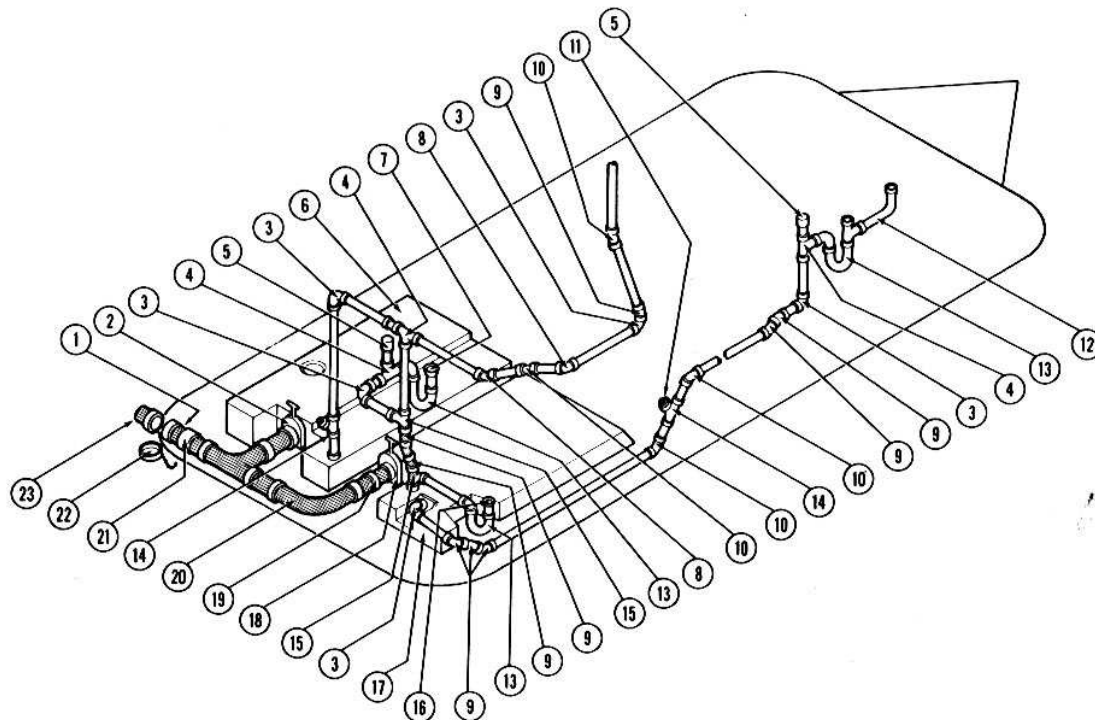


Drainage

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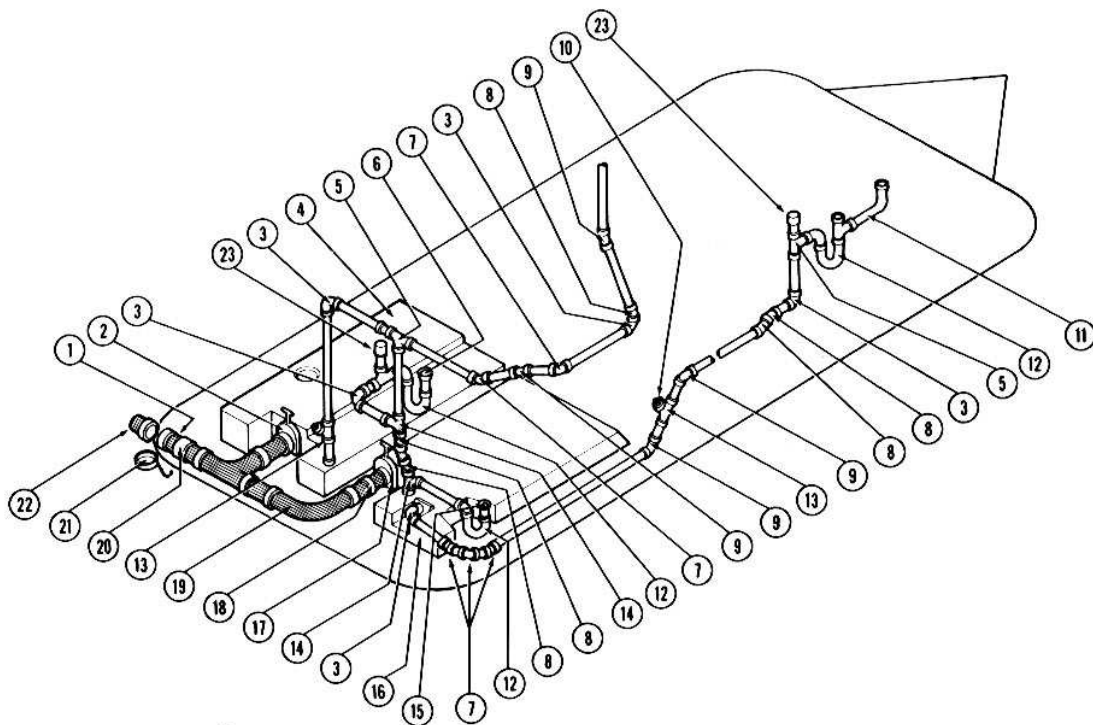
Drainage System - U.S. (Excella Rear Bath)



