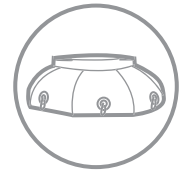


# SACKSAFOAM II MODEL 5598 MANUAL



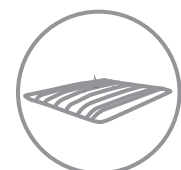
Bambi Bucket



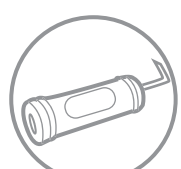
Fireflex



Dragon



Remote Site



Environmental



Emergency Response

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## **SACKSAFOAM II (Model 5598) MANUAL - Version C**

**Issue Date: July 2008**

**PLEASE READ BEFORE USING.**

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**Sacksafoam II Model 5598 Operations Manual (Version C)**

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## Section 1: Sacksafoam II Overview

### Introduction to Model 5598

This manual provides helicopter operators with important information on the operation and maintenance of the Sacksafoam dispensing system for use with the Bambi bucket.

The Sacksafoam II has advanced features to enhance the efficiency of helicopter fire fighting.

The control box has a quartz digital timer to control delivery of an accurate percentage of foam concentrate. The timer circuit has crowbar over-voltage protection and its own circuit breaker.

An optional foam transfer pump for easily filling the Sacksafoam II is available from SEI Industries. This portable pump greatly facilitates the filling of the Sacksafoam II and is powered by 24-volts DC, either from the aircraft or from an auxiliary power source.

The operation of the Sacksafoam II can be quickly mastered by users with no prior experience. Several dumps with foam will provide familiarity with the use of the system.

Please read this manual prior to flying the bucket, particularly the sections on installation, filling and dispensing. If problems are experienced, please refer to the manual.

For your own protection and for longer system life, always heed the instructions and warnings. Ignoring them could result in damage to the Sacksafoam II, Bambi bucket or aircraft or personal injury.

SEI offers complete parts supply and repair facilities for the Sacksafoam II. For maintenance and repair purposes, parts diagrams and descriptions are provided in this manual.

When ordering parts, please provide the model and serial number of the unit which is printed on the back of the controller and on the inside of the container lid that is normally removed during operation. The lid location also shows the Sacksafoam model number.

Additional copies of this manual are available from SEI Industries Ltd.



## System Description

The **Sacksafoam II Model SF2-5598** is for use inside larger helicopters to supply foam to Bambi bucket models 1821 thru HL9800. Sacksafoam II model SF2-5598 will hold up to 25 USG (95 litres) of foam concentrate. The foam is held in a 20 gallon tank inside a large plastic case with provision for an extra 5 USG container. The unit is self-contained and designed to prevent foam from contacting the helicopter.

The Sacksafoam dispensing pump is operated by a controller box which is remotely mounted on a long wiring harness. A timer on the controller box determines the amount of foam concentrate that is pumped into the Bambi bucket. The pilot or crew member aboard the helicopter fills the foam tank, controls the dispensing of foam, and triggers the Bambi bucket dump.

### Unpacking

Whether receiving the Sacksafoam II for the first time, or unpacking it at the start of the season, ensure that you have the following:

1. Sacksafoam II unit
2. Controller box with cable
3. 6 ft. (1.8 m.) breakaway hose
4. 1 male / 1 female garden hose fitting
5. Webbing tie-down straps (two).
6. 3 -10 Amp Fuses
7. This manual.

The following operator-supplied equipment is also required:

1. Longline electrical cable for standard and Torrentula Bambi buckets
2. Dump hose to supply foam to the Bambi bucket (5/8" hose with 5/8" garden hose fitting on one end)

#### Important Note

Cable and hose lengths must be determined by the operator. They will depend on the helicopter model, Bambi bucket model and length of the cargo line/longline in use. Please refer to the Bambi bucket operator's manual.

## Section 2: Installation

### Installation Procedures

1. Place the Sacksafoam unit inside the helicopter. Remove the lid.
2. Unlatch the case lid on the side of the drain fitting to expose the inside of the Sacksafoam unit.

#### Important Note

Make sure the circuit can carry a load of 11-amps at 24VDC.

3. Tie the supplied webbing straps on the Sacksafoam cleats. Secure the "D" rings to cargo tie-downs on the floor of the helicopter.



4. Uncoil the stored breakaway hose and wiring harnesses. The wiring harnesses included are:
  - Two 28-volt DC power cables
  - Bambi bucket dump cable

5. Ensure that the harnesses are connected to the electrical box. Store the loose case lid securely or remove it from the helicopter. You can now see the control panel. This is the time to familiarize yourself with it.



6. Connect the Sacksafoam power and Bambi dump power input cables (cables 6 and 7) to the helicopter electrical system: white is positive, black is negative. Double check the polarity before turning on the power.



7. Connect the breakaway hose to the foam outlet fitting. Push the garden hose fitting into the free end of the breakaway hose.



### Warning

Do not secure the garden hose fitting to the breakaway hose with a clamp. It is intended for safe jettisoning of the Bambi bucket.

8. Secure the breakaway hose to the helicopter. Run your 5/8" (16 mm) ID female garden hose from the end of the breakaway hose down to the Bambi bucket. Attach the hose to the suspension lines using tie wraps. Take care not to pinch or kink the hose as this will restrict the flow of foam.

### Important Note

If the bucket has to be jettisoned, the hose will pull apart at the unclamped fitting. Since the breakaway hose is secured, there will be no tendency for the garden hose to pull the Sacksafoam from the helicopter. In this event, any foam in the hose will drip safely outside the helicopter.



## Section 3: Testing

### Testing the Sacksafoam

#### Important Note

The testing procedure should be performed before every use to check the operation of the Sacksafoam unit.

#### *Dry Test*

#### Important Note

A dry test can be done to determine if all power hook-up is correct. Simply turn on unit, set controller to 10 seconds, take one dip tube out and lift float on the end of the dip tube. If the pump starts, the hook-up is correct.

#### *Wet Test*

1. Place a full 5 USG container of fire-retardant foam in the space provided within the Sacksafoam case.
2. Insert the dip tube into the foam container and press the rubber stopper down to seal the filler neck. Push the dip tube down to contact the bottom of the container.



