



**Federal Aviation
Administration**

EN ROUTE RADAR FLIGHT DATA CONTROLLER TRAINING

Lesson 3: Flight Progress Strip Distribution

Version: 2019-12.1


Control Room Layout

FAA Course Number: 55053

INSTRUCTOR LESSON PLAN

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LESSON PLAN DATA SHEET

Course Name	Radar Flight Data Controller Training
Course Number	55053
Lesson Title	Flight Progress Strip Distribution
Duration	1 hour
Version	2019-12.1
Reference(s)	JO 7110.65, Air Traffic Control; ERAM EDSM SRS 210.04 V1B2, En Route Automation Modernization (ERAM) En Route Display Management (EDSM) Appendices for R Position and General EDSM Requirements Volume 1, Book 2; FAA-H-8083-25B, Pilot's Handbook of Aeronautical Knowledge; Local Directives containing strip: marking, delivery methods, and procedures
Prerequisites	
Handout(s)	Electronic delivery requires printing of HO01_L03, which contains Exercise 1: <i>Completion of Flight Strip Worksheet</i> .
Exercise / Activity	Practice Exercise 1: Completion of Flight Strip Worksheet
Assessments	End-of-Lesson Test – ELT_V1_L03 or ELT_V2_L03 <div>  There will be a graded end-of-lesson test upon completion of this lesson. The score required for passing will be in accordance with current FAA directives. </div>
Materials and Equipment	
Other Pertinent Information	Each facility should prepare a control room layout chart showing the location of sectors, strip printers (at automated centers), sector bays and fix postings. Each facility should also prepare a list of center sectors and required fix postings. Prepare enough of each of these materials to distribute to each student. Select Fix Postings within your center to use later in the lesson for questions concerning where to deliver flight strips in the event En Route Automation Systems fail. Try to use NAVAIDs/fixes in another Area in your facility. This lesson is based on ERAM EAE130. The lesson has been reviewed and reflects current orders and manuals as of December 2018.



NOTE: 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.

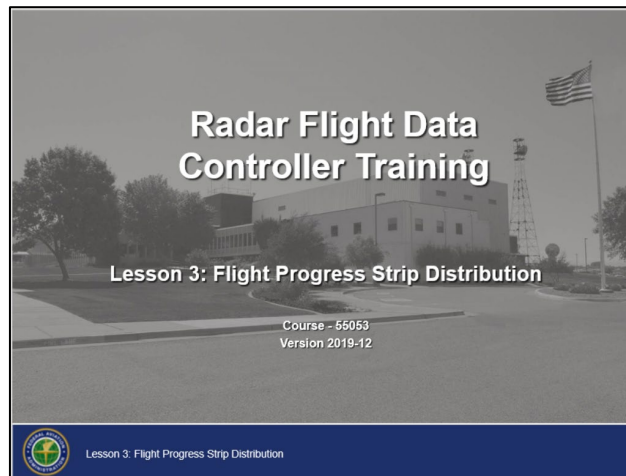
LESSON PLAN ICONS

	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 QA icon indicates a question to be asked to the entire class by the instructor.
	Warning icon indicates a safety critical note.
	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.

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LESSON INTRODUCTION

Lesson Overview



The En Route Decision Support Tool (EDST) greatly reduces flight progress strip usage. There are still circumstances when flight progress strips are used, including nonradar flights, IFR departures from airports under your control, and when automation systems are not available. Your responsibilities will include delivering the completed strip to the appropriate sector and placing the strip at the receiving point designated by the controller.

The previous lessons covered the center control area and your area of specialization. You were given enough information about these areas to draw the area chart depicting NAVAIDs, airway and route structures, and Special Use Airspace. By combining that information with material taught in this lesson, you will be able to distribute flight progress strips to the sectors for which they were prepared.


LESSON INTRODUCTION *(cont'd)*

Lesson Objectives

Lesson Objectives

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

- List the steps for delivering strips
- Identify data contained on flight strips
- List the steps for preparing flight strips



Lesson 3: Flight Progress Strip Distribution

1



NOTE: Review the objectives on the slide.

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

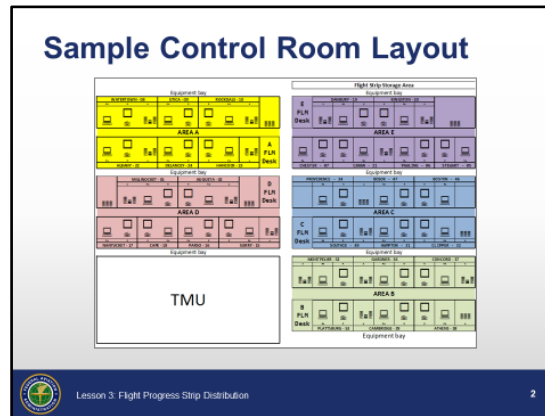
- ⦿ List the steps for delivering strips
- ⦿ Identify data contained on flight strips
- ⦿ List the steps for preparing flight strips

There will be a graded end-of-lesson test. The score required for passing will be in accordance with current FAA directives.

FLIGHT STRIPS

Control Room Layout

JO 7110.65, par.
13-1-5



Radar Flight Data locations are adjacent to RA positions and/or where designated.

