AUTO JAR DUMP

NOTE: Please read your owner's (operator's) manual thoroughly before servicing.

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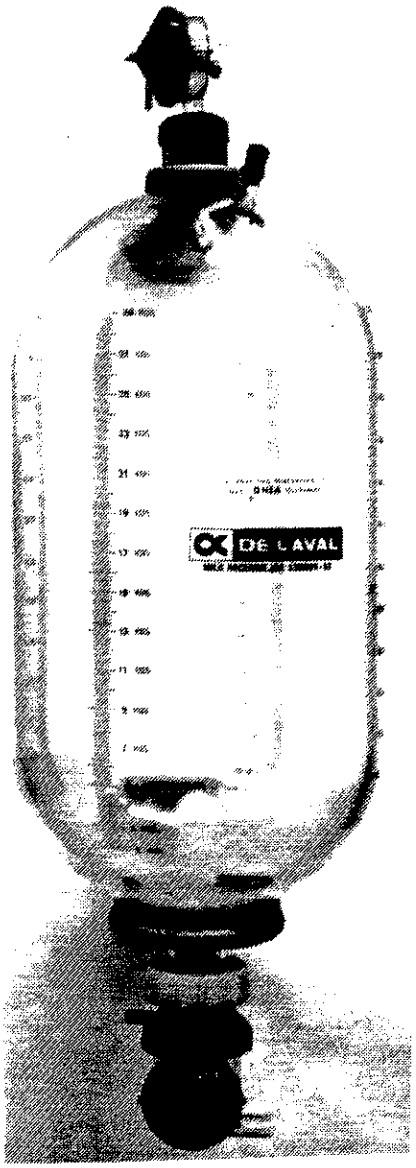

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PLANNING

1. Row Dump Station

One row dump station is normally used on each side of a parlor so that all the jars on a side are controlled from the same point. On tandem parlors where the row dump option is not used, the row dump button can be bypassed - the CIP toggle is still required.

Limitations:

a) No more than 6 jars can be dumped from one Row Dump Station.

Therefore parlors having more than 6 stalls per side must have two Row Dump Stations per side, i.e. double 12 would have 2 groups of 6 jars on 2 Row Dump Stations for each side of the parlor.

b) The number of jars on a Row Station is limited due to the amount of milk that can be simultaneously dumped and accepted by the receiver without flooding.

The Jar Dump units can transfer between 50 and 80 lbs./minute, so that from 6 jars you could get 300-480 lbs./minute. This rate would flood the lines and receiver if kept up for very long.

In practice each jar on the average will contain 20-35 lbs. so that 6 jars would have 120-210 lbs. of milk to dump at one time. This is 14-24 gallons which could be accepted and pumped by the receiver.

There may be instances where a high producing group may average 40-50 lbs./jar or 240-300 lbs. of milk to dump at one time. This amount (28-35 gallons) could flood the receiver.

Thus in herds with high producing groups it is a choice between reducing the number of units on a Row Station to 4, or dumping some jars individually when high producing groups are in the parlor.

2. Vacuum, Tubing & Connections

The major cause of interruptions in proper operation is loss of vacuum in the system.

Vacuum tubing and connections (to minimize the chance of tubing being pulled loose during the course of washing udders, teat dipping, etc.) will need to be located out of the way and fastened down with tape or nylon ty-wrap.

NOTE: The Jar Dump requires 12-15" Hg vacuum to operate.

3. Existing Weigh Jar System Components

Some other components on existing weigh jar systems may need replacing when the Jar Dumps are installed. These items should be checked before making installations.

* Jar rubber cap in the top inlet (8300681-01) may be stretched so that the top valve does not fit tight. Also, it may have deteriorated on the inside and would no longer be sanitary.

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* The milk hose may be too short with the new bottom valve because the outlet is lower in relation to the jar than on the manual valve. This can be solved by moving the jar or using a longer milk hose to high lines.

* Some jars may use fluted cushion #05115 in the bottom jar connection. These should be replaced by #8302135-01 solid cushion.

Single Jar Dump

4. A single Jar Dump can be demonstrated in a parlor by getting 12-15" Hg vacuum to one plastic tube which is connected to the "V" port on the logic block during milking and the "C" port for CIP and sanitize. This single unit dumps off the individual stall button and does not require a Row Station.

Optional Kits

5. Two optional kits are available for use with Auto Jar Dump units:

   8305405-80 contains 8 sets of panel nuts and grommets which are used to mount the individual stall pushbuttons in a steel panel such as an ARM unit. The panel nut secures the pushbutton in the box and the grommet seals the point where the vacuum tube enters the box.

