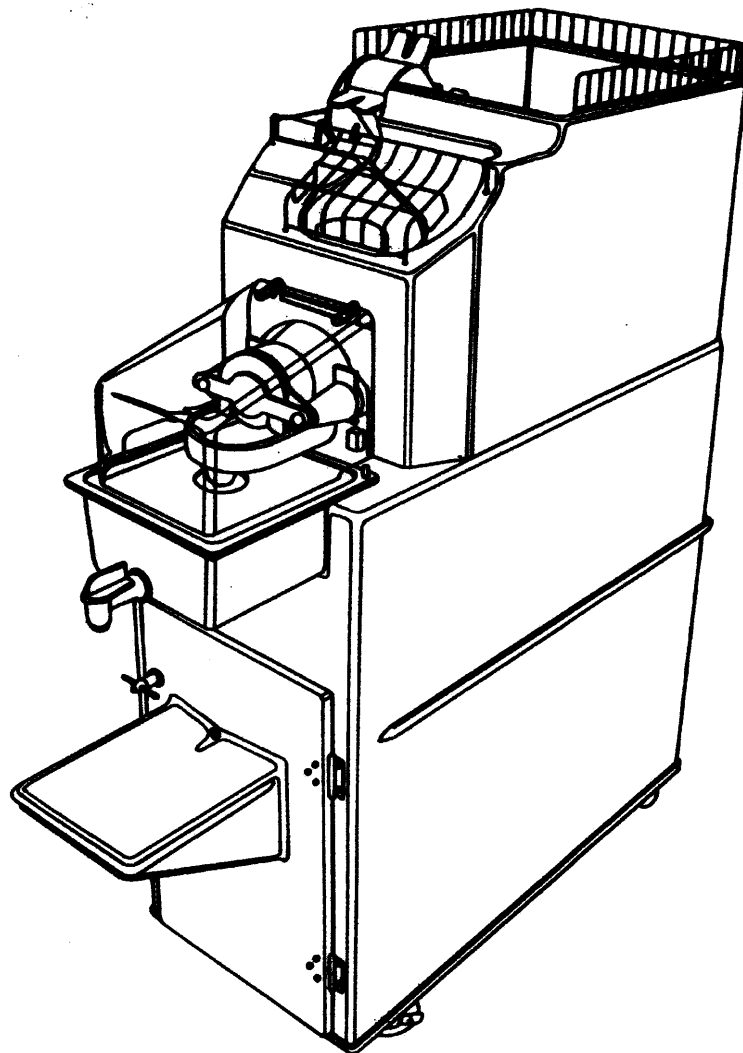
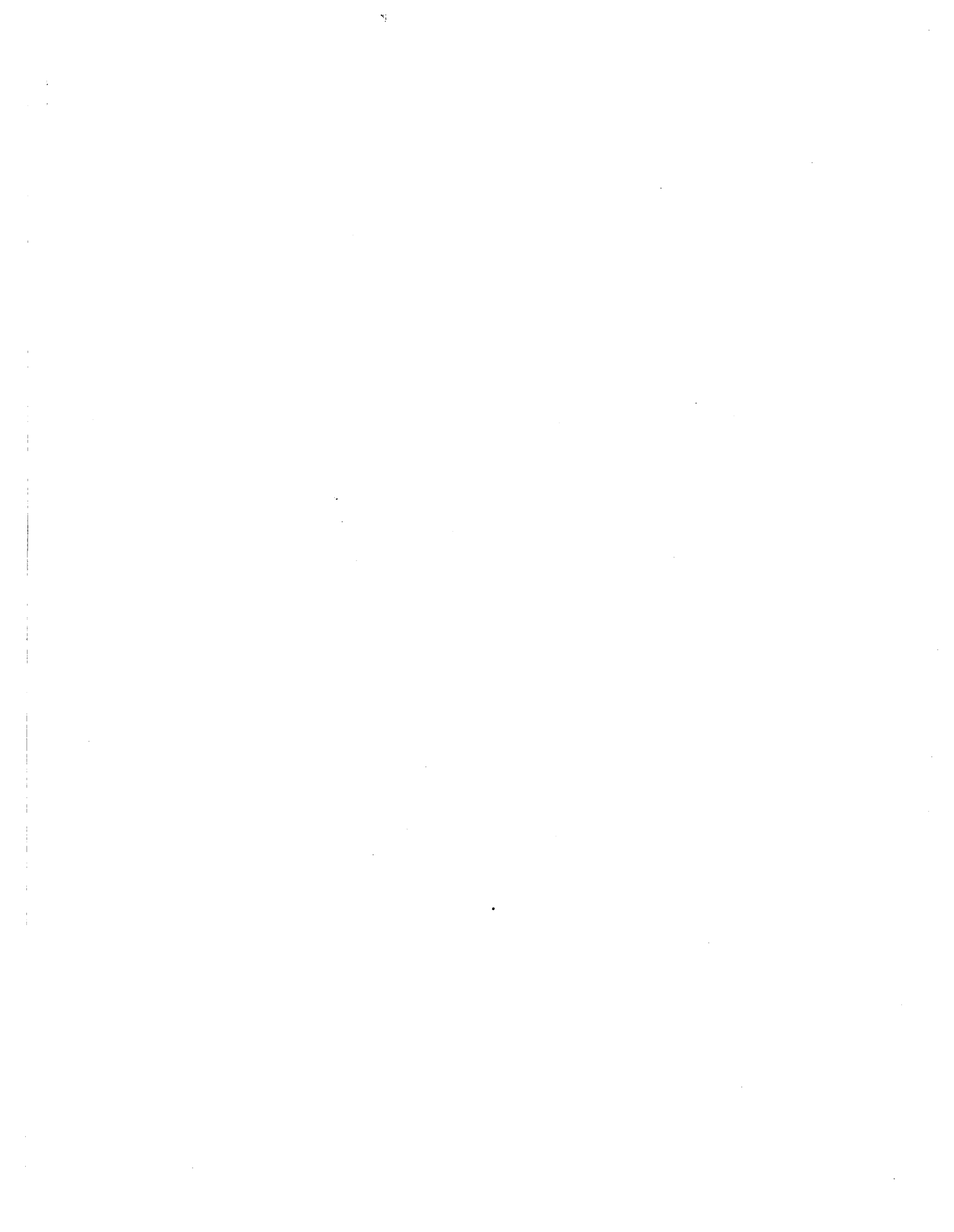


juice tree®

CITRUS EXTRACTOR MODEL 900 SERVICE MANUAL





**JUICE TREE CITRUS EXTRACTOR
MODEL 900**

MANUFACTURED BY

**JUICE TREE, INC 7300 BOLSA AVENUE
WESTMINSTER, CALIFORNIA 92683
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9-12-98**

