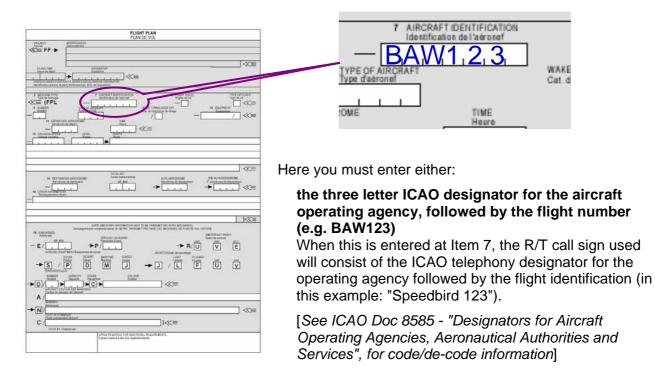# Mode S – Flight Plans and Transponders

European States will be commencing Mode S ELS services in the near future but, of course, ATC ground surveillance and flight plan processing systems need to be fully tested beforehand.

Although this process has already begun, we need YOU, flight crews and aircraft operations staff, to accurately complete flight plans and operate your Mode S transponders in the approved manner. Only then can the systems be validated for operational use.

It is imperative, therefore, that the following, simple steps (as detailed in ICAO Doc 4444 – Procedures for Air Navigation Services: Air Traffic Management and ICAO Doc 8168 - Procedures for Air Navigation Services: Aircraft Operations) are followed precisely:

FLIGHT PLANS

<u>Item 7 – Aircraft Identification</u>

Here you must enter either:

the three letter ICAO designator for the aircraft operating agency, followed by the flight number (e.g. BAW123)
When this is entered at Item 7, the R/T call sign used will consist of the ICAO telephony designator for the operating agency followed by the flight identification (in this example: "Speedbird 123").

[*See ICAO Doc 8585 - "Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services", for code/de-code information*]

or/

the Registration Marking of the aircraft (e.g. FGZCF)
When this is entered, the R/T call sign to be used will consist of this identification alone (e.g. "FGZCF"), or proceeded by the ICAO telephony designator for the aircraft operating agency (e.g. "Airfrans FGZCF").

NOTE: What is entered at item 7 **must** match exactly what is entered in the Mode S Aircraft Identification (also known as Flight ID) input device in the cockpit. If it does not, then the aircraft will not be correlated with its stored flight plan and delays will ensue.

There must be no spaces ahead of or between the designator letters and flight number, nor any additional/superfluous zeros. If the input device requires all character boxes to be filled, enter spaces <u>after</u> the flight number.

Item 10 – Equipment (Surveillance Equipment / SSR Equipment)

In the Surveillance Equipment / SSR Equipment element of Item 10, you must enter the correct letter denoting the type of transponder fitted to your aircraft:

Most likely, it will be

'**S**', which specifies:
Transponder - Mode S, including both pressure altitude and **aircraft identification** transmission.

Other letters available specify:

'**N**' Nil

'**A**' Transponder - Mode A (4 digits - 4096 codes)

'**C**' Transponder - Mode A (4 digits - 4096 codes) and Mode C

'**X**' Transponder - Mode S without both aircraft identification and pressure-altitude transmission

'**P**' Transponder - Mode S, including pressure-altitude transmission, but no aircraft identification transmission

'**I**' Transponder - Mode S, including aircraft identification transmission, but no pressure-altitude transmission

TRANSPONDERS

The Aircraft ID (also known as the Flight ID) is to be entered through the FMS or transponder control panel (depending upon aircraft equipment).

NOTE: What is entered at item 7 **must** match exactly what is entered in the Mode S Aircraft Identification (also known as Flight ID) input device in the cockpit. If it does not, then the aircraft will not be correlated with its stored flight plan and delays will ensue.

There must be no spaces ahead of or between the designator letters and flight number, nor any additional/superfluous zeros. If the input device requires all character boxes to be filled, enter spaces after the flight number.

Further information on Mode S can be found at: www.eurocontrol.int/modes

Version 1.3 dated 30/08/2007