

this is the official

RCBS

OMARK INDUSTRIES

Green Machine

Progressive Loader

Operators Manual



A careful reading of the instructions in this manual prior to operation of the Green Machine Progressive Loader is strongly recommended. Citizens in the Territory who violate these instructions will create speedy malfunctions.



OPERATORS MANUAL

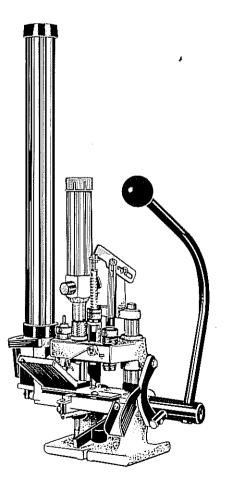


PRECISIONEERED®

THE GREEN MACHINE

A PROGRESSIVE RELOADING TOOL

"YOUR OWN
AMMO FACTORY"



THIRD EDITION

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THE GREEN MACHINE

INTRODUCTION

The Green Machine is different! Mechanical ability and extensive reloading knowledge are not sufficient to justify reloading with the Green Machine before reading this manual and becoming thoroughly familiar with its contents. Premature operation will very likely result in unnecessary expense for parts damage and could expose the operator to certain safety hazards.

The Green Machine is designed for rapid reloading of certain popular handgun calibers. An experienced operator can reload in excess of 500 rounds per hour. This manual is intended to assist the reloader in obtaining such production.

To achieve high production rates the tool must necessarily be more complex than conventional reloading tools. In many respects it is unlike reloading tools previously offered to the handloader.

With this in mind, it is strongly recommended that the user set the tool in a well lighted area, and, with manual in hand, study the features and functions before operation. A complete understanding of the tool will greatly assist in minimizing problems after loading has begun.

Should you experience difficulty in obtaining acceptable ammunition, please reread the Operators Manual carefully. If the results are still unsatisfactory, please send five sample rounds (no primer or powder) with a letter explaining the problem in detail. Or phone the Customer Service Department at RCBS. No collect calls, please. We can often detect and solve the problem without the added time and expense of returning the tool.

The Green Machine Serial Number	D-1
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SAFETY

Reloading is an enjoyable and rewarding hobby that is easily conducted with safety. But, like many other human endeavors, carelessness or negligence can make reloading hazardous. No machine is foolproof. However, as with other RCBS reloading equipment and accessories, this tool has been designed from the beginning with the user's safety in mind. It features a completely new Primer Feed System that eliminates the familiar Primer Feed Tubes.

As when loading with any other reloading press, some safety rules must be followed. By observing these few rules, the chance of a hazardous occurrence causing damage or injury becomes extremely remote.

GENERAL

- Use the reloading equipment as the manufacturer recommends. Study the instructions carefully and become thoroughly familiar with the operation of the tool. Don't take short cuts.
- Observe "Good housekeeping" in the reloading area. Keep tools and components neat, clean and orderly. Promptly and completely clean up primer and powder spills.
- Reload only when you can give your undivided attention. Do not reload when fatigued or ill.
 Develop a reloading routine to avoid mistakes.
 Avoid haste — load at a leisurely pace.
- Always wear adequate eye protection. You assume unnecessary risk when reloading without wearing safety glasses.
- 5. If any unusual resistance is encountered when moving the operating handle, STOP IM-MEDIATELY and investigate the cause. To proceed against this resistance may damage parts and cause serious injury!

LOADING DATA

- Use only laboratory tested reloading data. We highly recommend the use of the SPEER Reloading Manual.
- OBSERVE ALL WARNINGS ABOUT THE USE OF MAXIMUM LISTED LOADS.

PRIMERS AND POWDER

- Store primers and powder beyond the reach of children and away from heat, dampness, open flames and electrical equipment.
- Do not use primers of unknown identity. To destroy them, soak in oil for a few days and then bury.

- Keep primers in original factory container until transferred to the machine. Return unused primers to the same factory packaging for safety and to preserve their identity.
- 4. Do NOT store primers in bulk. To do so is to create a potential bomb as bulk primers can mass detonate. The blast of just a few hundred primers is sufficient to cause serious injury to anyone nearby.
- 5. **Do** NOT force primers. Use care in handling and filling the primer feed system.
- Don't use any powder unless its identity is positively known. Scrap all mixed powders and those of uncertain or unknown identity.
- After the Powder Hopper has been filled, replace the lids on both the Powder Hopper and Powder Can.
- 8. Before reloading commences, settle the powder in the Powder Hopper. Then throw and check weight of at least ten charges. This will assure you that the powder rotor is throwing the correct powder charge.
- After a reloading session ends, remove the Powder Measure and pour the remaining powder back in its original factory container. This will preserve its identity and shelf life.

RECORD KEEPING

 Keep complete records of reloads. Apply a descriptive label to each box showing date produced, primer, powder and bullet used. Such labels are packed with SPEER bullets.

Since Omark Industries has no control over the choice of components, the manner in which they are assembled, the misuse of this tool, or the guns in which the resulting ammunition may be used, no responsibility, either expressed or implied, is assumed for the use of ammunition reloaded with this tool.

GENERAL INFORMATION

FEATURES

The RCBS Green Machine is a fully progressive reloading tool, producing a completely reloaded cartridge with each down and up stroke of the handle. The only manual operation is placing a bullet in the Seater Die.

Features include:

Case Feed Tubes:

There are five to hold a supply of empty cases and they are transparent so the remaining cases can be checked visually.

Progressive Case Transfer System:

Each cycle of the handle automatically transfers cases to the next die station.

Case Size Die:

At station one, cases are sized and decapped.

Automatic Priming & Powder Charging:

At the second station, cases are primed automatically using a feed system that isolates the primer being seated from the rest of the primers. This dispenses with the familiar Primer Feed Tubes. Cases are also expanded, flared and loaded with an accurate charge of powder from the RCBS Little Dandy Pistol Powder Measure.

Precision Bullet Seating:

While at the third station, all the operator needs to do is place a bullet in the Bullet Guide of the Seater Die. Pulling the handle of the tool down will seat the bullet in each case to a precise depth.

Accurate Crimping:

In the last station, each bullet is crimped within the case to provide uniform ballistic performance of the reloaded ammunition. From the last station, loaded rounds are guided by the Case Discharge Chute into the Ammunition Catcher Box.

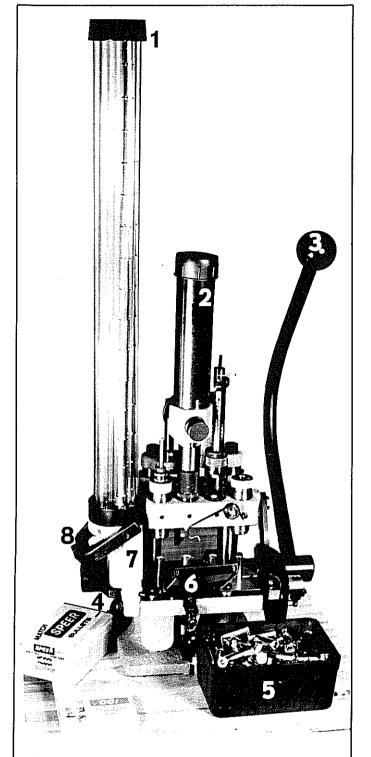


Figure 1 --

- 1. Case Feed Assembly
- 2. Little Dandy Pistol Powder Measure
- 3. Operating Handle
- 4. Case Transfer Bar
- 5. Ammunition Catcher Box
- 6. Priming System
- 7. Case Feed Base
- 8. Transfer Clevis

OPERATING HANDLE LOCK

At the left rear of the Top Plate is a 1/4-20 thumb screw. It is not a functioning part of the machine, but a user convenience. Whenever loading must stop for die adjustment or other reason, the operating handle can be locked in any position by turning this screw inward firmly. This binds the Top Plate against the Guide Rod. Also, when the tool is not in use, lock the thumb screw firmly so the operating handle will not move. This will prevent unauthorized tinkering and possible tool damage when you are away. (see Fig. 2).

Don't forget to loosen the thumb screw before resuming reloading. If the operating handle motion is stiff and the machine does not operate smoothly, loosen the thumb screw further.

Most of the assembly and primary adjustment of the tool has been done at the factory. The packing carton of the Green Machine states the caliber and powder charge for which it has been adjusted. A sample dummy round is included so that you can be sure the tool was operating properly when it left the factory.

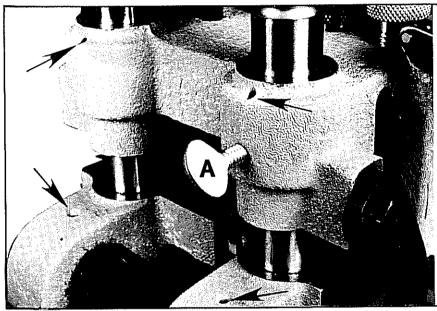
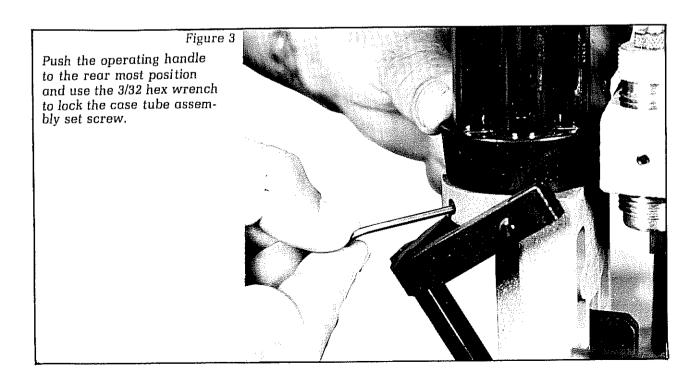


Figure 2

Thumb Screw (A) locks the tool when not in use. Note the four lubrication holes (arrows). Whenever tool is cleaned, put several drops of light lubricating oil here.



