



APEX[™]

INSTRUCTION MANUAL



Standard



Automatic

Instructions for assembling and operating the Hornady *Apex Standard* and *Apex Automatic* Shotshell Presses.

Before you begin: Please read through and understand all the information in this manual before you start to reload. It contains information which may save you time and frustration. Also, we've included several booklets provided by powder companies which have more information about their products.

Never mix powders or use unidentified powders. It's dangerous to use modern smokeless powders in old firearms unless that firearm is certified safe. Do not exceed recommended loads.

Always wear safety glasses while reloading.



APEX™

INTRODUCTION

The APEX™ is designed as the most versatile shotshell press on the market. It's the only progressive shotshell reloader that is available as a manual model, a fully automatic model or customized to be what ever you want in-between.

This instruction manual will show you how easy it is to set up and operate the manually progressive *APEX Standard*, how to install any or all of the available automatic features, and how to set up and operate the fully automatic *APEX Auto*.

To begin loading shotshells, you will need powder, shot, primers and wads, in addition to empty hulls. We have included several bushings with your loader. These bushings throw the most common charges used for most shotgun situations.

There is a bushing chart on page 23. There you will see a variety of brands of powders listed with the bushing for those powders. Find your bushing in that chart, and note the powder/loads they are designed for. Then purchase your powder and shot accordingly. Read the section "Selection of Bushings" for more information.

The APEX reloader will use any of the standard bushings Hornady offers, should you want to change loads. These bushings, as well as the optional automatic features, Versalite™ wads, and other reloading accessories are available at your Hornady dealer, or from Hornady Mfg. Order information is in the back of the manual.

PARTS BAG CONTENTS

- | | |
|----------------------------|--|
| 1 Powder/Shot Drain Tube | 1 Powder Bushing Cover |
| 1 Shot Drop Tube | 1 Shot Bushing Cover |
| 3 Powder Charge Bushings | 2 Charge Bar Seals |
| 1 Shot Charge Bushing | 2 Measure Mount Bolts |
| 1 3/32" Short Arm Hex Key | 2 3/8 x 1/2 Hex Head Bolts |
| 1 7/64" Short Arm Hex Key | 1 Powder/Shot Charge Bar Link (Apex Standard Only) |
| 1 1/8" Short Arm Hex Key | |
| 1 5/32" Short Arm Hex Key | Apex Auto Only |
| 1 6-point Crimp Starter | 2 Charge Bar Drive Pins |
| 1 Paper Hull Crimp Starter | 1 Primer Feed Ball Joint Shaft |
| 1 Spent Primer Catcher | 1 Indexer Assembly |

APEX™ LOAD DATA

All loads were developed for the APEX using Hornady Versalite™ Shotshell wads and the bushings provided with the loader.

Dimensions and tolerances for shotshells are much more forgiving than with rifle and pistol cartridges. Every time a shotshell is fired, it will lengthen slightly. So long as the fired length is within .25" of standard, the hull is fine to reload. The only way to bring a shell back to exact standard is to measure and trim it after each firing if need be. Otherwise, be sure the crimped length is correct, even if it means there is a small amount of extra material in the crimp, causing it to swirl slightly. Just so long as the shell is not deformed during loading, it is safe to fire.

DIMENSIONS AND TOLERANCES FOR SHOTSHELLS

Gauge	Fired Length	Crimped Length	Tolerance
12	2.75"	2.30"	(-.25")
12	3.00"	2.65"	(-.25")
20	2.75"	2.445"	(-.25")
20	3.00"	2.705"	(-.25")
28	2.75"	2.5"	(-.25")

The difference in loading sequence between the APEX Standard and the APEX Automatic may affect the amount of powder thrown by the bushings. Before loading, doublecheck the weight of your charges.

CAUTION: Use of spray cleaners or lubricants containing 1,1,1, trichlorethane will destroy some of the engineering plastics strategically used on the APEX. Read the label on the spray. When in doubt, don't use it.

PLEASE HELP!!

This instruction manual was designed to be as clear and accurate as possible, but there may be room for improvement. We would enjoy hearing your suggestions.

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SETTING UP THE APEX™ STANDARD & AUTOMATIC LOADER

Tools & bolts needed:

- 9/16" wrench
- Small flat blade screwdriver
- Three 3/8" mounting bolts with washers and nuts

MOUNTING THE APEX

Figure 1 - Select an area on your reloading bench for set-up. Keep in mind you will need space for the press and reloading components. The Apex™ is designed to work equally well on the edge of the bench or set back, since the handle doesn't require any additional clearance on the down stroke. Mark the mounting hole positions and drill three 3/8" holes into your bench top. Use 3 mounting bolts long enough to each hold two washers and locking nut, going through the bench top and the Apex base.

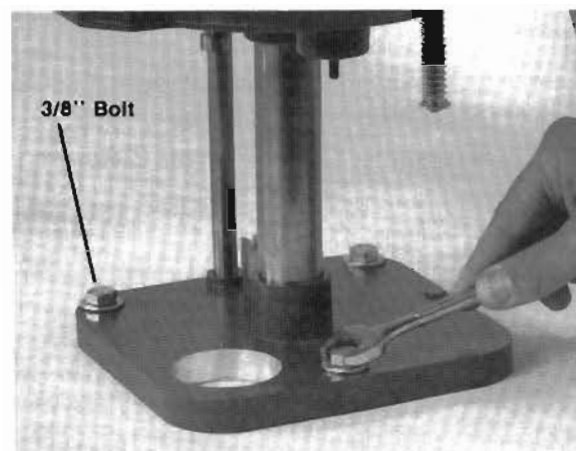


Fig. 1

INSTALLING POWDER HOPPER

Figure 2 - Remove a charge bar seal, 3/8"x1/2" hex bolt and measure mount bolt from the parts bag. Insert the charge bar seal into the underside of the powder casting. Set the hopper onto the charge bar on top of the press, aligning the two mounting bolt holes.

Figure 3 - Insert the 3/8" hex bolt and tighten. The charge bar should move freely.

Figure 4 - Insert the measure casting bolt through the locating slot in the measure casting and tighten. DO NOT FILL THE HOPPER WITH POWDER AT THIS TIME.

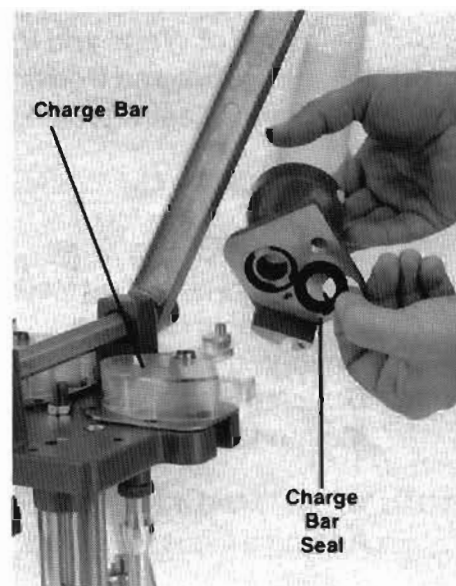


Fig. 2

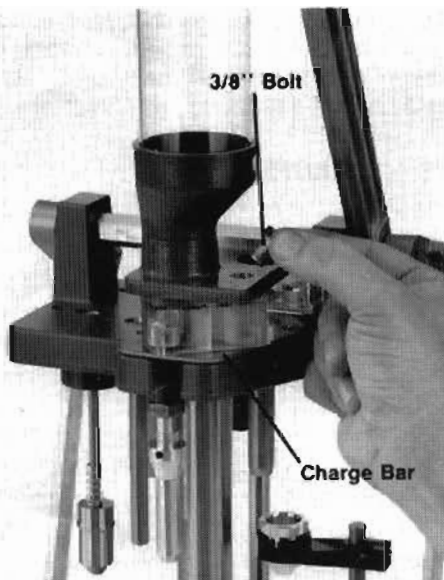


Fig. 3



Fig. 4

INSTALLING SHOT HOPPER

Figure 5 - Install the shot drop tube (provided). This tube doubles as the wad insertion guide, so its length is adjustable for wad seating depth. Initially, screw it in far enough so the threads are flush to the bottom of the die head casting.

Figure 6 - The shot hopper is installed the same way as the powder hopper. Insert the rubber charge bar seal into the underside of the measure casting, and align the measure casting over the charge bar. Replace and tighten the hex bolt.

Figure 7 - Replace the measure mount bolt through the locating slot in the hopper casting and tighten. The shot charge bar should rotate freely. **DO NOT FILL THE HOPPER WITH SHOT AT THIS TIME.**

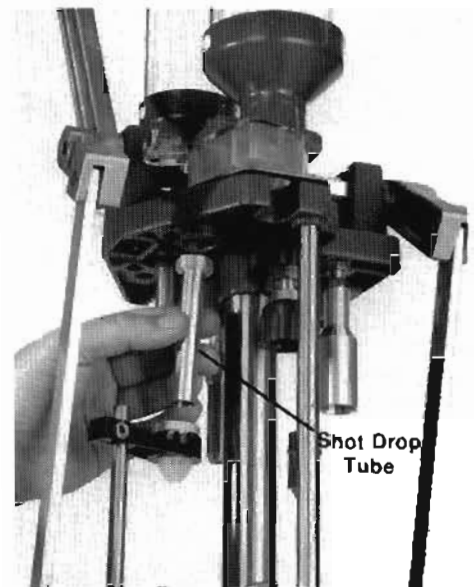


Fig. 5

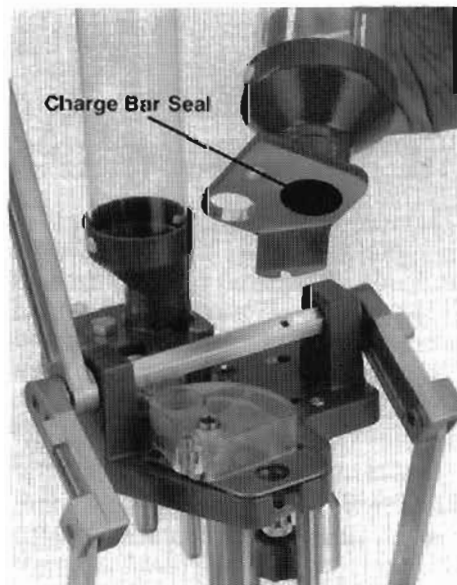


Fig. 6

(rear view)

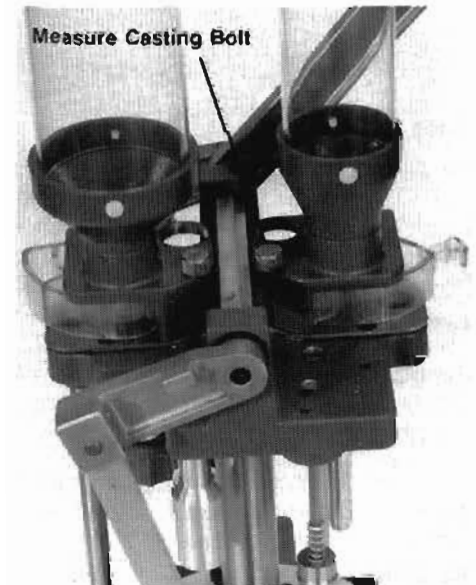


Fig. 7

INSTALLING SPENT PRIMER CATCHER

Figure 8 - Place the Spent Primer Catcher into its recessed position at the base of the Apex.

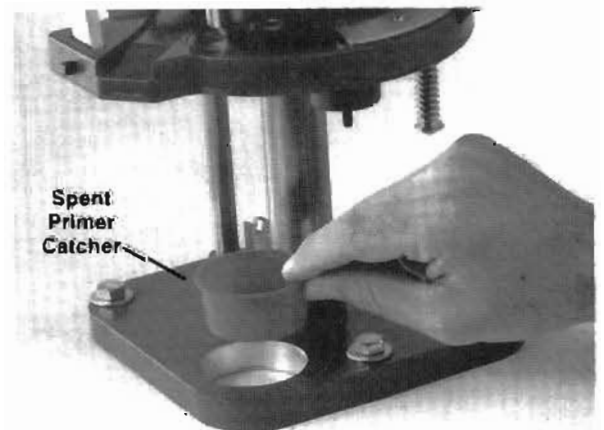


Fig. 8

(APEX AUTOMATIC ONLY)

INSTALLING AUTOMATIC PRIMER FEED ASSEMBLY

Figure 9 - Install the primer tray so the guide aligns with the slot in the feed tube. At the same time, align the Primer Feed Ball Joint Shaft to slide into the primer tray rotor.

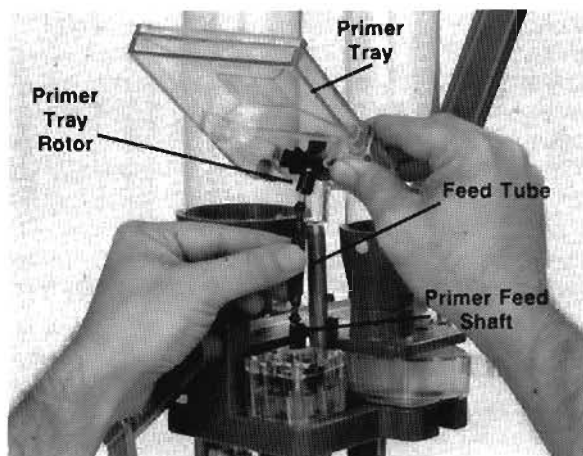


Fig. 9

Figure 10 - When completed, the primer tray should lock down over the Ball Joint Shaft and the brass primer feed tube. **CAUTION:** When removing the primer tray from your loader, don't twist it. It's designed for a close fit, and may crack or break if not removed straight up.

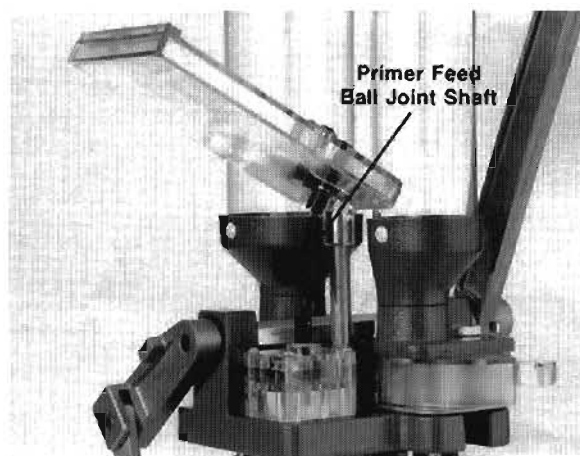


Fig. 10

INSTALLING AUTOMATIC INDEX

Figure 11 - Loop the holding clip around the short arm of the Automatic Advance Indexer, and fit the clip down over the assembly.

Figure 12 - Raise the platen and thread the Index Drive Bolt into position directly above the indexer.

Figure 13 - When properly adjusted, the Index Drive Bolt pushes down upon the short index arm so that when the handle is pulled down the long index arm completely cams over and advances the shellplate — stopping just clear of the bottom of the shellplate.

