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Worldwide Dependability — Can Packaging & Processing Equipment

OPERATOR'S MANUAL DIRECT DRIVE DIXIE DOUBLE SEAMER

Model UD-AL



MODEL UD-AL

MODEL UD-AL Dixie Double Seamer Operators Manual



MODEL UD-AL

INTRODUCTION

The Dixie Model UD-AL is adaptable for closing containers from 2" to 6 1/4" diameters, up to 7" tall. [May be fabricated for taller cans.] Change parts are required for closing each size container. The Model UD-AL is designed with an air lift assembly to raise containers into position with the seaming rolls and chuck. The Model UD-AL may be equipped with a single or dual switches to activate the air lift and subsequently the seaming cycle. Alternatively, it may be equipped with a sensor switch and programmed at the factory for a built-in delay, suitable for your container, to allow adequate time to place containers in the seamer before the sensor switch activates the air lift to raise the containers into position for the automatic seaming cycle. An average capacity is 20 cans per minute depending on container size and operator dexterity.

OPERATION

WITH SINGLE SWITCH: Operator positions can with top then presses the start switch. The can is automatically raised, double seamed, and lowered. The operator removes can and repeats the operation.

WITH DUAL SWITCHES: Operator positions can with top then simultaneously presses both start switches. The can is automatically raised, double seamed, and lowered. The operator removes can and repeats the operation.

WITH SENSOR SWITCH: Operator positions can with top. After a brief programmed delay, the can is automatically raised, double seamed, and lowered. The operator removes can and repeats the operation.

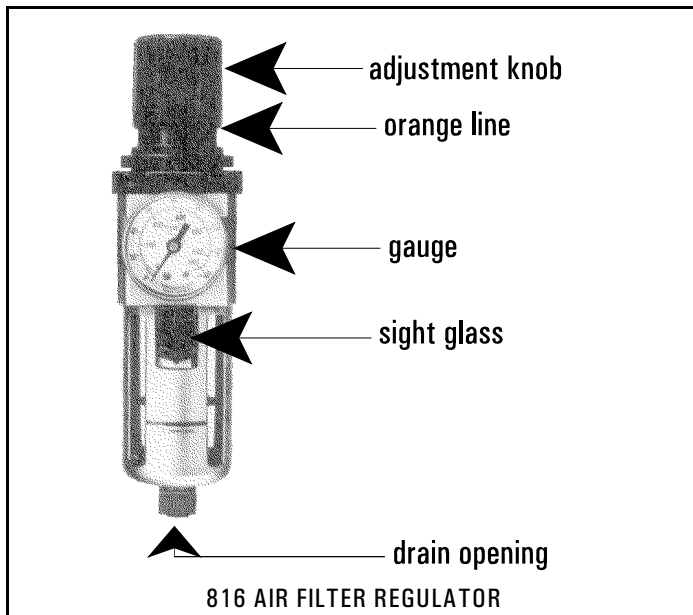
*** INSTALLATION ***

BEFORE OPERATING YOUR DIXIE DOUBLE SEAMER REVIEW THIS MANUAL and make certain that:

1. The seamer is secured directly to the floor or other stable base with concrete drill-in anchor bolts or lag screws using the appropriate anchoring system suitable for your specific flooring and/or sub-flooring. Four (4) mounting brackets with 9/16" diameter holes are located at each corner of the cabinet base.
2. The machine is properly connected to your electrical supply.
3. Auxiliary and accessory items are properly attached.
4. All moving parts are oiled. These parts will require periodical oiling to prevent unnecessary wear.
5. The machine is properly adjusted for the cans to be closed. Inspect machine adjustments periodically to assure proper results.
6. If used occasionally or inactive for more than a few days, give special attention to servicing before and after storage.

AIR FILTER/REGULATOR & AIR LIFT ASSEMBLY ADJUSTMENTS

Recommended air supply is 80-100 psi maximum. Different types of containers may require specific psi settings. The air pressure filter/regulator (816) on your machine has been set at the factory for the sample containers submitted with your order. If you find your air supply is inconsistent, or if you change containers or lids, you may need to adjust the air pressure filter/regulator. Too much air pressure may cause your container to crush your lid against the chuck. Too little air pressure will not lift the container against the lid properly. Any adjustments to the air pressure regulator should be made in small increments until a satisfactory pressure is achieved.

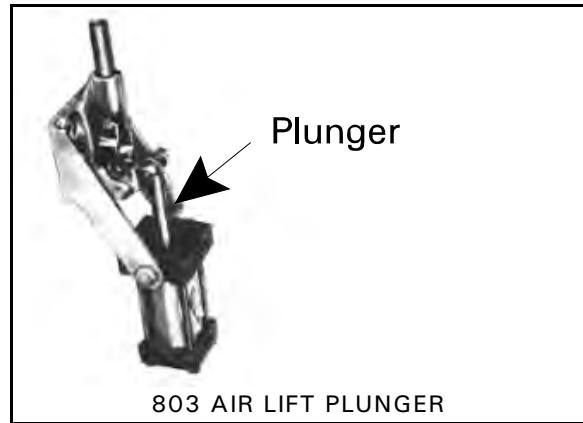


As a general rule, composite containers require a pressure setting of 70 psi; aluminum containers, 85 psi; and tin or steel containers require about 95 psi. However, particular container types may require minimal experimentation to determine the optimum pressure setting.

