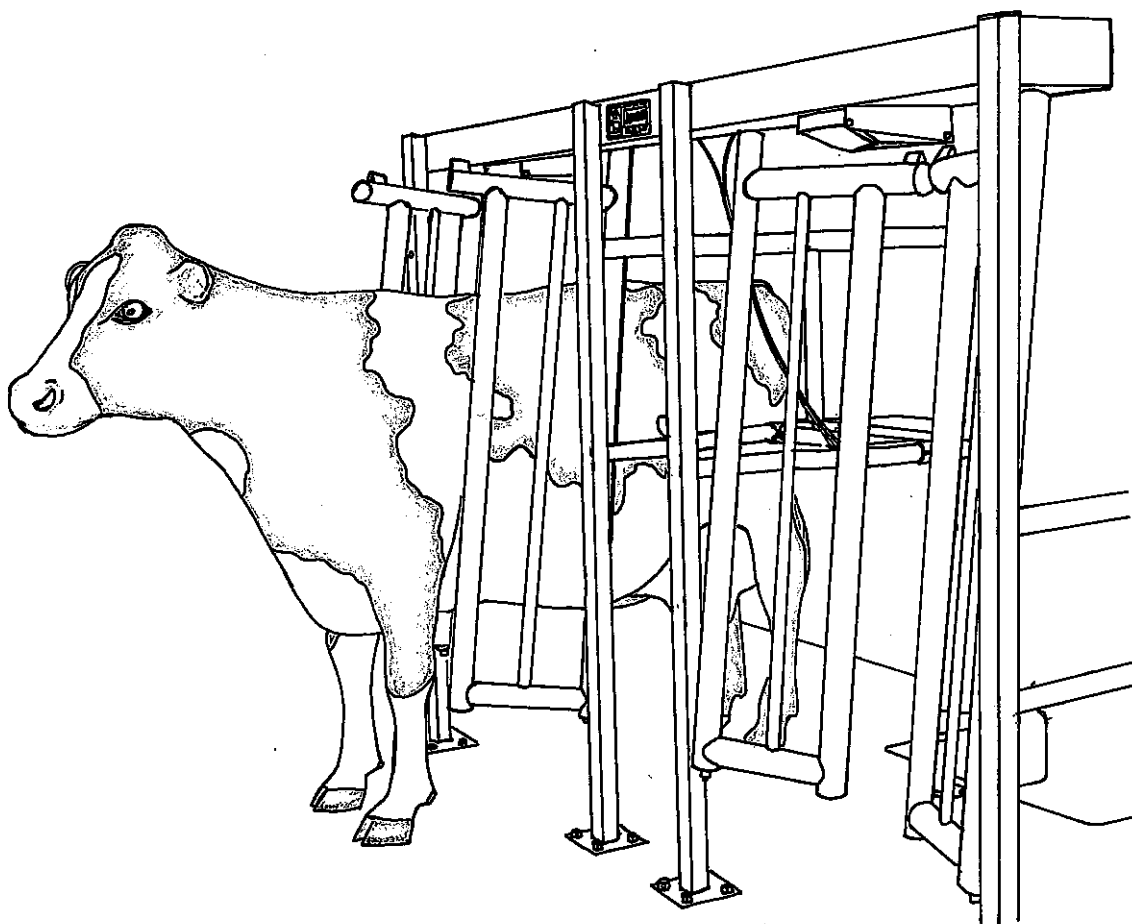




Agromatic^{INC}

FLAT FLOOR PARLOR SYSTEM

INSTALLATION and OPERATING MANUAL



U.S. Patent No. 5392731

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Rev. 12/2012

Part No. S10005

THANK YOU...

For choosing the **AGROMATIC "WALK THROUGH FLAT BARN PARLOR SYSTEM,"** A product manufactured in the U.S.A. by A.F. KLINZING COMPANY, INC. of Fond du Lac, Wisconsin, founded in 1899. When used and maintained properly this equipment will provide years of dependable performance.

PURPOSE

The purpose of this manual is to simplify the task of installing, adjusting, and operating the "Agromatic Flat Floor Parlor System."

The photos and illustrations throughout this manual were current at the time of printing, but due to continuous improvement, individual components may vary slightly. A.F. Klinzing Co., Inc. reserves the right to improve, change or modify its equipment, parts or options thereof without any obligation of notification or updating previous products.

Before you begin...

A.F. Klinzing Co., Inc. recommends a minimum of two adults to perform assembly of its "Flat Floor Parlor System" stalls. For some assembly procedures more than two people may be required for a particular procedure and in such cases will be indicated in the instructions for those procedures. Adjustments and operation of this product can be performed by a single individual, although in some situations the assistance of a second individual may help to make the task easier.

Before beginning assembly refer to Appendix A (page 13) for identification of stall components and a list of quantities of each component.

Note: On the head assemblies **L**(left) and **R**(right) indicates which stall the assembly is for in relation to the center module, **NOT** on which side of a double row parlor it is installed.

It is recommended that you review the "Parlor Layouts" pamphlet(available later in 1995) for the Flat Floor Parlor System and the entire text of this manual. If you find that any part of this manual is difficult to understand or feel something may have been left out please contact A.F. Klinzing Co., Inc. Monday thru Friday between the hours of 7:30 am and 4:30 pm C.S.T. at one of the following numbers:

(800)800-5824

(920)922-1970

Fax (920)922-1750

Following is a list of tools and equipment that are required to install the Flat Floor Parlor System:

Chalk Line	Tape Measure
Hammer Drill	3/8" and 1/2"bits for hammer drill
Level	5/32" and 1/4" allen wrenchs
Center Punch	Hammer
Open End or Combination Wrenches (Sizes 5/16", 1/2", 9/16", 5/8", 11/16", 3/4", 15/16", 1")	Ratchet and sockets (1/2", 9/16", 3/4") Note: If available an electric or air impact wrench and compressor can greatly reduce the time it takes to tighten nuts, bolts and anchors
Six Foot Step Ladder	Large Square
One heavy piece of lumber(2x6, 4x4, etc.) five to six feet long.	

Explanation of Terms

Throughout this manual the terms **front**, **rear**, **left** and **right** are used to suggest the orientation, location or order of assembly of stall components or the entire stall assembly. All of the terms above are in reference to the position of a cow as if it were confined in the stall (see Figure 1.) The term **exit side** is interchangeable with **front** and the term **entrance side** is interchangeable with **rear**.

Platform length is the distance from the rear edge of the platform to the center of the stall upright.

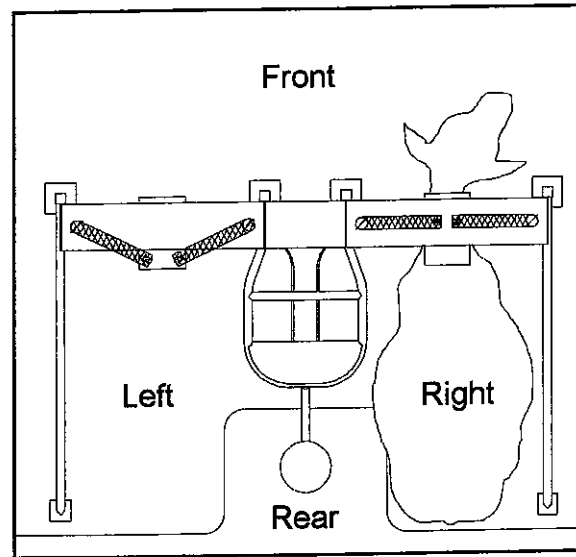


Figure 1

LAYING OUT THE INSTALLATION

For this manual we will assume that all concrete work has already been done and the concrete allowed to cure.

Platform Length

The first thing to do if you haven't already is decide what your cow platform length will be. Platform length is important. If the platform length is too short a cow may stand in the stall with only its front two hoofs on the platform and the other two in the center alley. If the platform is too long a cow that stands at the back of the platform will not be far enough forward in the stall to cause the gates to be locked.

For the purpose of determining the platform length use the definition above under "Explanation of Terms." A.F. Klinzing, Co., Inc. recommends a range of 63 - 70" (160 - 178 cm) for platform length. For the average holstein herd the most common platform length is 64 - 66" (162 - 168 cm.)

Laying Chalk Lines

Before beginning assembly we recommend that you strike two chalk lines for each row of stalls. These two chalk lines will be used to position the stalls prior to being anchored to the concrete. The first chalk line (#1) should span the entire width of each row of stalls. The rear edge of the anchoring plate of each upright will be aligned with the line as shown in figure 2. The distance from the edge of the platform to the chalk line equals your platform length minus three inches.

For example: Your platform length is 66" (168 cm.)
 Distance from the edge of the platform to the chalk line = $66" - 3" = 63"$ (168cm - 8cm = 160cm.)

Snap the second chalk line (#2) lengthwise with the platform at either end of the row of stalls as shown in figure 2. This second chalk line should be located three inches to the left or right of the center of your first upright depending upon which end of the row you begin at. See figure 2 and the example below:

For Example: If you begin at the left end of the row of stalls as in figure 2, chalk line #2 will be three inches to the left of center of the first upright. The left edge of the anchoring plate should be aligned with chalk line #2.

- Step 5 -** Between the two uprights laid out in steps 2 and 4 lay a center bulkhead. The opening in the bulkhead should be facing the the rear of the cow platform and the three holes on each end of the bulkhead should match up with the three holes in the head mounting plate of each of the uprights.



