MacAir Aviation

Filing ICAO Flight Plans

Overview

- Why ICAO Flight Plans?
- ICAO Flight Plan Overview

Caveats

- Intended as an informational briefing
  - Most common entries for our training missions
- Not a single-source document…each of us needs to get smart on this on our own
- Pilot-in-Command is responsible for filing flight plans within:
  - The capabilities of his/her aircraft
  - His/her own capabilities, training, currencies, and proficiency
  - Any required FAA Letters of Authorization (LOAs)—not normally required for Part 91 flight

See Also

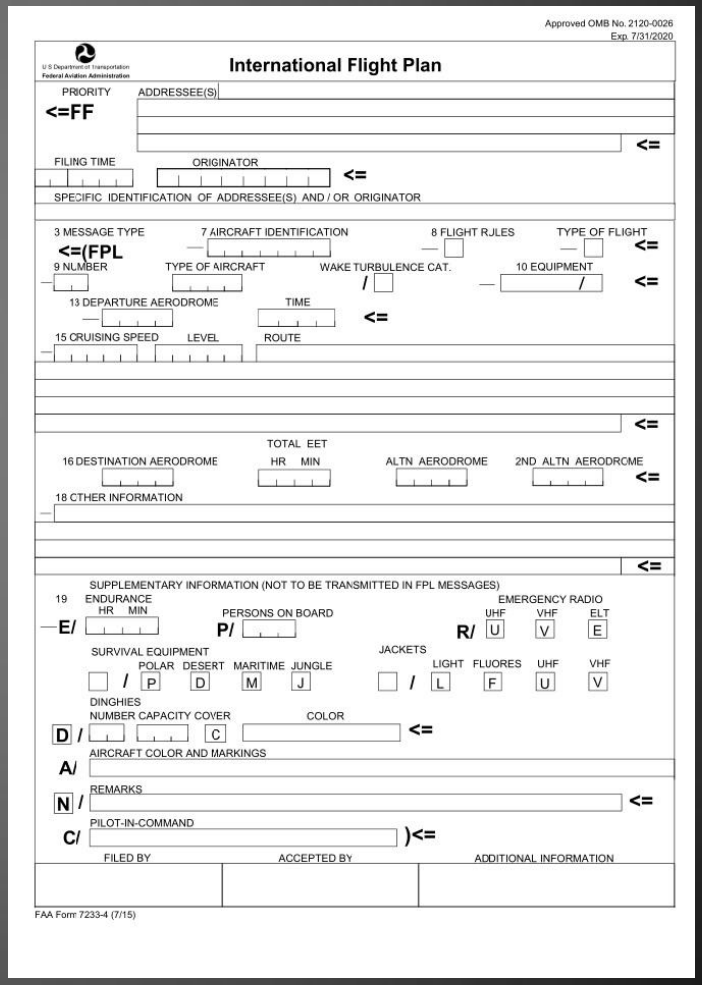
- AIM, paragraph 5-1-9
- FAA and FSS Web Sites
  - https://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/air_traffic_services/flight_plan_filing/
  - https://www.1800wxbrief.com/Website/#!/

Why ICAO Flight Plans

- FAA doing away with Domestic Flight Plan
  - Announced date for transition is 27 Aug 2019
- ICAO flight plan will be the only way to file VFR or IFR flight plans for domestic or international flights

The Flight Plan Form
FAA Form 7233-4 (Jul 15)

Suggest you print a hard copy of the form to follow along



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U.S Department of Transportation
Federal Aviation Administration

