CIVIL AVIATION AUTHORITY
OF NEW ZEALAND

# Aviation Safety Summary

1 January to 31 March 2017

## Summer 2017

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# Introduction to the Quarterly Safety Summary Report

Welcome to the quarterly safety summary report for the summer of 2017 (Jan/Feb/Mar).

The purpose of this document is to summarise the accidents and serious incidents that occurred during the summer quarter of 2017.

Summer is the busiest time for NZ aviation, with an increase in scheduled airline activity and commercial flying as well as a big increase in sport and recreational flying. Unfortunately there were 36 accidents in the summer of 2017, of which two were fatal.

In addition to the accidents there were a total of 1,626 incidents reported to CAA. This report includes brief details of 71 of the most significant incidents. The incidents have been grouped by sector. This is intended to aid the reader and foster an understanding of risk within each sector. Nonetheless some incidents reported in one sector could equally occur in others.

In the large aircraft sector the CAA is monitoring the incidents related to aircraft configuration issues and continuing to work with the operator concerned. They are included here to illustrate how human factors can affect all types of aircraft operation.

It is also noted that there were no less than 6 helicopter engine events this summer. These were spread across the airline, commercial and private helicopter sectors, both turbine and piston engines so are not likely to have a common cause. What they do have is a common outcome; the need for an immediate landing on the terrain below. The flight safety value from these reported events is not so much in what caused them, but what the crews did to manage the event.

The next six monthly Aviation Safety Update will be published before the 30th of June 2017.

Safe flying,

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# Executive Summary - Aviation Safety to 31 March 2017

- There were 36 accidents in the summer of 2017. This is the highest number of accidents in a summer quarter since 2014, (which had 51 accidents).
- There were two fatal accidents in this quarter:
  - one commercial helicopter accident with one fatality;
  - one private helicopter accident with one fatality;

  see page 6.
- There were nine serious injuries in accidents:
  - one passenger of an airline helicopter flight (hand injury in the rotor)
  - one passenger and two pilots of tandem parachute flights (adventure aviation operations) suffering broken bones;
  - one commercial helicopter pilot;
  - the pilot and one passenger of a private aeroplane flight (the other two passengers suffered minor injuries);
  - one student on a dual training hang glider flight (broken ankle);
  - one private paraglider pilot;

  see pages 6 and 7.
- There were eight minor injuries in accidents:
  - two minor injuries on tandem parachute flights (adventure aviation operations);
  - two passengers of a private aeroplane flight;
  - the pilot and passenger of a private helicopter flight;
  - one parachutist and one paraglider pilot on private flights;

  see pages 6 and 7.
- And without injury there were:
  - one tandem hang glider accident (adventure aviation operation);
  - one commercial small aeroplane accident (solo training);
  - one commercial helicopter accident (fence line post laying);
  - four agricultural aeroplane accidents (a collision involving two agricultural aeroplanes is counted as two accidents);
  - two agricultural helicopter accidents;
  - four private small aeroplane accidents and one private helicopter accident;
  - one accident during dual training in a class 2 microlight;
  - seven private sport accidents (three class 2 microlights, one class 1 microlight, two amateur built aeroplanes and one glider);

  for details see pages 8 to 10.

# Section 1 - Accidents

## *Accidents by Safety Target Group*

### *Quarterly Comparison*

| Safety Target Group | 1 Jan to 31 Mar 2017 | 1 Jan to 31 Mar 2016 | Average Of Same Quarter In Previous 3 Years |
|---|---|---|---|
| Airline Operations - Large Aeroplanes | 0 | 1 | **0.7** |
| Airline Operations - Medium Aeroplanes | 0 | 0 | 0.3 |
| **Airline Operations - Small Aeroplanes** | **0** | 0 | 0.3 |
| Airline Operations - Helicopters | 1 | **1** | **1.7** |
| **Sport Transport** | **5** | **3** | **3.0** |
| **Other Commercial Operations - Aeroplanes** | **1** | **2** | **2.7** |
| **Other Commercial Operations - Helicopters** | **3** | 0 | **1.7** |
| **Agricultural Operations - Aeroplanes** | **4** | 0 | **1.7** |
| **Agricultural Operations - Helicopters** | **2** | **1** | **1.0** |
| Agricultural Operations - Sport Aircraft | 0 | 0 | 0.0 |
| **Private Operations - Aeroplanes** | **5** | **6** | **5.3** |
| Private Operations - Helicopters | 3 | 1 | **1.7** |
| **Private Operations - Sport** | **12** | **18** | **20.0** |
| Other | 0 | 0 | **0.7** |
| **Total** | **36** | **33** | **40.7** |

**Comment**

Overall accident numbers in the 2017 summer quarter have increased by 3 (9%) in comparison to the 2016 summer quarter. The biggest increase is within the Agricultural Operations - Aeroplanes group, while the biggest decrease is within the Private Operations - Sport group.

## *Summary of Accidents*

This section describes all accidents that occurred during the period 1 January to 31 March 2017. These accidents are classified according to the highest level of injury sustained and the safety target group. Not all of these accidents were investigated by the CAA, and some of the CAA investigations have not been completed, so the text may be condensed from the original accident notification.

### *Fatal Accidents*

**Other Commercial Operations - Helicopters**

- Eurocopter AS 350 BA, Christchurch: Helicopter crashed during a fire fighting exercise. The pilot was killed. The helicopter was destroyed. TAIC and CAA safety investigations in progress. (17/566)

**Private Operations - Helicopters**

- Robinson R22, Larrys Creek: Fatal helicopter accident during venison recovery operation. The helicopter was destroyed. TAIC and CAA safety investigations in progress. (17/1543)

### *Injury Accidents*

**Airline Operations - Helicopters**

- Hughes 369E, Fox Glacier: A passenger was injured embarking into running helicopter. Before the passenger had completed embarking onto the aircraft, they extended their arm to full length and their fingers made contact with the main rotor blades causing a serious injury to their right hand. (17/1519)

**Sport Transport**

- Tandem parachute, Taupo: During approach to land, a strong gust of turbulent wind spun the canopy around 90 degrees to the right. This committed the tandem master to landing cross wind. As he flared the canopy, this had no effect on slowing the descent and a hard landing followed with the tandem master injuring his right foot (minor injury). (17/174)
- Tandem parachute, Whangarei: On final a wind shift resulted in a fast downwind landing without the passenger getting their feet up in time. The tandem master ended up on top of the passenger, this resulted in grazes to the passenger’s leg (minor injuries). (17/227)
- Tandem parachute, Wanaka: During landing at 10 ft caught in an up-lifting gust, resulting in canopy pressure loss and a hard landing. Tandem master has been diagnosed with a broken fibula and a slight chip to the base of her tibia (serious injuries). (17/276)
- Tandem parachute, Jardines: A tandem training parachute jump was being conducted with a new trainee instructor. They suffered a heavy landing which resulted in multiple fractures to both persons (serious injuries). CAA safety investigation in progress. (17/287)

**Other Commercial Operations - Helicopters**

- Hughes 369E, Ohakune: During sling operations, the strop went through the tail rotor, causing it to come off, and resulting in serious injuries to the pilot. CAA safety investigation in progress. (17/631)