WARNING: If there are only two people performing the assembly of these components we recommend that you continue with steps 6 - 22. A.F. Klinzing recommends four people to stand up a row of four stalls(two people to stand up two stalls and so on...) to prevent personal injury or other problems that may occur. If you have enough people to stand up the entire row of stalls jump ahead to Step 23 on page 6.

- Step 6 -** Bolt together the left and right upright, the left head and the bulkhead using 1/2" x 1 1/4" hex head bolts and 1/2" flange nuts. There are three holes on the end of each head, bulkhead and the head mounting plate of each upright. The two holes located diagonally from each other in all of these components are to be used in this procedure. Tighten the bolts.

Note: Flange nuts should be inside the heads whenever possible.

- Step 7 -** Stand up this stall section. While one person holds the stall up the second person should attach a divider to the left upright. Use 1/2" x 3" hex head bolts, 1/2" flange nuts and two backing plates. This stall section should now stand on its own.
- Step 8 -** Lay a center upright 40"(101.6 cm) on center to the right of the left head as in Step 2.
- Step 9 -** Lay a right head on top of these two uprights in the same manner as in Step 3.
- Step 10 -** Lay out a right upright 40"(101.6 cm) on center to the right as in Step 2.
- Step 11 -** Lay a left head on top of these two uprights as was done in Steps 3 and 9.
- Step 12 -** Lay out another left upright 16"(40.6 cm) on center to the right of the last upright.

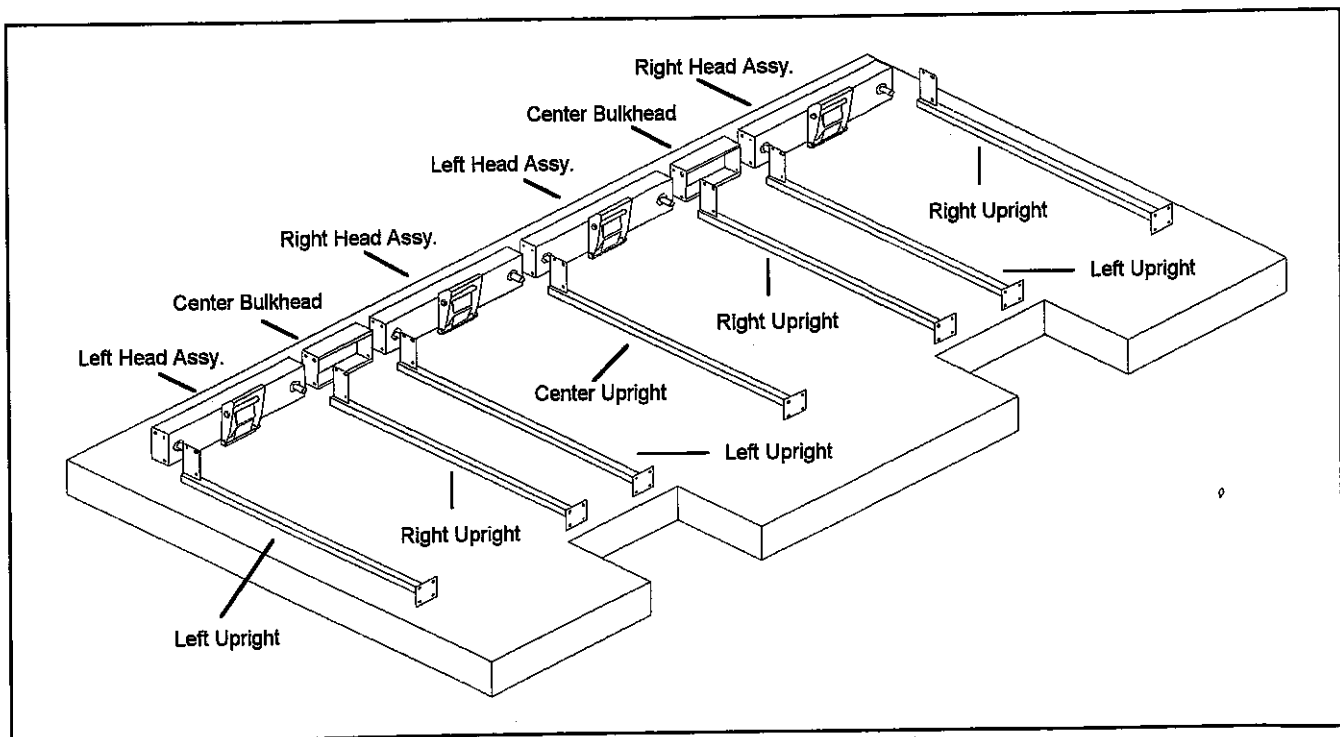


Figure 3

Chalk lines #1 and #2 should be perpendicular(at 90 degrees) to each other as in figure 2. Use a square to check the angle formed by lines #1 and #2 or use the lines as the perpendicular sides of a 3 - 4 - 5 triangle to verify that they are square to each other. Again, see figure 2.

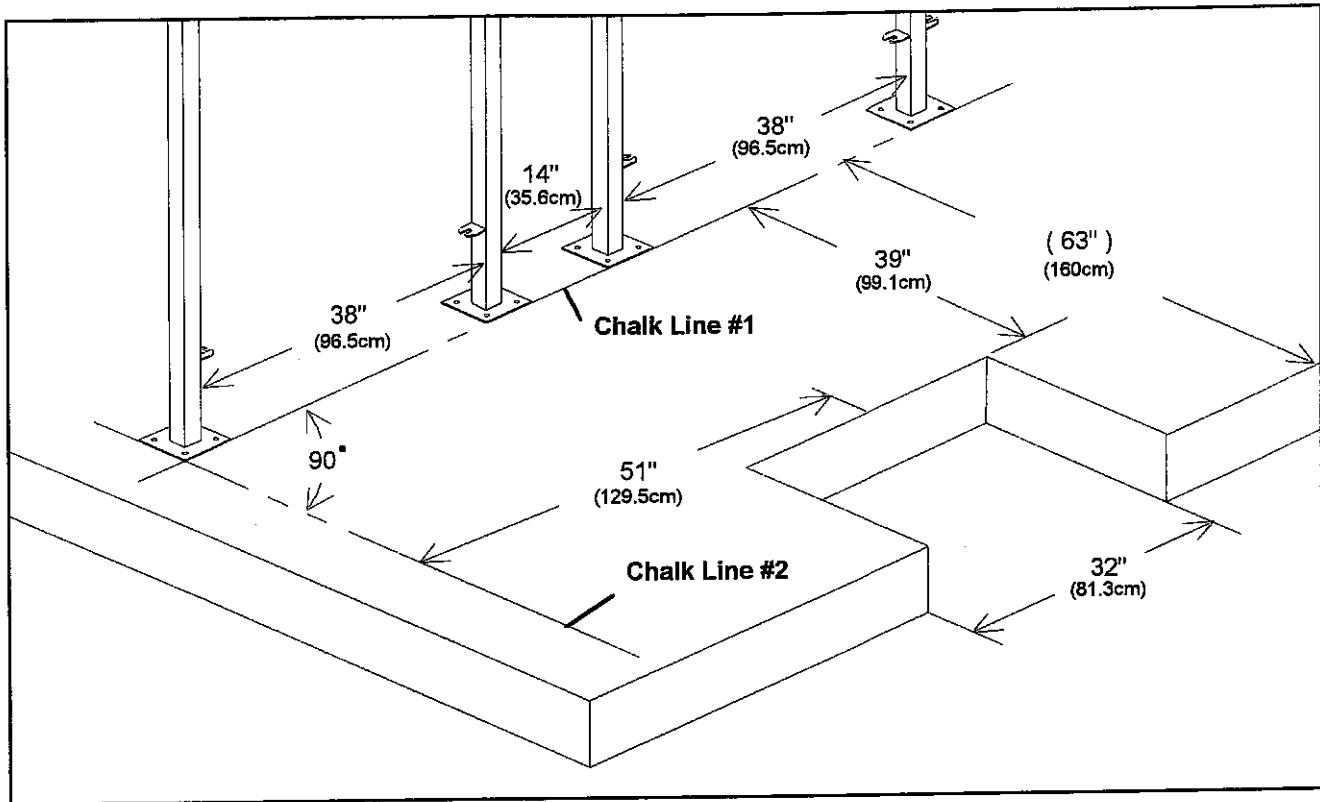


Figure 2

ASSEMBLY

ASSEMBLY OF HEADS AND STALL UPRIGHTS

For the purpose of these instructions we will start at the left end of a single row of four stalls and proceed to the right. Use figure 3 for reference. If you are installing a double row parlor repeat the procedures in the instructions below for the second row. As was previously mentioned on page 1 refer to Appendix A(page 13) to identify the components of this product prior to beginning assembly.

Begin by laying out the uprights and heads in the following manner.

- Step 1 -** Lay a left upright along chalk line #2 previously mentioned under "LAYING OUT THE INSTALLATION"(page 3) at the left end of the row. The anchoring plate of the upright should be at the end nearest the rear of the cow platform. The head mounting plate should project up as the upright lays on the platform.
- Step 2 -** Lay a right upright on the platform in the same manner as in step 1 approximately 40"(101.6 cm) on center to the right of the left upright.
- Step 3 -** Lay a left head on top of the two uprights between the head mounting plates. The back side of the head should be at the top as it lays on the uprights.
- Step 4 -** Lay a second left upright approximately 16"(40.6 cm) on center to the right of the upright in step 2.

