Federal Aviation Administration

55054003

EN ROUTE RADAR ASSOCIATE CONTROLLER TRAINING PART C: ADVANCED CONCEPTS

Handout 1: Airspeed Flowchart Review, Scanning Activity

Lesson 14: Radar Vectoring, Speed Adjustment, and Scanning

Version: 1.0 2022.08

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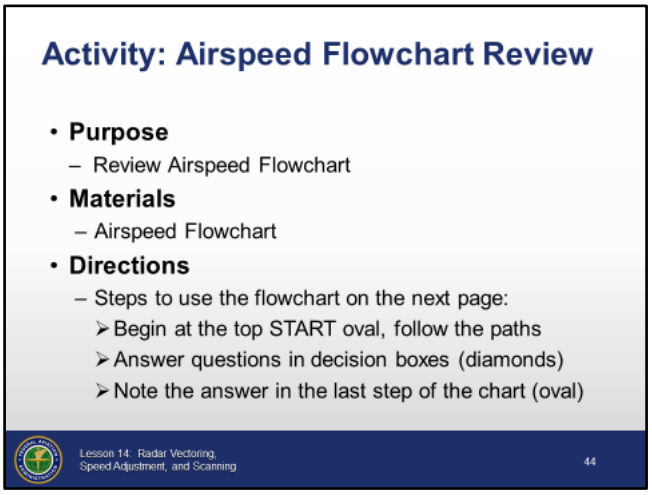
SPEED ADJUSTMENT PROCEDURES *(CONT'D)*

Activity: Airspeed Flowchart Review



Purpose

Review Airspeed Flowchart

Materials

- Airspeed Flowchart

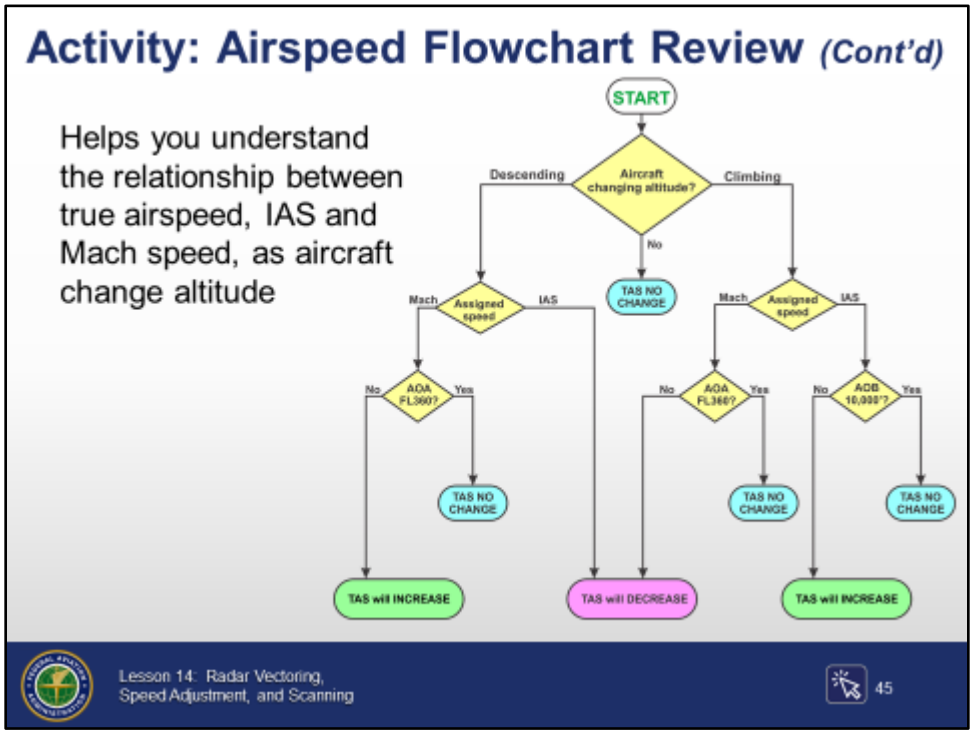
Directions

The flowchart on the next page represents a step-by-step process to determine the changes to true airspeed that occur as aircraft change altitude.