To set or change the air pressure, pull up on the black knob on top of the regulator until the orange band is visible. Turning the adjustment knob clockwise increases the pressure and turning the knob counter-clockwise reduces the pressure. Adjust as necessary while observing the pressure gauge. *Do not exceed 100 psi.* Push down on the adjustment knob to lock air filter/regulator at selected psi to prevent accidental setting change.

The filter element should be changed after 1 year or when a pressure drop of 15 psi is reached. Periodically observe condensate level through sight glass in filter and manually drain as needed.

NOTE: Sufficient air pressure must be provided to cause the plunger of the air lift assembly (803) to extend to its locked position. *Do not exceed 100 psi.*



ADJUSTING THE SENSOR SWITCH (665)

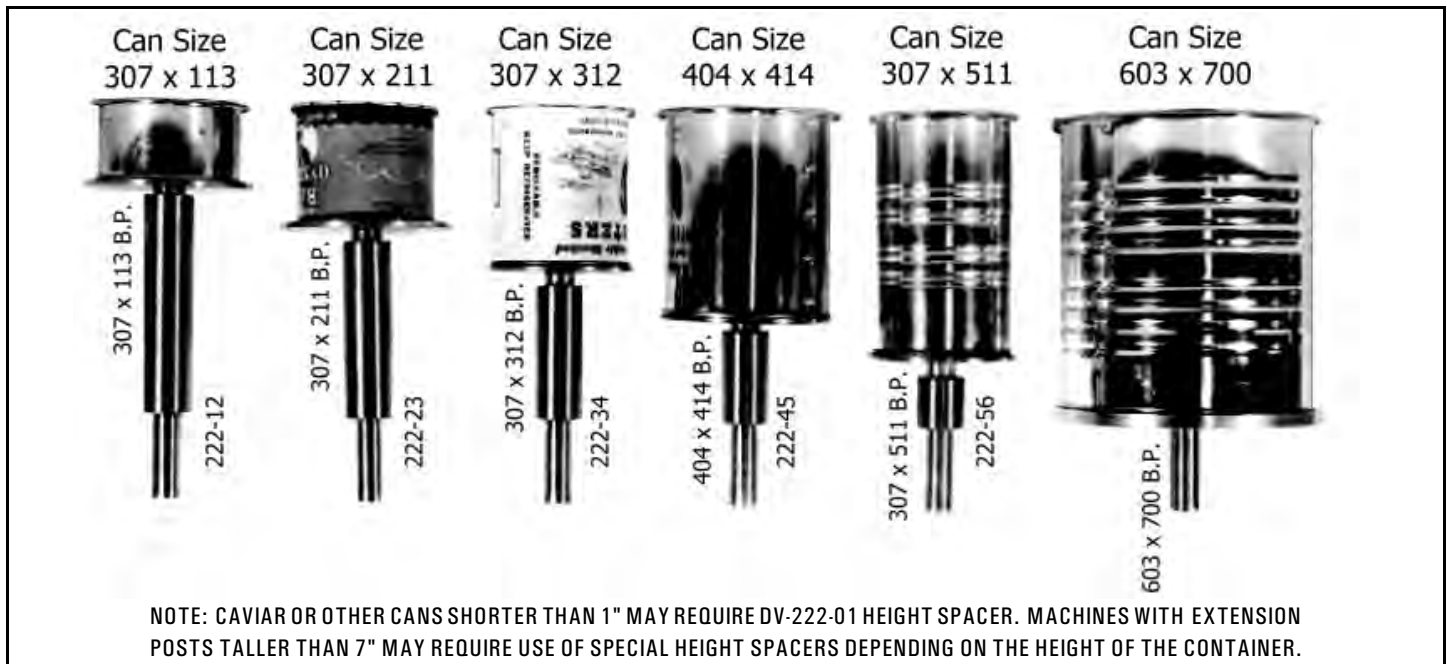
Your machine may have been equipped with a capacitive proximity Sensor Switch (665) which recognizes the presence of the cans and subsequently activates the air lift system to raise the can into seaming position. The sensor switch was programmed at the factory to allow a one second delay before the air lift system is activated. The field, or gap, between the containers and the end of the sensor switch must be adjusted each time you change to different can diameters. The field depth or distance between the end of the sensor and your containers should be approximately 0.150" (3.95 mm).

TO CHANGE THE FIELD DEPTH OF THE SENSOR SWITCH:

1. Turn the electrical power to the machine OFF.
2. Use a 1½" or an adjustable wrench to loosen the large lock nut on the rear side of the sensor bracket.
3. Place an end or lid on the can body of the size you wish to use and hold them against the chuck in the raised seaming position.
4. While holding the can in position with one hand, use your other hand to turn the threaded sensor switch in or out until the field depth, or gap, between the can body and the sensor is approximately 0.150" (3.95 mm). You may need assistance to ensure the can is in the correct position as you measure the sensor field depth.
5. Remove the container and lid.
6. Tighten the large lock nut on the rear of the sensor bracket.
7. Repeat above procedure as needed to obtain correct sensing of your containers.

*****CAUTION!*****

- ▶ Do not allow dust or grease to accumulate on the sensing surface of the sensor switch. Dust or grease on the sensing surface will cause the sensor to operate continuously resulting in premature failure.
- ▶ It is important to ensure that the field depth of the sensor switch is adjusted to the shortest feasible distance (approximately 0.150" or 3.95 mm). Excessive field depth will cause premature failure of the sensor.