- Step 13 -** Lay a center bulkhead on top of the last two uprights in the same manner as in Step 5.
- Note:** Again, if you only have two people to stand up the stalls continue with Steps 14 through 16. If you have enough people to stand up the entire row proceed to Step 17.
- Step 14 -** Beginning at the left end bolt together the two heads, the first three uprights and the bulkhead. Again, the 1/2" flange nuts should be inside the heads.
- Step 15 -** Stand up this section of two stalls and bolt a divider to the center upright.
- Step 16 -** Bolt the two stall section and the one stall section together.
- Step 17 -** Lay out a right upright 40"(101.6 cm) on center to the right of the left upright still laying on the platform.
- Step 18 -** Lay a right head on top of the two uprights as you did in Steps 3, 9 and 11.
- Step 19 -** Bolt the head and two uprights together.
- Step 20 -** Stand up this stall section.
- Step 21 -** Bolt a divider to the right upright.
- Step 22 -** Bolt this stall section to the other section of three stalls. This portion of the assembly procedures is complete. Continue on to page 7 for instructions on anchoring the stalls to the platform.

Continued from Step 5 on page 5. Again, use figure 3 for reference.

- Step 23 -** Lay a center upright on the platform in the same manner as in step 2 approximately 40" on center to the right of the left upright.
- Step 24 -** Lay a right head on top of these two uprights in the same manner as in Step 3.
- Step 25 -** Lay out a right upright 40"(101.6 cm) on center to the right of the last upright laid on the platform.
- Step 26 -** Lay a left head on top of these two uprights as was done in Step 3.
- Step 27 -** Lay out another left upright 16"(40.6 cm) on center to the right of the last upright.
- Step 28 -** Lay a center bulkhead on top of the last two uprights in the same manner as in Step 5.
- Step 29 -** Lay out a right upright 40"(101.6 cm) on center to the right of the last upright laid on the platform.
- Step 30 -** Lay a right head on top of these two uprights in the same manner as in Step 24.
- Step 31 -** Bolt together all of the components from Steps 1 through 5 and Steps 23 through 30 using 1/2" x 1 1/4" hex head bolts and 1/2" flange nuts. There are three holes on the end of each head, bulkhead and in the head mounting plate of each upright. The two holes located diagonally from each other in all of these components are to be used in this procedure. Tighten the bolts.

Note: Flange nuts should be inside the heads whenever possible.

- Step 32 -** Stand up the row of four stall section. Have one person attach dividers to the far left, far right and center(4th) uprights while the rest of the crew holds the stalls up. Use 1/2" x 3" hex head bolts, 1/2" flange nuts and two backing plates. The row of stalls should stand on its own after completion of this step. This portion of the assembly procedures is complete. Continue on to the next section for instructions on anchoring the stalls to the platform.

LOCATING AND ANCHORING THE STALLS

Begin locating the stalls by referring back to "Laying Out the Installation" and figure 2 on page 4. The rear edge of the anchoring pad on each stall upright should be aligned with chalkline #1. If you begin at the left end of the row of stalls the left edge of the anchoring pad of the first upright should be aligned with chalkline #2 as in figure 2 on page 4.

The first stall upright should be positioned as shown in figure 2 on page 4. With a level check to make sure that the upright is "plumb" (90 degrees left to right with the stall platform.) You will need a hammer drill with a 1/2" concrete bit that can drill a hole a minimum of three inches deep. Anchor each upright through two diagonal holes. See **Note** below before installing the other two anchors for each upright.

Each upright as you continue left to right should be anchored the same distance apart at the bottom as the distance between the same two uprights at the top. This distance should be 38" (96.5 cm) where a head section is mounted between the two uprights and 14" (35.6 cm) where a center bulkhead is mounted between the two uprights. Before anchoring each upright check to see that it is "plumb" as you did with the first upright above.

Note: It may difficult getting each upright "plumb" because of variation in the platform, etc. so do the best you can. It may be necessary to use flat washers or some other material as a shim to compensate for an uneven platform surface. After you have anchored all the uprights with two anchors check each upright for any lean. If all the uprights have a significant lean to either the right or left use a winch/puller or other device to pull on the entire row of stalls until they are "plumb" before completing anchoring the stalls.

CENTER MODULE

Install the center module as follows:

- Step 1 Slide a stop collar and seat arm over the end of a center module leg as shown in figure 4.
- Step 2 Bolt the center module leg to the center module using a 1/2" x 3" hex head bolt and 1/2" lock washer as in figure 4.
- Step 3 Stand the center module in place attach the center module to the uprights using the two upper sets of holes. Use backing plates, 1/2"x3" hex head bolts and 1/2" flange nuts.

ANCHORING THE DIVIDERS AND CENTER MODULE LEGS

To anchor the dividers and center module legs proceed as follows:

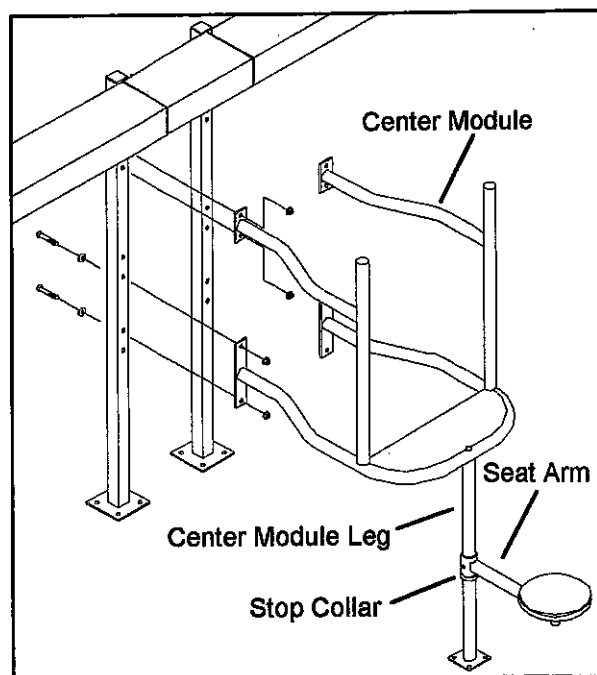


Figure 4

- Step 1 Make sure that the dividers are "plumb" and square with the row of stalls. At the rear of the platform the dividers should be eight feet apart center to center.
- Step 2 Anchor each divider after locating it as described above. Use four 3/8" concrete anchors.
- Step 3 The center module leg should be "plumb" left to right and as close as possible to being centered between the dividers on each side of it (four feet from each.)
- Step 4 Use four 3/8" concrete anchors to anchor the leg to the platform.

GATES

The first step in installing the gates is to insert the 5/16" x 2" Square Key into the keyway in each pivot shaft at the bottom of each head assembly. It is recommended that anti-sieze compound be applied to the keyway before inserting the square key and to the rest of each shaft after inserting the key.

Next line up the keyway in the top of the gate with the key installed in the pivot shaft in the previous step and then pushing up on the gate slide it over the pivot shaft. The gates will not slide over the pivot shafts easily. The following steps should make installing the gates much easier.

With the gate started on the shaft and the key and keyway in line, position a piece of heavy lumber under the gate as shown in figure 5 and pry up on the gate. While prying up on the gate have a second person strike the top of the pivot shaft with a hammer as shown in figure 6. Stop when the top of the gate makes contact with the bottom of the head.

Insert the nylon thrust bearing into the bottom of the pivot tube of the gate as shown in figure 7 then slide the thrust bearing onto the gate mounting pad as shown in figure 8.

Tighten the flange nut with a 3/4" wrench. It may be necessary to hold the flange head bolt with a 1/4" allen wrench to keep the the thrust bearing from moving while tightening the nut.

Install two 5/16" x 3/8" socket end set screws at the top of each gate but do not tighten the set screws until all assembly and adjustment is completed.

Note: Use anti-sieze compound on the set screws to make removal of the gates easier if necessary in the future. Be sure the weight of the gate is resting on the thrust bearing and the arm of the pivot shaft is resting on the spacer ring before tightening the set screws.

