



**Federal Aviation
Administration**

***55054003
EN ROUTE
RADAR ASSOCIATE
CONTROLLER TRAINING PART C:
ADVANCED CONCEPTS***

**Lesson 17: CPDLC TOC and Message
Management**

Version: 1.0 2022.08

INSTRUCTOR LESSON PLAN

PAGE INTENTIONALLY LEFT BLANK

LESSON PLAN DATA SHEET

Course Name	En Route Radar Associate Controller Training Part C: Advanced Concepts
Course Number	55054003
Lesson Title	CPDLC TOC and Message Management
Duration	2 hours, 15 minutes (includes lesson, part-task exercise, and ELT)
Version	1.0 2022.08
Reference(s)	TI 6110.100, En Route Automation Modernization R-Position User Manual; TI 6110.101, En Route Automation Modernization RA-Position User Manual; TI 6110.102, En Route Automation Modernization AT Specialist User Manual; TI 6110.108, En Route Automation Modernization Quick Reference Card
Prerequisites	NONE
Handout(s)	⊙ Part-Task Exercise <i>HO01_17 (Print prior to class)</i> ⊙ TI 6110.108, ERAM Quick Reference Controller Card
Exercise / Activity	Refer to handout for: ⊙ Part-Task Exercise: CPDLC TOC and Message Management
Scenario	⊙ Run scenario 55054003_L17_S## in TTL
Assessments	⊙ YES - Written (<i>Refer to ELT01_L17, print prior to class</i>)
Materials and Equipment	⊙ Pencil and/or pen
Other Pertinent Information	⊙ Ensure lesson materials are downloaded to the classroom computer ⊙ This lesson is based on ERAM EAE410 ⊙ The lesson has been reviewed and reflects current orders and manuals as of April 2022



As you prep for this lesson, recall and be prepared to talk about examples and personal experiences that illustrate or explain the teaching points in the lesson.

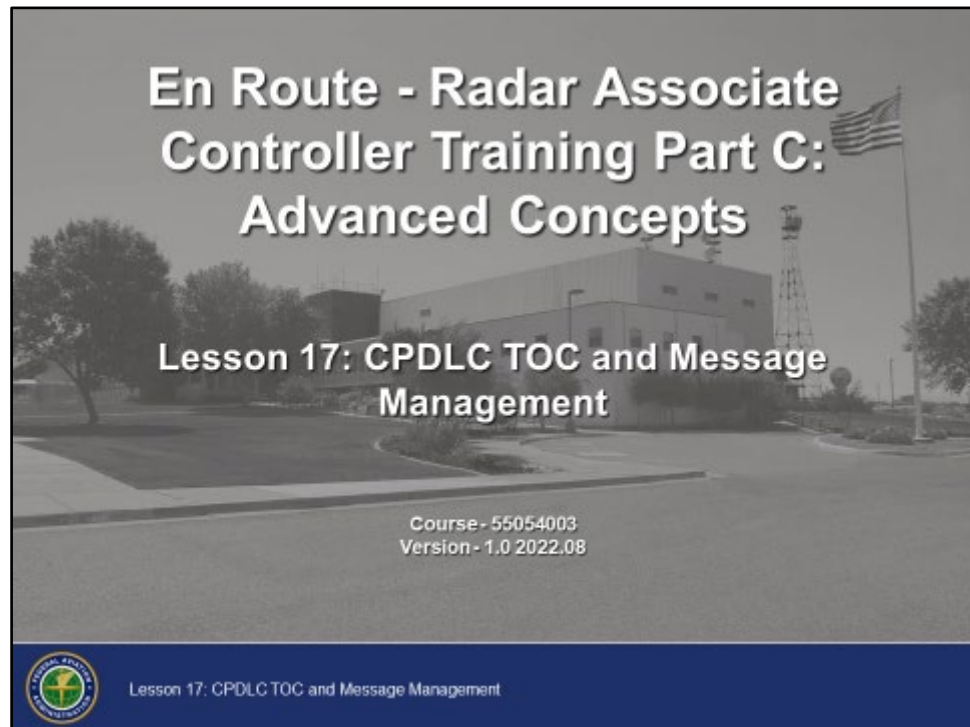
LESSON ICON LEGEND

	Description
	The Activity icon indicates an exercise, lab, or hands-on activity.
	The Discussion Question icon signals a discussion question to be asked to the students.
	The Handout icon indicates a handout is to be distributed to the students.
	The Instructor Note icon is in hidden text and indicates text that is for the instructor only.
	The Multimedia icon indicates a video or audio clip is in the presentation.
	The Phraseology icon indicates that phraseology is in the content.
	The WBT icon indicates a component of web-based training.
	The Click icon indicates a PPT slide with click-based functionality to present additional information.
	The Definition icon indicates a published definition.

PAGE INTENTIONALLY LEFT BLANK

LESSON INTRODUCTION

Overview



This lesson covers the advanced CPDLC Transfer of Communications (TOC) functions and the various options for viewing and interacting with uplink and downlink messages using the Message Out view, Message Out menu (Mini Mo), and History view.



Explain that the lesson will be followed by a part-task exercise covering all the functions in the lesson.

LESSON INTRODUCTION (CONT'D)

Lesson Objectives

Lesson Objectives

At the end of this lesson, you will be able to identify procedures for:

- Advanced Transfer of Communication (TOC) Management
- CPDLC Message Management

 Lesson 17: CPDLC TOC and Message Management 1



Review the lesson objectives.

At the end of this lesson, you will be able to identify procedures for:

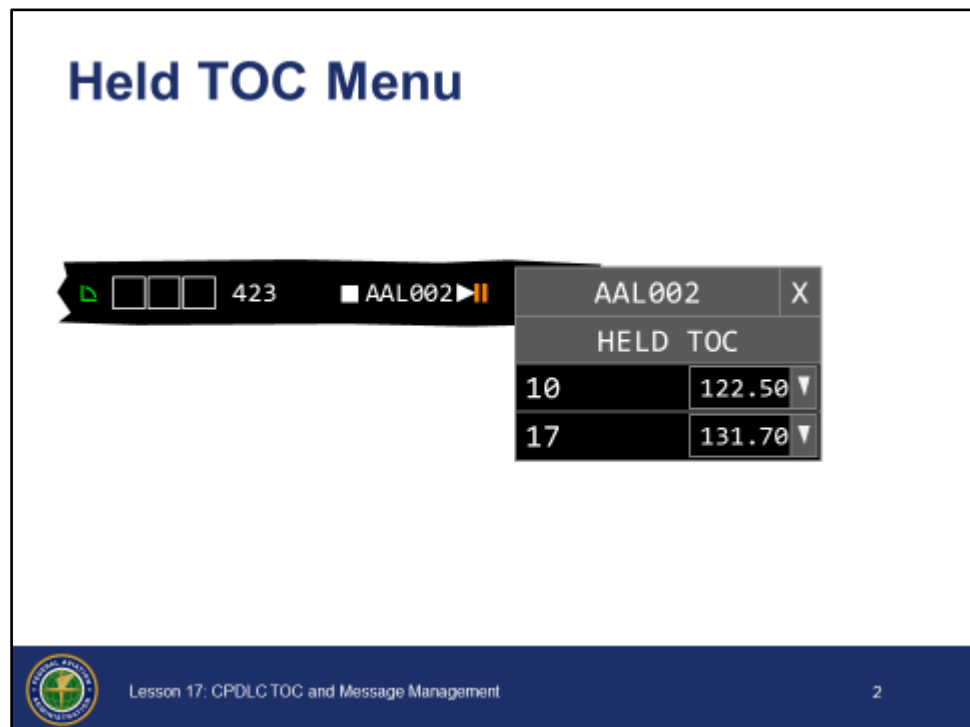
- ⦿ Advanced Transfer of Communication (TOC) Management
- ⦿ CPDLC Message Management

NOTE: There will be a graded end-of-lesson test upon completion of the lesson. The passing score is 70%. If you do not achieve a score of 70%, you will be provided study time and one retake of an alternate end-of-lesson test.

ADVANCED TOC MANAGEMENT

Held TOC Menu

TI 6110.101,
sec. 7.2



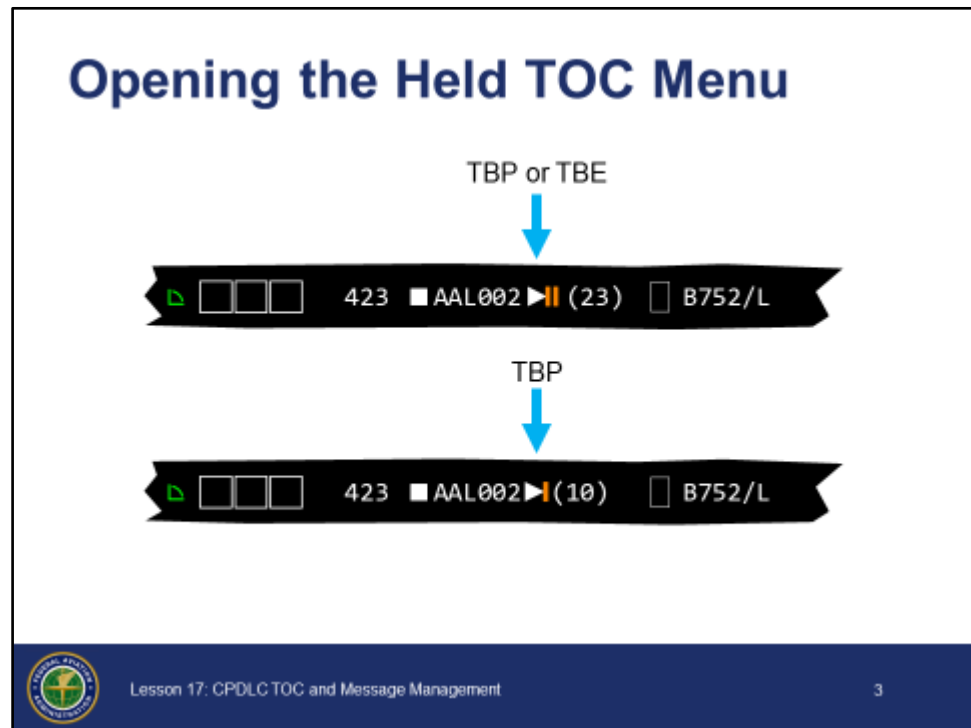
- ⦿ The Held TOC menu provides the eligible sector the ability to display and uplink Held TOCs for an individual aircraft
- ⦿ The system generates a separate Held TOC after every track control change
 - Track control changes include both handoff and stealing of track control
- ⦿ A multiple Held TOC indicator is displayed on the Full Data Block (FDB) and Aircraft List (ACL) whenever there are two or more Held TOC entries in the Held TOC menu
- ⦿ Whenever there are two or more Held TOC entries, the controller must open the Held TOC menu and select the desired Held TOC (i.e., sector) for uplink
 - The menu can hold up to 10 Held TOC entries
 - The menu will close after the Held TOC is released

ADVANCED TOC MANAGEMENT (CONT'D)