DARK SHADED FITTINGS & PIPE INDICATE 3",
LIGHT SHADED FITTINGS & PIPE INDICATE 2",
ALL OTHERS 1 1/2".

No.	Part No.	Description
1	684250	Bayonet ring
2	600401	Dump valve
3	600035	90° ELL
4	600156	Sanitary TEE
5	600538	V-200 auto vent
6	600494	Main holding tank
7	600621	Strainer assembly
8	600116	22 1/2° ELL
9	600027	45° street ELL
10	600030	45° ELL
11	600155	Plug
12	600378	Continuous waste, watco 100-A
13	600144	P-trap
14	600141	45° clean out WYE
15	600539	Sanitary reducing TEE
16	600628	Strainer assembly
17	600495	Auxiliary holding tank
18	600404	Dump valve
19	600253	Coupling
20	600183	90° ELL, long sweep
21	600289	3" calder coupling
22	684257	Cap & chain
23	600241	Hose adapter
	600187	WYE TEE
	600186	3" ABS pipe
	600022	4" ABS pipe
	600147	Sanitary TEE
	600371	45° Street ELL
	600137	Clean out adapter

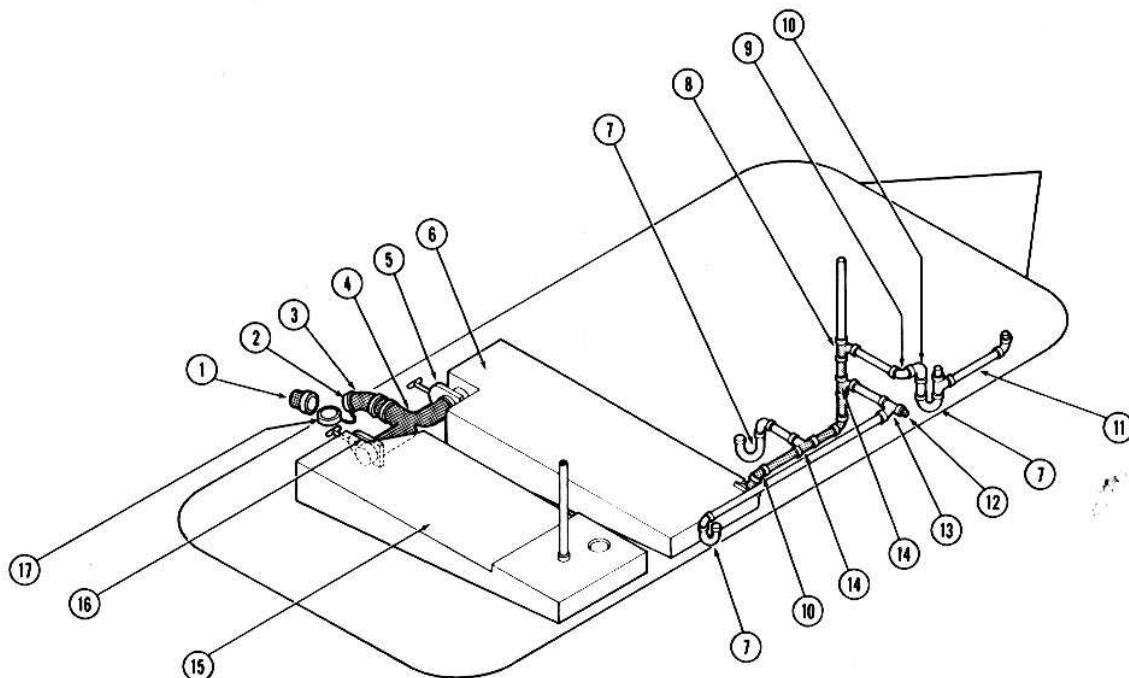
Drainage System - Canada (Excelsa Rear Bath)



