

Fish System II Check List

FISH SYSTEM II PARTS

- _____ (2) 300 gallon tank
- _____ (1) bead filter
- _____ (1) air assembly(**parts listed below**)
- _____ (4) 1" bulkhead
- _____ (1) set of instructions
- _____ (A) 1 1/2" union ball vavle(txt)
- _____ (B) 1 1/2" x 1 1/2" threaded nipple
- _____ (C) 1 1/2" screen
- _____ (D) 3" pvc(1 1/2")
- _____ (E) 1 1/2" tee(sxsxs)
- _____ (F) 1 1/2" x 1" bushing reducer(sxs)
- _____ (G) 3" pvc(1")
- _____ (H) 1" ball valve(sxs)
- _____ (I) 5 1/2" pvc(1 1/2")
- _____ (J) 1 1/2" elbow(sxs)
- _____ (K) 3" pvc(1 1/2")
- _____ (L) 1 1/2" check valve(sxs)
- _____ (M) 5 1/2" pvc(1 1/2")
- _____ (N) 1 1/2" elbow(sxs)
- _____ (O) 9" pvc(1 1/2")
- _____ (P) 1 1/2" elbow(sxs)
- _____ (Q) 3" pvc(1 1/2")
- _____ (R) 1 1/2" elbow(sxs)
- _____ (S) 1 water pump(LT1/6L) with 2 union fittings
- _____ (T) 10" pvc(1 1/2")
- _____ (U) 1 1/2" tee(sxsxs)
- _____ (V(L)&V(R)) 1 1/2" x 1" bushing reducer(sxs)
- _____ (W(L)&W(R)) 3" pvc(1")
- _____ (X(L)&X(R)) 1" ball valve(sxs)
- _____ (Y(L)&Y(R)) 3" pvc(1")
- _____ (Z(L)&Z(R)) 3" pvc(1")
- _____ (AA(L)&AA(R)) 1" elbow(sxs)
- _____ (BB(L)&BB(R)) 3" pvc(1")
- _____ (CC(L)&CC(R)) 1" elbow(sxs)
- _____ (DD(L)&DD(R)) 29" pvc(1") with 5/16" holes
- _____ (EE(L)&EE(R)) 1" end cap
- _____ (FF) 8" pvc(1")
- _____ (GG) 1" ball valve(sxs)
- _____ (HH) 8" pvc(1")
- _____ (II) air inlet pipe with check valve(3/4")
- _____ (JJ) 1 1/2" screen
- _____ (KK) 11" pvc(1 1/2")
- _____ (LL) 1 1/2" tee(sxsxs)
- _____ (MM(L)&MM(R)) 1 1/2" x 1" bushing reducer(sxs)
- _____ (NN(L)&NN(R)) 13" pvc(1")
- _____ (OO(L)&OO(R)) 1" elbow(sxs)
- _____ (PP(L)&PP(R)) 6" pvc(1")
- _____ (QQ(L)&QQ(R)) 1" ball valve(sxs)
- _____ (RR(L)&RR(R)) 6" pvc(1")
- _____ (SS(L)&SS(R)) 1" elbow(sxs)



