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# **APPROVED TANDEM PARACHUTE EQUIPMENT MODIFICATIONS**

## **1. INTRODUCTION**

The British Skydiving Operations Manual must be referred to when making decisions reference Tandem Equipment.

The Approved Tandem Parachute Modifications listed in 3 & 4 below are an abridged version of what was approved in the Riggers' Subcommittee minutes of the day. Full details of British Skydiving Approved Tandem Modifications should be referred to on the British Skydiving website.

A separate British Skydiving form has been produced to assist anyone who holds an Advanced Packer Tandem AP(T) qualification. The form is a guide intended to assist anyone involved with Sport Tandem systems. The aim is to identify British Skydiving validated combinations of sport Tandem reserve canopies and container systems. This information can be found on Form 290 and can be downloaded from the British Skydiving website.

No reference is made to any formal Safety Notice, Safety Information or Update that has been issued by individual manufacturers unless they require the Riggers' Subcommittee/Safety and Training Committee to intervene. This is because manufacturer updates etc is not part of a British Skydiving modification program.

Any Tandem system owner can now incorporate **GENERAL MODIFICATION APPROVALS** into/onto the system, without further approval from the Riggers' Sub-Committee, subject to the following conditions being met:

- a) An appropriately rated rigger, (suitably qualified to approve the specific modification) must inspect and issue paperwork to the equipment owner, stating that the modification has been approved and is safe to use and is compatible with the 'new' system.
- b) The exact particulars of the original clearance still stand. (e.g. if the original clearance was for a Vector 360 reserve into a Tandem Next container, then anyone with the appropriate paperwork can put a Vector 360 reserve into a Tandem Next container. There is no authority for putting the reserve into any other container unless previously cleared).

Individuals/PTOs etc who obtained the original clearance for the modifications from the Riggers' Subcommittee, do not require the modification approval paperwork as their particular authority is the relevant Riggers' Subcommittee minutes of that meeting. It would assist matters however, if these individuals could comply with the above paperwork in order to move towards one system.

Tandem system owners cannot incorporate **SPECIFIC MODIFICATION APPROVALS** into/onto their system, without further approval from the Riggers' Subcommittee.

## **2. FUTURE TANDEM MODIFICATIONS APPLICATIONS**

All Tandem Modification Applications are to use Form 209 (Student Parachute Equipment Change Proposal Application).

Whenever possible, the applicant should try to bring the 'modified system' to the Riggers' Subcommittee meeting concerned. The item will not be formally inspected at the table, (this will already have been done)

but it could be helpful with the request, so that the riggers around the table, who are voting to clear the application, fully understand the modification.

If the Riggers Committee require further information or a further inspection/test jump etc, then the formal modification clearance does not come into effect until the requested further info etc is formally reported back to the Riggers' Sub-Committee.

### **3. GENERAL MODIFICATION APPROVALS (Cleared for all)**

<b><u>Date</u></b>	<b><u>Approval</u></b>
May 1994	All repairs carried out to any Tandem rig using English equivalent materials to be accepted, on condition it is rated to the same specification.
May 1994	Protective pads sewn onto the Tandem Strong container at the side of the 'Student' attachment points to prevent damage.
Jun 1994	Material tags added to the 'Student' anchor points of a Tandem Vector 'Student' harness to ease opening was cleared for use.
May 1995	Acceptance of Tandem Elite.
1996	Acceptance of Tandem Aircare (Also see Riggers' minutes, Oct 98)
Feb 1996	Acceptance of Tandem Atom. (Also see Riggers' minutes, Dec 96)
Jul 1997	Clearance to use yellow reserve handle on Tandem Vector containers, but only if jumpsuit/cutaway handles blend in colour.
Sep 1997	Acceptance of Tandem Ultra Next.
Jun 1998	To use double Teflon cable to replace Tandem Vector curved pin.
Aug 1998	Tandem Vector 'Student' harness for use with Tandem Atom.
Oct 1998	Approval of Tandem Atom for use with chest mounted secondary drogue handle.
Feb 1999	To use a PD360 reserve in a Tandem Atom.
Apr 1999	To use a Tandem Next drogue assembly with a Tandem Vector container system.
Oct 1999	Tandem Vector drogue into a Tandem Next system, and vice versa.
Dec 1999	Any Tandem Main into any Tandem Container provided that it is compatible and deemed to fit by a Parachute Rigger (PR) or higher. The following applies: a) No modifications are permitted (apart from minor rigging work to match the brake line to the toggle area) without approval from the Riggers Committee. b) A main canopy is deemed to consist of connector links, lines and canopy material. c) The rigger concerned must produce written documentation to the owner of the Tandem equipment stating that the new set-up is compatible. d) This approval becomes the BPA authority for the change and must be produced on demand by the owner of the Tandem equipment.
Dec 2000	To use a Vector 360 Tandem Reserve in a Tandem Next system.
Feb 2001	To use 'webbing/tape handles' to Tandem Vector 'Student' harness quick release buckles.
Apr 2001	To use a Parachutes de France drogue system in the Tandem Vector System.
Dec 2001	Acceptance of Tandem Sigma System.
Jun 2002	To pack a Paratec Twin 402 Tandem reserve into a Tandem Vector container.
Jun 2002	Acceptance of Point Zero's "Tandem Vector rebuild" Tandem system.
Aug 2002	Further details of above clearance. (Name is "PZ Option")