**Private Operations - Aeroplanes**

- Cessna A185F, Kekerengu: While landing up slope on a private airstrip, the aircraft most probably encountered a sudden windshear or tail wind component. This caused the aircraft to descend rapidly resulting in a very hard landing. The pilot lost directional control of the aircraft which then departed the airstrip to the left and down an embankment. The pilot and front seat passenger suffered serious back and internal injuries and were trapped in the aircraft until emergency services arrived to free them. The two people seated in the rear suffered minor injuries and were able to free themselves from the aircraft. The aeroplane was destroyed. CAA safety investigation determined it was probable that the aircraft encountered windshear or tailwind gust which the pilot did not anticipate. This resulted in a high rate of descent close to the ground from which the pilot couldn't recover. (17/154)

**Private Operations - Helicopters**

- Robinson R44 II, Raukokore River: Approaching river flat to land, the tail rotor struck the ground and broke off. Helicopter spun a number of times and impacted the ground on left side, resulting in minor injuries to the pilot and passenger. CAA safety investigation completed. (17/935)

**Private Operations - Sport**

- Hang Glider, Otago: Take-off accident during a dual training flight. Failed to become airborne, on ground contact the student suffered a badly broken ankle (serious injury). (17/1331)
- Parachute, Parakai: Parachutist failed to flare at adequate height resulting in a hard landing, with approximately 25% flare. Parachutist complained of some back pain on landing and an ambulance was called due to suspected back injury (minor injury). (17/349)
- Paraglider, Queenstown: Paraglider collided with 11 kV power lines and sustained serious burns as well as a broken leg (serious injuries). Strong winds were prevailing at the time of the accident. (17/92)
- Paraglider, Omarama: Paraglider lost control on take-off. Pilot injured his ankle (minor injury). (17/861)

***Non-Injury Accidents***

**Sport Transport**

- Tandem hang glider, Coronet Peak: Paraglider failed to get airborne on launch. The paraglider spun back into the hillside. (17/319)

**Other Commercial Operations - Aeroplanes**

- Cessna 152, Dunedin: Minor landing accident. The student pilot was carrying out their first solo flight but bounced the aircraft several times on landing. The nose wheel collapsed on the 3rd bounce and the aircraft came to rest beside the runway. (17/280)

**Other Commercial Operations - Helicopters**

- Robinson R44 II, Mahoenui: The helicopter was engaged on an operation laying out fence line posts when they noticed the load line slip and witnessed the centre post spill out. The pilot lowered collective and pulled speed back in an attempt to put the load on the ground and secure it, however the remaining posts began to fall away. The pilot elected to jettison the load. When he did he felt a sudden bang and realized that tail rotor authority had been lost when the empty strop flicked up and wrapped around the tail rotor pitch links. The pilot attempted a run on landing but lost control and collided with terrain. The helicopter was destroyed. CAA safety investigation in progress. (17/289)

**Agricultural Operations - Aeroplanes**

- Air Tractor AT-402B, Kumeroa: Experienced sink on final with two people on board, hit ground prior to strip. Damaged landing gear and came to rest on strip. CAA safety investigation in progress. (17/595)
- Gippsland GA200C, Kawakawa Bay: Take-off accident during aerial topdressing operations. On lift-off experienced a sudden wind change which caused the aircraft to sink. The aircraft impacted heavily with the ground in the paddock ahead causing the undercarriage to collapse. (17/715)
- Pacific Aerospace Cresco 08-600, SE of Te Kuiti: Two agricultural aircraft collided - one was taking off, the other landing on the same strip. CAA safety investigation in progress. (17/1544 & 17/1934)

**Agricultural Operations - Helicopters**

- Hughes 369E, Beaumount: During the first spray run in a new treatment area, the aircraft came into contact with twin wires at the Eastern end of the spray area, resulting in damage to the machine. The wires, one of two sets over the spray block, had been noted in the safety briefing before commencing the operation. The wires blended into the terrain. (17/209)
- Robinson R44 II, Tapanui: During spraying operations, flying up hill and ran out of power, attempted a precautionary run on landing while jettisoning the load. The helicopter impacted the ground and rolled three times. CAA safety investigation determined that the aircraft was heavier than the pilot anticipated and started to sink towards the hill. Unable to arrest the sink with collective. (17/535)

**Private Operations - Aeroplanes**

- Cessna 180A, Lansborough River: On take-off with two people on board, aircraft caught a large gust of tail wind on a one way strip and aircraft failed to become airborne. Aircraft hit rough ground and sustained damage to left wing, left undercarriage leg and prop. (17/278)
- De Havilland DH 82A Tiger Moth, Omaka: Minor landing accident. Left main wheel clipped inboard corner of left runway threshold marker, resulting in initial damage to undercarriage brace. Pilot initiated go-around and attempted dead stick approach, but was prevented from reaching RWY 30 by conflicting traffic, landing short of the runway on bush land. Damage to undercarriage and lower wings. CAA safety investigation in progress. (17/1103)
- Maule M-5-210C, Ruahine Corner: Minor landing accident. Bounced on landing, during go-around a gust pushed the aircraft sideways, one wheel entered the longer tussock pulling the aircraft off the strip. Take-off aborted, moments later the right hand oleo collapsed. CAA safety investigation determined the likely cause was an unanticipated gust of wind following a bounced landing. The bounced landing was probably a result of the aircrafts higher than expected rate of descent due to the pressure altitude of the strip. (17/1593)
- Piper PA-28R-200, Nelson: Minor taxiing accident with two people on board. Following taxiing over a small drain grate mounted in a small concrete pad which the nose wheel had crossed, aircraft fell into a hole on the trailing side of the concrete pad causing the nose wheel to fold up. The propeller struck the ground and the engine stopped. (17/1447)

**Private Operations - Helicopters**

- Robinson R22 Beta, Glenrae Valley: Two people on board, had finished flare for landing and levelled helicopter. Applying power to enter into hover and obtain ground effect when strong gust lifted tail pushing nose forward and down. Aft cyclic and full power could not correct so attempted run on landing. Right skid dug into soft ground and machine rolled on to its side. CAA safety investigation in progress. (17/1087)