Opening the Held TOC Menu

TI 6110.101,
secs. 7.2.1,
7.2.2.1.1

TI 6110.100,
sec. 7.2.1

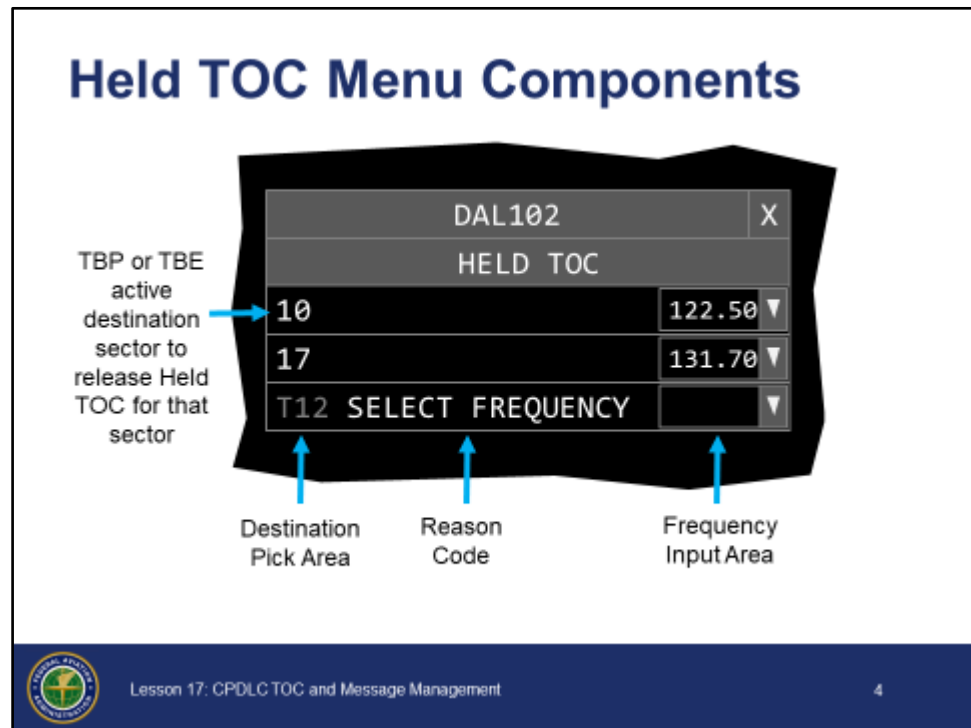


- ⦿ There are various options for displaying the Held TOC menu:
 - Trackball Pick (TBP) or Trackball Enter (TBE) on a Multiple Held TOC indicator (FDB or ACL)
 - TBP or TBE on the HELD status on the Message Out view or Message Out menu (Mini Mo)
 - TBP on the Single Held TOC indicator (FDB or ACL)
 - A TBE on a Single Held TOC indicator will release the Held TOC without having to access the Held TOC Menu

ADVANCED TOC MANAGEMENT (CONT'D)

Held TOC Menu Components

TI 6110.101,
sec. 7.2.2.1.2



- ⦿ The Held TOC menu header area contains the aircraft call sign and a Close Window pick area
 - The menu can also be closed by a TBP or TBE away from the menu or by pressing the Clear key on the keyboard
- ⦿ Each Held TOC entry that is ready for uplink has a Destination pick area with the sector or TRACON position that will receive the transfer of communication, and a Frequency Input area with the appropriate system selected frequency
 - TBP or TBE on the desired Destination pick area to release that Held TOC

NOTE: The system knows when a given local destination sector has other sectors combined with it and will automatically select the appropriate frequency for that sector configuration.

- ⦿ If the system determines there are one or more conditions preventing the release of a Held TOC, the Destination pick area will be grayed out and a reason code will be provided
 - The Frequency Input area may or may not be populated depending on what reason is preventing release

Continued on next page

ADVANCED TOC MANAGEMENT (CONT'D)

Held TOC Menu Components (Cont'd)

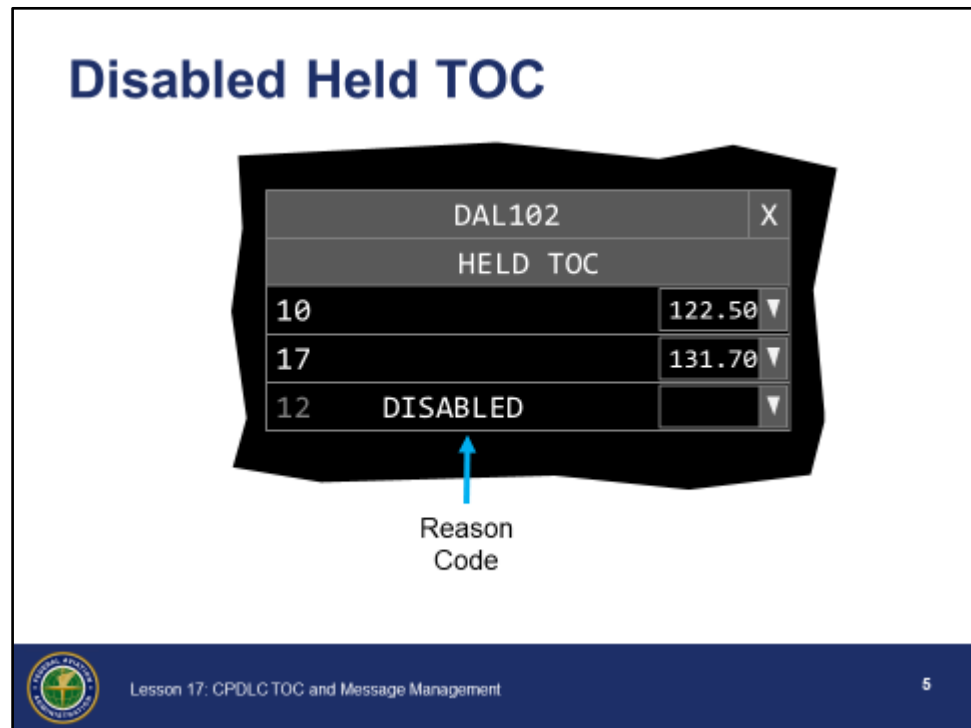
TI 6110.101,
sec. 7.2.2.1.1

- Possible reason codes include:
 - IC IN PROGRESS - When no response has been received to a Confirm Assigned Altitude uplink
 - IC MISMATCH - When there is an unacknowledged IC mismatch
 - ABNORMAL UPLINK - When there is an unacknowledged abnormal uplink indicator as a result of a pilot response of unable, an error, or the session has failed
 - OPEN UPLINK - When there is an open controller-initiated uplink
 - AIRCRAFT NOT ON FREQUENCY - When the aircraft is not marked on frequency
 - SELECT FREQUENCY - When the system is unable to automatically select a frequency, but the controller can select a frequency from the Frequency List menu
 - NO FREQUENCY - When the system does not automatically select a frequency and there are no selectable frequencies in the Frequency List menu
 - The controller will need to type a valid frequency
-

ADVANCED TOC MANAGEMENT (CONT'D)

Reason - Disabled Held TOC

TI 6110.101,
sec. 7.2.2.1.2

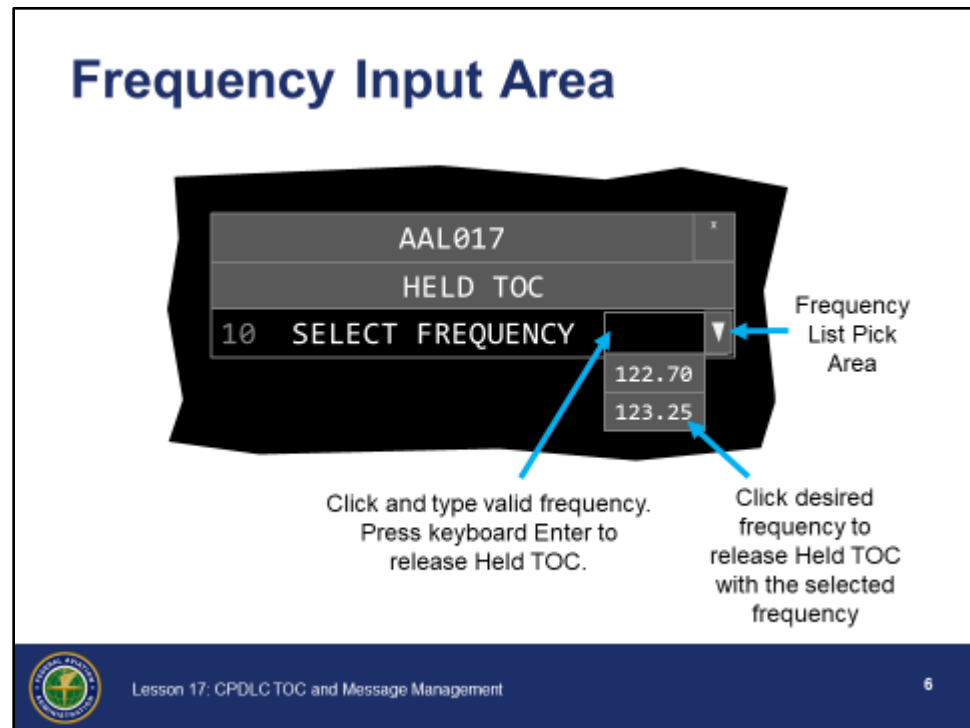


- ⊙ Another possible reason code that can appear in the Held TOC menu is DISABLED
- ⊙ A Held TOC entry is considered disabled if the destination sector for that Held TOC entry is closed as a result of a sector plan update from the local facility (i.e., Combine Sector command)
 - A closed sector is a sector that does not have any airspace assigned
- ⊙ Disabled Held TOC:
 - Cannot be uplinked to the aircraft
 - Displayed only as a reference for the controller
- ⊙ Controller options:
 - Use another Held TOC entry
 - Use voice
 - Eligibility will be automatically transferred to the sector with track control when the aircraft is marked off frequency by the transferring controller
- ⊙ Disabled Held TOC overrides all other conditions
 - No other reason codes are displayed

ADVANCED TOC MANAGEMENT (CONT'D)

Frequency Input Area

TI 6110.101,
secs. 7.2.2.1.1,
7.2.2.1.2



- ⦿ There are two ways a controller can add a frequency to the Frequency Input area and release the Held TOC:
 - Option 1 is to select from the Frequency List
 - TBP or TBE the Frequency List pick area to open a list of alternate frequencies adapted for the destination sector
 - TBP or TBE on the desired frequency and the system will uplink the TOC message with the specified frequency
 - Option 2 is to type any adapted frequency in the Frequency Input area
 - TBP or TBE inside the Frequency Input area
 - Type the desired frequency
- Format:** ddd.d(d)
- Periods are automatically inserted
 - Four digit input is allowed when the last digit is zero
- Example:** 123.2
- KBE and the system will uplink the TOC message with the specified frequency

ADVANCED TOC MANAGEMENT (CONT'D)

Frequency Selection

TI 6110.101,
sec. 6.2.3.12

Frequency Selection

- **System always attempts to automatically select a frequency to include in the TOC uplink**
- **Automatically selected frequencies are based on airspace and/or frequency adaptation**



Lesson 17: CPDLC TOC and Message Management

7

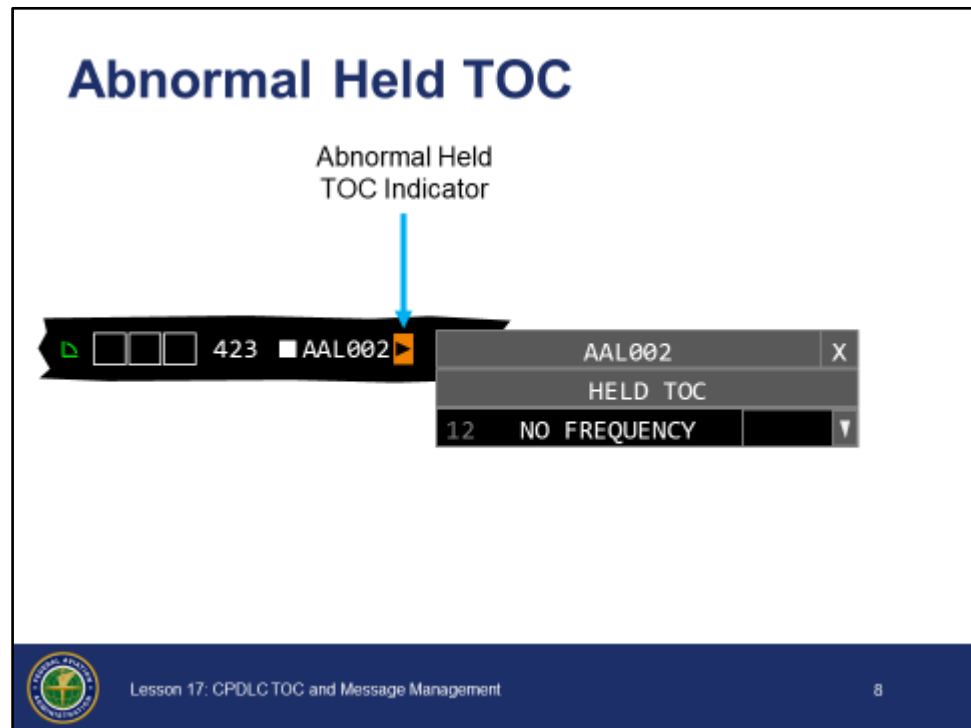
- ⦿ System always attempts to automatically select a frequency to include in the TOC uplink
- ⦿ Automatically selected frequencies are based on airspace and/or frequency adaptation, but can be dynamically modified
- ⦿ Separate frequency adaptations are created for the local ERAM, adjacent ERAMs, TRACONS and, if needed, adjacent ATOP or Canadian facilities
- ⦿ ERAM will select the appropriate frequency, regardless of how the sector is configured
- ⦿ Since the local ERAM does not know about the current configuration at adjacent ERAMs or TRACONS, a single frequency is adapted for those sectors or positions