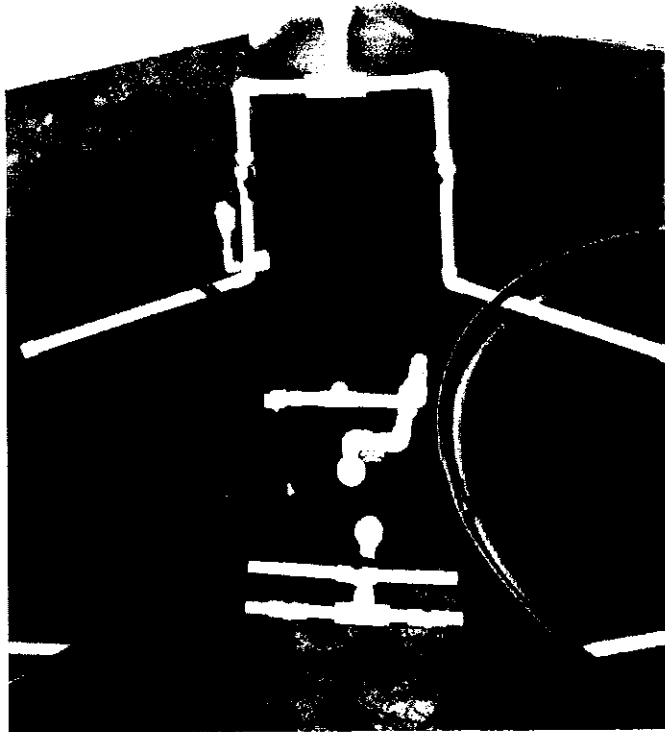
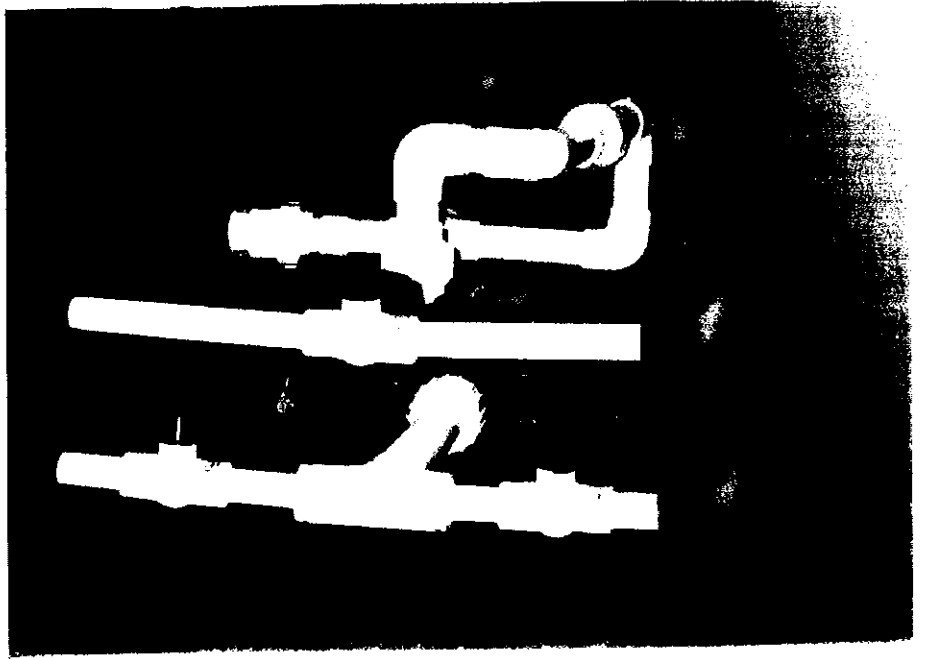
_____ (TT(L)&TT(R)) 24" pvc(1") with 3/16" holes
_____ (UU(L)&UU(R)) 1" end cap

AIR ASSEMBLY PARTS

_____ (6) 3" x 1 1/2" airstone with 1/4" barb
_____ (6) 26" clear vinyl tubing(1/4")
_____ (2) 72" clear vinyl tubing(3/8")
_____ (1) air pump(LC1)
_____ (8) 50" poly tubing(1/2")
_____ (8) 1/2" x 1/2" x 1/2" tee(sxtxs)
_____ (6) 1/2" thread x 1/4" barb
_____ (2) 1/2" thread x 3/8" barb