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IMPORTANT - READ FIRST

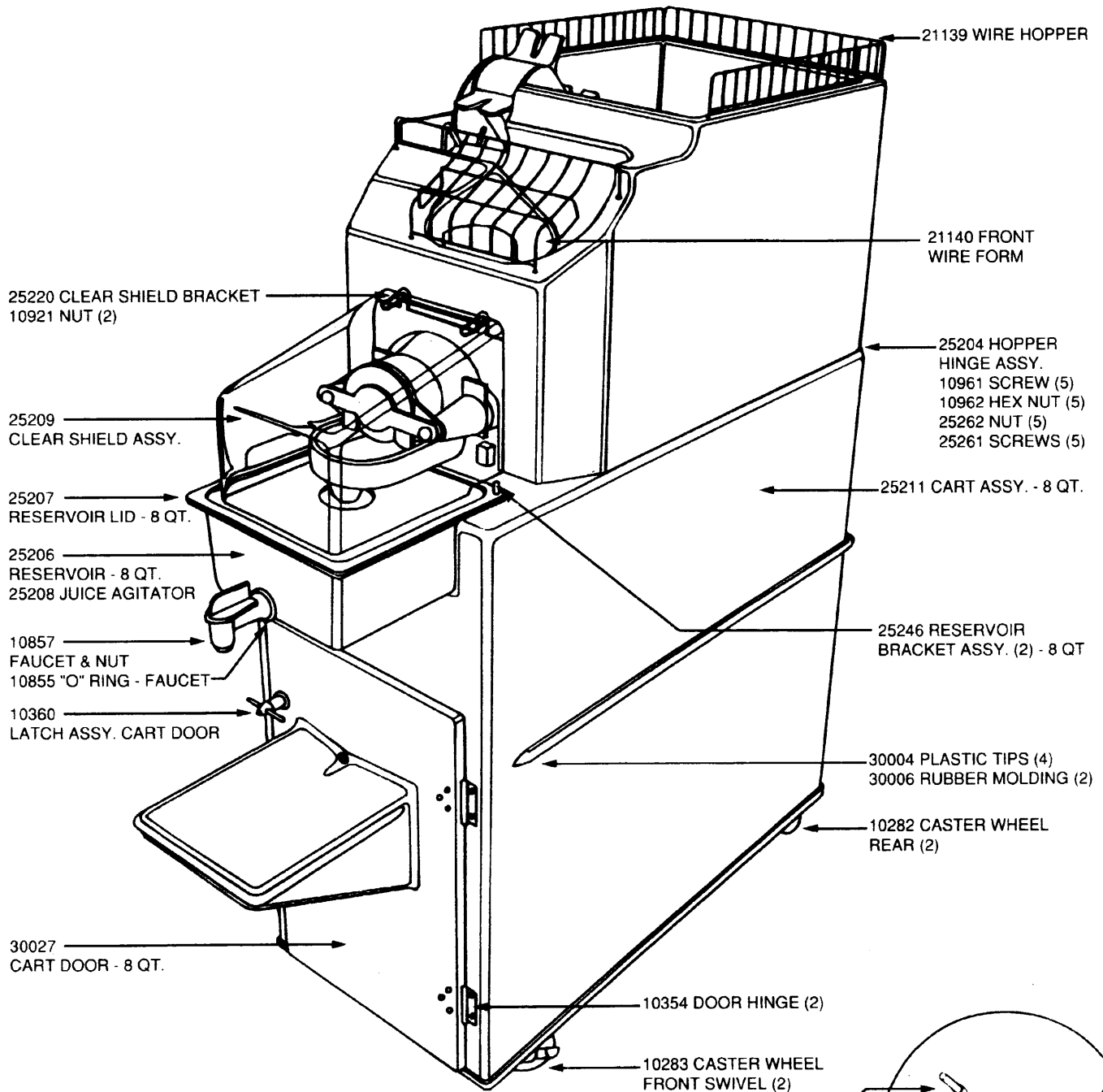
Unpacking and Setting Up Instructions for the Juice Tree Model 900 Citrus Extractor

- 1) Remove cardboard box from wooden pallet by lifting box straight up.
- 2) Remove front 2 x 6 from wooden pallet and slide out machine.
- 3) Remove parts and waste receptacles located inside cart.
- 4) Raise top cabinet. Cut and remove the strap holding pump pack. Lower top cabinet.
- 5) Install door.
- 6) Remove orange juice squeezing head assembly (21154) and rubber cup holder (21107) from parts box, place on machine and install both squeezing head clips.
- 7) Assemble reservoir cover and float magnet assembly as indicated in Figure #2.
- 8) Install clear splash shield assembly on machine.
- 9) Replace waste receptacles in cart.

NOTE: Now your machine is unpacked, reassembled and ready for use. The safety factors designed in this machine do not allow it to operate unless the clear splash shield assembly is properly in place.

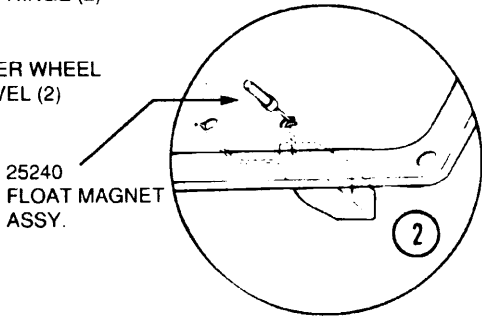
MODEL 900

EXTERIOR PARTS IDENTIFICATION (8 QUART MODEL SHOWN) (16 QUART OPTION AVAILABLE)



VARIATIONS FOR 16 QUART DOOR MODEL
30025 CART ASSY.
30026 CART DOOR
31021 RESERVOIR
31022 RESERVOIR LID
30107 RESERVOIR BRACKET ASSY. (2)
31026 JUICE AGITATOR

220V VARIATIONS
20895 TRANSFORMER
25259 FAN



JUICE TREE, INC.

CITRUS JUICE MACHINE MODEL 900

OPERATING INSTRUCTIONS

- 1) Fruit Size/Squeezing Head Selection: Model 900 will accept all citrus types and all citrus sizes 163 –40.
 - a) Squeezing Head Assembly (21154) and Cup Holder (21107) are used for smaller fruit sizes (oranges) 163–88. Preferred sizes are 113 – 138.
 - b) Squeezing Head assembly (25248) and Cup Holder (21108) are used for larger fruit, sizes (grapefruit) 88 – 40. Preferred sizes are 56 – 40.
 - c) Changing squeezing heads is very simple:
 1. Turn the machine off and unplug the power cord.
 2. Remove the clear shield that covers the squeezing head.
 3. Remove the head retainer clips and slide the squeezing head out of the support rods.
 4. Reach straight in and grasp the cup holder assembly and turn counter clockwise to release it from the retainer.
 5. To install the new cup holder, simply align the four slots in the holder with the pins on the retainer, push in gently and turn clockwise to engage the retaining spring on the cup holder.
 6. Slide the new squeezing head assembly into the mounting rods and install the head retainer clips.
 7. Replace the clear shield and plug in the machine. You are now ready to start squeezing again.

NOTE: It is recommended that the reservoir be rinsed thoroughly when changing from one type of fruit to another.
 - d) The fruit adjustment is controlled by the lever located on the left side of the hood as you look at the machine from the front. When adjusting for fruit size always select the slot on the arm which will leave approximately 1/2 inch of space around the fruit for proper operation.
2. Before loading fruit into the machine, check the following:
 - a) Waste containers are in place.
 - b) Proper cup holder assembly and squeezing head, for the fruit to be squeezed, is mounted on the machine and head retainer clips are in place.
 - c) Reservoir, lid and float magnet assembly are securely mounted on the machine.
 - d) Clear plastic shield is in proper position.
 - e) Faucet is turned off.
 - f) Fruit size adjustment is proper setting for fruit to be squeezed.
 - g) Machine is plugged into electrical receptacle.
- 3) Load fruit into the hopper. (DO NOT LOAD MORE THAN ONE CASE OF FRUIT AT A TIME AS THIS MAY CAUSE A PROBLEM WITH THE CONVEYOR.)
- 4) Turn the machine on. The machine will automatically squeeze the fruit and shut off when the reservoir is full. Leave the switch in the ON position for automatic restarting. Shut the machine off when finished squeezing for the day.
- 5) Before dispensing juice, rock the agitator gently to keep the juice from separating.
- 6) As Juice is drawn from the reservoir, the machine will automatically restart.
- 7) Proper cleaning is absolutely essential. Clean machine daily, as soon as possible after juicing to reduce cleaning time, discourage fruit flies and present a sanitary appearance to customer. Please refer to cleaning instruction.

- 8) When opening or closing the hood it may be necessary to turn the conveyor belt slightly by hand to allow the cleats on the belt to clear the hood.
- 9) Always unplug the machine from the power outlet prior to cleaning or servicing the machine.

IMPORTANT

CHARACTERISTICS OF HYDRAULIC UNIT—Because of the wide range of climates in which this machine is required to run, we have used an oil that will run well under the most temperatures. If your unit should be placed in an atmosphere below 60 degrees F, you may experience a very sluggish initial start. Allow the unit to cycle approximately twenty (20) times before loading the fruit. This will allow the oil to warm and reduce viscosity. This oil will enable you to run the unit in an atmosphere in excess of 95 degrees F. If your machine is located in an area between 75 degrees F and 90 degrees F, you should not experience any of these symptoms.

BEFORE CALLING FOR SERVICE, MAKE THESE CHECKS...

