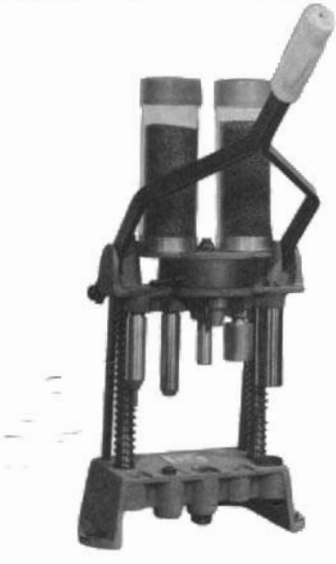
PACIFIC
DL-110 LOADER



RELOADING IS FOR YOU

Shotshell reloading is an easy, fascinating hobby. It can be quickly learned by the novice, if the basic steps of shotshell reloading are understood.

There are seven basic steps to reloading a shotshell. These seven steps must always be taken in their proper order.

The following are the seven basic steps, read carefully.

1. DEPRIME—The expended primer must be removed from the case to be reloaded.

2. REPRIME—A new battery cup primer of the correct size for the case being loaded must be inserted where the expended primer was removed.

3. POWDER—The measured charge of powder is placed into the primed case. There are many different powders available today. To provide the correct load each of these powders require a different amount, both by volume and by weight. Pacific has taken all the guesswork out of this step by the use of precision made charge bushings that exactly measure the correct amount of the type powder they are designed for. Each bushing is marked with the quantity in grains and the type powder they are designed for.

4. WADS—The proper wad column is placed in case with the over powder wad next to the powder. The proper wad column always consists of an over powder wad and a filler wad. The over powder wad may be either one of two types, plastic or nitro card. The filler wads are made of moulded fiber or felt. Over powder wads and filler wads come in several thicknesses. The thickness of the wads used is dependent on the load and the case being loaded.

5. WAD SEATING—Wads must be seated so the correct amount of pressure is placed upon the powder. This wad pressure varies with the type of powder used. Proper pressure for the type of powder can be determined from charts available from the powder manufacturer.

6. SHOT—The correct amount of shot is placed in the case. Pacific has simplified the measurement of shot by the use of bushings much the same as the powder bushings. These bushings measure a predetermined quantity of shot into the case. All bushings are marked with the ounces of shot they will drop. Correct amount of shot to be used with a given amount of powder may be determined from the enclosed charts.

7. CRIMP—The case is crimped to hold the components in place. The crimp serves several purposes. The crimp holds the shot from falling out of the case, it helps retain the pressure that has been placed on the wads and helps prevent entry of moisture into the case. Case mouths must be in reasonably good condition for best results from your reloads.

ADJUSTMENT AND OPERATING INSTRUCTIONS

PLEASE READ CAREFULLY

The DL-110 has been designed for the hunter and novice reloader. Simplicity, ease of operation, safety and economy are built into this loader. By carefully reading and following these operational instructions you can produce quality reloads on your first attempt.

Before attempting to follow the instructions some preloading preparations must be made.

1. Mount your DL-110 on a sturdy bench. If possible in a place where you will have 16 to 18 inches of clear bench space on either side of loader.

2. Sort cases as to brand and type and inspect for defects such as burned base wad, split shell heads, thin mouths and holes burned through outside of case. Cases showing such defects should be discarded or destroyed.

3. Place supply of these sorted cases in shallow container to the left of loader. Place proper size primers to the left of loader between loader and empty cases.

4. Determine correct wad column from chart and place proper wads in dispenser at the right of loader.

5. Make sure that the correct charge bushings for the load and powder desired are in the loader.

6. Make sure that the charge bar operating lever is fully to the left and place proper powder into the left hand hopper and the desired shot into right hand hopper and replace hopper caps.