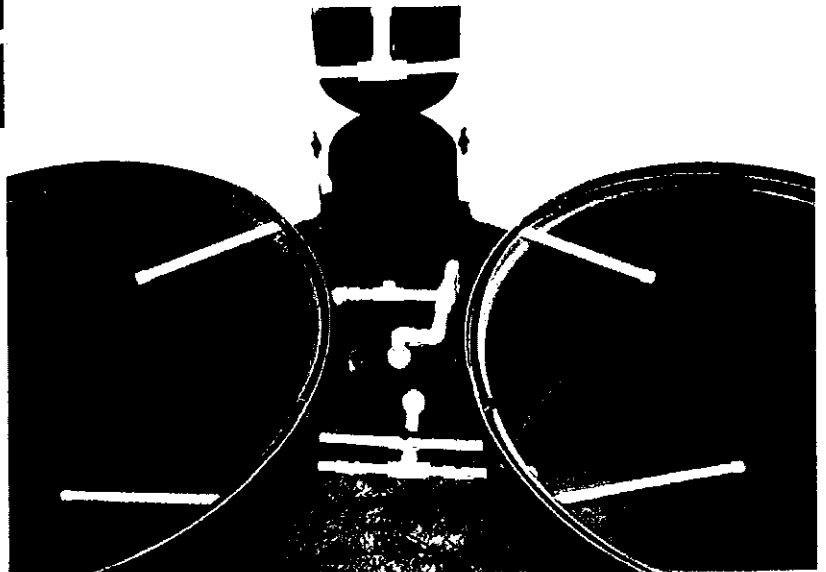
FISH SYSTEM II ASSEMBLY

steps
1 through 10 assembled



complete assembly of Fish system II

complete assembly of
Fish system II



FISH SYSTEM AND BEAD FILTER ASSEMBLY INSTRUCTIONS

1. Place both tanks beside each other where the two holes at the bottom of each tank face each other. The hole in the top of each tank should be located towards the back of each tank. Next place the bead filter behind the two tanks with the front of the bead filter facing forward.
2. Pull out all PVC parts and pumps. The parts should all be lettered in alphabetical order (A- U) , (V- Z) with a left and right, and (AA- UU) with left and right included on some of these parts. The reason that some of these part numbers have left and right lettering is because they are identical and are used on each side. A checklist should be included to help you identify all of these parts. If any parts are damaged or missing contact us immediately. It may be helpful to place these parts in alphabetical order. For the most part these parts will be installed in alphabetical order.
3. Please DO NOT glue any of these parts until you have pre-assembled the entire system. Once everything is in it's correct position then you may go back and use PVC glue where needed.
4. First lay down the bead filter on its back. Wrap all threaded parts that go to the bead filter with teflon tape several times in a counter clockwise motion to the threads.
5. Part "B" screws in the bottom right side of the bead filter. Part "A" screws onto part "B". Turn the ball valve to the closed position. Do not over tighten any of these fittings (hand tight is enough).
6. Screw part "C" into the bottom front side of the bead filter. Do not over tighten any of these fittings (hand tight is enough).
7. Screw part "II" into middle front hole of bead filter with check valve facing up. This part has two pieces to it, the connector and the check valve.
8. There should be two bags of beads, one approximately 50# and one 15#. Use a clean funnel to pour these beads into the top hole of the bead filter.
9. Stand bead filter back upright and facing forward.
10. Insert part "D" into part "C".
11. Place part "E" onto part "D" with the two outlets facing each tank.
12. Place part "F" into the right side outlet of part "E".
13. Place part "G" into part "F".
14. Place part "H" onto part "G" with the ball valve facing up.
15. Place part "I" into the left side outlet of part "E".
16. Place part "J" into part "I" with the elbow facing forward.

17. Place part "K" into part "J".
18. Place part "L" onto part "K" with the flow arrow towards the bead filter.
19. Place part "M" into part "L".
20. Place part "N" onto part "M" with the elbow facing up.
21. Place part "O" into part "N".
22. Place part "P" onto part "O" with elbow facing to the right.
23. Place part "Q" into part "P".
24. Place part "R" onto part "Q" with the elbow facing down.
25. Place part "S" directly below part "R".
26. Screw on the union fittings that are included in the pump box onto the pump inlet and outlet of part "S".
27. Place part "R" into the outlet fitting of part "S".
28. Place part "T" into inlet fitting of part "S".
29. Place part "U" onto part "T" with the two outlets facing each tank.
30. Place part "VR" into the right outlet of part "U" and part "VL" into the left outlet of "U".
31. Place part "WR" into part "VR" and place part "WL" into part "VL".
32. Place part "XR" into part "WR" with the ball valve facing up and place part "XL" into part "WL" with the ball valve facing up.
33. Place part "YR" into part "XR" and part "YL" into part "XL".
34. Install a bulkhead into the bottom hole of each tank with the threads to the outside and a rubber gasket on the inside the tank. It is recommended to use silicone (safe for aquarium use label) around the bulkheads on both sides to prevent any leaks. Screw the bulkheads down very tight.
35. Place a bulkhead into the hole directly above the first bulkhead on each tank. Install these bulkheads the same way as above.
36. Place part "FF" into part "GG" and part "HH" into part "GG" with the ball valve facing up.
37. Place part "YR" into right tank bottom bulkhead and part "HH" into right tank top bulkhead.
38. Place part "YL" into left tank bottom bulkhead and part "FF" into left tank top

bulkhead.