ADVANCED TOC MANAGEMENT (CONT'D)

Abnormal Held TOC

TI 6110.101,
sec. 7.2.1

TI 6110.108,
CPDLC
Symbology



- ⦿ When the system is unable to automatically select a frequency, an abnormal Held TOC will be generated and an abnormal Held TOC indicator will be displayed on the ACL and FDB
- ⦿ The system selected frequency in an existing Held TOC can change, and possibly become abnormal, when either of the following happens:
 - The sector configuration is changed via CS command
 - Frequency mapping is dynamically changed from the Air Traffic Specialist Workstation (ATSW)
- ⦿ Whenever this happens, the controller will need to open the Held TOC menu and use the Frequency Input area to enter the desired frequency or select one from the Frequency List

ADVANCED TOC MANAGEMENT (CONT'D)

Automatic Held TOC Menu Cleanup

TI 6110.101,
sec. 7.2

Automatic Held TOC Menu Cleanup

Sector 01	Sector 02	Sector 03	Sector 04
		Has Eligibility	Has Track Control

AAL232	X	AAL232	X
HELD TOC		HELD TOC	
02	122.50 ▼	04	130.25 ▼
03	131.70 ▼		
04	130.25 ▼		

Lesson 17: CPDLC TOC and Message Management



Slide is animated, 1 click. Click where indicated by click icon.

- ⦿ A Held TOC is generated each time there is a track control change
 - When there are multiple track control changes before a Held TOC is released, the system will build a separate Held TOC for each track control change and all are available in the Held TOC menu at the eligible sector
- ⦿ When the eligible sector releases a Held TOC, it will be deleted from the system and the Held TOC menu will close
- ⦿ When a WILCO to that Held TOC is received:
 - All Held TOCs to sectors upstream of the destination sector will also be deleted
 - Held TOCs to sectors downstream of the destination sector will be kept



Click once to show change from Held TOC menu at Sector 01 to Held TOC menu at Sector 03 after TOC to Sector 03 has been completed.

ADVANCED TOC MANAGEMENT (CONT'D)

Knowledge Check

Knowledge Check

What does the triangle with two orange bars mean?



- A. A single Held TOC is available for release
- B. Two Held TOC entries are available for release
- C. Two or more Held TOC entries are available for release

 Lesson 17: CPDLC TOC and Message Management  10

Question: What does the triangle with two orange bars mean?



Answer: C. Two or more Held TOC entries are available for release

ADVANCED TOC MANAGEMENT (CONT'D)

Knowledge Check

Knowledge Check

How do you open the Held TOC menu for the ACL entry depicted below?



A. TBH on the Multiple Held TOC indicator

B. TBP or TBE on the Multiple Held TOC indicator

C. TBP or TBE on CDA Session with Eligibility Symbol

 Lesson 17: CPDLC TOC and Message Management  11

Question: How do you open the Held TOC menu for the ACL entry depicted below?



Answer: B. TBP or TBE on the Multiple Held TOC indicator

ADVANCED TOC MANAGEMENT (CONT'D)

Knowledge Check

Knowledge Check

How do you release the Held TOC for Sector 10?



DAL102		X
HELD TOC		
10	122.50	▼
17	131.70	▼

- A. TBP or TBE on number 10
- B. TBP or TBE on frequency 122.50
- C. TBH on number 10



Lesson 17: CPDLC TOC and Message Management



Question: How do you release the Held TOC for Sector 10?



Answer: A. TBP or TBE on number 10

ADVANCED TOC MANAGEMENT (CONT'D)

Knowledge Check

Knowledge Check

What does the orange and black indicator mean?



- A. TOC in Progress
- B. Multiple Held TOC
- C. Abnormal Held TOC



Lesson 17: CPDLC TOC and Message Management



13

Question: What does the orange and black indicator mean?



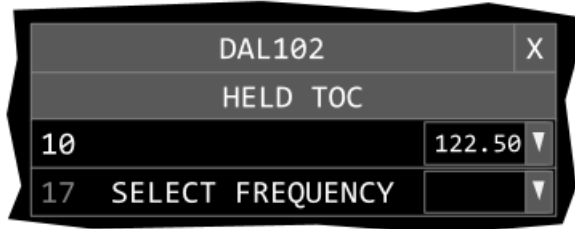
Answer: C. Abnormal Held TOC

ADVANCED TOC MANAGEMENT (CONT'D)

Knowledge Check

Knowledge Check

What does the gray 17 indicate?



The screenshot shows a traffic display with the following entries:

DAL102	X
HELD TOC	
10	122.50 ▼
17 SELECT FREQUENCY	▼

- A. Held TOC to Sector 17 is released
- B. Held TOC to Sector 17 can't be released
- C. Held TOC to Sector 17 is building



Lesson 17: CPDLC TOC and Message Management



14

Question: What does the gray 17 indicate?



Answer: B. Held TOC to Sector 17 can't be released

ADVANCED TOC MANAGEMENT (CONT'D)

Voice TOCs with Open Uplinks

TI 6110.101,
sec. 7.2

Voice TOCs with Open Uplinks

- Using voice to transfer communications when there are open controller initiated uplinks has consequences





Lesson 17: CPDLC TOC and Message Management

15



Inform the students that the video they are about to see uses the term Data Comm instead of CPDLC when speaking of the system.



Click to begin the video (3 minutes). Discuss the content of the video immediately after playing. Emphasize that if the cancel option is used, the uplink will still be available on the flight deck and it's possible the pilot may act on it.

- ⦿ An open uplink at the transferring sector will prevent release of a Held TOC
 - Unless coordinated, the receiving sector will not be aware of the open uplinks
 - The receiving sector will not be assigned eligibility automatically
 - For internal handoffs, the receiving sector can steal eligibility in order to communicate with the aircraft using CPDLC
 - Interfacility steals are not permitted by the system

Continued on next page

ADVANCED TOC MANAGEMENT (CONT'D)

Voice TOCs with Open Uplinks (Cont'd)

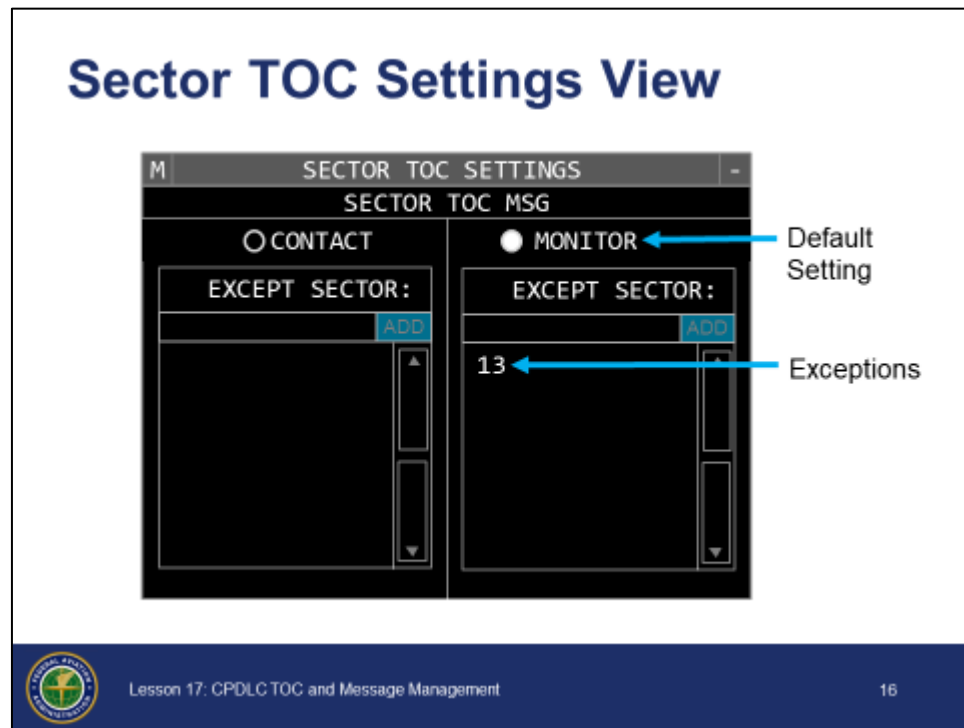
TI 6110.101,
sec. 7.2

-
- ⦿ You may cancel an open uplink only after ensuring the pilot has been issued, via voice communication, the correct ATC clearance
 - ⦿ You must ensure there are no trajectory altering uplinks open prior to transfer of communication, unless otherwise coordinated
 - A trajectory altering clearance alters an aircraft's altitude, speed, heading, or route
-

ADVANCED TOC MANAGEMENT (CONT'D)

Sector TOC Settings View

TI 6110.100,
secs. 7.1.2.1,
7.1.2.2



- ⦿ The Sector TOC Settings view is used at the R Position to establish a controller's preferences for how CPDLC equipped aircraft will check in to their sector from adjacent local sectors
 - For a voice check-in, the system will uplink a CONTACT instruction to the aircraft
 - For a silent check-in, the system will uplink a MONITOR instruction
 - Optionally, there may be a list of sectors that are excepted from the default setting

Example: The default setting is Monitor and Sector 13 is the exception. That means that aircraft coming from Sector 13 will check in via voice and all other aircraft will check in silently.

ADVANCED TOC MANAGEMENT (CONT'D)

Knowledge Check

Knowledge Check

Using the following settings, how will aircraft coming from Sector 23 check-in, silently or via voice?



- A. Silently
- B. Voice



Lesson 17: CPDLC TOC and Message Management



Question: Using the following settings, how will aircraft coming from Sector 23 check-in, silently or via voice?



Answer: A. Silently

ADVANCED TOC MANAGEMENT (CONT'D)

Knowledge Check

Knowledge Check

Using the following settings, how will aircraft coming from Sector 31 check-in, silently or via voice?



- A. Silently
- B. Voice



Lesson 17: CPDLC TOC and Message Management



Question: Using the following settings, how will aircraft coming from Sector 31 check-in, silently or via voice?