   8305418-80 contains a toggle switch and a box to mount the switch. The toggle is placed in the tube line to the top valve. When operated it allows air into top valve thus allowing it to close and let air into the jar independent of bottom valve operation. This is used so that the milk weight can be read without vacuum over the milk. The switch box will have one extra hole in which the individual jar pushbutton can be mounted if so desired.

Environmental Considerations

6. The unit may not work properly when exposed to below freezing temperatures. Moisture can freeze in the logic valves or orifice and stop the unit from working.

Model 200 Installations

7. A separate vacuum supply line must be installed on the Model 200 and any other systems which have only wash/vacuum type lines. Route 1/2" PVC (water pipe) to Row Dump stations to supply vacuum from a source where no wash water can contaminate the system.

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INSTALLATION

1. Remove SS top valve from jar. Check the upper inside surface of rubber cap (8300681-01) to see if it is clean. If rubber is blistered and rough, replace the cap. Also replace cap if the hole is stretched and does not fit the valve tightly.

2. Push nipple of top valve through top of rubber cap and snap plastic deflector into the nipple. Place plastic top valve and cap on the jar. Adjust top valve height in rubber cap so that the bottom of the deflector is approximately even with the point where the jar flares out from the entrance nipple on the inside. Tighten cap clamp. Drain slot in plastic valve spacer between 2 rubber membranes must be pointed downward to drain moisture.

3. Check fit of vacuum/CIP hose onto the top valve nipple. If loose, or there is extra hose, trim the vacuum hose to get the unstretched hose on the nipple.

4. Remove SS bottom valve and clean the jar bottom coupling. Discard old gasket. If fluted cushion 05115 is used under jar, discard and replace with solid cushion (8302135-01).

5. Place one gasket in the plastic jar adaptor and on top of it place the plastic displacer and then another gasket. Align the bottom valve assembly on the jar coupling so that the valve outlet points in the desired direction-usually toward the cow platform. The sample plug should point toward the pit so there is easy access for sampling. Tighten the coupling nut.

6. On low line installations make sure that the milk hose can still drain down to the milk line. If not, the jar must be raised so that the hose will drain.

7. Find a location for the "Row Station" ("CIP/MILK" toggle and "Row Dump" button). Best location for most applications is near the gate or gate switch at one end of the parlor. If all units on one side of the parlor are operating on the same Row Station, the best location would be by the exit gate. A location above the jars will improve access and visibility of the switches and keep them cleaner. There will be one (or more) "Row Station" for each side of the parlor.

8. Fasten the "Row Station" to a vertical 1 1/4" pipe using U-bolt, clamp plate and nuts.

9. Drill and tap two 1/8" NPT holes on the top of the closest vacuum line.

   NOTE: Do not use vacuum lines that also carry wash water during CIP. The wash water can enter and contaminate the system.

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10. Install 90° pipe to tubing adaptors in two holes. (See Fig. 2)

11. Run a 3/16" ID. tubing (8304778-01,02) **(A)** from one adaptor to the bottom part of the "CIP/MILK" toggle. Run one tubing **(B)** from the other adaptor to the bottom back port on the "Row Dump" button.

12. Run tubing **(C)** from front bottom port of the "Row Dump" button to a location above the first jar in line. Pick a pipe such as the vacuum pipe or a wiring trough to run tubing along. Locate a 3/16" tubing Tee at the end of this first piece of tubing and lightly secure it in place on the pipe with a ty-wrap (leave room for other "T" and tubing for CIP control tube).

13. Measure center to center distance on stalls and cut 2 pieces of 3/16" tubing **(D)** to connect between each stall in parlor, i.e. a DBL 4 parlor would require 3 connections X2 = 6 tubes for each side for a total of 12.

14. Take piece of tubing **(D)** just cut and string down each side of parlor with a tee above each weigh jar and an elbow down to the last jar in line. Mark this tubing in one or two places with tape to identify it as the tube for vacuum source (vs. CIP control tube). Secure tubing loosely to pipe at each tee and half way between with ty-wraps. Do not tighten yet.

15. Run a piece of tubing from first tee down the jar support pipe to bottom valve logic block. All of this tubing to the logic block can be run through the opening in the bottom jar bracket to make a more neat installation. Measure the length of this piece of tubing and cut 2 more for each jar in the parlor. This tube **(E)** with vacuum source from "Row Dump" button goes to the V" port on the logic block (center one of five). Make this tubing connection on all jars.

16. Run a piece of tubing **(F)** from rear bottom port of CIP/MILK toggle to a point above the first jar where the other line has a Tee. Install Tee and rest of line identical to the first. Tighten ty-wraps.