3. Switch the fill pump ON. Three lights will come on:
  - Pump power ON (green light)
  - Can loading ON (yellow light)
  - Tank loading ON (red light)
4. The fill pump automatically pumps foam into the main tank and will stop when the container is empty.
5. Turn on the Sacksafoam controller box and set the run time to 10 seconds. See *Section 5: Controller Box Installation*.
6. Place the end of the breakaway hose into an empty foam container or bucket. Operate the dispense switch. Foam should be pumped out of the breakaway hose.
7. Once the test is finished, store the dip tube as shown in the photo.



#### Important Note

If you have difficulty identifying components, please refer to the parts list section.

## Section 4: Safety

### Preflight Safety Check

The Bambi bucket and Sacksafoam II system should receive a preflight inspection in the same manner as a pilot preflights the aircraft before use. To preflight the system, start at the bottom and work up.

1. Is the unit plugged into the helicopter's power source?
2. Is the controller secured inside the cockpit and plugged into the electrical box in the unit?
3. Is the Sacksafoam case secured with the tie down strap?
4. Is the breakaway hose secured to the Bambi bucket and the short hose to the helicopter?
5. Are the wires in the helicopter secured to avoid tripping and tangling?

Refer to the Bambi bucket manual for the preflight check on the Bambi bucket itself.

## Section 5: Controller Box

### Control Box Description and Installation

#### Description

The Sacksafoam controller box is the brains of the system and contains an accurate quartz digital timer to control delivery of foam concentrate to the Bambi bucket.

Since the Sacksafoam unit pumps foam at a fixed rate, the dispense time set on the controller relates directly to the foam concentration in the Bambi bucket. Circuit protection for the controller consists of a crowbar over-voltage protector and a 3-amp circuit breaker.



Standard Control Box (SFF003)

Console Mount (SFF004)

#### Installation

Operators of Sacksafoam II models do not have the controller box already mounted in the Sacksafoam case.



Sacksafoam II controller box.

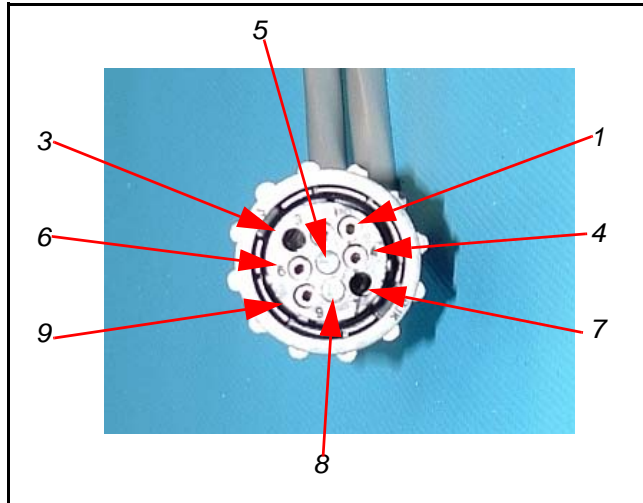
**Sacksafoam Controller Box Functions**

| Item                  | Function   |
|-----------------------|--|
| On/off switch         | Toggle up to turn ON.<br>Toggle down to turn off and reset.  |
| Dispense switch       | Press/push button to begin dispensing foam.  |
| Dispense time switch  | Push buttons to set run time of foam injection pump.   |
| Current drops counter | Both counters increment every time dispense switch is pressed up (on). Current drops counter should be reset when Sacksafoam is refilled. Zero counter by pressing reset button.   |
| Total drops counter   | Both counters increment every time dispense switch is pressed up (on). Total drops counter can be used to count the total number of drops per day or shift. Zero counter by pressing reset button.                                       |
| Red power light       | Red light is on when power is on.  |
| Orange dispense light | Orange light is on when unit is dispensing foam.   |
| Green mix ready light | Green light is on when unit is ready for next dispense cycle or mixer (if installed) is running. The green light (and mixer; if installed) will go off when the Bambi bucket is dumped if green wire is hooked up to Bambi dump circuit. |

**Important Note**

If the power supply polarity is reversed, the controller box will not operate. However, the Sacksafoam dispense pump will operate at a greatly reduced flow rate. If reverse polarity occurs, correct it immediately.

**Connector Pin Descriptions**



| Pin | Description                                  | Wire Color             |
|-----|--|------------------------|
| 1   | + 24 VDC supply                              | red                    |
| 2   | - 24 VDC supply                              | black                  |
| 3   | + 24 VDC to remote dispense switch (option)  | blue                   |
| 4   | +24 VDC to foam dispense pump                | white                  |
| 5   | plugged                                      |                        |
| 6   | - 24 VDC to foam dispense pump               | white with blue tracer |
| 7   | + 24 VDC 0.5 AMPS to mixer solenoid (option) | yellow                 |
| 8   | plugged                                      |                        |
| 9   | + 24 VDC from Bambi dump button              | green                  |

## Section 6: Operations

### Operating Model 5598

Please perform the installation, testing and preflight inspection as previously described before operating the Sacksafoam II. This section should be read in conjunction with the Bambi bucket operator's manual.

1. Place a full five gallon container of foam into the Sacksafoam case.
2. Insert the dip tubes into the container. Press in the rubber stopper.
3. Fill the main tank by pumping foam from the five gallon container. The fill pump will automatically run when the dip tube is placed into a full container. The fill pump will stop and the yellow light on the electrical box will turn off when the main tank is full. If desired, a reserve container of foam can be left in the case for topping-up of the main tank while in flight.
4. Refer to the *chart on the Sacksafoam case* to set the controller box with the correct foam dispense time. The dispense time will vary with the size of the Bambi bucket you are using and the desired foam concentration.

#### Important Note

If you have a controller box with a black plastic case, disregard the dispense time chart on the top. It applies only to original Sacksafoam I units.

5. After the Bambi bucket has been filled with water and lifted from the water source, activate the dispense switch on the controller box to pump foam to the Bambi bucket. The orange dispense light on the controller box will go out when dispensing is complete.
6. Dump the Bambi bucket by depressing the dump switch.
7. When finished your run, disconnect the dump hose, wrap it around the hose hanger on the case lid and screw the hose ends together. Screw the brass cap onto the open dispense line fitting and stow the wiring harnesses by wrapping them around the hose hanger.

