SPM FIS B-Net Assembly Instructions
&
Installation Recommendations

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INTRODUCTION

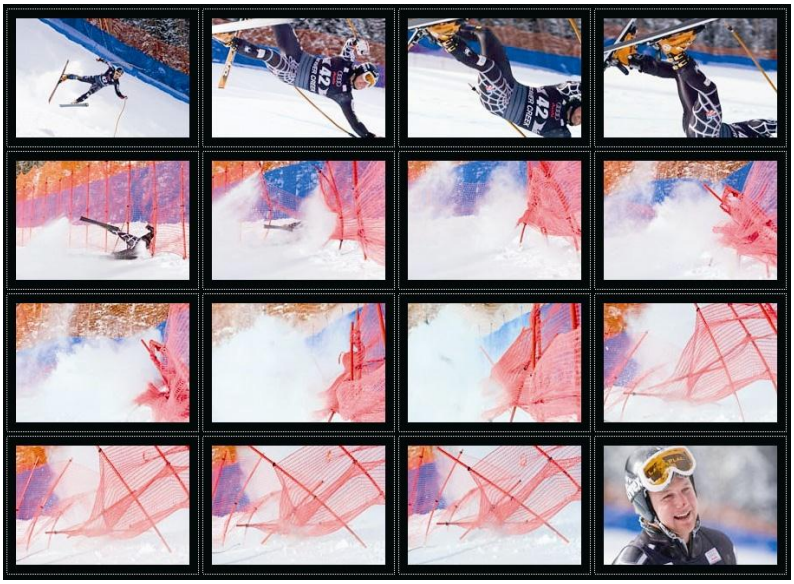
With close to 20 years in the ski racing and snowsports supply business and as the distributor of SPM race related products in North America, World Cup Supply, Inc. understands the importance of safety. SPM FIS B-Net systems are of the highest quality, designed and manufactured to FIS specifications and are used at many of the most demanding race venues in Europe and North America. The assembly instructions that follow are specific to SPM FIS B-Nets and offer both race organizers and volunteers useful information that will allow for a consistent approach to assembly of SPM FIS B-Nets. These installation recommendations have been developed by and are based on the collective knowledge of SPM and WCS staff, race officials, coaches and other ski industry professionals.

Ski racing is an inherently dangerous sport. No protection system whether it be A-Nets, B-Nets or Air Pads can eliminate the risk or possibility of injury. Following the SPM FIS B-Net Assembly Instructions and Installation Recommendations will neither eliminate the inherent danger of the sport of ski racing, nor insure that the system will perform as designed. Proper slope preparation, course setting and the use of adequate protection systems are all important contributing factors that must be taken into consideration as part of the safety plan. **Race organizers should always consult their FIS homologation safety plan and seek the guidance of FIS officials when assessing and determining their safety needs. We strongly recommend that everyone involved with assembly and installation of SPM FIS B-Nets become familiar with this document; including coaches, volunteers and athletes.**

For additional information or assistance regarding SPM FIS B-Nets please call us at 800-555-0593 or send us and email at info@worldcupsupply.com – we are here to help in any way that we can.

General Information

- B-Net systems were introduced on the World Cup Ski circuit in 1985 with the intent of increasing the safety of ski racers. Prior to that, safety systems were comprised of everything from hay bales to wooden snow fencing.
- Due to the number, variety and severity of impacts in race and test environments, B-Net has been the most widely “tested” protection system in use. It is regarded as the most effective tool available to enhance safety on ski slopes that are used for both competition and recreational skiing.
- B-Net systems are intended to reduce a skier's speed in the event of fall or loss of control when skiing.
- Such net systems are called "dynamic nets" since they help reduce speed created during a fall by absorbing and dissipating the energy generated by the athlete.
- B-Nets may be used in combination with other safety systems (A-Nets, Slip Screen, Foam Pads, and Air-Pads) to help reduce the risk of injury.
- Typically B-Net system locations are determined by a FIS homologation safety plan and may be modified by the Technical Delegate or Jury dependent upon current conditions.