17. Take extra pieces of tubing cut earlier and run from each T down to bottom valve logic block "C" port. **(G)**

18. Cut and measure a piece of tubing **(H)** to go from the "T" port on the logic block, up the jar support pipe to the nipple on the jar top valve. Cut and attach a piece of tubing like this on each jar.

19. Cut a 4" piece of tubing **(I)** (for each jar) to loop from the "B" port to the nipple on the jar bottom valve.

20. The pushbutton for individual jar dump is best located above the weigh jar out of the way of udder wash and teat sprayer hoses. Screw the pushbutton into the threaded half of the plastic 1-1/4" pipe clamp (952112-80). The button nipple should point downward when installed. Install clamp and button on 1-1/4" pipe above each jar.

21. Cut and measure a tube **(J)** to go from the front port on the pushbutton to the "P" port in the logic block. Complete on each jar.

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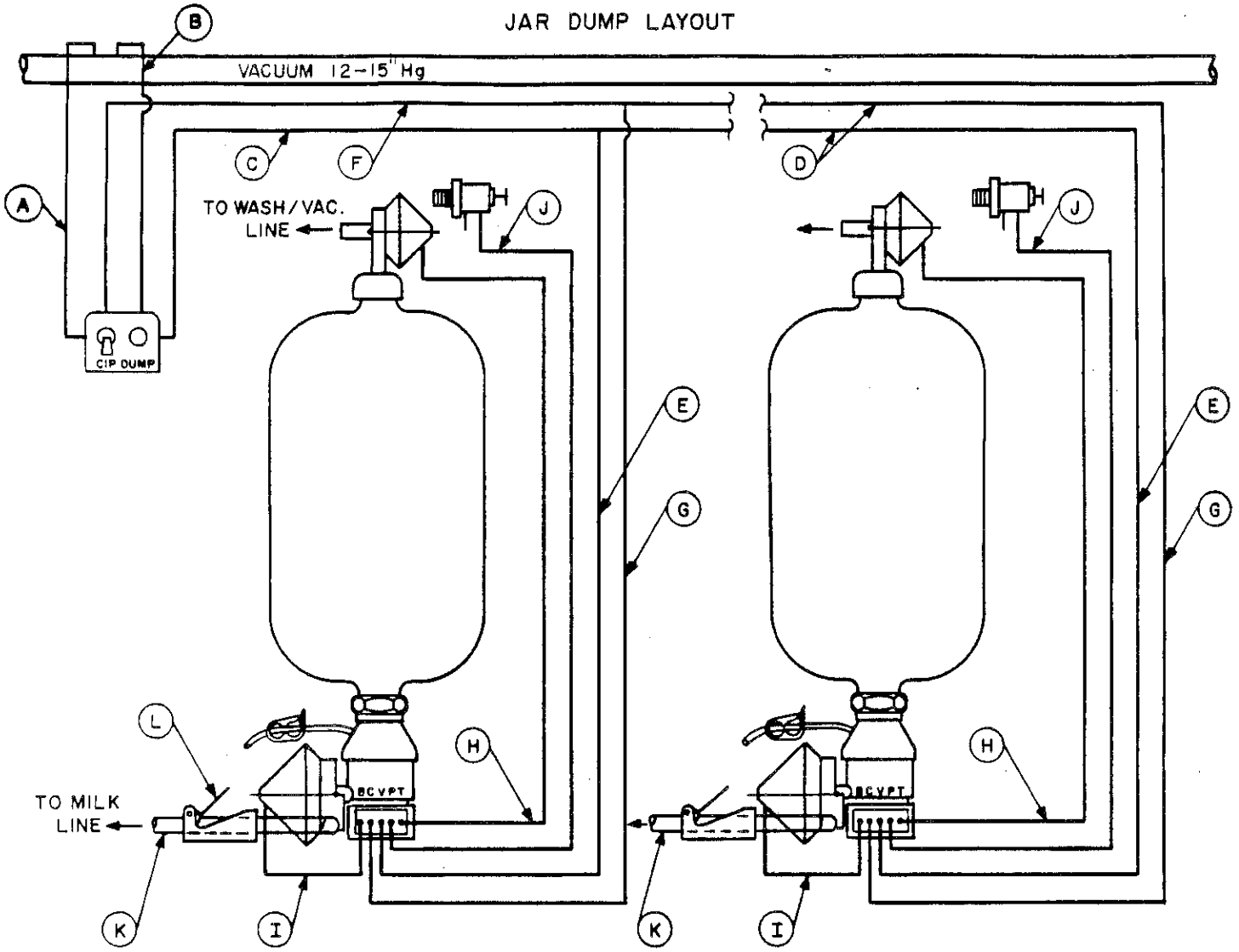

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22. Ty-wrap the 5 pieces of tubing to the jar support pipe to make the installation more neat.

