

MILITARY JAVELIN

MJN-1

PACKING & MAINTENANCE MANUAL, ITEM# PMAN-MJN-1



CUTTING EDGE TECHNOLOGY

SUPERIOR QUALITY

Thank you for choosing the Military Javelin by Sun Path Products Inc.

The following information explains the different type of systems, and the people they were designed for.

***** *Military Javelins* *****

Sun Path Products Inc, of Zephyrhills, Florida, U.S.A. have been producing the worlds most popular “Sport Skydiving” harness and container system, the “Javelin” since 1987. Our skydiving customers around the world have grown to expect, and receive; the most innovative, reliable, and highest quality produced equipment possible. We are very proud to say that we have taken the same “Never say die, build only the best” attitude into the development of our “Military Javelin”

The following describes the two styles of “Military Javelin”, produced by Sun Path Products Inc.

MJ-MSS. Military Javelin - Military Specialist System.

The MJ-MSS system is designed for the specialist, qualified in Parachuting, who besides himself, needs to carry a Bergen (rucksack), mounted front or rear, and personnel weapons.

The MJ-MSS uses two large ram-air canopies, which are designed to open softly, even at higher altitudes. Have a long range glide capacity, (3:1 ratio depending on the model of canopy) and easy, docile landing characteristics, which a properly trained novice jumper can learn.

MJ-MIS. Military Javelin – Military Instructor System.

The MJ-MIS system is designed for the Instructor / Jumpmaster, of the Specialist Parachute jumper. It is lighter weight, and normally, (but not necessarily) equipped with smaller ram-air parachutes. This allows the Instructor / Jumpmaster to have more freedom of mobility around the aircraft. Allowing him to comfortably direct operations, and carry out the Specialist Parachute jumper's equipment checks.

The MJ-MIS system is not designed to carry a Bergen (rucksack), but can be fitted for personal weapons.

Special features of the "Military Javelin".

HARNESSES.

The "**MJ**" has the most geometrically advanced, and ergonomically designed harness. The Patented articulated Hip-ring, and doublewide, high-density foam leg pads, bring superior, and unsurpassed comfort to the wearer. The main lift web is adjustable by a state of the art color-coded setting system. Optional quick release hardware is a must for rapid equipment removal. Front trim adjusters on the main risers make those long rides from altitude (HAHO), fatigueless.

MAIN CONTAINER.

The main riser covers fully enclose the main risers for ultimate safety. The main container can be operated by ripcord activated spring loaded Pilotchute, hand deployed Pilotchute, direct bag static line, or the innovated, double bag static line system. The main container can also be fitted with an AAD (automatic activation device). The main container is constructed from highly durable 1000 denier nylon cordura.

RESERVE CONTAINER.

The semi-exposed Pilotchute enables the fastest activation of any reserve deployment. The "High speed" reserve deployment system, is only available on the Sun Path Products Inc, "Military Javelins". This deployment system takes emergency safety to a new level. "Military Javelins" are Military Cypres ready, although other forms of AAD can be fitted. The clear plastic window of the reserve pin protector flap again brings safety to a new level. You can check the reserve pin, and the state of the Cypres, without ever having to lift the reserve pin protector flap.

The “Equipment Support Package” is recommended, as spares are never easy to find when you need them. The Package consists of:

- Spare reserve free bag and Pilotchute.
- Spare Reserve Ripcord handle.
- Spare Reserve static line lanyard.
- Spare Breakaway handle.
- 5 spare main closure loop.
- Stowing bands – 1 pound.

We also recommend, and offer additional materials for repair, and replacement of components. Which include:

- Complete Line sets for main/reserve canopies.
- Main canopy risers.
- Main canopy slider.
- Canopy fabric per yard.
- Container fabric per yard.

We also offer a range of Accessory Items, which can include the following:

- Automatic Activation Devices (AAD’S)
- Oxygen Systems – Personnel
- Oxygen Systems – Aircraft
- Helmets - Personnel
- Communication Systems – Personnel
- Navigation Systems – Personnel
- Altimeters – Visible and Audible
- Rigger Field Repair Kits
- Equipment Bags and Holders (Custom)

For additional information about our military line of parachuting products, contact Sun Path Products Inc, today!

A handwritten signature in blue ink, appearing to read 'Derek Thomas', with a stylized flourish extending to the right.

Derek Thomas
President



FRONT VIEW



Reserve Ripcord

Equipment Ring - Rear

Adjustable MLW

Adjustable MLW Cover

Quick Fit Hip Ring

Equipment Tie-On Tabs

Utility Pocket

Utility Pocket Zip

Left Main Riser Cover

Side Equipment Ring

Left Main Leg pad

LEFT SIDE VIEW

Left Main
Riser Cover

Clear
Reserve Top
Flap

Chemlite
Tabs

BCD Flap

Clear Main
Top Flap

Bottom
Main Flap

Reserve Pilot
Chute Top

Main Ripcord
Channel

Right Main
Riser Cover

Right Main
Side Flap

Oxygen
Pocket

BACK VIEW





Main Ripcord

Cutaway Handle

Chemlite Tab

Reserve Ripcord

Chest Strap Adaptor

Equipment Ring - Rear

Quick Fit Hip Ring

Belly Band

Equipment Tie-On Tab

Right Main Riser Cover

Oxygen Bottle Securing Strap

Side Equipment Ring

RIGHT SIDE VIEW

JAVELIN

MJN-1 TECHNICAL DATA

SYSTEM WEIGHT	20lbs (average, excluding canopies and depending on accessory options) 48-50lbs including canopies and dependant on options
CANOPIES	Performance Designs Tactical Reserve 375(TR375), Performance Designs Military Silhouette 360 (MS360).
FABRIC TYPE	1000 Denier Nylon Cordura.
HARNESS TYPE	Type 7 Mil Spec webbing throughout.
HARNESS FEATURES	Fully adjustable harness with unique adjustable rings at the Hip junctions for flexibility and comfort. The Main Lift Webbing (MLW) features color-coded bars for symmetrical MLW settings. The Leg pads are double wide and double padded for long ride comfort. Leg Hardware is B12 Snap type Accessory rings for front and rear mounted rucksack. Reserve – Primary activation is Ripcord with backup activation by means of an RSL (Reserve Static Line) and/or AAD (Automatic Activation Device). Main – Ripcord Activation Oxygen Pocket and Utility Pocket for Radio's etc. Spacer Foam on the Backpad
AAD SETUP	Reserve – Standard setup for Military Cypres AAD. Main – none.

Military Javelin

04/11/2001

Container Sizing

Container

Reserve Canopies

	Size	Max Deploy Wt/Spd	Max Ldg Wt
MJ10	TR-281	425lbs. 200kts	340 lbs
	TR-305	425lbs. 170kts	369 lbs
MJ11	TR-335	425lbs. 170kts	405 lbs
MJ12	TR-375	425lbs. 170kts	425 lbs

Container

Main Canopies

	Size	Max Deploy Wt/Spd	Max Ldg Wt	Min Wt Exit & Ldg
MJ10	TM-281	425lbs. 200kts	340 lbs	
	TM-305	425lbs. 170kts	369 lbs	
	MS-260	375lbs. 150kts	315 lbs	117 lbs
	MS-280	375lbs. 150kts	340 lbs	126 lbs
MJ11	TM-335	425lbs. 170kts	405 lbs	
	MS-300	375lbs. 150kts	375 lbs	135 lbs
MJ12	TM-375	425lbs. 170kts	425 lbs	
	MS-330	400lbs. 150kts	400 lbs	149 lbs

MJN-1 Inspection / Repack Cycle

The Inspection and Repack Cycle is governed by the applicable rules and regulations of the FAA or equivalent body that comply with the requirements of TSO rated equipment (currently 120 days) or specific Military Command directives.

JAVELIN

MJ SERIES

HIGH SPEED RESERVE DEPLOYMENT SYSTEM

Please thoroughly read and understand these instructions before using this equipment.

If you do not understand the instructions or the working of the system, please contact Sun Path Products, Inc. before proceeding.

**THANK YOU FOR CHOOSING
THE MOST ADVANCED
MILITARY SYSTEM
IN THE WORLD**

The
MILITARY JAVELIN
is approved for the use
of the
CYPRES / CYPRES 2
AAD

Airtec GmbH

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33181 Bad Wünnenberg, Germany
Tel: 05233 - 80 40, Fax: 12 95

Kai Koerner
Installation and Rigging
Airtec GmbH

Bad Wünnenberg, 29.06.2004

MJN-1
RESERVE PACKING

Make a thorough inspection of all components of the reserve parachute - Reserve Pilot Chute, Reserve Bridle, Freebag, Reserve Canopy, lines, slider, and links.

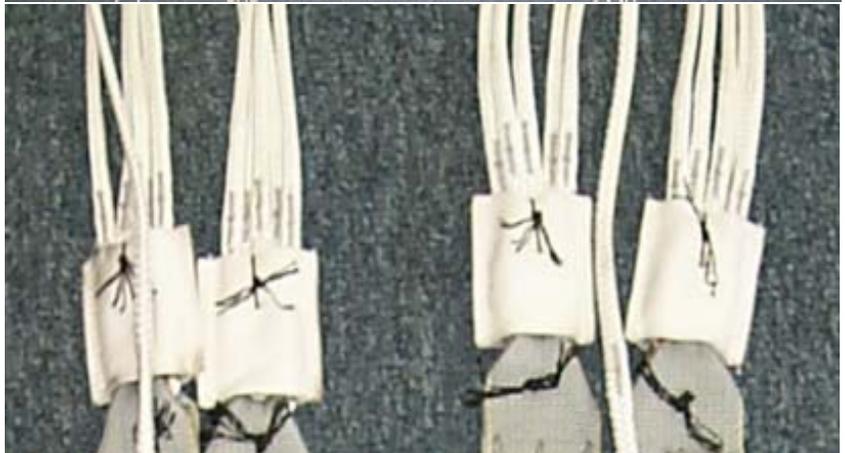


Assembly Procedure

Assemble Links to Risers – run line continuity check prior to tightening the barrels.*
Hand tack the risers below the links.

****Optional Procedure***

Install Link Protectors.
Hand tack the link protectors in place.



Attaching toggle to lower control line.

Thread end of control line through the steering guide ring then through the grommet from the loop Velcro side and pass around the toggle.



MJN-1
RESERVE PACKING

Complete a ½ turn of control line around the toggle and pass end through the grommet.



Set the toggle at the toggle mark and tie off with 1 overhand knot. Make sure to work the knot all the way down to the toggle.



Secure the first overhand knot with a second overhand knot around the first knot.



MJN-1
RESERVE PACKING

**Verify Trim Specs for the
Canopy**

Tactical Reserve
TR375

A to B = 4 ¾"
A to C = 17 ¼"
A to D = 30 7/8"

Full Flight Setting = 29 1/8"

Brake Setting = 12" "A" to Tail.

Fill Out History Card

RIGGER CHECK

**Setting the Deployment
Brakes:**

Draw the lower control line
down till the deployment brake
loop is at the steering guide
ring.

Position the locking loop on the
riser through the steering guide
ring.

Pass the locking loop through
the deployment brake loop.

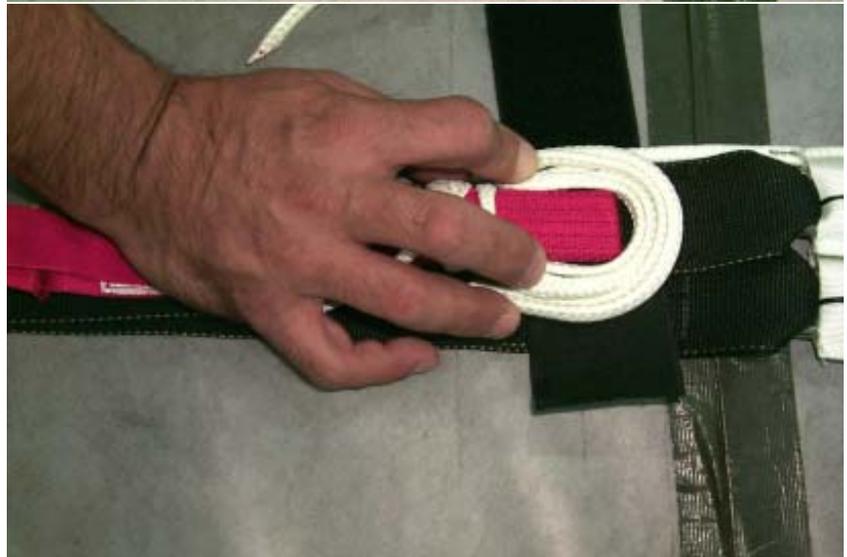


MJN-1
RESERVE PACKING

Insert the toggle tip through the locking loop. Check the “brake setting” by pulling on the lower steering line above the steering line guide ring.



