

Auckland International Airport

IATA/ICAO CODE: AKL/NZAA  
CITY: Auckland  
COUNTRY: New Zealand

AIRPORT CONTACT

No changes reported by the airport in 2011  
Verify information below with the airport

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ELEVATION: 23 ft.

RUNWAY INFORMATION				
Orientation	Length (m)	Displaced Threshold (ft)	Glide Slope(deg)	Width (m)
05R/23L	3635	-	-	45

NOISE ABATEMENT PROCEDURES

- 1. Departure Procedures
  - 1.1 General
    - 1.1.1 Aeroplane operating procedures for take-off climb must ensure that the necessary safety of flight operations is maintained while minimising exposure to noise on the ground.

ICAO Noise Abatement Climb Procedures

- 1.1.2 The procedures detailed in 1.2 and 1.3 are the ICAO noise abatement take-off climb procedures defined in ICAO Doc 8168-OPS/611, Volume 1, Part 1, Section 7, Chapter 3. The procedures differ in that the acceleration segment for flap/slat retraction is either initiated prior to reaching the maximum prescribed height or at the maximum prescribed height. To ensure optimum acceleration performance, thrust reduction may be initiated at an intermediate flap setting.
    - 1.1.3 For both procedures, intermediate flap transitions required for specific performance-related issues may be initiated prior to the prescribed minimum height; however, no power reduction can be initiated prior to attaining the prescribed minimum altitude.
    - 1.1.4 The indicated airspeed for the initial portion of the departure prior to the acceleration segment is to be flown at a climb speed of V2 plus 10 to 20kt.

## **CAR Part 93 Noise Abatement Departure Profiles for Auckland Airport**

1.1.5 The procedures detailed in 1.4 and 1.5 are the noise abatement departure profiles prescribed for Auckland Airport in Appendix D to CAR Part 93.

### **1.2 Noise Abatement Departure Procedure (NADP) 1**

1.2.1 NADP 1 is intended to provide noise reduction for noise-sensitive areas in close proximity to the departure end of the runway-in-use.

1.2.2 The procedure involves a power reduction at or above the prescribed minimum altitude and the delay of flap/slat retraction until the prescribed maximum altitude is attained. At the prescribed maximum altitude, accelerate and retract flaps/slats on schedule while maintaining a positive rate of climb, and complete the transition to normal enroute climb speed.

1.2.3 NADP 1 must not to be initiated at less than 800ft above aerodrome elevation.

1.2.4 The initial climbing speed to the noise abatement initiation point must not be less than V2 plus 10kt. 1.2.5 On reaching an altitude at or above 800ft above aerodrome elevation, adjust and maintain engine power/thrust in accordance with the noise abatement power/thrust schedule provided in the aircraft operating manual. Maintain a climb speed of V2 plus 10 to 20kt with flaps and slats in the take-off configuration.

1.2.6 At no more than an altitude equivalent to 3000ft above aerodrome elevation, while maintaining a positive rate of climb, accelerate and retract flaps/slats on schedule.

1.2.7 At 3000ft above aerodrome elevation, accelerate to enroute climb speed.

### **1.3 Noise Abatement Departure Procedure (NADP) 2**

1.3.1 NADP 2 provides noise reduction to areas more distant from the runway end.

1.3.2 This procedure involves initiation of flap/slat retraction on reaching the minimum prescribed altitude. The flaps/slats are to be retracted on schedule while maintaining a positive rate of climb. The power reduction is to be performed with the initiation of the first flap/slat retraction or when the zero flap/slat configuration is attained. At the prescribed altitude, complete the transition to normal enroute climb procedures.

1.3.3 NADP 2 must not to be initiated at less than 800ft above aerodrome elevation.

1.3.4 The initial climbing speed to the noise abatement initiation point is V2 plus 10 to 20kt.

1.3.5 On reaching an altitude equivalent to at least 800ft above aerodrome elevation, decrease aircraft body angle/angle of pitch while maintaining a positive rate of climb, accelerate towards VZF, and either:

- (a) reduce power with the initiation of the first flap/slat retraction; or
- (b) reduce power after slat retraction.

1.3.6 Maintain a positive rate of climb, and accelerate to and maintain a climb speed of VZF plus 10 to 20kt to 3000ft above aerodrome elevation.