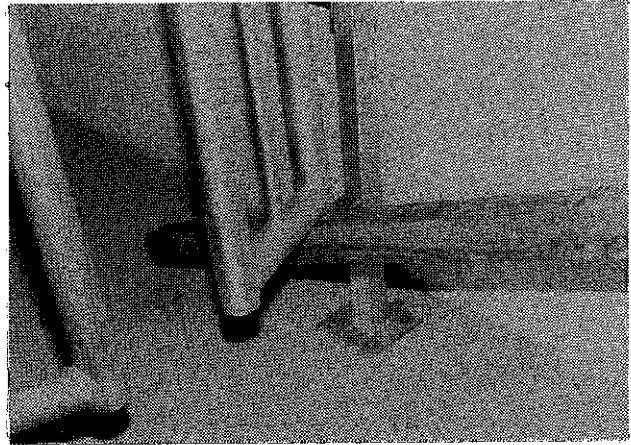


Figure 5



Figure 6

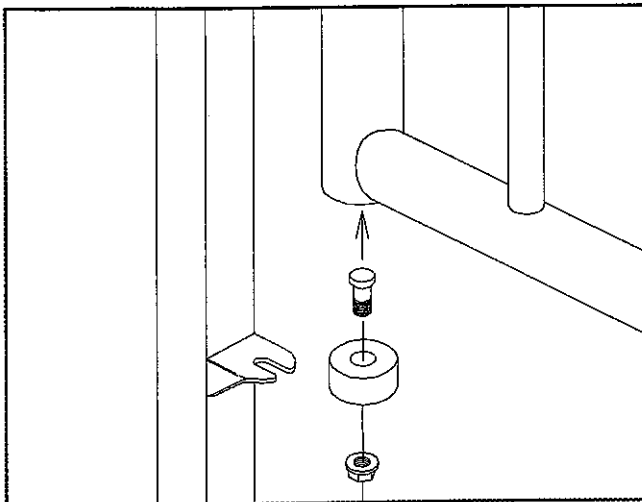


Figure 7

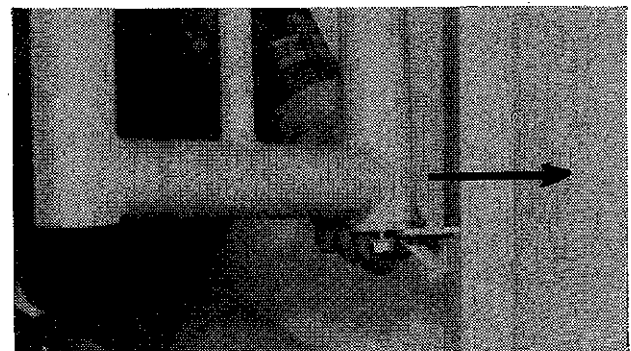


Figure 8

CONTROL CABLES

To install the control cables repeat the following steps for each stall.

- Step 1 Pull back the black seal on the end of the cable to be attached to the linkage in the operating head(see figure 9.)
- Step 2 Next, remove the first hex nut and lock washer.
- Step 3 Insert the linkage end of the control cable through the lower rear hole inside the center bulkhead as shown in figure 10.
- Step 4 Reattach the lock washer and hex nut to the end of the cable inside the head.
- Step 5 Slide the black seal back into it's original position.
- Step 6 Tighten the hex nut inside the head with an 11/16" open end wrench. There should not be a need to have a wrench on the hex nut inside the bulkhead.
- Step 7 Make sure the brass nut is turned onto the linkage end of the cable as far as possible.
- Step 8 Line up the linkage end of the cable with the end of the small clevis on the linkage assembly. The clevis should always be near the bottom panel of the operating head as in figure 11.
- Step 9 While holding these two items end to end begin turning the end of the cable into the clevis.
- Step 10 After the cable is started into the clevis turn the cable all the way into the clevis by turning the handle at the other end of the cable clockwise until the brass nut makes contact with the clevis.
- Step 11 Tighten the brass nut with a 5/16" open end wrench.
- Step 12 Back off the the hex nut and lock washer at the other end of the control cable.
- Step 13 Install the cable under the lower shelf of the center module as shown in figure 12. Use a 5/8" and 11/16" open end wrenches to tighten the cable in place.

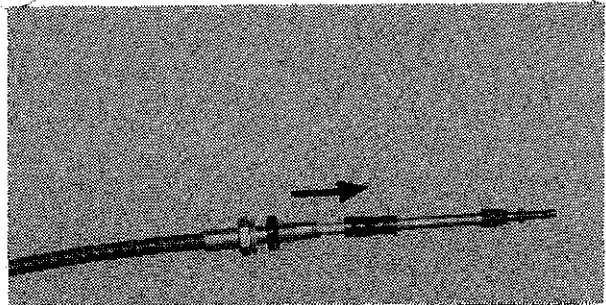


Figure 9

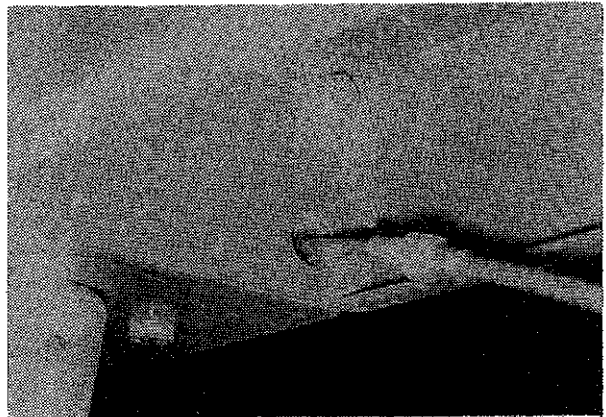


Figure10

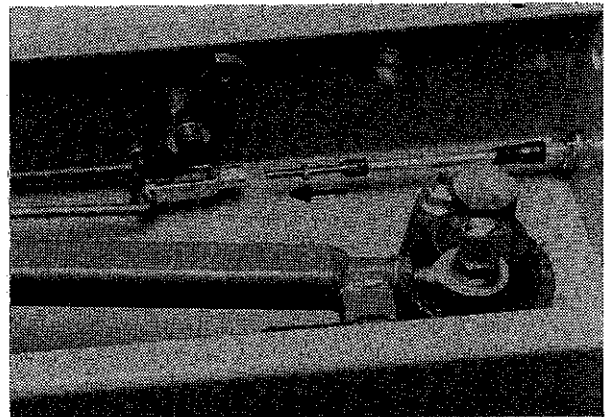


Figure 11

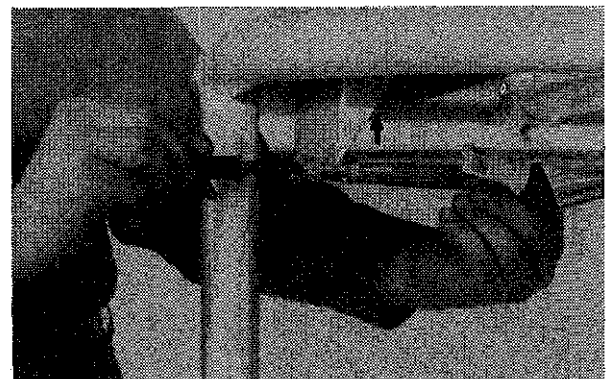


Figure12

ADJUSTMENTS

In most cases there will be adjustments to make when assembly of the stalls is finished. Adjustments to each stall should be made in the order they appear below.

Synchronization of the gates - In the locked position both gates should be in line resting against the rear latch as shown in figure 13. If the gates are offset as shown in figure 14 adjust as follows:

- Step 1 Loosen the jam nut on either end of the connecting tube.
- Step 2 Remove the bolt, lock washer, shim washers and jam nut fastening the connecting tube to the arm of the pivot shaft at the same end of the connecting tube.
- Step 3 Make sure the gate catch at the top of each gate is resting against the rear latch as shown in figure 13.
- Step 4 Turn the spherical rod end in or out so that the hole in the ball lines up with the threaded hole in the arm of the pivot shaft.
- Step 5 Reassemble the connecting tube to the pivot shaft. Snug the bolt. Check the synchronization of the gates again before proceeding to step 6.
- Step 6 Tighten all fasteners loosened in steps 1 and 2.

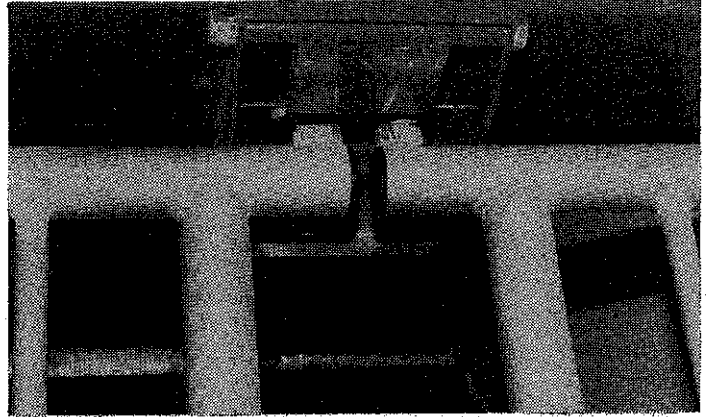


Figure 13

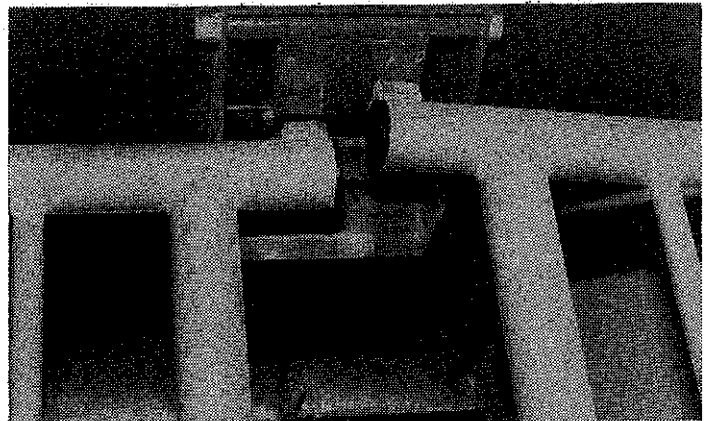


Figure 14

Timing the rear latch with the return of the gates - when returning the gates slowly from the exit/open position the rear latch should not catch the gates as they pass through to the open/ready position (figure 17.)