DARK SHADED FITTINGS & PIPE INDICATE 3",
LIGHT SHADED FITTINGS & PIPE INDICATE 2",
ALL OTHERS 1 1/2".

No.	Part No.	Description
1	684250	Bayonet ring
2	600401	Dump valve
3	600035	90° ELL
4	600494	Main holding tank
5	600156	Sanitary TEE
6	600621	Strainer assembly
7	600116	22 1/2° ELL
8	600027	45° street ELL
9	600030	45° ELL
10	600155	Plug
11	600378	Continuous waste, watco 100-A
12	600144	P-trap
13	600141	45° clean out WYE
14	600539	Sanitary reducing TEE
15	600628	Strainer assembly
16	600495	Auxiliary holding tank
17	600404	Dump valve
18	600253	Coupling
19	600183	90° ELL, long sweep
20	600289	3" calder coupling
21	684257	Cap & chain
22	600241	Hose adapter
23	600538	V-200 auto vent
	600187	WYE TEE
	600186	3" ABS pipe
	600022	4" ABS pipe
	600147	Sanitary TEE
	600371	45° Street ELL
	600137	Clean out adapter

Drainage System - U.S. & Canada (Excella Center Bath)



DARK SHADED FITTINGS & PIPE INDICATE 3",
LIGHT SHADED FITTINGS & PIPE INDICATE 2",
ALL OTHERS 1½".

No.	Part No.	Description
1	600255	Hose adapter
2	684250	Bayonet ring
3	600224	45° ELL
4	600866	3-way ELL, 3"
5	600410	Dump valve
6	600844	Auxiliary holding tank
7	600144	P-trap
8	600539	Sanitary reducing TEE
9	600035	90° long ELL
10	600027	45° ELL
11	600378	Continuous waste, watco 100-A
12	600155	Plug
13	600141	45° clean out WYE
14	600318	Long WYE
15	600843	Main holding tank
16	600405	Dump valve
17	684257	Cap & chain
	600187	WYE TEE
	600186	3" ABS pipe
	600022	4" ABS pipe
	600147	Sanitary TEE
	600371	45° Street ELL
	600137	Clean out adapter

Drainage System Fittings – 1½"



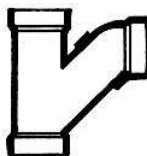
22½° Ell
600116 1½"



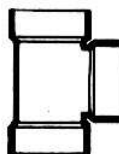
90° Ell – vent
600033 1½"



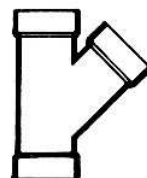
45° Ell
600030 1½"



45° Wye – combination & 1/8 bend
600182 1½"



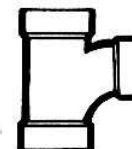
Tee – vent
600259 1½"



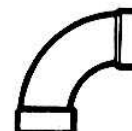
45° Wye
600094 1½"
600141 1½" clean out



45° Ell – street
600027 1½"



Tee – sanitary
600156 1½"



90° Ell – long sweep
600035 1½"

Drainage System Fittings



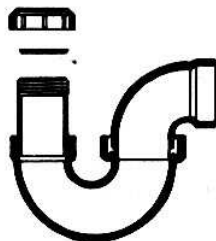
Strainer adapter - female
600143 1½"



Tailpiece flanged
600620 1½" x 4"
600619 1½" x 12"



Slip nut
600802 1½"



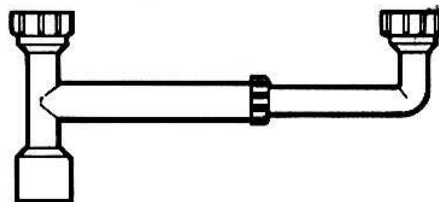
"P" trap (including adapter & slip nut)
600622 1½"



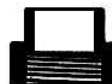
Plug - cleanout
600155 1½"



Auto vent
600538 1½"



Continuous waste
600378 1½"



Cleanout adapter
600137 1½"



Strainer assembly
600621 1½"
600628 (strainer only)
600594 1½" less nut



Strainer adapter - swivel
600442 1½"



Tray plug adapter
600625 1½"

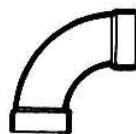


Female adapter
600308 1½"

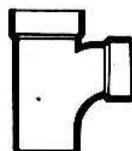
Drainage System Fittings—2", 3" & Misc.



