



AF Waterless Kit

CONVERSION AND INSTALLATION INSTRUCTIONS

Kit required for use with SUN-MAR Dry Toilet and CENTREX 2000 and 3000 systems. Includes 12 volt fan and hardware kit. Replaces all previous AF unit options.

CONVERTING YOUR COMPOSTING UNIT

This kit is designed for use with the SUN-MAR Dry Toilet to convert the CENTREX 2000 and 3000 systems where little or no liquid output is desired. The CENTREX 2000 or 3000 system must be installed directly below the SUN-MAR dry toilet. The drain is required on the non-electric units since evaporation is not assisted by the heating element, there may be overflow liquid.

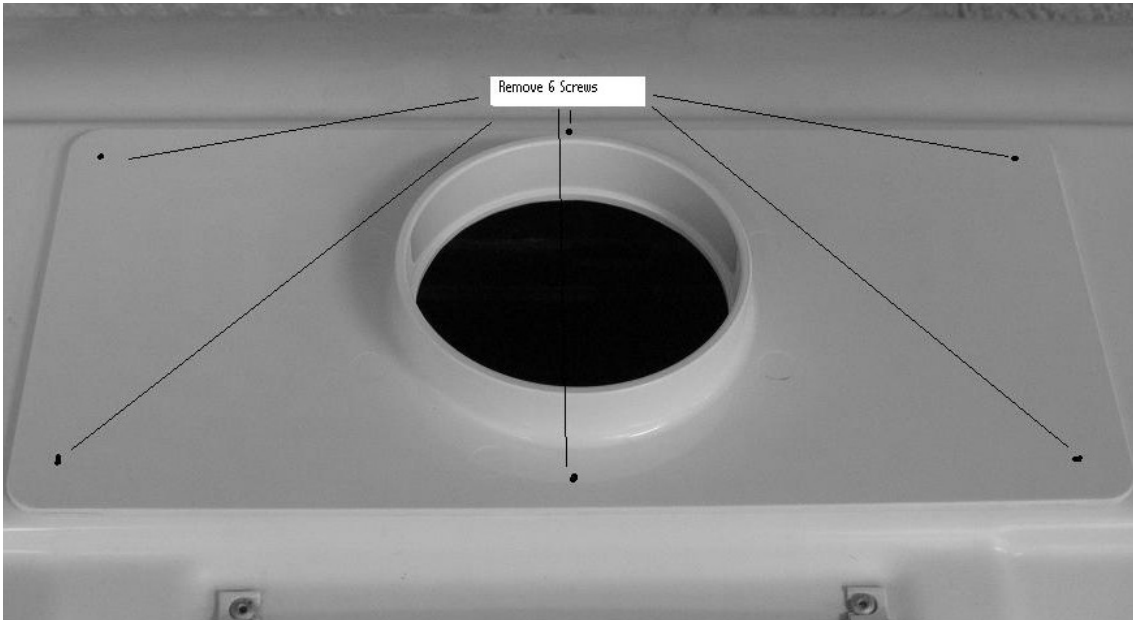
PARTS IN THE KIT

1 X AF extension pipe piece 45"	1 X 12 volt 2.4 watt fan
2 X 4" 45° elbow	1 X 3" air intake plug
1 X 80ml. silicone tube	12 X 8 3/4" truss screws

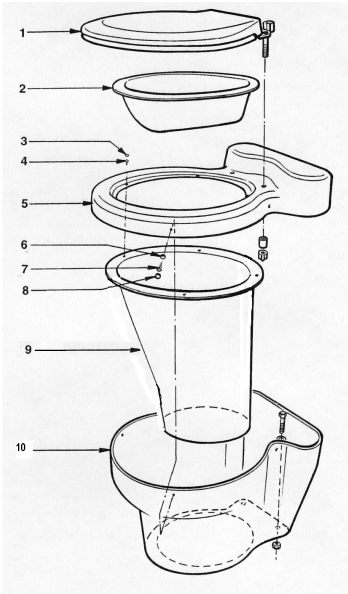
**You will also require a phillips screwdriver

REMOVE THE AF COVER PLATE

1. Remove the 6 screws on the AF cover plate.
2. Locate the composting unit directly below where the SUN-MAR Dry Toilet will be installed.
3. Removing AF coverplate.