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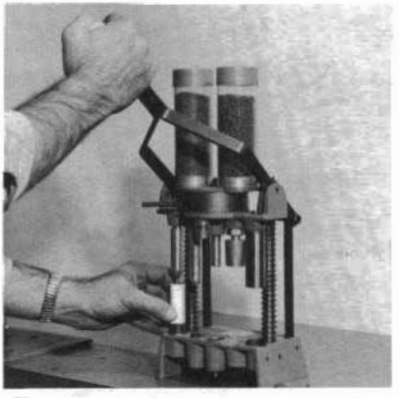
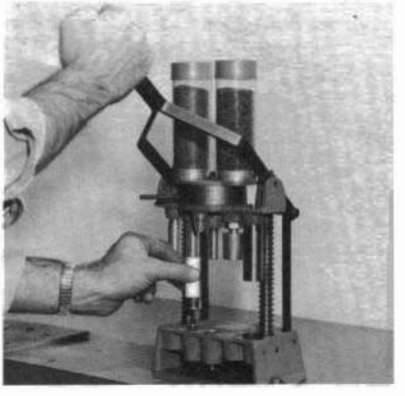
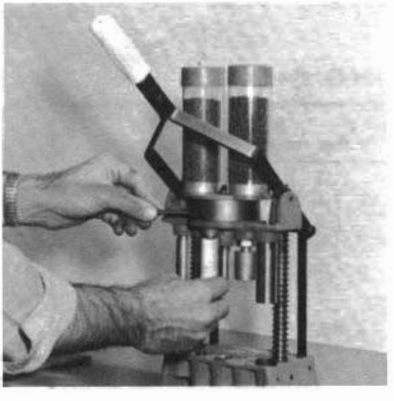
OPERATING PROCEDURE



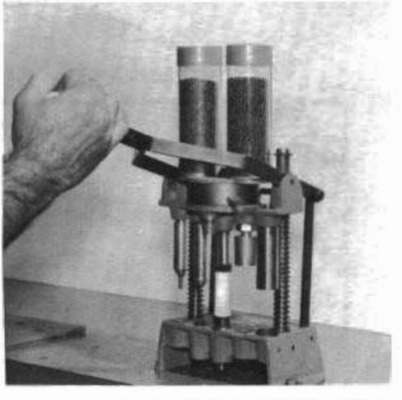
1. DEPRIME—Take empty fired case in left hand, start mouth of case over deprime punch (110-9) and move operating lever (110-11) to full down position to deprime case.



2. REPRIME—Place proper size primer (determined from enclosed chart) into priming disc (110-21). With case in left hand start mouth of deprimed case over primer seating punch (110-10) and bring operating handle to full down position to reprime case.

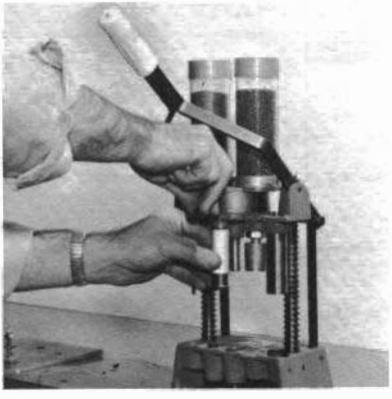


3. POWDER—With left hand place mouth of primed case over tapered drop tube, move charge bar operating handle (110-17) all the way to the right to drop correctly metered charge of powder into case. Before removing case from drop tube rotate case with a light upward pressure to slightly bell the case mouth. Do not use too much upward force as this may split mouth of case.



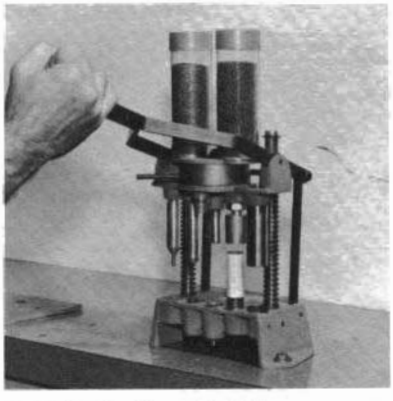
4. WADS AND WAD SEATING—With case held in left hand start correct wads into mouth of case. Over powder wad first then filler wads. Place case into position to seat wads. Move operating handle to full down position to seat wads to correct depth and pressure. (See adjustment procedure instructions for adjustment and reading of wad pressure scale).