GREEN MACHINE ACCESSORIES

A dust cover and a few essential tools are provided with each tool to assist the operator in maintaining and adjusting the Green Machine. Other items that may be needed are screwdrivers and small wrenches common to most households.

Tools and accessories provided are:

- 4 Hex Key Wrenches, Size 5/64, 3/32, 1/8, 9/64 and 5/32
- 2 Open End Wrenches, Sizes 1/4 and 3/8
- 1 Cleaning Brush
- 1 RN Bullet Seating Plug (W.C./Semi W.C. mounted in machine)
- 5 Extra Decapping Pins
- 1 Ammunition Catcher Box
- 1 Primer Feed Loading Tray
- 1 Primer Transfer Bar Alignment Gage
- 1 Case Transfer Bar Alignment Gage
- 2 Brass Buffers
- 1 Dust Cover
- 1 Transfer Rail Spring
- 2 Pawls
- 2 Pawl Springs
- 2 Pawl Pins
- 1 Extra Snap Ring

MOUNTING

To function properly, the tool must be mounted on a rigid bench. This is best done with 5/16-18 bolts in the three slots in the tool base. Mount the tool about four inches back from the front edge of the loading bench to allow for placement of the Ammunition Catcher Box. Be certain that the tool handle can complete its full down stroke without contacting the bench.

If it is necessary to frequently remove the tool when not in operation, it may be mounted on a separate base of thick lumber, plywood, aluminum, etc. The base can then be "C" clamped to the loading bench. When mounted in this manner, clamp the base front and rear.

The tool base and bench must be immovable during loading regardless of mounting method.

Each of four dies in this tool is secured in position by a setscrew forcing a brass buffer into the die threads. If for any reason a die is removed from the machine be certain to retain the brass buffer for reinsertion when the die is replaced. The brass buffer prevents die thread damage.

CLEANING

A heavy vinyl cover is provided with the tool. The machine should be covered when not in use, thereby reducing the needed frequency of cleaning. Trouble-free operation and long tool life are

dependent upon tool cleanliness. When cleaning is required, use the cleaning brush provided, or a lint-free cloth. Hard to reach areas can be cleaned with common pipe cleaners. The Transfer Bar slot can be conveniently cleaned with a pistol cleaning rod and brush. Promptly remove any spilled powder or other debris as it is found. An accumulation can interfere with proper machine functioning.

Keep any lubricant clear of the rail areas to make powder spillage easier to remove. Do not lubricate any portion of the machine unless specified by this manual. Both the Case Transfer and Primer Transfer Bars and their respective slots in the Base should be kept clean to provide free movement. The primer holes in both bars should be kept completely free of dirt and oil.

Keep the Bullet Seater Die interior clean. It is inevitable that some lubricant from lead bullets will collect in the Seater Die. Keep it clean to prevent bullets sticking or altering bullet seating depth.

A definite aid to tool cleanliness is to reload only clean brass. Dirty brass will introduce debris to the machine. Grit on case walls will scratch dies and shorten their µseful life. This doesn't mean that cases must be brought to factory new brightness, but they should be cleaned enough to remove surface grit and foreign matter. Normal brass tarnish is not harmful.

LUBRICATION

It is important to keep the Green Machine properly lubricated at all times. The tool should be lubed according to instructions before every loading session or during extended loading sessions if tightness develops in the machine. Do not over lubricate to compensate for a dirty machine. A clean, well lubed tool will give the best reloading performance.

At the rear of the machine, note four lube holes, two each in the Top Plate and Base casting (See Fig. 2). Light machine oil added to these holes will smooth the rotation of the Cross Shaft and help the Top Plate to move smoothly up and down on the Guide Rods.

Listed below are several other areas which require frequent lubrication with a heavy lube such as RCBS Case Sizing Lube.

- 1. Transfer Cam Clevis Roller
- 2. Clevis Arm Roller Case Extension Block
- 3. Primer Transfer Cam Primer Transfer Bar

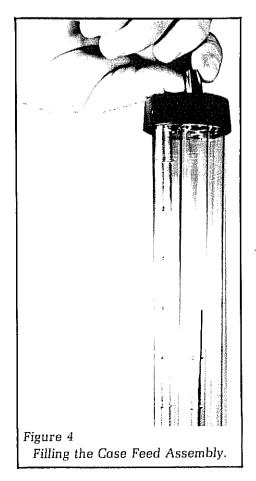
- 4. Primer Seating Cam Rod Primer Seater Lever Arm
- 5. Bullet Seater Stem above the Bushing

Keep all lubrication away from the rail or Transfer Bar areas of the tool. Clean off any excess lubricant to help keep the machine clean.

CASE TRANSFER SYSTEM

CASE TUBE ASSEMBLY INSTALLATION

This unit (Fig. 4) stores the fired cases for reloading. Its capacity is eighty .38 Special cases or seventy .357 Magnum cases. Install as shown in Fig. 3. Transparent plastic tubes permit the operator to observe when they are empty. When the last case clears the bottom of the Case Feed Wheel, turn the assembly to the next filled tube. A spring loaded detent in the Case Feed Base engages recesses in the Case Feed Wheel to provide proper indexing. Be careful not to mix 357 cases in with 38 Specials, as they will cause a jam.



SYSTEM OPERATION & FAMILIARIZATION

The tool should be operated without components, through the full stroke of the operating handle to reveal how the system works. The Case Transfer Extension Block moves cases between Transfer Rails to the sizing station (see Fig. 12). Four spring loaded Transfer Pawls then move the cases along the Transfer Rails to each die station. As each case reaches a station it is stopped by the case radius relief cuts in the front Transfer Rail. The spring loaded rear Transfer Rails force the cases against the front positioning rail. The compression springs allow the rear rails to move backward during case transfer and to easily facilitate individual case insertion or removal.

After cycling the machine empty, place one case in the Case Feed and operate the tool handle. Observe how the case moves through each of the four stations. The fifth cycle of the handle ejects the case from the tool.

Many empty cases should then be cycled through the machine, keeping a full line of four cases in the machine, so that the operator can become familiar with the feel of handle movement and when the machine is encountering normal operating resistances. Stop operation of the operating handle if any abnormal resistance is encountered throughout any portion of the operating cycle. Investigate and correct the problem before proceeding.

TRANSFER BAR TIMING ADJUSTMENT

As received, your Green Machine is properly timed. When disassembled for cleaning, changing calibers or other reason, the machine must be retimed before further reloading. Correct timing is critical and must be done carefully. You will be aware of incorrect timing when the tool handle is lifted and the Priming Rod does not smoothly rise, being centered in its mating hole in the Case Transfer Bar. Instead, near the top of the operating handle stroke, the Primer Rod will be misaligned and thus bind the hole in the Transfer Bar.

Timing is adjusted by lateral movement of the Transfer Cam (Fig. 5, Part No. 86555) located on the left side of the Top Plate. The amount the Cam projects and bears on the Transfer Clevis Roller determines the amount of movement of the Clevis and thus the Transfer Bar Timing (see Fig. 7).

To change the Cam position and correct the timing, first back off the Advance Block Stop Screw (P/N 86627) to provide clearance between the screw and casting base, then loosen the setscrew above the Cam.

FAILURE COMPLY WITH THIS STEP WILL LEAD TO AL-MOST CERTAIN DAMAGE TO THE CASE FEED BASE. With the 5/64 Hex Key Wrench, turn the Transfer Cam Adjustment Screw clockwise counter clockwise to achieve more or less advancement of the Transfer Bar. A small adjustment of this



screw produces a corresponding larger movement of the Transfer Bar.

Remember to make screw adjustments small and lock the screw above the cam for each trial adjustment. Cycle the operating handle slowly and observe how the Primer Rod passes through its mating hole in the Transfer Bar.

The Cam adjustment should be made so that the Primer Rod just contacts the left side of the primer hole in the Case Transfer Bar. Final adjustment of the timing is achieved by turning the Advance Block Stop Screw clockwise until it contacts the casting base and centers the Primer Rod in the primer hole of the Case Transfer Bar.

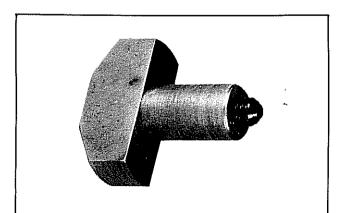


Figure 5 — Transfer Cam, removed. The adjustment screw is to the right. The Cam can be adjusted while in the Top Plate by inserting the Hex Key Wrench through the small hole in the face.

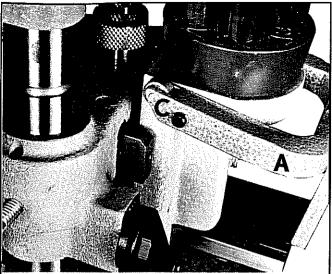


Figure 6 — Transfer Clevis (A) with friction reducing roller (C). Whenever machine is cleaned, place a small amount of case lube on the roller. Transfer Cam (B) properly positioned and adjusted.

