Federal Aviation Administration

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

Lesson 4: Radar Position Situation Display

Version: 1.0 2022.08

INSTRUCTOR LESSON PLAN

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LESSON PLAN DATA SHEET

Course Name	En Route Radar Associate Controller Training Part C: Advanced Concepts
Course Number	55054003
Lesson Title	Radar Position Situation Display
Duration	3 hours, 15 minutes (includes lesson, part-task exercise, and ELT)
Version	1.0 2022.08
Reference(s)	JO 7110.65, Air Traffic Control; TI 6110.100, En Route Automation Modernization R-Position User Manual; TI 6110.101, En Route Automation Modernization RA-Position User Manual; TI 6110.108, En Route Automation Modernization Quick Reference Card; ERAM EDSM SRS 210.04 V1B1; ERAM EDSM SRS 210.04 V1B2
Prerequisites	NONE
Handout(s)	⊙ Practice Exercise HO01_L04 ⊙ TTL Part-Task Exercise HO02_L04 *(Print prior to class)* ⊙ TI 6110.108 ERAM Quick Reference Controller Card
Exercise / Activity	⊙ Practice Exercise: Radar Position Situation Display begins on page 42 ⊙ Part-Task Exercise: Radar Position Situation Display
Scenario Requirements	⊙ Run scenario 55054003_L04_S## in TTL
Assessments	⊙ YES - Written *(Refer to ELT01_L04, print prior to class)*
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.

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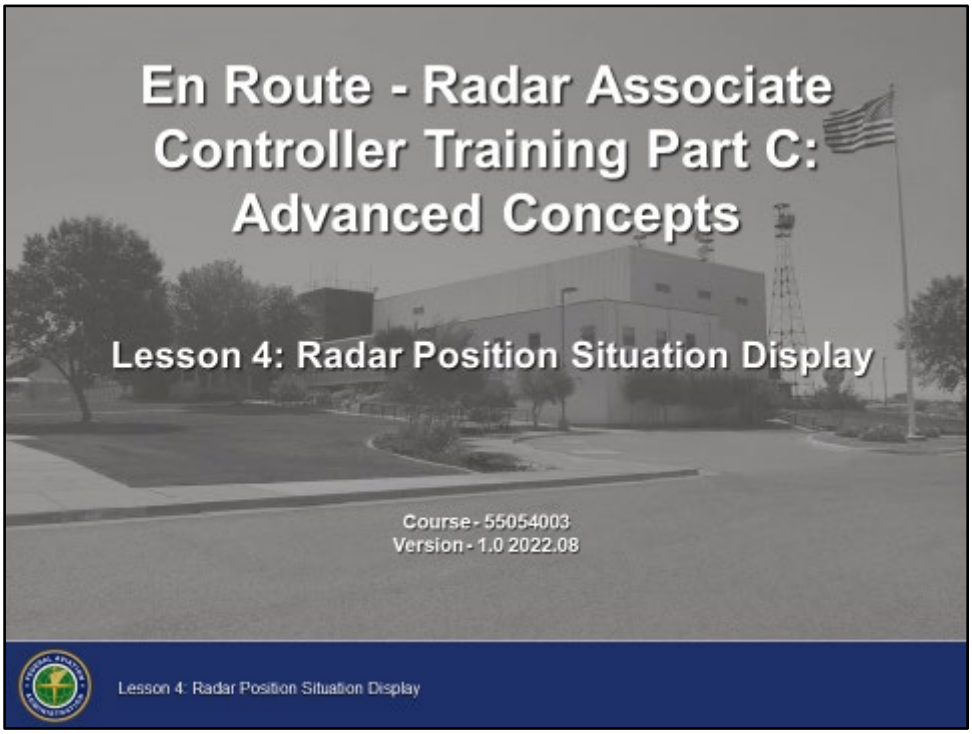
LESSON INTRODUCTION

Overview

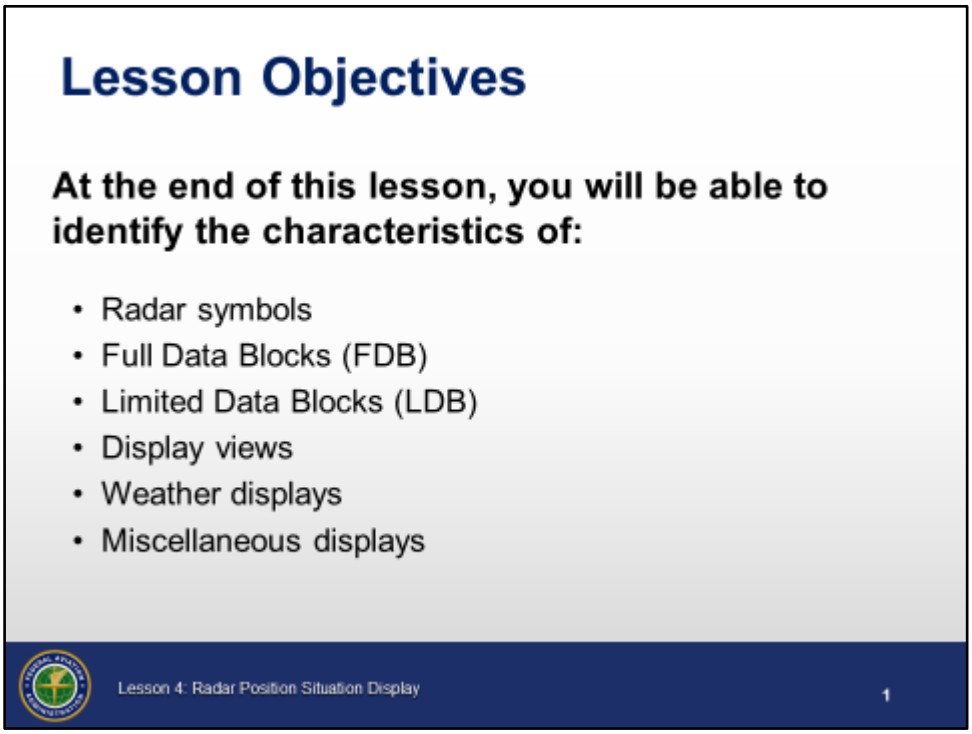


As a radar associate controller, you are a member of a sector team which is responsible for the safe, orderly, and expeditious movement of air traffic in your sector.

To do this, you must be able to use the Situation Display effectively and to read and interpret all the data on the Situation Display and associated equipment.

LESSON INTRODUCTION *(CONT'D)*

Lesson Objectives



Review the lesson objectives.

⊙ At the end of this lesson, you will be able to identify the characteristics of:

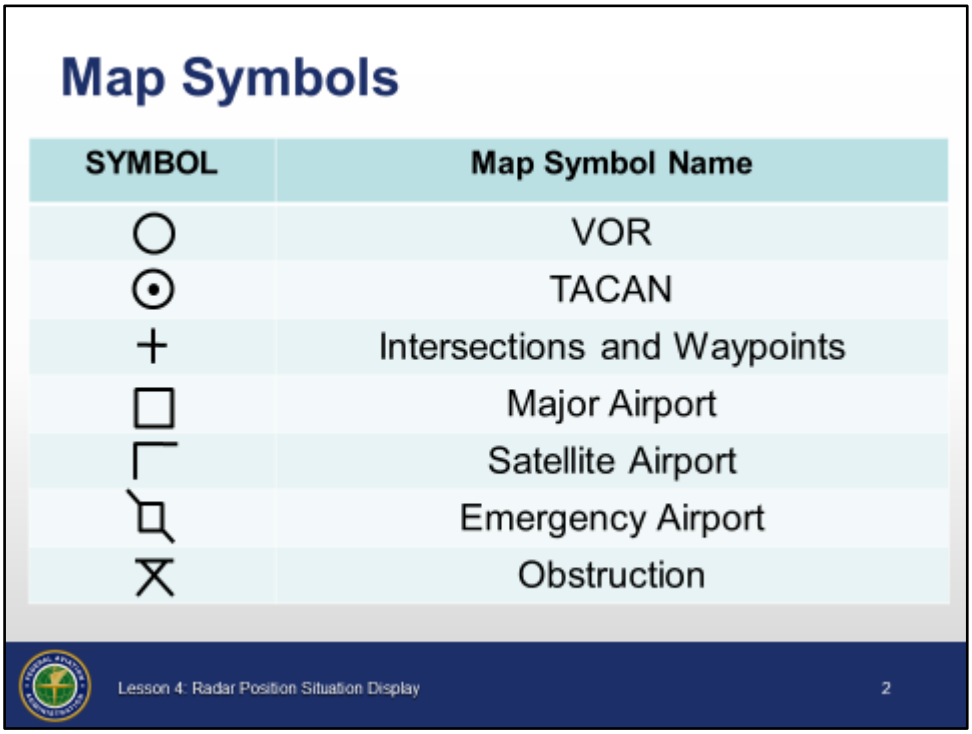
- Radar symbols
- Full Data Blocks (FDB)
- Limited Data Blocks (LDB)
- Display views
- Weather displays
- Miscellaneous displays

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.

RADAR SYMBOLS

Map Symbols

ERAM EDSM
SRS 210.04
V1B2, Appendix
A.35



- Map symbols are displayed on the Situation Display to help identify NAVAIDs, intersections and waypoints, airports, and obstructions
- "○" - VOR
- "⊙" - TACAN
- "+" - Intersections and Waypoints
- "□" - Major Airport
- "⌜" - Satellite Airport
- "⌜" - Emergency Airport
- "X" - Obstruction

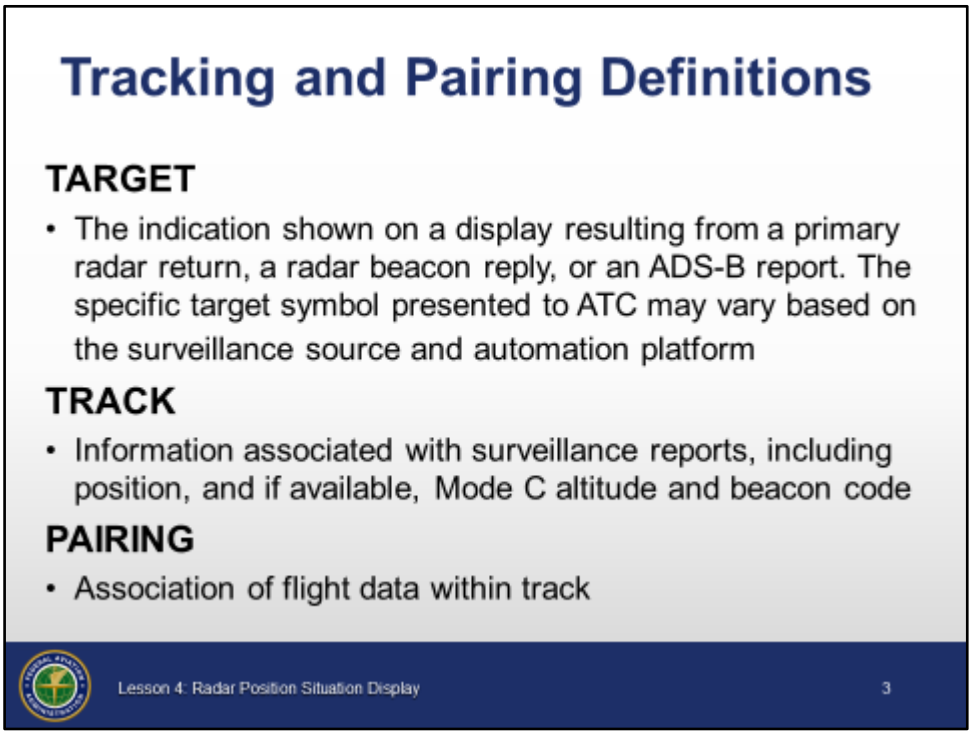
RADAR SYMBOLS *(CONT'D)*

Tracking and Pairing Definitions

JO 7110.65, PCG

ERAM EDSM SRS 210.04 V1B1, par. 3.2.2.1

ERAM SURV SRS 210.24, par. 5.3



TARGET - The indication shown on a display resulting from a primary radar return, a radar beacon reply, or an ADS-B report. The specific target symbol presented to ATC may vary based on the surveillance source and automation platform.

TRACK - A collection of reported and derived information associated with a sequence of surveillance reports from the same aircraft. Track data includes position, and if available, Mode C altitude and beacon code.

PAIRING - Automatic or manual association of flight data within a track.

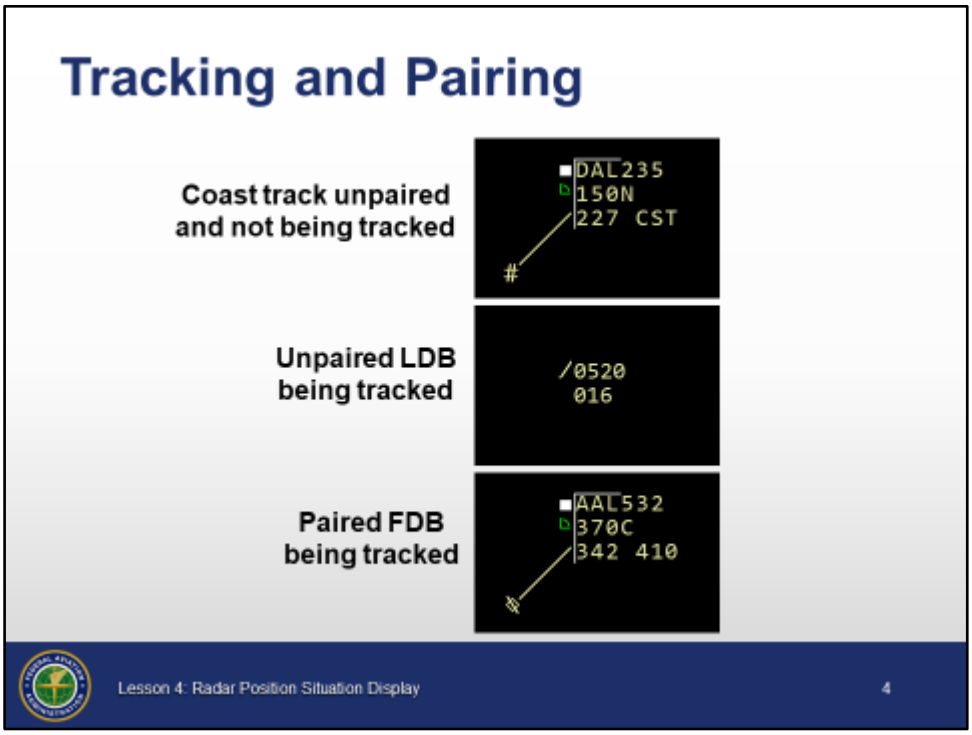
RADAR SYMBOLS *(CONT'D)*

Tracking and Pairing

TI 6110.100, sec. 1.2.7

TI 6110.108

JO 7110.65, par. 5-14-8



- ERAM tracks every radar target and attempts to pair each radar track with an active Flight Plan (FP)
  - If there is a mismatch between the squawked code and the established or assigned code of a target, the data block will unpair from the target and go into coast status
- There are situations in which radar target returns are supported by beacon data but are not eligible to be automatically converted into a track. Without the track, the corresponding flight cannot be paired.
- Tracking and pairing capabilities allow controllers to re-pair targets in coast track or manually start a track and pair it to the flight
  - Overrides all system pairing when entered

    Syntax: QT //<FIX> <FLID>
  - Controller initiated coast track

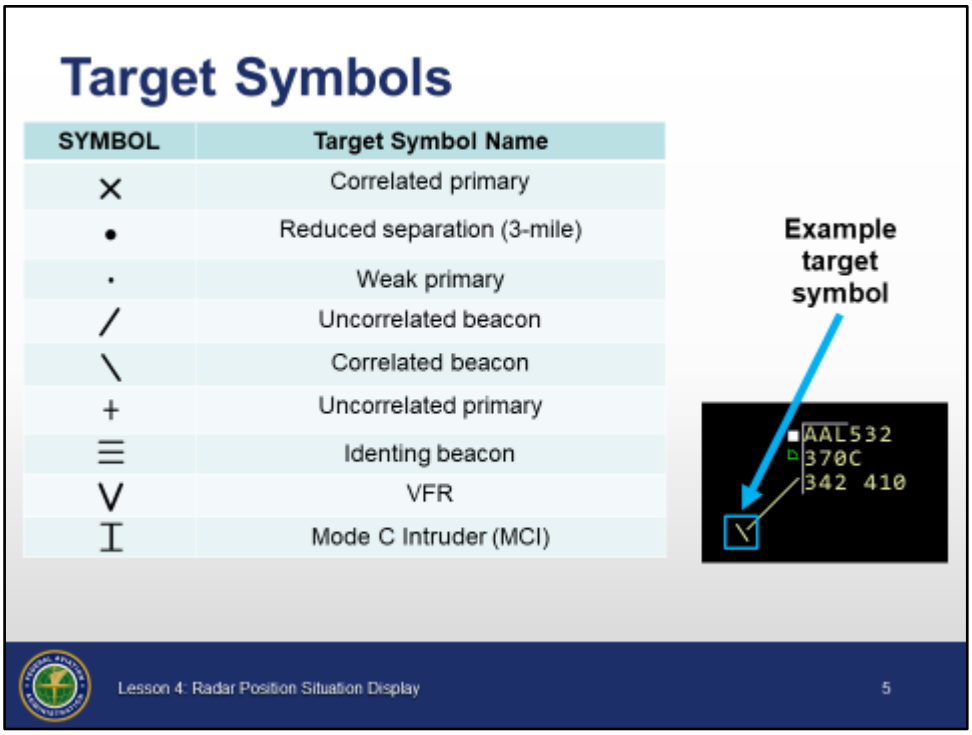
    Syntax: QT C <FLID>
  - Track primary

    Syntax: QT P <FLID>

RADAR SYMBOLS *(CONT'D)*

Target Symbols

TI 6110.100, sec. 2.7.1, Table 2-3

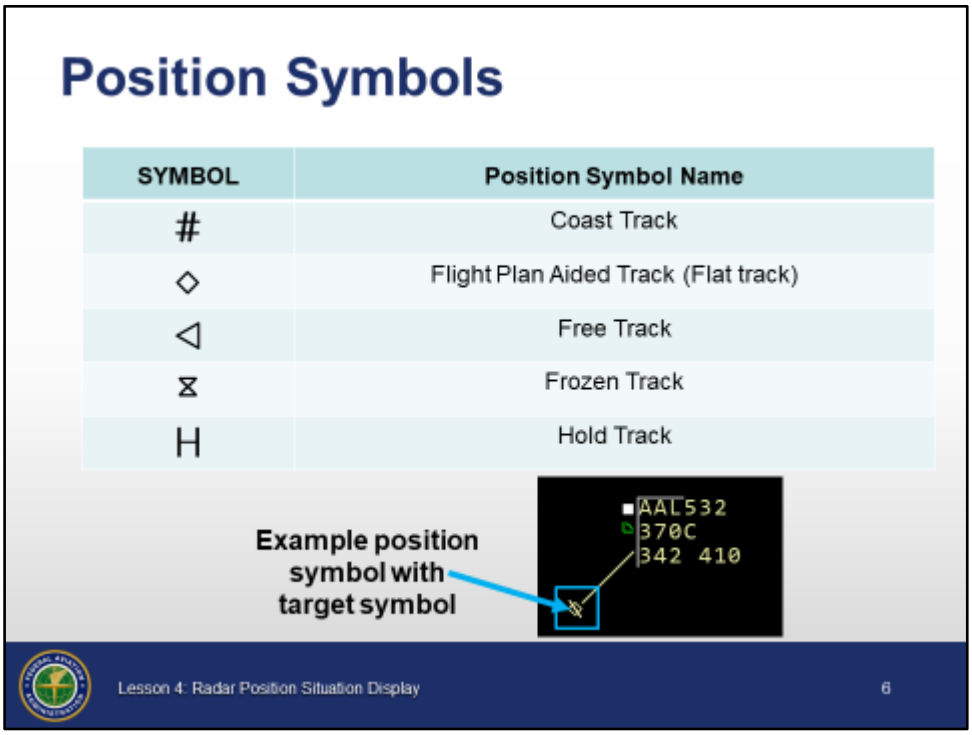


- "X" - Correlated primary
- "●" - Reduced separation beacon (3-mile)
- "•" - Weak primary target
- "/" - Uncorrelated beacon
- "\" - Correlated beacon
- "+" - Uncorrelated primary
- "☰" - Identing beacon
- "V" - VFR
- "工" - Mode C Intruder (MCI)

RADAR SYMBOLS *(CONT'D)*

Position Symbols

TI 6110.100, sec. 5.1.5.4, Table 5-3

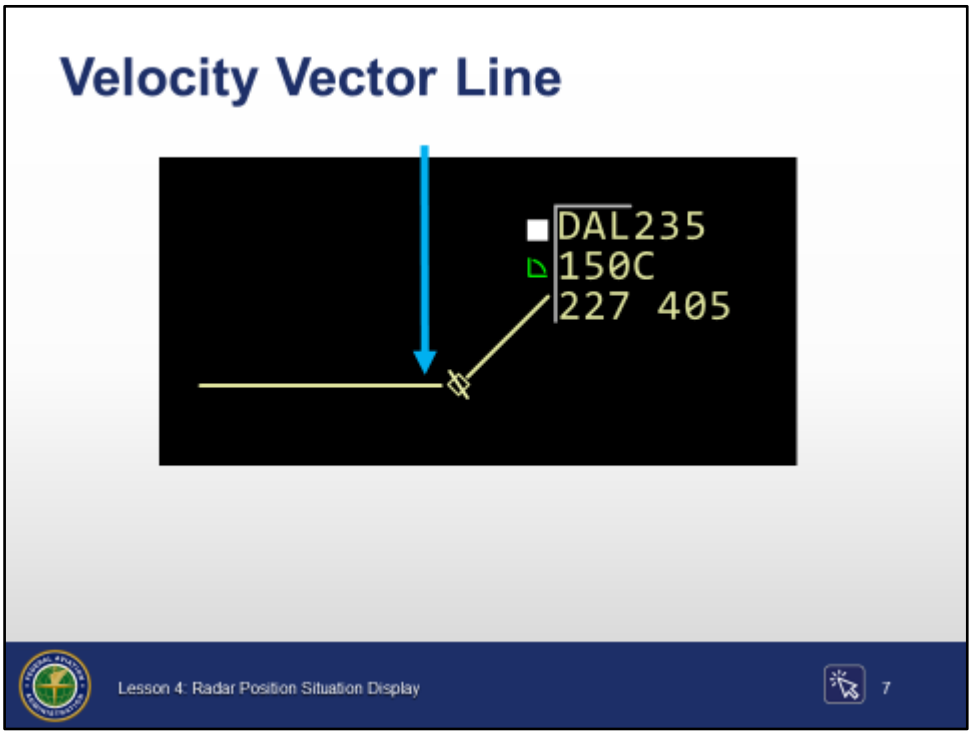


- "#" - Coast Track
  - Radar data is not being received for flight, flight is unpaired, or manually entered into coast status
- "◇" - Flight Plan Aided Track (Flat Track)
  - Flight paired to a track that is receiving radar data, not in hold, and in conformance with flight plan
- "◁" - Free Track
  - Flight paired to a track that is receiving radar data, not in hold, and not in conformance with flight plan
- "⧖" - Frozen Track
  - Flight has been frozen and flight plan processing is suspended
- "H" - Hold Track
  - Flight is in hold at a fix or present position and the system is receiving radar data
  - Only if adapted to be displayed at the facility

RADAR SYMBOLS *(CONT'D)*

Velocity Vector Line

TI 6110.100, sec. 5.1.1



Slide is animated, 3 clicks. Click where indicated by click icons.

- The velocity vector line represents the distance and direction of travel of a target
  - It is locally adaptable to be either:
    - Minutes: 0, 1, 2, 4, 8

      or

    - Miles: 0, 5, 10, 20, 40

Click three times in succession to show different vector line lengths.

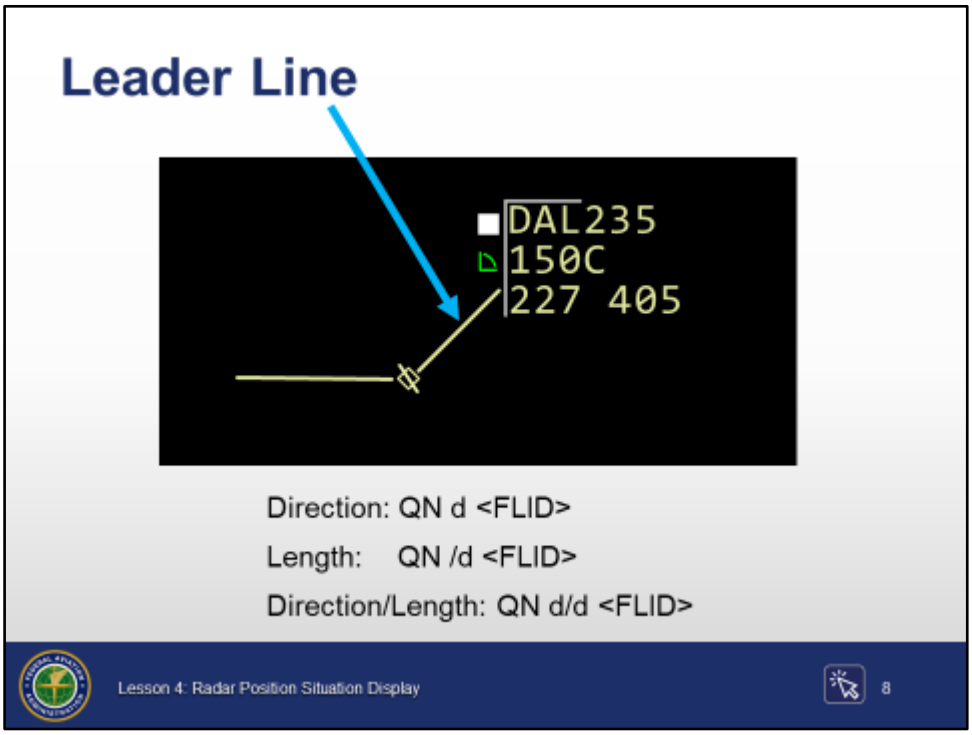
- The direction of the velocity vector line is based on the track of the flight
- The length of the minute based velocity vector line is plotted in proportion to aircraft speed and is rounded to the nearest 15 knots

RADAR SYMBOLS *(CONT'D)*

Leader Line

TI 6110.100, sec. 2.7.2

ERAM EDSM SRS 210.04 V1B2, p. 173



Slide is animated, 3 clicks. Click where indicated by click icons.

⊙ The leader line connects the position symbol with the Full Data Block

- It can be offset to any of eight compass directions:
  - NW=1, N=2, NE=3, W=4, E=6, SW=7, S=8, SE=9

  Syntax: QN d <FLID>
- Using /d determines the length of the leader:
  - /0 - No leader
  - /1 - .625 inches
  - /2 - 1.25 inches
  - /3 - 2.5 inches

  Syntax: QN /d <FLID>
- Using d/d offsets the data block and changes the leader length simultaneously

  Syntax: QN d/d <FLID>

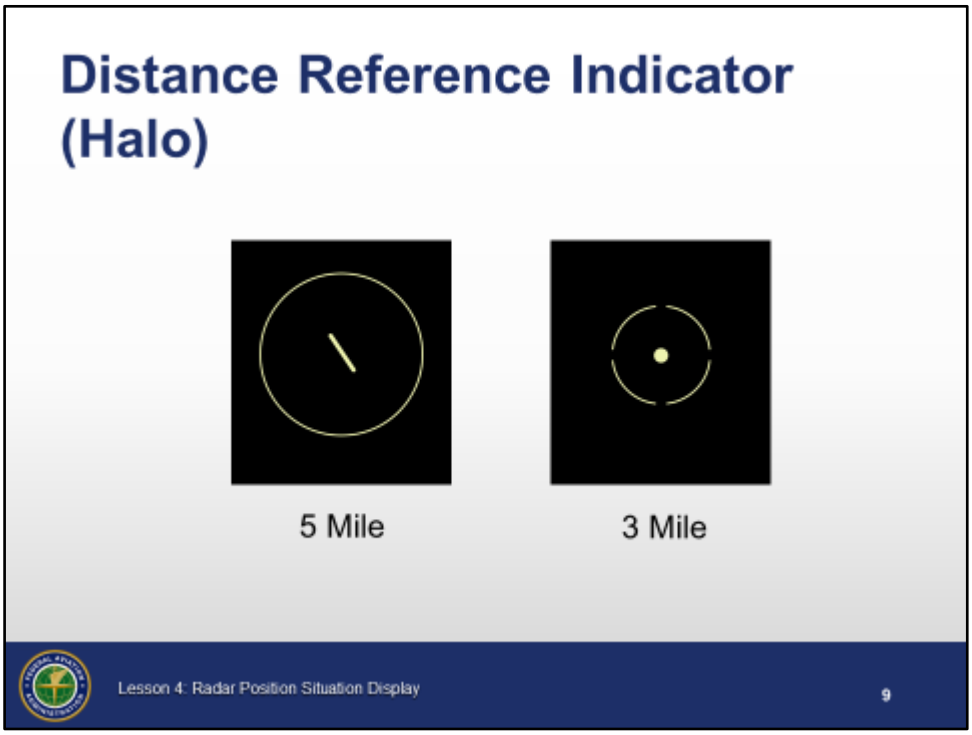
  Example: `QN 8/3 DAL245`

RADAR SYMBOLS *(CONT'D)*

Distance Reference Indicator (Halo)

TI 6110.100, pars. 2.8.1 through 2.8.4, Glossary

TI 6110.108, p. 8



- A five mile Distance Reference Indicator, also known as a halo, can be displayed around the aircraft target symbol to help maintain proper aircraft separation

  Syntax: QP J <FLID> or QP J 5 <FLID>

- When a flight is in 3-mile separation airspace and the system is receiving radar from a preferred sensor, a 3-mile halo is eligible to be displayed

  Syntax: QP J 3 <FLID> or QP T <FLID>

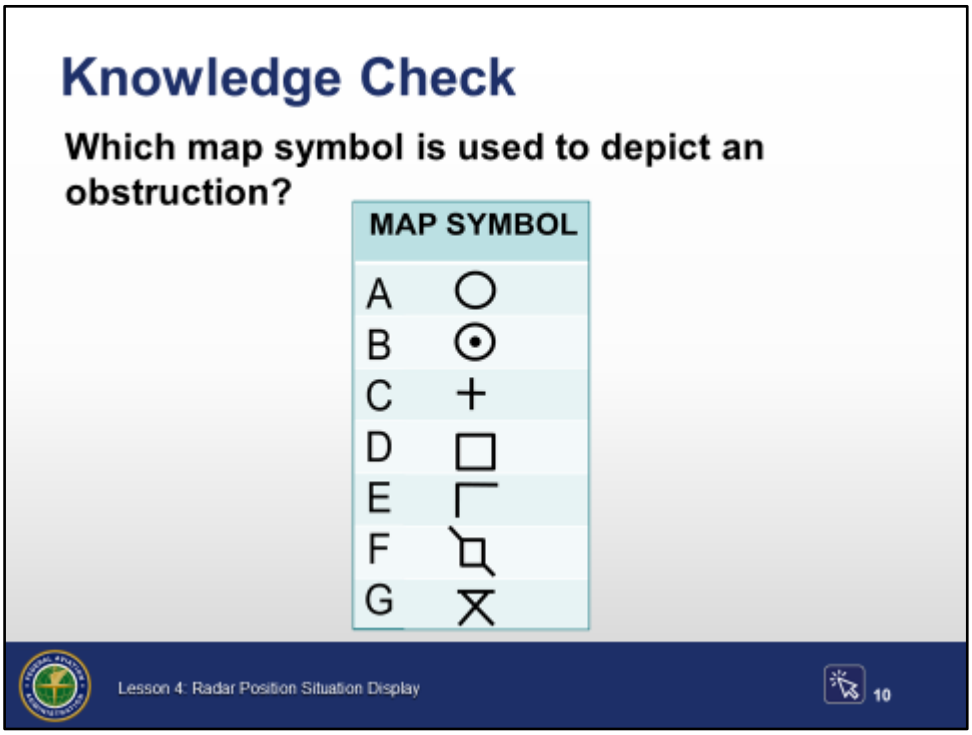
- When an aircraft is in 3-mile separation airspace and the system fails to receive updates on that aircraft from the preferred single sensor, the system will:

  - Revert the target symbol to a beacon slash and the halo reverts to the standard radius of 5 miles
  - Conflict alert criteria will revert to standard separation
  - Automatically return the target symbol to a reduced separation symbol if the aircraft becomes eligible for reduced separation again

NOTE: ERAM never converts 5-mile separation halos to 3-mile separation halos without controller action.