**Private Operations - Sport**

- Class 2 microlight, Wanaka: Minor take-off accident during dual training operations. On the take-off roll with the student following through on the controls, a gust of wind caused the aircraft to become airborne sooner than preferable with a higher than comfortable nose attitude. The aircraft weather cocked due to crosswind, corrective action taken, but the student froze on the rudder pedals with the aircraft continuing to yaw right, with insufficient airspeed to continue flight the aircraft settled heavily onto the ground damaging the left hand undercarriage. (17/82)
- Amateur built aeroplane, Ashburton: Minor landing accident. Landing in gusty conditions a gust created a swing to the left, unable to stop or shutdown the propeller came into contact with another amateur built aeroplane, shattering the propeller tips and damaging the rear fuselage of the other aircraft. (17/437)
- Amateur built aeroplane, Motueka: Inadvertently landed with the gear up, one person on board. (17/884)
- Class 1 microlight, Kerikeri: Minor landing accident. Immediately after lift-off engine power initially reduced a little then recovered. Pilot decided to land back on ample runway available. A premature touchdown was initially on one wheel and a swing to the left was induced, this developed into an uncontrollable ground loop despite full application of brake and rudder. Aircraft came to rest on the starboard wing tip with starboard undercarriage partially detached. (17/520)
- Class 2 microlight, Raglan: Aircraft with two people on board landed downwind and failed to stop in time to avoid fence at end of the runway. The propeller wrapped around the fence wire. CAA safety investigation completed. (17/51)
- Class 2 microlight, Patumahoe: Minor landing accident with two people on board. Pilot reported on coming in to land he was caught in turbulence and made a heavy landing and the aircraft suffered a bent nose leg. (17/121)
- Class 2 microlight, Motueka: Minor aborted take-off accident. Following touch and go, when power applied there was a lag and only partial power available. Take-off aborted, throttle closed, max braking applied. Due to wet grass and speed unable to stop before running out of landing area. Went through fence into field at end of the runway. Damage to nose and right undercarriage legs, end of right wing. (17/300)
- Glider, near Carterton: Minor landing accident. Landing gear collapsed after outlanding in mountain wave conditions. One person on board. (17/411)

# Section 2 - Incidents

This section describes selected incidents from the period which had a high potential risk. In the period 1 January to 31 March 2017 there were a total of 1,626 incidents reported to the CAA, the 71 incidents presented here have been selected on the basis of potential risk.

For brevity the text may be condensed from the original occurrence notification. In some cases the aircraft model descriptions have been reduced to a sector (e.g. large jet). This is done for two reasons:

- to maintain the privacy of the reporter, and
- to focus on the nature of the incident.

In many incidents such as airspace occurrences, the specific aircraft type is not relevant to the problem. By comparison for defect incidents the specific model is highly relevant, but the location is not. The occurrences are grouped by sector to enable consideration of specific risks. While this is intended to assist operators to identify their sector relevant risks, there will be some events occurring in a given sector that could equally occur in other sectors.

## *Selected Critical and Major Incidents*

### *Airline Operations - Large Aeroplanes*

- Turboprop, Wellington: As aircraft taxied to stand, the aircraft's wingtip passed over another turboprop's wind screen. (17/1293)
- Large jet, Shanghai: Aircraft was cleared to taxi to R5 and then R6, to hold short of RWY 16R, but continued past the holding point. Aircraft crossed RWY 16R. Crew mistook the holding point lights of RWY 16L as those of RWY 16R. (17/671)
- Large jet, En-route: Unlocked ULD. ULD in position 11 able to shift between two positions. Crew heard a bang from underfloor with pitch change while in descent. Ground crew reported can in Station 11 not locked in position. (17/783)
- Large jet, En-route: On descent F/A noted rattling and banging sounds from floor above aft cargo hold. A VMC controllability check was carried out and the approach and landing continued. Upon inspecting the rear cargo hold the lock between position 41 and 42 was not engaged. CAA safety investigation in progress. (17/1144)
- Large jet, Queenstown: Aircraft taxied forward with ground handler still attached. The controller noticed this and instructed aircraft to stop immediately. CAA safety investigation in progress. (17/1491)
- Large jet: Arrived in Auckland with the ULD lock between hold 41 and 42 still down. CAA safety investigation in progress. (17/1146)
- Large jet: On arrival in Auckland, locks were down between hold 32 and 41. ULD had slid from 32 to 41. Locks were up on hold 42 but a couple of bags flew out of the can into hold 42. CAA safety investigation in progress. (17/1522)
- Turboprop, En-route: Climbing through transition level, "EXCESS CAB ALT" displayed. Levelling out at FL150, crew noticed the cab altitude reading 12,000 ft. Carrying out QRH, aircraft descended to 8,000 ft under radar control. Emergency declared for priority handling landing. (17/647)
- Turboprop: During a visual approach, at approximately 1,700 ft, flap 30 was requested but flap 0 selected instead. The mistake was noticed immediately and flap 15 re-selected. Due to gusty conditions, props were put up to 100 and then flap 30 selected. No over speed detected. (17/612)

- Turboprop, Christchurch: Aircraft tipped with 300 kg in hold 4 and passengers boarding at rear of aircraft. Ramp agent estimated the nose rose 2 ft off the ground. (17/1121)
- Turboprop: During taxi-in, GEN 2 did not come back on line. The captain did not notice this but on approaching the gate, when he applied the brakes, they were not there. The park brake was used to stop the aircraft. (17/332)
- Large jet, En-route: Brief stick shaker activation. Turning outbound in the hold F/O noted green trend arrow showing a rapid decrease in indicated airspeed, momentary stick shaker activation. Captain disconnected auto pilot, auto throttle and increased thrust. (17/1364)
- Turboprop, En-route: Pilot Incapacitation. Declared a PAN PAN and requested to return to aerodrome due pilot incapacitation. (17/1639)
- Turboprop, Kerikeri: Aircraft rejected take-off as nose wheel failed to lift-off the runway on departure. PA made to the passengers and aircraft taxied back to the apron. CAA safety investigation completed. (17/639)
- Turboprop: Bleed air switches not selected on after take-off. Through 10,000 ft received a cabin alt warning. (17/1440)
- Turboprop: After take-off the F/O inadvertently raised the flap instead of the landing gear. (17/551)
- Turboprop: Flaps retracted instead of gear. Departing RWY 34, flaps 5, 17,800 kg. Just after take-off, when asked for gear up, PM (F.O.) selected flap 0 instead. CAA safety investigation completed. (17/1470)
- Turboprop, Woodbourne: Three EGPWS activations on a visual approach. The aircraft was approximately in its lowest position at 800 ft AGL not in compliance with SOPs, as the aircraft was below 1,000 ft AGL un-configured. Auto pilot was still engaged when first warning was received. After the auto-pilot was disengaged, two more warnings were received. The warnings were also received in the cabin. CAA safety investigation completed. (17/725)
- Large Jet: Freight only flight. Crew noted #2 engine vibration and surging, N1 rolled back to 50%. No thrust lever control available over #2, engine shutdown, returned to aerodrome. CAA safety investigation in progress. (17/1132)
- Turboprop: Freight only flight. RPM unstable and left hand engine shut down. Aircraft returned to land. CAA safety investigation in progress. (17/1321)

***Airline Operations - Small Aeroplanes***

- Ardmore: Ferry/positioning flight. Aircraft came into close proximity with another while operating near Ardmore. Aircraft flew past each other at the same altitude. CAA safety investigation completed. (17/962)
- Woodbourne: Loss Of Separation. Turboprop single on a visual approach, another Turboprop single on a Left Visual Departure. (17/1626)

