**White paper: Call sign mismatch and changing Flight ID**
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FAR 91.227(d) specifies 19 parameters that must be included in an ADS-B Out broadcast; most—assuming correct configuration of the hardware at installation—are automatic. One of these parameters, the Flight ID, must be the same as the identification filed in the aircraft's FAA flight plan. When these two parameters do not match, it results in a condition known as *call sign mismatch* or CSMM (see "ADS-B: What is an NPE? March 2017 *AOPA Pilot*).

For most general aviation operations, the Flight ID is simply the aircraft's N number. Initial CSMM concerns focused on air carriers and commercial operators that change flight numbers frequently. During the month of July 2017, 20 ATC facilities covering the continental United States reported 44,226 mismatches involving about 22,000 flights (many aircraft transit the airspace of more than one ATC facility). Of these, 67 percent were commercial operators and 29 percent were Part 91, including fractional operators like Flight Options, Flexjet, and NetJets. Four percent resulted from ATC data-entry errors. A number resulted from pilot error entering Flight IDs—or lack of understanding of the requirements, as when air carrier crews entered such ADS-B Flight IDs as GOBAMA, GOVOLS, HELLO, and HOWDYALL.

However, this also is emerging as an issue for pilots flying missions for organizations that have approved telephony agreements with the FAA, such as:

Air Care Alliance organizations (CMF)
Angel Flight (NGF)
Animal rescue (ARF)

In early August 2017 the FAA published a legal interpretation—requested by its own Air Traffic Organization—clearly requiring that the aircraft's ADS-B Flight ID, whether it's a call sign or registration number, must match what's filed on the flight plan. Noncompliance would be a violation of FAR 91.227. "It is clear from the NPRM and

final rule preambles that §91.227(d)(8) is meant to ensure that ATC is able to correlate flight plan information with information presented on the radar display," the FAA said.

Pilots who fly such missions need to make sure that the ADS-B Out equipment installed aboard their aircraft allows the pilot to edit the Flight ID parameter, ideally from the cockpit. Fortunately, most ADS-B Out equipment on the market today allows this to be easily done—but, in many cases, the hardware defaults to prohibiting the pilot from editing this field. Enabling this capability can be done easily by an avionics shop that is a dealer for the product in question.

Following is an overview of the process for most popular ADS-B Out equipment; pilots and aircraft operators are encouraged to check their ADS-B hardware user's manual and/or flight manual supplement for complete information.

**Appareo**

In the Appareo Stratus ESG transponder, press FUNC or the arrow keys until "Flight ID" appears. Press ENT, then use the number keys to overwrite the previously entered Flight ID; the transponder's pilots guide explains how to insert letters into the field. (If a new Flight ID has fewer than eight digits and characters from the previous Flight ID are still visible, they should be overwritten with spaces.) Press ENT to confirm the new Flight ID.

**BendixKing**

Pressing the FUNC button on the BendixKing KT 74 transponder provides access to the Flight ID. Use the numeric buttons to edit; letters are selectable through multiple button pushes. Press ENT to accept a character and advance to the next digit. When ENT is pressed for the last digit, the new ID replaces the previous value. Pressing the VFR button when in Flight ID Edit changes the Flight ID to the preprogrammed ID set up during configuration of the transponder; usually this is the 1200 VFR code.

On the company's KGX series of UATs, the call sign/Flight ID can be set using the UAT's control head. The Flight ID must be set in the Configuration mode and cannot be changed in flight.

**Garmin**

All of Garmin's panel-mount and remote-mount Mode S Extended Squitter transponders can be configured by the installer for the Flight ID to be pilot editable. Pilots can edit the Flight ID through the front panel controls or, for remote transponders, a connected multifunction display.

Garmin's 978 MHz UATs are remote boxes that do not have a dedicated user interface. Depending on how the UAT is integrated into the aircraft, pilot-selectable Flight ID can be sent to a GDL 84/88 from an interfaced Garmin GPS/nav/com or Mode S transponder. However, the pilot cannot change the Flight ID for a GDL 84/88 installed as a standalone ADS-B solution, or on the Garmin GDL 82.

**FreeFlight Systems**

According to the FreeFlight FDL-978-TX Quick Reference Guide, pressing the FN (Function) button allows the pilot to edit the call sign/Flight ID. Directly rotate the code knob or press the key, and the first character of the Flight ID will be highlighted. Use the rotary code knob to select your choice of alpha-numeric characters. Press again and the cursor moves to the next character. Update all eight characters to save the call sign/Flight ID change.

**L3 Aviation Products**

For L3's Lynx NGT-9000 ADS-B transponder, the installer must be asked to enable pilot configuration of the Flight ID parameter. Once enabled, L3 said changing the Flight ID is as simple as changing the squawk code. Pilots who use any of L3's UAT products can set the Flight ID through the UAT's control head.

**Trig**

To change the Flight ID on a Trig TT22 or TT31 transponder, hold the FUNC button when powering on the unit to access the set-up menu. Use the right-hand rotary knob and the ENT and BACK buttons to scroll through, select, and confirm display values. The Flight ID is the first parameter you can adjust in the configurable menu. Full instructions are available online in Trig's product installation manuals.

The same instructions apply to Trig's TT21; however, as a Class 2 transponder with lower output power, it does not meet FAA ADS-B Out requirements.

Approved telephony agreements allow use of the dedicated call sign—and the matching ADS-B Flight ID—only on flight legs that are part of the designated mission. Any deadhead legs should be flown using the aircraft's N number, and the pilot must remember to reset the Flight ID to the aircraft's N number when the mission is completed.

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