

## INSTRUCTIONS FOR

- KIT PART NO.3157052 - REPLACING A SYRUP PUMP  
DIAPHRAGM ASSEMBLY**
- KIT PART NO.3157054 - REPLACING A SYRUP PUMP  
ACTUATOR ARM**
- KIT PART NO.3157058 - REPLACING A SYRUP PUMP  
MOTOR AND CRANK ARM ASSEMBLY**

### APPLICATION

**ASSEMBLY: PART NUMBER 3157030 SYRUP PUMP**  
**MERCHANDISER: NATIONAL VENDORS 315 COLDTRON,  
 361 TWINTRON AND 362 TWINTRON**

CHECK THE PARTS RECEIVED IN THE KIT WITH THE PARTS LIST IN THESE INSTRUCTIONS. FIGURE 1 SHOWS ALL THE PARTS IN THE KIT. IF ANY PARTS ARE MISSING, CONTACT NATIONAL VENDORS' PARTS DEPARTMENT IMMEDIATELY.

Read these instructions carefully and completely before installing the kit. Retain these instructions for part numbers and future reference.

During assembly, use new parts whenever they are supplied with the kit. These Kits contain the following:

Part No.	Description	REQUIRED PER KIT		
		3157052	3157054	3157058
3157045	Bracket-Cycle Switch			1
1451097	Screw, #8-32 x .31 Hex Hd T/F, Black			3
3157011	Washer, Crank Arm			1
3157035	Motor-Syrup Pump			1
3157043	Roll Pin .062 x 1.00			1
3157049	Screw-Adjuster-Crank Arm			1
3157050	Slide Pin			1
3157051	Body-Crank Arm			1
5580072	Lubricant-1.0 Gram Tube		1	1
9900431	Retaining Ring-Reinf E-Type .312		1	1
3127013	Screw, #10-32 UNF-2A x 3/4	1		
3127015	Diaphragm-Syrup Pump	1		
3147002	Disc-Diaphragm-Syrup Pump	2		
3157053	Instructions	1	1	1
3157060	Screw #8-32 x .31 Hex Hd, T/F			4
3157067	Piston-Actuator Arm-Pin Assembly	1	1	1