RADAR SYMBOLS *(CONT'D)*

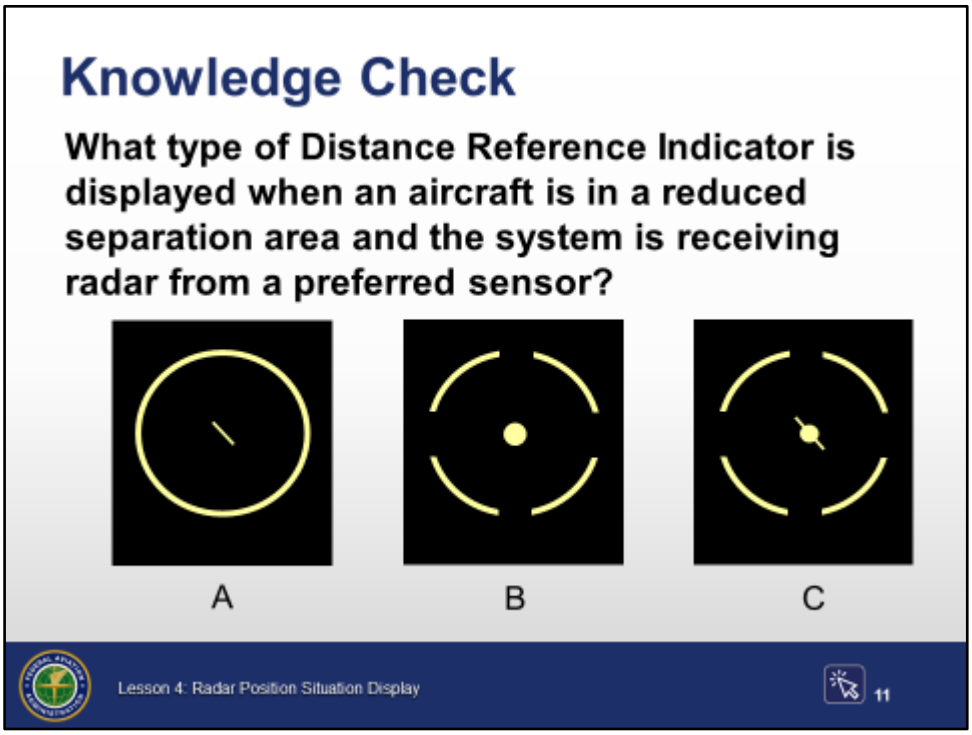
Knowledge Check



Question: Which map symbol depicts an obstruction?

Answer: *G*

Knowledge Check

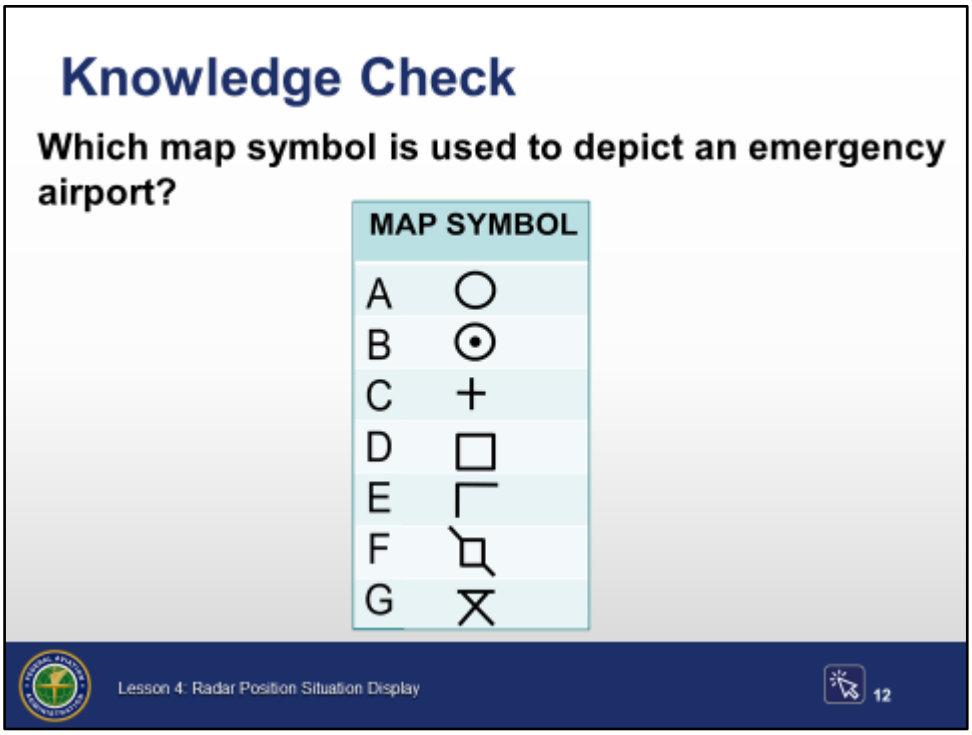


Question: What type of Distance Reference Indicator is displayed when an aircraft is in a reduced separation area and the system is receiving radar from a preferred sensor?

Answer: *B*

RADAR SYMBOLS *(CONT'D)*

Knowledge Check



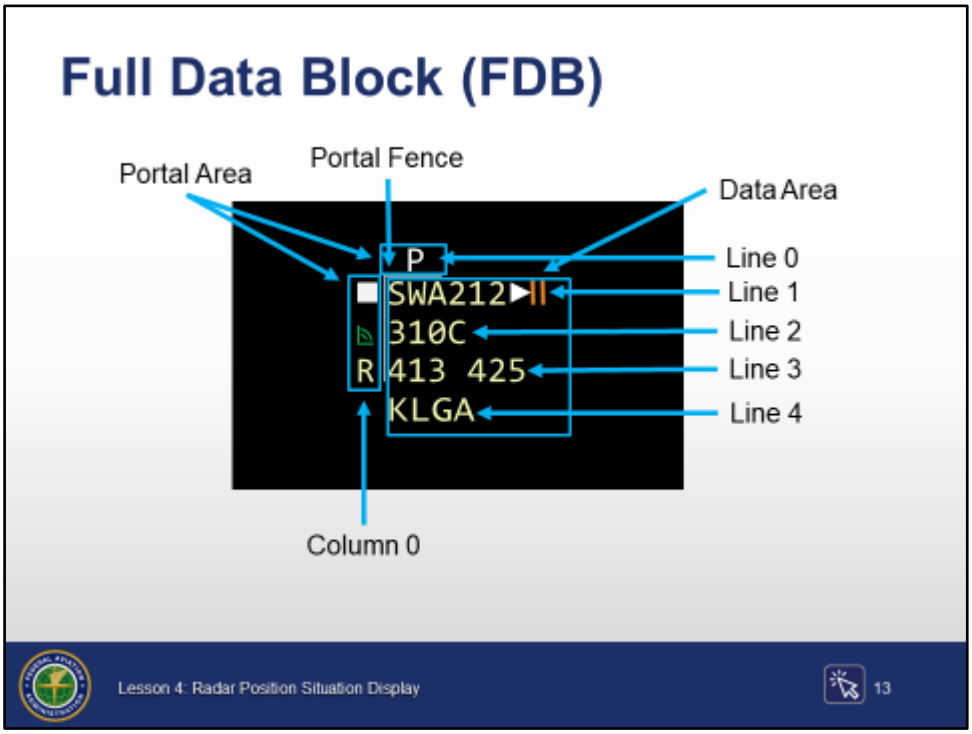
Question: Which map symbol is used to depict an emergency airport?

Answer: *F*

FULL DATA BLOCK (FDB)

Full Data Block (FDB)

TI 6110.100, sec. 5.1.1



Slide is animated, 3 clicks. Click where indicated by click icons.

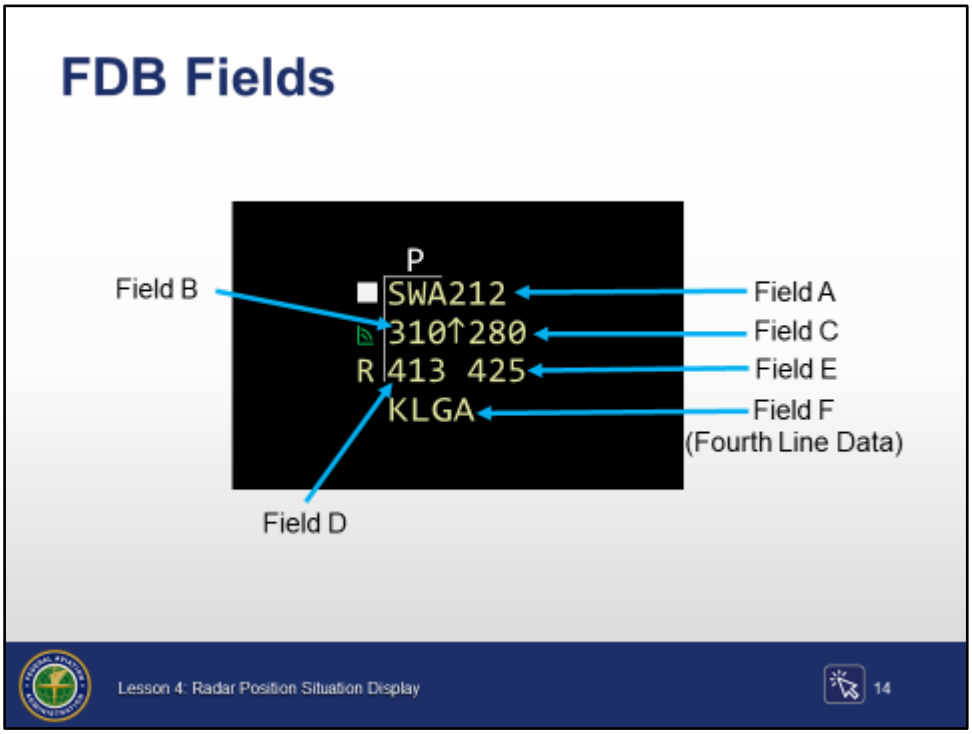
- A Full Data Block (FDB) is the symbology displayed adjacent to a tracked aircraft target on a Situation Display. It contains an aircraft position symbol, a leader line, a velocity vector line, and the alphanumeric data associated with the aircraft.
- The FDB is divided into two areas by the Portal Fence:
  - The Data Area
    - Below and right of the Portal Fence
    - The text portion of the FDB, a 4 line by 11 character array
  - The Portal Area
    - Above and left of the Portal Fence, column 0 and line 0

  NOTE: The Portal Fence is displayed when there is at least one indicator eligible and the fence is not suppressed. It may be suppressed with the PORTAL FENCE filter button in the DB FIELDS toolbar.
- The FDB is arranged in 5 lines and 1 column
  - Lines 0 through 4, and column 0
  - The FDB fields A through F are contained within this structure

FULL DATA BLOCK (FDB) *(CONT'D)*

FDB Fields

TI 6110.100,
sec. 5.1.1.1,
Figure 5-15



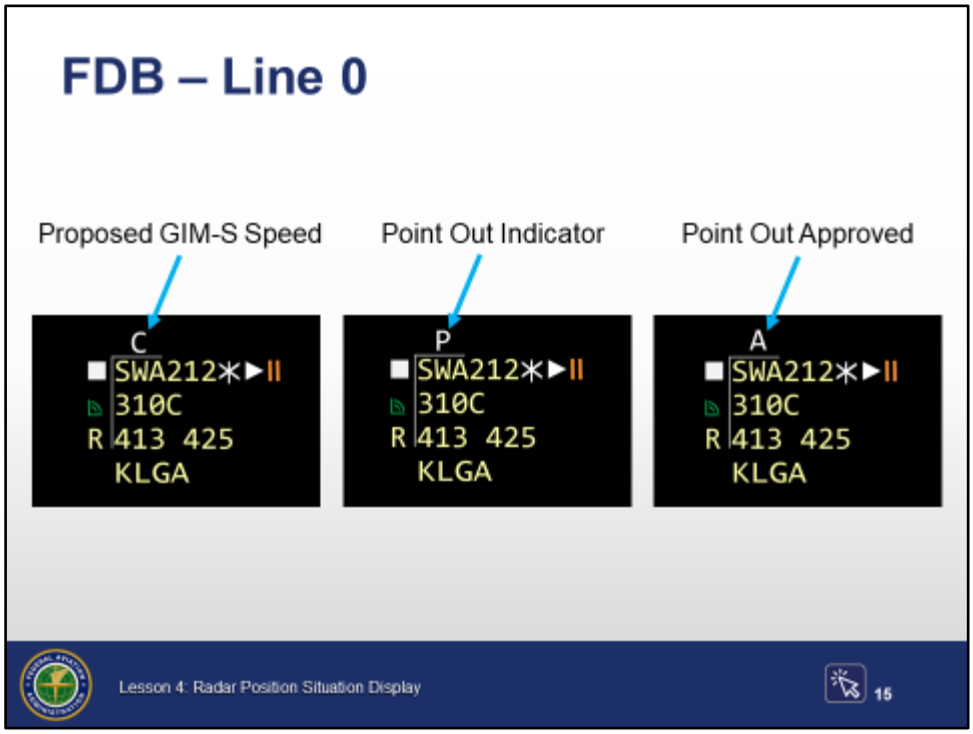
Slide is animated, 6 clicks. Click where indicated by click icons.

- Field A - ACID (between 2 and 7 characters)
- Field B - Altitude Field (up to 4 characters)
- Field C - Reported Altitude Field (up to 4 characters)
- Field D - Computer Identification Number (up to 4 characters)
- Field E - Time shared entries (up to 5 characters)
- Field F - Commonly called 4th Line Data (up to 9 characters)

FULL DATA BLOCK (FDB) *(CONT'D)*

FDB Line 0

TI 6110.100, pars. 5.1.5.10, 5.1.5.11, Figures 5-27, 5-28, 5-29



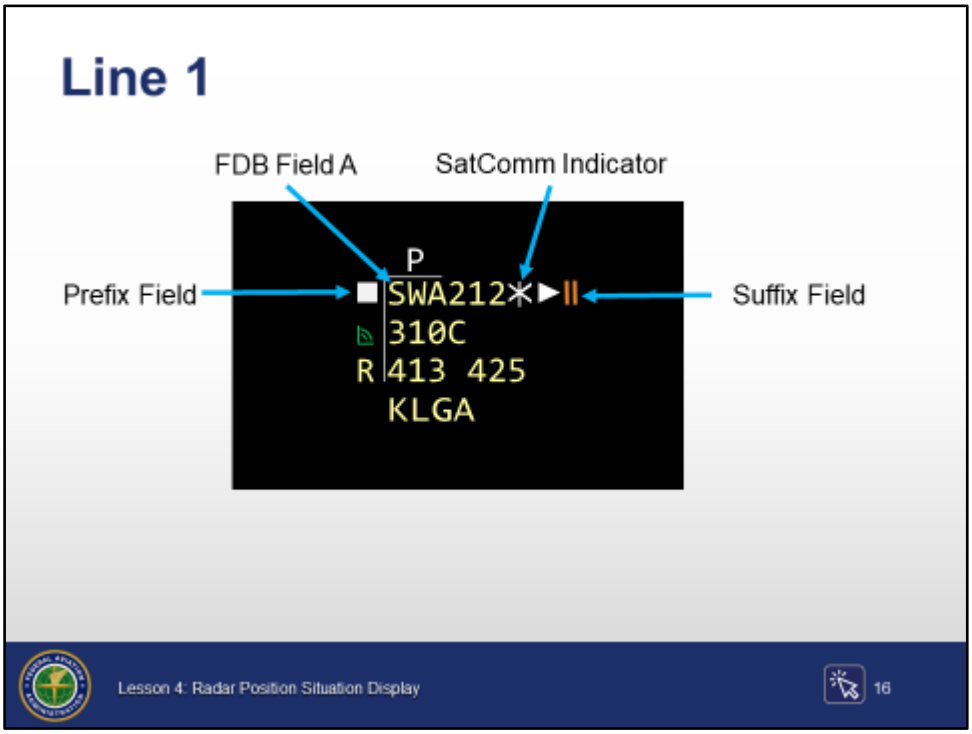
Slide is animated, 2 clicks. Click where indicated by click icons.

- FDB Coordination Indicator
  - "C" above the Portal Fence
  - Displayed to indicate that a proposed GIM-S Speed is available for user action
- FDB Point Out Indicator
  - "P" above the Portal Fence
  - Displayed to indicate that a point out to or from another sector has been initiated
    - Once approved, the Point Out Indicator changes to "A"

FULL DATA BLOCK (FDB) *(CONT'D)*

Line 1

TI 6110.100,
sec. 5.1.1.1,
Figure 5-3



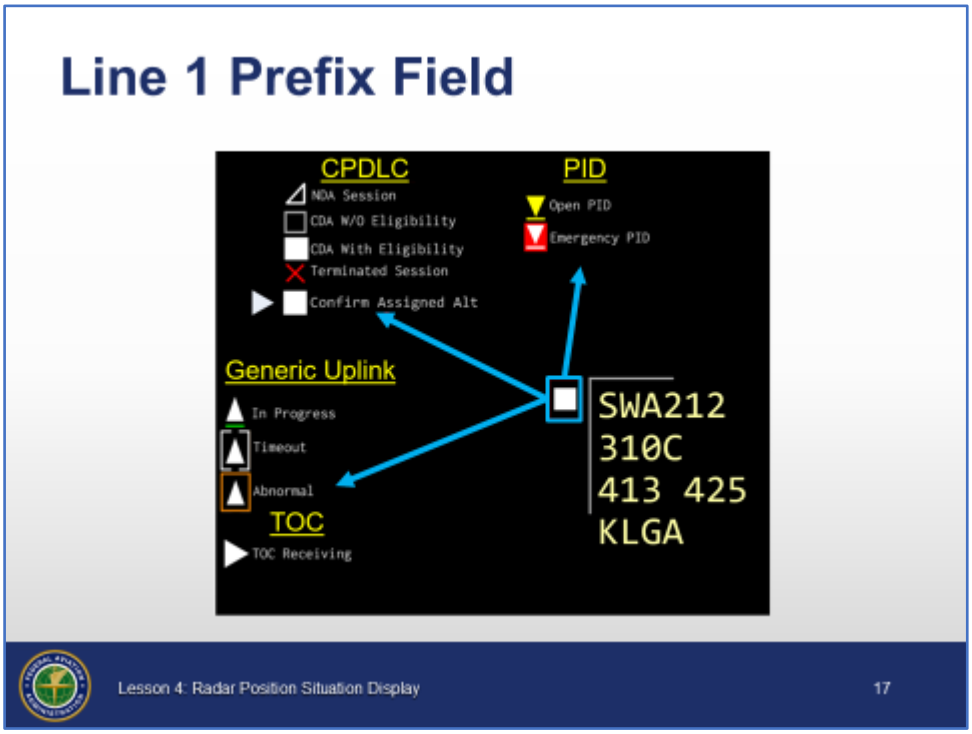
Slide is animated, 4 clicks. Click where indicated by click icons.

- Line 1 consists of:
  - Prefix Field
  - FDB Field A
  - SatComm Indicator
  - Suffix Field

FULL DATA BLOCK (FDB) *(CONT'D)*

Line 1 Prefix Field

TI 6110.100, sec. 5.1.1.1, Figure 5-2



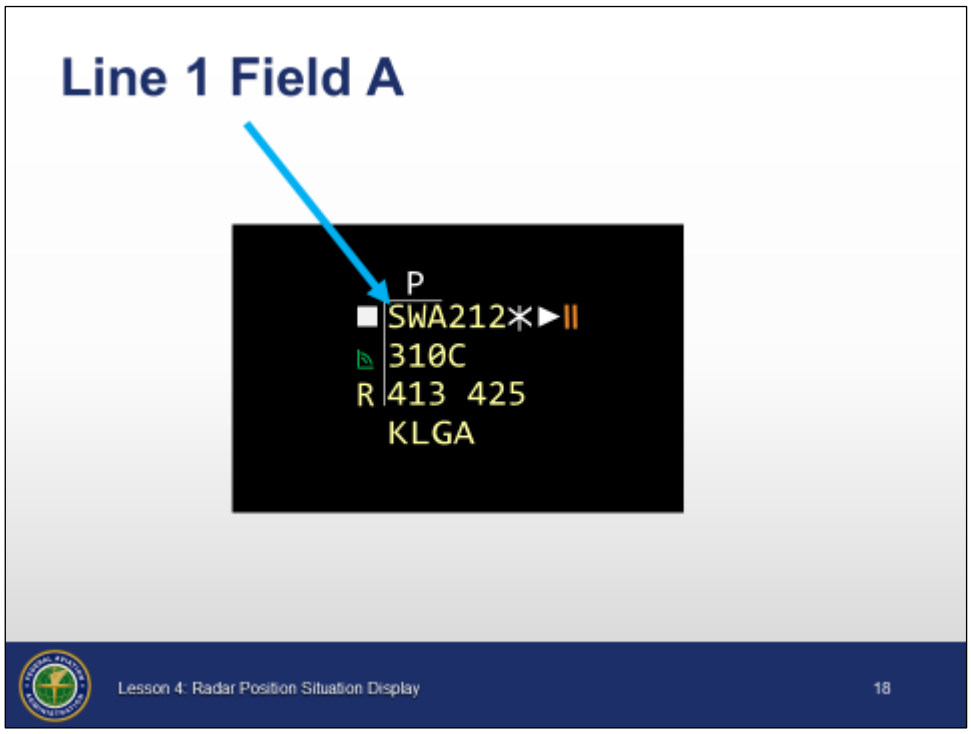
- The Prefix Field contains Controller Pilot Data Link (CPDLC) symbology:

◿	Next Data Authority (NDA) session
■	Current Data Authority (CDA) with eligibility
□	Current Data Authority (CDA) without eligibility
✕	Terminated session
▼	Normal Pilot Initiated Downlink (PID)
▼	Emergency Pilot Initiated Downlink (PID)
▶	Transfer of Communication (TOC) in progress (receiving controller)
▶■	Confirm Assigned Altitude (CAA) in progress
▶	Confirm Assigned Altitude (CAA) in progress timeout
▲	Generic uplink in progress
▲	Generic uplink timeout
▲	Generic uplink abnormal

FULL DATA BLOCK (FDB) *(CONT'D)*

Line 1 Field A

TI 6110.100,
sec. 5.1.1.1,
Figure 5-3

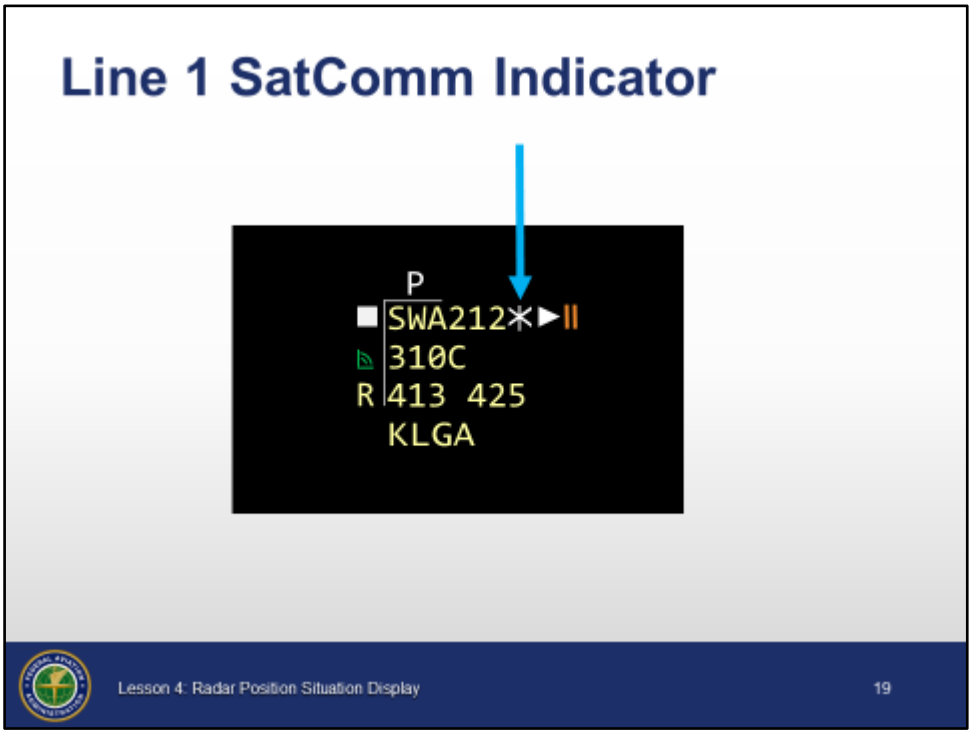


- FDB Field A:
  - Contains ACID

FULL DATA BLOCK (FDB) *(CONT'D)*

Line 1 SatComm Indicator

TI 6110.100, pars. 2.13, 5.1.1.1, Figure 5-3

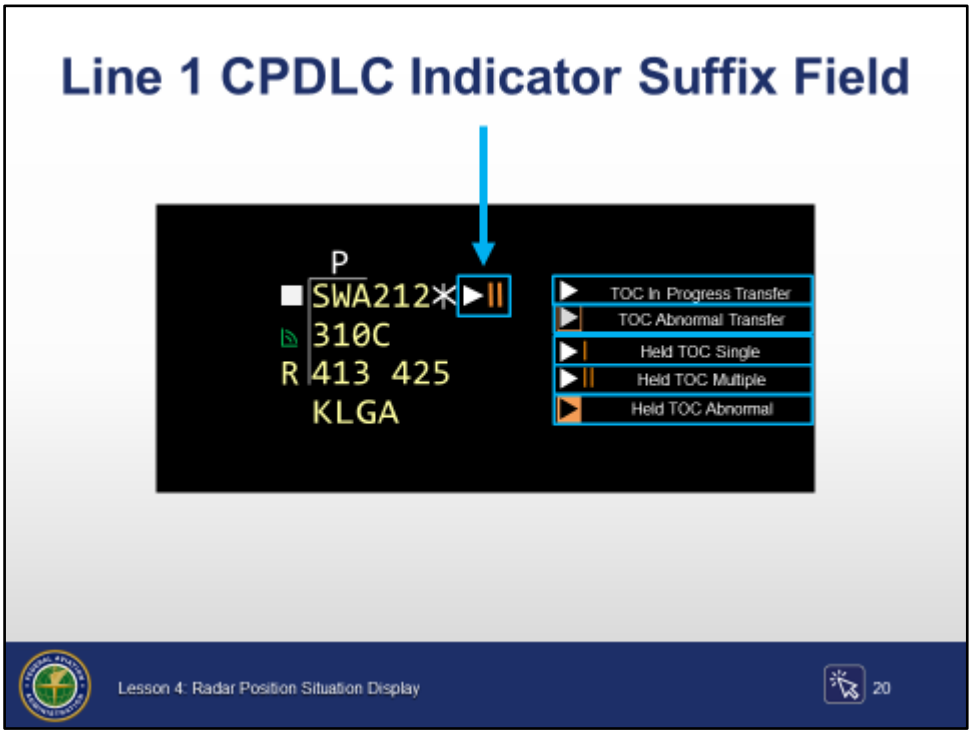


- If an aircraft is equipped for Satellite Communications (SatComm), the indicator which is a white asterisk will be displayed to the right of the ACID
  - SatComm allows communication via CPDLC

FULL DATA BLOCK (FDB) *(CONT'D)*

Line 1 CPDLC Indicator Suffix Field

TI 6110.100, sec. 5.1.1.1, Figure 5-4



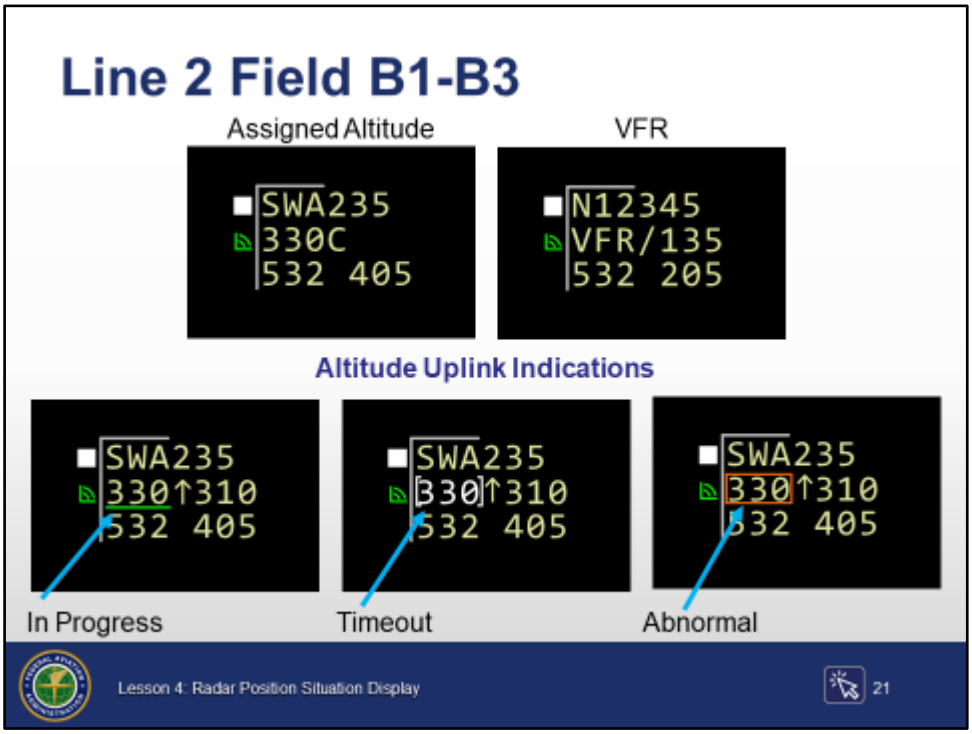
Slide is animated, 5 clicks. Click where indicated by click icons.