**Model SF2-5598 Specifications**

| SF II      | Bambi Bucket Model | Foam Concentrate Capacity |          |    | Empty and Full Weights |     |     |     |
|------------|--------------------|---------------------------|----------|----|------------------------|-----|-----|-----|
|            |                    | USG                       | Imp. Gal | L  | Lbs                    | Kgs | Lbs | Kgs |
| SF2 - 5598 | 1821 - 9800        | 25                        | 20       | 94 | 86                     | 39  | 300 | 136 |

**Container Size**

| Sacksafoam II | Inches          | Centimeters        |
|---------------|-----------------|--------------------|
| SF2 - 5598    | 33" X 21" X 26" | 84cm X 53cm X 66cm |

**Model SF2-5598 Run Times**

Use the following chart to set the run time on the Sacksafoam controller for the foam concentration desired.

Select your bucket size and concentration. The intersection of the row and column gives the run time in seconds. Set this time using the small push buttons on the front of the controller box. For run times over 99 seconds, use two or more cycles to get the total run time needed.

**Caution**

Do not use the chart on the top of the controller box. Instead, use the table below to determine run times.

| Bambi Model | Foam Concentration (%) |     |     |     |     |     |     |     |     |     |
|-------------|------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|             | 0.1                    | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1   |
| 1821        | 3                      | 6   | 8   | 11  | 14  | 17  | 20  | 22  | 25  | 28  |
| 2024        | 3                      | 6   | 9   | 12  | 16  | 19  | 22  | 25  | 28  | 31  |
| 2732        | 4                      | 8   | 13  | 17  | 21  | 25  | 29  | 34  | 38  | 42  |
| 3542        | 5                      | 11  | 16  | 22  | 27  | 33  | 38  | 44  | 49  | 55  |
| 4453        | 7                      | 14  | 21  | 27  | 34  | 41  | 48  | 55  | 62  | 69  |
| 5566        | 10                     | 20  | 30  | 40  | 50  | 60  | 70  | 80  | 90  | 100 |
| 680K        | 11                     | 21  | 32  | 43  | 53  | 64  | 74  | 84  | 94  | 109 |
| 6578        | 12                     | 24  | 35  | 47  | 59  | 70  | 82  | 94  | 105 | 117 |
| 7590        | 14                     | 28  | 42  | 54  | 68  | 81  | 95  | 108 | 122 | 135 |
| HL5000      | 20                     | 40  | 60  | 80  | 99  | 119 | 139 | 159 | 178 | 198 |
| HL7600      | 30                     | 60  | 90  | 120 | 150 | 180 | 210 | 240 | 270 | 300 |
| HL9800      | 38                     | 78  | 117 | 156 | 195 | 234 | 273 | 312 | X   | X   |



## Section 7: Maintenance

### Maintenance and Servicing

The Sacksafoam II unit requires no maintenance other than cleaning. Daily, after use, and prior to storage, the unit should be flushed out with clean water.

#### Important Note

Proper cleaning of the equipment prior to storage will increase the life span of the unit.

#### *Flushing Procedure*

1. Insert one dip tube into a container of clean water.
2. Place the breakaway hose into a bucket and operate the Sacksafoam controller until the water runs clean.
3. Drain any remaining water from the piping and pump by alternately holding the dip tubes upside-down and operating the Sacksafoam controller.
4. Foam or water in the Sacksafoam case can be drained by removing the drain cap and tipping the unit. Wipe out the case with a damp cloth.
5. Remove the drip tube to drain any residual foam.

#### Caution

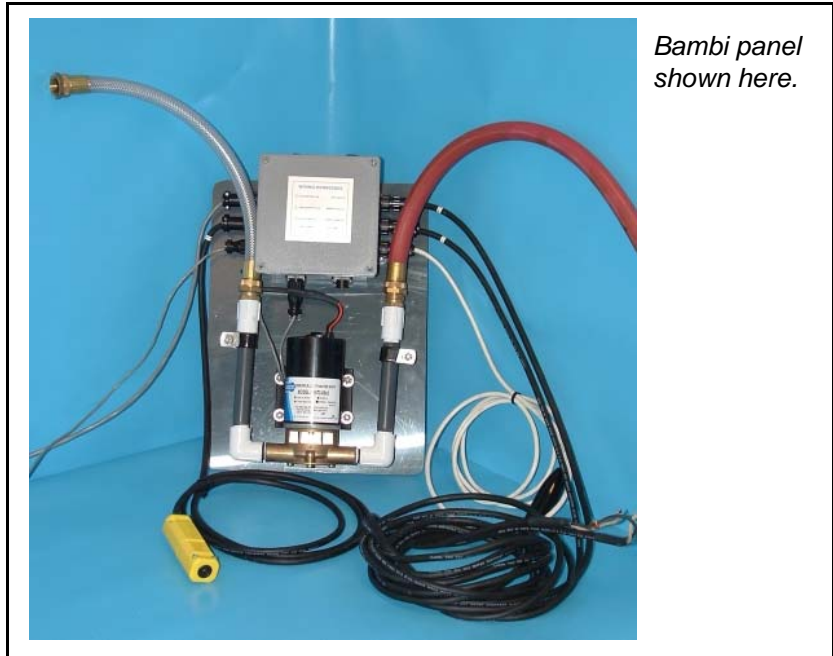
Residual foam will form a waxy substance that can prevent proper operation of the Sacksafoam.

### Servicing

The gray plastic mounting panel carrying the pump, valves and electrical control box can be removed for servicing.

To remove the mounting panel:

1. Disconnect the hoses.
2. Remove the two bolts holding the mounting panel.
3. Lift the assembly straight up with the wires attached. Lay the panel on top of the container.



The pump impeller can be serviced without removing the pump from the mounting panel. Remove the four brass screws on the bottom of the pump to access the impeller. A spare impeller and seal are supplied with each Sacksafoam II unit.

If a solenoid valve does not operate properly, remove the blue coil by pulling off the securing clips (do not lose the wave washer installed under the coil).

