New Zealand Parachute Industry Association

NZPIA

Standards and Procedures Manual

This manual forms part of the NZPIA's Aviation Recreation Organisation exposition (RO59862).

IMPORTANT NOTICE

Skydiving and parachuting are activities with inherent risks that could result in injury or death.

Safety can be enhanced with proper training, preparation, appropriate equipment, and other precautions. This manual contains some of the knowledge and practices that, in the opinion of the NZPIA, will promote the safe enjoyment of skydiving and parachuting, but does not guarantee the safety of any party.

It is not possible to list all the potential risks in all the various forms of skydiving and parachuting; nor is it possible to apply one-size-fits-all rules or procedures to eliminate those risks.

All participants have the responsibility to assess personal risks, exercise basic safety practices, and perform whatever actions are necessary to avoid unnecessary risk to themselves and other people.

All trainee and student participants have the responsibility to ask whatever questions are necessary to be satisfied that they have a thorough understanding of the actions they must perform in order to participate safely.

EACH PARTICIPANT, REGARDLESS OF EXPERIENCE, HAS FINAL RESPONSIBILITY FOR HIS / HER / THEIR OWN SAFETY.

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RECORD OF REVISIONS

Revision No.	Effective Date	Revision No.	Effective Date
Initial Issue	27 July 2022		
1	01 October 2022		
2	4 September 2023		

REVISION HIGHLIGHTS

Revision 2

- Changes to high altitude references to align with new standards and 2023 High Altitude Course.
- Introduction of NZPIA Crests with links to NZPIA Crest Manual
- Minor word changes

REVISION PROCESS

(1) All revisions to this manual must be authorised by the NZPIA CEO.

(2) Amendments to procedures which require specialist technical knowledge will be peer-reviewed by appropriately qualified/authorised persons prior to being authorised by the CEO.

(3) Each page of this manual includes the page number and date of issue. A ruled vertical line in the left-hand margin indicates recent changes.

(4) Distribution of this manual is via the NZPIA website; a new copy of the manual in its entirety will be uploaded for each revision, therefore no individual page updates are required by holders. Participants will be notified electronically when revisions have been uploaded.

(5) All manual holders are responsible for ensuring that any revisions are read and understood, and brought to the attention of all persons for whom they are responsible.

1 MANUAL OVERVIEW

1.1 INTRODUCTION

(1) The NZPIA contributes to the safe enjoyment of parachuting and related activities by providing basic safety standards and recommended procedures to the parachuting community.

(2) This policy consists of –

(a) Defining minimum standards for parachute equipment;

(b) Providing mandatory (must) and recommended (should) safety procedures for equipment maintenance.

(c) Providing mandatory (must) and recommended (should) safety procedures for parachuting;

(3) Standards and procedures are reviewed periodically to ensure they remain appropriate and take into consideration the emergence of new disciplines, equipment, and best practice methodology.

(4) Reviews involve direct observation of behaviour and outcomes within the NZPIA community, observation of overseas trends, consideration of equipment manufacturers' recommendations, peer-review by appropriately qualified persons, and/or formal risk analysis.

(5) New/updated procedures will always meet or exceed NZ CAR and FAI minimum requirements, where applicable.

1.2 OBJECTIVES AND SCOPE

(1) The primary objective of this manual is to provide participants with minimum acceptable safety standards and recommendations for participation, supervision and instruction in various parachuting and related activities.

(2) The secondary objective of this manual is to clearly document the NZPIA's procedures required or authorised under Civil Aviation Rules (CAR) to be carried out by a parachute organisation.

(3) The procedures in this manual are relevant to all persons participating in parachuting, parachute maintenance and/or parachute drop activities under the NZPIA.

1.3 EXPECTATIONS FOR COMPLIANCE

(1) Compliance with procedures which are required by CAR is mandatory and enforceable under the Civil Aviation Act. These are identified in this manual by CAR references in the footnotes.

(2) Compliance with NZPIA mandatory procedures is also required under the Civil Aviation Rules[1], and enforceable under the Act. The NZPIA therefore expects –

(a) Each individual participant to comply with the mandatory procedures in this manual; and

(b) Each instructor and tandem master to ensure that students, trainees and passengers under their supervision comply with the applicable mandatory procedures in this manual.

(3) Recommended procedures are intended as guidance only, and deviating from them does not necessarily imply negligence, however NZPIA expects participants to give them due consideration.

(4) In the event of disparities between any procedure(s) in this manual and a valid NZ Civil Aviation Rule, exemption to a rule, or procedure in a parachute drop operation's CAA-accepted CAR 115 exposition, the rule / exemption / operation's procedure will take precedence.

(5) Participants are also responsible for knowing, understanding and complying with all applicable sections of the Civil Aviation Act and Rules, and relevant parachute drop operations' procedures.

[1] CAR 105.5(a)(2) & 105.101(3) & (4)

1.4 WAIVERS, VARIATIONS AND ALTERNATIVES TO MANDATORY NZPIA PROCEDURES

(1) The standards and procedures that follow were developed to promote safety in common situations, however local or individual circumstances may allow for greater flexibility in some cases. Waivers, variations and alternatives to established procedures provide for the responsible development of new and improved equipment, methodology and knowledge.

(2) The purpose of applying for a waiver, variation or alternative is to document that a particular standard or procedure has been evaluated in the individual case and that the requested deviation does not represent an unacceptable compromise to safety.

(3) Applications for waivers, variations and alternatives to an NZPIA mandatory procedure must be submitted in writing. The request must contain a detailed explanation of any safety concerns should the procedure "as-is" be followed, and/or the safety benefits of the proposed deviation, for example –

(a) The variation or alternative procedure is as effective or more effective than the current requirement, or

(b) The current requirement is clearly unreasonable or inappropriate in a particular case, or

(c) Events have occurred that make the current requirement unnecessary or inappropriate in a particular case.

(4) A waiver, variation or alternative to an NZPIA requirement will only be considered in cases where the NZPIA CEO is satisfied that –

(a) The risks to the safety of the applicant and/or other persons will not be significantly increased by granting the waiver, variation or alternative; and

(b) No Civil Aviation Rule will be breached in issuing the waiver, variation or alternative; and

(c) The applicant will remain in compliance with all other NZPIA mandatory procedures.

(5) The request will be assessed by the safety director and put to the board for their consideration. The CEO will give due consideration to the recommendations of the board and safety director before making his/her decision.

(6) Waivers, variations and alternatives that are approved will be granted in writing by the CEO.

(7) An application fee is payable, regardless of the outcome of the application.

(8) Waivers, variations and alternatives that are considered of benefit to the entire NZPIA community will be addressed by way of a procedure change and manual amendment, or the issue of a safety notice or safety directive, whichever is most appropriate to the situation.

1.5 IMPROVING NZPIA PROCEDURES

(1) Any participant or member of the public may suggest improvements to any NZPIA procedure by submitting a comment/suggestion form, available from the NZPIA website.

(2) All comments/suggestions will be given due consideration, however only those deemed to be of genuine benefit to the NZPIA community will be actioned.

N.B. The NZPIA considers the standards and procedures that follow to be among the practices that contribute to the safe enjoyment of skydiving and parachuting, however it is not an exhaustive list!

To stay safe in these activities requires personal vigilance, good judgement, prudent decisions and safe behaviour by EVERY participant, regardless of experience, at ALL times.

Parachute drop operations may require additional procedures over and above those in this manual.