- CPDLC Indicator Suffix Field - Displayed to the right of the ACID
  - Transfer of Communications (TOC) In Progress Transfer indicator is displayed when a frequency is uplinked
  - TOC Abnormal Transfer indicator is displayed when a TOC has a frequency problem that must be addressed
  - Held TOC Single indicator is displayed when a single Held TOC exists for the flight that is not abnormal
  - Held TOC Multiple indicator is displayed when more than one Held TOC exists for the flight and none are abnormal
  - Held TOC Abnormal indicator is displayed when a frequency problem exists that must be addressed by the user before the TOC can occur

FULL DATA BLOCK (FDB) *(CONT'D)*

Line 2 Field B1-B3

TI 6110.100, sec. 5.1.1.1, Table 5-1



Slide is animated, 6 clicks. Click where indicated by click icons.

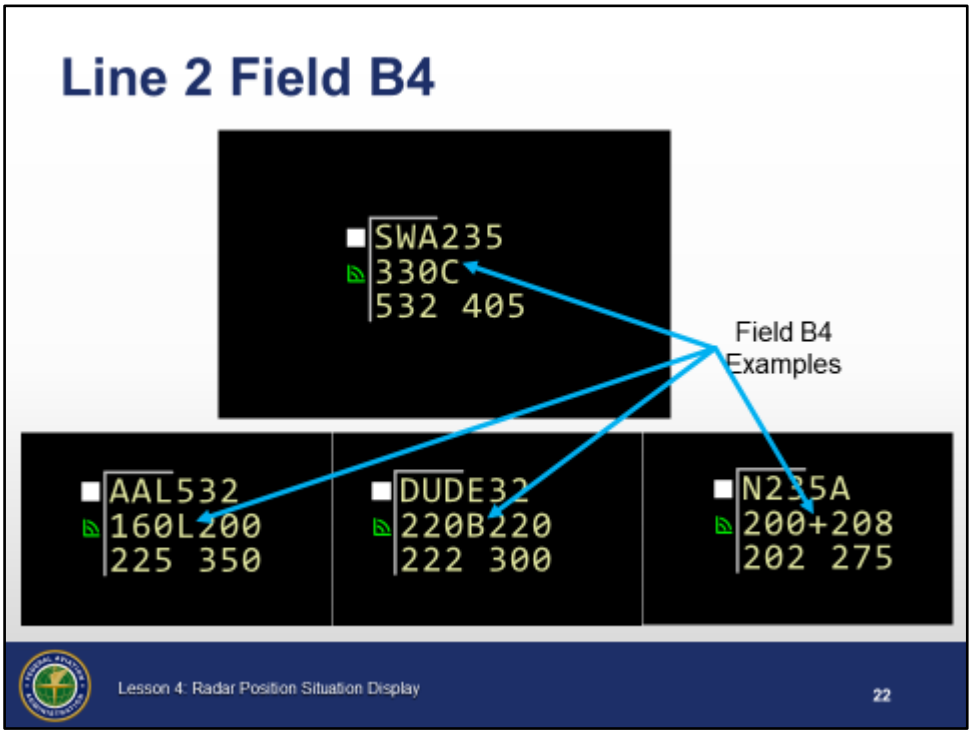
- FDB Line 2 Field B1-B3 contains
  - Assigned Altitude, or
  - VFR, OTP, ABV
- Altitude Uplink Indications include:
  - Altitude uplink in progress indicator - Green line under assigned altitude
  - Altitude uplink timeout indicator - White altitude inside of white brackets
  - Altitude uplink abnormal indicator - Orange box around assigned altitude

FULL DATA BLOCK (FDB) *(CONT'D)*

Line 2 Field B4

TI 6110.100, sec. 5.1.1.1, Figure 5-5

TI 6110.108, p. 17

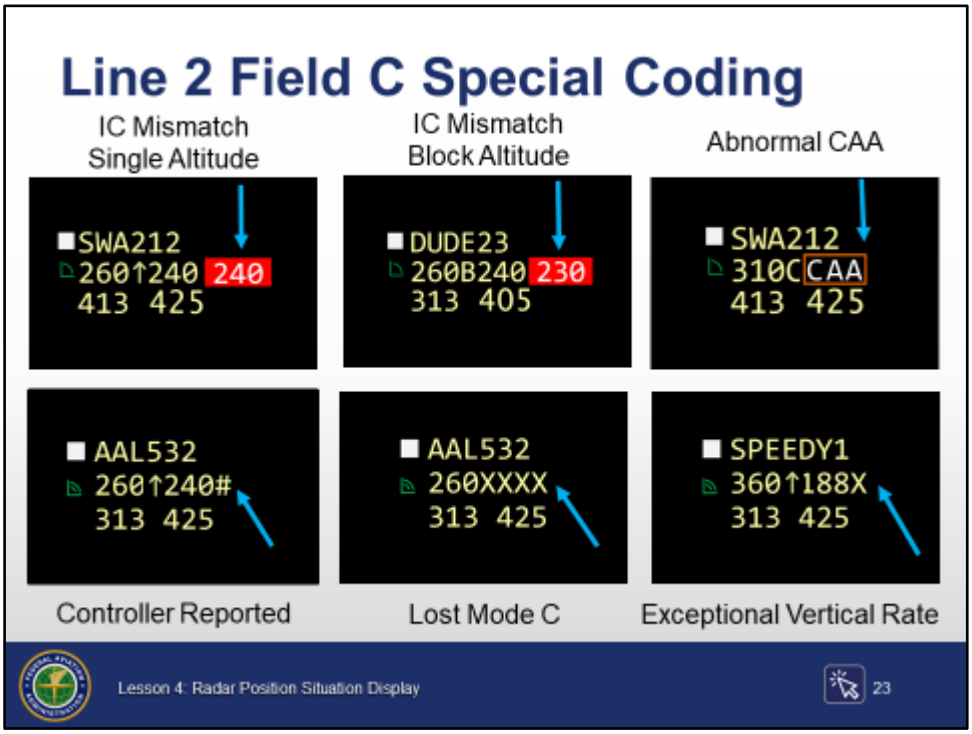


B4 Entry	Meaning	Note
A	Controller entered, reported altitude	
B	Level in a Block Altitude	
C	Within 200' of assigned single altitude	
F	Aircraft has been cleared altitude/fix/altitude	First altitude displayed in B1-B3
L	Local Interim Altitude	
N	No controller entered or Mode C reported altitude	
P	Procedure Altitude	
T	Interim Altitude	
X	Mode C unreliable or not being received	
▯	non-RVSM Indicator	Coral box
⬆	Climbing	Up Arrow
⬇	Descending	Down Arrow
+	Aircraft has deviated 300' or more above the assigned altitude	Or if the reported altitude is above the assigned altitude
-	Aircraft has deviated 300' or more below the assigned altitude	Or if the reported altitude is below the assigned altitude

FULL DATA BLOCK (FDB) *(CONT'D)*

Line 2 Field C Special Coding

TI 6110.100, pars. 12.2, 12.4, 5.1.5.12, 5.1.5.14



Slide is animated, 5 clicks. Click where indicated by click icons.

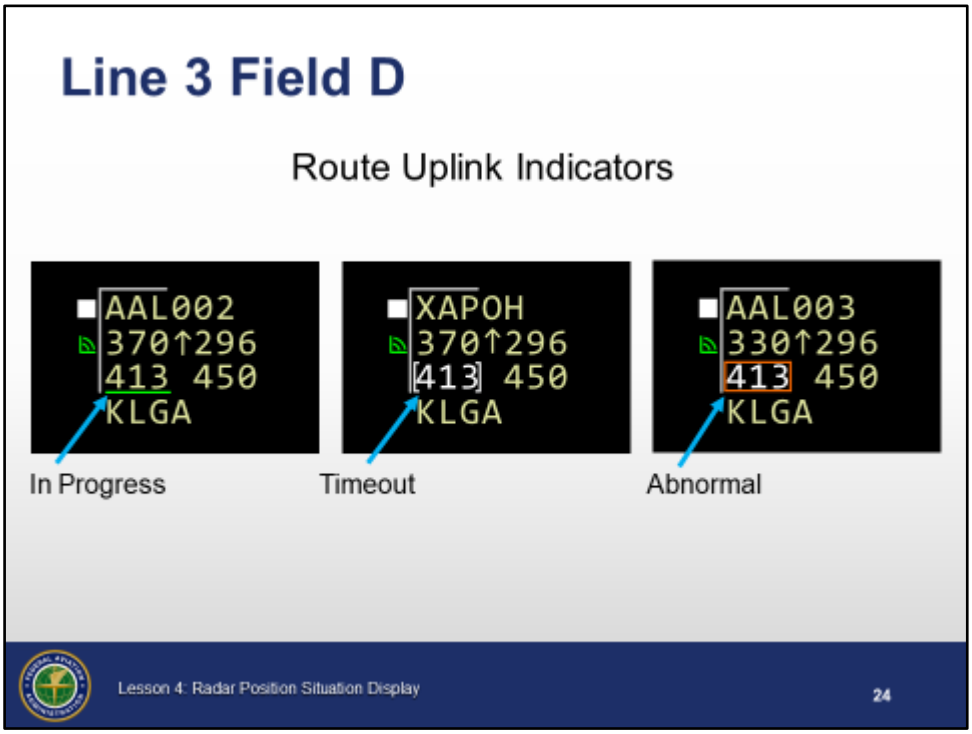
- Field C special coding:
  - IC Mismatch - Single Altitude
  - IC Mismatch - Block Altitude
  - Abnormal CAA Indicator
  - Controller entered reported altitude - "#" character
    - Not responding with Mode C altitude and the controller entered reported altitude does not equal the single assigned altitude
  - Lost Mode C - XXXX characters
    - Removed once Mode C is received again
  - Exceptional Vertical Rate Indicator "X"
    - Climb or descent exceeds the adapted value for aircraft
    - Removed when the aircraft returns to adapted value
    - Altitude may not be used to provide separation

FULL DATA BLOCK (FDB) *(CONT'D)*

Line 3 Field D

TI 6110.100, sec. 5.1.1.1, Figure 5-6

TI 6110.108, p. 30

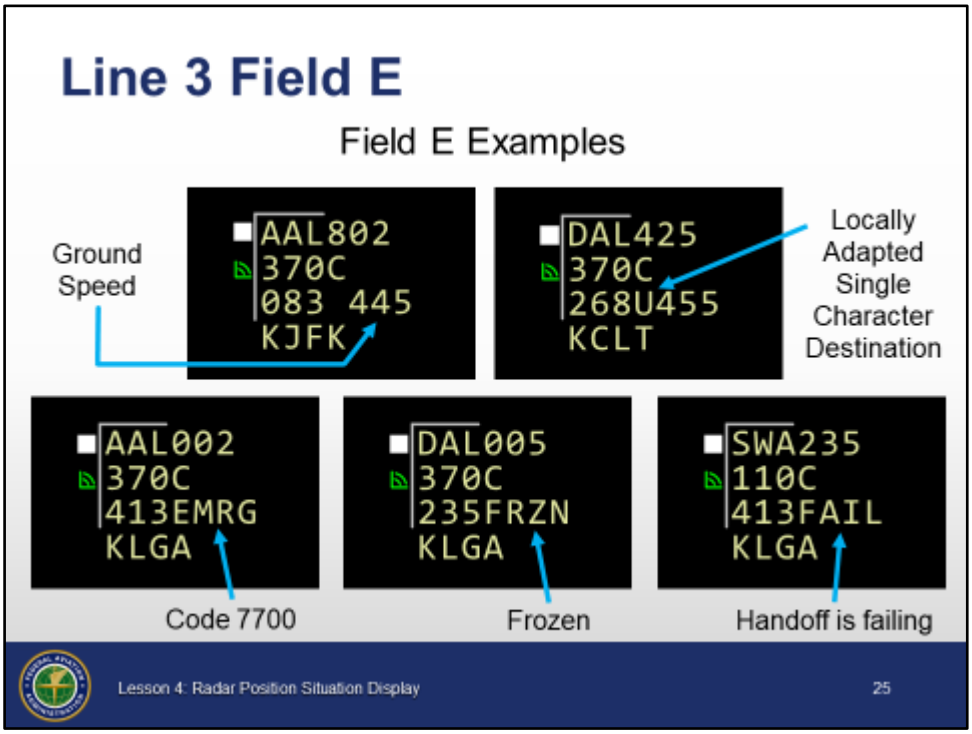


- Field D contains CID, and if applicable:
  - Route uplink in progress indicator
  - Route uplink timeout indicator
  - Route uplink abnormal indicator

FULL DATA BLOCK (FDB) *(CONT'D)*

Line 3 Field E

TI 6110.100, secs. 5.1.1.1, 5.1.5.16, Table 5-4

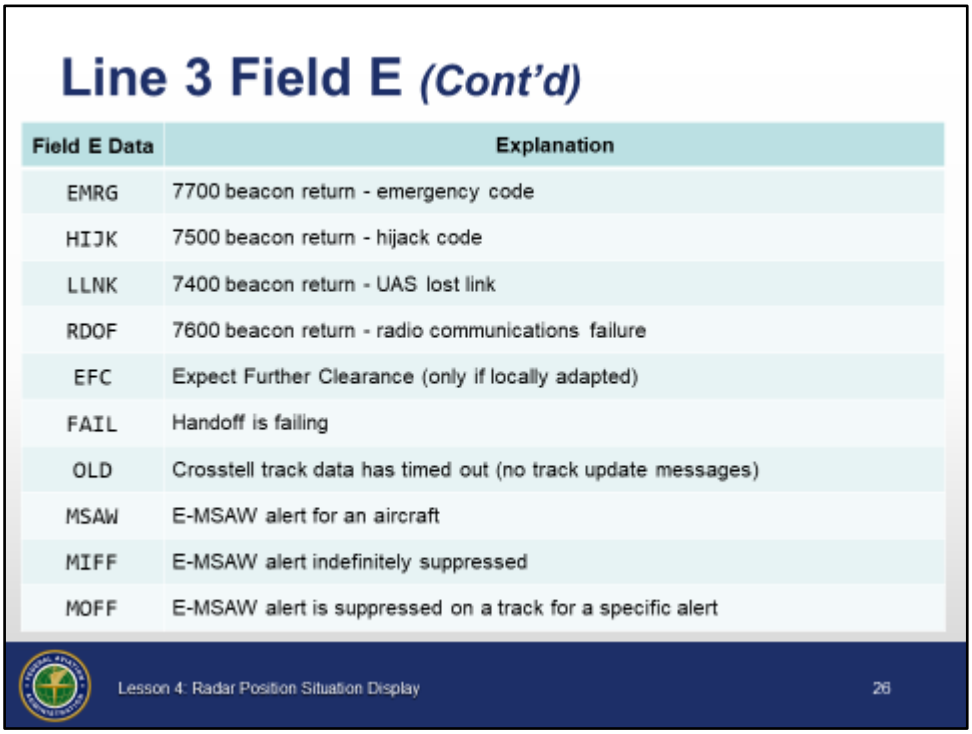


- Field E contains ground speed
  - May also contain facility adaptable single character destination indicator to the left of the ground speed
  - Various three and four letter indicators may time-share with ground speed to alert controllers to issues that need to be addressed

FULL DATA BLOCK (FDB) *(CONT'D)*

Line 3 Field E (Cont'd)

TI 6110.100, sec. 5.1.5.16, Table 5-4

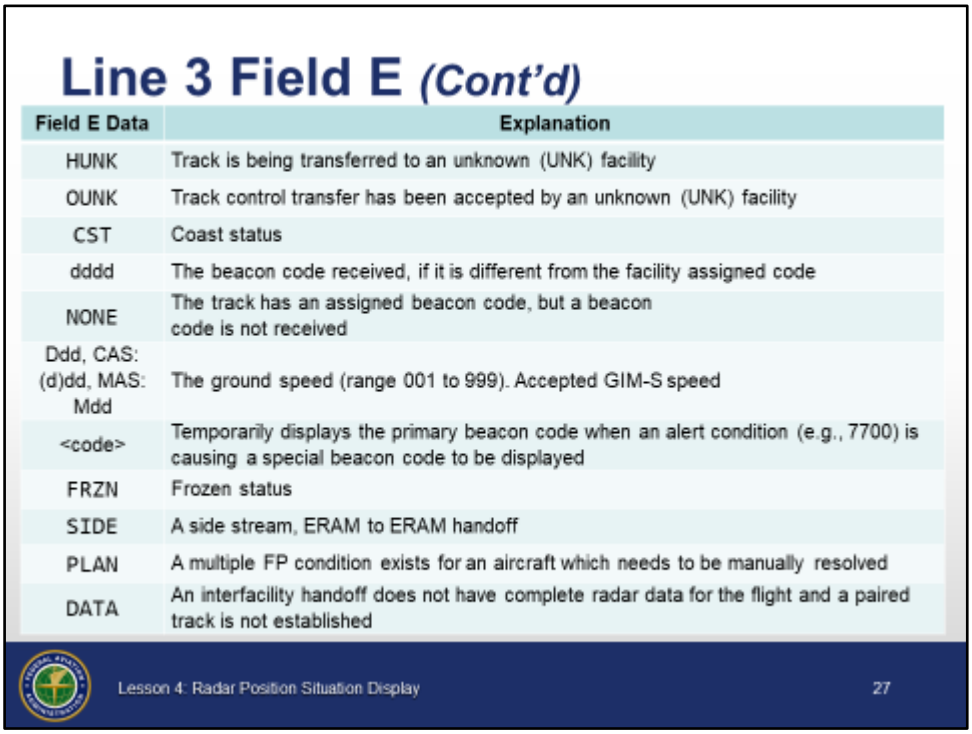


Field E Data	Explanation
EMRG	7700 beacon return - emergency code
HIJK	7500 beacon return - hijack code
LLNK	7400 beacon return - UAS lost link
RDOF	7600 beacon return - radio communications failure
EFC	Expect Further Clearance (only if locally adapted)
FAIL	Handoff is failing
OLD	Crosstell track data has timed out (No track update messages)
MSAW	E-MSAW alert for an aircraft
MIFF	E-MSAW alert indefinitely suppressed
MOFF	E-MSAW alert is suppressed on a track for a specific alert

FULL DATA BLOCK (FDB) *(CONT'D)*

Line 3 Field E (Cont'd)

TI 6110.100, sec. 5.1.5.16, Table 5-4

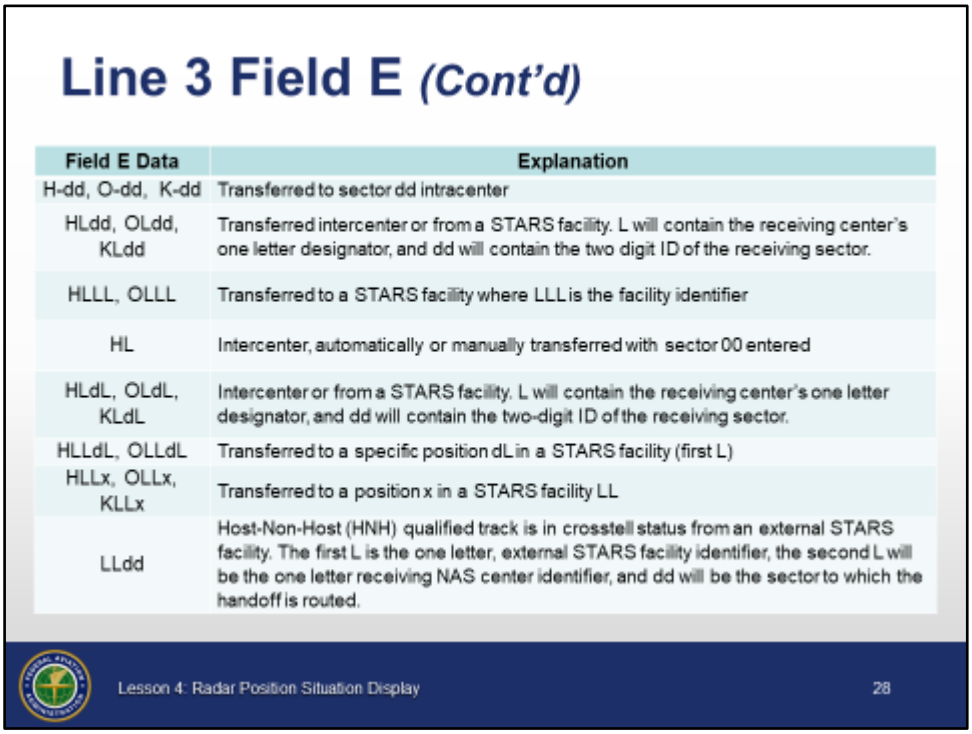


Field E Data	Explanation
HUNK	Track is being transferred to an unknown (UNK) facility
OUNK	Track control transfer has been accepted by an unknown (UNK) facility
CST	Coast status
dddd	The beacon code received, if it is different from the facility assigned code
NONE	The track has an assigned beacon code, but a beacon code is not received
Ddd, CAS: (d)dd, MAS: Mdd	The ground speed (range 001 to 999) Accepted GIM-S speed
<code>	Temporarily displays the primary beacon code when an alert condition (e.g., 7700) is causing a special beacon code to be displayed
FRZN	Frozen status
SIDE	A side stream, ERAM to ERAM handoff
PLAN	A multiple FP condition exists for an aircraft which needs to be manually resolved
DATA	An interfacility handoff does not have complete radar data for the flight and a paired track is not established

FULL DATA BLOCK (FDB) *(CONT'D)*

Line 3 Field E (Cont'd)

TI 6110.100, sec. 5.1.1.1, Table 5-4, Figure 5-6

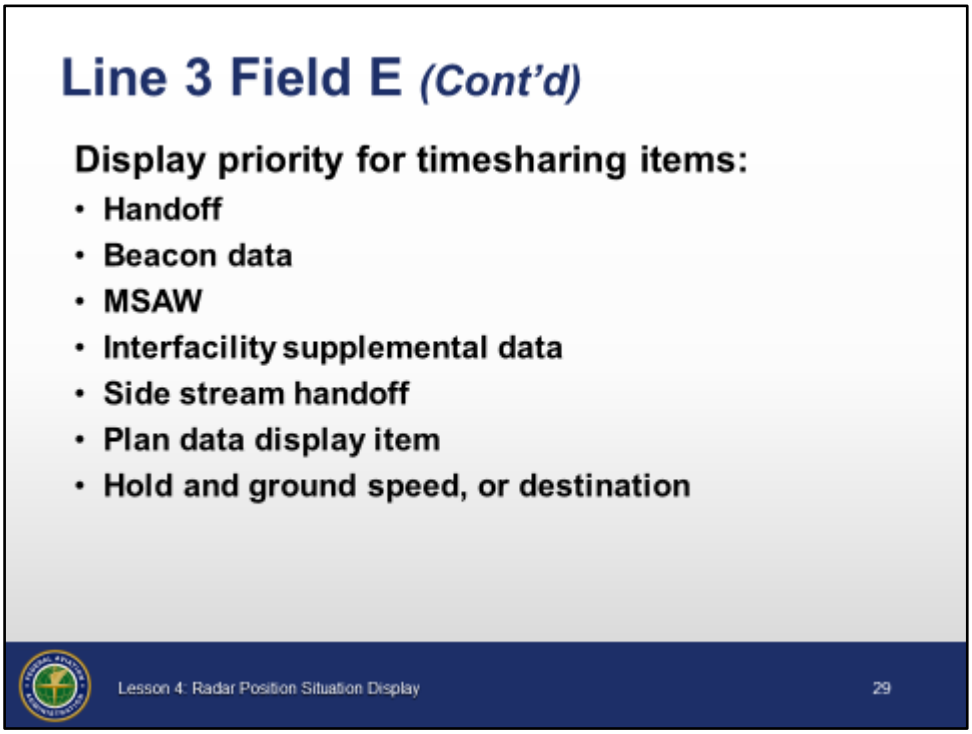


Field E Data	Explanation
H-dd, O-dd, K-dd	Transferred to sector dd intracenter
HLdd, OLdd, KLdd	Transferred intercenter or from a STARS facility. L is the receiving center's one letter designator, and dd will contain the two digit ID of the receiving sector.
HLLL, OLLL	Transferred to a STARS facility where LLL is the STARS facility identifier
HL	Intercenter, automatically or manually transferred with sector 00 entered
HLdL, OLdL, KLdL	Intercenter or from a STARS facility. L is the receiving center's one letter designator, and dd will contain the two digit ID of the receiving sector.
HLLdL, OLLdL	Transferred to a specific position dL in a STARS facility (first L)
HLLx, OLLx, KLLx	Transferred to a position x in a STARS facility LL
LLdd	Host-Non-Host (HNH) qualified track is in crosstell status from an external STARS. The first L is the one letter, external STARS facility identifier, the second L is the one letter receiving NAS center identifier, and dd is the sector to which the handoff is routed.

