

# TANDEM OPERATIONS

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## 1 INTRODUCTION

These requirements have been laid down by the PANAM to govern the operation of TANDEM parachute equipment within the areas of jurisdiction of PANAM. These requirements can only be considered as minimum requirements for the operation of any manufacturer's equipment, in the sense that if any Manufacturer's Requirements exceed these in scope or depth, they will apply for that equipment.

## 2 EQUIPMENT

Only equipment approved by the PANAM may be used for the purposes of Tandem parachuting. Equipment should have been tested in accordance with TSO (or equivalent) standards for Tandem Parachute equipment.

## 3 REQUIREMENTS FOR TANDEM PERSONNEL

(Note: a Tandem Master or Tandem Evaluator, as a person in sole control of a passenger and Tandem parachute equipment, may be referred to as the Tandem Instructor).

In order that Tandem personnel can be administrated, there are two levels of rating associated with Tandem parachuting:

### TANDEM MASTER (TM)

- Have completed a PANAM recognised Tandem Master Training Course.
- For pre-course requirements, see Form 13.

### TANDEM EVALUATOR (TE)

- Have complied with the requirements as listed in Section 2 (PANAM MOPs)

The requirements for each level are as defined in Section 2 (PANAM MOPs). A holder of any one rating will have a number associated with it, similar to the normal parachuting licensing system. Furthermore, each rating will have a combination of letters associated with it indicating for which system(s) the rating is valid.

*For example:    **TM 005 SV***

This example implies that the holder of this rating is a Tandem Master, the rating number is 005, and the rating is valid for the Strong and Vector Tandem systems.

The codes for the various systems presently in use shall be:

<b>S</b>	Strong System
<b>V</b>	Vector System
<b>B</b>	Blue Track
<b>J</b>	Jump Shack
<b>F</b>	Firebird

These ratings shall be issued by the PANAM NSTO to the respective personnel on receipt of documentation showing that the candidates had complied with the requirements as laid down in Section 2 and thereafter.

## 4 TRAINING COURSE

A Tandem Evaluator shall conduct a Tandem Master Training Course in accordance with the minimum requirements of the relevant equipment manufacturer.

Examples: Relative Workshop (RWS) requirements for the Vector Tandem System, Strong Enterprises requirements for the DHT System and Firebird requirements for the Omega Tandem System.

#### 4.1 RELATIVE WORKSHOP (RWS) REQUIREMENTS FOR THE VECTOR TANDEM SYSTEM

Following ground training the Tandem Training Course consists of at least five jumps completed under the direct supervision of a qualified Tandem Evaluator (TE). The first two jumps are familiarization jumps; the final three are proficiency jumps.

##### **JUMP 1** (solo)

- Exit above 7 500ft AGL.
- Deploy drogue within 5 sec after exit.
- While maintaining a heading, make three practice drogue release pulls and one practice reserve ripcord pull. (To make a satisfactory practice pull, touch each handle, but take care not to remove it from the Velcro pocket.)
- Spend any remaining time practising turns.
- Pull drogue release handle by 5 500ft.

##### **JUMP 2** (applicant as passenger) (TM must be an Evaluator or current TM.)

- Stable exit from above 7 500ft.
- Drogue deployment within 5 sec of exit.
- Drogue release handle is pulled by 5 500ft.

##### **JUMP 3** (proficiency jump)

(Applicant acts as TM while carrying an experienced jumper up front. This passenger must have at least 100 jumps and have been briefed in the operation of the equipment by the TE.)

- Stable exit from above 7 500ft.
- Deploy drogue within 5 sec after exit.
- While maintaining a heading, make 3 practice drogue release pulls and one practice reserve ripcord pull.
- Pull drogue release handle by 5 500ft.
- Make a comfortable landing.

##### **JUMP 4** (On either this or the following jump, the passenger must be the TE or a current TM.)

- Stable exit from above 9 500ft.
- Stable drogue deployment within 5 sec after exit.
- Perform at least two alternate 360° turns and demonstrate heading control.
- While maintaining a heading, make 3 practice drogue release pulls and one practice reserve ripcord pull.
- Pull drogue release at 5 500ft.
- Complete a stand-up landing (wind permitting) within 50 metres of the target.

