



# Rescue Procedures Manual

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Skyline Ziplines Systems

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## Revision History

Revision	Sections Affected	Changes	Date
0	-	Original Publication	16 Mar 2018
1.0	1.5, 1.6, 3.5, 3.6, 4.9	Updated retrieval equipment, setups, and methods to reflect multiple trolley types	19 April 2018
1.1	1.5, 1.6, 3.5, 3.6, 4.8, 4.9	Updated retrieval equipment, removed redundant sections, updated procedures	9 September 2018
1.2	1.4, 3.1, 4,	Updated all sections relating to updated Prone procedure	30 September 2018
1.3	1.4, 1.5, 3.0, 4.0	Updated rescue and retrieval equipment, setup, removed belay rescue, and updated rescue procedures to match new equipment	4 August, 2022



## Table of Contents

### CONTENTS

REVISION HISTORY	2
TABLE OF CONTENTS	3
WARNINGS AND IMPORTANT NOTICES	5
<b>1.0 DESCRIPTION</b>	<b>6</b>
1.1 Applications	6
1.2 Standards	6
1.3 Definitions	6
1.4 Included in the Rescue Bag (Minimum 1 on Launch Platform)	7
1.5 Included in the Retrieval Bag (Minimum 1 on Landing Platform)	7
<b>2.0 LIMITATIONS</b>	<b>8</b>
2.1 Capacity and Working Load Limit	8
2.2 Medical Restrictions	8
2.3 Dress For Safety	8
2.4 Environmental Hazards	8
2.5 Sharp Edges	8
2.6 Training	8
2.7 Rescue Zones	8
<b>3.0 SETUP</b>	<b>9</b>
3.1 Procedure for Rescue Setup	9
3.2 How To Tie a Prusik Knot	10
3.3 How To Control Speed with a Prusik Knot	10
3.4 How To Tie a Girth Hitch	11
3.5 Procedure for Retrieval Setup	11
<b>4.0 STANDARD OPERATING PROCEDURES</b>	<b>12</b>
4.1 Standard Procedure for Top Approach, Load Transfer Rescue, Seated Harness	12
4.2 Standard Procedure for Top Approach, Load Transfer Rescue, Prone Harness	13
4.3 Standard Procedure for Bottom Approach, Load Transfer Rescue, Seated Harness	14
4.4 Standard Procedure for Bottom Approach, Load Transfer Rescue, Prone Harness	15
4.5 Standard Procedure for Fall Arrest Netting Rescue – Conscious Individual, Self-Rescue	16
4.6 Standard Procedure for Fall Arrest Netting Rescue – Conscious Individual, Assisted Rescue	16
4.7 Standard Procedure for Fall Arrest Netting Rescue – Unconscious Individual	16
4.8 Standard Procedure for Guest Retrieval – Within 40 Feet of Landing Platform	17
4.9 Standard Procedure for Guest Retrieval – Beyond 40 Feet of Landing Platform	18
<b>5.0 TRAINING</b>	<b>19</b>
<b>6.0 INSPECTION</b>	<b>20</b>
6.1 Frequency	20
6.2 Inspection Process	20



6.3	<i>Documentation Process</i>	20
6.4	<i>Lock Out, Tag Out</i>	20
<b>7.0</b>	<b>LIFETIME</b>	<b>21</b>
<b>8.0</b>	<b>INCIDENT AND FAILURE REPORTING</b>	<b>21</b>
<b>9.0</b>	<b>WARRANTY</b>	<b>22</b>
9.1	<i>Appendix A – Inspection Forms</i>	23
9.2	<i>Appendix B – Maintenance Log</i>	26
9.3	<i>Appendix C – Documentation Process Flowchart</i>	28

## Warnings and Important Notices

You will find on this page, and throughout this user instructions manual, many warnings and important notices that must be considered seriously when operating this system. It is imperative to understand the meaning of the warnings and potential hazards.



It is the responsibility of the operator to document and maintain a product use, inspection and maintenance logbook. Skyline Ziplines supplies inspection criteria and guidelines, forms and log sheets specific to all manufactured systems and equipment. It is the responsibility of the operator to follow all guidelines, intervals, and criteria set forth by these documents.



**WARNING:** This product is designed for zip line operations only. The operator(s) must read and understand the instructions in this manual before using this product. Manufacturer's instructions must be followed for the proper use and maintenance of the system and provided equipment. Alterations or misuse of this equipment, or failure to follow instructions, may result in serious injury or death.



This document does not replace a complete training necessary for the use of this product. Knowledge by the user of all appropriate techniques and risks is required.



This manual contains information and instructions specific to skyTECH Rescue Procedures and associated equipment manufactured by Skyline Ziplines Ltd. Make sure this Rescue Procedures Manual is the latest version available. Contact Skyline Ziplines to obtain the latest document revisions, important Updates and other notices.



Products and systems manufactured by Skyline Ziplines are intended for use by professionals trained and experienced in the use, inspection, and maintenance of these products, or for use by persons under the direct visual surveillance of competent and responsible persons.



Before using this equipment, record the product identification information from the ID label in the inspection and maintenance log at the end of this document. Make sure this User Instructions Manual is readily available with the product. Contact Skyline Ziplines Ltd to obtain additional copies of this manual.



## 1.0 Description

### 1.1 Applications

The Skyline Ziplines Rescue and Retrieval Methods are only to be used on Skyline Ziplines designed systems by trained personnel in the case of an unscheduled cessation where the guest trolley cannot progress down the zipline any further or other scenario in which the guest is left midspan on the zipline cable.