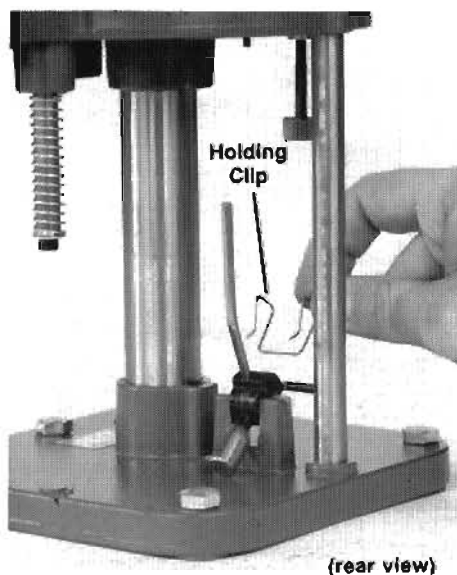


Fig. 11

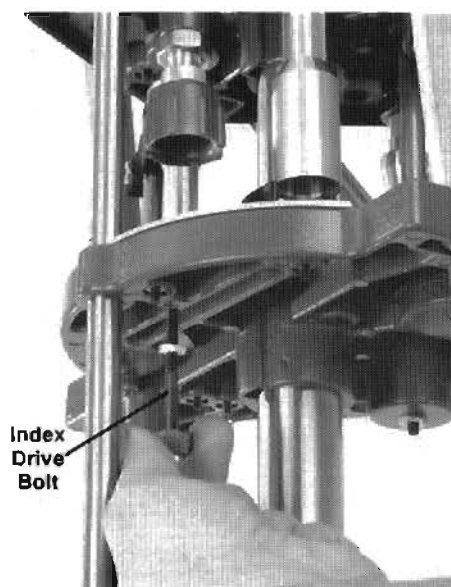


Fig. 12

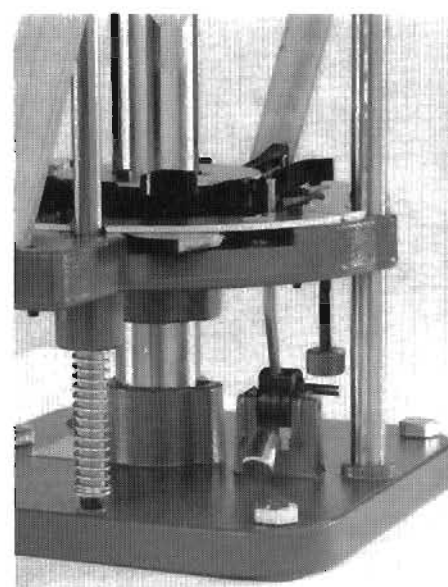


Fig. 13

INSTALLING COLLET SIZE DIE

Figure 14 - Slide the ejector spacer and the case ejector over the depriming rod with your left hand, followed by the collet size die in your right hand. Release your left hand and screw the collet size die into the die head several turns. When properly adjusted, the collet size die will bottom out against the depriming base plunger when the handle is pulled all the way down. There should be no play in the base plunger. When the collet size die is positioned properly, tighten the lock ring against the die head.

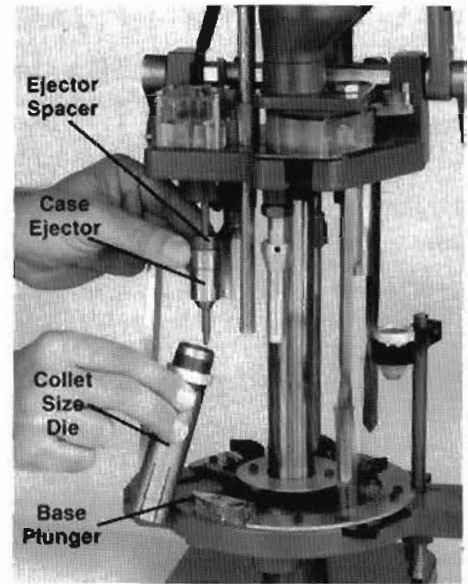


Fig. 14

APEX STANDARD INSTRUCTIONS RELOADING STEPS

Please read through all the reloading steps before you load ammunition.

SELECTION OF BUSHINGS

Figure 15 - The press comes packaged with several standard-charge bushings, and two shot and powder bushing covers. The bushings drop into the charge bars through holes in the measure castings, and are easily removed the same way. After inserting each bushing, snap the small powder bushing cover and the larger shot bushing cover into the measure casting holes above the bushings. Keep the covers in place during loading.

Since the Apex Standard and Automatic models cycle differently, the bushings may throw slightly different charges. Always weigh your charges when you switch from single to multiple shell reloading, and from manual to automatic operation.

If you're working with non-standard loads, refer to the bushings chart on page 23 and find the charge you intend to use.

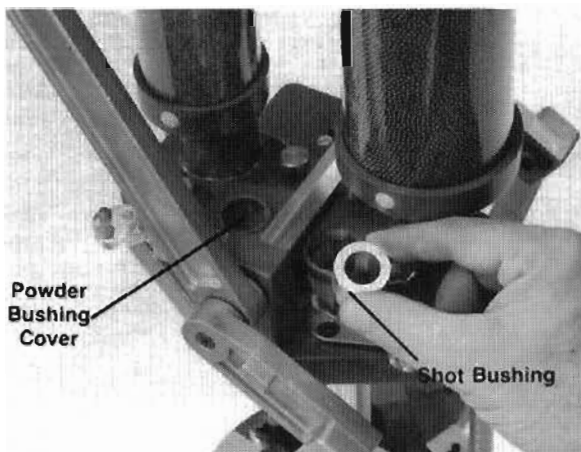


Fig. 15

SELECTION OF HULLS

When selecting hulls to load, we recommend those which were originally factory "target loads" made by U.S. manufacturers, such as Winchester AA, Federal Gold Medal, Remington Premier and Activ. This type of hull was designed to be reloaded. Other types of factory shells are called "field loads" or "dove loads." These types are of a different construction and were not designed to be reloaded.

If you have some empty field load shells, and want to reload them, try one or two in the APEX. If they work, fine. But if your results are not good, it is better to discard the shells and stick with the stronger target style.

Sort through all the empty hulls you intend to reload, and arrange by type and discard any damaged ones. Different types of hulls vary from each other in appearance, construction, and dimension. It's best to load groups of hulls of the same brand and type, rather than a mixed selection. By loading shells that are identical, it's much easier to adjust the press and reduce any problems.

Also count the number of points (crimp folds) on each group of hulls. The crimp-starter station in the APEX is set up for hulls with an eight-point crimp. If any of your hulls have six points, set them aside. An additional 6-point crimp starter and a smooth starter for paper hulls, have been included with the loader, and are both easy to install.

SELECTION OF WADS AND PRIMERS

Wads both seal the bore of the shotgun upon firing, and separate the powder from the shot. Hull manufacturers offer wads for sale designed to fit their particular types of hulls. We also recommend you use Hornady Versalite™ wads because they are designed to fit different types of hulls, and adjust to different load sizes.

For best results, use primers made in America. Check the powder company manuals included with this press and note the recommended primers used with each type of powder. Also we recommend you

use the same brand and style of components during your entire reloading session. If you mix several different wads or primers, your reloads will perform differently, even though they may look identical when finished.

Because of design differences, you may find some types of primers won't appear to seat in some hulls. This is more cosmetic than functional. As long as the primer seats tight and flush with the base of the hull, it will work fine.

LOADING SHOT AND POWDER HOPPERS

Figure 16 - To load shot, remove the top cap from the rear hopper and slowly pour in shot to desired level. Replace cap.

Figure 17 - Powder is loaded much the same way. Remove the cap from the front hopper and slowly

pour in the powder. The powder drop will dispense more consistent charges if you fill the hopper at least half full. Replace the cap. Static electricity may cause the powder to cling to the sides of the hopper, and may interfere with consistent powder dropping. The static charge can be eliminated by quickly rubbing the hopper with a laundry dryer "anti-static" sheet.



Fig. 16

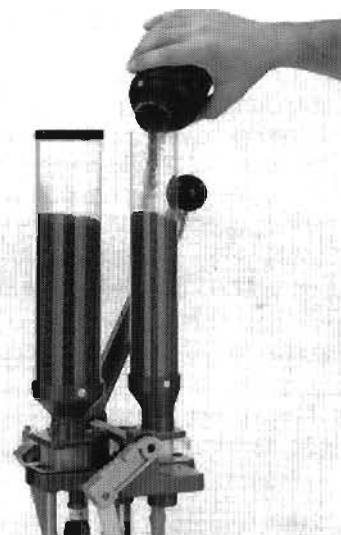


Fig. 17

DROPPING STEEL SHOT OR LARGE SHOT

Large-sized shot may not feed or measure consistently through the shot charge bar. However, you can still load this shot by separately measuring it, or counting it, away from the loading process. Remove the shot bushing from the charge bar, and drop the measured shot directly into the hull at that station.

The APEX was designed for the eventual loading of steel shot. HOWEVER, at the current time, no powder company recommends their current powders be used for such loading, and no such steel shot loading

powder has yet been developed. The loading of steel shot is much more critical than that of lead shot, which is somewhat pliable and forgiving. Steel shot loads are very sensitive in terms of loading pressures. There are companies who market steel shot loading components, and who have worked up loading data of their own. Brochures to that effect can be found with this loader. Since we have no control over these companies, we cannot comment on the validity of their loading data.

REVIEW OF ALL THE STATIONS

Figure 18 - The Apex has six loading stations. Each station, except for the shot-drop tube you installed, has been factory adjusted and should not need further adjustments on your part.

It generally takes both hands to load shotshells. Your left hand is used to insert hulls in the shell plate, primers into the primer tube, and to remove the finished shells as they exit the shellplate. Your right hand inserts wads into the swingout wad guide, cycles the handle, and rotates the charge bars and shellplate. By arranging the empty hulls and primers to the left of the loader on your workbench, and the wads to the right of the loader, you'll find this reloading sequence will come quite naturally.

STATION ONE deprimers the shell and collects the spent primers in a catcher located in the base.

STATION TWO seats the primer and flares the hull mouth.

STATION THREE drops the powder charge.

STATION FOUR seats the wad and drops the shot.

STATION FIVE starts the crimp.

STATION SIX finishes the crimp, and the shell is then ejected with a final turn of the shellplate.

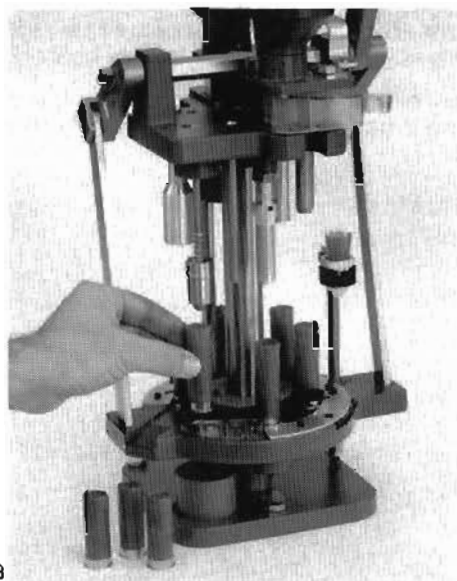


Fig. 18

LOADING A SINGLE SHELL

The APEX Standard can progressively load a single hull through all of the stations, or can load as many as six hulls at a time. ***Either way you intend to load, it's best to begin with a single hull, taking it through all of the stations.*** This will give you experience in loading, limit the number of hulls you need to watch at any one time, and insure that all the stations are adjusted correctly.

It is a good idea to have a factory-loaded unfired shell of the same gauge and type on hand to use as a visual reference, and as a guide if you need to adjust any of the stations.

Figure 19 - Set the shell onto the depriming base underneath the depriming punch.

Figure 20 - Pull the handle down until it completely cams over the top and the spent primer pops out of the hull and drops down into the spent primer catcher.

Figure 21 - Leaving the handle down, place a new primer in the brass primer tube and release. The primer will fall to the bottom of the tube and in position on the raised shell platen.

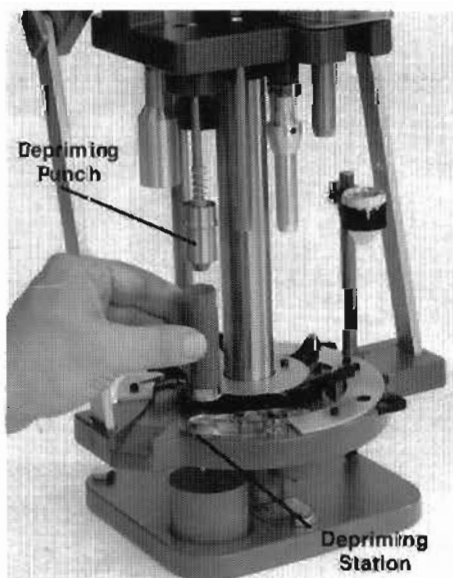


Fig. 19

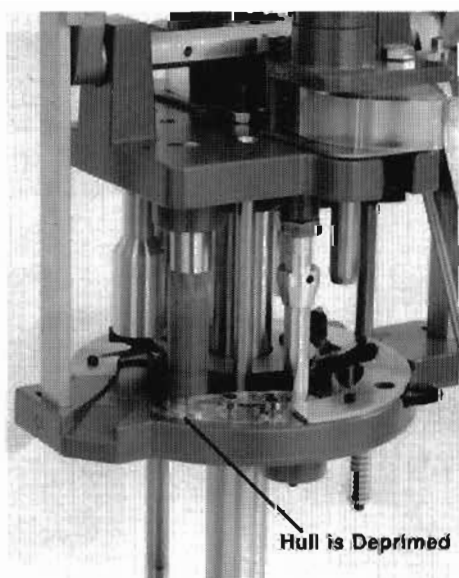


Fig. 20

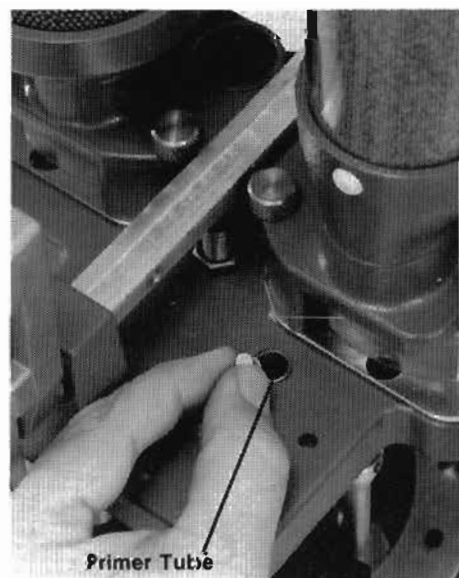


Fig. 21

Figure 22 - Raise the handle completely and advance the shell to the primer seating station. The new primer will drop into position underneath the hull at that station.

Figure 23 - Pull the handle down again until it cams over. The new primer is now seated.

Adjustment: Remove the hull from the shellholder by tilting it back and pulling it forward. (Hulls can be

removed from other stations the same way.) Inspect the primer. It should be flush with the bottom of the hull. If the primer is seated too deep or too shallow, the primer seater located on the die head can be adjusted for height. The flaring sleeve might also have to be equally adjusted at this time so the shell mouth is even to the straight section of the sleeve. **NOTE:** The bottom seating pad is factory-adjusted, and does not change the primer seating depth. Doublecheck your adjustment using a new hull and primer.