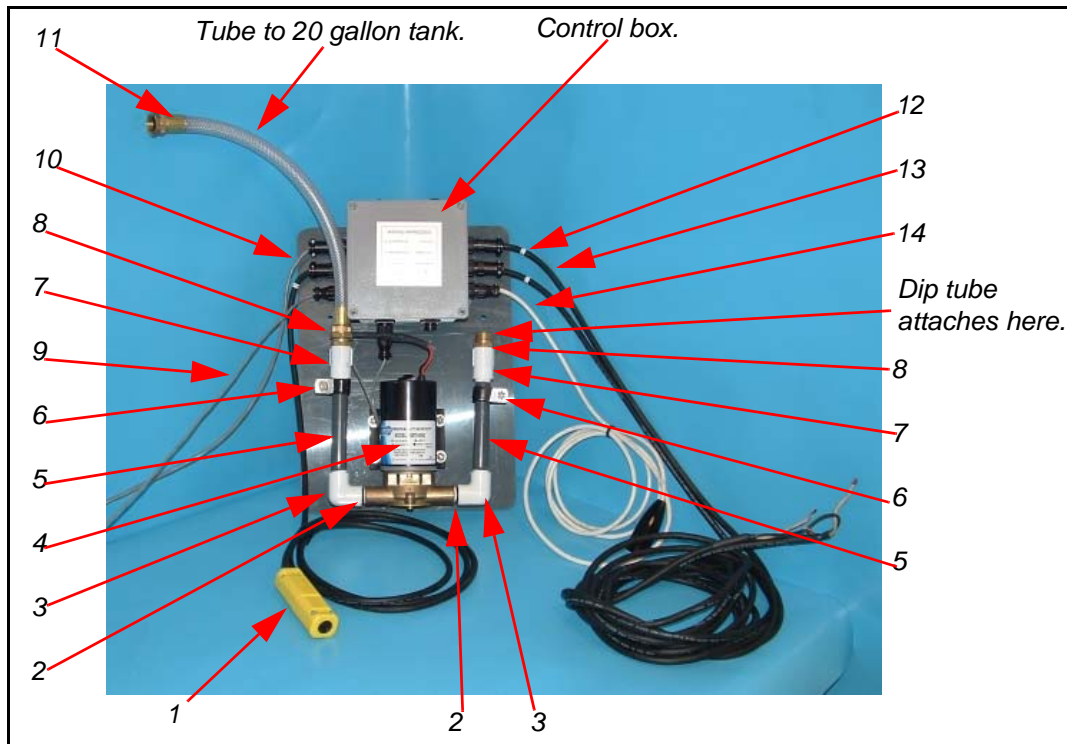
Undo the four bolts and gently remove the top of the valve from the diaphragm. Clean the inside of the valve and the diaphragm using mild soap and water (do not lose the small spring that fits inside the metal stem attached to the diaphragm).

Test the unit after any servicing.