23. For low lines (milk hose goes down from jar to milk line), install a milk tube shut-off **(L)** on each milk hose.

24. For high lines cut a short piece of rubber milk hose, **(K)** 6" long, to go from milk outlet nipple to the high line drain valve. Install this hose on the bottom valve and put the clamp over it in a convenient position, usually the hinge away from the valve. Put the drain valve on the end of the short piece of hose. The milk hose up to the high line (rubber or plastic) goes on the end of the drain valve. **Be sure there is enough hose so that drain valve is the lowest point in the line and will drain the line and the bottom valve.**

25. Optional kit 8305405-80 installation. Drill or punch 5/8" or slightly larger diameter hole in front of ARM (or similar) box in location where the back part of the button and the tubing going to it will not interfere with other internal parts. Drill or punch a 1/2" diameter hole in the top, rear, or sides of the box to accomodate the grommet and tubing. Seat the grommet in the 1/2" hole and push tubing through from the outside (grommet will need to be lubricated). Secure tubing to front pushbutton nipple, as in #21.

26. Optional kit 8305418-80 installation. Mount the box to the vertical pipe above each jar using U-bolt, clamp plate, and nuts. Secure toggle in the box with panel nut. The tubing described in #18, coming from the Tee port of the logic block, now goes to the bottom port of the toggle switch. Another piece of tubing connects from the rear bottom port of the toggle to the nipple on the jar top valve. "Milk" position is with toggle upward. "Vacuum release" position to read jar is down.

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TROUBLESHOOTING

1. **Jar(s) will not reset after dumping** (i.e. apply vacuum to jar by top valve opening and bottom closing).

   NOTE: If more than one particular jar is not working, all may have to be checked according to 1.1, 1.3, and 1.5.

   1.1 Check that ball(s) is on the bottom of the valve - not floating.

   1.2 Cover top port on the back of CIP-Milk toggle with finger to stop vacuum leak and reset. This can also be done by removing tubing from "C" port of logic block and sealing with finger for a few seconds.

   1.3 Slide off the logic block on the bottom of the bottom valve, hold away from the valve for a second, then replace. Shaking or tapping the block can also reset the magnet.

   1.4 Remove vacuum source tube from front bottom of the "Row Dump" and replace after few seconds.

   1.5 Check for vacuum leaks - check for vacuum present at rear bottom tube to "Row Dump" button; check for vacuum present at "V" tube to logic block on bottom valve (center one of 5 tubes). Check top and bottom double sided rubber valves to be sure they are mounted correctly and do not have holes.

   1.6 Check for debris on the seat of the individual jar dump button. Remove 4 screws in back cover. Pull pushbutton out front end. Pull rubber valve out of body and clean off rubber where it seats against the pushbutton guide tube. Replace rubber part, seating the seal in groove. Fasten back cover to body. Push button into body and snap back into rubber valve.

   1.7 Check for debris in logic block - see section on logic block.

2. **Jar(s) stopped in the middle of dumping** (i.e. ball in bottom valve is floating).

   2.1 Push the individual stall button quickly several times.

   2.2 Remove vacuum source tube on the front bottom of the "Row Dump" button and replace after few seconds.

   2.3 Check for vacuum leaks as in 1.5 above.

   2.4 Check for debris in pushbutton and logic block as in 1.6 and 1.7 above.

   2.5 Manual dumping can be done with the following procedure at any or all jars. Remove tube from bottom rubber valve port and replace with the tube which goes to the "V" port on bottom valve. This will apply vacuum to open bottom valve. Remove tube from top valve if necessary to let it close and let air into the jar.

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3. Removing a Unit from Service

3.1 Remove two tubes that come down from vacuum line to the logic block ("V" & "C") and plug them.

3.2 Remove tube which goes to the individual dump pushbutton from the logic block.

3.3 Remove tube which goes to top valve from the logic block.

3.4 Remove top and bottom valve from the jar.

3.5 Replace with old valves.

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4. **Servicing the Logic Block** - DeLaval Dealer

4.1 Loosen 4 screws **(1).** Refer to parts list Pg. . Do not lose nuts off the bottom.

4.2 Pull top cover **(2)** with screws and top gasket **(3)** off the rest of the block.

4.3 Check that magnet **(4)** is free in its chamber. Clean out any debris or wet, sticky accumulations on the magnet or in the chamber. Do not mark or damage the center air inlet hole.