Aug 2002	To use a Next Harness Container System secondary drogue release handle with a Tandem Vector container.
Oct 2003	Acceptance of HOP Tandem Main Canopy.
Dec 2003	Acceptance of Pdf Military Tandem rig System (military version of Tandem Atom).
Jun 2004	Material tags added to passenger harness quick release buckles on Tandem Sigma.
Oct 2004	Material tags (as per drawings supplied) to be used on all Tandem student harnesses.
Feb 2005	Correction of above as reported in original minutes (Oct 04) and proper clearance authority.
Apr 2005	To fit a Paratec Next drogue pocket onto a Tandem Vector 1 & 2.
Aug 2005	To fit locking pins to the snap hook gates of the Tandem Sigma student harness. (Only cleared for harness's using same hooks as Tandem Sigma)
Aug 2006	To reposition the Strong Dual Hawk Tandem secondary drogue release handle from the right-hand lift web position to the left-hand lift web, as per drawings supplied.
Nov 2006	Acceptance of Tandem TD400.
Nov 2009	Acceptance of 'small' version of Tandem Next (c/w Paratec 373 reserve), with differences to the RSL and Collins Lanyard area.
Feb 2010	Removal of plastic bellyband buckle on the Next Tandem harness and replace it with a chest strap adjustable metal buckle.
Aug 2010	Acceptance of Next Century Tandem container as a manufacturer's upgrade.
Feb 2012	Change to RSL stitch pattern on Dual Hawk Tandem.
Sept 2013	To allow the retro fitment of leg strap bungees to the Next Student Tandem Harness. Work to be carried out by at least a Parachute Rigger.
Feb 2014	Acceptance of the Strong Enterprises (TNT) Tandem Container system.
Nov 2014	To allow the Relative Workshop Ex-Military Vector Wonderhog Dual Container / Tandem Harness system (Serial no. 43482) be accepted for use in Sport Parachuting. <i>(This Military container is cleared for use by individual serial number only)</i>
Feb 2015	To allow the Relative Workshop Ex-Military Vector Wonderhog Dual Container / Tandem Harness system (Serial no. 43491) be accepted for use in Sport Parachuting. <i>(This Military container is cleared for use by individual serial number only)</i>
Feb 2015	That the Tandem Student Harnesses (serial numbers 2903001 and 2903002) manufactured by Aircare to the Paratec Next design be accepted for use on the above Tandem Vector Container (serial no. 43491)
Feb 2015	Tandem Student Harnesses manufactured by Aircare to the Paratec Next specification be accepted for use on all Relative Workshop Dual Container Tandem Vector systems, Paratec systems and Aircare systems.
Feb 2015	Red Paratec Next Tandem Cutaway handle be accepted for use on a UPT Tandem Vector system and that it be cleared for use by all.
Feb 2015	Relative Workshop Tandem Vector reserve handle be coloured yellow and that it be cleared for use by all. This is as long as it is a recognised handle and that it still carries the manufacturers mark in the event of a paper trail.

