

# Installation and Operating Instructions

## For #313266 Calibrated Vessels

### Herringbone or Tandem Parlors Using #313200 or #313260 Receiving Assemblies

It is desirable to have a pit width of 6' or over to give operator sufficient working room. In a Herringbone Parlor with a high line, one weighing vessel is frequently used for 2 stalls. In such instances, the weighing vessel should be installed equal distance from the pit curb. Calibrated vessels may be mounted individually or in pairs. Mounting them in pairs, one bracket above the other on a single post, allows more walking space between pairs of jars.

On low level lines, one calibrated vessel is usually used for each stall. They can be mounted on a vertical post approximately 18 inches from the curb.

Mount calibrated vessels firmly using 1¼" pipe and 310576 "T" clamps. For increased rigidity it is recommended that a horizontal pipe be used between the vertical pipes supporting the vessels. The vertical pipes are usually fastened to a horizontal pipe across the pit.

As a precautionary measure against loosening, it is recommended that the vertical support pipes be drilled and pinned to tee clamp.

## Checking Calibration

After vessels have been secured they should be checked for calibration. This is done by filling the vessel approximately 1/3 with water and comparing the calibrated weight readings on all 3 scales of the vessels. If the weight readings are not identical, the vessel should be tilted until readings correspond.

## Proper Installation of Wash Line And Milk Line Nipples

Nipple tees for 5/8" I.D. tubing may be used on water intake line so they can readily be adjusted; however, many installers use clamp-on nipples. The nipples on the water intake line should be adjusted in a position so approximately the same amount of water enters each calibrated vessel. Turning the nipple down will increase the amount of water entering the vessel whereas raising it will decrease it. Normally the nipple closest to the milk receiver is turned straight down and each succeeding nipple is turned further up.

Our milker units may be used with a 1½" pipe if calibrated vessels are used; however, 2" or larger pipe is preferred depending on the number of calibrated vessels. If insufficient water enters the vessel, additional water intake at the receiving panel may be necessary. Nipples on both the water intake line and milk line must accommodate 5/8" I.D. tubing.

Milk inlet nipples on low level lines may be positioned straight up, but high milk lines should have milk inlets set slightly above the 3 o'clock position. Use 310800 no kink coil to prevent collapse of milk tube on high level milk lines. The no kink coil may also prove beneficial where the milker unit hose attaches to the weigh jar.

A glass or stainless steel adaptor nipple cap at the high points on the end of the water intake and milk lines replace standard milk inlets so that with eight weigh jars only 14 standard clamp-on nipples are required. The hoses from the last calibrated vessel are attached to these nipple caps. A concentric offset S.S. nipple cap (420716) is suggested for 1½" pipe. It permits water to enter on the top side of the line for assured cleaning.

For 2" milk and water lines on smaller installations, nipple caps are not used at the end of the lines but rather milk inlet nipples are installed close to the end of the pipe and the pipe is capped.

On smaller installations when using calibrated vessels, the milk line and water vacuum line are **not** connected at the high point to form a loop line. They are, however, connected with plastic hoses via the calibrated vessel.

The advantage of using nipple tees on the water vacuum line is that the nipple tees can be adjusted to get the proper amount of water into each vessel.

## Washing Operation

If C.I.P. Washers are not used, the milker units should be taken into the milk house immediately after milking. All exterior soil should be rinsed off before units are placed on the unit holder in the wash tank. Units may be supported on the outside of the wash tank with either a 420577 or 313075 unit holder for the exterior washing. Attaching milker units to a stall cock or other spigot valve on a cold water pressure line and opening for several seconds facilitates rinsing units.