When the En Route Automation System (EAS) is operational:

- ⦿ Sector teams shall post flight progress strips for any nonradar flights.
- ⦿ A flight progress strip shall be posted for any flight plan not contained in the EAS.
- ⦿ Sector teams shall post any flight progress strip(s) that are deemed necessary for safe or efficient operations. The sector team shall comply with all applicable facility directives to maintain posted flight progress strips.
- ⦿ Radar Flight Data, or A-side, performs the following functions:
 1. Removes strips from the printer
 2. Inserts required strips in strip holders
 3. Places strip holders in the appropriate location

When 'Flight Data Down' is displayed in the Outage View, flight strips are delivered in-person to downstream sectors and areas. It is important to know the layout of the control room in order to deliver flight strips to the proper sector.



NOTE: Operation of the Flight Strip Printer (FSP) will be addressed in lesson 4.



KNOWLEDGE CHECK

Knowledge Check

Knowledge Check

What is the first step in delivering strips?

- A. Turn the printer off
- B. Remove the printed strips from the printer
- C. Sort the strips alphabetically

 Lesson 3: Flight Progress Strip Distribution  4



Question: What is the first step in delivering strips?



Answer: B. Remove the printed strips from the printer



KNOWLEDGE CHECK

Knowledge Check

Knowledge Check

When delivering strips, how should they be sorted?

- A. Alphabetically
- B. By Beacon Code
- C. By Fix Posting

 Lesson 3: Flight Progress Strip Distribution  6



Question: When delivering strips, how should they be sorted?



Answer: C. By Fix Posting

FLIGHT STRIPS (cont'd)

En Route Data Entries

JO 7110.65,
pars. 2-2-6;
2-3-1; 2-3-2;
2-10-1


En Route Data Entries


Flight Progress Strip
(7230-19)

3	1	2	11	15	16	20	21	25	27
4			12				22		28
5			13				23		
6	8		14	17	18				
7	9			19		20a	24	26	29
		10	14a						30

Manually Prepared Strips are prepared when the computer is shut down for maintenance or other reasons.

When an outage occurs, information is routed to a paired printer.

 JO 7110.65

 Lesson 3: Flight Progress Strip Distribution 6



NOTE: The JO 7110.65 gives specific direction about where flight information is recorded on a strip. It is very important for all controllers to follow the same format so that any controller can utilize a flight strip written by another controller.

The assistant controller, or other team members, prepare strips manually when automation systems are not available.

Steps for preparing manual flight strips:

1. Strip is received from previous sector or a flight plan is received from another facility.
2. Post current data on the flight strip in the proper spaces.
3. Check for completeness of information.
4. Forward control information to the next controller/facility along the aircraft's route at least 15 minutes prior to entering their area.

To prevent misinterpretation when data is hand printed, use standard hand-printed characters as specified in JO 7110.65. Manually prepared strips must conform to the format of machine-generated strips.

Manual strip preparation procedures will be modified simultaneously with the operational implementation of changes in the machine-generated format.

JO 7110.65 gives specific direction about the formatting of Flight Strips.

FLIGHT STRIPS (cont'd)

Flight Strip Data Locations

JO 7110.65,
2-3-2

Flight Strip Data Locations					
3					
4					
5					

3. Aircraft identification
4. Type of aircraft/suffix
5. True airspeed

Lesson 3: Flight Progress Strip Distribution



This slide is animated (1 click).

Information recorded on flight progress strips must be entered in the corresponding numbered spaces.

The flight strip location numbers **DO NOT** correspond to flight plan data fields.

3 – Aircraft identification

- Full call-sign of the flight

Examples: N1234, N44TW, AAL520, DAL44, UAL22, TN35942, LN135DH, A52684, R9542, VVGA22, VM4C263, AF1, AF2, DOT1, FAA1

4 – Number/Type-of-Aircraft/Suffix

- Number of aircraft if more than one, heavy aircraft indicator “H” if appropriate, type of aircraft, and aircraft equipment suffix.

Examples: H/B762/L, F15/I, BE24/G, 2H/B52/I, 12/F16/I

5 – Filed true airspeed

Examples: 480, 125, M.78



Review aircraft identification, type of aircraft/suffix, filed true airspeed.



NOTE: Remind the participants that box #5, True Airspeed, is **not** equal to Indicated Airspeed which is assigned by ATC.

Cont'd on next page

FLIGHT STRIPS (cont'd)

Flight Strip Data Locations (cont'd)

JO 7110.65,
2-3-2

Flight Strip Data Locations			
DAL45	11	15	
B752/L	12		
435		19	

3. Aircraft identification
4. Type of aircraft/suffix
5. True airspeed
11. Previous Fix
12. Est. time over Previous Fix
15. Est. time over Fix
19. Fix, departing proposed time

Lesson 3: Flight Progress Strip Distribution



This slide is animated (1 click).

11 – Previous Fix

Examples: KLAX, APE, SAKES, HVE199042, 4422N/07415W

12 – Estimated time over Previous Fix

- Estimated time of arrival (ETA) over last reporting point/fix in transferring facility's area, or assumed departure time when the departure point is the last point/fix in the transferring facility's area.

Examples: 0145, 2318, 1345

15 – Estimated time over Fix

- Time over a fix within the sector

Note: The RA and R positions will also use this location to record clearance information for departing aircraft.

19 – Fix

- For departing aircraft, add proposed time.



Review departure fix and proposed time on strip.