2 EQUIPMENT REQUIREMENTS AND STANDARDS

2.1 MINIMUM EQUIPMENT

2.1.1 All Descents

All of the following equipment is required on all descents –

(1) A harness/container and reserve parachute assembly (see chapter 2.2);

(2) A main canopy (chapter 2.3), or a secondary reserve;

(3) An automatic activation device (AAD) (some exceptions apply, see chapter 2.4);

(4) An altimeter and approved headwear (some exceptions apply, see chapter 2.5);

2.1.2 Student Descents

In addition to the minimum equipment for all descents, student descents are subject to all the following equipment requirements –

(1) The harness/container assembly must be of the 'piggy-back' type (i.e. reserve container located above the main container on the back of the skydiver);

  (a) The main deployment system must be direct-bag for static line descents, and either ripcord-activated pilot chute or hand-deployed pilot chute for freefall descents;

  (b) The cutaway system must be of the three-ring release type;

  (c) An RSL, MARD or similar must be fitted.

(2) The main and reserve canopies must be of the **r**am-air type, and suitable for student use.

(3) The helmet must be of a rigid type[1], with a secure clip and ear protection, allowing secure fitment of an audible altimeter and eye protection, and must not interfere with ground-to-air radio.

(4) An altimeter and audible altimeter must be worn on all descents

(5) Eye protection must be worn on all descents.

(6) A radio receiver must be worn on at least the first three descents to allow an instructor to assist with canopy control. It is no longer required when the student has demonstrated to an instructor that they can safely manoeuvre a parachute to the designated landing area, flare and land safely.

(7) Personal flotation equipment must be worn on all descents where the intended exit or landing point is within one nautical mile horizontally of a water hazard. [2]

2.1.3 Tandem Descents

For tandem descents which are not conducted under the authority of a CAR 115 certificate, the following additional equipment considerations apply –

(1) On each descent, a tandem passenger harness which is approved by the harness/container manufacturer must be fitted to the passenger in accordance with the manufacturer's instructions.[3]

(2) An audible altimeter is required when the tandem master is also wearing a camera.

(3) Eye protection must be worn by tandem masters and passengers on all tandem descents.

[1] CAR 105.57(c)
[2] CAR 105.57(b)
[3] CAR 105.51(b)

2.2 RESERVE PARACHUTES, HARNESS/CONTAINER SYSTEMS AND CERTIFIED COMPONENTS [1]

(1) All reserve parachutes and harness/container assemblies must meet, and be labelled with, one of the following standards, or comply with the minimum performance standards set forth in SAE Aerospace Standards document No AS8015 or an earlier or subsequent document –

(a) A TSO approval i.e. TSO C23b or subsequent standard;

(b) Certificat de Parachute in accordance with EQ530-30 for equipment manufactured in France.

(2) Manufacturers and importers of reserve parachutes or harness/container assemblies seeking approval for different performance standards must provide documentation, and/or other evidence as applicable, to the NZPIA.

(3) Tandem passenger harnesses must be acceptable for use with the parachute assembly by the parachute assembly's manufacturer, and maintained in accordance with the manufacturer's instructions. [2]

(4) All other certified components (those covered under the parachute assembly's TSO/approval), such as risers, bridles, deployment bags, etc., must be acceptable for use with the parachute assembly by the parachute assembly's manufacturer, and maintained in accordance with manufacturers' instructions.

(5) Where the components of any assembly are approved separately, the harness and reserve canopy for example, compatibility of the components must be ascertained by a parachute technician.

(6) See chapter 3 for packing and maintenance requirements for reserve parachutes and certified components.

[1] CAR 105.51(b)(1)
[2] CAR 105.51(c)

2.3 MAIN CANOPIES [1]

2.3.1 General Requirements

(1) Main canopies sold by established commercial parachute manufacturers are approved for use.

(2) Others seeking approval must apply to the NZPIA, and submit samples and specifications as necessary.

(3) Main canopies made by an approved manufacturer for the purposes of research and development may only be used on live descents in the following circumstances –

(a) The parachutist test-flying the canopy must hold an NZPIA parachutist certificate with 'D' endorsement; and

(b) The planned descent must be a solo exit and freefall; and

(c) The descent must take place under the direction of the approved manufacturer; and

(d) The parachutist must have the written authorisation of the canopy manufacturer to do test flying under their direction, and must make that authorisation available to the NZPIA on request.

(4) Tandem main canopies being used for the purposes of research and development may only be used with certificated parachutists acting as passengers, and must remain under the control of the approved manufacturer.

2.3.2 Main Parachute Packing

(1) Student parachutists must only use a main parachute that has been packed by –

(a) The holder of a valid NZPIA instructor or parachute technician rating; or

(b) A person under the supervision of the holder of a valid NZPIA instructor or parachute technician rating; or

(c) A person assessed as competent and authorised to pack main parachutes for student use by the holder of a valid NZPIA instructor or parachute technician rating.

(2) For tandem descents which are not conducted under the authority of a CAR 115 certificate, tandem pairs must only use a main parachute that has been packed by —

(a) The holder of a valid NZPIA tandem instructor/examiner or parachute technician rating; or

(b) A person under the direct supervision of the holder of a valid NZPIA tandem instructor/ examiner or parachute technician rating; or

(c) A person assessed as competent and authorised to pack that type of equipment by the holder of a valid NZPIA tandem instructor/examiner or parachute technician rating; or

[1] CAR 105.51(a)

2.4 AUTOMATIC ACTIVATION DEVICES (AADs) [1]

(1) Each **student** parachutist and **tandem** pair must have a serviceable AAD fitted to their reserve parachute, switched on and zeroed to the PLA, for all descents.

(a) For student parachutists, the AAD must be set to activate no lower than 1,000ft AGL, or as pre-set by the AAD manufacturer;

(b) For tandem pairs, the AAD must be set to activate no lower than 2,000ft AGL, or as pre-set by the AAD manufacturer.

(2) For all descents, each certificated parachutist must have a serviceable AAD fitted to their reserve parachute, switched on and zeroed to the PLA, except in the following circumstances –

(a) The parachutist holds an NZPIA parachutist certificate with 'D' endorsement; **and**

(b) The planned descent involves a solo exit and freefall, with a planned freefall of not more than 10 seconds; **and**

(c) One of the following:

(i) The descent is a genuine test jump on a main canopy under the control of an approved canopy manufacturer; **or**

(ii) The landing is intended to be a high speed, high performance landing with a main canopy which has the potential to exceed the firing speed of an expert AAD under normal flight conditions; **or**

(iii) The intention is to take part in canopy relative work (CRW).

(b) In all cases and on each occasion, the parachutist must have the approval of the parachute drop operation where the descent is to take place, and in the event that approval is refused, then that decision supersedes this waiver. Authorisations must be made available to the NZPIA on request.

(3) Installed AADs must be certified as compatible with the parachute assembly by a parachute technician, and inspected, maintained and calibrated in accordance with the AAD manufacturer's instructions.

2.5 ACCESSORIES

(1) At least one altimeter is required on all student and tandem descents, and all other descents where the planned freefall is longer than 10 seconds.[2]

(2) All altimeters, including audible altimeters, must be zeroed to the PLA prior to take-off.[3]

(3) An approved helmet or protective headwear is required on all descents except recreational descents carried out by holders of parachutist certificate with 'D' endorsement, with the permission of the parachute drop operation where the descent is to take place.

(4) Helmets and protective headwear made by established commercial manufacturers of such helmets and protective headgear are approved for use.[4]

(5) Others seeking approval must apply to the NZPIA with samples and specifications as required.

(6) All other accessories, e.g. jumpsuits, goggles, cameras, PFDs, etc. must be appropriate for skydiving. Accessories must not interfere with the proper functioning of the parachute assembly or any other piece of essential equipment, and must not pose unnecessary risk to the parachutist, any other participants, or any person or property on the ground.