Andrew Weibrecht – USST @ Beaver Creek 2008/Photo Sequence – Jonathan Selkowitz, Selko Photo

SPM FIS B-Net Features

- Polyethylene twine has excellent UV resistance (up to 73% after 2000 hours of exposure)
- High-quality UV resistant polycarbonate poles with lot numbers for inventory management
- Rounded nub points at both ends of poles means no top or bottom
- Patented adjustable pole clips – easy to raise, lower and adjust nets even with gloves on
- Heavy-duty bundle straps make transport and storage easier and more organized
- Laminated Net ID tags with serial number and purchase date for inventory management
- Available in both 5cm and 7cm mesh for varying needs
- May be assembled with desired number of poles (for SPM FIS B-Nets - minimum of 10 and a maximum of 13 poles per 20m section of net recommended).

Specifications

- **Net Material:** Made from high density Polyethylene
- **Net Dimensions:** 2m x 20m, 50mm/70mm mesh
- **Tensile Strength:** 240lbs/ sq. inch
- **Poles:** Polycarbonate, 35mm x 256cm, with nub point at both ends (no top or bottom)
- **Assembled Weight:** 44lbs (5cm net w/ 10 Poles)
- **Color:** Red

Assembly

B Nets are typically 20m in length and are assembled with 10 – 13 poles; pole spacing is 1.5-2.2m.

- Lay the B-Net out on the ground and place the poles on top of the net at even intervals – the two end poles should be located at the last row of mesh at each end of the net (Illustration A)

- We recommend the poles be woven through 3 mesh squares in the middle of the net. (Illustration B1). The top and bottom of the net may also be woven onto the pole (3 mesh squares). (Illustration B2)

- Place one adjustable clip at the top of each pole and one adjustable clip at the bottom of each pole. Be sure that the open end of the hook on each clip is facing towards the end of the pole. (Illustration B)

- Place the top and bottom border of the net into the clips at each end of the pole. Slide each clip to the desired location to tighten the net vertically. Close the cam lever to lock the clip in place. Repeat this operation for each pole. It is recommended to place each clip at a similar location on each pole.. (Illustration B)

Illustration A

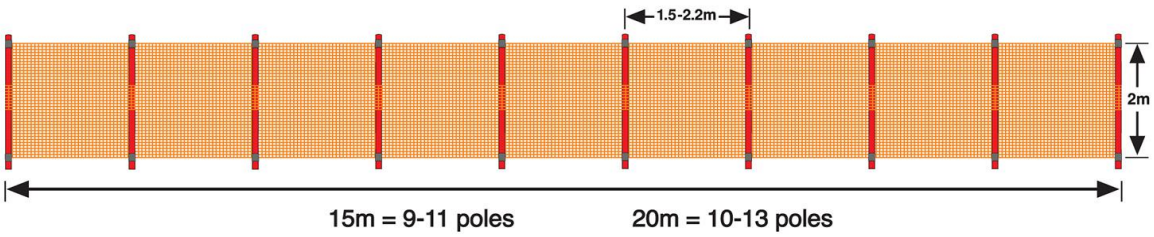


Illustration B1

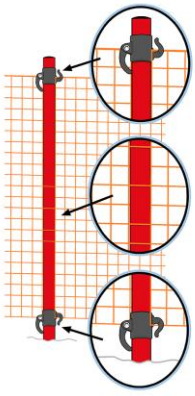
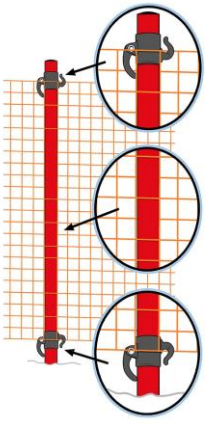


