



Abstract

In November 2012 Airways Corporation changed their operations in order to align with the CAA rule requiring ALL aircraft operating within the Control Zone to be equipped with a transponder as the Hamilton Control Zone is designated TM (Transponder Mandatory). We were advised that we could operate outside controlled airspace or within the transit lanes 1000ft and below without a transponder.

The transit lanes encompass both urban and rural designated land mass and understanding and balancing visual flight rules within the control zone raised confusion amongst many pilots. On 1st May 2013, the Waikato Hot Air Balloon Club hosted Tim Bradding who provided a very good account of what is now expected of us when flying within or in close proximity to the Hamilton Control Zone.

The following summarizes Tim's presentation with supporting documentation from the GAP publication "New Zealand Airspace". Scanned images of the 2012 Visual Navigation Chart are also included and highlighted to aid in understanding where the VFR Transit Lanes are.

Class D Airspace

"Class D airspace normally applies to CTRs at smaller international aerodromes, such as Hamilton and Queenstown, and to regional aerodromes such as Rotorua and Nelson. Pilots of VFR and IFR aircraft operating within Class D airspace must use a good lookout to separate themselves from each other if ATC separation is not provided. Air traffic controllers are required to pass appropriate traffic information where separation is not provided. Air traffic controllers will issue instructions to both VFR and IFR aircraft to maintain an orderly flow of air traffic, particularly in the aerodrome traffic pattern. An entry clearance is required to operate within Class C or D airspace. This is used as a gate to ensure that all aircraft operating within such airspace are known to the controller and also for traffic management reasons (see *AIP New Zealand* ENR 1.4 for details).

Examples of circumstances where controllers may reasonably refuse an entry clearance may be:

- a lack of accurate position information from the aircraft;
- inability of the controller and aircraft to establish reliable two-way communication;
- the number of aircraft already in the airspace has reached the capacity that ATC can handle; or
- during an emergency.

Entry delay or refusal for VFR aircraft should be reasonable and justifiable. VFR pilots, however, will not always be aware of the traffic causing a delay or refusal.

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Class G Airspace

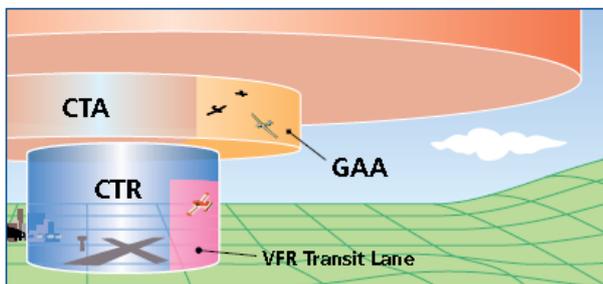
"Any airspace within the New Zealand FIR (Flight Information Region), not otherwise classified, is class G airspace. Class G airspace does not require an entry clearance. You must, however, observe Class G airspace rules (check *AIP New Zealand* ENR 1.4). Safe operation in Class G airspace depends on the 'see, detect and avoid' principle. The Part 91 rules regarding visibility, height above terrain, and distance from cloud apply."¹

Transponder Mandatory Airspace

“Transponder mandatory airspace (TM) is designated to assist ATC surveillance systems, such as radar, and airborne surveillance systems, such as ACAS (Airborne Collision Avoidance System). Within transponder mandatory airspace, aircraft are required to have an operating transponder Mode A (identification and position) and Mode C (altitude). All controlled airspace in New Zealand is TM.”¹

VFR Transit Lanes

“VFR Transit Lanes are part of a CTR that is released as Class G airspace **during daylight hours only**. This is to allow VFR aircraft to transit within airspace not normally used by IFR aircraft. These are significantly different from CTR Sectors, as no clearance is required to operate within VFR Transit Lanes when active. Although VFR Transit Lanes are separated from IFR procedures, pilots should use their transponders if fitted, and use the lanes for transiting purposes only.