[1] CAR 105.55
[2] CAR 105.53(1)
[3] CAR 105.53(3)
[4] CAR 105.57

2.6 AIRWORTHINESS AND SERVICEABILITY

2.6.1 Reserve Parachutes and Certified Components

(1) No person may use a parachute assembly unless it has been inspected, repacked and certified as airworthy by a parachute technician within the previous seven months, and a record kept of the work carried out (see Documents Manual chapters 2.7 and 7.6 for records requirements).[1]

(2) No person may use a parachute assembly unless it complies with the technical standards contained in this manual, all applicable NZCAA or state of design airworthiness directives, and NZPIA safety directives.[2]

(3) No person may use a parachute assembly unless it complies with all applicable manufacturers' mandatory service instructions, unless the instruction has been superseded by an airworthiness directive, NZPIA safety directive or NZPIA-accepted variation.[3]

(4) No person may use a parachute or harness/container which has been modified or repaired in a manner that could affect the airworthiness of the equipment unless it has been inspected and assessed as serviceable by a parachute technician prior to use.[4]

(5) See chapter 3 for more information on maintaining the airworthiness and serviceability of certified equipment.

2.6.2 Other Equipment

(1) All equipment, whether mandatory or optional, on all descents must be serviceable and suitable for skydiving, meet the NZPIA's technical standards as applicable, and be operated within relevant manufacturers' specifications.

(2) Equipment not required to be serviced and/or maintained by a parachute technician should be serviced and maintained in accordance with its manufacturer's service instructions or a parachute drop operation's maintenance program accepted under CAR Part 115, if applicable.

(3) Any unserviceable or un-airworthy equipment must be clearly marked as such and removed from service until such time as it is returned to a serviceable and airworthy state by an appropriately certificated/authorised person.[5]

[1] CAR 105.51(b)(2)
[2] CAR 105.103(1) & (2)
[3] CAR 105.103(3)
[4] CAR 105.107
[5] CAR 105.105(a)

3 EQUIPMENT MAINTENANCE

3.1 RESPONSIBILITIES

(1) All parachute inspection, packing, maintenance and repairs must be carried out in accordance with NZPIA standards and procedures, and where applicable, the equipment manufacturers' service information and/or the parachute drop operation's CAR 115maintenance program.

(2) No person is permitted to pack, service or repair reserve parachutes or harness/container systems unless that person holds a valid parachute technician (PT) certificate, or is under the direct supervision of the holder of a valid PT certificate.

(3) No person is permitted to carry out parachute maintenance while affected by alcohol or any other substance which could impair that person's ability to do so safety. "Affected by," in this instance, is defined as –

(a) The presence in the body of any drug or alcohol in a quantity that exceeds the limit in the drug and alcohol policy of the parachute drop operation where the maintenance activity is to take place (if applicable), or the current NZ driving limit, whichever is the lower; or

(b) The presence in the body of any drug or medication with the potential to impair the participant's judgement or performance, coupled with the feeling or appearance of actual impairment; or

(c) The participant's behaviour or demeanour gives the Safety Officer on duty reasonable cause to suspect that participant is impaired by drugs or alcohol (if applicable).

(4) All persons engaged in parachute maintenance must employ appropriate tools, equipment and technical resources; and facilities of sufficient size, security, temperature, lighting and ventilation, to enable the safe and efficient packing, drying, airing and maintaining of the types of parachutes they are servicing.

(5) Repair technicians must use only materials that meet the relevant equipment manufacturers' specifications.

(6) Parachute technicians must ensure compatibility of component parts, including AADs, prior to fitting them to a parachute assembly, and must ensure they comply with the NZPIA's technical standards as applicable (see chapter 2).

(7) Any parachute technician who, in the course of their work, finds a parachute or parachute assembly to be unserviceable or unairworthy must either return it to a serviceable/airworthy state or clearly mark it as unserviceable/unairworthy and return it to its owner. [1]

(8) Parachute technicians must not knowingly release a parachute/parachute assembly to service in an unairworthy or unserviceable condition. [2]

(9) Parachute technicians must not carry out any repairs that are beyond the limitations of their certificate, and must refer these to a higher-rated PT or clearly mark the equipment "unserviceable" and return it to its owner. Refer to Documents Manual chapter 7 for certificate limitations.

3.2 PARACHUTE ASSEMBLY INSPECTION

A thorough visual inspection of the parachute assembly and all its component parts by a parachute technician is required prior to any reserve repack, including all the following –

(1) Identifying all the component parts, including AADs, and confirming compatibility;

(2) Ensuring compliance with approved standards (see chapter 2);

(3) Identifying any defects, damage or wear (also see chapter 3.5, Defects and Reporting).

[1] CAR 105.105(a)
[2] CAR 105.105(b)

3.3 RESERVE PARACHUTE PACKING AND AAD SERVICING

(1) Packing of reserve parachutes and servicing of AADs may only be carried out by, or under the supervision of, a qualified and current parachute technician. See Documents Manual chapter 7 for PT certification.

(2) Each parachute assembly must be packed in accordance with its manufacturer's instructions, unless these have been superseded by other approved documentation, in which case the assembly must be packed in accordance with that documentation.

(3) AADs must be installed, removed, inspected, serviced, calibrated and maintained in accordance with their manufacturers' instructions

(4) Packing of reserve parachutes and servicing of AADs must be properly documented prior to the equipment being released to service (see Documents Manual chapter 7).

3.4 REPAIRS AND MAINTENANCE

(1) All maintenance, repairs and modifications to certified parachute components may only be carried out by, or under the supervision of, a suitably qualified and current PT / senior PT / master PT, as applicable. Refer to Documents Manual chapter 7 for the privileges of the various PT certificates.

(2) Repairs must be completed to an approved standard. No modifications or alterations are permitted unless they have been approved by the manufacturer, an airworthiness directive, NZPIA safety directive or other NZPIA-accepted variation.

(3) The NZPIA recommends repairs that could affect the performance or flight characteristics of the parachute be re-inspected by a second PT before being placed back in service.

(4) All maintenance, repairs and modifications to certified parachute components must be properly documented prior to the equipment being released to service (see Documents Manual chapter 7).

3.5 DEFECTS AND EQUIPMENT INCIDENT REPORTING

(1) Any defect or damage to equipment that, if left unaddressed, could cause the airworthiness of the equipment to be impaired, or put the safety of its user(s) at risk, or pose a danger to other persons or property, must be rectified before the equipment is released to service.

(2) Significant defects must be reported to the NZPIA as soon as practicable. Some examples of reportable defects are –

  (a) Significant deterioration or damage found during routine maintenance, being of a nature not normally expected to arise from normal service operation;

  (b) The failure or malfunction of a component which would not normally be expected to arise from normal service operation;

  (c) Any defect or damage found in the emergency system that could prevent it from operating correctly when required;

  (d) Incorrect packing, servicing, repair, or unapproved parts/materials found within the assembly.

(3) Reporting can be done on an occurrence report form, available from the NZPIA website, or by some other written means. Reports should include all the following at a minimum –

  (a) A description of the equipment (make/model/serial no. as applicable);

  (b) Details of the defect/incident;

  (c) Photos if possible, including photos of the most recent entries on the packing data card.

(4) Reportable defects can be found in operation or on the ground. Defects found and rectified before they cause a problem are still reportable if they could be classified as a "near miss."

(5) Items which must be replaced or repaired due to normal wear are not considered reportable.

(6) See chapter 7 for more information on reporting of incidents and unusual occurrences.