39. Place part "AAR" onto part "ZR".

40. Place part "BBR" onto part "AAR".

41. Place part "CCR" onto part "BBR".

42. Place part "DDR" onto part "CCR".

43. Place part "EER" onto part "DDR".

44. Once assembled place part "ZR" into the inside bottom bulkhead of the right tank. The parts need to be angled where part "DDR" is laying flat on the bottom of the tank and the holes are pointed to the bottom and the back of the tank. There is a picture to show how this is done in the following pages.

45. Place part "AAL" onto part "ZL".

46. Place part "BBL" onto part "AAL".

47. Place part "CCL" onto part "BBL".

48. Place part "DDL" onto part "CCL".

49. Place part "EEL" onto part "DDL".

50. Once assembled place into the bottom bulkhead of the left tank. These parts do not necessarily have to be glued together. It may be helpful to leave these parts unglued for cleaning purposes.

51. Place part "JJ" into the top hole of the bead filter.

52. Place part "KK" into part "JJ".

53. Place part "LL" onto part "KK" with the outlets facing towards each tank.

54. Place part "MMR" into the right outlet of part "LL" and part "MML" into the left outlet of "LL".

55. Place part "NNR" into part "MMR".

56. Place part "NNL" into part "MML".

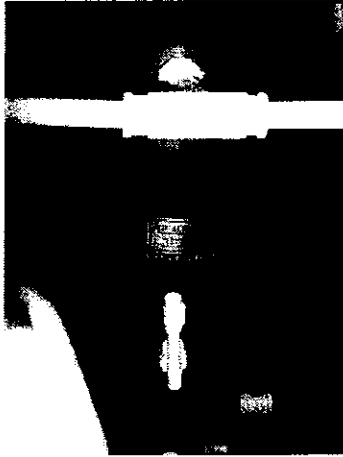
57. Place part "OOR" into part "NNR" with the elbow facing down.

58. Place part "OOL" into part "NNL" with the elbow facing down.

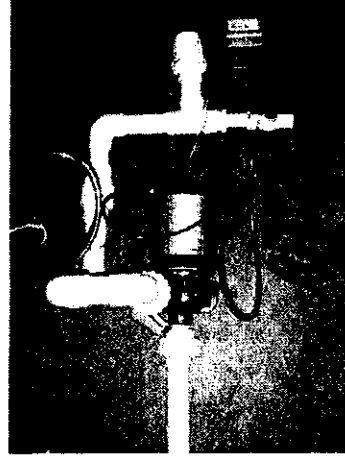
59. Place part "PPR" into part "OOR" and place part "PPL" into part "OOL".

60. Place part "QQR" onto part "PPR" with the ball valve facing the bead filter.

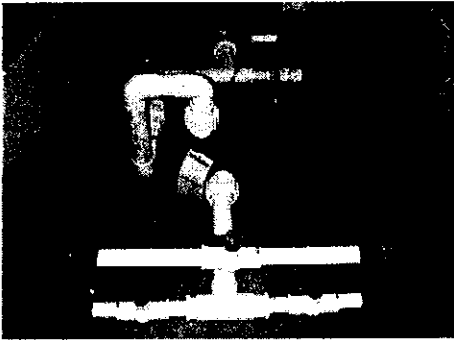
61. Place part "QQL" onto part "PPL" with the ball valve facing the bead filter.
62. Place part "RRR" into part "QQR" and part "RRL" into part "QQL".
63. Place part "SSL" into part "RRL" with the elbow facing the top hole of the left tank.
64. Place part "SSR" into part "RRR" with the elbow facing the top hole of the right tank.
65. Place part "TTR" into the top hole of the right tank into part "SSR" with the holes facing down and towards the front of the tank.
66. Place part "UUR" on the end of "TTR".
67. Place part "TTL" into the top hole of the left tank into part "SSL" with the holes facing down and to the front.
68. Place part "UUL" onto the end of part "TTL".
69. The system should now be completely assembled except the aeration. Make sure that that everything is in the right position and that no parts are defective. Your system should look like the pictures that are provided in the following pages.
70. If everything looks correct now go back and glue all pvc parts outside of the tank. The parts on the inside bottom of the tank can remain unglued for disassembly and cleaning when necessary. Be very careful when gluing to insure that all parts are put back in the correct position.