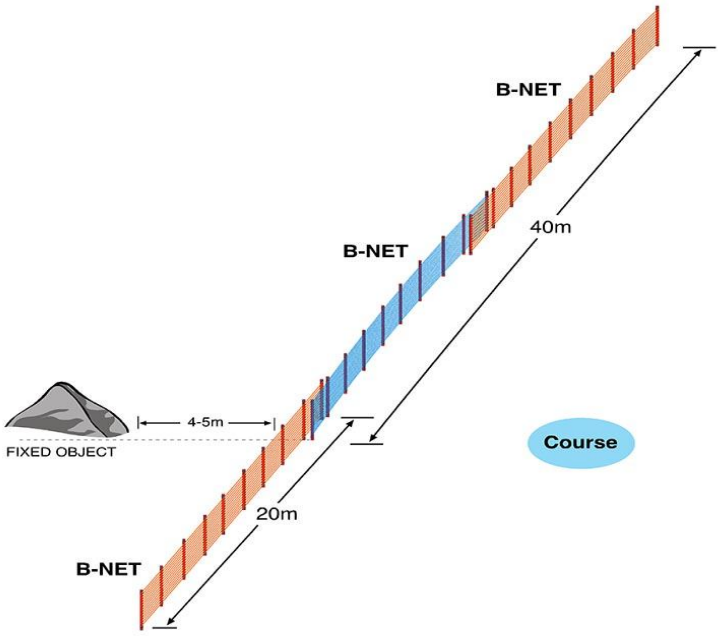
Illustration B2



Installation

- B-Net systems should stand alone and never be tied or linked to any other object that may prevent them from properly absorbing and dissipating the energy of a fallen skier. The only exception to this will be when B-Net is joined with an A-Net system.
- It is generally accepted that 60m of B-Net are needed to decelerate a fallen skier, with 40m placed above the potential impact zone. (Illustration C)
- B-Nets should be set at a minimum distance of 4m from any fixed objects or obstacles. (Illustration C)
- SPM FIS B-Net poles should be set in the snow at a minimum depth of 20cm (8”) and a maximum depth of 35cm (14”)
- SPM B-Nets are designed to be installed without any sagging or pockets between poles. Poles should stand vertically without bending. A bend in the pole indicates that the net is too tight horizontally.
- The bottom edge of the SPM FIS B-Net should be flush with the snow line and pulled tightly in between poles. The bottom edge of the net should never be buried in the snow
- B-Nets from other manufacturers may be designed to be installed differently. Be sure to consult installation guidelines for the specific brand of nets in use.
- Due to the variances in design and functionality, it is not recommended that B-Net from different manufacturers be used in combination with each other (connected).

Illustration C



Installation (cont.)

- Where multiple rows or layers of B-Net are called for by the Homologation plan, the TD or the Jury, it is recommended to have a minimum distance of 2.5m between each row. This allows the net and poles to bend completely upon impact. (Illustration D)

  Illustration D

- When setting multiple rows of nets, the polycarbonate fence poles of each net should be staggered by 1m and not lined up directly with the poles of the system in front or behind it.

- Multiple rows of B-Net should begin with the full separation (min 2m) between each row and maintain a consistent (parallel) distance for the length of the row(s).

- B-Nets should be installed in a straight line or evenly curved rows avoiding any abrupt angle changes. (Illustration D)

- The B-Net system (both nets and poles) should never be allowed to freeze in the snow and must be checked prior to the race if the nets were installed the previous day. Poles and nets that are frozen into the snow will prevent any B-Net system from functioning properly.

