

70's

Condensed Operating Instructions

The inexperienced operator is to sit in front of the machine, facing it with the FLYWHEEL at the left. Turn the wheel slowly by hand, turning **toward** the operator. He will then observe the operation in slow motion. He will see packets delivered before filling. He will see the OPENER insert itself into a packet. He will see the DRUM turning in preparation for the MEASURE to go into the opening in the DRUM. The MEASURE is attached to the MEASURE ARM which in turn is attached to the machine. In mechanical operation, the seed from the revolving DRUM will be put into the opened packet.

Empty packets will have been placed in the BAG BOX (ENVELOPE BOX) WHICH HAS ALREADY BEEN ADJUSTED ACCORDING TO PACKET SIZE. USUALLY THE OPERATOR WILL HAVE PLACED 150-200 EMPTY PACKETS IN THE BAG BOX. Later, the operator will put in additional packets while the machine is operating. In order to hold packets in position in the BAG BOX, there is a follower weight. The purpose of the weight is to force the empty packets along and into position for filling.

It is not necessary to stop the machine when adding more packets. The procedure to add them is as follows. Hold the remaining packets with the left hand while removing the follower weight so as to add

additional packets. The follower weight is then replaced so as to keep the pressure constant on the empty packets still in the BAG BOX.

So far we have not mentioned glue application. You will find special directions under "Operation of the Glue System."

After practicing hand operation and observing the process of the machine, it is time to start Automatic Mechanical Filling. Using the *RATIO-PAX* at very slow speed, watch the operation until it becomes familiar to you. Then put two or three cupfuls of seed into the FUNNEL leading into the back of the DRUM. As you require more seed, continue to add it without stopping the machine.

The *RATIO-PAX* installation for easy control of speed of filling operation is a valuable addition to the machine. It is adjustable while the machine is running and by using the system to increase or decrease speed, it simplifies operator training.

When changing from one variety of seed to another, obviously the HOPPER must be thoroughly cleaned. Various methods may be used, compressed air being perhaps the quickest and most satisfactory.

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Operating Instructions

ENVELOPE BOX ADJUSTMENT (BAG BOX)

Place a few bags in the ENVELOPE BOX with FOLLOWER. Adjust sides of ENVELOPE BOX (BAG BOX) with FOLLOWER. Place FOLLOWER in position. Adjust sides of ENVELOPE BOX vertically so GLUE HEAD touches packet about ¼ inch below the lip of the bag. If the GLUE HEAD strikes too low, the glue will squeeze out from under the flap and gum up the BRASS ROLLS and FOLDING BLADE; if too high, the SPREADERS and FLAP HOLDER will become gummed.

Adjust width of ENVELOPE BOX laterally so that the sides will allow the bags to move forward freely but not push by the STOP PLATE. (See Photo A) Adjust height of ENVELOPE BOX by loosening knurled screws at bottom of standards. The top of the ENVELOPE BOX is adjusted by the cross tie over the front end of ENVELOPE BOX. (See Photo A) It should be so regulated that the bags will be a little tighter at top than at the bottom. There should also be a very slight vertical "curl" forward of the packets to assure their being taken by the OPENER. On either side of front end of ENVELOPE BOX, there are adjustable STOP PLATES. (See Photo A) By the proper adjustment of the PLATES, the delivery of the bags can be regulated. The OPENER should be centered.

ENVELOPE BOX LATERAL MOVEMENT

The entire front of ENVELOPE BOX can be moved laterally by the ADJUSTING SCREW, the hexagon head

of which is located near the top of the front foot which separates BRASS ROLLS. The purpose is to center the envelopes (bags). (See Photo A)

FLAP HOLDER ADJUSTMENT

(See Photo A)

The FLAP HOLDER should be so adjusted as to bring its lower end slightly above the lip of bag, allowing the bag to open to receive the OPENER and SPREADERS yet holding flap of bag back. When TUNNEL ARM is at lower end of movement, FLAP HOLDER should lie flat against OPENER and should take this position with but little springing movement. Fine adjustment is had by knurled head screw at top of FLAP HOLDER BRACKET. More adjustment is obtained by loosening set screw at other end of bracket. Be sure to tighten it after making any adjustment.