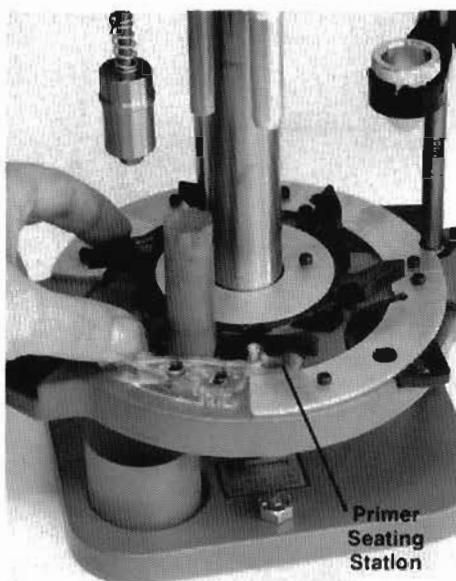


Fig. 22

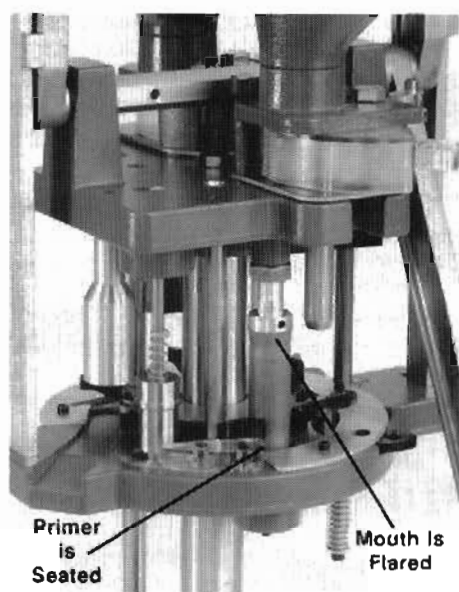


Fig. 23

Figure 24 - Advance the shell to the powder drop station. Lower the handle. With the shell platen raised, rotate the powder charge bar until it drops its powder charge into the hull. On the Apex Standard, the charge bushings travel past center in order to insure all the charge has been dropped. Rotate the

charge bar back to its original position underneath the powder hopper. Raise the handle, check your charge, and advance the shell plate to the next station.

Figure 25 - Place a wad into the swing out wad guide. (Wad guide shown from the rear of the press.)

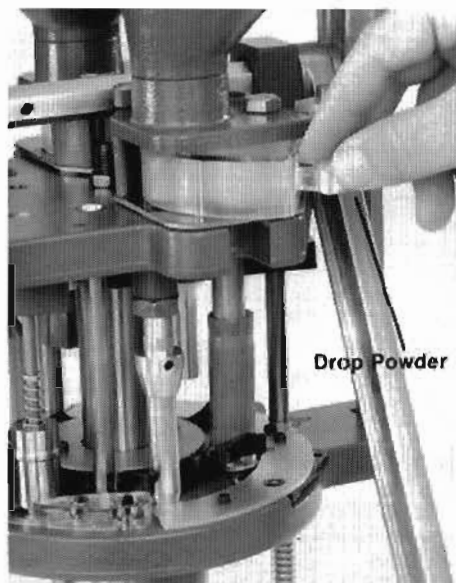


Fig. 24

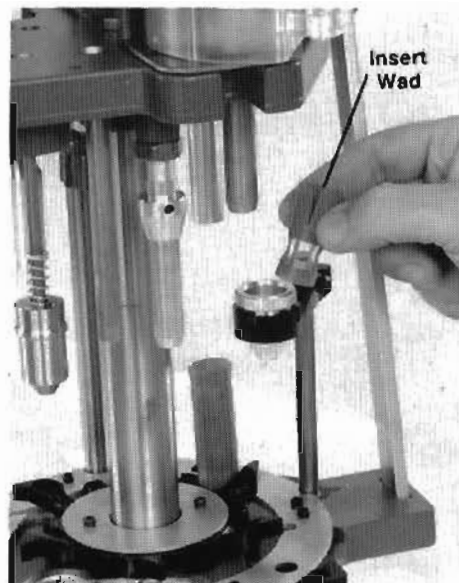


Fig. 25

Figure 26 - Lower the handle completely. The wad guide will swing back in line with the hull, and the wad will be seated by the shot drop tube. Raise the handle and inspect. Generally, the wad should be seated so the top of it is 5/8" from the top of the hull mouth.

Figure 27 - Pull the handle down again, rotate the shot charge bar so as to drop the shot into the

hull. Return the charge bar to its original position underneath the shot hopper.

Adjustment: If the wad is too deep, screw the wad guide higher into the die head. If the wad is too shallow, screw the wad guide out from the die head. Double check any adjustment using a new shell and wad. The wad guide spring fingers should be 1/8" clearance above the hulls.

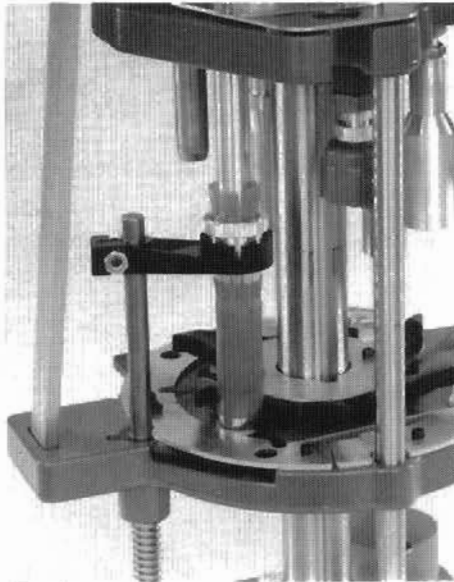


Fig. 26

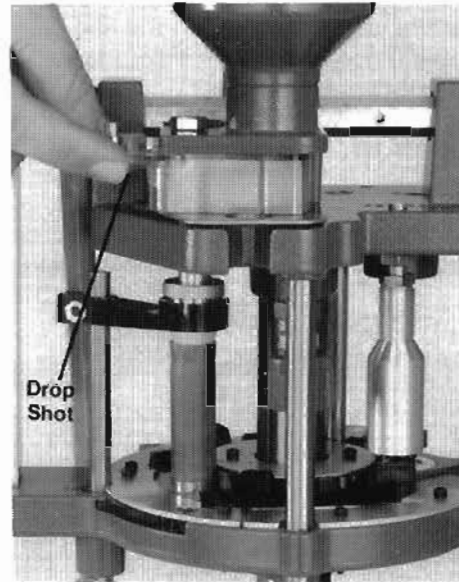


Fig. 27

Figure 28 - Raise the handle and advance the shell plate to the crimp start position. Lower the handle and raise the hull into the crimp start die.

Adjustment: The starting crimp should be nicely rounded and symmetrical, with a 1/4" hole in the center. If the starting crimp hole is too tight, raise the starter crimp die. If the hole in the center is too large, lower the die slightly. Double check any adjustment.

Figure 29 - Advance to the Finish Crimp position. Lower the handle and finish the crimp on the shell.

Adjustment: The finished shell should have a flat and symmetrical recessed top, with no sags or bulges. The top ridge should be tight all way around, and the shell should show a slight taper at the top. The crimp die can be raised or lowered by loosening the nut on bottom of the die head. After loosening, insert a flat-blade screwdriver into the top of the plunger and turn up or down as needed to get desired crimp. Re-tighten lock nut.

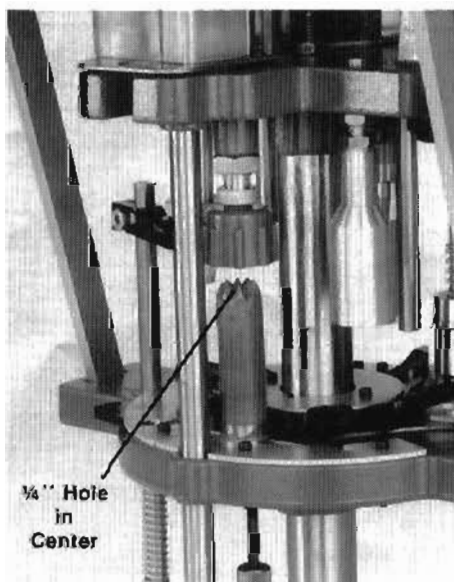


Fig. 28

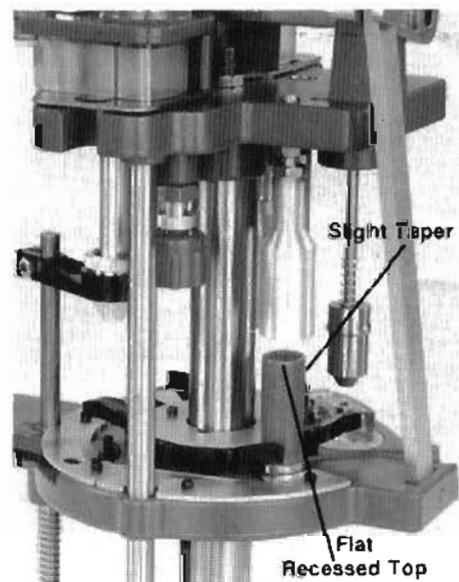


Fig. 29

Figure 30 - Raise the handle and advance the shell plate one last time, ejecting the shell.

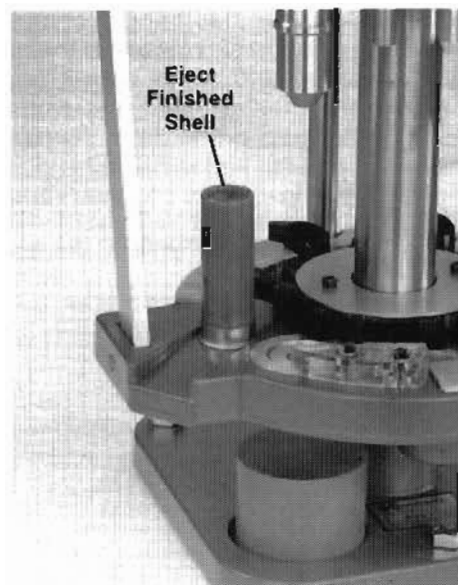


Fig. 30

COMMON RELOADING VARIATIONS

Your reloaded shell should look similar to a factory load. The case walls are straight and smooth. The top crimp is symmetrical and completely closed with no large swirl patterns, bulges or indentations, and no shot should be visible. Don't worry if your reloaded shell looks slightly different. This is normal — automated factory loading procedures are impossible to duplicate at home. Shells tend to elongate when they're fired, which causes some minor cosmetic variations.

The only way to correct this is to measure and trim each shell before you reload it. Most reloading variations will not affect firing. Some pronounced variations may affect such things as feeding reliability. One note: if a shell has been wrinkled once, it will always reload wrinkled. You might want to discard it after firing and not reload it again.

Figure 31 - Not enough shot or powder, or the wad may be seated too deep. The crimp is proper, but the shell looks slightly empty. Recheck your bushings combination to make sure you are dropping the pro-

per charges, and recheck the wad seating depth.

Figure 32 (swirl) - Too much case material has gotten into the crimp causing swirls or other variations. The shell may have elongated during its previous firing. As long as the overall cartridge length is correct for the gauge, this swirl pattern won't have much effect on performance. To eliminate the swirl, trim the shell before loading it next time.

Figure 33 (wrinkled) - Finish Crimp die down too far, or the shell may have elongated during previous firing. If all the shells coming off the press are showing wrinkles, raise the crimp die enough so it does not crush the hull during crimp. Doublecheck the overall cartridge length to make sure it has not been affected.

Figure 34 - Massive deformation. This can be caused by a number of factors including having a shell that was factory loaded with a different number of crimp points. The Apex is furnished with an 8-point crimp.

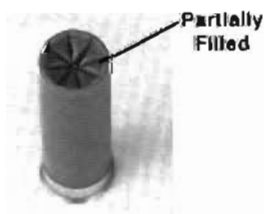


Fig. 31

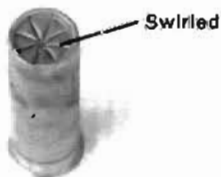


Fig. 32



Fig. 33

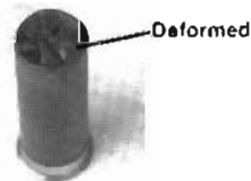


Fig. 34

MANUAL PROGRESSIVE LOADING

Figure 35 - Once you have reloaded several shells individually and have become accustomed to the six stations, you can choose to reload more than one shell at a time. The APEX Standard is perfectly suited to operate six stations at a time as a progressive loader.

This can be done by starting the hulls at STATION 1 and performing the single stage operations on each subsequent hull until you reach STATION FOUR, advancing the shellplate each time with a nice easy rhythm. You should have four hulls in the shellplate at this time.

Figure 36 - When you reach STATION FOUR,



Fig. 35

place a wad in the swing out wad guide and lower the handle, seating the wad into your first hull. Drop the powder charge, but not the shot charge. Before moving the powder charge bar back to its original position, connect the shot and powder charge bars together with the charge bar link. Now, by turning the powder charge bar back to its original position, the charge bar link will throw the shot charge.

Leave the charge bar link connected and continue this rhythm of adding shells, wads and primers in succession. Inspect your shells carefully and don't rush the process. When the final hull you want to reload passes the powder drop station, disconnect the charge bar link at this time, and throw the shot charge independently until you finish the remaining shells. Stop adding primers and wads as you no longer need them.

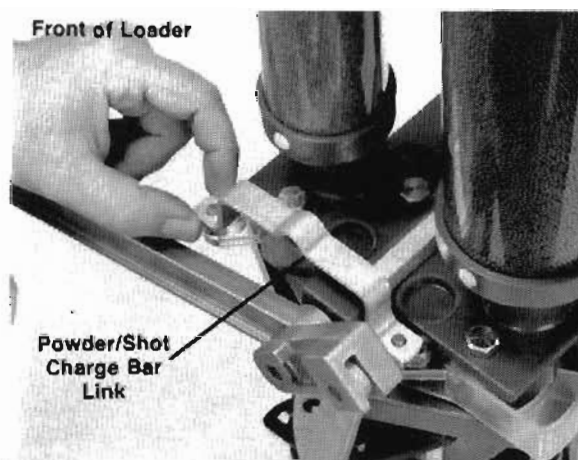


Fig. 36

CHANGING WAD FINGERS

If the wad fingers ever wear out or show damage, they may no longer support the wad properly in the wad guide. The wad fingers are easily replaced.

Figure 37 - Remove the Wad Guide Lock Ring by

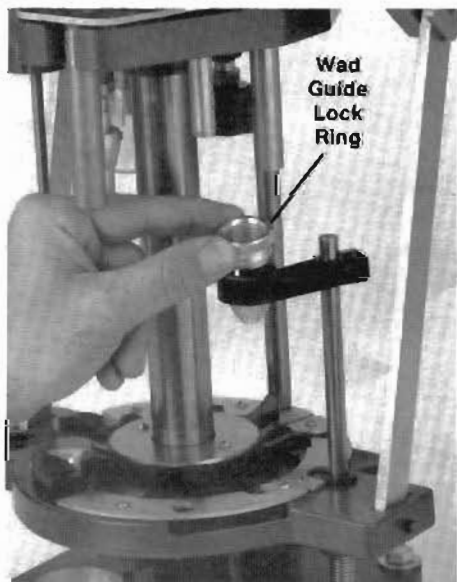


Fig. 37

prying with a small screwdriver or coin.

Figure 38 - Remove and discard the old wad fingers and replace with a new one. Replace the Lock Ring by snapping it back into place.



Fig. 38

DRAINING SHOT AND POWDER

Shot and powder can be quickly drained from the hoppers without removing the hoppers from the press.