- Steps to use the flowchart on the next page:
  - Begin at the top START oval, follow the paths
  - Answer questions in decision boxes (diamonds)
  - Note the answer in the last step of the chart (oval)
- Use the flowchart to help answer the situations on the following pages

ACTIVITY: AIRSPEED FLOWCHART REVIEW *(CONT'D)*

: Activity: Airspeed Flowchart Review (Cont'd)



- True airspeed flowchart
  - Helps you understand the relationship between true airspeed, IAS, and Mach number as aircraft change altitude

Situation #1: A flight at FL290 is descending with an assigned Mach number speed restriction.

Question: Will true airspeed and ground speed change? If so, will it increase or decrease?

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ACTIVITY: AIRSPEED FLOWCHART REVIEW *(CONT'D)*

Activity: Airspeed Flowchart Review (Cont'd)

Situation #2: A flight at FL370 is climbing with an assigned Mach number speed restriction.

Question: Will true airspeed and ground speed change? If so, will it increase or decrease

Situation #3: A flight at 15,000' is climbing with an assigned IAS restriction.

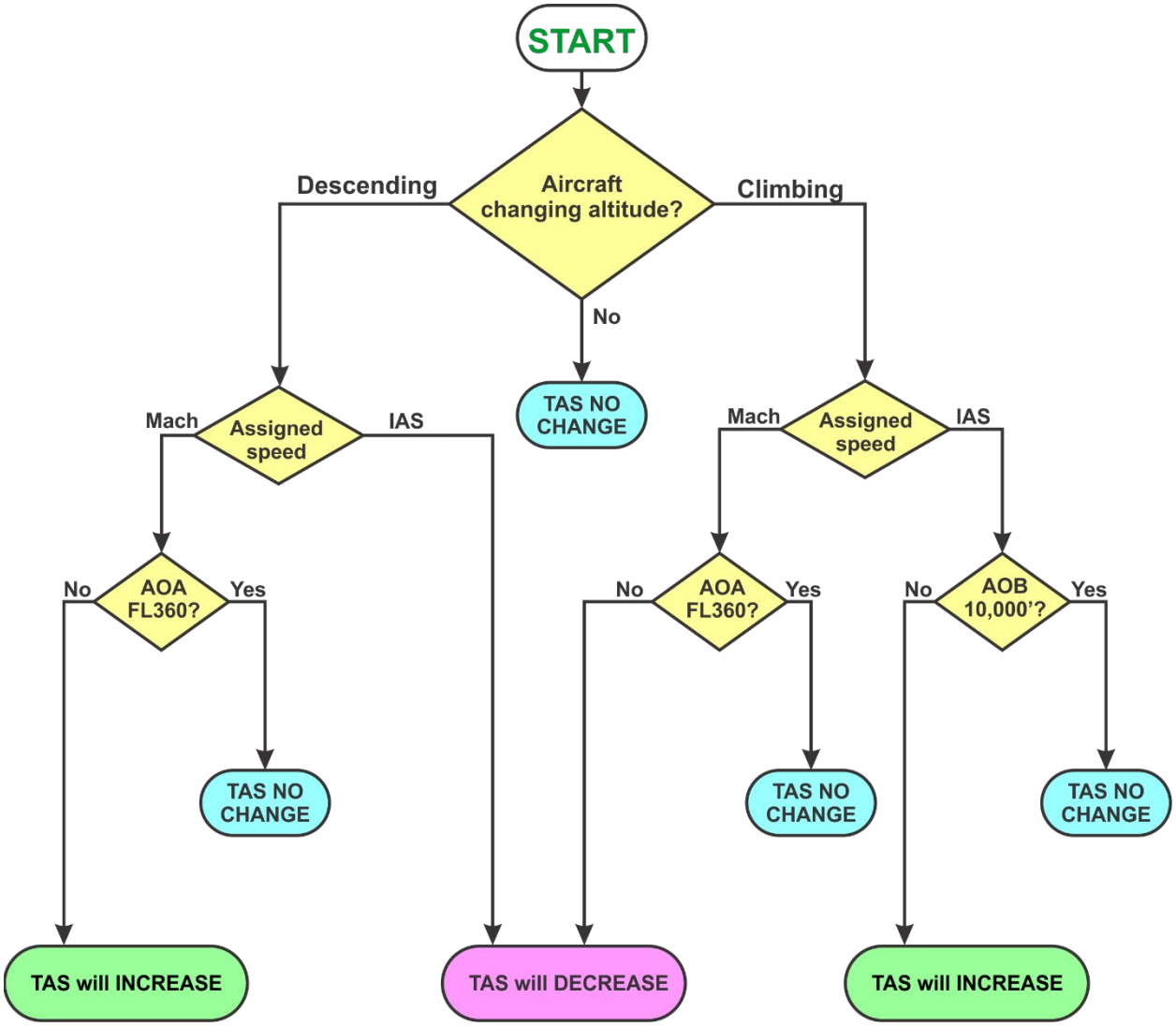
Question: Will true airspeed and ground speed change? If so, will it increase or decrease?

