

**AIGT / INAV II Version A1  
FLIGHT PLANNING DATA**

Aircraft/Buno/Side number ..... T44/136320/G877  
 Unit/Home Station ..... CTW-4/NAS Corpus Christi  
 Date/ETD..... Today's Date/0830/Local  
 Point of Departure..... Point Mugu NAWS  
 Alternate..... Tucson International Airport  
 Cruising Altitude..... 15,000 feet

**DO NOT WRITE  
ON THIS TEST**

TAS..... Use Cruise Climb to level-off (see Fuel Climb Schedule)  
 ..... 175 knots for remainder of flight

Climb Winds are not computed for this problem

Cruise Winds (True)..... 350/40 to Phoenix 337/40  
 ..... 250/30 to Tucson 237/30

Variation..... Use 13°E variation for the entire flight

Route to Destination..... DOYLE-FIVE Departure to DOYLE Doyle 5 Doyle V-8 S61 V-64 B2H  
 ..... V-8 to Seal Beach VORTAC V-16 AVONDA  
 ..... V-64 TO Blythe VORTAC  
 ..... V-16 to AVONA for an ILS RWY 7L approach to Phoenix Sky Harbor Intl.

Route to Alternate..... Direct Stanfield VORTAC  
 ..... V-105 to BASER  
 ..... Direct to MAVVA for VOR or TACAN RWY 11L approach at Tucson Intl.

**Fuel:**

Fuel Aboard..... 2496 lbs  
 Taxi and Run-up..... 60 lbs T/O Fuel = 2436  
 Climb schedule:  
     Fuel/Time/Distance..... 110 lbs/10 min/28NM  
 Expected Cruise Fuel Flow..... 395 lbs/hr  
 Approach Fuel..... 125 lbs  
 Max Endurance Fuel Flow  
 At 10,000'..... 370 lbs/hr  
 Hours of Fuel Aboard..... 6+20

**DO NOT WRITE  
ON THIS TEST**

847 # for Descent  
 185 # to Alternate  
 + 125 # for Approach  
 1157 # To Land  
 + 125 Reserve  
 1282 =

**Additional Information:**

Pilot's Instrument Rating..... Standard, 2 NATOPS Qualified Pilots  
 Equipment..... TACAN, Dual VOR/DME, LF/MF ADF, UHF ADF, Dual ILS, RNAV, 4096 Code Transponder with Mode C, VHF and UHF Radios

# ANSWER KEY

MULTIPLE CHOICE

T/O FUEL 2436  
 ACTUAL TIME OFF / ON ④

ROUTE TO ③	VOR TACAN	CUS	DIST	GS	ETE	LEO	EPR	ETE	NOTES
				HW/TW	⑤	FUEL	AFR	ETA	
C L/O			26		10	110			
DOYLE F DOYLE			44 15		5	33			
V8 SLI		071	34		12	80			
V-64 TRM		080 083	95		32	210			
V-64 BLH		078	70		24	160			
V16 BXY		080 082	98		33	220			
V16 AVONA		077	25		8	53			
					2+04	866			
TFD		135	39		13	85			
V105 BASER		133	24		8	53			
MAYVA		115	19		6	40			
					0+27	178			

PILOT'S NAME: ①

AIRFIELD / ELEVATION / FREQUENCY ②		*** NOTE: MAG WINDS = True Winds ± Variation (+W, -E)		
DEP	CLNG	GND	TWR	DEP
DES	APP		TWR	GND
ALT	APP		TWR	GND
CRUISE ALTITUDE: MAG WINDS: DESTINATION ALTERNATE		TAS	CAS	CLIMB TIME / FUEL / DISTANCE
③ FUEL PLAN		T/O FUEL: 2436 - TOTAL 2496 - START/TASK 60		FUEL FLOW - ①
1. CLIMB / ROUTE TO DEPT IAF	866	NOTE: RESERVE FUEL IS 10% OF 84 OR 20 MINUTES MAX ENDURANCE FUEL AT 10,000 FEET MSL	CHECK LIST ESTIMATES	
2. ROUTE TO ALT IAF (if Required)	178		FUEL PACKET FLASHLIGHT WALLET CREDIT CARDS PUBLICATIONS	D- A- CROSS-CHECK
3. APPROACH	125		APV1 WX BRIEF CR-2 NOTAMS FDC NOTAMS	CHECK IN APV1 1. FLIGHT HAZARDS 2. ROUTE & AREA RESTRICTIONS 3. SUPPLEMENTARY AIRPORT REMARKS
4. TOTAL (1+2+3)	1169	6. DELAY FUEL		
5. RESERVE (See Note at Right)	125	7. TOTAL REQUIRED (4+5)	12. (6+5)	
8. TOTAL REQUIRED (4+5)	1294	7. REMAINING FUEL (T/O FUEL - 6)	11. (7-8)	
9. REQUIRED TO ALT (2+3+5)	428			
AIRFIELD INFO	DESTINATION	ALTERNATE	DELAY / EMERGENCY	
RUNWAY				
LIGHTS				
FUEL / OXYGEN				
APPROACH MINS				
REMARKS				
NOTES				