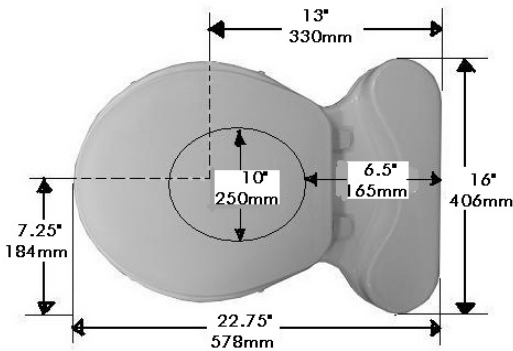


EXPLOSION VIEW & PARTS FOR DRY TOILET



1	PP-TOILS-0208CX Toilet Seat White	6	PM-SCRE0-0251BX #8 X 1/2" (16mm) Stainless
2	PP-TOILS-0208DX Toilet Seat Bone		Steel Flat Head Screw
2	PF-BOWLL-0246FX AF Bowl Liner		
3	PP-CAP00-0587XX Tap Cap Bone	7	PP-WASH0-0274XX CKS Plastic Washer
3	PP-CAP00-0587WX Tap Cap White	8	PP-SNAPC-0273XX Snap Cap (Bone)
4	PM-SCRE0-0250XX #8 X 3/4" (19mm) Flat Head Philips Screw	9	PP-SNAPC-0273WX Snap Cap (White)
5	PF-AIRFL-0001BX Toilet Top Bone	9	PP-AIRFL-003XX Toilet Chute
5	PF-AIRFL-0001XX Toilet Top White	10	PF-AIRFL-0002BX Toilet Base Bone
		10	PF-AIRFL-0002XX Toilet Base White

AF "DRY TOILET" ROUGH IN DIMENSIONS



INSTALLING THE SUN-MAR DRY TOILET

Installing the SUN-MAR Dry Toilet Base

The SUN-MAR Dry Toilet comes preassembled. For the purpose of explanation, the toilet base is the bottom of the toilet which is secured to the bathroom floor, the toilet chute is the black inner section (shown in Fig. A) that fits through the floor and is attached to the toilet top, the toilet top is the upper part of the toilet that attaches to the toilet base, and the bowl liner which is the black removable funnel shaped piece below the toilet seat.

To install the SUN-MAR Dry Toilet, follow the procedure outlined below:

1. To locate the position of the SUN-MAR Dry Toilet, place the toilet chute in the desired location on the floor in the bathroom and trace the 10" (250mm) diameter cut out in the bottom of the toilet base on the floor in the bathroom. The centre of the 10" circle should be 13" from the wall against which the toilet will be mounted (See Fig. A)
2. Drill a 1/2" (6mm) hole on the front of traced line and then check under the floor that the hole will be clear of floor joists and will line up with the composting unit below. (See Fig. B)
3. If the position is correct, complete the cutting of the 10" (250mm) diameter circle with a jig saw. (See Fig. C)
4. Center the toilet base over the 10" (250mm) diameter hole that has been cut out of the floor and securely attach to the floor by using the four 5/16" by 2 1/2" (8mm by 64mm) lag bolts that are provided with your kit. (See Fig. D)

**Prior to finishing the SUN-Mar Dry Toilet installation, it is a good idea at this time to do a pre-assembly check to see if you will need any extension pipe

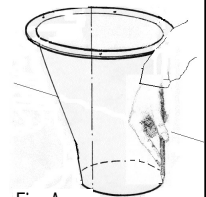


Fig. A

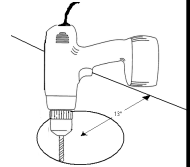


Fig. B

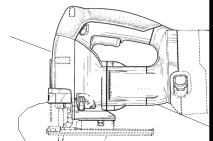


Fig. C

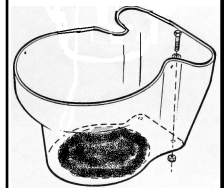


Fig. D

The Transition Piece

Place transition piece (Fig. E) into the rectangular opening on the top of the composting unit. Make sure that the transition piece is completely vertical on the unit, or completely vertical. **Important: the transition piece should be completely vertical so that waste can drop directly into the patented bio-drum.**

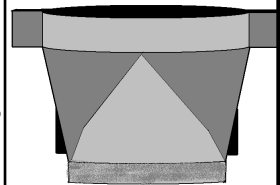
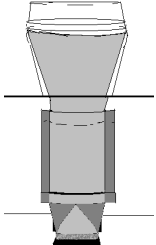
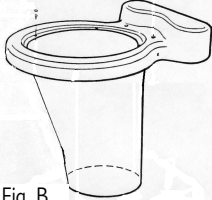



Fig. E

Determining if an Extension Pipe Piece is Needed

Place the toilet chute into the toilet base in the bathroom. If the toilet chute extends 1-2" (25 - 50mm) into the transition piece, then no extension pipe pieces will be required. If the transition piece does not extend far enough up to meet the toilet chute, then one or more extension pipe pieces will be needed. These minimum 41" (112cm) pipe sections can be cut down to the correct length, so that when assembled and placed in the transition piece, they extend 1-2" (25-50mm) into the toilet chute. After taking into account the overlap, each pipe piece provides an extension of about 41" (104cm).