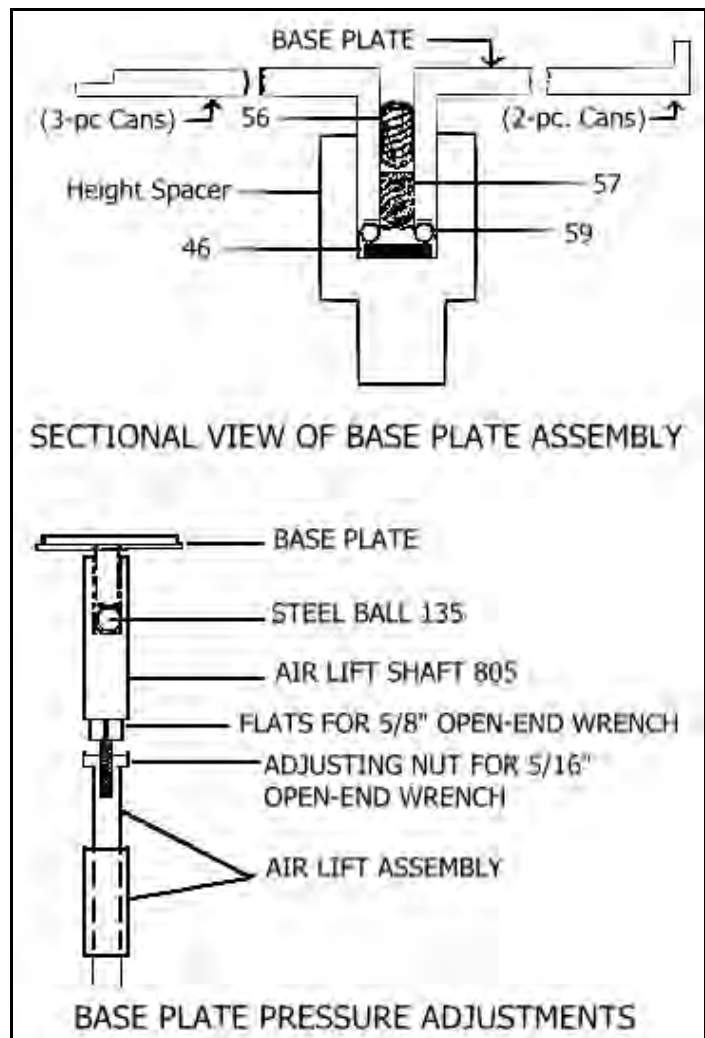
BASE PLATE PRESSURE ADJUSTMENTS

Proper base plate pressure is required to produce essential body hook, and also prevents slipping during the seaming cycle.

Initially, the machine was set-up and adjusted to close cans size 603 x 700 then changed and tested for closing other size cans. Before shipping the machine was equipped and tested to close the cans specified on your order. To make minute adjustments in base plate pressure or to change to cans shorter than 6" proceed as follows:

1. Base plate pressure adjustments are made by loosening the 5/16" nut at the base of the 805 lift shaft then turning the lift shaft with a 5/8" open-end wrench at the "flats" on the lift shaft.
2. Cans shorter than 6" require height spacers and separate base plates which have adjusting screws (57) and set screws (56) in their stem. After loosening the set screw with a screwdriver inserted into the hole, the adjusting screw can be turned with fingers or carefully with pliers to the proper setting. CAUTION: If using pliers or nippers to turn the adjusting screw, be careful not to damage threads.

After making adjustments, tighten jam nuts or set screw.



SEAMING ROLL ADJUSTMENTS:

There are ten (10) revolutions per seaming cycle, five (5) for each seaming roll. The function of the first operation seam roll is to curl the cover hook and body hook into proper position. The second operation seam roll is to complete the sealing of the can.

FIRST OPERATION

1. Put machine in neutral position.
2. With power ON, press and release the actuator on the clutch/brake assembly four (4) times. Turn machine OFF, then press the actuator ONE more time to release the clutch brake. Then manually turn the clutch ONE HALF revolution. Grasp the collar (508) by hand, OR, use a wrench to turn the chuck shaft, to turn the assembly in a clockwise direction. These 4½ revolutions of the clutch/brake assembly places the first operation seam roll in its innermost position with the chuck.
3. While power to machine remains OFF, loosen lock nut (16) and adjust set screw (17-A) until the first operation seam roll is snugly in position with the chuck. While holding the first operation gauge wire (40) in position between the chuck lip and the ground profile of the first operation seam roll, tighten the lock nut. The larger diameter gauge wire (40) is the approximate THICKNESS of the first operation seam. Final adjustments may be made after a can is closed and the double seam inspected.

