



**GENERAL ECOLOGY, INC.**

COMPONENT MAINTENANCE MANUAL

## **Drinking Water Microfiltration System**

<b>Part No.</b>	<b>Configuration</b>
<b>770011</b>	<b>AC-2-1 DAL</b>
<b>770012</b>	<b>AC-2-1 DRS</b>
<b>770102</b>	<b>AC-2-1 CAL</b>
<b>770103</b>	<b>AC-2-1 CRS</b>

## **COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST**



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### RECORD OF REVISIONS

REV. NO.	ISSUE DATE	INSERTED	
		DATE	BY
A	7/21/99		
B	4/10/03		

REV. NO.	ISSUE DATE	INSERTED	
		DATE	BY



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### LIST OF EFFECTIVE PAGES

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### INTRODUCTION

#### 1. General

This manual has been compiled in accordance with the requirements set out in specification ATA 100. It is intended to provide such data as is necessary by an approved repairer to return an unserviceable Drinking Water Filter to a serviceable condition.

#### 2. Manufacturing

The Drinking Water Filter is manufactured and product supported by:

General Ecology, Inc.

151 Sheree Blvd.

Exton, PA 19341

USA

Telephone: (610) 363-7900

Fax: (610) 363-0412

#### 3. Layout of Manual

This manual contains a general description and operation followed by data for maintenance, repair, disassembly and assembly of the Unit. This is followed by an Illustrated Parts list which gives detailed information.

#### 4. Revision Service

This manual will be updated as required by revisions. Service Bulletins may be issued separately. Their effect on the manual will, however, be made evident by reissue of the Service Bulletin List as appropriate.

#### 5. Shop Verification

The procedures within this manual have been shop verified by the manufacturer. The sections Disassembly, Assembly and Testing were verified by actually performing the functions described in these sections.





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### 1. DESCRIPTION AND OPERATION

#### A. Description

- (1) The system is an in-line, potable water microfilter used in the galley and in the lavatory. It microfilters water as it is used and requires no storage tank, no waste line, no electric power and no backwash.
- (2) The unit is configured with integral 37° flare inlet and outlet ports. A rigid welded mounting bracket allows bulkhead installation.
- (3) Cartridge - Two types of microfiltration cartridge are available:
  - (a) PN 778000, RS-1SG  
The cartridge is rated at 0.4 micron particle retention. It is intended to remove pathogenic bacteria, protozoan cysts, chlorine, organic chemicals, as well as foul tastes and odors. It is included as original equipment in system on PN 770012 and 770103.
  - (b) PN 770006, AL-21SG  
The cartridge is rated at 2 to 5 micron retention. It is intended to remove chlorine and other foul tastes and odors. It is included as original equipment in system on PN 770011 and 770102.

#### B. Service

Only required service is changing filter cartridge after every 3,000 flight hours, or 3,000 gallons (11,400 liters) have been filtered for cartridge 770006; 1,000 flight hours or 1,000 gallons (3,800) liters) for cartridge 778000.

#### C. Technical Data

Weight:	3.10 lb. (1.41 kg)
Height:	6.758 in (171.6 mm)
Diameter:	5.044 in. (128.1 mm)
Normal Operating Pressure:	25 - 30 psi (1.72 - 2.07 bar)
Max. Operating Pressure:	125 psi (8.6 bar)
Flow Rate:	1 gpm (3.8 l/min)
Burst Pressure:	250 psi (17.2 bar)
Operating Temperature:	33°F to +145°F (.5°C to +63°C) with water.
Non-Operating Temperature:	-67°F to +185°F (-55°C to 85°C) without water.

(Assuming water is drained from pressure vessel.)

### 2. TESTING AND FAULT ISOLATION

Not applicable.



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### 3. **DISASSEMBLY**

Not recommended except to change cartridge. In order to maintain pressure vessel and cartridge integrity disassembly of the system beyond that illustrated in this Component Maintenance Manual is not recommended.

### 4. **CLEANING**

Correct cleaning is also important for correct operation of the unit. Observe the manufacturer's instructions for use of cleaning materials to ensure the best results. Always remove cartridge during sanitation of potable water lines.

#### **A. Procedure**

- (1) The cartridge is a non-cleanable part.
- (2) Clean all other parts to standard procedures.

### 5. **CHECK**

Checks shall be carried out by authorized personnel only.