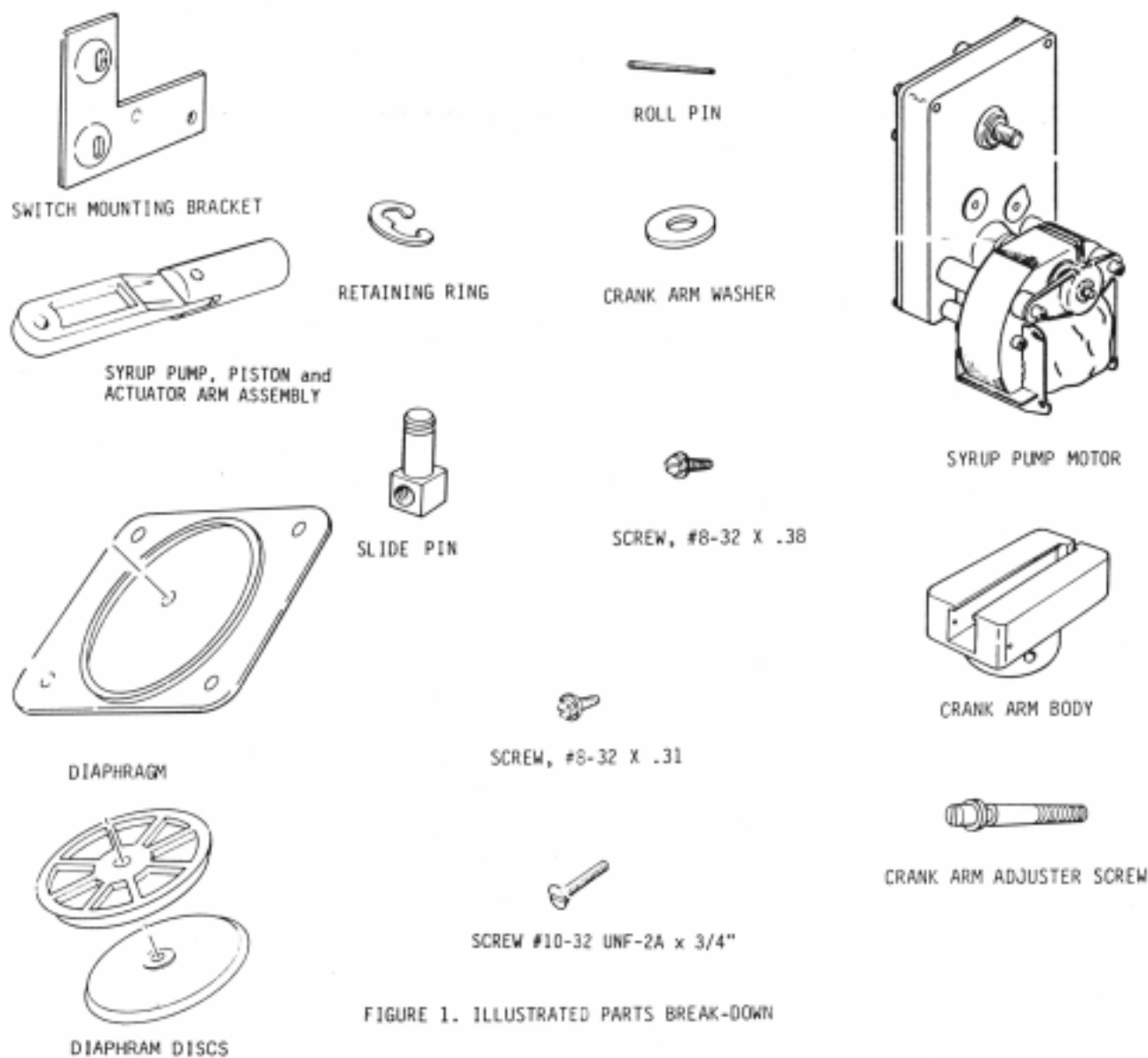


FIGURE 1. ILLUSTRATED PARTS BREAK-DOWN

1. REMOVAL OF PUMP FROM MERCHANDISER (See Figure 2)

- a. Remove the Syrup Tank Cover Lid and the Syrup Tank Cover.
- b. Pull the Syrup Tank Dip Tube from the tank and insert the end of the tube into the end of the Flush Valve Tube.
- c. Open the valve enough for liquid to begin flowing from the Dispensing Nozzle. Leave the valve open until the liquid runs clear. The Pump is now free of syrup.
- d. Close the flush valve and remove the dip tube from the flush valve tube.
- e. Cycle the Pump several times to remove most of the water from the Pump.
- f. Disconnect the Syrup Pump Harness from the cabinet harness.
- g. Disconnect the Suction Tube and the Discharge Tube from the Syrup Pump Assembly.
- h. Remove the Pump Assembly from the merchandiser.

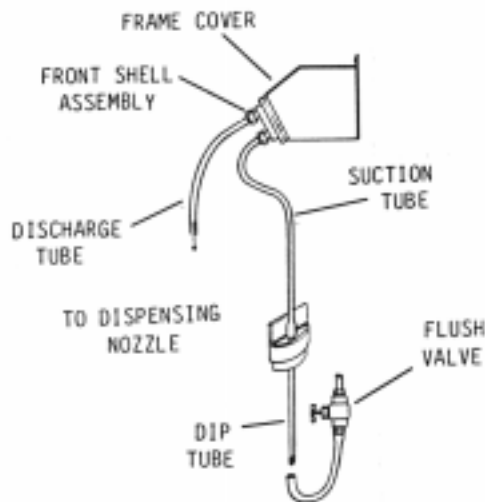


FIGURE 2. PURGING SYRUP FROM PUMP

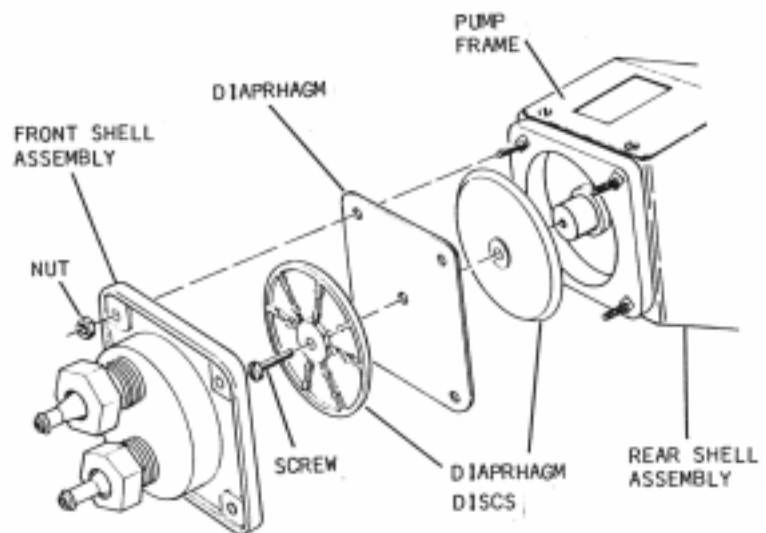


FIGURE 3. INSTALLING DIAPHRAGM DISCS

2. REMOVAL OF DIAPHRAGM AND DIAPHRAGM DISCS (See Figure 3 and Figure 9)

(Perform Steps a and b over a sink.)