SETTING BAG CARRYING ARM

(See Photo A)

Turn machine by hand and note just when BAG CARRYING ARM comes to a stop temporarily in downward movement and FOLDING BLADE approaches RUBBER ROLL. In this position a bag placed in FINGERS of BAG CARRYING ARM should be at correct height for FOLDING BLADE to make fold at proper place. (See Photo A) If this is **not** the case, loosen set screw holding BAG CARRYING ARM on STUD, and swing ARM in correct position. **This is a PRECISE, IMPORTANT ADJUSTMENT.** Be sure to re-tighten the set screw

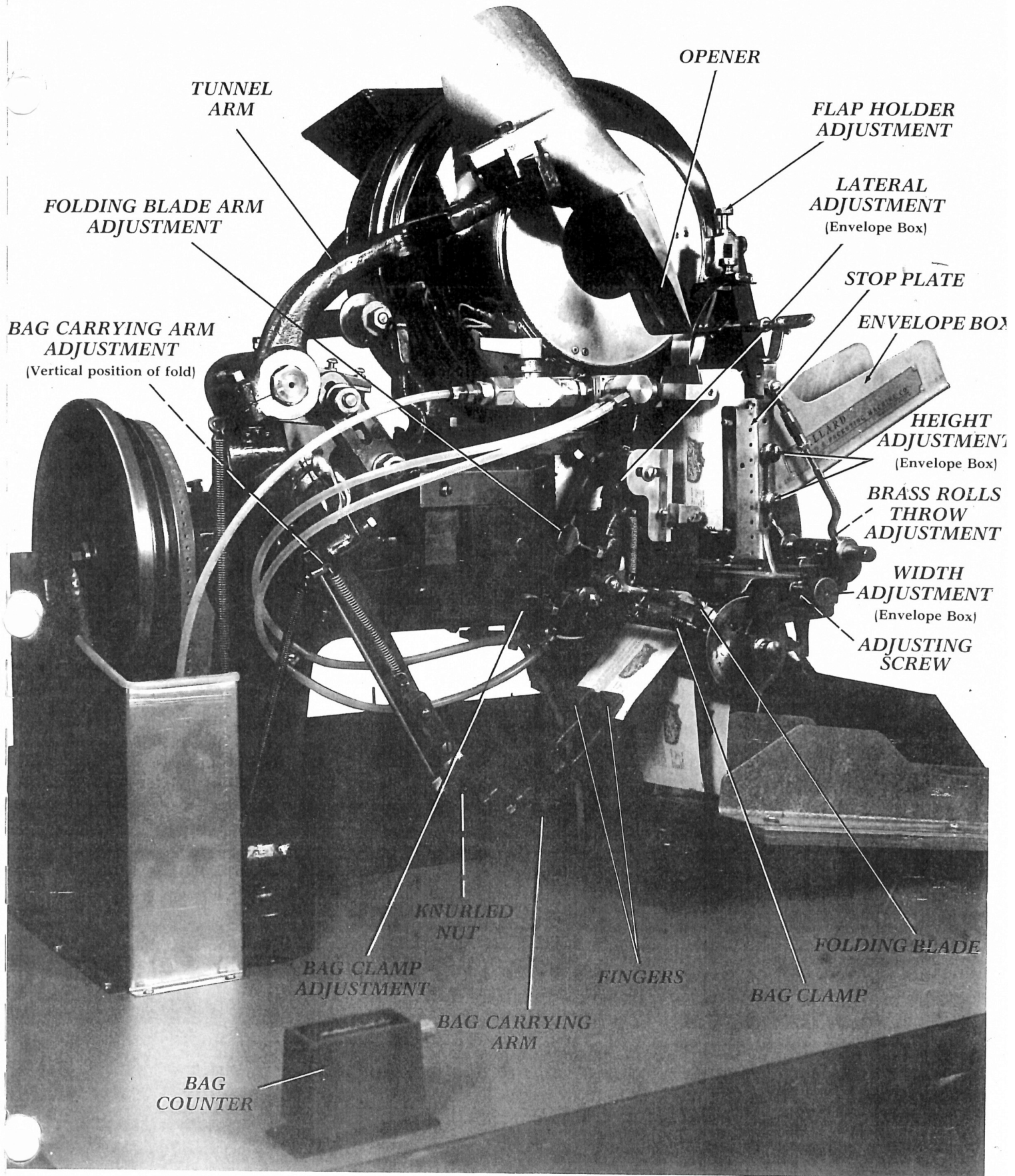


Photo A: Front View.