Cont'd on next page

FLIGHT STRIPS (cont'd)

Flight Strip Data Locations (cont'd)

JO 7110.65,
2-3-2

Flight Strip Data Locations			
DAL45		20	
8752/L			
435	KDFW P0435	24	

3. Aircraft identification	20. Altitude information
4. Type of aircraft/suffix	
5. True airspeed	
11. Previous Fix	24. Requested altitude
12. Est. time over Previous Fix	
15. Est. time over Fix	
19. Fix, departing proposed time	

Lesson 3: Flight Progress Strip Distribution



This slide is animated (1 click).

20 – Altitude information

- Altitude information in hundreds of feet

Examples: 5,000'=50, 15,000'=150, FL350=350

24 – Requested altitude

- Altitude requested for proposed flights
- Altitude requested by airborne aircraft if assigned altitude is different from requested altitude (within a facility only)



Review requested altitude on strip.

Cont'd on next page

FLIGHT STRIPS (cont'd)

Flight Strip Data Locations (cont'd)

JO 7110.65,
2-3-2

Flight Strip Data Locations			
DAL45			21
8752/L			22
435			
	KDFW P0435		280
3. Aircraft identification		20. Altitude information	
4. Type of aircraft/suffix		21. Next Fix	
5. True airspeed		22. Est. time over Next Fix	
11. Previous Fix		24. Requested altitude	
12. Est. time over Previous Fix			
15. Est. time over Fix			
19. Fix, departing proposed time			

Lesson 3: Flight Progress Strip Distribution



This slide is animated (1 click).

21 – Next Fix

22 – Estimated time over Next Fix



Review possible location of next fix and estimated time over next fix.

Cont'd on next page

FLIGHT STRIPS (cont'd)

Flight Strip Data Locations (cont'd)

JO 7110.65,
2-3-2

Flight Strip Data Locations	
DAL45	25
8752/L	
435	26
KDFW P0435	
280	

3. Aircraft identification	20. Altitude information
4. Type of aircraft/suffix	21. Next Fix
5. True airspeed	22. Est. time over Next Fix
11. Previous Fix	24. Requested altitude
12. Est. time over Previous Fix	25. Route of flight
15. Est. time over Fix	26. Remarks
19. Fix, departing proposed time	

Lesson 3: Flight Progress Strip Distribution 11



This slide is animated (1 click).

25 - Route of Flight

- Point of departure, route of flight remaining, destination airport, ETA at destination airport (not required for military or scheduled air carrier aircraft)

26 - Remarks

- Pertinent remarks may include
 - Full Route Clearance (FRC)
 - Minimum fuel
 - North American Route Program (NRP)
 - High Altitude Redesign (HAR)
 - Point-to-point (PTP)
 - May be used at facilities actively using these programs.



Review route of flight and remarks on strip.

Cont'd on next page

FLIGHT STRIPS (cont'd)

Flight Strip Data Locations (cont'd)

JO 7110.65,
2-3-2

Flight Strip Data Locations			
DAL45			KDFW DALL4 OK/M JTB1 BAYLI BENKV4 KORD
8752/L			27
435	KDFW P0435	280	FRC

3. Aircraft identification	20. Altitude information
4. Type of aircraft/suffix	21. Next Fix
5. True airspeed	22. Est. time over Next Fix
11. Previous Fix	24. Requested altitude
12. Est. time over Previous Fix	25. Route of flight
15. Est. time over Fix	26. Remarks
19. Fix, departing proposed time	27. Mode 3/A beacon code

Lesson 3: Flight Progress Strip Distribution 12



This slide is animated (1 click).

27 - Mode 3/A Beacon Code

- When flight plan data must be forwarded manually and an aircraft has been assigned a beacon code by the computer, include the code as part of the flight plan.

Examples: 3421, 5422, 4035



Review beacon code on strip.

KNOWLEDGE CHECK

Knowledge Check

Knowledge Check

3	11		20	25	27
4	12				
5					
		19	24		

Proposal Delta Forty-two, Boeing seven-fifty-seven two hundred slant-Lima, true airspeed four-seven-zero knots, proposed departure Dallas/Fort Worth zero-four-three-five, requesting flight level three-four-zero, route KDFW DALL4 OKM J181 BAYLI BENKY4 KORD, code three-four-two-two

Lesson 3: Flight Progress Strip Distribution 13



This slide is animated (7 clicks).



NOTE: This slide presents a sample flight plan as passed via land line. Click for the flight information and query the students about where the data is recorded.

The instructor will review flight strip data entry locations for a sample flight plan.



Click to show **Proposal Delta Forty-two**



Click to show **Boeing seven-fifty-seven two hundred slant-Lima**



Click to show **true airspeed four-seven-zero knots**



Click to show **proposed Dallas/Fort Worth zero-four-three-five**



Click to show requesting **flight level three-four-zero**



Click to show route **KDFW DALL4 OKM (Okmulgee) J181 BAYLI BENKY4 KORD**



Click to show **code three-four-two-two**

FLIGHT STRIPS (cont'd)

Manually Prepared Strips

JO 7110.65,
2-3-2

The diagram illustrates two types of flight strips: 'Proposed Flight' and 'Airborne Flight'. Each strip is a grid of numbered boxes (1-25) for data entry. The 'Proposed Flight' strip shows a flight from KPHL to KJFK with a requested altitude of 3420. The 'Airborne Flight' strip shows a flight from KJFK to KLAS with a previous fix at 0037 and a next fix at 0050. A 'Tailoring Symbol' is shown in box 23 of the Airborne Flight strip.