FULL DATA BLOCK (FDB) *(CONT'D)*

Line 3 Field E (Cont'd)

TI 6110.100, sec. 5.1.1.1, Figure 5-6

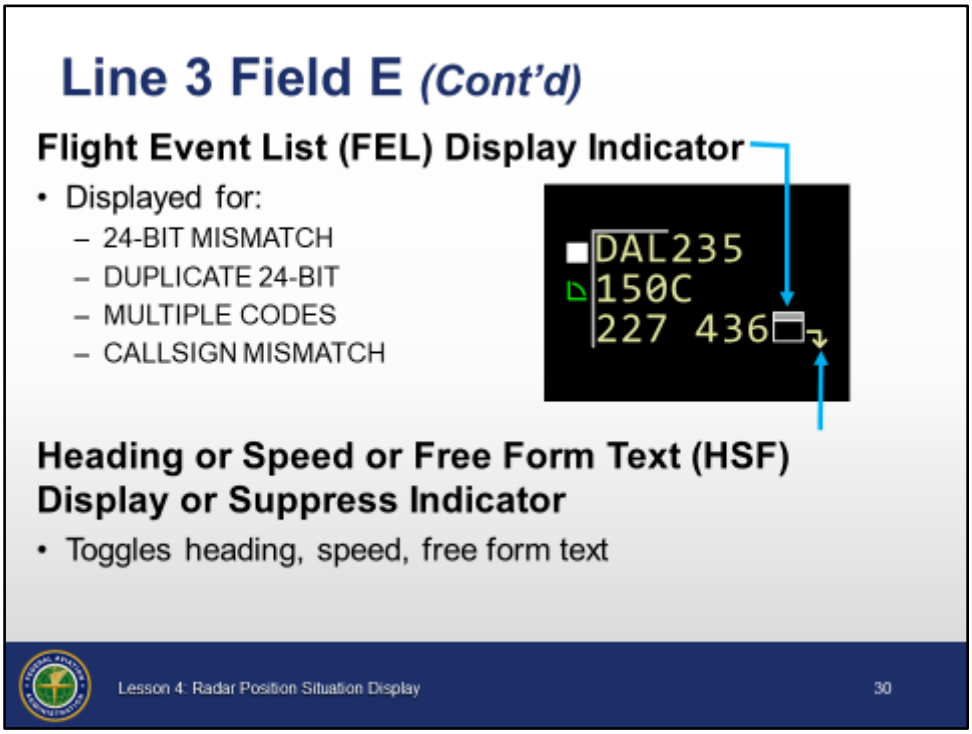


- Display priority for Field E timesharing display items:
  - Handoff
  - Beacon data
  - MSAW
  - Interfacility supplemental data
  - Side stream handoff
  - Plan data display item
  - Hold and ground speed, or destination

FULL DATA BLOCK (FDB) *(CONT'D)*

Line 3 Field E (Cont'd)

TI 6110.100, sec. 5.1.1.1, Figure 5-6

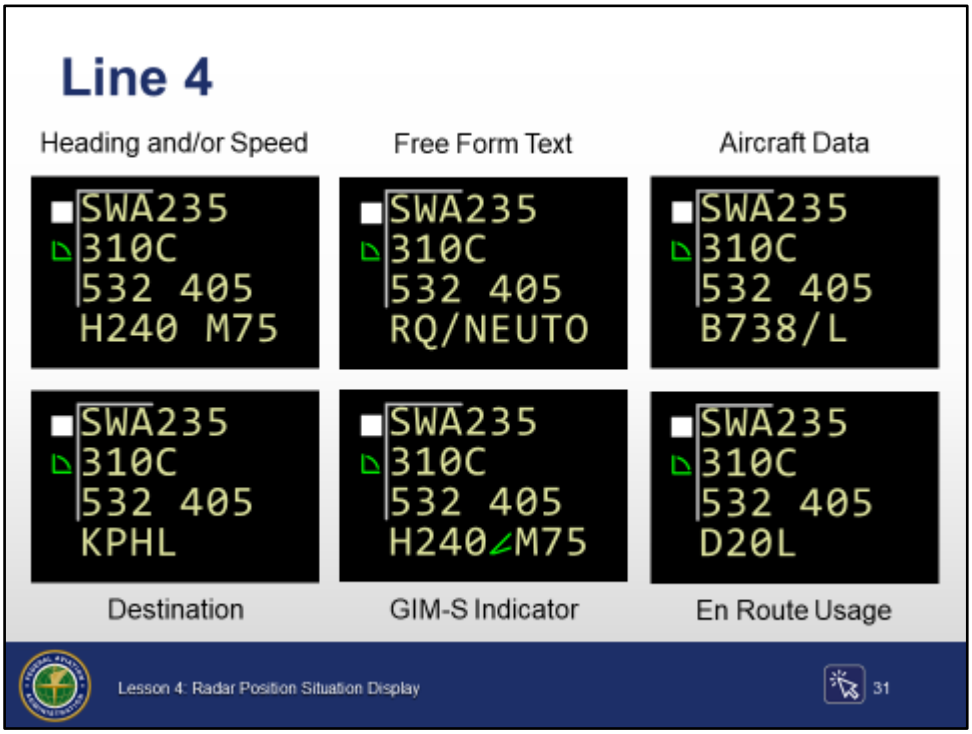


- Flight Event List (FEL) Display Indicator
  - The FEL indicator is displayed for 24-BIT MISMATCH, DUPLICATE 24-BIT, MULTIPLE CODES, or CALLSIGN MISMATCH
  - The FEL indicator remains displayed as Field E contents time share
- Heading or Speed or Free Form Text (HSF) Display or Suppress indicator
  - The HSF indicator toggles the heading, speed, and free form text

FULL DATA BLOCK (FDB) *(CONT'D)*

Line 4

TI 6110.100, sec. 5.1.1.1, Figure 5-7



Slide is animated, 5 clicks. Click where indicated by click icons.

- Field F is displayed in the fourth line of data block
- It can display one or more of the following:
  - Heading and/or speed
  - Free form text
  - Aircraft data
  - Destination
  - Ground Interval Management - Spacing (GIM-S) Indicator

Continued on next page

FULL DATA BLOCK (FDB) *(CONT'D)*

Line 4 (Cont'd)

TI 6110.100, sec. 5.1.1.1, Figure 5-7

- En route usage for coordination
  - Headings

    Examples: `H080, H090/RDU, PH/ORF`
  - Weather deviations

    Examples: `D, DL20/TCC, DW/TCM, D/F`
  - Assigned airspeeds

    Examples: `S250, S250+, S280-, M75`
  - CELNAV

    Example: `CELNAV`
  - Altitude request

    Examples: `RQ170, RQ410`
  - Route request

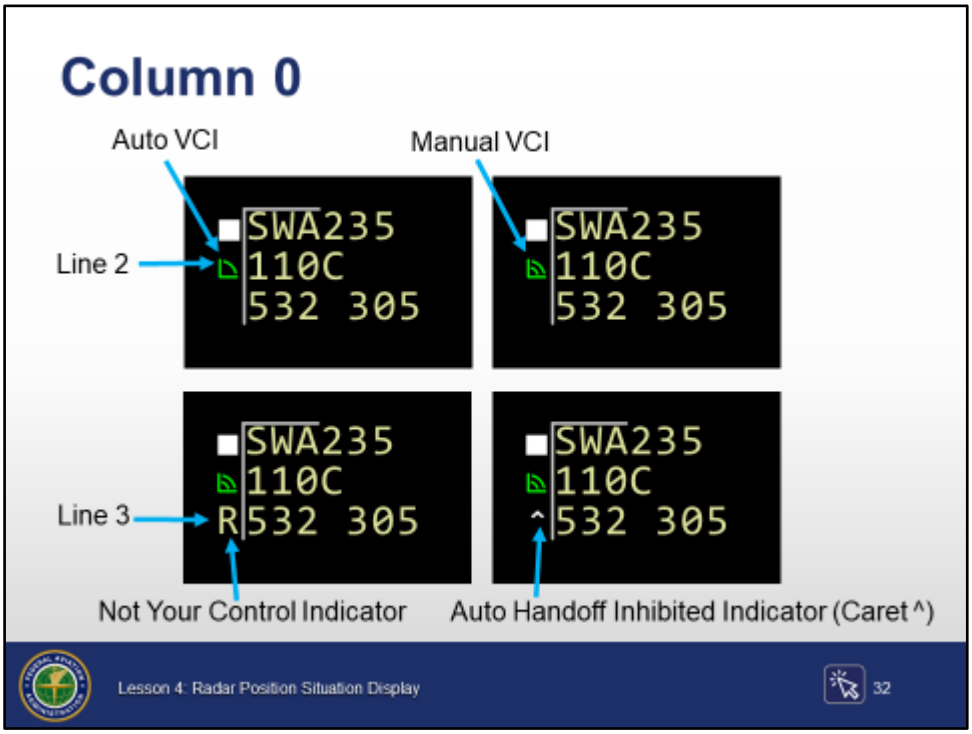
    Examples: `RQ/LAX, RQ/RDU`

FULL DATA BLOCK (FDB) *(CONT'D)*

Column 0

TI 6110.100, sec. 5.1.1.1, Figure 5-8

TI 6110.108



Slide is animated, 4 clicks. Click where indicated by click icons.

- Column 0, Line 2
  - Auto Voice Communication indicator
  - Manual Voice Communication indicator
- Column 0, Line 3
  - Not Your Control indicator "R"
    - Displayed when the sector does not have track control
  - Auto Handoff Inhibited indicator (Caret ^)
    - Displayed when automatic handoff is inhibited
    - Inhibit Auto Handoff

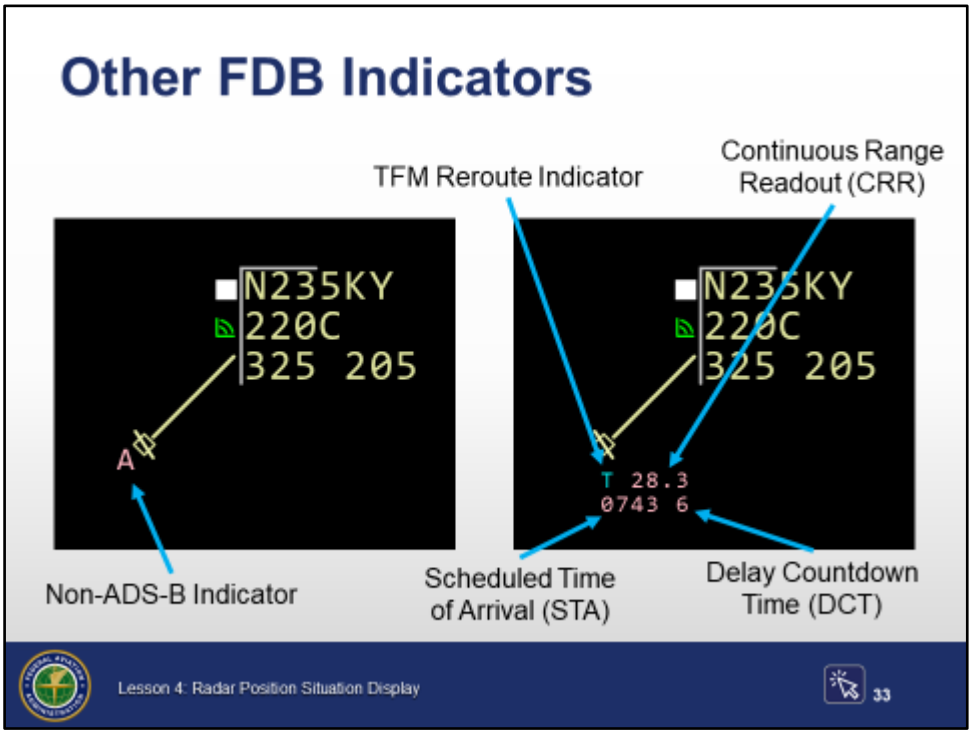
      Syntax: QA <FLID>
    - Restore Auto Handoff

      Syntax: QA <FLID>

FULL DATA BLOCK (FDB) *(CONT'D)*

Other FDB Indicators

TI 6110.100, pars. 2.12, 4.2.6.6, Figure 4-38

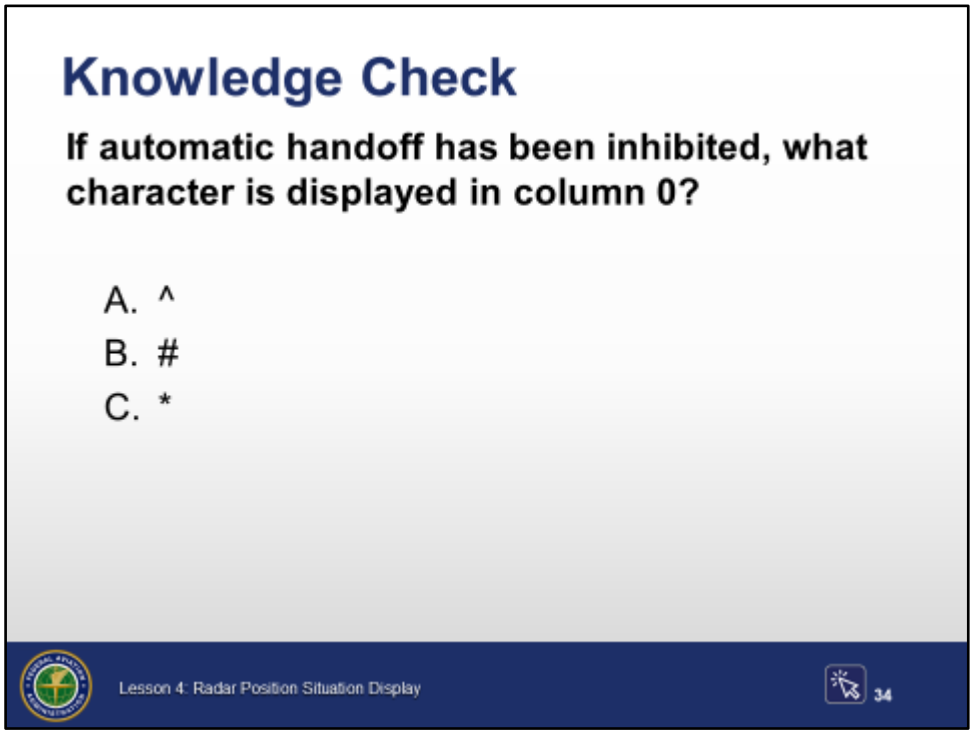


Slide is animated, 3 clicks. Click where indicated by click icons.

- Non ADS-B Indicator
  - When a flight is not Automatic Dependent Surveillance Broadcast (ADS-B) equipped, or if not operating properly
  - Burnt coral "A" by the target symbol
- TFM Reroute Indicator
  - When a Traffic Flow Management (TFM) reroute is available
    - Cyan "T" by the target symbol
      - Once reroute is issued the "T" turns white
- Continuous Range Readout (CRR) shows the aircraft's distance from a selected fix or point on the Situation Display
- Scheduled Time of Arrival (STA) and Delay Countdown Time (DCT) may also be shown

FULL DATA BLOCK (FDB) *(CONT'D)*

Knowledge Check

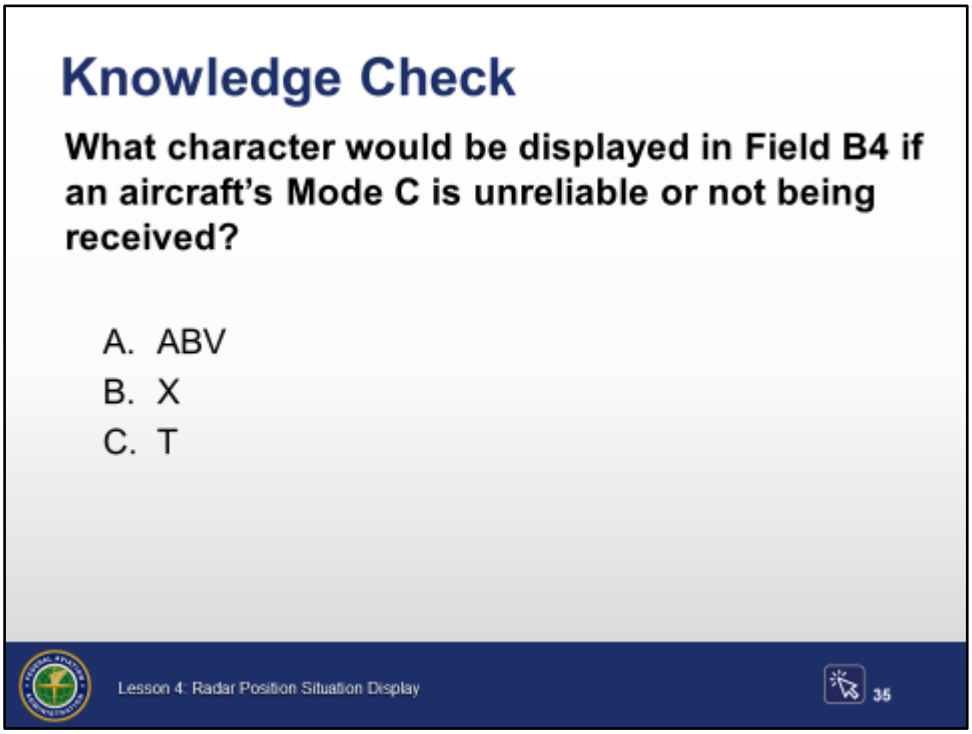


Question: If automatic handoff has been inhibited, what character is displayed in column 0?

Answer: *A.* **^**

FULL DATA BLOCK (FDB) *(CONT'D)*

Knowledge Check

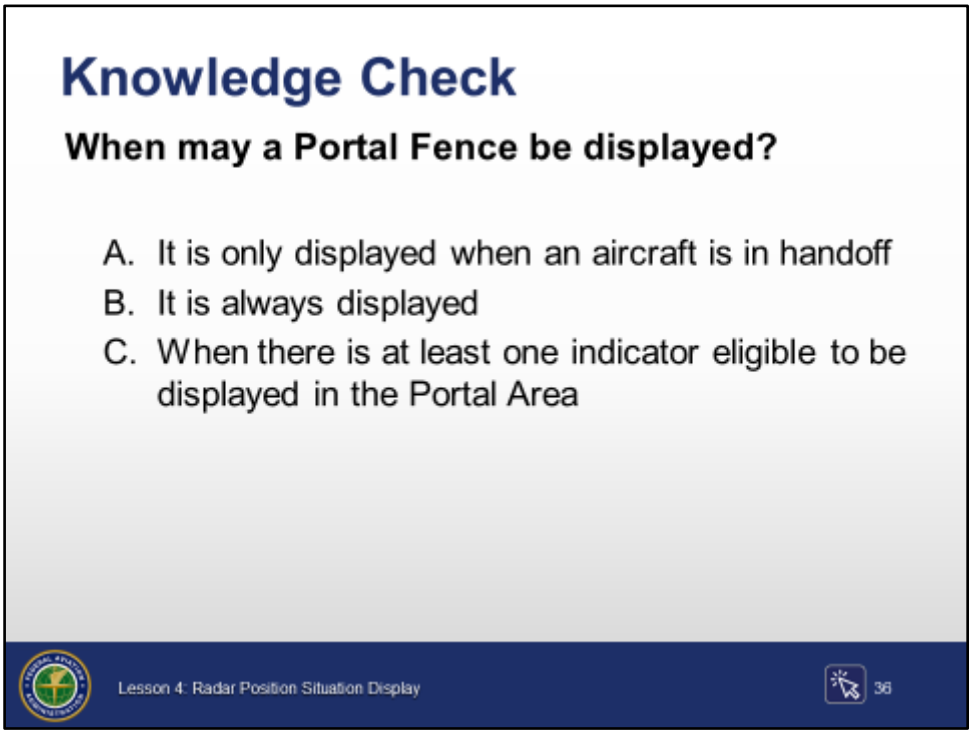


Question: What character would be displayed in Field B4 if an aircraft's Mode C is unreliable or not being received?

Answer: *B. X*

FULL DATA BLOCK (FDB) *(CONT'D)*

Knowledge Check



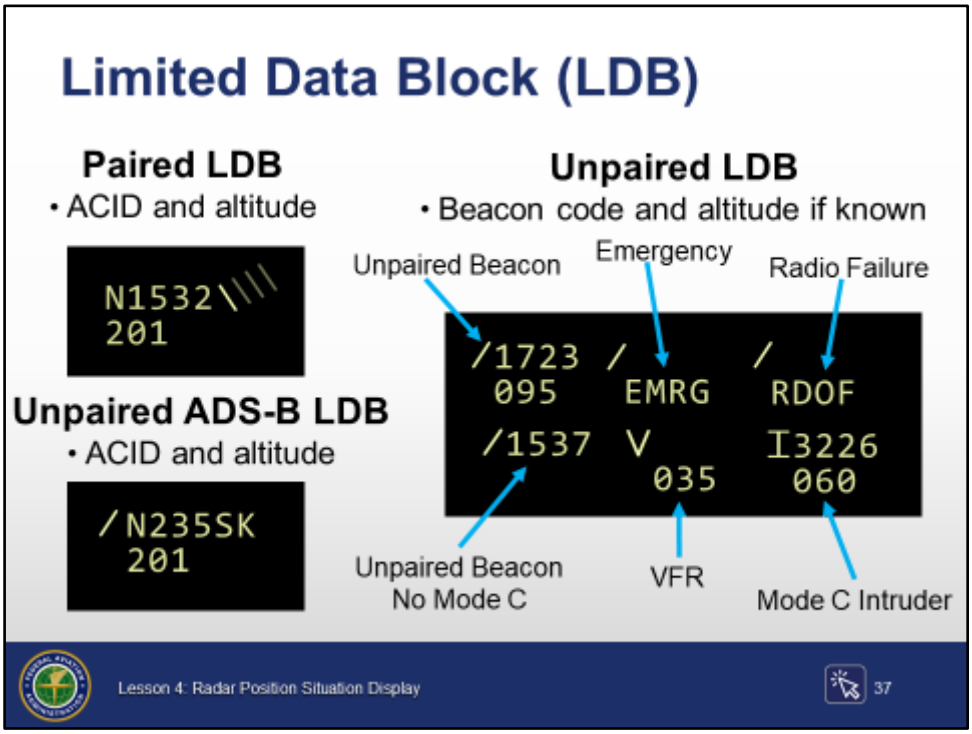
Question: When may a Portal Fence be displayed?

Answer: *C. When there is at least one indicator eligible to be displayed in the Portal Area*

LIMITED DATA BLOCK (LDB)

Limited Data Block (LDB)

TI 6110.100, sec. 5.1.2



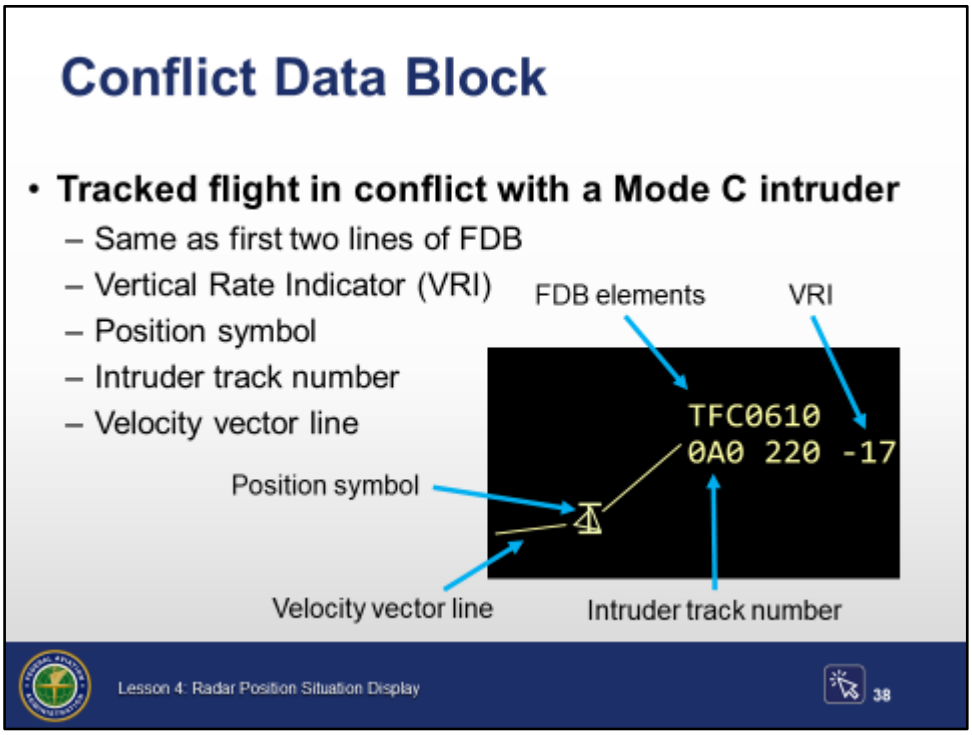
Slide is animated, 7 clicks. Click where indicated by click icons.

- Paired LDB is displayed with the ACID and altitude
- Unpaired LDBs are displayed as:
  - Beacon code and Mode C altitude
  - EMRG - Emergency code 7700
  - RDOF - Radio failure code 7600
  - Beacon code and no Mode C altitude
  - V(altitude) - VFR code 1200
  - Beacon code and Mode C altitude - Mode C Intruder
- Unpaired ADS-B LDBs are displayed with the ACID and altitude
- LDBs have no track position symbol, leader line, or velocity vector line

LIMITED DATA BLOCK *(CONT'D)*

Conflict Data Block

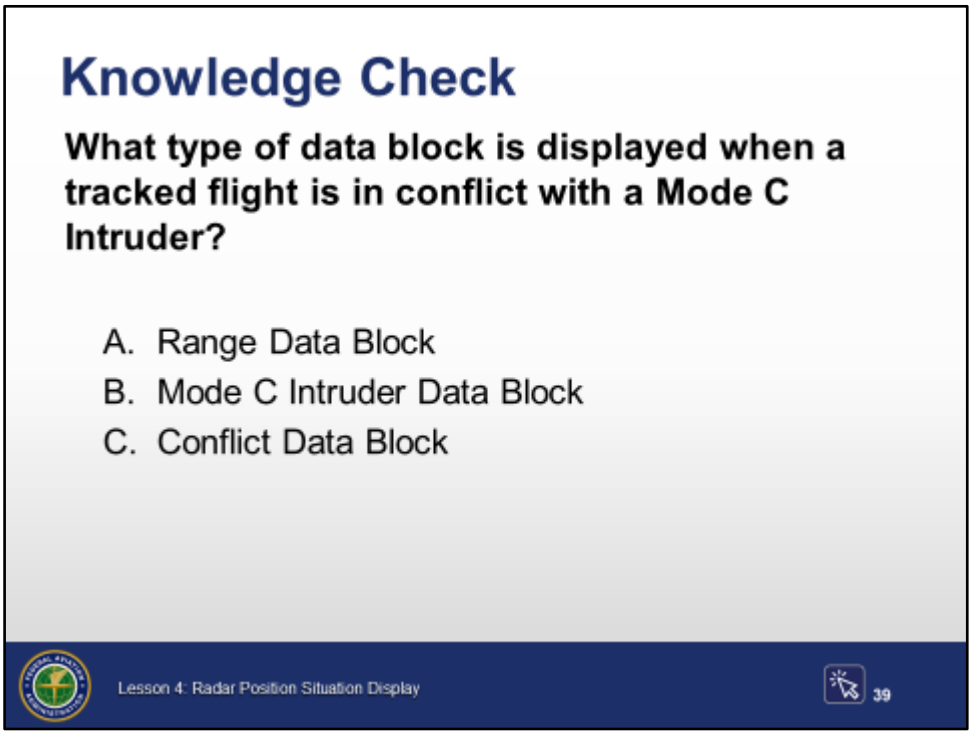
TI 6110.100, sec. 5.1.4



Slide is animated, 5 clicks. Click where indicated by click icons.

- When a tracked flight is in conflict with a Mode C intruder, the system displays a Conflict Data Block for the Mode C intruder
  - Field A will blink
- The Conflict Data Block displays:
  - The same data elements as the first two lines of an FDB
    - Field A will contain TFC and a beacon code
  - Vertical rate indicator (VRI)
    - Vertical velocity is displayed in 100' per minute increments
    - "+" indicates climbing
    - "-" indicates descending
  - Position symbol
  - Intruder track number
  - Velocity vector line

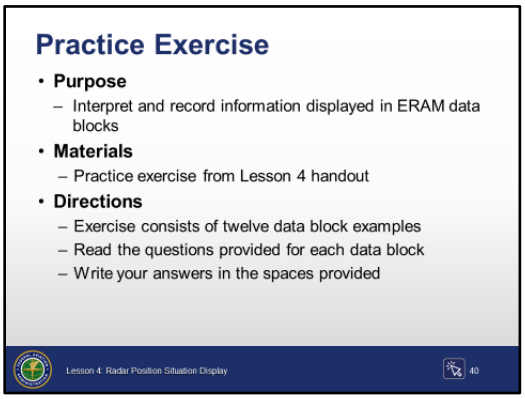
Knowledge Check



Question: What type of data block is displayed when a tracked flight is in conflict with a Mode C Intruder?

Answer: *C. Conflict Data Block*

PRACTICE EXERCISE: RADAR POSITION SITUATION DISPLAY



Purpose

The students will perform the following task:

- Interpret and record information displayed in ERAM data blocks

Materials

Handout: *HO01_L04*

- Pen or pencil

Data block examples start on slide #41.

Directions

This exercise takes approximately 45 minutes to complete. Read and answer the questions; write your answers in the spaces provided.

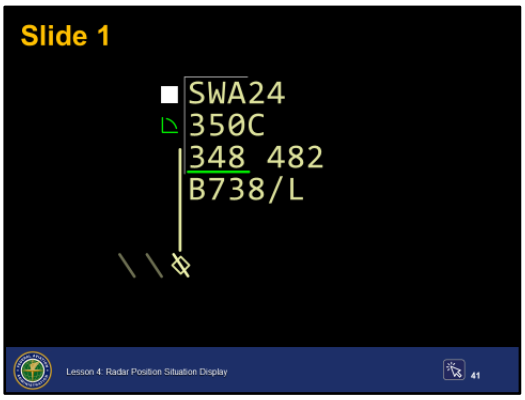
Instruct the students to fill-in the answers on each page. When all students are finished, click to highlight the data block fields and review the answers.

- Exercise consists of twelve data block examples
- Read the questions provided for each data block
- Write your answers in the spaces provided

Continued on next page

PRACTICE EXERCISE: RADAR POSITION SITUATION DISPLAY *(CONT'D)*

Slide 1



Slide is animated, 7 clicks. Click where indicated by click icons.

Answer the questions below. You may need to check the projected data block slide to see time shared information.

A. What is the call sign?

SWA24

B. What altitude is the aircraft assigned?

FL350

C. What is the current altitude?

FL350

D. What is the CID?

348

E. What is the ground speed? Who has track control? Write down any control data in Field E.

482, your sector, no data

F. What is the fourth line data?

B738/L

G. What indicators or symbols are present?

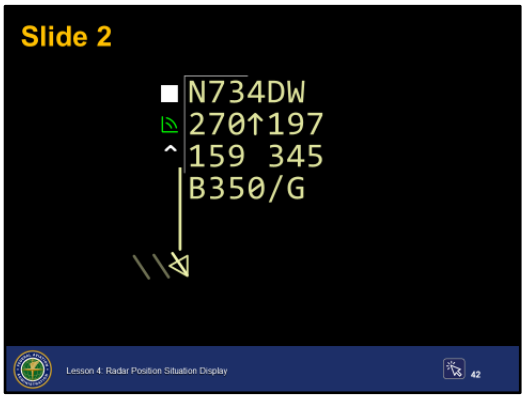
CDA w/ eligibility, VCI-auto, RTE uplink in progress

H. What is the target status?

FLAT, correlated beacon

PRACTICE EXERCISE: RADAR POSITION SITUATION DISPLAY *(CONT'D)*

Slide 2



Slide is animated, 7 clicks. Click where indicated by click icons.