OPERATING PROCEDURE



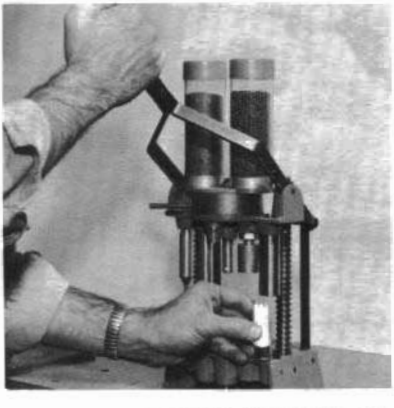
5. SHOT—With left hand place case with new primer, powder and wads under drop tube and move charge bar operating handle all the way to the left to place measured amount of shot into case.

NOTE—There should be from 1/2 to 9/16 inch between shot and mouth of case if correct wad column and pressure have been used.



6. CRIMP—The DL-110 uses two stage crimping to provide the best crimp possible. The crimp is started in this position. With left hand place case with new primer, powder, wads and shot in place in recess in base casting. Bring operating handle to full down position. This begins the crimping operation.

NOTE — See adjustment procedure instructions for correct adjustment of #1 crimp die if adjustment should prove necessary.



7. CRIMP—The final crimp and sizing of the paper portion of the case is done in this operation. With left hand, place case with started crimp in shell holder and bring operating handle to full down position.

8. FINISHED SHELL — You should now have an excellent reload ready to fire in any type of shotgun.

ADJUSTMENT PROCEDURE

The Pacific DL-110 has been designed so that a minimum of adjustments are necessary. There are only two adjustments that may need to be made, wad pressure and #1 crimp die.

WAD PRESSURE: Adjustment of the wad pressure ram (110-16) is made by the use of a coin in the slot on the bottom of the ram. Ram is turned clockwise to increase wad pressure, counter-clockwise to decrease wad pressure. Wad pressure scale is located on the bottom of the wad pressure base (110-23). This scale is marked in 10 lb. divisions. One full turn on the wad pressure ram is equal to approximately 10 lbs. on the scale. Wad pressure is always read with case, with wads inserted in place, and operating handle in full down position.

#1 CRIMP DIE: The #1 crimp die is factory adjusted and seldom should need any adjustment. The adjustment of this die must be made very carefully. If the #1 crimp die is adjusted too low, you will find the case being crushed and wrinkled just above the brass portion of the case. If the die is adjusted too high, the case will not be completely closed by the crimp and a hole will appear in the exact center of the crimp. To adjust die, loosen lock nut and turn die (110-60J) clockwise to lower, or counterclockwise to raise. Adjustments of not more than ⅛ turn should be made between trials.

All other dies on the DL-110 are designed so that no adjustment is necessary or provided for.

CHANGING CHARGE BUSHINGS

The DL-110, like all Pacific shotshell loaders uses removable shot and powder bushings. The shot and powder bushings are of different outside diameter to prevent accidental interchange.

TO CHANGE BUSHINGS: Remove charge bar handle (110-17) and stop pin (110-14), rotate charge bar until bushing can be removed through the opening in the back of the powder measure casting (110-13). Replace this bushing with the bushing for the desired charge, continue to rotate charge bar to the other charge bushing, and replace it to make the correct load. Rotate charge bar until charge bar handle and stop pin can be replaced. **CAUTION:** Use bushing only with the powder it is marked for.