Figure 39 - A brass drain tube has been provided

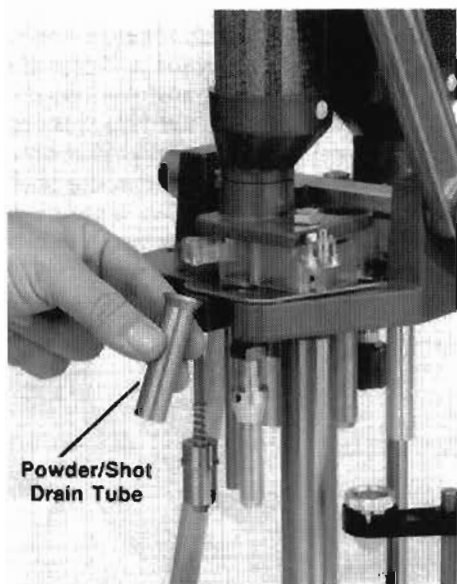


Fig. 39

for this purpose. Fit the drain tube into the die-head casting slot under either the shot or powder hoppers. Do not remove the charge bushings.

Figure 40 - Remove the measure mount bolt that holds the hopper in place.

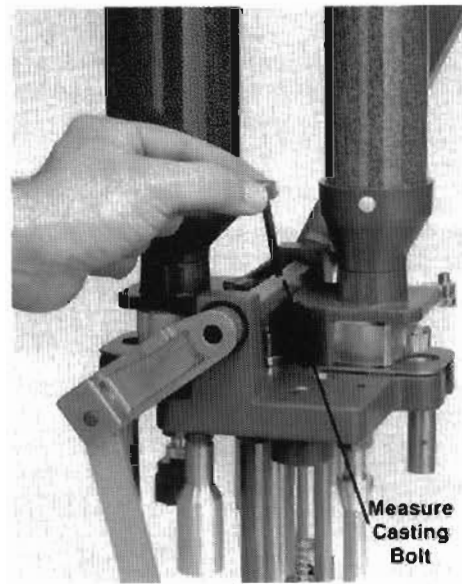


Fig. 40

Figure 41 - Hold your receiving container underneath the tube. Swing the hopper casting out away from the press until it aligns with the extension tube. Rotate the charge bar until the bushing aligns with the hopper. Do not rotate the charge bar past the drain tube — the contents in the hopper may spill. The contents will flow out of the hopper and into your

container. When the hopper is empty, rotate the charge bar back to its original position and swing the hopper casting back onto the press and tighten the measure mount bolt to hold the casting in place.

Figure 42 - Switch the drain tube to the other station and repeat the process of emptying the other hopper.

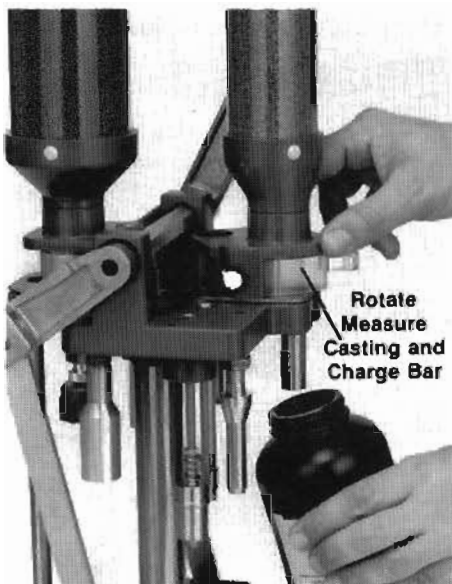


Fig. 41

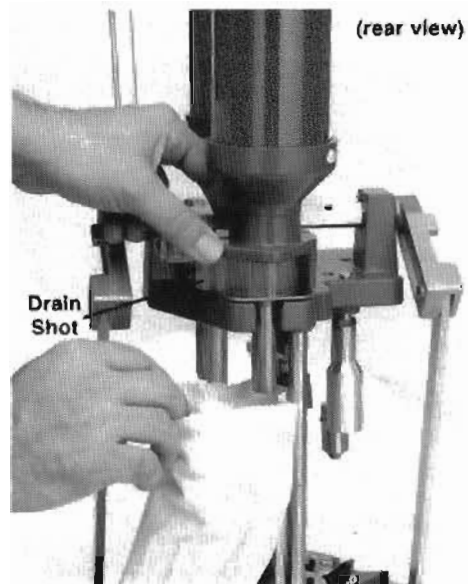


Fig. 42

MAINTENANCE

Your APEX is designed and constructed with the same tight tolerances and quality as a valued firearm. With proper care, it will give you a lifetime of reloading enjoyment. During and after every reloading session, it's important to keep your APEX

running smoothly and efficiently. This means cleaning up stray powder and shot, and making sure the press is well-lubricated at all times. Clean-up is fairly easy to do since there are few tight spaces on the APEX.

ADDING AUTOMATIC ACCESSORIES

ADDING A COLLET SIZE DIE

Figure 43 - Remove the original depriming rod, and set aside the rod and the ejector spring, as they will no longer be needed. Fit the new depriming rod into the diehead and secure with the mounting screw from above the die head.

Figure 44 - Slide the ejector spacer and the case ejector over the depriming rod with your left hand,

followed by the collet size die in your right hand. Release your left hand and screw the collet size die into the die head several turns. When properly adjusted, the collet size die will bottom out against the depriming base plunger when the handle is pulled all the way down. There should be no play in the base plunger. When the collet size die is positioned properly, tighten the lock ring against the die head.

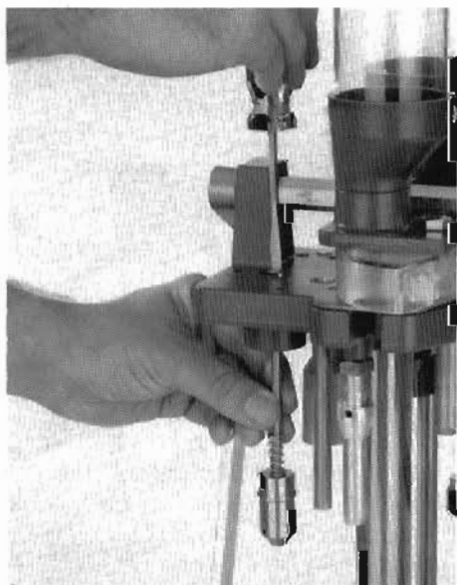


Fig. 43

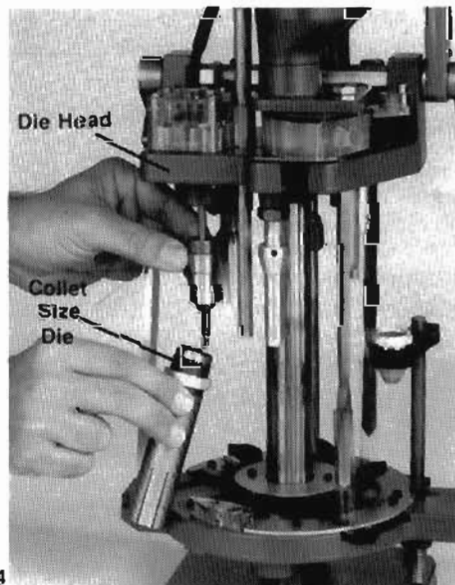


Fig. 44

Figure 45 - Remove the shell guide and the shell guide screws. Lift the shellplate and remove the original de-priming base, setting it aside. Insert the replacement collet sizer base.

Figure 46 - Carefully push the supplied crescent lock ring into the slot of the collet sizer base, from underneath the platen. Replace the shellplate and case guide and tighten all screws securely.

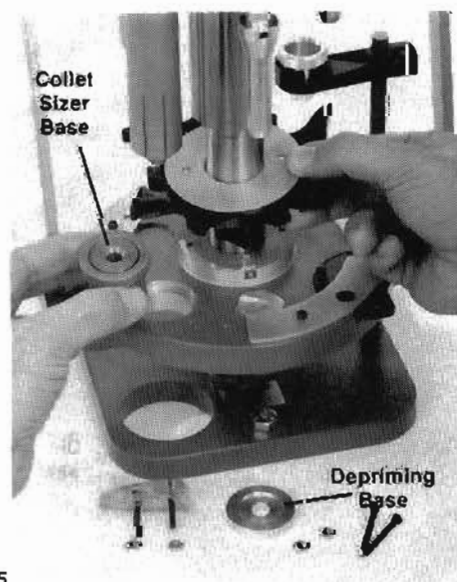


Fig. 45

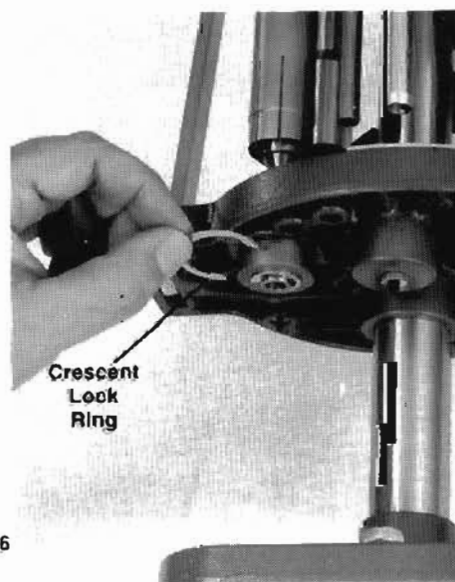


Fig. 46

ADDING A DUAL ACTION CRIMP DIE

The Dual Action Crimp Die assembly is an improvement over a standard crimp die. It better supports the shotshell case while crimping. And through its floating action, it exerts less damaging pressure on the shell top.

Figure 47 - The assembly includes a plunger, holder and cam. The only installation tools needed are a thin flat blade screwdriver and a small hex wrench or pliers.

For visual clarity, the shot hopper has been removed from the Apex.

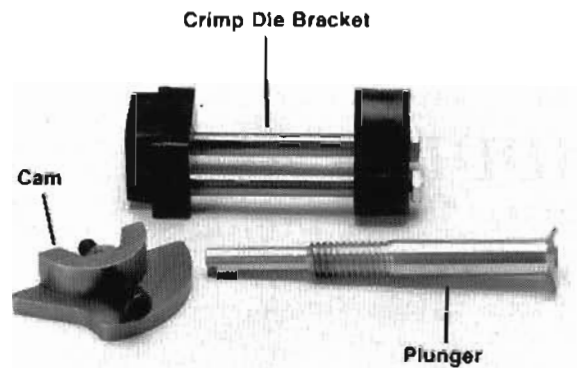


Fig. 47

Figure 48 - Remove the existing crimp die from the rear of the die head.

Figure 49 - Separate the upper and lower brackets of the new crimp die holder. Insert the lower bracket into the twin mounting holes in the die head. Insert the upper bracket into the metal sleeves of the lower bracket.

Figure 50 - Secure the lower bracket with the two lock nuts.

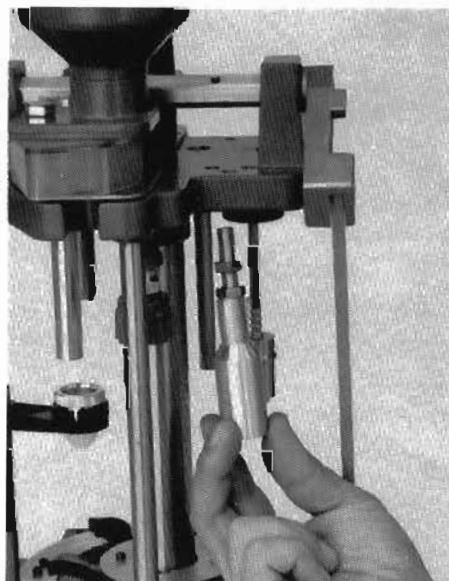


Fig. 48

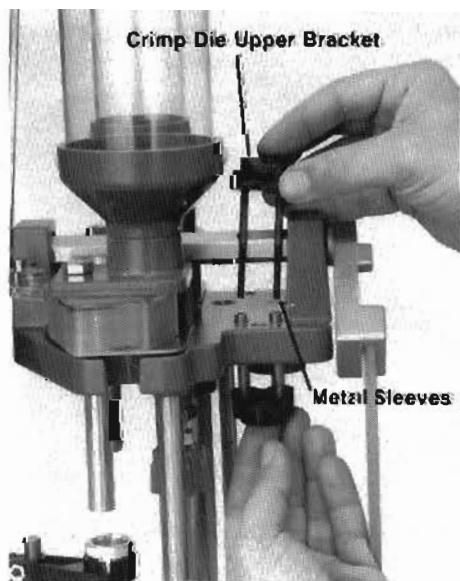


Fig. 49

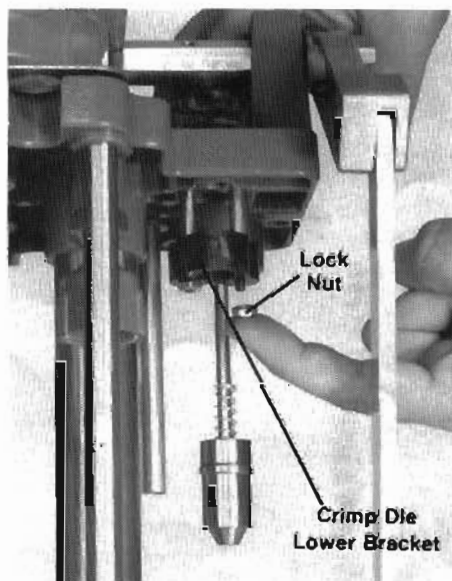


Fig. 50

Figure 51 - Screw the crimp-die body into the lower bracket until 9 threads on the die body remain below the block. Insert the crimp plunger into the die body, and thread the 9/16" lock nut onto the plunger shaft. Then insert the die plunger shaft up into the diehead casting.

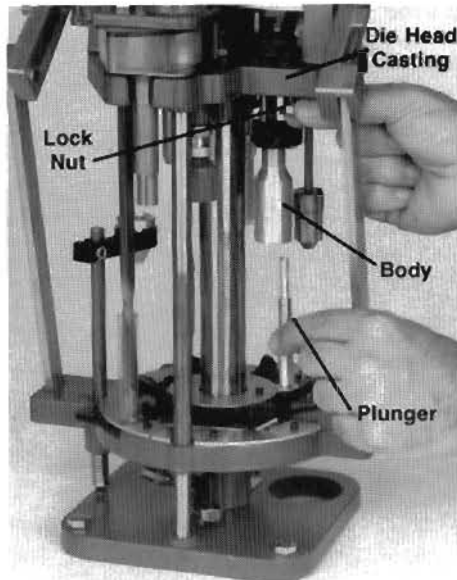


Fig. 51

Figure 52 - Push the die body and plunger upward, bringing the lower brackets up to the bottom of the diehead. Using a narrow flat blade screwdriver, turn the top of the plunger so as to engage its threads in the diehead. Screw the plunger all the way up. Don't tighten the lock nut until final adjustments are made.



Fig. 52

Figure 53 - From the front of the Apex, position the cam under the mounting hole through the central shaft, with the rounded portion of the cam facing down and back. Insert the mounting bolt, and secure with lock nut.

Figure 54 - When complete, the cam rides on the steel roller on the block as it cams over. The crimp-die body should freely move up and down, and the plunger should be threaded into the diehead.

Adjustment: Take a crimp-started shell (loaded with powder and shot) and place under the crimp die.

Lower the handle, raising the shell all the way into the die. Raise the handle, lowering the shell from the die and inspect the shell. From the chart at the beginning of this manual, determine the correct overall length of the shell. If it is too long, adjust the die body down by half-turns at a time until the length is correct. If the shell is too short, adjust the die body up by half-turns.

The die plunger can also be adjusted up and down by using your small flat-blade screwdriver to achieve proper crimp depth. The finished shell should look similar to a factory-loaded one.



