

These are supplemental Packing Instruction for the WLO v2 Toggles only.

This is not a complete Owners Manual.

For a complete manual contact Apex BASE.

**Apex BASE**  
**Owner's Manual**  
WLO v2 Supplement  
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The information contained in this manual is time sensitive. Because the sport of fixed object parachuting is advancing at a high rate some of the information will become outdated. When? Time will tell. Contact Apex BASE for details on current manuals.

**!!! WARNING !!!**

**You will die. You were born. You will live and you will die. You may die while BASE (fixed object) jumping as others have. It is your responsibility to prepare yourself and your heirs for any eventuality that may arise from your participation in such activities as parachute jumping. Parachutes sometimes malfunction, even when they are properly designed, built, assembled, packed, maintained and used. The results of such malfunctions are sometimes serious injury or death.**

**If you are unwilling to accept full and complete responsibility for your activity you may return unused equipment to Apex BASE for a complete refund. By keeping or using any equipment you are accepting full responsibility and agree not to sue or make claims against The Uninsured Basic Research Inc., DBA Apex BASE, or its directors, owners, shareholders, officers, employees, designers, suppliers.**

**Disclaimer – No Warranty**

**Because of the unavoidable danger associated with the use of parachute equipment, the manufacturer makes no warranty, either express or implied. The equipment is sold with all faults and without any warranty of fitness for any purpose. The manufacturer also disclaims any liability in tort for damages, direct or consequential, including personal injuries, resulting from a malfunction or from defect in design, material, workmanship, or manufacturing whether caused by negligence on part of the manufacturer or otherwise. By using this equipment, or allowing it to be used by others, the buyer waives any liability for personal injuries or other damages arising from such use. If the buyer declines to waive liability on the part of the manufacturer, the buyer may obtain a full refund of the purchase price by returning the equipment and all parts, before it is used, to the manufacturer within 30 days from date of delivery with a letter stating why it was returned.**

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# **Welcome to Apex BASE**

## **Please read the following information**

### **Training Required**

It is recommended to have a minimum of 150 parachute jumps before attempting any BASE, fixed object jump. It is recommended you receive direct and qualified instruction on the use, maintenance and packing of this equipment. It is also recommended you receive direct and qualified instruction on the techniques and procedures of BASE jumping before using this equipment.

Training is necessary to reduce the possibility of injury or death. This manual is to help familiarize its users with the equipment - IT IS NOT a training manual on fixed object jumping, and must not be used as such. It must not be used as a sole source of information but should be a supplement to direct and qualified instruction.

### **Warning**

#### **Release System**

Apex BASE offers several releasable components-3-Ring risers and WLO Toggles to mention a couple. Any component has the possibility of creating injury or death if not properly packed, used, maintained, designed, and constructed, however a component that IS designed to release will always have the possibility of release when it is not intended. An accidental release of any component could cause serious injury or death. Non-releasable versions of the components do exist. The releasable 3-Ring riser can be substituted with L-bar risers for a more secure attachment or the risers can be built into the harness. By the same token standard (EZ Grab) toggles can be used avoiding the releasable WLO toggle type. The reason both the 3-Ring and WLO toggles have become popular is because they work, BUT THEY ARE NOT 100%. Releasable components may release when they should not, and as a result injury or death may occur.

**Read all warning labels and all instruction before using or packing any parachute equipment.**

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# 12- WLO Toggles version 2

## **Warning**

### **Release System**

Releasable components may release when they should not, as a result injury or death may occur. Non-releasable substitution may be available. For more information please read page 6.

### 12.1 Description

The WLO (What Line-Over?) toggle incorporates a release capability to release the control line in the event of a line-over. The WLO does require additional emergency procedures. The WLO LRT toggles are not your standard toggles, they do have a stiff folded end, a loop for the hand, and pile Velcro to mate with the riser. But there is more, they include a Release Lanyard with a Stainless Steel straight pin at one end and a small metal ring at the other. Between the pin and the ring there is hook Velcro and a cable stiffener. Only use a control line with a sewn toggle loop with the WLO toggle. If the control line is tied onto the WLO toggle (not recommended) the knot will prevent the passage of the control line through the keeper ring and slider, therefore preventing the line-over from clearing.