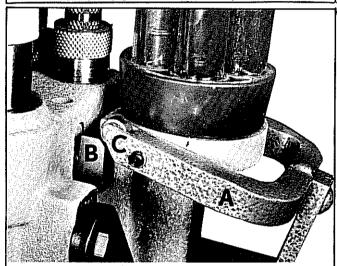


Figure 7 — Initial contact of Transfer Clevis Roller with the Cam starts movement of the Case Transfer Bar.

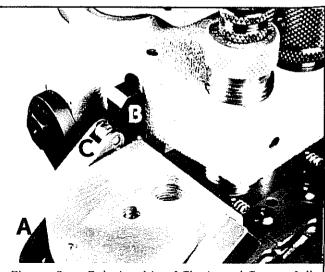
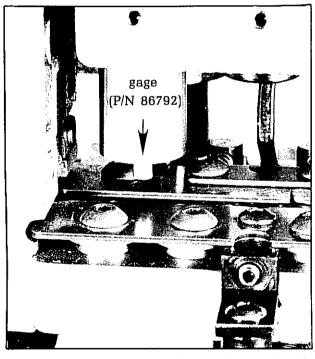


Figure 8 — Relationship of Clevis and Cam at full up stroke of the operating handle.

CASE TRANSFER BAR RETURN ADJUSTMENT

The Case Transfer Bar is returned to its rest position by the force of the Case Transfer Bar Return Spring. In the rest position the bar is ready to receive another case from the Case Feed Assembly and all four Case Transfer Pawls are ready to advance the cases to the next position. Also while at rest, the primer relief hole of the bar is positioned under the Size Die Decapping Unit. The relief hole must be positioned accurately under the die station and decapping pin in order to allow smooth and reliable removal of the spent primer from the case. The Case Transfer Bar positioning is made on the under side, right end of the bar by moving the Transfer Bar Stop Screw in or out to center the primer hole under the gage provided (see Fig. 13).



Remove the size die from the top plate and with the handle in the full down position, insert the gauge (part 86792) in the size die hole. When the bar is properly adjusted, the pin of the gauge should slide easily into the primer hole of the transfer bar. Replace size die and adjust per instructions.

CASE DISCHARGE CHUTE ADJUSTMENT

The Case Discharge Chute provides a means to guide the loaded ammunition from the Transfer Rails to the Ammunition Catcher Box. The finger of the chute should engage each cartridge as it leaves the rails just enough to tip it forward. The Discharge Chute SHOULD NOT BE BENT OR DEFORMED. The Discharge Chute is designed to be adjusted by loosening the button head screw attaching it to the right side of the casting and rotating it, causing the finger to have more or less engagement with cartridges as they leave the rails.

Empty cases may not always eject satisfactorily due to the reduced weight and lowered center of gravity as compared to a reloaded cartridge. Adjust the chute to correctly discharge loaded ammunition.

TRANSFER RAIL REMOVAL

Occasionally it may be necessary to remove the Transfer Rails for cleaning. If adequate cleaning can be accomplished without removing the rear rails, it is recommended that they not be disturbed. The front rail is removed by unscrewing the four 1/4-20 button head cap screws. After removing the Front Transfer Rail, note that it sits on four Case Transfer Rail Spacers. The second and third have clipped flanges to provide clearance for the Primer Feed Locking Block. When remounting the Front Transfer Rail, these Modified Rail Spacers must be replaced in the same position to provide sufficient clearance for the Locking Block. After the Front Transfer Rail is removed, the Right and Left Rear Transfer Rails can be removed. To do this, first remove the four nuts on the under side of the tool. With the four nuts removed, unscrew the four 1/4-20 button head cap screws. The Transfer Rails can now be removed and the parts cleaned (see Figs. 11, 12, 13 & 14).

TRANSFER BAR REMOVAL

The Transfer Bar may be removed from the machine with no adjustment or loosening of either of the rails. Remove the return spring. Remove the Case Transfer Bar Return Block Assembly (Fig. 13) (Part No. 86620) from the right side of the bar. Lower the operating handle to mid-stroke; then pull the bar assembly out from the left. With the operating handle in mid-stroke position, the Primer Transfer Bar may be removed by removing the return spring and pulling the bar forward.

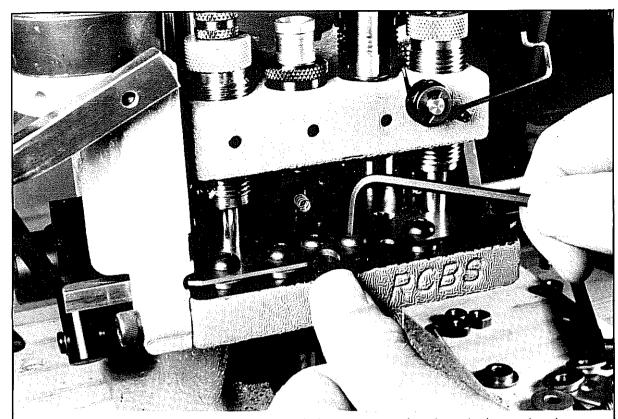


Figure 11 — Use the Hex Key Wrench provided to remove and replace the button head cap screws that secure the front Transfer Rail. Note cases are part way into the Size and Crimp dies. This provides proper positioning of the front rail as the cap screws are tightened.

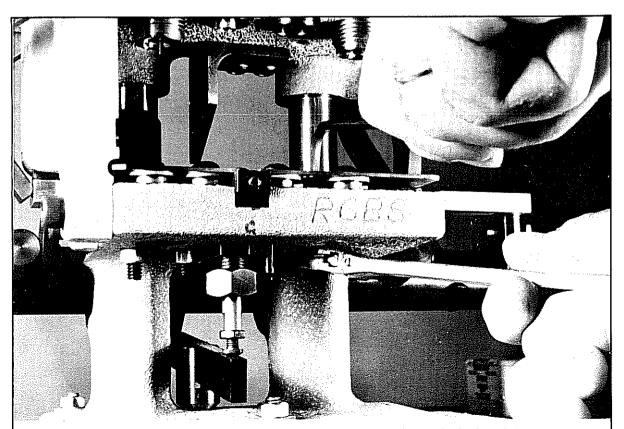


Figure 12 — The cap screws holding the rear Transfer Rails are locked with hex nuts. A small 7/16 inch wrench and Hex Key Wrench are required for removal and replacement.

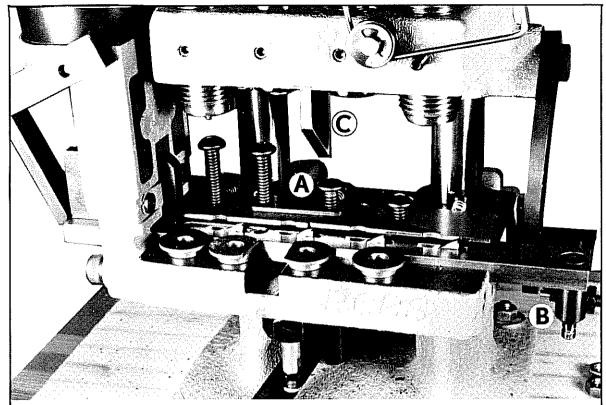


Figure 13 — Front Transfer Rail removed. Note second and third Transfer Rail Spacers are modified to provide clearance for Primer Feed Locking Block. When reassembling, these two spacers must be replaced as shown. Behind them, note four button head cap screws that secure the rear Transfer Rails; here, partially withdrawn. Note the position of the rear Rail Brace (A), Case Transfer Bar Return Block Assembly (B), and Primer Transfer Cam (C).

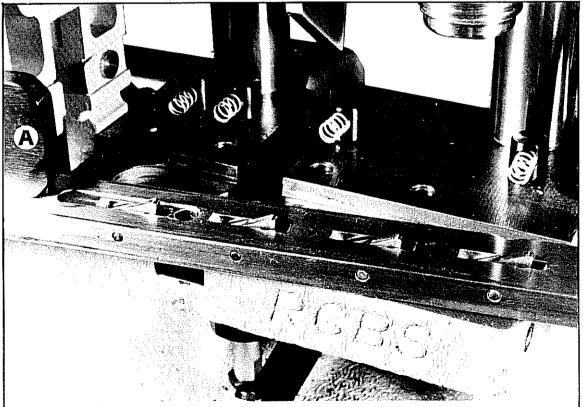


Figure 14 — Case Transfer Bar removed from the base. Note the Case Transfer Extension Block on the left end. A. The four Case Transfer Pawls project from the center of the rail. As the operating handle is cycled, these spring-loaded pawls move the cases to each station.

TRANSFER RAIL INSTALLATION

The cleaned parts should be assembled without the application of oil, grease, or other type of liquid lubricant. Use a petroleum solvent and wipe parts dry.

Set the Right and Left Rear Transfer Rails over the positioned spacers and position the Rear Rail Brace over the rails as shown. Insert the four rear cap screws. Turn these screws in until the screw heads contact the rails. Replace the four nuts on these screws from the underside until they touch the base. With the Hex Key Wrench, back off each screw just enough to permit free movement of the rail and tighten the lock nuts while holding the screw in position with the Hex Key Wrench. The coil springs may now be inserted into position between rear of rail and the spring holders.