- a. Remove the six screws that secure the Frame Cover to the Pump Frame and remove the Cover.
- b. Remove the four nuts that secure the Front Shell Assembly to the Rear Shell Assembly and Pump Frame. Remove the Front Shell Assembly.
- c. Remove the screw that secures the Diaphragm and Diaphragm Discs to the Piston.

3. REMOVAL OF MOTOR-CRANK ARM-ACTUATOR ARM-PISTON ASSEMBLY

- a. Disconnect the Motor Harness from the switch.
- b. *OLD STYLE MOTORS ONLY:* Remove the two screws that secure the Switch Mounting Bracket to the Pump Frame. Remove the Bracket and Switch from the Frame.
- c. Remove the four screws that secure the motor to the Frame.
- d. Carefully remove the motor assembly from the Frame.

Kit 3157058: Proceed to Step 5

Kit 3157052: Proceed to Step 3

Kit 3157054: Proceed to Step 3

4. REMOVAL AND SEPARATION OF ACTUATOR ARM AND PISTON (See Figure 4)

- a. Remove the retaining ring that secures the actuator arm and the washer to the slide pin.
- b. Separate the actuator arm from the slide pin.  
Kit 3157052: Proceed to Step 8  
Kit 3157054: Proceed to Step 8  
Kit 3157058: Proceed to Step 5

5. ASSEMBLING THE CRANK ARM ASSEMBLY (See Figure 4)

- a. Position the Crank Arm Adjuster Screw in the Crank Arm Body.
- b. Place the Slide Pin in the Crank Arm Body.
- c. Turn the Adjuster Screw into the Slide Pin until the Slide Pin has been pulled past the holes in the Crank Arm Body that accept the Roll Pin.
- d. Use one of the #8-32 x .31 Hex Hd., Black, Thread Forming Screws supplied with the kit as a Limit Screw. Turn it into the Crank Arm until it contacts the Adjusting Screw, but do not tighten.
- e. Drive the Roll Pin into the Crank Arm Body.

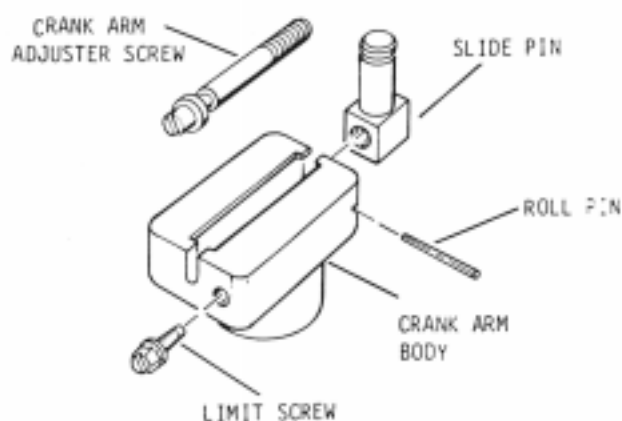


FIGURE 4. ASSEMBLING THE CRANK ARM ASSEMBLY

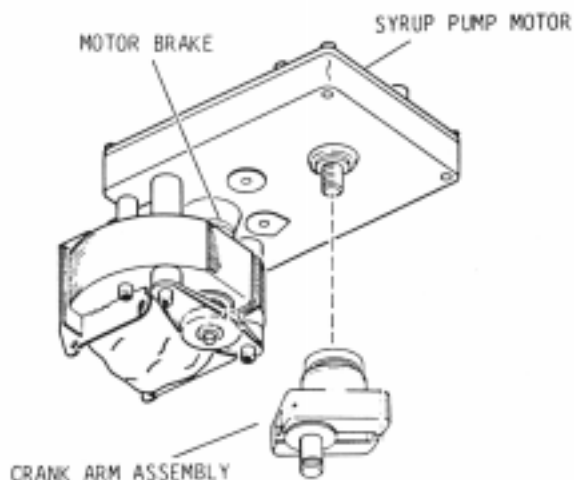


FIGURE 5. MOUNTING THE CRANK ARM ASSEMBLY ON THE MOTOR

6. MOUNTING THE CRANK ARM ASSEMBLY ON THE MOTOR (See Figure 5)

- a. Turn the new Crank Arm clockwise onto the threaded shaft of the Syrup Pump Motor.
- b. Hold the Motor so that the Crank Arm is on the bottom.
- c. Tighten the Crank Arm onto the shaft until you overcome the resistance of the internal gearing.