4.4 Pry bottom cover **(5)** off the middle section **(6).** The gasket must stay with middle section.

4.5 Clean bottom cover of debris and any liquid accumulations.

4.6 The bottom gasket **(7)** may be removed by carefully pulling it off the plastic shafts **(8)** which hold it to the two valves.

4.7 The valves **(9)** can be removed by pulling out on the shaft. This removes the shaft and amplifier insert **(8, 9).** Check O-Ring **(10)** which seals the insert. If it is deformed as from being seated incorrectly, replace it.

4.8 Check small O-Rings **(11)** on the shafts. If they are cracked or no longer smooth, replace them.

4.9 Clean out any debris or accumulations in the inner chamber and any of the passages. Do not enlarge any of the passages. There is a logic ring (12) in the chamber closer to the tube nipple which can be pryed out to gain access to the bottom of the chamber. It should be reinstalled - with the notch on the outside in the same orientation.

4.10 Check bottom gasket **(7)** and replace if there are any holes in the two diaphragms.

4.11 To reassemble, push the logic ring **(12)** down into the chamber closer to the tube nipples with flat side up and outer notch in same position.

4.12 Place larger O-Rings in the grooves in both chambers. Press the valve insert and shaft assembly into the chamber so that the top of the insert is flush with the center body setion. Make sure the shaft is vertical so that it lines up with the center hole. If the O-Ring is seated correctly the insert will stay in place.

4.13 Place the bottom gasket into the grooves around the chambers.

4.14 Place the bottom cover over the center section and gasket, being careful to line up the holes in the two sections.

4.15 Place the top cover on the table with the inside up and align the top gasket inside it. It must be centered so that it doesn't overlap the magnet chamber in the center.

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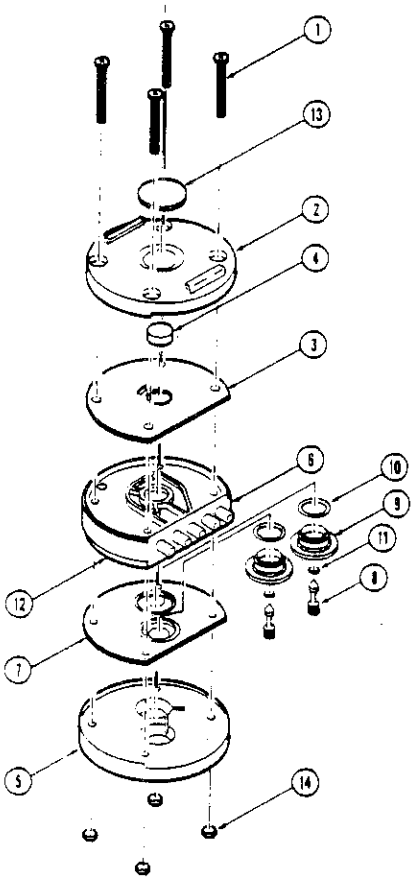
4-16. Place the magnet in the center chamber. Take center body section, align with top cover and press into place.

4-17. If all 3 sections and gaskets are lined up correctly, the screws will slide through. As the screws are tightened, shake the logic block. The magnet should rattle in its chamber, signifying that it is free and not jammed crossways or impeded by the gasket. Tighten screws till end of the the screws are flush with bottom cover. **Do not use a power screwdriver.**



ITEM	DESCRIPTION
1	Screw - Cross Recessed
2	Top Cover
3	Gasket - Top
4	Magnetic Washer
5	Bottom Cover
6	Body - Block
7	Gasket - Bottom
8	Amplifier Shaft
9	Amplifier Insert
10	O-Ring
11	O-Ring
12	Ring - Logic
13	Cover
14	Nut