#### **A. Procedure**

**NOTE:** No special tools or equipment are required.

Check the unit for following:

- (1) Corrosion
- (2) Deformation
- (3) Check the condition of all gaskets.
- (4) Signs of leakage.
- (5) Correct function of all moveable parts.
- (6) Correct operation of all parts.

### 6. **REPAIR**

No special repair procedure is applicable. Defective parts must be replaced with original manufacturer's items.

### 7. **ASSEMBLY (STORAGE)**

Not applicable.

### 8. **FITS AND CLEARANCES**

No dimensional checks are required. No torque values are applicable.



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### 9. SPECIAL TOOLS, FIXTURES AND EQUIPMENT

Not applicable.

### 10. CHANGE OF CARTRIDGE (Installed on aircraft)

- A. Shut off the water supply.
- B. Open valve or faucet downstream of system.
- C. Loosen inlet connection and allow the water to drain from pressure vessel.
- D. Remove the wing nut (70) from the housing clamp (60).
- E. Remove the housing clamp (60), the bowl (90) and the housing gasket (80) from the cover (30).
- F. Remove the expended cartridge (40) and discard.
- G. Check the condition and integrity of the cartridge seal and housing gasket (80).
- H. Thread new cartridge (40) into place until contact is made with cartridge gasket, then tighten one quarter turn.
- I. Reinstall the bowl (90), housing gasket (80), housing clamp (60) and wing nut (70).  
NOTE: Tighten the wing nut (70) securely by hand.
- J. Tighten inlet fitting.
- K. Open water supply valve slowly and allow air to exhaust from the system. Check for leaks and allow water to flow for several minutes to rinse loose materials from the cartridge, exhaust air and stabilize flow.
- L. Close faucet or other valve downstream of filter system.

### 11. ILLUSTRATED PARTS LIST

This Illustrated Parts List (IPL) contains the complete listing of all replaceable parts of the system.

#### A. Detailed Parts List

##### (1) Column FIG/ITEM

The first number in the first line of a page indicates the number of the figure illustrating the part. The second number indicates the item number by which the part is identifiable on the illustration. A dash placed before the item number indicates that the part is not illustrated.



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### A. Detailed Parts List (continued)

#### (2) Column PART NUMBER

The part number column contains the original manufacturer's part number. When standard parts are used, the standard part number is listed in this column.

#### (3) Column AIRLINE STOCK NO.

This column is left blank for airline internal use.

#### (4) Column NOMENCLATURE

##### (a) Indenture System

1 2 3 4 5 6 7

Assembly or installation assembly (RF) number

Attaching parts for assembly or installation

---\*---

Detail parts for assembly

##### (b) Attaching Parts

Attaching parts are captioned ATTACHING PARTS and are listed immediately following the parts attached. The ---\*--- symbol follows the last item of the attaching parts group.

##### (c) Vendor Code

Parts manufactured by companies other than General Ecology, Inc. are identified by an appropriate vendor code following the nomenclature.

#### (5) Column EFF CODE

The effectivity code column establishes parts relationship with units or assemblies which are essentially the same but have minor deviations. These units or assemblies are assigned reference letters such as A, B, C, etc. Parts which are not common to all configurations but are associated with one or more of the coded lead items, carry the letter or letters assigned to the lead items or where a part is common to all lead items, the effectivity column is left blank.

#### (6) Column UNITS PER ASSY

This column contains the quantity of a specific catalog sequence numbered part required in the build sequence of only one (where more than one exists), next higher sub-subassembly, subassembly, assembly, or installation level as applicable.