***Airline Operations - Helicopters***

- Eurocopter AS 350: While in the cruise a slight unusual shudder was felt, immediately the left rear passenger advised the external cargo pod had departed the aircraft. CAA safety investigation in progress. (17/153)
- Cascade Valley: Helicopter was tracking up the right hand side of the Cascade at 1,800 ft making regular radio calls on 119.10 to look up and find a dark blue small cub type plane directly ahead estimated 70 m away, helicopter turned right immediately to avoid. (17/1510)
- Franz Josef Helipads: Passenger transport A to A flight. Avoiding action required to avoid collision due second helicopter lifting without doing a clearing turn to all other pads behind. (17/1085)
- Queenstown: Helicopter was cleared to the Remarkable Peak and also to cross all runways. Helicopter lifted off abeam of RWY 05 threshold and passed very close to a Rescue Fire vehicle which was parked on the apron. CAA safety investigation completed. (17/373)
- Queenstown: Traffic confliction in the vicinity. Extensive helicopter operations during the afternoon, with multiple helicopters operating in formation, resulting in one helicopter having to take avoiding action. CAA safety investigation in progress. (17/557)
- Eurocopter AS 355 F2: Engine Failure. Initially reported a chip warning light illumination, 2 minutes later advised one of two engines had failed. CAA safety investigation in progress. (17/189)
- Eurocopter EC 130 T2: At end of flight, the passenger attempted to undo seat-belt by rotating release mechanism of the 4 point harness. Upon rotating, the whole front piece separated from the buckle housing, causing the passenger to be stuck in the seat belt. The pilot had to use pliers to rotate the nut on the mechanism to release the seat-belt. CAA safety investigation in progress. (17/257)
- Hughes 369E: During cruise the pilot noted a rapid increase in Rotor RPM along with a loud whining noise from the engine. A precautionary landing carried out. CAA safety investigation in progress. (17/1608)

***Sport Transport***

- Pacific Aerospace 750XL: Parachuting operation. The load of skydivers included a group of 11 skydivers who wished to exit together. As these skydivers moved to the rear of the aircraft it caused the nose of the aircraft to pitch up, which couldn't be corrected with full elevator deflection. The pilot rolled the aircraft to the left (as per his emergency procedures training). As the skydivers exited the aircraft the pilot felt a bump. After landing, impact damage noted on the LH side of the horizontal stabiliser. CAA safety investigation completed. (17/513)
- Queenstown: Parachuting operation. Was observed outside sector to the south of Queenstown which in turn caused a loss of separation between an A320 departing to YSSY. (17/764)

***Other Commercial Operations - Aeroplanes***

- Feilding: Dual training flight. Sheep incursion on runway during aircraft touch and go. Heavy braking required and the pilot manoeuvred light aircraft to left of runway to avoid collision with sheep. (17/948)
- Hamilton: Solo training flight. Light aircraft was instructed to hold at E2, observed to enter RWY 18L without a clearance with an aircraft on final. (17/1243)
- Hamilton: Solo training flight. Light aircraft was issued with a conditional line up clearance to line up behind the Cessna 172 on final. Initially aircraft appeared to hold at G2, but then proceeded to line up ahead of the traffic on final. Cessna 172 pilot realised that aircraft was lining up and initiated a go-around. (17/1334)
- En-route: Dual training flight. Below Radar Terrain in IMC. Was unable to maintain altitude in wave, over the ranges NW of NZPM. Descended below radar terrain in IMC and was given emergency vectors (outside controlled airspace) to the east into a lower radar terrain sector. When the altitude stabilised the pilot elected to return to NR climbing back to route MSA. (17/234)
- Christchurch: Air ambulance flight. Below profile on approach. Cleared for a VOR/DME approach RWY 20 at Christchurch. CH TWR observed the aircraft at 350 ft, 3 NM from touchdown, and a low altitude alert occurred. The aircraft was challenged (check altitude) to which the aircraft replied "we're visual" but then climbed back to 625 ft. Aircraft landed normally. CAA safety investigation in progress. (17/1256)
- Feilding: Dual training flight. Light aircraft came into close proximity with traffic joining at the aerodrome. Avoiding action taken by the joining Air Tractor. (17/1008)
- Hamilton: Solo training flight. Light aircraft was sequenced as number two, behind a light aircraft on left base. No 2 aircraft was however observed turning right base while number one aircraft was still on left base. No 2 aircraft instructed to make a right turn and rejoin right hand downwind. (17/439)
- Hamilton: Solo training flight. Light aircraft turned crosswind earlier than expected by the controller and conflicted with another light aircraft, also in the circuit. Pilot was instructed to track to the West and expect return when conflict was resolved. CAA safety investigation completed. (17/377)
- Palmerston North: Solo training flight. Light aircraft was instructed to make left hand orbits on the mid-downwind position for RWY 07 until advised while a DH8C was on visual approach via a 5 NM final from the North. Another DH8C was departing towards the North and ATR towards the South. DH8C on 3 NM final reported a TCAS TA from the light aircraft. Controller passed traffic information to the DH8C crew reported having the light aircraft in sight. (17/1335)
- Palmerston North: Dual training flight. Aircraft was issued a departure clearance which conflicted with an inbound Cessna 152. Essential traffic information issued when aircraft were approximately 1 NM from each other and on converging tracks. The Cessna 152 pilot reported having the Robin in sight and passing behind. (17/1288)

***Other Commercial Operations - Helicopters***

- While returning to the dam to refill the monsoon bucket, the empty bucket became detached from the cargo hook and fell approximately 250 ft to the ground. CAA safety investigation in progress. (17/632)
- Air ambulance flight. Near miss with floatplane. Made radio call prior to lift, lifting towards WP. After take-off made a further call to City traffic, airborne towards the Harbour Bridge. Immediately thereafter observed floatplane slightly below our level and climbing. Helicopter took evasive action. CAA safety investigation in progress. (17/1572)
- Eurocopter AS 350 BA: Upon removal of main rotor mast assembly for an epicyclical change, engineer noticed a rusty substance partially blocking the end of the hose assembly which supplies oil to the upper tapered roller bearing of the M/R mast. Hose assembly found to be completely blocked with a rusty substance at the M/R mast end. CAA safety investigation in progress. (17/384)
- Shortly after take-off had an uncommanded hook release of a sling load. The load landed well clear of all runways and movement areas. CAA safety investigation completed. (17/281)
- Hughes 369D: During cruise at 1,500 ft there was a sudden onset of severe high frequency vibration. Suspected that this was due to a tail rotor problem and immediately reduced the throttle to ground idle and entered an auto-rotation onto a flat paddock with a successful run-on landing. No input into the tail rotor system was performed in case of a catastrophic failure of the tail rotor which is why pilot chose a run-on landing. (17/538)
- Hughes 369D: Forced landing following engine power loss. Audio warning of low RMP engine out light on, rapid loss of RMP, lowered collective peeled off the hill headed for valley floor activated ELT flared at bottom made successful landing. Shut machine down, tied and secured helicopter, activated Spider Tracks emergency button. CAA safety investigation completed. (17/1185)
- Hughes 369E: During 100hr inspection, the leading edge caps on the tail rotor blades were found to be debonding. (17/2001)
- Hughes 369E: Ferry/positioning flight. In the cruise the pilot smelt burning oil, instrument scan revealed oil pressure flickering. Precautionary landing carried out. A large amount of oil noted down the side of the helicopter. CAA safety investigation in progress. (17/1672)
- Hughes 369FF: Main Rotor blade found with a major crack in the inboard lower skin. CAA safety investigation in progress. (17/1622)
- Robinson R22 Beta: Solo training flight. Main rotor and engine overspeed. (17/1327)
- Robinson R44 II: Bronze material found in oil filter at 50-hour engine inspection, engine removed and dispatched for investigation. (17/1537)

