Flight Plan Codes vs. Required Operational Authorizations (June 2020)

A guide to help you understand what operational authorizations you may need in order to use certain performance-based codes in your international flight plan (items 10 and 18)

Note: The information provided in this table is a guide. For questions about operational authorization requirements, you should always contact an operations inspector at your local Flight Standards office, Certificate Management Office or International Field Office. The AIM (chapter 5) and the other information on the FAA's "Flight Planning Information" webpage provide more detail on the meaning and use of all flight plan equipment and capability codes.

In order to use one of these flight plan (FPL) codes you must:
- Have relevant approved, and operational, communication, navigation and surveillance equipment, including the appropriate number of units to meet airspace requirements
- Have flight crew qualified to operate the equipment
- Where applicable, have authorization from the FAA (Operations Specification (OpSpec)/Management Specification (MSpec)/Letter of Authorization (LOA))
- Operate the flight in accordance with the provisions and limitations in the authorization.

If you cannot meet <u>all</u> of these conditions, you should not use the flight plan code for that capability on your flight plan.

<u>How to use the table</u>: Identify the type of operation, equipage or navigation specification in which you are interested and then find your applicable 14 CFR "part" to the right where you will see the alphanumeric designation of any required operational authorization as well as associated FPL codes. We have listed abbreviations at the end of this document.

<u>Note:</u> Due to size constraints on the table, we placed an additional column, at the end of the document, which serves to illustrate when you should, or are required to, indicate capability for some of the operations, aircraft equipage or navigation specifications listed.

Operation, Aircraft Equipage, or Navigation Specification	Parts 121/125/135 (OpSpec)	Part 91 (LOA)	Part 91K (MSPEC)	FPL Item 10a	FPL Item 10b	FPL Item 18	Comments/Related Authorizations	Operational Guidance
RVSM	B046 & D092	B046	MB046 & D092	W	-	-	Operators of aircraft equipped with ADS-B Out need B046 <u>only</u> for operations outside U.S. controlled airspace.	AC 91-85 and 14 CFR part 91 Appendix G
Surveillance & Required Surveillance Performance (RSP)Capabilities								
ADS-B Out 1090 ES	-	-	-	-	B1 or B2	SUR/260B Include aircraft's six-digit hexadecimal code in CODE/	Compliant with14 CFR §91.225, §91.227 and AC 120-165	AC 90-114
ADS-B Out UAT	-	-	-	-	U1 or U2	SUR/282B Include aircraft's six-digit hexadecimal code in CODE/	Compliant with14 CFR §91.227 and AC 20-165	AC 90-114
ADS-B In-Trail Procedure (ITP)	A354	A354	MA354	-	B2			AC 90-114, Appendix A
ADS-C	A056	A056	MA056	-	D1 Note 7	SUR/RSP180 or 400 *Note 1* *Include aircraft's registration in REG/*	Note: G1 code is not active. Reserved for future use with ATN/B2.	AC 90-117
Data Communications & Required Communication Performance (RCP) Capabilities								
ACARS Pre-Departure Clearance (PDC) or CPDLC - Departure Clearance (DCL)	A056	-	MA056	E3 (for PDC only) J3,J4 (for CPDLC-DCL) Z	-	DAT/ *Note 3 for PDC & CPDLC-DCL preferences*	CPDLC-DCL is different than international DCL operations in Europe	AC 90-117
Enroute CPDLC – U.S. Domestic	A056	-	MA056	Z J4	-	DAT/ FANSE or FANSER		AC 90-117
Enroute CPDLC – International, Oceanic/Remote	A056	A056 *Note 2*	MA056	J1-J7 P1-P2	-		See AC 90-117, appendix D Ensure J2 is filed when approved for RNP-4 where RCP 240 is required.	AC 90-117