Position the Transfer Rail Spacers over the screw holes and set the Front Transfer Rail over the spacers as shown. Insert the four button head cap screws. Turn them in until the heads almost contact the Transfer Rail. Place a case under the sizing (first) and crimping (fourth) stations. Slowly lower the operating handle and position each case so it enters the sizing and crimp die as the operating handle is lowered. Position the handle as far downward as possible without letting the size die contact the rail. With hand pressure, push the Front Transfer Rail firmly against the two cartridge cases. Hold the rail in this position and tighten all four cap scews snugly (Fig. 11). Then raise the operating handle and remove the two cases.

Note that this procedure gives perfect casedie alignment, compensating for any die shift induced by the setscrew locking system.

SIZE DIE AND DECAPPING SYSTEM

SIZE DIE ADJUSTMENT

As received, the Carbide Size Die is properly adjusted for the caliber named on the outside of the shipping carton. When replacing the Size Die, start by screwing it into the left hole in the Top Plate. Lower the operating handle to its lowest position and continue turning the die downward until it touches the Transfer Rails. The Size Die should just touch the rails with a case in the die and the handle positioned all the way down. With the die in position, lock it with the setscrew in the front of the Top Plate.

DECAPPING ASSEMBLY ADJUSTMENT

Adjust the Decapping Assembly so it is 1 to 1 1/2 turns short of contracting the inside of the case head with the die in full down position. When reloading magnum cases, the Decapping Assembly should be about four turns higher. Make sure the pin clears the case mouth as the case is advanced to the next position. If protrusion is too much, the Decapping Pin Holder will strike the inside of the case head. This can prevent a full down stroke of the operating handle and will damage the Decapping Pin Holder. Inadequate protrusion will fail to fully remove the primer.

WARNING: DO NOT DECAP CASES THAT CONTAIN LIVE PRIMERS ON THIS MACHINE! Discharged primers are collected in a plastic container beneath the Size Die station. The detonation of a single primer while decapping is unlikely to cause tool damage or personal injury, but if such an incident served to ignite bulked live primers in the plastic container, a severe explosion would likely result.

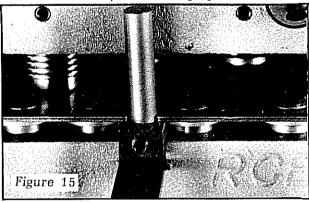
PRIMING SYSTEM PRIMER TRANSFER BAR RETURN ADJUSTMENT

The Primer Transfer Bar is cammed forward by the Primer Transfer Cam (see Fig. 13) in order to pick up a primer from the Primer Feed Drop Tube. The Primer Transfer Bar is moved to its rest position by the force of the Primer Transfer Bar Return Spring (Part No. 86754). In the rest position the bar locates the primer over the Primer Seater Rod where it is ready to be seated into the decapped case. The rest position of the bar must be accurately adjusted so that the hole in the bar is centered over the priming rod. The Case Transfer Bar should be removed in order to facilitate this adjustment. The adjustment of the Primer Transfer Bar positioning is made on the front, underside of the bar by moving the Transfer Bar Stop Screw in or out to center the primer hole over the Primer Rod. This positioning is factory adjusted and should require no re-adjustment unless a problem occurs.

PRIMER TRANSFER CAM ADJUSTMENT

The Primer Transfer Cam, mounted on the underside of the Top Plate, moves the Primer Transfer Bar forward to pick up primers from the Primer Drop Tube. Moving the cam forward or backward positions the primer hole of the Primer Transfer Bar directly beneath the Primer Drop Tube when the operating handle of the machine is in the fully downward position.

When the Primer Transfer Bar is in the full forward position (toward the operator), the alignment of the primer hole with the Primer Feed Locking Block is checked with the Primer Transfer Bar Adjustment Gage provided. Move



the Primer Transfer Cam forward or backward to correct any mis-alignment. The Cam is attached to the Top Plate by two button head cap screws and two square nuts. Loosen the screws with the Hex Key Wrench and move the Cam. Be sure to keep the back edge of the Cam parallel to the back edge of the Top Plate. Re-tighten the screws to hold the Cam in position. The square nuts will lock against each other so no wrench is needed on the bottom side. Several trial adjustments may be necessary to achieve the precise centered position.

Figure 16 — Filled Primer Feeder mounted on the Green Machine. Note Primer Feed Index Spring in down position to engage Primer Feed Index Wheel. Turn the Index Wheel manually several clicks before reloading starts. Three primers should be maintained in the Drop Tube. If the Index Wheel should fail to pick up a primer, the Wheel should be indexed manually.

PRIMER SEATING ADJUSTMENT

The Primer Seater Rod extends from the Primer Rod Housing below the Base. The height that the end of the rod projects through the Case Transfer Bar at the full upstroke of the machine, and consequently, primer seating depth, is governed by the total length of the rod. Movement of the rod is activated by a lever that is cammed by a stud projecting from the rotating cross shaft.

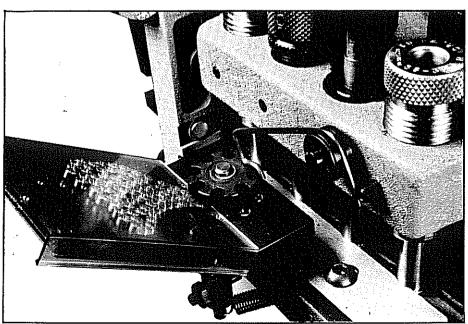
Lengthening the rod will cause the rod to extend further and thereby seat the primer deeper in the case. To lengthen the rod, loosen the lock nut on the Primer Seater Rod Adjustment Screw. Unscrew the adjustment screw from the rod a slight amount and retighten the lock nut to increase primer seating depth. Shorten the rod to achieve less primer seating depth.

It is preferable to adjust the Primer Seating Rod so that full seating is accomplished slightly before the end of the operating stroke so that primers are seated by "Feel" rather than by a mechanical stop. Primers MUST be seated from .003 to .005 inches below flush of the case head to insure that the primer anvil contacts the case primer pocket bottom. Improperly seated primers are less sensitive than those properly seated and can produce misfires.

If the operating handle is not pushed fully to the stop on the upstroke the case at the priming station will not be properly primed.

MOUNTING THE PRIMER FEED

Insert the Primer Feed Drop Tube projecting from the Primer Feeder underside through the mating slot in the Front Rail and into the Primer Feed Locking Block. Make sure the Primer Feeder is seated all the way down against the Front



Transfer Rail. Tighten the setscrew in the front of the Primer Feed Locking Block with the wrench provided.

FILLING THE PRIMER FEEDER

The Primer Feeder can be filled while attached or detached from the machine. A special primer flipper is provided for orienting the primers and filling the tray. Place the desired number of primers (not over 100) on the ridged face of the Primer Loading Tray. Shake the tray laterally to orient all of the primers anvil side up. Place the opening of the tray on the ledge at the top of the Primer Feeder and under the lid. Gently raise the tray until the primers slide down and forward into the feeder. Insert the Primer Feed Drop Tube in its mating slot in the Front Rail. Secure it with the setscrew in the front of the Primer Feed Locking Block as shown in the accompanying illustration (Fig. 16). Always maintain the sliding lid in place. firmly in contact with the stops on the feeder.

After mounting, advance the Primer Feed Index Wheel manually to drop three primers as the first case approaches the priming station.

Note that the Primer Feed Index Spring pivots on a stud located on the right front of the Top Plate. It can be swung up and to the right to get it out of the way or to discontinue primer feeding. Be certain to swing it back down when loading commences or the Primer Feed will not function.

The design of the Index Spring incorporates a built in safety disengagement feature. Should the Index Wheel require more than a pre-determined force to rotate, the Index Spring will slip up out of engagement. Modification of the Index Spring could defeat the safety feature. If the Index Spring should become damaged or bent, it is strongly recommended that a new replacement part be obtained from RCBS.

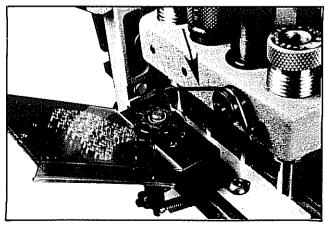


Figure 17 — The Primer Feed Index Spring engages and rotates the Primer Feed Wheel on the down stroke of the operating handle. The spring is designed to slip upwards if excessive resistance is encountered.

POWDER CHARGING OPERATION

Your Green Machine comes equipped with the RCBS Little Dandy Powder Measure. For use on this tool, the Powder Rotor has a round Cam attached and an adaptor is threaded on the Powder Measure Body. The unit is mounted by setting it over the top of the Expander Drop Tube with the Cam to the rear. The Cam is rotated by engaging two Rotor Cam Pins held in the Cam Pin Holder. The Pin Holder is located behind the Powder Measure and secured in the Top Linkage Mount. As the operating handle is cycled, the pins engage the Cam, rotating it one-half turn with each half of the stroke.

After filling the Powder Hopper, settle the powder by briskly throwing several charges manually and returning powder to the Hopper. Then throw at least ten more charges and checkweigh them on a powder scale. This assures that the chosen Rotor is throwing the desired charge. Repeat this procedure.

At first, proceed slowly and cautiously until the operation of powder charging is fully understood. If the Cam Pin Holder is not adjusted properly, it and the Rotor Cam Pins may be damaged when contact is made. If damaged, the pins and holder cannot be repaired; they must be replaced.