THE BEST WAY TO ELIMINATE SERVICE CALLS IS TO MAINTAIN A CONSISTENT PROGRAM OF DAILY AND WEEKLY CLEANING. ALLOWING THE MACHINE TO ACCUMULATE DIRT, PULP AND DRIED JUICE WILL HASTEN OPERATING PROBLEMS.

If the machine has been cleaned properly, make these simple checks before calling for service:

- 1) Machine won't start.
 - A) If indicator light is **NOT ON**, check wall plug and building circuit breaker. If OK, call for service.
 - B) If indicator light is **ON**, check if:
 - 1) Reservoir is full of juice.
 - 2) Clear splash shield is properly in place.
 - 3) If buzzing or clicking is heard from the electrical enclosure, machine may not be getting sufficient power from wall plug. Remove clear shield. Wait 30 seconds. Replace clear shield. If machine does not start, call for service.
- 2) Machine won't shut off with on-off switch. Unplug machine and call for service.
- 3) Improper feeding: Check fruit size adjustment. The fruit size adjustment is controlled by the lever located on the left side of the hood as you look at the machine from the front. When adjusting for fruit size, always select the slot on the arm which allows approximately one-half inch space larger than the fruit being squeezed.
- 4) Improper squeezing: Check pressure adjustment. Pressure is adjusted by turning pressure adjusting screw on back of machine.
 - A) Pressure may be too high if fruit is torn or if juicer is tart or bitter. (Note: Unripe fruit may also cause tart, bitter juice.)

To decrease pressure, turn pressure adjusting screw one-quarter to one-half turn counter clockwise as you are facing the back of the machine.
 - B) Pressure may be too low if yield is low. Open squeezed fruit to check for excess juice.

To increase pressure, turn pressure adjusting screw one-quarter to one-half turn clockwise as you are facing the back of the machine.

MODEL 900 CLEANING INSTRUCTIONS

Refer To Illustrations – Pgs. 3 and 8

1) Machine cleaning instructions:

- a) Unplug machine from power outlet.
- b) Remove clear splash shield assembly, squeezing head assembly and reservoir assembly from machine.
- c) Remove cup holder assembly by turning counter clockwise and pulling straight out.
- d) Lift top cabinet to cleaning position. NOTE: The conveyor belt may have to be turned slightly to allow clearance for the top cabinet to be lifted.
- e) Thoroughly clean area exposed with Juice Tree Cleaner. Rinse the entire machine inside and out with water. Clean and replace waste receptacles.
- f) The shield, cup holder assembly, reservoir and lid can be easily cleaned as removed. The squeezing head assembly, however, should be partially disassembled and cleaned as explained in #2.

2) Squeezing head assembly cleaning instructions:

- a) Remove metal splash shield.
- b) Stand head on stripper spring assemblies, depress and remove ejector bar.
- c) Remove stripper spring assemblies.
- d) Submerge all squeezing head parts in a sanitizing solution and wash thoroughly. Rinse all parts and let dry.
- e) Reassemble squeezing head assembly by reversing the above steps.

3) Reassemble machine in the following order:

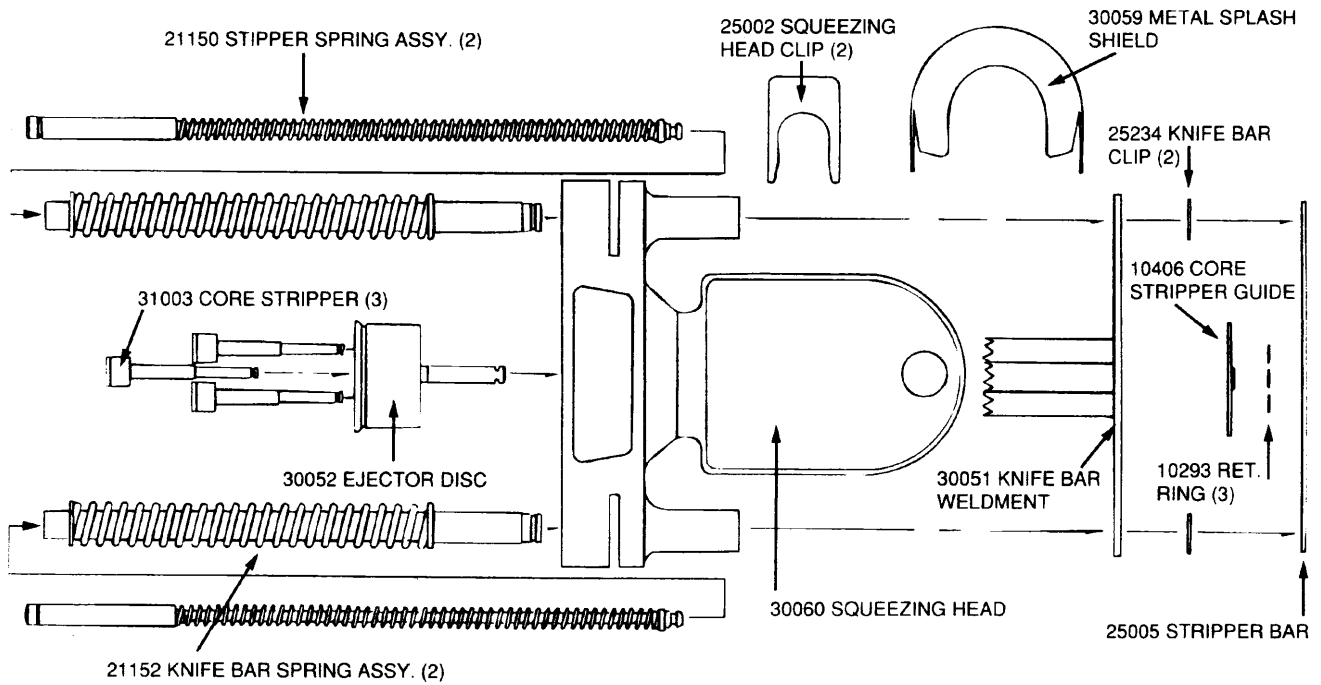
- a) Replace the cup holder assembly by aligning the four slots with the pins on the retainer, push straight in and turn clockwise until you feel the retaining spring click in place.
- b) Replace the reservoir and lid, squeezing head assembly and both squeezing head clips.
- c) Close the top cabinet and replace the clear splash shield assembly.

4) Clean up juice display and area around display and machine.

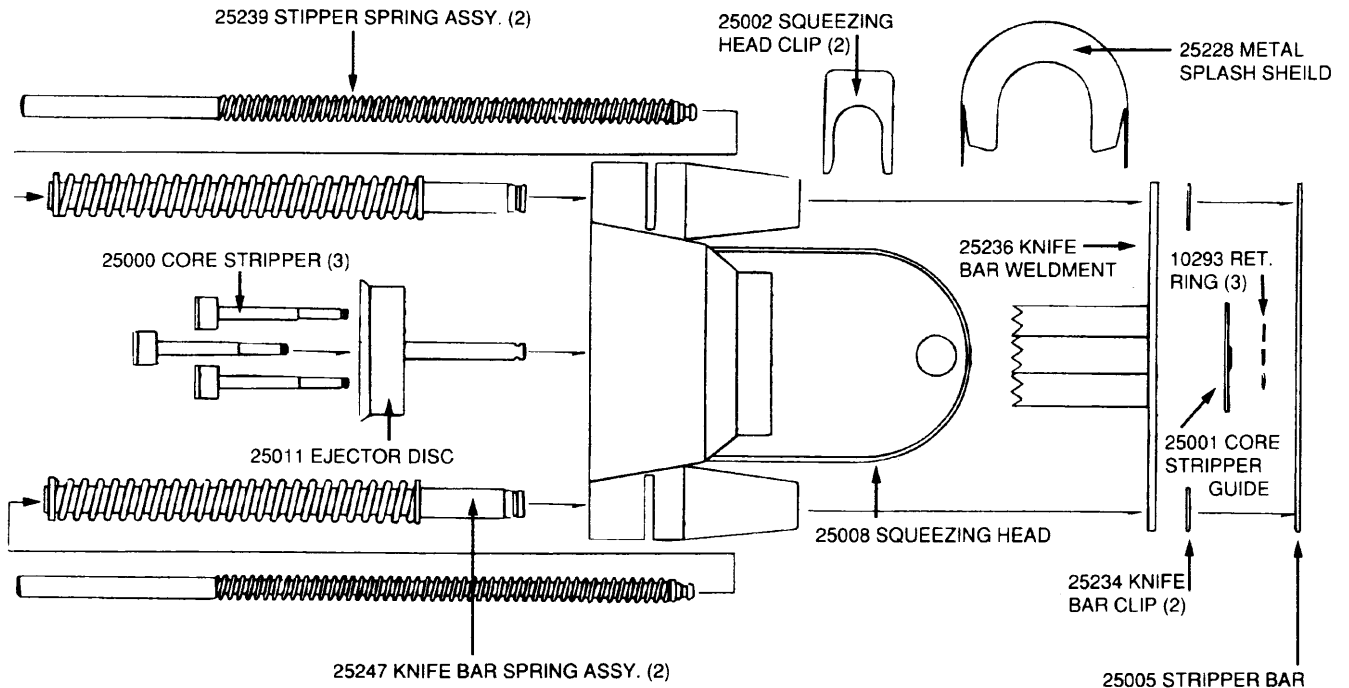
5) Wipe dry the hopper, drip tray, machine cabinet and cart.