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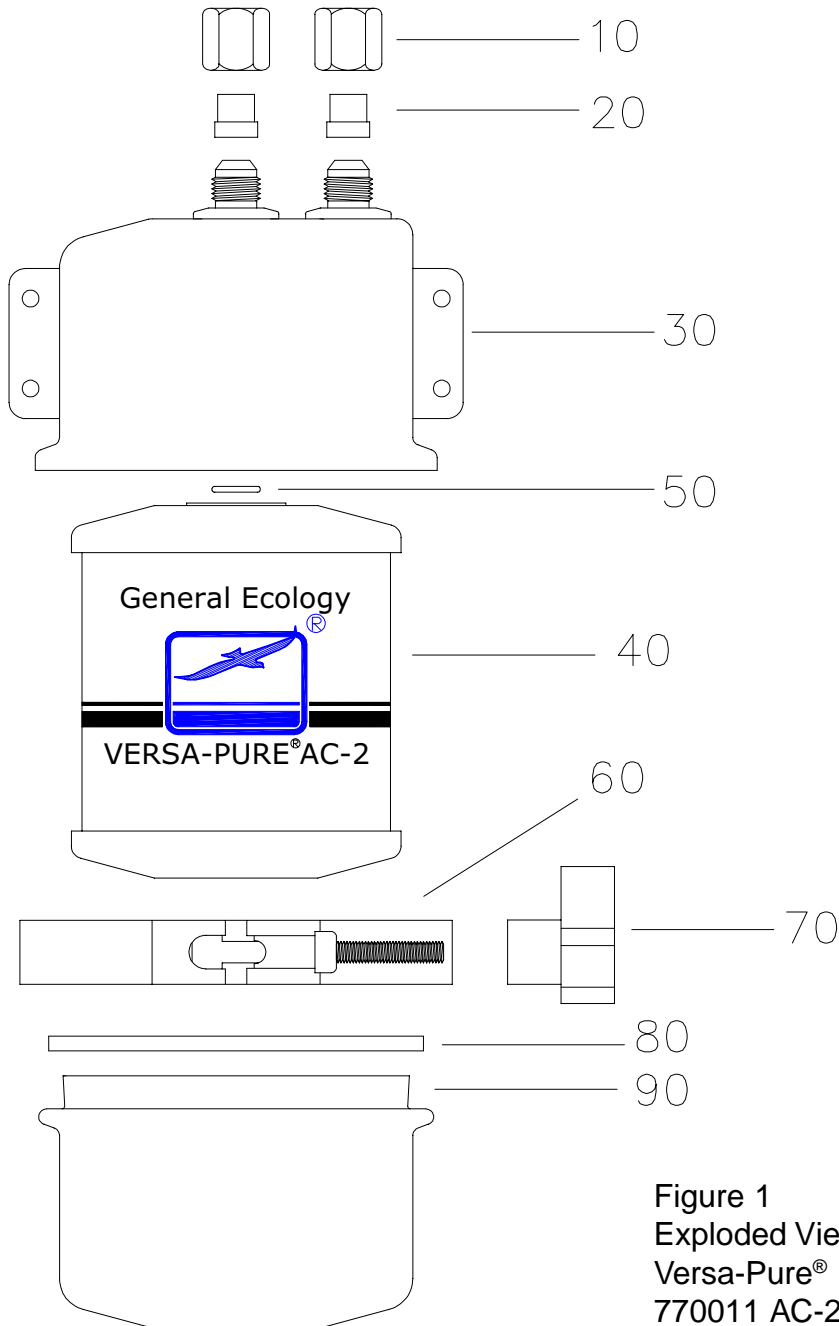


Figure 1  
Exploded View  
Versa-Pure® AC-2 Water Filter  
770011 AC-2-1 DAL  
770012 AC-2-1 DRS  
770102 AC-2-1 CAL  
770103 AC-2-1 CRS



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### ILLUSTRATED PARTS CATALOG

FIG-ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF CODE	UNIT PER ASSY
1 -001	770011		FILTER-DRINKING WATER SYSTEM 2-5 MICRON FILTER AC-2-1DAL	A	RF
-001	770102		FILTER-DRINKING WATER SYSTEM 2-5 MICRON FILTER AC-2-1CAL	A	RF
-001A	770012		FILTER-DRINKING WATER SYSTEM 0.4 MICRON FILTER AC-2-1DRS	B	RF
-001A	770103		FILTER-DRINKING WATER SYSTEM 0.4 MICRON FILTER AC-2-1CRS	B	RF
010	710072		NUT		002
020	710071		SLEEVE		002
030	770038		COVER WITH WELDED BRACKET, 37° OUTLET PORT AND CARTRIDGE SEAL. 37° INLET PORT		001
040	770006		AL-21SG CARTRIDGE	A	001
040B	778000		RS-1SG CARTRIDGE FOR AC-2 HOUSING	B	001
050	721006		O-RING FOR GROOVED OUTLET PORT		001
060	710530		HOUSING CLAMP (WITHOUT WINGNUT)		001
070	710032		WINGNUT FOR HOUSING CLAMP		001
080	710540		HOUSING GASKET		001
090	710011		BOWL		001