### 1.2 Standards

Refer to local, provincial/state and federal laws and regulations pertaining to rescue procedures, training, and requirements

### 1.3 Definitions

- 1.3.1 Rescue: Procedure required, in this example, when a guest has come to an unscheduled cessation (stop) and the guest's trolley can no longer proceed down the zipline ride cable.
- 1.3.2 Load Transfer Rescue: Procedure that involves transferring a guest from one trolley to another. Generally, in Skyline rescues involving the skyTECH Rocket Trolley Prone, it is recommended that the guest be transferred to the guide's trolley. See section 3.2 for setup.
- 1.3.3 Belay Rescue: Procedure that involves belaying a guest to the ground from the distressed trolley. This should only occur in zones where the length of the rope exceeds the height of the zipline and where the area is easily accessible by vehicle.
- 1.3.4 Top Approach: Most common approach direction in which the rescue technician approaches from the uphill tower platform. It is highly recommended to approach from this direction for safety, communication, and physical ease of access.
- 1.3.5 Bottom Approach: Approach direction in which the rescue technician approaches from the downhill tower platform. Use caution when approaching from this direction in the case that the guest's trolley becomes dislodged while the rescue guide is on the line.
- 1.3.6 Prusik Knot: A friction hitch or knot used to attach a loop of cord around a rope (cable)
- 1.3.7 Girth Hitch (Cow Hitch): A hitch knot used to attach a loop of cord or rope to an object. It is comprised of a pair of half-hitches tied in opposing directions.
- 1.3.8 Rescue Technician: An individual trained and certified in rescue procedures, protocol, and safety. Training can be provided by several organizations including SPRAT, IRATA, NFPA, and the ride manufacturer.
- 1.3.9 Retrieval: Procedure required, in this example, when a guest has come to an unscheduled cessation (stop) and the guest's trolley is still in good operating condition. Such an event can be caused many variables including but not limited to high winds, low rider weight, and minor equipment malfunction.



#### 1.4 Included in the Rescue Bag (Minimum 1 on Launch Platform)

- 1 – Petzl Avao Bod Harness
- 1 – Petzl Helmet (Guide)
- 1 – Petzl Classique 22L Bag
- 1 – Petzl Jag System Kit
- 1 – Petzl 50m 9.5mm Rope
- 2 – Petzl Spirit Carabiner
- 4 – Petzl William Carabiner Triact
- 1 – skyTECH Rocket Trolley Prone
- 1 – skyTECH Load Rescue Bar
- 1 – skyTECH Backup Tether 60"
- 2 – Sterling Rope RIT 8mm Prusik
- 1 – Sterling Chain Reactor Pro Neon Green
- 1 – Seatbelt Cutter with 36" Paracord Lanyard
- 1 – Pair Heavy Leather Gloves
- **\*\*Below is required for Prone Only\*\***
- 4 – Petzl Sm'D Triact Carabiner
- 2 – Petzl Connexion FIXE
- 1 – 1/4 Ton (500 lbs) Lever Chain Hoist

#### 1.5 Included in the Retrieval Bag (Minimum 1 on Landing Platform)

- 1 – Petzl Avao Bod Harness
- 1 – Petzl Helmet
- 1 – Petzl Spirit Carabiner
- 4 – Petzl William Carabiner Triact
- 1 – Petzl Jane Lanyard (or similar tether)
- 1 – Skyline Ziplines Ltd. Approved Trolley (Rocket Prone, Turbine, or similar)
- 1 – skyTECH 15" Sling
- 1 – skyTECH Backup Lanyard 60"
- 1 – Sterling 5mm Accessory Cord 60"
- 1 – Pair Heavy Leather Gloves



## 2.0 Limitations

Consider the following application limitations before using this equipment:

### 2.1 Capacity and Working Load Limit

Not to be used in operations exceeding 300 lbs. riders.

### 2.2 Medical Restrictions

Pregnant women, persons with heart condition or persons with previous neck or back injuries may not use this equipment. Users should have full use of their arms, legs, and hands.

### 2.3 Dress For Safety

Users of this equipment must be dressed appropriately with close-fitting clothes and must not wear jewelry, scarves or other accessories that could get caught in the zip line equipment. Users must be wearing appropriate closed-toe footwear to mitigate potential hazards and injuries.

### 2.4 Environmental Hazards

Use of this equipment in areas with environmental hazards may require additional precautions to prevent injury to the user or damage to the equipment. Hazards may include, but are not limited to: heat, chemicals, corrosive environments, electrical fields and wires, gases and sharp edges.

### 2.5 Sharp Edges

Avoid using where the zip line equipment or other system components will be in contact with, or abrade against unprotected sharp edges

### 2.6 Training

The Skyline Ziplines Rescue and Retrieval Methods must only be used by persons trained in their correct application and use (See Section 5)

### 2.7 Rescue Zones

Many different methods are outlined below for a guest rescue and it is important that sites determine the best method for their equipment and location. Skyline Ziplines Ltd. recommends that sites create zones that clearly define which rescue method should be used. This will cut down on decision making time when time is crucial. One of the best approaches is to utilize easily identifiable markers to assist rescuers in determining guest position, equipment needs, and positioning of personnel.





