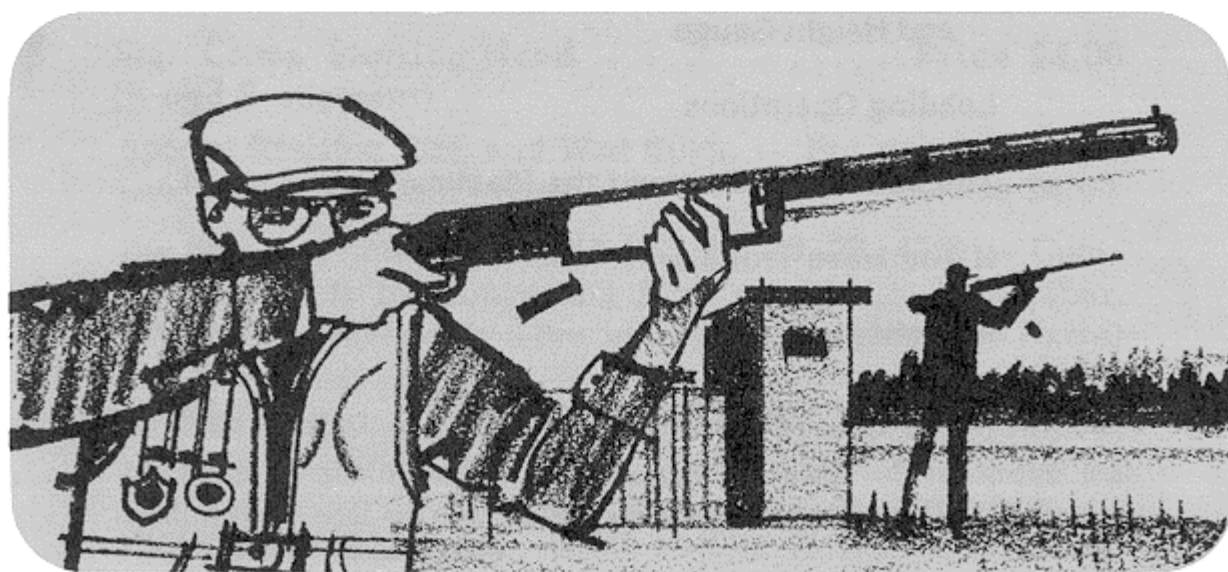


SHOTSHELL LOADING

with the

mec

310



*Here is reloading at its finest . . .
this MEC 310 will give you
perfect reloads . . . everytime*

- IT'S EASY-TO-USE
- IT'S FAST
- IT'S ACCURATE
- IT'S VERSATILE
- IT'S FOOLPROOF
- IT'S COMPLETELY SAFE

INDEX:

	PAGE
Loader Parts and Their Function	4
How the Programmed Charging Measure Works	6
A Word about the Wad Pressure and Height Gauge	7
Loading Operations	8
To Load New Cases and the Plastics	14
If You Have Trouble	15
Adjusting	18
Accessory Equipment	19

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LET'S START LOADING

Your Model 310 is completely assembled and tested at the factory, and is ready to provide long, trouble-free service. Just follow these simple instructions.

UNPACKING

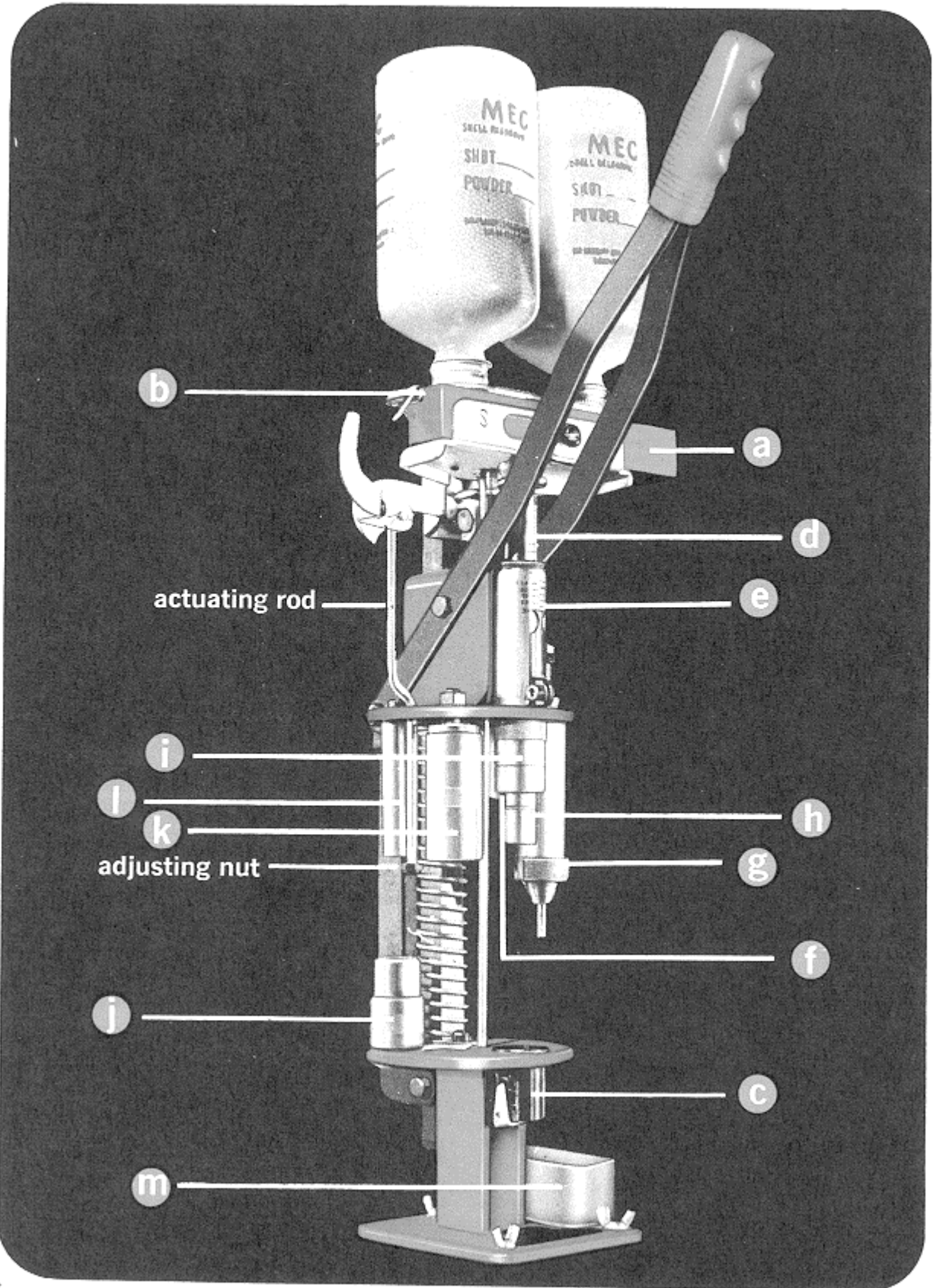
Examine the contents of the shipping carton for damage or shortages. In addition to the assembled loader, the carton will contain a Resizing Die, two caps (for the shot and powder containers), a Primer Catcher, and three $\frac{1}{4}$ -20 machine screws with wing nuts. Immediately report any damages or shortages to your dealer or delivering carrier.

