



# CPDLC-DCL U.S. Airports

## Data Link Clearance Services

December 1, 2016

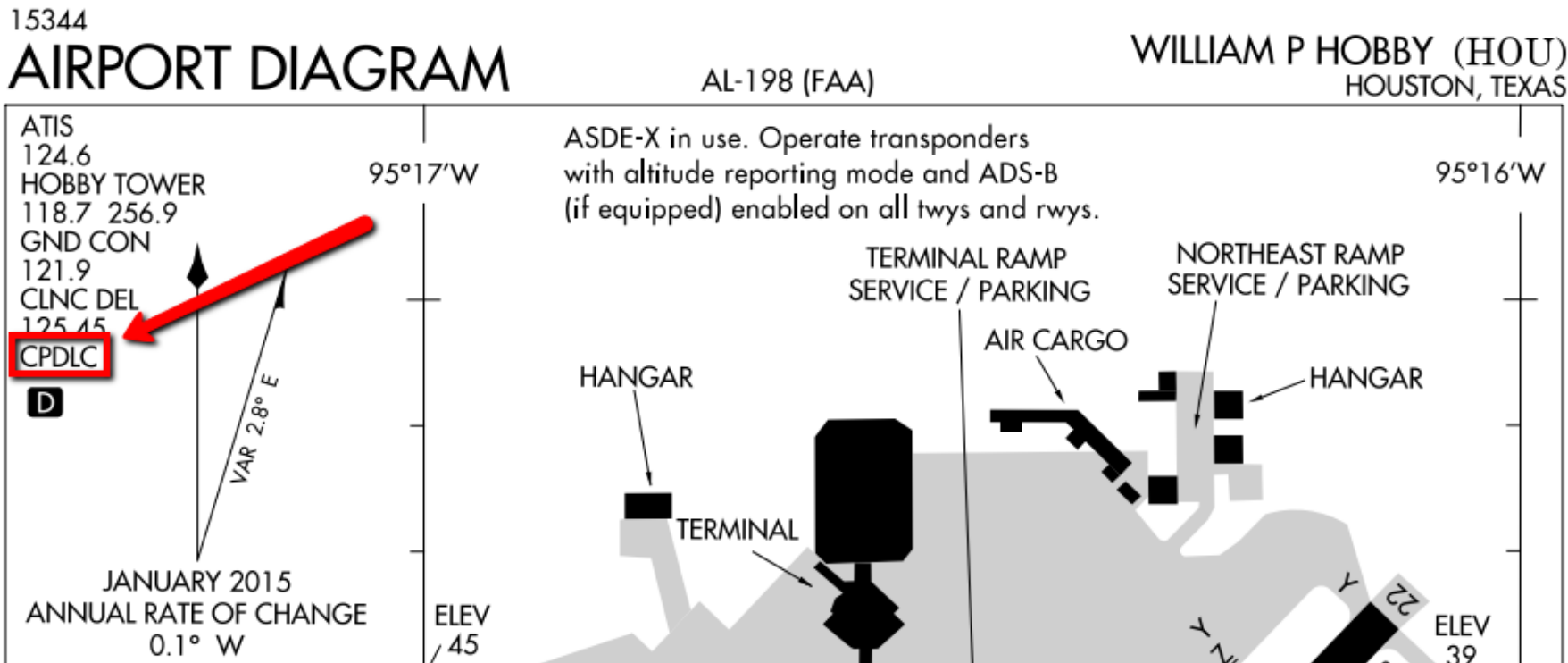
Prepared by Christian Renneissen

## DCL - Data Link Clearance Service

- The Departure Clearance Service (DCL) provides automated assistance for delivering initial, and revised departure clearances.
- CPDLC-DCL provides CPDLC message elements for the following:
  - Flight plan route
  - Initial and requested altitude
  - Beacon code assignment and
  - Departure frequency

DCL does not replace PDC. You may use one or the other.

## How is a CPDLC capable airport depicted?



\* This sample is using charts produced by the National Charting Office (NACO).