Stow the excess lower steering line around the toggle tip as shown.



Secure the excess lower steering line in place with the hook and loop cover on the riser. Ensure that the hook is completely covered to prevent any fraying damage from occurring.



4-Line Continuity Check
RIGGER
CHECK

MJN-1

RESERVE PACKING

NOTE:

Sun Path Products authorizes both “Flat and Pro” Packing methods for use in the MJN-1 System.

The following instructions are for “Flat Packing”. Please refer to the “Res_Pro_Addendum” if you prefer using the Pro-Pack method.

12/04/05

Folding the Canopy:

Fold the nose under the canopy in line with the “A-lines”.



Fold the “B-line” group on top of the “A-line” group.



MJN-1
RESERVE PACKING

Fold the "C-line" group on top of the "A & B-line" groups.



Fold the "D-line" group on top of the "A, B & C-line" groups.



MJN-1
RESERVE PACKING

Fold the tail on top of the “A, B, C & D-line” groups.



Clear stabilizers (3 each) evenly to both sides of the canopy.



MJN-1
RESERVE PACKING

Flake the tail into half cell folds.



Separate the tail evenly about the center tail cell.



MJN-1
RESERVE PACKING

Bring slider up to the canopy
and ensure that the slider
grommets are against the
stops.
Flake the slider in even folds
either side of the center.

RIGGER
CHECK

Spread the center tail cell to full
cell width



MJN-1
RESERVE PACKING

“Cocoon the canopy with the center tail cell.



Fold the stabilizers around the slider.

Position the freebag underneath the reserve canopy so that when you complete the first “S-fold” the mouth of the freebag is at the bottom of the canopy.



MJN-1
RESERVE PACKING

Make the first “S-fold” at the slider end of the canopy.

NOTE:

Bear in mind that the first “S-fold” should not be greater than the distance from the mouth of the freebag to the grommet in the center of the freebag.



Slide the tail center cell down over the first “S-fold”.



MJN-1
RESERVE PACKING

Make a second "S-fold" on top of the first "S-fold".

Remember to keep the folds sized for the mouth to grommet in the center of the freebag.



Holding the canopy in place with your knees, find and follow the center cell seam.



MJN-1
RESERVE PACKING

While following the center cell seam towards the nose, separate the folds of fabric both to the left and right of the center cell.



Continue until the nose of the center cell is reached.



MJN-1
RESERVE PACKING

The center cell fabric is dressed to both the left and right of the center to spread as much fabric bulk out from the center of the packjob.



Dress the left ear by “cocooning” the fabric around the ear.



MJN-1
RESERVE PACKING

Fold the ear to fit into the molar section of the freebag.



Place the dressed and folded ear into the “molar” freebag and follow up by pulling the top of the freebag over the “S-folds”



MJN-1
RESERVE PACKING

Repeat the dressing and folding of the ear for the right ear.



Insert into the freebag.



MJN-1
RESERVE PACKING

Reserve should fill freebag and should not spill out of the freebag.

NOTE: Ensure that the slider grommets are spread out to reduce the bulk in the center of the freebag, this is helpful for creating a "hole" for the Cypres Box.



Helpful Tools for closing the Freebag

(2 or 4) x Pull-up Cords
2 x Cypres Closing Pins (or temp pins)

Prepare the safety stow for bights 3 and 4 by threading it through the side flaps and then the top closing flap of the freebag.

Secure stows with the two temporary hook protectors (alternatively use pull-up cords).

RIGGER CHECK



MJN-1
RESERVE PACKING

Make first two line bite stows to form the locking stows of the freebag.

Note: The line bights are no longer than 2" to 2 1/2" in Grommet #1 and #2.



Continue stowing lines in grommet # 3 loop and # 4 loop.

RIGGER
CHECK



Rotate freebag to continue with line stows.



MJN-1
RESERVE PACKING

Stow lines into flutes.
The use of pull up cords can work very well for this application. Packing hooks can be used, exercise caution when pulling so as not to damage the flute fabric.

Note: Ensure the lines do not protrude beyond the flutes.

Continue stowing lines from side to side until there is approximately 250mm (10 inches) of line left to the links.

Finished line stows should appear as per the picture to the right.

**RIGGER
CHECK**



MJN-1
RESERVE PACKING

Cover stowed flutes with the line stow cover flap.

Ensure that the hook and loop are correctly mated. Any exposed hook will damage the lines!

Rotate the freebag back to it's original position.

NOTE:

Set Cypres Loop length at 2 3/4" ($\pm 1/8$ ") from the washer, loop should protrude from the Floor plate 2 1/2" ($\pm 1/8$ ").

Place freebag into reserve tray.
Set the reserve risers going over the shoulders.
Place the links toward the center of the pack tray.
Be careful not to place links such that they can damage the Cypres cutter.
Offset the links to minimize the bulk.
Work the freebag into the corners.
Pin in place (optional).



MJN-1
RESERVE PACKING

Close side flaps (#1 then #2) and pin with temporary pin. Smooth freebag and material as you close each side, filling the outside of the reserve tray.



**STANDARD FREEBAG
(if installed)**

Fold the bridle up and down the centerline of the reserve container. Split evenly either side of the center grommet.



**HIGH SPEED FREEBAG
(if installed)**

Fold the bridle up and down the centerline of the reserve container. Place the bridle on one side of the centerline and place the high speed pilot chute pouch on the other to spread out the bulk.



**RIGGER
CHECK**

MJN-1
RESERVE PACKING

Using a gun cleaning rod pass the pull up cord through the center of the pilot chute.



Seat the base of the pilot chute centrally over the side flap grommet, collapse the pilot chute and temp pin it in place. Make sure the binding overlap will be hidden under either the top or bottom reserve flaps. Be sure not to trap any fabric in and around the closing loop or grommets.



RIGGER CHECK

Work the fabric under the pilot chute cap starting at the top and then down each side. Be careful not to pull the fabric and mesh in so far that it interferes with the deployment of the reserve.



MJN-1
RESERVE PACKING

Work material to bottom. The finished folding will show just a small amount of fabric being exposed from the bottom of the pilot chute.



Next close the bottom flap (# 3) - folding the pilot chute fabric evenly underneath the bottom flap.



Ensure that the RSL is correctly routed with the ripcord passing through the RSL ring and that the RSL Ring is positioned between the Ripcord housing end and the fixed ring on the top reserve flap.

The last flap (top flap #4) is then closed and the reserve pin is installed. Work the exposed pilot chute material back under flap.



Note: ensure the reserve pin passes thru the RSL and fixed ring.

MJN-1
RESERVE PACKING

Dress the top of the container using a packing paddle. Insert the packing paddle end into the tuck tab pocket.



Push the paddle and tuck tab end down in between the freebag and the reserve risers until the tuck tab is snug in place.



Close the Clear Reserve Top Flap

RIGGER CHECK



Complete the History Card as required.

Inventory packing tools.

FINAL RIGGER CHECK!



**PD Series
Ram-Air Reserve Parachute
Owner's Manual Addendum**

PRO Packing Instructions

This document is a supplement to the PD Series Ram-Air Reserve Parachute Owner's Manual, Third Edition. It contains instructions for packing PD Series Ram-Air Reserve Parachutes using the PRO packing method. You will need to refer to the PD Reserve Owner's Manual in order to follow the instructions in this addendum correctly.

If the rig manufacturer specifies a packing method other than the ones shown, and the rig manufacturer authorizes its use for this specific parachute, you may decide which instructions to follow. Otherwise you must follow PD's instructions. These reserves have been tested and found to work well using both the PRO Pack method shown here, and the Flat Pack method shown in section XVII of the PD Reserve Owner's Manual. It is recommended that you follow the instructions for the packing method with which you are most familiar.

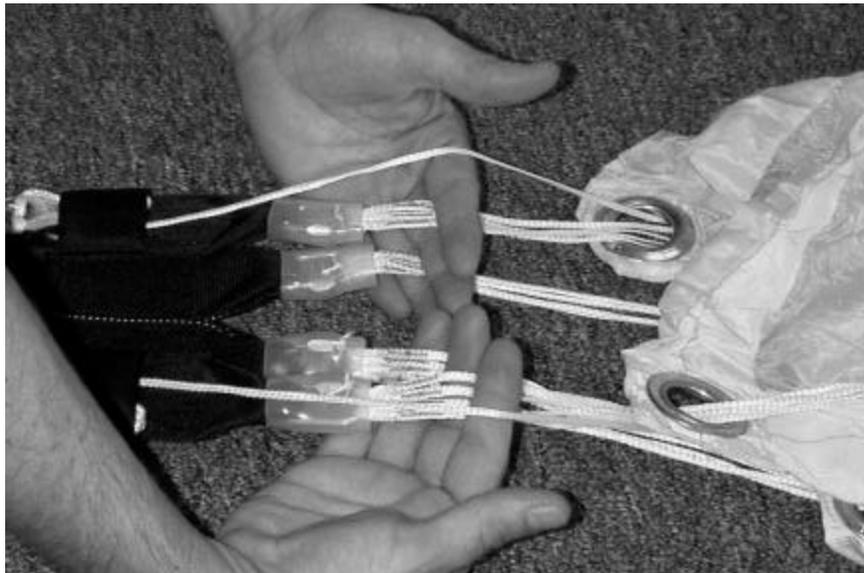
PRO PACK

Inspect the canopy thoroughly before starting to pack it, following the inspection instructions described in section XIV of the PD Reserve Owner's Manual. Check the line continuity, and ensure the canopy has been assembled on the rig correctly.

1) Flake the canopy out on its side until all seven T seams (where the non-loaded ribs meet the top skins) are straight from leading edge to trailing edge as shown. Set the deployment brakes according to the rig manufacturer's instructions.



2) Crouch next to the risers and face the canopy. Be sure there are no twists in the risers. Slip the fingers of your left hand between each left hand riser and between the left hand steering line and the risers. Do the same with your right hand. Slide your fingers up onto the lines as shown, grasping the lines below the slider.



3) Start moving up the lines, allowing them to slide between your fingers. Push the slider ahead of you until you reach the bottom of the canopy. Carefully lift the canopy off of the ground. Make sure the lines are not twisted and the canopy is facing the correct direction. The nose openings should be facing the rig, and the tail should be farthest from the rig.

Step outside of the lines and transfer the lines to one hand so that the left and right sides of the canopy hang at the same height.



4) Starting with the end cell nearest your legs, begin flaking the nose of the canopy. Pull each cell completely out, and keep it in your hand. Then, pick up the next, taking care not to miss any until all seven cells are in your hand.

When you have the entire nose flaked, tuck it between your knees and hold it there

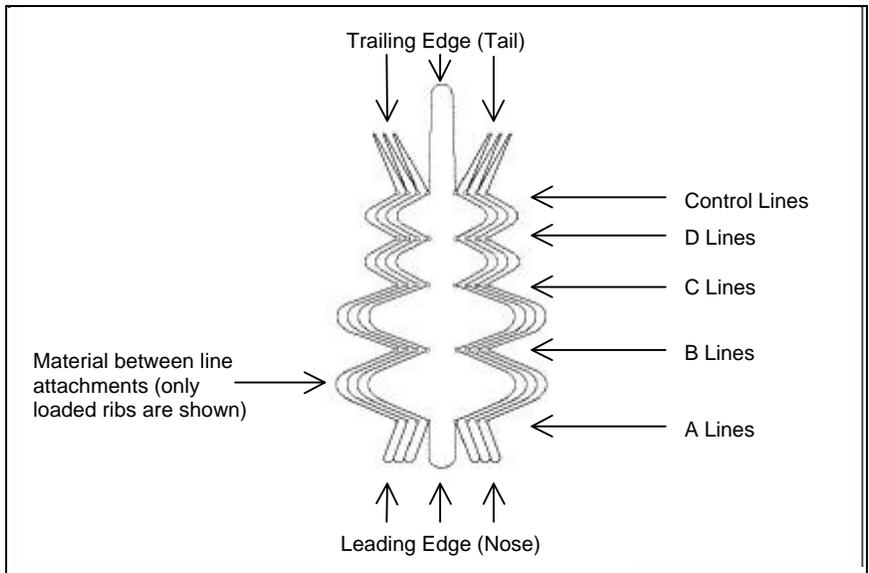


5) Clear the stabilizers. Flake the material between each line group out toward the stabilizers, keeping the line groups stacked together in the middle of the pack job. Clear the tail, flaking the material between each steering line toward the outside of the pack job.



The diagram at right shows the correct organization of the canopy after step 5 is completed. The leading edge will be closest to your body, and the trailing edge will be farthest away from you. When looking straight down into the canopy from above, it should resemble this diagram.