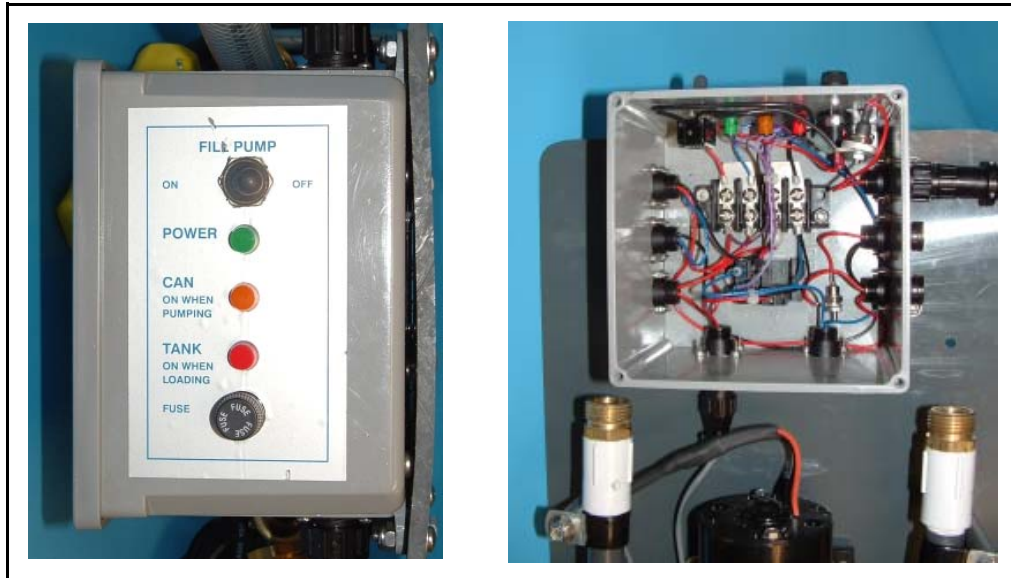
## Section 8: Sacksafoam II Parts

### Parts and Diagrams

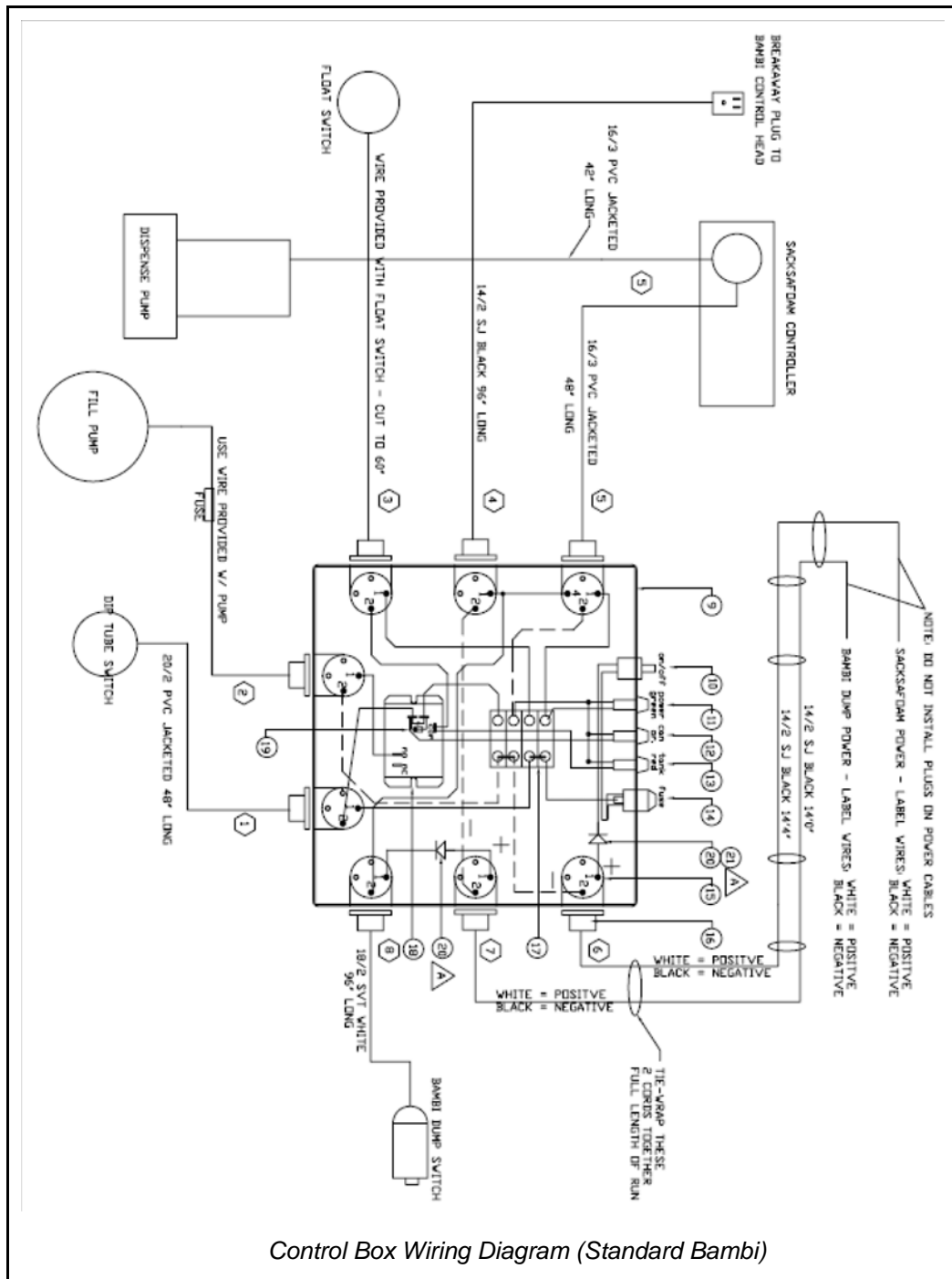
#### Control Panel (Bambi)



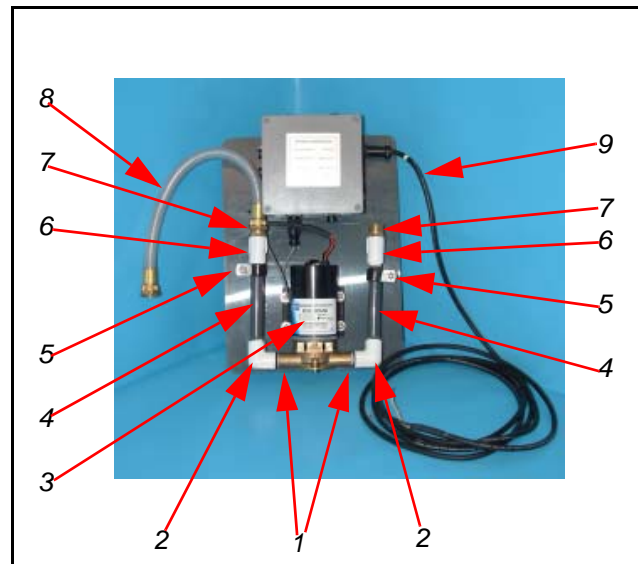
| ITEM # | PART #      | DESCRIPTION                                   | QTY. |
|--------|-------------|---|------|
| 1      | SF073       | Harness wire #4 Bambi breakaway               | 1    |
| 2      | PLP005C     | Nipple PVC sch.80 1/2" MNPT close             | 2    |
| 3      | PLP030      | Elbow 90 deg. PVC 1/2" FNPT                   | 2    |
| 4      | SF3FILLPUMP | Pump fill                                     | 1    |
| 5      | PLP0056     | Nipple PVC sch.80 1/2" MNPT 6" long           | 2    |
| 6      | PP027       | Clamp cable rubber lined 3/4"                 | 6    |
| 7      | PLP080      | Coupling PVC sch.40 1/2" FNPT                 | 2    |
| 8      | PLB002      | Adapter brass MGHT X 1/2" MNPT                | 2    |
| 9      | SFA006      | Dip tube assembly SF 2 & 3                    | 1    |
| 10     | SF074       | Harness #5 SF controller                      | 1    |
| 11     | SF026       | Hose assembly 5/8" x 18" 2 X FGHT c/w swivels | 1    |
| 12     | SF075       | Harness wire sacksafoam power                 | 1    |
| 13     | SF075B      | Harness wire Bambi power                      | 1    |
| 14     | SF099       | Harness wire Bambi dump switch                | 1    |