## 3.0 Setup

### 3.1 Procedure for Rescue Setup

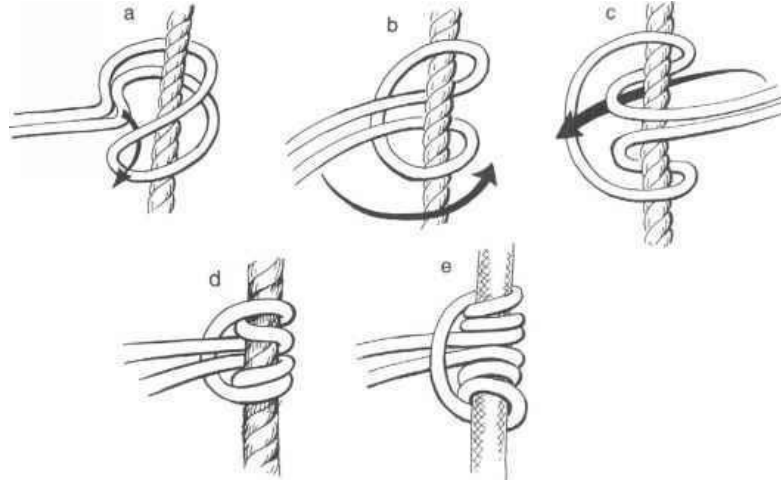
Tools Required: Rescue Bag (See 1.4 For Contents)

- 3.1.1 Put on a harness and adjust appropriately.
- 3.1.2 Put on a helmet and adjust appropriately.
- 3.1.3 Place Rocket Trolley Prone on cable.
- 3.1.4 Attach end with clutch device of Petzl Jag System kit to the trolley attachment point nearest to guest (foremost point for top approach, rearmost point for bottom approach).
- 3.1.5 Set Petzl Jag to approximately 4 feet.
- 3.1.6 Attach the seat belt cutter's lanyard to harness.
- 3.1.7 Attach the rope bag from the Petzl Jag System to harness.
- 3.1.8 Attach the skyTECH Load Bar to the bottom of the Petzl Jag System.
- 3.1.9 Using a Petzl William, attach the Sterling Chain Reactor Pro to the trolley attachment point opposing that with the Petzl Jag System. I.e., Rear attachment point for top approach and front attachment point for bottom approach.
- 3.1.10 Tie a Prusik knot (see 3.3) with a Sterling Rope 8mm Prusik on the main zipline ride cable on the uphill side of the trolley.
- 3.1.11 **For a bottom approach:** Clip the loop end of the Sterling Rope 8mm Prusik through the top carabiner of the Petzl Jag System.  
**For a top approach:** Clip the loop end of the Sterling Rope 8mm Prusik through the top carabiner connecting the Sterling Chain Reactor Pro.
- 3.1.12 Attach Guide Secondary to the middle trolley attachment point
- 3.1.13 Guide will then attach themselves to the Sterling Chain Reactor Pro at an appropriate height so that they have adequate control of the prusik brake as well as easy access to the Petzl Jag System.
- 3.1.14 Guide must make sure that they have easy access to additional Petzl Spirit Carabiners, the seatbelt cutter and their gloves.

### 3.2 How To Tie a Prusik Knot

Tools Required: Cable, Sterling Rope RIT 8mm Prusik

- 3.2.1 Place your loop behind the cable
- 3.2.2 Now feed the side with the connecting knot through the loop on the other side
- 3.2.3 Then wrap it around the rope loosely, and feed it through again. Do this at least three times. Make sure that the knot is slightly to the side, out of the way.
- 3.2.4 Pull the prusik tight, and make sure it grips the rope
- 3.2.5 Dress it by making sure all the loops are parallel and the joining knot is offset so it's not in the bend of the loop



A rescue technician should only perform a top approach with a Prusik Knot brake after they have successfully practiced on an empty cable and are confident in their ability to safely traverse the main zipline ride cable.

### 3.3 How To Control Speed with a Prusik Knot

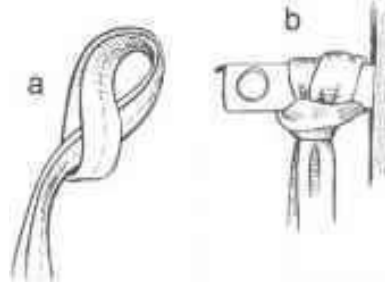
Tools Required: Gloves, Prusik Knot Tied with Sterling Rope RIT 8mm Prusik

- 3.3.1 Tie a Prusik knot around the cable on the high side of the trolley and connect to the trolley.
- 3.3.2 Wrap your gloved hand around the Prusik knot. To alleviate tension and allow movement, pull the Prusik knot along the cable towards the trolley.
- 3.3.3 To stop, let go of the Prusik knot and allow it to grab onto the cable.
- 3.3.4 To start again, wrap your gloved hand around the Prusik knot and pull forwards to relieve tension. If this does not work, use your opposite hand to help pull your body weight up the cable enough to alleviate the tension.

### 3.4 How To Tie a Girth Hitch

Note: A girth hitch is a simplified version of the Prusik Knot but CANNOT be used in the same fashion for brake assist or friction

- 3.4.1 Place sling behind object (cable or carabiner) to which it is to be attached.
- 3.4.2 Wrap right side loop over object and feed left side loop through the right-side loop.  
**Note:** either loop can be fed through the other loop.
- 3.4.3 Pull the remaining loop away from the object to tighten.



### 3.5 Procedure for Retrieval Setup

Tools Required: Retrieval Bag (See 1.5 For Contents)

- 3.5.1 Setup ladder next to main zipline ride cable
- 3.5.2 Put on harness and adjust appropriately
- 3.5.3 Guide will attach both ends of the Petzl Jane Lanyard (or similar) to their harness waist gear loops with Petzl William Carabiners on both ends of the Petzl Jane Lanyard (or similar)
- 3.5.4 Place Rocket Trolley on main zipline rider cable and attach skyTECH 15" Sling to middle attachment point with a Petzl William Carabiner
- 3.5.5 Guide will attach themselves to the skyTECH 15" Sling with a Petzl William Carabiner connected to the waist connection point on the harness
- 3.5.6 Attach guide's secondary to Rocket Trolley front attachment point (downhill)
- 3.5.7 Put on gloves

## 4.0 Standard Operating Procedures



The following operating procedures outline only the necessary steps required to complete each process. The procedures do not consider additional safety requirements and additional safety considerations that should be considered for each site. Please consult a qualified person and/or your site-specific manual to ensure all necessary steps are taken to guarantee safety in your operations.