Note: to improve clarity, the slider is not shown.



6) Hold the canopy parallel to the floor with the nose facing down as shown. Continue to hold the lines in one hand while using your free arm to support the canopy fabric. While maintaining even tension on the lines, gently place the canopy back down on the floor or packing table with the nose facing down.



7) Starting on the right side of the canopy, carefully lift the folds of material back towards the center of the pack job until the nose is exposed. Clear the three cells to the right of the center cell and flake this section of the nose toward the outside of the pack job.

Note: references to the right and left sides are from the canopy pilot's point of view.



8) Flake the material between the A and B lines away from the line channel in the center of the pack job. Be sure that all three T seams to the right of the center cell are neatly flaked.



9) Find the four bottom seams to the right of the center cell and flake them out toward the stabilizer. The bottom seams are where the loaded ribs meet the bottom skins.

Make sure the right side B lines are grouped together and stacked neatly on top of the A lines.



10) Smooth out the fold between the A and B lines.

Repeat steps 8 through 10 to flake the material between the B and C lines.



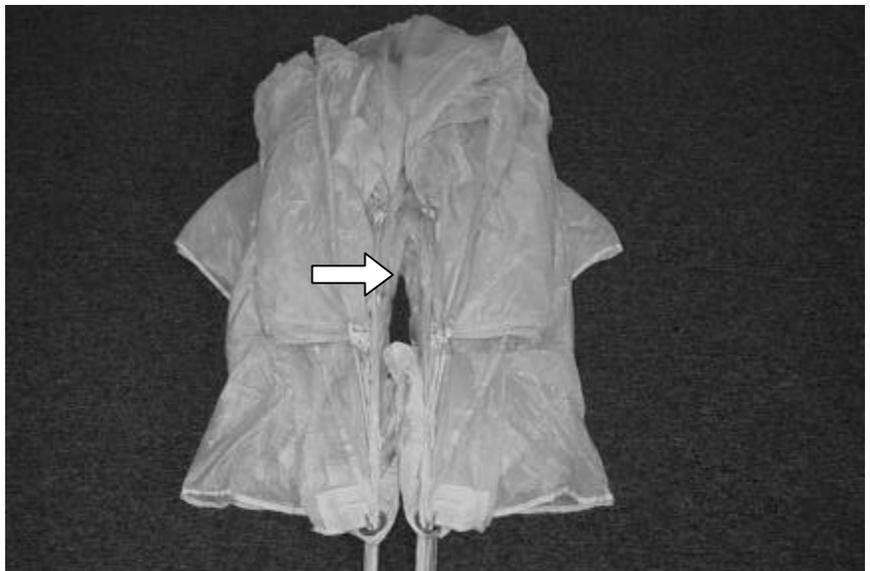
11) Flake the material between the C and D lines away from the line channel in the center of the pack job. Make sure the D lines are grouped together and stacked neatly on top of the A, B, and C lines. It is important to keep even tension on all the line groups throughout the remainder of the pack job. Pulling on the T seams directly above the line attachment points will help keep the lines straight and maintain the folds in the material.



12) Flake the material between the upper control lines toward the outside of the pack job, leaving the control lines stacked neatly on top of the A, B, C, and D lines.



13) Repeat steps 7 through 12 to flake and the left side of the canopy. Make sure the line channel in the center of the pack job is clear, as indicated by the arrow in the picture at right.



14) Quarter the slider, dividing the material evenly between the slider grommets. Make sure the slider grommets are seated against the slider stops sewn into the stabilizers.



15) Dress the center of the tail by spreading out the top center panel to the width of the canopy underneath.



16) Dress the canopy to the width of the bag. Tuck the center tail panel around the canopy, working from the slider end up and making sure not to cover the leading edge.



17) Carefully S-fold the nose under the canopy, making sure the leading edge remains exposed, but does not extend past the edges of the folded canopy.



Proceed to step 15 of the Flat Packing instructions on page 20 of the PD Reserve Owner's Manual.

RESERVE STATIC LINE

In October 1990, Sun Path adopted the Reserve Static Line (RSL) as a standard feature on all JAVELIN harness/container systems. The RSL is a simple, inexpensive but effective way of assuring that the reserve ripcord will be pulled immediately after disconnecting from the main canopy. The RSL is also designed not to interfere whatsoever with manual activation of the reserve.

For the very few cases where immediate reserve activation may not be desired, the JAVELIN RSL features a quick-release, which can be used to disconnect the RSL. This quick-release consists of a snap-shackle, which is normally attached to a small ring on the inboard side of the left main riser. Release of the snap-shackle is accomplished by a quick tug on the red ribbon attached to the release ring.

Some jumpers feel that the RSL should not be connected during Canopy Relative Work, preferring to disconnect from the main and then fall free of a "wrap" before deploying the reserve. Also, if winds are high, the jumper may disconnect the main canopy after landing to avoid being dragged. In this case the quick-release can be used prior to landing to prevent an unnecessary activation of the reserve.

WARNING!

Although the Reserve Static Line is considered to be very dependable, it is only a backup and should never be relied upon entirely for activation of the reserve. In the event of a breakaway or cutaway, the jumper should follow through by pulling the reserve ripcord handle as if there were no Reserve Static Line.

It must also be understood that the Reserve Static Line will NOT operate in the event of a TOTAL malfunction of the main.

ASSEMBLING THE RSL

There is one small ring mounted on the reserve top flap near the end of the reserve ripcord housing. After installing the reserve ripcord in the housing, the cable must be passed through the ring on the end of the Reserve Static Line, then through the ring nearest the grommet in the reserve top flap (**FIG. 1**).

It is important to assemble the cable with the rings in this exact order, the ring nearest the grommet keeps the cable in line with the pin during activation.



After the reserve container is closed and the rigger's seal is installed (if required), the Reserve Static Line must be routed out from under the reserve pin cover at the upper left as shown in (**FIG. 2**).



The loop fastener of the RSL should be mated to the hook fastener on the back of left front reserve riser to bring the RSL over the shoulder. Then the snap-shackle can be connected to the small ring behind the inboard side of the left main riser **(FIG. 3)**.

There should be enough slack in the RSL so that the main riser can be pulled in any direction without putting any tension on the reserve riser. Any slack in the RSL near the reserve pin cover can be tucked under the reserve top flap. (This may vary with the size of the rig.)

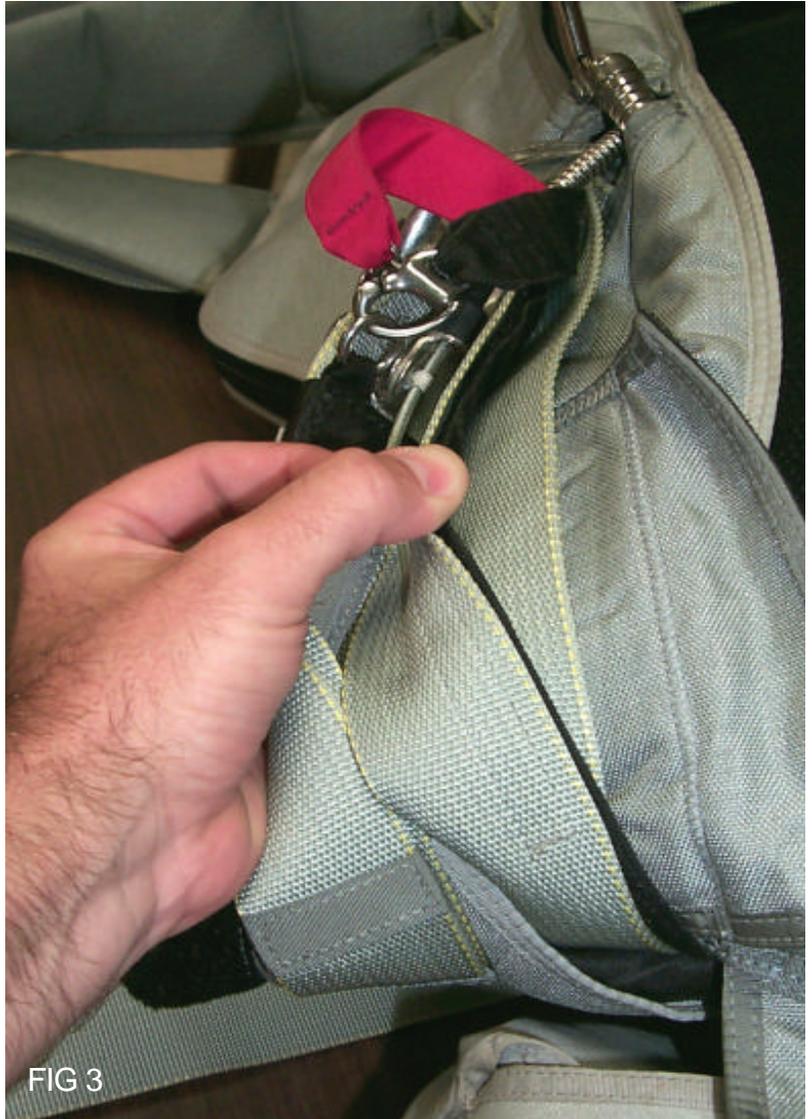


FIG 3

JAVELIN

MJ SERIES

FREEFALL RIPCORD DEPLOYMENT SYSTEM

Please thoroughly read and understand these instructions before using this equipment.

If you do not understand the instructions or the working of the system, please contact Sun Path Products, Inc. before proceeding.

**THANK YOU FOR CHOOSING
THE MOST ADVANCED
MILITARY SYSTEM
IN THE WORLD**

MJN-1 MAIN PACKING

Make a thorough inspection of all components of the main parachute - Spring Pilot Chute, Main Bridle, Deployment bag, Main Canopy, lines, slider, and links, .

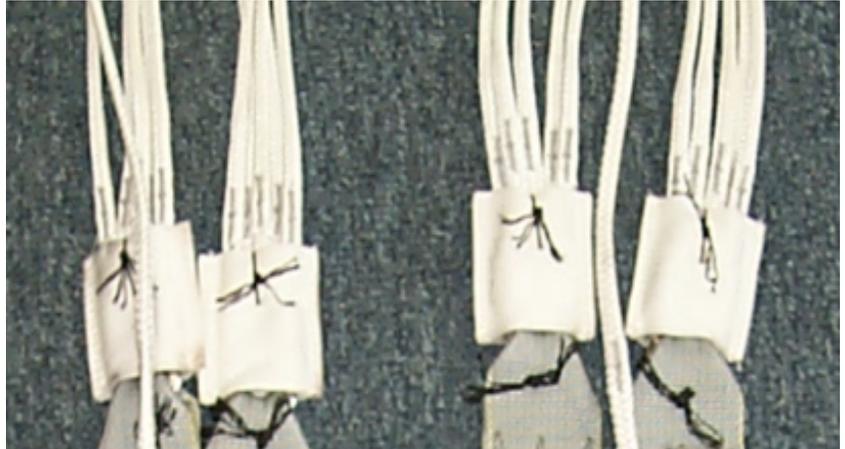


Assembly Procedure

Assemble Links to Risers – run line continuity check prior to tightening the barrels.*
Hand tack the risers below the links.

****Optional Procedure***

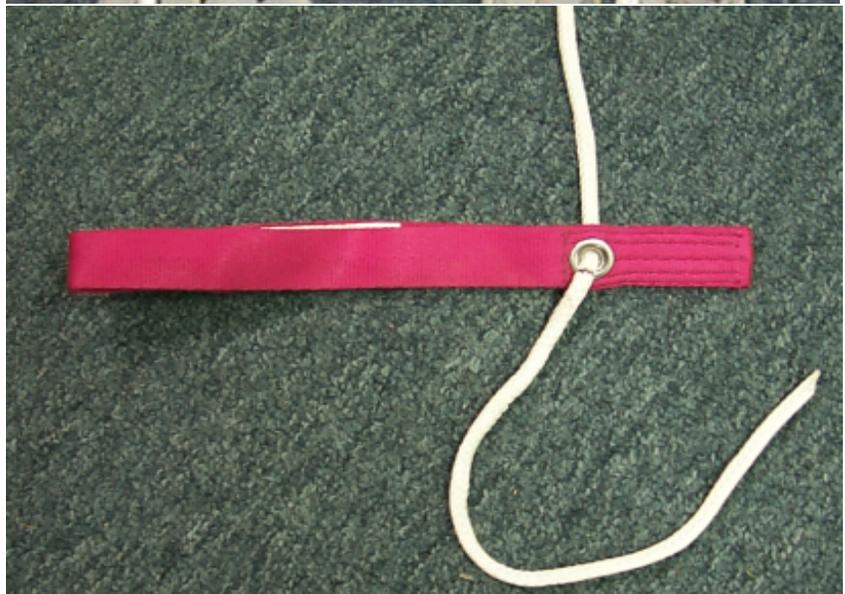
Install Link Protectors.
Hand tack the link protectors in place.



