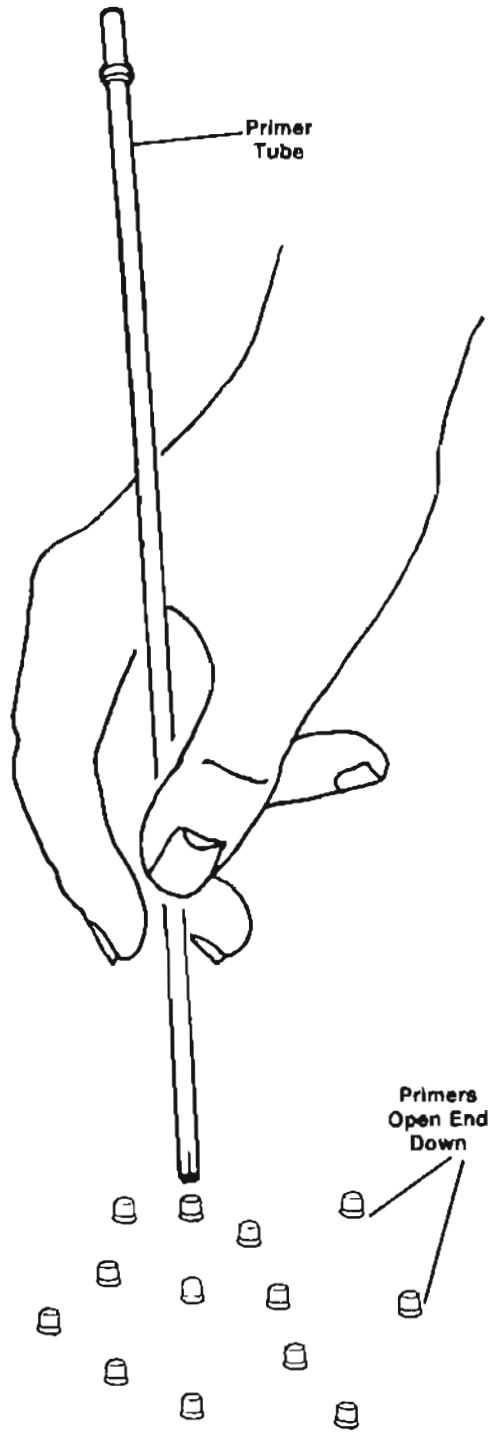
Then carefully dump the primers out of their factory package and into a shallow open dish. (Hornady's specially designed primer-turning plate is a handy alternative to a dish.) Arrange the primers so the open ends face down in the dish. If you have oily fingers, use a pencil point or other small tool. Then, holding the primer tube like a pencil with the slotted end down, bring it over each primer in turn, and gently press it over the primers. The primers will be pushed into the tube—one on top of another. Continue pressing the tube over the primers until you have picked up enough primers for your immediate loading needs. Set the remaining primers out of the way.

While still holding the primer tube upside down, slip the primer tube housing over it (with the primer shut-off spring installed). By holding everything upside down at the start, you eliminate the possibility of accidentally spilling the primers out the open end of the tube.

After you have slipped the primer tube housing over the primer tube, place your thumb over the shut-off spring at the end of the housing and turn the housing/primer tube right side up. You should hear the primers slide into place. At the top of the exposed primer tube, there may be several primers still held and visible. Gently push them down on top of the others with a tooth pick or other thin tool.

After all primers are in place, insert the assembly into the primer feed base on the right side of the press. Check to make sure you can see the first primer at the bottom of the tube. Bring the handle up and down in a full cycle to check for proper primer arm swing and primer pick up.

Note: Try to avoid touching the primers with oily fingers. The oil on your fingers may contaminate the primers and cause them to misfire when you fire the cartridges in your gun.