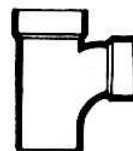
45° Ell
600371 2"
600224 3"



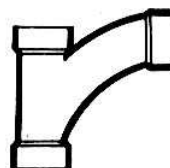
90° Ell — long sweep
600153 2"
600183 3"



Sanitary tee
600346 2" x 1½" x 1½"



Sanitary tee
600260 2" x 2" x 1½"
600147 2" x 1½" x 1½"
600539 2" x 2" x 1½"



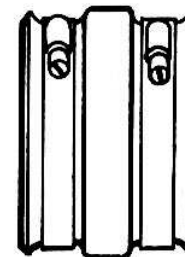
Tee wye
600138 2" x 2" x 1½"
600187 3"



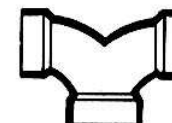
Reducing bushing
600188 3" x 2"



Coupling
600253 3"



Calder coupling
600289 3"



3-way elbow
600866 - 3"

Drain Systems Cleaning

The following cleaning agents can be used without causing harm to the system.

1. Naptha
2. Household soaps
3. Soapless detergents
4. Trisodium phosphate
5. Household ammonia
6. 10% hydrochloric acid (solution)
7. 5% sulfuric acid (solution)
8. Hypochlorite bleach (Chlorox)
9. 10% sodium hydroxide (solution)

Never use any other type cleaners unless marked approved for ABS drainage systems.

When winterizing drains, use only trailer plumbing system type anti-freeze. (These are sold through the Wally Byam stores).

Do not use abrasive cleaners.

Drain System Repair

Fittings are cemented together with ABS corlon cement and therefore cannot be successfully separated. Section to be repaired must be cut out of the drain system using a hacksaw. Surfaces to be cemented must be clean and dry. Use a small 1/2" paint brush to apply the cement. Fittings must be installed immediately as the cement dries rapidly and bonding action is in seconds. For this reason it is best to have all pieces pre-cut and a trial assembly made without the use of cement.

Cleaning of Waste Tank

1. Each time the tank is dumped, flush with clean water at least once. Shut valve after tank has been emptied and then fill tank with clean water and empty once again. This may be repeated more than once. In some instances this is not possible, such as at rallies.
2. This will keep septic tank probes clean and operable.
3. Keeps down odors.
4. Prevents built-up of solids.
5. Do not use facial or other similar tissues in holding tank as they have wet strength and do not dissolve easily. Toilet paper dissolves after a period of travel.
6. Detergents and bleaches should not be used as cleaning agents in the tank, because they remove lubricating oils and greases from the tank and valve.
7. Never use Anti-Freeze, (except type recommended for trailer systems), ammonias, alcohols, and acetones, because they may cause damage to the tank, valve parts, tank fittings, and drain hose.
8. For cleaning of tank, deodorizing, and winterizing ... use only items sold and recommended by the Wally Byam stores.

Clean Out Plug for Waste Tank (Rear Bath)

1. Open rear compartment door.
2. Using crescent wrench, remove black plastic plug located in drain line "Y" in approximate center of compartment.
3. Use water hose and insert through plug opening to flush dump valve. Open tank can then be flushed.
4. After flushing, plug should be reinstalled tightly to eliminate any chance of odor.