A rescue technician should only perform a top approach with a Prusik Knot brake after they have successfully practiced on an empty cable and are confident in their ability to safely traverse the main zipline ride cable.

### 4.1 Standard Procedure for Top Approach, Load Transfer Rescue, Seated Harness

- 4.1.1 As soon as it is determined that an evacuation is required, a staff member will stay in contact with the guest from the ground keeping them calm and letting them know what is going to happen
- 4.1.2 Setup rescue trolley as described in 3.1
- 4.1.3 Proceed down the cable using gloves and the Prusik knot to maintain control of your speed as described in 3.3 and come to a stop directly behind the guest
- 4.1.4 Attach the extra sling or prusik to the guest trolley lanyard
- 4.1.5 Transfer the guest backup tether to the rescue trolley midpoint with your own backup tether
- 4.1.6 Attach the skyTECH Load Bar to the guest's Austri-Alpin harness carabiners
- 4.1.7 Load 100% of the guest weight onto the Petzl Jag
- 4.1.8 Double check all attachment points
- 4.1.9 Remove connections to guest trolley, cut the original skyTECH 15" slings if load bar is attached directly to Austri-Alpin Carabiners
- 4.1.10 Remove the guest trolley from the cable and attach to the guide harness or securely in the rescue bag
- 4.1.11 Guide will confirm that the line and landing area are clear to receive the guest and guide
- 4.1.12 Guide will slowly proceed down the line using the gloves and Prusik knot to control their speed as described in 3.3
- 4.1.13 Unload the guest and provide First Aid if necessary
- 4.1.14 Follow the Lock Out, Tag Out procedure in 6.4
- 4.1.15 Proceed to Section 8 and provide Skyline Ziplines Ltd. with the requested information



## 4.2 Standard Procedure for Top Approach, Load Transfer Rescue, Prone Harness

- 4.2.1 As soon as it is determined that an evacuation is required, a staff member will stay in contact with the guest from the ground keeping them calm and letting them know what is going to happen
- 4.2.2 Setup rescue trolley as described in 3.1
- 4.2.3 Proceed down the cable using gloves and the Prusik knot to maintain control of your speed as described in 3.3 and come to a stop directly behind the guest
- 4.2.4 Attach the extra sling or prusik to the guest trolley lanyard
- 4.2.5 Attach the Petzl Connexion FIXE lanyards with Petzl Sm'D carabiners in an "X" across the patrons back, connecting to the front and rear harness D-Rings
- 4.2.6 Attach the Petzl Jag lower carabiner to the middle of "X" formed by the Petzl Connexion FIXE lanyards
- 4.2.7 Attach the ¼-Ton Lever Chain Hoist to the middle trolley attachment point via the Petzl William Carabiner and the other end to the lower carabiner of the Petzl Jag
- 4.2.8 Load 100% of the guest weight onto the ¼-Ton Lever Chain Hoist
- 4.2.9 Pull out all the slack from the Petzl Jag System
- 4.2.10 Double check all attachment points
- 4.2.11 Move guest harness connections from their trolley to the rescue trolley attachment points
- 4.2.12 Transfer all load to the Petzl Jag by lowering the ¼-Ton Lever Chain Hoist
- 4.2.13 Remove the ¼-Ton Lever Chain Hoist and stow in the rescue bag or on harness gear loops
- 4.2.14 Remove the guest trolley from the cable and attach to the guide harness or securely in the rescue bag
- 4.2.15 Guide will confirm that the line and landing area are clear to receive the guest and guide
- 4.2.16 Guide will slowly proceed down the line using the gloves and Prusik knot to control their speed as described in 3.3
- 4.2.17 Unload the guest and provide First Aid
- 4.2.18 Follow the Lock Out, Tag Out procedure in 6.4
- 4.2.19 Proceed to Section 8 and provide Skyline Ziplines Ltd. with the requested information

### 4.3 Standard Procedure for Bottom Approach, Load Transfer Rescue, Seated Harness



Bottom approaches carry a large amount of risk because the guest trolley may become dislodged and send the guest down the zipline towards the rescue guide. It is critical to take this into consideration. Skyline Ziplines recommends only attempting a bottom approach if the guest is on the bottom 1/3 of the zipline.

- 4.3.1 As soon as it is determined that an evacuation is required, a staff member will stay in contact with the guest from the ground keeping them calm and letting them know what is going to happen
- 4.3.2 Setup rescue trolley as described in 3.1
- 4.3.3 Proceed up the cable hand over hand using gloves and pushing the Prusik knot ahead of the trolley, in case of the need to rest, and come to a stop directly in front of the guest
- 4.3.4 Attach the extra sling or prusik to the guest trolley lanyard
- 4.3.5 Transfer the guest backup tether to the rescue trolley midpoint with your own backup tether
- 4.3.6 Attach the skyTECH Load Bar to the guest's harness below Austri-Alpin harness carabiners inside of the closed leg loops, or attach to Austri-Alpin harness carabiners
- 4.3.7 Load 100% of the guest weight onto the Petzl Jag
- 4.3.8 Double check all attachment points
- 4.3.9 Remove connections to guest trolley, cut the original skyTECH 15" slings if load bar is attached directly to Austri-Alpin Carabiners
- 4.3.10 Remove the guest trolley from the cable and attach to the guide harness or securely in the rescue bag
- 4.3.11 Guide will confirm that the line and landing area are clear to receive the guest and guide
- 4.3.12 Guide will slowly proceed down the line using the gloves and Prusik knot to control their speed as described in 3.3
- 4.3.13 Unload the guest and provide First Aid
- 4.3.14 Follow the Lock Out, Tag Out procedure in 6.4
- 4.3.15 Proceed to Section 8 and provide Skyline Ziplines Ltd. with the requested information

#### 4.4 Standard Procedure for Bottom Approach, Load Transfer Rescue, Prone Harness



Bottom approaches carry a large amount of risk because the guest trolley may become dislodged and send the guest down the zipline towards the rescue guide. It is critical to take this into consideration. Skyline Ziplines recommends only attempting a bottom approach if the guest is on the bottom 1/3 of the zipline.