PACIFIC

TROUBLE SHOOTING CHART

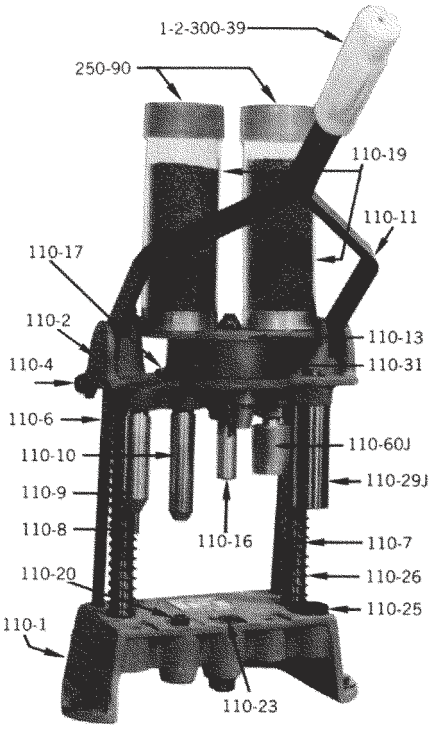
TROUBLE	CAUSE	CURE
Loaded case will not chamber or chambers hard.	1. Cases loaded when damp. 2. Cases picked up dampness after loading. 3. Cases swelled from too much wadding. 4. Weak cases.	1. Dry empty fired cases in oven for ten minutes at 200 before loading. (Do not attempt to dry loaded shells in this manner.) 2. Store cases in cool dry places. 3. Consult charts for proper wad column and pressure for case and load. 4. Cases loaded too many times, walls will not support wad pressure. Discard cases.
Bloopers or Roar outs	1. Powder not igniting properly.	1. Primer not hot enough, change to hotter primers. Use only primer designed for case being loaded. 2. Wad pressure insufficient. Check wad pressure frequently when loading. 3. Foreign matter over primer flash hole. Exercise care in handling process, check cases for dirt or other foreign matter prior to loading. 4. Cold lot of powder. Increase wad pressure or change to powder of another lot.
Loaded cases do not hold crimp.	1. Cases fatigued. 2. Wad column too long.	1. Discard cases. 2. Consult charts for proper wad column and pressure for case and load.
Heads pulled off cases after firing.	1. Cases fatigued.	1. Discard cases.
Cases stick in final crimp die.	1. Cases damp. 2. Final crimp die dirty. 3. Cases swelled from too much wadding.	1. Dry empty fired cases in oven for ten minutes at 200 before loading. (Never attempt to dry loaded shells in this manner.) 2. Clean inside of final crimp die with carbon tet. or lighter fluid. 3. Consult charts for proper wad column and pressure for case and load.
Collapsed cases.	1. #1 crimp die adjusted too low.	1. Adjust #1 crimp die up.
Shell is not completely closed in center of crimp.	1. #1 crimp die adjusted too high. 2. Insufficient wadding.	1. Adjust #1 crimp die down. 2. Consult charts for proper wad column and pressure for case being loaded.

PRIMER CHART

BRAND OF CASE	REM 57	WIN 209	CCI 109	CCI 157	FED. 209	ALCAN G57F	ALCAN WW209	ALCAN 220
WIN.		X	X		X		X	X
REM.	X			X		X		
PETERS	X			X		X		
FEDERAL		X	X		X		X	X

Pacific DL-110

PARTS LISTING



Part Number	Description
110-1	Base
110-2	Die Head
110-4	Lever Bolt
110-5	Lock Nuts
110-6	Link
110-7	Guide Post
110-8	Deprime Pin
110-9	Deprime Punch
110-10	Primer Punch
110-11	Lever
110-13	Powder Measure
110-14	Stop Pin
110-15	Stud
110-16	W. P. Ram
110-17	Charge Bar Handle
250-18	"E" Clip
110-19	Hoppers
110-20	Primer Base
110-21	P. B. Disc
110-22	P. B. Spring
110-23	Wad Pressure Base
250-24	Wad Pressure Spring
110-25	Shell Holder
110-26	Post Spring
110-27	Lock Nut
110-29J	Crimp Die
110-30J	Crimp Plunger
110-31	Charge Bar
150-32	Sel Loc R. P.
250-32	Shot Bushing
250-33	Powder Bushing
1-2-300-39	Lever Grip
110-47	Jam Nut
110-60J	#1 Crimp Die
350-58	E Clip
250-78	E Clip
2-300-89	Sel Loc R. P.
250-90	Hopper Caps