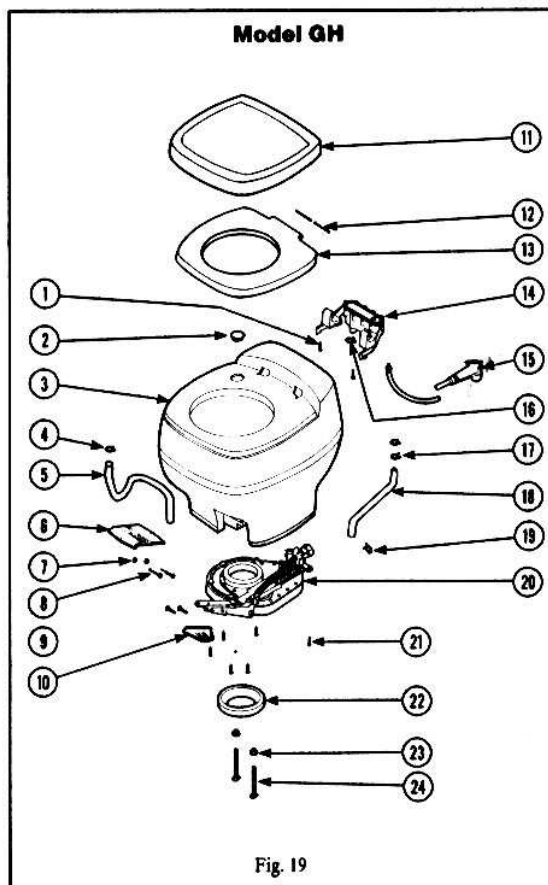
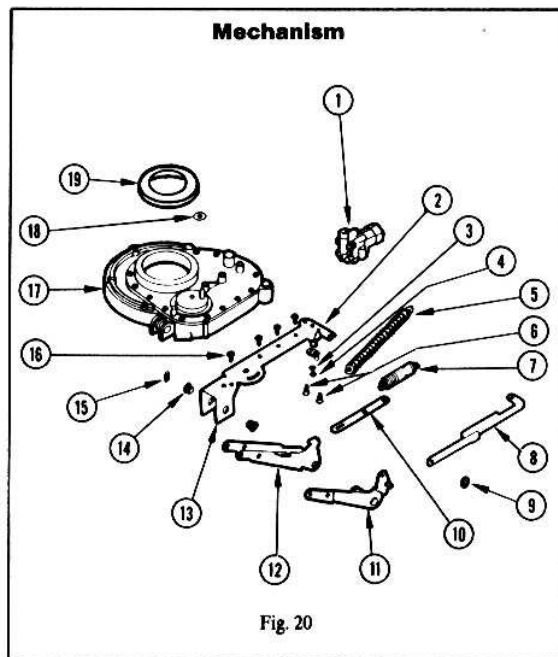


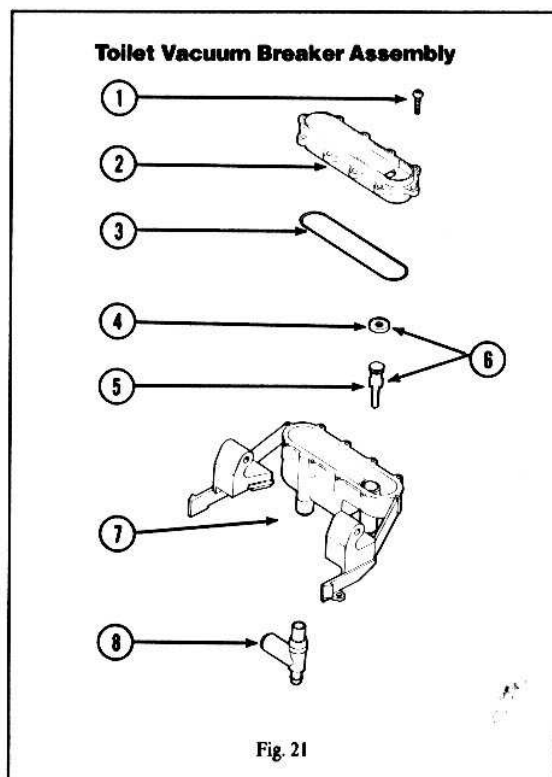
Fig. 19

No.	Airstream Part No.	Thetford Part No.	Description
	600586	—	Complete assembly (Center bath)
	600585	—	Complete assembly (Rear Bath)
1	684099	02694	Screw (2)
2	684126*	03895*	Hole plug (included in 08556 hopper assembly)
3	684169*	08555*	Hopper assembly
4	684124	03752	Clamp
5	684122	03729	Trap tube (27")
6	684109*	03635*	Pedal
7	684088	02020	Nut (2)
8	684111	03648	Screw (2)
9	684087	01663	Screw (2)
10	684110*	03636*	Pedal
11	684170*	08598*	Cover assembly
12	684146	08141	Hinge pin (2)
13	—	08487	Seat
14	684148*	08200*	Vacuum breaker assembly
15	684205	08993	Hand spray
16	684124	03752	Clamp
17	684124	03752	Clamp (2)
18	684121	03728	Tube (20")
19	684124	03752	Clamp
20	684157	08331	Mechanism assembly
21	684128	03994	Screw (6)
22	684089	02125	Flange seal
23	684204	03669	Nut (2)
24	684205	05001	Closet bolt (2)

*Specify color.



