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Moving to ADS-B OUT

Information for aircraft owners and operators flying in the New Zealand flight information region



New Zealand is implementing automatic dependent surveillance – broadcast (ADS-B) as its main source of surveillance data for air traffic management.

When will ADS-B be required?

CAA is introducing rules for ADS-B OUT in two stages: ADS-B will be mandatory for aircraft operating in transponder mandatory controlled airspace above flight level 245 from 31 December 2018.

CAA is proposing to mandate ADS-B OUT in all transponder mandatory controlled airspace from 31 December 2021.

What do the new rules cover?

The first set of rules for ADS-B come into effect on 20 July 2018. As well as setting the mandate for ADS-B above flight level 245, these rules do the following:

- From 20 July 2018 all existing and new ADS-B systems in aircraft being flown at any altitude will need to meet the rule requirements, including:
 - Have an ADS-B transponder certified to TSO-C166 initial or 166a for existing installations or TSO-C166b (or demonstrate equivalent performance) for all new installations
 - Have a GNSS position source that's certified to TSO-C145 or TSO-C146, or demonstrate equivalent performance (e.g., TSO-C129 with FDE) and is compatible with the transponder
 - All new ADS-B systems must be installed in accordance with acceptable technical data. If you don't have an STC, you'll need to go to a Part 146 design organisation
 - Before release to service, all new ADS-B systems must be tested to demonstrate compliance with the system performance requirements set out in NTC 91.258.
 - Operators must not transmit ADS-B data that doesn't comply with the standards set in NTC 91.258

I only fly below flight level 245. Do I have to install ADS-B OUT now?

We strongly encourage you to plan to install ADS-B as soon as possible. Now that the rules are in place, you can select a system that you know will meet the rule requirements. Plan ahead to be ready for the 2021 mandate, and avoid the risk that your aircraft will not be fitted in time.

If you don't go above flight level 245, the rules coming into effect on 20 July 2018 do not require you to fit ADS-B to enter controlled airspace until the mandate, currently proposed for 31 December 2021 .

When you do fit an ADS-B system, or if your aircraft is already equipped, you'll need to make sure it meets the rule requirements.

Installing ADS-B: Some things to think about

- Plan ahead.
- Talk to your avionics shop, LAME and/or Part 145 before you buy. The cheapest solution on paper might not work out to be the cheapest and easiest for your aircraft.
- Check whether your aircraft is covered by a supplemental type certificate (STC).
- Ensure that the ADS-B transponder operates on 1090MHz. The UAT system, which operates on 978 MHz, will not work in New Zealand. UAT is often marketed as ADS-B, so always check the fine print for the frequency.
- If you're using a separate ADS-B transponder paired with a GNSS receiver, you must make sure that the two are compatible.

Ask for advice on proven combinations, or look for an all-in-one ADS-B system.

What about ADS-B IN?

ADS-B IN is a system that enables equipped aircraft to receive ADS-B OUT signals from other aircraft. It can improve situational awareness, including in areas outside surveillance coverage. CAA isn't mandating ADS-B IN; however you may consider it for the benefits it offers.

Installation and certification

Check NTC91.258 for requirements for installation and certification. Check out [Your Guide to Installing ADS-B and PBN equipment](#) on the [nss.govt.nz](#) resources page.

ADS-B systems need to be tested after installation and before flight to make sure that they're transmitting correct and complete data.

Non-compliant ADS-B transmissions

The rule prohibits transmission of non-compliant ADS-B data – that is, data that doesn't meet the standards set out in NTC91.258. If your aircraft transmits non-compliant data in controlled airspace and ATC is aware of the problem, the controller will take the appropriate steps to manage the situation. Follow their instructions.

When your aircraft is transmitting ADS-B data, ATC and aircraft system like TCAS are using that information for safety critical purposes. Others using the data include (but are not limited to) ADSB IN, and FLARM.

Once you are aware of a problem, you have a responsibility to fix it.

For more information:

- For equipment options; choosing your transponder, GNSS position source or your all-in-one ADS-B system; and budgeting for and planning for ADS-B installation, talk to your avionics shop and your LAME and/or or Part 145 organisation.
- For questions about ADS-B for your specific aircraft, contact airworthiness@caa.govt.nz
- For questions about the new ADS-B rule amendments, the proposed rule for below flight level 245, or policy on ADS-B, contact adsb@caa.govt.nz

Check the [ADS-B FAQs](#) on the New Southern Sky website.