6) Clean the machine periodically as needed, inside and out, with high pressure hot water unit.

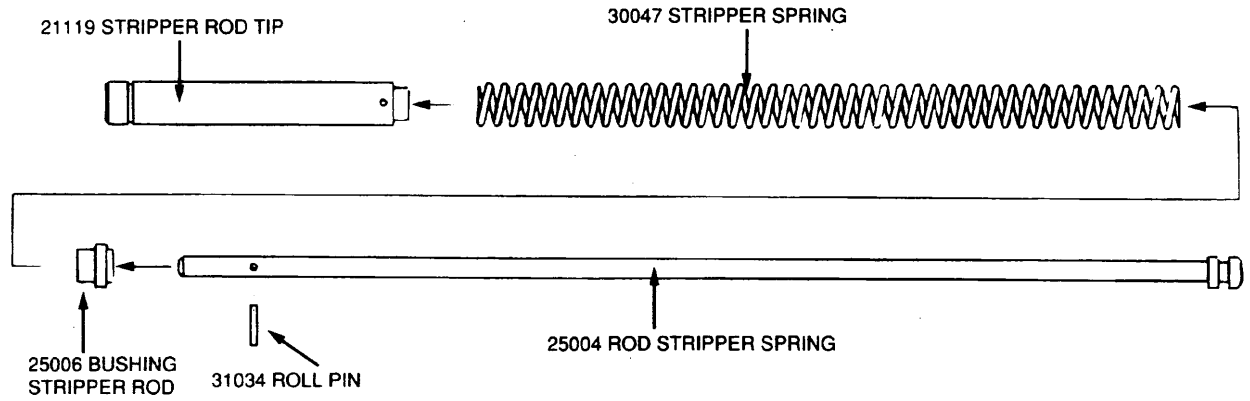
ORANGE JUICE 21154 SQUEEZING HEAD ASSEMBLY IDENTIFICATION



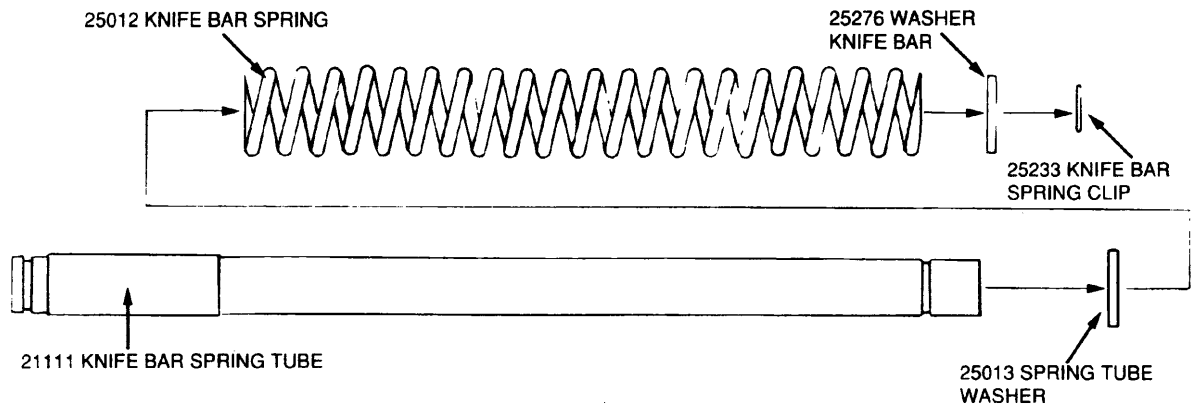
GRAPEFRUIT 25248 SQUEEZING HEAD ASSEMBLY IDENTIFICATION



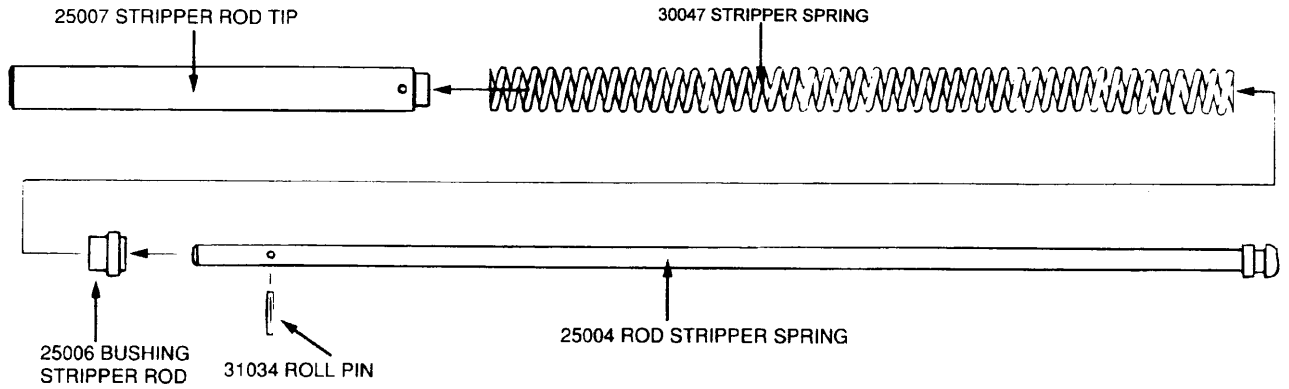
ORANGE JUICE 21150 STRIPPER SPRING ASSEMBLY



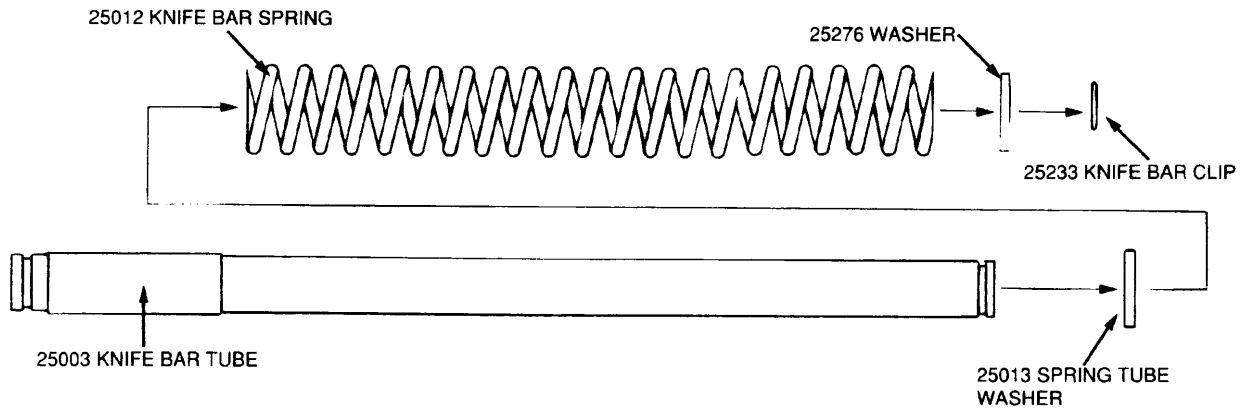
ORANGE JUICE 21152 KNIFE BAR SPRING ASSEMBLY