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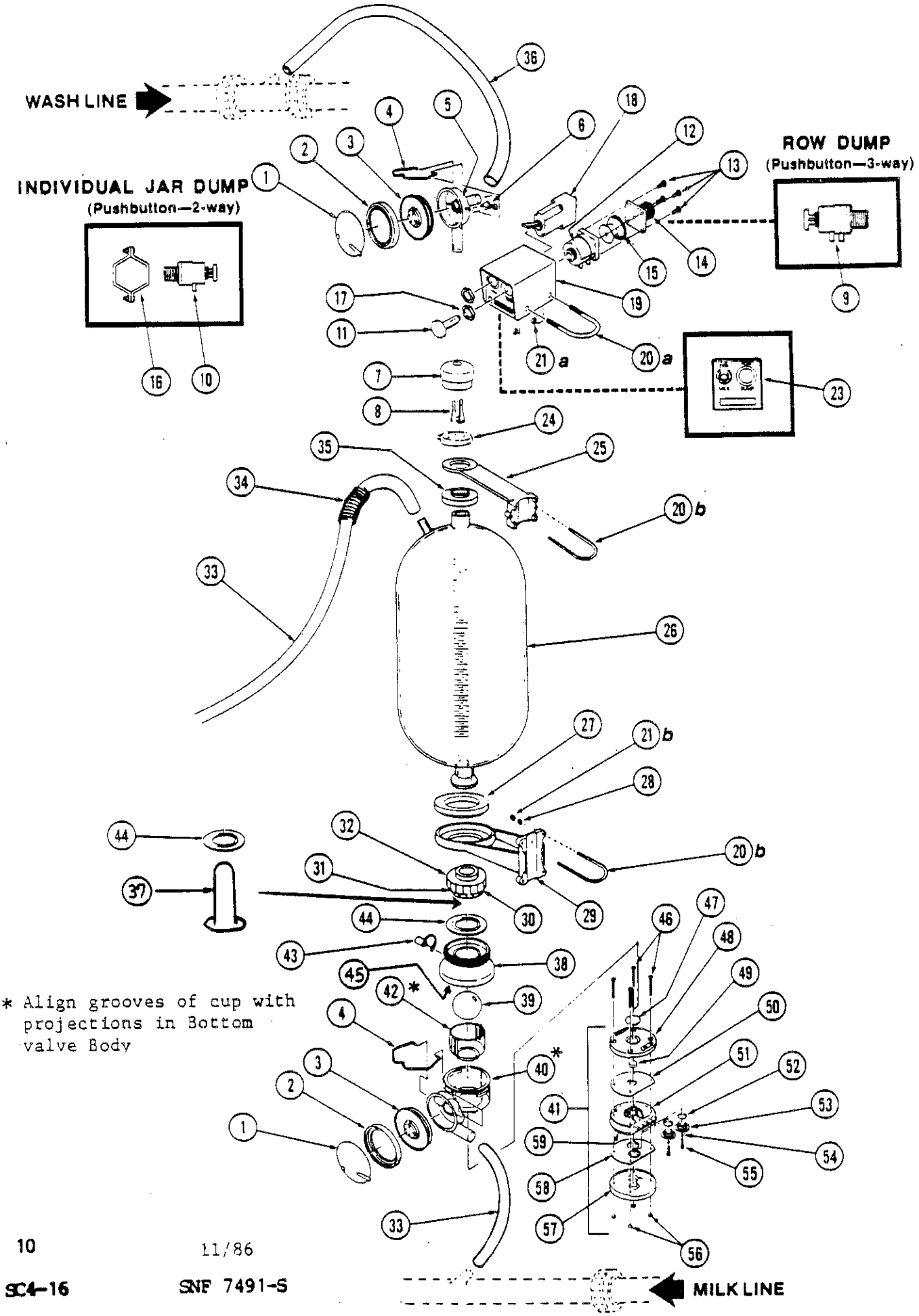
PARTS


WASH LINE
INDIVIDUAL JAR DUMP
(Pushbutton—2-way)
ROW DUMP
(Pushbutton—3-way)
MILK LINE
* Align grooves of cup with projections in Bottom valve Body

AUTO JAR DUMP

ITEM	PART NUMBER	QTY REQD	DESCRIPTION
1	8305124-01	2	End Cap
2	8305122-01	2	Center Section
3	8305443-01	2	Valve
4	8305119-01	2	Retainer Wire
5	8305121-01	1	Top Valve Body
6	8304531-01	1	Check Valve
7	8300681-01	1	Cap
8	8305118-01	1	Deflector
9	8305105-81	1	3-Way Pushbutton
10	8305105-80	1	2-Way Pushbutton
11	8305101-02	1	3-Way Button
	8305101-01	1	2-Way Button
12	8305107-81	1	3-Way Body
	8305107-80	1	2-Way Body
13	8304598-03	4	Screw - #6 x 3/8"
14	8305102-01	1	End Cap
15	8305103-01	1	Diaphram
16	952112-80	1	1 1/4" Clamp
17	8305366-01	1	Panel Nut
18	966360-80	1	Toggle Switch with Nut
19	8305364-80	1	Box
20 a	8301921-01	1	U-Bolt
20 b	8300673-01	2	U-Bolt
21 a	30054	2	Nut
21 b	04096	4	Nut
22	8305403-01	1	Clamp Plate(Not Shown)
23	8305365-80	1	Jar Dump Control
24	8300705-05	1	Clamp
25	8300666-01	1	Support
26	8301064-03	1	65 LB. Jar
	8301064-04	1	85 LB. Jar
27	8300669-01	1	Cushion
28	33527	6	Washer
29	8300667-01	1	Bracket
30	8302135-01	1	Cushion
31	07159	1	Ferrule
32	07160	1	Coupling Nut
33	04516	1	Milk Tube
34	8300840-01	2	Tube Support
35	8300672-01	1	Cushion