1.3.7 On reaching 3000ft above aerodrome elevation, transition to normal enroute climb speed.

#### 1.4 Noise Abatement Departure Profile for Auckland Airport — Procedure C

1.4.1 Each pilot of an aircraft departing from Auckland Airport required under CAR 93.59 to comply with Procedure C must:

(a) from take-off to an altitude of not less than 800ft above aerodrome elevation:

- (i) use take-off power; and
- (ii) use take-off flap; and
- (iii) climb at V2 plus 10 to 20kt; and

(b) at or above 800ft:

(i) reduce thrust by manual throttle reduction or by automatic means; and

(ii) for aeroplanes not equipped with an operating automatic thrust restoration system, achieve and maintain not less than the thrust level necessary after thrust reduction to maintain, for the flap-slat configuration of the aeroplane, the take-off flight path engine-inoperative climb gradients specified in FAR 25.111(c)(3) in the event of an engine failure; and

(iii) for aeroplanes equipped with an operational automatic thrust restoration system, achieve and maintain no less than the thrust level necessary after thrust reduction to maintain, for the flap-slat configuration of the aeroplane, a take-off path engine-inoperative climb gradient of zero percent, provided that the automatic thrust restoration system will, at least, restore sufficient thrust to maintain the take-off path engine-inoperative climb gradients specified in FAR 25.111(c)(3) in the event of an engine failure; and

(iv) during the thrust reduction, coordinate the pitchover rate and thrust reduction to provide a decrease in pitch consistent with allowing IAS to decay no more than 5kt below the all engine target climb speed and, in no case, to less than V2 for the aeroplane configuration; and

(v) maintain the speed and thrust requirements specified in (i) through (iv) to the higher of 3000ft above the aerodrome elevation, or until the aeroplane has been fully transitioned to the enroute climb configuration, then transition to normal enroute climb procedures.

#### 1.5 Noise Abatement Departure Profile for Auckland Airport — Procedure D

1.5.1 Each pilot of an aircraft departing from Auckland Airport required under CAR 93.59 to comply with Procedure D must:

(a) from take-off to an altitude of not less than 800ft above aerodrome elevation:

- (i) use take-off power; and
- (ii) use take-off flap; and

(iii) climb at V2 plus 10 to 20kt; and

(b) at or above 800ft:

(i) initiate flap and/or slats retraction; and

(ii) reduce thrust by manual throttle reduction or by automatic means; and

(iii) for aeroplanes not equipped with an operating automatic thrust restoration system, achieve and maintain not less than the thrust level necessary after thrust reduction to maintain, for the flap-slat configuration of the aeroplane, the take-off flight path engine-inoperative climb gradients specified in FAR 25.111(c)(3) in the event of an engine failure; and

(iv) for aeroplanes equipped with an operational automatic thrust restoration system, achieve and maintain no less than the thrust level necessary after thrust reduction to maintain, for the flap-slat configuration of the aeroplane, a take-off path engine-inoperative climb gradient of zero percent, provided that the automatic thrust restoration system will, at least, restore sufficient thrust to maintain the take-off path engine-inoperative climb gradients specified in FAR 25.111(c)(3) in the event of an engine failure; and

(v) during the thrust reduction, coordinate the pitchover rate and thrust reduction to provide a decrease in pitch consistent with allowing IAS to decay no more than 5kt below the all engine target climb speed and, in no case, to less than V2 for the aeroplane configuration; and

(vi) maintain the speed and thrust requirements specified in (i) through (iv) to the higher of 3000ft above the aerodrome elevation, or until the aeroplane has been fully transitioned to the enroute climb configuration, then transition to normal enroute climb procedures.

#### 93.51 Applicability

This subpart prescribes -

1) special rules for aerodrome traffic operating in the control zone designated under Part 71 for Auckland International Airport; and

2) noise abatement procedures for aeroplanes operating in the vicinity of Auckland International Airport for the purpose of landing at or taking off from Auckland International Airport.

#### 93.53 General Rules - Auckland control zone

Each pilot-in-command of a powered aircraft with an airworthiness certificate operating under VFR in the control zone shall be the holder of a current pilot license.

#### 95.55 Aerodrome traffic circuit-Auckland International Airport

Notwithstanding 91.223, each pilot-in-command of an aircraft shall conduct a right-hand aerodrome traffic circuit when approaching for a landing or after take-off from runway 05, unless -

(1) otherwise authorized by ATC; or

(2) a turn in the opposite direction for an IFR procedure has been prescribed under Part 97.

(Until Part 97 comes into force, IFR procedures are prescribed under Part 19)

#### 93.57 Restrictions on flight training

No pilot-in-command shall conduct flight instruction in the aerodrome traffic circuit unless the aircraft is -

(1) operated by the holder of -

(i) an air operator certificate issued under Part 119; or

(ii) a foreign air operator certificate issued under Part 129; or

(2) operated by the New Zealand Defence Force; or

(3) engaged in IFR training or practice for the issue or extension of an instrument rating; or

(4) a multi-engined aircraft.

