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**Bambi**  
**BUCKET®**  
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# **BAMBI BUCKET**

## OPERATIONS MANUAL

### 2022A

# **BAMBI BUCKET OPERATIONS MANUAL**

**Version: 2022A**  
**Part Number: 000512**

**PLEASE READ BEFORE USING.**

**This manual is applicable to the following models:**

|                    |                     |
|--------------------|---------------------|
| BB6072 (# 007144)  | BB2226 (# 007151)   |
| BB8096 (# 007145)  | BB2732 (# 007153)   |
| BB8096S (# 005702) | BB2732S (# 008741)  |
| BB9011 (# 007146)  | BB2732B3 (# 010805) |
| BB9011S (# 008737) | BB3137 (# 017171)   |
| BB1012 (# 007147)  | BB3542 (# 007155)   |
| BB1012S (# 005705) | BB420B (# 007156)   |
| BB1214 (# 007148)  | BB4453 (# 007157)   |
| BB1214S (# 008738) | BB5566 (# 007159)   |
| BB1518 (# 007149)  | BB680K (#007160)    |
| BB1518S (# 005708) | BB6578 (# 007161)   |
| BB1821 (# 007150)  | BB7590 (# 007162)   |
| BB1821S (# 008739) | BBHL4000 (# 007163) |
| BB1821L (#011067)  | BBHL5000 (# 007164) |
| BB2024 (# 007152)  | BBHL7600 (# 007166) |
| BB2024S (# 005712) | BBHL9800 (# 007168) |
| BB2024L (# 014913) |                     |

Physical copies of this manual (# 000512) are available from SEI.

The manual is available on the SEI website.

Register for manual update notifications at [bambiupdate@sei-ind.com](mailto:bambiupdate@sei-ind.com)

This manual is based on information that was available at the time it was printed and may not be applicable to products received before the issue date and customized items.

## **SEI INDUSTRIES LTD.**

7400 Wilson Avenue  
Delta, B.C. Canada  
V4G 1H3

Phone: (604) 946-3131  
Fax: (604) 940-9566  
E-Mail: [seisales@sei-ind.com](mailto:seisales@sei-ind.com)  
Website: [www.bambibucket.com](http://www.bambibucket.com)

# Revision Summary

| Version | Release Date | Revision Description   | Pages  | App. |
|---------|--------------|--|--------|------|
| 2019A   | 18-Mar-2019  | <ul style="list-style-type: none"><li>• General Revision</li></ul>   | -      | AW   |
| 2020A   | 25-Nov-2020  | <ul style="list-style-type: none"><li>• Weight &amp; Capacity Revisions</li><li>• Overall Length Revisions</li></ul> | -      | AW   |
| 2021A   | 06-Apr-2021  | <ul style="list-style-type: none"><li>• General Revision</li></ul>   | -      | AW   |
| 2022A   | 03-Jan-2022  | <ul style="list-style-type: none"><li>• Added Model BB3137</li><li>• Added solenoid duty cycle in seconds</li></ul>  | -<br>6 | GN   |

# Table of Contents

|  |           |
|--|-----------|
| <b>Section 1: Introduction .....</b>           | <b>1</b>  |
| <b>Section 2: Preflight Safety Check .....</b> | <b>3</b>  |
| Safety Checklist .....                         | 3         |
| <b>Section 3: Deploying the Bucket.....</b>    | <b>5</b>  |
| Attaching to the Cargo Hook .....              | 5         |
| Connecting Power.....                          | 6         |
| Checking Tail Rotor Clearance.....             | 7         |
| Instant Deployment System (IDS) .....          | 8         |
| <b>Section 4: Flight Operations .....</b>      | <b>9</b>  |
| Flying the Bucket.....                         | 9         |
| Filling the Bucket.....                        | 10        |
| Dumping the Bucket .....                       | 12        |
| Landing .....                                  | 13        |
| <b>Section 5: Using Accessories .....</b>      | <b>15</b> |
| Firesock.....                                  | 15        |
| PowerFill Snorkel .....                        | 16        |
| Foam Injection Systems.....                    | 18        |
| Power Pack.....                                | 19        |
| Mobility Sled .....                            | 19        |
| Marine Recovery Device .....                   | 19        |
| <b>Section 6: Packing and Storage.....</b>     | <b>21</b> |
| Packing the Bucket .....                       | 21        |
| Storing the Bucket.....                        | 23        |
| <b>Section 7: Specifications.....</b>          | <b>25</b> |
| Capacity and Weight Specifications .....       | 25        |
| <b>Section 8: Warranty .....</b>               | <b>27</b> |



## Section 1: Introduction

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# Section 1: Introduction

Since its introduction in 1983, the Bambi Bucket has become the preferred means of helicopter fire fighting for more than 600 companies and agencies worldwide. This universal industry acceptance is the result of the Bambi Bucket's effectiveness, reliability, simplicity and ease of use.

The operation of the Bambi Bucket can be quickly mastered with no previous experience and the bucket requires no pre-assembly.

This manual provides helicopter operators with information on the operation of the Bambi Bucket. For service and maintenance information, please refer to the separate service manual for your specific bucket model number.