GRAPEFRUIT 25239 STRIPPER SPRING ASSEMBLY



GRAPEFRUIT 25247 KNIFE BAR SPRING ASSEMBLY



MODEL 900 SYSTEM OPERATION & REPAIRS

- 1) Machine won't start.
 - A) If indicator light is NOT ON, check wall plug and building circuit breaker. If there is power to the machine, check transformer.
 - B) If indicator light is ON, check the following:
 - 1) Clear splash shield not properly in place or magnet missing.
 - 2) If buzzing or clicking is heard from this electrical enclosure, machine may not be getting sufficient power from wall plug. (Note: Use of extension cord can create power shortage to machine.) Remove clear shield. Wait 30 seconds. Replace clear shield.
- 2) Machine won't shut off with on-off switch.
 - A) On-off switch defective.
 - B) Position switch defective.
 - C) Trap door switch defective.
 - D) Float switch defective.
 - E) Contacts in relay stuck. Remove clear shield. If machine does not stop, replace relay.
- 3) Machine will not shut off with clear shield off.
 - A) Shield switch is defective.
 - B) Contacts in relay stuck.
- 4) Improper feeding:
 - A) Fruit drop may not be set properly.
 - B) Fruit drop spring may be broken.
- 5) Improper squeezing and ejection.
 - A) Head is assembled improperly, or there are broken or missing parts in the squeezing head.
 - B) Rubber cup may be punctured, broken or worn around the edges. Remove and replace with new rubber cup.
 - C) If two fruits fall, check fruit trip adjustment.
- 6) Unsqueezed fruit.
 - A) Trap door not latching correctly. Trap door requires adjustments or there may be a broken trap door part.
 - B) Squeezing head assembly not assembled properly.
 - C) Hydraulic pressure not set properly.
- 7) Squeezing pressure adjustment. Pressure is adjusted by turning pressure adjusting screw on back of machine.
 - A) Pressure may be too high if fruit is torn or if juicer is tart or bitter. (Note: Unripe fruit may also cause tart, bitter juice.)

To decrease pressure, turn pressure adjusting screw one-quarter to one-half turn counter clockwise as you are facing the back of the machine,.
 - B) Pressure may be too low if yield is low. Open squeezed fruit to check for excess juice remaining in fruit.

To increase pressure, turn pressure adjusting screw one-quarter to one-half turn clockwise as you are facing the back of the machine.

MODEL 900

MECHANICAL TEARDOWN AND PARTS REPLACEMENT

1) TRAP DOOR AND FRUIT DROP ADJUSTMENT

- a) Lift top cabinet. Replace clear shield. Use the magnet on the clear shield to bring the ram to farthest retracted position. Unplug machine and manually push ram back as far as it will go.

With trap door latched and fruit drop opened against rubber bumper, adjust both 30069 pull rod nuts, leaving a 1/32" gap from touching pull rod bracket. Now lock in place with 10290 nut.

2) REMOVING THE CUP HOLDER

- a) Place the clamp (2007.1) flat inside surface over the back of the spring plate and the end with the radius groove over the cup holder. While holding the tool in place, unscrew the nose bolt. The nose and bolt will come out together. Screw the threaded rod (2000.3) into the bolt hole tightly. Slide the cross plate (2007.2) down the threaded rod to the face of the cup holder. Tighten the nut on the cross plate until the clamp bar releases, then remove the clamp and slowly loosed the nut until the spring is decompressed. Remove tools, cup holder and spring. Reverse procedure to reassemble.

Make sure the bronze bushing inside the cup holder is aligned properly with shaft before tightening. Use locktite on cup screw before reinstalling.

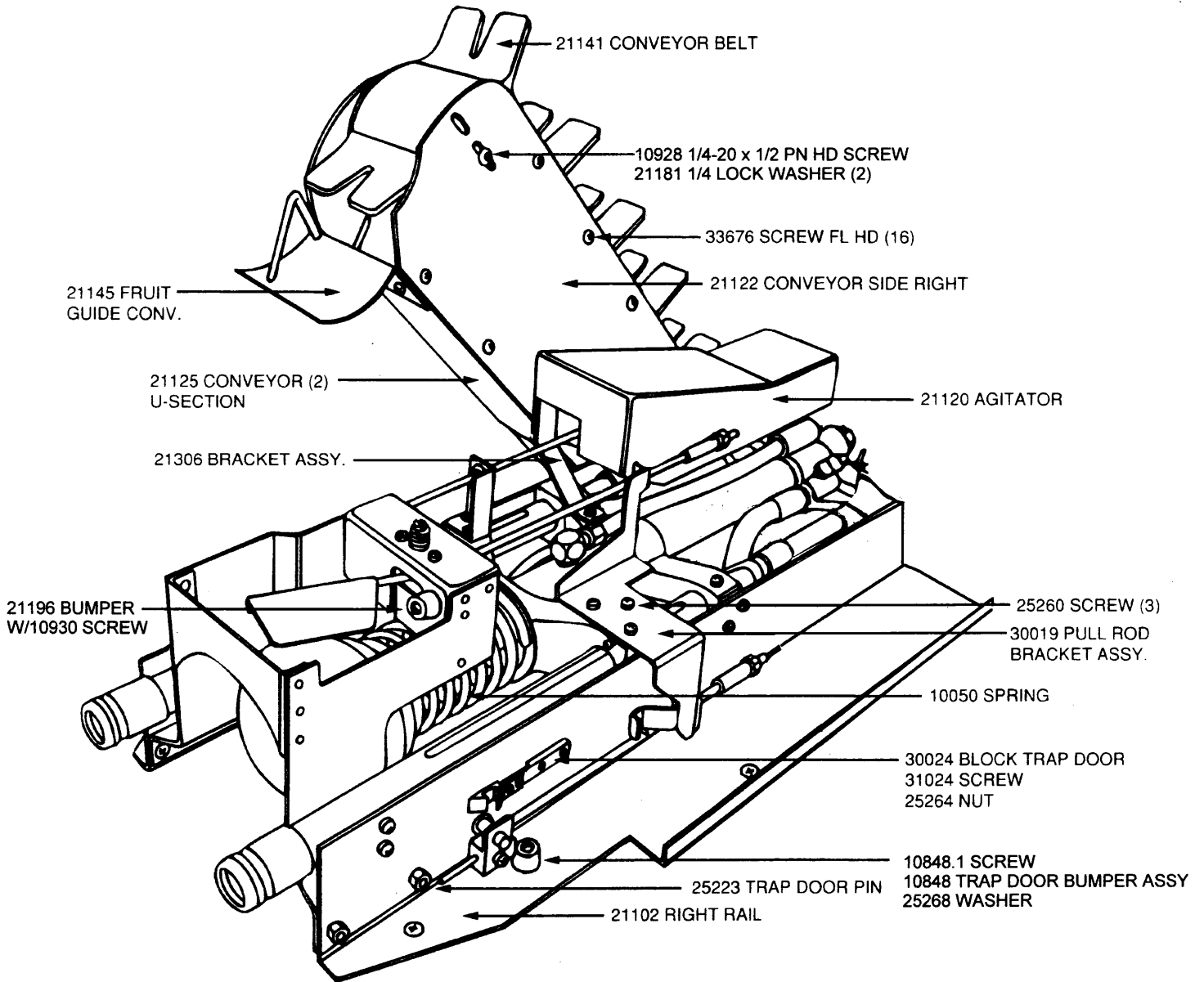
NOTE: When reinstalling the cup holder, tighten the cross plate down to the point where the small instep on the tool will clamp down over the rear flange up the cup holder. This will allow the nose piece to be properly installed and located on the roll pin in the ram. After fully tightening the nose bolt, gently tap the tool off of the cup holder allowing spring pressure to seat the cup holder against the nose.

