



# How to Extend the Life of Your Webbing

BEST PRACTICES TO PRESERVE THE WEBBING IN YOUR HEAD RUSH TECH DEVICES

# OVERVIEW

This document outlines the best practices to preserve the webbing in your TRUBLUE, zipSTOP, FlightLine and QUICKjump units. Getting the most out of your webbing is important for maximizing the return on investment for your unit. It is impossible to completely eliminate webbing wear, but this white paper will help you extend the life of your webbing without increasing risk to participants. Many strategies to increase webbing life involve optimizing mounting setups. Always refer to your unit's operator manual for official instructions when installing your unit or altering setup.

## GENERAL ADVICE FOR ALL UNITS

### Properly Identifying Webbing Wear

It is your job as the operator to complete daily inspections of your TRUBLUE, FlightLine, zipSTOP and QUICKjump units as outlined in the operations manual. Regular inspections make sure that your unit is operating properly and is in good condition. Doing your weekly inspection will help you gauge your webbing's status. If you are unfamiliar with daily and weekly unit inspections you should consult the operator manual and watch this [webbing inspection video](#). There are several different types of webbing wear that can cause your unit to require a webbing replacement. Being able to identify different types of webbing wear will help you determine and combat the source of wear. It is also essential to be able to differentiate between acceptable and unacceptable webbing wear. Take a look at [this webpage](#) if you need a refresher on identifying webbing wear and potential causes. If you need a tool to help employees track inspections you can download the [webbing inspection log](#).

### Rotating Units

If you have multiple units you can rotate between high traffic and low traffic areas. If one portion of your facility is more popular than another, the unit in the more popular area will have a shorter webbing lifespan. Rotating units between high traffic and low traffic units shares the burden. You can also use this tactic when you have identified other sources of webbing wear but are unable or unwilling to eliminate the source. Some climbing facilities will have backup units on hand that they will install when they send their other units in for annual recertification. If you have a back-up unit you're not using, you can introduce it into the rotation and significantly increase your other units' webbing life.

### Checking for Twisted Webbing Before Use

The best way to extend the life of your webbing is to make it as easy as possible for the webbing to retract and deploy. Twists in your webbing cause unnecessary torque. This adds additional friction to the edges of the webbing and will cause them to wear faster over time. The best way to prevent twisted webbing is to instruct both users and operators to check the webbing before use.

### Avoiding Using Solvents and Abrasives on Your Unit

Your webbing will be damaged if it comes into contact with certain chemicals. Avoid using cleaning agents to clean your unit. Even mild cleaning agents such as vinegar will reduce the strength of the nylon in the webbing. If you have to clean your unit you should only clean it using a damp cloth. Avoid using oils, solvents and abrasives near the webbing of your

unit. Pay attention to the ingredients in the hand sanitizers used in your facility. Many hand sanitizers use isopropyl alcohol as the active ingredient. Isopropyl alcohol severely damages nylon. When it comes to nylon and chemicals it is always best to be safe rather than sorry. Keep stray chemicals away from all nylon at all times. If you have to clean or lubricate the carabiner only use dry Teflon or wax lubricants.

## Drying Your Webbing if it Gets Wet

If your webbing gets wet you need to allow the webbing to dry so that mold does not grow. Mold will decrease the strength of your webbing. If you see mold growing you need to take that webbing out of circulation immediately. In order to prevent mold growth, remove the nozzle, pull all of the webbing out of the unit and insert a screwdriver or similar tool in the loop above the joining link to prevent webbing retraction. Then use a cloth to dry the webbing and leave it in a protected area to dry thoroughly.

## Combating Sun Exposure

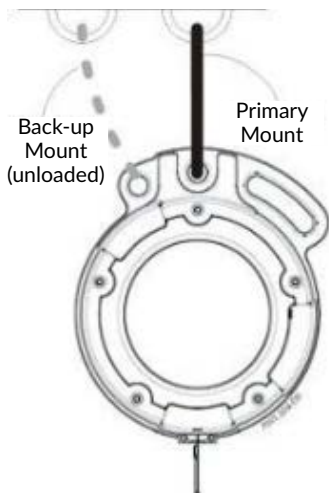
Pay attention to the sun exposure at different locations in your facility. Both indoor and outdoor facilities can be affected by UV damage. Windows and skylights do not filter UV rays. Any exposure to direct sunlight will damage your webbing over time. If your unit or webbing is faded, that is an indication your unit is vulnerable to UV damage. It is easy to prevent excessive UV damage. The solution is to remove or cover the unit and webbing after use. Pay attention to how the sunlight affects your facility at different times of day and during different seasons. It's possible that your unit is completely shaded from the sun during winter but vulnerable to sunlight in the summer.