PREPARING TO LOAD

To begin reloading, start with a single empty cartridge case and run it through all of the loading stations. This allows you to check the accuracy of your adjustments. Make sure the sizing die functions properly, and that the depriming pin knocks out the old primer. Listen for the spent primer to drop down the tube and into the catch bottle. Check the handle for smooth operation; there should be no binding. Advance the case to the primer seating station and seat a new primer. Did the primer arm pick up a new primer from the primer tube? (Fig. 19)



Fig. 19

In the lowest position, push the handle back firmly to seat the new primer into the case. Then advance the handle slowly. If the case binds, if there is resistance, or if the shellplate refuses to advance, the primer is not seated fully and the primer seating depth must be further adjusted as before on Page 6. (Fig. 20)



Fig. 20

Then advance the cartridge to the powder drop station and check for smooth delivery of powder. (Fig. 21) Is the correct amount of powder going into the case? Verify the weight often on a powder scale.

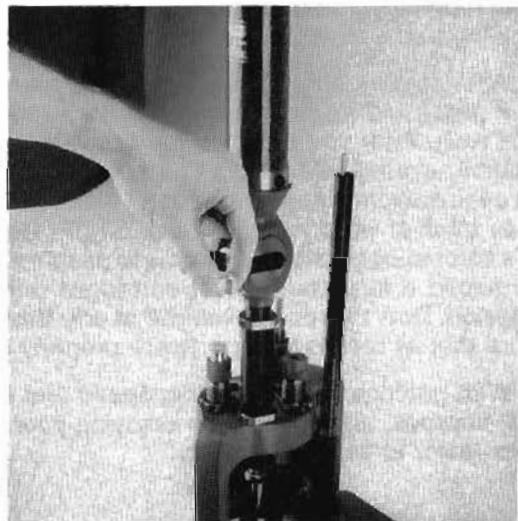


Fig. 21

PREPARING TO LOAD (Continued)

Advance to the seating die and place a new bullet into the mouth of the charged case. (Fig. 22) Lower the handle and seat the bullet into the case.

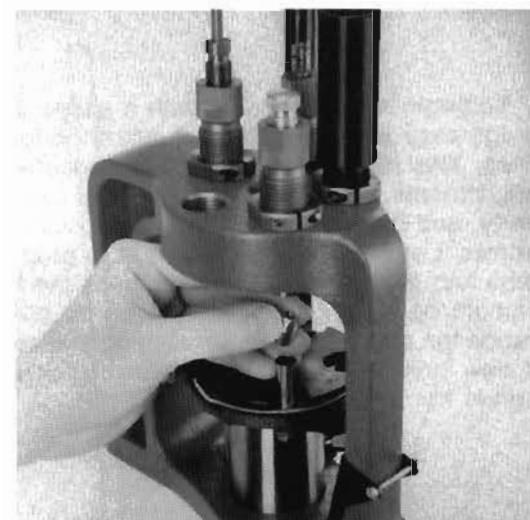


Fig. 22

Next, advance the reloaded cartridge around to the Brass Kicker which will automatically eject it from the press. Don't force the handle—you may bind the cartridge case and bend the Brass Kicker. Measure the cartridge for proper length and check it against the data in your reloading book. (Fig. 23)

Once you are satisfied with the first completed cartridge, repeat the process with another single case, advancing slowly from station to station until you eject the finished cartridge from the press with the Brass Kicker. We realize this may seem laborious, but it gives you the chance to learn the sequence of events that must take place, and to accustom yourself to the rhythm of the Pro-Jector press.

After you are comfortable with the procedure, load the press with consecutive cases for reloading. Do not rush. After you advance the cases through each station, eyeball everything to insure proper function at each station. If anything doesn't look right, or if you lose track of what you are doing, STOP! Remember, it's safer to begin slowly than it is to assume you need to reload a large number of cartridges during each session. **Don't force the handle at any time**, and be sure that all mechanical parts are properly lubed.