***Agricultural Operations - Aeroplanes***

- NZ Aerospace FU24-954: Noted puffs of white smoke and sparks from exhaust pipes during take-off. Throttled back to idle and stopped straight ahead. CAA safety investigation in progress. (17/1280)

***Agricultural Operations - Helicopters***

- Near wire strike during helicopter spraying operations. Pilot noticed a wire (fence) spanning a gully that he had not been briefed on, if spraying continued a wire strike would have occurred. Farmer had given a good briefing, but did not actually know the wire was there. CAA safety investigation in progress. (17/2436)
- Hughes 369D: When conducting a pre-flight inspection the pilot noticed the leading edge of the newly installed tail rotor blade was delaminating. (17/676)

***Private Operations - Helicopters***

- Helicopter called requesting clearance to airport for maintenance. At the time, the cloud base around the airfield and in the valley was BKN002 and visibility reducing to 3,000 m with mist. Pilot advised of these conditions and cleared to reporting point 3,500 ft or below. Aircraft noticed some time later at 4 NM West of the airfield and pilot could not locate VRP or the aerodrome, now operating SVFR without a clearance. Pilot was uncertain of position and controller advised the pilot that landing was advisable. Helicopter landed in a paddock and reported on the ground. Later when conditions improved, helicopter continued to aerodrome. After landing, during a discussion with the controller, it was discovered that pilot did not have VNCs on board. CAA safety investigation completed. (17/1318)
- Hughes 269C: Approaching airport at 1,000 ft a bang was heard, then the helicopter started vibrating. A precautionary descent and landing carried out. Once on the ground the pilot noted 2 bolts had come out of the flywheel. CAA safety investigation in progress. (17/205)
- Hughes 269C: Experienced a sudden loss of engine power with the helicopter yawing to the left. Entered into an autorotation, descending and landing safely onto a river bed. Noted engine was running very rough and was shut down. CAA safety investigation in progress. (17/206)
- Robinson R22 Beta: Ferry/positioning flight. Helicopter suffered an engine power loss and made a forced landing. Ferrying home after a 100 hour check, noted drop in RPM's, lowered collective, RRPM rose, ERPM continued to decrease. Entered autorotation, completed autorotation with partial power landing safely, no damage. CAA safety investigation in progress. (17/943)

***Private Operations - Sport***

- Hamilton, class 2 microlight: Aircraft was instructed to taxi to Holding Point C4 for RWY 25 but was observed taxiing beyond the holding point and proceeding across the runway. (17/250)
- Mt Tauhara quarry: Military aircraft flew in close proximity to paraglider as it approached to land at the Northern side of Mt Tauhara where the quarry is. The aircraft was very low. CAA safety investigation completed. (17/1071)
- Aero L-39C: RH rear horizontal stabiliser attach fitting found cracked. (17/2343)
- Amateur Built Aeroplane: Found transponder installed without approved technical data and non-compliant with the data that was used. (17/2364)

***Other Part 129***

- Foreign registered aircraft: Passenger transport A to B flight. Aircraft lost control at start of the take-off run after nose wheel locked. Take-off was aborted but aircraft swerved from one side of the runway to the other. Main wheel came very close to the edge of the runway. One runway edge light was destroyed by the nose wheel. Aircraft stopped on the runway managed to taxi back to the apron for engineers to attend to it. Flight departed later at night. (17/302)

***Dangerous Goods Incidents***

- Auckland: Consignment with lithium ion batteries shipped on passenger aircraft from China. The consignment was labelled incorrectly as 'wet cell'. When NZ Customs opened the consignment, they discovered the lithium ion batteries. (17/904)
- Auckland: Passenger arrived with approximately 106 grams of mercury, contained in a plastic bag also containing some tea. Passenger insisted that this was part of her medicine and she was to mix it with her tea. (17/907)
- Auckland: Shipper sent bike engine accompanied with a purge certificate but while at the cargo terminal in Auckland, fuel was observed streaming from the engine. (17/979)
- Auckland: Two of nine supposedly unloaded ULD's were found to contain class 9 DG's (RMD) on arrival - apparently had not been unloaded from previous use despite declaration saying it had been done. Load had originated in SYD, and not unloaded in AKL. (17/2226)
- Brisbane: Lithium Battery DG, issues with assessment to carry, one shipment prohibited to carry, mix of Lithium Metal and Lithium Ion. Plus unidentified Lithium Metal batteries not recorded on the NOTOC. (17/457)
- Christchurch: Aircraft loaded with DG's without correct segregation. (17/2747)

## *Defect Incidents by Aircraft Statistics Category*

### *Quarterly Comparison*

### Number of Reported Defect Incidents

| Aircraft Statistics Category | 1 Jan to 31 Mar 2017 | 1 Jan to 31 Mar 2016 | Average Of Same Quarter In Previous 3 Years |
|---|---|---|---|
| Large Aeroplanes | 210 | 149 | 242.0 |
| Medium Aeroplanes | 11 | 22 | 20.0 |
| Small Aeroplanes | 69 | 67 | 56.0 |
| Agricultural Aeroplanes | 9 | 10 | 10.0 |
| Helicopters | 31 | 44 | 43.3 |
| Sport Aircraft | 8 | 8 | 8.7 |
| Unknown Aircraft | 12 | 16 | 12.0 |
| **Total** | **350** | **316** | **392.0** |

### Severity of Reported Defect Incidents

| Severity | 1 Jan to 31 Mar 2017 | 1 Jan to 31 Mar 2016 | Average Of Same Quarter In Previous 3 Years |
|---|---|---|---|
| Critical | 0 | 0 | 1.0 |
| Major | 22 | 25 | 47.3 |
| Minor | 328 | 291 | 343.7 |

No critical defect incidents were reported in the 1 January to 31 March 2017 quarter.

## *Aircraft Incidents by Aircraft Statistics Category*

### *Quarterly Comparison*

### Number of Reported Aircraft Incidents

| Aircraft Statistics Category | 1 Jan to 31 Mar 2017 | 1 Jan to 31 Mar 2016 | Average Of Same Quarter In Previous 3 Years |
|---|---|---|---|
| Large Aeroplanes | 317 | 89 | 81.3 |
| Medium Aeroplanes | 5 | 8 | 11.0 |
| Small Aeroplanes | 33 | 23 | 25.7 |
| Agricultural Aeroplanes | 2 | 3 | 2.0 |
| Helicopters | 14 | 25 | 11.0 |
| Sport Aircraft | 7 | 10 | 10.0 |
| Unknown Aircraft | 81 | 65 | 50.3 |
| **Total** | **459** | **223** | **191.3** |

### Severity of Reported Aircraft Incidents

| Severity | 1 Jan to 31 Mar 2017 | 1 Jan to 31 Mar 2016 | Average Of Same Quarter In Previous 3 Years |
|---|---|---|---|
| Critical | 0 | 0 | 2.7 |
| Major | 25 | 13 | 24.7 |
| Minor | 434 | 210 | 164.0 |

No critical aircraft incidents were reported in the 1 January to 31 March 2017 quarter.