3) CONVEYOR ADJUSTMENT

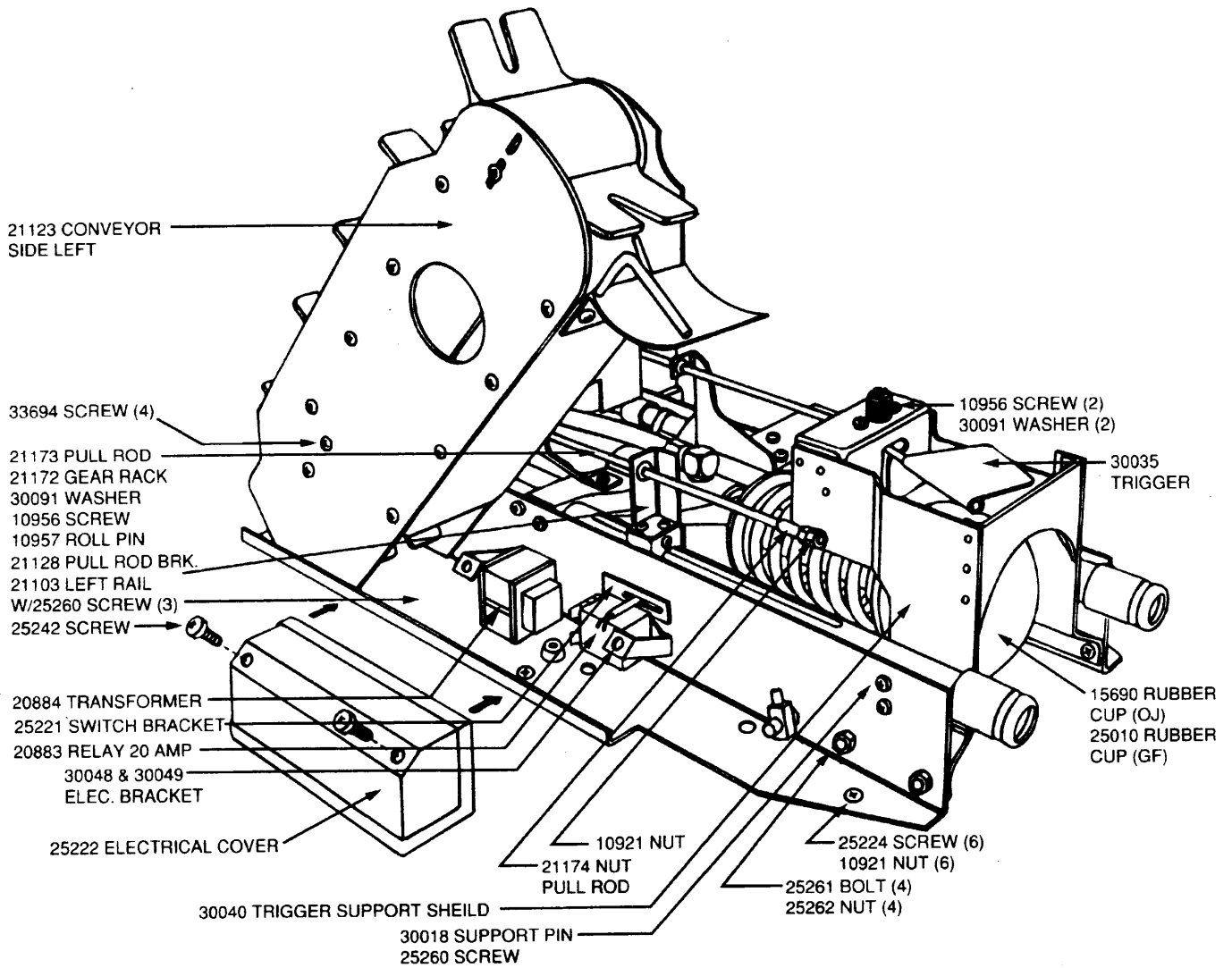
- a) Belt Tension: Belt tension should not be too tight. Pull Outward on one of the cleats in the middle of the conveyor. You should be able to lift it approximately 3/4" off the surface with a slight pull. Only make adjustments from the top of the conveyor where slots are provided on each side.
- b) Belt Alignment: Run unit without squeezing head for at least ten (10) cycles. If belt tends to ride to one side, that side needs tightening.

Unplug machine. Place a small screwdriver into the slot on the side that needs tightening. Hold tension while loosening allen screw. Apply pressure to screwdriver to lift drum. (NOTE: It takes only a slight adjustment.) Tighten allen screw. Run machine again at least ten cycles to check alignment.