- 4.4.1 As soon as it is determined that an evacuation is required, a staff member will stay in contact with the guest from the ground keeping them calm and letting them know what is going to happen
- 4.4.2 Setup rescue trolley as described in 3.1
- 4.4.3 Proceed up the cable hand over hand using gloves and pushing the Prusik knot ahead of the trolley, in case of the need to rest, and come to a stop directly in front of the guest
- 4.4.4 Attach the extra sling or prusik to the guest trolley lanyard
- 4.4.5 Attach the Petzl Connexion FIXE lanyards with Petzl Sm'D carabiners in an "X" across the patrons back, connecting to the front and rear harness D-Rings
- 4.4.6 Attach the Petzl Jag lower carabiner to the middle of "X" formed by the Petzl Connexion FIXE lanyards
- 4.4.7 Attach the ¼-Ton Lever Chain Hoist to the middle trolley attachment point via the Petzl William Carabiner and the other end to the lower carabiner of the Petzl Jag
- 4.4.8 Load 100% of the guest weight onto the ¼-Ton Lever Chain Hoist
- 4.4.9 Pull out all the slack from the Petzl Jag System
- 4.4.10 Double check all attachment points
- 4.4.11 Move guest harness connections from their trolley to the rescue trolley attachment points
- 4.4.12 Transfer all load to the Petzl Jag by lowering the ¼-Ton Lever Chain Hoist
- 4.4.13 Remove the ¼-Ton Lever Chain Hoist and stow in the rescue bag or on harness gear loops
- 4.4.14 Remove the guest trolley from the cable and attach to the guide harness or securely in the rescue bag
- 4.4.15 Guide will confirm that the line and landing area are clear to receive the rescue
- 4.4.16 Guide will slowly proceed down the line using the gloves and Prusik knot to control their speed as described in 3.3
- 4.4.17 Unload the guest and provide First Aid
- 4.4.18 Follow the Lock Out, Tag Out procedure in 6.4
- 4.4.19 Proceed to Section 8 and provide Skyline Ziplines Ltd. with the requested information



#### 4.5 Standard Procedure for Fall Arrest Netting Rescue – Conscious Individual, Self-Rescue

Based on FASET (Fall Arrest Safety Equipment Training) recommendations

- 4.5.1 As soon as it is determined that a net rescue is required, all operations must cease until the area is cleared. Follow proper radio protocol
- 4.5.2 Guide will instruct the individual to crawl towards the decking edge
- 4.5.3 Two guides will assist the guest over the edge, making sure that they maintain balance and contact with the deck with three points of contact (for example: two knees, one hand)
- 4.5.4 Assess the individual for medical needs
- 4.5.5 Clear the rescue area and resume operations
- 4.5.6 Report the incident to site manager and proceed to Section 8 to provide Skyline Ziplines Ltd. with the requested information

#### 4.6 Standard Procedure for Fall Arrest Netting Rescue – Conscious Individual, Assisted Rescue

Based on FASET (Fall Arrest Safety Equipment Training) recommendations

- 4.6.1 As soon as it is determined that a net rescue is required, all operations must cease until the area is cleared. Follow proper radio protocol
- 4.6.2 Guide will inform the individual of the following rescue procedure
- 4.6.3 Two guides will put on OSHA Full Body Harnesses and attach their fall arrest lanyards to an appropriate anchor point. (If required, guides can each make an anchor point with Prusik knot on the zipline ride cable utilizing the Sterling Rope RIT 8mm Prusik from the Rescue Bag)
- 4.6.4 Two guides crawl into the net by approaching from opposing approach angles. It is not recommended that the guides approach from a direct angle for risk of falling into the individual
- 4.6.5 Guides will assist the individual out of the net
- 4.6.6 Assess the individual for medical needs
- 4.6.7 Clear the rescue area and resume operations
- 4.6.8 Report the incident to site manager and proceed to Section 8 to provide Skyline Ziplines Ltd. with the requested information

#### 4.7 Standard Procedure for Fall Arrest Netting Rescue – Unconscious Individual

Based on FASET (Fall Arrest Safety Equipment Training) recommendations

- 4.7.1 As soon as it is determined that a net rescue is required, all operations must cease until the area is cleared. Follow proper radio protocol
- 4.7.2 Guide engage the medical emergency protocol as defined by the site
- 4.7.3 Two guides will put on OSHA Full Body Harnesses and attach their fall arrest lanyards to an appropriate anchor point. (If required, guides can each make an anchor point with Prusik knot on the zipline ride cable utilizing the Sterling Rope





- RIT 8mm Prusik from the Rescue Bag)
- 4.7.4 Two guides crawl into the net by approaching from opposing approach angles. It is not recommended that the guides approach from a direct angle for risk of falling into the individual
- 4.7.5 Guides will lift the individual out of the net with the assistance of two additional guides located on the deck
- 4.7.6 Assist medical professionals as necessary
- 4.7.7 Clear the rescue area and resume operations
- 4.7.8 Report the incident to site manager and proceed to Section 8 to provide Skyline Ziplines Ltd. with the requested information

#### 4.8 Standard Procedure for Guest Retrieval – Within 40 Feet of Landing Platform

Required when a guest comes a stop due to wind, weight, etc. and all gear is fully functional