#### 93.59 Departure noise abatement procedures

(a) Each pilot-in-command of a turbo-jet or turbo-fan powered aeroplane shall -

(1) on departure from runway 23, comply with -

(i) the ICAO noise abatement take-off climb - Procedure A or B, defined in ICAO Doc. 8168-OPS-611, Vol. 1, Part V, Chapter 3; or

(ii) the noise abatement departure profile - Procedure C or D, as defined in Appendix D; and

(2) on departure from runway 05, comply with -

(i) the ICAO noise abatement take-off climb - Procedure B defined in ICAO Doc. 8168-OPS-611, Vol. 1, Part V, Chapter 3; or

(ii) the noise abatement departure profile - Procedure C or D, as defined in Appendix D; and

(b) Each pilot-in-command of a turbo-jet or turbo-fan powered aeroplane on departure from runway 05 shall climb on the extended runway centerline to -

(1) at least 3000ft QNH prior to turning left; or

(2) at least 2000ft QNH prior to turning right; or

(3) at least 500ft QNH and turn right at a position abeam McLaughlins Mountain (cone shaped hill with water tower and aeronautical ground light occulting red 2.0 sec, 250ft AMSL) at an angle of bank not less than 15 degrees and to change direction not less than 90 degrees.

(c) Each pilot-in-command of a turbo-jet or turbo-fan powered aeroplane on departure from runway 23 shall climb on the extended runway centerline to -

- (1) at least 500ft QNH prior to turning left; or
- (2) at least 3000ft QNH prior to turning right.

#### 93.61 Approach noise abatement procedures

(a) Each pilot-in-command of a turbo-jet or turbo-fan powered aeroplane arriving from north of the extended runway center line and intending to land on runway 23 shall, unless otherwise instructed by ATC -

- (1) when on a visual approach, intercept the extended runway centerline of runway at a height not below 2000ft QNH; and
- (2) between the hours of 2300-0600 local time, intercept the extended runway center line at a distance of not less than 14 nm from the runway threshold and at an altitude of not less than 4000ft QNH.

(b) Each pilot-in-command of a turbo-jet or turbo-fan powered aeroplane conducting a right hand aerodrome traffic circuit for runway 23 shall not turn onto the final approach path at a distance of less than 4 nm QNH.

#### 93.63 Noise abatement areas

Except when operating in accordance with an instrument approach procedure, or being radar vectored by ATC or during take off climb, or during a visual approach to runway 23, a pilot-in-command of a turbo-jet or turbo-fan powered aircraft shall not operate over the Auckland noise abatement areas specified in Appendix A at an altitude of less than 5000ft QNH

#### 93.65 Noise abatement: Use of runway

Each pilot-in-command of a turbo-jet or turbo-fan powered aeroplane shall between the hours of 2300 and 0600 local time, use runway 23 for take off and runway 05 for landing unless -

- (1) the tailwind component is more than 5 knots; or
- (2) compliance with the aeroplane performance operating limitations requires the use of the other runway direction; or
- (3) otherwise instructed by ATC.

### **CONTINUOUS DESCENT ARRIVAL (CDA)**

Currently conducting trials.

### **AIRPORT CURFEWS - [NONE](#)**

### **PREFERENTIAL RUNWAYS**

#### 93.65 Noise abatement: Use of runway

Each pilot-in-command of a turbo-jet or turbo-fan powered aeroplane shall between the hours of 2300 and 0600 local time, use runway 23 for take off and runway 05 for landing

unless -

- (1) the tailwind component is more than 5 knots; or
- (2) compliance with the aeroplane performance operating limitations requires the use of the other runway direction; or
- (3) otherwise instructed by ATC.

OPERATING QUOTA - [NONE](#)

ENGINE RUN-UP RESTRICTIONS

Noise from engine testing must not exceed a 7-day rolling average of Ldn 55 dBA and a Lmax 75 dBA between 10pm and 7am at any dwelling which is in the Main Residential Zone or which is outside the airport designated area and outside the aircraft noise areas.

APU OPERATING RESTRICTIONS - [NONE](#)

NOISE BUDGET RESTRICTIONS

See comments in the engine run-up section for engine testing restrictions.

Aircraft noise in the community must not exceed set limits based on a 12 month rolling logarithmic average. Outside the High Aircraft Noise Area aircraft noise must not exceed Ldn 65 dBA and at the boundary of the Moderate Aircraft Noise Area noise must not exceed Ldn 60 dBA. These areas are shown on the map in the Noise Monitoring System section below.