### 12.2 Assembly

Determine assembly needs– No Slider or slider up?

Proper set up with no slider includes the line mod. Therefore, when the brakes are unstowed, the control line runs straight from the toggle (your hand) to the trailing edge of the canopy without passing through anything Drawing 14.6-4.

OR

Proper set up with a slider, the control lines MUST pass through the riser guide rings and the rear slider grommets. Drawing 14.6-5

WLO LRT toggle onto a control line with sewn loop.

12.2-1a Locate the right lower control line and a WLO toggle.

-1b Pass control line through the toggle grommet from the back of the toggle. Drawing 12.6-1

-1c Pass the pin through the toggle loop in the control line. Then tuck pin into the slot provided above grommet. Drawing 12.6-2. The pin should extent beyond the control line 3/4 of an inch (20 mm). The widening part of the pin should be visible immediately under the control line loop. This is a good visual reference that MUST be checked during each pack job– it will ensure that the pin is completely stowed.

-1d Mate the Release Lanyard Velcro on the front side of toggle. Start at bottom pushing any slack toward top (under ring). Tuck the stiff tab into the slot above the Velcro (below grommet). Drawing 12.6-3

-1e Repeat 12.2-1a through 12.2-1d for the left lower control line and the remaining toggle.

-1f Confirm proper continuity and routing for no slider or slider. Drawing 14.6-4 or 14.6-5

### 12.3 Packing

12.3-1 Setting brakes using the line mod with WLO LRT toggles, for no slider deployments.

-1a Ensure proper line mod set up, when the brakes are unstowed, the control line runs straight from the toggle (your hand) to the trailing edge of the canopy without passing through anything else.

-1b Insure proper upper and lower control line continuity.

-1c Determine which brake setting to be used. Then pass the riser loop through the cats eye loop in the control line. Drawing 14.6-6

-1d Pass the riser loop through the riser guide ring. Note: when using the line mod the control line does not pass through the guide ring. Drawing 14.6-7

-1e Put the top of the toggle through the riser loop and stow the top of the toggle in the keeper provided on the riser. Drawing 14.6-8 shows the left riser and toggle (top of toggle keeper to the inside.)

-1f Stow the excess control line by S-folding them into the elastic keeper provided on the front side of the rear riser. Drawing 14.6-9

-1g The finished brake stows should look like Drawing 14.6-12. The control lines both come from the outside, pass by the toggle toward the inside and around to the front of the riser.

-1h Check proper routing of the WLO LRT toggles. Viewing the finished stow from the profile, you should see the riser then **Line, Ring, Toggle or LRT**. The top of the toggle must never pass through the guide ring.

12.3-2 Setting brakes using a slider with the WLO LRT toggles, for slider up deployments.

-2a Ensure proper set up with a slider, the control lines MUST pass through the risers' guide rings and the slider grommets.

-2b Pull the toggle down so that the desired cats eye is below the guide ring. With a slider up deployment this is

typically the number 1 brake loop (counting from the toggle).

-2c Pass the top of the toggle through the cats eye Drawing 12.6-4, and stow the top of the toggle in the keeper provided on the riser. The riser loop is not used when a slider is being used. Simply pull the riser loop to one side. Drawing 14.6-11.

-2d Stow the excess control line by S-folding it into the elastic keeper provided on the front side of the rear riser. Drawing 14.6-9. The control lines both come from the outside, pass by the toggle toward the inside and around to the front of the riser. The top of the toggle must never pass through the guide ring.

### **12.4 Use**

Normal Operation- To operate the WLO LRT toggle, firmly grasp the toggle hand loop, and pull down. This action will remove the top of the toggle from the riser loop (line mod) or cats eye (slider up) releasing the brake setting. Use the toggles to fly in a normal manner.