MOUNTING

Place unit in desired position on bench and mark base mounting holes. Drill at marks using a $\frac{3}{32}$ bit and then secure tool to bench using screws and wing nuts provided. Note that bench is desirable, but not required. Tool can be fastened to a wood or metal base and be completely portable.

LUBRICATION

Use machine oil on main column and all friction points before use. **DO NOT LUBRICATE PROGRAMMING MECHANISM AT ANY TIME.** If desirable, charging bar may be lubricated using a dry powdered graphite.



Look the **mec** 310
over carefully . . .

Compare your new 310 with the photo at the left, which identifies all the parts and dies you'll be using.

Note that the charging or measuring assembly flips, or pivots, back for easy charging or changing of loads. This assembly is hinged by a machine screw, with wing nut, which should be tightened during actual operation.

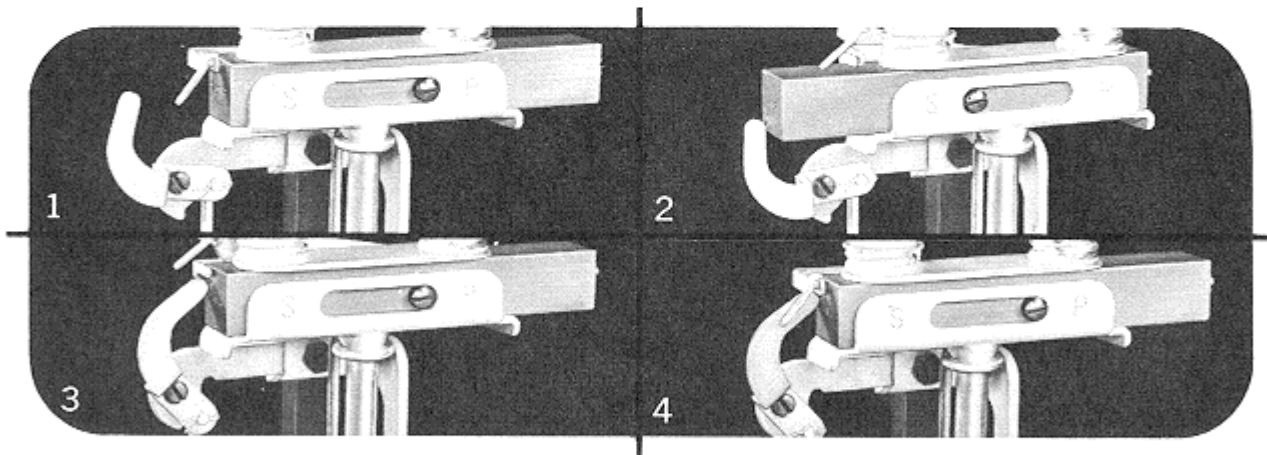
- a** The charging bar measures and automatically drops precise amounts of powder and shot as bar moves back and forth. Page 6 carries an explanation of just how it works.
 - b** The programmer controls the charging operation. A built-in "memory" device causes powder and shot to be dropped only at the proper points in the reloading cycle. See page 6.
 - c** The Primer Seating Assembly fits into position as shown. This assembly consists of cup, spring and spring pad and can be removed easily for cleaning.
 - d** Wad Height Indicator — See page 7.
 - e** Wad Pressure Indicator — See page 7.
- Then, going from right to left, the dies and their function are as follows:
- f** Star Crimp Head, used for new cases.
 - g** Deprime and Shell Reconditioner.
 - h** Rammer Tube through which powder and shot are dropped into the shell. This tube is also to seat the wads.
 - i** Wad Guide inserts and seats over-powder and filler wads.
 - j** Resizing Die.
 - k** Crimping Die.
 - l** Eject Punch, used only when shell does not slip out of Resizing Die.
 - m** Primer Catcher. To install, tilt so that notched edge slips under the screw provided in base.

If you haven't already talked to your dealer about the different kinds of powder, shot, primers, wads, etc., you'll probably want to refer to the Charging Bar Chart packed with each loader. It lists the various components and their recommended combinations and wad pressures.

HOW THE PROGRAMMED CHARGING MEASURE WORKS

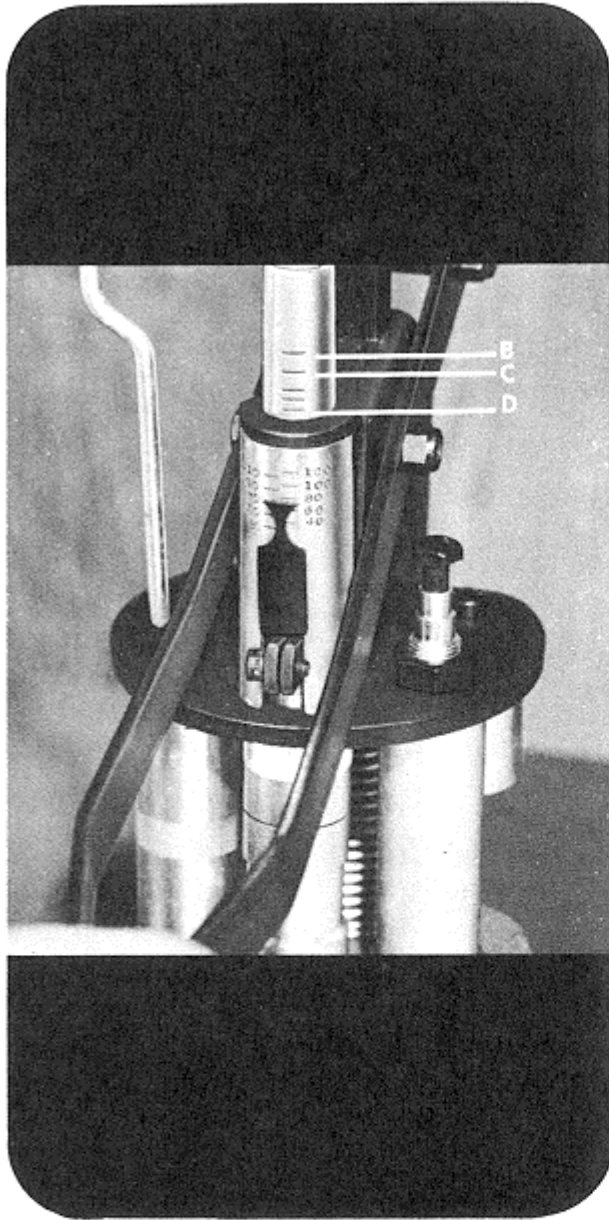
The MEC Programmer consists of three latch members . . . the primary latch, the secondary latch and the release latch. Check your tool. Move the charge bar all the way to the right . . . hold it there . . . and make sure these three latch members lift up and drop back down freely . . . one at a time. If they stick, loosen the screw that holds guide bracket (rear of measure) and retighten, holding bracket away from latch members.

