

# Cross Country Flight Planning Handout

098-1

How to do the Cross-Country Homework

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# Cross-Country Flight Planning Trip Description

From Shawnee Airport (SNL) – Shawnee Oklahoma

To

Davis Airport – Muskogee Oklahoma (*to the east*)

To

McAlester (*just below McAlester Oklahoma*)

To (*back to*)

Shawnee Airport, Shawnee Oklahoma

# Cross-Country Flight Planning

Find the Following

GIVE THE FOLLOWING FOR EACH LEG

	Leg 1	Leg 2	Leg 3
TC =			
MC =			
MH =			
DIST =			
WCA =			
GS =			
TIME =			
FUEL USED =			

FOR THE TRIP GIVE

Total time = \_\_\_\_\_

Total distance = \_\_\_\_\_

Total fuel = \_\_\_\_\_

# Cross-Country Flight Planning

## Information Obtained before Starting Flight

Wind is from 060° at 15kts **(17.3 mph)**

TAS is 125mph **(109 kts)**

Fuel consumption is 4.6 gph

Deviation if needed (from Computer Testing Supplement Figure 59)

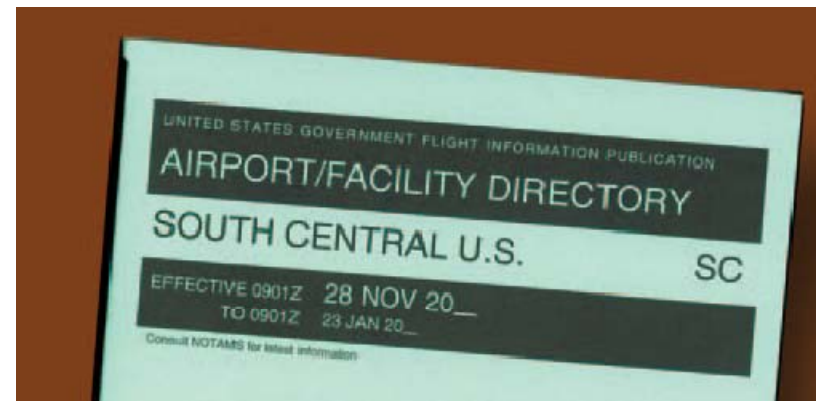
For	N	030	060	E	120	150
Steer	0	027	056	085	116	148
For	S	210	240	W	300	330
Steer	181	214	244	274	303	332

# Cross-Country Flight Planning

## Locating Airports

Use AFD to locate the airports:  
Shawnee Airport in Shawnee, Oklahoma and  
Davis Airport in Muskogee, Oklahoma:

- Which Airport/Facility Directory (AFD)?
- Which chart?
- Where is airport?





# Cross-Country Flight Planning

## Locating Airports—Which Chart

### Which chart?

Use AFD airport listing entry to determine which chart.

Airports are listed by city. Locate the state, city, and airport in the South Central AFD. The upper right side of the airport's directory entry identifies the sectional chart as Dallas Ft Worth.

### OKLAHOMA

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<b>SHAWNEE RGNL</b>	(SNL)	2 NW	UTC-6(-5DT)	<b>N35°21.47' W96°56.57'</b>	<b>DALLAS-FT. WORTH</b>
1073	B	S2	FUEL 100LL, JET A		H-6H, L-15D
RWY 17-35: H5600X100 (ASPH)			S-30, D-40, DT-60	MIRL	IAP
				.	
				.	
				.	

# Cross-Country Flight Planning

## Locating Airports—Where is Airport?

### Where is airport?

On the top line of the airport's directory entry, just left of the sectional chart notation, is the latitude and longitude of the airport.

Use the North side of the Dallas Ft Worth sectional chart and locate the Shawnee Airport at  $N35^{\circ}21.47'$   $W96^{\circ}56.57'$ . Locate Davis Airport in same manner.

#### OKLAHOMA

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##### MUSKOGEE

**DAVIS FLD** (MKO) 6 S UTC-6(-5DT) **N35°39.46' W95°21.70'**  
611 B S2 FUEL 100LL, JET A  
RWY 13-31: H7201X150 (ASPH) S-59, D-78, DT-131 MIRL 0.4% up NW