Milker units should now be placed over the tank hanger or unit holder in wash tank and hoses attached to the washing adaptor manifold. The pipeline system should now be readied for washing as follows. The piston drain tee valve at the receiver should be positioned so water can enter the system. The 411100 drilled valve at the top of the calibrated vessels should be turned so water can pass but no air enters through the side orifice. The bottom valve (413510) should be turned so water can move out through the milk discharge tube and so it drains automatically between cycles when using Kleen-O-Matic. The "O" Rings (256951) on milk valves should be replaced periodically. **NOTE:** If C.I.P. unit washers are **not** used, a 256946 5/8" tee must be installed in the vacuum hose just above the top valve and a short plastic tube connected to the milk inlet nipple on the jar to ensure washing the milk inlet nipple. Should the 908423 ball float be used during milking, insert the 421204 wire of the 310789 in position so the jars can drain. The system is now ready for the washing operation.

## Milking Operation

To ready the system for the milking operation, the panel tee valve piston must be pulled out to close off air and water intake putting attached sanitary line and milk line under vacuum. The sanitary vacuum line provides vacuum to the calibrated jars during milking. It is now necessary to open the valve at the top of the calibrated vessel turning it so air does not enter through the bleeder orifice. Also remove the short plastic tube, if used, from the vessel milk intake nipple and cork end. The long milk tube from the milker unit should be attached to this nipple. Close off valve at bottom of the calibrated vessel to keep milk in vessel until weight has been recorded. The system is now ready for milking. When a cow has finished milking, record milk weight.

## To Empty Calibrated Vessel

Shut off vacuum to the vessel by turning top valve permitting atmospheric pressure to enter the vessel through the bleeder hole for rapid draining. Now open bottom valve so milk can enter milk transfer tube and be drawn out of the vessel to the milk line and on to the receiving vessel.

## Taking a Milk Sample

Milk should be mixed to get a composite sample. This is done by leaving the top valve open and turning the bottom valve so milk does not leave the jar but that air can enter when edges of the duck bill drain valve (256943) at the bottom is squeezed with fingers. Milk should be agitated from 5 to 10 seconds depending on the quantity of milk or until the butterfat is thoroughly mixed with the milk. The vacuum at the top is now shut off by turning valve so bleeder hole is open and milk sample can be taken through duck bill rubber drain at bottom.

The bottom valve is now turned so jar can empty. Air entering the top bleeder hole neutralizes vacuum permitting rapid draining. The 256951 "O" Rings at the top and bottom valve should be replaced when cracking occurs to prevent air leaks.

## Milking When Milk Weights Not Desired

Calibrated vessels will in most instances improve milking efficiency even though milk weights are not actually recorded. This may be attributed to the nearness of reserve vacuum to the cow and to the relatively low milk lift.