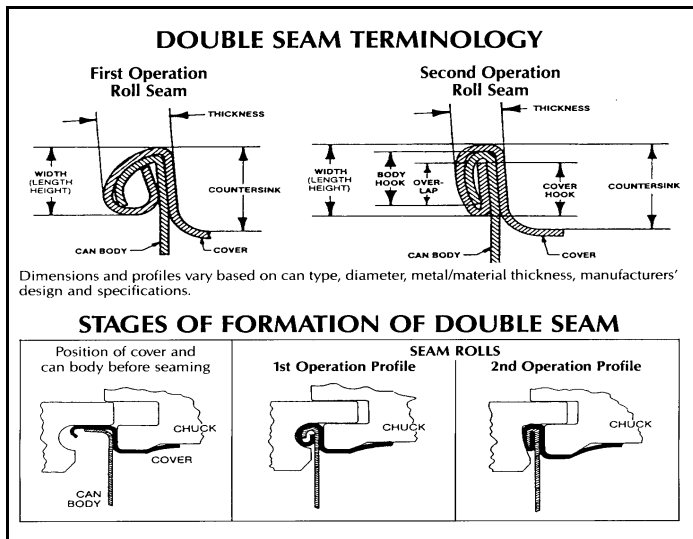
SECOND OPERATION

1. Turn power to machine ON which will automatically complete the fifth revolution. Press and release the actuator FOUR times and turn power to machine OFF. This is a total of nine (9) revolutions from the beginning and puts the second operation seam roll into its innermost position with the chuck.
2. Using your wrench and screwdriver, adjust the second operation seam roll into position. Use the second operation gauge wire (41) to fit the seam roll snugly in position with the chuck then tighten the lock nut. The small diameter gauge wire (41) represents the approximate THICKNESS of the second roll seam. Final adjustments may be made after a can is closed and the double seam inspected.
3. Press the actuator ONE time and turn power to machine ON to complete the 10th revolution and cycle. This will return the machine to its neutral position.
4. Close a can, tear down and inspect the double seam. Make final adjustments of the seaming rolls and base plate pressure to produce essential body hook, cover hook, overlap and tightness recommended by the container manufacturer or for a hermetically sealed can. NOTE: If you are unable to obtain the essential measurements recommended or a hermetically sealed container, you may need seam rolls with different profiles.

CHANGING FROM ONE SIZE CAN TO ANOTHER:

Change parts consisting of a chuck, a base plate and a height spacer may be required for each different can diameter, top or style. Also, a different set of seaming rolls may be required for each. Your can manufacturer or supplier may recommend the seam roll profiles for your cans. Dixie stocks or may be able to furnish the seam roll profile needed. Therefore, make sure you have the correct change parts available when changing your machine from one can size to another, then proceed as follows:

1. Put seam rolls in neutral position.
2. Loosen lock nuts (16) and adjust set screws (17-A) until both seaming roll levers (206) are back as far as they will go. If needed, change seaming rolls and/or reposition seam levers on the splined shafts (204). Leave the seaming roll levers backed into this position until after the chuck has been changed.
3. Change chucks. Make certain that the new chuck is properly tightened into position against the shoulder of the chuck shaft. CAUTION: (a) Use an open end wrench at the flat surface on the chuck shaft and the chuck wrench while loosening or tightening the chuck. Otherwise, the clutch/brake unit may be damaged. (b) If it is necessary to reposition 206 and 204, make certain the lip of each seaming roll runs freely in the chuck groove when in their innermost (seaming) position after the cap screws (322) are tightened.



CHANGING CHUCKS

To remove the chuck, hold the chuck shaft with a 5/8" wrench on the cut side of the shaft, located in the exposed area under the gear housing. Then place the two pins of the chuck wrench (44) provided with your seamer) into two of the four holes located on the bottom of the chuck. [The pins of the chuck wrench will fit into either diagonal or adjacent holes depending on the diameter of the chuck.] To loosen, turn the chuck to the left. Finish removing the chuck by hand.

To install a new chuck, hold the chuck shaft with a 5/8" wrench, as described above, while using your hand to thread the chuck onto the lower end of the chuck shaft. Turn to the right to thread the chuck onto the chuck shaft. Use the chuck wrench, as described above, to tighten snugly.

4. When necessary remove and reset the seam roll levers (206) so the seam rolls will be about 1/2" from the chuck lip. Minimum travel of the seam roll levers is desired when turning the adjusting screws. **CAUTION:** Use a box wrench to loosen or tighten the bolt securing the seaming roll levers in position on the splined seam roll lever drive shaft. After tightening the bolt make certain that the lip of each seaming roll runs freely in the chuck groove when they are in their innermost (seaming) position and if necessary repeat the adjustment until the seaming roll levers are properly secured into position on the splined shaft.
5. Install the proper base plate and height spacer for the can to be closed. Adjust the base pressure and seaming rolls as outlined above.
6. If you are changing can diameters, it will be necessary to adjust the field depth of the sensor switch (665) to insure that the sensor will recognize the presence of the containers. (See page 2.)

NEUTRAL POSITION

The machine is in a neutral position when both cam rolls (20) are in their innermost position and both seaming rolls are in their outermost position.

TIMING THE MACHINE

"Timing" and "in a neutral position" are synonymous. The machine is properly timed (or in neutral position) when both cam rolls (20) are at their innermost position and both seaming rolls (1st and 2nd) are at their outermost position. There are ten (10) revolutions per seaming cycle. Therefore, with power to the machine ON, by pressing the actuator on the clutch/brake assembly to turn the clutch/brake assembly one revolution at a time, the machine will have been "timed" by or before the 9th revolution. Then turn the power OFF, which allows the revolutions counter to "reset" while the machine is in a neutral position. Turn power ON again and continue closing cans.