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AUTO JAR DUMP

ITEM	PART NUMBER	QTY REQD	DESCRIPTION
36	05756	1	Air Tube
37	8305108-01	1	Displacer
38	995229-01	1	Jar Adaptor
39	968910-80	1	Float Ball
40	8305111-01	1	Bottom Valve Body
41	8305115-80	1	Logic Valve
42	8305109-01	1	Cup
43	968874-01	1	Sample Plug
44	07162	2	Gasket
45	996533-01	1	Packing Ring (Not Shown)
46	260255-17	4	Screw
47	968876-01	1	Cover
48	8305112-01	1	Top Cover
49	965496-01	1	Magnet
50	8305113-01	1	Top Gasket
51	8305114-01	1	Body Block
52	223403-01	2	O-Ring
53	968878-01	2	Amplifier Insert
54	223403-02	2	O-Ring
55	968879-01	2	Amplifier Shaft
56	221803-26	4	Nut
57	8305116-01	1	Bottom Cover
58	8305117-01	1	Bottom Gasket
59	8305331-01	1	Logic Ring

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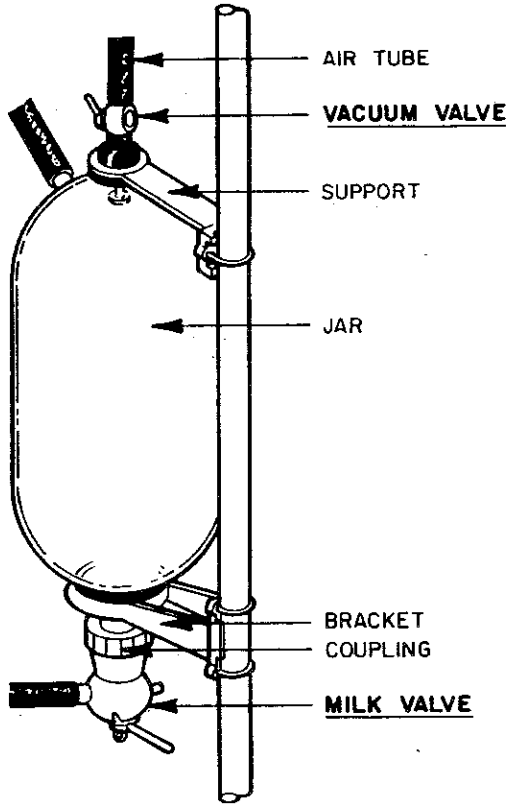
DE LAVAL **SERVICE MANUAL** **SC4-1**

Instructions for WEIGHING DEVICE 8300680-81

D.H.I.A. APPROVED



INSTALLATION

To be sure the weigh jar is plumb, mount the jar securely to a vertical 1¼" to 2" pipe with rubber-cushioned brackets and accessories as shown. The pipe itself must be independently secure and plumb at both ends above and below the jar. Each weigh jar must be on a separate pipe.

PRE-MILKING CHECK OF JAR BY THE DHIA SUPERVISOR

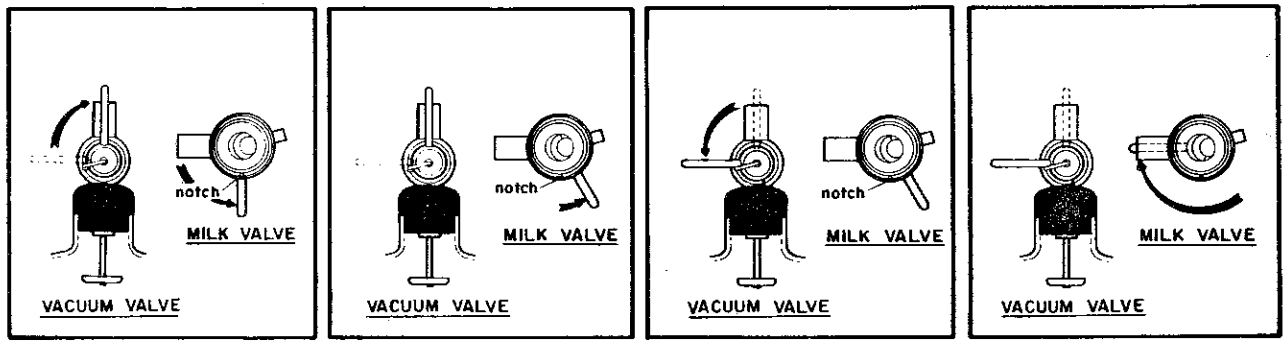
Before milking begins, fill the jar approximately ½ full of water. If the readings on all four scales (one at each quadrant of the jar) agree, the jar is plumb.