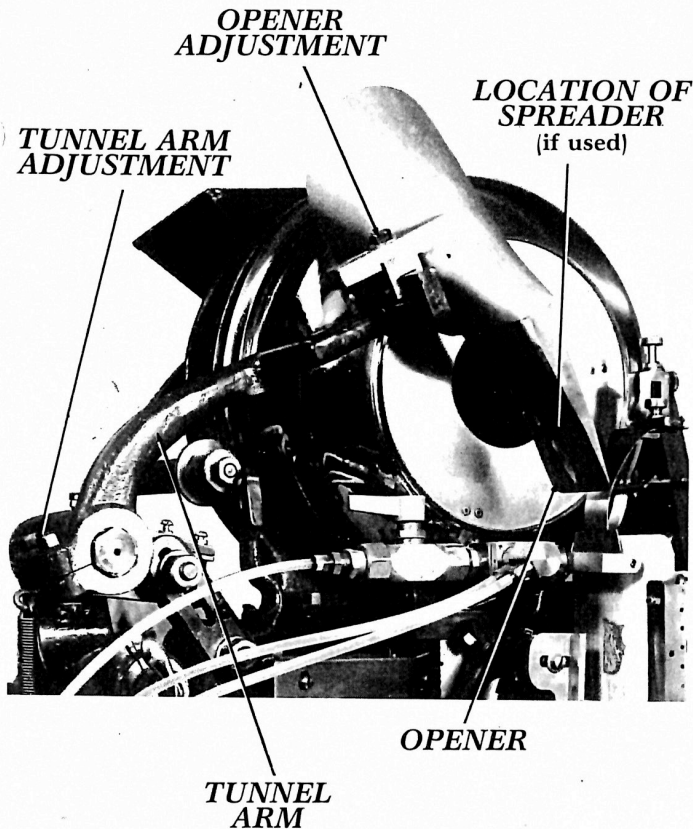


Photo B: Detail of Tunnel Arm Assembly.

TUNNEL ARM ADJUSTMENT

Loosen screws binding shank of TUNNEL ARM to STUD. Swing ARM to approximately horizontal position at the lowest limit of CAM movement. In this position the TUNNEL should allow MEASURE to enter it without hitting. The upward movement of the TUNNEL ARM is regulated by moving block in TUNNEL ARM LEVER or SLIDE. (See Photo B)

ADJUSTMENT OF OPTIONAL SPREADERS

Vertical adjustment can be made by means of small Set Screws near upper end of SPREADER, IF USED. (SEE PHOTO B) The opening of SPREADERS is governed by length of SPREADER PLUNGER. Loosen nut and turn PLUNGER by means of nut until the SPREADERS have sufficient spread when open, to hold bag easily until FINGERS are ready to grasp it. The OPENER should strike in center of LIP HOLDER and hold bag opposite the center of ENVELOPE BOX. To swing SPREADERS to a central position, hold SPREADER SHANKS together. Loosen **one** of the set screws and the SPREADERS can then be moved to a desired position. Adjustment of SPREADER SHANKS toward or away from TUNNEL can be had by these same screws. Be sure to re-tighten the set screws.

OPENER ADJUSTMENT (See Photo B)

The OPENER can be moved toward or away from the ENVELOPE BOX and the bags, by loosening the CLAMP SCREW which holds the TUNNEL to the TUNNEL BLOCK. The OPENER should be so adjusted that NOSE shall enter bag without straining it. It should also be equally spaced from side to side of the bag. This last adjustment can be made by loosening two small screws on side of OPENER BLOCK. Be sure to tighten screws after you have made the adjustment.