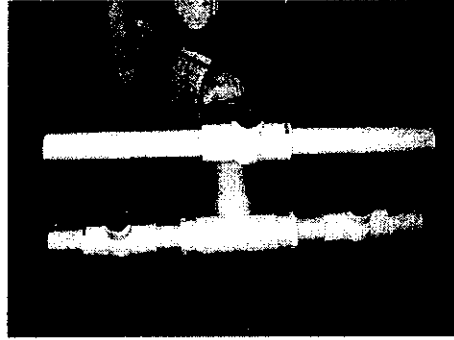
BEAD FILTER FRONT



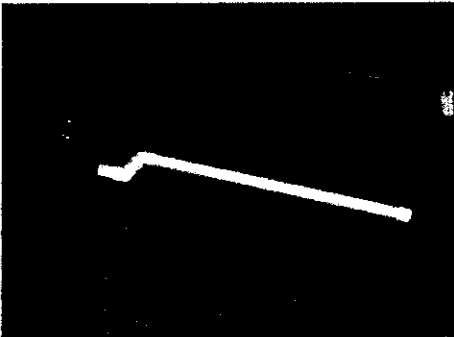
**PIPING OUT OF BEAD
FILTER (AERIAL VIEW)**



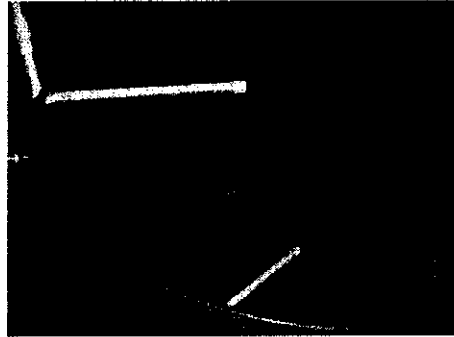
**PIPING OUT OF BEAD
FILTER (FRONT VIEW)**



**PIPING BETWEEN TANKS
FROM PUMP (FRONT VIEW)**



**INSIDE BOTTOM TANK PIPING
HOLES TO THE BOTTOM FACING
THE BACK OF THE TANK**



**PIPING TO INSIDE OF TANK
TOP PIPE HOLES SHOULD BE
ANGLED DOWN AND FACING
THE FRONT OF TANK**

OPERATING TIPS

When starting up your Fish System II you may want to consider a few options. Nets, water test kits, Fritz-Zyme water conditioner, chlorine remover, and sodium bicarbonate are a few recommended items.

Daily maintenance and monitoring will be required for the proper care of your Fish System II. Depending on the densities of fish being grown and feeding rates you may need to exchange the water in your bead filter 3-4 times a week. If operating at maximum density (200 pounds) it is recommended to drain the bead filter three times a week. You will see signs that the filter should be drained if the water pressure decreases or if solids begin accumulating in the water. If you notice reduced flow it may also be a sign that your top inlet screen needs cleaning. Do this only when necessary.

Starting up your Fish System II

Before beginning to fill any of your tanks make sure that all parts are screwed in tightly and glued in the proper position. Next check to make sure that the drain valves are closed. Make sure that the ball valves between the tanks are all open. There is no need to try to fill both tanks because a level is connected between the two tanks that will allow the tanks to rise simultaneously. Once the tanks are filled to the desired level plug in the water pump and open the return valves located at the top of each tank. Water should now be recirculating through the pipes at the top of the system. You may adjust the amount of pressure that is returning into your tanks by turning the ball valves that are connected to the return pipes to the desired return pressure. Let the system run for 48 hours to make sure that all chlorine is removed from the water. After 48 hours apply Fritz-Zyme conditioner to your water and let it recirculate through your system for 48 additional hours to properly activate your bio-filter. After this 48 hour process your system is ready for fish. You may want to check your water temperature to make sure that it is a suitable environment for your fish. If heaters or chillers are necessary please contact one of our sales technicians for a proper application rate.

Draining

Periodic draining of your filter is required to get rid of accumulated particles.