It is important that the charging mechanism is synchronized properly. To check — place empty shell in Reconditioning Die (G-page 4), depress handle to bottom of stroke. At this point charge bar *must* be all the way to the right and all latch members should fall into recycling position. If necessary, synchronize using adjusting nut as shown on page 4.



1. Programmer is "set" or "recycled" during the ejecting and deprime-reconditioning operation. 2. Repriming stroke lifts all three members clear of charge bar, allowing bar to move to the left . . . dropping powder. Movement of the bar activates release latch which drops secondary latch and allows it to ride the bar freely. 3. Charge bar is moved to the right during wadding operation . . . dropping shot. Secondary latch engages charge bar. 4. Programmer is again "recycled" during deprime-reconditioning operation.

Note that the programmer will *only* work when the proper loading sequence has been followed. Human error is eliminated. The programmer recycles *only* at the deprime station . . . Powder is automatically dropped *only* during the reprime operation . . . shot is dropped automatically *only* during the wadding operation. Nothing can happen out of sequence.



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A WORD ABOUT THE WAD PRESSURE AND HEIGHT GAUGES

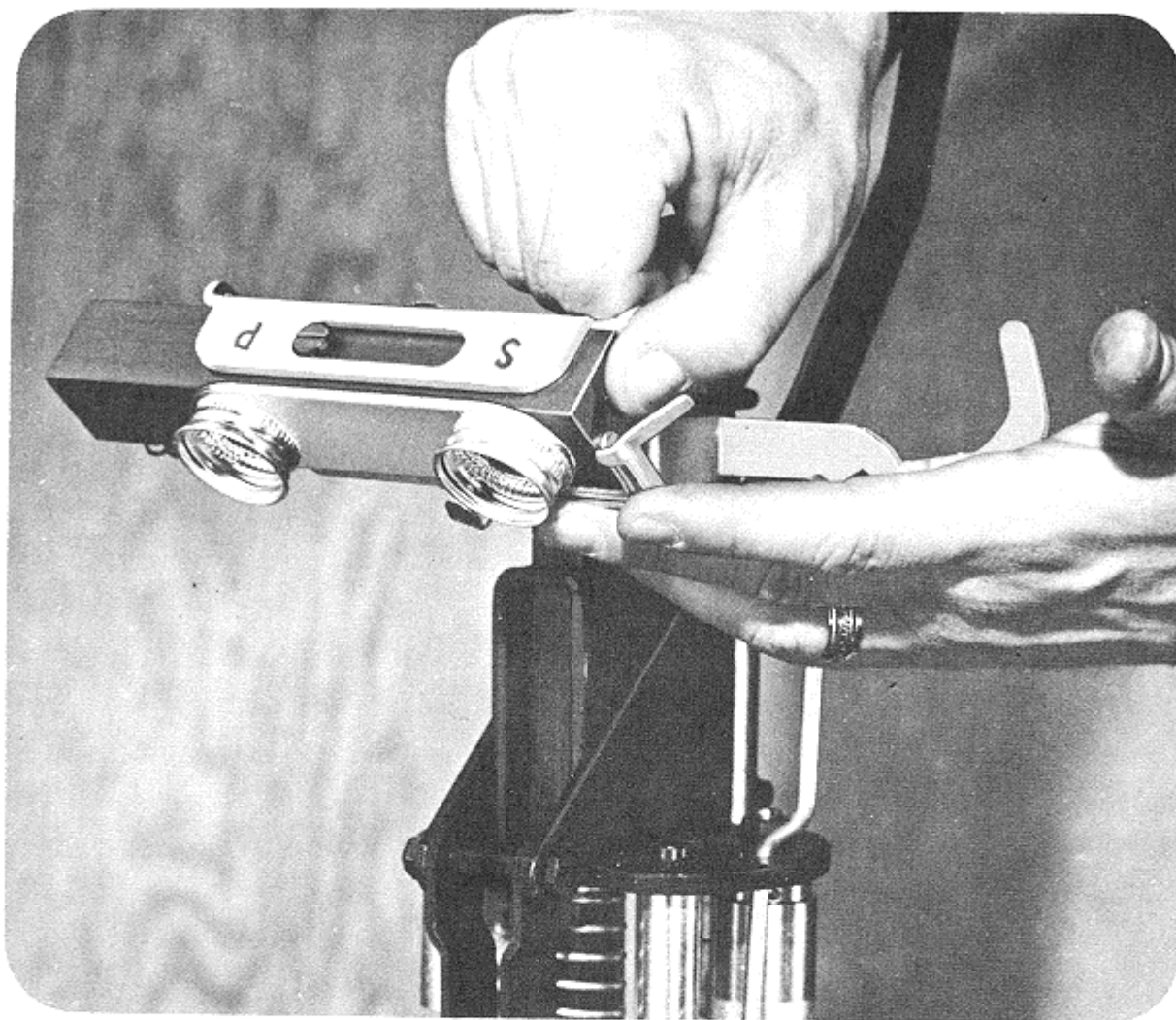
Direct Reading Pressure Gauge

Pointer indicates the exact amount of pressure actually being applied to the wad column at the bottom of the handle stroke. The reading is always positive regardless of any other adjustments. While your tool has been pre-set at the factory for average pressure required, you may find it desirable to increase or decrease the pressure.

(See Charge Bar and Wad Pressure Guide for correct pressure). Pressure can be changed by simply adjusting the rammer tube as described on page 18.