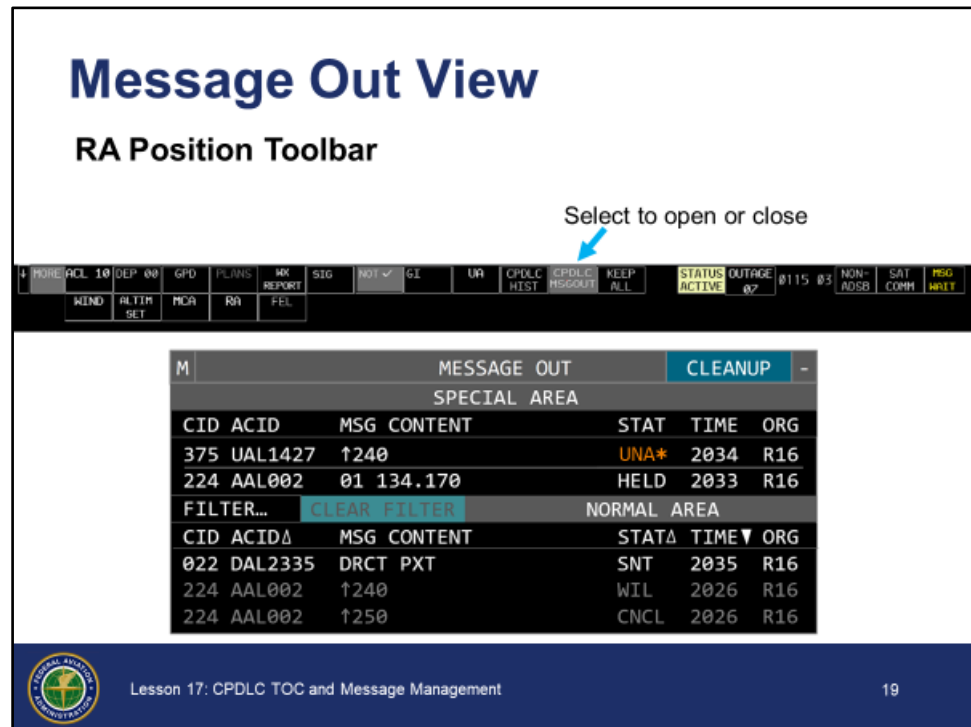


Answer: B. Voice

CPDLC MESSAGE MANAGEMENT

Message Out View

TI 6110.101,
sec. 2.5.5 and
sec. 4.13



- ⦿ The Message Out view is used at the sector with eligibility to view or manage controller and system initiated uplinked messages
- ⦿ The Message Out view is opened using the CPDLC MSGOUT button on the Views toolbar
 - It can also be opened by entering the UU command
- Syntax:** UU MV
- ⦿ The view contains the following types of messages:
 - Uplinks that are still open at the sector that has CPDLC eligibility
 - Messages that are closed while the sector has CPDLC eligibility or previously had eligibility
 - Closed messages with a normal response that have not timed out
 - Closed acknowledged messages with an abnormal response that have not been removed by the user or the system
 - Closed messages with an abnormal response that have not been acknowledged by the user
 - Messages that were canceled by the controller while the sector had CPDLC eligibility that did not time out
 - Held TOCs

CPDLC MESSAGE MANAGEMENT (CONT'D)

Special and Normal Areas

TI 6110.101,
sec. 4.13.2.2

MESSAGE OUT							CLEANUP	-
SPECIAL AREA								
CID	ACID	MSG CONTENT		STAT	TIME	ORG		
375	UAL1427	↑240		UNA*	2034	R16		
224	AAL002	01 134.170		HELD	2033	R16		
FILTER...		CLEAR FILTER		NORMAL AREA				
CID	ACIDΔ	MSG CONTENT		STATΔ	TIME▼	ORG		
022	DAL2335	DRCT PXT		SNT	2035	R16		
224	AAL002	↑240		WIL	2026	R16		
224	AAL002	↑250		CNCL	2026	R16		

 Lesson 17: CPDLC TOC and Message Management 20

- ⦿ The Message Out view has two major areas
 - The Special Area contains:
 - Entries for uplink messages with abnormal status (Unable, Error, Fail)
 - Entries for Held TOCs
 - The Normal Area contains:
 - Entries for uplink messages that have a normal status (Sent, Wilco, Standby, Time out, and Cancelled)

Continued on next page

CPDLC MESSAGE MANAGEMENT (CONT'D)

Special and Normal Areas (Cont'd)

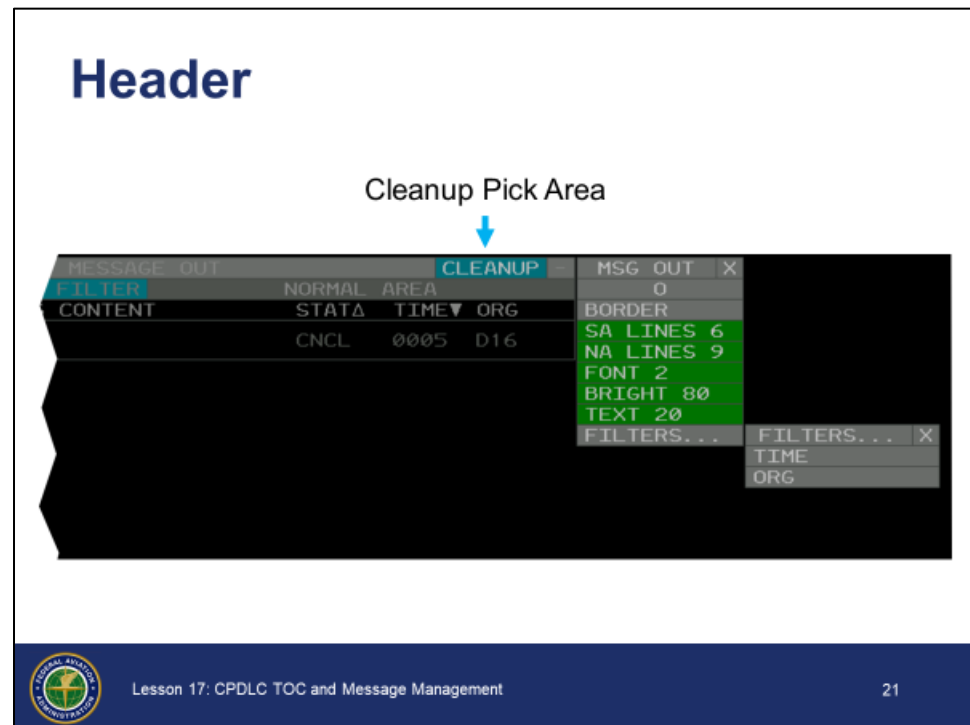
TI 6110.101,
secs. 4.13.2.2,
4.13.2.3

- ⊙ Each entry consists of the following information:
 - CID
 - ACID
 - MSG CONTENT
 - Message Content (abbreviated form)
 - STAT
 - The current status of the message
 - TIME
 - For SNT, SBY and TIM the time refers to the time the message was uplinked
 - For other status it is the time of the status change
 - This column can be filtered off
 - ORG
 - Originator of message
 - R for R position
 - D for RA position
 - S for system generated
 - This column can be filtered off
-

CPDLC MESSAGE MANAGEMENT (CONT'D)

Header

TI 6110.101,
sec. 4.13.3



- ⦿ The CLEANUP pick area
 - TBP or TBE on the pick area to remove all messages that are both closed and acknowledged (entries displayed with gray text)
 - Pick area is only active if there are grayed out entries
- ⦿ The MSG OUT view menu has four unique options:
 - The SA LINES pick area is used to select the maximum number of entries to display in the Special area
 - Range is 4 to 10 lines
 - The NA LINES pick area is used to select the maximum number of entries to display in the Normal area
 - The range is 5 to 15 lines
 - TEXT pick area is used to adjust the width of the abbreviated message content in both the Message Out view and Message Out menu (Mini Mo)
 - Range is 20 to 50 characters
 - FILTERS... pick area opens a secondary menu with options to hide or display the TIME and ORG columns in the body of the view

CPDLC MESSAGE MANAGEMENT (CONT'D)

Filters

TI 6110.101,
sec. 4.13.2.4.2

Filters

M	MESSAGE OUT						CLEANUP
SPECIAL AREA							
CID	ACID	MSG	CONTENT	STAT	TIME	ORG	
038	UAL003	CLRD	TO SBJ VIA LVL*	UNA	0024	R16	
063	JBU005	21	118.750	HELD	0030		
FILTER...		CLEAR FILTER		NORMAL AREA			
WIL ROG SNT TOC AS ALT RT							
CID	ACID	MSG	CONTENT	STAT	TIME	ORG	
053	UAL004	↑390		CNCL	0030	D16	
067	UAL155	↑390		SNT	0030	D16	
055	UAL204	CLRD	00D.J42.BOS.*	SNT	0030	D16	



Lesson 17: CPDLC TOC and Message Management



22



This slide is animated, 1 click. Click where indicated by click icon.

- ⦿ The FILTER... button displays or hides seven pick areas used to filter entries in the NORMAL AREA based on status or type
- ⦿ TBP or TBE on the button to display or hide the seven filter pick areas, which filter:



Click to highlight the seven filter pick areas.

- WIL - Entries with a status of Wilco
- ROG - Entries with a status of Roger
- SNT - Entries with a status of Sent
- TOC - Closed TOC entries
- AS - Entries for Altimeter Setting uplinks
- ALT - Entries for Altitude uplinks
- RT - Entries for Route uplinks

Continued on next page

CPDLC MESSAGE MANAGEMENT (CONT'D)

Filters (Cont'd)

TI 6110.101,
sec. 4.13.2.4.2

- ⦿ TBP or TBE the desired filter to toggle the setting
 - ⦿ If the pick area has gray shading, those types of entries will be filtered out
 - ⦿ When multiple filters apply to a single entry, the entry will be filtered (i.e., hidden) if any applicable filter is active
 - ⦿ CLEAR FILTER pick area:
 - Clears all applied filters and restores the Normal Area to its default state
 - Is only active when one or more filters have been applied
 - TBP or TBE on the pick area when it is active to clear all filters
-

CPDLC MESSAGE MANAGEMENT (CONT'D)

Sorting the Entries

TI 6110.101,
sec. 4.13.2.4.1

Sorting the Entries

M	MESSAGE OUT			CLEANUP	-	
SPECIAL AREA						
CID	ACID	MSG	CONTENT	STAT	TIME	ORG
375	UAL1427	↑	240	UNA*	2034	R16
224	AAL002	01	134.170	HELD	2033	R16
FILTER...		CLEAR FILTER		NORMAL AREA		
CID	ACID	MSG	CONTENT	STAT	TIME	ORG
022	DAL2335	DRCT	PXT	SNT	2035	R16
224	AAL002	↑	240	WIL	2026	R16
224	AAL002	↑	250	CNCL	2026	R16



Lesson 17: CPDLC TOC and Message Management

23

- ⦿ Entries in the NORMAL AREA may be sorted by ACID, status, or time
 - TBP or TBE on the desired sort pick symbol to change the sort order
 - Only one sort option can be active at a time
 - The active sort symbol is indicated by a filled triangle

Example: The active sort symbol is TIME.
- ⦿ Time sort can be either most recent time first or most recent time last
- ⦿ Status sort can be either most significant first or most significant last
 - Order of significance:
 - Timeout
 - Standby
 - Sent
 - User Cancelled
 - Wilco
 - There is also a secondary sort by most recent time first
- ⦿ The ACID sort can be either ascending order or descending order

CPDLC MESSAGE MANAGEMENT (CONT'D)

Special Coding

TI 6110.101,
sec. 4.13.2.3

Special Coding

M	MESSAGE OUT				CLEANUP	-
SPECIAL AREA						
CID	ACID	MSG	CONTENT	STAT	TIME	ORG
375	UAL1427	↑240		UNA*	2034	R16
224	AAL002	01	134.170	HELD*	2033	R16
897	DAL122	↑240		UNA	2030	R16
FILTER...	CLEAR FILTER		NORMAL AREA			
CID	ACID	MSG	CONTENT	STAT	TIME	ORG
022	DAL2335	KRIC	997 ALT MORE T*	SNT	2035	R16
224	AAL002	↑240		WIL	2026	R16
224	AAL002	↑250		CNCL	2026	R16

The logo of the National Aviation University is a circular emblem. It features a green cross in the center, with a white border containing the text "NATIONAL AVIATION UNIVERSITY" in a circular arrangement.