Fig. 53

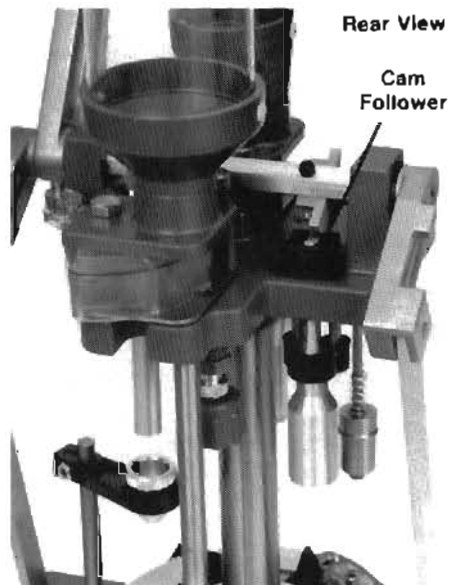


Fig. 54

ADDING AUTO PRIMER FEED ASSEMBLY

Figure 55 - Insert the Primer Feed Cam into the die head hole directly above the depriming punch (or collet size die, if one has been installed).

Figure 56 - Set the Primer Feed Assembly over the cam and rotate the cam until it aligns and slides into the slot in the base of the assembly. Align the two

mounting bolt holes on the diehead. Insert the mounting screws from above, and the lock nuts from below the diehead and lightly tighten. Sight down the primer drop tube on the assembly and visually align it with the primer drop tube in the diehead. Then securely tighten the mounting bolts.

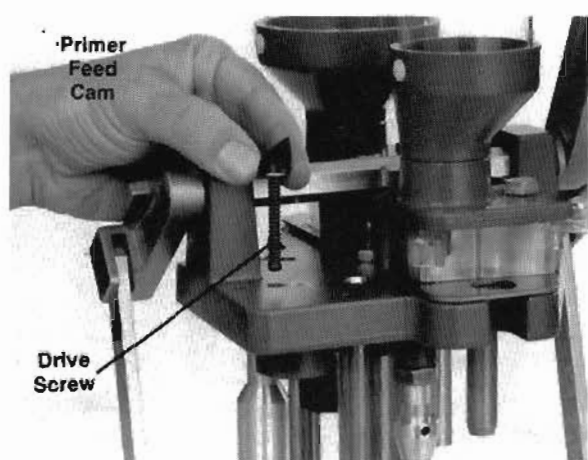


Fig. 55

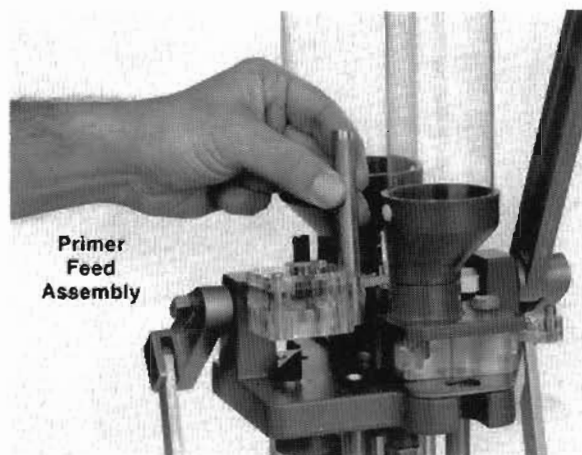


Fig. 56

Figure 57 - Install the primer tray so the guide aligns with the slot in the drop tube. At the same time, align the Primer Feed Ball Joint Shaft to slide into the primer tray rotor collar.

Figure 58 - When completed, the primer tray

should lock down over the Universal Arm and the brass primer feed tube. **CAUTION:** When removing the primer tray from your loader, don't twist it. It's designed for a close fit, and may crack or break if not removed straight up.

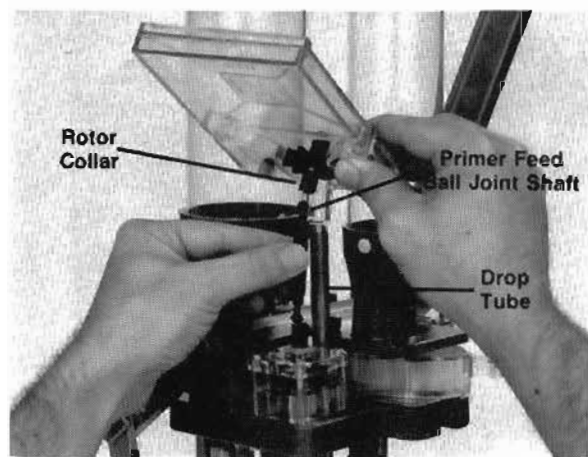


Fig. 57

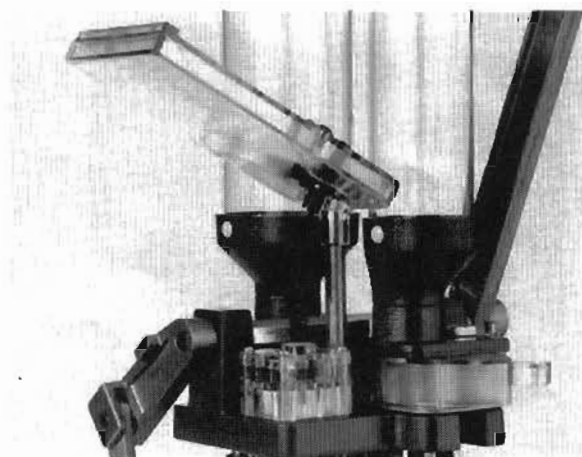


Fig. 58

ADDING AUTO SHOT/POWDER DETECTS

Figure 59 - The shot/powder detect assembly includes two detect rods, two hex-pins, and two clear plastic safety sleeves. The detect rods are to be installed in the diehead of the Apex.

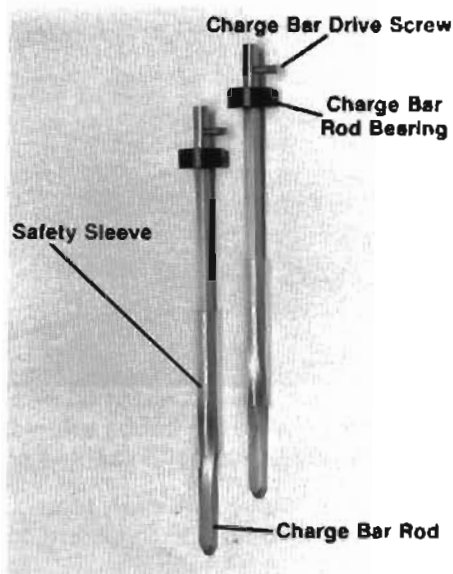


Fig. 59

Figure 60 - Remove the shot and powder hoppers from the diehead by removing the 3/8" hex bolts and the measure mount bolts. Set the hoppers to the side.



Fig. 60

Figure 61 - Remove the bolts holding both charge-bar measure plates, then remove the charge bars and the measure plates from the diehead and set aside.

Figure 62 - The charge bar rods each have a "shot" or "powder" designation stamped on one

side. Drop the charge bar rods through the diehead at their proper locations and remove their drive screws. Slip the clear safety sleeves around the charge bar rods from below.

NOTE: THESE SAFETY SLEEVES SHOULD ALWAYS BE INSTALLED.

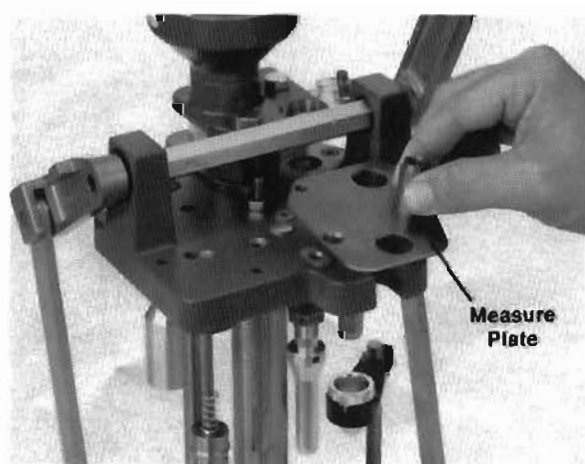


Fig. 61

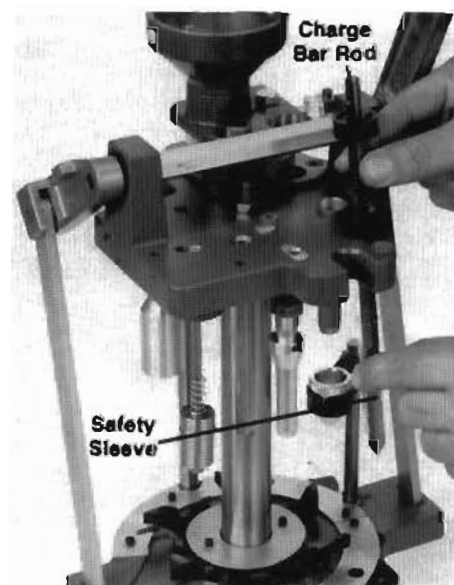


Fig. 62

Figure 63 - Replace the charge bar measure plates over the rods and tighten the mounting bolts back into the diehead. Thread the drive screws into the charge bar rods until no threads show BUT DO NOT TIGHTEN.

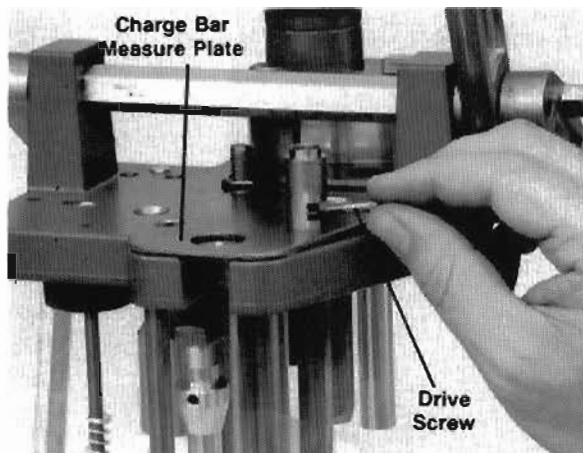


Fig. 63

Figure 64 - Replace the charge bars on top of the measure plates. The drive screw flats should be aligned so as to fit into the charge bar slot. Replace the powder and shot hoppers. The charge bars should rotate freely along with the charge bar rods.



Fig. 64

ADDING AUTO INDEX

Figure 65 - Loop the holding clip around the short arm of the indexer, and fit the clip down over the base casting of the loader.

Figure 66 - Raise the platen and thread the index drive bolt into position directly above the indexer. Tighten the lock nut against the platen.

Figure 67 - When properly adjusted, the Index Drive Bolt pushes down upon the short index arm so that when the handle is pulled down the long index arm completely cams over and advances the shellplate — stopping just clear of the bottom of the shellplate.

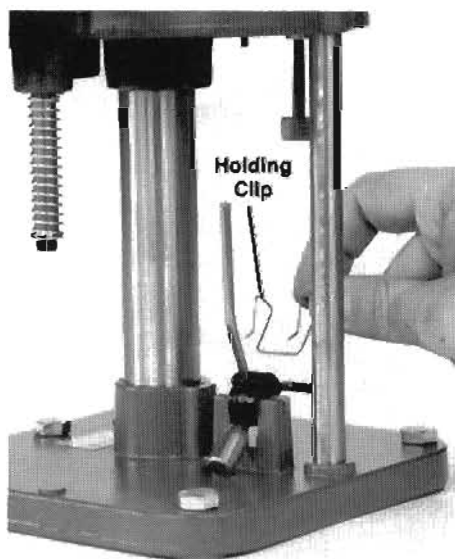


Fig. 65

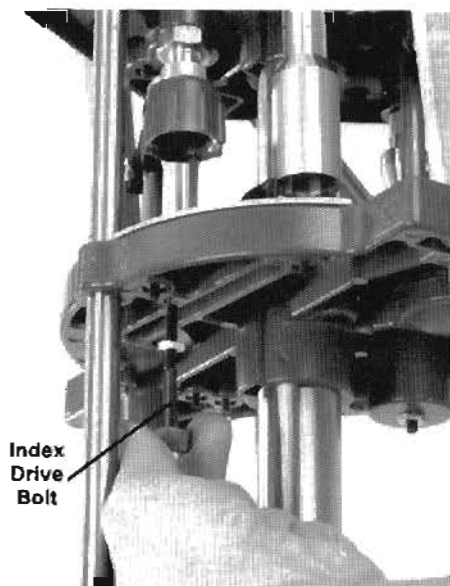


Fig. 66

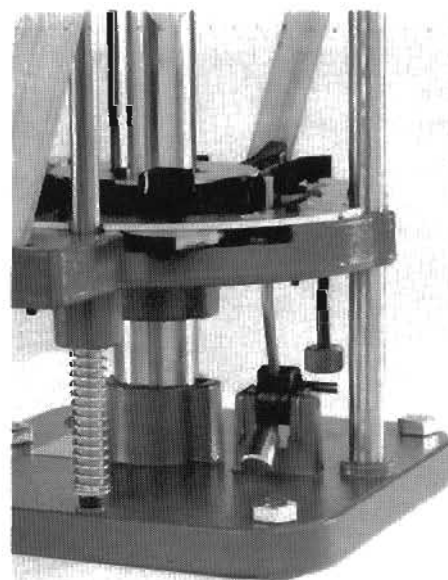


Fig. 67

APEX™ AUTOMATIC INSTRUCTIONS

INTRODUCTION

Figure 68 - The Apex Automatic is the most advanced loader in its class available. It lets you reload shells by simply inserting a case and wad then pulling the handle. The automatic features do the rest. The Apex Automatic will seat primers, drop powder and shot, crimp the shells, and guide the cases through all the stations automatically.

In addition, the automatic features can be overridden at any station, should you desire. The shellplate can be rotated by hand in either direction, and hulls can be added or removed without interfering with the automatic loading sequence.

To set up your Apex Auto, refer to the set up procedures for the Apex Standard at the beginning of this manual.

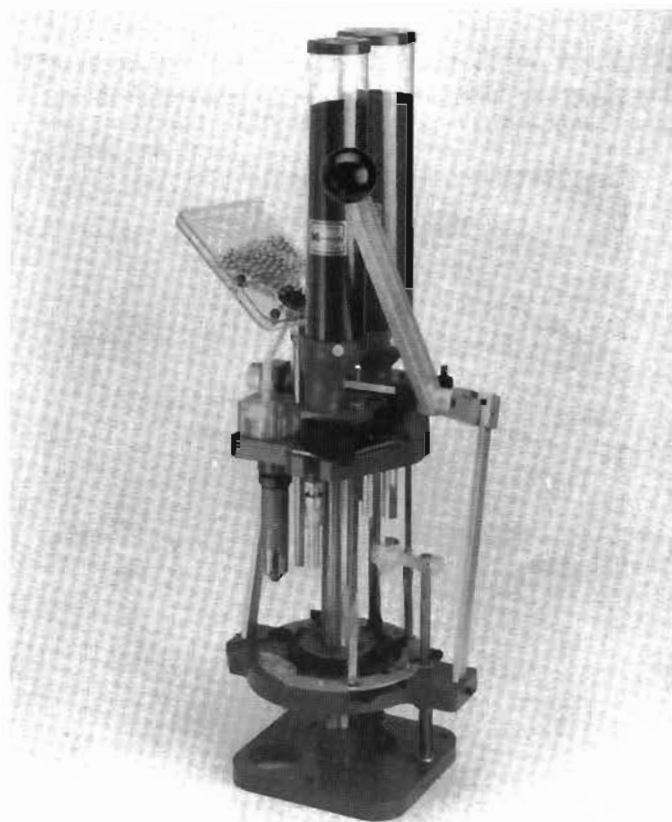


Fig. 68

SELECTION OF PRIMERS, WADS & BUSHINGS

Please turn to page 7 for instructions on how to select primers, wads and bushings.