Wad Height Gauge

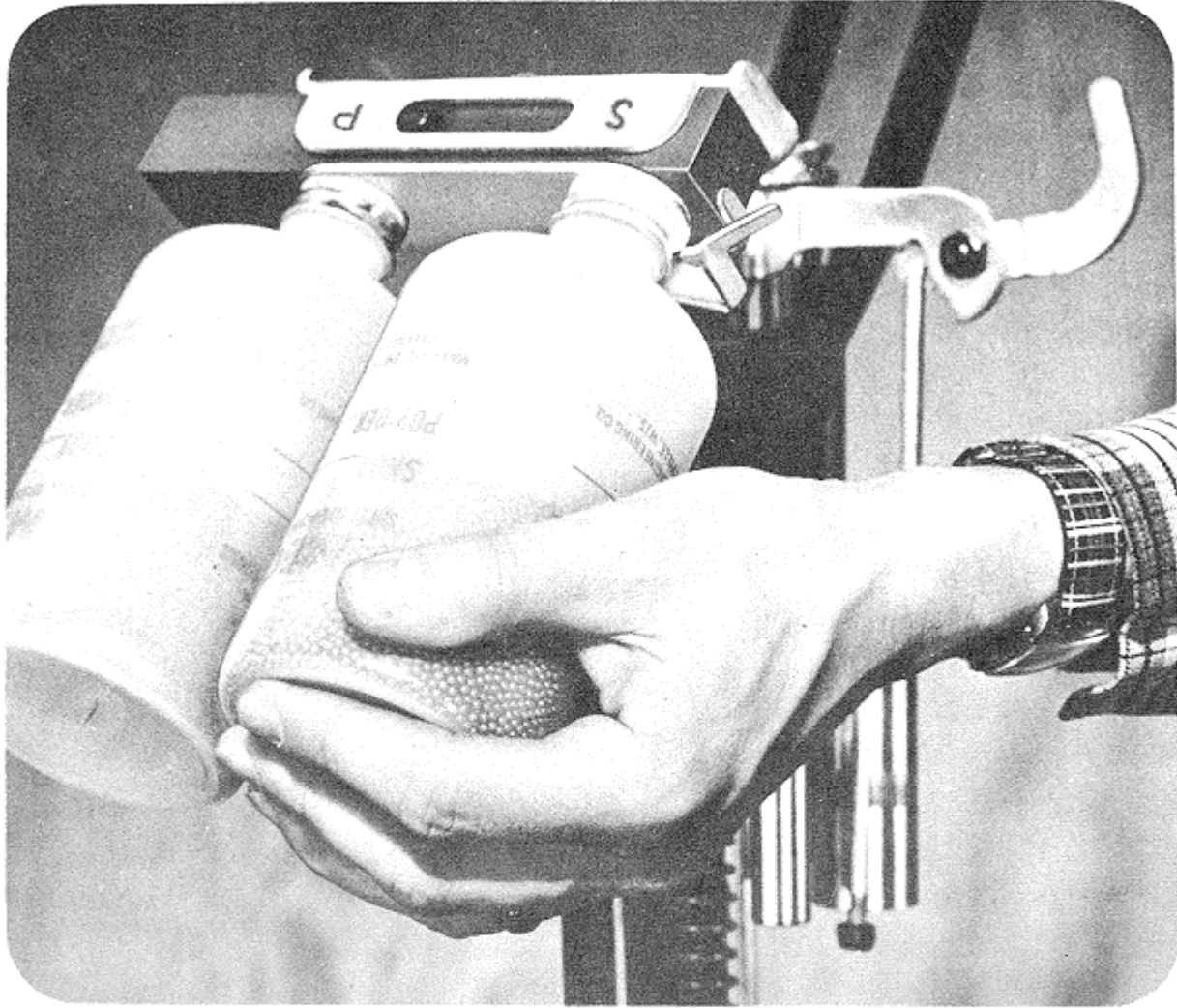
This gauge is used to disclose improper wad height which may be due to either insufficient or too much wadding, foreign material in the shell, a partially blown out base wad, or missing cup wad. Indicator marks are read only when handle is in full down position and proper number of wads are in place. Generally speaking, with $1\frac{1}{8}$ oz. loads in standard target cases, proper wad height is indicated by a reading at the third or fourth finer graduation D) . . . the two coarser graduations (B & C) being used as a visual aid in making rammer tube adjustments for pressure, as described on page 18.



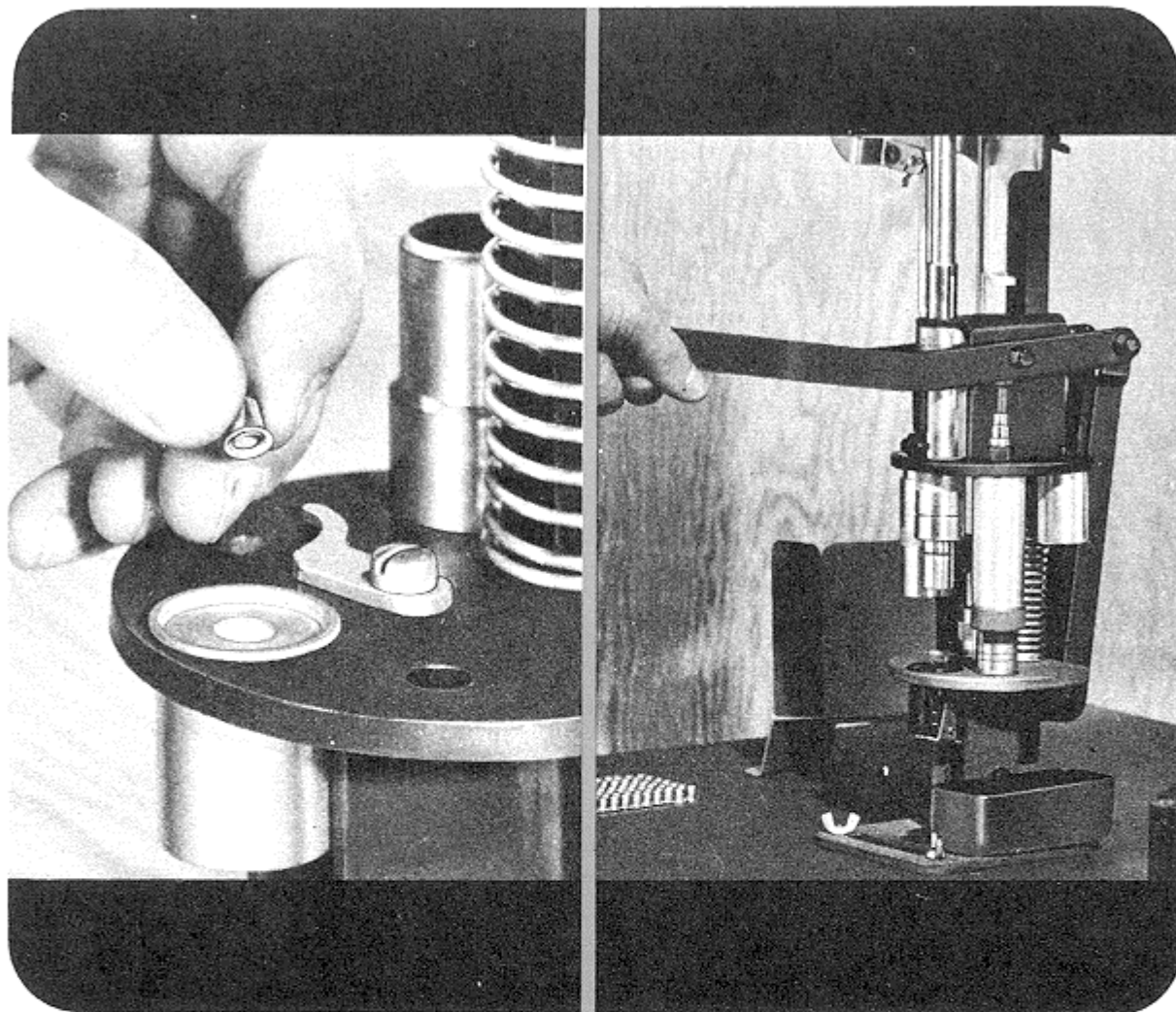
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CHARGING

Release charging assembly wing nut and flip or pivot back to charging position. With your right hand, push the charging bar to the right as far as it will go . . . hold it there, and with your left hand, lift the programmer and lock into position with the primary latch (Photo, left). Fill containers with powder and shot. Replace containers, powder container



first, making sure it is mounted into the proper position (position "P" for powder, "S" for shot). Next replace the shot container. Note: Use only light or moderate pressure when tightening containers. Because of the weight factor, support the shot container with your hand while in the charging position so that there is no danger of its tearing loose under pressure (Photo, right). While still supporting the shot container with your hand, flip the assembly to the upright or loading position. Note: Make sure measure assembly is down as far as it will go. Use force if necessary. Now you're ready to load.