Please read this manual prior to flying the bucket, particularly the sections on deploying, filling and dumping. For your own protection, and for longer bucket life, always read the cautions and warnings. Ignoring these could result in personal injury, bucket damage or aircraft damage.

SEI Industries Ltd. offers complete parts supply and repair services for the Bambi Bucket. For a repair facility in your area, please contact SEI. For maintenance and repair purposes, parts diagrams and descriptions are provided in a separate service manual which is specific to your model.

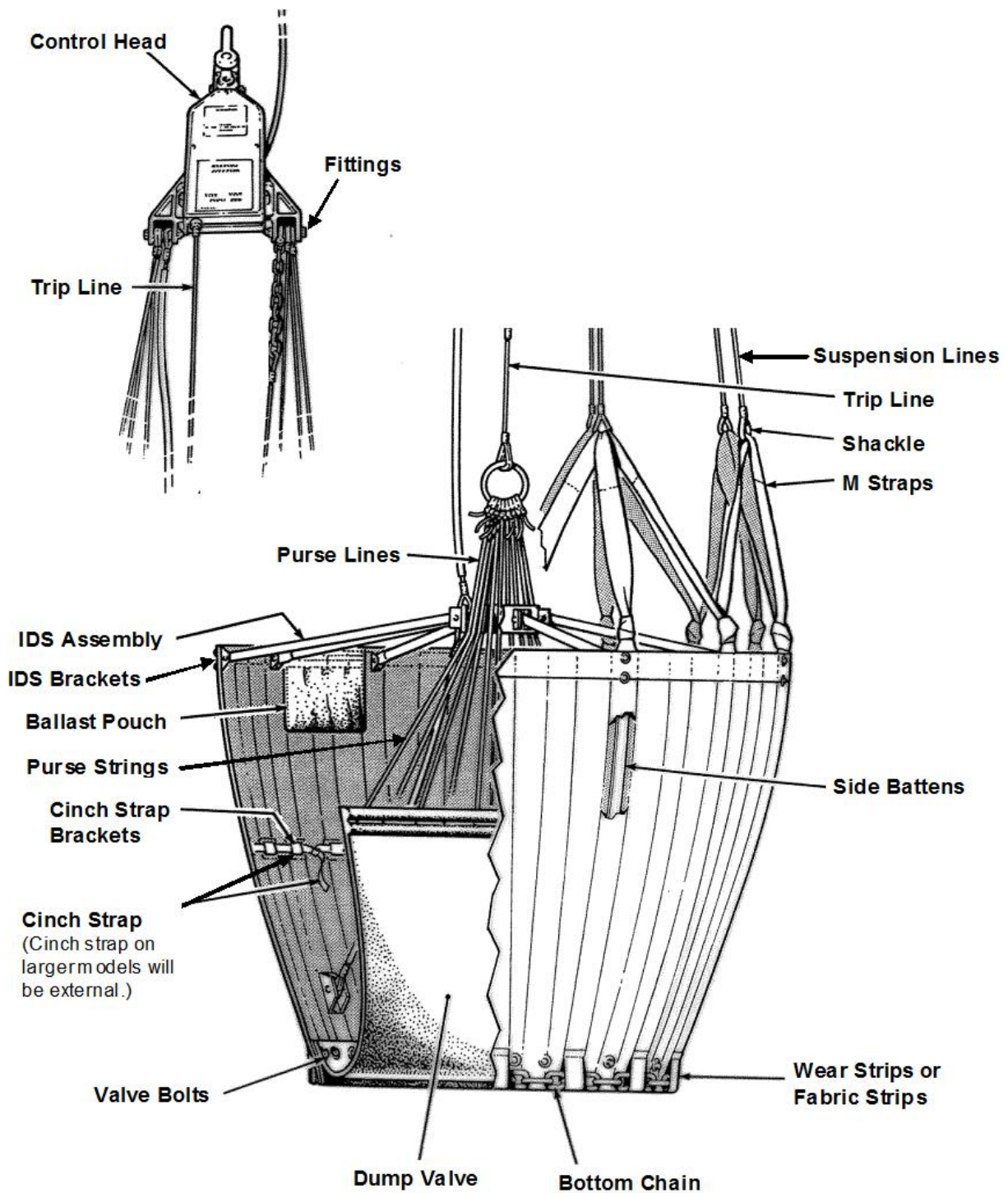
When you are ordering parts, please provide the model and serial number of your Bambi Bucket as shown on the data tags located inside the bucket shell.





## Section 1: Introduction

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# Section 2: Preflight Safety Check

## Safety Checklist

Along with the aircraft, the Bambi Bucket should also receive a preflight inspection each day. Follow the checklist below, beginning at the bottom of the bucket and working upwards.