CHARGE BUSHING CHART

Factory Load Equivalent		Case Length	Grain Weight Powder	Oz. of Shot	Wad Pressure	Type of Load
2¾ Dr	1⅛ oz.	2¾"	21 Red Dot	1⅛	80	12 Gauge Target Load
2¾ Dr	1⅛ oz.	2¾"	22.5 Win. #450 LS	1⅛	70	12 Gauge Target Load
2¾ Dr	1⅛ oz.	2¾"	21 Hi-Skor	1⅛	50	12 Gauge Target Load
2¾ Dr	1⅛ oz.	2¾"	23 TRAP 14	1⅛	60	12 Gauge Target Load
3 Dr	1⅛ oz.	2¾"	23 Red Dot	1⅛	80	12 Gauge Target Load
3 Dr	1⅛ oz.	2¾"	23.5 Win. #450 LS	1⅛	70	12 Gauge Target Load
3 Dr	1⅛ oz.	2¾"	20 AL-101	1⅛	60	12 Gauge Target Load
3 Dr	1⅛ oz.	2¾"	17 Super M	1⅛	25	12 Gauge Target Load
3 Dr	1⅛ oz.	2¾"	22 Hi-Skor	1⅛	50	12 Gauge Target Load
3 Dr	1⅛ oz.	2¾"	27 TRAP 14	1⅛	60	12 Gauge Target Load
3¼ Dr	1¼ oz.	2¾"	30 AL 5	1¼	90	12 Gauge Hunting Load
3¼ Dr	1¼ oz.	2¾"	24.5 Win. #450 LS	1¼	70	12 Gauge Hunting Load
3¼ Dr	1¼ oz.	2¾"	28 TRAP 14	1¼	60	12 Gauge Hunting Load
3¾ Dr	1¼ oz.	2¾"	33 AL 5	1¼	90	12 Gauge Hunting Load
3¾ Dr	1¼ oz.	2¾"	35.5 Win. #500 HS	1¼	70	12 Gauge Hunting Load
3¾ Dr	1¼ oz.	2¾"	33 Herco	1¼	90	12 Gauge Hunting Load
3¾ Dr	1¼ oz.	2¾"	25 Unique	1¼	50	12 Gauge Hunting Load
3¾ Dr	1¼ oz.	2¾"	33 P.B.	1¼	50	12 Gauge Hunting Load
Short Mag.	1½ oz.	2¾"	38 AL-7	1½	90	12 Gauge Hunting Load
4 Dr	1½ oz.	2¾"	40.5 Win. #540 MS	1½	70	12 Gauge Hunting Load
4 Dr	1⅜ oz.	2¾"	38 Herco	1⅜	90	12 Gauge Hunting Load
4 Dr	1⅜ oz.	2¾"	35 Herco	1⅜	90	12 Gauge Hunting Load
4 Dr	1⅜ oz.	2¾"	43 SR 4756	1⅜	70	12 Gauge Hunting Load
Short Mag.	1½ oz.	2¾"	35 AL-7	1½	90	12 Gauge Hunting Load
4¼ Dr	1½ oz.	2¾"	39.5 SR 4756	1½	70	12 Gauge Hunting Load

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

ACCESSORIES FOR DL-110

UNIVERSAL SIZE DIE

CRIMP STARTER DIE
FOR NEW CASES 6 OR 8 PT

Pacific Gun Sight Company cannot assume any liability for damage which may result from the use of the products or information given herein. This is necessary because Pacific Gun Sight Company has no control over the manner in which products or components are used in the reloading operation.

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MEMBER
NATIONAL RELOADING MANUFACTURERS ASSOCIATION

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