Disengage the Rotor Actuating Pins whenever you do **NOT** want to dispense a powder charge. Be sure to re-engage the pins when you want to resume loading.

WARNING: IF YOU FORGET TO RE-ENGAGE THE PINS, YOU WILL ASSEMBLE AMMUNITION WITHOUT A POWDER CHARGE.

ROTOR CAM PIN HOLDER ADJUSTMENT

The Rotor Cam Pin Holder is installed vertically behind the Powder Measure. It holds two Rotor Cam Pins. Note that these pins are held by ball detents in the forward and rearward positions. Pushed forward, they engage mating slots in the Rotor Cam. To manually operate the Powder Measure independent from the normal machine cycle, such as to check powder charge, pull the pins to the rear to clear the Cam (Fig. 18).

To properly time the Rotor, move the operating handle to its fully lowered position. Turn the Rotor so the cavity is downward and Rotor number is upside down. Loosen the Cam Pin Holder setscrew. Push the Rotor Cam Pins toward the front so that the bottom pin enters the left slot

of the Rotor Cam and tighten the Cam Pin Holder setscrew. Cycle the tool handle fully and observe how the top pin engages and turns the Rotor about a quarter revolution and then the lower pin engages and completes Rotor rotation through 180 degrees (Fig. 19).

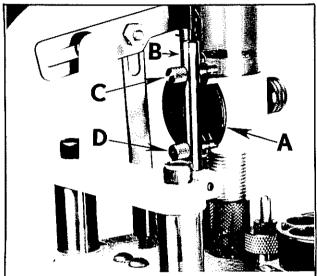


Figure 18 — Components of Powder Charging System: Rotor (A), Rotor Cam Pin Holder (B), Rotor Cam Pins (C & D). Parts are in normal position with tool handle in down stroke. Top pin has engaged the cam, turning it part way. Bottom pin is in full engagement, powder has been discharged into case.

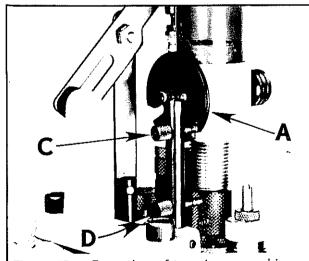


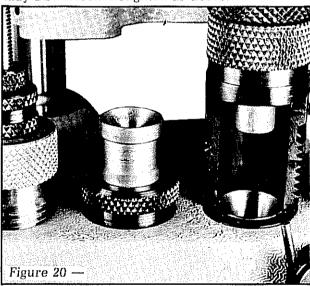
Figure 19 — Rear view of top pin engaged in cam at the start of the down stroke of the operating handle.

EXPANDER DROP TUBE ADJUSTMENT

The Expander Drop Tube is adjusted with the Powder Measure removed. Loosen the four setscrews securing the Powder Measure Adaptor to the Expander Drop Tube and lift off Powder Measure. The Expander Drop Tube is secured in position by a setscrew on the front of the Top Plate. Loosen the setscrew and turn the Expander Drop Tube clockwise if more case mouth flaring is desired or counter clockwise for less flaring. Correct flaring is achieved when a bullet will enter the case 1/16 inch to 1/32 inch with easy finger pressure (Fig. 20).

When correct flaring is achieved, retighten the setscrew securing the Expander Body. The Powder Measure must be re-timed after replacement upon the machine by appropriate adjustment of the Cam Pin Holder as described previously.

The Expander Drop Tube and Expander Body are threaded together (see assembly drawing). If the Drop Tube should loosen from the Expander Body, retighten firmly and re-align for the Powder Measure as required. The Powder Measure Adaptor and the Little Dandy Powder Measure may also loosen. Retighten as above.



INSTALLING THE POWDER MEASURE

Set the Powder Measure over the Expander Drop Tube with the Cam to the rear. It is extremely important that the Rotor Cam be positioned so that it is parallel to the front of the Top Plate. Tighten one of the screws on the Powder Measure Adaptor. Loosen the expander die setscrew on the front of the Top Plate. This will allow the whole assembly to be turned for easier access to the other screws. With all four adaptor screws tight, again line up the Rotor Cam so that it is parallel to the front of the tool and tighten the expander setscrew.

POWDER CHARGE CHANGE

The Powder Measure should be removed from the machine and emptied before changing Rotors. Remove the cap screw holding the Cam to the Rotor. Loosen the Rotor Guide Screw (Arrow. Fig. 23) in the Powder Measure Body and withdraw it about half way. Then pull the Rotor out of the Powder Measure Body. Clean the protective oil from the new Rotor and insert it into the Powder Measure Body. Align the slot in the Rotor with the setscrew and tighten the screw. Turn the Rotor so the cavity is in the up (fill) position. Then attach the Cam with the cap screw as shown in the adjacent photo. Note orientation of Cam slots.

See page 17 for a table of Powder Measure Rotors and the charge weight of popular pistol powders each throws.

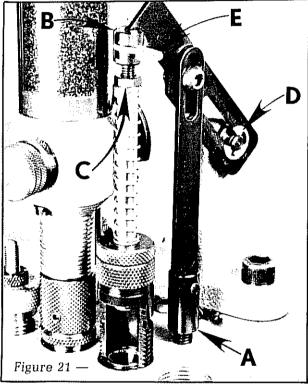
BULLET SEATER ADJUSTMENT

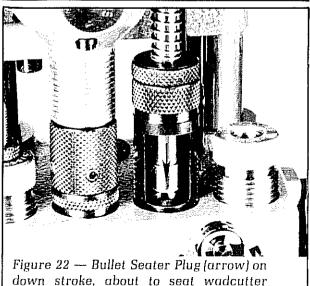
Bullet Seating is accomplished with a pivoting linkage assembly. Major adjustment is done by rotating the Bullet Seater Adjustment Stud (A, Fig. 21) by full turns until the bullet is seated almost to full depth. To adjust the Stud, remove the Push Bar Retainer Clip (E) from the Bullet Seater Adjustment Screw (B). Remove also the snap ring securing the Push Bar to the Top Link Mount (D). Turn the whole Linkage Assembly to screw the Stud in or out of the Top Plate.

To check the seating depth, re-connect the Linkage System, insert a bullet into the Bullet Guide, and, with a flared case under the Seat die. pull the operating handle all the way down. Raise the handle and check the bullet depth. If more sealing depth is required, remove the cartridge from the rails, re-insert it under the Seat Die and make another adjustment to the Linkage. Final adjustment in seating depth is done by turning the Bullet Seater Adjustment Screw (B) to achieve proper seating depth. To provide deeper seating, turn the Bullet Seater Adjustment Screw up, in effect lengthening the screw. When properly adjusted, turn the lock nut (C) down against the Bullet Seater Stem The Seater Stem is provided with two flats at the top to facilitate tightening the lock nut. The flats can be exposed by pushing the coil spring down on the shaft of the plug. The Push Bar Retainer Clip (P/N 86703) must be positioned so that its curved end is past the slot in the Bullet Seater Adjustment Screw for proper retension and to assure uniform bullet sedating depth.

It is necessary that the Bullet Seater Plug Cavity conform closely to bullet nose configuration. If not, a bullet slightly cocked in the Bullet Seater Guide will bind when the Seater Plus is on down stroke. Seater Plugs are furnished for wadcutter, semi-wadcutter and round nose bullets.

Seater plugs can be easily changed by removing the Retainer Clip from the Adjusting Screw and unscrewing the Bullet Seater Plug Bushing from the top of the Seater Die Body (See Seater Die Assembly Drawing, page 35). Insert the 3/32 hex key wrench in the hole in the Seater Plug and using the 1/4" open-end wrench on the Flats of the Bullet Seater Stem, unscrew the Plug from the Stem. Screw the new Plug into the Stem and tighten. Reassemble the Seater Die Assembly by reversing the above. Adjust the bullet seating depth as desired.

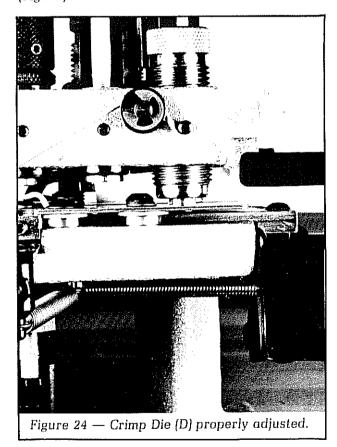


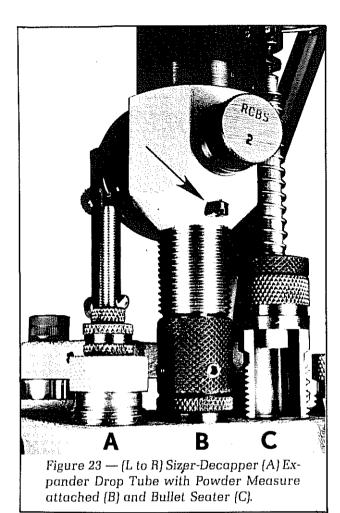


bullet.