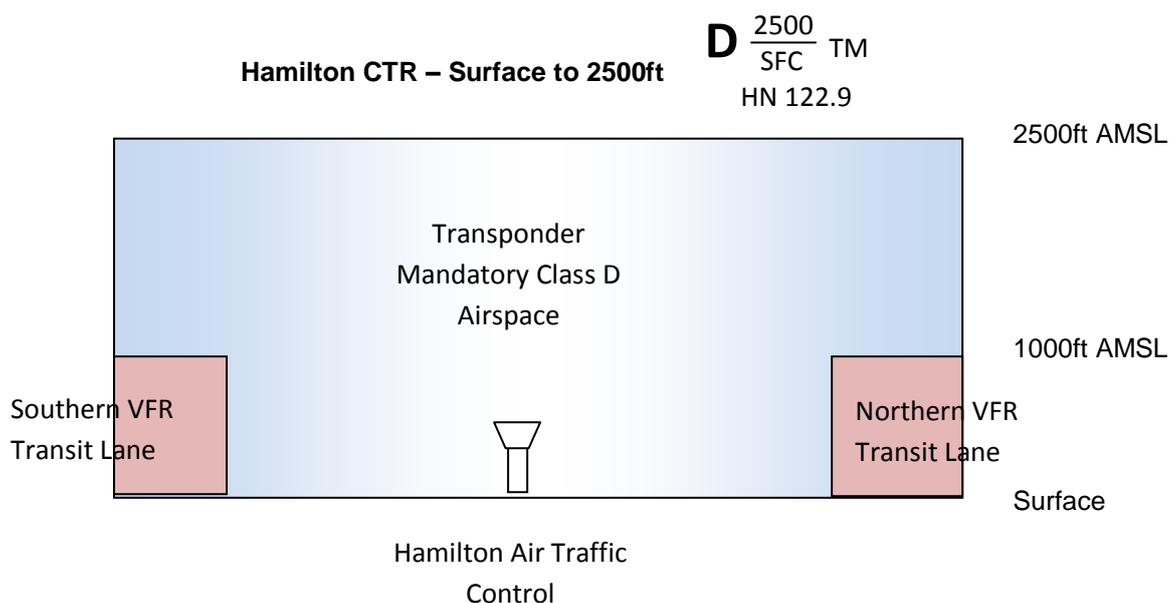
VFR Transit Lanes are depicted on Visual Navigation Charts with the designation **Txxx.** ”¹

Hamilton Control Zone

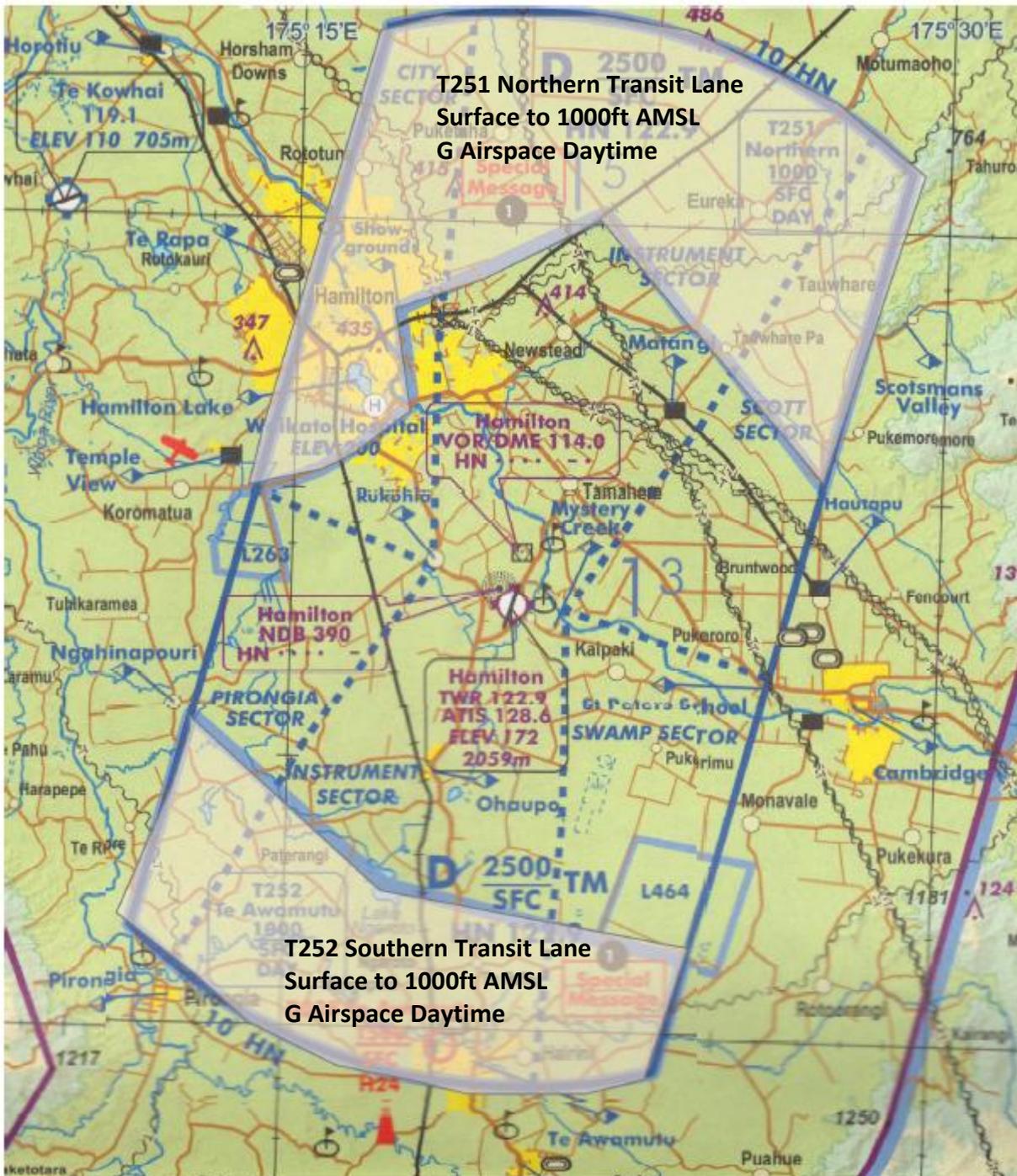
The Hamilton Control Zone incorporates:

- Class D airspace
- VFR Transit lanes
- Transponder Mandatory Airspace.

The airspace is not dis-similar to the airspace as depicted above for the CTR. The Hamilton Control Zone though has VFR Transit Lanes to the north and to the south with the Control Zone defined as Surface to 2500ft.



VNC C6 Taranaki 15 November 2012



“Remember that you need to have the **current charts** with you when flying.”¹

The Transit Lanes have been masked to help illustrate their respective locations. These are Class G Airspace and therefore do not require clearance to operate even though they are within the Hamilton Control Zone. You DO need to comply with the CAA Rules for operating within Class G Airspace. This airspace is designated Surface to 1000ft AMSL. Note: if flying over a built up area the CAA Rule 91.311(a)(1) requires us to be 1000ft above the highest/tallest object!

Note: It is the pilot’s responsibility to inform themselves of the specific details/boundaries of the Transit Lanes if they want to ensure that they do not infringe on the TM areas of the Control Zone.

Whilst there is no requirement for you to contact Hamilton Air Traffic Control if you are remaining in the transit lane, it is recommended that you do contact them as a courtesy so that they can distinguish you from those balloons flying with transponders, and so that they are aware that you will be remaining clear of the controlled airspace in the control zone. Remember that there may well be other aircraft operating within this airspace that air traffic control will likely not be aware of as if they are remaining in the transit lane they will not be talking to the controller. Keep a listening watch on 126.8 for an awareness of traffic entering and leaving the control zone.

The remainder of the Control Zone is TRANSPONDER MANDATORY and clearance MUST BE obtained BEFORE entering the airspace. Standard protocols must be followed for contacting ATC for clearance to fly, entering the Instrument Sector and complying with CAA Rules.

You need to carefully read Part 91.311 (a) (1) (copy attached as Appendix 1). Whilst you are allowed to take off the interpretation of “flying” and complying with 91.311(a)(1) when over the city is clearly open to interpretation. The part of the transit lane over the city was intended to be used for rotary movements associated with the heliport at the Waikato Hospital and provides much better flexibility for these helicopters.

Note: It is a pilot’s responsibility to determine whether they are complying with 91.311 in any VFR transit lane.

References:

1. GAP Publication: New Zealand Airspace: CAA, June 2010
2. VNC C6 Taranaki Effective 15 November 2012
3. Civil Aviation Rule Consolidated Part 91.311 General Operating and Flight Rules 10 November 2011
4. Civil Aviation Rule Consolidated Part 71 Designation and Classification of Airspace 23 October 2008

Terminology

TM – Transponder Mandatory
AIP – Aeronautical Information Publication
ATC – Air Traffic Control
CTR – Control Zone
CTA – Control Area
VFR – Visual Flight Rules
SFC – Surface
GAP – General Aviation Publication
CAA – Civil Aviation Authority
AGL – Above Ground Level
VNC – Visual Navigation Chart
AMSL – Above Mean Sea Level