##### **JUMP 5**

- Unstable exit from above 9 500ft. Must regain control within 10 sec.
- Stable free fall to 7 500ft. Perform at least two alternate 360° turns and demonstrate heading control.
- Stable drogue deployment at 7 500ft.
- While maintaining a heading, make one practice drogue release pull and one practice reserve ripcord pull.
- Pull drogue release handle at 5 500ft.
- Complete a stand-up landing (wind permitting) within 50 metres of the target.

##### **PROBATIONARY PERIOD**

An applicant is on probation until he has completed 25 jumps, 20 of which are made after his initial training course. These jumps are divided into three sections: Section A, Section B and Section C. During probation, minimum drogue release altitude is 5 500ft AGL.

An experienced tandem photographer may accompany the tandem pair providing he can exit the aircraft without in any way interfering with them.

#### **SECTION A: first five post-course jumps**

- No formation skydiving is permitted.
- Passenger must be an experienced (100 plus) jumper who has been properly briefed on the correct response to tandem emergencies.
- Passenger signs log sheet only if he's satisfied with the tandem master's performance during the jump.

#### **SECTION B: 11 - 15 post-course jumps**

- No formation skydiving permitted.
- Passenger may be a first-time student.
- Log entry must be signed by Tandem equipment owner or licensed witness, if he is satisfied with the tandem master's performance on that jump.

#### **SECTION C: 16 - 25 post-course jumps**

- No formation skydiving.
- Passenger may be a first-time student.

#### **FINAL CERTIFICATE**

Upon the completion of the minimum of 25 certifying jumps, the applicant must obtain the signature endorsement of the equipment owner or, if the applicant is the owner, he should submit to the manufacturer video footage of at least three of the preceding 10 probationary jumps.

### **4.2 STRONG ENTERPRISES REQUIREMENTS FOR THE DHT SYSTEM**

#### **Phase I**

##### **Jump 1:**

Candidate as passenger, deploys drogue, follows TM through two 360 deg turns & tracking, pulls student ripcord.

##### **Jump 2:**

Candidate as TM, deploys drogue, pulls student ripcord.

##### **Jump 3:**

Candidate as TM, deploys drogue, guides passenger through two 360 deg turns & tracking, pulls student ripcord.

##### **Jump 4:**

Candidate as TM, exit to induce unusual attitude, such as barrel roll, recovery, execute figure eight. TM deploys drogue 2,000 ft above main canopy deployment altitude. Pull ripcord on TM's harness.

##### **Jump 5:**

Candidate as TM, five back loops, TM deploys drogue upon regaining stability. Passenger performs random series of turns and tracking. TM pulls ripcord on TM's harness.

## **Phase II**

Five jumps in total. Passengers to be experienced skydivers with a minimum of 100 jumps. Passengers to be fully briefed on all emergency procedures and have access to safety handles, an altimeter and the passenger main ripcord.

### **FINAL CERTIFICATE**

Upon the completion of the Phase I jumps, the Evaluator will furnish the applicant with a Phase II form clearing the applicant to conduct Phase II jumps. Once the Phase II jumps have been completed, a copy of this form is to be submitted to the Evaluator while the original must be submitted to the manufacturer.

## **4.3 FIREBIRD (PERFORMANCE VARIABLE) REQUIREMENTS FOR THE OMEGA TANDEM SYSTEM**

Refer to 4.1 - Due to the identical training methods of the Omega Tandem System and the Vector Tandem System.

## **5 RATING REQUIREMENTS**

### **5.1 RENEWAL AND REVALIDATION OF LAPSED RATINGS**

- TM ratings must be renewed annually.
- If an applicant has not met the manufacturers' currency requirements for renewal, he must undergo re-currency training, as specified by the manufacturer. Requirements may vary from manufacturer to manufacturer, 5.2 and 5.3 below are those of RWS for the Tandem Vector System while 5.4 and 5.5 below are those of Strong Enterprises for the DHT System.