Answer the questions below. You may need to check the projected data block slide to see time shared information.

A. What is the call sign?

N734DW

B. What altitude is the aircraft assigned?

FL270

C. What is the current altitude?

FL197

D. What is the CID?

159

E. What is the ground speed? Who has track control? Write down any control data in Field E.

345, your sector, no data

F. What is the fourth line data?

B350/G

G. What indicators or symbols are present?

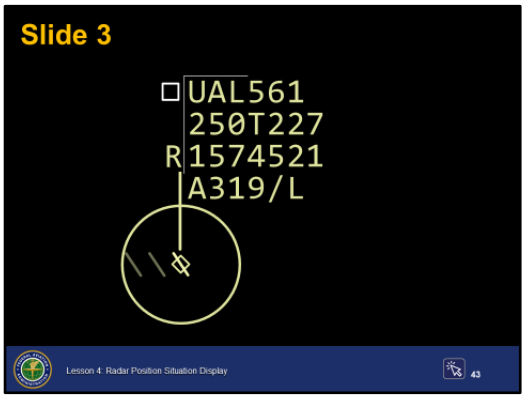
CDA w/ eligibility, VCI-Manual , auto HO inhibited

H. What is the target status?

Free track, correlated beacon

PRACTICE EXERCISE: RADAR POSITION SITUATION DISPLAY *(CONT'D)*

Slide 3



Slide is animated, 7 clicks. Click where indicated by click icons.

Answer the questions below. You may need to check the projected data block slide to see time shared information.

A. What is the call sign?

UAL561

B. What altitude is the aircraft assigned?

FL250

C. What is the current altitude?

FL227

D. What is the CID?

157

E. What is the ground speed? Who has track control? Write down any control data in Field E.

415, another sector, A/C squawking incorrect code 4521

F. What is the fourth line data?

A319/L

G. What indicators or symbols are present?

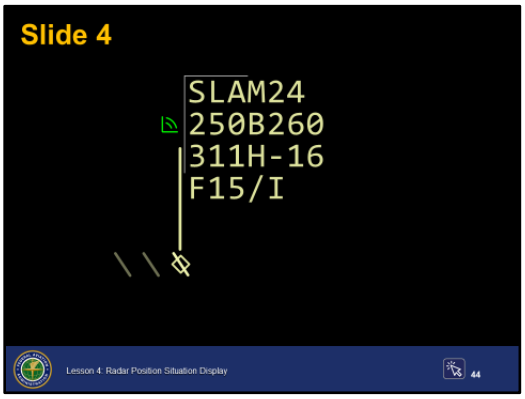
CDA w/o eligibility, not your control (indicated by "R")

H. What is the target status?

FLAT, correlated beacon, 5 mile DRI

PRACTICE EXERCISE: RADAR POSITION SITUATION DISPLAY *(CONT'D)*

Slide 4



Slide is animated, 7 clicks. Click where indicated by click icons.

Answer the questions below. You may need to check the projected data block slide to see time shared information.

A. What is the call sign?

SLAM24

B. What altitude is the aircraft assigned?

FL250B260

C. What is the current altitude?

In the block FL250B260

D. What is the CID?

311

E. What is the ground speed? Who has track control? Write down any control data in Field E.

510, your sector, H/O to sector 16 in progress

F. What is the fourth line data?

F15/I

G. What indicators or symbols are present?

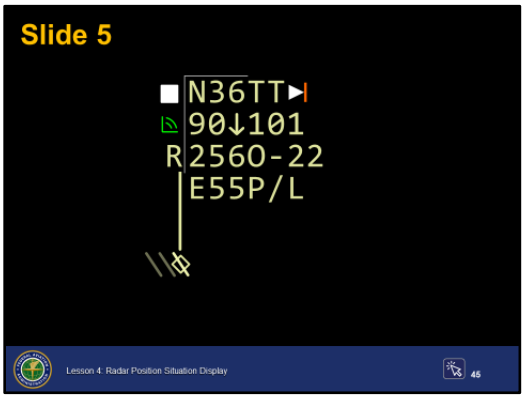
VCI-manual

H. What is the target status?

FLAT, correlated beacon

PRACTICE EXERCISE: RADAR POSITION SITUATION DISPLAY *(CONT'D)*

Slide 5



Slide is animated, 7 clicks. Click where indicated by click icons.

Answer the questions below. You may need to check the projected data block slide to see time shared information.

A. What is the call sign?

N36TT

B. What altitude is the aircraft assigned?

9,000'

C. What is the current altitude?

10,100'

D. What is the CID?

256

E. What is the ground speed? Who has track control? Write down any control data in Field E.

255, sector 22, no data

F. What is the fourth line data?

E55P/L

G. What indicators or symbols are present?

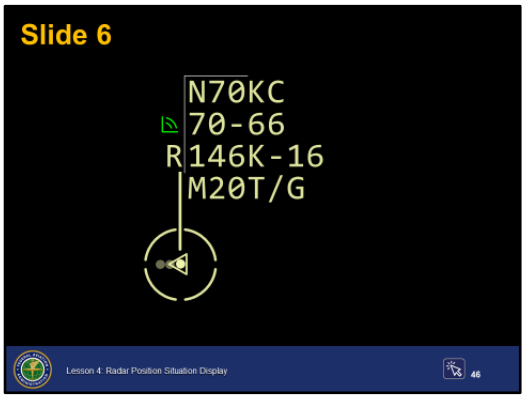
CDA w/ eligibility, VCI-manual, Held TOC, not your control

H. What is the target status?

FLAT, correlated beacon

PRACTICE EXERCISE: RADAR POSITION SITUATION DISPLAY *(CONT'D)*

Slide 6



Slide is animated, 7 clicks. Click where indicated by click icons.

Answer the questions below. You may need to check the projected data block slide to see time shared information.

A. What is the call sign?

N70KC

B. What altitude is the aircraft assigned?

7,000'

C. What is the current altitude?

6,600'

D. What is the CID?

146

E. What is the ground speed? Who has track control? Write down any control data in Field E.

165, /OK by sector 16, no data

F. What is the fourth line data?

M20T/G

G. What indicators or symbols are present?

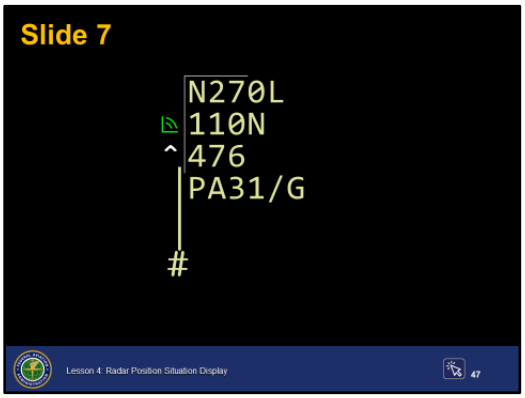
VCI-manual, not your control (indicated by "R")

H. What is the target status?

Free, reduced separation beacon, 3 mile DRI

PRACTICE EXERCISE: RADAR POSITION SITUATION DISPLAY *(CONT'D)*

Slide 7



Slide is animated, 7 clicks. Click where indicated by click icons.

Answer the questions below. You may need to check the projected data block slide to see time shared information.

A. What is the call sign?

N270L

B. What altitude is the aircraft assigned?

11,000'

C. What is the current altitude?

unknown

D. What is the CID?

476

E. What is the ground speed? Who has track control? Write down any control data in Field E.

Unknown, your sector, coast track

F. What is the fourth line data?

PA31/G

G. What indicators or symbols are present?

VCI-manual, caret

H. What is the target status?

No target, coasting

PRACTICE EXERCISE: RADAR POSITION SITUATION DISPLAY *(CONT'D)*

Slide 8

Slide is animated, 7 clicks. Click where indicated by click icons.

Answer the questions below. You may need to check the projected data block slide to see time shared information.

A. What is the call sign?

N54CR

B. What altitude is the aircraft assigned?

11,000'

C. What is the current altitude?

11,000' controller entered

D. What is the CID?

209

E. What is the ground speed? Who has track control? Write down any control data in Field E.

256, your sector, H/O failed to external facility

F. What is the fourth line data?

C421/G

G. What indicators or symbols are present?

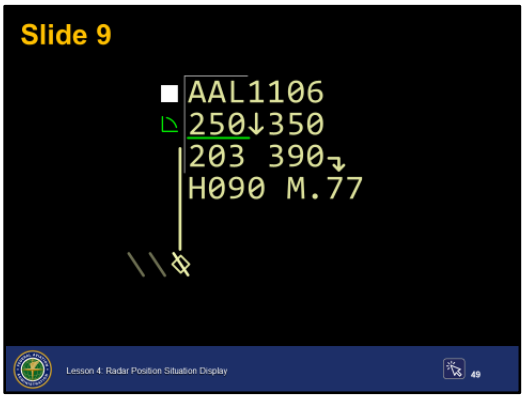
VCI-manual, caret

H. What is the target status?

Free track, correlated beacon

PRACTICE EXERCISE: RADAR POSITION SITUATION DISPLAY *(CONT'D)*

Slide 9



Slide is animated, 7 clicks. Click where indicated by click icons.

Answer the questions below. You may need to check the projected data block slide to see time shared information.

A. What is the call sign?

AAL1106

B. What altitude is the aircraft assigned?

FL250 (uplink in progress)

C. What is the current altitude?

FL350

D. What is the CID?

203

E. What is the ground speed? Who has track control? Write down any control data in Field E.

390, your sector, no data

F. What is the fourth line data?

H090, M.77

G. What indicators or symbols are present?

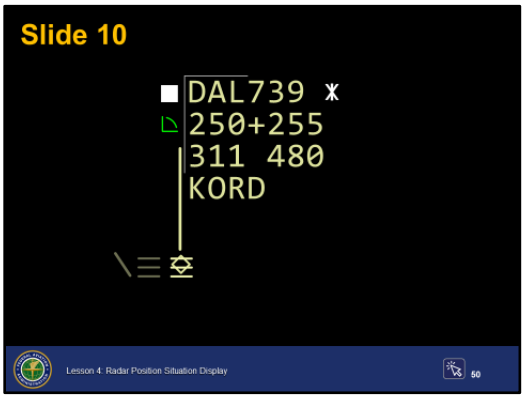
CDA w/ eligibility, VCI-auto, ALT uplink in progress, HSF indicator

H. What is the target status?

FLAT, correlated beacon

PRACTICE EXERCISE: RADAR POSITION SITUATION DISPLAY *(CONT'D)*

Slide 10



Slide is animated, 7 clicks. Click where indicated by click icons.

Answer the questions below. You may need to check the projected data block slide to see time shared information.

A. What is the call sign?

DAL739

B. What altitude is the aircraft assigned?

FL250

C. What is the current altitude?

FL255

D. What is the CID?

311

E. What is the ground speed? Who has track control? Write down any control data in Field E.

480, your sector, no data

F. What is the fourth line data?

KORD

G. What indicators or symbols are present?

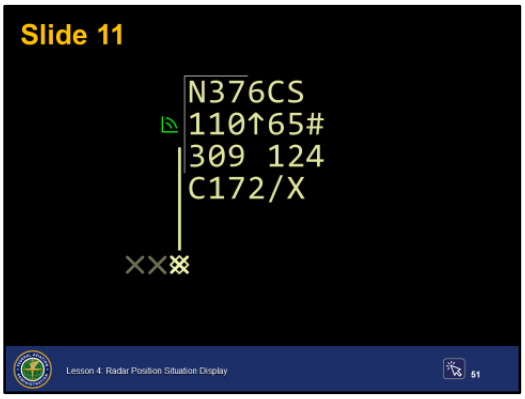
CDA w/ eligibility, VCI-auto, SATCOMM

H. What is the target status?

FLAT, identing, beacon

PRACTICE EXERCISE: RADAR POSITION SITUATION DISPLAY *(CONT'D)*

Slide 11



Slide is animated, 7 clicks. Click where indicated by click icons.

Answer the questions below. You may need to check the projected data block slide to see time shared information.

A. What is the call sign?

N376CS

B. What altitude is the aircraft assigned?

11,000'

C. What is the current altitude?

6,500' controller entered

D. What is the CID?

309

E. What is the ground speed? Who has track control? Write down any control data in Field E.

124, your sector, no data

F. What is the fourth line data?

C172/X

G. What indicators or symbols are present?

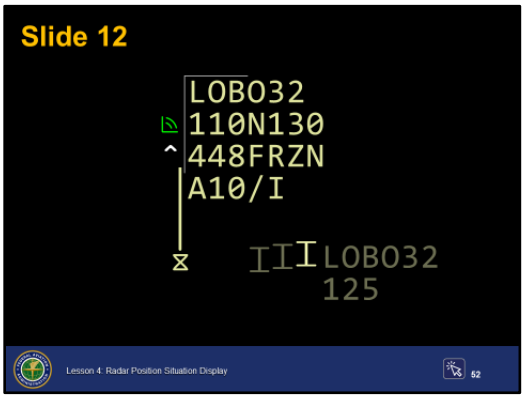
VCI-manual, controller entered altitude

H. What is the target status?

FLAT, paired primary

PRACTICE EXERCISE: RADAR POSITION SITUATION DISPLAY *(CONT'D)*

Slide 12



Slide is animated, 7 clicks. Click where indicated by click icons.

Answer the questions below. You may need to check the projected data block slide to see time shared information.

A. What is the call sign?

LOBO32

B. What altitude is the aircraft assigned?

110B130

C. What is the current altitude?

12,500'

D. What is the CID?

448

E. What is the ground speed? Who has track control? Write down any control data in Field E.

Unknown, your sector, frozen track

F. What is the fourth line data?

A10/I

G. What indicators or symbols are present?

VCI-manual, caret

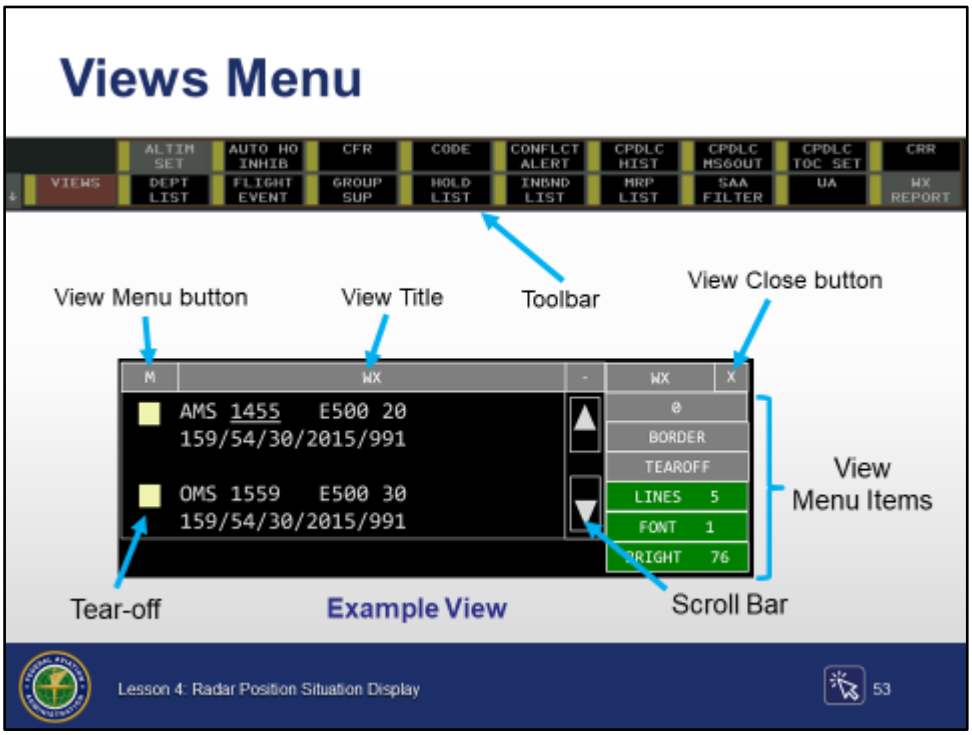
H. What is the target status?

Frozen, paired MCI beacon

DISPLAY VIEWS

Views Menu

TI 6110.100, pars. 3.10, 4.1, 4.2

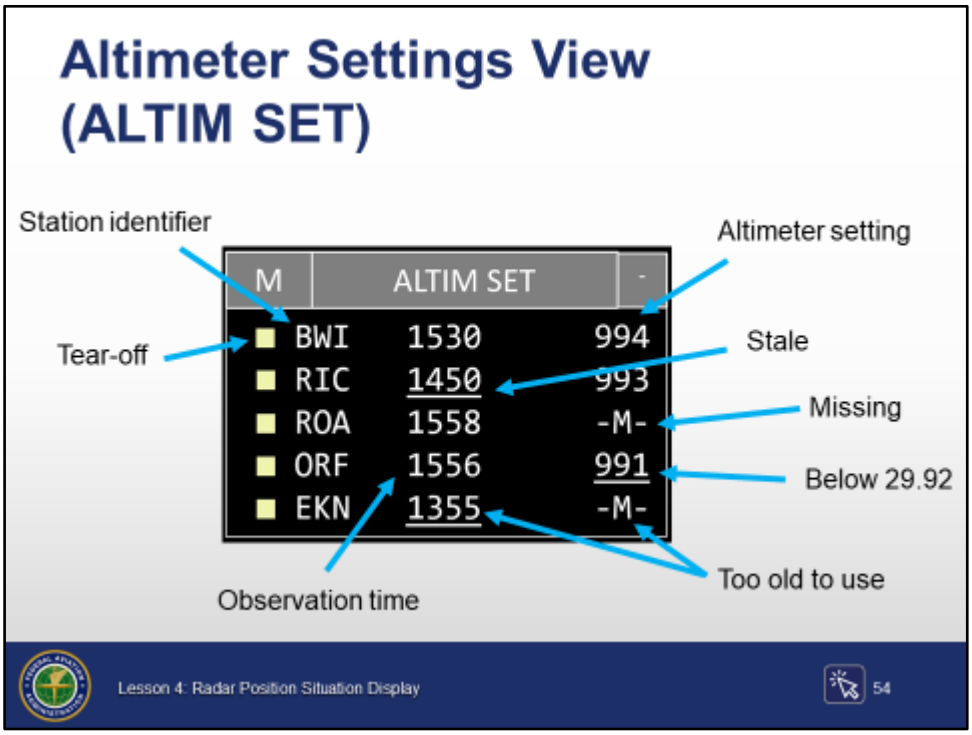


Slide is animated, 6 clicks. Click where indicated by click icons.

- The R Position accesses views from a button on the Views Menu toolbar
- Most of the R Position views behave in the same manner as the views on the EDST
  - View Menu button - Displays menu sub-items that may be available
  - View Title - Name of the menu
  - View Close button - Used to close the menu
  - View Menu items - Sub-items that allow you to make adjustments to the menu
  - Scroll bar - Used to display information that overflows in the readout view
  - Tear-off - Allows you to make a copy of a display entry that can be placed in different areas on the Situation Display

Altimeter Settings View (ALTIM SET)

TI 6110.100, sec. 4.2.1

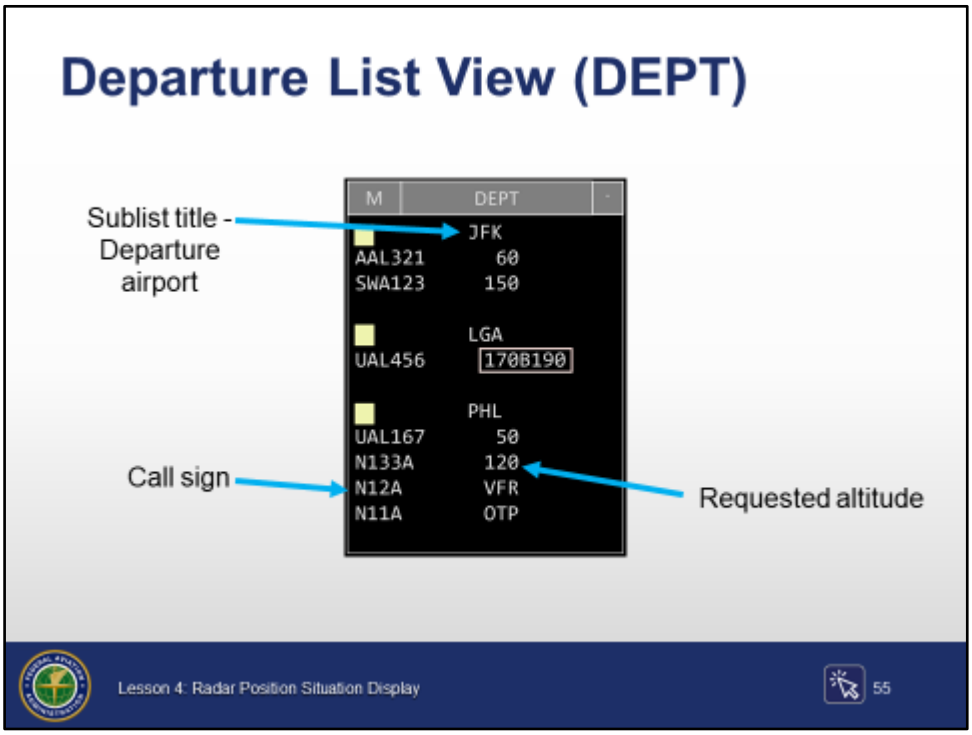


Slide is animated, 7 clicks. Click where indicated by click icons.

- Altimeter Settings View entries are automatically updated whenever new altimeter data is received
- Tear-off - Allows the view to be placed in another location
- Station identifier - The two to five letter identifier of the station where the observation was taken
- Observation time - When the observation was taken or when the entry was changed to missing
  - The observation time is underlined when it becomes stale (more than 65 minutes old)
  - If observation is more than 120 minutes old, the time will be underlined and an "-M-" will be displayed
- Altimeter setting
  - The altimeter setting is underlined if it is below 29.92
  - If the station report is missing, an "-M-" will be displayed

Departure List View (DEPT LIST)

TI 6110.100, sec. 4.2.10

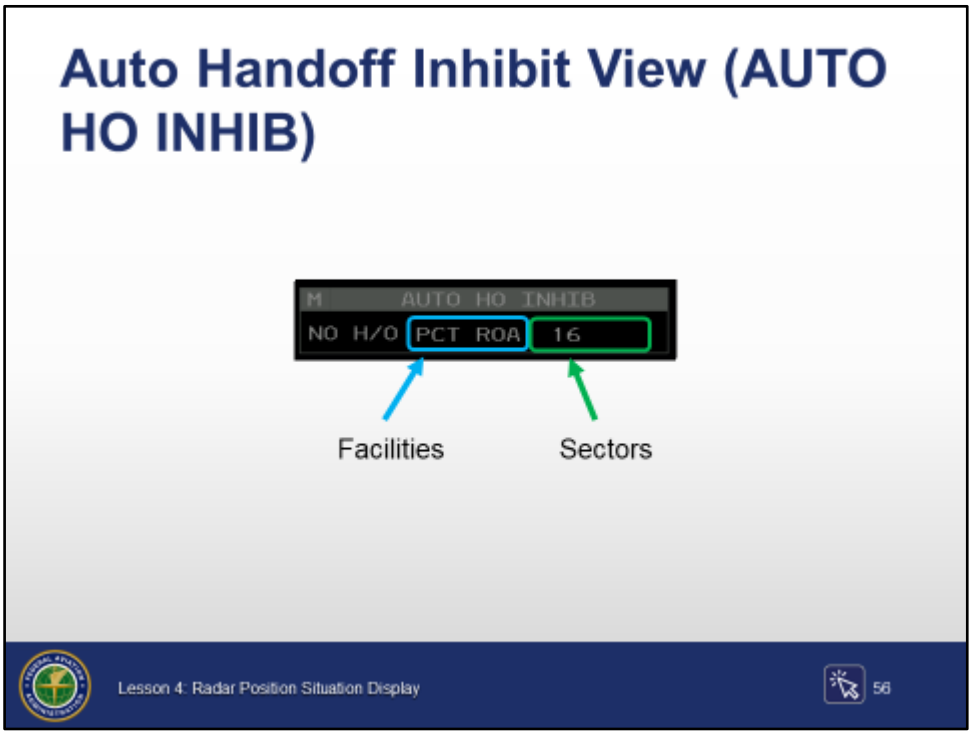


Slide is animated, 3 clicks. Click where indicated by click icons.

- The Departure List View displays a list of aircraft that are departing from airports within the sector
  - Sublist title - Departure airport
  - Call sign
  - Requested altitude
    - Includes non-RVSM indicator, if applicable

Auto Handoff Inhibit View (AUTO HO INHIB)

TI 6110.100, sec. 4.2.2



Slide is animated, 4 clicks. Click where indicated by click icons.

- The Auto Handoff Inhibit View shows:
  - Adjacent facilities to which automatic handoff has been inhibited
  - Sectors to which automatic handoff has been inhibited
- Input to inhibit or restore automatic handoffs for a sector number

  Syntax: QA <sector number>

  Example: `QA 20`

  Click to show text box and read to class.

  Click to enter QA 20 and observe results.

  Click to show text box and read to class.

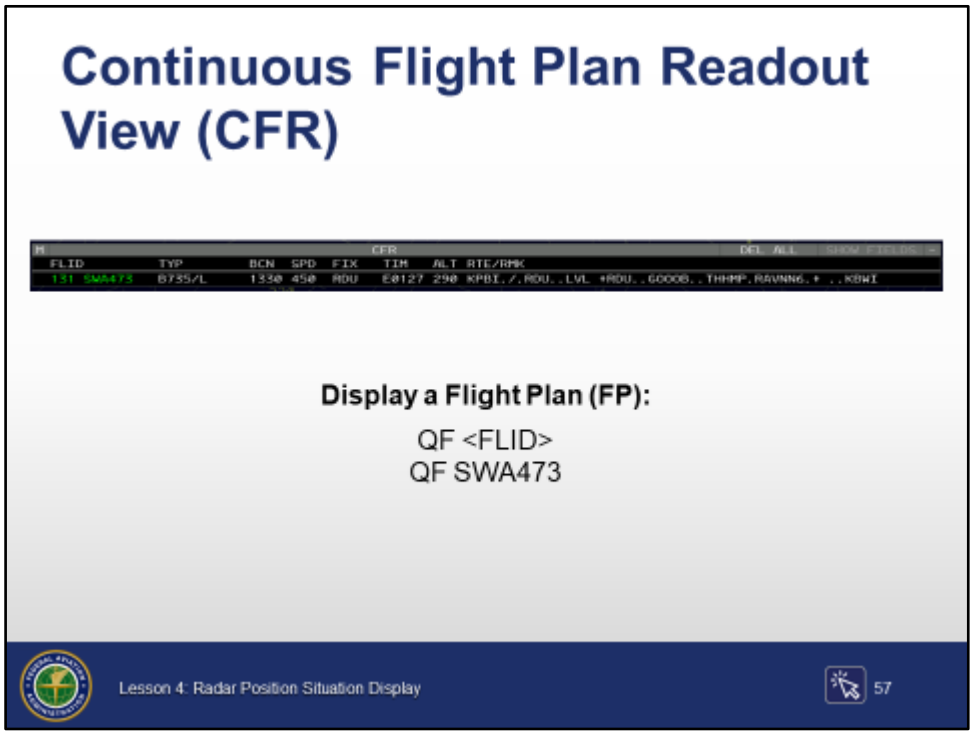
  Click to re-enter QA 20 and observe results.
- Input to inhibit or restore automatic handoffs for a facility

  Syntax: QA <facility>

  Example: `QA PCT`

Continuous Flight Plan Readout View (CFR)

TI 6110.100, sec. 4.2.3



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

- If accessed, the Continuous Flight Plan Readout (CFR) view displays up to ten different Non-ICAO FPs and is automatically updated
  - Input to display a flight plan

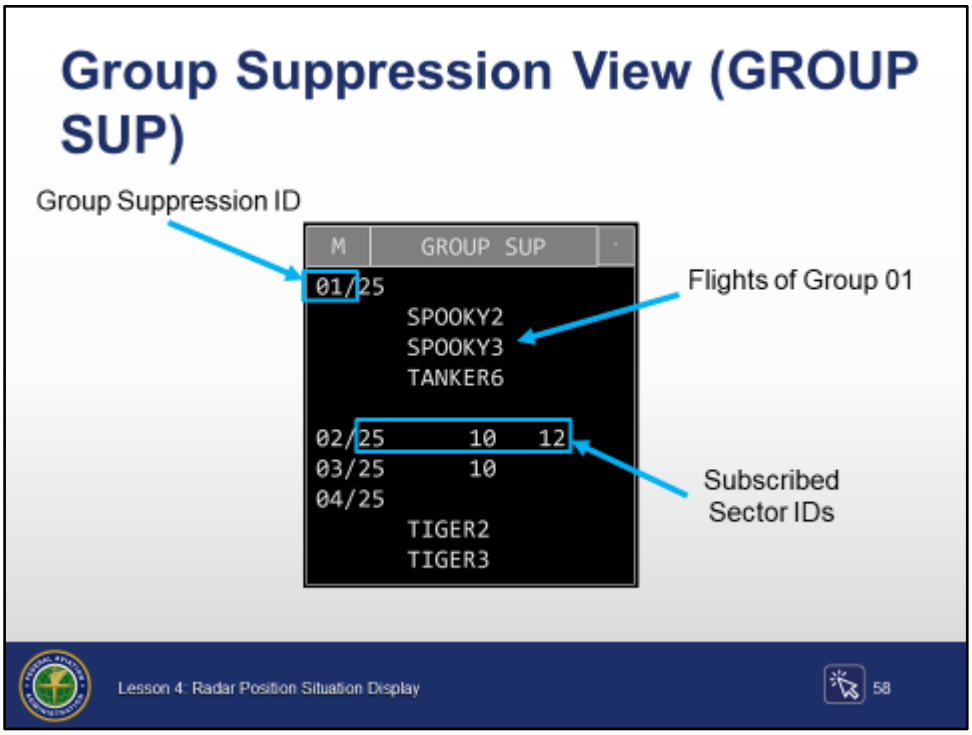
    Syntax: QF <FLID>

    Example: `QF SWA473`

DISPLAY VIEWS *(CONT'D)*

Group Suppression View (GROUP SUP)

TI 6110.100, sec. 4.2.12

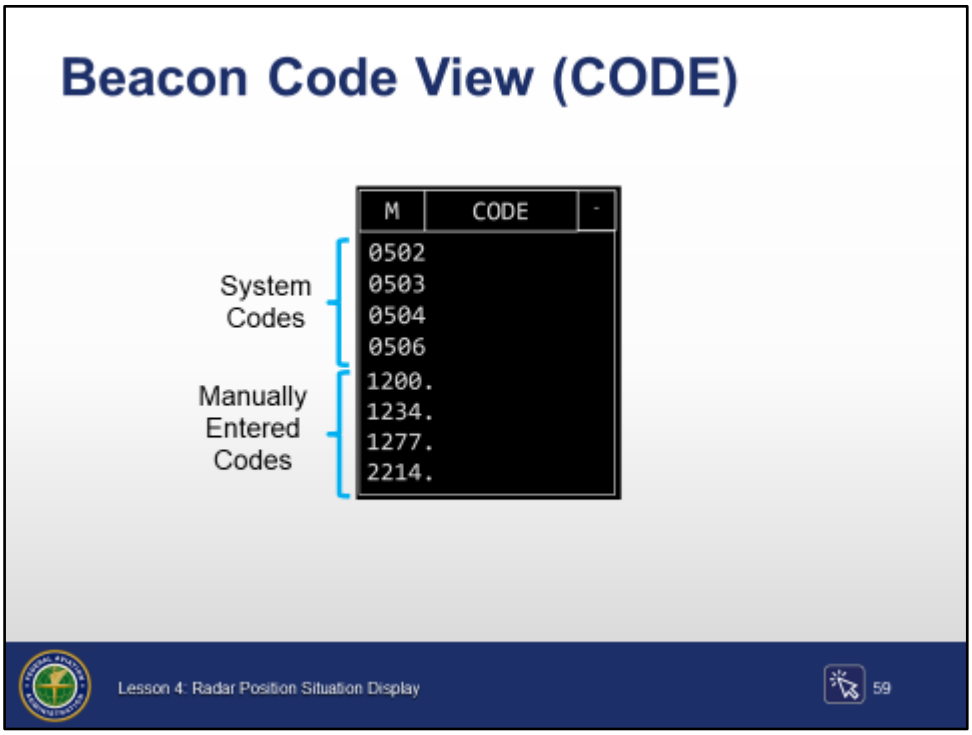


Slide is animated, 3 clicks. Click where indicated by click icons.