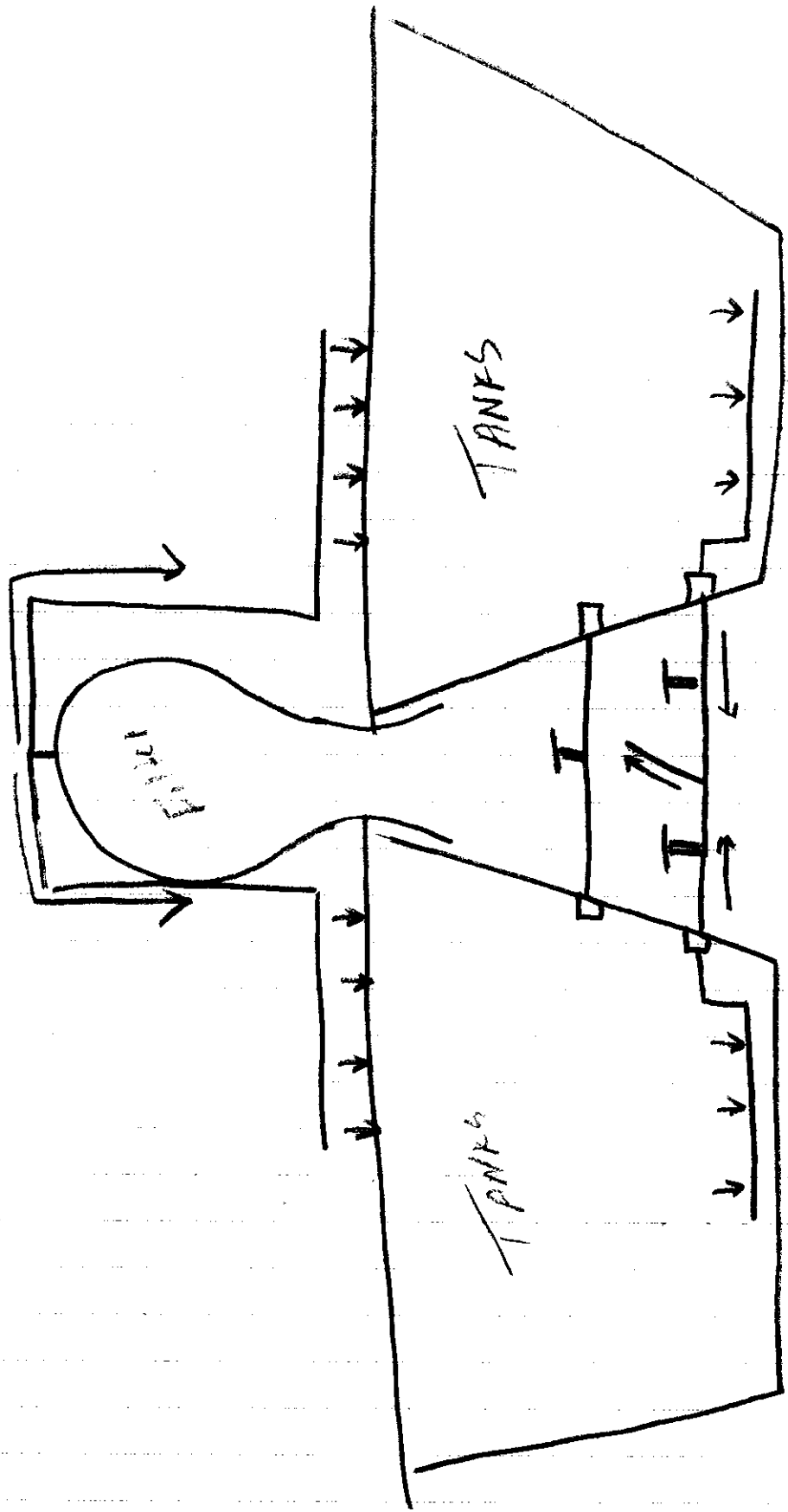
To drain your bead filter:

- 1.) Turn off the water pump.
- 2.) Close all valves feeding from the tank to the pump.
- 3.) Shut both of the return water valves located at the top of each tank.
- 4.) Open the waste line valve located in front of the filter- you should hear the beads being churned by incoming air. You can install a PVC pipe or fitting for a garden hose to the drain valve for flushing. **Be sure not to open the bottom drain valve coming out of the filter to the right-** it does not have a screen and all of the beads will empty out.
- 5.) Empty the entire bead filter (about 25 gallons). You will need to add 25 gallons back into the system that is chlorine free. You may want to consider purchasing a bottle of chlorine remover.