DALLAS-FT. WORTH  
H-G1, L-15E  
IAP

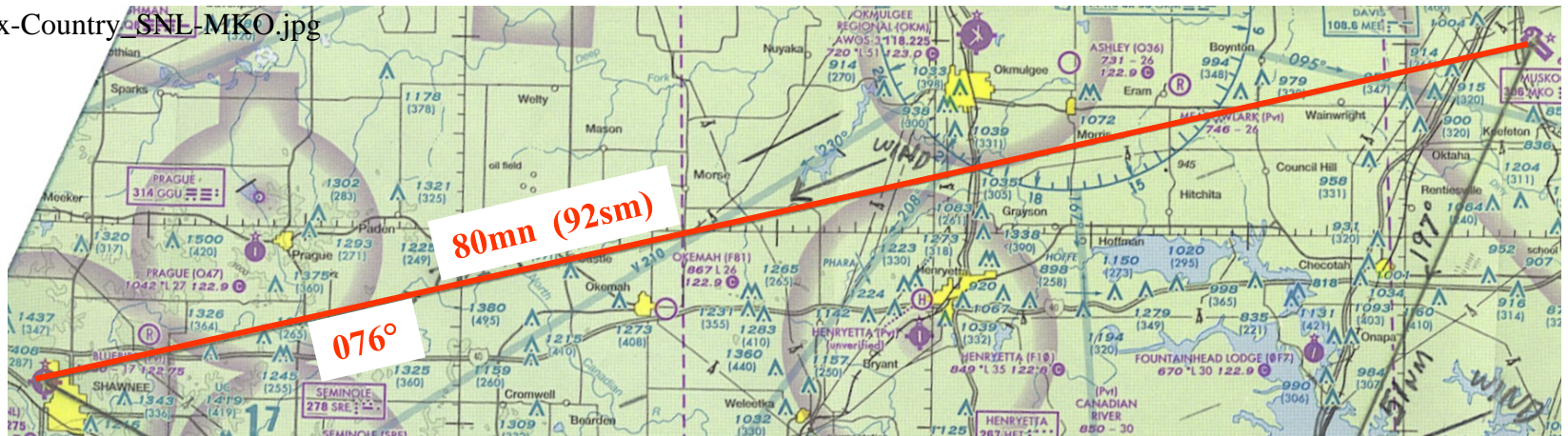
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# Cross-Country Flight Planning

## Locating Airports—Plotting Course

**Plot course from Shawnee Airport to Davis Airport using plotter, determine true course, and measure the distance.**

x-Country-SNL-MKO.jpg



# Instructions (Leg 1)

Use Worksheet on following page to help with the following. Fill in answers for Cross-country legs as obtained:

1. True Course (TC)—Use plotter to measure the angle between true north and the plotted course. **You should get about 076°.**
2. Magnetic Course (MC)—Adjust for variation (east is least). **Variation is 4°E to 5°E.**
3. Distance (DIST)—Measure the distance between the two airports using the plotter (be sure to use correct plotter scale). **Distance is about 79 nm.**
4. Magnetic Heading (MH)—Any course when corrected for wind becomes a heading. So, you need the wind correction angle (WCA). MC with WCA yields MH. Use back side of E6B to get the **WCA (2° Left)** and the **GS (94 kts)**.  
Given: Wind is 060° at 15kts  
Aircraft MC= 071° as measured at given TAS 125 mph (**109 kts**)
5. Time enroute—Use front side of E6B. Rate (GS) = D / T, 94 kts = 79 nm / Time,  
94 kts = 70 nm / **51 min**
6. Fuel—Use front side of E6B. Rate = Gal / Time, 4.6 gph = Gallons / 51 min,  
4.6 gph = **3.9 gal** / 51 min
7. Compass Course/Heading (CC/CH) was not asked for, therefore Deviation (DEV) is not required.

# Cross-Country Flight Planning

## Locating Airports—Plotting Course

After plotting course from Shawnee Airport to Davis Airport using plotter. Determine magnetic course, heading, and all eight Leg 1 items in Table 1 (see next page for detail instructions). Then do same for Leg 2 and Leg 3.