## *Airspace Incidents by Aircraft Statistics Category*

### *Quarterly Comparison*

### Number of Reported Airspace Incidents

| Aircraft Statistics Category | 1 Jan to 31 Mar 2017 | 1 Jan to 31 Mar 2016 | Average Of Same Quarter In Previous 3 Years |
|---|---|---|---|
| Large Aeroplanes | 57 | 42 | 42.0 |
| Medium Aeroplanes | 15 | 15 | 23.0 |
| Small Aeroplanes | 99 | 140 | 154.0 |
| Agricultural Aeroplanes | 2 | 0 | 2.3 |
| Helicopters | 29 | 22 | 25.7 |
| Sport Aircraft | 20 | 29 | 30.0 |
| Unknown Aircraft | 159 | 228 | 138.0 |
| **Total** | **381** | **476** | **415.0** |

### Severity of Reported Airspace Incidents

| Severity | 1 Jan to 31 Mar 2017 | 1 Jan to 31 Mar 2016 | Average Of Same Quarter In Previous 3 Years |
|---|---|---|---|
| Critical | 0 | 1 | 2.0 |
| Major | 27 | 25 | 41.7 |
| Minor | 354 | 450 | 371.3 |

No critical airspace incidents were reported in the 1 January to 31 March 2017 quarter.

### *Attributability*

Of the 381 reported airspace incidents in the 1 January to 31 March 2017 quarter, 17% are Air Traffic Service (ATS) attributable, 77% are pilot attributable, 3% are ATS and pilot attributable, and 3% are unknown attributable.
(Note that the percentages may not sum exactly to 100% due to rounding.)

Since April 2014 the long-term trend of the ATS attributable airspace occurrence rate is neutral and the long-term trend of the pilot attributable rate is upward.

### *Bird Incident Rates*

Bird hazard monitoring has been carried out for the period ended 31 March 2017.

There were 2 aerodromes with strike rates in the high risk category of the CAA standard (10.0 and above bird strikes per 10,000 aircraft movements), both having long-term upward trends.

There were no aerodromes with strike rates in the medium risk category (5.0 to 10.0 per 10,000 movements).

26 aerodromes had strike rates in the low risk category (below 5.0 per 10,000 aircraft movements), 4 having long-term upward trends, 7 having long-term constant trends and 15 having long-term downward trends.

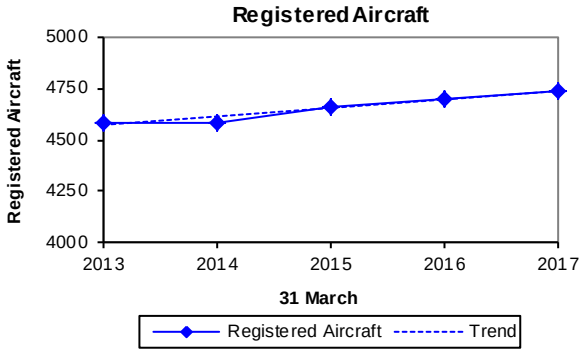
For more information visit the 'Bird Hazard Reports' section of the CAA web site http://www.caa.govt.nz/safety-info/safety-reports.htm (or look up Aviation Info, Safety Info, Safety reports)

# Section 3 - Activity

## *Registered Aircraft by Aircraft Statistics Category*

### *Trends*

The following graph shows the number of registered aircraft at 31 March for each of the five-years 2013 to 2017.




Note that the scale on this graph does not start at zero.

### *Quarterly Comparison*

| Aircraft Statistics Category | 31 March 2017 | 31 March 2016 | Average Of 31 March In Previous 3 Years |
|---|---|---|---|
| Large Aeroplanes | 135 | 130 | 125 |
| Medium Aeroplanes | 71 | 74 | 79 |
| Small Aeroplanes | 1,511 | 1,507 | 1,520 |
| Agricultural Aeroplanes | 91 | 93 | 102 |
| Helicopters | 846 | 840 | 811 |
| Sport Aircraft | 2,080 | 2,056 | 1,976 |
| **Total** | **4,734** | **4,700** | **4,612** |

Note that these figures include the sport aircraft statistics category but exclude hang gliders, paragliders and parachutes.

## *Licences and Organisations*

The number of 'Part 129 Foreign Air Operators' increased from 33 at 31 March 2016 to 42 at 31 March 2017, an increase of 9 (27%). Over the same period the number of 'Part 148 Aircraft Manufacturing Organisations' decreased from 20 to 16, a decrease of 4 (20%); the number of 'Part 19 Supply Organisation Certificate of Approvals' decreased from 55 to 49, a decrease of 6 (11%); and the number of 'Part 115 Adventure Aviation Operators' increased from 28 to 31, and increase of 3 (11%).

At 31 March 2017 there were 86 'Part 102 Unmanned Aircraft Operators', this certificate was introduced on 1 August 2015.

At 31 March 2017 there were 5 'Australian AOC Operating with ANZA Privileges'.

At 31 March 2017 there were 36 'Recreational Helicopter Pilot Licences', this licence was introduced in April 2016.