10. 3 D

11. 7

For QUESTIONS 1 & 2, determine OPNAV WEATHER REQUIREMENTS given the following forecast.

1. What is the minimum ceiling and visibility that could be forecast for Phoenix Sky Harbor at your ETA and still allow you to file for Tucson as the alternate?

Tucson weather is forecast to be 1000-3 ETA +/- 1 hour.

- A. 100- $\frac{1}{2}$   
 B. 200- $\frac{1}{2}$   
 C. 400-1  
 D. 1000-3

ILS 7L is (200- $\frac{1}{2}$ )

DO NOT WRITE  
ON THIS TEST

2. What is the minimum ceiling and visibility that could be forecast for your alternate (Tucson) at your ETA and still allow you to file for Phoenix Sky Harbor as the destination?

Phoenix weather is forecast to be 4000-2 ETA +/- 1 hour.

- A. 200- $\frac{1}{4}$   
 B. 200- $\frac{1}{2}$   
 C. 400-1  
 D. 1000-3

ILS 11L is (200- $\frac{1}{2}$ )  
 + [200- $\frac{1}{2}$ ]  
 400-1

**QUESTIONS 3 THROUGH 8 CONCERN NAS POINT MUGU**

3. Give the correct take off minimums at Point Mugu, using the Doyle-FIVE Departure.

- A. 300-1  
 B. 200- $\frac{1}{2}$

Written on App Plate "TAKE-OFF MINIMUMS 300-1"

4. T/F Prior permission is required for TRAWING-4 aircraft to file to Point Mugu as a destination.

- A. True  
 B. False

PPP first Abbrev. in 'RSTD' section of IFR Supp Info

5. T/F Instrument approaches are controlled by Santa Barbara Approach Control.

- A. True  
 B. False

App Plates Give Frq's for "POINT MUGU APP CON"

6. T/F All inbound flights into Point Mugu are under positive control?

- A. True  
 B. False

(R) in IFR Supp Mean Positive Radar Control

7. Determine the Tie-in FSS for Point Mugu and the frequency for that FSS.

- A. The Tie-in FSS is Hawthorne and Hawthorne can transmit on 122.1  
 B. The Tie-in FSS is Hawthorne and Hawthorne can transmit on 112.5  
 C. The Tie-in FSS is Saddle Peak and Saddle Peak can transmit on 125.8  
 D. The Tie-in FSS is Santa Barbara and Santa Barbara can transmit on 255.4

Hawthorne (from IFR Supp)  
 will receive on 122.1  
 And Transmit over the VOR on  
 (from Low Chart) 112.5

8. T/F High intensity runway lights are available for all runways at Point Mugu.

- A. True  
 B. False

written At bottom of all Airport Diagrams in App Book

MORE QUESTIONS  
ON THE NEXT  
PAGETHIS TEST

9. What does the following NOTAM for Point Mugu mean: RWY 03 QMHLH

FIH  
Q just means "Code"

- A. Runway 03 arresting gear has High Intensity Runway Lighting
- B. Runway 03 marked by High Intensity Runway Lights
- C. Runway 03 parking area has High Intensity Runway Lights
- D. Runway 03 arresting gear unserviceable for aircraft heavier than...

DO NOT WRITE ON THIS TEST

10. What is the VHF frequency for Point Mugu ATIS?

- A. 327.1
- B. 135.5
- C. 125.55
- D. 227.2

App Plate

11. You receive this ATIS broadcast: "THIS IS POINT MUGU INFORMATION ECHO, CEILING THREE-HUNDRED OVERCAST, VISIBILITY ONE RAIN, TEMPERATURE FIVE-SEVEN, WIND ZERO-ONE-ZERO AT TWENTY, ALTIMETER TWO-NINER-NINER-EIGHT, THE ACTIVE RUNWAY IS RUNWAY THREE, THE RUNWAY THREE APPROACH LIGHTING SYSTEM IS OUT OF SERVICE." Use Information ECHO and select the true statement.