There are two possible cases of the gates not passing through:

Case #1; The rear latch raises and drops before the gates pass through.

Case #2; The rear latch does not raise soon enough for the gates to pass through.

- Step 1 Loosen the jam nut on both ends of the connecting tube.
- Step 2 Remove the clevis pin that fastens the connecting tube to the stop rod.
- Step 3 This step will vary for the two cases described above.

Case #1: Spin the connecting tube so that it moves right to left (over the top toward the front of the stall.) You should spin the tube a full turn (360) passing the gates through the latching mechanism after each full turn to check for proper adjustment. The gates should pass through the latching mechanism smoothly at slow speed.

Case #2: Spin the connecting tube so that it moves left to right (over the top toward the rear of the stall.) You should spin the tube a full turn (360) passing the gates through the latching mechanism after each full turn to check for proper adjustment. The gates should pass through the latching mechanism smoothly at slow speed.

Note: After performing these adjustments return the gates through the latches a higher speeds to check for proper operation.

Step 4 Reattach the connecting tube to the stop rod with the clevis pin removed in step 2.

Step 5 With a wrench(1") on the connecting tube tighten the jam nuts loosened on both ends of the connecting tube in step 1.

Setting the opening between the gates when at the ready open position - the opening should be approximately 10 1/2"(26.7 cm.) If the herd has many larger cows you may need a slightly wider opening with 11" (28 cm) being the maximum that is recommended. With smaller cows such as Jerseys a narrower opening is recommended. Figure 15.

To adjust the **opening between the gates** follow these steps:

Step 1 Loosen the jam nut at the clevis end of the stop rod.

Step 2 If the opening is too **narrow** turn the stop rod clockwise into the clevis(as if tightening a bolt) until the desired opening is reached.

If the opening is too **wide** turn the stop rod counter-clockwise out of the clevis(as if loosening a bolt) until the desired opening is reached.

Note: A small turn of the stop rod results in a large change in the gate opening.

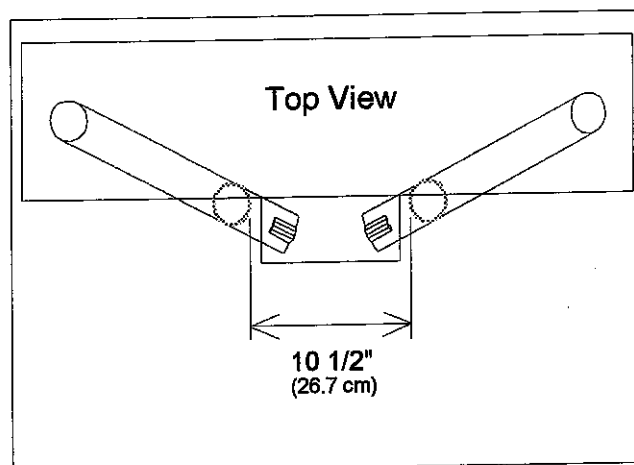


Figure 15

Adjusting the return of the gates - the Agromatic Flat Floor Parlor System is designed so that the only power needed to return the gates is supplied by force of gravity. The rubber elastomer assist in starting the gates to return.

If the **gates do not return** on their own make adjustments as follows:

Step 1 Loosen the jam nut at the free end of the stop rod.

Step 2 Tighten the full size hex nut at small intervals testing the return of the gates at each interval until the gates return properly.

Step 3 When adjustment is complete tighten the jam nut loosened in step 1.

INSTALLING EQUIPMENT MOUNTING TUBES

The equipment mounting tubes are intended to be used for mounting automatic detachers or other equipment to but can be used for any purpose the user choses. There are four tubes for each center module in your installation. The single bolt tee - clamps should be used only when a tube is fastened at both ends. The three bolt tee - clamps can be used to mount a tube in any manner. See figure 16 for examples of how the equipment mounting tubes can be used.

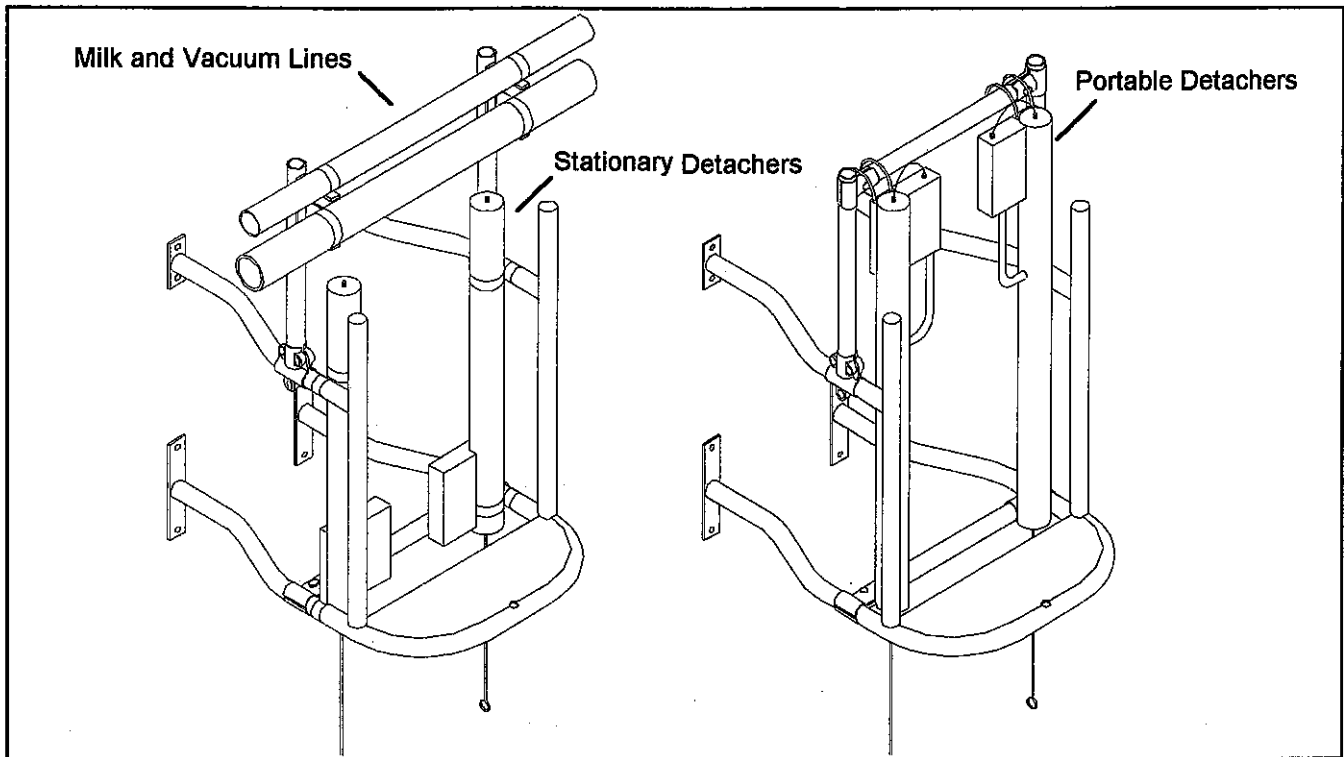


Figure 16

OPERATING THE STALLS

The Agromatic Flat Floor Parlor System is designed for simple, efficient operation. It is designed so that the cow and gravity provide the large majority of the power to operate the stalls.

POSITION OF THE GATES

Figure 17 illustrates the three positions of the gates for the operation of the stalls.

OPEN/READY POSITION: With the gates open to the rear the stall is ready for Cow A to enter.

LOCKED POSITION: Cow B is shown confined with the gates in the locked position. The gates should be locked while the cow is being prepped and milked.

OPEN/EXIT POSITION: Cow C is shown leaving a stall with the gates open forward. After the cow clears the gates they will automatically return to the open/ready position.

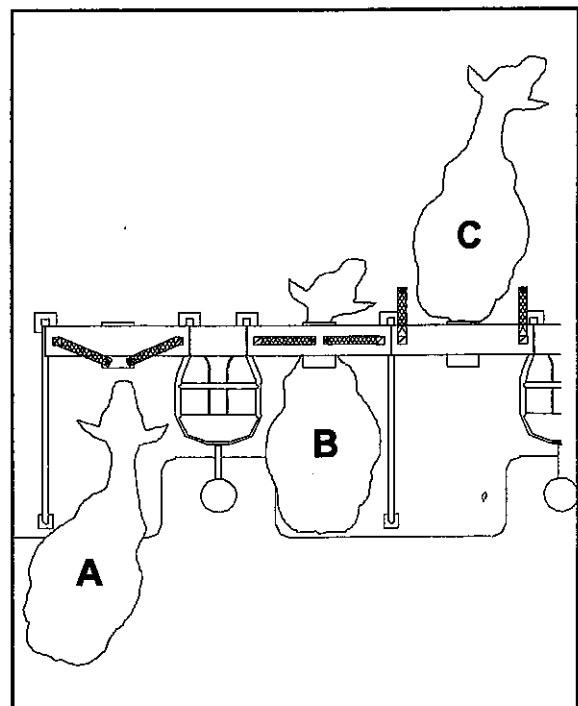


Figure 17

OPERATION OF THE STALLS DURING MILKING

The stalls are designed so that the gates are locked by the cow as it enters. To allow the cow to exit forward pull the control cable handle (figure 18) for that particular stall. The front latch will raise allowing the cow to exit, pushing the gates open as it moves forward. After the cow has exited the stall completely the gates should return back to the open/ready position automatically. Pushing in the handle of the control cable (figure 19) allows the gates to return to the open/ready position from the locked position. This also allows the cow to be "backed" out of the stall.