BAG CARRYING ARM FINGERS

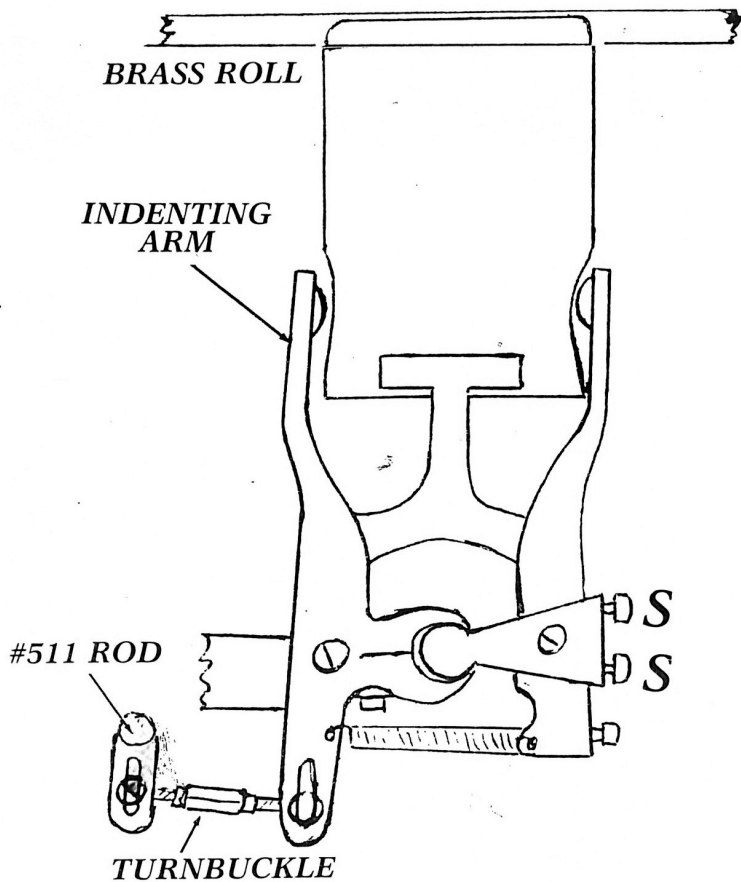
BAG CARRYING ARM FINGERS should open sufficiently to grasp bag easily. The opening of these FINGERS is regulated by knurled nut and check nut on FINGER SHAFT CONNECTION. It is located just under, and parallel to the BAG CARRYING ARM. Grasp of FINGERS is regulated by tension of coiled SPRING on BAG CARRYING ARM. By means of the set screws on lower ends of FINGERS, they may be set approximately before other adjustment is made. Only **one** should be loosened at a time. The length of BAG CARRYING ARM is varied by loosening two screws near HEAD OF ARM and should be so adjusted as to bring ARM up under bag without hitting. Changing the length of BAG CARRYING ARM will require a readjustment of knurled nut.

FOLDING BLADE ADJUSTMENT

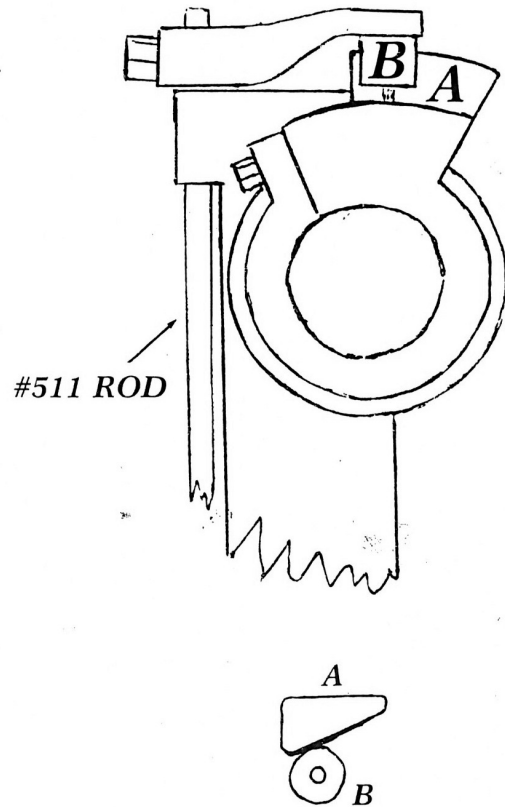
The FOLDING BLADE should meet the RUBBER ROLL with a light pressure, only enough to hold bag while BRASS ROLL is folding flap, but not enough to dig into the rubber. It is very important **not** to dig into the rubber. This adjustment is obtained by clamp screw at upper end of FOLDING BLADE ARM. (See Photo A) The BLADE should meet RUBBER ROLL just below BRASS ROLL. This adjustment is obtained by means of a knurled screw near lower end of FOLDING BLADE ARM. The fold of bag may also be regulated by this adjustment.