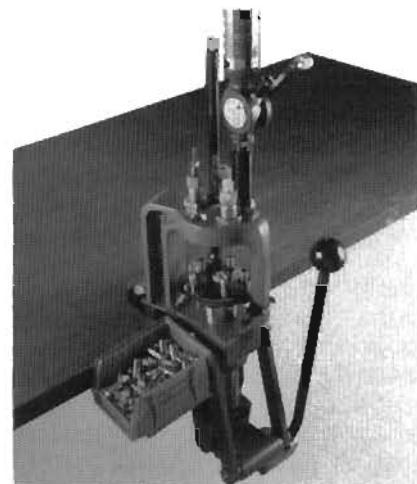
With practice, your reloading speed and efficiency will improve, and you will be enjoying your Hornady Pro-Jector to its full capability.



Fig. 23

MECHANICAL ADJUSTMENTS: MAINTENANCE OF THE PRO JECTOR

As with all machinery, proper routine maintenance will provide smooth operation and a longer life for your reloading press. At the end of each reloading session, wipe off all spilled powder, any dirt, etc., from the press. Check all moving parts for dirt or spilled powder, and remove with a clean shop rag. Remove the shell plate and clean the spilled powder under it. After cleaning, lubricate the subplate in the area of the detent, and the primer cam surface. Replace the shell plate. Then lightly lube the ram, Index wheel, pawls and toggle assembly. Hornady "One Shot" Case Lube is excellent here. It is a dry lube, and stray powder won't stick to it during your loading. In a nutshell, treat your Pro-Jector with the same care you would your gun.



CHANGING THE SHELL PLATE

If more than one caliber of cartridge is to be reloaded on your Pro-Jector, it is likely you will eventually have to change the shell plate and/or primer cup to accomodate the different cases. When you order additional dies for your press, look in your Hornady catalog and double check the shell plate that is recommended for that caliber. If a different plate is required, be sure to purchase one at the same time as your die set. This is more convenient than having to track one down later.

To change the shell plate, remove the hex nut that holds it to the subplate using a 3/4" wrench and the plate wrench that was provided with the press. (Fig. 24)

Remove the shell plate and the cartridge retainer spring (the spring loop that holds the reloaded cartridges in place on the press). Before mounting the new plate, lubricate the detent for easy operation. Align the slot in the new plate with the indexing pin on the drive shaft and replace the hex nut and hand tighten. Next, using the hex wrench and the plate wrench, tighten the nut until you meet with snug resistance. At this point, the subplate should be too tight to move, should you try to advance the handle. For an initial adjustment, back the nut out 1/3 of a rotation (2 flats on the nut).

Do not overtighten the lock nut and attempt to operate the handle. The indexing pin and index wheel which drive the plate can be damaged.

Now try advancing the handle, and adjust the hex nut further if smooth operation doesn't occur. Indexing should be smooth and precise, but not so abrupt that the plate "snaps" into position. If this happens, tighten the plate in very small increments until press operation is smooth. Make all your adjustments slowly. It's best to take a little extra time here to avoid later damage. Finally, re-install the retaining spring, making sure that it doesn't slip underneath the subplate.