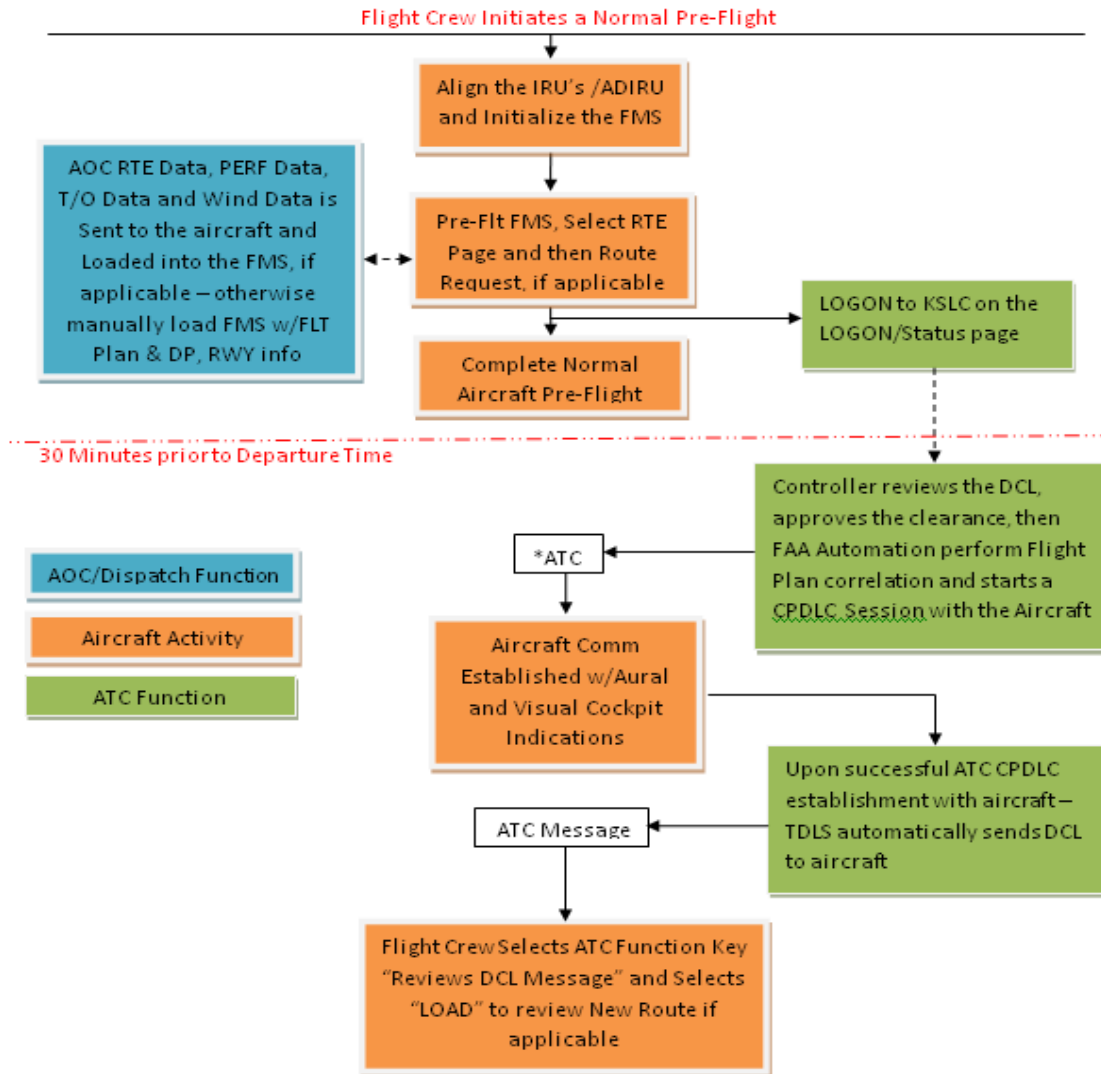
## Equipment and FPL Requirements for DCL



- Depending on your equipage item 10a of the ICAO Flight Plan may indicate:
  - "J3" for FANS CPDLC VDL Mode A and, or
  - "J4" for FANS CPDLC VDL Mode 2
- Select FANS as the first preference in the Subscriber Database, or
- Indicate DCL and PDC preferences in Field 18 DAT/
  - E.g. 1FANS2PDC (no spaces allowed)