No.	Airstream Part No.	Thetford Part No.	Description
	684157	08331	Complete Assembly
1	684155	08215	Ball valve assembly
2	684093	02391	Drive arm assembly
3	684102	02792	Lock washer
4	684088	02020	Nut
5	684105	02802	Spring
6	—	08536	Screw
7	684104	02801	Spring
8	684103	02796	Drive arm
9	684094	02394	Retaining ring (2)
10	684092	02390	Push link
11	684166	08500	Pedal arm assembly
12	684108	03603	Pedal arm
13	684131	05044	Lever Plate Assembly
14	684123	03749	Bushing (2)
15	684125	03765	External cotter
16	684091	02388	Screw (4)
17	684134	05613	Base and cover assembly
18	684141	08034	Retainer
19	684134	02489	Seal (included in 05613)



No.	Airstream Part No.	Thetford Part No.	Description
	684148	08200	Vacuum breaker assembly
1	684096	02538	Screw (10)
2	684138	05972	Cover
3	684152	08205	Seal
4	684150	08203	Seal
5	684149	08202	Float
6	684151	08204	Float assembly
7	684137*	05964*	Housing
8	684135	05959	Diverter

*Specify color.

Vacuum Breaker Removal and Replacement

Remove vacuum breaker from toilet as described on page 6-10. Remove 10 screws holding the cover (05972 to the housing (05964). This exposes the vacuum breaker float (08202) float seal (08203) and cover seal (08205). The float is free in its chamber and is easily lifted or dumped out.

NOTE: When reassembling the unit make sure the housing is free of dirt and the raised collar, that the float seal sits on, is clean and free of burrs.

When the cover is reinstalled, it is important that the screws be turned backwards until they jump; so that when they are tightened, they are in the original thread.

Toilet Installation

1. Water Line Connection.

- a. Water line connections are 3/8" - 18 pipe thread using two wrenches. Turn pipe nipple or flare connector until finger-tight plus one turn. Do not overtighten. Do not solder metal fittings while they are connected to the plastic control valve.

2. Closet Flange Seal.

- a. Place closet flange seal over the mechanism ring found on the under side of the toilet.

3. Rear Bolt Nut.

- a. You assemble the rear closet bolt flange nut by reaching your right hand through the rear access hole (shown in Figure 22). The header points on the closet bolts will help start the nut. Tighten the nut until the base of the toilet contacts the floor.

NOTE: If the space around the toilet does not permit the above method, access to the rear nut can be gained by removing the access plug (shown in Figure 22). Plug is removed by pressing down on the plug's edge closest to the bowl. You assemble the rear closet bolt flange nut by reaching through the access hole with a socket, a universal and a 12" extension. The flange nut may be held in the socket with a small dab of sealer.

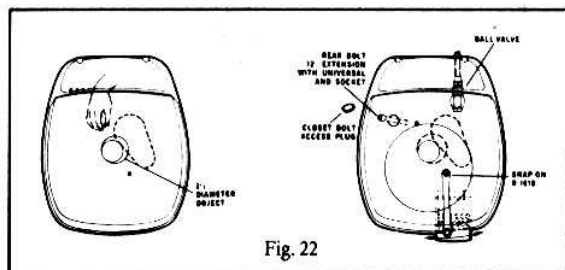


Fig. 22

4. Front Bolt.

1. Depress the pedal and insert a round object such as a soft drink bottle into the outlet located at the bottom of the bowl. Release the pedal slowly until the blade touches and holds the object. The object will hold a pedal down and provide access to the front flange bolt.

2. Assemble the front flange nut. Tighten nut until the base of the toilet contacts the floor. This stabilizes the toilet installation and provides an odor-tight seal to the closet flange.