# Section 4 - Quarterly Statistics

| Quarter | 2014/2 | 2014/3 | 2014/4 | 2015/1 | 2015/2 | 2015/3 |
|---|---|---|---|---|---|---|
| **Social Cost $ million**[1] | 11.29 | 17.20 | 15.55 | 43.83 | 3.37 | 1.90 |
| **Number of Fatal Accidents**[2] | 1 | 2 | 2 | 4 | 0 | 0 |
| **Number of Fatal Injuries**[2] | 2 | 2 | 2 | 9 | 0 | 0 |
| **Number of Serious + Minor Injuries**[2] | 6 | 16 | 23 | 13 | 11 | 12 |
| **Number of Aircraft Accidents**[2] | | | | | | |
| Large Aeroplanes | 0 | 0 | 1 | 0 | 0 | 0 |
| Medium Aeroplanes | 0 | 0 | 0 | 1 | 0 | 0 |
| Small Aeroplanes | 3 | 2 | 4 | 7 | 6 | 4 |
| Agricultural Aeroplanes | 0 | 0 | 1 | 1 | 1 | 0 |
| Helicopters | 2 | 4 | 3 | 7 | 2 | 5 |
| Sport Aircraft | 5 | 2 | 13 | 8 | 5 | 7 |
| Unknown Aircraft | 0 | 0 | 0 | 0 | 0 | 0 |
| Hang Gliders | 0 | 5 | 7 | 6 | 7 | 7 |
| Parachutes | 3 | 2 | 3 | 1 | 2 | 1 |
| **Number of Incidents**[3] | 1,244 | 1,379 | 1,288 | 1,432 | 1,432 | 1,233 |
| **Number of Aviation Related Concerns**[4] | 171 | 214 | 227 | 244 | 188 | 171 |
| **Number of Hours Flown**[5] | 189,092 | 199,715 | 209,012 | 244,904 | 193,755 | 197,169 |
| **Number of Air Transport Flights**[5] | 78,312 | 77,733 | 91,697 | 110,624 | 83,020 | 85,321 |
| **Number of Aircraft Movements**[6] | 221,072 | 232,016 | 220,846 | 237,404 | 211,137 | 222,320 |
| **Number of Aircraft on the Register**[7] | 4,552 | 4,570 | 4,615 | 4,662 | 4,610 | 4,650 |
| **Number of Part 119 Certificated Operators** | | | | | | |
| Air Operator – Large Aeroplanes | 9 | 9 | 8 | 8 | 7 | 7 |
| Air Operator – Medium Aeroplanes | 14 | 13 | 12 | 13 | 13 | 13 |
| Air Operator – Helicopters and Small Aeroplanes | 168 | 167 | 165 | 163 | 163 | 163 |
| **Number of Part 137 Agricultural Aircraft Operators** | 99 | 98 | 97 | 101 | 103 | 104 |
| **Number of Part 115 Adventure Aviation Operators** | 28 | 27 | 27 | 27 | 28 | 30 |
| **Number of Part 102 Unmanned Aircraft Operators** | 0 | 0 | 0 | 0 | 0 | 4 |
| **Number of Part 141 Training Organisations** | 53 | 55 | 55 | 56 | 56 | 57 |
| **Number of Part 149 Recreation Organisations** | 8 | 8 | 8 | 8 | 8 | 8 |
| **Number of Licences (Type of Medical Certificate)**[8] | | | | | | |
| Recreational Pilot Licence (RPL Medical) | 293 | 311 | 320 | 337 | 366 | 385 |
| Private Pilot Licence (Class 1 & 2) | 2,816 | 2,763 | 2,617 | 2,587 | 2,580 | 2,585 |
| Commercial Pilot Licence (Class 2 only) | 2,544 | 2,515 | 2,442 | 2,390 | 2,448 | 2,376 |
| Commercial Pilot Licence (Class 1) | 2,098 | 2,107 | 2,125 | 2,141 | 2,046 | 2,048 |
| Airline Transport Pilot Licence (Class 2 only) | 994 | 986 | 998 | 987 | 995 | 1,046 |
| Airline Transport Pilot Licence (Class 1) | 1,223 | 1,232 | 1,226 | 1,232 | 1,228 | 1,173 |
| Air Traffic Controller Licence (Class 3) | 381 | 384 | 379 | 379 | 387 | 387 |
| Aircraft Maintenance Engineer Licence (N/A) | 2,699 | 2,708 | 2,726 | 2,737 | 2,754 | 2,766 |

[1] Social cost of accidents and injuries. All aircraft statistics categories. Includes hang gliders and parachutes. Cost of fatal, serious and minor injuries, and aircraft destroyed, in June 2016 dollars.
[2] All accidents. All aircraft statistics categories. Includes hang gliders and parachutes.
[3] Number of reported incidents. All incident sub-types.
[4] Number of reported Aviation Related Concerns.
[5] New Zealand registered aircraft. Includes the aircraft classes aeroplane, helicopter and balloon only; excludes other aircraft classes, hang gliders and parachutes. Based on reported Aircraft Operating Statistics for periods up to the quarter ended 31 December 2015 (the most recent quarter for which adequate data are available) with an allowance for aircraft for which reports were not received. Estimated for 2016/1, 2016/2, 2016/3 and 2016/4. Data not yet available for 2017/1.

| Quarter | 2015/4 | 2016/1 | 2016/2 | 2016/3 | 2016/4 | 2017/1 |
|---|---|---|---|---|---|---|
| **Social Cost $ million**[1] | 33.35 | 8.35 | 9.52 | 3.91 | 29.43 | 14.60 |
| **Number of Fatal Accidents**[2] | 1 | 1 | 2 | 0 | 3 | 2 |
| **Number of Fatal Injuries**[2] | 7 | 1 | 2 | 0 | 5 | 2 |
| **Number of Serious + Minor Injuries**[2] | 15 | 18 | 5 | 7 | 14 | 17 |
| **Number of Aircraft Accidents**[2] | | | | | | |
| Large Aeroplanes | 0 | 1 | 0 | 1 | 0 | 0 |
| Medium Aeroplanes | 0 | 0 | 0 | 0 | 0 | 0 |
| Small Aeroplanes | 7 | 8 | 2 | 2 | 6 | 6 |
| Agricultural Aeroplanes | 0 | 0 | 1 | 1 | 2 | 4 |
| Helicopters | 4 | 3 | 4 | 2 | 3 | 9 |
| Sport Aircraft | 9 | 7 | 6 | 5 | 4 | 8 |
| Unknown Aircraft | 0 | 0 | 0 | 1 | 0 | 0 |
| Hang Gliders | 8 | 11 | 2 | 2 | 4 | 4 |
| Parachutes | 4 | 3 | 0 | 0 | 7 | 5 |
| **Number of Incidents**[3] | 1,310 | 1,424 | 1,606 | 1,627 | 1,618 | 1,626 |
| **Number of Aviation Related Concerns**[4] | 136 | 260 | 202 | 229 | 228 | 181 |
| **Number of Hours Flown**[5] | 218,320 | 256,501 | 218,101 | 229,529 | 270,816 | |
| **Number of Air Transport Flights**[5] | 101,483 | 125,071 | 96,922 | 101,475 | 107,626 | |
| **Number of Aircraft Movements**[6] | 227,208 | 237,499 | 213,927 | 221,092 | 231,730 | 233,701 |
| **Number of Aircraft on the Register**[7] | 4,679 | 4,700 | 4,657 | 4,687 | 4,723 | 4,734 |
| **Number of Part 119 Certificated Operators** | | | | | | |
| Air Operator – Large Aeroplanes | 8 | 8 | 8 | 8 | 7 | 6 |
| Air Operator – Medium Aeroplanes | 15 | 15 | 15 | 15 | 15 | 13 |
| Air Operator – Helicopters and Small Aeroplanes | 164 | 161 | 162 | 163 | 164 | 166 |
| **Number of Part 137 Agricultural Aircraft Operators** | 104 | 102 | 103 | 103 | 102 | 102 |
| **Number of Part 115 Adventure Aviation Operators** | 30 | 28 | 28 | 28 | 29 | 31 |
| **Number of Part 102 Unmanned Aircraft Operators** | 16 | 31 | 45 | 54 | 76 | 86 |
| **Number of Part 141 Training Organisations** | 55 | 54 | 53 | 51 | 52 | 53 |
| **Number of Part 149 Recreation Organisations** | 8 | 8 | 8 | 8 | 8 | 8 |
| **Number of Licences (Type of Medical Certificate)**[8] | | | | | | |
| Recreational Pilot Licence (RPL Medical) | 395 | 401 | 439 | 456 | 453 | 446 |
| Private Pilot Licence (Class 1 & 2) | 2,530 | 2,492 | 2,462 | 2,418 | 2,385 | 2,402 |
| Commercial Pilot Licence (Class 2 only) | 2,316 | 2,248 | 2,281 | 2,240 | 2,192 | 2,094 |
| Commercial Pilot Licence (Class 1) | 2,076 | 2,073 | 2,051 | 2,045 | 2,030 | 2,085 |
| Airline Transport Pilot Licence (Class 2 only) | 1,034 | 1,019 | 1,002 | 1,016 | 1,006 | 990 |
| Airline Transport Pilot Licence (Class 1) | 1,210 | 1,221 | 1,268 | 1,249 | 1,248 | 1,252 |
| Air Traffic Controller Licence (Class 3) | 383 | 380 | 381 | 373 | 366 | 360 |
| Aircraft Maintenance Engineer Licence (N/A) | 2,779 | 2,789 | 2,800 | 2,817 | 2,830 | 2,842 |

[6] Certificated aerodromes. Reported to CAA by Airways Corporation and Taupo Airport. Includes Auckland, Christchurch, Dunedin, Gisborne, Hamilton, Invercargill, Napier, Nelson, New Plymouth, Ohakea, Palmerston North, Paraparaumu, Queenstown, Rotorua, Taupo, Tauranga, Wellington and Woodbourne. Excludes Chatham Islands/Tuuta Airport, Hokitika, Kerikeri/Bay of Islands, Mount Cook, Te Anau/Manapouri (certificated until April 2015), Timaru, Westport, Whakatane (certificated from April 2015), Whanganui and Whangarei.