BAG CLAMP

The BAG CLAMP, under FOLDING BLADE is to flatten and hold bag against RUBBER ROLL while BRASS ROLL is sealing bag. It is held by set screw at upper end of ARM. (See Photo A) Enough pressure should be placed by CLAMP on RUBBER ROLL to contract the spiral springs at either side, about one-eighth of an inch. The contact of CLAMP with RUBBER ROLL can be varied, up or down, by means of the knurled head screw at back of the CLAMP. (See Photo A) The CLAMP should meet RUBBER ROLL as near to FOLDING BLADE as possible without being pushed down by FOLDING BLADE when BRASS ROLL is turning over the flap of bag.



INDENTING ARM CAM



IMPRINTER OR STAMP BRACKET

The STAMP BRACKET, located at end of stud holding FOLDING BLADE should be adjusted vertically and horizontally so as to press against the bags near their lower end. It dates each packet just before it is filled. Re-inking when necessary is quickly accomplished by means of a small squeeze-bottle of special ink. The IMPRINTER should press on bags only sufficiently to straighten bags in ENVELOPE BOX, but not push them out of vertical position.

REGULATION OF THROW OR FORWARD MOVEMENT OF BRASS ROLLS

The distance BRASS ROLLS roll over the flap of bag is governed by hexagon head screw, located under ENVELOPE BOX and to the rear of RUBBER ROLL. (See Photo A) Turning the screw to the right gives less roll or throw. Turning to the left gives more throw. When more or less throw is desired than can be obtained by this adjustment, it is necessary to change screws at each end of BAG SLIDE YOKE, located directly under front end of ENVELOPE BOX. (See Photo A) When screw is in lower position, more throw is obtained. The proper place for PAWLS to leave BRASS ROLL is directly over the spots of glue under flap of bag.

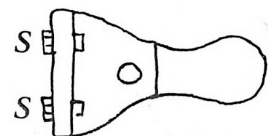
INDENTING BAGS

When bags are filled so full, or with such bulky seeds that they do not fold smoothly, the BAG CARRYING INDENTING ARM is used.

Take off the BAG CARRYING ARM, and in its place on FULCRUM STUD put BAG CARRYING INDENTING ARM, sliding CAM on FULCRUM STUD at the same time. This ARM should be set in same manner as plain BAG CARRYING ARM, then while ARM is in position for folding bag the CAM should be turned upon stud until the straight side of CAM (A) IS FLUSH WITH LOWER CIRCUMFERENCE OF CAM ROLL (B).

The set screw in the end of CAM ROLL CRANK may be loosened and roll set to give more or less motion to INDENTING ARM. A fine adjustment is also obtained by right and left nut at lower end of BAG CARRYING INDENTING ARM.

Adjustment of FRONT INDENTING FINGER is also had by means of small screws (S - S).



(Only enough indentation should be used to make the bag fold smoothly).

FOLDING BLADE DOGS

Run the machine by hand, stopping it while bag with glue on it is in the BAG CARRYING ARM FINGERS, but just before FOLDING BLADE touches bag. Now loosen screws in DOGS of FOLDING BLADE and move the DOGS so that they will come **BETWEEN** spots of glue on bag. It is well to have one DOG strike bag just outside of **each** end spot of glue at corner of bag.

RUBBER SCRAPER

Place MEASURE on end of MEASURE ARM EXTENSION, then adjust RUBBER SCRAPER so MEASURE will easily pass under SCRAPER at the same time, scraping all surplus seed from top of MEASURE. SCRAPER should be raised for coarser seeds at least half the diameter of the seed, and an eighth of an inch or more for fine seeds, according to size.

ROLLING BAGS FOR EASY OPENING

When bags are placed in BAG BOX, they should be placed with lip side toward the GLUE HEAD. When this is done, hold a bunch of bags in left hand with lip side flat against palm and strike them gently with edge of right hand, **vertically**, to form a slightly concave indentation. Then when placed in the BAG BOX the lip side will be slightly convex which allows the OPENER easier access for opening the bags.

OPERATION OF GLUE SYSTEM

Put an open plastic container of glue into the glue tank. Use any small open container. **NEVER PUT GLUE DIRECTLY INTO THE TANK ITSELF.** Replace the 4 lag screws and tighten them to hold the cover firmly on the tank.