5. Remove by reversing above procedure.

- a. Cover floor area to protect from water damage.
- b. Shut off water supply valve at rear of toilet.
- c. Remove water supply line from back of toilet.
- d. Lift toilet seat ring and remove plastic plug to gain access to rear flange bolt.

Toilet Disassembly

1. Removal of seat and cover:

Raise seat and cover; this will expose hinge pins. Remove "C" rings with a pair of pliers. Remove pins by pushing them toward the center of the toilet with a screwdriver.

2. Removal of vacuum breaker assembly:

Remove seat and cover. Turn toilet upside down. Remove water lines from vacuum breaker base. Pinch hose clamps with a pair of pliers and slide them up the water line. Pull water lines off. Remove 2 screws that hold vacuum breaker to toilet top.

3. Removal of valve mechanism assembly:

Turn toilet upside down. Remove the six screws that are now visible. Lift up mechanism to gain access to water lines hose clamps. Pinch hose clamps with a pair of pliers and slide them up the water line. Pull water lines off of mechanism.

4. Service and replacement of bowl subassembly:

Bowl subassembly may be serviced by removing the above 3 subassemblies.

5. Plastic water inlet valve removal:

The plastic water inlet valve can be removed without disassembly of the Aqua Magic. It is necessary to remove the Aqua Magic from the floor to remove this valve.

Remove the toilet from the floor and set it upside down on a padded bench. Using a $\frac{1}{2}$ " wrench, remove the $\frac{1}{2}$ " nut and the lock washer. Next, remove the two Phillips head screws. The water inlet valve can now be removed. Pull the valve free and pinch hose clamps with a pair of pliers and slide it up the plastic tube. Then remove plastic tube from ball valve.

NOTE: When disconnecting the water line, be sure to brace the inlet valve with a wrench. Under no circumstances should the water connection be either tightened or loosened without a wrench bracing the inlet valve.

Operating Instructions

1. Directions for automatic flush and refill. Depress the foot pedal until the Micro Rinse completely cleanses the bowl, then release.
2. Directions for water control pedal. If you wish to add water into the bowl without flushing, depress the small, right hand pedal until desired water level is reached, then release.

Maintenance

If the bowl sealing blade does not operate freely after extended use, it may be restored to its original, smooth operating condition by applying a light film of silicone spray to the blade. To clean the toilet use Thetford Aqua Bowl or any other high grade, non-abrasive cleaner. Do not use highly concentrated or high acid content household cleaners. They may damage the rubber seals.

Winterizing

1. Draining method:

Completely drain the toilet water supply line. Leave any water supply line valves open. Depress right hand pedal and place a block of wood or other similar object between the pedals. This will hold the water control valve open and prevent any residual water from being trapped there when frozen.

2. Non-toxic anti-freeze method:

Use Recreational Anti-Freeze. Follow directions on the container.

Trouble Shooting

1. Symptom:

Water keeps running into the bowl.

Cause: The blade in the bottom of the bowl is not closing completely, which in turn keeps the water control valve partially open. The groove into which the blade seats when completely closed is clogged with foreign material.

Cure: Insert the end of a coat hanger or similar object into the sealing groove and remove the foreign material. Avoid damaging the rubber seal while cleaning.

2. Symptom:

Toilet leaks. There is water on the floor. Specify the symptom. Determine if water is leaking from:

- The vacuum breaker.
- The water control valve.
- Bowl to mechanism seal (if this is the problem, the water would not stay in the bowl).
- Closet flange base seal.

Cure:

- The vacuum breaker — if the vacuum breaker leaks when flushing the toilet, replace the vacuum breaker.
- If the vacuum breaker leaks when the toilet is not in operation, replace the water control valve.
- Leaks at the bowl to mechanism seal — remove mechanism, and replace mechanism seal.
- Leaks at closet flange area — check front and rear closet flange nuts for tightness. If leak continues remove the toilet, check the closet flange height. The height should be between $\frac{1}{4}$ " and $\frac{7}{16}$ " above the floor. Adjust closet flange height accordingly and replace closet flange seal.

3. Symptom:

Foot pedal operates harder than normal or the blade sticks.

Cure:

- Apply a light film of Silicone spray to blade.
- Check closet belt tightness. If closet bolts are over tightened the mechanism may be distorted.