Lesson 17: CPDLC TOC and Message Management

24

- ⦿ The following color codes are used:
 - Abnormal messages (UNA, ERR, FAIL) - Status field for an unacknowledged message will be orange
Example: UAL1427
 - Open messages (i.e., SNT, SBY, TIM) - entire message will be white
 - Held TOC message - entire message will be white
 - Closed message - entire message will be gray
 - Includes acknowledged Abnormal messages
- ⦿ The asterisk “*” character is used in three ways:
 - Next to the message content indicates the message text in the view has been truncated
Example: DAL2335
 - Next to an entry with a status of UNA indicates that an unable response from the pilot has associated Due To Reason text
Example: UAL1427
 - Next to an entry with a status of HELD indicates there are multiple Held TOCs for the flight
Example: AAL002

CPDLC MESSAGE MANAGEMENT (CONT'D)

Open Uplink States

TI 6110.101,
sec. 4.13

Open Uplink States	
State	Explanation
SNT	Sent
SBY	Standby
TIM	Timeout

 Lesson 17: CPDLC TOC and Message Management 25

- ⦿ An open uplink means the system is waiting for a response from the aircraft
 - Sent - Uplink message was sent, and no response has been received
 - Standby - Uplink message was sent, and a STANDBY downlink response was received; the controller is awaiting further response from the pilot
 - Timeout - Uplink message was sent, and no response has been received within an adapted amount of time

CPDLC MESSAGE MANAGEMENT (CONT'D)

Closed Uplink States

TI 6110.101,
sec. 6.2.1

Closed Uplink States	
State	Explanation
WIL	Wilco
ROG	Roger
RCVD	Received
UNA	Unable
ERR	Error
FAIL	Failed
CNCL	User Cancelled
CLSD	System Closed
NRR	No Response Required
NS	Not Sent
ICMSM	IC Mismatch

 Lesson 17: CPDLC TOC and Message Management 26

- ⦿ A closed uplink state means the system is no longer waiting for a response from the aircraft
 - Wilco (WIL) - Downlink response was received indicating that the pilot will comply with the uplink request
 - Roger (ROG) - Downlink response was received indicating pilot acknowledgement of the uplinked information
 - Received (RCVD) - Downlink response received indicating the pilot responded to a Confirmed Assigned Altitude (CAA) request
 - Unable (UNA) - Downlink response was received indicating that the pilot is unable to comply with the uplink request
 - Results in abnormal coding
 - Error (ERR) - Uplink message was unable to be sent due to a software or hardware issue in the ground system, or a downlink response was received indicating that the aircraft responded with an error
 - Results in abnormal coding
 - Failed (FAIL) - Indicates the CPDLC session was terminated with open uplink(s)
 - Any uplink that is open when the session fails will be closed by the system and set to FAIL
 - Results in abnormal coding

Continued on next page

CPDLC MESSAGE MANAGEMENT (CONT'D)

Closed Uplink States (Cont'd)

TI 6110.101,
sec. 6.2.1

- User Cancelled (CNCL) - Open uplink was manually cancelled by the controller
 - System Closed (CLSD) - System generated open uplink was automatically cancelled by the system without any controller action
Example: UNABLE, REQUEST AGAIN WITH NEXT ATC UNIT
 - No Response Required (NRR) - Uplink message was sent, and no downlink response is required
 - An uplink that has no response required is set to the state of NRR immediately; the Uplink state is never set to Sent
 - Not Sent (NS) - Displayed when a route or altitude amendment is accepted, or auto altimeter uplink is rejected, and the corresponding uplink cannot be sent
 - Results in abnormal coding
 - Feedback is provided to the controller in the Response Area to indicate the reason a message was not sent
 - IC Mismatch (ICMSM) - Initial contact is complete and the controller who has the aircraft on their voice frequency must use voice communication to verify the assigned altitude of the aircraft, and acknowledge the IC mismatch
-

CPDLC MESSAGE MANAGEMENT (CONT'D)

Full Text Pop Up

TI 6110.101,
sec. 4.13.2.6.1

Full Text Pop Up

M	MESSAGE OUT					CLEANUP	-
SPECIAL AREA							
CID	ACID	MSG	CONTENT	STAT	TIME	ORG	
375	UAL1427	↑240		UNA*	2034	R16	
224	AAL002	01	134.170	HELD*	2033	R16	
897	DAL122	↑240		UNA	2030	R16	

FILTER...

CLEAR FILTER

NORMAL AREA

CID	ACID	MSG	CONTENT	STAT	TIME	ORG
022	DAL2335	DRCT PXT	PROCEED DIRECT TO PXT			R16
224	AAL002	↑240	REST OF ROUTE UNCHANGED			R16
224	AAL002	↑250		CNCL	2026	R16

TBP or TBE



Lesson 17: CPDLC TOC and Message Management

27

- ⦿ The Message Content field typically displays an abbreviated version of the uplink message which is sufficient for the controller to determine the nature of the uplink
- ⦿ You may also choose to see the full version of the uplink, by:
 - TBP or TBE the Message Content field of an abbreviated or truncated message, indicated by an asterisk
 - The full message text pop up will be displayed with the full message sent to the aircraft
 - TBP or TBE again to close the full message text pop up

CPDLC MESSAGE MANAGEMENT (CONT'D)

Acknowledge Abnormal Entry

TI 6110.101,
sec. 4.13.2.6.2

Acknowledge Abnormal Entry

MESSAGE OUT						
SPECIAL AREA						
CID	ACID	MSG	CONTENT	STAT	TIME	ORG
375	UAL1427	↑240		UNA		
224	AAL002	01	134.170	HEL		
897	DAL122	↑240		UNA	2030	R16

FILTER...

CLEAR FILTER

NORMAL AREA

CID	ACID	Δ	MSG	CONTENT	STAT	Δ	TIME	▼	ORG
022	DAL2335		DRCT	PXT	SNT		2035		R16
224	AAL002		↑240		WIL		2026		R16
224	AAL002		↑250		CNCL		2026		R16

Lesson 17: CPDLC TOC and Message Management28

- ⦿ When an abnormal response is received, the controller is alerted by abnormal coding in the ACL and FDB
- ⦿ Abnormal coding will prevent further uplinks to the aircraft, so it must be acknowledged after voice coordination with the aircraft
- ⦿ Abnormal coding will typically be acknowledged from the Message Out menu (Mini Mo) accessed from the ACL or FDB
- ⦿ Acknowledgement can also be accomplished from the Message Out view, by:
 - TBP or TBE on the Status, CID, or ACID field of the desired entry
 - Pop up will appear with options to acknowledge or acknowledge and delete
 - TBP or TBE on ACKNOWLEDGE to acknowledge the abnormal coding and keep the entry in the view
 - Entry will be grayed out
 - TBP or TBE on ACKNOWLEDGE+DELETE to acknowledge the abnormal coding and remove the entry from the view

CPDLC MESSAGE MANAGEMENT (CONT'D)

Display Reason

TI 6110.101,
sec. 4.13.2.6.3

MESSAGE OUT						
SPECIAL AREA						
M	CID	ACID	MSG	CONTENT	STAT	TIME ORG
	375	UAL1427	↑240		UNA*	ACFT PERF
	224	AAL002	01	134.170	HELD	ACKNOWLEDGE
	897	DAL122	↑240		UNA	ACKNOWLEDGE+DELETE
FILTER...		CLEAR FILTER		NORMAL AREA		
	CID	ACID Δ	MSG	CONTENT	STAT Δ	TIME ▼ ORG
	022	DAL2335	DRCT	PXT	SNT	2035 R16
	224	AAL002	↑240		WIL	2026 R16
	224	AAL002	↑250		CNCL	2026 R16

- ⦿ An asterisk “*” will be displayed next to a status of UNA, if the pilot included a reason for the response
 - Possible reasons:
 - Due to Weather (WX)
 - Due to Aircraft Performance (ACFT PERF)
- ⦿ TBP or TBE on the CID, ACID, or Status field to view the reason for the Unable response
- ⦿ If the Unable response has not been acknowledged, the ACKNOWLEDGE and ACKNOWLEDGE+DELETE pick areas will also be available
- ⦿ If the Unable response has been acknowledged, a DELETE option will be available to remove the entry from the view

CPDLC MESSAGE MANAGEMENT (CONT'D)

Cancel TOC In Progress

TI 6110.101,
sec. 4.13.2.6.5

Cancel TOC In Progress

MESSAGE OUT						
SPECIAL AREA						
CID	ACID	MSG	CONTENT	STAT	TIME	ORG
375	UAL1427	↑240		UNA*	2034	R16
224	AAL002	1	134.170	HELD	2033	R16

NORMAL AREA						
CID	ACID	MSG	CONTENT	STAT	TIME	ORG
056	SWA126		CANCEL UPLINK-VOICE REQD		2035	R16
224	AAL002		CLEANUP+RELEASE-VOICE REQD		2026	R16

CANCEL UPLINK CONFIRMATION X
CANCEL UPLINK FOR SWA126?
YES NO

- ⊙ A TOC in progress may be cancelled at the transferring sector
- ⊙ Application of the CANCEL UPLINK-VOICE REQD pick area only closes the entry in the ground system
 - The uplink was sent, and the aircraft may respond to or act on the uplink
 - Voice coordination with the aircraft is required
- ⊙ To cancel a TOC in Progress:
 - TBP or TBE on the CID, ACID, or Status field of the desired open entry
 - The CANCEL UPLINK-VOICE REQD pick area will appear
 - TBP or TBE on the CANCEL UPLINK-VOICE REQD pick area
 - The CANCEL UPLINK CONFIRMATION pop up will appear
 - TBP or TBE on the YES pick area

CPDLC MESSAGE MANAGEMENT (CONT'D)

Cancel TOC In Progress (Cont'd)

TI 6110.101,
sec. 4.13.2.6.5

Cancel TOC - CLEANUP+RELEASE

1. TBP or TBE

M MESSAGE OUT CLEANUP -

SPECIAL AREA

CID	ACID	MSG	CONTENT	STAT	TIME	ORG
375	UAL1427	↑240		UNA*	2034	R16
224	AAL002	1 134.170		HELD	2033	R16

FILTER... CLEAR FILTER NORMAL AREA

WIL ROG SNT TOC AS ALT RT

CID	ACID	MSG	CONTENT	STAT	TIME	ORG
056	SWA126		CANCEL UPLINK-VOICE REQD		2035	R16
224	AAL002		CLEANUP+RELEASE-VOICE REQD		2026	R16

2. TBP or TBE

3. TBP or TBE

SWA126 - CLEANUP+RELEASE

UPLINK OPEN - VOICE REQUIRED

CANCEL TOC/RELEASE ELIGIBILITY/REMOVE ON FREQ

CLEANUP+RELEASE?

CLEANUP+RELEASE EXIT

Lesson 17: CPDLC TOC and Message Management

31

- ⊙ Application of CLEANUP+RELEASE-VOICE REQD performs the following actions:
 - Closes the TOC In Progress entry in the ground system
 - The uplink was sent and the aircraft may respond to, or act on the uplink
 - Voice coordination with the aircraft is required
 - Marks the aircraft off frequency at the transferring sector
 - Releases CPDLC Eligibility

NOTE: Application of CLEANUP+RELEASE-VOICE REQD saves the controller from having to mark the aircraft off frequency, which releases eligibility. These actions are automatically reflected in the FDB and ACL.

Continued on next page

CPDLC MESSAGE MANAGEMENT (CONT'D)

Cancel TOC In Progress - (Cont'd)

- ⦿ To cleanup and release a TOC in Progress:
 - TBP or TBE on the Status field of the desired open entry
 - The CANCEL UPLINK-VOICE REQD and CLEANUP+RELEASE-VOICE REQD pick areas will appear
 - TBP or TBE on the CLEANUP+RELEASE-VOICE REQD pick area
 - The CLEANUP+RELEASE pop up will appear
 - TBP or TBE on the CLEANUP+RELEASE pick area
-

CPDLC MESSAGE MANAGEMENT (CONT'D)

Cancel Other Open Uplinks

TI 6110.101,
sec. 4.13.2.6.5

Cancel Other Open Uplinks

1. TBP or TBE

2. TBP or TBE

3. TBP or TBE

MESSAGE OUT **CLEANUP** -

CID	ACID	MSG	CONTENT	STAT	TIME	ORG
375	UAL1427	↑240		UNA*	2034	R16
224	AAL002	1 134.170		HELD	2033	R16

SPECIAL AREA

NORMAL AREA

WIL ROG SNT TOC AS ALT RT

CID	ACID	MSG	CONTENT	STAT	TIME	ORG
022	DAL2335	CANCEL UPLINK-VOICE REQD			2035	R16
224	AAL002	↑240		WIL	2026	R16

CANCEL UPLINK CONFIRMATION X

CANCEL UPLINK FOR DAL2335?