- The Group Suppression View is used to manage conflict alert suppression groups and manipulate group suppression information
- Header of each group contains:
  - Group Suppression ID number, followed by a "/"
  - Sector ID(s) of all subscribed sectors
    - Controller's sector displayed first in the group suppression list
- Flights in each group listed below each Group Suppression ID

Beacon Code View (CODE)

TI 6110.100, sec. 4.2.4



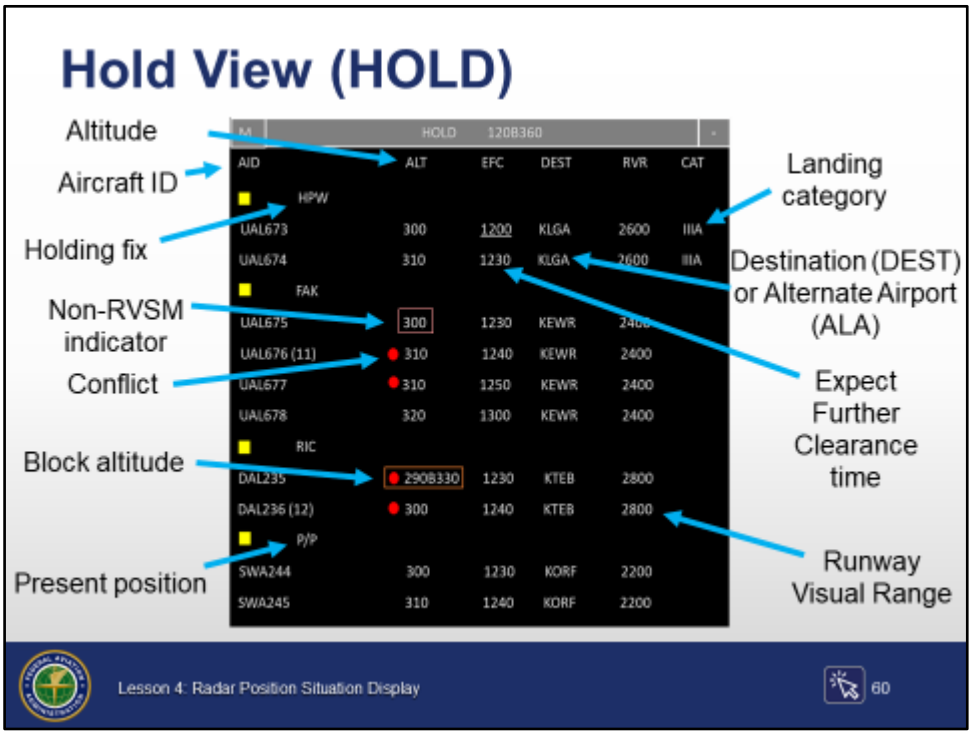
Slide is animated, one click. Click where indicated by click icon.

- The Beacon Code View displays beacon codes
  - Automatically selected by the system, or
  - Manually entered or removed
    - Manually entered beacon codes display a period after the code

      Syntax: QB <CODE>

Hold View (HOLD)

TI 6110.100, sec. 4.2.13



Slide is animated, 11 clicks. Click where indicated by click icons.

- The Hold View allows you to view, alter, and manage holding information
  - Aircraft ID - The aircraft's call sign
  - Holding fix - The location where the aircraft is holding, which may be a fix or present position
    - Aircraft assigned present position holding will be displayed under P/P
  - Conflict - Indicates that the aircraft in holding is in conflict with another aircraft
  - Altitude (ALT) - Displays the assigned or interim altitude of the aircraft
    - A coral outline around the altitude field indicates that the flight is non-RVSM and the displayed altitude is in RVSM airspace
    - An orange box around the altitude indicates that the aircraft is assigned a block altitude

Continued on next page

DISPLAY VIEWS *(CONT'D)*

Hold View (HOLD) (Cont'd)

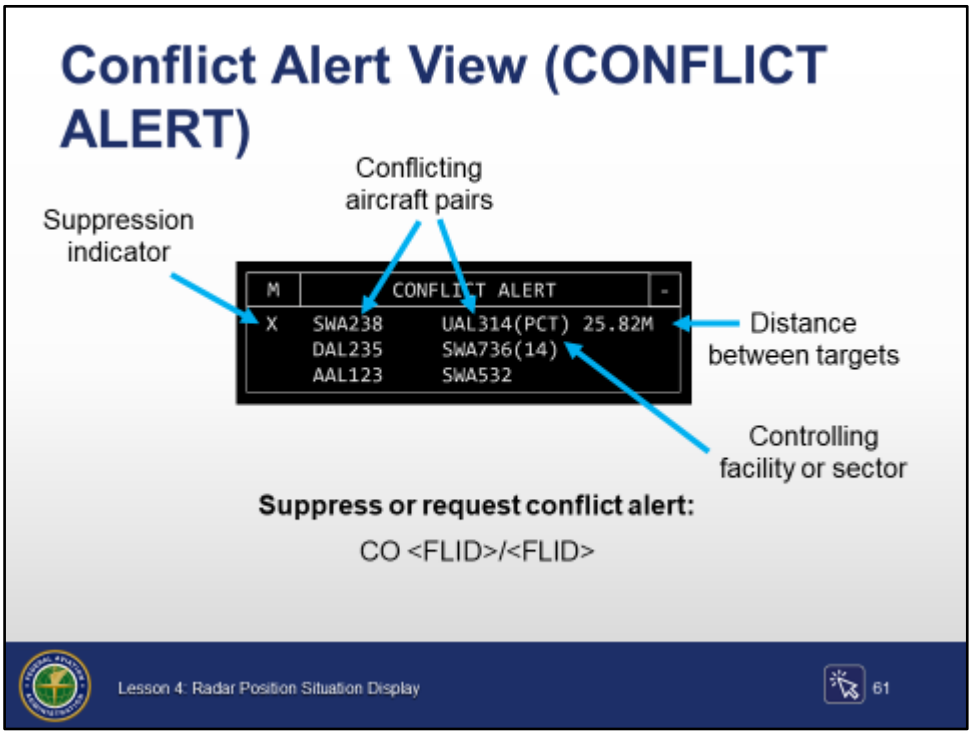
TI 6110.100, sec. 4.2.13

- Expect Further Clearance (EFC) time - Indicates the time that the aircraft is expected to be cleared from holding
- Destination (DEST) or Alternate Airport (ALA) - Can be toggled between the intended destination and an alternate airport
- Runway Visual Range (RVR) - Displays the RVR at the destination airport
- Landing category (CAT) - The aircraft's landing category

Conflict Alert View (CONFLICT ALERT)

TI 6110.100, sec. 4.2.5

TI 6110.108, p.2



Slide is animated, 4 clicks. Click where indicated by click icons.

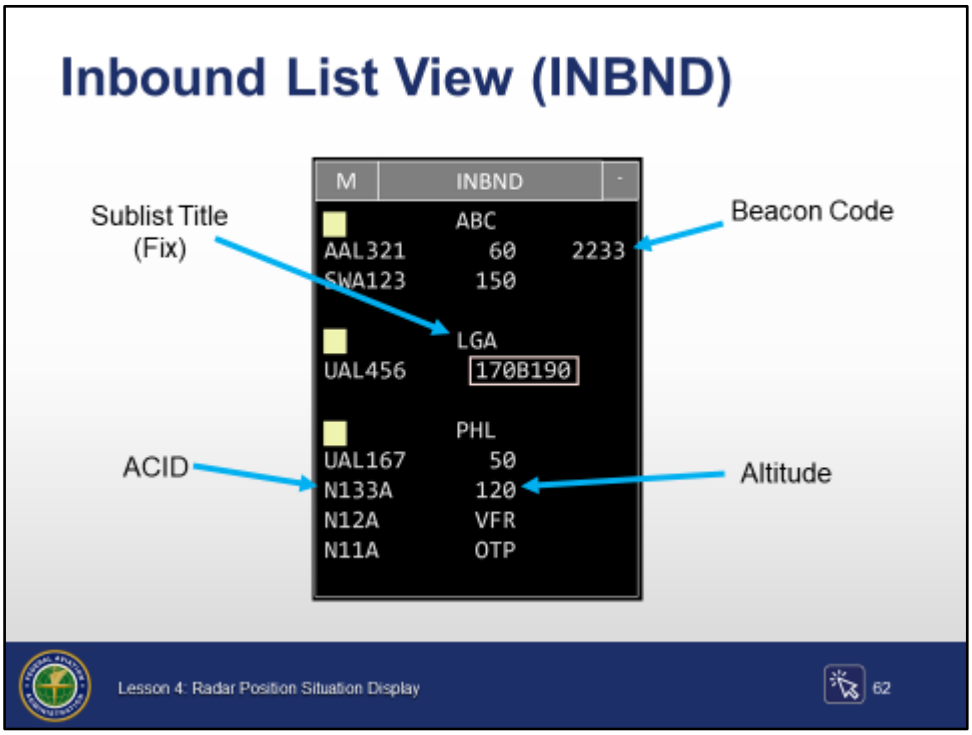
- The Conflict Alert View shows:
  - The conflicting aircraft pairs
  - The controlling facility or sector
  - An "X" if the conflict for the pair has been suppressed
  - Distance between targets

    NOTE: Display of distance between targets is a facility adaptable option, which may not be enabled at your facility.
  - To suppress or request a conflict alert:

    Syntax: CO <FLID>/<FLID>

Inbound List View (INBND)

TI 6110.100, sec. 4.2.14



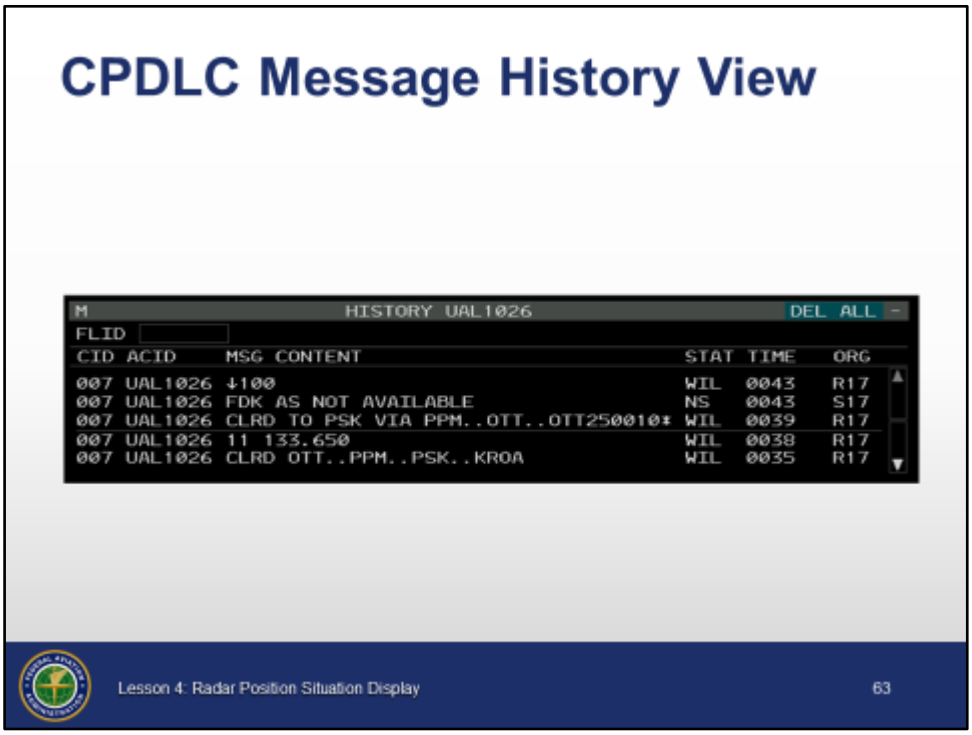
Slide is animated, 4 clicks. Click where indicated by click icons.

- The Inbound List View allows the controller to view and manage information about inbound flights including:
  - Sublist title
    - Fix that the aircraft will fly over inbound to the sector
  - ACID
  - Beacon Code
  - Altitude
    - Including non-RVSM indicator if applicable

DISPLAY VIEWS *(CONT'D)*

CPDLC Message History View

TI 6110.100, sec. 4.2.7

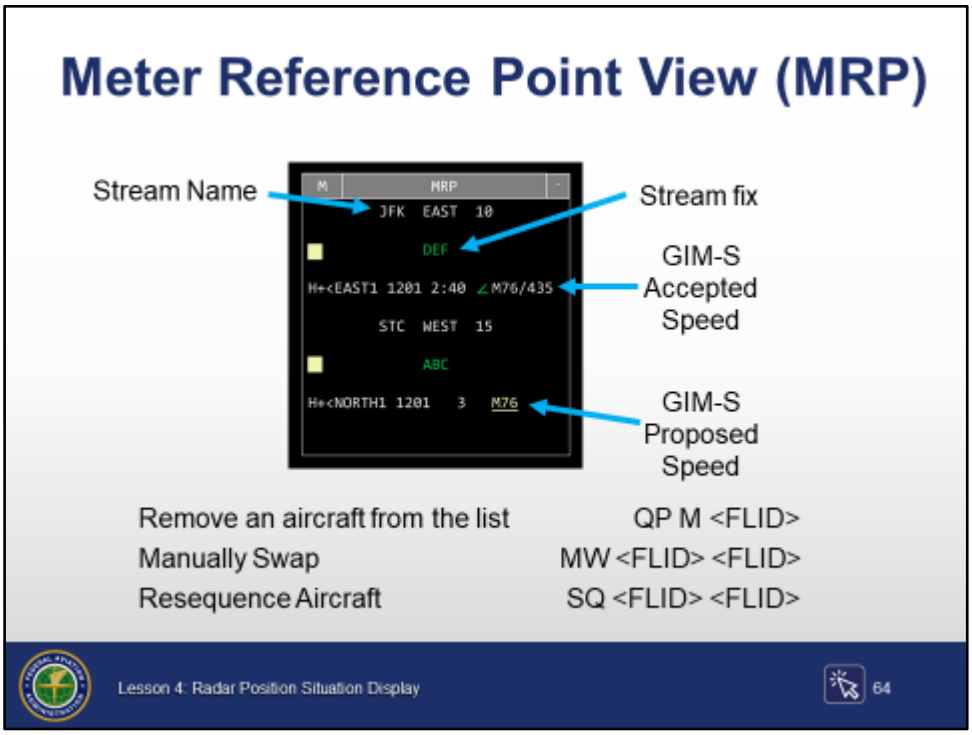


- Displays the history of all closed CPDLC messages sent and received by the local facility for a specified flight

Meter Reference Point View (MRP)

TI 6110.100, sec. 4.2.15

TI 6110.108, p. 1



Slide is animated, 6 clicks. Click where indicated by click icons.

METERING - A method of time-regulating traffic flows in the en route and terminal environments.

- The Meter Reference Point View displays projected sequence streams for selected fixes
  - Stream Name
  - Stream Fix
  - GIM-S Accepted Speed
  - GIM-S Proposed Speed
- Metering List Keyboard Inputs:
  - Remove an aircraft from the list

    Syntax: QP M <FLID>

Continued on next page

Meter Reference Point View (MRP) (Cont'd)

TI 6110.100, sec. 4.2.15

- Manually swap 2 aircraft

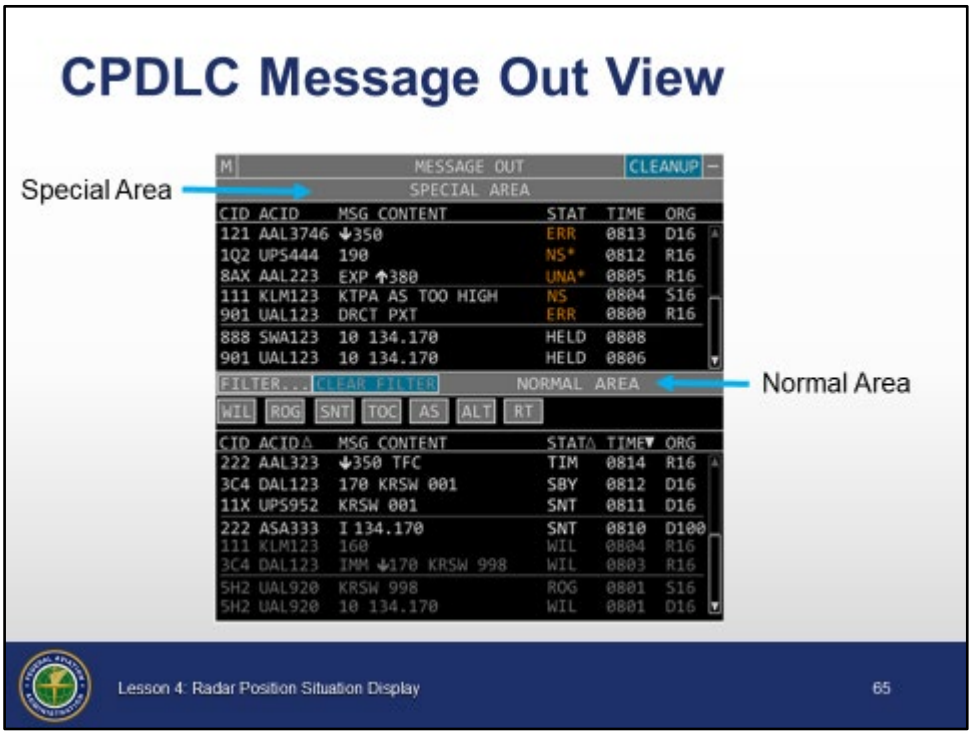
  Syntax: MW <FLID> <FLID>

- Resequence 2-5 aircraft

  Syntax: SQ <FLID> <FLID>

CPDLC Message Out View

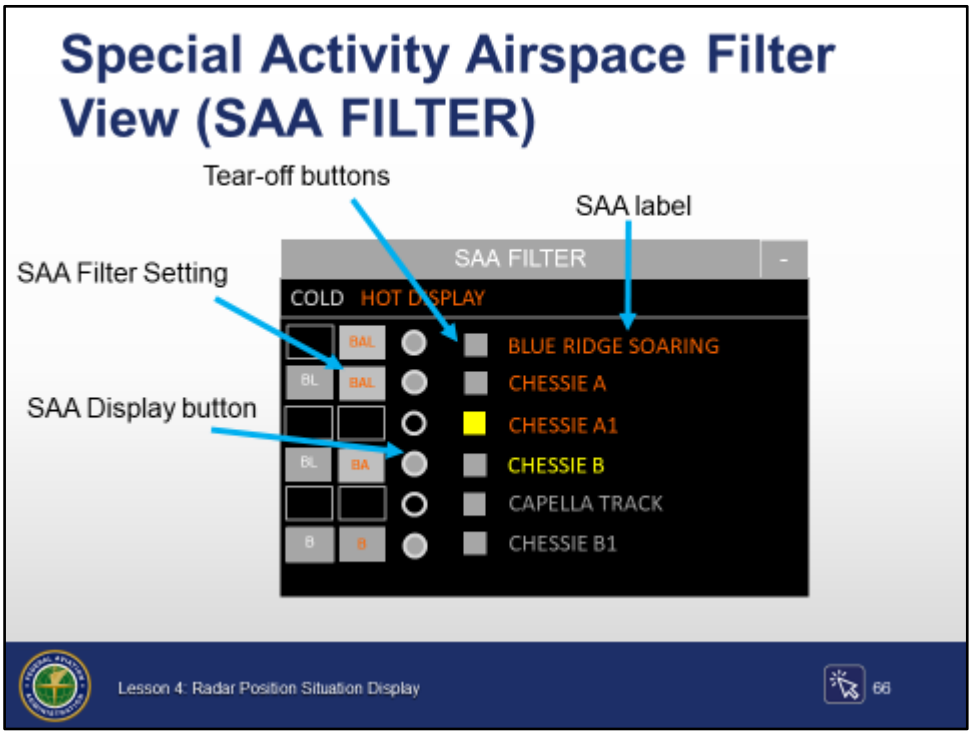
TI 6110.100, sec. 4.2.8



- The CPDLC Message Out View provides the capability to monitor and interact with CPDLC messages sent (automatically by the system or manually by a controller) and received at a sector
- Special Area
  - Abnormal and HELD TOCs
- Normal Area
  - Normal CPDLC messages

Special Activity Airspace Filter View (SAA FILTER)

TI 6110.100, sec. 4.2.16

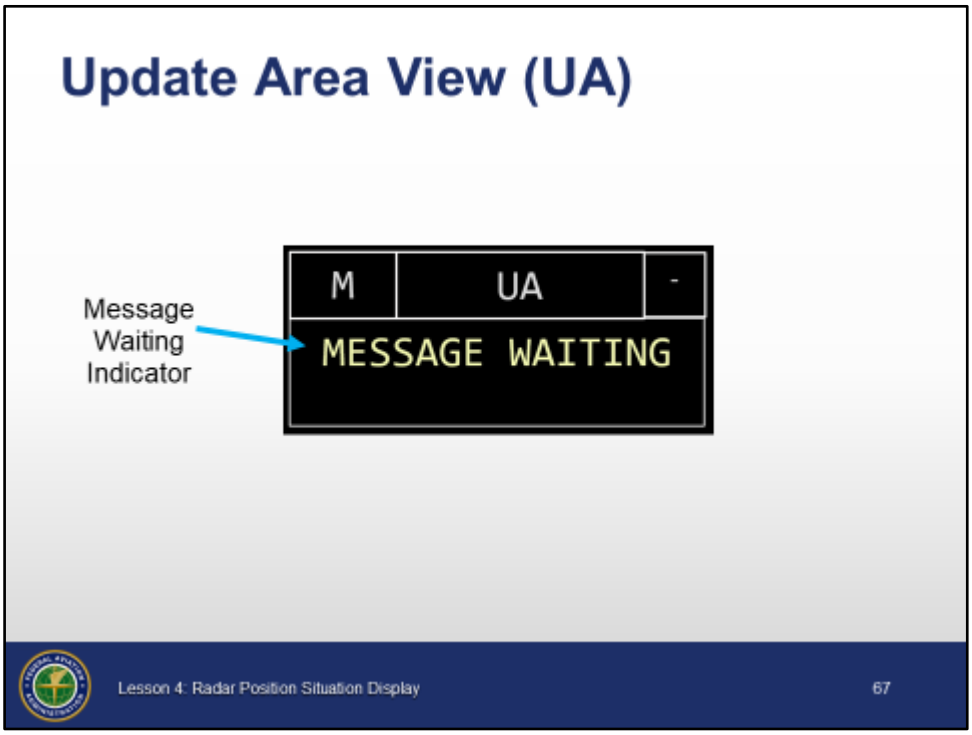


Slide is animated, *4 clicks. Click where indicated by click icons.*

- Allows the R position to control the display of the components of an SAA on the Situation Display when the SAA is eligible for display
  - SAA label
    - SAA name
  - Tear-off buttons
    - Allows the views to be placed in another location
  - SAA Filter Setting
    - Allows an SAA to be displayed by "B" boundary, "A" altitude, and/or "L" label
  - SAA Display button
    - When selected, the automatic display capabilities are overridden

Update Area View (UA)

TI 6110.100, sec. 4.2.17

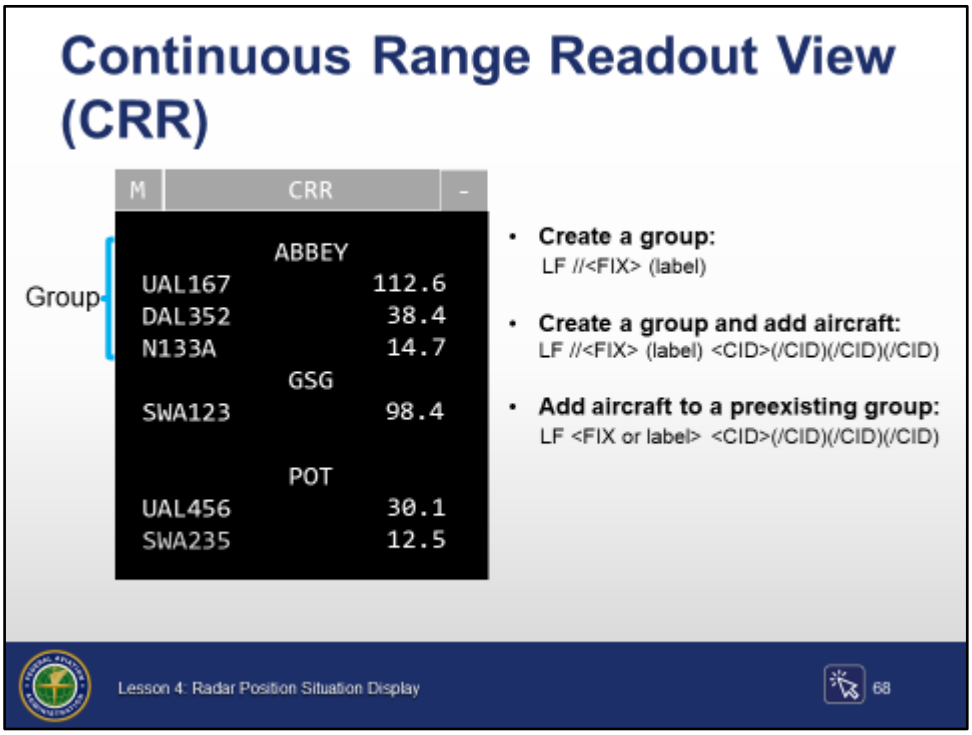


- The Update Area View is used to acknowledge waiting messages
  - If the message contains more than three lines of text, a scroll bar will be displayed

Continuous Range Readout View (CRR)

TI 6110.100, sec. 4.2.6

TI 6110.108, p. 1



Slide is animated, 3 clicks. Click where indicated by click icons.