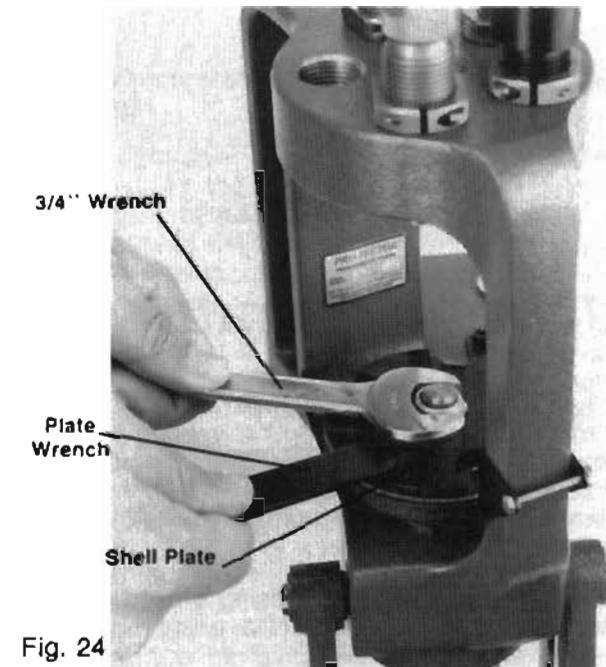


Fig. 24

CHANGING THE PRIMER ARM

The Pro-Jector comes with two sizes of primer punches and cups which are sufficient to handle the two sizes of primers. To make change-over easier, these cups come attached to separate primer arms. When you exchange the cups on your press, there is no need to separate them from their respective arms. Merely exchange the entire primer arm assembly.

To exchange the primer arm assembly, remove the primer arm pivot screw and the return spring (note the spring's position for easy replacement). (Fig. 25) Replace the arm assembly with the other arm and cup assembly provided with your press. Tighten the screw back in place and test the assembly for smooth operation. Do not over-tighten the screw. If needed, lightly lube the assembly, but do not get any lube into the primer cup—you could contaminate future primer that the cup picks up.

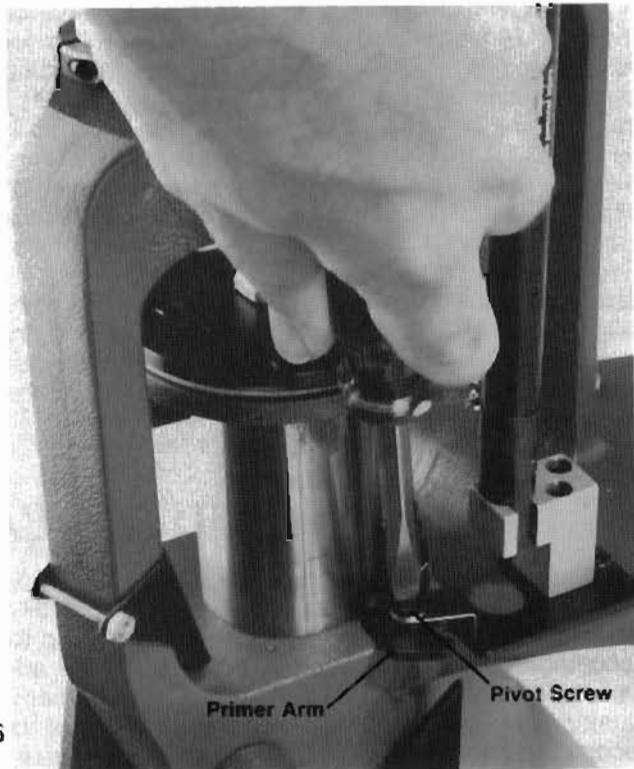


Fig. 25

ADJUSTING THE AUTO ADVANCE MECHANISM

The Auto Advance Mechanism was fully adjusted in the Hornady factory and should not require further adjustment. In the event that you feel your shell plate is not advancing properly, check all other options listed in this manual before attempting to adjust the mechanism's pawls.

If your shell plate is not advancing properly, it is more likely the result of the shell plate being too loose or too tight, especially if the advancement problem began right after you replaced or adjusted the shell plate. Generally, if the plate is not advancing enough, you can correct it by loosening the hex nut holding it. If the plate is advancing too much, tighten the hex

nut. All adjustments should be done in extremely small increments.

Through everyday use, the pawls on your press will gradually wear, and will need to be adjusted to compensate for this wear. Before making adjustments, you should understand what each pawl does. As the operating handle is lowered and raised through a complete cycle, each pawl in turn engages the index wheel at the bottom of the press. (Fig. 26) The index wheel is connected through the driveshaft to the shell plate. As each pawl engages, the index wheel advances the shell plate either at the top or bottom of the cycle.