1. Check the bottom chain looking for any tears in the fabric straps. Also, check the lockwire or tie wraps on the shackles.
2. Check for loose bolts around the bucket shell; IDS brackets at the top, cinch strap brackets at the midpoint and the wear strips at the bottom.
3. Check the diagonal M-straps that connect the suspension cables to the top of the bucket, looking for signs of wear or incorrect suspension line connections.
4. Check the purse lines on the dump valve. Frayed lines should be replaced. Do not wait for a line to break before replacing it.
5. Check the cinch strap, ensuring it is at the correct percentage.
6. Check the suspension cables for frays, kinks or loose swages.
7. Check that the ballast is securely attached. Full ballast is essential for safe operations.
8. Check the control head for secure fittings. Never operate the bucket with the control head cover removed.
9. Check solenoid operation by activating it several times.
10. Activate the head with 24 volts to release the catch, then pull the tripline cable to full extension from the control head, checking for kinks, frays or loose swages.

### NOTICE

When releasing the tripline, the head must be upright at no less than a 60° angle.

11. If a PowerFill Snorkel is installed, inspect the conductor wires for damage, chaffing or wear. Confirm that the conductor cables are firmly secured.
  - The wires should be attached to the nearest suspension line and the Bambi Bucket actuator cable.
  - If a long line is used, the wires should be attached to this line also.

### CAUTION

Do not operate with damaged cables. Damage to an electrical cable, that leaves the conductor exposed, can result in a fire if it comes in contact with another conductor or metal object.

12. Inspect the cable connectors for damage and ensure proper connections.



## Section 2: Preflight Safety Check

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13. With power on, check the function of the pumps by pressing the pump's ON button for four or five seconds.
  - The pump should turn on and run for the period the button is held. The pump will be audible within a few feet of the bucket.
  - Listen for abnormal noises that are not consistent with smooth operation. If you are operating in a noisy environment, you can confirm that the pump is running by holding your hand on the top of the filter screen.
  - You may also see the shell move each time you activate the switch.

### CAUTION

Do not put your fingers or other objects into the pump impeller while the pump is running. Personal injury or damage to the pump can occur.

14. Check the filter screen for debris accumulation and clear as necessary.
15. Check the filter screen for signs of damage that may affect water flow.
16. Repair any damage to the components above before operating.

# Section 3: Deploying the Bucket

## Attaching to the Cargo Hook

The Bambi Bucket is rigged for a lateral cargo hook. Correct attachment is indicated when the name plate on the control head faces forward in flight. This ensures that the ballast on the Bambi will face forward in flight.

### CAUTION

The Bambi Bucket may not be suitable for a direct hook-up to the cargo hook. The actual hook-up will be different for various aircraft and operators must comply with all instructions and bulletins supplied by the aircraft manufacturer. It is the operator's responsibility to ensure that the Bambi Bucket is correctly fitted to the helicopter.

### Control Head Orientation - Models 6072-4453

The control head, used on models 6072-4453, has a moveable yoke which can be rotated by 90°. The yoke is machined to orient in either direction. If your helicopter has a longitudinal hook, rotate the shackle yoke by 90°. This will place the name plate on the control head forward in flight.

For this style of head, if using a swivel hook, always operate in the locked position to assure that the ballast is always facing forward in flight.



In some cases, where the cargo hook is too large for the standard shackle, a second larger shackle can be used. If the shackle is too large, it may cause the power cable to tangle, pulling apart the break away plug.



## Section 3: Deploying the Bucket

### **Control Head Orientation - Models 5566-HL9800**

For these models, it may be necessary to use a second shackle to rotate the bucket 90°.



#### **WARNING**

Ensure that all shackles are rated with a minimum safety factor of five for the gross weight of the bucket as shown on the data plate.

#### **WARNING**

Do not remove the cover on the control head while operating the Bambi Bucket. With the cover removed, the tripline safety keeper is no longer functional. Without the safety keeper, the tripline could separate and cause a tail rotor strike resulting in severe injury or death.

## Connecting Power

The Bambi Bucket's electrical supply is connected through a breakaway plug. The purpose of the plug is to offer a clean "breakaway" if the Bambi Bucket has to be jettisoned from the aircraft in an emergency. It is suggested that the plug be lightly taped together with vinyl tape, while in use, to ensure that wind action does not separate the plug. If the control cable is not secured to the longline, duct tape should be wrapped every 3 ft (1 m) to prevent any damage to the cable.

#### **NOTICE**

To operate the solenoid and release the water, a momentary contact switch is used. The solenoid has a 10% duty cycle, MAX on time of 25 seconds (designed to not be operated more than 10% of the time). Operating the solenoid continuously will result in solenoid failure.

## Section 3: Deploying the Bucket

### Checking Tail Rotor Clearance

#### WARNING

Using a Bambi Bucket with insufficient tail rotor clearance could result in a tail rotor strike which could result in serious injury or death.

#### NOTICE

If using a longline, the minimum recommended length is 50 ft (15 m).

When a Bambi Bucket is attached directly to the helicopter cargo hook or attached using a longline less than 50 ft (15 m) in length, it is important to confirm that there is adequate tail rotor clearance. Before using the Bambi Bucket, check the tail rotor clearance.