Enroute & Terminal Area Navigation (RNAV) Capabilities								
RNAV 1 (ODP/SID/STAR)	C063	-	MC063	R *Note 4*	-	PBN/D1,D2, or D4 *Note 5*		AC 90-100
RNAV 2 (U.S. Q-Routes & T-Routes)	B035	-	MB035	R *Note 4*	-	PBN/C1,C2, or C4		AC 90-100
RNAV 5 (B-RNAV)	B034	-	MB034	R *Note 4*	-	PBN/B1 through B5	No U.S. applications of RNAV 5. Reference: ICAO Doc 9613 (PBN Manual). FAA decommissioned the Part 91 LOA B034. B-RNAV is an obsolete term.	
P-RNAV	B034	-	MB034		-		No U.S. applications of P-RNAV. No longer in use in Europe; replaced by RNAV 1. FAA will delete term with revision of B034. B034 remains a valid OpSpec.	
Required Navigation Performance (RNP) Capabilities								
Operations in North Atlantic High-Level Airspace (NAT HLA)	B039	B039	MB039	X	-	-	A B036 or B054 is a prerequisite for a B039. See References below.	Advisory Circular (AC) 91-70 and ICAO NAT Doc 007
RNP 10 Oceanic and Remote Continental Operations	B036	B036	MB036	G and/or I R *Note 4*	-	PBN/A1	RNP 10 is also referred to as RNAV 10 in ICAO. B036 authorizes "oceanic/remote continental airspace navigation" and is the authorizing vehicle for RNP operations in such airspace.	AC 90-105 Appendix G and AC 91-70
RNP 10 using a single LRNS	B054	B054	MB054	G and/or I R *Note 4*	-	PBN/A1	RNP 10 with only a single long-range navigation system is limited to the Gulf of Mexico and the special routes through NAT HLA identified in NAT Doc 007.	AC 90-105 and AC 91-70
RNP 4 Oceanic and Remote Continental Operations	B036	B036	MB036	G, R *Note 4*	Note 8	PBN/L1		AC 90-105 Appendix F and AC 91-70
RNP 2 Domestic, Offshore, Oceanic, and Remote Continental Operations	B036	B036	B036	G, R, Z *Note 4*	-	NAV/RNP2	No current ICAO item 18 PBN/ flight plan codes for RNP 2. Identify RNP 2 capability listing in item 18: NAV/RNP2	AC 90-105 Appendix E
RNP 1 (ODP/SID/STAR) Terminal Operations	C063	-	MC063	G,R *Note 4*	-	PBN/O1 or O2	GPS required for RNP 1 procedures in U.S.	AC 90-105 Appendix C
RNP 0.3 Rotorcraft Operations	H123		H123	G, Z	-	NAV/SBAS	No current ICAO flight plan codes for RNP 0.3	AC 90-105 Appendix D

RNP APCH	C052	*Note 6*	MC052	G,R Z (if adding NAV/SBAS in item 18 *Note 4*	-	PBN/S1, or PBN/S2 if Baro-VNAV equipped and NAV/SBAS (if WAAS equipped, to use LP lines of minima) *Note 9*	Titled in U.S.: RNAV (GPS). Defined as RNP APCH in ICAO Doc 9613 (PBN Manual) and AC 90-105	AC 90-105 AC 90-107 for use of LP minima
RNP APCH with LPV minima	C052	*C052 See Note 6*	MC052	B,G,Z	-	NAV/SBAS *Note 9*	Titled in U.S.: RNAV (GPS). Defined as RNP APCH in ICAO Doc 9613 (PBN Manual) and AC 90-105	AC 90-107
GLS Approach	C052	-	MC052	A,G, Z	-	NAV/GBAS *Note 9*		AIM 5-4
RNP AR APCH	C384	C384	MC384	G,R *Note 4*	-	PBN/T1 (or T2 without RF capability) *Note 9*	Titled in U.S.: RNAV(RNP). ICAO uses RNP AR APCH designation.	AC 90-101
Advanced-RNP (A-RNP)	C063		C063	G, R *Note 4*	-		No ICAO flight plan codes for A-RNP. Filing requirements TBD	AC 90-105 Appendix H

Notes:

1. An operator's OpSpec/MSpec/LOA A056 contains authorized RCP and RSP values.
2. Part 91 requires A056 for data link operations outside U.S. domestic airspace, to use item 10a codes J2, J5-J7, as well as codes P1 and P2. Part 91 does not need A056 to use item 10a codes E1-E3.
3. AC 90-117 appendix D contains optional item 18 codes (DAT/) to request data link departure clearance and to inform en route automation of certain avionics limitations. These codes communicate to ATC how you will like to receive your departure clearance and any follow-on en route clearances via your aircraft's data link communications systems. You will likely get the most beneficial use of your data link systems by entering the most appropriate codes in item 18 following DAT/.
4. If you included PBN/ in item 18, you should have also filed one or more appropriate equipment codes in item 10a. For example, if you included PBN/C2 in item 18 you should have included G in item 10a. Similarly, if you included PBN/A1 in item 18, you need to include G and/or I in item 10a.
5. Although R in item 10a means "PBN approved," Part 91 operators require approval for only a subset of the PBN applications, as per this table.
6. LOA C052 is available for Part 91 operators who wish to have evidence, for the purposes of showing a foreign aviation inspector, they are equipped and trained to fly RNP APCH procedures. Including LPV. It is an optional LOA that should be obtained only if required by foreign State authority.
7. Ensure D1 or D2 is filed in Field 10a when approved for and operating within RNP-4 airspace where RCP 240 is also required.
8. RNP 4 airspace may require RSP and RCP airworthiness approval & operator authorization.
9. FAA ATC automation accepts but does not use the PBN and NAV/ entries indicated for approach capabilities in the flight plan. The tables show the codes approved for use with the associated authorizations. The FAA may require these codes in the future, and will provide notice in the event filing approach capability becomes necessary.

References

1. AC 90-100 *U.S Terminal and En Route Area Navigation (RNAV) Operations.* The primary source of operational guidance for RNAV 1 and RNAV 2 operations on U.S. RNAV SIDS, STARS and routes. Available for download from the FAA homepage (www.faa.gov), or the FAA regulatory and guidance library (http://www.rgl.faa.gov).

2. AC 90-101 *Approval Guidance for RNP Procedures with Authorization Required.* The primary source of operational guidance for flying approach procedures labeled *RNAV/RNP/* AUTHORIZATION REQUIRED, also referred to as RNP AR procedures. AC 20-138 *Airworthiness Approval of Positioning and Navigation* Systems provides guidance material for airworthiness approval of RNAV systems integrating data from multiple navigation sensors. AC 20-138 provides the aircraft qualification guidance in order to fly RNP AR procedures. **All** U.S. operators must obtain an operational authorization to fly RNP AR procedures.

3. AC 90-105 *Approval Guidance for RNP Operations and Barometric Vertical Navigation in the U.S. National Airspace System and in Oceanic and Remote Continental Airspace.* This AC is the primary source of operational guidance for RNP approach procedures (RNAV/GPS), to include procedures using VNAV lines of minima, RNP 1 arrivals and departures, RNP 0.3 operations for rotorcraft, RNP 2 en route operations, RNP 4 and RNP 10 oceanic/remote continental operations, and Advanced RNP (A-RNP). **All** U.S. operators require an operational authorization (OpSpec/MSpec/LOA) for RNP operations in oceanic and/or remote continental airspace. The FAA will refer to AC 90-105 in evaluating applications for such operations.

4. AC 90-107 *Guidance for Localizer Performance with Vertical Guidance and Localizer Performance without Vertical Guidance Approach Operations in the U.S. National Airspace System.* This AC is an excellent source of information for all operators intending to fly RNAV/GPS approaches using LPV or LP lines of minima. GPS with WAAS is required equipment. The AC also provides operational approval guidance for those operators needing to add LPV/LP authorization to their OpSpec/MSpec/LOA C052. Part 91 operators do not need LOA C052.

5. AC 90-114 *Automatic Dependent Surveillance-Broadcast Operations.* This AC is a detailed source of information and guidance on all aspects of ADS-B operations. It covers both ADS-B Out and In operations, as well as In Trail Procedures and Cockpit Display of Traffic Information assisted operations. While the AIM also provides a considerable amount of information on ADS-B operations, with an emphasis on the general aviation operator, we nevertheless encourage all operators flying in ADS-B mandated airspace to read this AC.

6. AC 90-117 *Data Link Communications.* This AC is the primary source of guidance information for all U.S. operators intending to operate using data link equipment in U.S. domestic airspace, as well as in international data link mandated airspace. It is a hefty document but it merits your time. There is no comparable source of FAA-generated data link information written specifically to assist U.S. operators with data link operations, and where applicable, obtain an OpSpec, MSpec or LOA (A056) for data link usage.