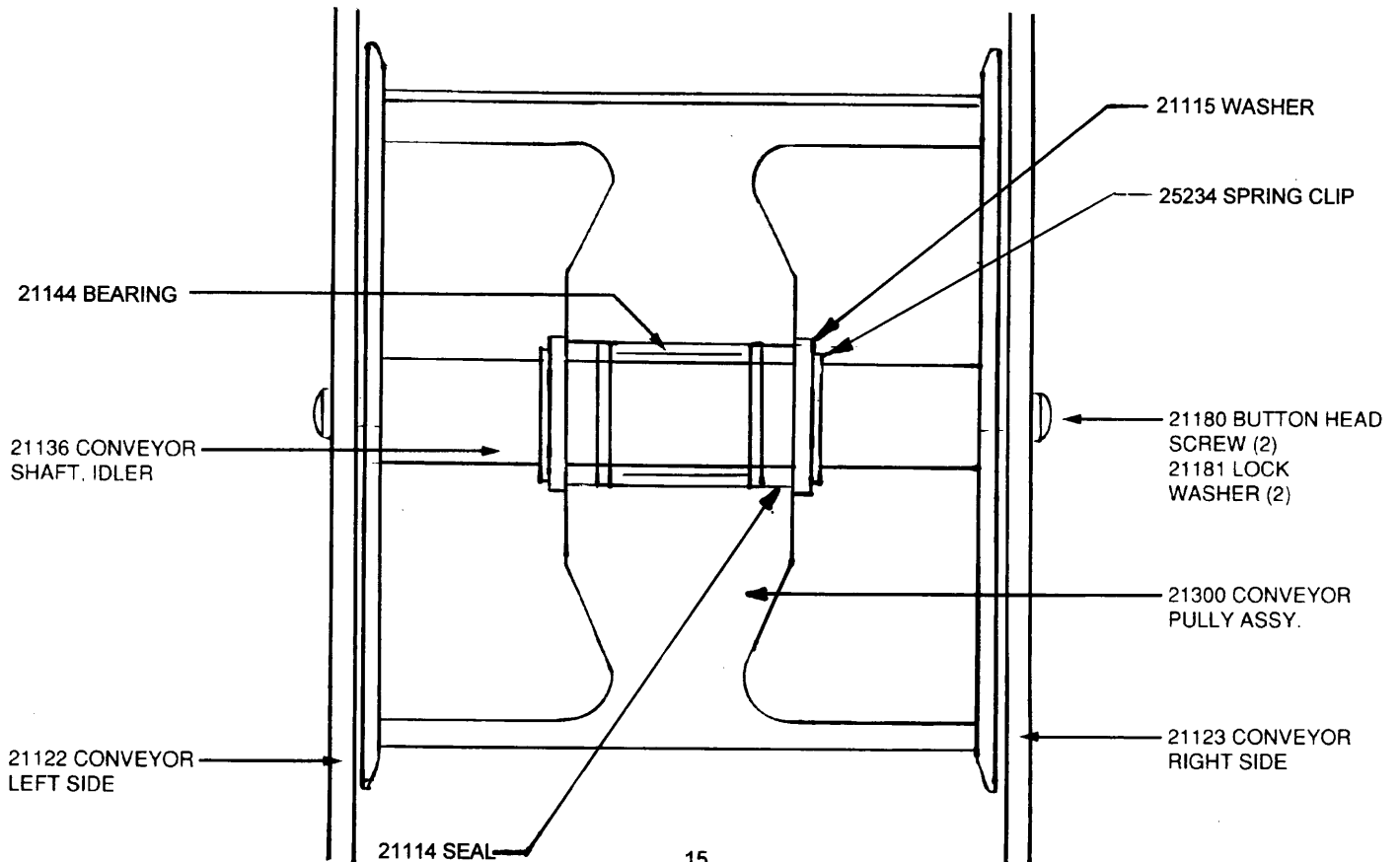
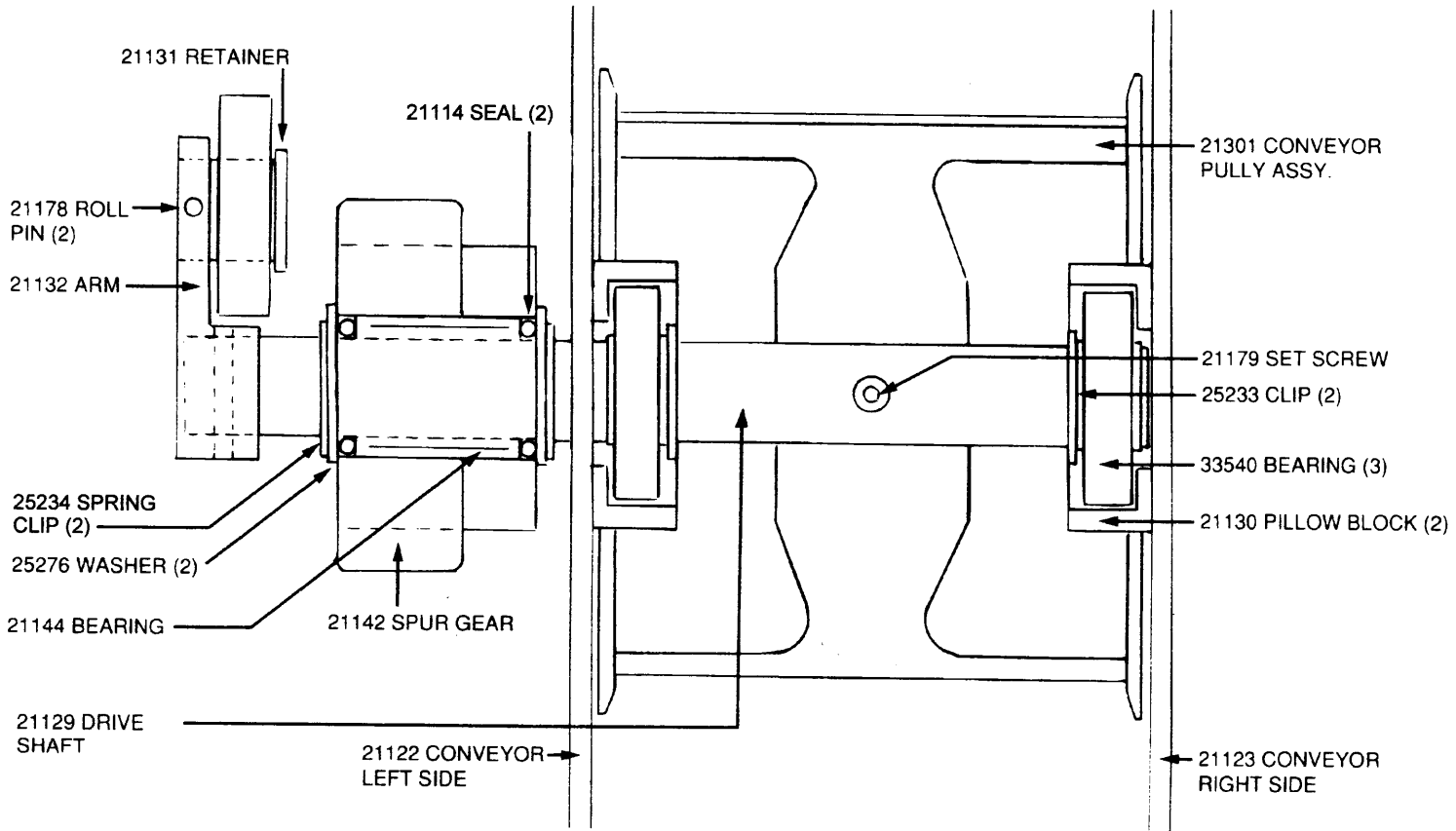
MODEL 900 INTERIOR – RIGHT SIDE VIEW



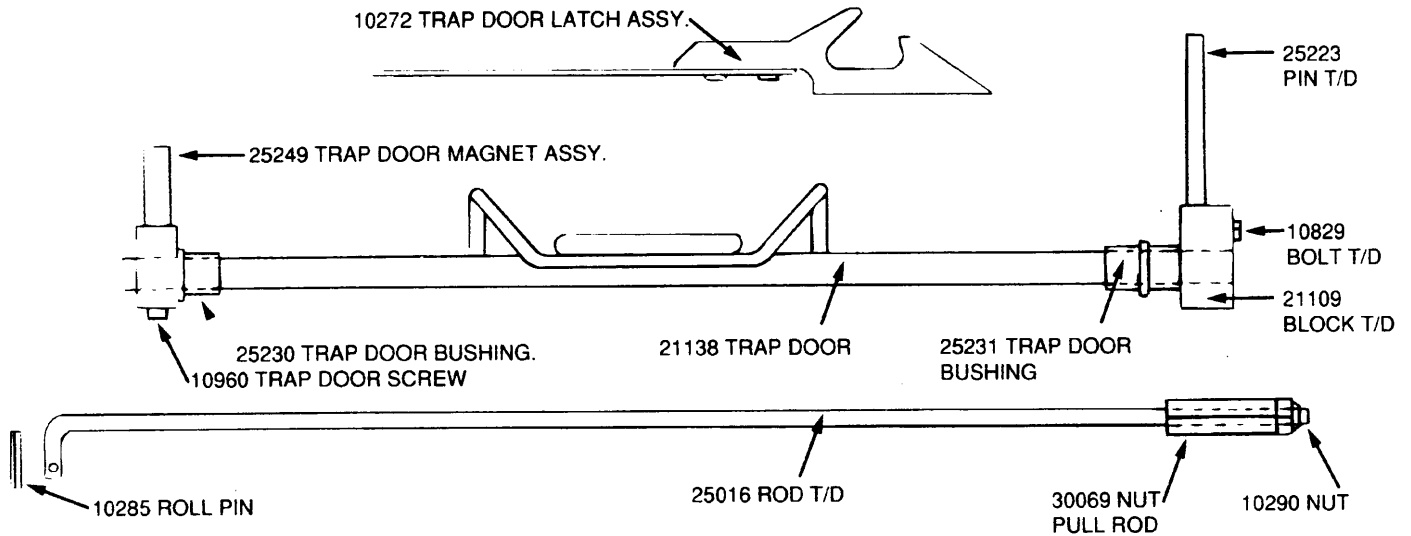
MODEL 900 INTERIOR – LEFT SIDE VIEW



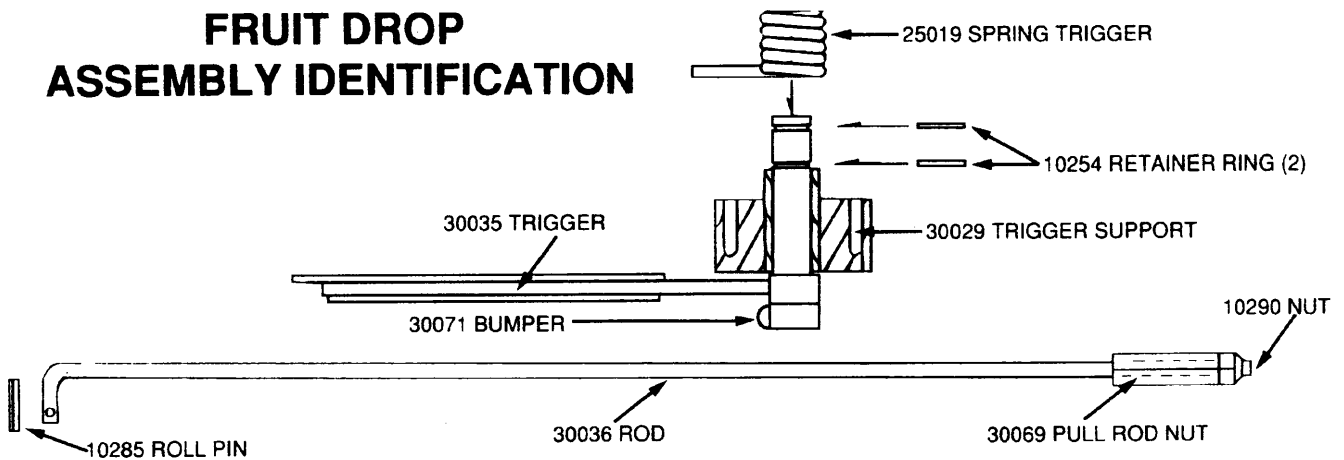
MODEL 900 CONVEYOR PULLEY PARTS IDENTIFICATION