Attaching toggle to lower control line.

Thread end of control line through the steering guide ring then through the grommet from the loop Velcro side and pass around the toggle.

Main Toggles are Yellow/Gold in color!



**MJN-1
MAIN PACKING**

Complete a ½ turn of control line around the toggle and pass end through the grommet.



Set the toggle at the toggle mark and tie off with 1 overhand knot. Make sure to work the knot all the way down to the toggle.



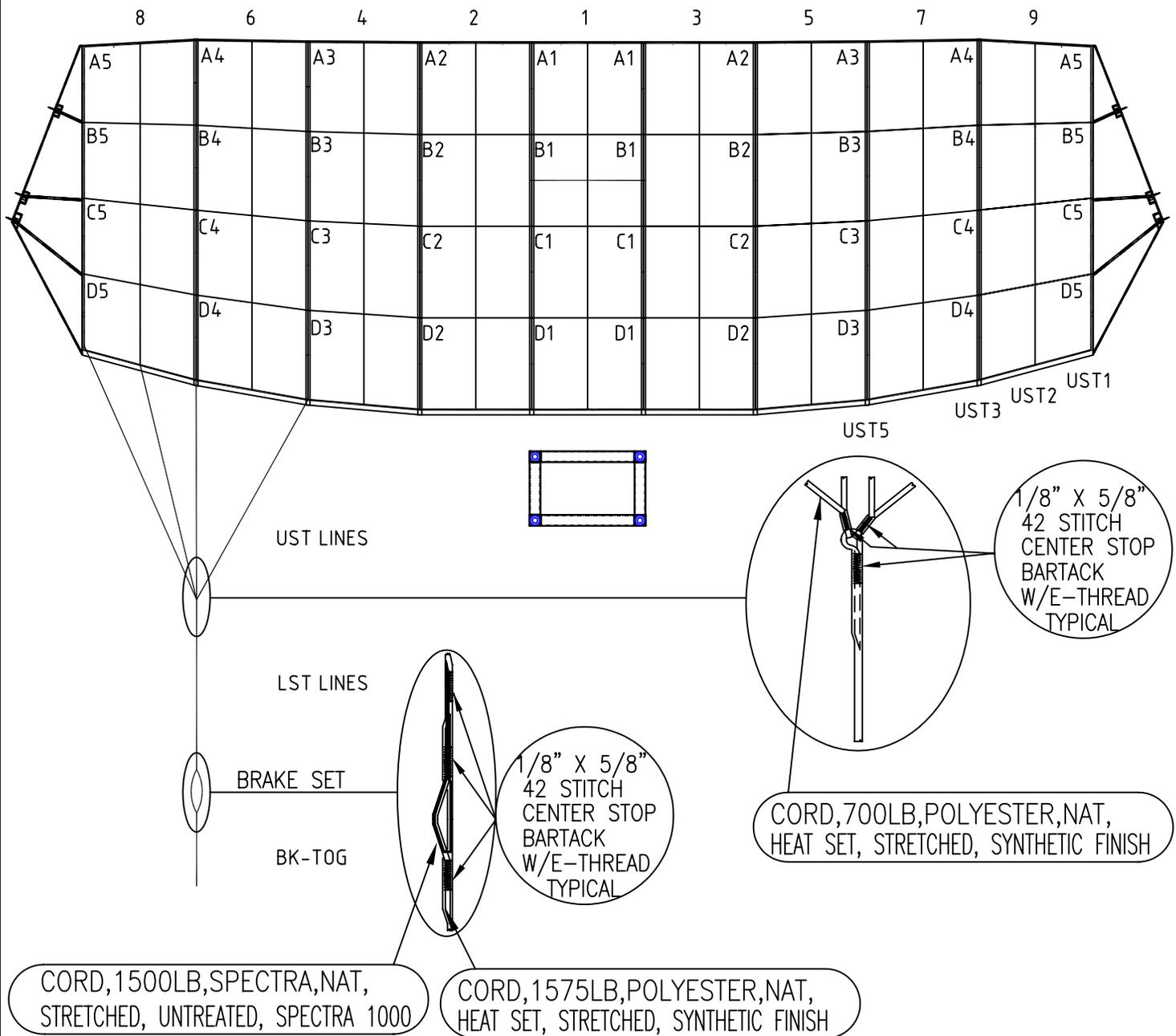
Secure the first overhand knot with a second overhand knot around the first knot.



**Verify Trim Specs for the
Canopy**

Refer to Manufacturers Line Trim Chart

Military Silhouette
MS360



LINE LENGTHS FOR EQUIPMENT INSPECTION

A5 LINE	186 1/4"	± 1"	A5 TO B5	3 3/8"	± 1/2"	A2 TO B2	3 3/4"	± 1/2"
A4 LINE	186 3/8"	± 1"	A5 TO C5	10 1/2"	± 1/2"	A2 TO C2	13 1/2"	± 1/2"
A3 LINE	186 1/2"	± 1"	A5 TO D5	21 1/8"	± 1/2"	A2 TO D2	26 5/8"	± 1/2"
A2 LINE	186 5/8"	± 1"	A4 TO B4	3 3/8"	± 1/2"	A1 TO B1	3 3/4"	± 1/2"
A1 LINE	186 5/8"	± 1"	A4 TO C4	11 7/8"	± 1/2"	A1 TO C1	13 1/2"	± 1/2"
BRAKE TO TOGGLE	23"	± 1/2"	A4 TO D4	24"	± 1/2"	A1 TO D1	26 3/4"	± 1/2"
SEAM TO SEAM TOP SKIN #1	38 1/4" TO 39 1/4"		A3 TO B3	3 5/8"	± 1/2"			
B1 TO C1	32 1/8" TO 33 5/8"		A3 TO C3	13"	± 1/2"	A5 TO UST1	19 1/2"	± 1"
			A3 TO D3	26"	± 1/2"			



1300 E. International Speedway Blvd.
DeLand, Florida 32724

MS-360-M2 Planform
Top Drawing

Date
1 July 2004

By
R. D. R.

Document No.#
TDWG-004

Rev. Sheet
A 1 of 5

**MJN-1
MAIN PACKING**

**MJN-1
MS360 MAIN CANOPY PACKING**

Insert ripcord into cable housing and pocket



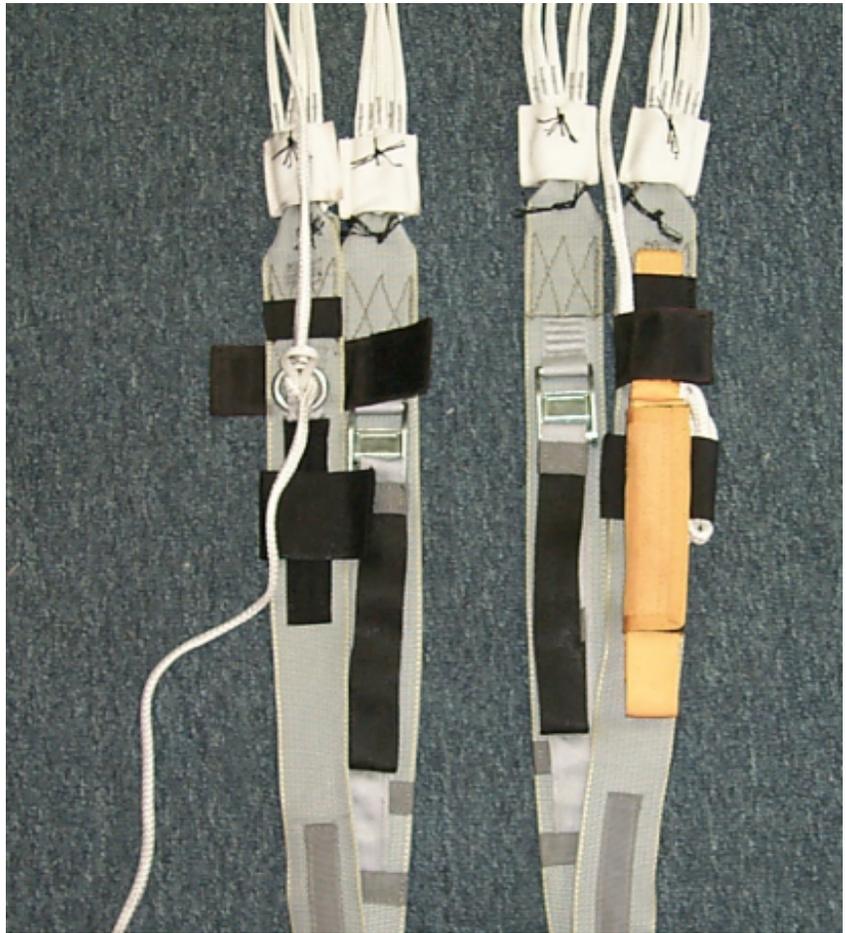
Layout canopy nose to the right
Flake out canopy



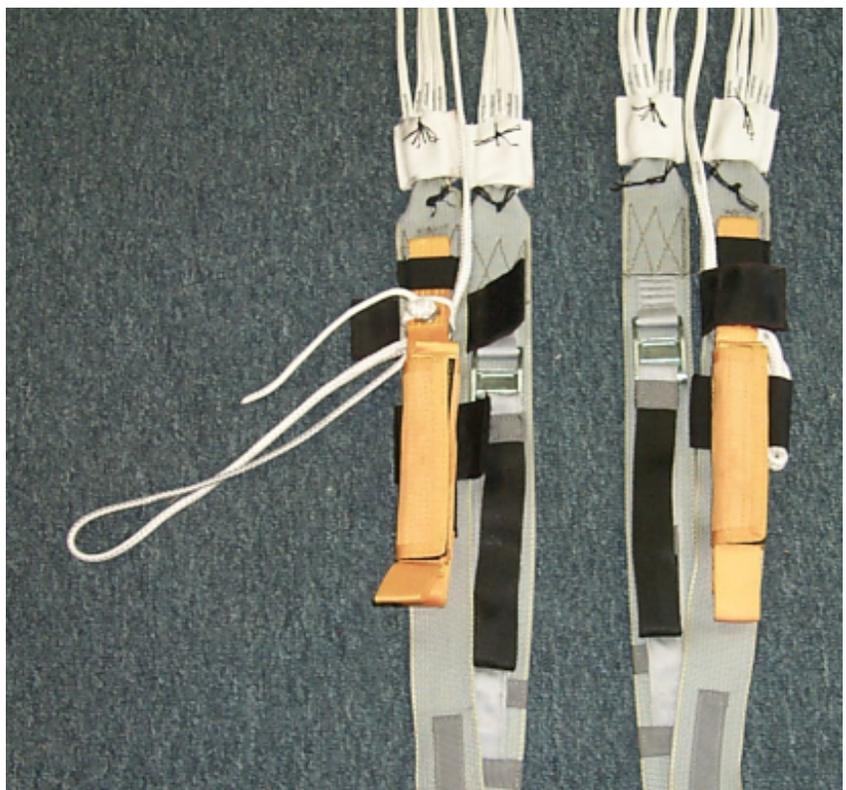
**MJN-1
MAIN PACKING**

Set deployment brakes

Pass brake loop on riser through the fingertrap loop on the main brake line and through the guide ring

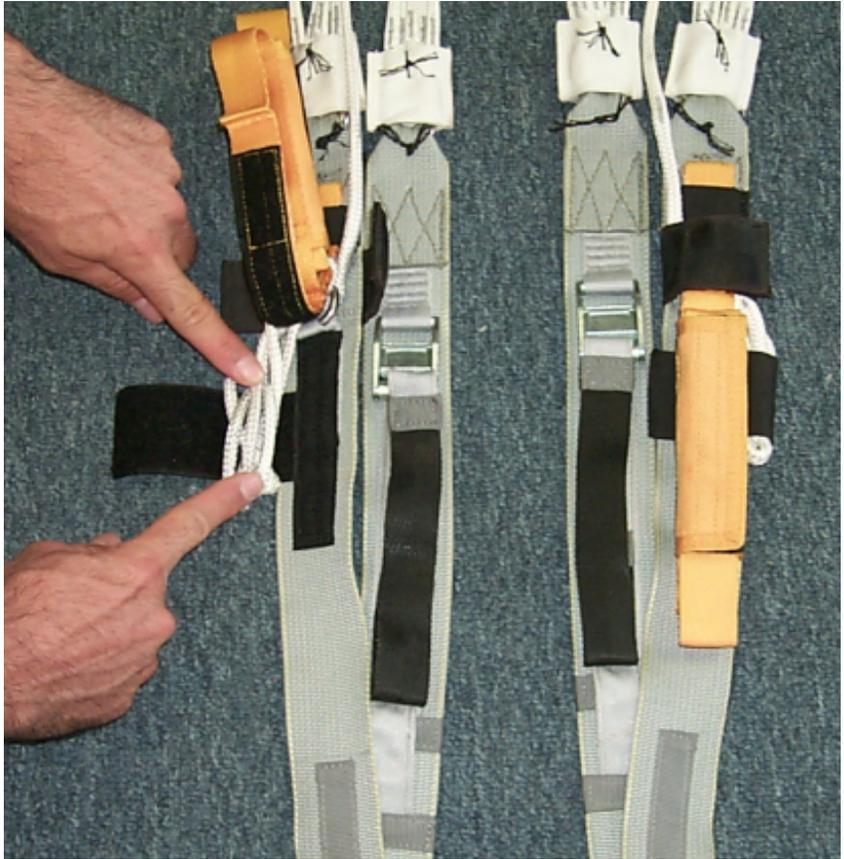


Pass the toggle tip through the brake loop and then secure under the elastic toggle tip keeper