1. Determine the tail rotor length by measuring the distance from the cargo hook to the closest point on the helicopter tail rotor.
2. Determine the bucket overall length from the following chart:

| Model   | Overall Length |        |
|---------|----------------|--------|
| BB6072  | 12'- 11"       | 3.94 m |
| BB8096  | 14'- 6"        | 4.42 m |
| BB8096S | 12'- 11"       | 3.94 m |
| BB9011  | 14'- 6"        | 4.42 m |
| BB9011S | 12'- 11"       | 3.94 m |
| BB1012  | 14'- 6"        | 4.42 m |
| BB1012S | 12'- 11"       | 3.94 m |
| BB1214  | 14'- 10"       | 4.52 m |
| BB1214S | 13'- 3"        | 4.04 m |
| BB1518  | 15'- 2"        | 4.62 m |
| BB1518S | 13'- 7"        | 4.04 m |
| BB1821  | 15'- 11"       | 4.85 m |
| BB1821S | 14'- 5"        | 4.39 m |
| BB1821L | 18'- 1"        | 5.51 m |
| BB2024  | 20'- 1"        | 6.13 m |
| BB2024S | 15'- 10"       | 4.82 m |
| BB2024L | 22'- 4"        | 6.81 m |

| Model    | Overall Length |         |
|----------|----------------|---------|
| BB2226   | 15'- 10"       | 4.82 m  |
| BB2732   | 23'- 0"        | 7.00 m  |
| BB2732S  | 15'- 2"        | 4.63 m  |
| BB2732B3 | 16'- 5"        | 5.00 m  |
| BB3137   | 23'-4"         | 7.11 m  |
| BB3542   | 23'- 8"        | 7.22 m  |
| BB420B   | 23'- 8"        | 7.22 m  |
| BB4453   | 23'- 9"        | 7.25 m  |
| BB5566   | 24'- 0"        | 7.32 m  |
| BB680K   | 24'- 0"        | 7.32 m  |
| BB6578   | 24'- 2"        | 7.37 m  |
| BB7590   | 30'- 3"        | 9.21 m  |
| BBHL4000 | 30'- 0"        | 9.14 m  |
| BBHL5000 | 32'- 0"        | 9.75 m  |
| BBHL7600 | 32'- 6"        | 9.91 m  |
| BBHL9800 | 33'- 6"        | 10.21 m |

*Lengths are accurate to within 1%. Specifications subject to change.  
If a firesock is used, add 8" (0.20m) to the above dimensions.*

To confirm the bucket overall length, stretch out the bucket on the ground, pulling the suspension cables taut. Measure the distance from the shackle on the head to the bottom of the extended dump valve. If a firesock is attached, measure to the bottom of the firesock.

### Section 3: Deploying the Bucket

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3. The tail rotor clearance is equal to the tail rotor length minus the bucket overall length.
4. **The tail rotor clearance must be a minimum of 6" (0.15 m).**

If the tail rotor clearance is insufficient, shorter suspension lines, triplines/riser, ring and restrainer, and deployment lines must be used and can be ordered from SEI. Please specify the model and serial number when ordering parts.

### Instant Deployment System (IDS)

The instant deployment system uses a hub and spoke mechanism to automatically expand the mouth of the bucket as soon as the weight of the Bambi Bucket is taken up by the suspension cables.

When the bucket is full, the IDS deployment cable and hub restrainer cables should be slack as they should not bear any load. Their function is to position the hub and spoke mechanism to hold the bucket open.



To deploy the IDS on the ground, reach into the bucket, grasp the hub of the IDS and pull outward fully until the two restraining cables from the hub to the lower bucket shell are tight.

The IDS restraining cables are set at the factory and normally should not require any adjustment.



# Section 4: Flight Operations

## Flying the Bucket

The Bambi Bucket should be flown in accordance with the United States Forest Service recommendations limiting all helicopters, other than tandem rotor, to a maximum 80 KIAS while conducting external cargo hook operations.

The recommended never exceed speed (VNE) for the Bambi Bucket is 80 KIAS, however, this is not a flight manual limitation. Speeds above 80 KIAS should be approached with caution and any decision to exceed this speed should be based on flight characteristics, aircraft flight manual limitations, aircraft/bucket configuration and load stability, etc.

Any change that exceeds this recommendation should be formally authorized in your company's external load specifications. A suggested flight procedure is to build up speed slowly with the Bambi Bucket, under prevailing conditions, to determine a safe maximum flying speed.

In order to reduce drag on the bucket when empty, it can be flown in a valve open position by pressing the release mechanism once while in forward flight.

The dead weight of the load ensures different handling characteristics than when flying empty. As a result, the Bambi Bucket does not 'pulse' or 'throb' under load in flight.

### NOTICE

Bambi Buckets can operate in any atmospheric conditions where icing conditions are not present. If icing conditions are encountered during operations, in flight or on the ground, SEI cannot guarantee the reliable operation of the valve actuating mechanisms nor related components.

Operating the Bambi Bucket at 32 °F (0 °C) or below may have adverse effects on the operation of the bucket and to the fabrics used in its manufacture. Please refer to this manual for information related to proper storage.