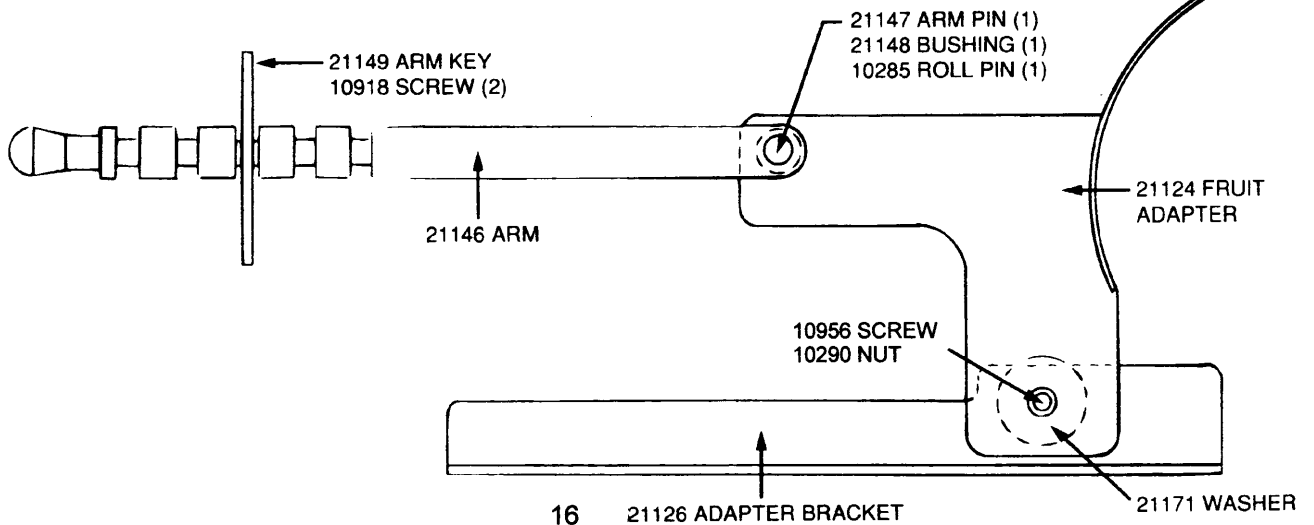
MODEL 900 TRAP DOOR ASSEMBLY IDENTIFICATION



FRUIT DROP ASSEMBLY IDENTIFICATION



FRUIT SIZE ADAPTER ASSEMBLY IDENTIFICATION



MODEL 900 HYDRAULICS

If the following malfunctions occur during operation of the machine, generally, relatively simple field service can correct the problems. Prior to attempting to identify the specific problem, check the pump pack oil level and, if available, connect a 1000 PSI pressure gauge to gauge fitting located on the valve housing. Before attempting to repair the machine be sure the squeezing head is removed for easy access.

Oil level is checked with the ram fully retracted and the unit off. At this position the oil level should be about 3/4" below the lower edge of the reservoir cap hole. USE ONLY MOBIL 1 (ONE) oil and add as required.

NOTE: Use of oils other than described above will damage the unit and void the warranty.

SEVERE OIL LEAKS, SEE HYDRAULIC TEARDOWN

1) **The ram shutters when retracting out of the squeezing head...**

- a) Replace the poppet valve spring (PN 10138). (See Hydraulic Teardown, Page 19)

CAUTION: It is very important to identify this problem, as continued operation will result in excessive wear and damage to other parts of the hydraulic system.

2) **The ram moves to the extended position and does not retract...**

If this is the problem, the ram will retract if the unit is turned off for 30 seconds and then restarted. An early symptom of this problem is that the squeezing dwell time is longer than the normal 1-1/2 to 2 seconds.

- a) Remove 10871 plug, 10861 spring and 10860 filter. Clean filter thoroughly.
b) The check valve orifice may be contaminated. To clean, remove the return flex hose (on right when viewed from rear of machine). Cap the open hose to prevent loss of fluid from reservoir. Remove fitting, spring (PN 10135) and check valve (PN 10011) located behind the fitting. Clean all parts, including check valve orifice, reassemble and add oil if required.
c) Excessive fluid leakage due to a damaged or worn Piston "O" Ring (PN 10152). This condition is more evident when machine is hot. (See Hydraulic Teardown for Procedure, Page 19).
d) Contamination on valve spool or poppet valve. (See Hydraulic Teardown for Procedure, Page 19).
e) Low pump output. (See Hydraulic Teardown for Procedure, Page 19).

3) **The ram is stopped in the retracted position and when power is applied it will not move...**

- a) Motor is running, but ram will not move. Unplug machine, lift cabinet. *Check trap door and fruit drop adjustment. (See page 12).
b) At the near fully retracted position there is a dead point in the cycle. If the machine is stopped at this exact position, the machine could hang-up. To clear, unplug and wait at least 30 seconds, then reapply power and machine will restart unless fruit trip assembly and/or trapdoor rods are misadjusted, or support rods are sticky. It may be necessary to move the ram either forward or backward manually with power cord pulled, then restart.
c) The ram stops on each retract stroke or in the retracted position. The poppet valve spring (PN 10138) is broken. Replace. (See Hydraulic Teardown, Page 19).
d) Contaminated oil is not allowing the valve spool assy. 30104 to move freely. Remove and clean until free, then reassemble. (See Hydraulic Teardown, Page 19).

4) **The ram moves forward but retracts as soon as the cup spring starts to compress...This same problem can appear as partial compression of the cup with premature dwell and retraction.**

- a) There is contamination on the check valve preventing seating. Remove check valve (PN 10011) as in paragraph 2a (page 20). Clean thoroughly and reassemble.
 - b) The pump pack is inoperative. Return the pump pack to your distributor. (See Hydraulic Teardown, Page 19).
- 5) **The ram compresses the cup spring too slowly, or slowly and not fully compressed, but the retract cycle speed is normal.**
- a) Turn pressure adjusting screw to a gauge reading of 600 PSI.
 - b) The pressure adjustment screw (PN 10938) and relief valve poppet (PN 30070) may be contaminated. Remove both parts by turning pressure adjustment screw counter clockwise until disengaged. Take out valve and spring with magnet. There may be shimming washers behind the spring and care must be taken to reposition them properly during reassembly. Clean all parts, replace both "O" Rings on pressure adjustment screw and reassemble.
 - c) Check pressure. Screw 10938 pressure adjustment screw in until you reach no less than 650-700 PSI. Then unscrew to 600 PSI. Secure by inserting pin mid-range to allow adjustment higher or lower pressure.
 - d) Low output from hydraulic pump pack. This is most evident when unit is hot. If cleaning parts and replacing "O" Rings does not correct problem, remove power pack and return to distributor. (See Hydraulic Teardown, Page 19).
- 6) **The ram extends and retracts very, very slowly...**
- a) The pump pack output is low. Return pump pack to your distributor.
- 7) **Hydraulic buzzing occurs during the squeezing dwell cycle...**
- This problem is not severe and can be easily corrected. The unit will have an audible buzz in the squeezing or dwell portion of the cycle. This can also be felt by touching the low pressure hose (PN 10189) which will be vibrating.
- a) The pressure adjustment screw (PN 10938) is contaminated, clean per paragraph 5a (above).
 - b) If cleaning does not correct problem replace both pressure adjustment screw and relief valve poppet with new parts. Reposition shim washers (PN 10163) and set pressure at 600 center position.