- A. PAR RWY 3 landing minimums are 100-1/4.
- B. I can take off using ILS RWY 21 published minimums.
- C. PAR RWY 3 landing minimums are 100-1/2.
- D. I cannot take off because radar approach minimums are not authorized for takeoff.

3 is Indg runway  
Add 1/4 mile vis since ALS OTS

12. After take off, you receive the following instruction from Point Mugu Departure Control: "NAVY ONE GOLF EIGHT-SEVEN-SEVEN, RADAR CONTACT LOST ONE-ZERO MILES WEST OF DOYLE, CONTACT LOS ANGELES CENTER ON THREE-FIVE-FOUR POINT ONE AT DOYLE, OVER". You acknowledge the transmission and reach Doyle at 1633Z, an altitude of 4,000 feet, climbing to 15,000 feet and a groundspeed of 140 knots. Your INITIAL CONTACT call to Los Angeles Center would be: LOS ANGELES CENTER, NAVY GOLF EIGHT-SEVEN-SEVEN, (complete the statement)".

- A. "...DOYLE, OVER."
- B. "...DOYLE, FOUR THOUSAND, ESTIMATING SEAL BEACH AT FOUR-NINER, OVER."
- C. "...WITH YOU [PASSING FOUR THOUSAND FOR ONE-FIVE THOUSAND, OVER."
- D. "...ESTIMATING SEAL BEACH, FOUR-NINER, ONE-FIVE THOUSAND, OVER."

Back of IFR Supp

13. You level off at 15,000 feet with an Indicated Outside Air Temperature of -15 degrees C. In order to make good the TAS of 175 knots, the CAS must be \_\_\_ knots.

- A. 140
- B. 175
- C. 200
- D. 215

$$CAS (1 + .2^{th} \times 15) = 175$$

$$(CAS)(1.30) = 175$$

$$CAS = 145$$

$$\rightarrow \text{or } CAS = 135$$

$$CAS = \frac{TAS}{\sqrt{1 + 2 \times \frac{IAT}{59000}}}$$
  
 or 2 knots for every 1,000  
 or +2% of CAS for every 1,000'

14. Passing Seal Beach, you receive and acknowledge the following clearance: "NAVY GOLF EIGHT-SEVEN-SEVEN, YOU ARE CLEARED TO THE THERMAL VORTAC AS FILED, MAINTAIN VFR CONDITIONS ON TOP, EXPECT FURTHER CLEARANCE AT ONE-SEVEN-TWO-FIVE." If the top of the overcast is 6,000 feet, what is the lowest constant altitude that you may fly from the Seal beach VORTAC to the Thermal VORTAC?

- A. 6,500 feet
- B. 7,500 feet
- C. 11,500 feet
- D. 13,500 feet

(odd) (+500)  
going East VFR x MEA is 11,000'  
clear Top, over 6,000'

MORE QUESTIONS ON THE NEXT PAGETHIS TEST

15. If you arrived over the Seal Beach VORTAC at 1641Z with a known groundspeed of 196 knots and a malfunctioning DME, at what time (Z) would you begin using the Thermal VORTAC for navigational guidance?

- A. 1709Z
  - B. 1705Z
  - C. 1659Z
  - D. When I can tune and identify Thermal without an OFF flag showing.
- Don't use Entire Distance 20 nm 60 min (59 nm / 196 Kts) Use 6 min ch/d at 59 = 18 min*

DO NOT WRITE ON THIS TEST

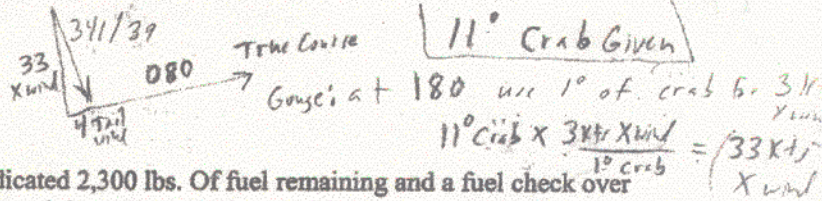
16. If you arrived at, your clearance limit, Thermal VORTAC at 1713Z without having received further clearance, and two-way voice communications are normal, you should:

- A. Hold west of Thermal on the R-263 in a standard pattern until 1725Z and then continue as filed.
- B. Continue to Tucson without holding at Thermal and request further clearance.
- C. Hold west of Thermal on the R-263 in a standard pattern until further clearance is received.
- D. Immediately cancel IFR because holding VFR on top is not authorized.