\* *Presently the FAA does not recognize Satcom as media for DCL*

# Flight Crew Procedural Diagram



## The Path of a DCL clearance

- A DCL is generated by filing the appropriate suffixes in Field 10a, and remarks in the DAT/ line of Field 18 in the ICAO Flight Plan.
- Clearance Delivery is made aware of a DCL Flight Plan 30 minutes prior to filed ETD.
  - At that time the Flight Plan populates in the Tower Data Link Services (TDLS) display pick list.
  - The Controller approves, and sends the clearance when it becomes available to them (DCL clearance unavailable until the aircraft is successfully logged on).
  - The action of sending the DCL clearance establishes the FANS Data Link with the aircraft.

## Crew Action: Logon.

- It is recommended to uplink the Flight Plan Recall number first.
- Up to 90 minutes prior filed ETD logon to the DCL activated site using the 4-letter ICAO identifier of the airport:



- If successful, the Logon shows "Accepted". At that point, wait!

## Tower establishes CPDLC 30 minutes prior ETD

- Note the Active Center having populated at 30 minutes prior ETD

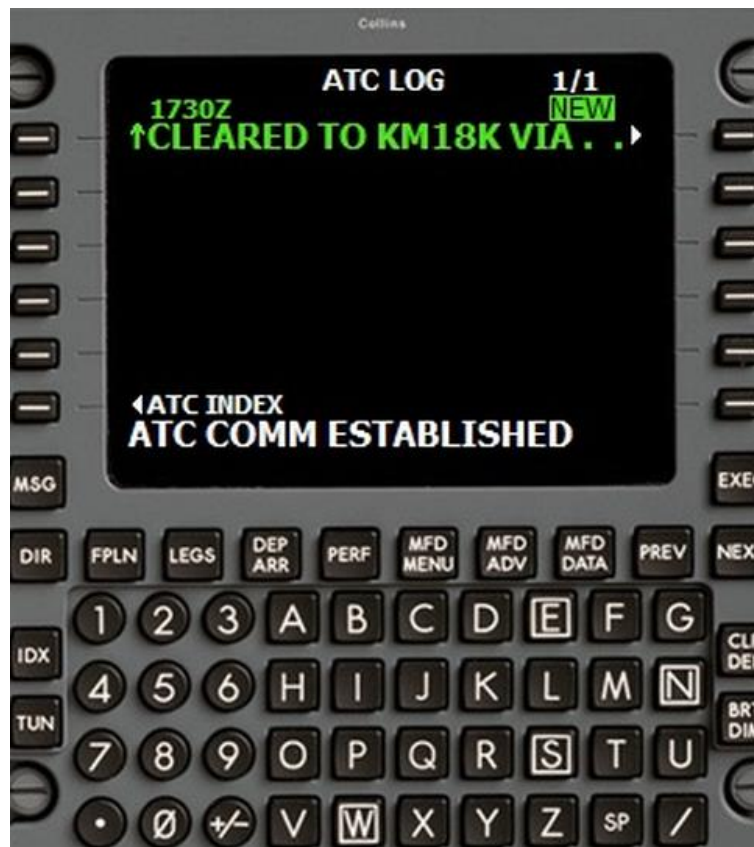


- ATC COMM shows established at this time.