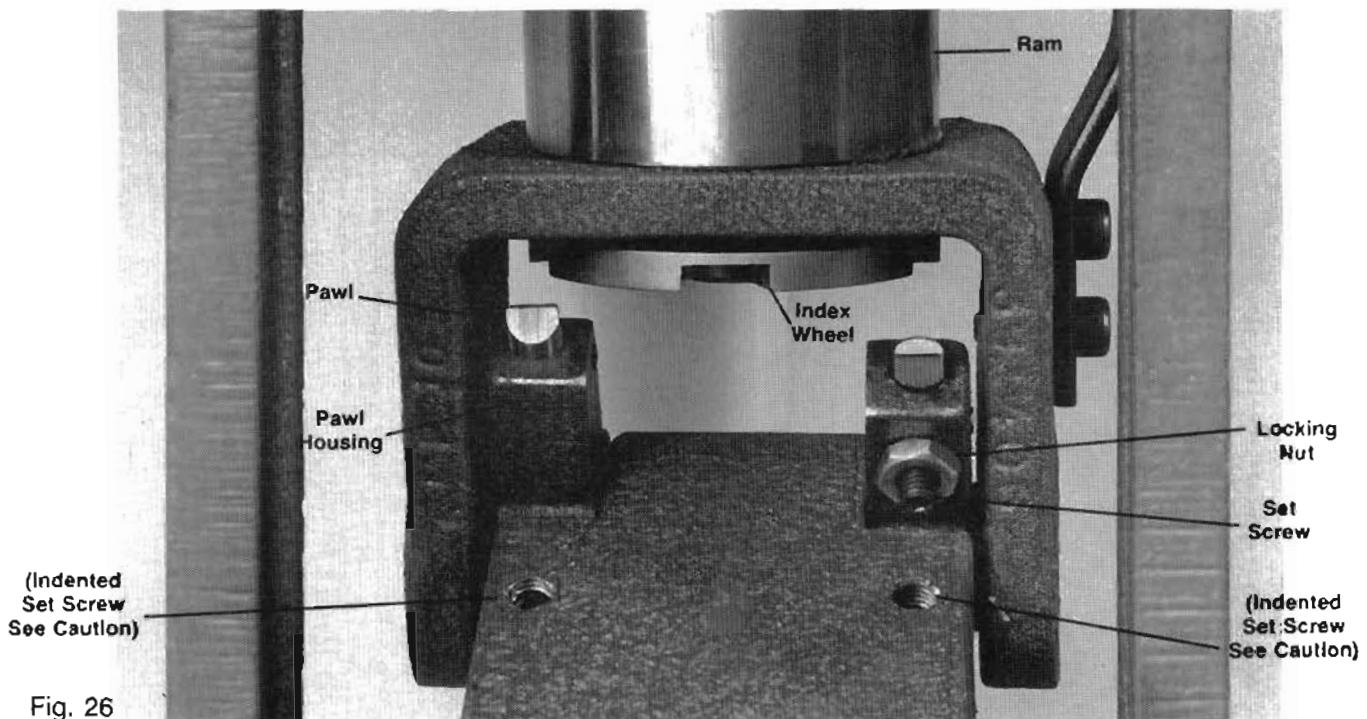


Fig. 26

The right pawl (as you face the press) advances the plate as the ram travels up when the handle is pulled forward. And the left pawl advances the plate as the ram travels down when the handle is pushed back.

If the shell plate doesn't advance enough on the down stroke of the ram, only the left pawl needs adjustment. Likewise, if the plate doesn't advance far enough on the up stroke of the ram, then only the right pawl needs to be adjusted. Don't assume that both pawls need adjusting.

The height of each pawl in its housing determines how far the plate will advance when that pawl comes in contact with it. To adjust the pawls, increase the height of the chosen pawl to increase the advancement of the shell plate in that particular direction. Or decrease the height of the pawl to decrease the shell plate advancement in that direction. There is a set screw and a locking nut on each pawl. Turn in the set screw to lower the pawl, and back out the set screw to raise it.