**NOTE:** Values may differ slightly between people and computers.

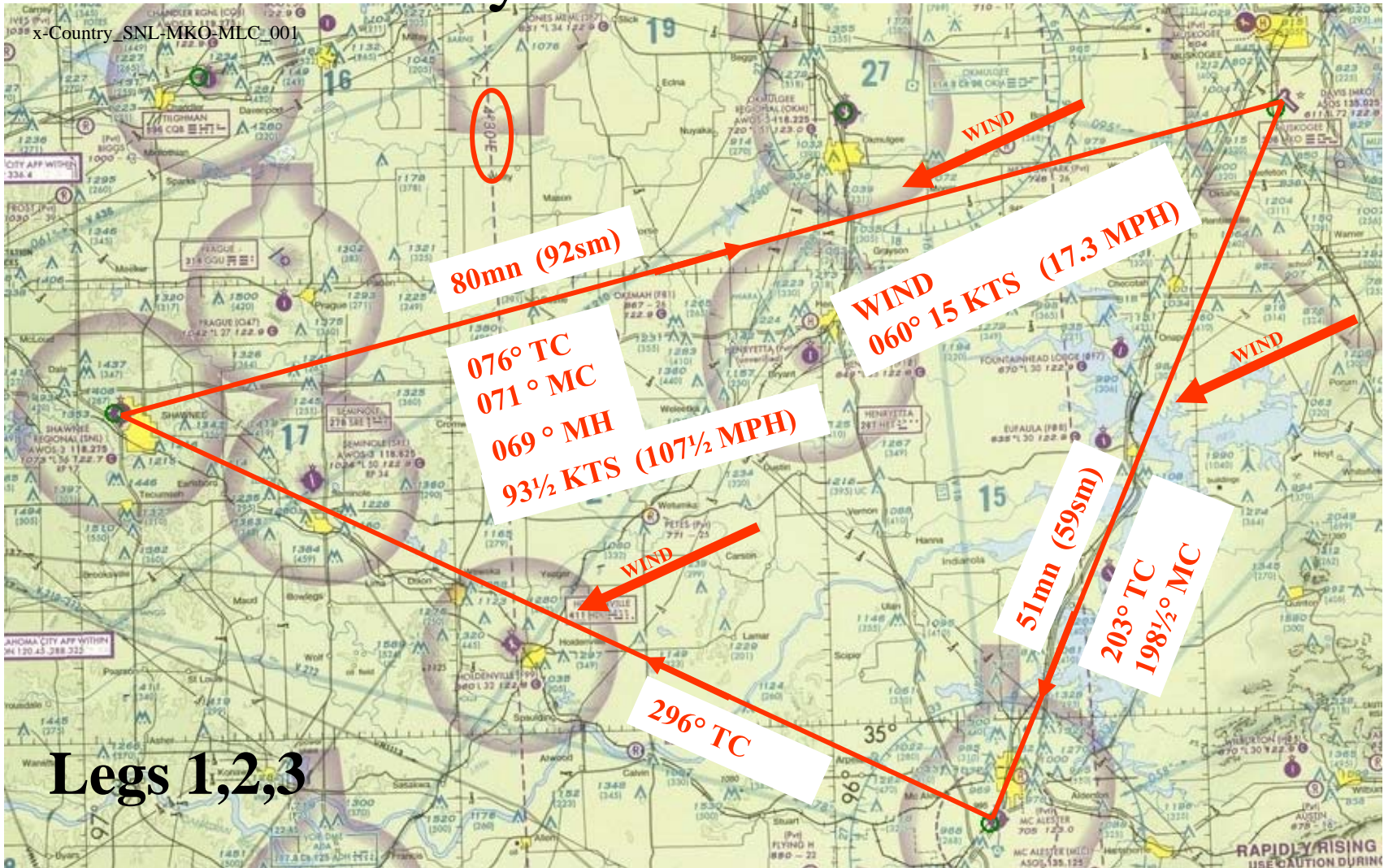
Table 1. Cross-country legs 1, 2, 3.

		Leg 1	Leg 2	Leg 3
1.	TC =	076°		
2.	MC =	071°		
3.	MH =	069°		
4.	DIST =	80nm (92sm)		
5.	WCA =	-2°		
6.	GS =	94knots (108mph)		
7.	TIME =	51min		
8.	FUEL USED =	3.9gal		

Table 1a. Worksheet.

COURSE		WCA	HEADING	
TC	076°		TH	
VAR (-E +W)	-5°		VAR (-E +W)	
MC	071°	-2°	MH	069°
DEV (±)	-4°		DEV (±)	-4°
CC	067°		CH	065°

# Cross-Country SNL-MKO-MLC Partial



# Cross-Country Flight Planning

Start Legs 2 (TC, MC, DIST) and 3 (MC)

**FOR THE TRIP GIVE**

Total time = \_\_\_\_\_  
 Total distance = \_\_\_\_\_  
 Total fuel = \_\_\_\_\_

Table 2a. Worksheet.

COURSE	WCA	HEADING
TC		TH
VAR (-E +W)		VAR (-E +W)
MC		MH
DEV (±)		DEV (±)
CC		CH

Table 2. Cross-country legs 1, 2, 3. Start Legs 2 and 3.

		Leg 1	Leg 2	Leg 3
1.	TC =	076°	203°	296°
2.	MC =	071°	198½°	
3.	MH =	069°		
4.	DIST =	80nm (92sm)	51nm (59sm)	
5.	WCA =	-2°		
6.	GS =	94knots (108mph)		
7.	TIME =	51min		
8.	FUEL USED =	3.9gal		

Values may differ slightly between different people and different computers.

# **END of HOMEWORK**

**The following is a sample test question.**

**See if you can get the correct answer.**

**The correct answer is provided.**

# Navigation Flight Computer

## Exam Question 186

186. H987 PVT (ASA 3545, 9-31)

(Refer to figure 23.) Determine the magnetic heading for a flight from Sandpoint Airport (area 1) to St. Maries Airport (area 4). The wind is from  $215^\circ$  at 25 knots, and the true airspeed is 125 knots.

A)  $187^\circ$ .

B)  $169^\circ$ .

C)  $349^\circ$ .

$$\begin{aligned} \text{TC} \pm \text{WCA} &= \text{TH} \pm \text{VAR} = \text{MH} \pm \text{DEV} = \text{CH} \\ \text{TC} \pm \text{VAR} &= \text{MC} \pm \text{WCA} = \text{MH} \pm \text{DEV} = \text{CH} \end{aligned}$$

**With fixed scale plotter, use the parallel (latitude line) and the South scale to read the TC.**

Wind is from  $215^\circ$  at 25 knots

**TC =  $181^\circ$** , TAS = 125 knots

**WCA =  $6^\circ$  right**    **VAR =  $18^\circ$ E**

COURSE		WCA	HEADING	
TC			TH	
VAR $\pm$			VAR $\pm$	
MC			MH	
DEV $\pm$			DEV $\pm$	
CC			CH	

**END of Handout**