LOADING SHOT AND POWDER HOPPERS

Please turn to page 8 for instructions on loading the shot and powder hoppers.

LOADING PRIMER TRAY

Figure 69 - Fully open the top panel of the primer tray by pivoting it around on its holding screw and hold the tray upside down. Take a full box of primers and remove the sleeve with the primers rightside up in the box. Hold the primer box tight against the

underneath of the primer tray.

Figure 70 - Flip the primer tray right side up and lift away the primer box. The primers should now be in the primer tray facing down.

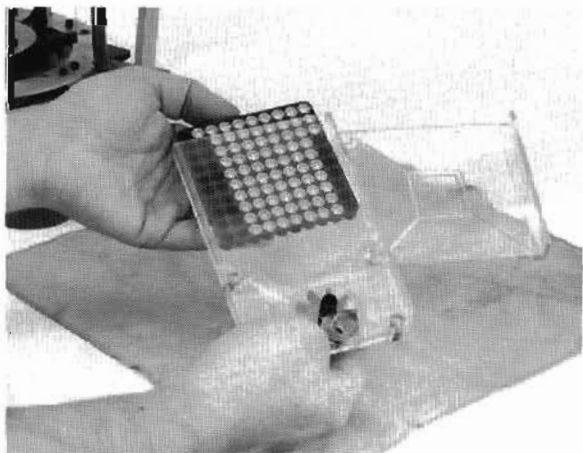


Fig. 69

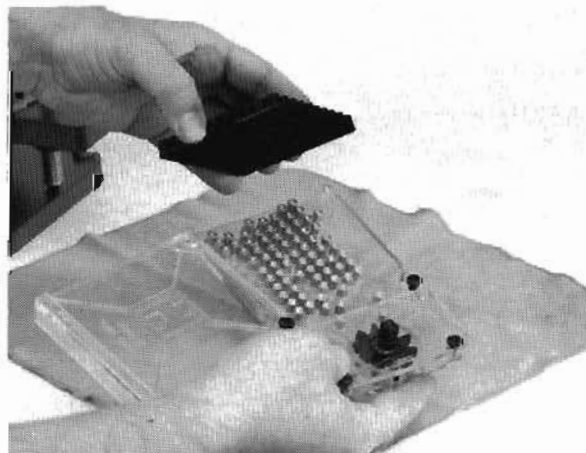


Fig. 70

Figure 71 - Rotate the primer tray top panel back to its closed position, being careful not to upset or tip any of the primers inside.

Figure 72 - Replace the tray onto the loader,

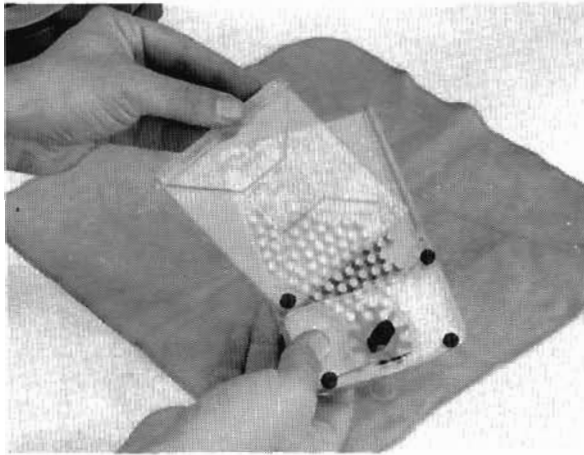


Fig. 71

reconnecting it as shown on page 6. Manually click the primer feed wheel around counterclockwise until the first primer is aligned to drop down the tube at the next click of the wheel.

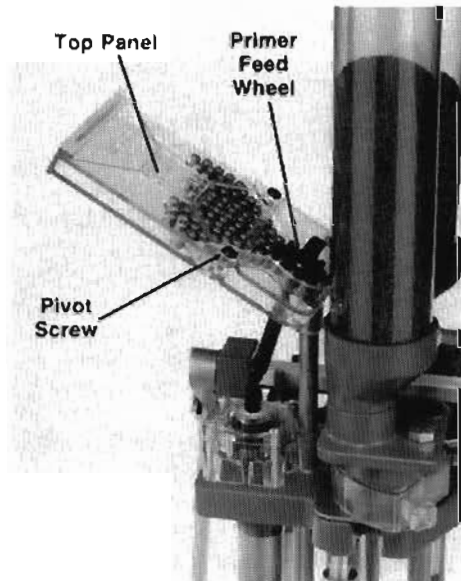


Fig. 72

RELOADING STEPS ***REVIEW OF ALL THE STATIONS***

Figure 73 - The APEX Automatic has six loading stations. Each station, except the shot drop tube, has been factory adjusted and should not need further adjustments on your part. You should, however, inspect the loader to ensure everything appears as pictured.

STATION ONE deprimers and sizes the shell case and collects the spent primers in a cup located in the base.

STATION TWO seats the new primer and flares the shell mouth.

STATION THREE drops the powder charge.

STATION FOUR seats the wad and drops the shot.

STATION FIVE starts the crimp.

STATION SIX finishes the crimp and tapers the shell. The shell is then ejected with the turn of the shellplate.

It's best to begin reloading on the Apex Automatic using a single hull and taking it through all of the stations. This way, you can gain experience and doublecheck all the die adjustments before you load a large number of hulls. If a station needs adjusting, refer to the section APEX STANDARD, LOADING A SINGLE SHELL for the adjustment procedures.

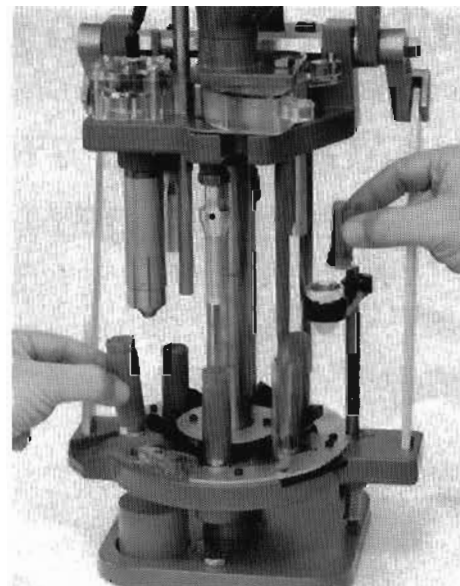


Fig. 73

Figure 74 - Before you begin loading, the shot and powder charge bars need to be in the correct starting position. Both charge bars should be facing inwards towards the center of the Apex. This properly aligns the shell detects.

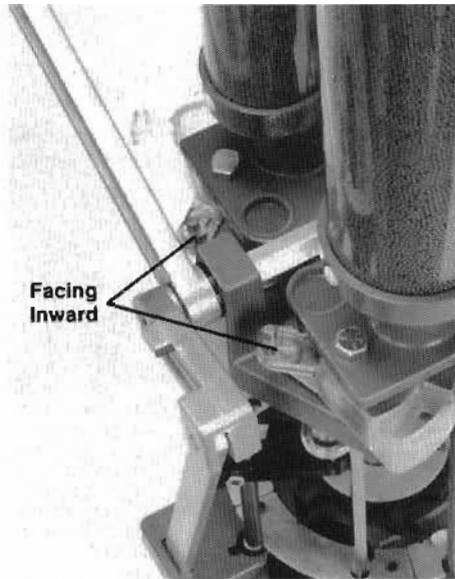


Fig. 74

Figure 75 - Place the hull onto the collet size-deprime station and lower the handle. As the hull rides up into the size die, it triggers the Automatic Primer Assembly which drops a primer in position on the shellplate. If there is no hull in this station, no primer will drop.

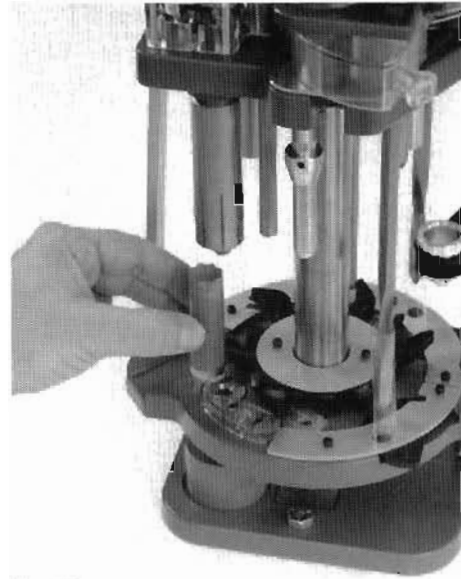


Fig. 75

Figure 76 - With each stroke, the shellplate advances. It is important to always fully return the handle on the upstroke for full advance. The new primer is seated at the second station.

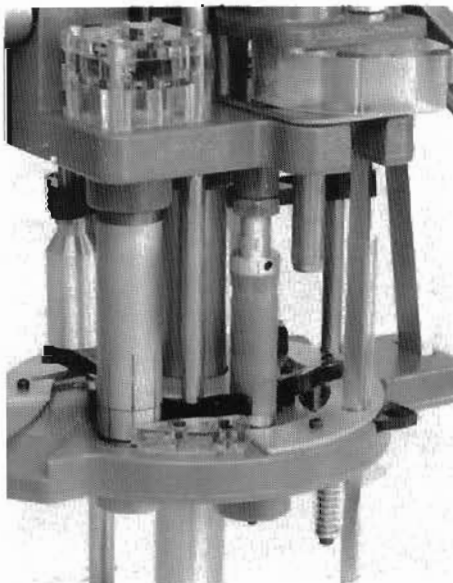


Fig. 76

Figure 77 - The hull rotates to the powder drop station and rotates the charge bar actuator. By lowering the handle, the actuator causes the drive rod to rotate and drop the powder charge. If there is no hull at this station, no powder will drop.

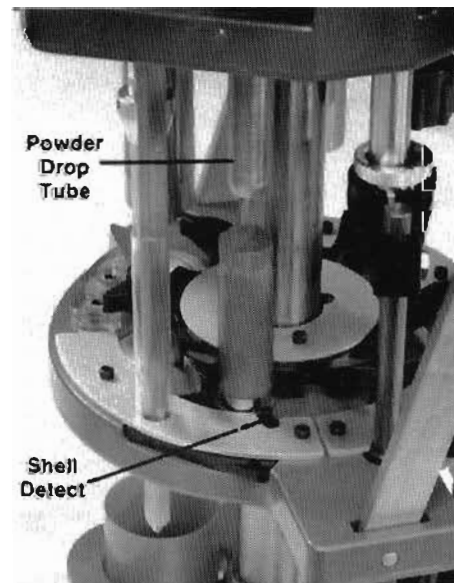


Fig. 77

Figure 78 - Return the handle to the up position. Place a wad into the swing out wad guide and lower the handle.



Fig. 78

Figure 79 - The shot drop tube drops the shot and inserts the wad into the hull at the same time. This station also has a shell detect feature, which operates like the powder drop, and no shot will drop without a hull being in position.

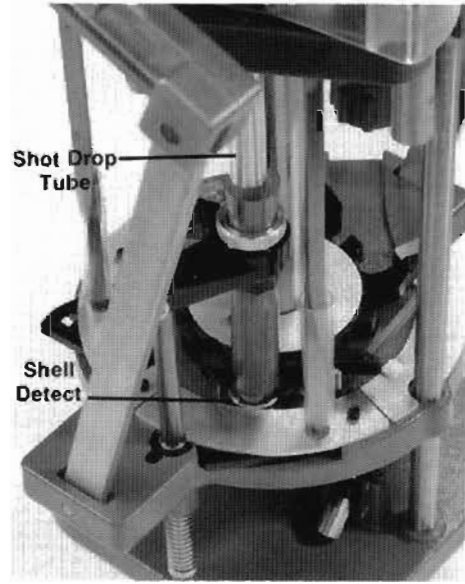


Fig. 79

Figure 80 - Continue to cycle the handle, advancing the hull through the remaining stations. Following the shot drop, the crimp is started.

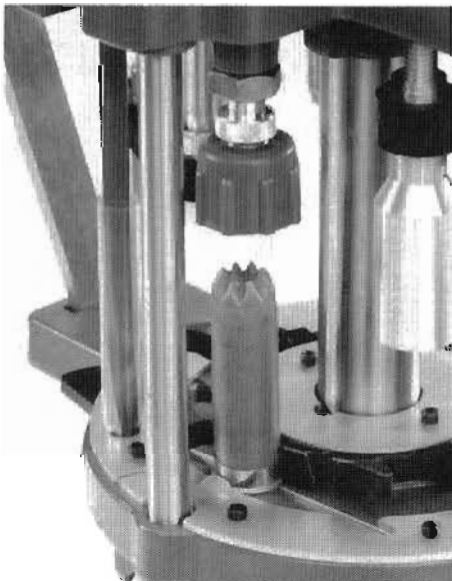


Fig. 80

Figure 81 - At the last station, the Cam-Actuated Crimp die crimps and tapers the shell.

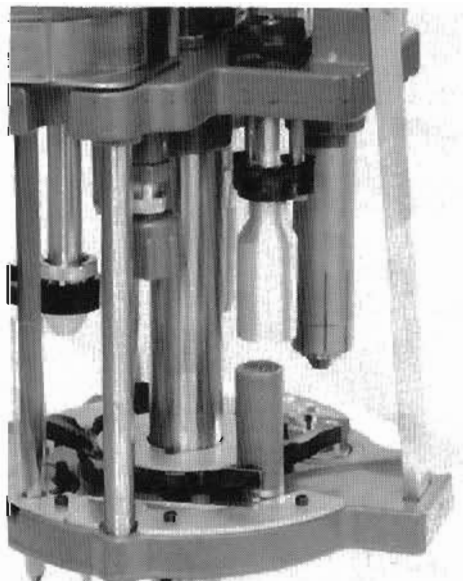


Fig. 81

Figure 82 - Returning the handle to the up position, the completed shell is ejected.

Figure 83 - After loading the single case, you can now run multiple cases through the Apex Automatic. The three shell detects will automatically drop primers, powder and shot whenever hulls are in those positions. All you need to do is place a shell in the first station, and place a wad in the wad guide and pull the handle.

The Apex Automatic is built to reload hundreds of shells quickly. But like any machine, there are limits to its best operating speed. Jerking the handle up and down too quickly will result in spilled components, flying shells, pinched parts and possible damage. Use

common sense. Get to know and understand how the machine operates.

At the end of each reloading session, brush or wipe away any spilled powder or shot. Lubricate all moving parts as needed, and wipe down all steel parts with a high-quality rust repellant. Do not use spray lubricants that contain 1,1,1-trichloroethane — a chemical which will severely damage some of the engineering plastics used on the loader. Read the label carefully. If in doubt, don't use the spray.

Treat your Apex Automatic like your valued firearm, and it will last a lifetime.

Adjustments: Please refer to pages 9-11.