4 PRE-JUMP AND ASCENT PROCEDURES

4.1 ADMINISTRATION

(1) To make a parachute descent under the NZPIA's CAR 149 certificate, each parachutist must –

(a) Hold a valid NZPIA parachutist certificate, or

(i) In the case of student parachutists, be under the supervision of an instructor,

(ii) In the case of tandem passengers, be under the direct supervision of a tandem master.[1]

(b) Have a current (in-date) NZPIA affiliation, except tandem passengers under the direct supervision of a tandem master and visiting sport parachutists exercising the privileges of a temporary NZPIA parachutist certificate. See Affiliation Rules on the NZPIA website for more information on NZPIA affiliation.

(c) Intend to descend* and land in areas that have been designated as a parachute descent area (PDA) and parachute landing area (PLA) respectively, in accordance with the provisions of CAR 105.13 and 105.15.

* ***Wingsuiters*** *in particular take note, and others covering long distances horizontally, e.g. long distance canopy flights: a PDA is the airspace within a 3 NM radius of the centre of a PLA, extending from ground level to exit height*.

(2) Any descents that do not meet the above parameters are not considered to take place under the NZPIA's CAR 149 certificate.

4.2 FITNESS TO FLY

(1) All persons must declare their medical fitness and sign an assumption of risk prior to carrying out a parachute descent.

(2) A DZSO may require any parachutist to provide a certificate of physical fitness for parachuting from a registered medical practitioner prior to authorising a parachute descent.

(3) No person is permitted to supervise, instruct, or participate in parachuting activities while affected by alcohol or any other substance which could impair the participant's ability to participate safety. "Affected by," in this instance, is defined as -

(a) The presence in the body of any drug or alcohol in a quantity that exceeds the limits in the parachute drop operation's drug and alcohol policy (if applicable), or the current NZ driving limit, whichever is the lower; or

(b) The presence in the body of any drug or medication with the potential to impair the participant's judgement or performance, coupled with the feeling or appearance of actual impairment; or

(c) The participant's behaviour or demeanour gives the safety officer on duty reasonable cause to suspect that participant is impaired by drugs or alcohol.

(4) The pilot in command of the drop aircraft may refuse boarding or remove from the aircraft any person who appears to be under the influence of alcohol or any drug where, in the opinion of the pilot, their carriage is likely to endanger the aircraft or its occupants.[2]

[1] CAR 105.5
[2] CAR 91.203

4.3 WEATHER

4.3.1 All Parachutists

(1) Best practice is for each parachutist to ascertain the wind speed and direction at the PLA and at exit and opening heights prior to each descent, to ensure they are within their personal safety limits.

(2) At least one wind indicator must be positioned in the PLA prior to descents taking place. The indicator should be clearly visible to descending parachutists approaching the PLA, and give an indication of both the direction and speed of the wind.

(3) Parachutists must remain clear of cloud during descents, unless they have an ATC clearance to descend through cloud.[1]

4.3.2 Student Parachutists

(1) Student parachutists are not permitted to carry out descents when the ground wind speed at the PLA exceeds 12 knots, unless an instructor has assessed the student as competent to do so, and has certified this in the student's logbook or training record. In these cases, the student may be permitted to carry out descents when the ground wind speed is up to 15 knots.

(2) Student parachutists must not make a descent unless the meteorological conditions have been assessed as acceptable by an instructor or jumpmaster immediately prior to the descent.

(3) Student parachutists must not make a descent unless a working anemometer is positioned on the PLA, and operable ground-to-aircraft communication is available on or near the PLA, so ground personnel can relay to the pilot any change in circumstances that may require cancelation of the student's descent (e.g. an increase in the ground wind speed beyond acceptable levels).

[1] CAR 105.25

4.4 GEAR CHECKS

4.4.1 All Parachutists [1]

(1) Prior to boarding the aircraft, all parachutists except student parachutists and tandem passengers must check the state of serviceability of their parachute equipment.

(2) The gear check must include all of the following –

(a) Reference to the parachute assembly's reserve packing record;

(b) A comprehensive external inspection of the parachute assembly, ensuring that no significant damage or defects are present and all straps and components are routed correctly;

(c) Ensuring the presence, suitability and operational status of all required equipment, including that the AAD is present and properly set to operate;

(d) Ensuring that no item being worn or carried will interfere with the proper functioning of the parachute assembly or any other piece of essential equipment.

(e) Ensuring that no item being worn or carried will pose unnecessary risk to the parachutist, any other participants, or any person or property on the ground.

4.4.2 Student Parachutists [2]

(1) Student parachutists must have all the above gear checks carried out by the instructor or jumpmaster who is supervising the descent.

(2) The instructor or jumpmaster must confirm the presence, suitability and operational status of all equipment required for student parachutists (see chapter 2.1.2).

(3) The instructor or jumpmaster must ensure that the main parachute to be used by the student parachutist is suitable for student use, and has been packed by a person authorised to pack main parachutes intended for student use (see chapter 2.3.2).

4.4.3 Tandem Parachutists [3]

(1) For tandem descents which are not conducted under the authority of a CAR 115 certificate, tandem masters must carry out all the above gear checks on equipment worn by tandem passengers under their supervision.

(2) The gear check must include –

(a) Ensuring the presence, suitability and operational status of all equipment specified for tandem descents (see chapter 2.1.3).

(b) Ensuring the main parachute to be used on the descent has been packed by a person authorised to pack tandem main parachutes (see chapter 2.3.2).

[1] CAR 105.109(a)
[2] CAR 105.109(b)
[3] CAR 105.109(c)

4.5 AIRCRAFT AND EXIT

4.5.1 All Parachutists

(1) At all times while aboard a parachute drop aircraft, parachutists must comply with all reasonable instructions given to them by the pilot in command of that aircraft.

(2) At all times while in or on a parachute drop aircraft, parachutists must take reasonable care to avoid unduly endangering the aircraft and/or other occupants.[1]

(3) No person is permitted to exit the aircraft unless the pilot has been briefed on, and has agreed to, the exit plans prior to take-off.

(4) No person is permitted to exit the aircraft unless authorised to do so by the pilot in command, or a person nominated by the pilot in command.[2]

(5) Best practice is to check the security of all safety-critical equipment including the helmet, harness straps and buckles, deployment and cutaway handles prior to exiting the aircraft, and take care not to dislodge them when climbing out of the aircraft.

4.5.2 Student Parachutists

In addition to the procedures for all parachutists, student parachutists are subject to the following –

(1) A jumpmaster, or in the case of solo students, a person authorised by the student's supervising instructor, must carry out the student parachutist's pre-exit equipment checks, including the security of the student's helmet, harness straps and buckles, deployment and cutaway handles prior to the student exiting the aircraft.

4.5.3 Tandem Parachutists

For tandem descents which are not conducted under the authority of a CAR 115 certificate, the following additional considerations apply –

(1) Each tandem passenger must be under the direct control of a tandem master at all times while aboard the aircraft.

(2) Tandem passengers must be fully connected to a tandem master at all times while the aircraft door is open during flight.

(3) Except when restrained by a parachutist restraint, all tandem passengers should be connected to a tandem master throughout the duration of the flight, UNLESS the tandem pair will land with the aircraft, in which case the passenger should be disconnected from the tandem master prior to landing.

   (a) Note that in the event of an aircraft emergency on take-off or below a safe exit altitude, the tandem pair should be disconnected prior to landing, for ease of evacuation and/or rescue if necessary. This can be more quickly achieved by leaving the upper connectors disconnected until the aircraft has reached a safe exit altitude.

(4) The tandem master must check the security of all deployment and cutaway handles and the safety of all passenger connection points prior to exiting the aircraft.

[1] CAR 105.7(1)
[2] CAR 105.9

5 DESCENT PROCEDURES

5.1 GENERAL

(1) No person is permitted to carry out a parachute descent if their exit weight exceeds the certified limitations of their equipment, including the limitations of the reserve canopy.

