



PIA Technical Bulletin TB-251
Parachute Industry Association Publications
February 18, 2008

Component Compatibility Issues

BACKGROUND

In 2006, questions were raised by a PIA member rigger concerning TSO compatibility of various harness and container systems with different reserve canopies. His interpretation of the non-compatibility of certain combinations was based on his reading of AC 105-2c (11)e, which states that, “the strength of the harness must always be equal to or greater than the maximum force generated by the canopy during the certification tests.”

When he asked various harness and container manufacturers about their interpretation, he received a variety of answers, none of which answered the question.

Consequently he contacted the PIA Technical Committee for its interpretation. The committee proceeded to thoroughly investigate the issue and came up with a report that outlined the current compatibility issues and the extent of the problem.

Further discussions highlighted the fact that while there was a definite regulatory problem, in the real world there was not an identified safety problem. Until the issue was raised, it had been common practice world-wide to mix and match separately TSOd components as long as they met the fit, form, and function requirements. This had been done as long as the various TSOs had been in existence, and because there had not been any problems, no one thought about the issue.

Two different FAA personnel were approached about the issue and both stated that they had not been aware of the issue and since there had not been any problems identified, they would not concern themselves with it. As one stated, “The FAA has bigger fish to fry”.

As a result, the PIA Technical Committee has drafted the following technical bulletin in order to provide temporary guidance to the riggers in the field until such time as the FAA issues an interpretation of the AC or changes it.

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“The Parachute Industry Association Technical Committee advises parachute riggers in the United States and elsewhere, operating under the guidance of Federal Aviation Administration Advisory Circular 105-2c and with equipment approved under TSO C23, that there are no identified safety issues concerning the strength compatibility of interchanged parachute components approved under TSO C23b, TSO C23c, or TSO C23d, notwithstanding the language of AC 105-2c(11)e. This guidance is based on the entire body of drop tests and practical tests performed to date between separately approved components.”

SUMMARY

Since the identification of the problem, the FAA, PIA, and United States Parachute Association have formed a working group to re-write and update AC 105-2c to reflect current technology and regulatory guidelines. Besides the compatibility issue, there are several others that need to be updated and changed along with errors found in the original AC.

In addition, the new proposed TSO C23e is close to final review and adoption. It includes additional optional testing for harnesses that will allow for a higher force placard that will contribute to the ultimate resolution of the compatibility issue.

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