Situation #4: A flight at FL220 is descending with an assigned IAS restriction.

Question: Will true airspeed and ground speed change? If so, will it increase or decrease?

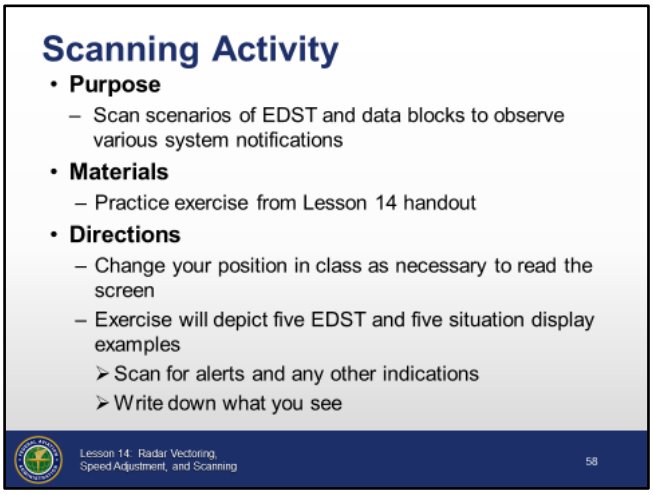
TRUE AIRSPEED FLOWCHART

This flowchart helps you understand the relationship between true airspeed, IAS and Mach number as aircraft change altitude.



ACTIVITY: AIRSPEED FLOWCHART REVIEW *(CONT'D)*

SCANNING ACTIVITY



Purpose

Scan slides of EDST and data blocks to observe various system notifications

Materials

Handout:

- Practice exercise from Lesson 14 handout

Directions

This exercise takes approximately 45 minutes to complete.