*told on V-Array*

17. You arrived over Seal Beach at 1641Z and you arrived over Thermal at 1713Z. Between Seal Beach and Thermal, you maintained a TAS of 175 knots and a constant magnetic heading of 069 degrees to make good your track along V-64. The magnetic wind between Seal Beach and thermal was:

- A. 125°/15 knots
- B. 194°/07 knots
- C. 341°/39 knots
- D. 036°/18 knots



18. A fuel check over Seal Beach at 1641Z indicated 2,300 lbs. Of fuel remaining and a fuel check over Thermal at 1713Z indicated 2,125 lbs. of fuel remaining. The actual rate of fuel consumption was:

- A. 385 lbs/hr
- B. 327 lbs/hr
- C. 400 lbs/hr
- D. 415 lbs/hr

$$\frac{2300 - 2125}{175 \text{ lbs} / (30 \text{ min} / 60 \text{ min/hr})} = \frac{175}{0.5} = 350 \text{ lbs/hr}$$

19. What two VHF frequencies are given in FLIP for Los Angeles Center at Twentynine Palms?

- A. 128.15 and 285.6 for either low or high altitude
- B. 126.35 for low altitude and 133.2 for high altitude
- C. 285.6 for low altitude and 307.8 for high altitude
- D. 121.5, 126.85

*Call up LA Center in IFR Supp -> Not 29 Palms*

20. Enroute to Phoenix, you contact Luke Metro on frequency \_\_\_\_\_ MHz and METRO advises that the RCR for the active runway at Phoenix is 16. You could expect your landing roll at Phoenix to:

- A. 267.4.....increase by 16%-45%
- B. 344.6.....increase by 16%-45%
- C. 239.8.....increase by 15%-20%
- D. 304.4.....increase by 0%-15%

MORE QUESTIONS ON THE NEXT PAGE

DO NOT WRITE ON THIS TEST

*60, 30, 320, 30 min*

**QUESTIONS 21 THROUGH 23 ARE BASED ON THE TUCSON TACAN RWY 29R APPROACH**

21. What is the Minimum Descent Altitude for the TACAN RWY 29R approach at Tucson?

- A. 2,641 feet  
 B. 3,160 feet  
 C. 3,120 feet  
 D. 3,600 feet

App Plate

22. If you received instructions from approach control to circle to land runway 11R, how many feet of runway is available for landing?

- A. 10,996 feet  
 B. 6,159 feet  
 C. 6,998 feet  
 D. 8,408 feet

on 11R App Plate under 'LNDG RWY'  
 also written on TACAN 29R page

23. You would begin the missed approach procedure published for this approach if you did not have the required visual reference for the landing...

- A. Upon reaching an altitude of 3,120 feet.  
 B. Upon reaching an altitude of 3,120 feet or the VORTAC, whichever occurs last.  
 C. At 0.3 NM DME  
 D. By timing from the FAF to the MAP

App Plate (all TACAN App's have DME for MAP)

**QUESTIONS 24 THROUGH 28 ARE BASED ON THE ILS RWY 7L APPROACH AT PHOENIX (PHX)**

24. The highest obstacle or spot elevation shown in the planview of the ILS RWY 7L is \_\_\_\_\_.

- A. 4512' MSL  
 B. 4512' AGL  
 C. 4354' MSL  
 D. 4354' AGL

App Plate

25. FOWLE INT can be identified by the PXR-R257 or the I-PHX 078° course and the \_\_\_\_\_:

- A. PXR 11 DME  
 B. I-PHX 11 DME or the TFD R-323  
 C. PXR 11 DME or the TDF R-323  
 D. REYNO OM

App Plate

DO NOT WRITE  
ON THIS TEST

26. The stepdown fix is:

- A. Located at the PHX 3.4. Stepdown altitude is 1620'. The stepdown applies to the ILS.  
 B. Located at the I-PHX 3.4. Stepdown altitude is 1620'. The stepdown applies to the Localizer.  
 C. Located at the I-PHX 5.9. Stepdown altitude is 2600'. The stepdown applies to the ILS.  
 D. Located at the I-PHX 11. Stepdown altitude is 4000'. The stepdown applies to the ILS.