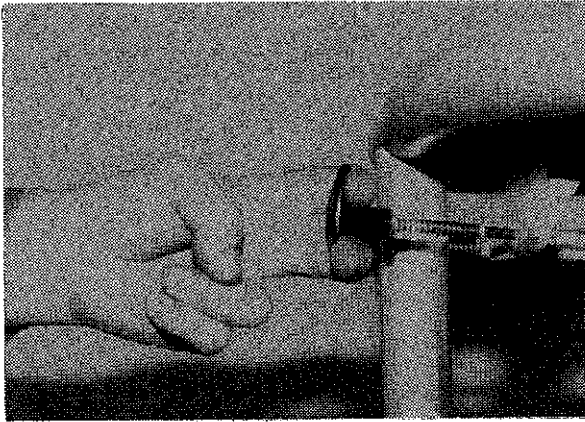


Figure 18



Figure 19

THE SEAT

The primary purpose of the stool is to reduce wear and tear on the knees and back of the individual milking the cows.

The stool pivots at the point where it mounts to the seat arm. Also, the seat arm pivots around the Center module leg. If you chose not to use the seat the entire assembly can be rotated out of the way under the center module. The height of the seat is adjustable. The stop collar should be set at the lowest height at which the seat will be used. After determining the proper placement of the stop collar tighten the two set screws with a 5/32 allen wrench to hold it in place. The seat height can be adjusted by lifting the end of the seat arm nearest the seat and sliding the arm up or down on the center module leg. When the seat is being used at a higher setting the weight of the user will provide sufficient pressure at the contact points where the leg and seat arm meet to hold the seat at the desired height.

MAINTENANCE

In general there is very little maintenance that needs to be done on a regular basis. The primary recommendation is to keep this equipment and the rest of your milking facilities as clean as reasonably possible.

Heads - All moving parts inside of the heads should be lubricated with a light oil at 2 - 3 month intervals. Lubrication may be necessary more often depending on amount of use and conditions in the barn.

Seat and seat arm - there is one grease zerk on the seat arm. This point should be greased as necessary. You can check for wear by sliding the seat arm up on the leg of the center module. Lift the seat off the mounting periodically to check for the need to lubricate.

Appendix A

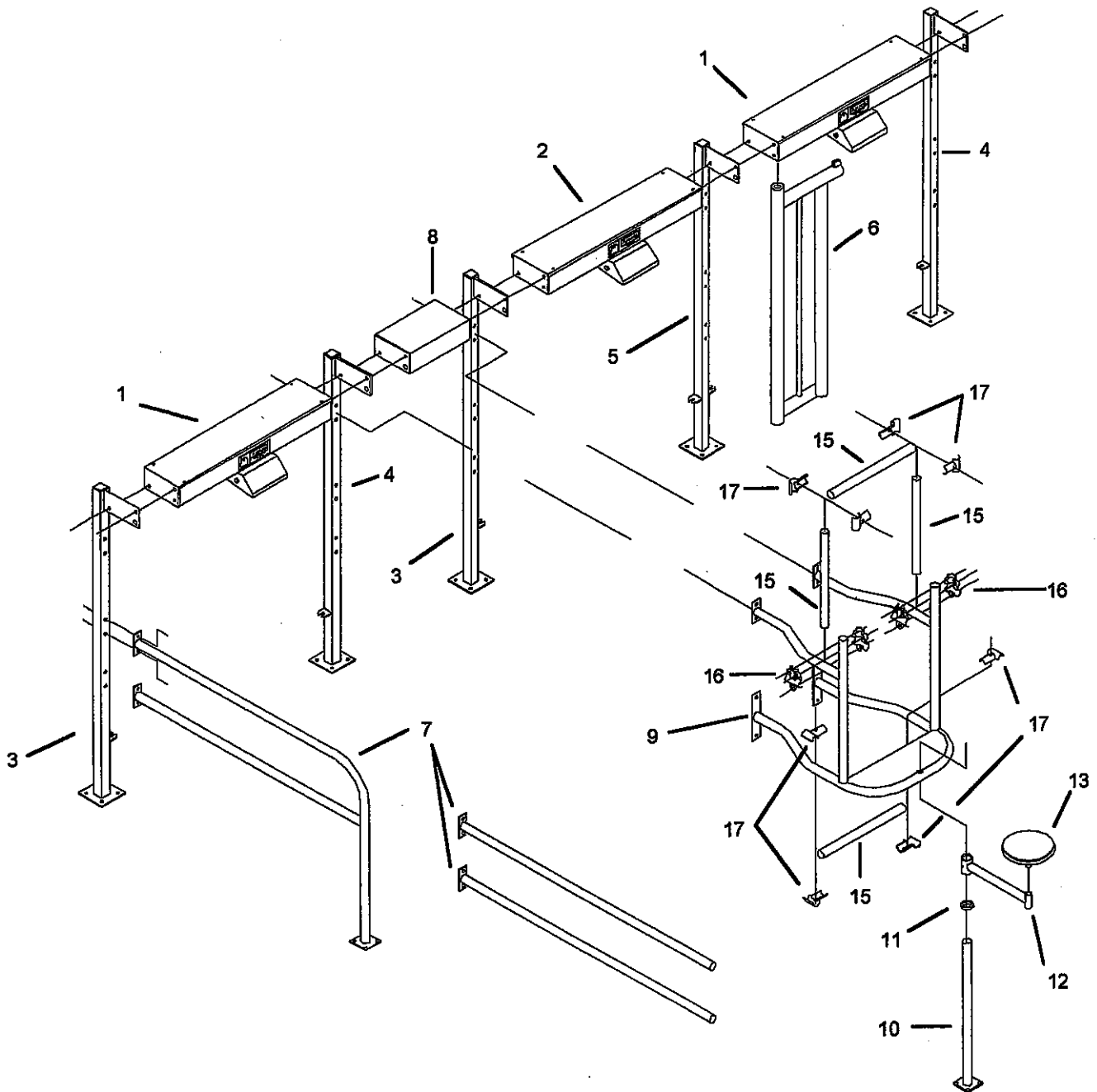


Figure A-1

Table A-1

Number of Items Required for Your Installation			Quantity					
			Single Row of			Double Row of		
Item Number	Part Number	Description	4	6	8	4	6	8
1	SW0300*	Left Head Assembly	2	3	4	4	6	8
2	SW0301*	Right Head Assembly	2	3	4	4	6	8
3	S10120	Left Upright	3	4	5	6	8	10
4	S10130	Right Upright	3	4	5	6	8	10
5	S10110	Center Upright	1	2	3	2	4	6
6	S10700	Gate	8	12	16	16	24	32
7	S11050	End Section/Divider	3	4	5	6	8	12
or	S11055	Optional Straight Divider Tubes (Substitute two for each S11050.)	6	8	10	12	16	24
8	S10280	Center Bulkhead	2	3	4	4	6	8
9	S10200	Center Module	2	3	4	4	6	8
10	S10210	Module Leg	2	3	4	4	6	8
11	S10215	Stop Collar	Optional	2	3	4	4	6
12	S10220	Seat Arm	Optional	2	3	4	4	6
13	S10250	Seat	Optional	2	3	4	4	6
15	S10290	Equipment Mounting Tube	Optional			Optional		
16	S87382	Three-bolt Tee Clamp w/bolts & nuts	Optional			Optional		
17	S87380	Single-bolt Tee Clamp w/bolt & nut	Optional			Optional		

*SW0300 and SW0301 each include one control cable and one bag of small parts required for each stall.
For identification see figure A-2 and Table A-2 below.