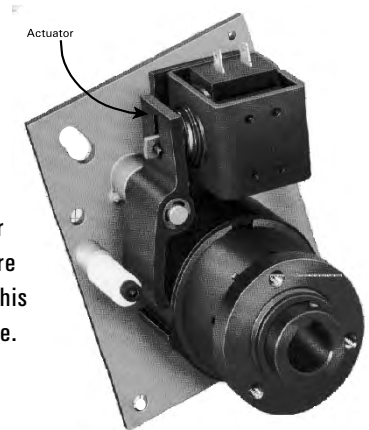
If it should be necessary to turn the clutch/brake assembly less than a full revolution, proceed as follows. Turn power to machine OFF. Press the actuator one time to release the clutch brake. Grasp the collar (508) by hand, OR, use a wrench to turn the chuck shaft, to turn the assembly in a clockwise direction as needed. Turn power to machine ON and verify that the machine is now in time.

NOTES AND TROUBLESHOOTING

- ▶ Machine won't operate: 1. Solenoid in the clutch-brake assembly (502-1) doesn't work. 2. Air lift doesn't work, or 3. Direct Drive Motor doesn't run — check FUSES.
Open electrical box on rear of machine. Study the schematic drawing on the inside of the door, which details the fuses (3) and their individual function. The black, 3-section fuse box is located at the bottom-right section in the electrical box. Each of the sections have two (2) fuses — one is a spare. Proceed to replace the top fuse, one section at a time until problem is solved. Order spare fuses as needed. **NOTE:** Two fuses are 4 amp and one is 15 amp.
IF PROBLEM is not a "blown" fuse, your electrician may locate and correct a loose connection in the wiring — or contact the factory.
- ▶ Machine won't stop, continues running. Check the clutch-brake (502-1) to see if the Magnet (664-A) is in place. The Sensor (664) needs the magnet in place on the clutch-brake to count each revolution. Use "Krazy Glue" to replace the magnet if needed.
- ▶ Power "accidentally" turned OFF during a seaming cycle will cause the machine to be "out of time" or "not in neutral."

CLUTCH/BRAKE/SOLENOID ASSEMBLY

WARNING: The clutch/brake/ solenoid assembly is very complex. We recommend replacing the entire assembly (502-1) and returning the defective unit for factory repair for later use as a spare. Care should be used when removing this unit to avoid irreparable damage.



CHANGE PARTS AND REPAIR PARTS:

Photographs or schematics of parts, assemblies, machine sections, base plates and height spacers with the corresponding part number are shown on other pages. A Parts/Price List is furnished separately. When ordering parts, always furnish both the part number and the name of the part. When ordering change parts for cans, always send six (6) loose tops and can bodies of the size can(s) to be closed.

REPAIR PARTS AND REBUILDING SERVICE

A complete stock of parts is maintained by Dixie Canner Equipment Co., Athens, Georgia, USA. Parts may be ordered as needed to replace worn or damaged parts.

Your Dixie Model UD-AL Direct Drive Seamer may be returned to Athens, Georgia for a complete rebuilding at a nominal service charge, plus the cost of parts needed. When returning the machine for the rebuilding service please observe the following:

1. Return the complete machine and include several cans and tops of the exact size and type closed. Properly crate the machine and cans for safe delivery and return shipment, and prepay the shipping cost.
2. Write a letter authorizing the rebuilding service and mention any problem with the machine. Also mention particular instructions concerning return shipment, urgency, and other pertinent instructions.

HELPFUL HINTS – TROUBLESHOOTING

Until the operator is familiar with the mechanics of your can closing machine and learns to recognize irregularities in the essential requirements of the double seam, the outline below is intended to help notice obvious defects and list some causes that may serve as a guide in correcting minor troubles.