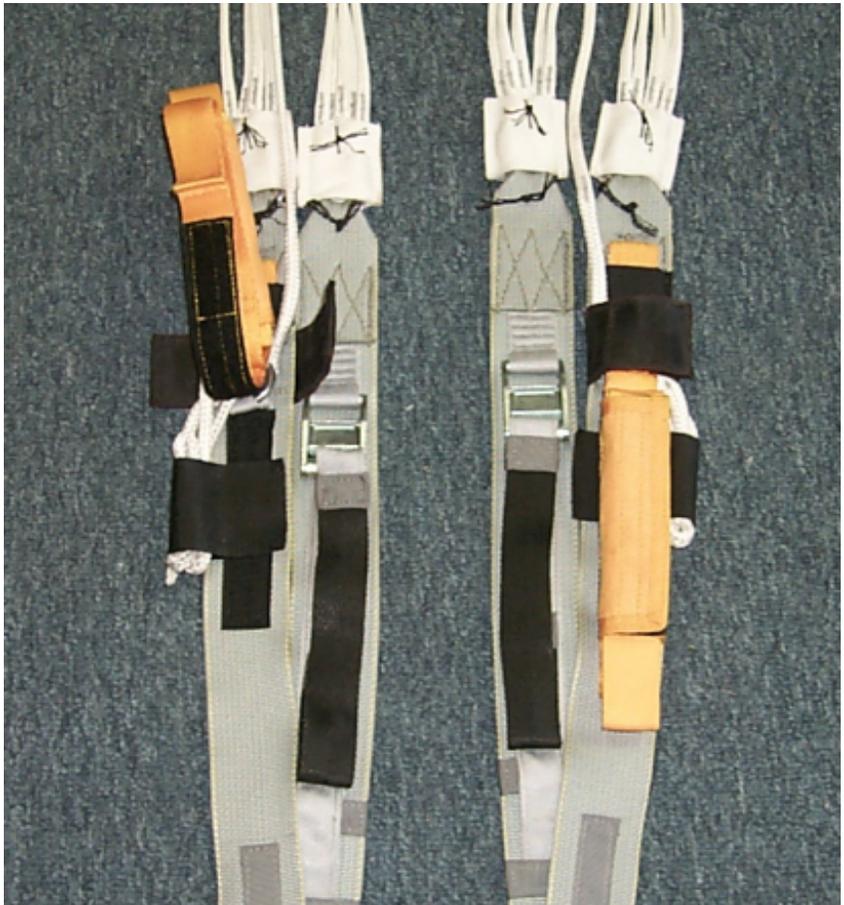


**MJN-1
MAIN PACKING**

Stow the excess brake line in the 2 inch Velcro loop stow



After completing setting of the brakes by mating the toggle in place, check that the trim tabs are reset to a "no-trim" position



MJN-1
MAIN PACKING

RIGGER CHECK

Suspension line continuity check
4-line and brake lines



**MJN-1
MAIN PACKING**

FLAKING THE CANOPY

Fold nose even with line group "A"



Fold line group "A" to line group "B"



Fold group "C" on top of line groups "A" and "B"



**MJN-1
MAIN PACKING**

Fold group "D" on top of line groups
"A, B and C"



Clear stabilizers (3 on the right / 2 on
the left)



**MJN-1
MAIN PACKING**

Flake out canopy tail



**MJN-1
MAIN PACKING**

Bring slider up to canopy (ensure all material is exposed and slider grommets are against stops)

RIGGER CHECK



Open the center cell to full cell width.



**MJN-1
MAIN PACKING**

Fold the stabilizers at 45 deg around the slider.



S-Fold stabilizers on top of slider, the tail edge will be set to line up at the bottom of the "S-Fold" before the next step.



**MJN-1
MAIN PACKING**

Cocoon canopy by wrapping the opened center cell around the canopy.



“S” Fold the remaining canopy



**MJN-1
MAIN PACKING**

Place folded canopy into D-Bag



Using standard rubberbands (2" x 3/8"), secure the mouth flap of the D-Bag



Stow the rest of the lines until there is 6" to 8" of suspension line remaining

RIGGER CHECK



**MJN-1
MAIN PACKING**

Insert deployment bag into pack tray
(Lines to bottom/Kicker plate facing
up)



Place inner flap on top of D-Bag



S-Fold Bridle and collapse pilot
chute on top of bridle and inner
flap

RIGGER CHECK



**MJN-1
MAIN PACKING**

Close main container in the following
sequence:
Bottom flap, Top flap



Left flap



Right flap

Insert ripcord pin

Remove Pull-up Cord



**MJN-1
MAIN PACKING**

Close Top Flap



Sign main parachute Log book



**FINAL
RIGGER
CHECK!**



JAVELIN

MJ SERIES

PARTS

PICTURES

PARTS LIST

RECOMMENDED SPARE PARTS LIST/ORDER FORM

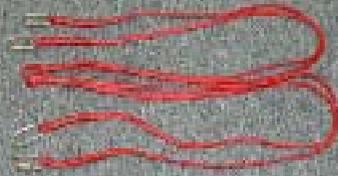
**CSAR-7
SPARE PARTS**

BRIDLE - MAIN SPRING



CPS-JM020-1

**BRIDLE ATTACHMENT
SLING M2**



CPS-AL001-MS

**MS300 REPLACEMENT CENTER
REEFING/BRIDLE LINE M2**



CPS-AL-003-MS300

**BRIDLE - STUDENT
THROWOUT**



CPS-JM020-2

ELASTIC KEEPER 2"



CPS-PE1 A-IRG

MJ LEGPADS-SMALL-BLACK



CPS-JM019-S-BK

MAIN CLOSING LOOP



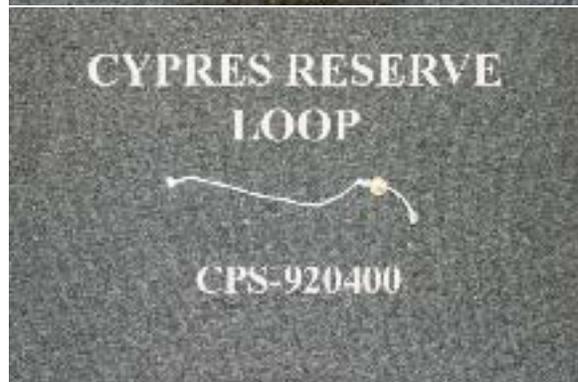
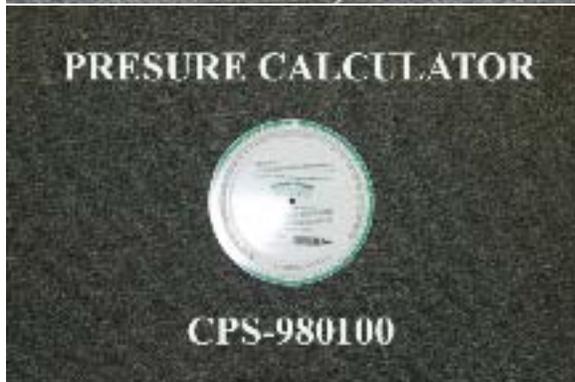
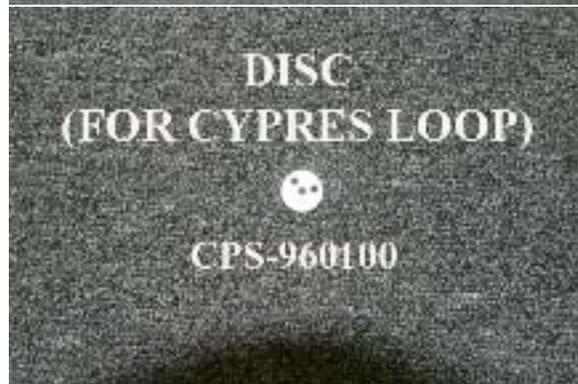
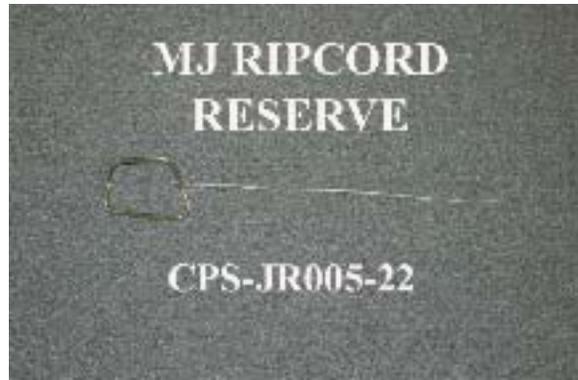
CPS-JM003

MJ - RSL



CPS-JR007

**CSAR-7
SPARE PARTS**



**CSAR-7
SPARE PARTS**

CYPRES BATTERIES



CPS-930001

RAPIDE LINK 3.5



CPS-L.S

**MAIN SLIDER, BLACK,
SS GROMMETS**



CPS-SM-MS300-AL-BLK-SS

RESERVE SLIDER



CPS-SR-TR335-GOL-SS

**ALL STAINLESS STEEL
HARDWARE**



CPS-OP001-SSH

SILICONE TUBE



CPS-960200

**STOWBANDS
REGULAR 2 3/8"**



CPS-PB001-REG

**STOWBANDS LARGE
DBSL, 2 5/8"**



CPS-PB001-TAN

**CSAR-7
SPARE PARTS**

TEMPORARY PIN



CPS-942000

SUPPORT TAPE 1"



CPS-TD

SUPPORT TAPE 3/4"



CPS-TC

SUPPORT TAPE 3/8"



CPS-TA

THREAD - FF - WHITE



CPS-FF-WHT

THREAD - EF - BLUE



CPS-EF-BLU

**MJ TOGGLES
RESERVE - RED**



CPS-JR008-RD

**MJ TOGGLES
MAIN - GOLD**



CPS-JM014-GD

**CSAR-7
SPARE PARTS**



**CSAR-7
SPARE PARTS**

**MS-300 CONTROL
SYSTEM LOWER ONLY**



CPS-CLOO2-MS300

**CUSTOM CONTROL
LINE LENGTH**



CPS-OP001-CCL

**REPLACEMENT
LINESET TR335**



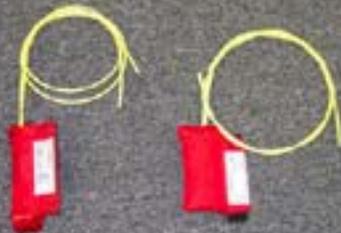
CPS-AL001-TR335

**REPLACEMENT
LINESET MS-300**



CPS-AL001-MS300

CUTAWAY HANDLE



**LOOP STYLE
CPS-JM015-L-RED**

**PILLOW STYLE
CPS-JM015-P-RED**

CSAR7 ASSEMBLY - COMPLETE



CPS-CSAR-7A

**DOUBLE BAG
STATIC LINE BAG INNER**



CPS-JM009-11

**DOUBLE BAG
STATIC LINE BAG OUTER**



CPS-JM008-11

**CSAR-7
SPARE PARTS**

**MAIN BAG
FREEFALL/KICKER PLATE**



CPS-MJ017-2

FLYERS BAG - BLACK



CPS-JM022-BLK

**#6 RAPIDE LINK
(MAIN & RESERVE)**



CPS-LQ

**MJ HARNESS ADJUSTABLE
BLACK**



CPS-JH101M-BK

HOOK KNIFE



CPS-ML 20100

**MAIN CANOPY,
TANGERINE/BLACK**



CPS-MS300-M2-CSAR7

**CSAR-7
SPARE PARTS**



**CSAR-7
SPARE PARTS**



JAVELIN

MJ SERIES

EQUIPMENT SUPPORT PACKAGE

The “Equipment Support Package” if ordered consists of:

- Spare Reserve Freebag and Pilot Chute
- Spare Reserve Ripcord Handle
- Spare Reserve Static Line Lanyard
- Spare Cutaway/Release Handle
- Spare Main Closure Loops (5)
- Stow Bands for Freefall and Static Line

REPAIR AND REPLACEMENT COMPONENTS

Recommended components include:

- Complete Line Sets for Main/Reserve Canopies
 - Main Canopy Risers
 - Main Canopy Slider
 - Canopy Fabric per yard
 - Container Fabric per yard
- Various tapes and webbings per yard

JAVELIN

MJ SERIES

ACCESSORY EQUIPMENT ITEMS

Can include the following:

- Automatic Activation Devices (AAD'S)
 - Oxygen Systems – Personnel
 - Oxygen Systems – Aircraft
 - Helmets - Personnel
- Communication Systems – Personnel
- Navigation Systems – Personnel
 - Altimeters – Visible
 - Altimeters - Audible
- Rigger Field Repair Kits
- Equipment Bags
- Custom Equipment Bags and Holders
- One Man Cargo System

JAVELIN

MJ SERIES

PARACHUTE DATA

Parachutes for Military Tactical Applications

by



The Military Silhouette (MS) series:

The overriding goal of the Military Silhouette Series was to create increased offset capability beyond that of the TM series, while maintaining the TM's capability of landing in tight areas using braked approaches. Additionally, we wanted to insure this superior performance would remain consistent over the entire life-span of the canopy, while maintaining easy pack-ability. Finally, we wanted to provide the option of increasing the forward speed to counter high winds, if desired, through the use of higher wing loadings, while maintaining good landing characteristics.