7. MOUNTING THE SWITCH BRACKET AND SWITCH (See Figure 6)

- a. Secure the Switch Mounting Bracket to the Motor. Using two of the Black Hex Head Screws.
- b. Position the Switch and the Switch Insulator as shown and secure both to the Switch Mounting Bracket.
- c. Connect the Motor Harness to the motor.

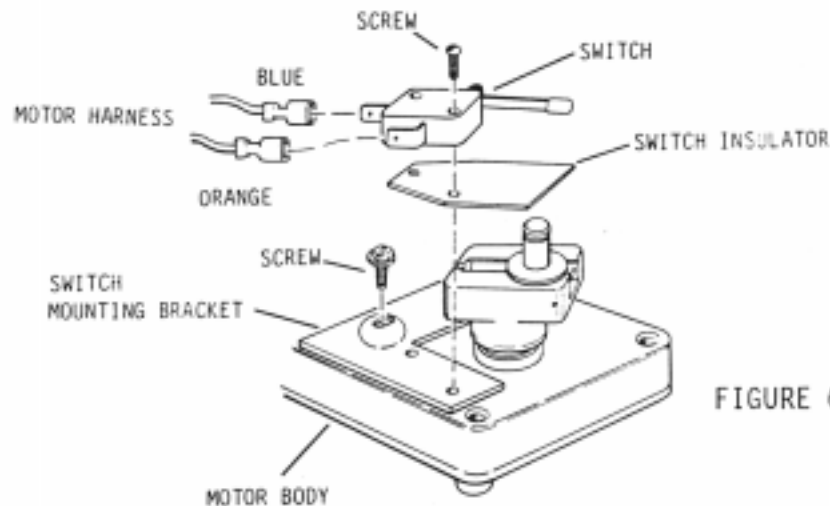


FIGURE 6. MOUNTING THE SWITCH BRACKET AND SWITCH

8. CONNECTING THE ACTUATOR ARM TO THE SLIDE PIN (See Figure 7)

- a. Apply a few drops of lubricant to the Slide Pin as shown. Use the Lubricant supplied with the kit.
- b. Position the Actuator Arm and the Washer over the slide pin.
- c. Use the Retaining Ring to secure the Arm and washer to the slide pin.

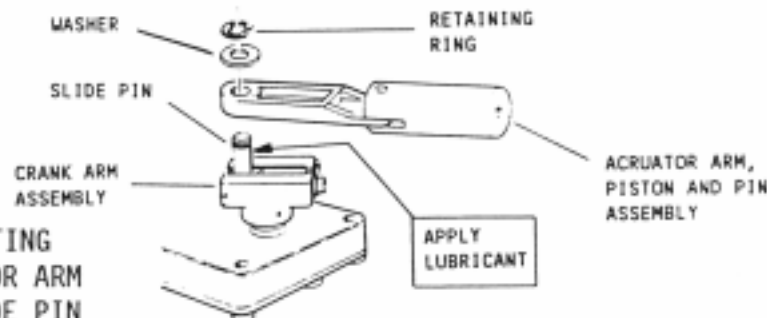
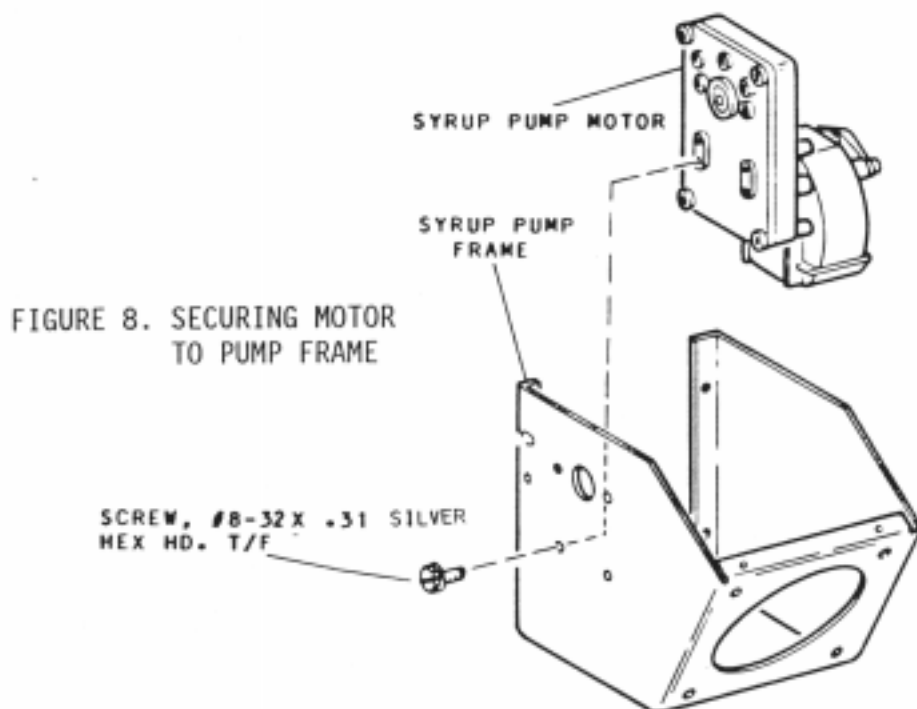