YES **NO**

- ⦿ You have the option to cancel any other type of open uplink
- ⦿ Cancelling an open entry only closes the entry in the ground system
 - The uplink was sent, and the aircraft may respond to or act on the uplink
 - Voice coordination with the aircraft is required
- ⦿ To cancel another type of open uplink:
 - TBP or TBE on the CID, ACID or Status field of the desired open entry
 - The CANCEL UPLINK-VOICE REQD pick area will appear
 - TBP or TBE on the CANCEL UPLINK-VOICE REQD pick area
 - The CANCEL UPLINK CONFIRMATION pop up will appear
 - TBP or TBE on the YES pick area

CPDLC MESSAGE MANAGEMENT (CONT'D)

Delete Closed Entries

TI 6110.101,
sec. 4.13.2.6.6

Delete Closed Entries

Deletes all Closed entries

Deletes single Closed entry

M	MESSAGE OUT					CLEANUP	-
SPECIAL AREA							
CID	ACID	MSG	CONTENT	STAT	TIME	ORG	
375	UAL1427	↑	240	UNA*	2034	R16	
224	AAL002	01	134.170	HELD	2033	R16	
FILTER...		CLEAR FILTER		NORMAL AREA			
WIL	ROG	SNT	TOC	AS	ALT	RT	
CID	ACID	Δ	MSG	CONTENT	STAT	TIME	ORG
325	UAL111		DRCT	PXT	SNT	2035	R16
224	AAL002		DELETE		WIL	2026	R16

- ⦿ You can delete one or all closed entries in the Message Out view
- ⦿ Closed entries are color coded in gray
- ⦿ To delete a single closed entry:
 - TBP or TBE on the CID or ACID field of the desired closed entry
 - The DELETE pick area will appear
 - TBP or TBE on the DELETE pick area
- ⦿ To delete all closed entries:
 - TBP or TBE on the CLEANUP pick area

CPDLC MESSAGE MANAGEMENT (CONT'D)

Knowledge Check

Knowledge Check

What does the asterisk next to UNA mean?

M	MESSAGE	OUT	CLEANUP	-
SPECIAL AREA				
CID	ACID	MSG	CONTENT	STAT TIME ORG
375	UAL1427	↑240	UNA*	2034 R16
224	AAL002	01 134.170	HELD*	2033 R16
897	DAL122	↑240	UNA	2030 R16
NORMAL AREA				
CID	ACID	MSG	CONTENT	STAT TIME ORG
022	DAL2335	KRIC 997 ALT MORE T*	SNT	2035 R16
224	AAL002	↑240	WIL	2026 R16
224	AAL002	↑250	CNCL	2026 R16

- A. Pilot added a reason to the Unable response
- B. CPDLC system failure
- C. Altitude uplink timeout



Lesson 17: CPDLC TOC and Message Management



Question: What does the asterisk next to UNA mean?



Answer: A. Pilot added a reason to the Unable response

CPDLC MESSAGE MANAGEMENT (CONT'D)

Knowledge Check

Knowledge Check

What does the asterisk next to HELD mean?

M	MESSAGE	OUT	CLEANUP	-
SPECIAL AREA				
CID	ACID	MSG	CONTENT	STAT TIME ORG
375	UAL1427	↑240		UNA* 2034 R16
224	AAL002	01 134.170		HELD* 2033 R16
897	DAL122	↑240		UNA 2030 R16
NORMAL AREA				
CID	ACID	MSG	CONTENT	STAT TIME ORG
022	DAL2335	KRIC 997 ALT MORE T*		SNT 2035 R16
224	AAL002	↑240		WIL 2026 R16
224	AAL002	↑250		CNCL 2026 R16

- A. Uplink held for delivery until pilot response is received
- B. There are multiple Held TOCs available for release



Lesson 17: CPDLC TOC and Message Management



36

Question: What does the asterisk next to HELD mean?



Answer: B. There are multiple Held TOCs available for release

CPDLC MESSAGE MANAGEMENT (CONT'D)

Knowledge Check

Knowledge Check

What is the quickest way to remove all grayed out entries in the view?

M	MESSAGE	OUT	CLEANUP	-
SPECIAL AREA				
CID	ACID	MSG	CONTENT	STAT TIME ORG
375	UAL1427	↑240	UNA*	2034 R16
224	AAL002	01 134.170	HELD*	2033 R16
897	DAL122	↑240	UNA	2030 R16
NORMAL AREA				
CID	ACID	MSG	CONTENT	STAT TIME ORG
022	DAL2335	KRIC 997 ALT MORE T*	SNT	2035 R16
224	AAL002	↑240	WIL	2026 R16
224	AAL002	↑250	CNCL	2026 R16

- A. TBH on the CLEANUP pick area
- B. TBP or TBE on the CLEANUP pick area



Lesson 17: CPDLC TOC and Message Management



Question: What is the quickest way to remove all grayed out entries in the view?

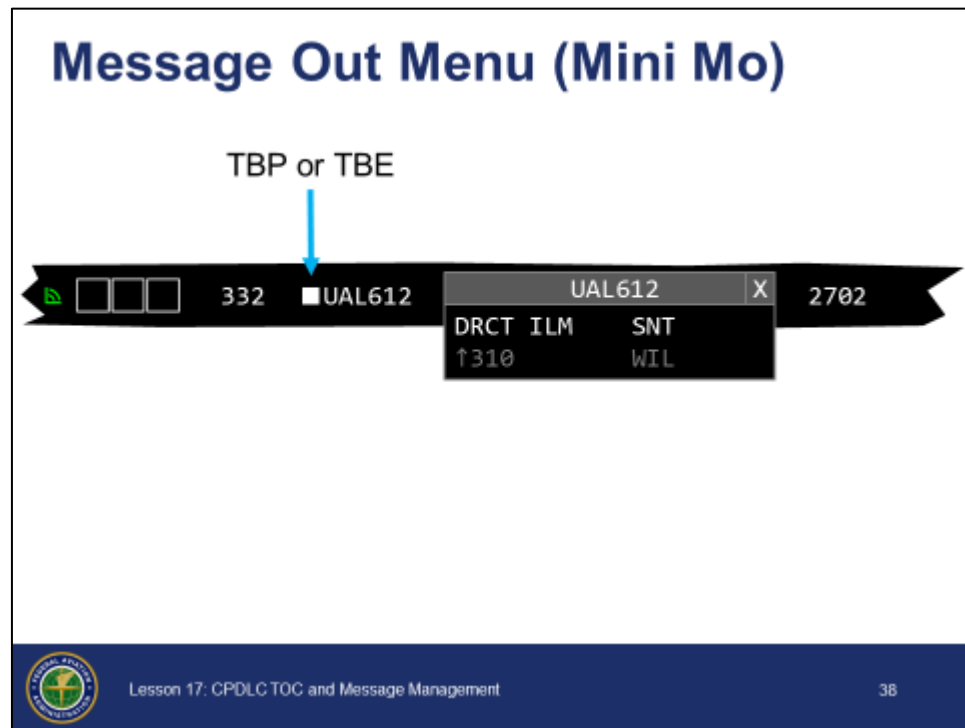


Answer: B. TBP or TBE on the CLEANUP pick area

CPDLC MESSAGE MANAGEMENT (CONT'D)

Message Out Menu (Mini Mo)

TI 6110.101,
sec. 4.13.4



- ⦿ The Message Out menu displays all uplinks for a single flight that are also eligible for display on the Message Out view

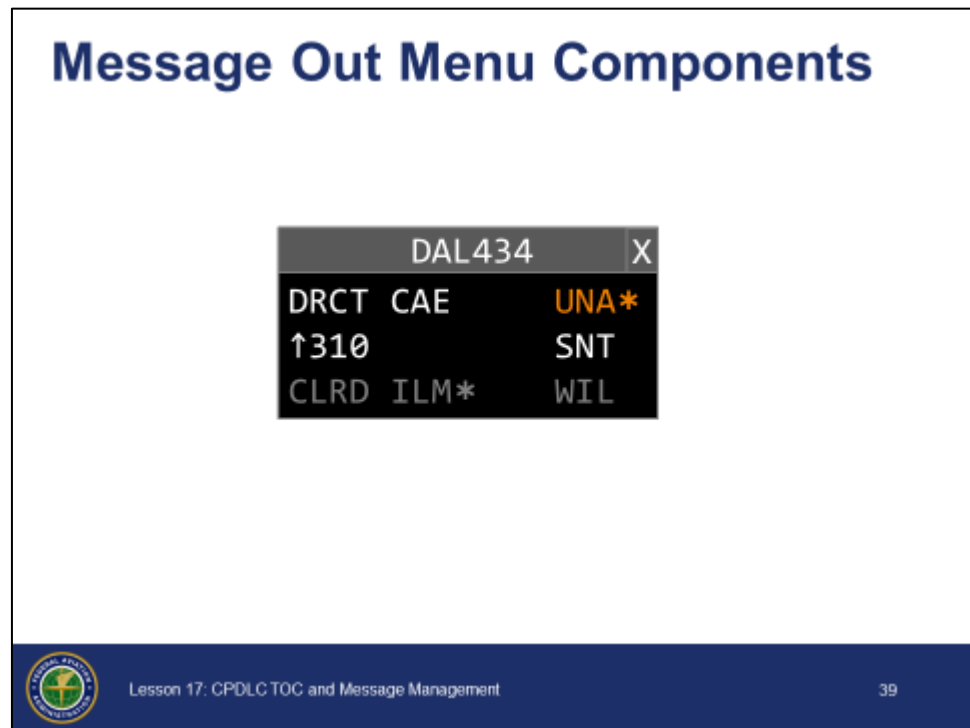
NOTE: The Message Out menu is also referred to as the Mini Mo.

- ⦿ TBP or TBE on the CDA Session indicator on the ACL to access the view
 - The menu will only open if there are any entries to be displayed
- ⦿ The Message Out menu will remain accessible for a facility adapted amount of time after a transfer of eligibility
 - TBP or TBE on the CDA Session indicator without eligibility to open the menu
- ⦿ Message Out menu is dynamically updated as entries are added, deleted, or have a status change

CPDLC MESSAGE MANAGEMENT (CONT'D)

Message Out Menu Components

TI 6110.101,
sec. 4.13.4



- ⦿ Message Out menu (Mini Mo) header displays the selected call sign and a Close pick area
- ⦿ Each entry contains an abbreviated form of the message content and the status of the uplink
- ⦿ Entries are sorted by status, with the most severe at the top
 - ERR/FAIL/UNA/NS/ICMSM (earliest at the top)
 - HELD
 - TIM
 - SBY
 - SNT
 - CNCL
 - WIL
 - ROG

Continued on next page

CPDLC MESSAGE MANAGEMENT (CONT'D)

Message Out Menu Components (Cont'd)

TI 6110.101,
sec. 4.13.4

- ⦿ The Message Out menu (Mini Mo) uses the same color and special coding as the Message Out view
 - An asterisk “*” to the right of the Message Content field indicates that the message content has been truncated
 - You may choose to see the full text message of the uplink by selecting the Message Content field
 - ⦿ The menu can also contain an Acknowledge Failed Session (ACK FAILED SESS) pick area when applicable
-

CPDLC MESSAGE MANAGEMENT (CONT'D)