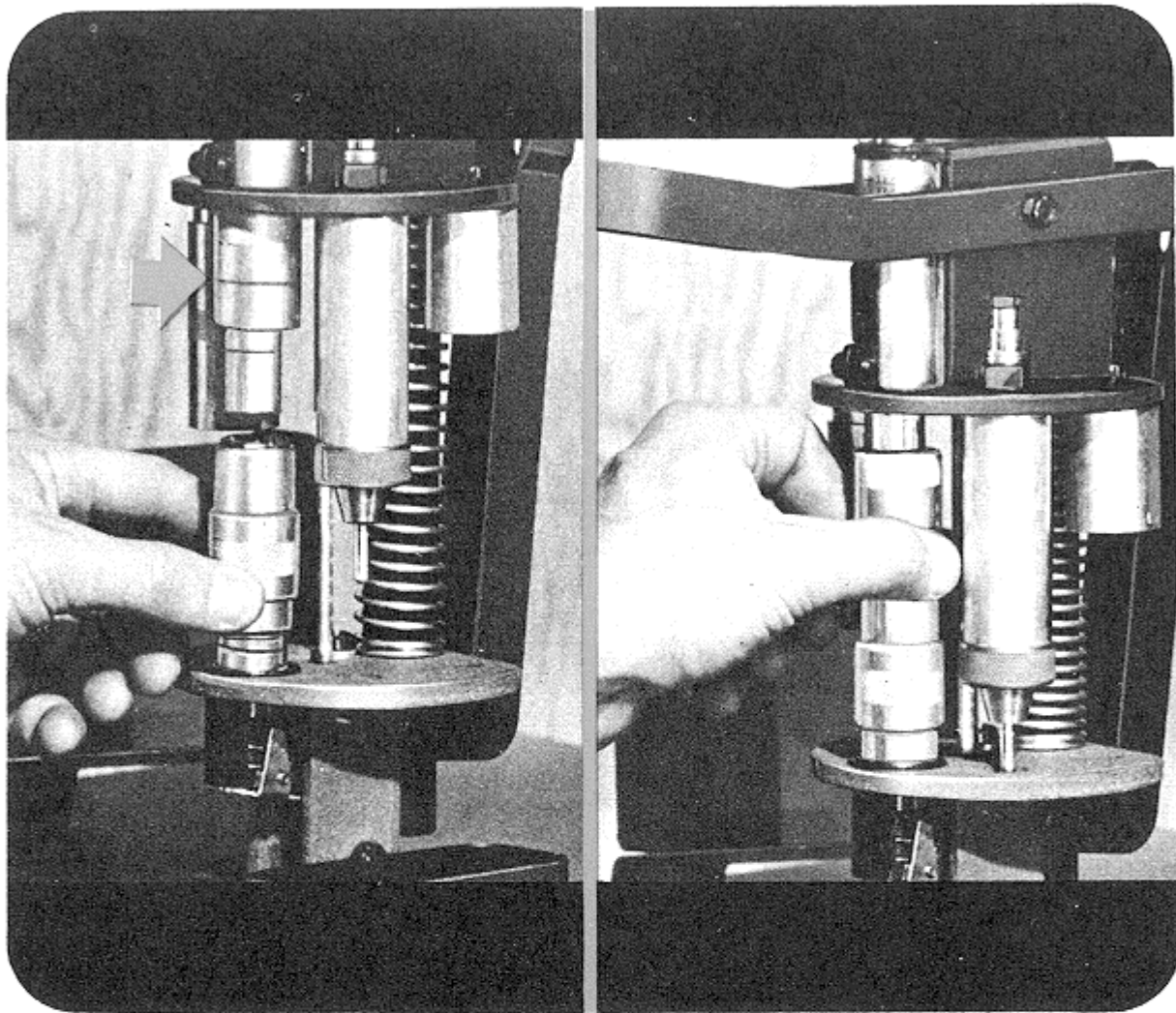


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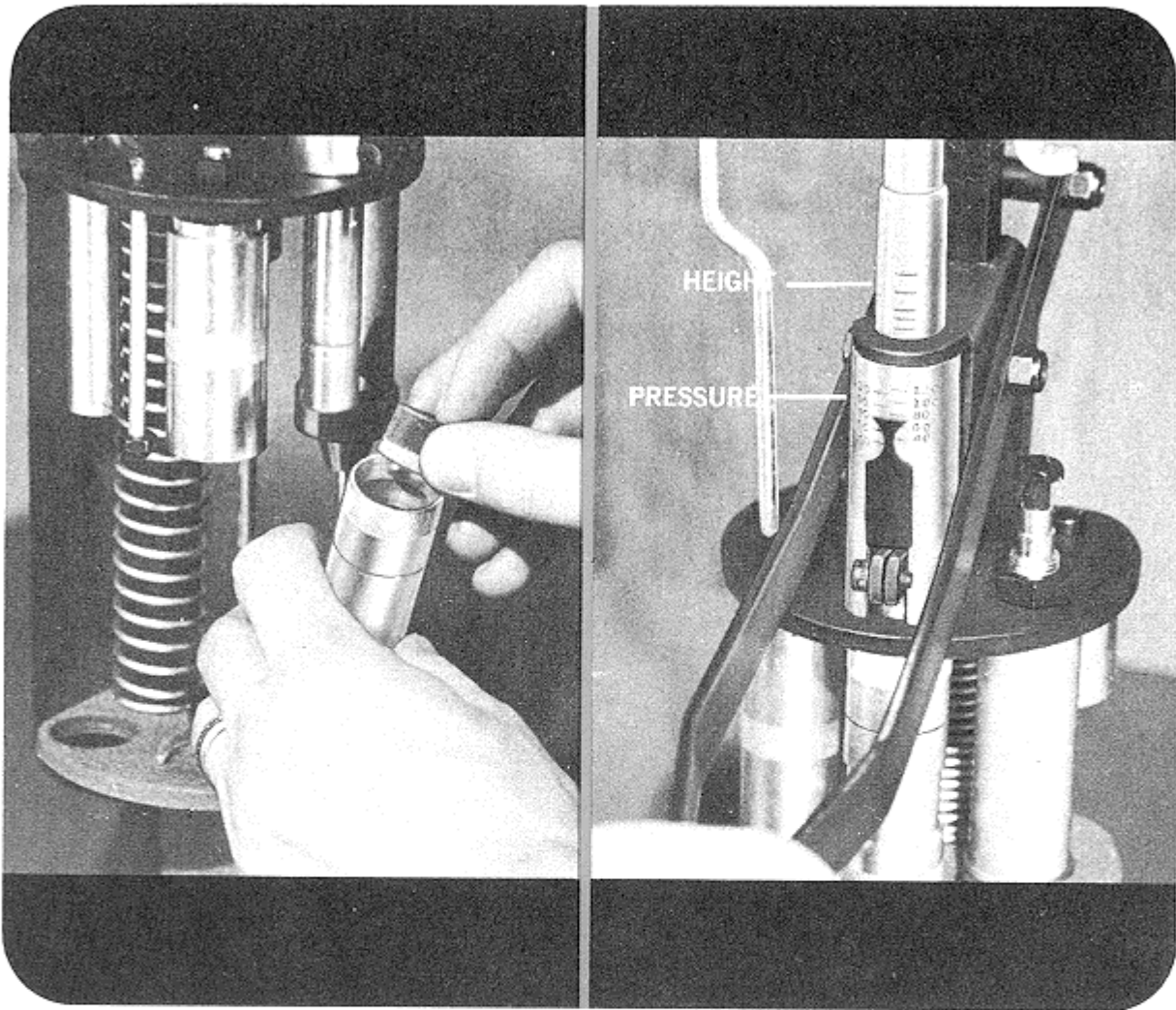
STEP No. 1