Feb 2015	Next Student harness supplied by Paratec be used with the Sigma Tandem Container supplied by UPT/Relative Workshop and that the Sigma Student harness supplied by UPT/Relative Workshop be used with the Next Tandem Container supplied by Paratec.
June 2015	To allow the Relative Workshop Ex-Military Vector Wonderhog Dual Container / Tandem Harness system (Serial no. 35845) be accepted for use in Sport Parachuting. <i>(This Military container is cleared for use by individual serial number only)</i>
June 2015	That the Grey Ex-Military Tandem Student Harnesses (with new identification mark 35845 same serial number as above container) manufactured by UPT be accepted for use on the above Tandem Vector Container (serial no. 35845) <i>(This Military student harness is cleared for use by individual serial number only)</i>
July 2015	To allow the Relative Workshop Ex-Military Vector II TV14 / Tandem Harness system (Serial no. 39605) be accepted for use in Sport Parachuting. <i>(This Military container is cleared for use by individual serial number only)</i>
July 2015	To allow the PD / UPT Tandem Reserve VTC-421 (Serial no. VR 421005459) be accepted for use with the above Ex-Military Vector Wonderhog Dual Container / Tandem Harness system (Serial no. 39605). <i>(This Tandem Reserve is cleared for use by individual serial number only)</i>
July 2015	That the Relative Workshop/UPT Ex-military Wonderhog Dual Container / Tandem Student Harness system (serial no. #3) be accepted for use with the UPT Sigma container (serial no. 52193)
July 2015	That the Relative Workshop/UPT Ex-military Wonderhog Dual Container / Tandem Student Harness system (serial no. #4) be accepted for use with the UPT Sigma container (serial no. 52194)
July 2015	General info applicable to Velcro on Next Tandem secondary release handle
Nov 2015	Acceptance of Ex-Military MTVC-3R (421) Tandem reserve canopy with same approvals/limitations as sport 421 Tandem reserve canopy.
Feb 2017	That the Paratec Student Harness with a type 7 back strap and bellyband and is fitted with a 'Y' strap, previously only cleared for Target Skysports (see Sept 2012, Section 4 below) is now cleared for all.
Apr 2017	Clearance for new version of 'Y' strap mod to Paratec Tandem Student Harness as per Feb 17 meeting. (Cleared for all)
Apr 2017	Initial clearance of SWS 'Fire' Tandem system. (Cleared for all)
April 2018	Initial clearance Aircare / Skies Call Tandem System and student harness. (Cleared for all)
Feb 2020	Acceptance of Relative Workshop Ex-Military Tandem Vector (Serial number 43472 DOM 02-04-2006) Large rings + Belly Band. Different RSL set up under reserve flap.
Feb 2020	Acceptance of Relative Workshop Ex-Military Tandem Vector (Serial number 40920 DOM 28-09-2004) Large rings + Belly Band. Different RSL set up under reserve flap.
Sept 2021	Acceptance of Paratec Tandem Harness & Container for a Next Millennium Tandem System (cleared for all).

#### **4. SPECIFIC MODIFICATION APPROVALS (NOT cleared for general use)**

<b>Date</b>	<b>Approval</b>
May 1994	Tandem Strong drogue release modification removed the student deployment option. This was cleared for Scottish Parachute Club (Skydive Strathallan) only.
Jun 1994	Permissions to continue to use Tandem equipment in its current set-up, which is BT canopies, BT drogues (with changes) and BT bags in Tandem Vector containers, was given

to Peterborough Parachute Centre only. It was confirmed that there had only been one change, which was the change from twin pin with hard black coated cable, to a single pin with a thicker clear plastic-coated cable.

- Aug 1994      Permission for modifications to a P de F Galaxy. Modification to the RSL and changing the closing cable to a pin. Cleared for Pete Carroll only.
- Aug 1996      Use a Tandem Strong 'Student' harness with a Tandem Galaxy container with changes as presented and cleared for use by Peter Carroll only.
- Sep 1997      3 x Clearances specifically for Andy Parkin's Tandem Vector:  
a)            The equipment had been converted to have a Paratec handle.  
b)            A modification to the RSL; instead of a ball on the RSL, a tab had been fitted.  
c)            Instead of a drogue being attached through the deployment bag direct to the canopy, it now had the deployment bag, which was attached to the canopy and the drogue, which was attached to the deployment bag.
- Jun 1999      Tandem Strong system with the drogue release position as per the Tandem Vector system. (NOT CLEARED for general use).
- Oct 1999      Tandem Vector type looped cutaway handle to accept a Tandem Next drogue release cable. Cleared for use on Dave Ballard's equipment only.
- Sep 2000      To fit Paratec handle to Tandem Vector for Dave Ballard's and APA's Tandem Vector systems only.
- Feb 2001      To use Tandem Vector systems altered to the Paratec cutaway with secondary handle attached for Andy Guest only.
- Jun 2001      Red Devils only to use yellow reserve handles on their Tandem Next systems.
- Oct 2004      Material tags (as per drawings supplied) to be used on all Tandem student harnesses. (Cleared for all)
- Feb 2005      Correction of above as reported in original minutes (Oct 04) and proper clearance authority.
- Apr 2005      To fit a Paratec Next drogue pocket onto a Tandem Vector 1 & 2. (Cleared for all)
- Apr 2005      To fit locking pins to the snap hook gates of the Tandem Sigma student harness, (but see Para 3, Aug 2005).
- Oct 2005      To allow RWS Tandem Sigma reserves to be pro-packed, as per the Tandem Sigma online manual.
- Aug 2009      Changes made to Tandem Strong in Vector configuration (see May 94 above) with additional changes to cutaway pad and RSL area.
- Sept 2012     To allow changes made to Paratec Student Harness (the harness that has a type 7 back strap and bellyband) to fit a 'Y' strap. For use at Target Skysports. (See below)
- Feb 2017      The above Sept 2012 clearance for Target Skysports only, is now cleared for all. (Also see Feb 2017 and Apr 2017 in Paragraph 3. General Modification Approvals (Cleared for all), above).
- Sept 2023     The Rainbow Suits Tandem Handicap System integrated with the AirCare Tandem Student harness. Approved for use on AirCare systems only at STC meeting, September 2023 (See minutes).
- Sept 2024     Handicap tandem student harness attachment for Sigma Tandem System only. Approved September 2024 Riggers Sub-Committee meeting (See minutes).