(2) Minimum opening heights[1]

(a) On all descents except student and tandem descents, main parachutes must be activated at not less than 2,500 feet above ground level (AGL).

(b) **Student** parachutists' main parachutes must be activated at not less than 3,000 feet AGL.

(c) Main parachutes on **tandem** descents must be activated at not less than 5,000 feet AGL.

(3) Best practice is for parachutists to have been trained and assessed as competent by an instructor or another appropriately experienced person prior to undertaking any of the following:

(a) Their first descent of any discipline, e.g. freeflying, hybrid, angles, large group formations (NOTE: the definition of "large group" will depend on the discipline and other factors);

(b) Any type of descent or circumstances with which they are unfamiliar, e.g. unfamiliar PLAs, displays, non-standard descents.

(c) A descent with any equipment with which they are unfamiliar, e.g. a wingsuit, camera or higher performance parachute.

[1] CAR 105.11

5.2 FORMATION SKYDIVING – FLAT FLYING

See also NZPIA Star Crest.

Safety and success on formation descents are influenced by many factors, including the experience and skill of each person in the group; the size of the formation; the degree of difficulty of the exit and dive plan; the quality of the briefing and dirt dive; the debrief (for safety and success on the *next* descent); and equipment.

5.2.1 Progression

(1) Refer to the pre-certification, 'A' and 'B' endorsement limitations in the NZPIA Documents Manual for group size progression restrictions.

(2) NZPIA recommends skydivers complete the NZPIA Star Crest before progressing to groups larger than 10 people.

5.2.2 Safety Considerations

Training for group skydiving should emphasise strategies to mitigate known hazards and risks, including –

(1) Target or objective fixation resulting in a loss of time and/or altitude awareness;

(2) Dislodged handles during climb-out or in a funnel resulting in the premature deployment of a canopy, or the main unexpectedly departing company with the harness during deployment;

(3) A premature deployment or unexpected main canopy release directly underneath another skydiver is especially dangerous;

(4) As group size increases, the likelihood of freefall collisions, canopy collisions and collisions between freefalling skydivers and deploying parachutists also increases;

(5) Large groups tracking away after break-off can cover large areas, increasing the likelihood of encounters with other groups on the same jump-run, and the collisions described above.

5.2.3 Equipment Considerations

Recommended equipment for all persons participating in group formation skydiving includes –

(1) A well-fitting harness and container system, with canopies of a suitable size for the container and for the planned descent (e.g. appropriate for the planned deployment height);

(2) An automatic activation device;

(3) An altimeter and audible altimeter;

(4) A hard-shell helmet for head protection, or a full-face helmet for head and face protection;

(5) A clear visor or clear goggles, to facilitate eye contact with the other skydivers;

(6) A jumpsuit which is appropriate to the skydiver's fall rate and skills, and to the dive plan (e.g. with grippers and/or booties as appropriate);

(7) A hook knife in case of entanglement with a canopy or lines.

5.3 FREEFLYING / FREESTYLE / HYBRID SKYDIVING

See also NZPIA Freefly Crests.

The NZPIA considers any descent involving one or more skydivers deliberately holding a body position other than belly-to-earth to be freeflying.

Safety and success on freefly descents are influenced by all the same factors as flat flying. Additionally, the higher speeds, greater differences in speed, and the three-dimensional nature of many freefly descents mean extra precautions are needed.

5.3.1 Progression

(1) Refer to the pre-certification, 'A' and 'B' endorsement limitations in the NZPIA Documents Manual for group size progression restrictions.

(2) NZPIA recommends skydivers complete the NZPIA Freefly Crest - Head Up prior to carrying out head-up descents in groups larger than three people; the NZPIA Freefly Crest - Head Down prior to carrying out head-down descents in groups larger than three people; and the NZPIA Star Crest prior to any freeflying in groups larger than 10 people.

5.3.2 Safety Considerations

In addition to the hazards/risks present on all group descents, freeflying in groups have additional safety considerations, including –

(1) Higher freefall speeds increase the likelihood of losing altitude awareness due to the shorter time in freefall;

(2) Certain arm positions and the increased wind noise on freefly descents can make seeing and hearing altimeters challenging, which can also contribute to a loss of altitude awareness;

(3) Body positions which expose pin covers and deployment systems to higher relative wind speeds increase the likelihood of a premature deployment, and also the severity of potential outcomes;

(4) Freefall collisions at higher speeds increase the likelihood of serious injuries or worse, especially if the skydivers involved are travelling at very different speeds, e.g. if someone transitions to a slow-fall orientation ("corks") while someone is above them, or transitions to fast-fall when someone is below them.

(5) The vertical speed differentials possible on head-up and head-down descents increase the risk of members of the group losing visual contact with each other.

5.3.3 Equipment Considerations

Recommended equipment for all persons participating in freeflying includes:

(1) A well-fitting harness and container system that is "freefly-friendly" – handles and pins secure, pin and riser covers snug; closing loops the right length and well-maintained; leg straps attached with a bungee or similar; all excess webbing (chest and leg straps) securely stowed;

(2) Canopies of a suitable size for the container and for the planned descent;

(3) An automatic activation device;

(4) A visual altimeter and at least one audible altimeter (preferably two);

(5) A full-face helmet for head and face protection;

(6) A clear visor to facilitate eye contact with the other skydivers;

(8) A jumpsuit which is appropriate to the skydiver's fall rate and skills;

(7) A hook knife in case of entanglement with a canopy or lines.

5.4 TRACKING / ANGLE DESCENTS

See also NZPIA Tracking/Angle Crest.

Safety and success on tracking/angle descents are influenced by many of the same factors as flat flying and freeflying. Additionally, the greater horizontal distances covered on tracking/angle descents mean extra precautions are needed.

5.4.1 Progression

NZPIA recommends skydivers follow the progressions detailed in the NZPIA Tracking/Angle Crest, prior to engaging in unsupervised tracking or angle descents.

5.4.2 Safety Considerations

In addition to the hazards/risks present on all group descents, horizontal or angle tracking descents have additional safety considerations, including –

(1) High-speed flying increases the likelihood of a freefall collision, and the potential severity of the outcome;

(2) The greater horizontal distances covered on tracking/angle descents increase the risk of inadvertently clashing with another group farther up or down the flight line;

(3) The greater horizontal distances covered increase the likelihood of an off-PLA landing.

5.4.3 Equipment Considerations

Recommended equipment for all persons participating in high speed flying disciplines includes:

(1) A well-fitting harness and container system that is “freefly-friendly” – handles and pins secure, pin and riser covers snug; closing loops the right length and well-maintained; leg straps attached with a bungee or similar; all excess webbing (chest and leg straps) securely stowed;

(2) Canopies of a suitable size for the container and for the planned descent;

(3) An automatic activation device;

(4) A visual altimeter and at least one audible altimeter (preferably two);

(5) A full-face helmet for head and face protection;

(6) A clear visor to facilitate eye contact with the other skydivers;

(7) A jumpsuit which is appropriate to the skydiver’s fall rate and skills;

(8) A hook knife in case of entanglement with a canopy or lines.

5.5 DESCENTS WITH A CAMERA

5.5.1 General

(1) The minimum pre-requisites for carrying a camera on a descent are a parachutist certificate with 'B' endorsement and written authorisation from an instructor or tandem instructor/examiner.

(2) Prior to carrying a camera on a descent, skydivers should have enough skydiving experience to be able to handle an emergency relatively easily and without stress. The NZPIA recommends at least 100 freefall descents.