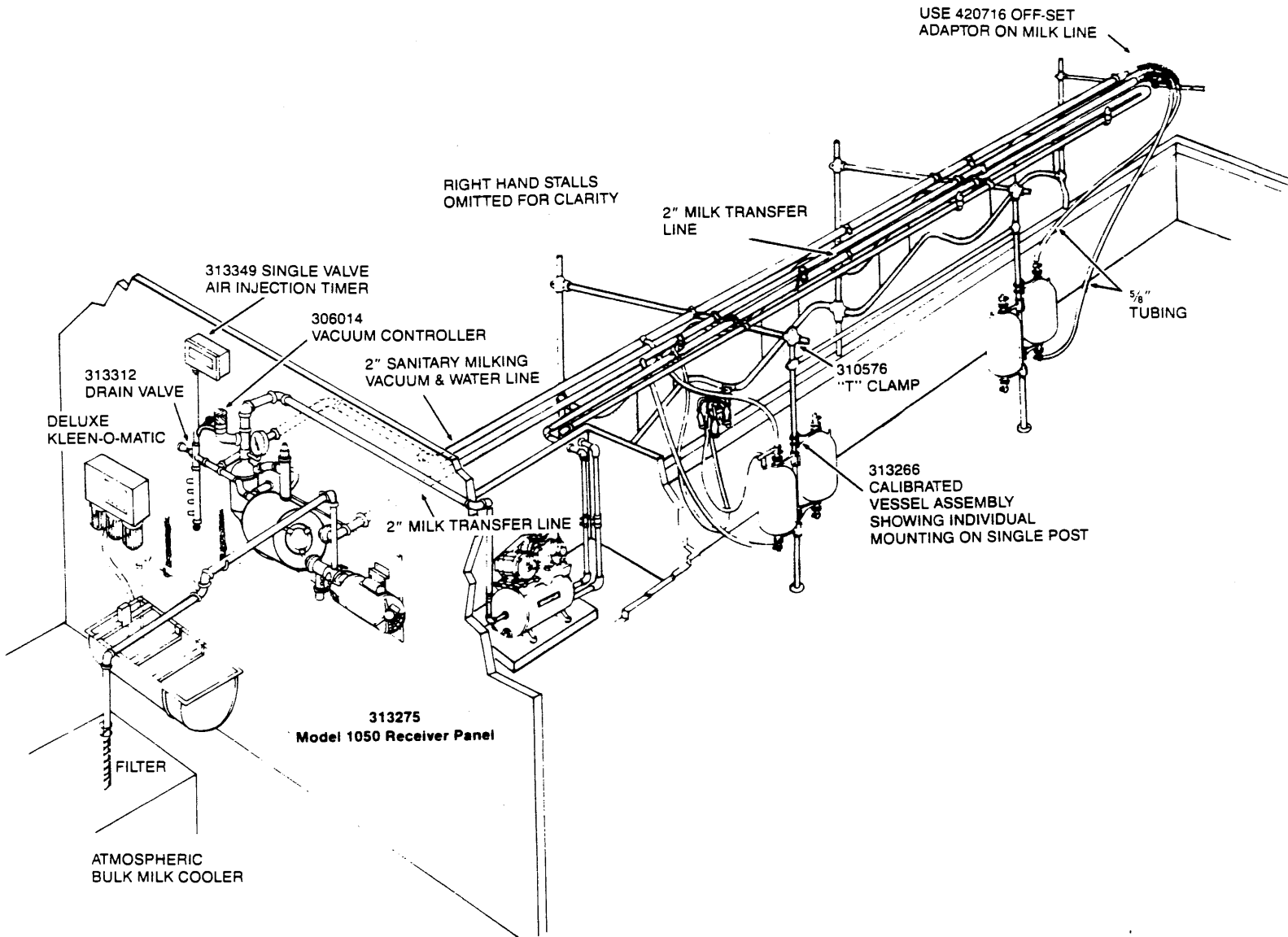
When milking through the weighing vessels but not recording the weight, the top and bottom valves may be left open. On low level milk lines the milk will pass out of the jar as rapidly as it comes in. For high level lines the jar will have to be emptied when full. Close valve on top with bleeder hole open and the milk will be drawn into the high level milk line. To maintain a constant vacuum for milking, the top valve must always remain open during milking and closed only to remove the milk from the jar.

To completely by-pass the calibrated vessel the same regulations apply as milking without weighing vessel in a barn or parlor, that is, slope of line, number of units per milk line and position of milk inlet nipples. The maximum number of units per single slope milk line is: 2 for a 1½"; 4 for a 2"; 6 for a 2½"; and 9 for a 3". A double slope line can carry twice as many units.

One should remember that calibrated vessels cannot be used with a single inlet receiver.