Contributing Authorities

Airways
Civil Aviation Authority

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APPENDIX 1

91.311 Minimum heights for VFR flights (Copied from Part 91.311 dated 10 November 2011)

- (a) A pilot-in-command of an aircraft must not operate the aircraft under VFR—
 - (1) over any congested area of a city, town, or settlement, or over any open air assembly of persons at a height of less than 1000 feet above the surface or any obstacle that is within a horizontal radius of 600 metres from the point immediately below the aircraft; or
 - (2) over any other area—
 - (i) at a height of less than 500 feet above the surface; or
 - (ii) at a height of less than 500 feet above any obstacle, person, vehicle, vessel, or structure that is within a horizontal radius of 150 metres from the point immediately below the aircraft; and
 - (3) for any operation, at a height less than that required to execute an emergency landing in the event of engine failure without hazard to persons or property on the surface.
- (b) Paragraph (a) does not apply to a pilot-in-command of an aircraft—
 - (1) conducting a take-off or landing; or
 - (2) conducting a balked landing or discontinued approach; or
 - (3) taxiing.
- (c) Paragraph (a)(2) does not apply to a pilot-in-command of an aircraft if the *bona fide* purpose of the flight requires the aircraft to be flown at a height lower than that prescribed in paragraph (a)(2), but only if—
 - (1) the flight is performed without hazard to persons or property on the surface; and
 - (2) only persons performing an essential function associated with the flight are carried on the aircraft; and
 - (3) the aircraft is not flown at a height lower than that required for the purpose of the flight; and
 - (4) the horizontal distance that the aircraft is flown from any obstacle, person, vessel, vehicle, or structure is not less than that necessary for the purpose of the flight, except that in the case of an aeroplane, the aeroplane remains outside a horizontal radius of 150 metres from any person, vessel, vehicle, or structure that is not associated with the operation.
- (d) Paragraph (a)(2) does not apply to a pilot-in-command—
 - (1) who is the holder of, or authorised by the holder of, a current instructor rating issued under Part 61 and who is conducting flight training or practice flights consisting of—
 - (i) simulated engine failure after take-off commencing below 1000 feet above the surface; or
 - (ii) simulated engine failure commencing above 1000 feet above the surface provided that descent below 500 feet above the surface is conducted within a low flying zone in accordance with 91.131; or
 - (2) who is the holder of a current instrument rating issued under Part 61 and who is conducting IFR training, testing, or practice flights under VFR, but only if the pilot-in-command conducts the flight in accordance with 91.413, 91.423 and 91.425; or
 - (3) operating an aircraft within a low flying zone in accordance with 91.131; or
 - (4) operating an aircraft at an aviation event in accordance with 91.703

APPENDIX 2

Extracts from Part 71 Designation and Classification of Airspace (23 October 2008)

Airspace classification is the term used to specify various levels of air traffic services that are required to ensure the safety and efficiency of aircraft operations. Airspace classifications are made in accordance with the ICAO airspace classification system.

71.57 VFR transit lanes

- (a) The Director may designate a portion of controlled airspace as a VFR transit lane for either or both of the following purposes:
 - (1) separating transiting VFR traffic from arriving and departing IFR flights;
 - (2) permitting transiting VFR traffic to operate within the VFR transit lane without requiring an ATC clearance.
- (b) A VFR transit lane must be clear of airspace that encompasses IFR arrival and departure procedures within that controlled airspace.
- (c) The Director must—
 - (1) ensure that buffer zones are provided between the nominal flight paths of arriving and departing IFR flights and each VFR transit lane; and
 - (2) identify each VFR transit lane by the ICAO nationality letters of the State providing the air traffic control service followed by the letter “T” followed by a number.
- (c) A VFR transit lane is class G airspace and may only be active during the day.

71.107 Class D airspace

Any portion of airspace that is designated as a control area or control zone under 71.51(a) or (b) must be classified as Class D airspace if the Director considers it necessary in the interests of aviation safety that—

- (1) separation is required between—
 - (i) IFR flights; and
 - (ii) IFR and special VFR flights; and
 - (iii) special VFR flights when the flight visibility is reported to be less than 5 km; and
- (2) traffic information must be provided to—
 - (i) IFR flights about VFR flights; and
 - (ii) VFR flights about IFR flights; and
 - (iii) VFR flights about other VFR flights; and
- (3) traffic avoidance advice must be provided to IFR and VFR flights on request.

71.201 Transponder mandatory airspace within controlled airspace

The Director may designate a control area or a control zone, or any portion of a control area or a control zone, as transponder mandatory airspace if—

- (1) the operation of transponders is required for the provision of an air traffic control surveillance service; or
- (2) the Director determines that the traffic density in the airspace requires the operation of transponders to reduce the risk of an airborne collision with those aircraft that are required to be fitted with an airborne collision avoidance system.