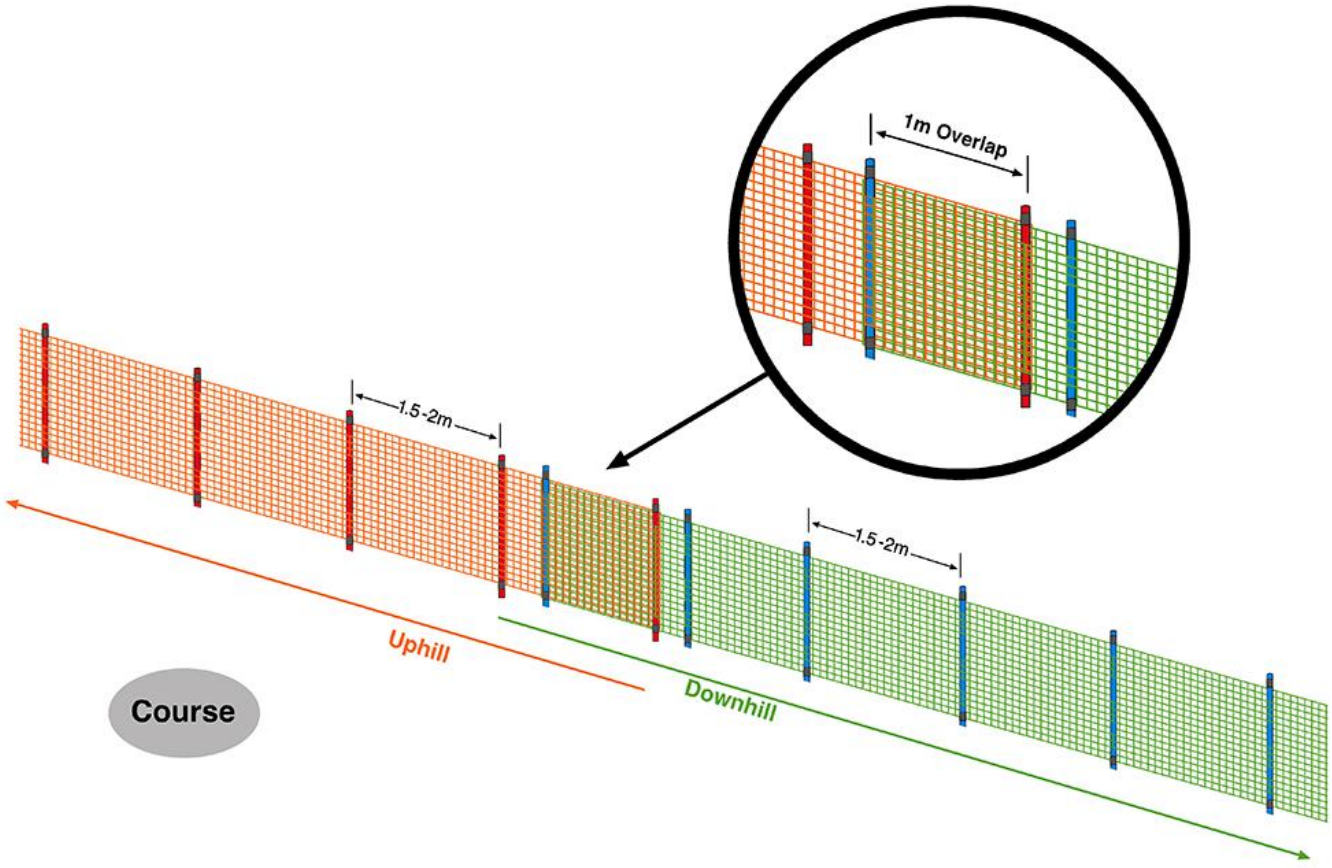
- Heavy snow and strong winds may put excessive strain on the B-Net system; therefore the B-Net surface area should be minimized when not in use. This is achieved by sliding the top & bottom clips towards the middle of the pole to minimize the surface area of the net. This is a very important task not to forget if the B-Nets will be left up over night and will help facilitate grooming and snow removal the following day.

Installation (cont.)

CONNECTING SECTIONS OF B-Net

- The uphill B-Net must be placed on the course side of the downhill net. (Illustration E)
- The overlapping surface of the B-Nets should be a minimum of 1m in length. (Illustration E)
- The first pole from the downhill section of net (A) and last pole from the uphill section of net (B) should be threaded through the top and bottom (4 – 6) mesh holes of both B-Nets, thus linking the two B-Nets together. (Illustration E)

Illustration E



Installation (cont.)