[7] As at the last day of the quarter. Includes the sport aircraft statistics category, excluding hang gliders, paragliders and parachutes.

[8] As at the last day of the quarter. For RPL holders, a medical fitness certificate, in accordance with the NZTA medical fitness standards that are applicable for a Class 2, 3, 4 or 5 driver licence with a passenger endorsement. RPL helicopter licences were introduced in April 2016. For PPL, CPL & ATPL holders, an active class 1 or active class 2 medical certificate; this means that for CPL and ATPL licences, the number with a class 2 medical only, must only be exercising PPL privileges (or not flying at all). For ATCL holders, an active class 3 medical certificate. This does not show the number of licence holders as each client may hold more than one licence.

# Definitions

### *Accident*

An occurrence that is associated with the operation of an aircraft and takes place between the time any person boards the aircraft with the intention of flight and such time as all such persons have disembarked and the engine or any propellers or rotors come to rest, being an occurrence in which–

(1) a person is fatally or seriously injured as a result of–

(i) being in the aircraft; or

(ii) direct contact with any part of the aircraft, including any part that has become detached from the aircraft; or

(iii) direct exposure to jet blast–

except when the injuries are self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to passengers and crew; or

(2) the aircraft sustains damage or structural failure that–

(i) adversely affects the structural strength, performance, or flight characteristics of the aircraft; and

(ii) would normally require major repair or replacement of the affected component–

except engine failure or damage that is limited to the engine, its cowlings, or accessories, or damage limited to propellers, wing tips, antennas, tyres, brakes, fairings, small dents, or puncture holes in the aircraft skin; or

(3) the aircraft is missing or is completely inaccessible.

### *Aircraft Incident*

Any incident, not otherwise classified, associated with the operation of an aircraft which did not immediately affect the safety of an aircraft operation but which,

(1) if allowed to continue uncorrected, or

(2) if repeated in different but likely circumstances,

could affect the safety of an aircraft operation.

### *Social Cost of Accidents and Injuries*

Social cost of accidents and injuries is a way of measuring safety performance by accounting for the number and severity of casualties, and aircraft damage. The values used to estimate cost to the nation of fatal, serious and minor injuries are obtained from the annual report of the ‘Social Cost of Road Crashes and Injuries’ published by the Ministry of Transport. The Ministry of Transport has directed its agencies to use social cost to permit comparisons between transport modes. The current value of statistical life is $4.14 million. Estimates of the values of aircraft destroyed or written off are made by the CAA on the basis of market prices in a number of developed aviation nations.

### *Aircraft Statistics Category*

The following table shows the definition of each aircraft statistics category and the aircraft classes included.

| Aircraft Statistics Category | Definition | Aircraft Class |
|---|---|---|
| Large Aeroplanes | Aeroplanes that must be operated under Part 121 when used for air transport | Aeroplane |
| Medium Aeroplanes | Aeroplanes that must be operated under Part 125 when used for air transport, except for those required to operate under Part 125 solely due to operating SEIFR | Aeroplane |
| Small Aeroplanes | Other Aeroplanes with Standard Category Certificates of Airworthiness | Aeroplane |
| Agricultural Aeroplanes | Aeroplanes with Restricted Category Certificates of Airworthiness limited to agricultural operations | Aeroplane |
| Helicopters | Helicopters with Standard or Restricted Category Certificates of Airworthiness | Helicopter |
| Sport Aircraft | All aircraft not included in the groups above | Aeroplane, Amateur Built Aeroplane, Amateur Built Glider, Amateur Built Helicopter, Balloon, Glider, Gyroplane, Helicopter, Jetpack, Microlight Class 1, Microlight Class 2, Power Glider |

***Other Aircraft Types (not included on the NZ Aircraft Register)***

**Hang Glider**
A glider, including a powered glider, that is capable of being launched and landed solely by the use of the pilot's legs, and includes paragliders. **Paraglider** means a hang glider with no rigid primary structure.

**Parachute**
Any device, without a motor in operation, comprising a flexible drag, or lift/drag, surface from which a load is suspended by shroud lines capable of controlled deployment from a packed condition.

### *Airspace Incident*

An incident involving deviation from, or shortcomings of, the procedures or rules for–

(1) avoiding a collision between aircraft; or

(2) avoiding a collision between aircraft and other obstacles when an aircraft is being provided with an Air Traffic Service.

### *Bird Incident*

Means an incident where–

(1) there is a collision between an aircraft and one or more birds; or

(2) when one or more birds pass sufficiently close to an aircraft in flight to cause alarm to the pilot.

### *Defect Incident*

An incident that involves failure or malfunction of an aircraft or aircraft component, whether found in flight or on the ground.

### *Fatal Injury*

An injury which results in death within 30 days of the accident.

### *Incident*

Any occurrence, other than an accident, that is associated with the operation of an aircraft and affects or could affect the safety of operation.

| Incident Sub-Types | |
|---|---|
| Aerodrome Incident | Dangerous Goods Incident |
| Aircraft Incident | Defect Incident |
| Airspace Incident | Facility Malfunction Incident |
| Bird Incident | Promulgated Information Incident |
| Cargo Security Incident | Security Incident |

### *Occurrence*

Means an accident or incident.

### *Serious Injury*

Means any injury that is sustained by a person in an accident and that–

(1) requires hospitalisation for more than 48 hours, commencing within 7 days from the date the injury was received; or

(2) results in a fracture of any bone, except simple fractures of fingers, toes, or nose; or

(3) involves lacerations which cause severe haemorrhage, nerve, muscle, or tendon damage; or

(4) involves injury to an internal organ; or

(5) involves second or third degree burns, or any burns affecting more than 5% of the body surface; or

(6) involves verified exposure to infectious substances or injurious radiation.

### *Severity*

The following definitions apply to the severity accorded to accidents and incidents as the result of investigation of occurrences:

| Severity | Definition |
|---|---|
| Critical | An occurrence or deficiency that caused, or on its own had the potential to cause, loss of life or limb; |
| Major | An occurrence or deficiency involving a major system that caused, or had the potential to cause, significant problems to the function or effectiveness of that system; |
| Minor | An isolated occurrence or deficiency not indicative of a significant system problem. |

## *Safety Target Structure*