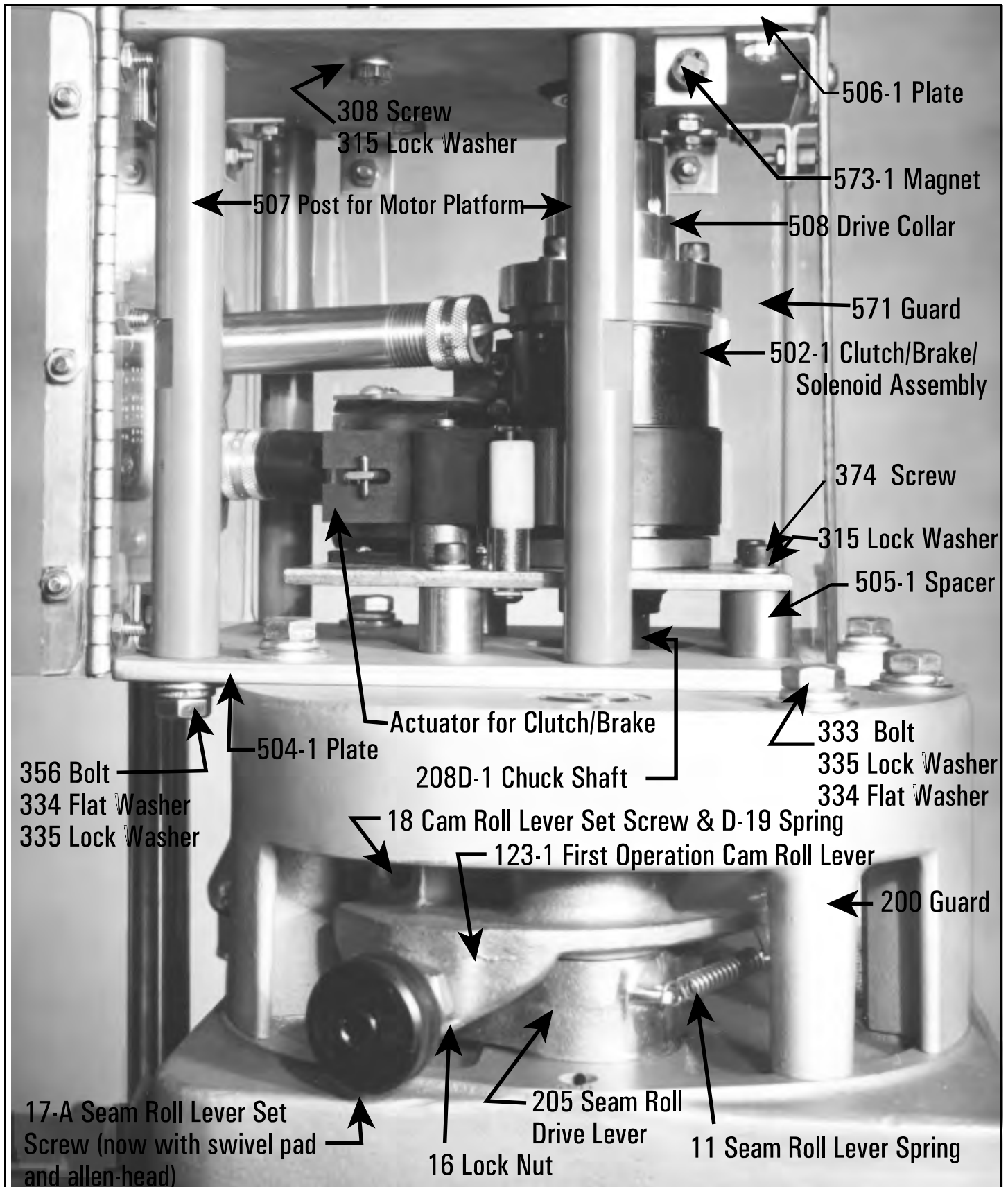
MECHANICAL DEFECTS AND COMMON CAUSES

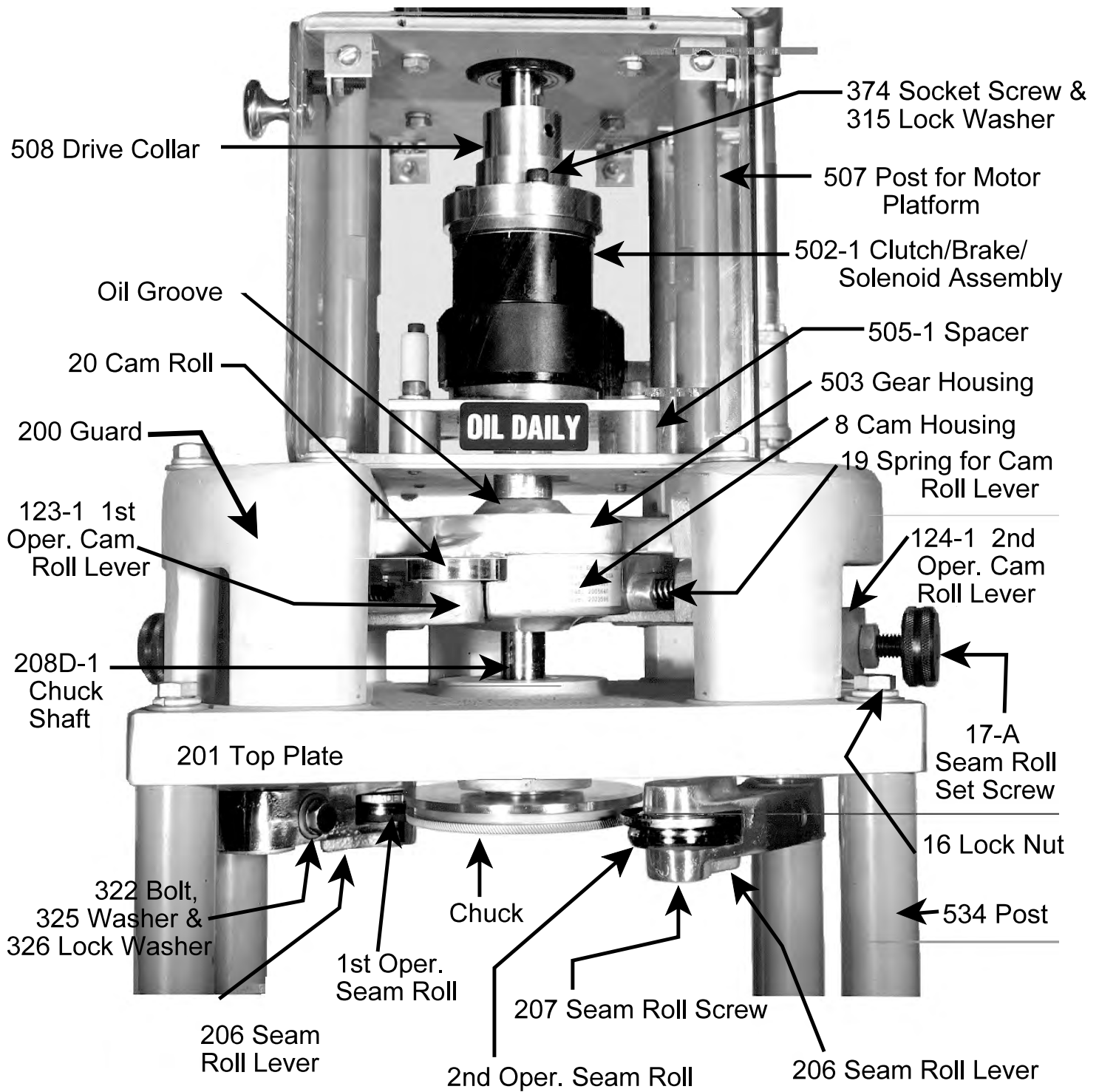
- A. Can slips during seaming operation
 1. Damage or lack of oil in the base plate, lift shaft, height spacer or steel ball
 2. Insufficient base plate pressure
 3. Worn or wrong size chuck
 4. Seaming rolls binding on pins
- B. Machine operates with undue noise or "locks"
 1. Machine not properly timed
- C. Unusually loose seaming rolls
 1. Seaming roll or pins worn