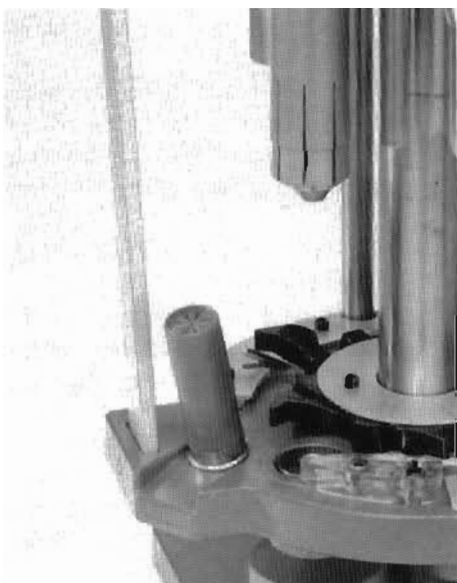


Fig. 82

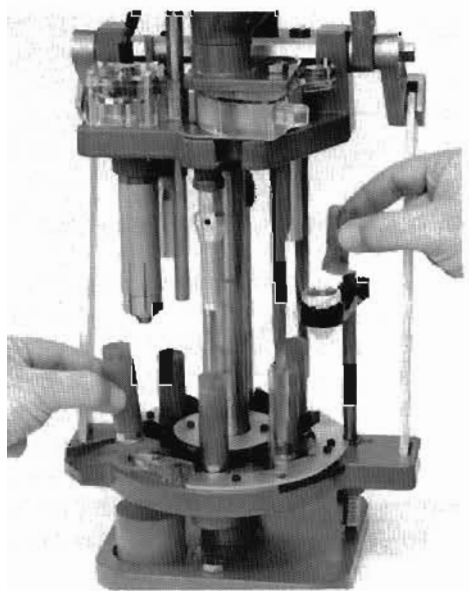
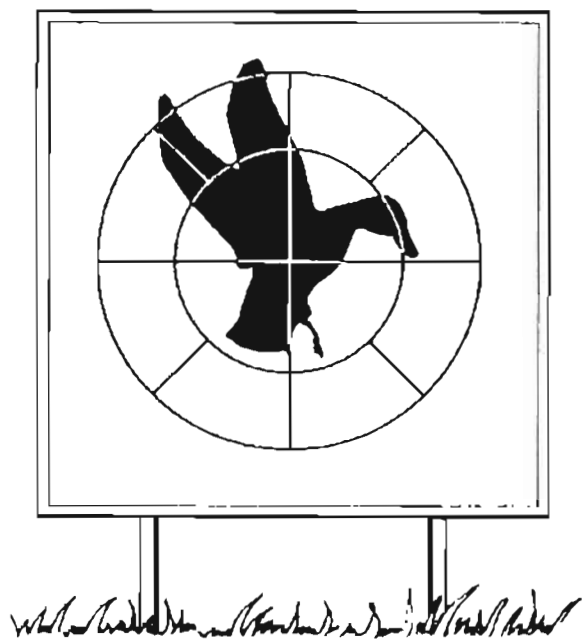


Fig. 83

PATTERNING YOUR SHOTGUN



Like sighting in a rifle, patterning a shotgun is best analyzed by shooting at a pattering target. The Hornady Shotgun Patterning Kit is a convenient package of targets.

When at the range, determine the yardage you feel most comfortable shooting within and test your shotgun's pattern from that distance. As a guide, waterfowlers generally shoot within 50 yards, pheasant and grouse hunters within 40 yards and quail shooters less than 25 yards. Competition shooters need to evaluate their own preferred shooting range.

After measuring the yardage and placing the patterning kit into the ground, place some type of marker at the point at which you'll shoot. Remember, try not to stray too far from your original shooting point - even a couple of feet variation can produce different overall results.

Once you're set up and ready, each load should be fired at least five times. That will give you enough information to provide an analysis of your shotgun and where it shoots.

For the sake of this explanation, we'll use one of the most popular gauges and loads used by bird shooters.

With the patterning kit set up at 40 yards, place the gun to your shoulder (in a standing, normal shooting position) and set the bead on the center of the bird in the target. Remember to hold the gun in the same position each time - this will help determine the gun's point of aim.

Once you fire the shot, proceed down range and inspect the target for holes. Locate the approximate center of the shot pattern and then note the gun, load, gauge and shot size on the target.

Take down the target, replace it with another clean target and repeat the steps until you've shot at least five times on separate targets.

When you're finished shooting, take the targets and begin the simple, systematic method of counting pellet holes in the target.

With Hornady's exclusive target, it's easy to determine the number of holes in a quadrant. Simply count each hole in a given quadrant, circle each hole after it's been counted (to avoid counting the same hole twice) and write the number of holes with a marker in that quadrant. Repeat the steps until all the holes have been counted.

After the pellets have been counted, it's time to compute the percentage of hits on the target. Simply multiply the number of pellets (see chart) times the ounces of shot and you get the number of pellets in that specific load. (Example: a 1-1/8 oz. load of No. 7-1/2 shot contains 394 pellets — 350 pellets per ounce times 1-1/8 ounces (1.125) — equals 394 pellets).

If the pattern contained 335 holes, then 335 divided by 394 shows about 85 percent of the shot hit the target within the outer circle. Opinions may vary, but 85% hit at 30 yards would be a full choke shotgun.

Because of the unique diameters of the two target rings, each quadrant contains the same amount of space in square-inches. Having equal size quadrants to work with, you will get a more accurate picture of the hit percentage in each of the quadrants.

Once you've calculated the percentage of holes in the target and analyzed your shotgun's choke pattern, you should now be able to determine your gun's "point of aim," as well as whether the gun shoots a poor pattern, a pattern different than which the gun is marked and other variations that, in the past, might have led to missed shots.

To summarize:

- Step 1 - shoot at the center of the target at 40 yards (shoot at least five targets). Mark the gun, gauge, load and shot size on the paper.

- Step 2 - count the number of pellet holes in each quadrant and mark the number in each section. Total the number at the top of the page.

- Step 3 - compute the number of pellets in your load by multiplying the number of pellets times the ounces of shot in the load you shot. (Example: 1-1/8 oz. load of No. 7-1/2 Shot contains 394 pellets. Consult the chart for No. 7-1/2 shot (350) and multiply 350 x 1.125 (1-1/8 oz. load) for a total of 394 pellets.

- Step 4 - compute the percentage of hits in the target. Take the total number of hits on the target and divide by 394 pellets in the shotshell (350 divided by 394 equals 85 percent).

- Step 5 - determine the "point of aim" of the shotgun, the pattern of the choke, and whether the pattern is uniform or scattered.

Shot Size	Diameter (inches)	#Pellets Per Ounce (5% Antimony)	Shot Size	Diameter (inches)	#Pellets Per Ounce (5% Antimony)
No. 00 Buckshot	.330	8	No. 4	.130	138
No. 0 Buckshot	.320	9	No. 6	.110	228
No. 1 Buckshot	.300	11	No. 7-1/2	.095	350
No. 3 Buckshot	.250	19	No. 8	.090	417
No. 4 Buckshot	.240	21	No. 8-1/2	.085	495
BB	.180	51	No. 9	.080	594
No. 2	.150	90	No. 11	.060	1410

POWDER CHARGE BUSHINGS LIST

Powder Charge Bushings For 366 Auto And APEX™ Shotshell Presses

GRAINS	Acc. Arms Nitro 100	DuPont 700-X	DuPont PB	DuPont SR 7625	DuPont 800-X	DuPont SR 4756	DuPont MR 4227	Hercules Red Dot	Hercules Green Dot	Hercules Unique	Hercules Herco	Hercules Blue Dot	Hercules 2400	Hodg. Clays	Hodg. H85	Hodg. H56	Hodg. H110	Royal Scot	Scot 1000	Solo 1250	Win. 452AA	Win. 473AA	Win. 540	Win. 571	Win. 296	Win. Super Target	Win. Super Lite	Win. Super Field
10		330																										
11		342	324										256															
12		357	339	324				384	363				266															
13		369	351	336	351			393	378	342	357		—				256			363					256			
14		387	366	345	363			405	390	354	369		291				266			375	360	327		266				
15		402	378	357	372	366	303	423	405	369	381		300				—			387	369	339						
16		414	390	369	390	378	312	438	420	381	393		312	429		303	291			399	381	348				333	330	
17	420	429	402	381	402	387	324	453	435	393	405		324	441		312	300		447	411	390	357	300		405	345	342	
18	432	441	414	390	414	399	333	468	447	405	414	366	330	456		318	309	471	456	420	402	369	309		417	354	351	
19	444	453	426	402	423	408	339	480	456	414	426	372	339	468		327	315	483	468	432	411	381	318	318	429	363	—	
20	456	465	435	414	429	417	348	489	468	423	438	381		483		336	324	495	480	444	420	390	327	330	438	372	—	
21	468	477	447	426	438	426	357	498	480	435	450	390		495		345		507	492	456	432	399	336	339	450	381	—	
22		486	456	438	447	435	366	510	492	444	462	396		510		354		519	504	468	441	408	345	348	459	390	—	
23		498	465	444	459	447	375	519	501	453	471	408				363		531	513	480	450	414	351	357	471	402	—	
24			474	453	468	459	384		513	465	477	414				369		543	519	489	462	426	360	363	480		—	
25			486	462	480	471	390		522	474	489	423				378		555	531	498	474	435	366	369			411	
26			495	474	489	480	399		534	483	498	435			375	387						444	375	378			420	
27			—	486	501	489	408		—	492	—	441			381	393						450	381	384			426	
28			510	495	507	495	414		549	501	513	447			390	402						462	387	390			432	
29			522	—	525	501	420		558	—	522	459			396	408						474	393	396			441	
30				501	531	513	426			510	531	468			402	414						402	405				450	
31				513	534	522	435				—	474			408	420						408	411				456	
32				519	543	525	441				549	483			417	429						414	417				462	
33					549	534	447				558	489			423	435						423	423					
34					558	543	453				564	495			429	441						429	429					
35					564	549	462				573	501				447						435	438					
36						558	468				—	510				453						441	444					
37						564	474				588	516				459						444	450					
38						573	480				594	522				465						450	456					
39						580	486					531				471						459	462					
40						588	492					534										465	468					
41						594	498					543										471	474					
42						—	—					549										477	480					
43						606	510					555										483	486					
44							519					561										489	492					

HOW TO SELECT BUSHINGS FOR HALF-GRAIN CHARGES:

Hornady powder bushings are identified by numbers that correspond to the size of their inside diameter. (For instance, the inside diameter of the #402 bushing is .402 inches.) Bushings for powder charges in half-grain increments can be calculated from this chart. Simply "split the difference" between the two even-grain bushings, and select the bushing nearest the result.

Example: To find the bushing for 18 1/2 grains of Hercules Red Dot powder, note that bushing #468 gives a charge of 18 grains and that bushing #480 gives 19 grains. Split the difference between 468 and 480, and the result is 474. Thus, the correct bushing for 18 1/2 grains of Red Dot is bushing #474.

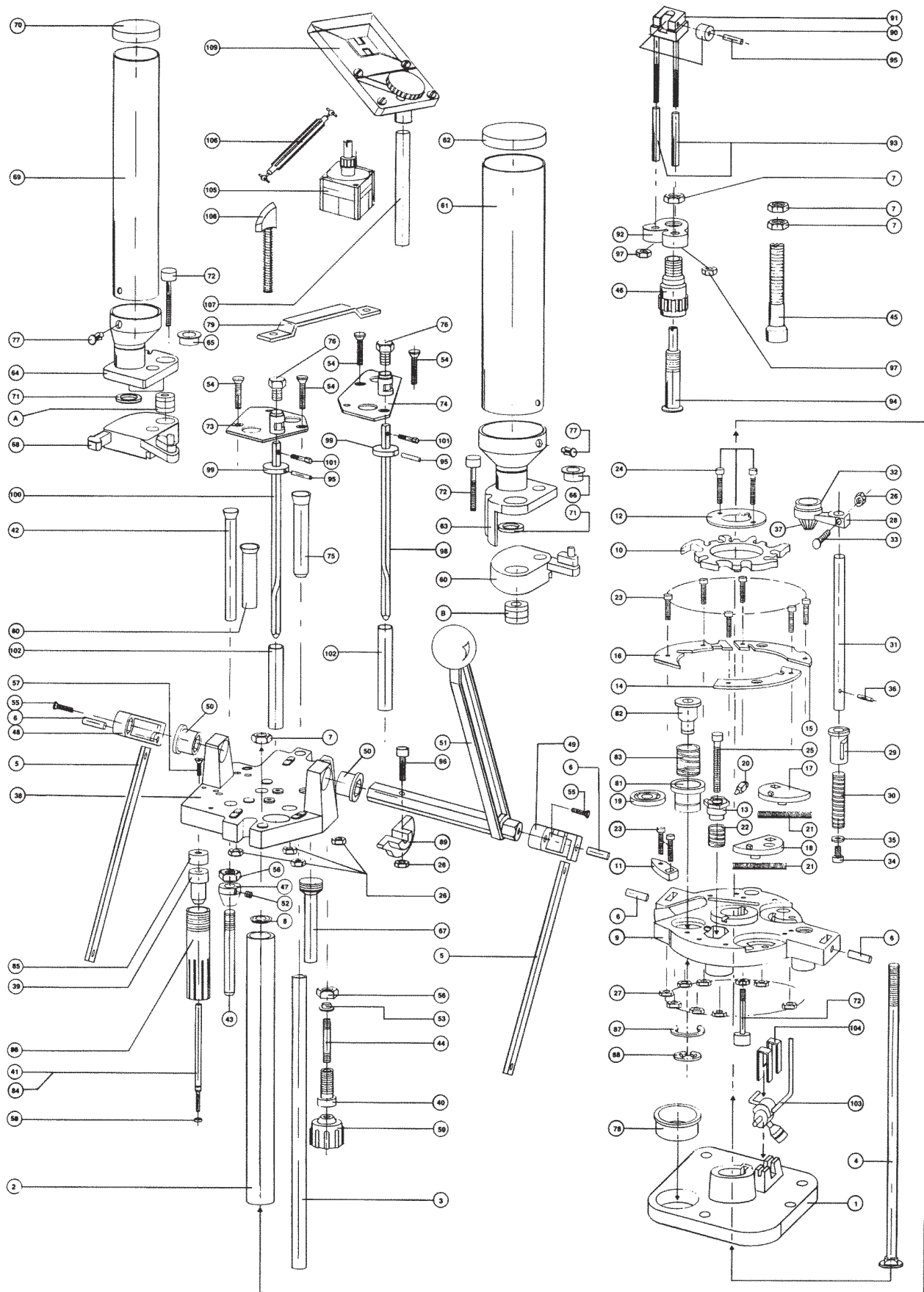


IMPORTANT: Due to agitation of powder during the loading operation, different models of loaders require different bushings. Therefore, the above chart should be used only for 366 Auto and Hornady's new APEX™. Additional charts are published for other Hornady loaders.

All charges listed on this chart are an average of several loads, weighed following the complete reloading cycle. Powders used in establishing these loads were from ballistic samples supplied by the manufacturer or sealed tins of recent manufacture. Charges may vary slightly due to operator's technique and/or moisture content of the powder.

— Means no bushing made for this grain weight.

If no bushing is listed or marked by dash, no load of this grain weight is recommended by powder manufacturer.