- 4.8.1 As soon as it is determined that a retrieval is required, retrieval guide will follow proper radio protocol and maintain contact with guest to inform them of the procedure
- 4.8.2 Setup retrieval trolley as described in 3.5
- 4.8.3 Proceed up the cable hand over hand using gloves. Now, a second guide on the landing platform will store the ladder
- 4.8.4 Retrieval guide will meet the skyTECH Catch Block, proceed forward to the guest. It may be necessary that a second guide on the landing platform assist by pulling the brake rope out making sure to never create too much slack
- 4.8.5 Attach one end of the Petzl Jane Lanyard (or similar) to the guest trolley lanyard or guest harness
- 4.8.6 Opposite end of the Petzl Jane Lanyard (or similar) will stay connected to guide's harness
- 4.8.7 Guide will slowly proceed down the line using the gloves to control their speed and allowing the skyTECH Catch Block to assist
- 4.8.8 A landing platform guide will unload the guest and then assist the retrieval guide
- 4.8.9 Follow proper radio protocol and resume operations



#### 4.9 Standard Procedure for Guest Retrieval – Beyond 40 Feet of Landing Platform

Required when a guest comes a stop due to wind, weight, etc. and all gear is fully functional

- 4.9.1 As soon as it is determined that a retrieval is required, retrieval guide will follow proper radio protocol and maintain contact with guest to inform them of the procedure
- 4.9.2 Setup retrieval trolley as described in 3.5
- 4.9.3 Proceed up the cable hand over hand using gloves.
- 4.9.4 Retrieval guide will proceed out to the skyTECH Catch Block or zipSTOP Brake Trolley, attach the Petzl Jane Lanyard (or similar) to the skyTECH Catch Block on the lower aluminum spacer gooseneck, and proceed back to the ladder. It may be necessary that a second guide on the landing platform assist by pulling the brake rope out making sure to never create too much slack
- 4.9.5 Once at the ladder, the retrieval guide will move the retrieval trolley to the front of the skyTECH Catch Block and proceed out to the guest on the cable, hand over hand using gloves and allowing the Catch Block to assist. Now the landing platform guide will store the ladder
- 4.9.6 Attach one end of the Petzl Jane Lanyard (or similar) to the guest trolley lanyard or guest harness
- 4.9.7 Opposite end of the Petzl Jane Lanyard (or similar) will stay connected to guide's harness
- 4.9.8 Guide will slowly proceed down the line using the gloves to control their speed. It may be necessary that a second guide on the landing platform assist by pulling the brake rope out making sure to never create too much slack
- 4.9.9 A landing platform guide will unload the guest and then assist the retrieval guide
- 4.9.10 Follow proper radio protocol and resume operations



## 5.0 Training

It is the responsibility of the buyer/user of this equipment to make sure that they understand these instructions, and are sufficiently trained in the correct use and care of this equipment. The user must be aware of the operating characteristics, application limits, and the consequences of improper use. Training must be done prior to use and user must be evaluated for his/her competence to use this equipment. Gaining an adequate education in proper techniques and methods of safety is your own responsibility. Training should be done under the supervision of competent persons.

It is recommended that Skyline Ziplines perform a manufacturer's training to cover the material in this document, use with other equipment, and site specific training.

*\*Competent Persons: (OSHA) One who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are hazardous or dangerous to employees, and who has the authorization to take prompt corrective measures to eliminate them.*



## 6.0 Inspection

### 6.1 Frequency

- 6.1.1 The Rescue Bag must be inspected before each day of zipline operation and recorded in the inspection log
- 6.1.2 The Rescue Bag be inspected by the manufacturer or approved competent person(s) at least once a year (or more frequently if deemed necessary by the frequency and/or conditions of use). The results of this formal inspection must be recorded in the inspection and maintenance log at the end of this manual.

### 6.2 Inspection Process

The daily pre-use inspection process is included in Appendix A. The forms available in this manual may be used for operations and as a template for site specific forms. It is critical that every item presented on the provided form is inspected and documented.

### 6.3 Documentation Process

Located in Appendix A is a sample Inspection form that Skyline Ziplines recommends using as a template. Located in Appendix B is a sample Maintenance form that Skyline Ziplines recommends using as a template. Located in Appendix C is a flowchart explaining the appropriate process for inspections, maintenance, and documentation. It is important to reference this flowchart for proper Quality Assurance documentation.

### 6.4 Lock Out, Tag Out

To ensure the highest standard of safety, it is required that all sites produce a Lock Out, Tag Out system. The system/process is designed to identify and prevent the use of all equipment identified through the inspection process as REJECTED (not suitable for use). Below is an example provided by Skyline Ziplines and is also included in the flowchart in Appendix C:

- 6.4.1 Item identified as rejected or failed during inspection by staff member
- 6.4.2 Failure/rejection is noted on inspection log
- 6.4.3 Item is marked with a tag with the following information:
  - Name of staff member
  - Date of inspection/rejection
  - Reason for rejection
- 6.4.4 Item is placed in designated Lock Out, Tag Out area. This area must be separate from the operating equipment area to avoid any chance of use



## 7.0 Lifetime

Each item in the provided Rescue Bag has a different lifetime expectancy and comes with its own manufacturer manual. The only exception to this rule is the skyTECH Load Bar. The maximum lifetime of a skyTECH Load Bar is 5 years after initial date of service or purchase date (when date of service is not available). This lifetime is applicable only to equipment that has undergone regular inspections prior to each use without revealing an anomaly. The actual lifetime of all Rescue Bag products depends on the intensity and the frequency of use as well as the environment. An exceptional circumstance might limit the product lifetime to a single use. A product that was not inspected at least once per year should be removed from service and replaced.

## 8.0 Incident and Failure Reporting

In the unfortunate situation that a Skyline trolley, sling or lanyard is involved in an incident or a failure, please notify Skyline Ziplines immediately so that prompt corrective measures can be taken by Skyline Ziplines. Product Safety Alerts are available at request and are sent out to all previous customers via email.