Then start the air pressure leading into the tank. If you do not have an air pressure system, purchase an inexpensive compressor.

The pressure going into the tank should be **NO MORE** than 40 pounds. Set the pressure for 40 pounds.

There is a pressure gauge on the top of the tank. Connect the tube from the compressor to that gauge. This will raise the pressure in the tank to 20 pounds. Although 40 pounds will be going into the tank, the tank pressure will be approximately 20 pounds. This is sufficient for operation of the glue system.

In order to get the glue from the tank to the GLUE HEAD, it is necessary to turn the lever on the GLUE HEAD to the ON position. At this point, the lever will be in line with the tube to permit the glue to flow into it.

To hasten the glue from the tank to the GLUE HEAD, there is an air control switch attached underneath the main casting of the machine. This is timed so that glue will come out of the GLUE HEAD at just the time that the GLUE HEAD touches the packet. To start the glue

flowing, purge it through the GLUE HEAD by pressing air switch with finger until glue flows.

When your packaging for the day is finished, wrap a wet cloth around the head to prevent its drying out. Alternatively, you might prefer to remove the GLUE HEAD which requires only $\frac{1}{4}$ turn, then place it in fresh water for the night. It should be dried before re-attaching it when next to be used.

PAN

The PAN, in the DRUM has a sliding side by means of which the opening in bottom of PAN can be made central over MEASURE, and thus direct flow from buckets of DRUM into MEASURE. This slide sometimes needs to be removed from PAN to prevent clogging of coarse seed. On back of PAN is a rubber apron to prevent seed from spilling out of DRUM.

CHUTE EXTENSION

At end of CHUTE is a sliding sleeve which may be raised or lowered to regulate the flow of seed into the DRUM. For coarse material, sleeve should be raised, and for fine, lowered.

ASSEMBLING PARTS

In assembling parts of machine for operation, place PAN in DRUM, then while TUNNEL ARM is raised, attach MEASURE ARM EXTENSION. Then insert CHUTE in DRUM. **BE SURE THAT ALL PARTS ARE SECURELY FASTENED BY BINDERS BEFORE STARTING MACHINE.** A circular metal guard is fitted to front of DRUM to prevent spillage.

CAMS (See Photo C)

The principal CAMS which operate the machine are located on the MAIN SHAFT and are designated by number as shown in the photograph. Should re-timing ever become necessary, the following directions **MUST** be followed and in the order given. Number 4 CAM may have to be set twice because it may lose its position when #5 CAM is set since it is attached to it.

DIRECTIONS FOR SETTING CAMS (See Photo C)

All timing is started by:

#1 CAM ROLL is positioned on the smaller projection of #1 CAM which is attached to FLYWHEEL.

#2 CAM is then set "roughly" by having set screw show at rear, at right angle to main shaft. Then adjust fingers of BAG CARRIER ARM so they just finish closing just before ARM starts downward motion.

#3 CAM should now be set "roughly" by having set screw in line with that of #2 CAM.