Place primer in Primer Seating Assembly, base down (Photo, left). Start shell into Reconditioning Die and depress handle (Photo, right). This both removes spent primer which drops in Primer Catcher below and resizes the metal portion of the shell for diameter and head space. Shell is ejected from the die by upward pressure on the handle at the top of the stroke. (Note: DO NOT SNAP HANDLE UP).



STEP No. 2

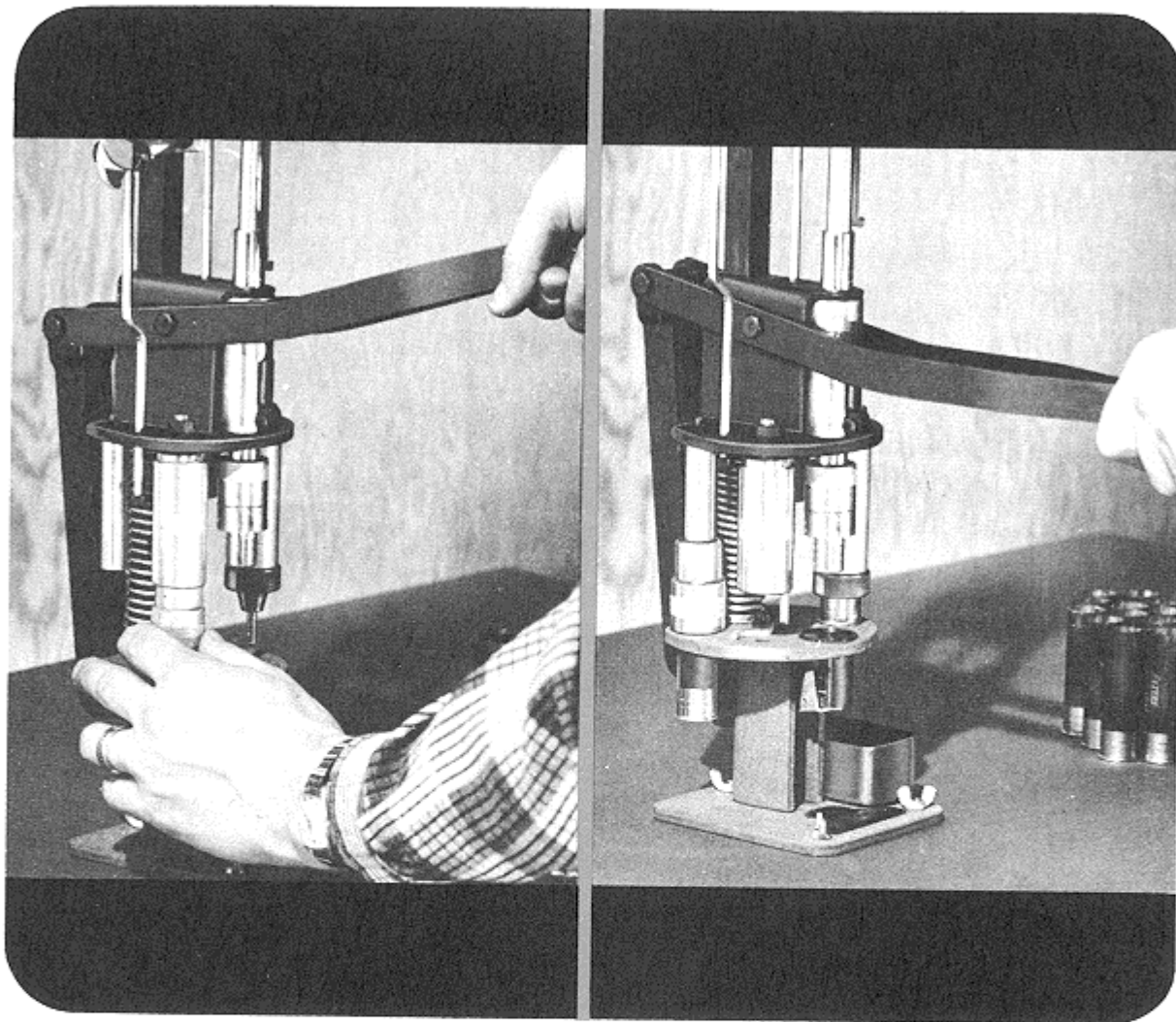
Slip shell into Resizing Die and place under Rammer Tube. Depress handle, starting Rammer Tube into shell. This operation reprimed and resizes the body of the shell, as well as positions the "floating" Wad Guide (Photo, left). Note: Attempting this operation without the shell in Resizing Die will result in damaging the brass wad guide fingers. Also, Wad Guide must be in position on Rammer Tube (See arrow). While handle is still depressed, grasp "floating" Wad Guide and hold down while you bring handle up. Powder is charged automatically as the handle is moved upward (Photo, right).