International Flight Plan

PRIORITY <=FF
ADDRESSEE(S)
FILING TIME
ORIGINATOR
SPECIFIC IDENTIFICATION OF ADDRESSEE(S) AND / OR ORIGINATOR
3 MESSAGE TYPE <=(FPL
7 AIRCRAFT IDENTIFICATION
8 FLIGHT RULES
TYPE OF FLIGHT
9 NUMBER
TYPE OF AIRCRAFT
WAKE TURBULENCE CAT.
10 EQUIPMENT
13 DEPARTURE AERODROME
TIME
15 CRUISING SPEED
LEVEL
ROUTE
TOTAL EET
16 DESTINATION AERODROME
HR MIN
ALTN AERODROME
2ND ALTN AERODROME
18 OTHER INFORMATION
SUPPLEMENTARY INFORMATION (NOT TO BE TRANSMITTED IN FPL MESSAGES)
19 ENDURANCE
HR MIN
E/
PERSONS ON BOARD
P/
EMERGENCY RADIO
UHF V ELT E
R/ U
SURVIVAL EQUIPMENT
POLAR P DESERT D MARITIME M JUNGLE J
JACKETS
LIGHT L FLUORES F UHF U VHF V
DINGHIES
NUMBER CAPACITY COVER C COLOR
D/
AIRCRAFT COLOR AND MARKINGS
A/
REMARKS
N/
PILOT-IN-COMMAND
C/)<=
FILED BY
ACCEPTED BY
ADDITIONAL INFORMATION

FAA Form 7233-4 (7/15)

ICAO Flight Plan

- Block 7: Aircraft Identification
  - Enter Callsign (e.g., “N128AV”)
- Block 8: Flight Rules
  - Enter “V” for VFR; “I” for IFR; “Y” for IFR, then VFR; “Z” for VFR, then IFR
- Block 8: Type of Flight
  - Enter “G” for General Aviation

ICAO Flight Plan

- Block 9: Number
  - Enter Number of aircraft in flight
  - Normally “01” for MacAir training flights
- Type of Aircraft
  - Enter Aircraft Code from FAA JO 7360.1B
- Wake Turbulence Category
  - Also from 7360.1B
  - All MacAir aircraft enter “L”

Aircraft	Code
Warrior	P28A
Archer	P28A
N5932V	P28R
N8395Y	P28T
Seneca	PA34
Cirrus SR22	SR22
Decathlon	BL8
Cessna 152	C152

Block 10: Equipment

- Simple codes for Comm/Nav and Surveillance Equipment can be entered here
  - "B G S / E B2" for Garmin 430W plus Mode S transponder with ADSB-Out/In
- For airplanes with more equipment you will want to enter "Z" in this block and explain in Block 18 (see that slide)

ICAO Flight Plan

- Block 13: Departure Aerodrome
  - Normal ICAO airfield code from FAA JO 7350.9E
  - If no designator exists, use “ZZZZ” and make entry in Block 18:
    - e.g., DEP/I19 or DEP/SGH150015
    - Will need to use ZZZZ for I19
- Time:
  - Now a 4-digit field (used to be date/time)
  - UTC time

ICAO Flight Plan

- Block 15: Cruising Speed
  - Enter cruise TAS in Knots (e.g, “N0105”)
- Level:
  - IFR: Enter requested altitude (e.g., “A070”)
  - VFR:
    - Enter “VFR” OR
    - Enter “VFRddd” where ddd is expected VFR altitude (e.g., “VFR055”) (not sure how this fits in the blocks provided on the form)

Route of Flight

- Do not include Departure Aerodrome or Destination since they are in Blocks 13 and 16, respectively
- Enter routing as you would in a domestic flight plan
  - Combinations of fixes, published routes, lat/longs allowed
  - Can use “DCT” between fixes to indicate “Direct” (e.g., “PRUDE DCT FLM”)

ICAO Flight Plan

- Block 16: Destination Aerodrome
  - Normal ICAO airfield code from FAA JO 7350.9E
  - If no designator exists, use “ZZZZ” and make entry in Block 18:
    - e.g., DEST/SGH150015
- Total EET (Estimated En Route Time):
  - Enter Hours and Minutes (e.g., “0235”)
- Alternate Aerodrome
  - Normal ICAO airfield code from FAA JO 7350.9E
  - Leave blank if Not Required
  - Can also leave 2nd Alternate Aerodrome blank as we have no requirements for a dual alternate