## Section 4: Flight Operations

### Filling the Bucket

Once the Bambi Bucket touches the water surface, it immediately tips and sinks. This is a result of the ballast on one side of the bucket which makes it unstable on the water. A Bambi Bucket does not have to be towed to make it sink.

#### WARNING

When filling the Bambi Bucket, do not execute an abrupt pedal turn with the helicopter close to the water while towing the bucket. There is a danger that the Bambi Bucket suspension lines could get caught on a rear skid resulting in a dynamic rollover on lift out. This could cause personal injury and helicopter damage.

Check the load and suspension cables with your mirrors before lift out.

To fill the bucket from an open top tank, you will require a tank with a recommended depth as shown in the chart below:

| Model    | Bambi Height |        | Required Tank Height |        |
|----------|--------------|--------|----------------------|--------|
| BB6072   | 28"          | 0.71 m | 38"                  | 1.00 m |
| BB8096   | 29"          | 0.74 m | 40"                  | 1.00 m |
| BB9011   | 29"          | 0.74 m | 40"                  | 1.00 m |
| BB1012   | 31"          | 0.79 m | 42"                  | 1.01 m |
| BB1214   | 33"          | 0.84 m | 44"                  | 1.12 m |
| BB1518   | 39"          | 1.00 m | 48"                  | 1.22 m |
| BB1821   | 41"          | 1.04 m | 56"                  | 1.45 m |
| BB2024   | 43"          | 1.09 m | 58"                  | 1.52 m |
| BB2226   | 44"          | 1.10 m | 60"                  | 1.52 m |
| BB2732   | 48"          | 1.22 m | 60"                  | 1.52 m |
| BB3542   | 57"          | 1.45 m | 78"                  | 2.04 m |
| BB4453   | 57"          | 1.45 m | 78"                  | 2.04 m |
| BB5566   | 62"          | 1.57 m | 84"                  | 3.05 m |
| BB6578   | 67"          | 1.70 m | 90"                  | 3.05 m |
| BB7590   | 73"          | 1.85 m | 96"                  | 3.05 m |
| BBHL4000 | 75"          | 1.90 m | 96"                  | 3.05 m |
| BBHL5000 | 80"          | 2.03 m | 110"                 | 3.05 m |
| BBHL7600 | 95"          | 2.41 m | 120"                 | 3.05 m |
| BBHL9800 | 106"         | 2.70 m | 120"                 | 3.05 m |

#### CAUTION

Snagging the Bambi Bucket on submerged objects could result in bucket shell damage.

## Section 4: Flight Operations

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### ***Variable Fill Capability***

The pilot can vary the bucket's capacity by the speed at which it is pulled from the water. As the submerged bucket is lifted, water pressure expands the fabric bucket shell and its internal fiberglass battens flex outward, increasing the bucket's volume. The greater the pressure, the more volume the bucket holds. Volume can also be regulated using the cinch strap on various bucket models. Also, PowerFill accessories can be used to regulate loads.

#### **NOTICE**

Varying the speed of the lift is often the best way to adjust volume. This allows the pilot to vary the load at each fill to best suit the fuel load and prevailing lift conditions. Most pilots find it takes a dozen or so fills to get the feel of variable fill action on the Bambi Bucket.

### ***Cinch Strap***

The cinch strap, located inside the bucket on models 6072-4453 and outside on models 5566-HL9800, allows the pilot to reduce the volume of the bucket to a pre-set position. The cinch strap is marked with percentage settings that denote several load levels. The cinch strap allows you to reduce the volume of the bucket to lower levels than by straight lifting speed alone.

Use of the cinch strap at minimal bucket volume may result in some loss of the secondary seal because of the sidewalls of the bucket being more vertical (ideal sealing results from the angle between the sidewall of the bucket and the valve fabric being close to 90°). It is important to note that the top of the bucket is always the spill line. The moment that the bucket breaks the surface of the water, it is ready to fly.

#### **CAUTION**

The lowest fill setting for all models is 70%. Always check the cinch strap to determine the correct setting.

Do not tighten the cinch strap past the smallest load marking. Over tightening can damage the bucket shell or prevent the valve from dumping.

### ***High Elevation Operations***

In some areas, fire conditions require the reduction of bucket loads to accommodate weight restrictions caused by high elevation operations. In these circumstances, a smaller bucket or the use of a Bambi MAX or Bambi Torrentula bucket should be considered.

## Section 4: Flight Operations

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### Dumping the Bucket

To dump water from the bucket, simply push and release the dump switch. The weight of the water inside the bucket will cause the fabric dump valve to turn inside-out through the bottom of the bucket, giving obstruction-free passage to the escaping water and producing the best possible dump pattern.

#### *Dump Pattern*

The dump pattern is affected by height and airspeed. It is most concentrated at lower altitudes and at a hover. The pattern will spread with height and speed. Most operators take advantage of these characteristics to maximize their assault on the fire line.

Make dumps at slower speeds before progressing to faster dumps to get familiar with the flight characteristics, while dumping, from your particular helicopter.

#### **WARNING**

Ensure that ground personnel are clear from the dumping zone. Failure to do so could result in serious personal injury.