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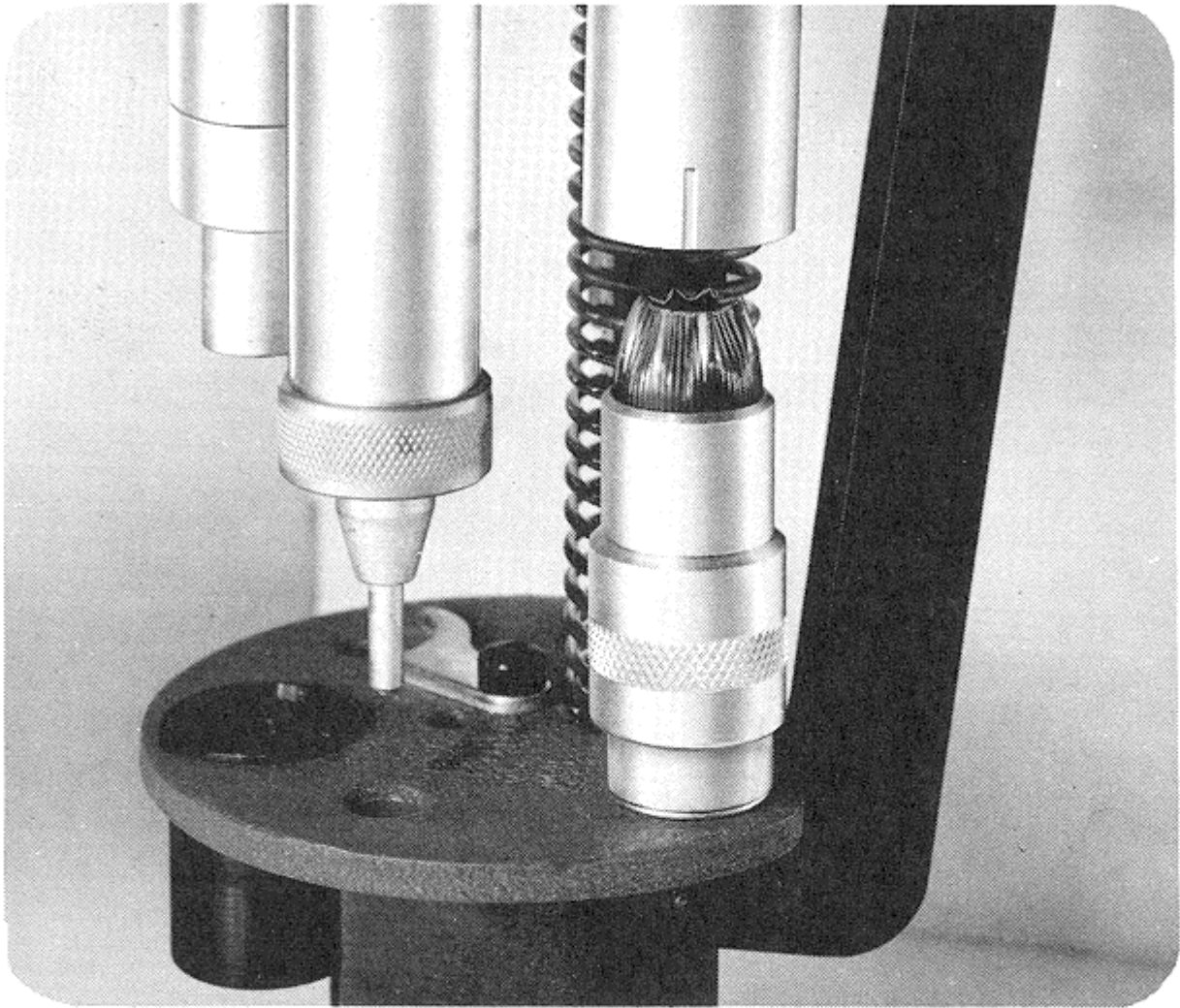
STEP No. 3

Insert wad column in Wad Guide (Photo, left) and depress handle to positive stop. Shot drops automatically during this operation. Pressure and wad height can be checked while handle is depressed (Photo, right).



STEP No. 4

While handle is still depressed, grasp Resizing Die and hold it down while raising the handle. This will allow Wad Guide, with Rammer Tube, to move up out of the way. Next move die and shell to position under Crimping Die and depress handle (Photo, left). This performs complete crimping operation in one stroke of the handle. (Note: Depth and radius of crimp is completely adjustable — (See Page 18). If shell sticks in the Resizing Die, place into opening beneath Ejecting Punch. It will be ejected as new shell is being deprimed (Photo, right).



To Load New Cases or The Plastics

There is a star crimp head located at the extreme right side of your tool. A six-segment and eight-segment star crimp (for the popular gauges) is included with the reloader. Both paper and plastic cases can be processed with the star crimp head.

IF YOU HAVE TROUBLE

... with oversize shells

1. You may be using too many wads. If the crimp bulges when the shell is finished, or if bulging or crushing of the paper adjacent to the brass base is evident, your wad column is too high. If the crimp tapers inward and has an opening in the center, the wad column is not high enough. Slight inward taper is preferred as this locks contents with toggle action of paper, and shell will withstand considerably more abuse without spilling shot.
2. The shells you are using may be moist. This is certain to cause trouble, and especially so, when oversize wads, or too much pressure, or a combination of both enter into your loading operations. All makes of shells DO ABSORB MOISTURE, and their size is directly related to the moisture content of the paper. Hot weather, when high-humidity conditions are unnoticed, will give you your greatest trouble with oversize shells. Your cases may be as much as .015" larger than when working during the winter or during the season when your storage and working area is heated. Dehydrating your cases in the oven of your kitchen range at a temperature of approximately 200° will give surprisingly good results.
3. Check the wads you are using to be sure they are of the correct diameter. Oversize wads will exert too much side pressure on the wall of the shell, causing it to expand when ejected from the resizing die. The same condition results from too much pressure on the wad column. Whenever pressure is necessary to eject the shell from the Resizing Die, it may give trouble if your gun has an exceptionally small chamber. Soft cases will tend to swell slightly during storage, and this, too, could cause trouble. Immediately inspect any shell that requires high ejecting pressures. Remember, any shell that ejects from the Resizing Die under great pressure will expand much more than one that ejects easily.

... with crimping sleeve sticking

Remember, the results you get from your loader will, to a great extent, depend on the condition of the Crimping Sleeve. The bore of the sleeve is made to exacting tolerances and should be protected between periods of operation. A light coating of oil is suggested as a rust and corrosion preventative. Be sure to remove all oil and check for possible rust or pitting before actual use.

1. Check your shells for moisture. If necessary, dry them, as explained in part 2, page 15.
2. Check your shells for dirt or other foreign materials.
3. Check for oversize wads. To get good results you must use **quality** components.
4. Do not lubricate your shells. This softens the paper and makes them difficult to resize. In addition, the finished shells will expand in storage.