Be sure to tighten down the set screw lock nut when you are through. Push the pawl in with your thumb while turning the set screw if you are lowering it. Do not over tighten the set screws, since the pawls

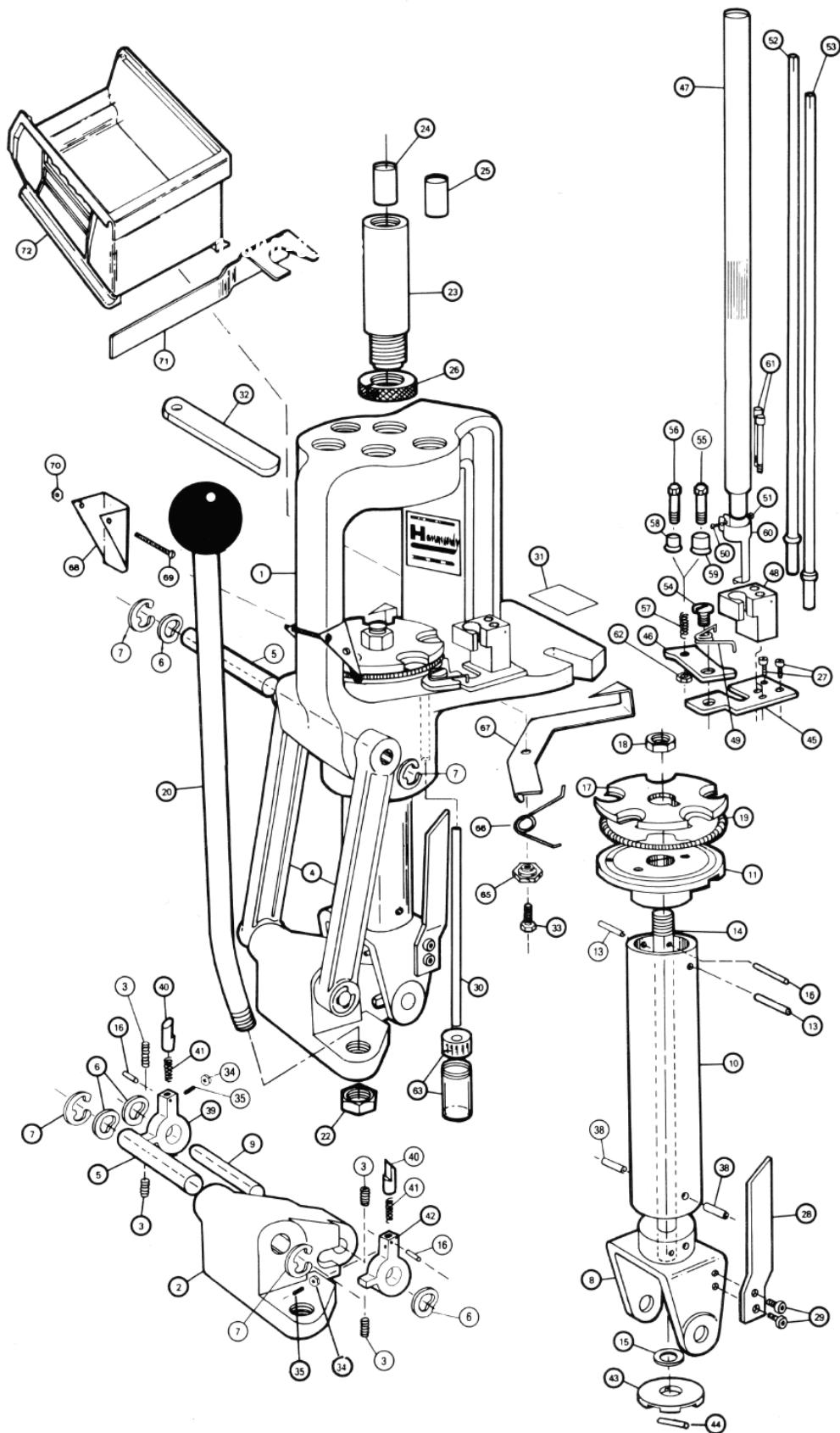
rest on springs and must always move freely in their housing.