Complete information concerning the incident (date, location, details as to event and consequence, etc.) must be communicated to [admin@skylineziplines.ca](mailto:admin@skylineziplines.ca) and/or called into the office at 604-905-4149.

Skyline Ziplines will investigate the incident and if a product recall alert is required, shall notify all known customers and distributors who have purchased the product.



## 9.0 Warranty

Subject to the following limitations, terms, and conditions, Skyline Ziplines LTD warrants to the original purchaser of each Product that such Products when purchased new, are free of defects in materials and workmanship. This limited warranty may be exercised for a period of up to one year from the date of receipt. This limited warranty does not apply to normal wear and tear, nor to claimed defects, malfunctions or failures that result from abuse, neglect, improper assembly, improper maintenance, alteration, collision, crash, or misuse.

EXCEPT AS EXPRESSLY SET FORTH ABOVE, SKYLINE ZIPLINES LTD DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PURPOSE. SKYLINE ZIPLINES LTD'S RESPONSIBILITY FOR WARRANTY CLAIMS IS LIMITED TO, AT SKYLINE ZIPLINES LTD'S SOLE DISCRETION, REIMBURSEMENT OF THE ORIGINAL PURCHASE PRICE, REPAIR OF THE PRODUCT, OR REPLACEMENT OF THE PRODUCT WITH THE SAME OR SIMILAR PRODUCT. NOTWITHSTANDING ANYTHING IN THESE TERMS TO THE CONTRARY, SKYLINE ZIPLINES LTD SHALL NOT BE RESPONSIBLE OR HELD LIABLE FOR PUNITIVE, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LIABILITY FOR LOSS OF USE, LOSS OF PROFITS, LOSS OF PRODUCT OR BUSINESS INTERRUPTION HOWEVER THE SAME MAY BE CAUSED, INCLUDING FAULT OR NEGLIGENCE OF SKYLINE ZIPLINES LTD.

To exercise rights under this limited warranty, Customer must return the affected Product to Skyline Ziplines LTD (unless otherwise instructed by Skyline Ziplines LTD) to:

SKYLINE ZIPLINES LTD  
6-1006 LYNHAM ROAD  
WHISTLER, BRITISH COLUMBIA, CANADA V8E 0S3

Skyline Ziplines LTD will use reasonable commercial efforts to return all product in a timely manner to the designated location and will be responsible for all shipping costs. Skyline Ziplines LTD reserves the right to modify this limited warranty at any time, in its sole discretion.



## 9.1 Appendix A – Inspection Forms

\*Sample files available upon request

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# INSPECTION FORM I-16

## Daily Pre-Op Checklist



### Inspection Information

Frequency: Daily Pre-Use

Performed By: Trained Staff Member

Complete the following checklist to ensure that all equipment is in proper operating condition. Record the item's disposition by marking the appropriate box with an **X** or **✓**. All UNFIT items must be addressed before operating. Note all action items at the bottom.

### Rescue Equipment

*FIT UNFIT*

- |                          |                          |   |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Petzl Avao Bod Harness (1)<br>Inspect in accordance with Petzl PPE Inspection                                 |
| <input type="checkbox"/> | <input type="checkbox"/> | Petzl Helmet (1)<br>Inspect in accordance with Form I-09  |
| <input type="checkbox"/> | <input type="checkbox"/> | Petzl JAG System Kit (1)<br>Inspect in accordance with Petzl PPE Inspection                                   |
| <input type="checkbox"/> | <input type="checkbox"/> | Petzl Spirit Carabiner (2)<br>Inspect in accordance with Petzl PPE Inspection                                 |
| <input type="checkbox"/> | <input type="checkbox"/> | Petzl William Carabiners (8)<br>Inspect in accordance with Petzl PPE Inspection                               |
| <input type="checkbox"/> | <input type="checkbox"/> | skyTECH Rocket Trolley Prone (1)<br>Inspect in accordance with Form I-02                                      |
| <input type="checkbox"/> | <input type="checkbox"/> | skyTECH 15" Sling (1)<br>Inspect in accordance with Form I-02   |
| <input type="checkbox"/> | <input type="checkbox"/> | skyTECH Load Bar (1)<br>Inspect for deformations, cracks, metal bend fatigue, and material loss               |
| <input type="checkbox"/> | <input type="checkbox"/> | Sterling Rope RIT 8mm Prusik (2)<br>Inspect in accordance with manufacturer PPE Inspection                    |
| <input type="checkbox"/> | <input type="checkbox"/> | Sterling Rope RIT Thimble (1)<br>Inspect in accordance with manufacturer PPE Inspection                       |
| <input type="checkbox"/> | <input type="checkbox"/> | Seat Belt Cutter with 36" Paracord Lanyard (1)<br>Inspect for cracks, material loss, and proper working order |
| <input type="checkbox"/> | <input type="checkbox"/> | Gloves (1 Pair)<br>Inspect for holes, cuts, and proper working condition                                      |

### Notes/Comments

Inspected By: \_\_\_\_\_

Date: \_\_\_\_\_



# INSPECTION FORM I-18

## Daily Retrieval Kit Checklist



### Inspection Information

Frequency: Daily Pre-Use

Performed By: Trained Staff Member

Complete the following checklist to ensure that all equipment is in proper operating condition. Record the item's disposition by marking the appropriate box with an **X** or **✓**. All UNFIT items must be addressed before operating. Note all action items at the bottom.