Proposed Flight				
3	AWI397		25	KPVD PVD180 JUMPER
4	CRJ2/L		26	SHLEP JT21 PLUME
5	384		27	VI39 BRIGGS JIUN53
		24	200	KPHL
		28		

Airborne Flight					
1	VAL35	11	ONL	25	KJFK/ONL JT14 DUV
2	H/8763/L	12	0037	26	360 HNE PRONT Q88
3	475	13	360	27	HAKNN ANJLL3 KLAS
		14	0050	28	
		15	SNY	29	
				30	



This slide is animated (2 clicks).



Click to show data location numbers.



NOTE: Discuss the Proposed Flight. Highlight that because it is originating from an airport within the facility the Previous Fix is blank.

- This is how a Flight Strip will look if the students must copy departure flight plans during Flight Data Input-Output (FDIO) outages.
- Highlight how the Route of Flight, #25, fills-up quickly and that the route may be continued on another flight strip if necessary (e.g., a flight from KLAS to KJFK or overseas flights).

Manual Flight strips will fall into two types:

- ⦿ Proposals for departing flights
- ⦿ Estimates for airborne flights



NOTE: Compare and contrast the Proposed and Airborne Flight Strips:

Characteristics of Proposed and Airborne Flight Strips:

- ⦿ Both contain similar information for Aircraft ID, Type, and True Airspeed.
- ⦿ The proposed flight has no Previous Fix, the Altitude box is blank, and it has a Requested Altitude.
- ⦿ Airborne estimates will contain a Previous Fix and Previous Fix Time.
 - Helps in computing the Fix Time in box #15 and the Next Fix Time in box #22.
- ⦿ Altitude information is recorded in box #24 for proposed flights, box #20 for airborne flights.

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FLIGHT STRIPS *(cont'd)*

Manually Prepared Strips *(cont'd)*

Route Tailoring

ERAM EDSM
SRS 210.04,
V1B2



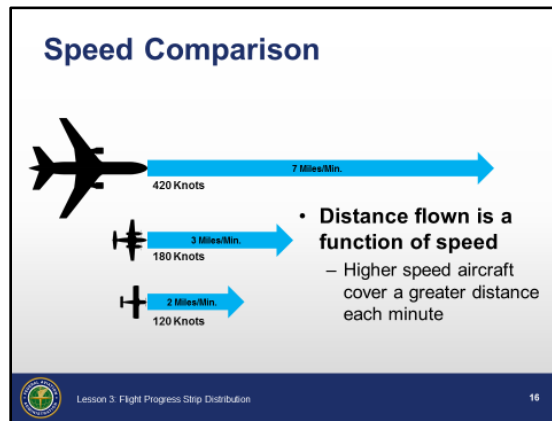
Click to show tailoring animation

- ⦿ Route tailoring is the process of removing expired route elements from flight progress strips. The tailoring indicator must be filed as the second element and the third element must be a fix.
 - The Route in box #25 may be tailored to remove the portion already flown but must contain the point of departure.
 - Route tailoring is indicated with “/”
-

FLIGHT STRIPS (cont'd)

Time/Distance Calculation

FAA-H-8083-25B p. 16-11



- Distance flown is a function of speed. Faster aircraft will fly farther in one minute than slower aircraft. You will use the miles per minute of each flight to calculate how long it takes to fly over a fix within the sector.
- Aircraft speeds are represented in knots and a “knot” is 1 nautical mile per hour.
- Example: An aircraft flying at 120 knots travels 2 miles each minute.


FLIGHT STRIPS (cont'd)

Time / Miles-per-Minute Table

Time / Miles per Minute Table

- This table shows how many miles per minute an aircraft will fly at a given speed.

Speed	Miles/Min.
60	1
120	2
180	3
240	4
300	5
360	6
420	7
480	8
540	9
600	10

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- ⦿ This table shows how many miles per minute an aircraft will fly at a given speed.



Speed	Miles/Min.
60	1
120	2
180	3
240	4
300	5
360	6
420	7
480	8
540	9
600	10

FLIGHT STRIPS (cont'd)

Miles per Minute calculation

Miles Per Minute Calculation

- Time from one point to another can be calculated by the following formula:
$$\frac{\text{Distance}}{\text{Time}} = \text{Speed (miles/min.)}$$
- Convert knots to miles per minute, divide the speed by 60.
$$\frac{\text{Knots}}{60} = \text{Miles/Min.}$$
- 420 knots = 7 miles per minute
$$\frac{420 \text{ Miles}}{60 \text{ Min.}} = 7 \text{ Miles/Min.}$$

 Lesson 3: Flight Progress Strip Distribution  18



This slide is animated (1 click).

- ⦿ The previous table works well for the absolute values indicated but is less precise calculating fix/times for speeds not on the table.
- ⦿ Speed, in miles per minute, to fly from one point to another is a function of the distance divided by time.
 - This can be addressed in the following formula:

$$\frac{\text{Distance}}{\text{Time}} = \text{Speed (miles/min.)}$$



Click to show example

- ⦿ To convert knots to miles per minute, divide the speed by 60.

$$\frac{\text{Knots}}{60} = \text{Miles/Min.}$$

- ⦿ For example: An aircraft flying at 420 knots travels at 7 miles per minute

$$\frac{420 \text{ Miles}}{60 \text{ Min.}} = 7 \text{ Miles/Min.}$$

FLIGHT STRIPS (cont'd)



Quick Estimate

Quick Estimate from 1/10 Hour

- 6 minutes is 1/10 of 60 minutes
- Therefore, 1/10 of the speed is how far the aircraft will fly in 6 minutes
- Example, 420 knots = 420 miles in 60 min.
 - Remove the last digit of both Distance and Time.

$$\frac{420 \text{ Miles}}{60 \text{ Min.}} = \frac{42 \text{ Miles}}{6 \text{ Min.}}$$

- Therefore, this aircraft will fly 42 miles in 6 minutes

 Lesson 3: Flight Progress Strip Distribution  19



This slide is animated (1 click).