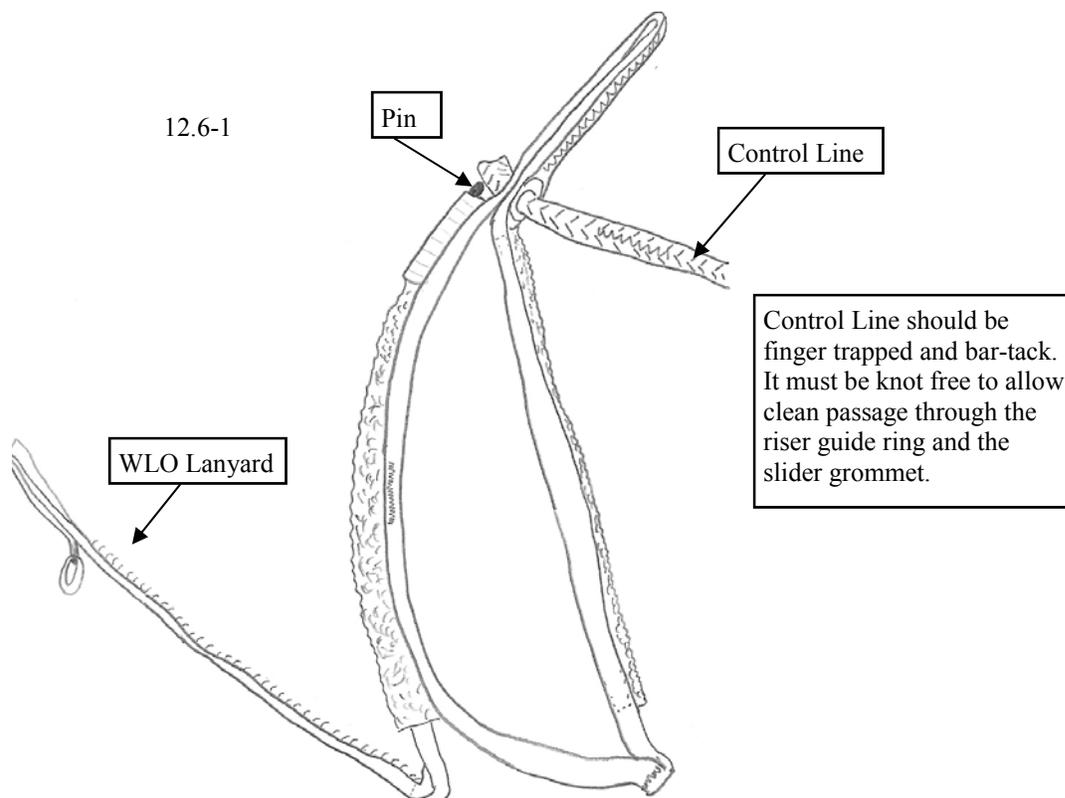
In the event of a line over the WLO toggle can be used to free the control lines (which are typically the culprit of the line-over). To release the control line you must leave the toggle stowed forgoing the “Normal Operation.” With one motion grasp the ring near the top of the lanyard and pull down, continue the downward pull until the toggle has been removed from the riser (Apex BASE recommends practicing a procedure that allows a good grip of the lanyard). The control lines should now be free clearing the line-over. However, the excess control line (that is stowed) may become “stuck” and could require manual release. The toggle will now be completely free from the riser and the control line, therefore, it can be lost. Prepare for rear riser flight/landing. Directional control is achieved with rear riser input (pulling down slightly). Rear riser flares are more difficult because the parachute will stall easily.

Apex BASE does not recommend using the WLO emergency procedure instead of the Line Mod emergency procedure for no slider jumps. The Line Mod emergency procedure does require proficient use (as does the WLO) however it is our belief that the Line Mod can be enacted quicker than the use of the WLO at low altitudes. The WLO toggle is intended for use (as an emergency procedure) with slider deployments. It is for this reason we have provided both no slider and slider up details in 12.2 Assembly and 12.3 Packing.