# TRUBLUE

## Choosing a Location

One of the most common causes of excessive webbing wear is due to choosing a poor location to mount your TRUBLUE auto belay. Choose a location where the webbing has little to no contact with the wall. If your webbing is repeatedly running over sharp edges or rough surfaces the lifespan will decrease. Roofs, sharp overhangs and large protruding hand holds are the main culprits to watch out for. The problem occurs when the degree of overhang quickly changes. Remember to think about what will happen as climbers ascend the wall. It's possible that your webbing may not touch the wall when it is clipped into the ground, but will contact as climbers ascend the route. Also, be aware of gaps between your handholds and the wall that could create sharp edges or an area where your webbing could get stuck. Avoid overhangs in general. Even if an overhang does not come into contact with the wall it could cause large unnecessary swings. Large swings increase friction which will degrade your webbing. Furthermore, large swings are dangerous because they can cause collisions with unaware climbers in the vicinity.





## Proper Mounting

The single point mounting set-up is the preferred method to mount your TRUBLUE auto belay, but both the double and single point mounting set ups are acceptable configurations. Always refer to the operator manual for proper installation instructions, especially minimum strength requirements for mounting points and hardware. If you want to extend the life of your webbing you should utilize the single point mounting configuration whenever possible. This configuration is achieved by installing the primary attachment to the central mounting point and then attaching a loose non-weight bearing backup to the other attachment point. Do not use a ridged attachment point that prevents lateral movement of the unit. The main benefit of single mounting point is that it allows the unit to pivot when in use. The double point mounting configuration is more ridged and pivots less when the climber traverses. The single point mounting configuration loses all of its webbing preservation benefits when the unit orientation is incorrect. Make sure that the round covers are parallel to the wall so that you are looking at the broad side of the unit when you are facing the wall. Using the combination of correct orientation and a single point mounting configuration will allow the unit to swing laterally and decreases the amount of friction being placed on the webbing.

## Guiding User Behavior

Misuse of the TRUBLUE auto belay may result in increased webbing wear. The owner of the TRUBLUE auto belay is responsible for the safety and supervision of anyone using the unit. Any customers that have never used an auto belay before must be instructed how to properly use your units. We have an [auto belay climber orientation video](#) available online for your convenience. You can use this video to train new staff members so they can inform climbers about proper use or you can show it directly to new customers. The second main behavior that causes excessive webbing wear is climbing too far laterally away from the auto belay. When a climber strays too far to the left or right of the auto belay they increase the amount of swing from a fall. Large swings create additional friction at the point where the webbing and nozzle meet. This increases the chance that the webbing will rub on the wall or other obstructions. A simple way to prevent misuse of your auto belay is to indicate which routes are acceptable for auto belays. Some gyms have auto belay marking boundaries indicated directly on their walls. Other gyms indicate whether the route can be climbed with an auto belay on the route's placard. Use both of these tactics or choose which one is best for you. No matter which method you choose, make sure that it is easy to identify which routes are auto belay compatible even from a distance.