- ⦿ Another method to determine time to fly a distance uses 1/10 of an hour or 6 minutes.
- ⦿ Because 6 minutes is 1/10 of 60 minutes, 1/10 of the speed is how far the aircraft will fly in that 6 minutes.
- ⦿ Let's look at the previous example of 420 knots.



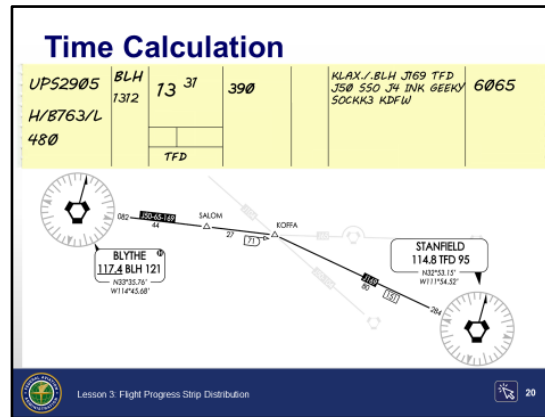
Click to show example

$$\frac{420 \text{ Miles}}{60 \text{ Min.}} = \frac{42 \text{ Miles}}{6 \text{ Min.}}$$

- ⦿ This aircraft will fly 42 miles in 6 minutes.
- ⦿ Use any of the three methods; speed table, speed divided by 60 or the 1/10 of the speed for 6 minutes to calculate the fix/time on manually prepared flight strips.

FLIGHT STRIPS (cont'd)

Time Calculation Example



This slide is animated (2 clicks).

The final step in manual strip preparation is calculating a fix/time. Use a map or your knowledge of the sector to determine the proper fix for box 19 and the distance from the fix in box 12. Calculate the time to fly this distance by dividing it by the miles per minute.

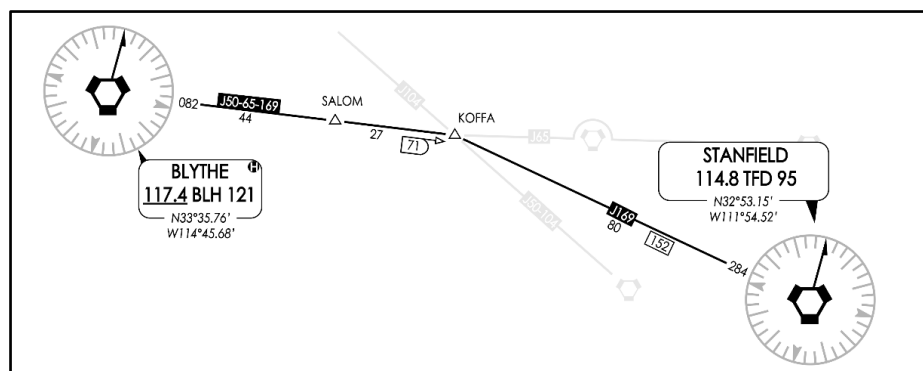
Example:

- Determine distance to a fix in your sector.



Click to show map. Then click again to continue.

- UPS2905 is flying J169 from BLH to TFD and the distance is 152 miles.
- Calculate the miles per minute.
 - Speed on the flight strip is 480 knots which equals 8 miles per minute.
- Calculate the TFD time.
 - Divide the miles to be flown by the miles per minute
 - 152 miles divided by 8 miles per minute = 19 minutes
 - Add 19 minutes to the BLH time, 1312 + 19 = 1331

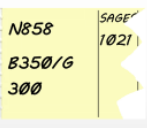


KNOWLEDGE CHECK

Knowledge Check

Knowledge Check

How many miles per minute is N858 traveling?



A. 3
B. 4
C. 5

Lesson 3: Flight Progress Strip Distribution 21

Q&A

Question: How many miles per minute is N858 traveling?



Answer: C. 5 miles per minute

KNOWLEDGE CHECK



Knowledge Check

Knowledge Check

How many miles per minute is DAL1513 traveling?

DAL1513 A319/L 420	MER 215
--------------------------	------------

A. 6
B. 7
C. 8

 Lesson 3: Flight Progress Strip Distribution  22

Q&A

Question: How many miles per minute is DAL1513 traveling?



Answer: B. 7 miles per minute

KNOWLEDGE CHECK

Knowledge Check

Knowledge Check

An aircraft flying at 382 knots will take approximately how many minutes to travel 76 miles?

- A. 10
- B. 12
- C. 18



Lesson 3: Flight Progress Strip Distribution



Q&A

Question: An aircraft flying at 382 knots will take approximately how many minutes to travel 76 miles?



Answer: B. 12 minutes



KNOWLEDGE CHECK

Knowledge Check

Knowledge Check

An aircraft flying at 160 knots will take approximately how many minutes to travel 96 miles?