(3) A briefing by an instructor or I/E is required for anyone carrying a camera on a descent for the first time, and should cover all of the following –

(a) Camera placement with respect to deploying parachutes and the skydiver's unimpeded vision;

(b) Sharp edges/snag hazards eliminated or minimised as much as possible;

(c) Securing the camera in the aircraft;

(d) Safe climb-out and exit;

(e) Distraction hazards;

(f) Emergency procedures including entanglement with camera equipment;

(g) Additional equipment recommendations (e.g. audible altimeter, hook knife, camera cutaway).

5.5.2 Filming Students and Tandems

(1) The minimum requirements to participate as an observer on a student or tandem descent are a parachutist certificate with 'B' endorsement and authorisation from the student's supervising instructor, or passenger's supervising tandem master and senior person responsible for tandem operations, as applicable.

(2) The NZPIA recommends at least 200 freefall descents and at least 50 descents filming experienced skydivers before attempting to film student or tandem descents.

5.5.3 Hand-Cam for Tandem Masters

For tandem descents which are not conducted under the authority of a CAR 115 certificate, the following additional considerations apply. Prior to carrying a camera on tandem descents, tandem masters must have –

(1) Completed a minimum of 250 tandem descents; and

(2) Been trained and assessed as competent to carry out tandem descents with a hand-cam by a tandem instructor/examiner;

(a) The training must cover, at a minimum, distraction hazards, emergency procedures, and additional equipment considerations (e.g. audible altimeter, hook knife);

(b) The competency demonstration must include correct demonstration of passenger hook-up, climb-out and exit, handles checks, body position during deployment and emergency procedures.

(3) Due consideration should also be given to the relevant tandem equipment manufacturers' recommendations with regard to hand-cam safety on tandem descents.

5.6 NON-STANDARD DESCENTS

5.6.1 All Descents

(1) Non-standard descents are descents involving aircraft, equipment, techniques, procedures, or landing areas that a skydiver/parachutist is not involved with on a regular basis, or are subject to increased complexity or risk. Non-standard descents include, but are not limited to, the following types of descents –

(a) Canopy relative work (CRW);

(b) Display descents;

(c) High altitude descents (ch 5.7);

(d) Intentional cutaways;

(e) Intentional water landings (ch. 6.2);

(f) Multi-aircraft formation loads;

(g) Night descents;

(h) Novelty aircraft (e.g. balloons);

(i) Sky-surfing,

(j) Tubes and other freefall “toys”;

(k) Wingsuit flights.

(2) Non-standard descents can also be any type of descent that a person does not carry out on a regular basis. A descent that is standard (ordinary) for one person might be non-standard for another.

(3) Best practice for these descents depends on a variety of factors. NZPIA recommends seeking advice from an instructor or another appropriately experienced person prior to undertaking these descents.

(4) Guidelines for safe participation in some of these activities can be found later in this manual and/or on the NZPIA website.

5.6.2 Tandem Descents

For tandem descents which are not conducted under the authority of a CAR 115 certificate, the following additional considerations apply –

(1) Canopy relative work, intentional cutaways, intentional water landings, night descents and wingsuit descents are not permitted.

(2) Non-traditional flying (e.g. freeflying) and/or intentional delayed drogue deployment, other than during tandem master training descents, are not permitted.

(3) Prior to carrying out a tandem display descent, tandem masters must have a minimum of 50 tandem descents and have been trained and assessed as competent to carry out the display by a tandem instructor/examiner;

(a) The training and competency assessment must be specific to the display and cover PLA considerations (size, terrain, obstacles, alternate landing areas, etc.), weather considerations, crowd control, and all known hazards.

5.7 DESCENTS FROM HIGHER ALTITUDES [1]

5.7.1 All Descents

(1) Prior to undertaking planned descents from an altitude above 13,000 feet AMSL, each skydiver must have satisfactorily completed an NZPIA High Altitude Descent Course administered by an appropriately authorised person.

(a) Deleted

(2) When in an unpressurised aircraft between altitudes of 10,000 and 13,000 feet AMSL for longer than 30 minutes, each skydiver must use supplementary oxygen until immediately prior to exit.

(3) At all times when in an unpressurised aircraft between altitudes of 13,000 and 20,000 feet AMSL, each skydiver must use supplementary oxygen until immediately prior to exiting the aircraft.

(4) The maximum permitted exit altitude for any **student** descent is 13,000 feet AMSL.

(5) **Tandem** descents from altitudes higher than 18 000 ft AMSL may not be carried out without the written permission of the NZPIA Board of Directors**.**

5.7.2 Tandem Descents

In addition to the high altitude procedures for all descents, tandem descents are subject to the following –

(1) Tandem descents from altitudes greater than 13,000 feet AMSL may only be conducted under the authority of a CAR 115 certificate**.**

(2) NZPIA recommends tandem masters have a minimum of 100 tandem descents prior to carrying out tandem descents from altitudes greater than 16,500 feet AMSL.

[1] CAR 105.27

5.8 CANOPY PILOTING – ALL PARACHUTISTS

(1) Canopy performance is determined by a combination of variables including size, design, planform and loading of the wing; the parachutist's attitude, training, experience, competency, and currency; and the environment (e.g. PLA elevation, density altitude, wind/turbulence, etc.). All properly functioning canopies can be landed safely if handled correctly, and injuries (or worse) can occur under any size or shape of canopy if handled incorrectly.

(2) All parachutists are canopy pilots, and it is important that they have training, experience and skills that are appropriate to the canopies they fly and the types of maneuvers they execute.

(3) In particular, high performance canopies and landings can pose significant safety risks to parachutists if not handled/executed correctly, and high performance canopy pilots must have additional training and procedures to mitigate these increased risks.

(4) Parachutists should have specialised training prior to undertaking a descent with any canopy with performance characteristics they are not experienced with, e.g. a different planform or significantly smaller size, or attempting any high performance landing maneuvers. Due consideration should also be given to manufacturers' recommendations where applicable.

(5) The training should include, at a minimum, the following considerations:

(a) The parachutist's experience, currency and training, including specialized canopy training;

(b) The parachutist's demonstrated competency with similar equipment;

(c) The parachutist's consistent safe performance of canopy skills (see assessment, below);

(d) Canopy manufacturer's experience recommendations for the canopy type and size;

(e) Canopy size within the minimum and maximum allowed by the container manufacturer;

(f) AAD properly configured for the canopy and landing speed capability;

(g) Suitability of other equipment, e.g. altimeter / audible altimeter;

(h) Wing loading commensurate with experience level, for example:

NOTE: the wing loadings in the table below are intended as a guide only

≤ 1.1	student / novice
1.1 – 1.4	Intermediate to advanced
1.4 – 1.8	high performance
1.8 – 2.3	expert
2.4+	professional / competition

(i) Consider limiting turns to above a certain height or a maximum size (degrees) of turns and relaxing these limits gradually as competence and confidence grows.

5.8.1 Skills Assessment

The skills assessment should evaluate the parachutist's capability in consistently carrying out the following safely and competently, following training by an appropriately experienced coach:

- ☑ Flight planning
- ☑ Flying the canopy opening
- ☑ Toggle stalls
- ☑ Flat-brake turns
- ☑ Setup / flying predictable landing patterns
- ☑ Flying in traffic / defensive flying
- ☑ Hazard avoidance
- ☑ Crosswind / downwind / no-wind landings
- ☑ Off-PLA landings
- ☑ Turn abortion
- ☑ Low turn / dive recovery
- ☑ Rear riser stalls
- ☑ Rear riser control
- ☑ Rear riser landings
- ☑ Harness turns / body position for landing
- ☑ Flare timing
- ☑ Accuracy
- ☑ Emergency landing procedures

6 LANDING PROCEDURES

6.1 PARACHUTE LANDING AREAS (PLAs)

(1) No person is permitted to make a parachute descent onto any site unless that site has been designated as a parachute landing area (PLA) in accordance with the provisions of CAR 105.15, except in cases of emergency or where the parachutist determines there is a genuine safety concern in attempting to land in the PLA (i.e. if it is safer to land off-PLA than attempt to get to the PLA and risk injury in doing so).