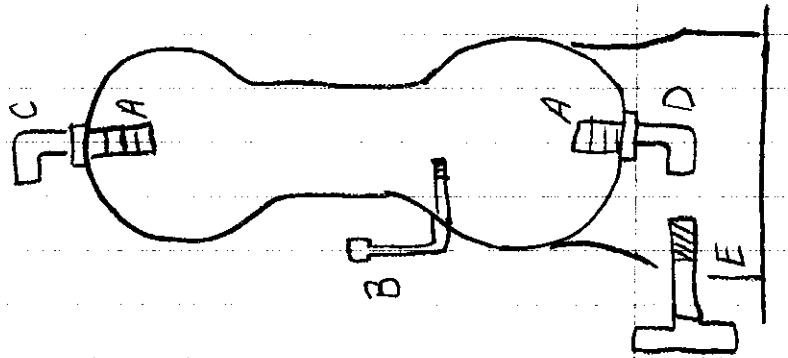
- * Carefully consider the site you choose for the Fish System. If placed in direct sunlight, algae blooms are sure to occur thereby causing fluctuations in you pH and oxygen levels. A shade cloth is recommended for greenhouses or areas with intense sunlight.
- * Lay out all the pieces of the Fish System and go through the directions to make sure everything is present. This will also give you the opportunity to see what you have to work with.
- * Before gluing any of the pieces put the entire system together to ensure that everything is in the right place and positioned correctly.
- * Do not glue the spray bars or the intake pipes (in the inside of the tank) so that you may detach them for cleaning.
- * Be sure to glue all other slip pieces, teflon tape all threaded pieces, and silicon the bulkheads in place to avoid any leaks.
- * Be careful in the placement of your pipes to avoid having any piping over the water pump.
- * It may be to your advantage to add some extra piping or a discharge hose of some type to allow for the draining of the bead filter.
- * If unchlorinated water is not available, a reserve or dechlorinated water should be present in case of emergency and for regular water exchanges.
- * To "seed" your bead filter it is very effective to use Fritz-zyme water conditioner. This formula contains the beneficial bacteria needed for the biofilter for elimination of nitrogenous wastes.

Note: Lay out all parts of bead filter and Fish System. Each piece is lettered in alphabetical order and will be installed in that order. If any parts are broken or missing please contact us immediately at 800-748-8921 for a replacement. The Fish System II parts check list should help in the process of identifying parts.

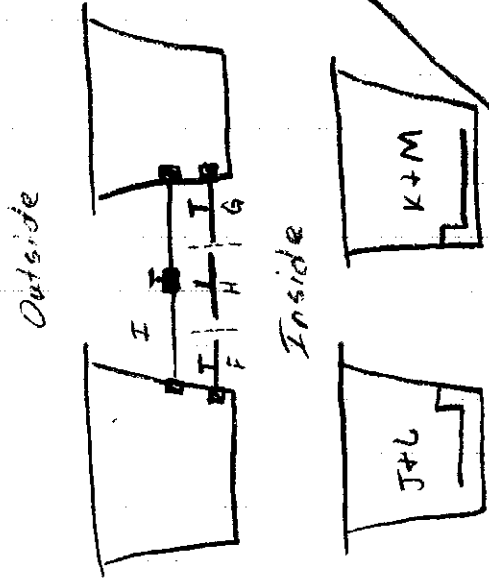
Please DO NOT glue any parts before pre-assembly of the entire system. This is very important so that the wrong parts are not installed in the wrong place and to ensure that each part is in the correct position.



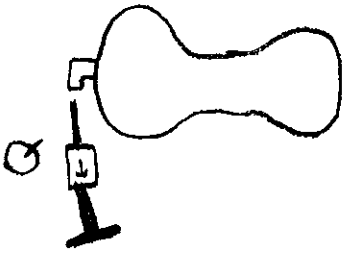
BEAD FILTER ASSEMBLY
1-10



Fish System
Steps 1-6



Steps 11-13



Steps 7-10