Block 18: Other Information

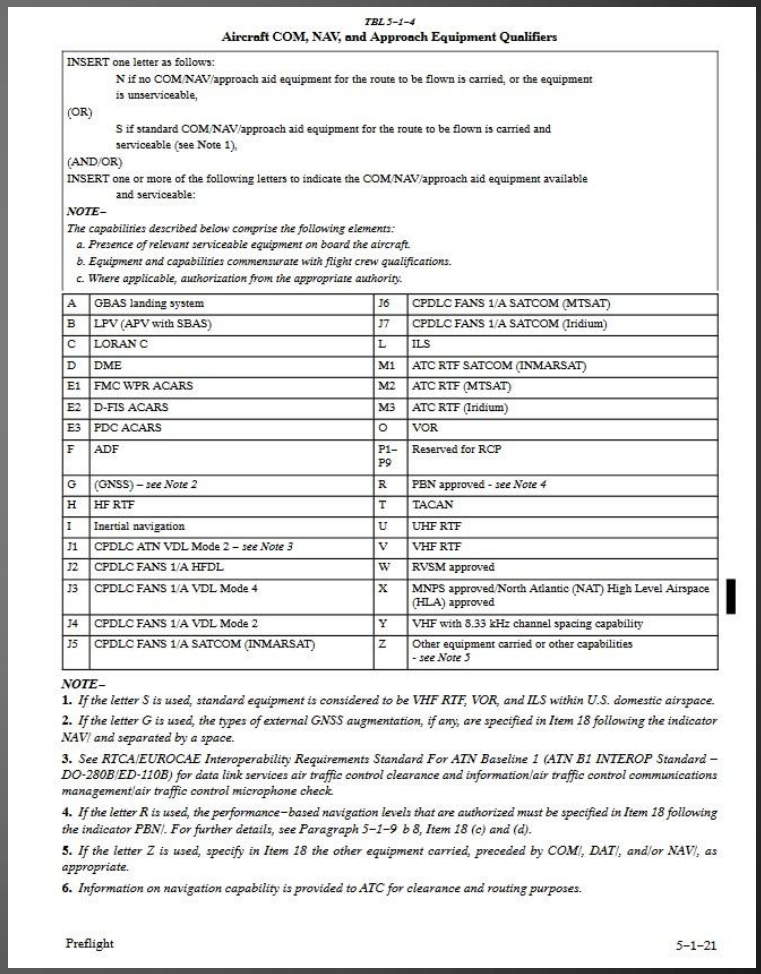
- Lots of possible entries here (see following slides)
- Pilot-in-Command is responsible for filing flight plans within:
  - The capabilities of his/her aircraft
  - His/her own capabilities, training, currencies, and proficiency
  - Any required FAA Letters of Authorization (LOAs)—not normally required for Part 91 flight

Block 18: Possible Entries

- DEP/: see slide for Block 13
- DEST/: see slide for Block 16

Block 18: COM/NAV Codes

- See configuration matrix on web site for each aircraft. Example:
  - "COM/ S"
  - "NAV/B G R"
- "S" is defined as "V" + "L" + "O" … no need to enter these codes if enter "S"
- "B" for WAAS aircraft
- "G" for GPS aircraft
- "R" indicates RNAV capability
  - If enter "R", then must enter PBN codes (Note 4)



TBL 5–1–4

Aircraft COM, NAV, and Approach Equipment Qualifiers

INSERT one letter as follows:

N if no COM/NAV/approach aid equipment for the route to be flown is carried, or the equipment is unserviceable,

(OR)

S if standard COM/NAV/approach aid equipment for the route to be flown is carried and serviceable (see Note 1),

(AND/OR)

INSERT one or more of the following letters to indicate the COM/NAV/approach aid equipment available and serviceable:

NOTE–

The capabilities described below comprise the following elements:

a. Presence of relevant serviceable equipment on board the aircraft.

b. Equipment and capabilities commensurate with flight crew qualifications.

c. Where applicable, authorization from the appropriate authority.