#### *Valve Reset*

After all of the water has exited the bucket, the dump valve will automatically retract and reset for the next fill.

#### **NOTICE**

When dumping larger buckets (models 2024 and up), the dump valve may not fully retract and lock immediately after the bucket is emptied. The valve will retract and lock as soon as the bucket is immersed again in water during the next dip cycle.

If the valve fails to reset when filling, hit the dump switch again when the suspension lines are slack before lifting out.

## Section 4: Flight Operations

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### Landing

The recommended landing procedure allows the bucket to touch down ahead of the helicopter and then maintain tension on the suspension lines by backing up slightly, thereby keeping the control head at an angle while landing.

#### CAUTION

To avoid damage to helicopters with low skids, never land on a vertical control head. This could damage the helicopter and/or the control head. The head is approximately 24" (0.61 m) in length.

Do not release the control head from the cargo hook while hovering. At height, this could damage the control head. Land as normal and then detach the control head or hover at approximately two feet and then release the head.

#### CAUTION

If the control head has experienced a severe impact, it is necessary to visually examine the top square lug of the control head base casting to determine if it has been bent or otherwise damaged. If any control head damage has occurred, the Bambi Bucket should not be flown.

This examination requires the unbolting and removal of the cast yoke surrounding the lug. If the stub is damaged, the control head base casting requires replacement. The bottom suspension lugs should be examined for damage as well.

#### NOTICE

After using the bucket in salt water, wash the bucket with fresh water. Make sure to pay special attention to the purse strings. The salt can deteriorate the bucket materials if not removed.

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# Section 5: Using Accessories

*Accessories are optional. Not supplied with bucket.*

## Firesock

When using water, the Firesock breaks down water droplets, thereby increasing the exposed surface area. This allows for improved coverage and increased drop accuracy as well as wider and longer drop patterns

When using foam, the Firesock increases the aeration of the foam.



To install the Firesock, attach the quick connect links onto the bottom chain.

When finished using it, make sure to:

- Inspect the Firesock for damage and make repairs.
- Clean the Firesock using fresh water.
- Store the Firesock, attached to the Bambi Bucket, ensuring both are dry.





## Section 5: Using Accessories

### PowerFill Snorkel

PowerFill Snorkel is a system which allows partial or complete bucket fills from a range of previously inaccessible water sources as shallow as 18" (0.46 m) including streams, ponds and low profile dip tanks. It is available for bucket models 1821 – 4453.

The PowerFill Snorkel is an externally mounted pump consisting of a flange assembly and a pump assembly. The flange assembly is permanently installed into the bucket and includes a flapper check valve to prevent water from flowing back through the pump when the pump is not running. Multiple flanges can be installed on a number of buckets to accept the same pump unit.

The pump assembly is connected to the flange assembly with a camlock fitting which allows the pump to be quickly removed for ease of transport.

The pump is driven by a 28 VDC electric motor. The motor, impeller and housings are contained within a circular steel filter basket which serves to protect the components from impact damage while also acting as a debris screen.



#### ***Filling with the PowerFill Snorkel System***

To initiate a fill with PowerFill, the pump impeller must be immersed. It may not be possible to fill from water sources less than 18" (0.46 m) deep.

The further the bottom of the bucket can be lowered into the water source, the faster the bucket will fill. Where possible, employ a partial dip fill, augmented by the pump, to reduce the total fill time.

Operation is accomplished by pressing the fill button for as long as it takes to fill the bucket. Frothing of the water or slow fill rate indicates the pump is not submerged far enough to maintain prime.



### **CAUTION**

Do not submerge the bucket to a depth of more than 20 ft (6 m) when performing conventional dip fills with PowerFill systems installed.

Do not operate PowerFill if the bucket is submerged to a depth of 10 ft (3 m) or more.

## Section 5: Using Accessories

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Once a fill has been started, the bucket will need to be supported by maintaining some tension on the suspension lines, particularly when the bucket is nearly full. If the bucket is not supported, the flexible nature of the bucket shell may allow it to collapse to one side as the water load increases.

| <b>Bambi Model</b> | <b>Optimal Fill Time</b> |
|--------------------|--------------------------|
| BB1821             | 30s                      |
| BB2024             | 34s                      |
| BB2226             | 37s                      |
| BB2732             | 45s                      |
| BB3542             | 59s                      |
| BB420B             | 59s                      |
| BB4453             | 75s                      |

If operating PowerFill in extremely dirty or swampy water sources, more frequent inspections of the pump impeller and screen may be required to maintain optimal function. The pump can be run dry without damage.

## Section 5: Using Accessories

### Foam Injection Systems

Sacksafoam is a foam injection system that uses a pump to dispense a controlled amount of foam concentrate from a reservoir into the water in the bucket. The operation of the Sacksafoam is controlled by the pilot through a control unit, which is mounted in the cockpit. There are two models of Sacksafoam available depending on the location of the foam concentrate reservoir.