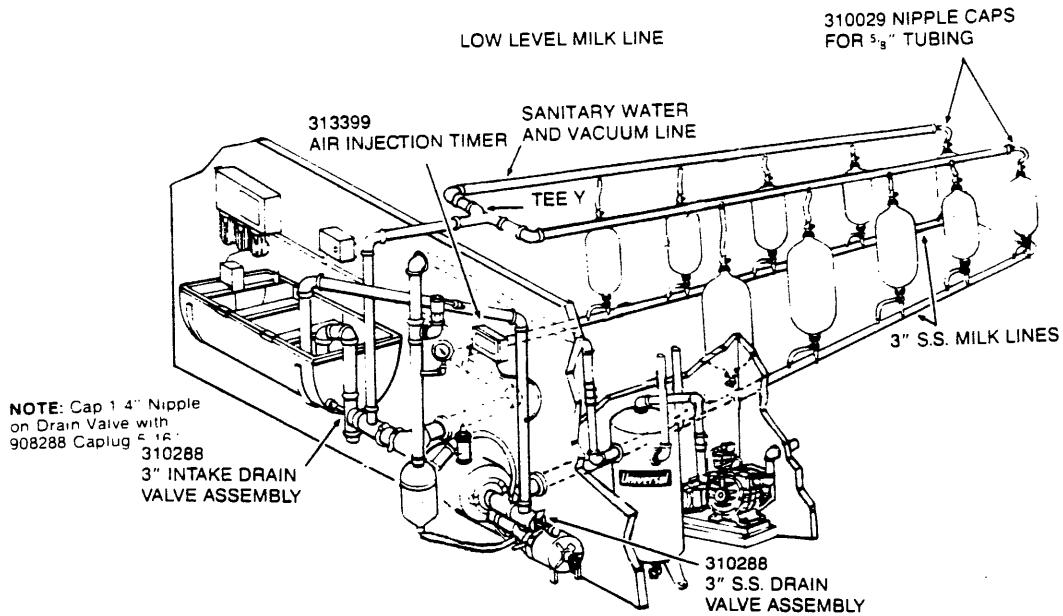
# Typical Installation 313266 Weigh Vessels Calibrated in Pounds and Kilograms

8-Stall Herringbone (4 stalls omitted for better view)  
High Level Milk Line with 4 Milker Units



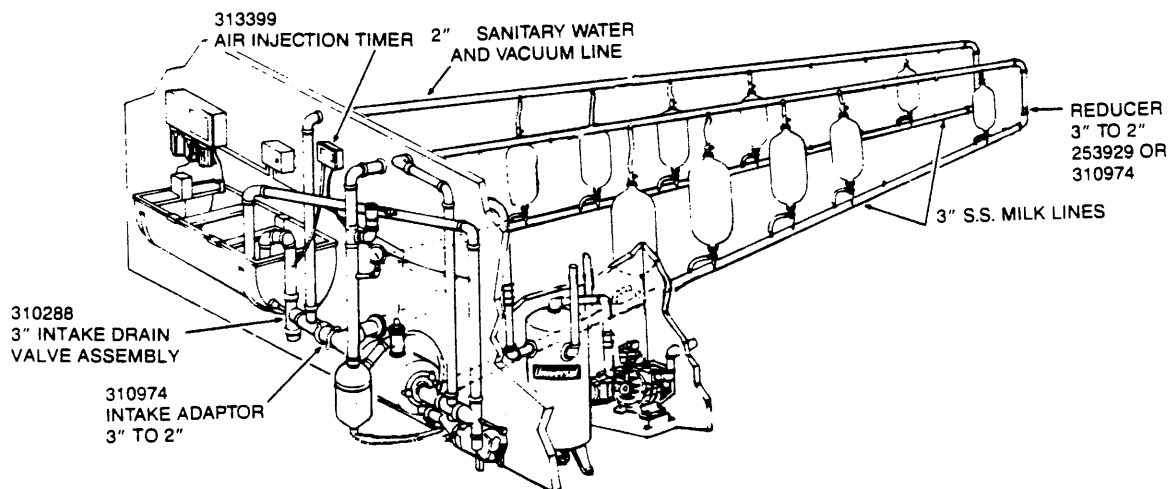
# Hook-Up For 10 Or Less Calibrated Weigh Vessels Using A 313260 Stainless Steel Receiver