A	GBAS landing system	J6	CPDLC FANS 1/A SATCOM (MTSAT)
B	LPV (APV with SBAS)	J7	CPDLC FANS 1/A SATCOM (Iridium)
C	LORAN C	L	ILS
D	DME	M1	ATC RTF SATCOM (INMARSAT)
E1	FMC WPR ACARS	M2	ATC RTF (MTSAT)
E2	D-FIS ACARS	M3	ATC RTF (Iridium)
E3	PDC ACARS	O	VOR
F	ADF	P1–P9	Reserved for RCP
G	(GNSS) – *see Note 2*	R	PBN approved - *see Note 4*
H	HF RTF	T	TACAN
I	Inertial navigation	U	UHF RTF
J1	CPDLC ATN VDL Mode 2 – *see Note 3*	V	VHF RTF
J2	CPDLC FANS 1/A HFDL	W	RVSM approved
J3	CPDLC FANS 1/A VDL Mode 4	X	MNPS approved/North Atlantic (NAT) High Level Airspace (HLA) approved
J4	CPDLC FANS 1/A VDL Mode 2	Y	VHF with 8.33 kHz channel spacing capability
J5	CPDLC FANS 1/A SATCOM (INMARSAT)	Z	Other equipment carried or other capabilities - *see Note 5*

NOTE–

1. *If the letter S is used, standard equipment is considered to be VHF RTF, VOR, and ILS within U.S. domestic airspace.*

2. *If the letter G is used, the types of external GNSS augmentation, if any, are specified in Item 18 following the indicator NAV/ and separated by a space.*

3. *See RTCA/EUROCAE Interoperability Requirements Standard For ATN Baseline 1 (ATN B1 INTEROP Standard – DO-280B/ED-110B) for data link services air traffic control clearance and information/air traffic control communications management/air traffic control microphone check.*

4. *If the letter R is used, the performance–based navigation levels that are authorized must be specified in Item 18 following the indicator PBN/. For further details, see Paragraph 5–1–9 b 8, Item 18 (c) and (d).*

5. *If the letter Z is used, specify in Item 18 the other equipment carried, preceded by COM/, DAT/, and/or NAV/, as appropriate.*

6. *Information on navigation capability is provided to ATC for clearance and routing purposes.*

Preflight 5–1–21

Block 18: PBN Codes

- Careful…this gets you into the league of RNAV SIDs/STARs
- G430 is “S1”…LNAV approaches
- G430W is “S2”…LPV approaches
  - S2 not needed if “B” entered in NAV
- “C2” is 2nm accuracy 95% of time; required for Q and T routes; do not need if entering “D2”
- “D2” is 1nm accuracy 95% of time; required for RNAV SIDs/STARs
- E.g., “PBN/D2 S2”

TBL 5-1-6

PBN/RNAV Specifications

PBN/	RNAV SPECIFICATIONS
A1	RNAV 10 (RNP 10)
B1	RNAV 5 all permitted sensors
B2	RNAV 5 GNSS
B3	RNAV 5 DME/DME
B4	RNAV 5 VOR/DME
B5	RNAV 5 INS or IRS
B6	RNAV 5 LORAN C
C1	RNAV 2 all permitted sensors
C2	RNAV 2 GNSS
C3	RNAV 2 DME/DME
C4	RNAV 2 DME/DME/IRU
D1	RNAV 1 all permitted sensors
D2	RNAV 1 GNSS
D3	RNAV 1 DME/DME
D4	RNAV 1 DME/DME/IRU