Acknowledge Abnormal Entry - Mini Mo

TI 6110.101,
sec. 4.13.4.3.1

Acknowledge Abnormal Entry- Mini Mo

DAL434		X
DRCT CAE	UNA*	WX
↑310	SNT	ACKNOWLEDGE
CLRD ILM*	WIL	ACKNOWLEDGE+DELETE



Lesson 17: CPDLC TOC and Message Management

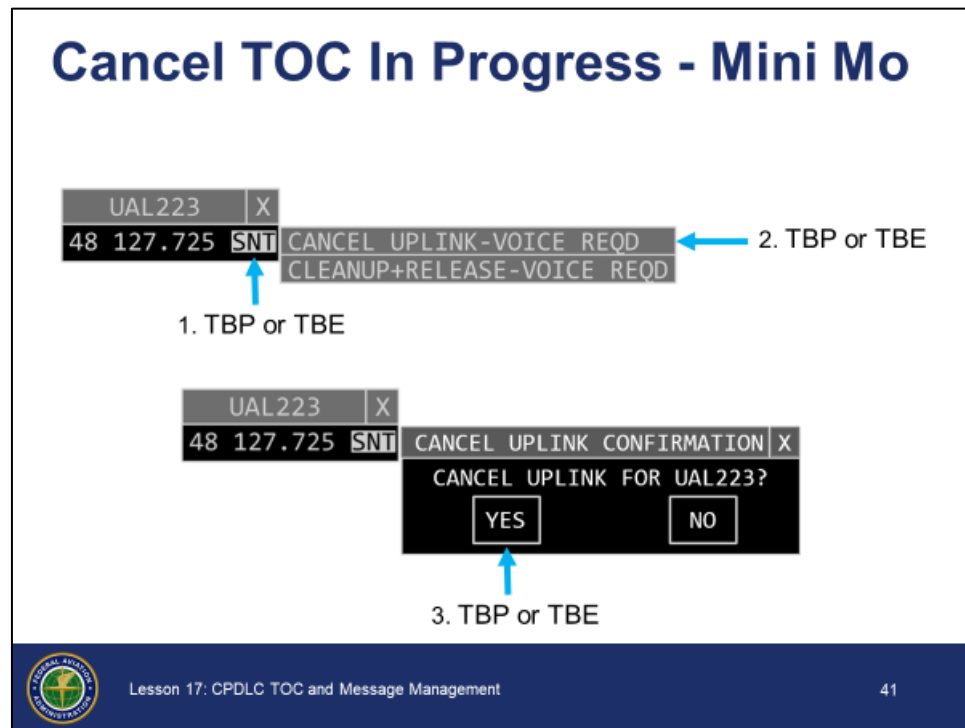
40

- ⦿ When an abnormal response is received, the controller is alerted by abnormal coding in the ACL and FDB
- ⦿ Abnormal coding will prevent further uplinks to the aircraft
- ⦿ To acknowledge after voice coordination with the aircraft:
 - TBP or TBE on the Status field of the desired entry
 - A pop up will appear with options to acknowledge or acknowledge and delete
 - If a Due to Reason has been included, that too will be displayed
 - TBP or TBE on ACKNOWLEDGE to acknowledge the abnormal coding and keep the entry in the menu
 - The entry will be grayed out
 - TBP or TBE on ACKNOWLEDGE+DELETE to acknowledge the abnormal coding and remove the entry from the menu

CPDLC MESSAGE MANAGEMENT (CONT'D)

Cancel TOC In Progress - Mini Mo

TI 6110.101,
secs. 4.13.4.3.4,
7.2.2.6.1



- ⦿ A TOC in progress may be cancelled at the transferring sector
- ⦿ Application of the CANCEL UPLINK-VOICE REQD pick area only closes the entry in the ground system
 - The uplink was sent, and the aircraft may respond to or act on the uplink
 - Voice coordination with the aircraft is required
- ⦿ To cancel a TOC in Progress:
 - TBP or TBE on the Status field of the desired open entry
 - The CANCEL UPLINK-VOICE REQD pick area will appear
 - TBP or TBE on the CANCEL UPLINK-VOICE REQD pick area
 - The CANCEL UPLINK CONFIRMATION pop up will appear
 - TBP or TBE on the YES pick area

CPDLC MESSAGE MANAGEMENT (CONT'D)

Cancel TOC In Progress - Mini Mo (Cont'd)

TI 6110.101,
secs. 4.13.4.3.4,
7.2.2.6.1

Cancel TOC - CLEANUP+RELEASE - Mini Mo

1. TBP or TBE

2. TBP or TBE

3. TBP or TBE

The diagram illustrates the sequence of CPDLC messages for Cancel TOC - Cleanup+Release. It shows three steps:

- Step 1: TBP or TBE sends a message to DAL2303. The message is: **CANCEL UPLINK-VOICE REQD** and **CLEANUP+RELEASE-VOICE REQD**.
- Step 2: TBP or TBE sends a message to DAL2303. The message is: **CANCEL UPLINK-VOICE REQD** and **CLEANUP+RELEASE-VOICE REQD**.
- Step 3: TBP or TBE sends a message to DAL2303. The message is: **CLEANUP+RELEASE** and **EXIT**.

- ⦿ Application of CLEANUP+RELEASE-VOICE REQD performs the following actions:
 - Closes the TOC In Progress entry in the ground system
 - The uplink was sent and the aircraft may respond to, or act on the uplink
 - Voice coordination with the aircraft is required
 - Marks the aircraft OFF Frequency at the transferring sector
 - Releases CPDLC Eligibility

NOTE: Application of CLEANUP+RELEASE-VOICE REQD saves the controller from having to mark the aircraft off frequency, which releases eligibility. These actions are automatically reflected in the FDB and ACL.

Continued on next page

CPDLC MESSAGE MANAGEMENT (CONT'D)

Cancel TOC In Progress - Mini Mo (Cont'd)

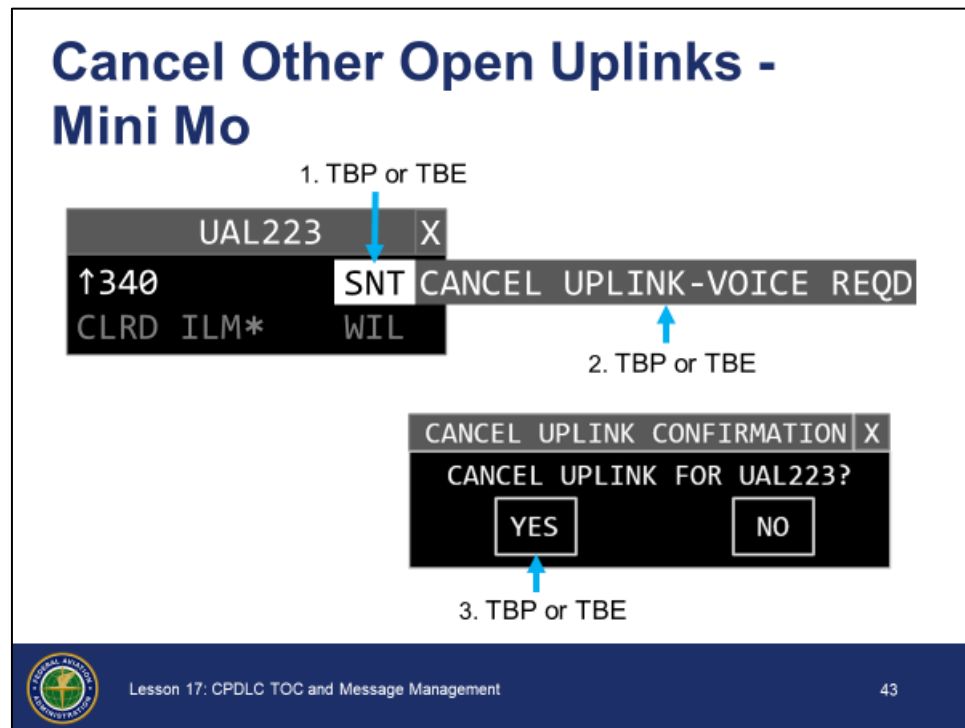
TI 6110.101,
secs. 4.13.4.3.4,
7.2.2.6.1

- ⦿ To cleanup and release a TOC in Progress:
 - TBP or TBE on the Status field of the desired open entry
 - The CANCEL UPLINK-VOICE REQD and CLEANUP+RELEASE-VOICE REQD pick areas will appear
 - TBP or TBE on the CLEANUP+RELEASE-VOICE REQD pick area
 - The CLEANUP+RELEASE pop up will appear
 - TBP or TBE on the CLEANUP+RELEASE pick area
-

CPDLC MESSAGE MANAGEMENT (CONT'D)

Cancel Other Open Uplinks - Mini Mo

TI 6110.101,
sec. 4.13.4.3.4

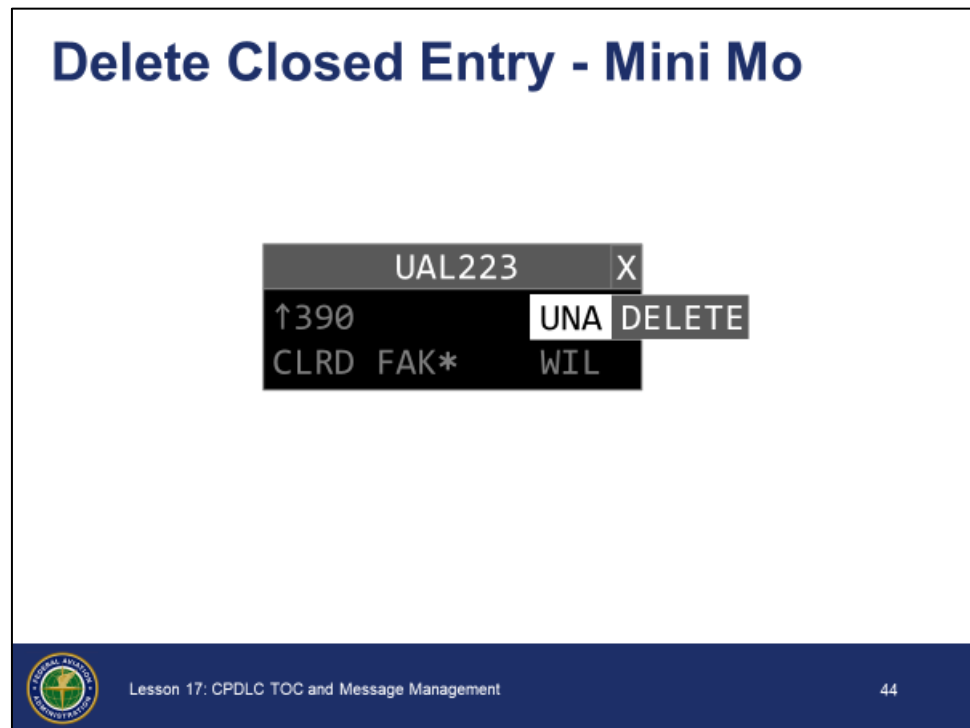


- ⦿ You have the option to cancel any other type of open uplink
- ⦿ Cancelling an open entry only closes the entry in the ground system
 - The uplink was sent, and the aircraft may respond to or act on the uplink
 - Voice coordination with the aircraft is required
- ⦿ To cancel another type of open uplink:
 - TBP or TBE the Status field of the desired open entry
 - The CANCEL UPLINK-VOICE REQD pick area will appear
 - TBP or TBE on the CANCEL UPLINK-VOICE REQD pick area
 - The CANCEL UPLINK CONFIRMATION pop up will appear
 - TBP or TBE on the YES pick area

CPDLC MESSAGE MANAGEMENT (CONT'D)

Delete Closed Entry - Mini Mo

TI 6110.101,
sec. 4.13.4.3.5

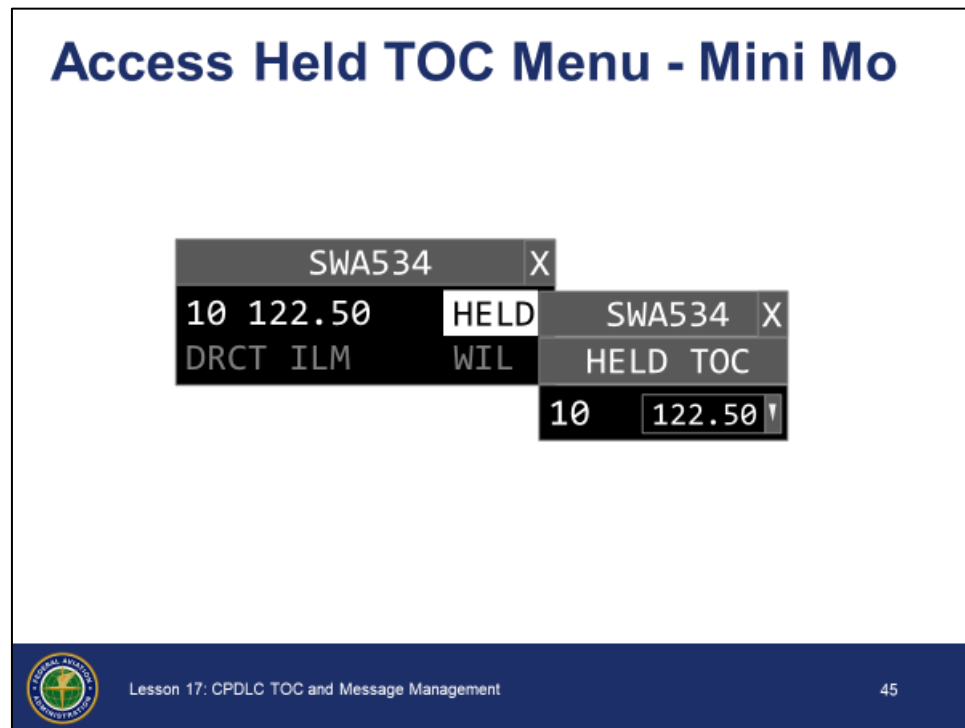


- ⦿ A closed entry in the Message Out menu may be removed
- ⦿ Closed entries are color coded in gray
- ⦿ To delete a closed entry:
 - TBP or TBE on the Status field of the desired closed entry
 - The DELETE pick area will appear
 - TBP or TBE on the DELETE pick area

CPDLC MESSAGE MANAGEMENT (CONT'D)

Access Held TOC Menu - Mini Mo

TI 6110.101,
sec. 4.13.4.3.6



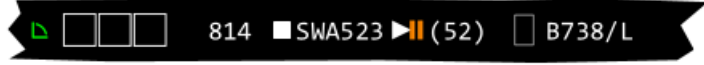
- ⦿ The Held TOC menu is typically accessed via the Held TOC indicator on the ACL or FDB
- ⦿ The Held TOC menu may also be accessed from the Message Out menu
 - TBP or TBE on the Status field of the desired entry
 - The Held TOC menu will appear

CPDLC MESSAGE MANAGEMENT (CONT'D)

Knowledge Check

Knowledge Check

How do you access the Message Out menu (Mini Mo)?