**Wiring Harness (Bambi)**

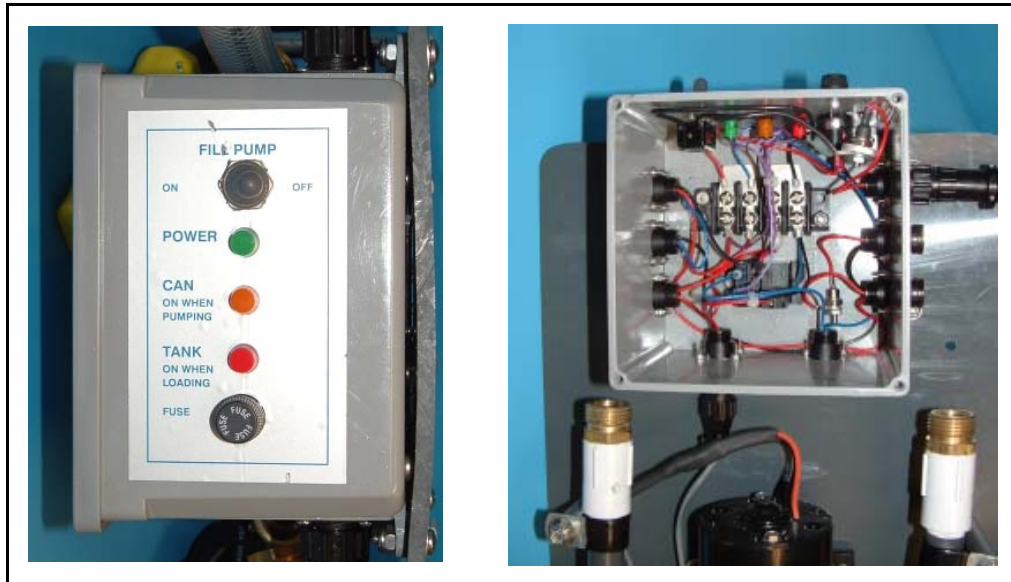
| ITEM # | PART #   | DESCRIPTION                                 | QTY. |
|--------|----------|---|------|
| 1      | SF070    | Harness wire #1 (dip tube)                  | 1    |
| 2      | SF071    | Harness wire #2 (fill pump)                 | 1    |
| 3      | SF072    | Harness wire #3 (float switch)              | 1    |
| 4      | SF073    | Harness wire #4 (breakaway plug Bambi head) | 1    |
| 5      | SF074    | Harness wire #5 (bilge pump)                | 1    |
| 6      | SF075    | Harness wire #6 (SF power)                  | 1    |
| 7      | SF075B   | Harness wire #7 (bambi power)               | 1    |
| 8      | SF099    | Harness wire #8 (dump switch)               | 1    |
| 9      | SF013    | Electrical box                              | 1    |
| 10     | ESTC010  | Toggle switch on/off                        | 1    |
| 11     | ELAMP2   | Pilot lamp (power on)                       | 1    |
| 12     | ELAMP3   | Pilot lamp (can)                            | 1    |
| 13     | ELAMP1   | Pilot lamp (tank)                           | 1    |
| 14     | EFUS100  | Fuse holder                                 | 1    |
| 14A    | EFUS003  | Fuse 10 Amp                                 | 1    |
| 15     | ECON032  | Receptacle 4 pin                            | 8    |
| 16     | ECON023  | Seal d-ring receptacle                      | 8    |
| 17     | ETERM002 | Terminal strip 4 place                      | 1    |
| 17A    | ETERM010 | Jumper terminal strip 2 post                | 1    |
| 18     | EREL005  | Relay float switches                        | 1    |
| 19     | EDIO003  | Diode on relay coil                         | 1    |
| 20     | EDIO100  | Rectifier                                   | 2    |
| 21     | SF091    | Rectifier heat sink                         | 1    |



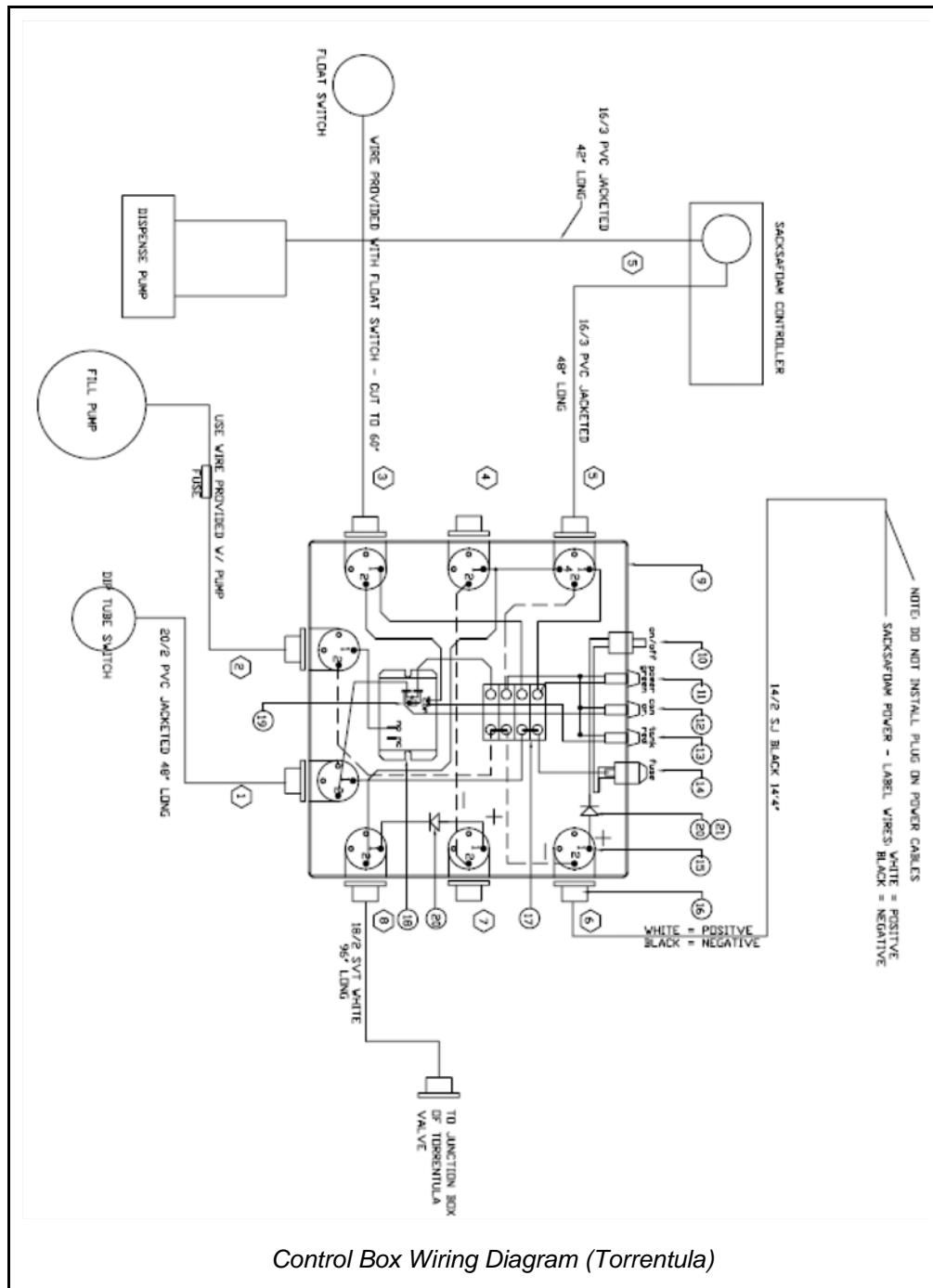
Control Box Wiring Diagram (Standard Bambi)