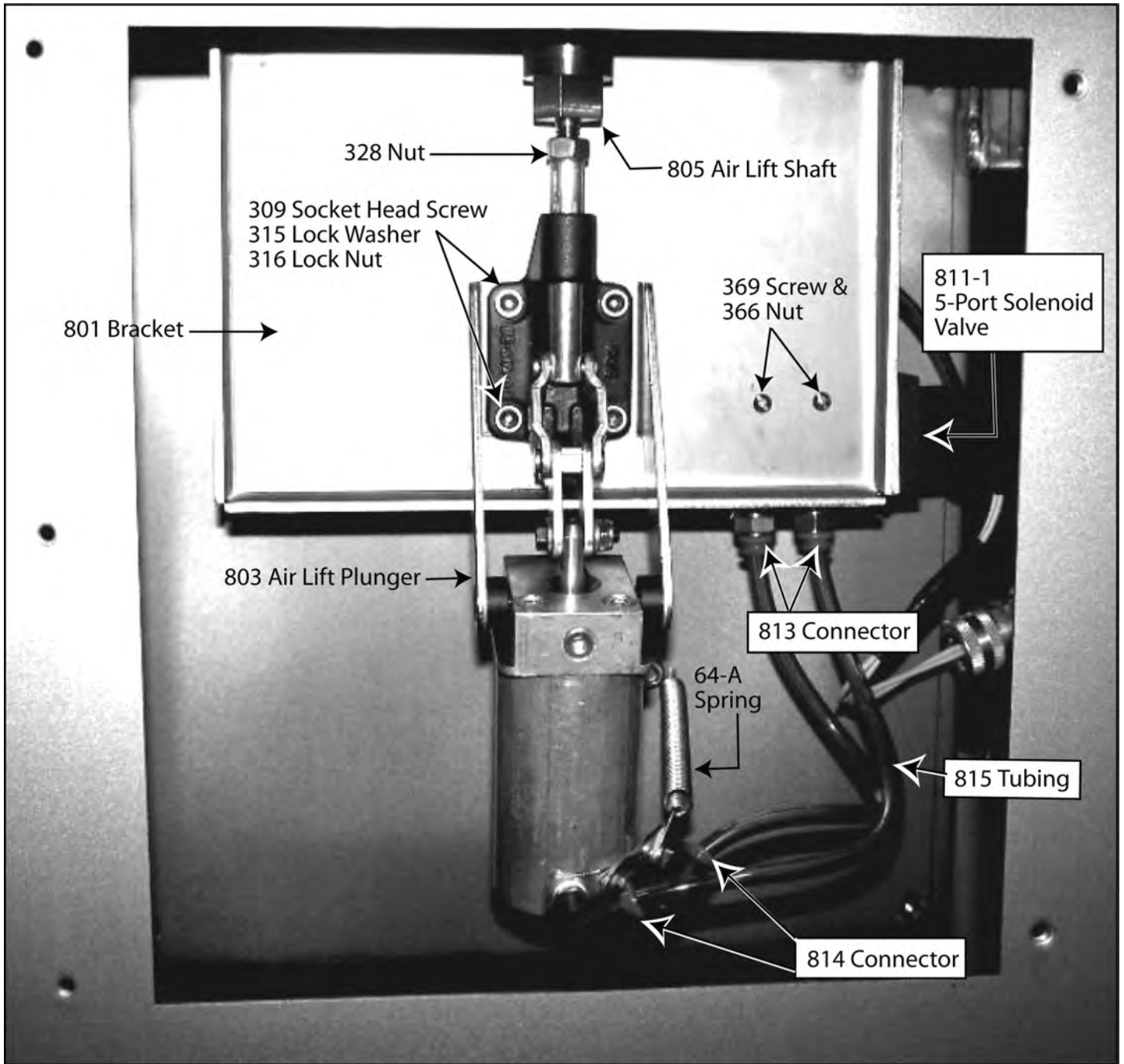
- D. Seaming rolls do not return to neutral position
 1. Seaming roll levers binding
 2. Seaming lever spring weak or broken
 3. Machine not properly timed
- E. Machine seems to "labor" or freeze tight
 1. Needs oil.
 2. Too much base plate pressure
 3. Seaming rolls too tight
 4. Misalignment of moving parts