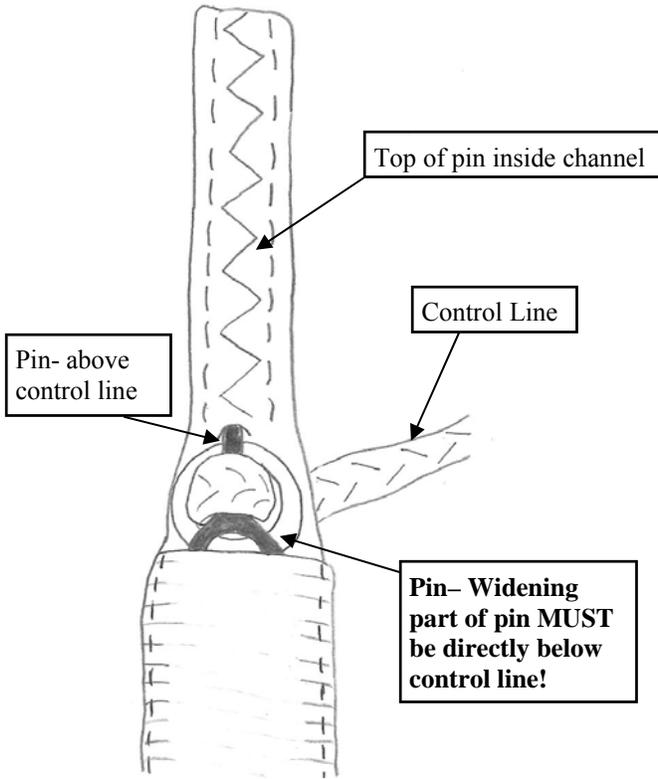
### **12.5 Maintenance**

The pile Velcro on the toggle will wear out in time after use. This Velcro should be replaced around 75 to 100 uses. Any other damaged or worn items should be repaired or replaced. Use only Apex BASE replacement parts.