- A. 16
- B. 24
- C. 36

 Lesson 3: Flight Progress Strip Distribution  24



Question: An aircraft flying at 160 knots will take approximately how many minutes to travel 96 miles?



Answer: C. 36 minutes

KNOWLEDGE CHECK

Knowledge Check

Knowledge Check

UAL78	BAM		280	KEWR / BAM J32	5132
8772/L	2151			LLC LEGGS BDEGA2	
480				KSFO	
	LLC				

Compute LLC time.

A. 2159
B. 2201
C. 2239

Lesson 3: Flight Progress Strip Distribution

Q&A **Question:** Compute LLC time.

Answer: B. 2201

PRACTICE EXERCISE #1: FLIGHT PLAN INFORMATION

Purpose

Practice Exercise #1

- Use Flight Strip Worksheet to record flight plans read by the instructor
- Focus on legible hand written characters and completeness of information
- Use chart slides, when revealed, to calculate requested fix/times



Lesson 3: Flight Progress Strip Distribution

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To practice manually preparing flight strips

Materials

You will need the following materials for this exercise:



Distribute Handout H01_L03 – Practice Exercise 1: Flight Strip Worksheet

Directions



This exercise takes approximately 30 minutes to complete.

1. Refer to the handout in the Student Guide.
2. Record the instructor-spoken data for each flight plan on the *Flight Strip Worksheet*.
 - a. *Read a flight plan to the students. Use fix and waypoint names; do not use phonetics until prompted by the students.*
 - b. *Reveal the chart for calculation of requested fix/time for the flight.*
 - c. *Allow time for students to calculate fix/time*
 - d. *Reveal the PPT slide containing the correct FP and fix/time.*
 - e. *Repeat steps a–d for 3 more FPs.*
 - f. *After the 4th example, have students swap strips to examine how legible their teammate's strips are.*

NOTE: *The exercise begins on the next page.*

Cont'd on next page

PRACTICE EXERCISE #1: FP INFORMATION *(cont'd)*

Begin Exercise

1. The instructor will read a flight plan for you to copy.
2. A chart will be displayed for you to use to calculate a fix/time and place on the flight strip.
3. Upon completion, the correctly filled out flight strip will be displayed and discussed.
4. Steps 1 – 3 will be repeated for 3 more flight plans.



Have students swap strips to examine how legible their teammate's strips are.

PRACTICE EXERCISE #1: FP INFORMATION (cont'd)

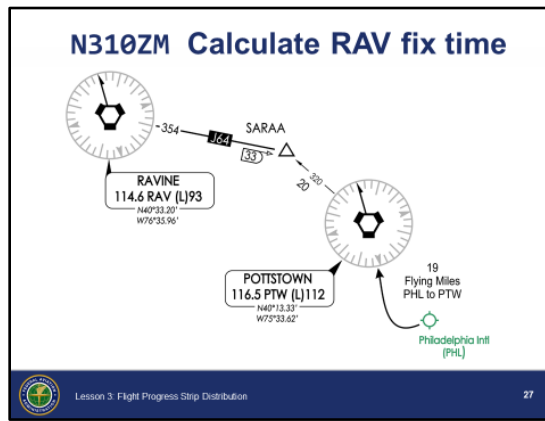


Read each flight plan to the students. Use fix and waypoint names; do not use phonetics until prompted by the students.

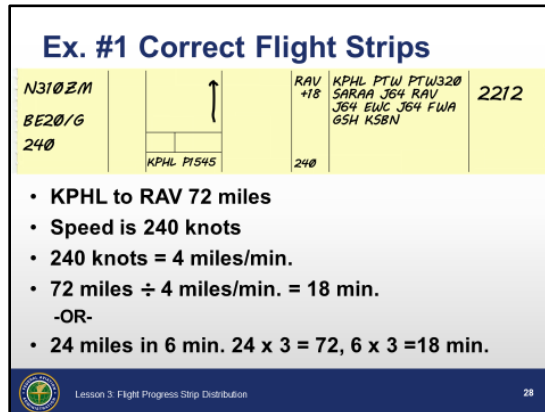
- a. Proposal; Kingair three-one-zero-zulu-mike, Kingair 200 slant Golf, true airspeed two-four-zero knots, proposed out of Philadelphia one-five-four-five, requesting flight level two-four-zero, route **KPHL PTW** (Pottstown) **PTW320 SARAA J64 RAV** (Ravine) **J64 EWC** (Ellwood City) **J64 FWA** (Fort Wayne) **GSH** (Goshen) **KSBN** (South Bend), code two-two-one-two.



Click to show N310ZM fix/time map and allow time for RAV fix/time calculation.



Click to display the correctly completed flight strip for N310ZM.



NOTE: STUDENTS COPY INTENTIONALLY LEFT BLANK

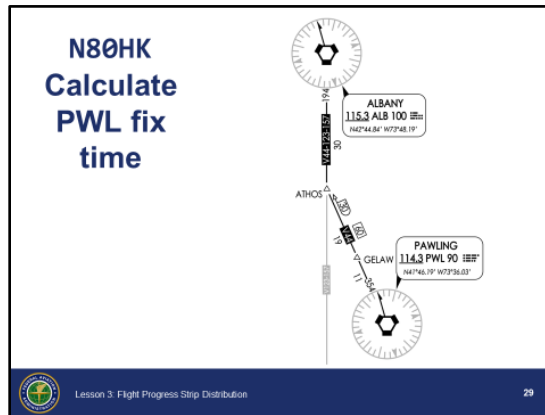
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PRACTICE EXERCISE #1: FP INFORMATION (cont'd)

- b. Inbound; Skyhawk eight-zero-hotel-kilo, Cessna one-seventy-two slant-Golf, true airspeed one-two-zero, estimating **ALB** (Albany) two-two-five-zero, eight-thousand, departed **GFL** (Glens Falls) direct **ALB V44 DPK** (Deer Park) direct and landing **KFRG** (Farmingdale), code one-four-one-seven, E-T-A two-three-four-two.