DOUBLE SEAM DEFECTS and COMMON CAUSES

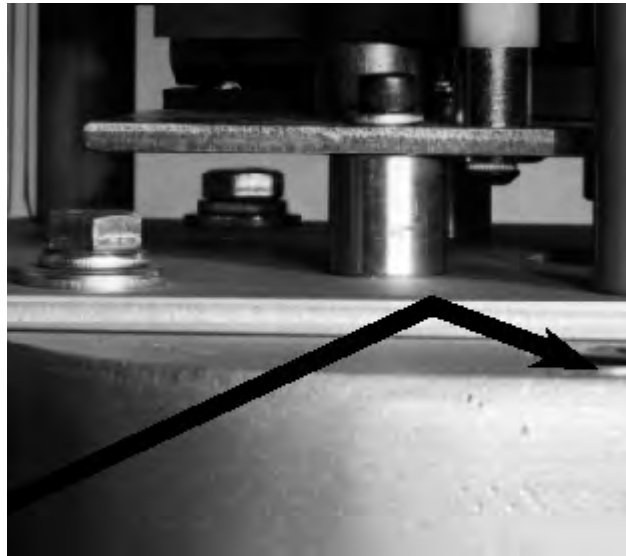
- A. Cut over. Unusually sharp edge at top inside edge of seam
 1. 1st or 2nd operation seam roll set too tight
 2. Worn seam rolls or worn chuck
- B. Cut or fractured seam
 1. Seam rolls set too tight
- C. Droop or lap in double seam at or near can body side seam
 1. Too much base pressure
 2. 1st operation seam roll set too loose
 3. Worn 1st operation seam roll
- D. Excessive countersink depth
 1. Too much base pressure
 2. 1st operation seam roll set too loose
 3. Chuck not properly seated in can top
 4. Chuck groove worn
- E. False seam. Body hook and cover hook do not overlap
 1. Can top not properly seated on can
 2. Damaged can flange or can top curl
- F. Long body hook
 1. Too much base pressure
- G. Long cover hook
 1. 1st operation seam roll set too tight
- H. Short body hook
 1. Insufficient base pressure
 2. 1st operation seam roll set too tight
 3. 2nd operation seam roll set too loose
- I. Short cover hook
 1. Too much base pressure
 2. 1st operation seam roll set too loose
 3. Worn 1st operation seam roll
 4. Excessive countersink depth
- J. Cover hook or body hook not uniform
 1. Base plate or plunger worn
 2. Chuck or seam rolls out of alignment
- K. Droops, vees, wrinkles
 1. Excessive base pressure
 2. 1st operation seam roll too loose or worn
 3. 2nd operation seam roll too tight
 4. Defects in can body or top
 5. Incorrect seam roll profiles







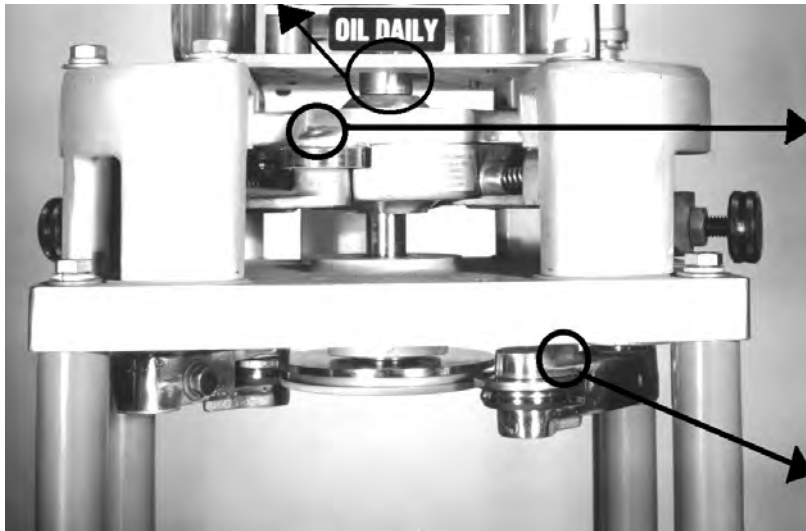
Oil through holes indicated on top of left and right guards (200) to reach cam roll levers (123-1 and 124-1).



View from Left Side

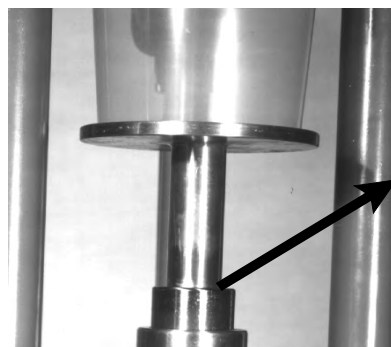
Oil through holes indicated on both sides of top plate (201) to lubricate both seam roll levers (206)

Oil Chuck Shaft 208D-1 accessible through large hole in 504-1 plate inside plexiglass guard.



Oil through hole in tabs of 503 Housing Cover (front and back) to lubricate both 20 Cam Rolls.

Oil through holes in both 206 Seam Roll Levers to lubricate 1st and 2nd seam rolls.



Oil inside lift shaft and base plate stem regularly.

OILING LOCATIONS