NOISE SURCHARGE - [NONE](#)

NOISE MITIGATION/LAND USE PLANNING PROGRAM INFORMATION

Type of Program	Date Implemented	Status
Sound Insulation (Residences and Public Buildings)	2001	<p><b>Existing Buildings subject to noise from aircraft operations:</b> AIAL is required to offer acoustic treatment based on Annual Aircraft Noise Contours once Existing Buildings are within the Ldn 60 dBA contour and Ldn 65 dBA contour. This includes educational facilities, registered preschools, household units, child centres, hospitals, and rest homes etc. Offers in the Ldn 60 dBA contour are 75% funded by AIAL and offers in the Ldn 65 dBA contour are 100% funded by AIAL.</p> <p><b>Existing buildings subject to engine testing noise:</b> AIAL is required to offer acoustic treatment to homeowners inside a specified Ldn 57 dBA area affected by engine run noise.</p> <p><b>New Buildings at Educational Facilities:</b> AIAL is required to fund 75% of the cost of</p>

		acoustic treatment for new buildings at educational facilities.
Purchase Assurance for Homeowners Located Within the Airport Noise Contours	-	N/A
Avigation Easements	-	N/A
Zoning Laws	-	New household units, hospitals, child centres, rest homes etc within the aircraft noise areas are required to have acoustic treatment at the developers cost.
Real Estate/Property Disclosure Laws	-	Property Information Memorandum issued by local authorities are required to signify if the property is within the aircraft noise areas.
Acquire Land for Noise Compatibility to date	-	N/A
Population within each noise contour level relative to aircraft operations	-	unknown
Airport Noise Contour Overlay Maps	-	<a href="#">Airport Noise Contours Map</a>
Total Cost of Noise Mitigation Programs to Date	-	Not available for disclosure
Source of Noise Mitigation Program Funding for Aircraft Noise	-	Auckland International Airport Limited
<p>Airport Community Trust: AIAL is required to provide NZ\$250000 per annum to the Airport Community Trust who will distribute it to benefit local community affected by aircraft noise and located or residing within the Airport Noise Areas.</p> <p>Further information on noise management is available on the AIAL website at <a href="http://www.auckland-airport.co.nz">www.auckland-airport.co.nz</a></p>		

## NOISE MONITORING SYSTEM

ANOMS with 3 fixed and 1 portable stations

Monitor	Latitude	Longitude
1	-36.986818	174.867345
2	-36.984495	174.885935
3	-37.002079	174.833951

[Location of the monitors \(map\).](#)

## FLIGHT TRACK MONITORING SYSTEM

Yes

## NOISE LEVEL LIMITS



Aircraft noise outside the High Aircraft Noise Area must not exceed Ldn 65 dBA on a 365 day rolling average.

Aircraft noise outside the Moderate Aircraft Noise Area must not exceed Ldn 60 dBA on a 365 day rolling average.

## STAGE 2 RESTRICTIONS

Stage 2 airplanes >75,000 lbs are banned from operating at airports in New Zealand as of April 1, 2002. See informaton under Comments.

## STAGE 2 PHASEOUT

From April 1, 2002 all civil subsonic jet aeroplanes >75,000 lbs operating at airports in New Zealand must comply with Stage 3. See information under Comments.

## STAGE 3 RESTRICTIONS - [NONE](#)

## COMMENTS

This airport is located in a country which has a Stage 2 phase-out. In addition this country has regulations on aircraft sonic boom:

### Part 91

#### Subpart J - Operating Noise Limits

#### 98.801 Applicability

This Subpart prescribes operating noise limits that apply to the operation of civil aircraft in New Zealand.

#### 91.803 Noise Level Compliance

No person shall operate a subsonic turbo-jet of more than 34,004 kg MCTOW to or from any aerodrome within New Zealand after 31 March 2002 unless that aircraft has been -

- (1) certificated under Part 36 to Stage 3 noise levels prescribed in that Part; or
- (2) certificated by another State to the equivalent specification for Stage 3 noise levels that is acceptable to the Director.

### Part 91

#### 91.805 Aircraft Sonic Boom

(a) No person shall operate an aircraft at Mach number greater than 1 a unless approved by the Director and in compliance with any conditions limitations specified in the approval.

(b) No person shall operate an aircraft for which the maximum operating speed exceeds a Mach number of 1, unless information available to the pilot in command includes flight limitations that ensure that flights entering or leaving New Zealand will not cause a sonic boom to reach the surface within New Zealand.