### **5.2 VECTOR CURRENCY REQUIREMENTS**

If any currently rated Tandem Master has not made a tandem jump in the preceding 90 days, he must make one tandem jump with an experienced jumper acting as a passenger before a student passenger. The experienced passenger must first be briefed on how to respond to tandem emergencies.

If any currently rated Tandem Master has not made a tandem jump within the last 180 days, he must complete recurrent training before taking a student passenger.

### **5.3 VECTOR RE-CURRENCY TRAINING**

Vector Tandem re-currency training consists of one solo drogue jump and one tandem drogue jump with an experienced passenger. During the tandem drogue jump, the applicant must make a stable exit from at least 10 000ft, with drogue deployment within 10 seconds and opening by 4 500ft. Applicant must demonstrate the ability to control heading during drogue-fall by making at least two opposite 360° turns. Landing must be a stand-up (wind permitting) within 50 metres of the target.

These two jumps must be witnessed and signed off by the Tandem equipment owner or a TE.

### **5.4 STRONG DHT CURRENCY REQUIREMENTS**

To be current, a Tandem Master must have made three tandem jumps within the past ninety days, one of which must have been in the last thirty days.

### **5.5 STRONG DHT RE-CURRENCY TRAINING**

If a Tandem Master has not made a tandem jump within the last six to twelve months, he must make at least three jumps, the first two of which must be with a Tandem Master as a passenger, and the remainder can be with an experienced skydiver.

After one year of not making any tandem jumps he must receive re-currency training from a Strong DHT Evaluator.

## **5.6 OMEGA CURRENCY REQUIREMENTS**

Refer to 5.2 – Identical requirements.

## **5.7 OMEGA RE-CURRENCY REQUIREMENTS**

Refer to 5.3 – Identical requirements.

# **6 GENERAL OPERATING PROCEDURES**

## **6.1 GENERAL**

When flying in an aircraft with an open door, the passenger shall be seated in front of the Tandem Master, for ease of connection, and of control, of the passenger in the event of an emergency.

Passenger side attachment snaps should only be released under canopy one at a time, and then only to be lengthened for comfort purposes. The loose snap should be re-attached before the other is released for lengthening as above.

Canopy formation, head down, night jumps and intentional water jumps are expressly prohibited in Tandem parachuting.

Safety handles are to be used on all certification and re-currency jumps.

## **6.2 FORMATION SKYDIVING**

- The Tandem Master shall wear either a hard helmet or a French leather (frappe) hat.
- The Tandem Master shall have done at least twenty five (25) Tandem jumps with inexperienced passengers.
- Other jumpers participating in the formation shall have a minimum of five hundred normal formation jumps each; shall have completed a minimum of one hundred normal formation skydives in the last year; and shall have received permission of the CI and the Tandem Master to be on the jump.
- A cameraman wishing to accompany a Tandem pair for the first time shall comply with the above or have done at least 100 normal camera jumps (at least 50 in the last year) and at least 100 free fall jumps in the last year with CI and Tandem Master permission.
- The formation shall be broken off at 5 500ft AGL, wave off for the Tandem pair at 5 000ft, and main Tandem deployment initiated at 4 500ft.

## **6.3 DEMONSTRATION JUMPS**

- The Tandem Master must have demonstrated to his chief instructor his ability to land accurately with a passenger on Tandem equipment, and should have ample conventional demonstration jump experience into restricted DZs.
- The Tandem Master must have a minimum of 100 jumps on equipment type.
- A current Tandem Evaluator must clear the Tandem Master for the demonstration jump.
- The Tandem Master must hold a Pro rating.

## **6.4 HANDY CAM**

- The Tandem Master must have a minimum of 100 tandem jumps with inexperienced passengers before using the Handy Cam glove.
- The glove and camera must not interfere with normal operating procedures and reserve procedures.

## **6.5 BEACH TANDEM**

- The Tandem Master must have a minimum of 100 tandem jumps with inexperienced passengers.
- The Tandem Master must hold a Pro rating.
- Floatation gear is compulsory for both Tandem Master and passenger.
- The exit point from the aircraft must always be over land.