READING AND SAMPLING

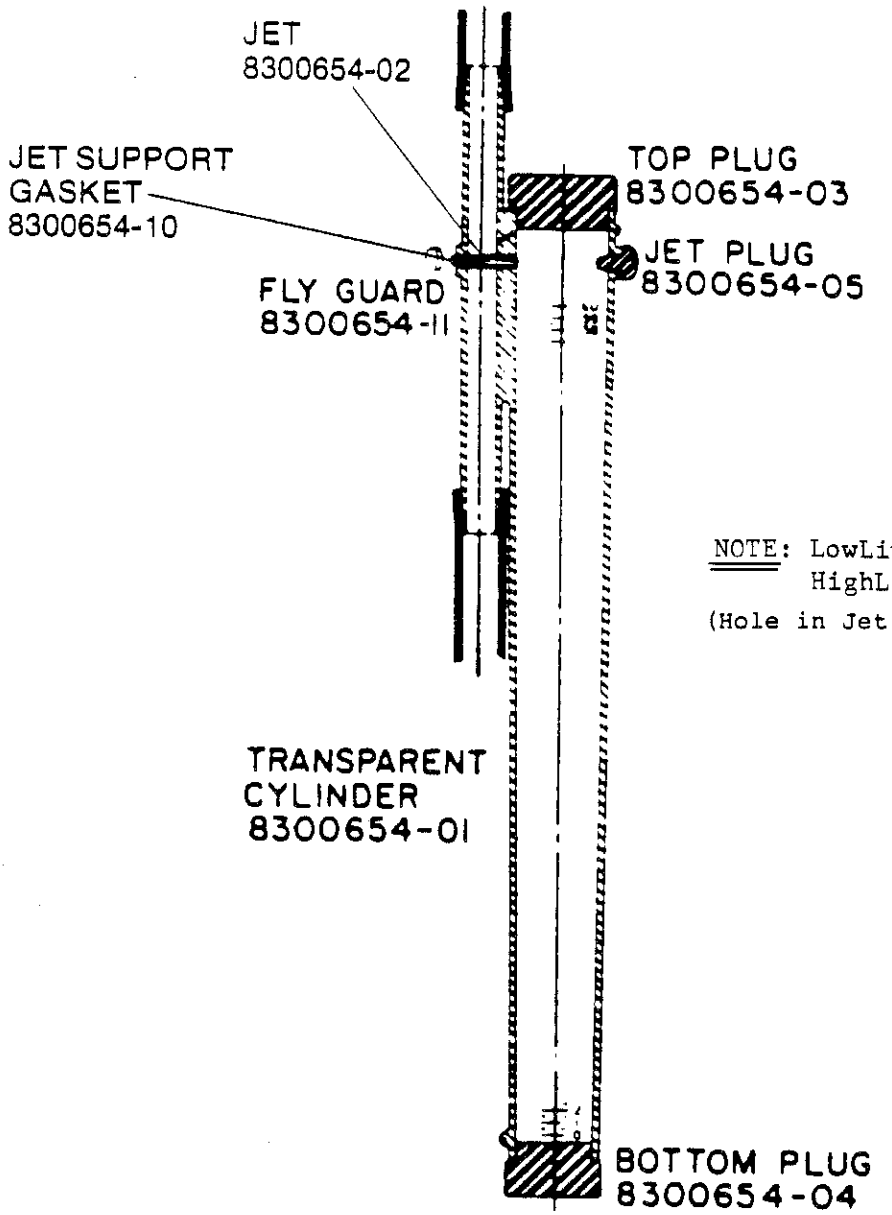
(1) After each cow has been milked (A) the quantity of milk is read and recorded to the nearest ¼ pound or .1 kilogram. Read the milk line; disregard foam.

(2) To obtain milk sample, admit a small amount of air through the milk valve (B). This will adequately mix the milk to get an accurate reading. Agitate one second for each two pounds of milk. When the milk is properly agitated, shut off the vacuum valve and the sample will flow to the sample bottom (C). When sample is obtained, turn milk valve to empty the jar (D).

VACUUM VALVE AND MILK VALVE POSITIONS



A MILKING B AGITATION C SAMPLING D EMPTYING



NOTE: LowLine - hole in jet-up
HighLine- hole in jet-down
(Hole in Jet should point to the Claw)

8300654-81 MINI MILK METER COMPLETE
INC: 8300654-06-JET CLEAN. BRUSH
8300654-07 " " TOOL