- Change your position in class as necessary to read the screen

Continued on next page

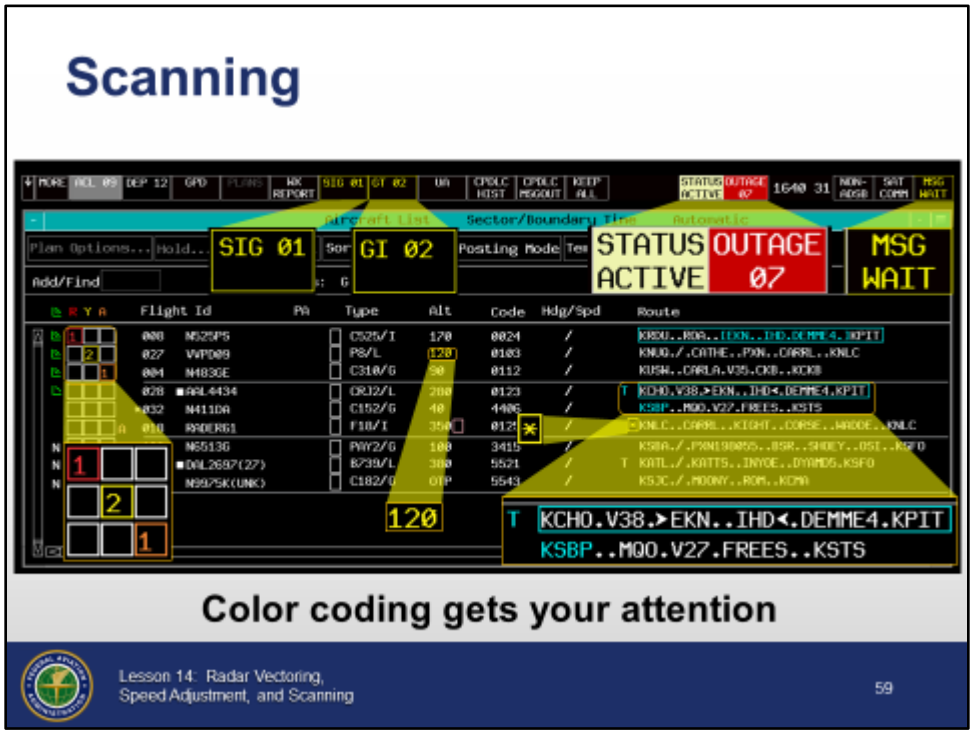
SCANNING ACTIVITY *(CONT'D)*

Directions (Cont'd)

- The exercise slides will depict five EDST and five situation display examples
  - Scan for alerts and any other indications that signify action may be necessary
  - Write down what you see, such as:
    - Alerts
    - New entry coding
    - Climb and descent
    - VCI status
    - IAFDOF
    - Route field indicators
    - Data block altitude and field E indicators
    - Position symbol status, etc.
  - Each slide has time limit
    - The first EDST scenario has a 2 minute, 30 second time limit
    - Situation display scenarios have a 1 minute, 30 second time limit
    - A countdown timer will appear when 20 seconds remains in each scenario
    - Record your observations before the timer expires

SCANNING ACTIVITY *(CONT'D)*

Example Slide



- Toolbar coding gets your attention with color changes
- Other ACL fields also use color to alert you to new or changing information

SCANNING ACTIVITY *(CONT'D)*

Scenario 1

- Use the space below for notes

SCANNING ACTIVITY *(CONT'D)*

Scenario 2

- Use the space below for notes

SCANNING ACTIVITY *(CONT'D)*

Scenario 3

- Use the space below for notes

SCANNING ACTIVITY *(CONT'D)*

Scenario 4

- Use the space below for notes

Continued on next page

SCANNING ACTIVITY *(CONT'D)*

Scenario 4 (Cont'd)

- If needed, use the space below for notes

SCANNING ACTIVITY *(CONT'D)*

Scenario 5

- Use the space below for notes

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SCANNING ACTIVITY *(CONT'D)*

Scenario 5 (Cont'd)

- Use the space below for notes

SCANNING ACTIVITY *(CONT'D)*

Scenario 6

- Use the space below for notes

SCANNING ACTIVITY *(CONT'D)*

Scenario 7

- Use the space below for notes

SCANNING ACTIVITY *(CONT'D)*

Scenario 8

- Use the space below for notes

SCANNING ACTIVITY *(CONT'D)*

Scenario 9

- Use the space below for notes

SCANNING ACTIVITY *(CONT'D)*

Scenario 10

- Use the space below for notes