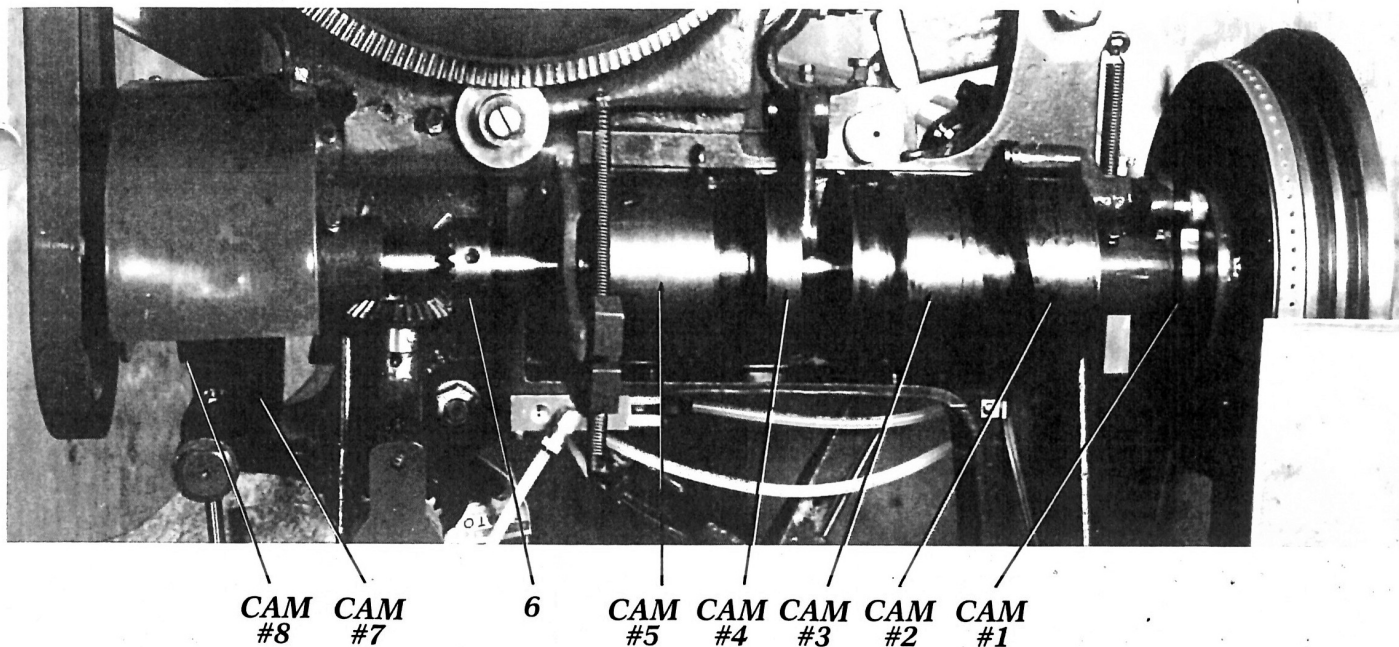


Photo C: Rear View, Cam Assembly.

#4 CAM set screw (in #5 CAM) should be set "roughly" in line with #2 and #3 CAMS. Then adjust #4 CAM so that SPREADERS just start to close, just before GRIPPERS start to close.

#8 CAM should now be set so it starts ENVELOPE BOX to right (or back) just before SPREADERS have reached their full spread.

#5 CAM starts slide to left from far right position when #8 CAM ROLL is in center of forward (or left) movement. The FOLDING BLADE should just barely hit the RUBBER ROLL just before the BRASS ROLL is pushed forward to fold the bag.

#7 CAM should position the MEASURE in its forward motion about one inch from the TUNNEL as bottom edge of TUNNEL passes ahead of it. It will then reach its furthest point of throw when TUNNEL is in its furthest point and motionless.

After timing of the CAMS is completed, the final adjustment of the GENEVA GEAR must be made. Turn machine by hand until the BAG BOX has just reached its extreme left (or forward) position. Loosen MAIN SHAFT BEVEL GEAR and turn it until teeth of GENEVA GEAR are 90 degrees from vertical on left side. Center tooth should point at 9 o'clock. Then rotate machine by hand until one BRASS ROLL has been pushed down by underside of the two BASE FEET. (See Photo C) Continue rotation until BASE is again at extreme left. In this position, top of BASE FEET should just touch the BRASS ROLL above them without moving it.

If the FEET lift the ROLL, loosen the set screws in the BEVEL GEAR again and turn gear slightly backward (to-

ward you when standing in back of the machine). If BRASS ROLL is too high, turn GEAR forward (away from you).

When correct timing is obtained, GO OVER ALL SET SCREWS AND TIGHTEN SECURELY.

At assembly, ECCENTRIC SLEEVE in back of METER is installed with thinnest edge DOWN. Turn clockwise to loosen. MAIN SHAFT DRIVE GEAR will also need adjustment to compensate for this take-up of slack.

With center punch or pin inserted in holes in rim of SLEEVE, turn SLEEVE to right or left until GENEVA GEAR fits closely, yet easily against the GENEVA GEAR STOP, on back end of RUBBER ROLL. Then tighten up the two set screws. Now try the RUBBER ROLL alone in its six different positions and see that it slides easily over the GENEVA GEAR. Turn the machine by hand to be sure that the RUBBER ROLL turns easily through all six positions. These adjustments seldom need to be made.