#### ***Sacksafoam Bladder***

The Sacksafoam Bladder uses a collapsible reservoir located in the bucket. An internal check valve stops water from flowing into the bladder and insures that foam is dispensed only while the injection pump is operating. Because the foam in the bladder displaces the water in the bucket, the total gross weight is always constant.

The Sacksafoam bladder interfaces with the Sacksafoam controller. Dispensing can be controlled directly from the controller screen or a remote switch.



#### ***Sacksafoam Heli-Case***

The Sacksafoam Heli-Case is a self-contained unit that can be stowed onboard the helicopter. The foam concentrate is stored in a 20 USG tank inside a large plastic case with provision for an extra 5 USG container. The case is designed to prevent foam from contacting the helicopter.

The Sacksafoam Heli-Case interfaces with the Sacksafoam controller which can be mounted directly in control panel or externally by using the supplied blanking plate and harnesses. Dispensing can be controlled directly from the Sacksafoam controller screen or using the remote control grip.



The Sacksafoam Heli-Case can also interface with the Bambi Bucket, allowing the bucket to be actuated using the trigger on the remote control grip.

#### ***Foam Compatibility***

The Bambi Bucket is designed to be effective with foam. All materials used in the manufacture of the Bambi Bucket are resistant to the chemical action of foam.

### NOTICE

After using foam or retardants, cycle through several dumps with water only or hose down with fresh water to prolong the bucket life.

## Section 5: Using Accessories

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### Power Pack

The Bambi Power Pack is a 28.8 VDC NiMH, compact, portable, and rechargeable power supply used in the operation of the Bambi Bucket.

It consists of a battery pack, battery charger, bucket wiring harness and remote dump switch harness. This remote power supply allows the bucket to be operated independently of the helicopter wiring.



### Mobility Sled

The Bambi Mobility Sled is a cart with wheels that moves larger buckets in hangars, on runways or around remote sites. The rugged, lightweight two-piece Bambi Mobility Sled allows one person to move a bucket from one location to another. Easy to steer and brake, the three-wheeled cart comes equipped with tow-bar and foam-filled all-terrain 16" tires.



### Marine Recovery Device

The Marine Recovery Device (MRD) is a designed to aid in the recovery of a Bambi Bucket lost in a deep water source. When the bucket is released from the cargo hook, the MRD will automatically deploy a float to guide the crew to the exact location of the submerged bucket.

Once the Bambi Bucket has been retrieved, the MRD can be repacked, ready for the next mission.



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## Section 6: Packing and Storage

### Packing the Bucket

1. Collapse the IDS by pushing the hub into the bucket.
2. Grab the control head and pull the suspension lines taut. Tape the lines together in two bunches.
3. Insert the operations manual into the storage bag.
4. Insert the control head into the storage bag.





## Section 6: Packing and Storage

5. Gather the suspension lines into a coil and stow inside the bucket. Place the control head outside of the bucket to prevent the possibility of the lines tangling.



6. Avoid any sharp folds along the base of the shell as this protects the shell from delamination which can occur if the Bambi Bucket is stored for a long period of time.



7. Place the control head bag on top of the collapsed bucket.



8. Roll the bucket into a bundle and wrap with straps supplied.



## Section 6: Packing and Storage

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9. Take the carrying bag and drape it over the bucket.



10. Roll the bucket over and insert the bucket into the bag.



### Storing the Bucket

Prior to storage, wash the bucket with fresh water and dry completely to prevent the growth of mildew and the corrosion of aluminium and steel parts. If the bucket is used in salt water, or with firefighting foam or retardant, take extra care when cleaning to remove all contaminants. Salt, foam and retardant can accelerate corrosion and degradation of materials if not removed. If necessary, a mild detergent can be applied to remove stubborn build-up. Store the bucket indoors and out of direct sunlight.

The Bambi Bucket carrying bag makes a suitable shipping container when shipping via airfreight. Because of the compactness of the Bambi Bucket, many operators carry it aboard the helicopter at all times during the fire season. This allows for rapid deployment when required.

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# Section 7: Specifications

## Capacity and Weight Specifications

Capacities and weights are accurate to within 5%. Specifications are subject to change.

### CAUTION

The selection of a Bambi Bucket model for a specific aircraft is dependent on many factors including aircraft weight, fuel weight, operation elevation and atmospheric conditions.

The helicopter operator must select a bucket model which is appropriate for their specific situation.

The operator must also ensure that the bucket selected does not pose a tail rotor strike hazard.