The right pawl is correctly adjusted when, as the ram is raised, the primer cup disappears below flush with the top of the subplate at the same time the pawl engages with the index wheel. This means that the ram will rise about $1/8''$ - $1/4''$ before the shell plate begins to advance.

The left pawl is correctly adjusted when, as the shell plate is lowered, it advances to the detent position at the same time the primer cup becomes flush with the top of the subplate.

You should become familiar with these pawls to start with, and see how they operate. You will then find it much easier to adjust them should you need to do so in the future.

Caution: There are additional set screws mounted in the toggle assembly and away from the pawls. These have been properly set at the factory and should not be adjusted further.





Pro-Jector

PARTS LISTING

Key	No.	Part No.	Description	Key	No.	Part No.	Description
01	190216	Frame		43	392400	Index Wheel	
02	190217	Toggle		44	392427	Spiral pin	
03	392437	Socket Head Set Screw		45	392410	Base Plate (A.P.F.)	
04	392408	Toggle Ram Link		46	392411	Primer Arm (A.P.F.)	
05	392417	Toggle Link Pin		47	050045	Primer Tube Housing	
06	392424	Spring Washer		48	190005	Body (A.P.F.)	
07	390081	Retaining Ring		49	392407	Primer Arm Spring	
08	392406	Yoke		50	392457	Spring Screw (A.P.F.)	
09	392416	Toggle Ram Pin		51	392458	Spring Nut (A.P.F.)	
10	392404	Ram		52	050046	Small Primer Tube	
11	392405	Subplate		53	050047	Large Primer Tube	
13	392425	Spiral Pin (upper-2)		54	392419	Bolt (A.P.F.)	
14	392412	Driveshaft		55	390035	Large Primer Punch	
15	392422	Thrust Washer		56	390034	Small Primer Punch	
16	392426	Spiral Pin		57	390007	Primer Cup Spring	
17		Shell Plate		58	392401	Small Primer Cup	
18	392440	Self-locking Nut		59	392402	Larger Primer Cup	
19	392409	Case Retainer Spring		60	392456	Spring (A.P.F.)	
20	392418	Handle		61	392433	Cap Screw (A.P.F.)	
21	480088	Knob		62	392421	Lock-Nut (A.P.F.)	
22	390027	Handle Lock Nut		63	050052	Spent Primer Container	
23	392413	Powder Measure Adapter		65	392450	Brass Kicker Spring Retaining	
24	190218	Small Sleeve				Lock Nut	
25	190219	Large Sleeve		66	392449	Brass Kicker Arm Return	
26	044000	Sure Loc Lock Ring				Spring	
27	392431	Cap Screw, Automatic Primer		67	392454	Brass Kicker Arm	
		Feed (A.P.F.)		68	392453	Brass Kicker Cam	
28	392414	Cam (A.P.F.)		69	392451	Brass Kicker Cam Bolt	
29	392432	Cap Screw (Cam)		70	392452	Brass Kicker Cam Bolt Lock	
30	290029	Spent Primer Tube				Nut	
31	580199	ID Plate		71	392455	Cartridge Catcher Bracket	
32	392428	Wrench, Shell Plate (S.P.)		72	480039	Cartridge Catcher	
33	392443	Hex Head Screw					
34	392011	Hex Nut					
35	392444	Set Screw					
36	392439	Primer Tube Pin					
38	392441	Spiral Pin (lower)					
39	392415/A	Pawl Housing (left)					
40	392403	Pawl					
41	392423	Pawl Spring					
42	392415/B	Pawl Housing (right)					

Note: When ordering any part, always include serial number of press.