- The Continuous Range Readout (CRR) is used to assist with aircraft spacing and sequencing by displaying the aircraft's distance from a fix
- This information may also be displayed in a Range Data Block on the Situation Display
  - To create a group:

    Syntax: LF //<FIX> (label)

    NOTE: A group label is optional. If none is specified, the fix becomes the label.
  - To create a new list and add aircraft:

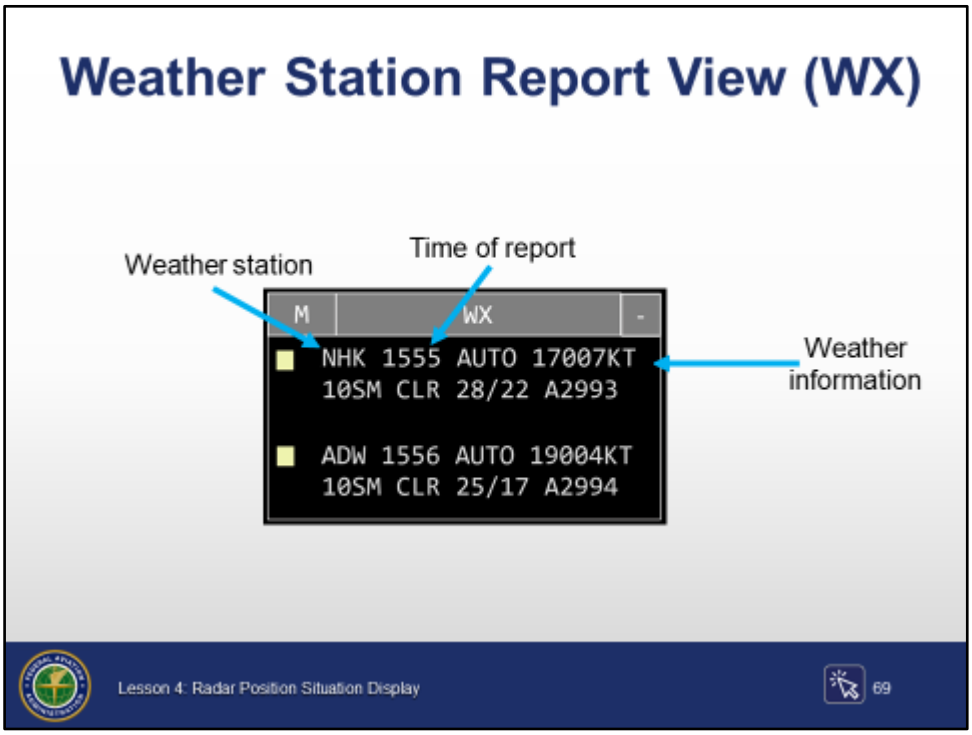
    Syntax: LF //<FIX> (label) <CID>(/CID)(/CID)(/CID)

    NOTE: Up to four CIDs can be added at one time
  - To add aircraft to a preexisting list:

    Syntax: LF <FIX or label> <CID>(/CID)(/CID)(/CID)

Weather Station Report View (WX)

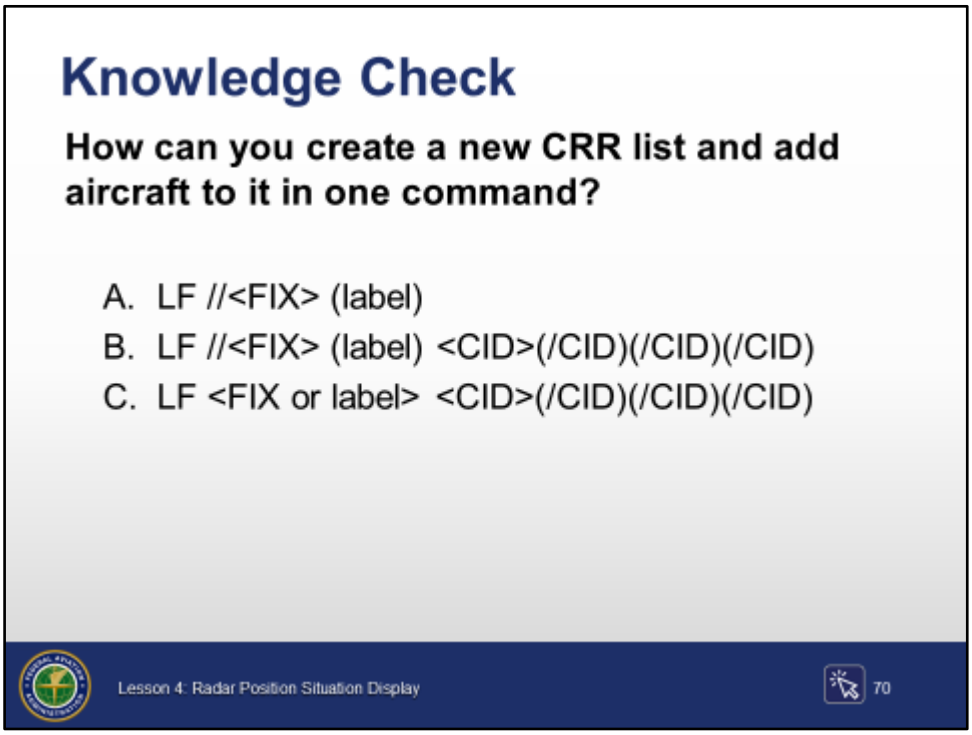
TI 6110.100, sec. 4.2.18



Slide is animated, 2 clicks. Click where indicated by click icons.

- The Weather Station Report View displays:
  - Weather station names
  - Time of the weather station reading
  - Relevant reported weather information
- Entries are automatically updated when new weather data is received

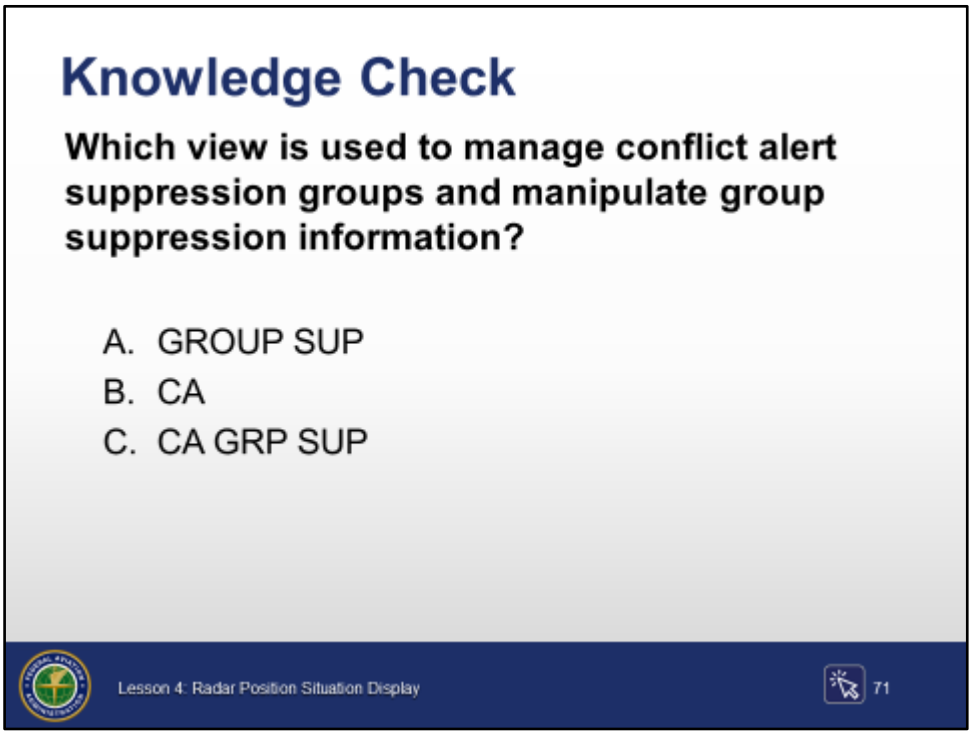
Knowledge Check



Question: How can you create a new CRR list and add aircraft to it in one command?

Answer: B. LF //<FIX> (label) <CID>(/CID)(/CID)(/CID)

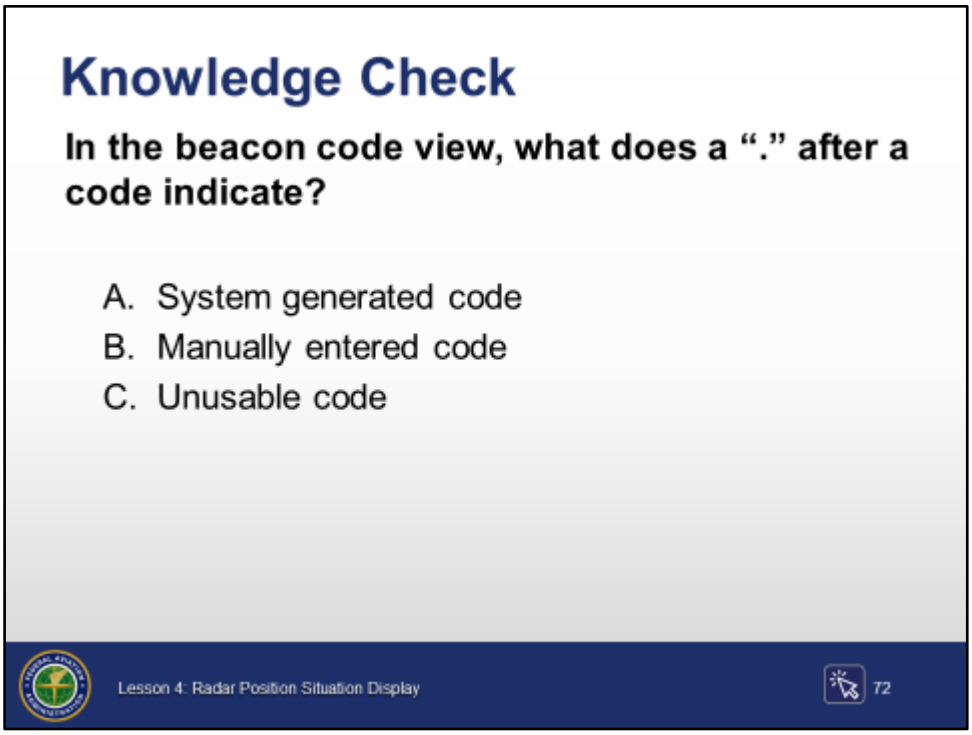
Knowledge Check



Question: Which view is used to manage conflict alert suppression groups and manipulate group suppression information?

Answer: *A. GROUP SUP*

Knowledge Check



Question: In the beacon code view, what does a "." after a code indicate?

Answer: *B. Manually entered code*

WEATHER DISPLAYS

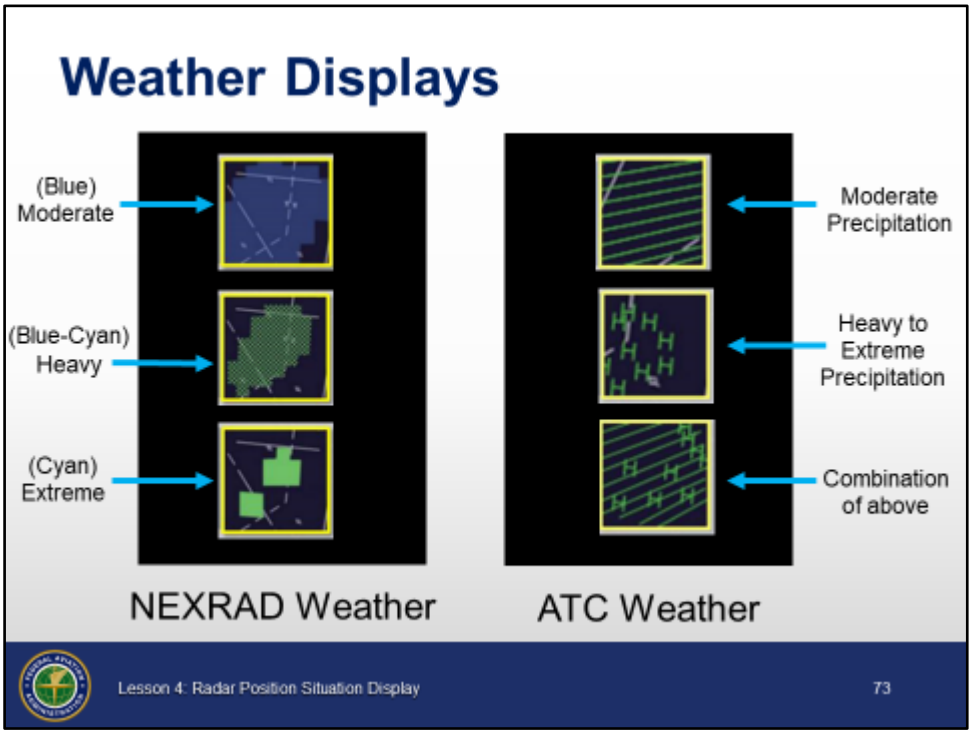
Weather Displays

JO 7210.629

JO 7110.65, par. 2-6-4

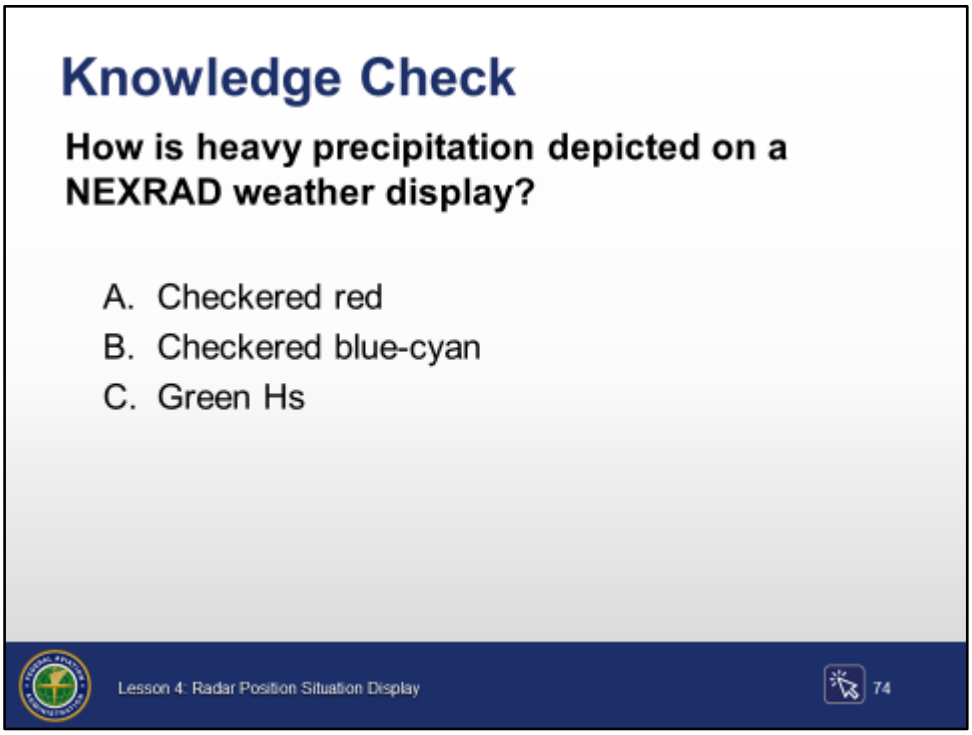
TI 6110.100, Table 2-2

ERAM EDSM SRS 210.04 V1B2, Appendix A



- NEXRAD weather radar displays a combination of up to three levels of precipitation intensity
  - Moderate - Blue
  - Heavy - Blue-Cyan (checkered pattern)
  - Extreme - Cyan
- NEXRAD has three altitude strata available, plus a composite strata available for display
  - Low - 000-240
  - High - 240-600
  - Super High - 330-600
  - Composite - 000-600
- ATC weather
  - Moderate Precipitation - WX-1
    - Depicted by green lines
  - Heavy to Extreme Precipitation - WX-3
    - Depicted by green H's (also known as an ATC weather symbols)

Knowledge Check

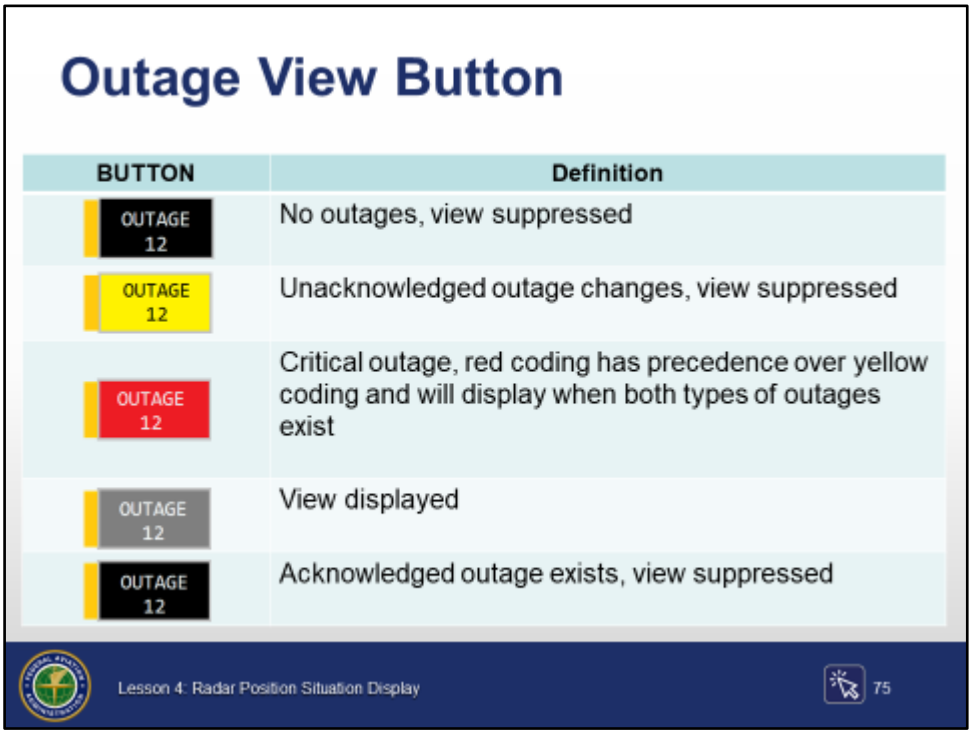


Question: How is heavy precipitation depicted on a NEXRAD weather display?

Answer: *B. Checkered blue-cyan*

Outage View Button

TI 6110.100, sec. 4.3.5.1



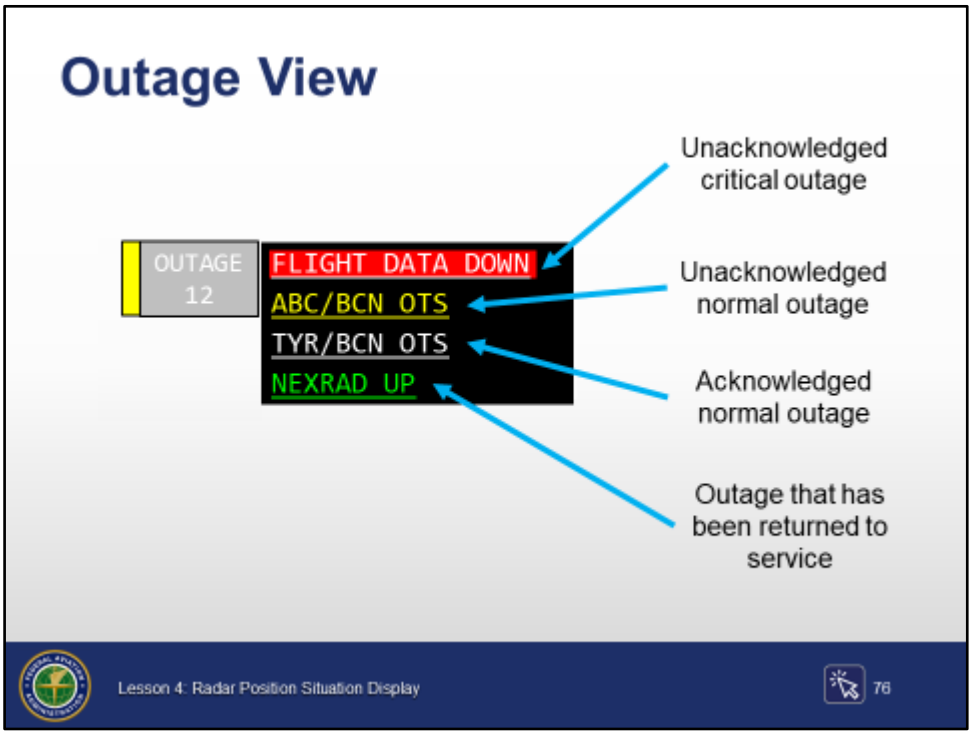
Slide is animated, 4 clicks. Click where indicated by click icons.

- Black with gray text - No outages and the view is suppressed
- Yellow with black text - There are unacknowledged outage changes and the view is suppressed
- Red with white text - A critical outage has occurred and the Outage View is not displayed
  - Red coding has precedence over yellow coding and will display when both types of outages exist
- Gray with white text - The view is displayed
- Black with white text - An acknowledged outage exists and the view is suppressed

MISCELLANEOUS DISPLAYS *(CONT'D)*

Outage View

TI 6110.100,
sec. 4-3-5



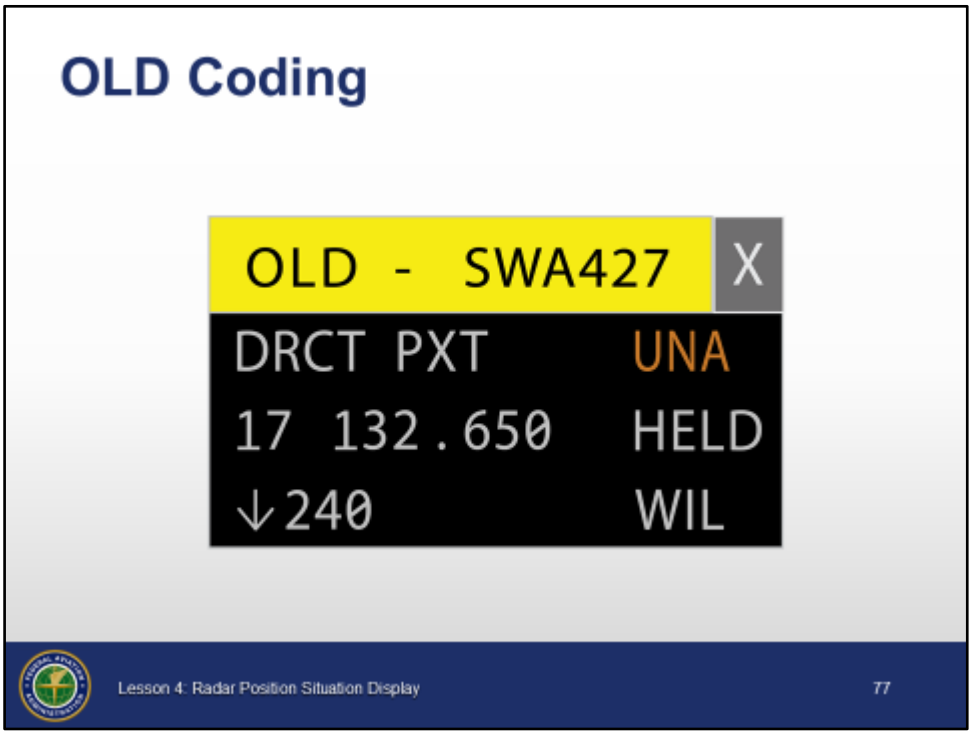
Slide is animated, 4 clicks. Click where indicated by click icons.

- The Outage View displays outage entries
  - Unacknowledged critical outage - White text with a red background
  - Unacknowledged normal outage - Yellow text with a black background
  - Acknowledged normal outage - White text with a black background
  - Outage that has been returned to service - Green text with a black background

MISCELLANEOUS DISPLAYS *(CONT'D)*

OLD Coding

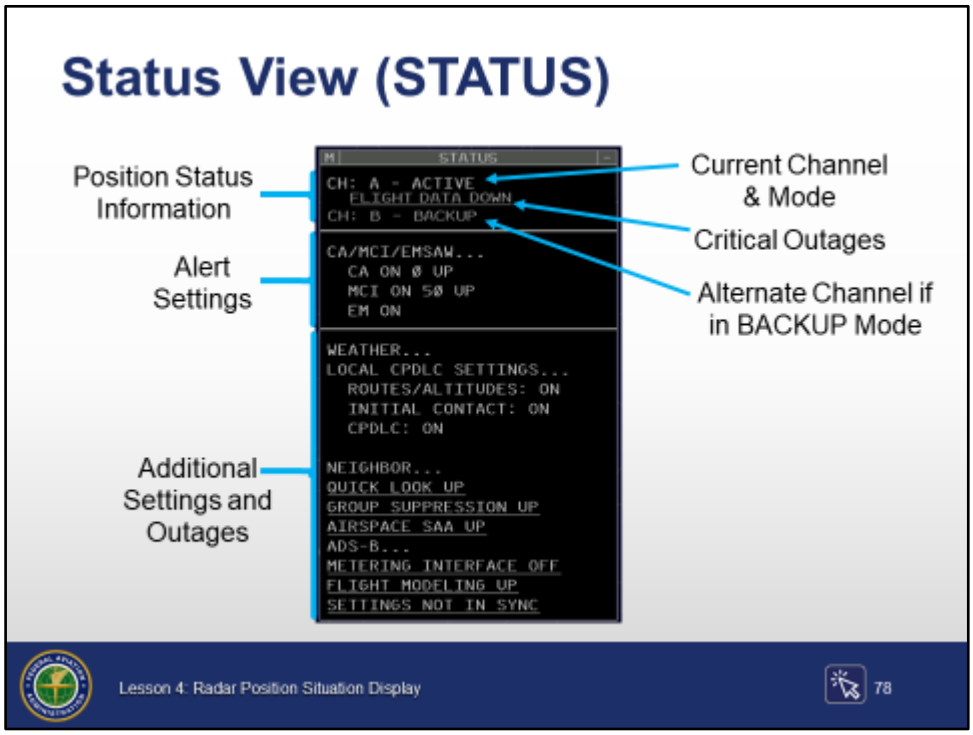
TI 6110.100,
sec. 4.2.8.4



- When a view is displayed and communication is not established with the system or is disabled, OLD coding is applied to the header

Status View (STATUS)

TI 6110.100, sec. 4.3.4



Slide is animated, 6 clicks. Click where indicated by click icons.

- The Status View displays information relevant to the sector
  - Position Status Information
    - Current channel ID (A or B)
      - Channel mode information: ACTIVE, BACKUP, PENDING, or TEST
    - Critical outages, if any
      - FLIGHT DATA DOWN
      - SURV DOWN
      - CPDLC DOWN
    - Alternate Channel ID displayed, only if in BACKUP mode
  - Alert Settings:
    - CA - Conflict Alert
    - MCI - Mode C Intruder
    - EMSAW - En Route Minimum Safe Altitude Warning

Continued on next page

MISCELLANEOUS DISPLAYS *(CONT'D)*

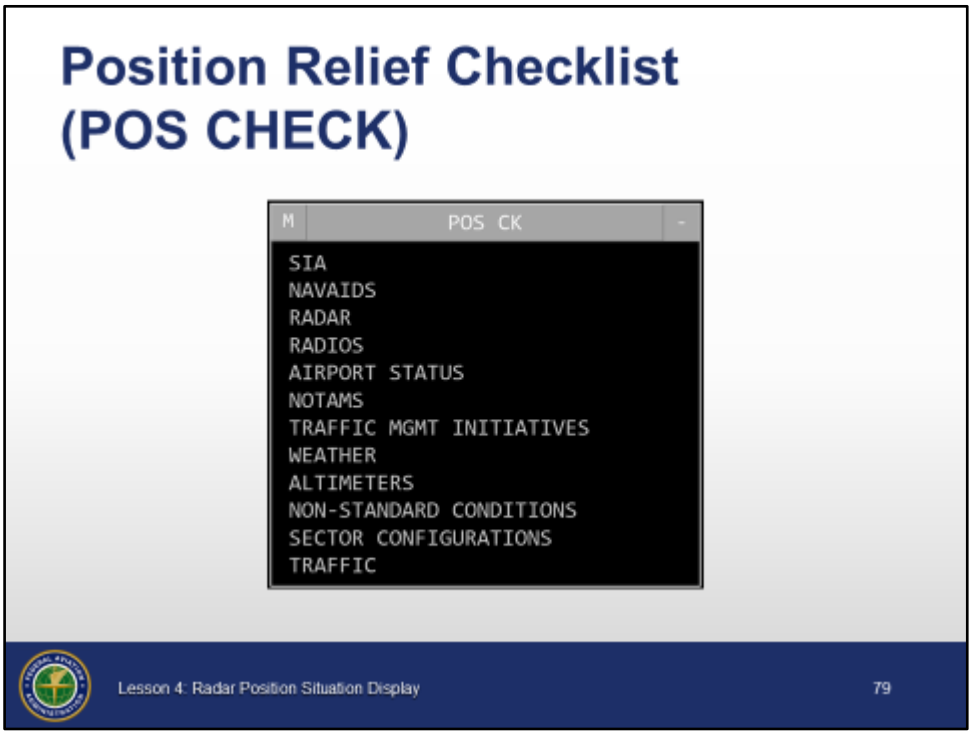
Status View (STATUS) (Cont'd)

TI 6110.100, sec. 4.3.4

- Additional Settings and Outages:
  - Contains all settings and outages that are considered non-critical
  - Grouped by expandable sublists
    - Entries with ellipsis appended to the end have sublists
    - TBP or TBE to expand sublist
    - Sublists are displayed by time received, latest at the top

Position Relief Checklist (POS CHECK)

TI 6110.100, sec. 3.10.2.2

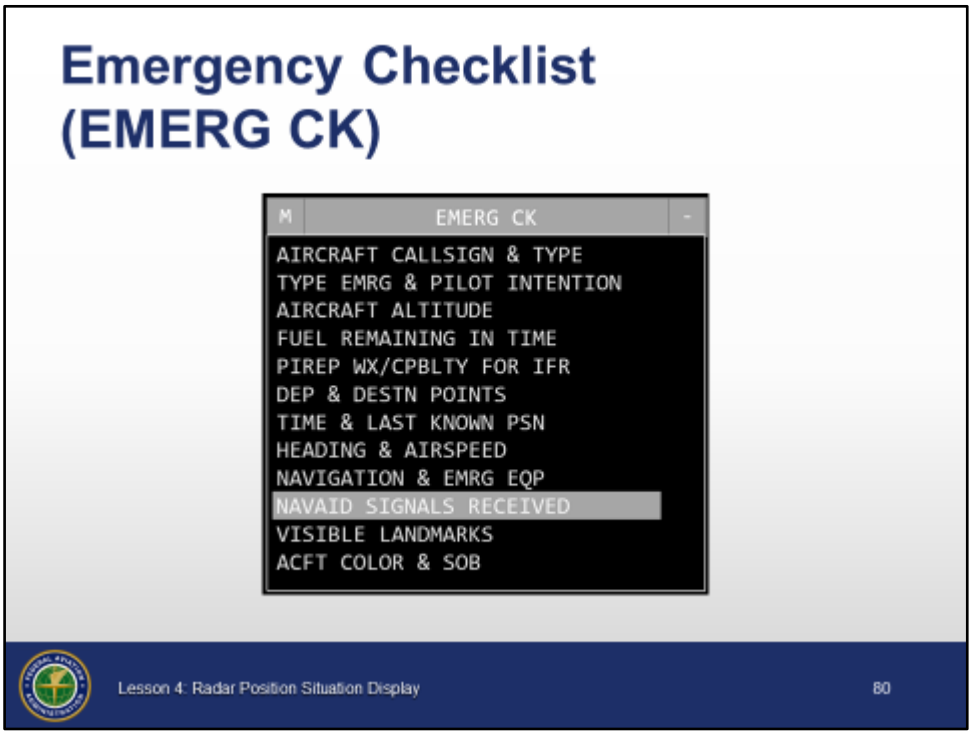


- The Position Relief Checklist displays individual items to help ensure a complete and accurate transfer of position responsibility

  NOTE: The Position Relief Checklist is locally adapted.