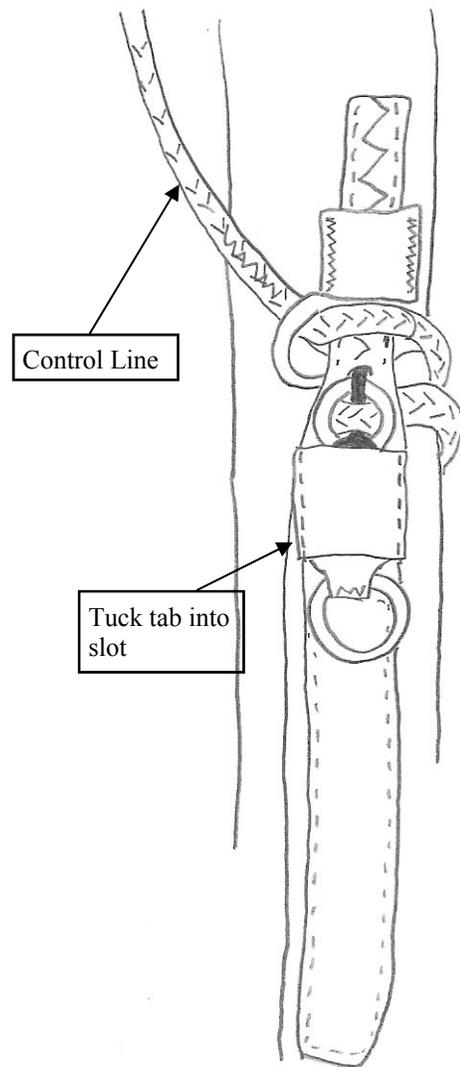
### **12.6 Drawings**



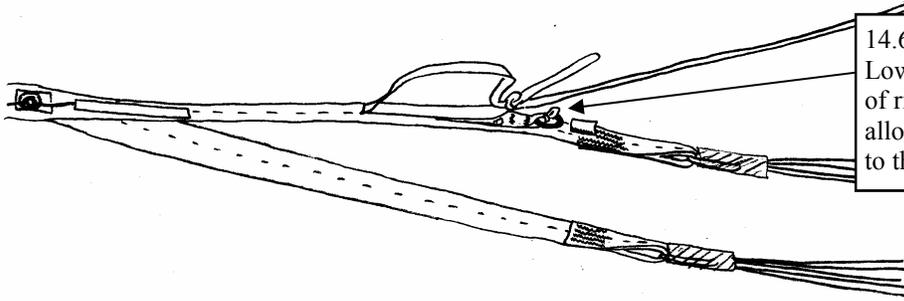
12.6-2



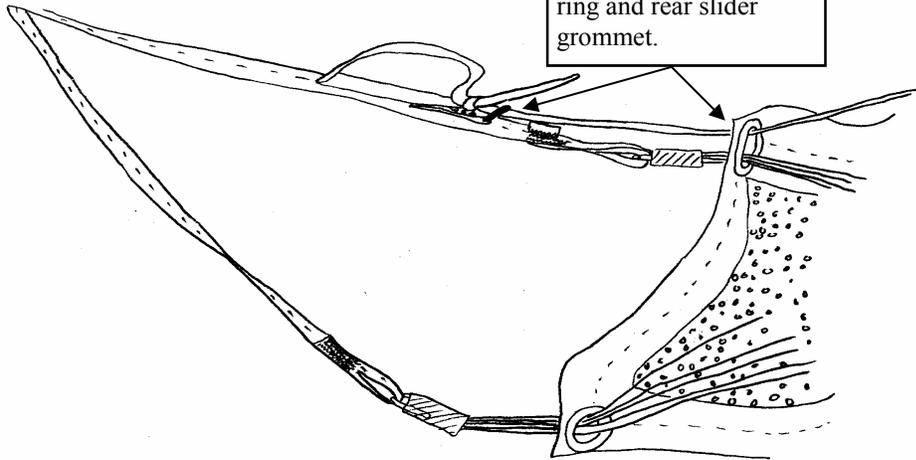
12.6-3



Left

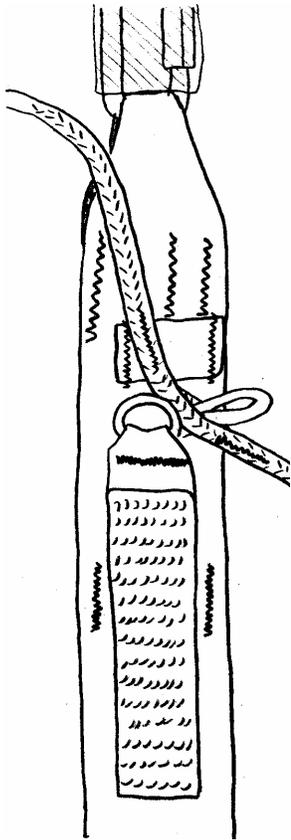


14.6-4 Line Mod. No slider  
Lower control lines run free  
of riser guide ring thus  
allowing them to pass directly  
to the canopy.

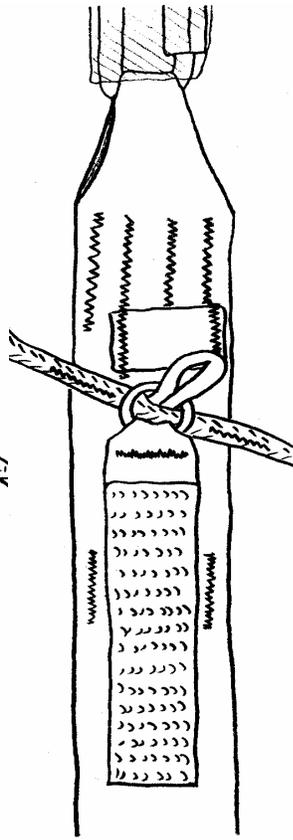


14.6-5 With Slider-  
Lower control line must  
pass through riser guide  
ring and rear slider  
grommet.