App Plate  
 No Stepdowns  
 on an ILS

27. T/F Runway 26 has instrument approach lighting.

- A. True  
 B. False

Ma (A\*) label by 26 in Diagram  
 Also - not label in runway app lighting descriptions

App Plate

28. The localizer 7L missed approach point is located:

- A. Prior to the I-PHX 1.9 DME  
 B. At the I-PHX 1.9 DME

App Plate

MORE QUESTIONS  
ON THE NEXT  
PAGETHIS TEST

**QUESTIONS 29 THROUGH 31 CONCERN THE TACAN RWY 11L APPROACH AT TUCSON, INTL.**

29. Assume you are cleared to MAVVA for the TACAN RWY 11L approach from Tucson VORTAC R-255 at 20 DME. What is the course and distance to MAVVA.

- A. 320°, 20 nautical miles
- B. 344°, 17 nautical miles
- C. 164°, 15 nautical miles
- D. 039°, 40 nautical miles

*Draw it from App Plate  
or Do it on E-B-B*

30. If you commence the TACAN RWY 11L approach at WASON, the holding pattern at WASON is:

- A. An arrival holding pattern
- B. Missed approach holding pattern
- C. A required part of the approach
- D. An optional part of the approach

31. Passing CALLS inbound on the TACAN RWY 11L approach with all ground and airborne approach components working, your altitude should be:

- A. 6,000 feet MSL
- B. 5,100 feet MSL
- C. 5,025 feet MSL
- D. 6,031 feet MSL

**QUESTIONS 32 THROUGH 43 CONCERN THE ILS RWY 11L APPROACH AT TUCSON INTL. AND THE LATEST CLEARANCE THAT YOU HAVE RECEIVED.**

Inbound to Tucson you receive this clearance: "NAVY GOLF EIGHT-SEVEN-SEVEN, THIS IS TUCSON APPROACH, RADAR CONTACT THIRTY MILES WEST OF TUCSON, FOR VECTORS TO WASON FOR THE ILS RUNWAY ONE-ONE LEFT APPROACH, TURN LEFT HEADING ZERO-SIX-ZERO, DESCEND AND MAINTAIN SIX THOUSAND, SQUAWK FOUR-ONE-SIX-ONE, THE TUCSON ALTIMETER IS TWO-NINER-NINER-FOUR".

32. While complying with the radar vector clearance, you determine that your UHF transceiver is inoperative. Your TACAN indicates that you are on the Tucson VORTAC R-265 in class C airspace. What VHF SECTOR frequency should you use to contact Tucson approach?

- A. 118.5
- B. 123.45
- C. 125.1
- D. 125.9

*IFR Supp (Depends on RWY & location)  
under Tucson: Com*

**DO NOT WRITE  
ON THIS TEST**

33. You attempt to re-establish radio contact with Tucson approach but you determine that your VHF transceiver is also inoperative. You should now adjust your transponder to code:

- A. 7600 *NORDD*
- B. 7500 *Uijerk...*
- C. 7700 *Nyday*
- D. 1200

34. Under the circumstances as described above, you should:

- A. Proceed to the Ryan NDB and hold as depicted.
- B. Proceed direct to Mavva and begin the approach.
- C. Proceed direct to Wason and execute the approach as depicted.
- D. Proceed to the Tucson VORTAC.

**MORE QUESTIONS  
ON THE NEXT  
PAGE THIS TEST**

35. Crossing the R-255 at 29 DME, what is the minimum sector altitude?

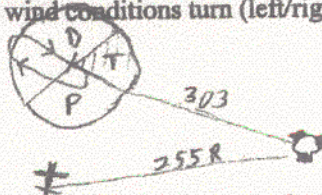
- A. 10,500 feet MSL
- B. 5800 feet MSL
- C. 6000 feet MSL
- D. 5800 feet AGL

App Plate

DO NOT WRITE  
ON THIS TEST

36. Assume you proceed direct from the Tucson VORTAC R-255 at 20 DME to the WASON IAF. To enter the holding pattern at WASON under calm wind conditions turn (left/right) to a heading of:

- A. RT.....303°
- B. LT.....303°
- C. RT.....273°
- D. LT.....273°



Turn Left to Parallel the  
Entry  
Outbound Course

37. Passing the outer marker inbound on the ILS approach with the groundspeed of 150 knots, in order to remain on glide slope, the rate of descent must be:

- A. 795 feet per minute
- B. 750 feet per minute
- C. 550 feet per minute
- D. 450 feet per minute

Back cover of App Plate Book  
using G/S Given on the App Plate

38. If the required visual reference for the landing does not exist during the ILS approach, when will you decide to begin the missed approach procedure?

