

## Dear UP Partners, Dear UP pilots,

As many of you will already know, UP uses LIROS DC series lines from the first bifurcation up on many Pico, Summit XC and Trango 3 gliders. These Dyneema lines are used in vast quantities for both paragliders and traction kites, and are particularly renowned for their insusceptibility to bending-cycle damage and wear in general, and their high strength even in very thin diameters. Add to that the fact that they are all but indestructible and you have a handful of good arguments for using them in air sports.

Having said that, there are characteristics of the DC lines that require extra attention, particularly in the field of dimensional stability. This means that when we employ the DC lines for paraglider use we must take into account their technical particularities. If we compare the Dyneema DC lines to more traditional Aramide line material it becomes clear that the DC lines have a higher tendency towards shrinkage – something we can compensate for by employing them intelligently across the span and chord of the wing. In other words, a line that tends to shrink if not loaded must be placed where we are certain that it will be exposed to high loads, such as along the A and B line level.

On the Pico and the Summit XC of the first series – the LIROS DC lines are employed for the entire wing from the first bifurcation and up. In certain cases this has resulted in gliders having changed their launch and flight characteristics, as the C's and D's have shrunk while the A's and B's have maintained their length. The changes have in most cases been subtle (somewhat more sluggish launching and a slightly lower trim speed) but there have also been cases where the changes have been more profound. Our research into the most noticeable cases has shown that gliders exposed to extreme temperatures (like leaving a wing open on hot surfaces/very hot launches, etc.) are most likely to have changed, especially if the glider been flown at a low load (small sizes). It is worth noting here that not only lines suffer from high temperatures, all thermoplastics (including the glider cloth and the thread used to sew wings together) disagree with high temperatures.

Our discoveries have led us to take the following provisions in regard to the DC line issue:

1. All pilots flying either of the abovementioned wings should get in touch with their dealer/distributor
2. We need the full name and address of these pilots, as well as their glider serial numbers (found on the wingtip) and the number of hours flown
3. UP supplies the owners of the wings affected with a replacement line set (of Aramide lines) covering all lines from the first bifurcation and up. Contact your local service centre for assistance with the changing of the lines.

### ***The following models and gliders are affected by this notice:***

1. Pico XXXS to L, revision 01. These can be identified by their serial numbers, for example:
  - a. Pico M: XA45M-01- ... where the red number stands for the revision number, in this case a '01' meaning the wing should have the lines replaced
  - b. Pico M. XA45M-02- ... where the revision number is 02 and the wing is already built with Aramide lines – these wings are not affected by this notice.
2. Summit XC S to L, revision 01 – to be identified as above, see example here:
  - a. Summit XC M: XC07M-01-... Here we have a Revision one wing in need of line replacement

- b. Summit XC M: XC07M-02-... whereas this is a Revision two wing already using Aramide lines – not affected by this notice.
- 3. Trango 3's – all sizes/serial numbers.

As you will see from above we have already changed the production process for the wings affected, meaning that wings manufactured after New Year 2008/2009 already have the new Aramide line layout. In spite of this, date of purchase is NOT a reliable way to tell if a particular wing is a Revision one or Revision two model – it could have been sitting in storage either at UP or with a distributor. The best way to identify the affected wings is by using the serial number (see above), or, failing that, by checking if the so-called 'line sleeves' used on the Revision one wings – this little stocking (protecting the lines right at the bifurcations) is NOT used on Revision two/Aramide wings.



Dyneema with Line sleeves=Rev. 1



Aramide with no Line sleeves=Rev. 2

Pilots flying a Trango 3 are requested to get in touch with their local UP representative before the next flight. The Trango 3 has different line geometry, resulting in a different load distribution on the lines. It has thus been ascertained that the small sizes (XS and S), flown in the lower end of their respective weight ranges, are most likely to be affected by the shrinkage problem. However, problems with other sizes can not be entirely ruled out.

We recommend that pilots take steps to have the lines replaced on affected wings, especially if a pilot has already noticed changes in the behaviour of the wing (slow launching, slower gliding). Due to the high number of wings sold in the LIROS DC configuration it is possible that some line bottlenecks may occur – another reason to get in touch with your dealer as soon as possible so that we can plan and execute smooth supply.

Garmisch-Partenkirchen, 19.08.2009

UP International GmbH

[www.up-paragliders.com](http://www.up-paragliders.com)