CONNECTING B-Net to an A-Net SYSTEM:

B-Net Installed UPHILL from A-Net system:

- The downhill end of the B-Net should overlap the uphill end of the A-Net on the course side by at least 2m with the B-Net spaced 2m from the A-Net. The B-Net should NOT be tied or fixed to the A-Net. (Illustration F)

B-Net Installed DOWNHILL from A-Net system:

- The uphill end of the B-Net should overlap the face of the A-Net (course side) by at least 2m.
- When possible, the B-Net should shape/curve slightly towards the course to deflect a fallen racer away from the bottom end of the A-Net where hazards such as net anchors and wire rope lines pose a possible risk of injury.
- The first uphill pole of the B-Net system should be attached to the A-Net using slip-skirt bungee disks. The slip skirt should not connect to or overlap the B-Net. (Illustration G)

Illustration F

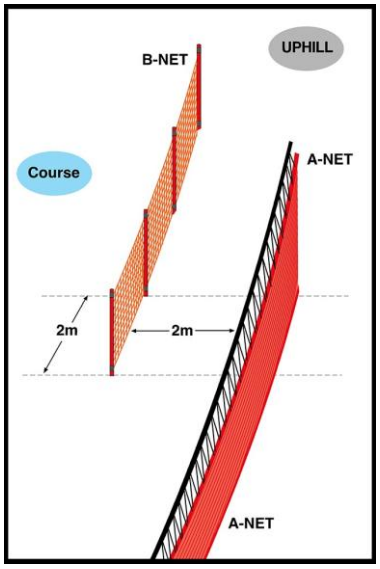
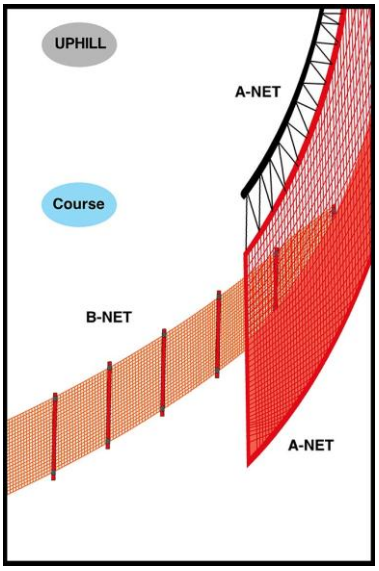


Illustration G



CARE AND STORAGE

B-Net Removal

- Always inspect your B-Nets carefully for damage prior to removal. Identify any nets needing repairs and tag the repair location. Damaged nets should be segregated immediately as they are removed from the hill.

- During the take down process, the polycarbonate fence poles should be loosened by twisting them for removal from the snow. Kicking the polycarbonate fence poles to loosen them should be avoided as it may cause damage to the poles.

- The B-Nets should be rolled up as evenly and tightly as possible starting from the downhill end working uphill. Automated rolling equipment is available – please call us for more information.

- After the B-Nets have been rolled tightly secure the roll by using the attached bundle straps.



B-Net Maintenance / Storage

- Damaged nets should be segregated and stored separately.
- Repaired nets should be considered as “second line” nets.
- Any damaged polycarbonate fence poles should be replaced.
- Allow the nets to dry before putting them into long term storage.
- Store B-Nets in a dry location away from direct sunlight (UV rays will reduce the life of the B-Nets).
- Do not store B-Nets in close proximity to any fuels or solvents or directly on top of concrete or dirt floors (moisture will rise up and damage the nets)
- Ideally B-Nets should be stored either upright or horizontally on racks to allow maximum air circulation. Upright storage helps prevent clips from one net connecting with the mesh of another and allows for easier handling

“Ski Racing Safety is NO Accident!”

Kelly Brush Foundation - 2008