SEMI-AUTOMATIC FILLING OR HAND FILLING

First choose whatever type of measuring spoon is suitable for the amount of seed you wish to have in the packet. See the last page of the Brochure for an example of what may be used to measure. You may prefer a plain measuring spoon. There is no measure for this included because the choice should be made by the operator. The adjustable MEASURES used for automatic packing are not suitable for semi-automatic packing. Use a hand spoon.

First remove the TUNNEL #50 which is on the machine.

Then move the TUNNEL BLOCK #53 over toward the MACHINE, inside, to where you will see a mark.

Then put on the special cut-down OPENER in place of the one you have removed. Place it so that the SPREADER WIRES just barely touch or rub when you open and close them. The ARM would then be in the UP position.

You should not have to move anything else.

The speed should be set at 30 or 40 on the RATIO-PAX which will give you 15 to 22 packets per minute. Then you can speed up or down as the operator becomes accustomed to the procedure and can keep up with filling.

SELF SEALING PACKETS

The machine is readily adapted for use of Self Sealing packets if desired. In some cases, slight changes in packet design is recommended.

HEAT SEALING OF FOIL OR PLASTIC PACKETS

We have sent out a number of machines for Heat Sealing of packets. It is possible to have both Pressurized Glue Sealing and a separate Heat Sealing system.

TROUBLESHOOTING

BEFORE MAKING ANY CHANGE IN ADJUSTMENTS, BE SURE THAT YOU HAVE LOCATED THE TROUBLE.

If glue gets onto FOLDING BLADE:

See if the DOGS are properly spaced.

If glue gets on BRASS ROLL:

See if GLUE BAR is placing glue on bag at proper place. See if there is too much throw or movement to the BRASS ROLLS.

If BRASS ROLLS apparently get out of time:

See if there is a ring of hardened glue sticking to the shaft supporting PAWLS which push BRASS ROLLS. If glue is sticking in that way, it can crowd the ROLLS out of position. Also, check the position of the BASE FEET again.

If BRASS ROLLS fail to roll over on flap of bag:

See if PAWLS drop behind rolls. If not, too much throw may be the cause, or springs over PAWLS may be worn out. It may be caused by not enough pressure of FOLDING BLADE, or of CLAMP

upon RUBBER ROLLS. It is sometimes caused by the ends of STEEL SPINDLES inside the BRASS ROLLS becoming flattened and slipping instead of rolling.

If RUBBER ROLL fails to turn:

See if the BEVEL GEAR is slipping, or if GENEVA GEAR is slipping on its shaft, or GENEVA GEAR STOP may be slipping in end of RUBBER ROLL.

If BAG CARRYING ARM does not grasp bags:

See if FINGERS close properly. They are sometimes held open by a seed or other material getting caught between FINGER and HEAD of BAG CARRYING ARM. See if both FINGERS close equally against HEAD. Put a piece of rubber tubing on each end of cross piece of BAG CARRYING ARM HEAD.

If bags come out of ENVELOPE BOX crooked:

See if STOP PLATES on one side or the other of ENVELOPE BOX are projecting too far. Or see if SPREADERS hold bag centrally in front of ENVELOPE BOX. This can be attained by adjusting SPREADER sideways. Tension of both FINGERS of BAG CARRIER ARM must be the same or bags will fold crookedly. Also, be sure the bottom edge of bag is seated against the fins of **Both** FINGERS, when FINGERS have closed. Make sure BAG CARRIER ARM swings completely free through its arc of operation. **BE ESPECIALLY SURE THAT IT DOES NOT HIT THE GENEVA GEAR GUARD.**

If bags tear on edge:

It is usually caused by too much tension on SPREADERS. (SPREADERS open too far.) It may be caused by STOP PLATES projecting too far. ENVELOPE BOX may hold bags too tightly. TUNNEL ARM may be set too low down.

If bags tear on flap:

FLAP HOLDER needs bending to lie closer to OPENER.

FLAP HOLDER may not come in middle of bag opening.

GENERAL MAINTENANCE

All BEARINGS are replaceable bronze Oilite bushings. Keep machine as clean as possible. It will repay you. Keep material in DRUM (HOPPER) as low as possible, and still fill the MEASURE.

Keep all check nuts and set screws tightened.

On stopping machine at close of work, take out GLUE BAR and place it in water. Dry it before using again.

Once in three or four weeks, take off BRASS ROLLS, clean and oil by passing oily waste through them. **DO NOT LET OIL GET ONTO RUBBER ROLLS.**