**NOTE:** Additional clamp-on nipples required if C.I.P. washers are used.

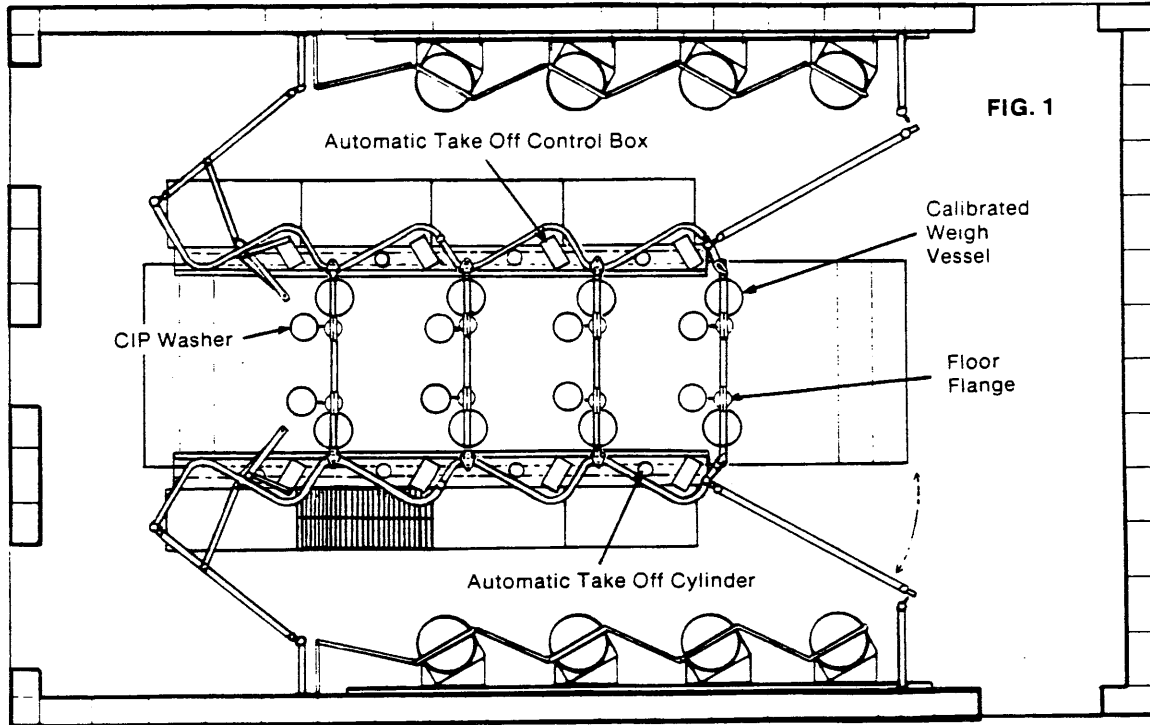


# Alternate Hook-Up For 10 Or More Calibrated Weigh Vessels Using A 313260 Stainless Steel Receiver

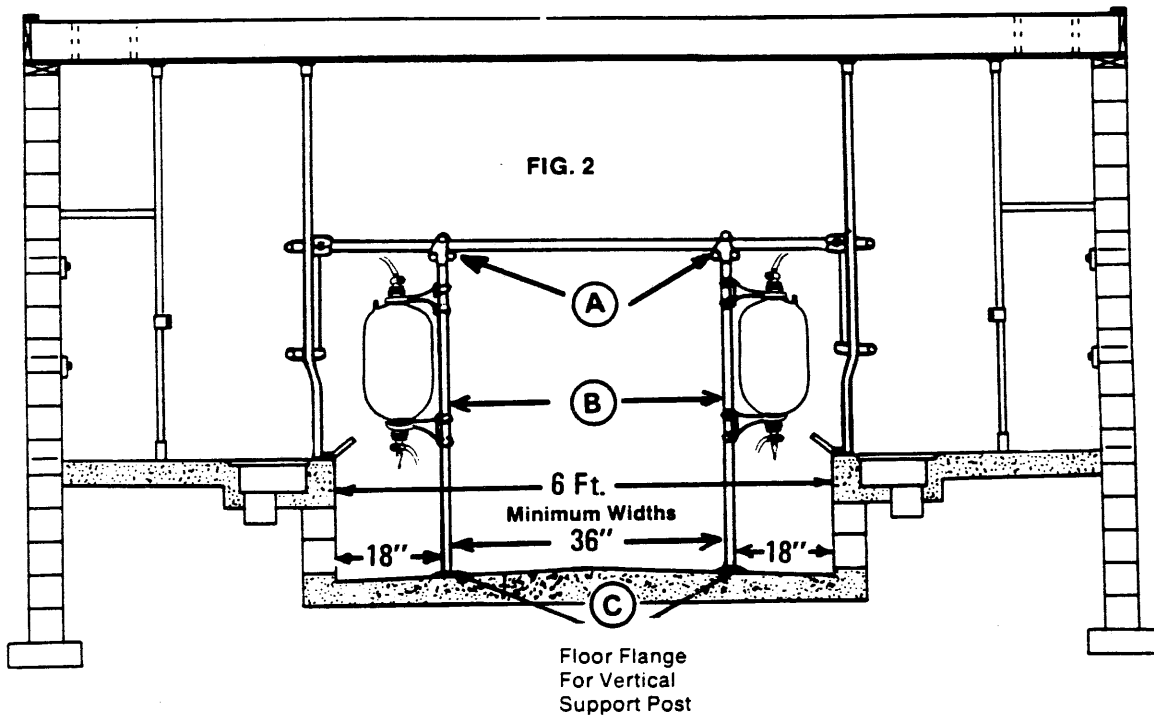
**NOTE:** Additional clamp-on nipples required if C.I.P. washers are used.