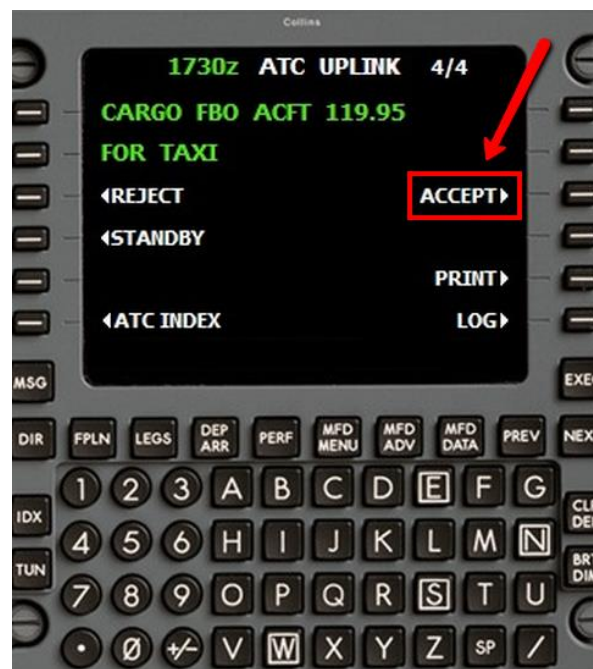
## Push DCL arrives

- An aural and visual indication will prompt the crew when Tower pushes the DCL shortly after establishing CPDLC within the 30 minutes prior ETD window:



## DCL Review and Acceptance

- Crew reviews all pages of the DCL, and accepts clearance via CPDLC messaging:



- If the logon attempt fails the crew should revert to voice procedures.

## Flight Crew Processing of DCL

- Flight crews should treat any CPDLC-DCL sent to the aircraft just like they would any voice or PDC clearance per company procedures when reviewing and accepting route clearances.
- One additional feature of the CPDLC-DCL Service is the ability to introduce revisions to a previously cleared flight plan which can be received at any time until the aircraft is handed off to the tower for takeoff.
- Amendments can be a simple altitude change or a more complex full reroute.
- When notified of a revised clearance, flight crews should use good judgment and follow company procedures, and request to temporarily halt the taxi progress if significant heads-down time is required.

The “LOG” function allows crews to review previous messages.

## Do not:

- Do not logon while ATC still has your aircraft on an active Flight Plan (e.g. attempts to logon during approach/final/taxi to gate will fail – wait until about 10 minutes after arrival)
- Do not logon multiple times, keep in mind: the Active Center does not populate till ATC establishes the CPDLC connection. This generally happens 30 mins prior filed ETD, but it cannot be forced from the aircraft. Logon once, only.
- Do not include any freetext in your Acceptance of the DCL. If there are any questions regarding your DCL, please contact Clearance Delivery via voice.

## Data Link Disconnect after Departure

- ATC automatically terminates the Data Link connection to the aircraft between 5-10 minutes after takeoff.
- Flight Crews will have to initiate the logon to enroute ATISUs (e.g. oceanic) when required.

View

<https://www.youtube.com/watch?v=xUSFgkEyVAU>  
for operational scenarios

## Subscriber Database (SDB)

- The FAA’s SDB contains records regarding Departure Clearance delivery preferences for all aircraft (DCL and PDC)
- ARINC Direct has administrative access.
- Using the correct entries in the SDB, the remark “DAT/1FANS2PDC” is no longer required to receive DCL.
- Sample view of the SDB:

Clearance Information

Priority	Clearance Type	IATA	CSP	Start (mm/dd/yyyy)
1	FANS ▼	ARINCXA ▼	ARINC	12/03/2015
2	PDC ▼	ARINCXA ▼	ARINC	06/15/2016

Save Cancel

- Contact [activations@arinc.com](mailto:activations@arinc.com) or call +1 866 321 6060 or +1 410 266 2266 to request updates to the SDB.

## How to Flight Plan DCL and PDC preferences without utilizing the SDB:

- The entry of “DAT/” codes in Field 18, holding “Other Information” on the Flight Plan, allows you to specify your preference in how to receive the departure clearance. You may elect DCL only, PDC only, or choose to define a first and second (fallback\*) preference, if desired. Anything displayed in the “DAT/” codes of Field 18 of the filed Flight Plan overrides any other preferences ATC may have on file for the operator’s aircraft (e.g. the Subscriber Database).
- How do I code the preferences for clearance delivery in the “DAT/” codes?
  - Your entries will depend on the equipage and preference for Data Link Clearances. The following slides display tables which contain possible entries for the “DAT/” codes:

*\*fallback to PDC works only if DCL on the FAA-end is unserviceable*

Preference	Aircraft Equipment Capability	ICAO Field 18 DAT/	Comments
Voice only	Not equipped for ACARS or FANS; receiving voice only	/	Considered a default if user is can neither receive PDC nor FANS
Voice only	Equipped for ACARS and FANS but wants voice only	<b>1VOICE</b>	Only required if user wants to ignore existing default PDC or DCL request in lieu of voice.
PDC only	Not ACARS equipped but gets PDC via manual means	<b>1PDC</b>	Non-ACARS aircraft. Crew receives PDC via other means (email, etc.)
PDC only	Equipped for only ACARS PDC	<b>1PDC</b>	none
PDC only	Equipped for ACARS PDC and FANS but wants PDC only	<b>1PDC</b>	none
FANS 1A only	Equipped for ACARS PDC and FANS 1/A but only wants FANS 1/A for DCL	<b><u>1FANS</u></b>	DCL via FANS 1/A
FANS 1/A+ only	Equipped for ACARS PDC and FANS 1/A+ but only wants FANS 1/A+ for DCL	<b><u>1FANSP</u></b>	DCL via FANS 1/A+
FANS 1/A then PDC	Equipped for ACARS PDC and FANS 1/A, wants DCL and PDC as fallback	<b>1FANS2PDC</b>	DCL via FANS 1/A, if unavailable send PDC
FANS 1/A+ then PDC	Equipped for ACARS PDC and FANS 1/A+, wants DCL and PDC as fallback	<b><u>1FANSP2PDC</u></b>	DCL via FANS 1/A+, if unavailable send PDC

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## How do I default an Aircraft's "DAT/" field?

- The following screenshots provide guidance for Account Administrators to modify the defaults entered in the Field 18 "DAT/" codes. Entering the desired coding will populate it for all future Flight Plans as a default in the ARINCDirect system. You have the chance to edit the entries on the Filing Page prior to filing individual flight plans.
- Login to the ARINCDirect account, proceed to the "My Company" tab, select the "Tails" subtab, then select the desired aircraft by clicking on its tail number:

The screenshot shows the ARINCDirect interface. The 'My Company' tab is selected in the top navigation bar. Below it, the 'Tails' subtab is selected. A red arrow points from the 'Tails' subtab to the 'NB20EX' tail number in the table below. The table has the following data:

Aircraft	Serial #	Type	APIS Only	Configuration Summary	Flight Planning Tail
NB20EX	97887	Dassault Falcon 2000EX			Yes

- In the popup window proceed to "ATC Filing Information"

Expand All Close All

- ▶ Tail Information
- ▶ Datalink Communications and Services
- ▶ Flight Planning Information
- ▶ Flight Risk Settings
- ▶ Aircraft Weights
- ▶ Aircraft Biases
- ▶ Runway Analysis/Weight And Balance Settings
- ▶ **ATC Filing Information**

- Enter the desired remarks (no spaces are allowed), then proceed to save the entries by selecting "Save Aircraft Profile":

Operator Name:  Contact Number:  COM:

**DAT:**

*Note: The Operator Name and Contact Number entered above will be automatically appended to all flight plans outside the Direct's Contact Number will be used if no Operator Name and Number have been specified. Please do not re-enter the information.*

Remarks in Filing Strip:

*Note: Do not enter any Item 18 Indicators in the Remarks section (NAV/, DAT/, OPR/, STS/, etc)*

- ▶ Survival Equipment
- ▶ RAIM Prediction Parameters
- ▶ Alternate Airport Criteria
- ▶ ETP / ETOPS / Reclearance Parameters
- ▶ Cost Analysis Settings

**Save Aircraft Profile**

## Notes regarding Aircraft Preferences

- The saved entries to the “DAT/” field will populate as an editable value on the Filing page for the appropriate aircraft.
- Referenced entries in the “DAT/” field are based on FAA requirements for operations in the U.S. airspace, and may not be applicable outside of the U.S. – therefore we encourage the use of the SDB instead of the remarks, to indicate departure clearance delivery preferences.

## More questions?

- Contact us via:
  - Email to [adtraining@arinc.com](mailto:adtraining@arinc.com)
  - Call the Training Team at +1 410 266 2266 or +1 866 321 6060