**Control Panel (Torrentula)**

| ITEM # | PART #      | DESCRIPTION                                   | QTY. |
|--------|-------------|---|------|
| 1      | PLP005C     | Nipple PVC sch.80 ½" MNPT close               | 2    |
| 2      | PLP030      | Elbow 90 deg. PVC ½" FNPT                     | 2    |
| 3      | SF3FILLPUMP | Pump fill                                     | 1    |
| 4      | PLP0056     | Nipple PVC sch.80 ½" MNPT 6" long             | 2    |
| 5      | PP027       | Clamp cable rubber lined ¾"                   | 6    |
| 6      | PLP080      | Coupling PVC sch.40 ½" FNPT                   | 2    |
| 7      | PLB002      | Adapter brass MGHT X ½" MNPT                  | 2    |
| 8      | SF026       | Hose assembly 5/8" x 18" 2 X FGHT c/w swivels | 1    |
| 9      | SF075       | Harness wire sacksafoam power                 | 1    |

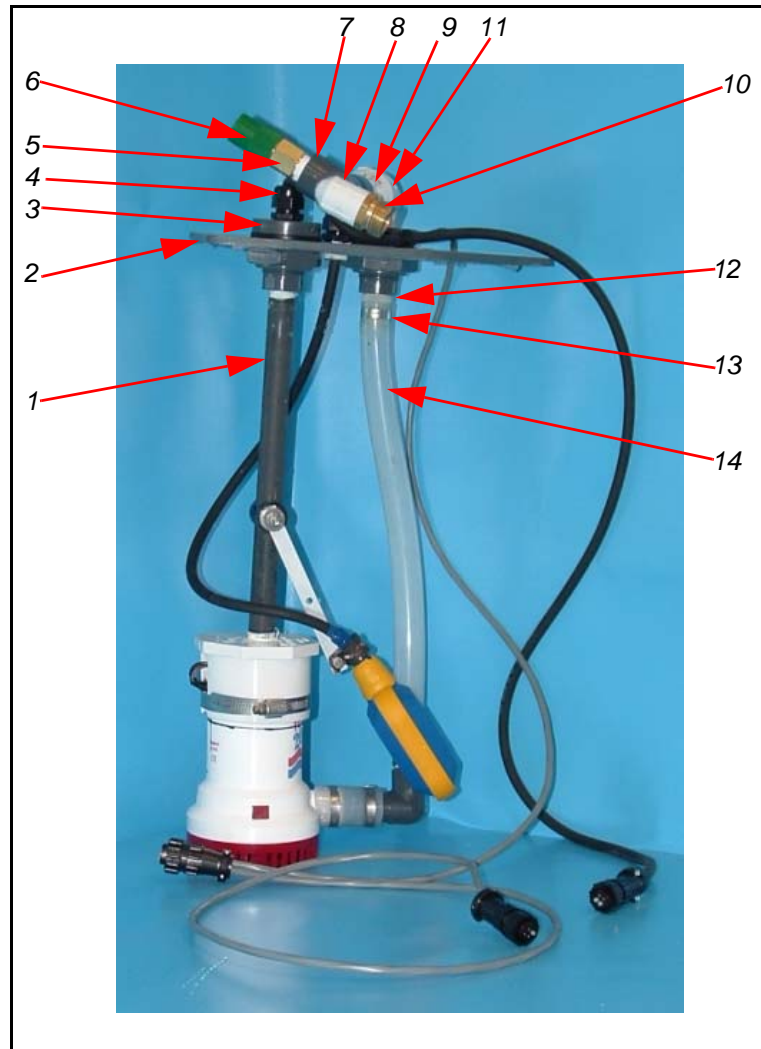
**Wiring Harness (Torrentula)**

| ITEM # | PART #   | DESCRIPTION                                    | QTY. |
|--------|----------|--|------|
| 1      | SF070    | Harness wire #1 (dip tube)                     | 1    |
| 2      | SF071    | Harness wire #2 (fill pump)                    | 1    |
| 3      | SF072    | Harness wire #3 (float switch)                 | 1    |
| 4      | SF073    | Harness wire #4 ( <b>not used this model</b> ) | 1    |
| 5      | SF074    | Harness wire #5 (bilge pump)                   | 1    |
| 6      | SF075    | Harness wire #6 (SF power)                     | 1    |
| 7      | SF075B   | Harness wire #7 ( <b>not used this model</b> ) | 1    |
| 8      | SF099    | Harness wire #8 (junction box)                 | 1    |
| 9      | SF013    | Electrical box                                 | 1    |
| 10     | ESTC010  | Toggle switch on/off                           | 1    |
| 11     | ELAMP2   | Pilot lamp (power on)                          | 1    |
| 12     | ELAMP3   | Pilot lamp (can)                               | 1    |
| 13     | ELAMP1   | Pilot lamp (tank)                              | 1    |
| 14     | EFUS100  | Fuse holder                                    | 1    |
| 14A    | EFUS003  | Fuse 10 Amp                                    | 1    |
| 15     | ECON032  | Receptacle 4 pin                               | 8    |
| 16     | ECON023  | Seal d-ring receptacle                         | 8    |
| 17     | ETERM002 | Terminal strip 4 place                         | 1    |
| 17A    | ETERM010 | Jumper terminal strip 2 post                   | 1    |
| 18     | EREL005  | Relay float switches                           | 1    |
| 19     | EDIO003  | Diode on relay coil                            | 1    |
| 20     | EDIO100  | Rectifier                                      | 2    |
| 21     | SF091    | Rectifier heat sink                            | 1    |