Assembling and Installing the Extension Pipe Pieces	<p>Each extension pipe piece, which comes in two pieces. These can be cut to the correct length, by cutting the required amount off the straight ends of each half with a hack saw (do not cut the belled end of the extension pipe piece).</p> <p>It is easier to cut pipe sections to length before joining the two halves together. After cutting, clean up the edges with coarse (40-60 grit) sandpaper.</p> <p>Before joining the two halves of the pipe pieces, spread a bead of silicone caulking from top to bottom along the inside flanges of both halves of pipe pieces (so that the inside of the pipe section will be sealed). Press the two halves together, and secure them by screwing the self tapping screws provided into the pre-drilled holes. Run a finger or spatula up along each joint inside the chute to remove any excess silicone. Insert the non-belled end of the extension pipe piece into the transition piece. Ensure that the transition piece overlaps the extension pipe piece by 1 -2 " (25 - 50 mm).</p>	
Finishing the AF "Dry Toilet" Installation	<p>Pre Assembly Check: Before finishing the installation, make sure all pieces fit together properly. The top of the pipe piece is belled out to accommodate the toilet chute. Place the transition piece in the cut out provided on the top of the composting unit. Place the pipe pieces, if any, inside the transition piece. Next lower the toilet top onto the base so that the chute projects 1-2"(25-50mm) into the pipe piece or directly into the transition piece if no pipe piece is used. Ensure that the toilet top is properly located over the toilet base, that the chute is completely vertical, and that the screws to attach the top to the toilet base, line up properly. (Fig. A) If the pre-assembly check appears OK, then disassemble and reassemble each piece as in the pre-assembly check(see above).</p> <p>To assemble the toilet top with the chute, line up top with the chute and fasten the four screws around toilet opening and cover with the tap caps (Fig B). Insert the toilet chute into the toilet base until the toilet top rests on the base (Fig C). When reassembling use silicone caulking at the joints where the toilet chute sits inside the extension pipe piece, where the extension pipe piece sits inside the transition piece and where the transition piece sits inside the composting unit. Use a finger or spatula to remove any excess silicone.</p> <p>Align the two pre-drilled holes on the front of the toilet top, with the holes on the front of the toilet base, and insert two screws without tightening them. With these front two holes secured, tilt the rear of the top down over the base. Align the last four screws holes. Insert the CKS washers over the screws. Screw in all six screws, making sure not to over-tighten, and push the snap caps over the screw heads. Attach the toilet seat by threading the nylon screws through the toilet seat hinge and into the holes into the toilet top. Put the black removable bowl liner into place under the toilet seat.</p>	 <p>Fig. A</p>  <p>Fig. B</p>  <p>Fig. C</p>
Adjusting the Air Intake	<p>The composting unit has a 3"(75mm) air intake vent at the rear of the unit. A 3"(75mm) intake cover is supplied with this kit. Remove the 3" air intake vent and replaced with the 3"(75mm) intake cover. Inserting the 3" intake cover will result in more air to be drawn down SUN-MAR Dry Toilet chute so there is no odor in the bathroom.</p>	

**Installing the
Optional Vent
on the AF "Dry
Toilet:"**

If more than one extension pipe piece is needed to connect the composting unit to the SUN-MAR Dry Toilet then it may be necessary to vent the SUN-MAR Dry Toilet separately.

- i) Obtain sufficient pipe and fittings for the vent using either 3" (75mm) sewer pipe or plumbing pipe.
- ii) Trace the outside outline of the pipe on the circular section at the top rear of the toilet top. (See Fig. A)
- iii) Cut out the hole by first drilling a hole in the circumference of the traced outline, and then carefully using a jig saw to complete the circle. Use coarse sand paper to enlarge or smooth off the edges if necessary.
- iv) Cut a short length of 3" pipe and glue it into a 3" pipe coupling, with 1/2" (13mm) of 3" pipe protruding from the 3" coupling (Fig. B). Place this assembly into the hole that was created to accept the vent stack.
- v) Erect the vent stack as vertically as possible following the same rules as outlined in the manual.
- vi) If it is not possible to make this vent vertical or close to vertical, a 12 Volt fan may also have to be installed in this vent stack. Since the 12 Volt fan comes in a 12" (300mm) length of 4" (100mm) sewer pipe, two 3" - 4" transition couplings will be required.

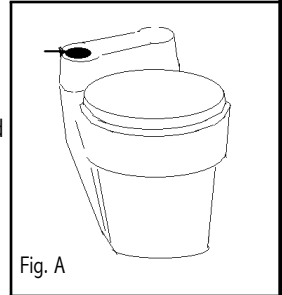


Fig. A

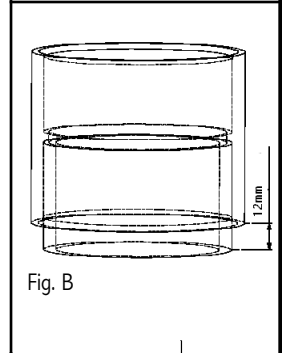


Fig. B

**Cutting Holes
in the Toilet
Chute**

Remove the bowl liner in the toilet top, and drill out a large number (15-20) holes 1/4" (6mm) or bigger at the top rear of the chute piece no more than 3" (75mm) down from the top edge. (See Fig. C)
These holes will enable the vent on the top of the toilet to draw air out of the toilet.

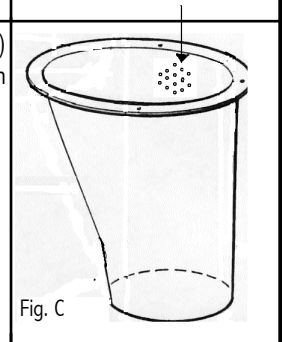


Fig. C

CTO-00001
SM A/F Waterless Kit
Jan 2011
Rev.D1

Tools Required



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