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SAFETY INFORMATION

French Style 3 Ring Release/Mini Rings

During tandem conversion training I noticed that students were having difficulty in using the mini ring release system.

The main problem encountered was that of the necessity to produce a relatively high pull force to effect release. There was a secondary problem observed, that of the release of the right side cable first (short side). This did not occur on every occasion. When the initial problem was discovered, I tested the pull force myself utilising a suspended harness equipped with mini rings and my own harness (suspended) equipped with standard rings as a comparison. I noted a dramatic difference in the force required to effect release. I estimated that the mini ring required a force three times greater than the standard ring. I then decided to carry out more specific tests to give me a clearer view of the problem.

TESTS - Conditions

In order to check pull force requirements, I attached a hand held fish scale weighing device to the cutaway pad.

In all cases, the cutaway pad was removed from the velcro PRIOR to the test being carried out.

In all cases, the tests were carried out using right arm only.

Various weights of jumpers were used and a variety of suspended rigs and a suspended training harness were utilised in order to get a representative picture.

TESTS - Results

The forces recorded varied between 19 pounds and a force which went off the scale (estimated in excess of 30 pounds). The most consistently recorded force was 25 pounds.

In all cases with one exception, described below, jumpers were able to release themselves with one hand, although in some cases considerable effort was required. A number of right side first releases were noted.

The exception was a 7½ stone female jumper who managed to release herself only once out of six attempts. On this occasion, the pull force was recorded as 19 pounds.

As a comparison, the same tests were carried out with the standard ring system under the same conditions. In all cases, the pull force was so low that it did not even register on the scale. The 7½ stone female mentioned above was able to release herself with no discernable effort and using a forefinger and thumb grip ONLY on the pad. Another female jumper who was recovering from a wrist injury was also able to release herself in the same manner with the injured arm.

There is no doubt in my mind that the mini ring system requires substantially more effort to activate.

OBSERVATIONS

The small ring of the mini ring system involves a very short lever arm which results in a much higher force being exerted against the closing loop. This in turn causes much greater friction between closing loop and release cable. In some cases, slight indentations in the cable at the point of contact were noted.

The right side first releases that were noted were caused due to the fact that the friction between loop and cable was high enough to cause distortion in the longer cable housing (left side) before the cable moved through the loop. This of course cannot occur with the short housing (right side). These right side first releases occurred when the jumper was experiencing difficulty in releasing and a sustained pull rather than a snatch pull was being exerted.

Because of the greater force on the closing loop, it will be even more important to ensure that loops are not damaged in any way as they may snap more readily than with the standard ring system.

I noted differences in manufacture on various rigs. These differences in the release systems will undoubtedly affect the pull forces from rig to rig will be as easy or as difficult as the next rig to operate.

CONCLUSIONS

In most cases, the average weight/strength jumper will be able to effect release with one hand.

In some circumstances e.g. a light/weak jumper encountering a fast rotating malfunction may not be able to effect release with one hand. If release cannot be demonstrated easily on the ground, it should not be assumed in an emergency.

Maximum acceptable pull force for reserve ripcords is currently quoted as 25 pounds. I believe that to be too high. I am sure that some small females would not be able to apply that degree of force.

I am sure that many people will dismiss my findings. I would however, like to have this information distributed to CCI's in order that they can make their own judgments.

Sincerely

Rob Noble-Nesbitt