- A. At the ILS 2.4 NM DME.
- B. At the Middle Marker.
- C. At an altitude of 2,796 feet MSL.
- D. At 4.3 NM from the FAF.

App Plate  
MAP is DH

39. If you remain on the ILS glide slope and continue the ILS approach to a landing on runway ILS, how high will you be above the runway surface when you cross the runway threshold?

- A. 55 feet
- B. 200 feet
- C. 59 feet
- D. 123 feet

TCH next to G/S on App Plate

40. Assuming that immediately after passing Calls Intersection on the ILS approach you lose your glide slope receiver, could you continue the approach using localizer minimums? Yes/No

- A. Yes
- B. No

Always, you just might have to  
climb back up to MDA

41. The final approach fix for the Tucson ILS RWY 11L is:

- A. WASON
- B. CALLS
- C. RIVIL
- D. Glide slope intercept

ILS FAF is Always  
Glide Slope Intercept

DO NOT WRITE  
ON THIS TEST

MORE QUESTIONS  
ON THE NEXT  
PAGE THIS TEST



42. Assuming that you are executing the localizer approach to runway 11L (glide slope inoperative), what is the distance from the final approach fix to the missed approach point?

- A. 4.3 miles
- B. 4.8 miles
- C. 4.9 miles
- D. 5.0 miles

*Written on App Plate "FAF to MAP 4.9 DME"*

43. T/F The missed approach point for this localizer approach can be identified with DME equipment.

- A. True
- B. False

*Yes, timing is also available*

44. After landing at Tucson, to close your flight plan you would call on UHF frequency.

- A. Tucson Ground.....348.6
- B. Tucson Tower.....257.8
- C. Tucson Clearance Delivery.....326.2
- D. Prescott Radio.....255.4

*IFR Supp Give Prescott Radio  
Freq is probably on the chart*

**QUESTION 44 IS THE LAST QUESTION**

**DO NOT WRITE ON  
THIS TEST**

*2.6  
1.7  
0.6  
4.9*

AUTHORITY: 10 USC 8012 and EO 9397.  
 PRINCIPAL PURPOSE: To aid in accurate identification of personnel participating in the filed flight.  
 ROUTINE USES: To provide data required to process flight plans with appropriate air traffic service authorities. A file is retained by the agency processing the flight plan.  
 DISCLOSURE: Voluntary; however, failure to provide the SSN could result in denial of flight plan processing.

AIRCRAFT CALL SIGN: **VV 1G 842**  
 AIRCRAFT DESG AND TD CODE: **BEAL/I**

DATE: **(GIVEN)**  
 ROUTE OF FLIGHT:

TYPE FLT PLAN	TRUE AIRSPEED	POINT OF DEPARTURE	PROPOSED DEPARTURE TIME (Z)	ALTITUDE	ROUTE OF FLIGHT	TO	ETE
I	175	NTD	(GIVEN)	(GIVEN)	DOYLE S. DOYLE V8 SW V64 BLM V16 AVONDA	PHX	2+04
			pay attention to				
			time zone and DST if applicable				
			(ask about DST if unsure)				

REMARKS

RANK AND HONOR CODE

FUEL ON BO (GIVEN)  
 ALTN AIRFIELD TUS  
 SIGNATURE OF APPROVAL AUTHORITY

ETE TO ALTN: 0+27  
 NOTAMS: WEATHER ✓  
 CREW/PASSENGER LIST: ATTACHED

WT AND BALANCE: NGP 3 JAN 05  
 ACTUAL DEP TIME (Z): SEE PSGR MANIFEST  
 AIRCRAFT SERIAL NUMBER, UNIT, AND HOME STATION: 161842 / CTW 1 / NGP  
 BASE OPERATIONS USE

DUTY: PILOT IN COMMAND  
 NAME AND INITIALS: -  
 RANK: -  
 SSN: -  
 ORGANIZATION AND LOCATION: -