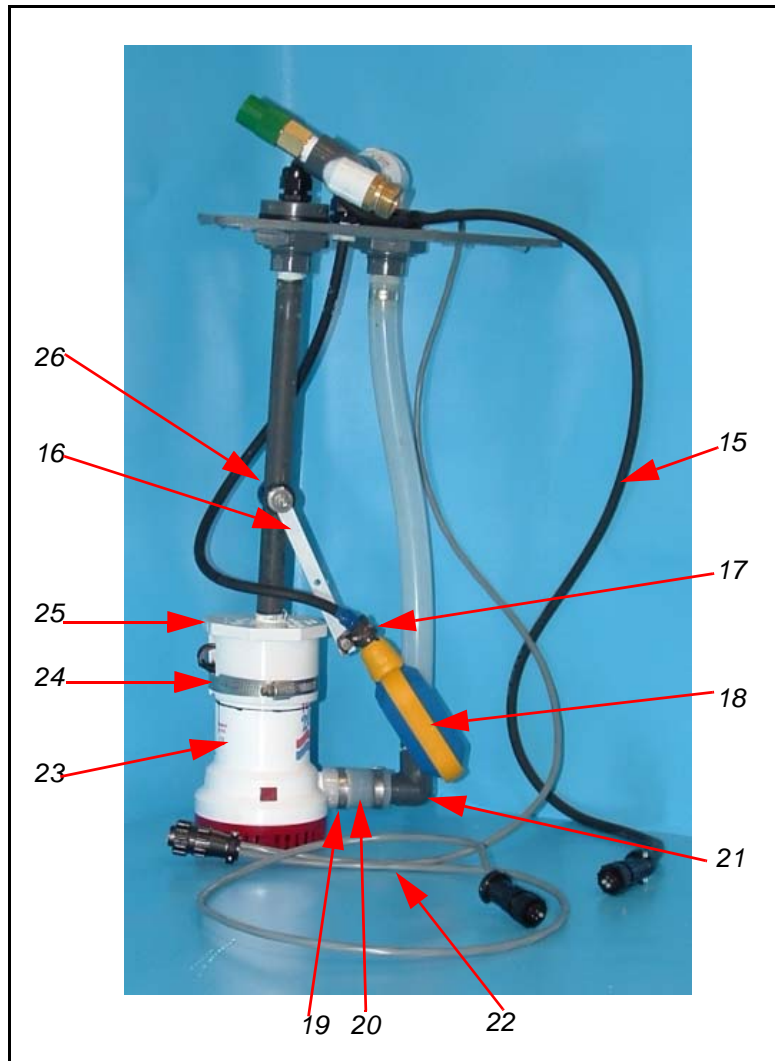


**Bilge Pump Assembly SF077-BP**



| ITEM # | PART #   | DESCRIPTION                                | QTY. |
|--------|----------|--|------|
| 1      | PLP00512 | Nipple PVC sch.80 1/2" MNPT X 12"          | 1    |
| 2      | SF068    | Panel bilge pump SF 2 & 3                  | 1    |
| 3      | PLP060   | Bulkhead fitting PVC 1/2" FNPT             | 2    |
| 4      | PLP103   | Strain relief nylon 1/2" MNPT              | 2    |
| 5      | PLV0012  | Check valve 1/2 FNPT 1/3 PSI               | 1    |
| 6      | PLV001C  | Deflector cap for 1/2" check valve         | 1    |
| 7      | PLP1005  | Tee sch.80 1/2" FNPT                       | 1    |
| 8      | PLP0205  | Elbow street 90 deg. 1/2" NPT              | 2    |
| 9      | PLP005C  | Nipple PVC sch.80 1/2" NPT close           | 2    |
| 10     | PLB002   | Adapter brass MGHT X 1/2" MNPT             | 1    |
| 11     | PLV00305 | Valve spring check 1/2" FNPT x 1/2 PSI     | 1    |
| 12     | PLP131   | Adapter reducing PVC 1/2" MNPT X 3/4" slip | 2    |
| 13     | PP401    | Clamp oeteker S/S 1 1/16"                  | 2    |
| 14     | PLT0050  | Tubing clear PVC 3/4" ID                   | 1.5  |

**Bilge Pump Assembly SF077-BP (continued)**



| ITEM # | PART #         | DESCRIPTION                              | QTY. |
|--------|----------------|--|------|
| 15     | SF072          | Harness wire #3 SF 2 & 3 float switch    | 1    |
| 16     | SAA066         | Lever float switch SF 2 & 3              | 1    |
| 17     | PP015          | Clamp cable 1/2" lined                   | 1    |
| 18     | SF3FLOATSWITCH | Switch float level SF 2 & 3              | 1    |
| 19     | PP404          | Clamp oetiker S/S 1 1/2"                 | 2    |
| 20     | PLT004         | Tubing clear PVC 1" id                   | 3    |
| 21     | PLP055         | Elbow 90 deg. PVC 1" slip 1/2" FNPT      | 1    |
| 22     | SF074          | Harness wire #5 bilge pump to controller | 1    |
| 23     | SF002          | Pump 24 volt Rule                        | 1    |
| 24     | PP403          | Clamp gear S/S 4"                        | 1    |
| 25     | PLP075         | Plug pipe sch. 40 3"                     | 1    |
| 26     | PP017          | Saddle 1" tubing SF 2 & 3                | 2    |

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## Section 9: Warranty

### Warranty

- a) Warranty is limited to repairing or replacing, at the company's sole discretion, any product approved to be defective.
- b) The company's products are not guaranteed for any specific length of time or measure of service, but are warranted only to be free from defects in workmanship and material for a period of one year to the original purchaser.
- c) To the extent allowable under applicable law, the company's liability for consequential, incidental and environmental damages is expressly disclaimed. **The company's liability in all events is limited to and shall not exceed, the purchase price paid.**
- d) This warranty is granted to the original purchaser and does not extend to a subsequent purchaser or assignee.
- e) The company must receive notification in writing of any claims of warranty from the original purchaser which must give details of the claimed defect in the product.
- f) Where the original purchaser is claiming under warranty, the product must be returned to the company for inspection with all transportation and duty charges prepaid.
- g) The warranty does not extend to any product that has been accidentally damaged, abraded, altered, punctured, abused, misused or used for a purpose which has not been approved by the company.
- h) This warranty does not apply to any accessories used with the product such as pumps, filters, hoses, etc., that are not supplied by the company, and any warranty on such accessories must be requested from the manufacturer or dealer of the accessories.
- i) In the event the original purchaser does not give notice of a warranty claim within one year of the original purchase of the product, it is understood that the purchaser has waived the claim for warranty and the purchaser and/or any subsequent purchaser must accept the condition of the product as it may be, without warranty.
- j) Any technical information supplied by the company regarding the product is not a condition of warranty but rather is information provided by the company to the best of its knowledge.
- k) There are no implied warranties nor is there any warranty that can be assumed from any representation of any person, except the company itself.

#### Exclusions

This warranty is void if the product is not assembled, used and/or maintained in accordance with the operator's manual supplied by SEI.