Benefits of the MS series of main canopies:

- Reduced opening shock on deployment compared to conventional military ram airs.
- Increased load carrying capability and deployment speed range
- Improved offset distance over conventional military ram airs
- Improved capability for landing in tight areas, when compared with current high glide systems.
- Improved landing characteristics, with more forgiveness to operator error
- Multiple sizes allow for compatible performance with varying weights.
(260, 280, 300)

Military Silhouette (MS) Canopy Specifications

Size	Span	Chord center/end	Max. Deployment. Wt./Airspeed	Max. Ldg. Wt.
MS-260	21.7 ft.	10.5 ft. / 9.2 ft.	375 lbs. 150 kts.	315 lbs.
MS-280	22.6 ft.	10.9 ft. / 9.6 ft.	375 lbs. 150 kts.	340 lbs.
MS-300	23.4 ft.	11.3 ft. / 10.0 ft.	375 lbs. 150 kts.	375 lbs.
MS-330	24.5 ft.	11.9 ft. / 10.5 ft.	400 lbs. 150 kts.	400 lbs.

The Tactical Reserve (TR) series:

The overriding goal of the TR series of reserves was to create a canopy that duplicates the performance of the TM series canopies, while being capable of safely operating at much greater weights and airspeeds than conventional ram air reserves. These canopies have been approved under TSO C23d. This is the latest of the TSOs, and requires more test drops at higher safety margins than the older TSO versions used to certify most other military parachute systems. These canopies have also been tested to even higher weights and airspeeds than that required for certification under TSO C23d.

Benefits of the TR series of reserves canopies:

- Reduced opening shock when compared to conventional reserves.
- Increased load carrying capability (equivalent to the TM series)
- Multiple sizes allow for compatible performance with varying weights. (375, 335, 305, 281)
- Certified for 170KT deployment speeds at weights up to 425 pounds.
- Drop tested at 510 pounds up to 240kts.

Tactical Reserve (TR) canopy Specifications

Size	Span	Chord	Max. Deployment. Wt./Airspeed	Max. Ldg. Wt.
TR-281	24.3 ft.	11.6 ft.	425 lbs. 200kts.	340 lbs.
TR-305	25.3 ft.	12.1 ft.	425lbs. 170kts.	369 lbs.
TR-335	26.5 ft.	12.6 ft.	425lbs.170kts.	405 lbs.
TR-375	28.1 ft.	13.4 ft.	425 lbs.170kts.	425 lbs.

THE 3-RING RELEASE

THE 3-RING RELEASE CABLE LENGTHS

After the cables have been installed in the housings of your Javelin harness/container there should be 5 1/2" of excess cable on the user's left-hand and right-hand side. These measurements are based on extensive testing and should not be altered in anyway to change the correct operation of the RSL.

THE 3-RING RELEASE SYSTEM

The 3-Ring Release System was invented by the Relative Workshop in 1976. It was the first practical release that allowed parachutists to jettison their main canopies in one motion by simply pulling a single handle. Not only is the 3-Ring easier to operate than previous canopy release systems, it is also more reliable. Failures of a properly built and assembled 3-Ring system are virtually unknown. Once the main is jettisoned, the only things left on the harness are two smooth rings that cannot snag a deploying reserve. Some other popular release systems can-and have-interfered with the deploying reserve.

GETTING TO KNOW THE 3-RING

Knowing how the 3-Ring release works will help you assemble and inspect it properly. Begin by peeling the release handle from the Velcro on the harness. Peeling, rather than pulling, makes it easier to separate the handle from the webbing. Look behind the risers near the harness and observe the movement of the yellow cable as you pull the handle. When the cable clears the white loop, the release is disengaged. Now slowly pull one of the risers off the harness. As you pull, you'll notice that the white loop gets pulled through the grommet by the action of the smallest ring. Each ring forms a lever with a ten-to-one mechanical advantage as it passes through the other. A force of 1,000 lb. on the large harness ring exerts a force of only ten pounds on the white loop. (Opening shock usually totals about 1,000 lb., or 500 lb. on each riser).

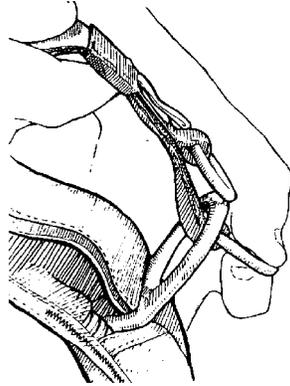
Because of the mechanical advantage provided by the 3-Ring design, only a force of approximately a pound on the top ring keeps the release together. That's why it's important to keep foreign matter like bits of grass and sticks out of the 3-Ring assembly. A small stick in the white loop could prevent a riser from releasing. It is also important to understand one of the properties of the nylon components of the system. When nylon stays in the same position for a long time, it begins to conform to that position, or take a "set". If the 3-Ring release system stays assembled for too long, the nylon can become so stiff that the low drag from a malfunction (such as a streamer) won't pull the riser off the ring. The 3-Ring release system must be disassembled, flexed and inspected every month. Procedures for this are listed in the maintenance chapter of the manual.

ASSEMBLY

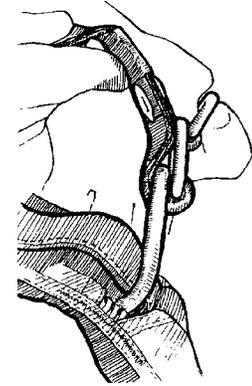
Before assembling the 3-Ring release, make sure the risers aren't twisted or reversed. Lay the JAVELIN face down, as you would to pack it.

1. Thread the cable into its housing and stick the cut away/release handle to the harness. The handle should be positioned as close to the ends of the housings as possible so that no cable is exposed.

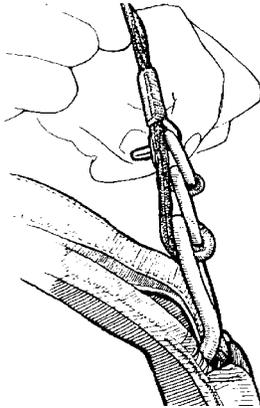
2. With the rings of the riser facing toward the floor, pass the ring on the end of the riser through the large ring from above. Fold it back toward the canopy and risers.



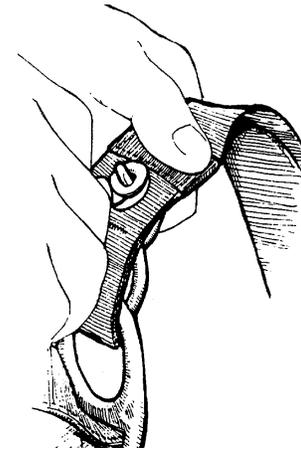
3. Thread the smallest ring through the middle ring in the same way, but make sure it doesn't pass through the large ring.



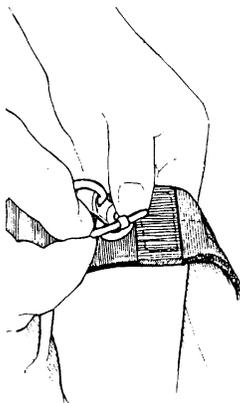
4. Bring the white loop over the small ring only and then through the riser grommet so it pokes out the back of the riser.



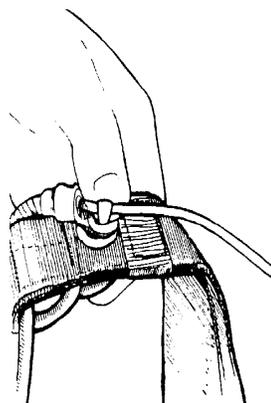
5. Continue threading the white loop through the grommet on the end of the cable housing. The flat side of the cable housing grommet should be against the riser.



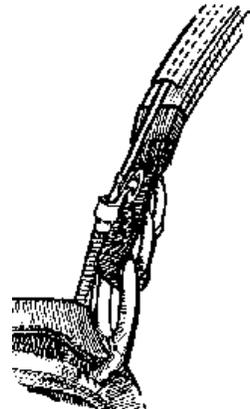
6. Thread the yellow cable through the white loop, making sure the loop isn't twisted.



7. Be careful with the cable so you don't bend it too sharply or kink it.



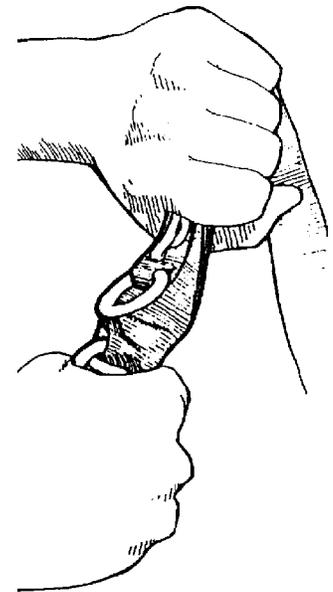
8. Insert the free end in the channel on the back of the riser. Repeat the above steps with the other riser.



REQUIRED PERIODIC MAINTENANCE FOR THE 3-RING

The Booth 3-Ring Release System has been in use for many years with excellent results. Although the system is as durable as the rest of the harness/container assembly, it requires periodic maintenance and inspection to ensure proper operation. Generally it is NOT recommended that the risers be attached to the harness when new and "forgotten." Like all skydiving gear, the 3-Ring Release should be carefully inspected and operated on a regular basis. The procedures below should be done at least every month. This is especially important if the rig has not been used for a month or more, such as during the winter. Immediate inspection is required if it has been subjected to some abuse such as a drag across the runway, a water landing or exposure to a lot of dust or sand.

1. Every month operate the 3-Ring release system on the ground. Extract the cable completely from the housings and disconnect the risers.
2. While the system is disassembled, closely inspect it for wear. Check the white locking loops (the ones that pass over the smallest ring and through the grommet) to be sure they are not frayed.
3. Check the Velcro on the breakaway handle and main lift web to be sure it is clean and adequately holds the handle.
4. Check the cable ends for a smooth finish. The ends are finished at the factory to have a smooth, tapered surface. This prevents the cable from hanging up in the loop. Check the cable ends and consult a rigger or the manufacturer if a burr or "hook" is present.
5. Check the stitching, including that which holds the large rings to the harness.
6. Pull downward on the housings. They shouldn't move downwards more than 1/2 inch.
7. Take each riser and vigorously twist and flex the webbing near where it passes through each ring. The idea is to remove any set or deformation of the webbing. Do the same thing to the white loop.
8. Check the housings for dents or other obstructions. Use the cable to do this.
9. Clean and lubricate the release cable with a light oil such as a "3-in-1" brand. Put a few drops on a paper towel and firmly wipe the cable a few times. A thin invisible film should remain – too much will attract grit and dirt, or the oil could become tacky in cold weather. Too much oil will require more force to extract the cable during a breakaway.
10. Inspect the fittings at the end of each housing. If one of these fittings were to come off the housing, a riser might release prematurely.
11. If any wear is found, consult a rigger or the manufacturer before using the JAVELIN.
12. Reassemble the system. Double check it. Make sure the risers aren't reversed. It's important to maintain the system even more frequently in humid, muddy or freezing conditions. If the JAVELIN becomes immersed in mud or muddy water, clean the 3-Ring release system with a mild solution of soap and water. Any rusted components must be replaced.