... with misfires or poor ignition

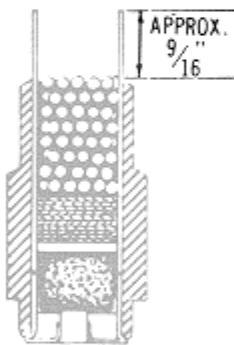
1. Check your powder and primers for moisture or dampness. Never expose the powder to air for any extended period. Most powders will absorb moisture from the air, especially under humid conditions. This will affect the burning characteristics as well as the weight. Whenever checking the weight of your charges, always use fresh powder from a sealed can and agitate to a certain extent to assure uniformity of mixture. Primers should always be stored in cool, dry surroundings.
2. Check the bases of your shells for "dishing". If you find this condition, exert more pressure during the Depriming operation. This will flatten them. Poor detonation or misfire is often caused by the firing pin not striking the Primer with the proper impact due to this "dishing".
3. Be careful not to run out of powder or shot. Many cases of poor detonation or misfire are caused by the loading of several shells before noting that the powder container is empty. A light shot charge often produces muzzle flash or blast.
4. When you have misfire with the Primer showing evidence of good contact with the firing pin, always take the shell apart and examine it. You may have accidentally used a spent primer.
5. Inaccurate wad seating causes inconsistent ignition. Simply pushing the Wad Column into the shell and releasing it is not enough. Pausing at the proper pressure is necessary to allow the air to exhaust and the powder to be compacted properly.

SPEED

In order to obtain maximum production speed it will be necessary for you to arrange components properly. Primers should be located to the left with base down. This can be accomplished by placing the carton of primers on bench surface upside down and then removing the cover. When the insert is lifted all primers will be set base down which will eliminate "fumbling" when placing them in the Primer Seating Assembly.

Wads and empty cases should be positioned to the right of the press. If you don't have the new MEC E-Z Wad Dispenser, stacking the wads . . . that is, placing filler wads upon the overpowder wads which have been spread on your bench . . . will also help to obtain increased speed of operation. Use hand movements exactly as depicted in illustrations.

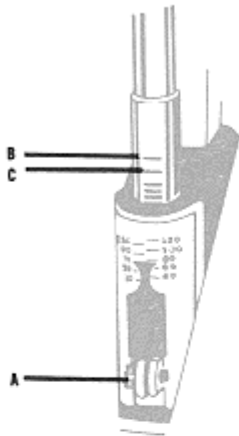
WADDING



While wadding is primarily concerned with the sealing and cushioning of the rapidly expanding gasses given off by the explosion of powder, an important secondary function is performed. It is in connection with the volumetric capacity of the empty shell itself and that of the powder and shot charge used.

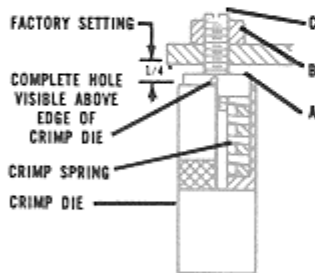
Very simply, the quality of the crimp on the finished shell is very much affected by the space taken up by the components used and it is adjustment of the wad column that determines the finished height of the complete components column. A rule of thumb relating to this calls for a difference between the level of the shot charge and the mouth of the open shell with this dimension being approximately 9/16 inches for 12 gauge. *Remember* that this is an approximate dimension which may have to be adjusted slightly to suit the method of crimping used on your particular press. With the MEC 310 presses, the level of the shot charge before crimping should be approximately flush or in line with the top opening of the resizing die. This is for full 2 $\frac{3}{4}$ inch long shells utilizing the modern star or pie crimp.

TO ADJUST THE RAMMER TUBE



The MEC Rammer Tube is arranged to provide any Wad Pressure from 30 to 120 pounds. Using the hex wrench provided, loosen the adjusting clamp, "A". Set rammer tube to desired position (lower it to increase pressure — raise it to decrease) and tighten clamp. Indicator marks "B" and "C" should be used as a visual aid in making the adjustment. Check your setting by reading actual pressure on gauge face while applying pressure on correct wad column with machine handle in full lowered position. This will always be the actual pressure being applied to wad or wads.

TO ADJUST CRIMP ASSEMBLY



For best results on soft, moist or well worn cases it may be necessary to release pressure on Crimping Spring. Do this using the adjusting Nut "A". Be sure to set to original position when processing cases that have good stiff paper at the crimp end.

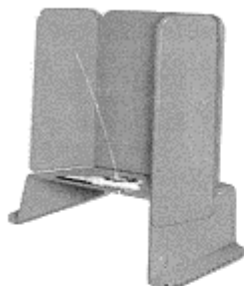
To adjust for depth of crimp release Lock Nut "B" and, using "C" turn Assembly down for increased depth — up for less. Moving press handle slowly during actual crimping operation will usually improve the quality of the crimp.

OPERATING MANUALLY

Under some conditions, it may be *desirable* to operate charge bar manually. See page 4. To do this, first remove actuating rod. Next remove latch guide bracket (rear of measure) remove latch members, and unhook bar return spring (rear of measure).

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ACCESSORY EQUIPMENT



MEC E-Z PAK — Here's how to pack shotshell reloads the easy way. As each shell is reloaded, they're placed in E-Z PAK, exactly as if they were being placed in the box. After each 25 shells, original box is slipped over E-Z PAK, which is then turned upside down, and removed. Nothing easier — nothing neater. Available in all gauges. **Price \$1.95**



MEC E-Z Wad Dispenser — Makes Wad handling as easy as 1-2-3. The MEC Wad Dispenser is "reloader-high", making your wadding operation faster . . . more convenient. **Price \$9.95**

Electric Shell Former F33B — Tests cases for blow-out at the brass, and reshapes and reconditions the shell for easy insertion of wads. Makes it possible to re-use shells that might otherwise be discarded. Includes bracket for mounting to bench. **Price \$4.95**

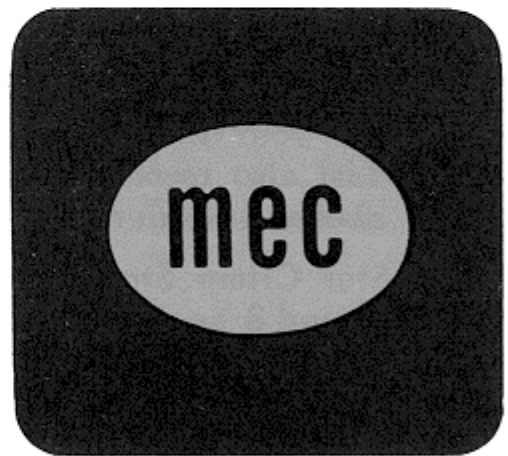
MEC Charging Bars — A complete assortment of "quick-change" charging bars is available for any load or gauge. See your dealer or write to MEC for a complete list of bars. List also recommends proper bar for any combination of shot and powder. **Price per bar \$3.50**

Star Crimp Starting Head **Price \$4.00**
(6 and 8 segment)

Special Resizing Ring and Wad Guide — For processing the new metal and (zinc) cases. **Price \$4.00**

Die Sets — Primer Type T341 (12, 16, 20, 28, 410) — Complete die sets for converting from one gauge to another. Changeover takes only a few minutes. (Charging Bars Extra) **Price \$22.50**

IMPORTANT! When ordering parts or accessory equipment, be sure to state serial and model number of reloader on which they will be used, along with part numbers listed above.



Mayville Engineering Company, Mayville, Wisconsin