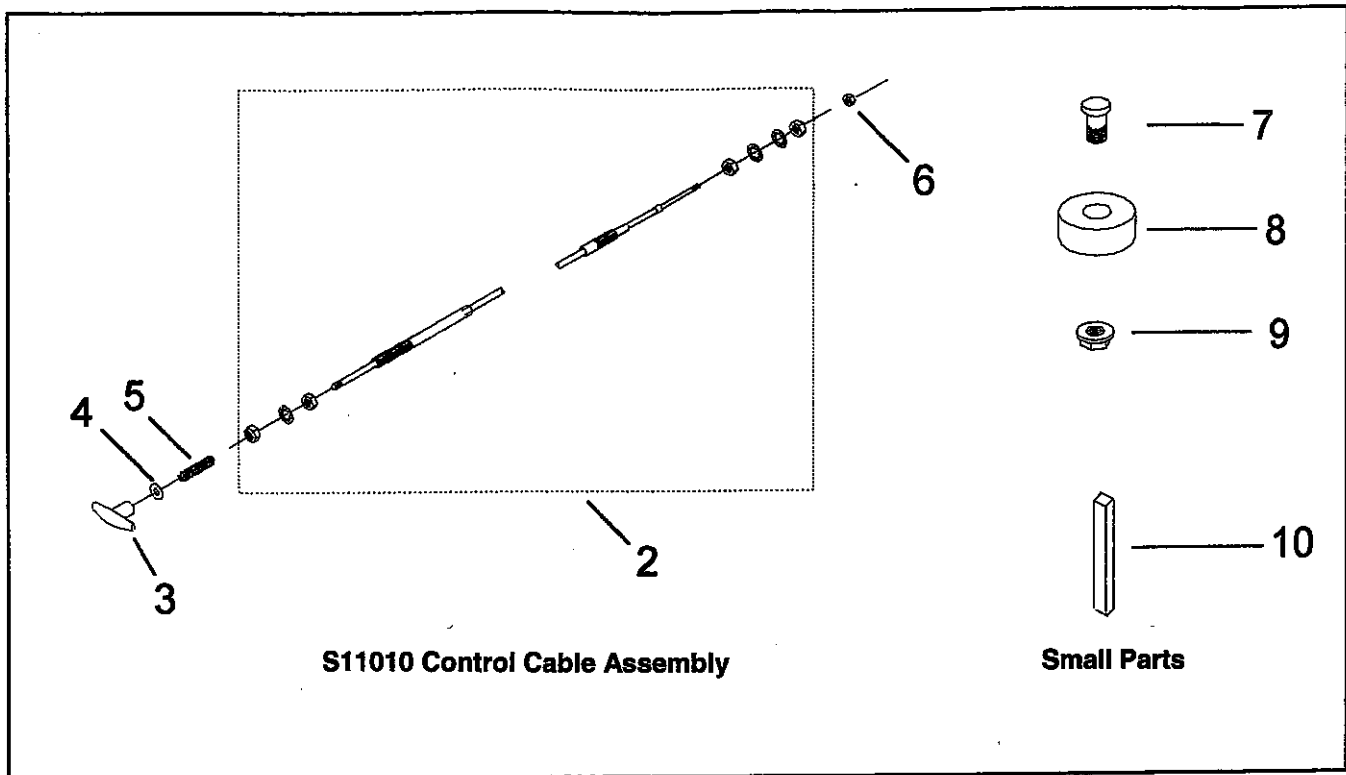


Figure A-2

Table A-2

Item Number	Part Number	Description	Quantity per Stall
1	S11010	Control Cable Assembly Complete	1
2	S10480	Control Cable Only	1
3	S10495	1/4" T - Handle	1
6	X19962	1/4" - 28 Jam Nut	1
5	S10496	Release Spring	1
4	X20409	10 - 32 Hex Nut	1
7	S10160	1/2" Flange Head Socket End Screw	2
8	S10150	Nylon Thrust Bearing	2
9	X20061	1/2" End Locking Flange Nut	2
10	X21345	5/16" x 2" Square Key	2

Note: Points A, B, C & D in the linkage diagrams correspond with points A, B, C & D inside the head diagram.

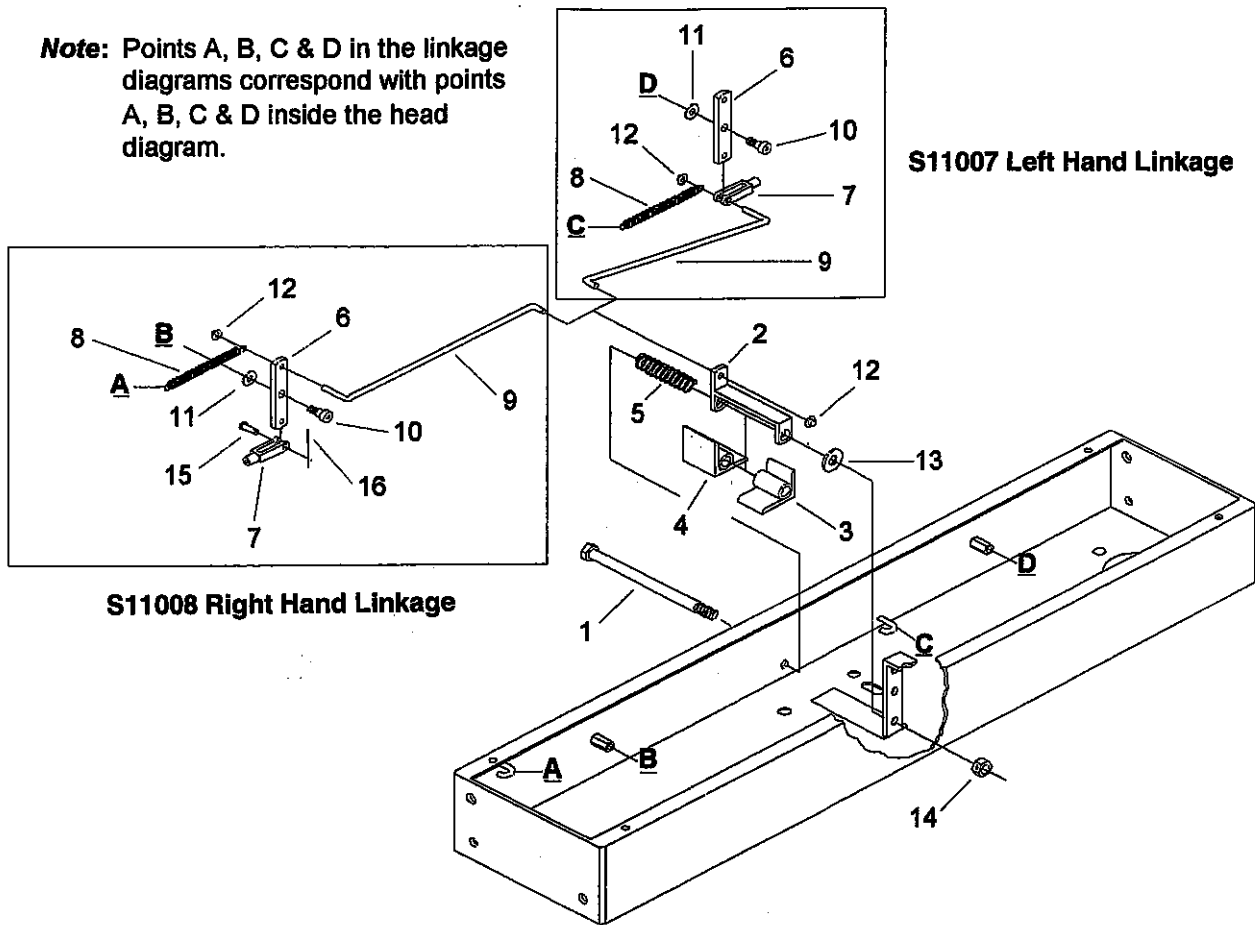
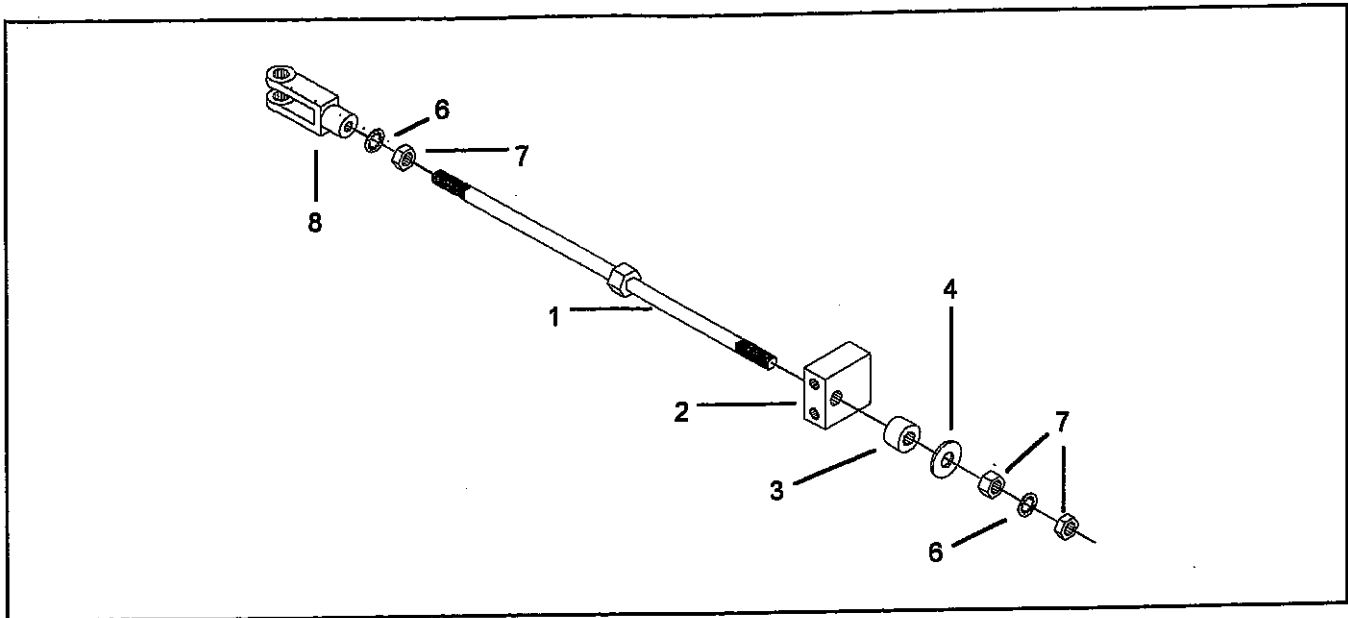


Figure A-4

Front (exit side) cutaway view of head assembly.