Top View of Low Level Milk Line  
 8 Stall Herringbone Parlor Installation  
 Showing location of Calibrated Vessels,  
 CIP Washers, and Automatic Take Off Units.



End View of Parlor Showing Weigh Vessel Mounting



## Installation Instructions

1. Mount Automatic Take Off Units on each side of the pit.
2. Install 710448 2 bolt tee clamps on top S rails on the bend towards the pit.
3. Install 1¼" pipe across the pit having it supported by the tee clamp in paragraph 2.
4. Attach two 310576 3 bolt tee clamps to the support pipes crossing the pit at location A, Fig. 2.
5. Beginning at the entrance end, install vertical support posts, to attach weight vessels approximately 18" from the pit wall. (See B, Fig. 2) Posts must be vertical before tightening tee clamps A and fastening floor flanges with shields and lag bolts.
6. The two weigh vessel support posts at the exit end of the parlor should be mounted as illustrated on this page.
7. Mount the calibrated weigh vessels to the vertical support posts between post and parlor stalls. (See Fig. 2)
8. Install Flex-O-Matic. The Control Box #313215 should be installed at a height so the operator can reach it and the weigh jar lowered so milk valve discharge tube can be connected to weigh jar inlet nipple. Milk must flow horizontal or downward between milk valve and weigh jar to avoid vacuum fluctuation at claw.
9. Should the dairyman prefer to have the weigh jar mounted higher, remove the milk valve and sensor from each support tube and mount them above the calibrated vessels using 310338 adaptor kits.
10. Connect rubber and plastic hoses to Flex-O-Matic Re-Moo-Vr, C.I.P. Washers and Calibrated Vessels.
11. Attach milker unit claws to the Automatic Take Off cylinder. Mount stall cock on vacuum line. Attach milker unit hose to milk valve either on top of calibrated vessel or below control box.

MOUNTING CALIBRATED  
WEIGHING VESSELS AT  
EXIT GATE END OF  
PARLOR.

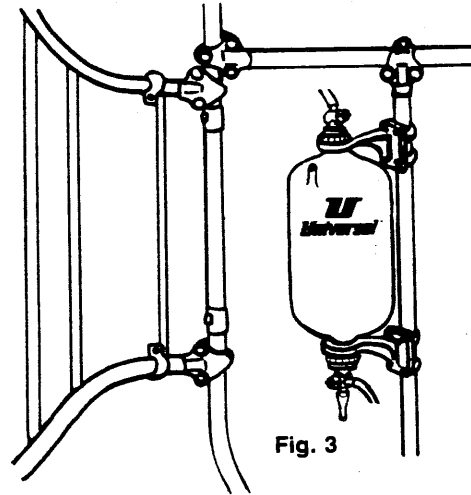


Fig. 3