CRIMP ADJUSTMENT

Loosen securing setscrew and unscrew crimp die to approximately flush with the Top Plate underside. Place a cartridge with bullet seated to desired depth in the fourth position beneath the crimp die. Lower the tool handle to bottom position. Turn the crimp die clockwise until firm contact is made with the case. Raise tool handle and turn die clockwise an additional one-third turn. Lower, then raise tool handle and check amount of crimp. Then turn die clockwise or counterclockwise as required for final crimp adjustment. When properly positioned, lock the crimp die with the hex head setscrew in the front of the Top Plate (Fig. 24).





CALIBER CONVERSION

The Green Machine is easily converted from .38 Special to .357 Magnum. This is accomplished with simple adjustments of the Expander Drop Tube, Bullet Seater, Crimp Die and changing to appropriate Powder Rotor as described in other sections of the manual. No Size Die adjustment should be necessary.

Changes to other calibers will be detailed in separate instructions when change parts kits are available in the future.

THE GREEN MACHINE PARTS LIST

PART NUMBER	DESCRIPTION
09099	
09110	
09143	
09604	-
09609	
09611	. Decapping Pin Holder, Large
09616	. Decapping Rod, Short
09622	. Decapping Unit, Short
18263	
38281	
38283	
38285	• •
38286	y
80071	
81004	· · · · · · · · · · · · · · · · · · ·
09410	
81112	
86041	
86042	Little Dandy Pistol Powder Measure Guide Screw
86043	Little Dandy Pistol Powder Measure Hopper
86044	Little Dandy Pistol Powder Measure Hopper Cap
86511	.Base & Top Plate
86513	•
86514	•
86515	
86516	
00010	· italiais
86517	Handle Knob
86518	
86519	•
86520	
86521	Link Pin
86523	
86524	•
86525	.Cam Pin Holder SS 10-24 x 3/8
86526	. Cross Shaft SHCS Left, 3/8-16 x 3/4
86527	. Detent Ball .156 Diameter
86528	. Base Spring Anchor
86529	
86530	-
86532	The state of the s
~	. Code Toda Tridor
86533	Clavic Arm Din
86534	
86535	
86536	. Case Feed Base
86538	_
86539	
86540	
86541	
86542	.Case Retainer - Front
86543	
86544	
	• · •

THE GREEN MACHINE PARTS LIST CONTINUED

PART NUMBER	DESCRIPTION
86545	<u> </u>
86546	•
86547	. Glevis Assembly
86548	. Case Feed Tube
86549	
86550	.Case Feed Wheel Shoulder Pin
86551	•
86552	. Cartridge Index Spring
86553	Case Index Detent Din
86554	
86555	
	Transfer Cam Adjustment Screw 8/32 x 1/2 SHSS
86558	. Case Discharge Chute
2222	
86560	
86570 86580	
86590	
86591	<u>*</u>
No.	·
	Front Case Transfer Rail Screw 1/4-20 x 5/8 BHCS
	Rear Case Transfer Rail Screw 1/4-20 x 1 1/2 BHCS
86594	
86595 86596	
86598	
00000	. 1/7-20 Nut
86599	. Case Transfer Rail Spring
86600	
86602	
86603	
86604	Transfer Pawl Springs
86605	Roll Pin .156 Diameter x 1/2 Long
86606	
86610	
86620	
86621	.Return Block Stop Screw
86622	Case Transfer Bar Return Spring
86623	
86624	·
86626	
00005	0 41 0 0 0 0
86627	•
86630 86640	= +
UUUTU	, uspanuer bouy
86641	38357 Expander Drop Tube Assembly
86650	Expander Drop Tube, .38357
86661	
86662	
86663	. Rotor Cam Screw 8-32 x 5/16 SHCS
86664	. Rotor Cam Locating Pin
	1

THE GREEN MACHINE PARTS LIST CONTINUED

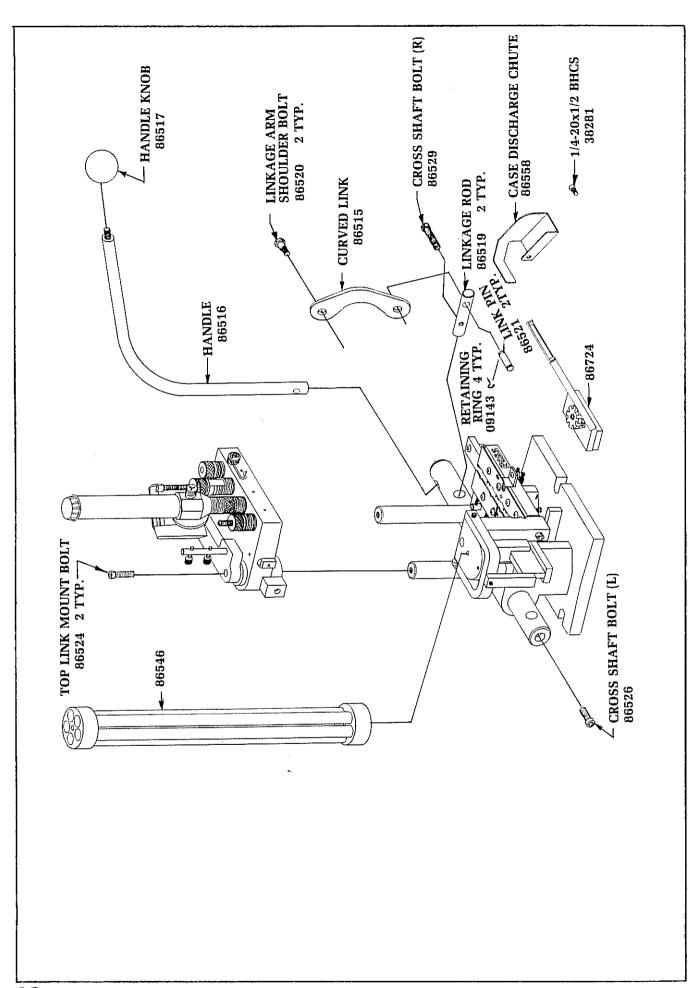
	· · · · · · · · · · · · · · · ·
PART NUMBER	DESCRIPTION
86665	
86666	
86667	
86668	Top Link Mount Assembly
86669	.Bullet Seater Linkage Pin
86670	
86671	
86672	
86673	. Bullet Sealer Push Bar
86674	
86675	Seater Die Assembly .38357
86684	Snap Ring IRR 1000-25
86685	.Bullet Seater Stem
86686	
	. Datiot Social Trag los los. Str.
06607	Bullot Conton Blug 20 257 BM
86687	9
86695	
86703	
86704	
86705	. Bullet Seater Guide .38357
86715	. Seater Die Body
86716	
86717	
86718	
86719	. Seater Plug Adjustment Screw
86720	
86721	. Primer Seater Lever Arm
86722	. Primer Lever Arm Pivot
86723	Primer Pivot Screw 1/4-20 x 5/8 SHCS
86724	
	,
86726	Small Primer Feeder
86728	
	Primer Feed Index Wheel Detent Ball .312 Diameter
86732	
86733	Primer Index Wheel Retaining Ring IRR 2000-25.
86736	. Primer Feed Lid
86740	Primer Feed Locking Block
86741	Mounting Screw 10-32 x 1/4 BHCS
86742	
86744	
86746	. Frimer Kod Housing Cap
	m. m. litt
86747	
86748	
86750	Primer Seater Rod Spring
86751	
86752	
	The second secon
86753	Primer Transfer Cam
86754	
00/04	trimer transfer bar vernin obling