(2) Applications to have an area designated as a PLA must be submitted on the appropriate form, available from the NZPIA website.

(3) All parachutists who intend to land at a PLA they are not familiar with, including display PLAs, should be briefed by an instructor, jumpmaster or DZSO prior to undertaking the descent. The briefing should be specific to the PLA and take into account the size, elevation, terrain, known hazards / obstacles, and alternate landing areas.

(4) A parachutist that has landed on a PLA must not unduly endanger any other parachutist intending to land on the PLA.[1]

(5) No person should remain on an operational PLA longer than is necessary to complete their descent, unless authorised to be on the PLA by the DZSO.

6.2 WATER PLAs

(1) When making planned descents into a water PLA, each parachutist must –

(a) Hold an NZPIA parachutist certificate;

(b) Have satisfactorily completed both theoretical and practical training conducted by an instructor, or the holder of an equivalent or higher non-NZPIA document, on safe water landing procedures prior to the descent;

(c) Wear suitable flotation equipment capable of supporting the parachutist's head clear of the water, and have been trained in its use prior to the descent;[2]

(d) Ensure that a recovery craft and trained rescue personnel are positioned near the PLA.

(2) Refer to the latest revision of the NZPIA Water Landing Guidelines document for more information on safety and training procedures for descents into water

6.3 LANDING HAZARDS

(1) Landing hazards include, but are not limited to, buildings, trees, phone/power poles and towers, wires, fences, roads, ditches and open bodies of water. These can usually be avoided with good flight planning, including careful observation of the weather, choosing the correct exit spot and pre-planning a safe landing pattern. Parachutists should also be familiar with the terrain and hazards around the designated PLA, know where the safe alternate landing areas are and what areas to avoid.

(2) Sharp turns close to the ground can be just as dangerous as landing on a hazard, or more so. Best practice is to gently steer away from hazards while still at a safe altitude, even if it means landing on a different, but less dangerous, hazard, e.g. a tree is preferable to power lines.

(3) Other landing hazards can be difficult or impossible to see, including rapid changes in the wind speed/direction, dust devils, turbulence from buildings or clusters of trees, wake turbulence from other canopies, and other parachutists above or behind in the landing pattern.

[1] CAR 105.7(2)
[2] CAR 105.57(a)

6.3.1 Water Hazards

(1) When making planned descents near a water hazard –

(a) Student parachutists must wear suitable flotation equipment capable of supporting their head clear of the water when the intended exit, opening or landing point is within one nautical mile horizontally of a water hazard.[1]

(b) NZPIA recommends all parachutists wear suitable flotation equipment when the intended exit, opening or landing point is within 500 meters horizontally of a water hazard.

(2) All participants wearing flotation equipment must ensure they've been trained in its use prior to the descent.

(3) All parachutists should ensure they've been briefed by a supervising instructor, tandem master or DZSO on action to take in the event of an accidental water landing prior to the descent.

(4) Parachutists should ensure an appropriate emergency water rescue plan is in place when making descents near a water hazard. Best practice is to ensure a recovery craft and trained rescue personnel are on hand during all planned exits over water and descents onto a waterfront (e.g. a beach or lakeshore).

(5) All parachutists and pilots are encouraged to consider the possibility of an aircraft emergency over water as part of their personal safety plans and emergency procedures, whenever the drop aircraft's flight path will take them over an open body of water during ascent.

(6) Refer to the latest revision of the NZPIA Water Landing Guidelines document for more information on safety and training procedures for descents near water.

[1] CAR 105.57(b)

7 INCIDENTS, ACCIDENTS AND UNUSUAL OCCURRENCES

7.1 REPORTING

(1) Participants are expected to report their involvement in any skydiving- or parachuting-related accident, incident or unusual occurrence to the NZPIA within seven days of the event.

(2) Reports should contain all relevant details including –

(a) Details of all persons involved, e.g. experience, currency, exit weight.

(b) Equipment details, e.g. type and size of parachute, state of serviceability.

(c) Descent details, if applicable, e.g. type of descent, exit height.

(d) Details of what occurred and resulting outcomes, e.g. injuries, cutaways, off-landings.

(e) Suspected or confirmed causes or contributing factors.

(f) Resulting action taken, if any, e.g. “will be more careful next time.”

(3) Notification can be done on an occurrence report form, available from the NZPIA website, or by some other written means.

(4) Parachute drop operations may report on behalf of individuals.

(5) Where more than one individual is involved in an occurrence, the details of all involved should be included.

(6) Any pilot-in-command of a parachute that is involved in an accident must notify the CAA of the accident as soon as practicable, in accordance with the provisions of CAR 12. Notification can be via the NZPIA’s reporting process above, or directly to the CAA via their CA005SKYDIVE form.

7.2 OCCURRENCE DEFINITIONS

(1) Accident: an occurrence which is associated with a freefall or parachute descent, taking place either on the ground, in the aircraft, in freefall, under canopy or on landing; and in which –

(a) A person is fatally or seriously injured; or

(b) A person requires First Aid to be administered; or

(c) The parachute sustains damage or failure that adversely affects the structural strength, performance, or flight characteristics of the parachute, and would normally require major repair or replacement of the affected component; or

(d) The parachutist is missing or is completely inaccessible.

(2) Incident: an occurrence, other than an accident, that is associated with skydiving or parachuting activity which adversely affects or could adversely affect the safety of persons or property. This includes equipment malfunctions. “Near misses,” where an accident almost occurred, are classed as incidents.

(3) Equipment incident: an occurrence that involves failure or malfunction of a parachute component, whether found in operation or on the ground. Main parachute malfunctions caused by packing error or body position are not considered equipment incidents, but malfunctions caused by manufacturing defect or improper maintenance are. See chapter 3.5 for more details on reportable equipment incidents.

(4) Serious injury: any injury that –

(a) Requires hospitalisation for more than 48 hours; or

(b) Results in a broken bone, except simple fractures of fingers, toes, or nose; or

(c) Involves severe haemorrhaging or nerve, muscle, or tendon damage; or

(d) Involves second- or third-degree burns, or any burns affecting more than 5% of the body.

7.3 OCCURRENCE ANALYSIS

(1) Occurrence data is collected by the NZPIA for the purposes of learning and minimising future risk.

(2) The NZPIA may undertake inquiries into any occurrence, and expects a reasonable degree of co-operation from the individual(s) involved. The objectives of these inquiries are to identify and correct any systemic deficiencies within the NZPIA's qualifications, standards and/or procedures, and to educate and inform industry.

(3) The NZPIA applies a "just culture" approach to these inquires, and endeavours not to assign blame or pursue disciplinary action except where it is beyond reasonable doubt that there has been deliberate negligence or a wilful disregard for safety.

(4) Where a parachutist self-reports their involvement in an incident, in a complete, accurate, and timely manner, the NZPIA will apply just culture principles. Where there's no self-reporting or there is evidence of repeated at-risk behaviours or recklessness, then the protections of just culture will not apply.

7.4 CONFIDENTIALITY

(1) NZPIA may proactively share occurrence information with the wider skydiving community in the interests of improving the safety and enjoyment of the activity for all participants. Efforts will be made to protect the privacy of the individuals involved, and focus instead on the circumstances that led to the occurrences and lessons that can be learned from them.