Click to show N80HK fix/time map and allow time for PWL fix/time calculation.



Click to display the correctly completed flight strip for N80HK.

Ex. #1 Correct Flight Strips

N80HK	ALB	2250	23 ²⁰	80	KGFL ALB V44 DPK	1417
C172/G					KFRG/2342	
120						
			PWL			

- ALB to PWL 60 miles
- Speed is 120 knots
- 120 knots = 2 miles/min.
- 60 miles ÷ 2 miles/min. = 30 min.
- OR-
- 12 miles in 6 min. 12 x 5 = 60, 6 x 5 = 30 min.

NOTE: STUDENTS COPY INTENTIONALLY LEFT BLANK

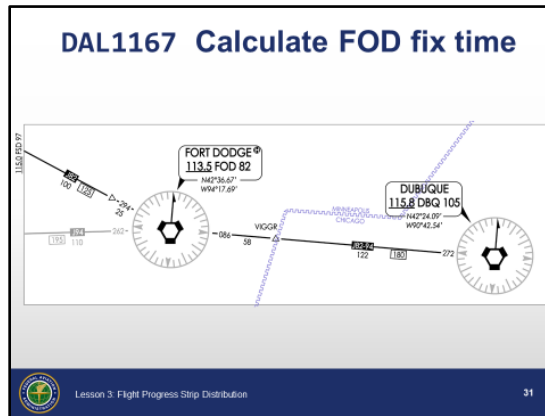
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PRACTICE EXERCISE #1: FP INFORMATION (cont'd)

- c. Inbound; Delta one-one-six-seven, Airbus three-nineteen slant Lima, true airspeed four-five-zero knots, estimating DBQ (Dubuque) one-zero-five-one, flight level three-six-zero, departed (O'Hare) KORD./ .DBQ J82 FSD (Sioux Falls) KP87A KU06U MLP (Mullan Pass) GLASR1 KSEA (Seattle-Tacoma), code four-six-six-four.



Click to show DAL1167 fix/time map and allow time for FOD fix/time calculation.



Click to display the correctly completed flight strip for DAL1167.

Ex. #1 Correct Flight Strips					
DAL1167	DBQ	02 ¹⁵	360	KORD./ .DBQ J82	4664
A319/L	0151			FSD KP87A KU06U	
450				MLP GLASR1 KSEA	
		FOD			
<ul style="list-style-type: none"> • DBQ to FOD 180 miles • Speed is 450 knots • 450 knots = 7.5 miles/min. • 180 miles ÷ 7.5 miles/min. = 24 min. -OR- • 45 miles in 6 min. 45 x 4 = 180, 6 x 4 = 24 min. 					

NOTE: STUDENTS COPY INTENTIONALLY LEFT BLANK

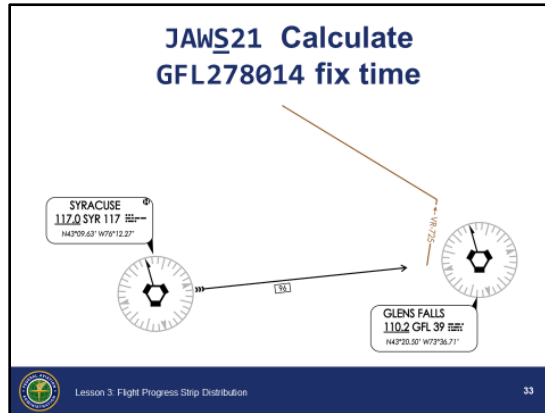
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PRACTICE EXERCISE #1: FP INFORMATION (cont'd)

- d. Inbound; JAWS two-one, F-sixteen slant-India, true airspeed four-eight-zero knots, estimating SYR (Syracuse) zero-eight-five-two, one-six-thousand, departed (Burlington) BTV./SYR GFL278014 (Glens Falls) VR725 ART073029 (Watertown) KBTv, code five-three-seven-four.



Click to show JAWS21 fix/time map and allow time for GFL278014 fix/time calculation.



Click to display the correctly completed flight strip for DAL1167.

Ex. #1 Correct Flight Strips					
JAWS21	SYR	0852	0904	160	KBTv./SYR
F16/I					GFL278014 VR725
480					ART073029 KBTv
			GFL278014		5374

- SYR to GFL278014 96 miles
- Speed is 480 knots
- 480 knots = 8 miles/min.
- 96 miles ÷ 8 miles/min. = 12 min.
- OR-
- 48 miles in 6 min. 48 x 2 = 96, 6 x 2 = 12 min.

Lesson 3: Flight Progress Strip Distribution 34



Debrief the activity by asking:



Would you have been able to pass a flight plan based on the legibility of another student's work?