MJN Manual

MODIFICATION'S

After initial testing and evaluation the following modifications have been found to be beneficial to the systems overall longevity and performance. These modifications have been implemented as part of an ongoing performance evaluation and should be reviewed to insure compliance. The following post production retrofits can be performed at the organizational or unit level.

MOD 001

RETRO FIT INSTRUCTIONS FOR MAIN RIPCORD HOUSING CHANNEL WITH BOUND EDGE ON INBOARD SIDE. BOTH FIELD AND PRODUCTION REPAIR.

MOD 002

RETRO FIT INSTRUCTIONS FOR MAIN RIPCORD HOUSING CHANNEL WITH BOUND EDGE ON OUTBOARD SIDE.

MOD 003

RETRO FIT INSTRUCTIONS FOR HAND TACKING WEARERS LEFT SIDE RELEASE CABLE HOUSING.

MOD 004

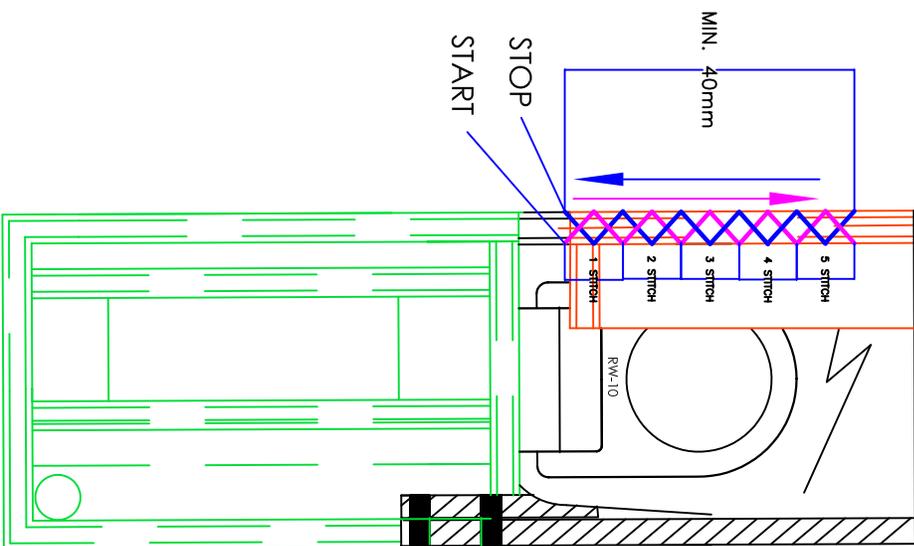
RETRO FIT INSTRUCTIONS FOR VELCRO EXTENSION ON RELEASE HANDLE.

MAIN RIPCORD HOUSING CHANNEL
ATTACHMENT DETAIL BOUND EDGE OUTBOARD

RETRO FIT INSTRUCTIONS FOR MAIN RIPCORD HOUSING CHANNEL WITH BOUND
EDGE ON OUTBOARD SIDE.

FIELD REPAIR ONLY.

1. REMOVE MAIN RIPCORD FROM HOUSING.
2. USING A STRAIGHT OR CURVED TACKING NEEDLE AND SINGLED WAXED SUPERTACK (BLACK). PLACE A MINIMUM OF 5 LACING STITCHES COVERING A MINIMUM OF 40MM (1.5 INCHES) BETWEEN THE LOWER AND UPPER BARTACKS.
3. START AT THE BOTTOM EDGE OF THE LOWER BARTACK AND WORK TOWARDS THE UPPER BARTACK. STITCH SECOND ROW BACK DOWN TOWARDS THE START/STOP POINT. FINISH HAND TACK ON THE BACKPAD PLACING A SURGEONS KNOT LOCKING KNOT TO SECURE HAND TACK.



NOTE:
DRAWING IS NOT TO SCALE

- NOTE:**
1. Unless otherwise noted All Dimensions are in inches.
 2. All thread is Nylon and size E or equivalent unless otherwise noted.
 3. All rope, threed and webbing ends are hotknife sealed unless otherwise noted.
 4. Tolerance +/- 1/4 inch, unless otherwise noted.

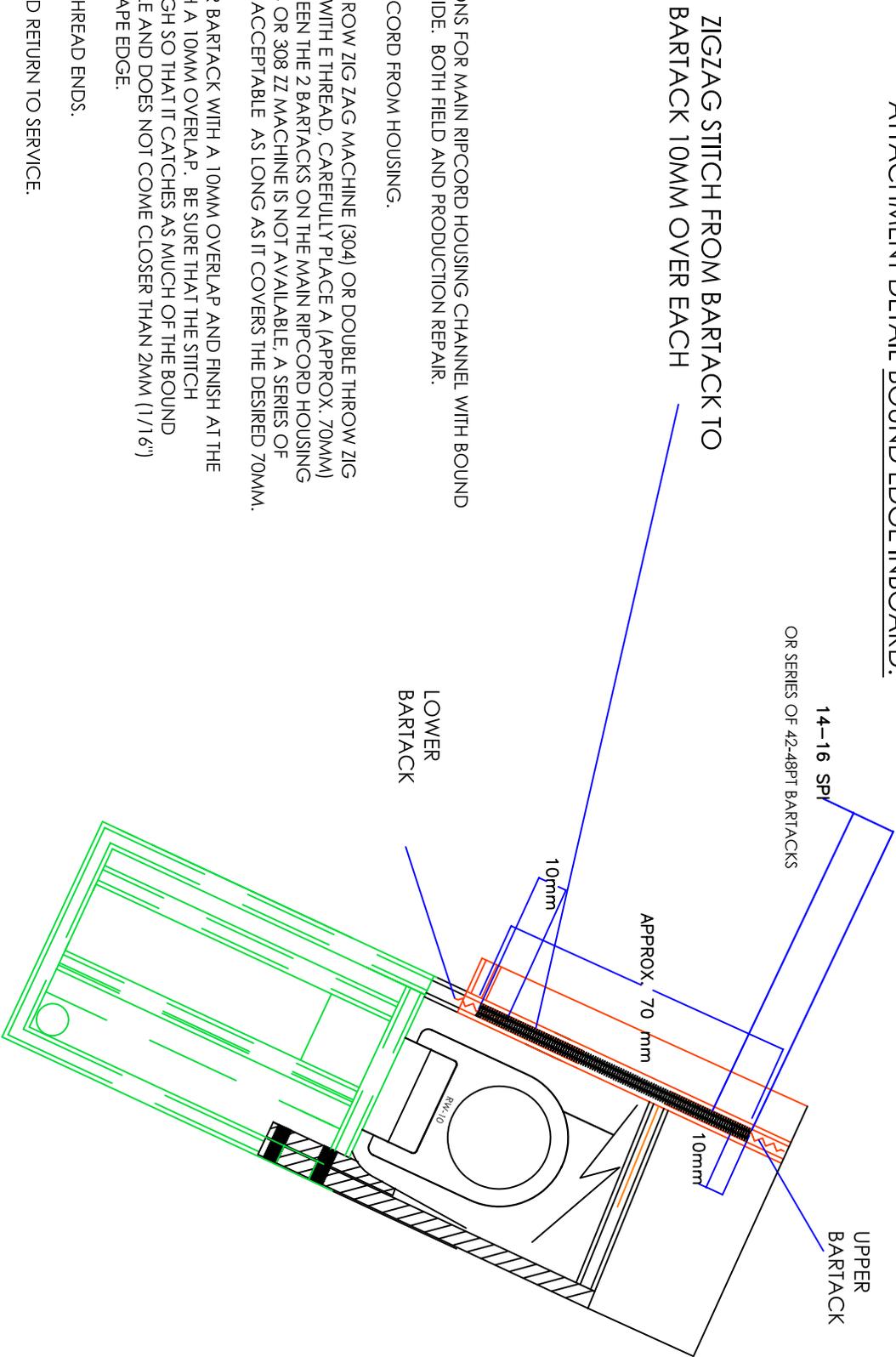
Rev No.	Revision Note	Date	Signature	Checked
1	HAND TACKING TO OUTBOARD FIELD FIX	6/7/05		
-				

DRAWN BY DSINGER	DATE 6/7/05	APPROVED BY APPROVED_BY	FILE NAME RETRO2-OB-WRC-HCHAN	SCALE NONE
Sun Path Products, Inc. 4439 Skydive Lane Zephyrhills, FL 33542-6650 <small>Proprietary Rights Reserved Authorized User Only</small>		TITLE MAIN-1	MOD002	SHEET 1/1



MAIN RIPCORD HOUSING CHANNEL
ATTACHMENT DETAIL BOUND EDGE INBOARD.

Rev. No.	Revision Note	Date	Signature	Checked
1	ADDITION OF ZZ TO MARC HOUSING CHANNEL	6/7/05		
1	ADDITION OF OPTION TO USE DOUBLE THROW ZZ TO ACQUIRE THE DESIRED SPI	6/20/05		



RETRO FIT INSTRUCTIONS FOR MAIN RIPCORD HOUSING CHANNEL WITH BOUND EDGE ON INBOARD SIDE. BOTH FIELD AND PRODUCTION REPAIR.

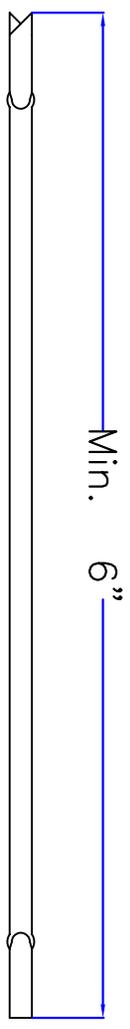
1. REMOVE MAIN RIPCORD FROM HOUSING.
2. USING A SINGLE THROW ZIG ZAG MACHINE (304) OR DOUBLE THROW ZIG ZAG MACHINE (308) WITH E THREAD, CAREFULLY PLACE A (APPROX. 70MM) ZIG ZAG STITCH BETWEEN THE 2 BARTACKS ON THE MAIN RIPCORD HOUSING CHANNEL. IF THE 304 OR 308 ZZ MACHINE IS NOT AVAILABLE, A SERIES OF 42-48PT BARTACKS IS ACCEPTABLE AS LONG AS IT COVERS THE DESIRED 70MM.
3. START ZZ AT LOWER BARTACK WITH A 10MM OVERLAP AND FINISH AT THE UPPER BARTACK WITH A 10MM OVERLAP. BE SURE THAT THE STITCH WIDTH IS WIDE ENOUGH SO THAT IT CATCHES AS MUCH OF THE BOUND MATERIAL AS POSSIBLE AND DOES NOT COME CLOSER THAN 2MM (1/16") FROM THE BINDING TAPE EDGE.
4. CAREFULLY BURN THREAD ENDS.
5. INSPECT WORK AND RETURN TO SERVICE.

NOTE:
DRAWING IS NOT TO SCALE

- NOTE:**
1. Unless otherwise noted All Dimensions are in inches.
 2. All thread is Nylon and size E or equivalent unless otherwise noted.
 3. All tape, thread and webbing ends are hotknife sealed unless otherwise noted.
 4. Tolerance +/- 1/16 inch, unless otherwise noted.