(2) Although information is anonymised before being shared with the wider community, the small size of the skydiving community and the relatively small number of serious occurrences mean that anonymity cannot be guaranteed and some individuals involved in reported occurrences will be identifiable.

(3) It is NZPIA's intention that only the NZPIA CEO and safety director will have access to the raw data submitted by individuals, and endeavours not to share that information with any third party without consent from the individual(s) who may be affected. However, NZPIA's disclosure of this information can be legally compelled by an appropriately authorised regulatory agency (e.g. police, CAA, TAIC, Worksafe).

APPENDICES

APPENDIX A: GLOSSARY

Accident	*See definition in chapter 7.2.*
Act (Or the Act)	Unless otherwise stated, means the Civil Aviation Act.
Affiliated / Affiliation	A subscription which entitles individual participants and parachute drop operations to access the NZPIA's services. Affiliation is mandatory for all persons exercising the privileges of an NZPIA-issued document, and is confirmed by payment of an annual fee. A list of NZPIA-affiliated parachute drop operations can be found on the NZPIA website.
AGL	Above ground level.
Airworthy	Conforms to all applicable serviceability requirements and is in condition for safe operation.
Altimeter	An instrument for measuring altitude throughout a descent.
AMSL	Above mean sea level.
Authorised	Permitted in writing by the appropriate authority.
Automatic Activation Device (AAD)	An automatic altitude and descent rate sensor, designed to activate a parachute in the event a parachutist descends through a pre-set height going faster than a pre-set speed.
Board / Board of Directors / BOD	NZPIA directors elected or appointed in accordance with the NZPIA company constitution.
CAA	Unless otherwise stated, means the New Zealand Civil Aviation Authority.
Canopy Relative Work (CRW)	A parachuting discipline where parachutists fly their parachutes in proximity to each other and grip each other's parachutes to fly in formation.
Canopy	The part of the parachute assembly most commonly associated with parachutes; the fabric that is deployed, attached to the parachute assembly by suspension lines, which fills with air and allows a person or object suspended under it to descend through the air in a controlled manner.
CAR	NZ Civil Aviation Rule, or part thereof; expressed as CAR xxx.xxx or Part xxx.xxx.
CEO	Unless otherwise stated, means the Chief Executive of the NZPIA, appointed by the NZPIA **Board** to carry the responsibilities of the Chief Executive Officer as defined in CAR 149.51(a)(1).
Coach	A person authorised by an instructor to carry out training and instruction in specific disciplines, e.g. freeflying, canopy piloting, etc. Also the holder of a coach rating or appointment issued by a reputable NZ or overseas parachute organisation, e.g. NZPO, NZPF, APF, USPA, etc.
Competency/Competent	The capability to perform certain processes or tasks to achieve desired outcomes; a combination of relevant knowledge, skills and attitudes; the demonstrated ability to apply knowledge and skills.
Cutaway / Cut Away	To jettison the main parachute in preparation for deployment of the reserve, usually done in response to an in-flight emergency.

Descent	Any descent from an aircraft by a person or persons who intend to deploy, or have deployed, a parachute. Also called a jump or a skydive. *NB: in this manual, unless otherwise stated, these terms refer to planned descents only; they do not include emergency evacuations from aircraft.*
Direct Supervision	The person supervising is present during the activity.
Display Descent	A parachute descent onto a temporary PLA, usually in front of an audience, e.g. onto a public reserve or into a public event; also called a demonstration jump.
Drop Zone Safety Officer (DZSO)	The holder of a valid DZSO rating; oversees parachuting activities under the authority of the parachute drop operation.
Emergency Parachute	A parachute assembly designed and intended to be used by persons evacuating an aircraft during an in-flight emergency.
Equipment Incident	*See definition in chapter 7.2.*
Formation Skydiving (FS)	A freefall descent in which two or more skydivers perform coordinated manoeuvres while primarily in a belly-to-earth orientation; formerly called Relative Work (RW).
Freefall Descent	A descent during which a parachute is manually activated by the parachutist some time after exiting the aircraft.
Freefly (FF)	A freefall descent in which one or more participants perform manoeuvres in a controlled manner, where all participants are not primarily in a flat "belly-to-earth" orientation; includes vertical manoeuvres (sit-fly, head-up, head-down, etc.), hybrid descents, angle flying, etc.
Incident	*See definition in chapter 7.2.*
Instructor	The holder of an instructor rating.
Jump	A freefall or parachute descent.
Jumpmaster	The holder of a jumpmaster rating.
Main Parachute	A canopy intended to be deployed as the primary means of controlled descent on a parachute descent.
Major Repair	A repair to a parachute that, if improperly accomplished, may affect its weight, structural strength, performance, flight characteristics, or other qualities which determine airworthiness.
Minor Repair	A repair other than a **major repair**.
Modification	Any change or alteration to any part of the parachute assembly from its original manufacturer's specifications.
Non-Standard Descent	"Non-traditional" skydiving such as night descents, intentional water landings, display descents, intentional cut-aways, wingsuit flights and canopy relative work (CRW).
Parachute	Either – A harness/container system which contains at least one flexible canopy attached to the harness by suspension lines, capable of controlled deployment and designed to slow the descent of a falling person or object; or A flexible canopy contained within the above-described harness/container system.

Parachute Descent Area (PDA)	A column of airspace centred on a parachute landing area, with a radius of three (3) nautical miles and extending from ground level to exit height.
Parachute Drop Operation	Provider of parachute drop and/or parachute descent services (also known as a drop zone or DZ).
Parachute Landing Area (PLA)	A piece of land or water onto which parachutists intend to land.
Parachute Technician (PT)	The holder of a parachute technician certificate.
Parachutist	Any person participating in planned parachute descents from aircraft, also called a skydiver.
Participant	Any person participating in parachuting, parachute maintenance, or parachute drop operations.
Ram-Air Canopy	A flexible airfoil (parafoil) with an aerodynamic cell structure which inflates using the relative wind as it deploys (ram-air inflation).
Reserve Parachute	A canopy designed and intended to be deployed as a secondary means of controlled descent on a parachute descent, in the event of the failure of the main canopy.
RSL (Reserve Static Line) / MARD (Main Assisted Reserve Deployment)	A lanyard connecting one or both of the main parachute risers to the reserve ripcord, the purpose of which is to automatically open the reserve parachute container when the main parachute is jettisoned. A MARD is a type of RSL which uses the jettisoned main canopy to assist in the extraction of the reserve canopy.
Skydive	A freefall descent from an aircraft, usually (ideally) followed by parachute descent.
Solo Descent	A freefall descent made by a parachutist who is unaccompanied by a jumpmaster, instructor or tandem master.
Static Line Descent	A parachute descent in which the main parachute is automatically activated upon exiting the aircraft, by a line attaching the main parachute's deployment system to a strongpoint in the aircraft.
Student Parachutist	A participant who does not hold a parachutist certificate, and who participates under the supervision of an instructor or jumpmaster.
Supervision	The person supervising is nearby and able to provide guidance or assistance during the activity, but is not necessarily physically present during the activity.
Tandem Harness System	Parachute system designed for two persons to exit an aircraft linked to a common parachute system, containing one main and one reserve parachute.
Tandem Master	The holder of a valid tandem master rating.
Tandem Parachute Descent / Tandem Descent	A descent by two people—a tandem master and passenger—harnessed together and using a single parachute assembly approved for such descents.
Tandem Passenger	A person participating in a tandem parachute descent using the secondary harness of the tandem harness system.
Water Hazard	An open body of water more than 100 metres across and more than 1 metre deep, e.g. an ocean or lake; distinct from water *obstacles*, which are easily avoidable in most circumstances.

APPENDIX B: LIST OF EFFECTIVE PAGES

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