### Bambi Bucket

| Model    | Capacity |        |        | Empty Weight |    | Gross Weight |      |
|----------|----------|--------|--------|--------------|----|--------------|------|
|          | IMP Gal  | US Gal | Liters | lb           | kg | lb           | kg   |
| BB6072   | 60       | 72     | 270    | 70           | 32 | 670          | 300  |
| BB8096   | 80       | 96     | 360    | 73           | 33 | 870          | 400  |
| BB8096S  | 80       | 96     | 360    | 73           | 33 | 870          | 400  |
| BB9011   | 90       | 108    | 410    | 74           | 34 | 970          | 440  |
| BB9011S  | 90       | 108    | 410    | 74           | 33 | 970          | 440  |
| BB1012   | 100      | 120    | 450    | 74           | 33 | 1070         | 490  |
| BB1012S  | 100      | 120    | 450    | 73           | 33 | 1070         | 490  |
| BB1214   | 120      | 144    | 550    | 75           | 34 | 1280         | 580  |
| BB1214S  | 120      | 144    | 550    | 75           | 34 | 1280         | 580  |
| BB1518   | 150      | 180    | 680    | 79           | 36 | 1580         | 720  |
| BB1518S  | 150      | 180    | 680    | 78           | 36 | 1580         | 720  |
| BB1821   | 180      | 216    | 820    | 88           | 40 | 1890         | 860  |
| BB1821S  | 180      | 216    | 820    | 88           | 40 | 1890         | 860  |
| BB1821L  | 180      | 210    | 820    | 89           | 40 | 1890         | 860  |
| BB2024   | 200      | 240    | 910    | 130          | 59 | 2130         | 970  |
| BB2024S  | 200      | 240    | 910    | 127          | 58 | 2130         | 960  |
| BB2024L  | 200      | 240    | 910    | 132          | 60 | 2130         | 970  |
| BB2226   | 220      | 260    | 1000   | 128          | 58 | 2330         | 1060 |
| BB2732   | 270      | 320    | 1230   | 137          | 62 | 2840         | 1290 |
| BB2732S  | 270      | 320    | 1230   | 133          | 60 | 2830         | 1280 |
| BB2732B3 | 270      | 320    | 1230   | 134          | 61 | 2830         | 1290 |
| BB3137   | 310      | 370    | 1410   | 141          | 64 | 3240         | 1470 |
| BB3542   | 350      | 420    | 1590   | 145          | 66 | 3650         | 1650 |
| BB420B   | 350      | 420    | 1590   | 143          | 65 | 3640         | 1650 |

## Section 7: Specifications

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### *Bambi Bucket (continued)*

|          |      |      |      |     |     |       |       |
|----------|------|------|------|-----|-----|-------|-------|
| BB4453   | 440  | 530  | 2000 | 180 | 80  | 4580  | 2080  |
| BB5566   | 550  | 660  | 2500 | 260 | 120 | 5760  | 2610  |
| BB680K   | 570  | 680  | 2570 | 270 | 120 | 5930  | 2690  |
| BB6578   | 650  | 780  | 2950 | 310 | 140 | 6810  | 3090  |
| BB7590   | 750  | 900  | 3410 | 340 | 150 | 7840  | 3550  |
| BBHL4000 | 880  | 1060 | 4000 | 360 | 160 | 9160  | 4150  |
| BBHL5000 | 1100 | 1320 | 5000 | 390 | 180 | 11390 | 5170  |
| BBHL7600 | 1670 | 2010 | 7600 | 470 | 210 | 17190 | 7800  |
| BBHL9800 | 2160 | 2590 | 9800 | 530 | 240 | 22090 | 10020 |

### *Bambi Bucket with PowerFill Snorkel*

| Model    | Capacity |        |        | Empty Weight |     | Gross Weight |      |
|----------|----------|--------|--------|--------------|-----|--------------|------|
|          | IMP Gal  | US Gal | Liters | lb           | kg  | lb           | kg   |
| BB1821   | 180      | 216    | 820    | 138          | 63  | 1940         | 880  |
| BB1821S  | 180      | 216    | 820    | 138          | 63  | 1940         | 880  |
| BB2024   | 200      | 240    | 910    | 176          | 80  | 2180         | 990  |
| BB2024S  | 200      | 240    | 910    | 174          | 79  | 2180         | 990  |
| BB2024L  | 200      | 240    | 910    | 177          | 80  | 2180         | 990  |
| BB2226   | 220      | 260    | 1000   | 174          | 79  | 2380         | 1080 |
| BB2732   | 270      | 320    | 1230   | 184          | 84  | 2890         | 1310 |
| BB2732S  | 270      | 320    | 1230   | 179          | 81  | 2880         | 1310 |
| BB2732B3 | 270      | 320    | 1230   | 179          | 81  | 2880         | 1310 |
| BB3137   | 310      | 370    | 1410   | 191          | 87  | 3290         | 1490 |
| BB3542   | 350      | 420    | 1590   | 191          | 87  | 3690         | 1680 |
| BB420B   | 350      | 420    | 1590   | 191          | 87  | 3690         | 1680 |
| BB4453   | 440      | 530    | 2000   | 222          | 100 | 4630         | 2100 |

### Section 8: Warranty

SEI Industries Ltd. (the company) agrees to grant a warranty for a period of one year from the date of purchase of Bambi Bucket systems on the following conditions:

- a) The company's sole obligation under this warranty is limited to repairing or replacing, at the company's sole discretion, any product shown 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 and incidental 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 of Bambi Bucket systems 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 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, 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**

- l) This warranty is void if the product is not installed, used and/or maintained in accordance with the operations manual supplied by SEI.
- m) All Bambi Buckets are designed and manufactured with substantial safety margins. It is the responsibility of the user to ensure that the bucket is maintained to a safe standard.