FIGURE 7. CONNECTING ACTUATOR ARM TO SLIDE PIN

9. RETURNING THE MOTOR ASSEMBLY TO THE PUMP FRAME (See Figure 8)

- a. Carefully slide the assembly back into the Frame while guiding the Piston through the hole in the center of the Rear Syrup Pump Shell.
- b. Secure the motor to the Frame using the four silver hex head screws supplied with the kit.



Kit 3157054: Proceed to Step 11  
Kit 3157058: Proceed to Step 11  
Kit 3157052: Proceed to Step 10

10. INSTALLING DIAPHRAGM AND DIAPHRAGM DISCS (See Figure 3)

- a. Position the new Diaphragm and Diaphragm Discs as shown.
- b. Secure the Diaphragm and Discs to the piston using the new screw - the one with the "O" ring washer.

**NOTE**

Hold the piston with one hand while tightening the screw. This will minimize twisting of the actuator arm.

- c. Replace the Front Shell Assembly and secure it to the Rear Shell Assembly and Syrup Pump Frame. Use the 4 nuts removed previously.

**NOTE**

The Front Shell Assembly should be positioned so the part number on the front is along the side opposite the motor.

11. REPLACING THE FRAME COVER (See Figure 9)

- a. Secure the Frame Cover to the Frame.
- b. Use the six screws previously removed.

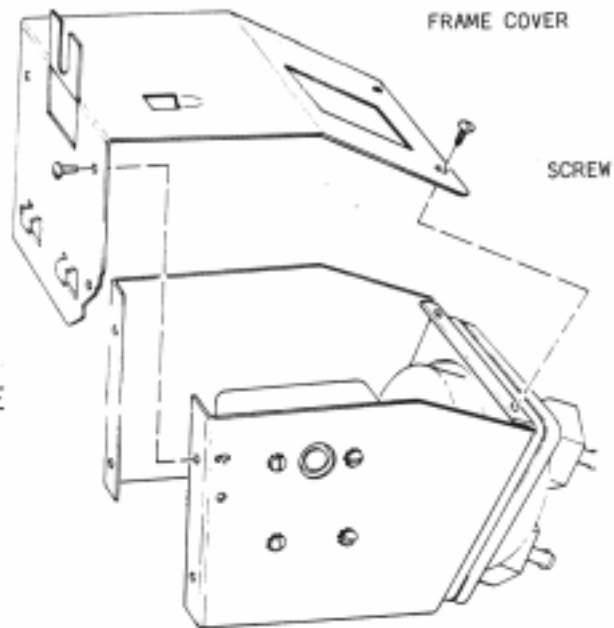


FIGURE 9. REPLACING THE FRAME COVER

12. REPLACING PUMP IN MERCHANDISER (See Figure 2)

- a. Install the Syrup Pump Assembly in the merchandiser.
- b. Reconnect the Suction Tube to the lower valve port.
- c. Reconnect the Discharge Tube to the upper valve port.
- d. Connect the Syrup Pump Harness to the Cabinet Harness.

13. PRIMING THE SYRUP PUMP AND SETTING THE SYRUP THROW

- a. Complete the pump priming procedure as discussed in the "Prime Syrup System" section of the Set-Up Instructions.
- b. Complete the throw setting procedure as discussed in the "Syrup Throw" section of the Set-Up Instructions.