	RNP SPECIFICATIONS
L1	RNP 4
O1	Basic RNP 1 all permitted sensors
O2	Basic RNP 1 GNSS
O3	Basic RNP 1 DME/DME
O4	Basic RNP 1 DME/DME/IRU
S1	RNP APCH
S2	RNP APCH with BARO-VNAV
T1	RNP AR APCH with RF (special authorization required)
T2	RNP AR APCH without RF (special authorization required)

Block 18: Surveillance (SUR) Codes

- See configuration matrix on MacAir web site
  - "SUR/C": Mode C transponder
  - "SUR/E": Mode S transponder with aircraft ID
  - "SUR/B1": ADSB-Out only
  - "SUR/B2": ADSB-Out and –In
- Example: "SUR/E B2" for aircraft with Lynx 9000D+

TBL 5–1–5

Aircraft Surveillance Equipment, Including Designators for Transponder, ADS–B, ADS–C, and Capabilities

INSERT **N** if no surveillance equipment for the route to be flown is carried, or the equipment is unserviceable, OR *INSERT* one or more of the following descriptors, to a maximum of 20 characters, to describe the serviceable surveillance equipment and/or capabilities on board:	
SSR Modes A and C	
A	Transponder - Mode A (4 digits – 4096 codes)
C	Transponder - Mode A (4 digits – 4096 codes) and Mode C
SSR Mode S	
E	Transponder - Mode S, including aircraft identification, pressure-altitude and extended squitter (ADS-B) capability
H	Transponder - Mode S, including aircraft identification, pressure-altitude and enhanced surveillance capability
I	Transponder - Mode S, including aircraft identification, but no pressure-altitude capability
L	Transponder - Mode S, including aircraft identification, pressure-altitude, extended squitter (ADS B) and enhanced surveillance capability
P	Transponder - Mode S, including pressure-altitude, but no aircraft identification capability
S	Transponder - Mode S, including both pressure-altitude and aircraft identification capability
X	Transponder - Mode S with neither aircraft identification nor pressure-altitude capability
NOTE– *Enhanced surveillance capability is the ability of the aircraft to down-link aircraft derived data via a Mode S transponder.*	
Followed by one or more of the following codes if the aircraft has ADS-B capability:	
B1	ADS-B with dedicated 1090 MHz ADS-B "out" capability
B2	ADS-B with dedicated 1090 MHz ADS-B "out" and "in" capability
U1	ADS-B "out" capability using UAT
U2	ADS-B "out" and "in" capability using UAT
V1	ADS-B "out" capability using VDL Mode 4
V2	ADS-B "out" and "in" capability using VDL Mode 4
NOTE– *File no more than one code for each type of capability; for example, file B1 or B2,but not both.*	
Followed by one or more of the following codes if the aircraft has ADS-C capability:	
D1	ADS-C with FANS 1/A capabilities
G1	ADS-C with ATN capabilities

EXAMPLE–

1. *SDGW/SB1U1 {VOR, ILS, VHF, DME, GNSS, RVSM, Mode S transponder, ADS-B 1090 Extended Squitter out, ADS-B UAT out}*

2. *S/C {VOR, ILS, VHF, Mode C transponder}*

Block 18: Mode S Codes

- Use CODE field to identify hexadecimal aircraft ID when configured with a Mode S transponder
  - See matrix on web site for our aircraft
  - Example: CODE/AB7CE7
  - Note that a Mode S code is assigned to each tail number whether or not a Mode S transponder is yet installed; no need to enter if airplane still has a Mode C transponder
  - If code does not match tail number, flight plan will be rejected

Block 19: Supplementary Information

- Endurance: Enter in hours and minutes (e.g., “0400”)
- Persons on Board: Obvious (e.g., “002”)
- Emergency Radio: Check “VHF” block (e.g., “121.5”)
- ELT: Can check this block for our aircraft
- Aircraft Color and Remarks: (e.g., “White/Blue”)
- Remarks: Any special requests for ATC (e.g., “request practice ILS at KDAY”)
- Pilot in Command: Name and Phone Number

MacAir Aviation

Questions?