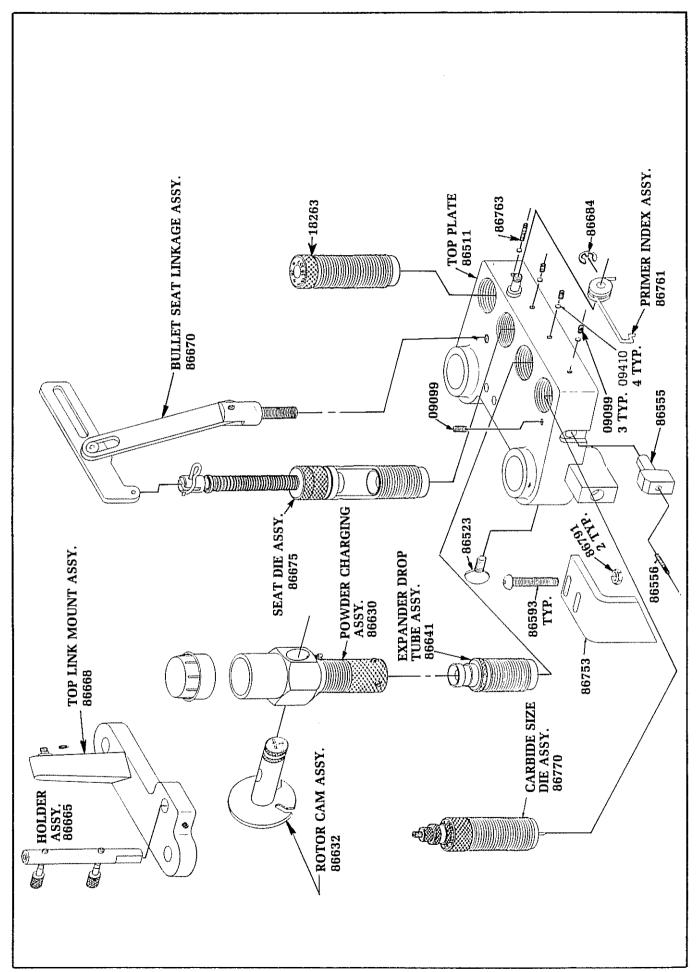
THE GREEN MACHINE PARTS LIST CONTINUED

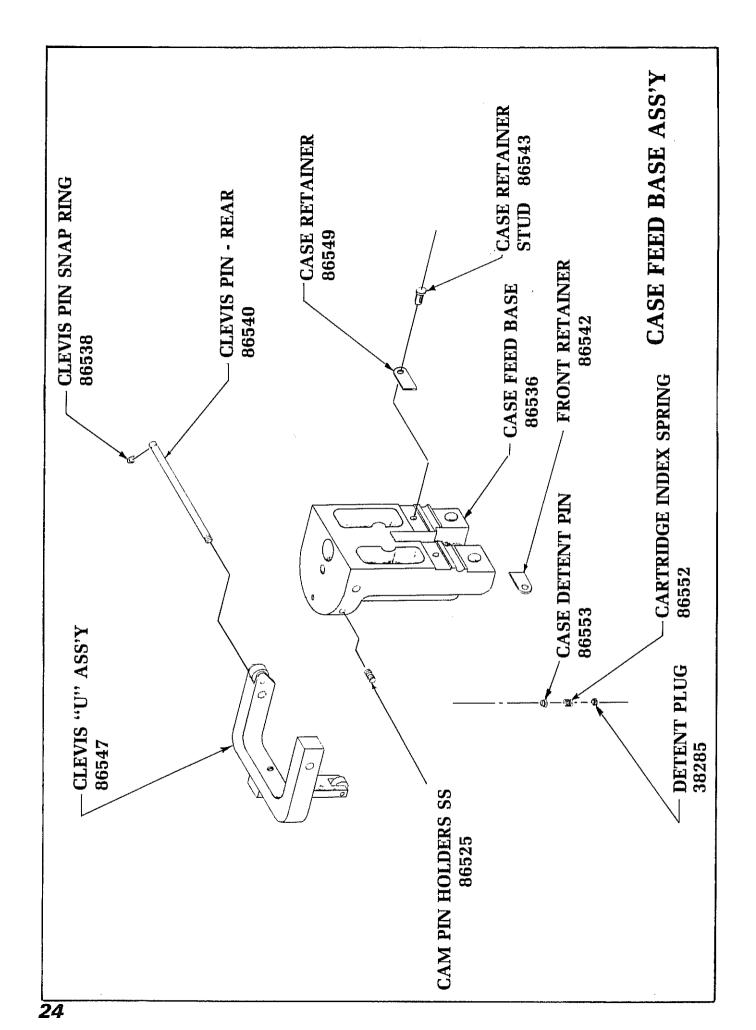
PART NUMBER	DESCRIPTION
86755	Primer Catcher Bottle
86757	Internal Tooth Lock Washer - 1/4
86758	Small Primer Transfer Bar Assembly
86761	Primer Index Assembly
86763	Set Screw 10-32 x 5/8 Long SHSS
86768	1/4 Inch Flat Washer
86769	
86790	1/4-20 x 1 3/4 BHCS
86791	1/4-20 Square Nuts

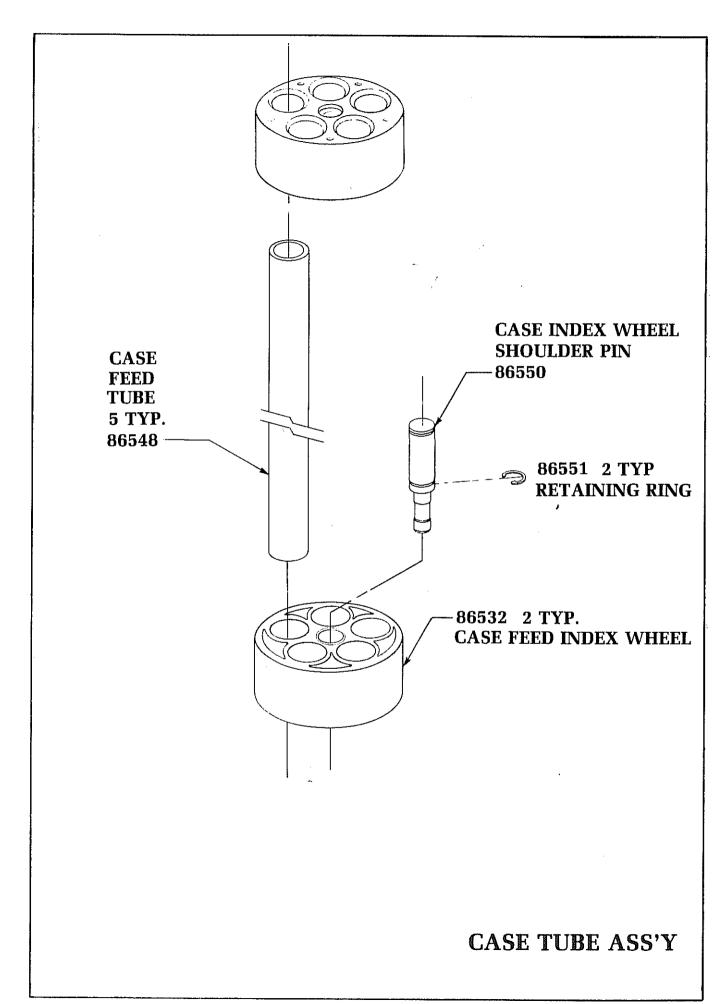
ACCESSORIES

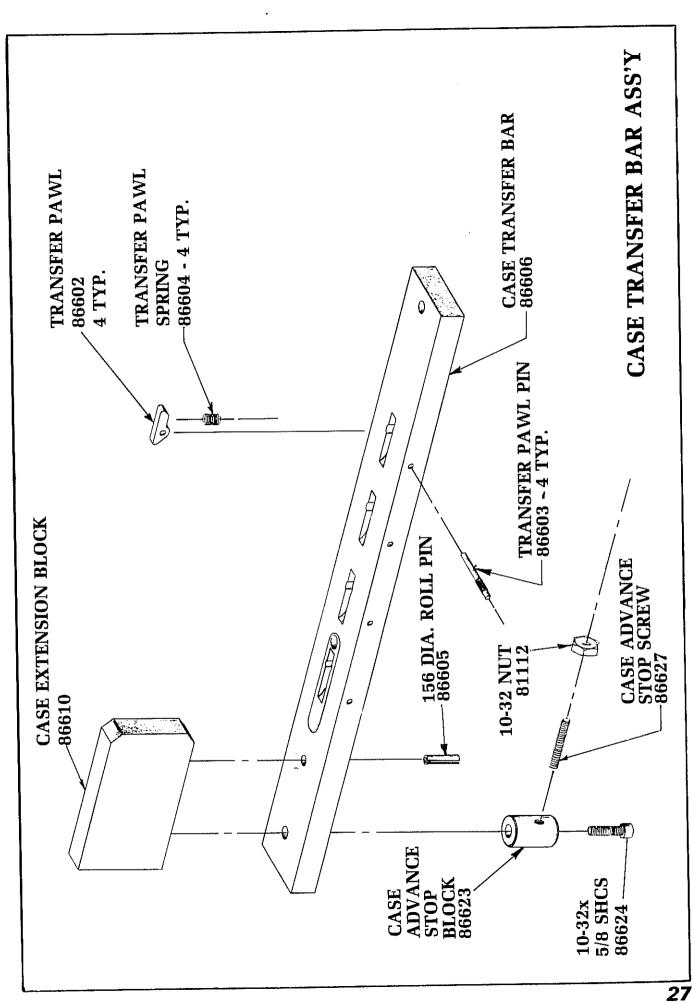
PART NUMBER	DESCRIPTION
86625	
86737	Primer Feed Loading Tray
86764	Cleaning Brush
86765	Wrench 1/4 Inch
86766	Wrench 3/8 Inch
86767	Dust Cover
09534	Hex Key Wrench 5/64
09635	Hex Key Wrench 3/32
86794	Hex Key Wrench 1/8
86795	Hex Key Wrench 9/64
81150	Hex Key Wrench 5/32
86792	Case Transfer Adjustment Gage
86793	Primer Transfer Adjustment Gage
	Operators Manual