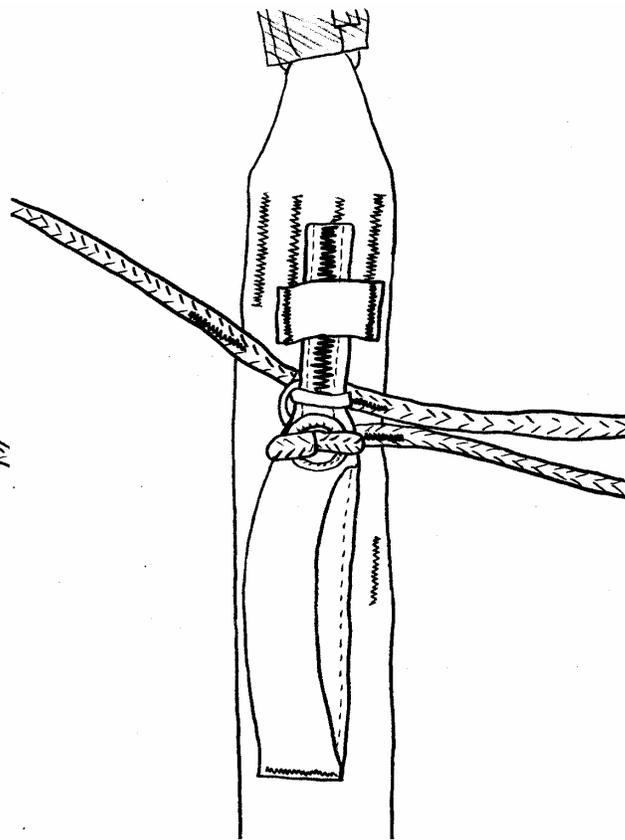
14.6-6



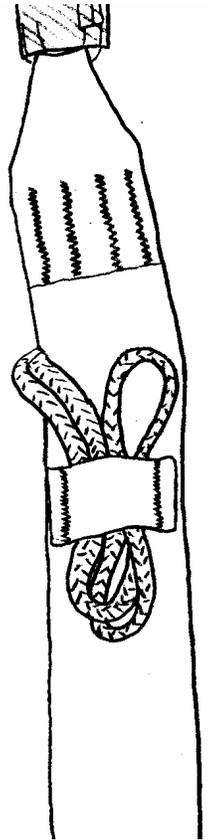
14.6-7



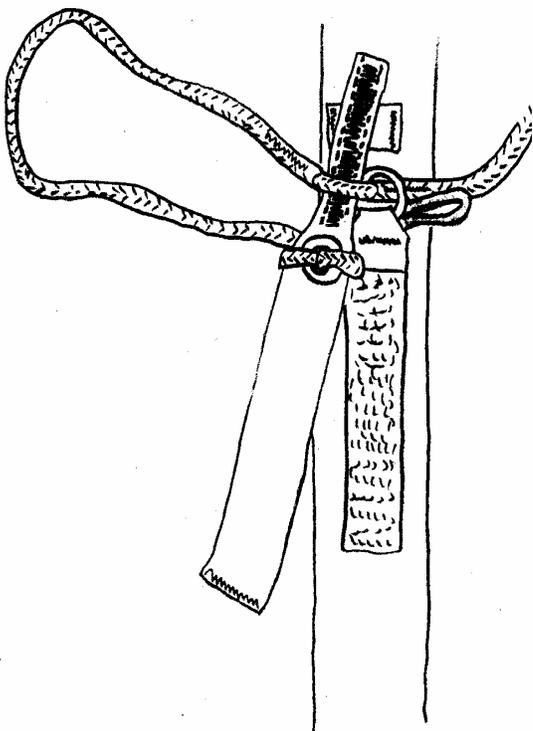
14.6-8



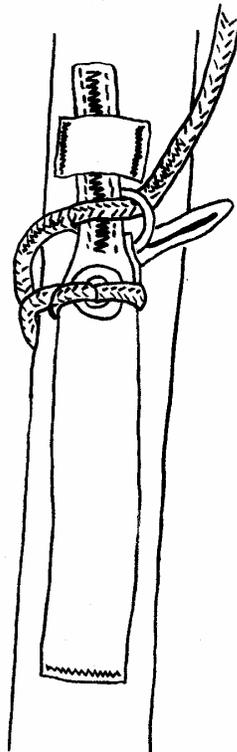
14.6-9



14.6-10



14.6-11



**L**



14.6-12

**R**