NOTE: STUDENTS COPY INTENTIONALLY LEFT BLANK

PRACTICE EXERCISE 1 HANDOUT– FLIGHT STRIP WORKSHEET

EN ROUTE DATA ENTRIES (Continued)

Poor Examples

The image shows two examples of flight progress strips. The top strip is for flight ELY027, showing a route from HNL to MIA with handwritten notes 'CLG HAWAII' and 'MS ROSE CR'. The bottom strip is for flight UPS208, showing a route from HNL to SFO with handwritten notes 'CDL HAWAII MS' and 'VZIS SFO CR'. Both strips have illegible handwritten entries in the 'TIME' and 'SPEED' columns.

These are actual flight strips from a midnight shift. Note the missing information. These are poor examples of flight strips, because it is difficult to determine the routes of flight and other information. Legibility is important!



Ask the students the following questions about the example strips.



How well does this flight strip convey the flight plan info?

Route of flight illegible, crossed-out elements (should be a single line through),



Is the aircraft type and equipment properly annotated?

UPS208 missing SAI (heavy jet) and equipment suffix.



What is the speed of both aircraft? Do we have enough data to properly calculate a fix/time?

ELY027 MACH speed illegible, UPS208 speed missing, time computation not possible



What is the point of departure? Route of flight? Destination?

Illegible route, airport designation with "K" missing.

KNOWLEDGE CHECK



Knowledge Check

JO 7110.65, par.
2-3-1; 2-3-2

Knowledge Check

SWA1459				KPVD CTR CAM	
B737/L				Q822 GONZZ Q29	
				DORET DJ8 J60	
				ASHEN BAGEL	
				PANG63 KMDW	
	KPVD		320	FRC	

What data was omitted on this manually prepared strip?

 Lesson 3: Flight Progress Strip Distribution  36



Question: What data was omitted on this manually prepared strip?



Answers: 5-Filed True Airspeed, 19-Proposed Time, 27-Beacon Code



KNOWLEDGE CHECK

Knowledge Check

Knowledge Check

How are strips prepared when automation systems are not available?

- A. Strips are prepared by the Traffic Management Coordinator and distributed as necessary.
- B. Strips are prepared by Tech-Ops at the high-speed printer.
- C. Strips are prepared manually by the Assistant Controller or other controllers.

Lesson 3: Flight Progress Strip Distribution37



Question: How are strips prepared when automation systems are not available?



Answers: C. Strips are prepared manually by the Assistant Controller or other controllers.

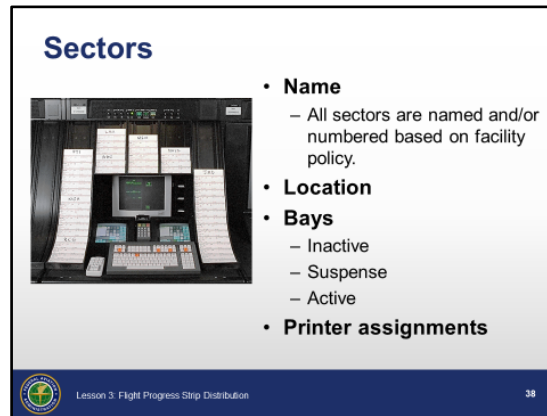
SECTORS

Sectors

JO 7210.3, 6-2-2;

TI 6110.141, 2.1.42

Local SOP



NOTES: Refer students to the local facility control room layout chart.

- ⦿ Name
 - All sectors are named and/or numbered based on facility policy.
 - ⦿ Location
 - ⦿ Bays
 - Inactive
 - Suspense
 - Active
 - ⦿ Flight Strip Printers: each sector has a printer assigned as Primary, Backup, and Second Backup.
 - Consult your local Standard Operating Procedures and/or sector binders to familiarize yourself with this important information.
 - Flight strips may print at the Backup or Second Backup if the Primary printer fails or runs out of paper.
-



KNOWLEDGE CHECK

Knowledge Check

Knowledge Check

The Flight Strip Printer at you sector was offline while you installed a new box of paper. What will happen to the strips that attempted to print while it was offline?

- A. Strips will print at a specific location in your facility.
- B. Strips will reprint at this sector once you place the printer online.
- C. Strips are lost and must be requested from the computer.

Lesson 3: Flight Progress Strip Distribution39



Question: The Flight Strip Printer at you sector was offline while you installed a new box of paper. What will happen to the strips that attempted to print while it was offline?





Answer: A. Strips will print at a specific location in your facility.

SUMMARY

Lesson Summary

Lesson Summary

- **List the steps for delivering strips**
 - Control room layout
 - Strip delivery
- **Identify data contained on flight strips**
 - Flight Strip data locations
- **List the steps for preparing flight strips**
 - Manually prepared strips

 Lesson 3: Flight Progress Strip Distribution  40



NOTE: Review and elaborate briefly on the following:

- ⦿ List the steps for delivering strips
 - Control room layout
 - Strip delivery
- ⦿ Identify data contained on flight strips
 - Flight Strip data locations
 - Aircraft information
 - Time
 - Altitude
 - Route of flight
 - Beacon code
- ⦿ List the steps for preparing flight strips
 - Manually prepared strips
 - Legible characters
 - Complete and proper placement if data



NOTE: Ask students if there are any questions.

- Administer end of lesson test (ELT01_L03), explain test passing score requirements, time allowed for completing the test, and other procedures for administering test.

NOTE: The score required for passing the end-of-lesson test will be in accordance with current FAA directives.

- Provide feedback on missed questions, including a discussion to explain why particular answers are correct or incorrect.
-