Emergency Checklist (EMERG CK)

TI 6110.100, sec. 4.3.7

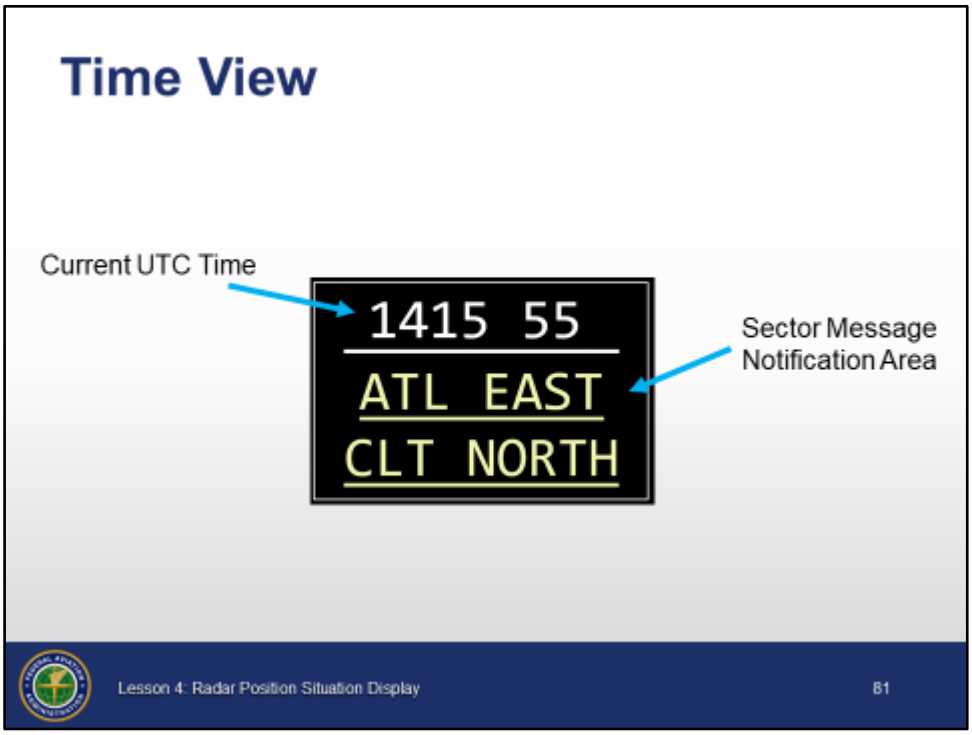


- The Emergency Checklist is used during an emergency to help ensure that complete and accurate information is collected from the pilot

MISCELLANEOUS DISPLAYS *(CONT'D)*

Time View

TI 6110.100, sec. 4.3.3

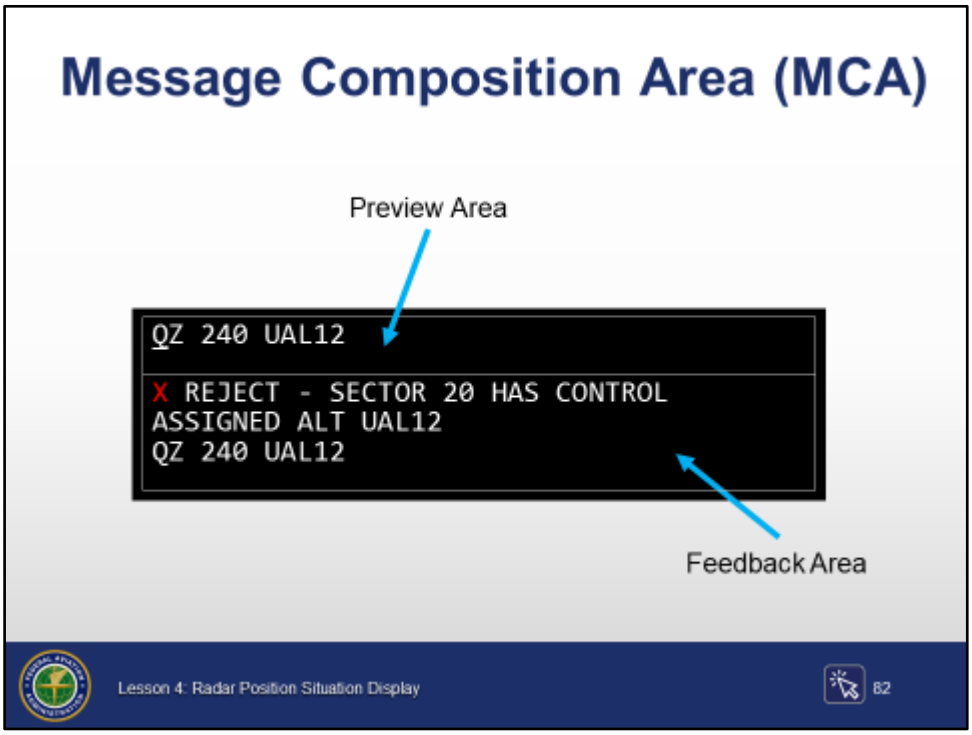


- Displays current UTC time
- The Sector Message Notification Area displays locally adapted messages when a position is eligible to receive the message

  NOTE: The example messages display the direction of landing at ATL and CLT.

Message Composition Area (MCA)

TI 6110.100, sec. 4.3.1



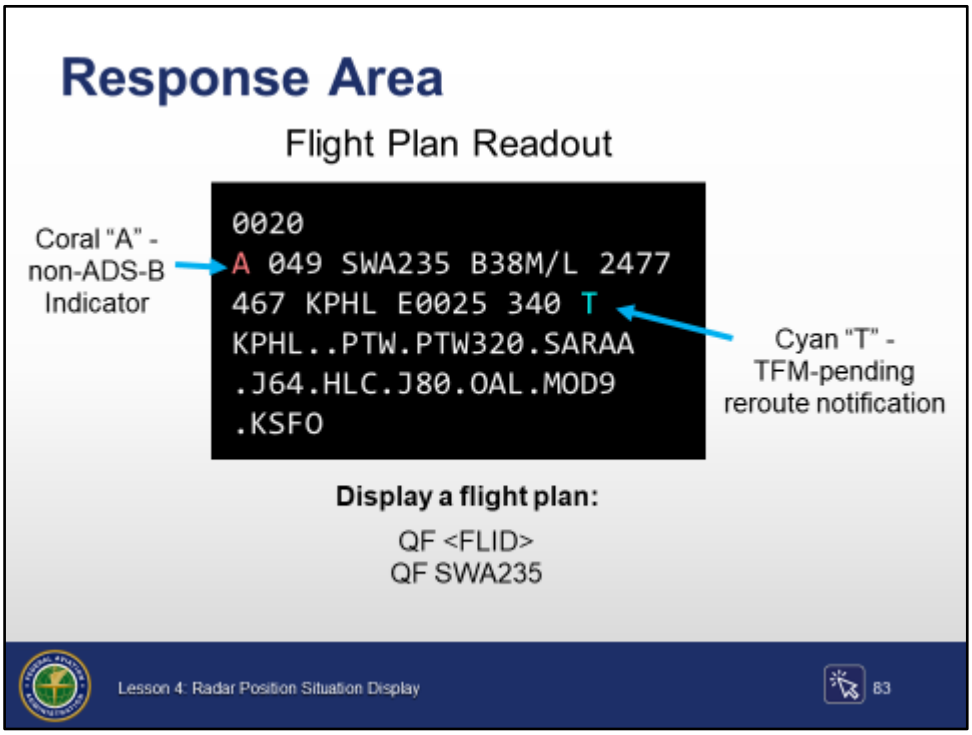
Slide is animated, 2 clicks. Click where indicated by click icons.

- The Message Composition Area (MCA) is used to enter messages at the R Position
  - The Preview Area is used for message composition
  - The Feedback Area displays Accept, Reject, or Error and the messages entered in the Preview Area

MISCELLANEOUS DISPLAYS *(CONT'D)*

Response Area

TI 6110.100, sec. 4.3.2



Slide is animated, 4 clicks. Click where indicated by click icons.

- The Response Area displays the response to a flight plan readout of the active flight, if the CFR view is not open
  - Input to display a flight plan

    Syntax: QF <FLID>

    Example: `QF SWA235`
  - Coral "A" is the non-ADS-B indicator
  - Cyan "T" denotes a TFM-pending reroute
- An ICAO flight plan readout is always displayed in the Response Area (RA)
  - Input to display a flight plan in ICAO format

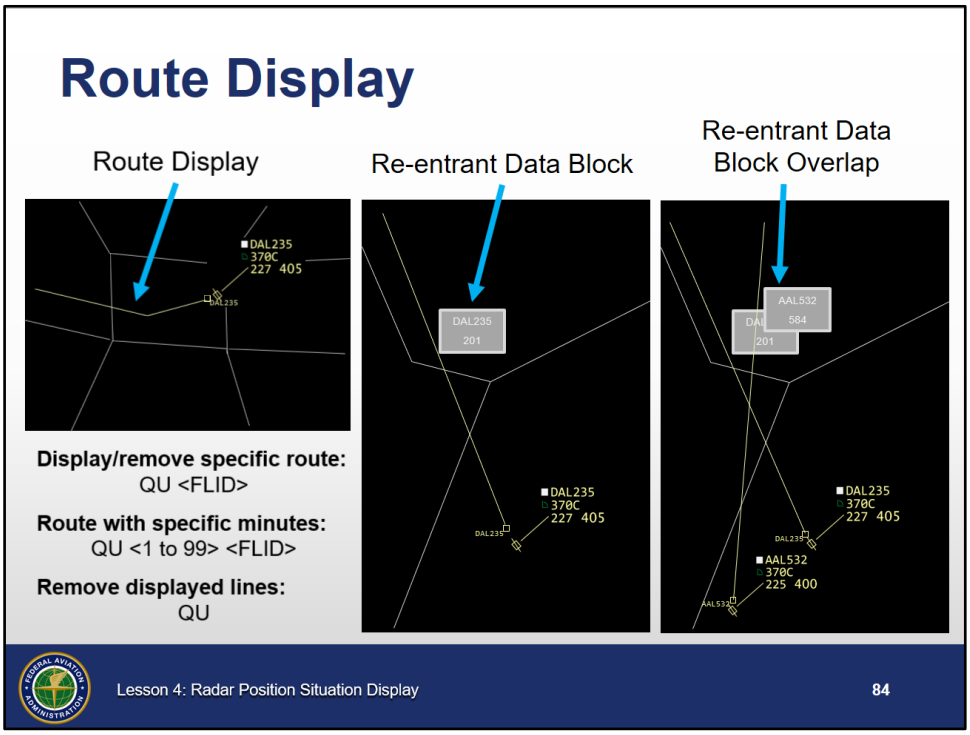
    Syntax: QF I <FLID>

    Example: `QF I 330`

Route Display

TI 6110.100, sec. 2.10

TI 6110.108, p. 6



Slide is animated, 5 clicks. Click where indicated by click icons.

- A Route Display shows the filed route of flight
  - Default is 20 minutes or the destination if closer
  - To display or remove a specific route line:

    Syntax: QU <FLID>
  - To display a route line with a specific number of minutes:

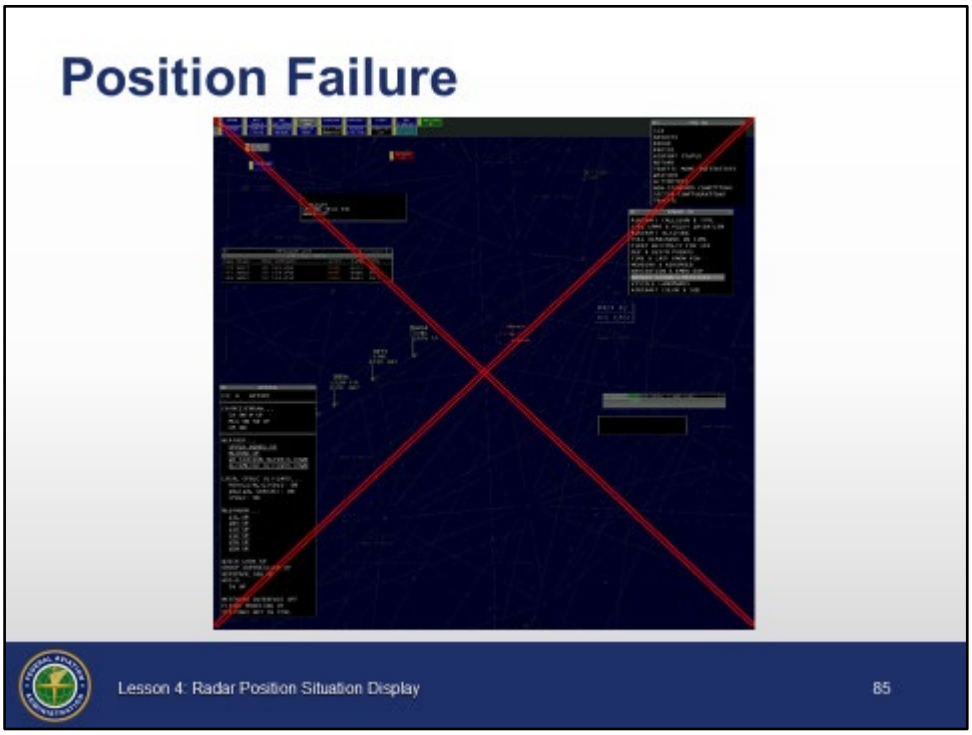
    Syntax: QU <1 to 99> <FLID>
  - Multiple routes can be displayed simultaneously
  - To remove all displayed route lines:

    Syntax: QU
- If a displayed route exits and re-enters ERAM airspace, the Route Display includes a gray re-entrant data block with call sign and updated CID
- If two or more re-entrant data blocks overlap, the last route display requested will be on top

MISCELLANEOUS DISPLAYS *(CONT'D)*

Position Failure

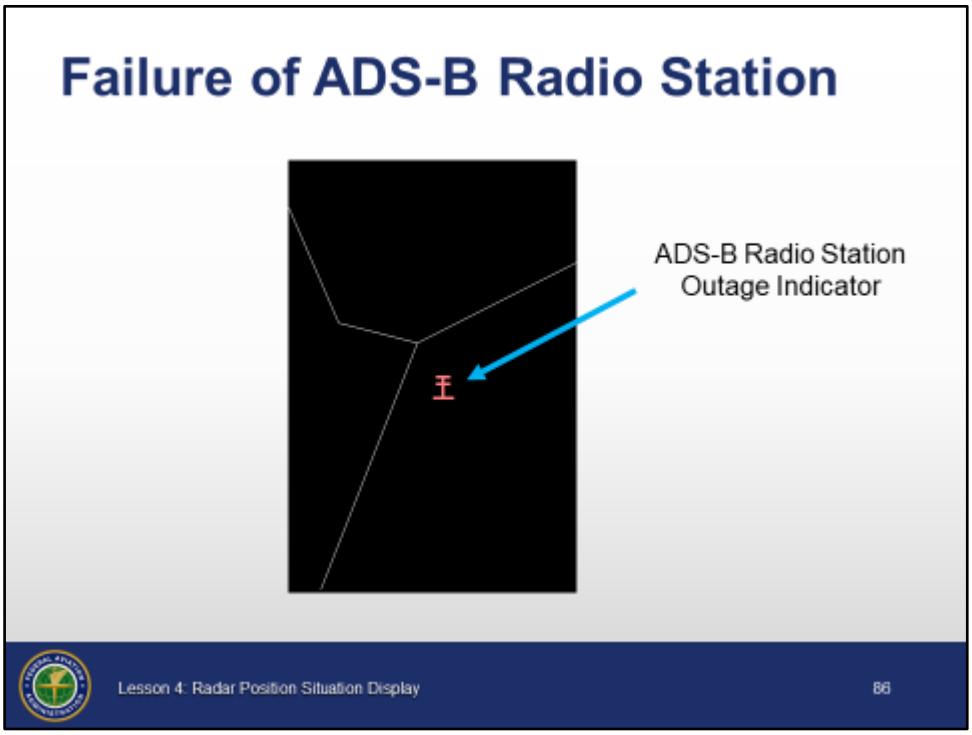
ERAM EDSM SRS 210.04 V1B2, Appendix A



- A large red X indicates a position is not receiving radar data
  - The Situation Display should be switched to the backup channel and the outage should be reported

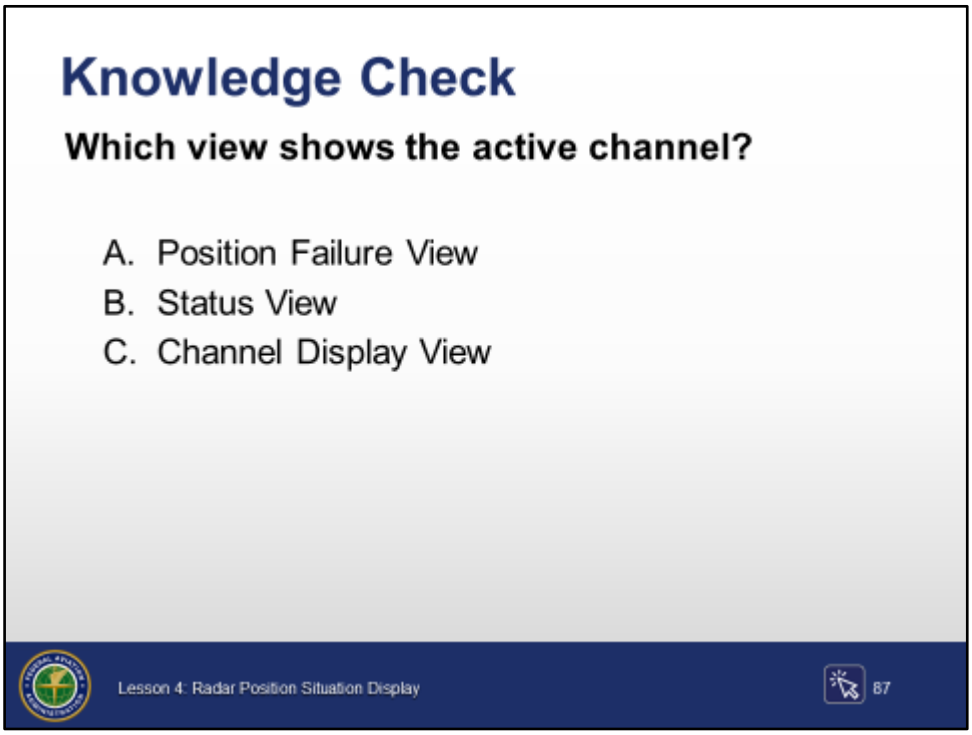
Failure of ADS-B Radio Station

TI 6110.100, sec. 4.3.5.2



- The ADS-B Radio Station Outage indicator is forced to the Situation Display if an outage for the station exists

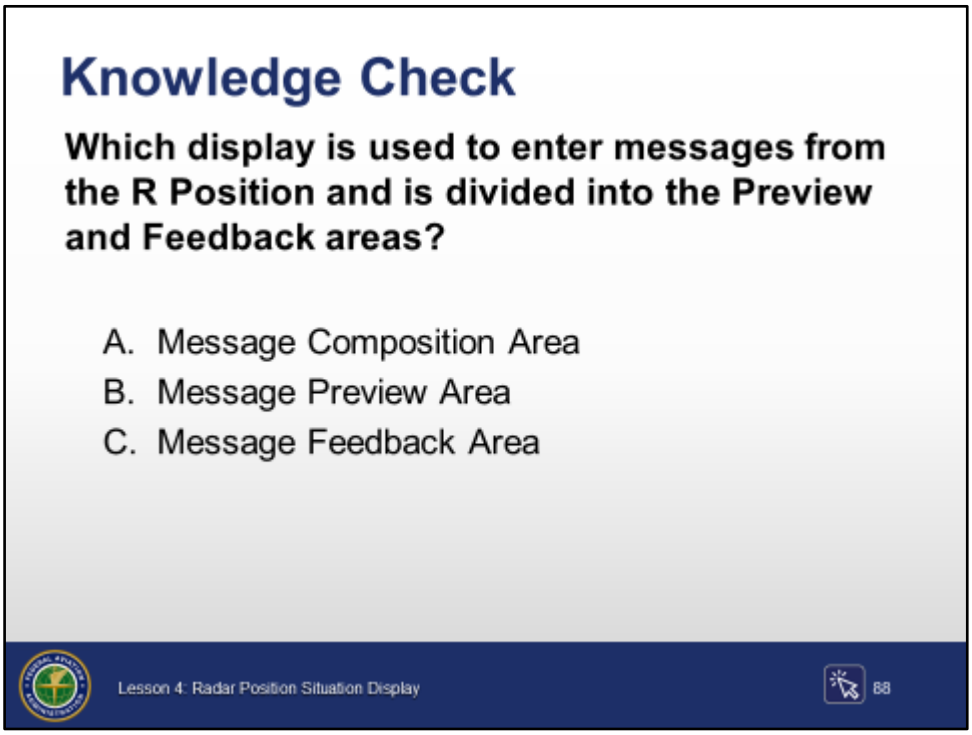
Knowledge Check



Question: Which view shows the active channel?

Answer: *B. Status View*

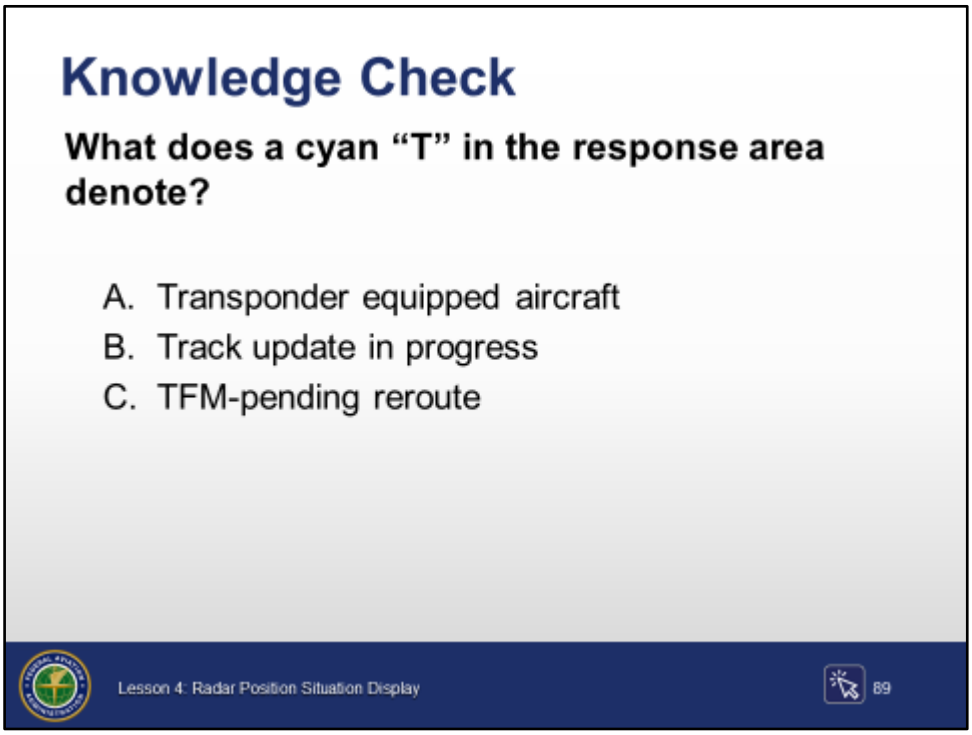
Knowledge Check



Question: Which display is used to enter messages from the R Position and is divided into the Preview and Feedback areas?

Answer: *A. Message Composition Area*

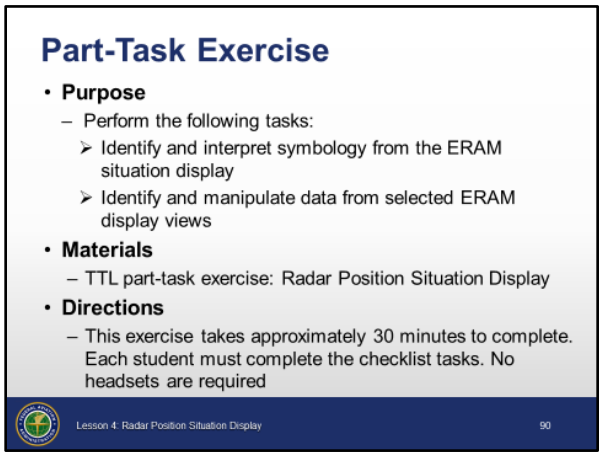
Knowledge Check



Question: What does a cyan "T" in the response area denote?

Answer: *C. TFM-pending reroute*

PART TASK EXERCISE: RADAR POSITION SITUATION DISPLAY



Purpose

Perform the following tasks:

- Identify and interpret symbology from the ERAM Situation Display
- Identify and manipulate data from selected ERAM display views

Materials

Handout: *HO02_04*

- TTL part-task exercise: Radar Position Situation Display

TTL scenario: 55054003_L04_S##

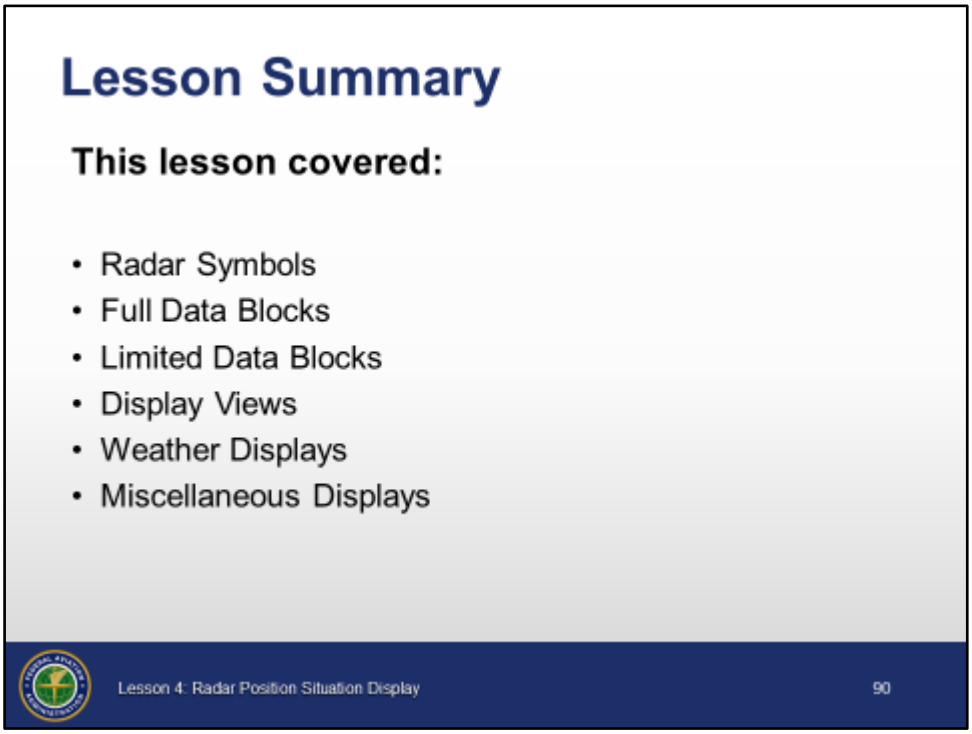
Directions

This exercise takes approximately 30 minutes to complete. Each student must complete the checklist tasks. No headsets are required.

Provide instruction as required. Check off each task after completion. One ghost pilot is required.

CONSLUSION

Lesson Summary



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:

- Radar Symbols
  - Map symbols
  - Tracking and pairing
  - Target symbols
  - Position symbols
  - Velocity vector and leader line
  - Distance Reference Indicator (Halo)
- Full Data Blocks
  - Fields
  - Lines
  - Columns

Continued on next page

CONCLUSION *(CONT'D)*

Lesson Summary (Cont'd)

- Limited Data Blocks
  - Conflict Data Blocks
- Display Views
  - Views Menu
  - Altimeter Settings View
  - Departure List View
  - Auto Handoff Inhibit View
  - Continuous Flight Plan Readout View (CFR)
  - Group Suppression View
  - Beacon Code View
  - Hold View
  - Conflict Alert View
  - Inbound List View
  - CPDLC Message History View
  - Meter Reference Point View
  - CPDLC Message Out View
  - Special Activity Airspace Filter View
  - Update Area View
  - Continuous Range Readout View
  - Weather Station Report View
- Weather Displays
- Miscellaneous Displays
  - Outage View Button
  - Outage View
  - OLD Coding
  - Status View
  - Position Relief Checklist
  - Emergency Checklist

Continued on next page

CONCLUSION *(CONT'D)*

Lesson Summary (Cont'd)

- Time View
- Message Composition Area
- Response Area
- Route Display
- Position Failure
- Failure of ADS-B Radio Station

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.