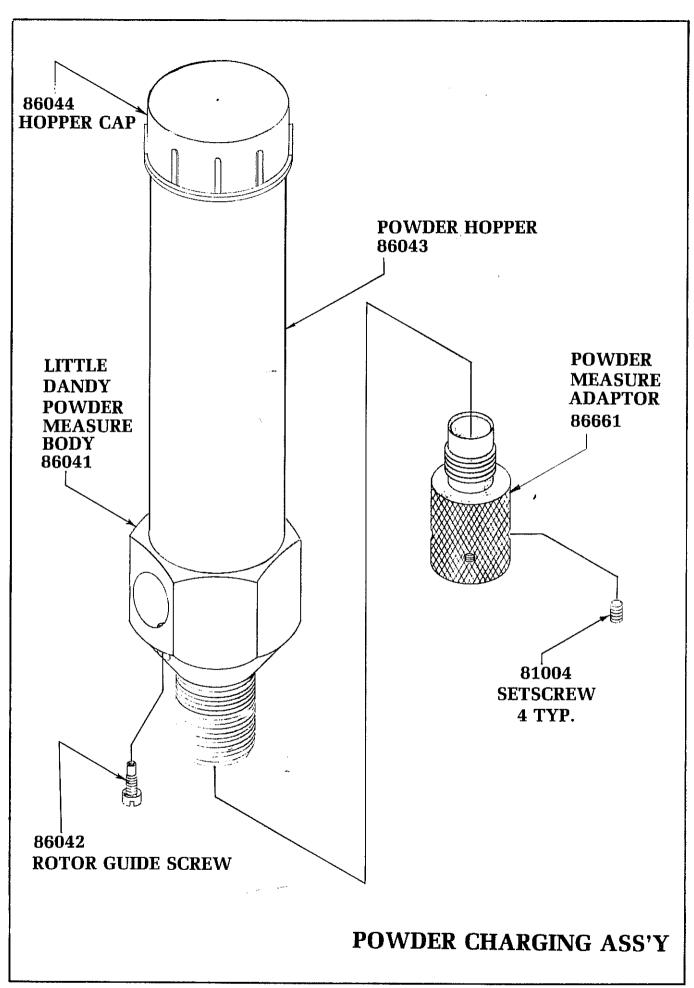


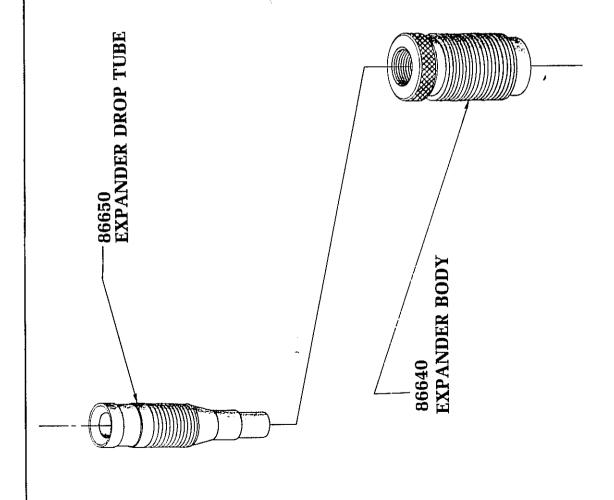


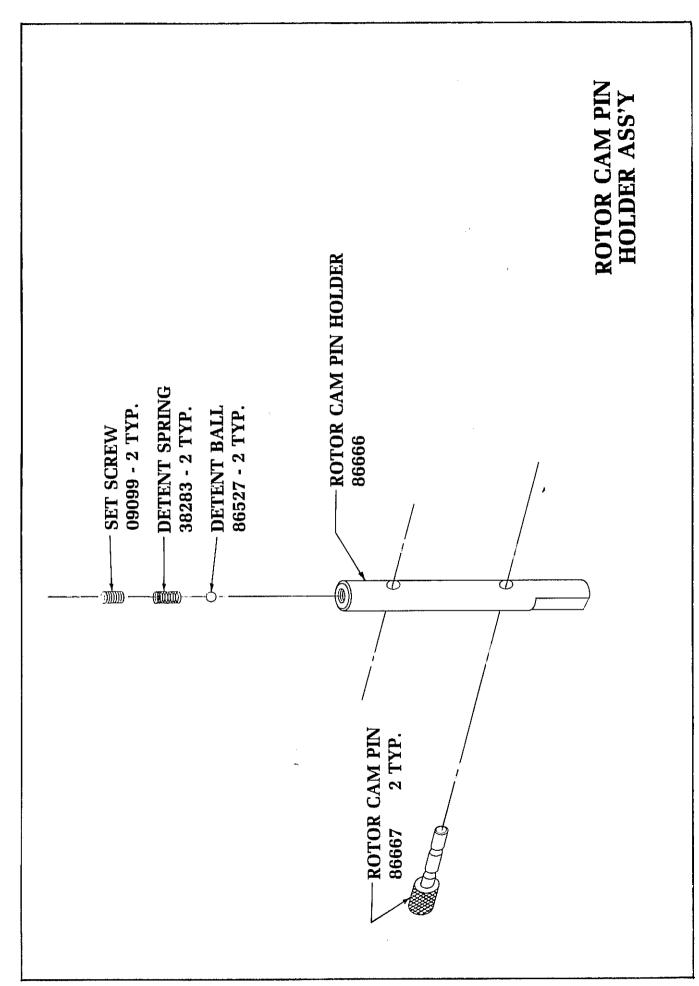


TRANSFER BAR RETURN BLOCK -86620 STOP SCREW RETURN BLOCK 10-32 NUT -81112-86621

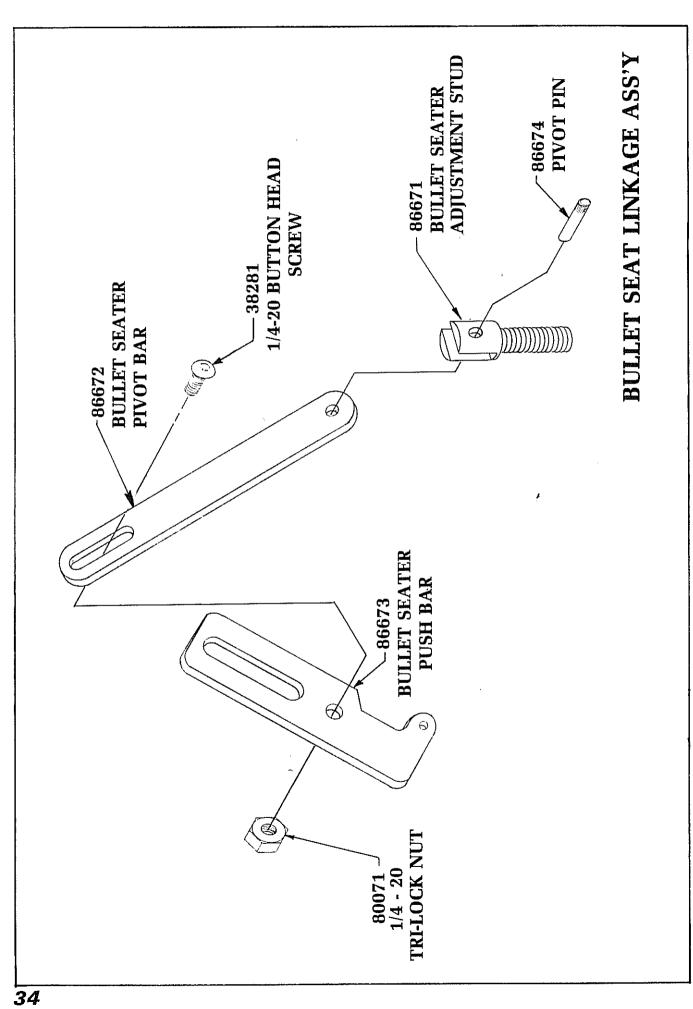
SMALL PRIMER TRANSFER RETURN BLOCK CASE & PRIMER ASS'Y

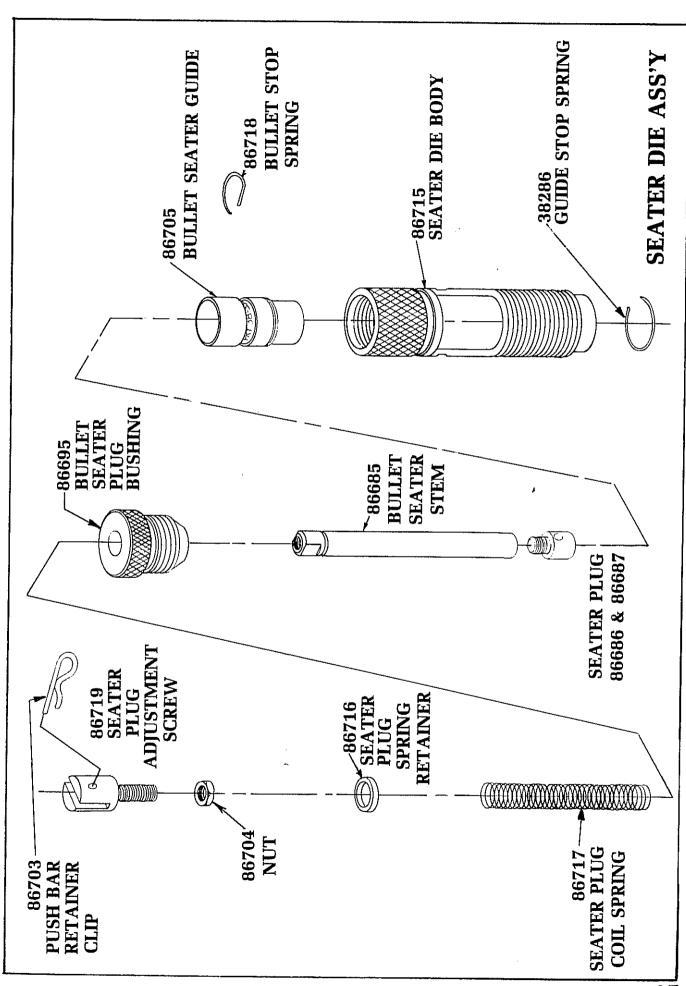






TOP LINK MOUNT ASS'Y -BULLET SEATER LINKAGE PIN 86669 - SNAP RING 86684 TOP LINK MOUNT 86513 -10-24 x 3/8 SET SCREW 86525 33





PIVOT ASSEMBLY