7. AC 91-70 *Oceanic and Remote Airspace Operations.* The FAA intends this AC to serve as the key foundational source of information on how to safely and legally fly in oceanic and remote continental airspace. This AC is not the only source of information for oceanic/remote continental operations but it will inform the operator of every other source of information with which they should be familiar. This AC also provides the basis for FAA inspector review of all applicants for approval to fly in oceanic and remote continental airspace (granted through OpSpec/MSpec B036 or B054). Part 91 applications for LOA B036 or B054, to fly under RNP operations in oceanic airspace, are similarly evaluated under AC 91-70. Consequently, every operator intending such operations should be very

familiar with the contents of AC 91-70. The document contains a comprehensive oceanic operations checklist that operators may confidently use as their own oceanic checklist.

8. AC 91-85 *Authorization of Aircraft and Operators for Flight in Reduced Vertical Separation Minimum (RVSM) Airspace*. <u>Recently revised</u> to reflect changes in regulatory requirements for RVSM operations, this AC is a must read for any operator intending operations in RVSM airspace, whether over the U.S. or internationally. Operators who read earlier versions of 91-85 should be sure to read the current version. There have been significant changes.

9. *Aeronautical Information Manual (AIM)*. The FAA provides detailed flight plan information, to include a comprehensive listing of mandatory codes, in Chapter 5, section 1 of the AIM. Operators should consider the AIM a primary reference document. Operators may download the AIM, free of charge, from the FAA website.

10. FAA Order 8900.1 *Flight Standards Information Management System (FSIMS)*. The FAA's Flight Standards Service wrote this order specifically to provide Aviation Safety Inspectors with Flight Standards policy and guidance for performing their inspector functions. The Order is for FAA inspectors. However, any operator may find the information in the Order interesting and useful, particularly to their understanding of how an Aviation Safety Inspector interacts with operators of all types, on all official matters. In particular, Volume 3, Chapter 18 of the Order provides inspectors with guidance on issuing specific types of operational authorizations, including those referenced in the table above. You may find the Order through the FAA webpage, or via a direct internet search.

11. ICAO Document 9613 *Performance-based Navigation (PBN) Manual*. ICAO developed this manual to provide "practical guidance to States, air navigation service providers (ANSP) and airspace users on how to implement RNAV and RNP applications, and how to ensure that the performance requirements are appropriate for the planned application." As such, the "PBN Manual" is not an operator's manual. But it does provide extensive and interesting background information on all RNAV and RNP navigation specifications. The manual serves as the foundational document for PBN implementation across all ICAO member States. Operators may purchase the PBN Manual through the ICAO website.

12. ICAO North Atlantic Document 007 (NAT Doc 007) *North Atlantic Operations and Airspace Manual*. This manual is a <u>must read</u> for any operator planning flight over the North Atlantic, and in particular flight in North Atlantic High Level Airspace (NAT HLA). The document is available for purchase from ICAO, through their website.

13. *U.S. Aeronautical Information Publication (AIP)*. The U.S. AIP provides guidance to foreign operators intending flights into U.S. airspace, i.e. domestic, offshore and U.S. administered oceanic airspace. While written for foreign operators as the target audience, the AIP contains important information applicable to <u>any</u> operator flying through the Anchorage, Houston, Miami, New York or Oakland Oceanic Control Areas, as well as the "offshore" airspace situated between the U.S. landmass and the edge of the oceanic control areas. For example, the AIP is the primary source of operational guidance for flying on Atlantic Routes (AR) and Y routes. The FAA updates the U.S. AIP on the same schedule as the AIM, i.e. every 6 AIRAC cycles (168 days). You may find the current U.S. AIP through the FAA webpage.

Abbreviations

ADS-B and –C: Automatic Dependent Surveillance-Broadcast (-C stands for "contract")
AIM: Aeronautical Information Manual
AIRAC: Aeronautical Information Regulation and Control
A-RNP: Advanced Required Navigation Performance
Baro-VNAV: Barometric Vertical Navigation
B-RNAV/P-RNAV: Basic RNAV/Precision RNAV
CPDLC: Controller Pilot Data Link Communications
CMO: Certificate Management Office