Table A-4

Item Number	Part Number	Description	Quantity per Head Assembly
1	X19584	1/2" x 7 1/2" Hex Head Bolt	1
2	S10430	H - Lever	1
3	S10420	1 1/2" Exit Actuating Angle	1
4	S10410	2" Actuating Angle	1
5	S10440	Thrust Spring	1
6	S10450	Reversing Bar	1
7	X24020	1/4" Yoke End	1
8	S10470	Return Spring	1
9	S10460	Linkage Rod	1
10	X21812	3/8" x 3/8" Stripper Screw	1
11	X20170	5/16" Flat Washer	1
12	X21825	1/4" Pail Nut	2
13	X20190	1/2" Flat Washer	1
14	X20230	1/2" Serrated Flange Nut	1
15	X20761	3/16" x 11/16" Roll Pin/Left Head Only	1
16	X21171	Cotter Pin	1 (RH only)

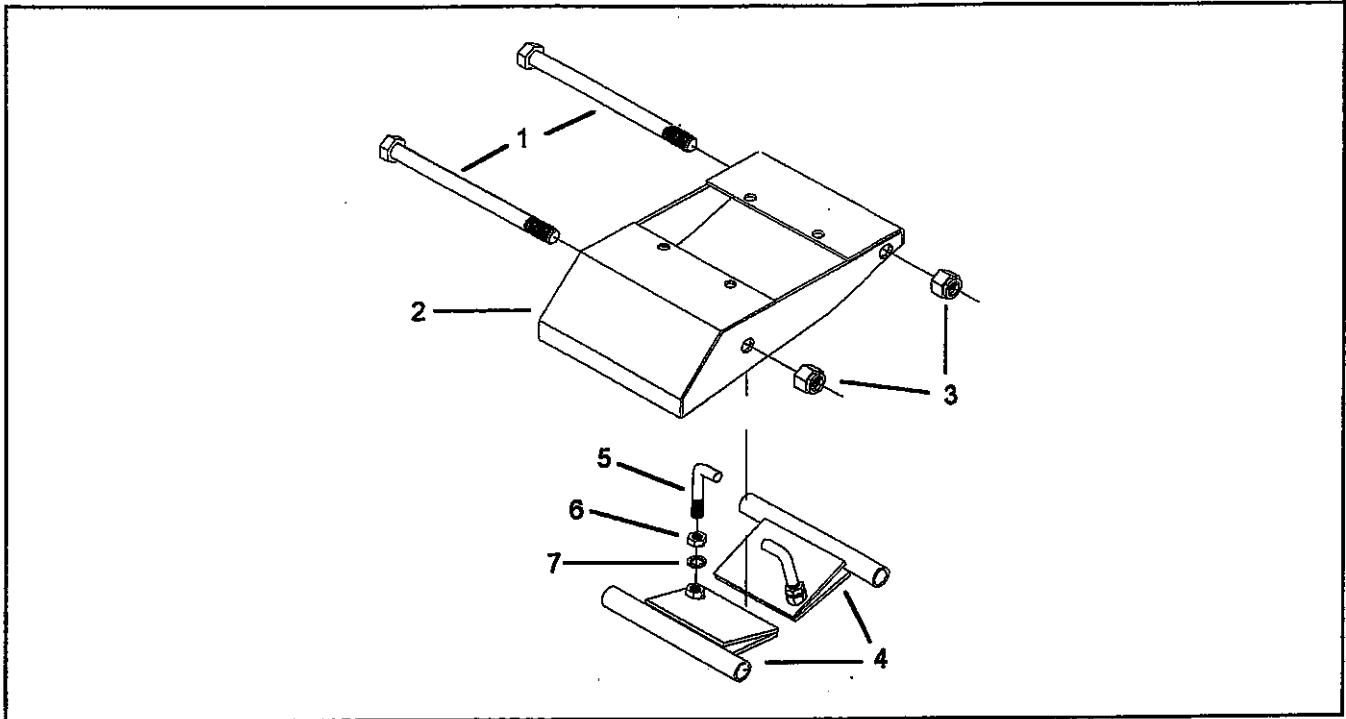


Detail A

S11015 Stop Rod Assembly

Table A-5

Item Number	Part Number	Description	Quantity per Head Assembly
1	S10600	Stop Rod	1
2	S10610	Guide Block	1
3	S10620	.406" x 1" x .391" Elastomer	1
4	X20190	1/2" Flat Washer	1
6	X20480	1/2" Internal Tooth Lock Washer	2
7	X20045	1/2" Jam Nut (fine threaded)	3
8	X24025	1/2" Yoke End	1

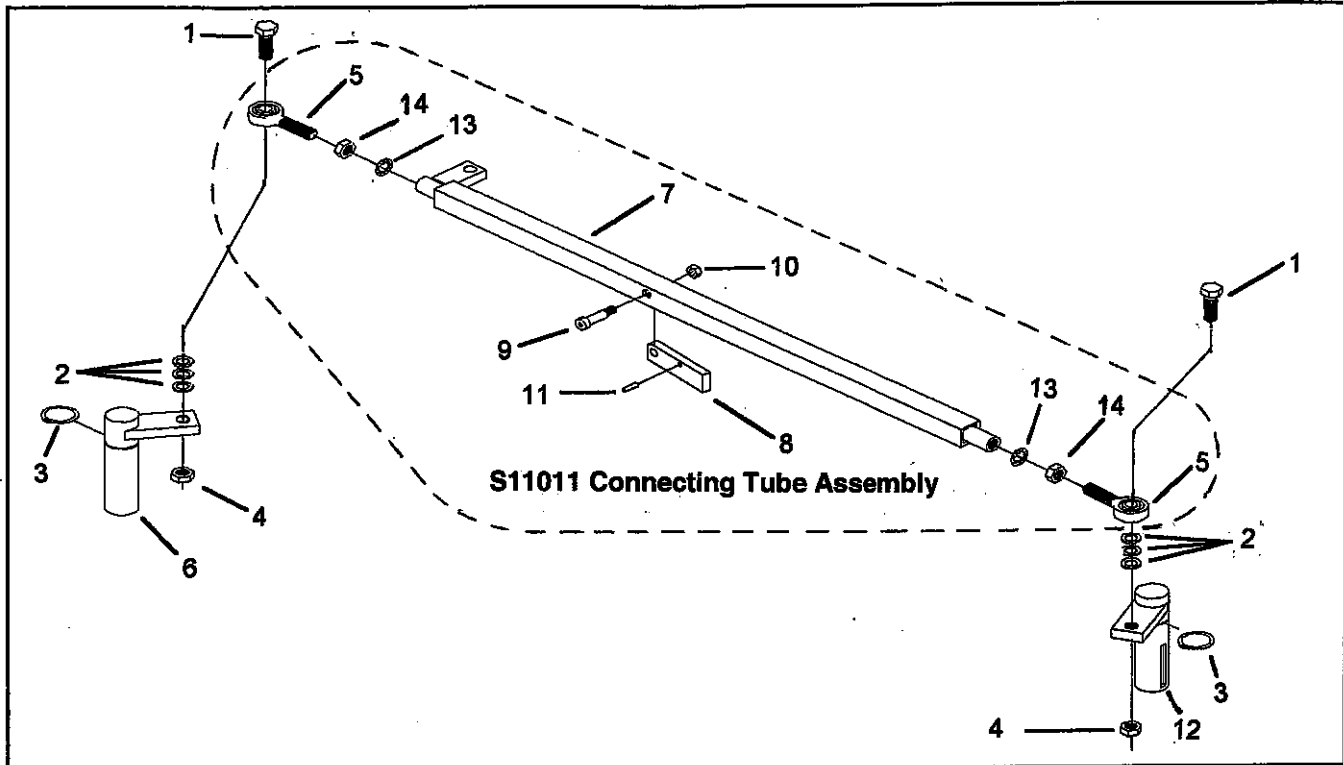


Detail C

S11005 Latch Housing Assembly

Table A-7

Item Number	Part Number	Description	Quantity per Head Assembly
1	X19711	3/4" x 10" Hex Head Bolt	2
2	S10310	Latch Housing	1
3	X19712	3/4" Nylon Lock Nut	2
4	S10340	Latch	2
5	S10350	Latch Finger	2
6	X20045	1/2" Jam Nut (fine threaded)	2
7	X20480	1/2" Internal Tooth Lock Washer	2



Detail B

Table A-6

Item Number	Part Number	Description	Quantity per Head Assembly
1	X21801	1/2" x 1 3/4" Gr 5 HHCS(fine threaded)	2
2	X20305	1/2" x 18 ga. Shim Washer	6
3	X21920	1 1/4" External Snap Ring	2
4	X20064	1/2" Nylon Locking Nut (fine threaded)	2
5	X24000	1/2" Spherical Rod End	2
6	S10530	Left Pivot Shaft	1
7	S10500	Connecting Tube	1
8	S10510	Pawl Assembly(includes X20761)	1
9	X21815	3/8" x 1" Stripper Screw	1
10	X19980	5/16" Lock Nut	1
11	X20761	3/16" x 11/16" Roll Pin	(1)
12	S10520	Right Pivot Shaft	1
13	X20480	1/2" Internal Tooth Lock Washer	2
14	X20045	1/2" Jam Nut (fine threaded)	2