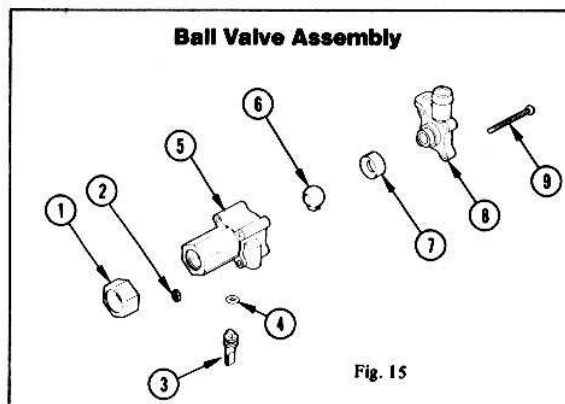
4. Symptom:

Bowl will not hold water; i.e., water leaks from bowl down into holding tank.

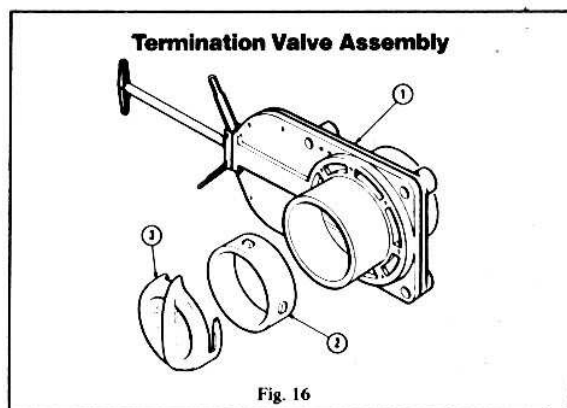
Cure:

Using a bent screwdriver or similar object, scrape the groove in front of the mechanism blade. Generally, paper or other foreign material is lodged in this groove causing the leak. **CAUTION:** Use care not to damage the blade seal; always make certain that the tool is under the lip of the seal, not above it.

The tool can easily be made by bending a coat hanger or screwdriver over about $\frac{7}{8}$ of an inch.



No.	Airstream Part No.	Thetford Part No.	Description
1	684136	05962	Hex cap
2	684101	02784	Nut (4)
3	684140	08030	Ball stem
4	684153	08213	Stem seal
5	684154	08214	Ball valve socket
6	684142	08051	Ball
7	684112	03665	Seal
8	684139	08024	Ball valve ELL
9	684100	02783	Screw (4)



No.	Part No.	Description
1	600405	Main dump valve assembly 3 x 10 1/2" handle ext. (center bath)
	600410	Aux. dump valve assembly 3 x 16" handle ext. (center bath)
	600401	Main & Aux. dump valve ass'y. 2 H (rear bath)
	600404	Aux. dump valve assembly
2	01639	Bayonet ring
3	01664	Cap
4	684208	Value repair kit

Termination Valve Removal and Replacement (Rear Bath)

1. Make sure tank is empty.
2. Remove bumper and hose carrier liner.
3. Remove the metal plates where the 3" drain assembly enters the cross member.
4. Break drain line assembly by loosening the 3" clamps on the 3" calder couplings.
5. Remove four screws securing slide portion of termination valve.
6. See instruction 6. (Center Bath Models).

NOTE: In some models there is no calder coupling in the drain line between the two tanks. In some cases, where it will facilitate removal of the termination valves, cut the section of straight drain line in two (using a hack saw). Use a calder coupling when reinstalling.

7. Reverse above for reinstallation.

Termination Valve Removal and Replacement (Center Bath - Main & Auxiliary Tanks)

1. Make sure tank is empty.
2. Remove tank pan as described in tank removal instructions.
3. Remove drive pin from termination valve rod and extension rod. Place a heavy hammer behind rod to make it solid enough for drive pin removal.
4. Break drain line assembly by loosening the 3 inch clamps on the 3 inch calder couplings.
5. Remove four screws securing slide portion of termination valve (main tank). Loosen clamp at waste tank.
6. The termination valves are cemented to the drain fittings (to eliminate any possible leaking). Therefore it is necessary to use a hack saw and saw this in two close to the valve as possible. After this is done, remove portion of valve still left in drain fitting with a hammer and screw driver. Sometimes you may find it necessary (and time saving) to replace the tee-wye or elbow fitting next to valve, rather than go through the above procedure.
7. Reverse above for reinstallation.