FSDO: Flight Standards District Office
GBAS: Ground Based Augmentation System
GLS: GBAS Landing System
GNSS: Global Navigation Satellite System
ICAO: International Civil Aviation Organization
IFO: International Field Office
LRNS: Long Range Navigation System
PBN: Performance Based Navigation
RCP: Required Communication Performance
RNAV: Area Navigation
RNP AR: Required Navigation Performance Authorization Required
RSP: Required Surveillance Performance
RVSM: Reduced Vertical Separation Minimum
SBAS: Satellite Based Augmentation System
SID: Standard Instrument Departure
STAR: Standard Terminal Arrival Route
WAAS: Wide Area Augmentation System

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Operation, Aircraft Equipage, or Navigation Specification	FPL Item 10a	FPL Item 10b	FPL Item 18	Required …
RVSM	W	-	-	For any operations in RVSM airspace
ADS-B Out 1090 ES	-	B1 or B2	SUR/260B Include aircraft's six-digit hexadecimal code in CODE/	To show eligibility for routes or airspace where ADS-B is required. (10b and SUR/) automated identification and tracking (CODE/)
ADS-B Out UAT	-	U1 or U2	SUR/282B Include aircraft's six-digit hexadecimal code in CODE/	To show eligibility for routes or airspace where ADS-B is required. (10b and SUR/) automated identification and tracking (CODE/)
ADS-B In-Trail Procedure (ITP)	-	B2		To show eligibility for ITP in oceanic airspace
ADS-C	-	D1 Note 7	SUR/RSP180 or 400 *Note 1* *Include aircraft's registration in REG/*	To show equipage with ADS-C for operations wherever mandated or beneficial, (e.g. NAT FL 290-410, PBCS tracks) or for reduced lateral separation.
ACARS Pre-Departure Clearance (PDC) or CPDLC - Departure Clearance (DCL)	E3 (for PDC only) J3, J4 (for CPDLC-DCL) Z	-	DAT/ *Note 3 for PDC & CPDLC-DCL preferences*	To ensure proper routing of the pre-departure clearance
Enroute CPDLC – U.S. Domestic	Z J4	-	DAT/ FANSE or FANSER	To show authorization and equipage with FAA approved avionics versions (see: https://www.harris.com/sites/default/files/minimum-equipage-list-v9.7-en-route-012020.pdf) to conduct enroute domestic CPDLC

Enroute CPDLC – International, Oceanic/Remote	J1-J7 P1-P2	-		To show equipage with CPDLC for operations wherever mandated or beneficial, (e.g. PBCS tracks) or for reduced lateral separation.
RNAV 1 (ODP/SID/STAR)	R *Note 4*	-	PBN/D1,D2, or D4 *Note 5*	For assignment of RNAV 1 SID or STAR (including OPDs).
RNAV 2 (U.S. Q-Routes & T-Routes)	R *Note 4*	-	PBN/C1,C2, or C4	For assignment of Q or T route, or similar routings overseas.
RNAV 5 (B-RNAV)	R *Note 4*	-	PBN/B1 through B5	To show eligibility for enroute RNAV operations overseas. (Not needed if any other RNAV capability is indicated)
P-RNAV		-		Not used by the FAA
Operations in North Atlantic High-Level Airspace (NAT HLA)	X	-	-	For operations in NAT HLA
RNP 10 Oceanic and Remote Continental Operations	G and/or I R *Note 4*	-	PBN/A1	For oceanic operations where RNP 10 is required (e.g. NAT HLA), and/or to receive benefits of reduced lateral separation in oceanic airspace
RNP 10 using a single LRNS	G and/or I R *Note 4*	-	PBN/A1	For operations where RNP 10 is permitted with a single long range navigation system (e.g. Gulf of Mexico), and to receive benefits of reduced lateral separation in that airspace
RNP 4 Oceanic and Remote Continental Operations	G, R *Note 4*	*Note 8*	PBN/L1	For oceanic operations where RNP 4 is required, and/or to receive benefits of reduced lateral separation in oceanic airspace
RNP 2 Domestic, Offshore, Oceanic, and Remote Continental Operations	G, R, Z *Note 4*	-	NAV/RNP2	Not used by the FAA Some countries (e.g. Australia) use RNP 2 for domestic operations, and require only a single long- range navigation system. Same codes apply.
RNP 1 (ODP/SID/STAR) Terminal Operations	G,R *Note 4*	-	PBN/O1 or O2	Assignment of RNP 1 SID or STAR
RNP 0.3 Rotorcraft Operations	G, Z	-	NAV/SBAS	For assignment of RNP 0.3 route