DRAWN BY DSINGER	DATE 6/7/05	APPROVED BY APPROVED_BY	TITLE	FILE NAME RETRO-MARC-CHAN	SCALE NONE
Sun Path Products, Inc. 4439 Skydive Lane Zephyrhills, FL 33542-6650 <small>Authorized User Only</small>			PART NO MAIN-1	MOD001	REVISION 2
			SHEET 1/1		

Rev. No.	Revision Note	Date	Signature	Checked
1	MATERIAL CHANGE FROM 57SLB BRAIDED TO 590LS TYPE III GUTTED	6/7/05		
2	ADDITION OF DIMENSIONS AND TOLERANCES TO LOOP END (FINGERTRAP)	6/20/05		

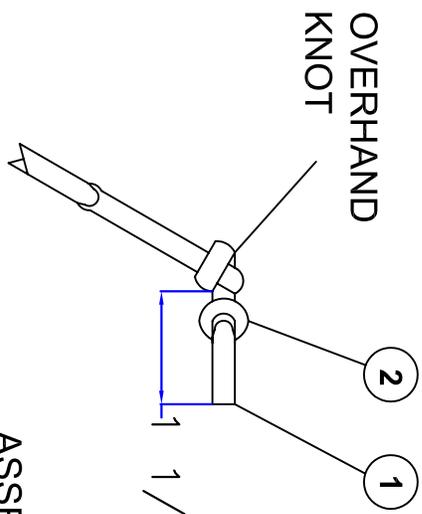


TOP VIEW



SIDE VIEW

MARK AT



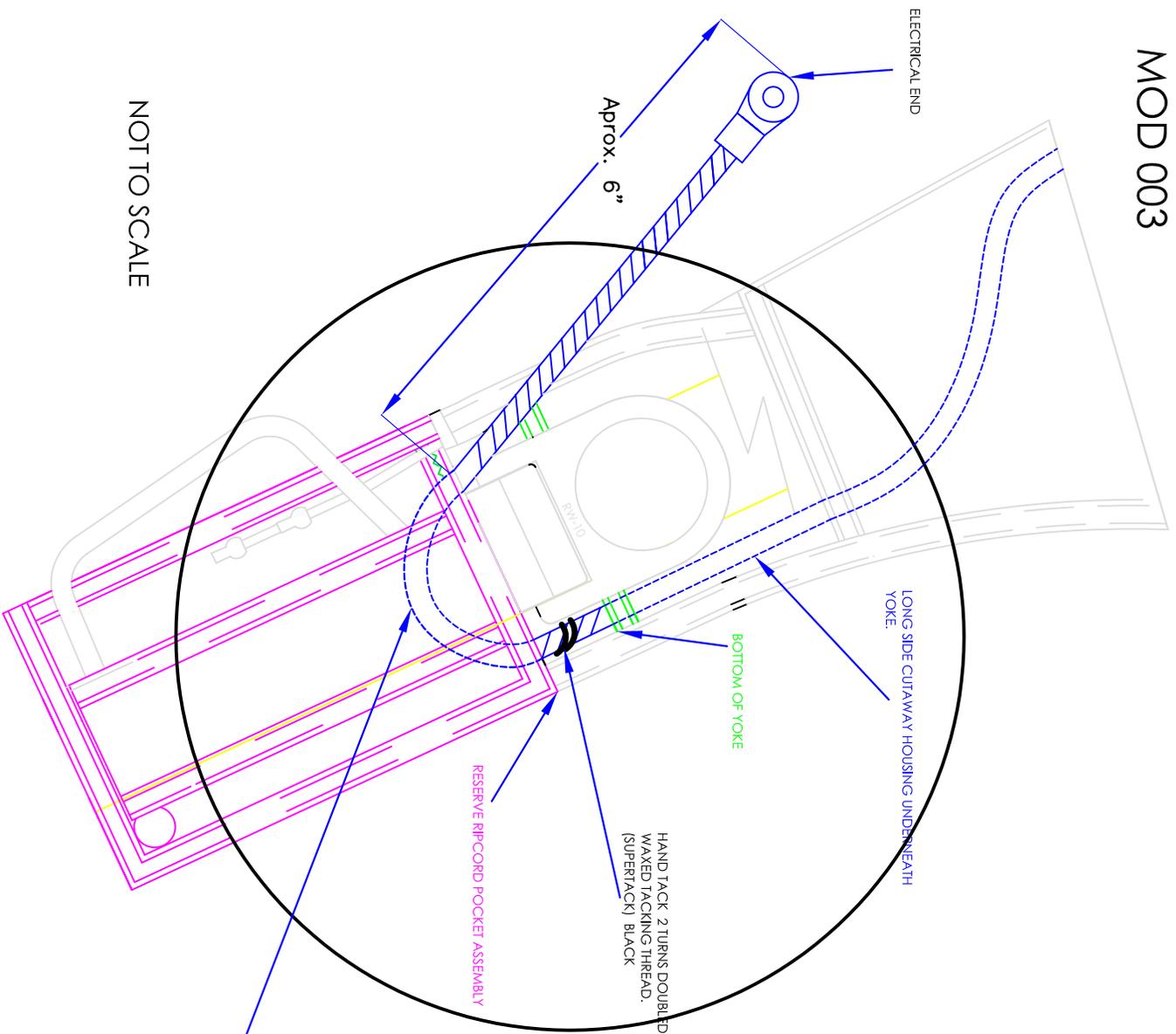
ASSEMBLED VIEW

ENDS TO BE SINGED TO PREVENT FRAYING

Rev. No.	Revision Note	Date	Signature	Checked
1	Washer Galvanized #10			
2	550 lb TYPE III (OD GREEN) GUTTED			
3				

DRAWN BY NTG	DATE 1/23/03	APPROVED BY APPROVED BY	FILE NAME MAN-1-CLOSING-LOOP	SCALE NONE
Sun Path Products, Inc. 4439 Skydive Lane Zephyrhills, FL 33542-6650 <small>Authorized User Only</small>			TITLE PART NO JM003-1	SHEET 1/1

- NOTE:**
1. Unless otherwise noted, ALL Dimensions are in inches.
 2. All parts shall be finished unless otherwise noted.
 3. All parts, thread and welding ends are hotchfile sealed unless otherwise noted.
 4. Tolerances +/-1/4 Inch, unless otherwise noted.



NOT TO SCALE

Rev. No.	Revision Note	Date	Signature	Checked
1	ADDITION OF NOTE FOR HIDDEN PORTION OF RELEASE HOUSING.	20 JUNE 05	DLS	Checked

NOTE:
 ADJUST THE RELEASE HOUSING SO THAT THERE IS APPROXIMATELY 6 INCHES FROM THE END OF THE HOUSING TO WHERE IT ENTERS BEHIND THE RESERVE RIPCORD POCKET ASSEMBLY. (THIS WILL ALLOW FOR PROPER LOCATION OF THE EXCESS CABLE HOUSING BEHIND THE RESERVE RIPCORD POCKET ASSEMBLY). THERE SHOULD BE APPROX. 255mm +/- 13mm OR 10" +/- 1/2" FROM THE TACKLING POINT TO THE ELECTRICAL END.

PLACE A HAND TACK (2 TURNS DOUBLED WAXED TACKING CORD, SUPERTACK) BETWEEN THE BOTTOM OF THE YOKE AND THE TOP OF THE RESERVE RIPCORD POCKET ASSEMBLY TO SECURE THE LONG SIDE CUTAWAY HOUSING. START AND STOP ON THE BACK PAD, SECURE WITH A SURGEONS KNOT, LOCKING KNOT.

REFERENCE ONLY:
 LOOP PORTION OF LONG SIDE RELEASE HOUSING IS POSITIONED BEHIND THE RESERVE RIPCORD POCKET.

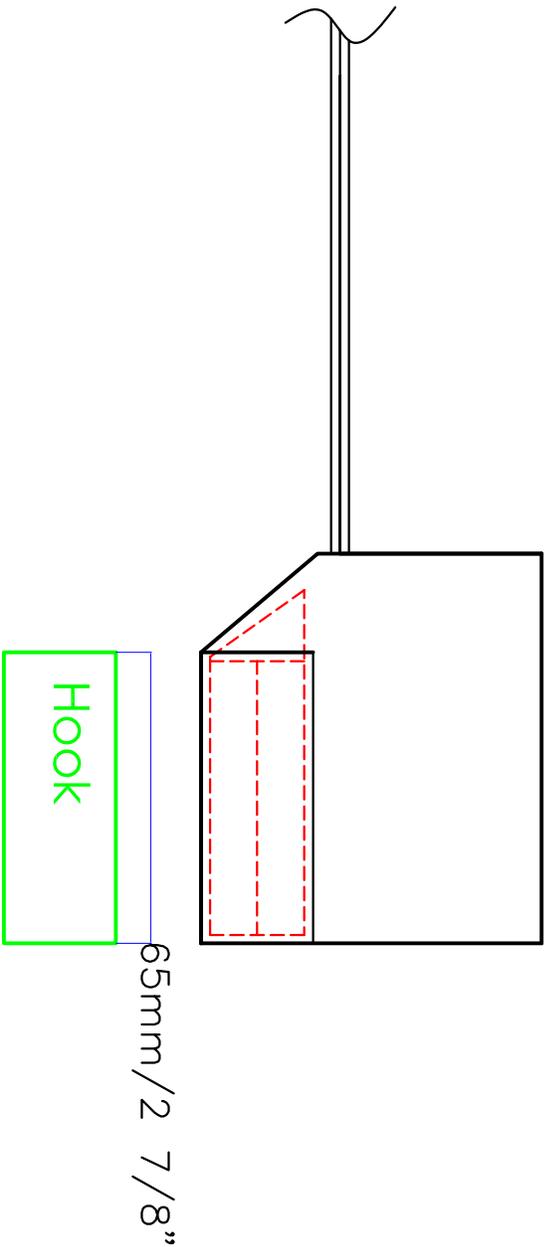
- NOTE:**
1. Unless otherwise noted All Dimensions are in Millimeters.
 2. All thread is Nylon and size E or equivalent unless otherwise noted.
 3. All tape, thread and webbing ends are not knitted unless otherwise noted.
 4. Tolerance +/- .3mm, unless otherwise noted.

DRAWN BY DSINGER	DATE 6/14/05	APPROVED BY DSINGER	TITLE	FILE NAME MOD003	SCALE NONE
Sun Path Products, Inc. 4439 Skydive Lane Zephyrhills, FL 33542-6650 <small>Authorized User Only</small>			 PART NO XXXXXX	MOD003	SHEET 1 / 1

Rev. No.	Revision Note	Date	Signature	Checked
Rev. No.	Revision Note	Date	Signature	Checked

NOTE:

Hot knife cut a piece of Hook Velcro at 65mm or 2 7/8".



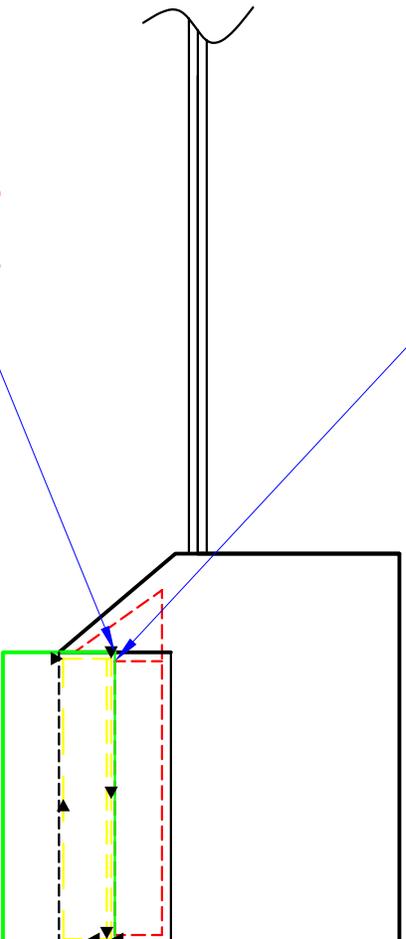
NOTE:

1. Unless otherwise noted All Dimensions are in Millimeters.
2. All thread is Nylon and size E or equivalent unless otherwise noted.
3. All tape, thread and webbing ends are hotknife seared unless otherwise noted.
4. Tolerance +/- .3mm, unless otherwise noted.

DRAWN BY DSINGER	DATE 11/23/05	APPROVED BY DSINGER	FILE NAME MOD0004.DWG	SCALE NONE
Sun Path Products, Inc. 4439 Skydive Lane Zephyrhills, FL 33542-6650 <small>Proprietary Rights of Sun Path Products, Inc. Authorized Use Only</small>		TITLE VELCRO-EXTENSION-CUTAWAY		
PART NO XXXXXX		REVISION 0		SHEET 1/2

NOTE 1 :

Place the 65mm hook on top of the sewn hook on the handle so that a stitch line through the long edge of the new hook will fall on top of the center stitch in the already sewn on hook.



NOTE 3 :

Sew up the edge of the new hook and around it as per the pattern shown. Oversew to be the length of the hook.

NOTE 2 :

Sew the hook in place with a single needle walking foot or equivalent machine using Nylon E-Thread. Thread color is not an issue although a contrasting thread may make identifying those handles already modified an easier task.

Rev. No.	Revision Note	Date	Signature	Checked
Rev. No.	Revision Note	Date	Signature	Checked

NOTE:

1. Unless otherwise noted All Dimensions are in Millimeters.
2. All Thread is Nylon and size E or equivalent unless otherwise noted.
3. All tape, thread and webbing ends are not knit unless otherwise noted.
4. Tolerance +/- .3mm, unless otherwise noted.

DRAWN BY DSINGER	DATE 12/05/05	APPROVED BY DSINGER	FILE NAME MOD004.DWG	SCALE NONE
Sun Path Products, Inc. 4439 Skydive Lane Zephyrhills, FL 33542-6650 <small>Proprietor Rights of Authorized Use Only</small>				TITLE VERLO-EXTENSION-CUI/AMAY
PART NO XXXXXX			REVISION 0	SHEET 2/2

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