## zipSTOP

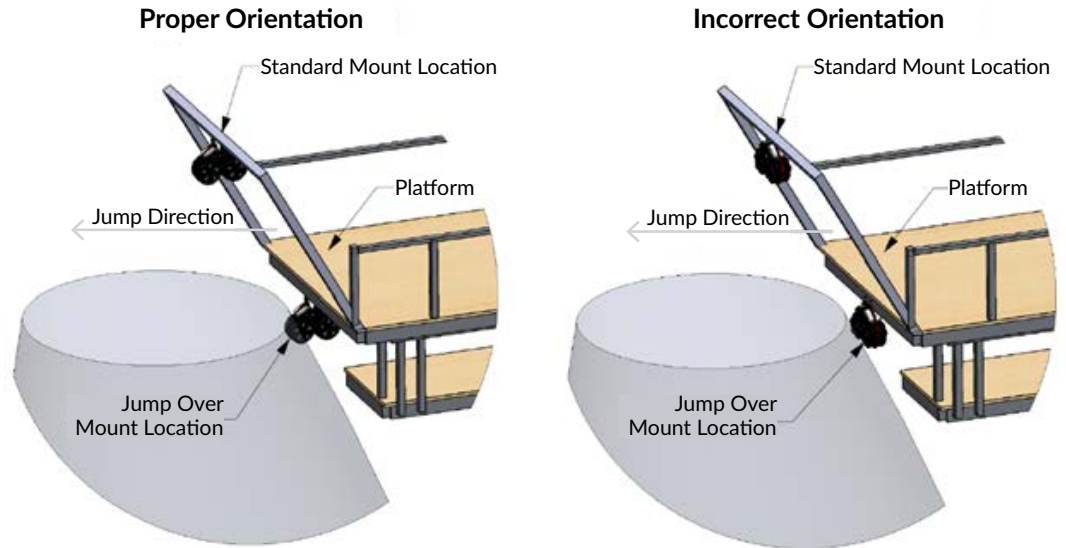
### Proper Mounting

Improperly installing your zipSTOP can be a source of excessive webbing wear. Improper installation can manifest many different scenarios of increased webbing wear. The most common sources of webbing wear associated with improper zipSTOP installation are: the zipSTOP braking line rubbing against the zip line cable, the braking line exiting the zipSTOP at an awkward angle causing unnecessary friction and a twisted braking line. Make sure that your zipSTOP zip line brake is oriented directly in line with the redirection pulley. If you are using a reduction ratio of 2:1 or more make sure that the braking line is being pulled directly out of the unit and not being directed above or below the unit. Proper installation of your zipSTOP will minimize friction and increase webbing life. [Download the operator manual](#) for more detailed installation instructions.

# FLIGHTLINE

## Proper Mounting

The FlightLine must be mounted using both mounting points. Both mounting points should be equalized so that the FlightLine is level and each point supports the same weight and force. The FlightLine should be mounted so that the narrow side of the unit and the broad side of the webbing is facing the rider and jump direction. If the unit is oriented 90 degrees so that the broad side of the webbing is not facing the jump direction then there will be significantly more webbing wear on the edge of the webbing. This is because the incorrect

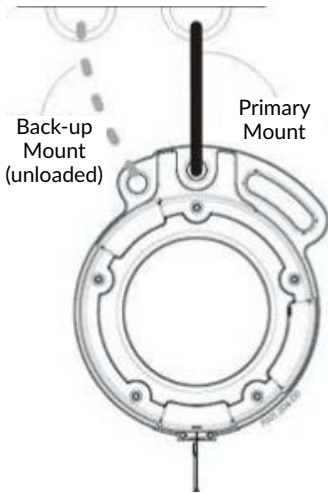


orientation forces the narrow side of the webbing into the nozzle. This focuses friction and heat into a concentrated portion of webbing, thereby increasing wear. When the unit is mounted using proper orientation, the broad side of the webbing comes into contact with the nozzle. This disperses friction and heat over a larger area and utilizes the unit design to minimize friction and increase webbing life. Do not install your FlightLine more than one meter from the edge of the platform. Installing the unit further than one meter will increase the amount of swing that the user experiences. Your webbing will experience more friction the more a rider swings. The more friction placed on your webbing the faster it will have to be replaced.

## Guiding User Behavior

Many participants will be intimidated by the FlightLine and will want to run or jump off the platform. It is your responsibility to instruct users in the proper use of this unit. Running or jumping off the platform causes a bigger swing and therefore more friction. Instruct your participants to step off of the platform feet first. This will minimize the forward momentum and reduce swinging during descent. Riders should never invert during freefall. This means that any flips or aerials of any kind are expressly forbidden. Inversions during freefall twist the webbing and create the possibility for the webbing to get caught on body parts and loose clothing. Make sure that riders descend feet first. Guiding user behavior will keep the rider safe and protect your unit from unnecessary wear.

# QUICKjump



## Proper Mounting

The optimal mounting setup to extend the life of your QUICKjump webbing is the single point mounting configuration. Always refer to the operator manual for proper installation instructions, especially minimum strength requirements for mounting points and hardware. This setup is achieved by installing the unit using the central mounting point. This set up requires a loose non-weight bearing backup line attached to the small secondary mounting point. This single point mounting configuration allows the unit to pivot when the user is in free fall. The unit should be oriented so that the rider is looking at the narrow side of the unit and the broad side of the webbing before jumping. The combination of the single point mounting and proper orientation minimizes the friction placed on the webbing. Your QUICKjump unit must be mounted one meter from the edge of your platform. Do not install the unit more than one meter from the edge of your platform. This will cause the rider to swing more than desired. Your QUICKjump's webbing will be exposed to increased amounts of friction when the participant takes a large swing.

## Guiding User Behavior

Do not allow participants to run or jump off of the platform. You should train your ride operators to instruct participants to step off of the platform. Running or jumping off of the platform increases the amount of swing the user experiences. The larger the swing the more friction the webbing takes and the faster it will deteriorate. Do not allow participants to invert during free fall. This means that riders are not allowed to do flips or aerials of any kind. Inversions during free fall increase risk to the participant, twist the webbing and increase swing distance. Preserve your webbing and keep your participants safe by instructing them in the proper way to exit the platform.

## CONTACT US

Head Rush Technologies applies innovative technologies to bring new adventure recreation equipment to the climbing, zip line, adventure, and amusement industries.

Head Rush Products strive to reduce the risk involved in adventure activities, while increasing your throughput and enhancing your customer experience.

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