APEX

PARTS LISTING

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	170500	Base Casting	38	170201	DIE HEAD ASSEMBLY	78	170342	LOADER ACCESSORIES
2	170501	Main Guide Post	39	170215	Die Head Casting	79	170409	Spent Primer Catcher
3	170502	Auxiliary Guide Post		170216	Case Ejector/Deprime 12 GA	80	170425	Powder/Shot Charge Bar Link
4	170505	Main Guide Post Bolt		170217	Case Ejector/Deprime 10 GA		390036	Powder/Shot Drain Tube
5	170508	Drive Link (2)		170218	Case Ejector/Deprime 20 GA		390652	5/32 Short Arm Hex Key
6	390074	1/4 X 3/4 Dowel Pin (4)		170219	Case Ejector/Deprime 28 GA		390653	7/64 Short Arm Hex Key
7	390097	3/8 -16 Plain Steel Hex Nut		170220	Case Ejector/Deprime 410 Bore		390656	1/8 Short Arm Hex Key
8	390654	Guide Post Bolt Retainer		170220	Case Ejector Spring			3/32 Short Arm Hex Key
		PLATEN ASSEMBLY	40	170315	Crimp Starter Holder			
9	170101	Platen Casting	41	170320	Deprime Punch / Standard			
10	170105	Shell Plate 12 GA	42	170321	Primer Drop Tube			
	170106	Shell Plate 10 GA	43	170337	Primer Seater Punch 10/12/20/28 GA			
	170107	Shell Plate 20 GA		170339	Primer Seater Punch 410 Bore			
	170108	Shell Plate 28 GA	44	392101	Crimp Starter Rod			
	170109	Shell Plate 410 Bore	45	170350	Crimp Plunger 12 GA-Standard			
11	170112	Shell Guide 12/10/20/28 GA		170351	Crimp Plunger 10 GA-Standard			
	170113	Shell Guide 410 Bore		170352	Crimp Plunger 20 GA-Standard			
12	170114	Shell Plate Retainer		170353	Crimp Plunger 28 GA-Standard			
13	170116	Primer Seater Pad		170354	Crimp Plunger 410 Bore-Standard			
14	170145	Shell Retainer #1, 12 GA	46	170380	Crimp Die Body 12 GA			
	170155	Shell Retainer #1, 10 GA		170356	Crimp Die Body 10 GA			
	170165	Shell Retainer #1, 20 GA		170357	Crimp Die Body 20 GA			
	170175	Shell Retainer #1, 28 GA		170358	Crimp Die Body 28 GA			
	170185	Shell Retainer #1, 410 Bore		170359	Crimp Die Body 410 Bore			
15	170146	Shell Retainer #2, 12 GA	47	170365	Case Flaring Sleeve 12 GA			
	170156	Shell Retainer #2, 10 GA		170366	Case Flaring Sleeve 10 GA			
	170166	Shell Retainer #2, 20 GA		170367	Case Flaring Sleeve 20 GA			
	170176	Shell Retainer #2, 28 GA		170368	Case Flaring Sleeve 28 GA			
	170186	Shell Retainer #2, 410 Bore		170369	Case Flaring Sleeve 410 Bore			
16	170147	Shell Retainer #3, 12 GA	48	170503	Left Toggle			
	170157	Shell Retainer #3, 10 GA	49	170504	Right Toggle			
	170167	Shell Retainer #3, 20 GA	50	170511	Driveshaft Bushings (2)			
	170177	Shell Retainer #3, 28 GA	51	170512	Handle/Driveshaft Assembly			
	170187	Shell Retainer #3, 410 Bore	52	390064	10-32 X 1/8 Set Screw			
17	170225	Case Detect Disk-Shot 12 GA	53	390066	3/16 Push Nut			
	170226	Case Detect Disk-Shot 10 GA	54	390073	10-32 X 1 Flat Hd Screw (4)			
	170227	Case Detect Disk-Shot 20 GA	55	390079	10-32 X 5/8 Flat Hd Screw (2)			
	170228	Case Detect Disk-Shot 28 GA	56	390096	1/2-20 Steel Hex Jam Nut (2)			
	170229	Case Detect Disk-Shot 410 Bore	7	390097	3/8-16 Plain Steel Hex Nut (2)			
18	170230	Case Detect Disk-Powder 12 GA	57	390187	6-32 X 1/2 Slit Flat Hd Screw			
	170231	Case Detect Disk-Powder 10 GA	58	390648	O-Ring, 1/8-ID X 1/4-OD			
	170232	Case Detect Disk-Powder 20 GA	26	392011	10-32 Hex Nut (4)			
	170233	Case Detect Disk-Powder 28 GA	59	490500	Crimp Starter 12 GA-8 Pt			
	170234	Case Detect Disk-Powder 410 Bore		490501	Crimp Starter 12 GA-6 Pt			
19	170235	Deprime Base 12 GA		490313	Crimp Starter 12 GA-Paper			
	170236	Deprime Base 10 GA		490503	Crimp Starter 20 GA-8 Pt			
	170237	Deprime Base 20 GA		490504	Crimp Starter 20 GA-6 Pt			
	170238	Deprime Base 28 GA		490319	Crimp Starter 20 GA-Paper			
	170239	Deprime Base 410 Bore		490509	Crimp Starter 28 GA-6 Pt			
20	170333	Shell Plate Detent Assy		490321	Crimp Starter 28 GA-Paper			
21	170420	Case Detect Springs (2)		490511	Crimp Starter 410 Bore-6 Pt			
22	380047	Primer Seater Spring		490323	Crimp Starter 410 Bore-Paper			
23	390104	6-32 X 1 Cap Screw (8)		490512	Crimp Starter 10 GA-6 Pt			
24	390111	6-32 X 1 1/4 Cap Screw (2)		490325	Crimp Starter 10 GA-Paper			
25	390113	10-32 X 1 1/4 Cap Screw			SHOT & POWDER DROP ASSEMBLIES			
26	392011	10-32 Hex Nut	60	170302	Shot Charge Bar			
27	392452	6-32 Hex Nut (10)	61	170304	Shot Hopper Tube			
		Wad Guide Assembly	62	170305	Shot Hopper Cap			
28	170600	Wad Guide Arm	63	170335	Shot Measure Casting Assy			
29	170601	Wad Guide Cam	64	170336	Powder Measure Casting Assy			
30	170602	Wad Guide Return Spring	65	170344	Powder Bushing Cover			
31	170603	Wad Guide Shaft	66	170345	Shot Bushing Cover			
32	170610	Wad Guide Cap 12 GA	67	170370	Shot Drop Tube 12/10 GA			
	170611	Wad Guide Cap 10 GA		170371	Shot Drop Tube 20/28 GA			
	170612	Wad Guide Cap 20 GA		170372	Shot Drop Tube 410 Bore			
	170613	Wad Guide Cap 28 GA	68	170402	Powder Charge Bar			
	170614	Wad Guide Cap 410 Bore	69	170404	Powder Hopper Tube			
33	390116	10-32 X 3/4 Button Hd Cap Screw	70	170405	Powder Hopper Cap			
34	390130	10-32 X 1/4 Cap Screw	71	170412	Charge Bar Seal (2)			
35	390651	10 SAE Plain Washer	72	170413	Measure Mount Bolt Assy (2)			
36	390655	1/8 X 7/16 Spring Pin	73	170440	Powder Measure Plate Assy			
26	392011	10-32 Hex Nut	74	170450	Shot Measure Plate Assy			
37	480007	Spring Finger 12 GA	75	170470	Powder Drop Tube 12/10 GA			
	480009	Spring Finger 20 GA		170470	Powder Drop Tube 20/28 GA			
	480010	Spring Finger 28 GA		170472	Powder Drop Tube 410 GA			
	480011	Spring Finger 410 Bore		390640	Hitch Pin			
	480012	Spring Finger 10 GA	76	390078	3/8-24 X 1/2 Hex Hd Bolt (2)			
			77	390098	3/16 Plastic Drive Rivet (4)			

A - Powder Bushing

B - Shot Bushing

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

SHOTSHELL RELOADER BUSHINGS

Shot Charge Bushings

Item	Description	Lbs	UPC
190099	1/2 oz. #9	1/4	19009
190100	3/4 oz. #9	1/4	19100
190101	7/8 oz. #9	1/4	19101
190102	1 1/8 oz. #9	1/4	19102
190107	1 oz. #7 1/2	1/4	19107
190108	1 1/8 oz. #7 1/2	1/4	19108
190096	1 oz. #8	1/4	19096
190097	1 1/8 oz. #8	1/4	19097
190098	1 1/8 oz. # 8 1/2	1/4	19098

Steel Shot Bushings

Item	Description	Lbs	UPC
290102	1 oz. #4 & 6	1/4	92102
290103	1 1/8 oz. #4&6	1/4	92103
290104	1 1/4 oz. #4&6	1/4	92104
290202	1 oz. #1 & 2	1/4	92202
290203	1 1/8 oz. #1&2	1/4	92203
290204	1 1/4 oz. #1&2	1/4	92204

For Use in Models 155 & 266 Only!

Field Load Bushings

Item	Description	Lbs	UPC
190114	11/16 oz.	1/4	19114
190115	1/2 oz.	1/4	19115
190116	5/8 oz.	1/4	19116
190117	3/4 oz.	1/4	19117
190118	7/8 oz.	1/4	19118
190119	1 oz.	1/4	19119
190120	1 1/8 oz.	1/4	19120

Item	Description	Lbs	UPC
190121	1 1/4 oz.	1/4	19121
190122	1 3/8 oz.	1/4	19122
190123	1 1/2 oz.	1/4	19123
190124	1 5/8 oz.	1/4	19124
190125	1 3/4 oz.	1/4	19125
190126	1 7/8 oz.	1/4	19126
190251	2 oz.	1/4	19251
190252	2-1/8 oz.	1/4	19252

Powder Charge Bushings

Item	#	UPC
190184	256	19184
190185	266	19185
190231	291	19231
190128	300	19128
190129	309	19129
190131	318	19131
190133	327	19133
190135	336	19135
190137	345	19137
190190	354	19190
190140	360	19140
190141	366	19141
190143	372	19143
190145	381	19145
190147	390	19147
190194	396	19194
190150	402	19150

Item	#	UPC
190151	408	19151
190153	414	19153
190155	420	19155
190156	423	19156
190196	426	19196
190157	429	19157
190158	432	19158
190197	435	19197
190159	438	19159
190198	441	19198
190160	444	19160
190199	447	19199
190161	450	19161
190162	453	19162
190163	456	19163
190164	459	19164

Item	#	UPC
190165	462	19165
190166	465	19166
190167	468	19167
190168	471	19168
190169	474	19169
190171	480	19171
190200	486	19200
190201	489	19201
190173	498	19173
190236	507	19236
190176	516	19176
190178	525	19178
190179	534	19179
190180	549	19180
190181	558	19181
190183	588	19183

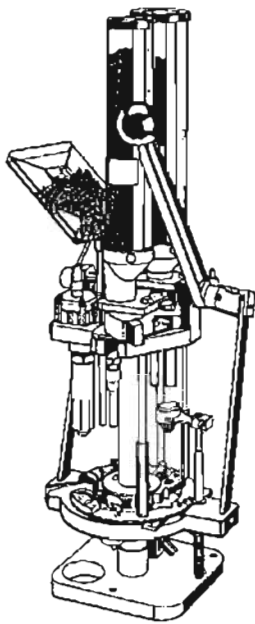
Universal Crimp Starter

Item	Description	wt.	UPC
490500	12 ga. 8 pt.	1/4	94500
490501	12 ga. 6 pt.	1/4	94501
490313	12 ga. paper	1/4	94313
490314	16 ga. 8 pt.	1/4	94314
490315	16 ga. 6 pt.	1/4	94315
490316	16 ga. paper	1/4	94316
490503	20 ga. 8 pt.	1/4	94503

Item	Description	wt.	UPC
490504	20 ga. 6 pt.	1/4	94504
490319	20 ga. paper	1/4	94319
490509	28 ga. 6 pt.	1/4	94509
490321	28 ga. paper	1/4	94321
490511	410 bore 6 pt.	1/4	94511
490323	410 bore pa.	1/4	94323
490512	10 ga 6 pt.	1/4	94512
490325	10 ga. paper	1/4	94325

SHOTSHELL RELOADING ACCESSORIES

Available at your local dealer or from Hornady, 1-800-338-3220



APEX™ Automatic Accessories

Collet Size Die

12 gauge	No. 070212
20 gauge	No. 070220
28 gauge	No. 070228
410 gauge	No. 070241

Cam-Actuated Crimp Die

12 gauge	No. 071312
20 gauge	No. 071320
28 gauge	No. 071328
410 gauge	No. 071341

Automatic Primer Feed

No. 070700

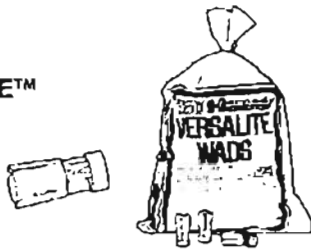
Automatic Shot/Powder Feed

No. 073400

Automatic Index

No. 070800

VERSALITE™ WADS



One wad for all your shooting needs. Change the shot charge, the powder charge, the shell style—or all three, without changing wad styles. Adjusts to the correct wad length. Bag of 250 wads.

12 gauge (Red)	No. 480050
20 gauge (White)	No. 480051

STEEL DIAL CALIPER



Makes precision measurements to .001". Measures overall shell length, inside/outside diameters and primer pocket depth. Includes carrying case. No. 050075

WAD GUIDE SPRING FINGERS



Spring fingers guide the wad straight into the hull and prevents tipping.

10 gauge	No. 480012
12 gauge	No. 480007
16 gauge	No. 480008
20 gauge	No. 480009
28 gauge	No. 480010
.410 gauge	No. 480011

SHOTGUN PATTERNING KIT



This easy to use self-standing kit contains everything you need to pattern your shotgun. Comes complete with backboard, stakes, and 5 lifesize duck or turkey targets.

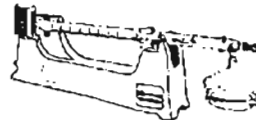
Patterning Kit

Duck Kit No. 010100
Turkey Kit No. 010101

Additional 10-Pack Targets

Duck	No. 020100
Pheasant	No. 020101
Dove	No. 020102
Turkey	No. 020103

MAGNETIC SCALE



Fast accurate weighing of charges. Model "M" scale weighs to within 1/10th grain, accuracy over a 0-510 grain range. Magnetic dampening stops beam swing.

"M" Scale No. 050026

BUCKSHOT



Hornady Buckshot is cold swaged and hardened with 3% antimony. As a result you get buckshot that flies straight and hits harder. Available in 5 lb. bags.

Size	Order No.
#4—.240 Buckshot	6414
#3—.250 Buckshot	6413
#2—.270 Buckshot	6412
#1—.300 Buckshot	6411
#0—.320 Buckshot	6410
#00—.330 Buckshot	6400
#000 Buckshot	64000

UNIQUE™ CASE LUBE



Perfect for lubricating steel parts on your shotshell loader. Not harmful to plastic parts. No. 393299

WAD/HULL DISPENSER BOXES



These sturdy cardboard dispensers hold up to 200 wads or shotshells. Frees up workspace while reloading. Twin Pack No. 480026

SHOTSHELL BOXES

Boxes for 12-gauge reloads. Each holds 25 rounds and are reusable. 10-Pack No. 480024



WARRANTY

**"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 WITHOUT CHARGE.

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

Please Note: Normally, few problems are encountered when reloading shotshells. However, variations in the powder lot, different brands of primers and other components can cause substantial changes in pressure. Hornady Manufacturing Company has no control over these components and other equipment that may be used with this published information; no responsibility is implied or assumed for results obtained through their use. The loading data provided was tested in modern firearms and does not exceed manufacturers' pressure recommendations.

Further information may be obtained from:

Accurate Arms
Dupont Explosive Products
Hercules Powder Company
Hodgdon Powder
Scot
Winchester Division/Olin Corp.

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

Hornady Manufacturing Company
3625 Old Potash Highway
Grand Island, NE 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 product or information given herein, since Hornady has no control over the manner in which products or components are used in the reloading process.



Hornady Manufacturing Company
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800-338-3220