### Rescue Equipment

*FIT UNFIT*

- |                          |                          |  |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | Petzl Avao Bod Harness (1)<br><small>Inspect in accordance with Petzl PPE Inspection</small>                 |
| <input type="checkbox"/> | <input type="checkbox"/> | Petzl Helmet (1)<br><small>Inspect in accordance with Form I-09</small>                                      |
| <input type="checkbox"/> | <input type="checkbox"/> | Petzl Spirit Carabiner (1)<br><small>Inspect in accordance with Petzl PPE Inspection</small>                 |
| <input type="checkbox"/> | <input type="checkbox"/> | Petzl William Carabiners (4)<br><small>Inspect in accordance with Petzl PPE Inspection</small>               |
| <input type="checkbox"/> | <input type="checkbox"/> | Petzl Jane Lanyard (1)<br><small>Inspect in accordance with Petzl PPE Inspection</small>                     |
| <input type="checkbox"/> | <input type="checkbox"/> | skyTECH Turbine Trolley (1)<br><small>Inspect in accordance with Form I-11</small>                           |
| <input type="checkbox"/> | <input type="checkbox"/> | skyTECH 15" Sling (1)<br><small>Inspect in accordance with Form I-11</small>                                 |
| <input type="checkbox"/> | <input type="checkbox"/> | skyTECH Backup Lanyard 60" (1)<br><small>Inspect in accordance with Form I-01</small>                        |
| <input type="checkbox"/> | <input type="checkbox"/> | Sterling 5mm Accessory Cord 60" (1)<br><small>Inspect in accordance with manufacturer PPE Inspection</small> |
| <input type="checkbox"/> | <input type="checkbox"/> | Gloves (1 Pair)<br><small>Inspect for holes, cuts, and proper working condition</small>                      |
| <input type="checkbox"/> | <input type="checkbox"/> | Landing Platform Ladder (1)  |

### Notes/Comments

Inspected By: \_\_\_\_\_

Date: \_\_\_\_\_



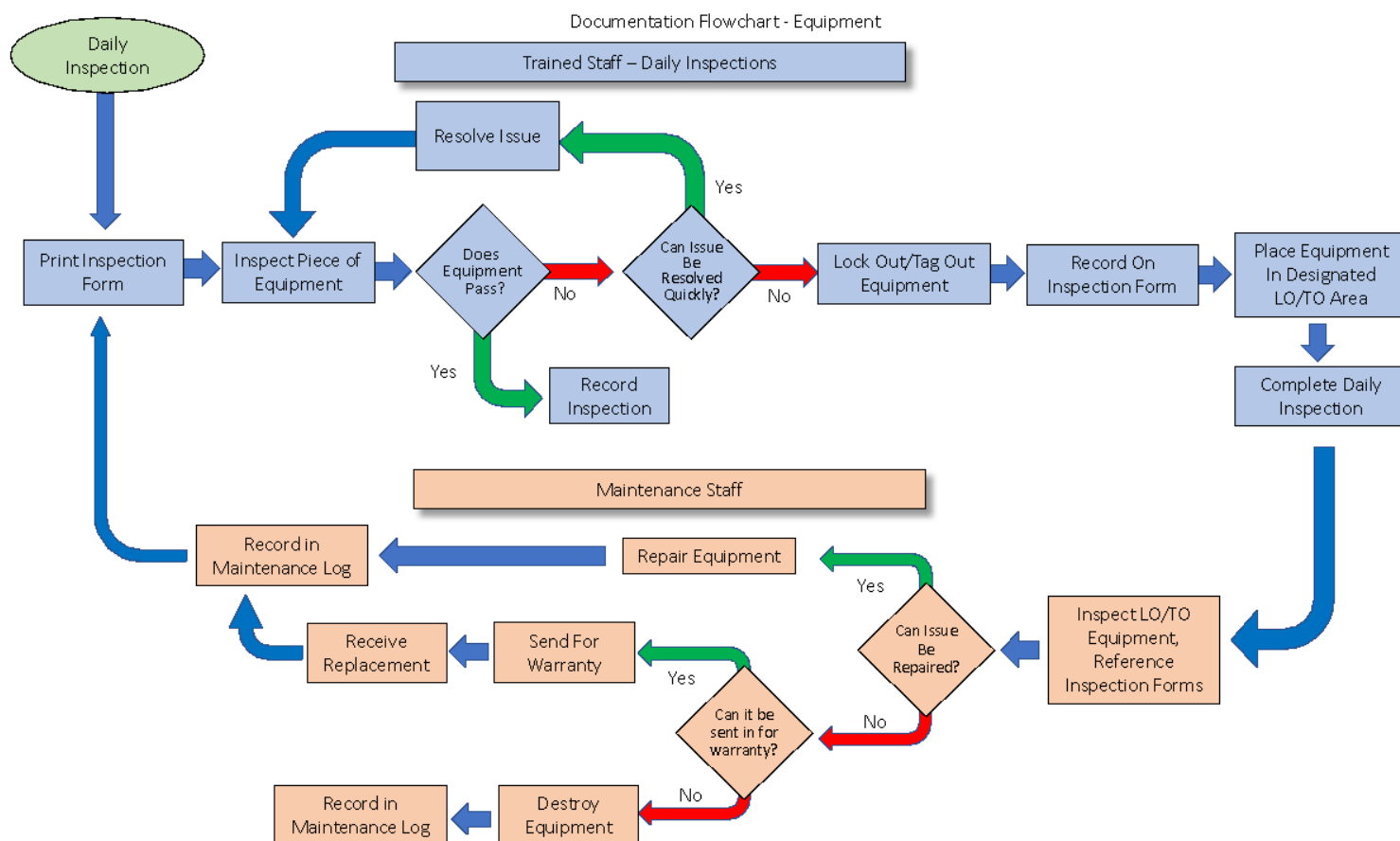
## 9.2 Appendix B – Maintenance Log

\*Sample files available upon request

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### 9.3 Appendix C – Documentation Process Flowchart





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