SOLD ONLY AS ASSEMBLY

050050	Drive Shaft Assembly (14, 43, 44)
050048	Left Pawl Assembly (16, 39, 40, 41)
050049	Right Pawl Assembly (16, 40, 41, 42)
050023	Primer Arm Assembly, Complete, Consisting of Key #46, 55, 56, 57, 58, 59, 62
050022	Automatic Primer Feed Assy., Consisting of Key #45, 48, 49, 50, 51, 60, 61, 46, 54, 55, 56, 57, 58, 59, 62
050028	Automatic Primer Shut-Off Assembly (48, 50, 51, 60)

NOTICE: Prices and/or specifications
are subject to change without notice.
Discontinued products may or may
not have replacement parts available.
Call for availability 800-338-3220.

For parts inquiries, call 1-800-338-3220

Tips for Trouble-Free Operation

Powder dropping around case

- Correct bushing in place?
- Adapter tube clean?
- Adapter tube adjusted to correct height?
- Bushing installed flared side up?

No primer in case

- Primer tube empty?
- Primer arm cam properly adjusted?
- Correct primer cup installed?
- Primer arm spring in place?

Plate will not advance or - Does not index on station

- Lock nut adjusted according to instructions?
- Primer catcher overfilled with spent primers backed up to plate?
- Primer not fully seated?
- Pawls correctly adjusted as per instructions?

Cases do not feed into dies

- Shell holder plate lock nut properly adjusted?
- Die mouths amply beveled? (If not, return to manufacturer for repair.)
- Pawls timed as per instructions?
- Cases have uneven rim thicknesses? (This appears as an occasional case which will not feed into the size die.)

For any adjustments, refer to the Instructions.

In addition to the shell plate supplied with your Pro-Jector, the following sizes are available:

Shell Plate No. 1

22/250
243 Wln.
254 Win.
6MM Rem.
250 Savage
25/06
257 Roberts
6.5MM/06
270 Win.
7MM Mauser
7MM/08
7MM Rem. BR
7MM Rem.
 Express
284 Wln.
300 Sav.
308 Win.
30/06
8MM Mauser
8MM/06
358 Win.
45 ACP
45 Win. Mag

Shell Plate No. 2

30/30
30 Herrett
32 Win. Spl.
357 Herrett
375 Win.

Shell Plate No. 5
264 Win.
7MM Rem. Mag.
308 Norma Mag.
300 Win. Mag.
338 Win.
350 Rem. Mag.
458 Win.
257 Wby.
6.5 Rem. Mag.

Shell Plate No. 6

22 PPC
6MM PPC
38 Spl.
357 Mag.

Shell Plate No. 8

30 Lugar
9MM
38 Super Auto

Shell Plate No. 16

221 Rem.
222 Rem.
223 Rem.
6MM/223
7MM/TCU
7MM/223 Ingram
7 x 47 Helm
380 Auto

Shell Plate No. 22

30 M1 Carbine
32 ACP

Shell Plate No. 29

41 Mag.

Shell Plate No. 30

44 Mag.
44 Spl.

Shell Plate No. 32

45 Long Colt

**"WE GUARANTEE EVERY ONE OF OUR RELOADING
TOOLS AND ACCESSORIES FOR LIFE."**

NO-RISK, LIFETIME WARRANTY

All Hornady reloading tools and accessories are warranted against material defects and workmanship for the life of the product. Parts, which by the nature of their function are subject to normal wear such as springs, pins, bearings, etc...and, parts which have been altered, abused or neglected — are excluded from the warranty.

If the product is deemed defective by either workmanship or materials, the reloading tool or accessory will either be repaired, reconditioned or replaced (at Hornady Manufacturing Company's option.)

IF IT BREAKS, WE'LL REPAIR IT OR REPLACE IT AT NO CHARGE!

This warranty supersedes all other warranties for Hornady products whether written or oral.

To return a product, send it **TRANSPORTATION PREPAID**, to:

Hornady Manufacturing Company
3625 Old Potash Highway
Grand Island, Nebraska 68803

Prices and/or specifications are subject to change without notice. For the best prices on any of our products, contact your nearest Hornady dealer.

Hornady Manufacturing Company cannot assume any liability for damage which may result from use of the products or information given herein, since Hornady has no control over the manner in which products or components are used in the reloading operation.



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