A. TBP or TBE on the CDA Session indicator
B. TBH on the Held TOC indicator
C. TBH on the CDA Session indicator

 Lesson 17: CPDLC TOC and Message Management  46

Question: How do you access the Message Out menu (Mini Mo)?



Answer: A. TBP or TBE on the CDA Session indicator

CPDLC MESSAGE MANAGEMENT (CONT'D)

Knowledge Check

Knowledge Check

What does the asterisk next to ILM indicate?

DAL434		X
DRCT	CAE	UNA*
↑310		SNT
CLR	ILM*	WIL

A. Message has been acknowledged
B. Message content has been truncated
C. Message has been cancelled

 Lesson 17: CPDLC TOC and Message Management  47

Question: What does the asterisk next to ILM indicate?



Answer: B. Message content has been truncated

CPDLC MESSAGE MANAGEMENT (CONT'D)

Knowledge Check

Knowledge Check

How do you delete the closed entry?

DAL434		X
DRCT	CAE	UNA*
↑310		SNT
CLRD	ILM*	WIL

- A. TBP or TBE on Message field of entry, then TBP or TBE on DELETE pick area
- B. TBP or TBE on Status field of entry, then TBP or TBE on DELETE pick area



Lesson 17: CPDLC TOC and Message Management



Question: How do you delete the closed entry?



Answer: B. TBP or TBE on Status field of entry, then TBP or TBE on DELETE pick area

CPDLC MESSAGE MANAGEMENT (CONT'D)

Message History View (Cont'd)

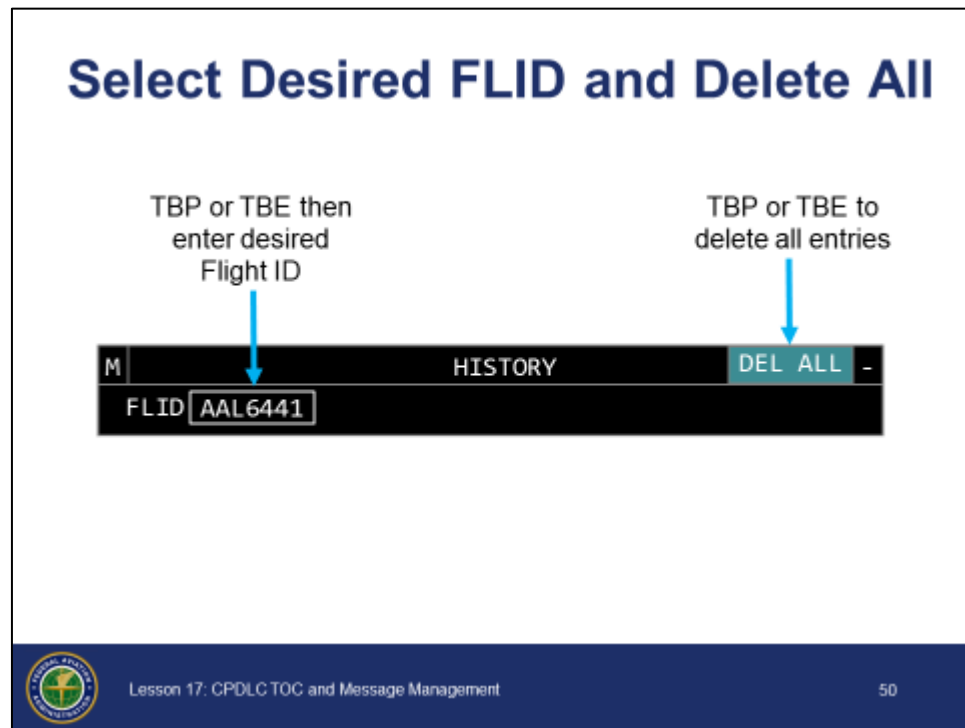
TI 6110.101,
sec. 4.12

- ⦿ Each entry consists of:
 - CID
 - ACID
 - Abbreviated message content
 - An asterisk to the right of the message content indicates the message content has been truncated
 - Message status
 - An asterisk next to status of UNA indicates a reason text was appended to the Unable response
 - Time of the last status change
 - A downward pointing white triangle next to the time indicates the message was a downlink
 - This column can be filtered off
 - Originator of the message
 - This column can be filtered off
 - ⦿ There is no color coding
 - ⦿ Entries are sorted by time with the most recent at the top
-

CPDLC MESSAGE MANAGEMENT (CONT'D)

Select Desired FLID and Delete All

TI 6110.101,
sec. 4.12.1.1



- ⦿ To specify the desired flight:
 - TBP or TBE in the FLID input area
 - Type the desired call sign, CID or beacon code
 - KBE
- ⦿ When searching, the best practice is to use the call sign
 - Displays all entries regardless of any CID or beacon code changes that may have occurred
- ⦿ New entries will replace any entries from a previous flight
- ⦿ An error will be displayed if no flight matches the entered ACID
- ⦿ To delete all entries:
 - TBP or TBE the DEL ALL pick area
 - This simply removes the entries from the display, it does not delete them from the system

CPDLC MESSAGE MANAGEMENT (CONT'D)

Display Additional Information

TI 6110.101,
secs.
4.12.1.2.2.1,
4.12.1.2.2.2

Display Additional Information

TBP or TBE to display reason

M	HISTORY AAL6441					DEL ALL	-
FLID							
CID	ACID	MSG	CONTENT	STAT	TIME	ORG	
132	AAL6441	↑350		UNA*	2036	R16	
132	AAL6441	CLEARED	TAPPA.V16.E*	WIL	2033	R16	
132	AAL6441	↑270		WIL	2026	R16	
132	AAL6441	01	134.170	ROG	2020	R16	

TBP or TBE to display full message text

 Lesson 17: CPDLC TOC and Message Management 51

- ⦿ To display the full text of the message:
 - TBP or TBE on the Message Content field
- ⦿ To display the reason for an Unable response
 - TBP or TBE on the Status field

CPDLC MESSAGE MANAGEMENT (CONT'D)

Knowledge Check

Knowledge Check

How do you open the Message History view at the RA position?

- A. TBP or TBE on an entry's CDA indicator
- B. Select the CPDLC MSGOUT button on the RA Position toolbar
- C. Select the CPDLC HIST button on the RA Position toolbar



Lesson 17: CPDLC TOC and Message Management



Question: How do you open the Message History view at the RA position?



Answer: C. Select the CPDLC HIST button on the RA Position toolbar

CPDLC MESSAGE MANAGEMENT (CONT'D)

Knowledge Check

Knowledge Check

What does the Message History view contain?

M	HISTORY					DEL ALL -
FLID						
CID	ACID	MSG	CONTENT	STAT	TIME	ORG
022	DAL2335	1310		WIL	2036	R16
022	DAL2335	REQUEST	310	APRV	2033	R16
022	DAL2335	DRCT	RDU	WIL	2033	R16
022	DAL2335	1270		WIL	2026	R16

- A. All closed uplinks between facility and aircraft
- B. All closed downlinks between facility and aircraft
- C. All closed uplinks and downlinks between facility and aircraft



Lesson 17: CPDLC TOC and Message Management



Question: What does the Message History view contain?



Answer: C. All closed uplinks and downlinks between facility and aircraft

CPDLC MESSAGE MANAGEMENT (CONT'D)

Knowledge Check

Knowledge Check

What's the purpose of the DEL ALL pick area?

M	HISTORY					DEL ALL -
FLID						
CID	ACID	MSG	CONTENT	STAT	TIME	ORG
022	DAL2335	1310		WIL	2036	R16
022	DAL2335	REQUEST	310	APRV	2033	R16
022	DAL2335	DRCT	RDU	WIL	2033	R16
022	DAL2335	1270		WIL	2026	R16

- A. Delays delivery of all uplinks in the view
- B. Removes all entries from the view
- C. Removes all uplinks from the view



Lesson 17: CPDLC TOC and Message Management



54

Question: What's the purpose of the DEL ALL pick area?



Answer: B. Removes all entries from the view

PART-TASK EXERCISE: CPDLC TOC AND MESSAGE MANAGEMENT

Part-Task Exercise

- **Purpose**
 - Perform CPDLC tasks as follows:
 - Use the Held TOC menu to release a Held TOC
 - Manage the Message Out view
 - Manage the Message Out menu (Mini Mo)
 - Manage the Message History view
- **Materials**
 - TTL part-task exercise: CPDLC TOC and Message Management
- **Directions**
 - This exercise takes approximately 45 minutes to complete. Each student must complete the checklist tasks. No headsets are required.

 Lesson 17: CPDLC TOC and Message Management 55

Purpose

Perform CPDLC tasks as follows:

- ⦿ Use the Held TOC menu to release a Held TOC
- ⦿ Manage the Message Out view
- ⦿ Manage the Message Out menu (Mini Mo)
- ⦿ Manage the Message History view

Materials



Handout: *HO01_L17*

- ⦿ TTL part-task exercise: CPDLC TOC and Message Management



TTL Scenario: *55054003_L17_S##*

Directions

This exercise takes approximately 45 minutes to complete. Each student must complete the checklist tasks. No headsets are required.



Provide instruction as required. Check off each task after completion. No ghost pilots are required.

CONCLUSION

Lesson Summary

Lesson Summary

This lesson covered:

- Advanced Transfer of Communication (TOC) Management
- CPDLC Message Management



Lesson 17: CPDLC TOC and Message Management

56



Review and elaborate briefly on the following topics. Ask students if they have questions about any of the concepts covered in the lesson.

This lesson covered:

- ⦿ Advanced Transfer of Communication (TOC) Management
 - Held TOC menu
 - Opening the Held TOC menu
 - Held TOC menu components
 - Reason - Disabled Held TOC
 - Frequency Input area
 - Frequency selection
 - Abnormal Held TOC
 - Automatic Held TOC menu cleanup
 - Voice TOCs with open uplinks
 - Sector TOC Settings view

Continued on next page

CONCLUSION (CONT'D)

Lesson Summary (Cont'd)

-
- ⊙ CPDLC Message Management
 - Message Out view
 - Special and Normal Areas
 - Header
 - Filters
 - Sorting the entries
 - Special coding
 - Open uplink states
 - Closed uplink states
 - Full text pop up
 - Acknowledge abnormal message
 - Display reason
 - Cancel TOC in progress
 - Cancel other open uplinks
 - Delete closed entry
 - Access Held TOC menu
 - Message Out menu (Mini Mo)
 - Message Out menu components
 - Acknowledge abnormal entry
 - Cancel TOC in progress
 - Cancel TOC – CLEANUP + RELEASE
 - Cancel other open uplinks
 - Delete closed entry
 - Access Held TOC menu
 - Message History view
 - Select Desired FLID and Delete All
 - Display additional information



Hand out and administer the End-of-Lesson Test. Provide feedback on missed items, including why particular answers are correct, as well as why some responses are incorrect.
