WORKBOOK

ADVANCED INSTRUMENT FLIGHT PLANNING TH-57C

2015

DEPARTMENT OF THE NAVY
CHIEF OF NAVAL AIR TRAINING
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CNATRA P-404 (Rev 01-15)

Subj: WORKBOOK, ADVANCED INSTRUMENT FLIGHT PLANNING, TH-57C

1. CNATRA P-404 (Rev. 01-15) PAT, "Workbook, Advanced Instrument Flight Planning, TH-57C" is issued for information, standardization of instruction, and guidance to all flight instructors and student military aviators within the Naval Air Training Command.

2. This publication is an explanatory aid to the Helicopter curriculum and shall be the authority for the execution of all flight procedures and maneuvers herein contained.

3. Recommendations for changes shall be submitted via CNATRA TCR form 1550/19 in accordance with CNATRAINST 1550.6 series.

4. CNATRA P-404 (Rev. 06-11) PAT is hereby cancelled and superseded.

C. J. HAYDEN
By direction

Distribution:
CNATRA Website

FLIGHT PLANNING WORKBOOK

FOR

ADVANCED INSTRUMENT

TH-57

Q-2A-0015

LIST OF EFFECTIVE PAGES

Dates of issue for original and changed pages are:
Original…15 Feb 02 (this will be the date issued)
Revision1…19 Sep 03
Revision2…15 Jul 07
Change Transmittal1…30 Sep 08
Revision3…18 Mar 10
Revision4…08 Jun 11
Revision5…25 Feb 15

TOTAL NUMBER OF PAGES IN THIS PUBLICATION IS 110 CONSISTING OF THE FOLLOWING:

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INTERIM CHANGE SUMMARY

The following Changes have been previously incorporated in this manual:

CHANGE NUMBER	REMARKS/PURPOSE

The following interim Changes have been incorporated in this Change/Revision:

INTERIM CHANGE NUMBER	REMARKS/PURPOSE	ENTERED BY	DATE

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ADVANCED PHASE

DISCIPLINE: Navigation

COURSE TITLE: Advanced Instrument TH-57C

UNIT: Flight Planning Workbook

PREREQUISITES: None

TERMINAL OBJECTIVE

Upon completion of the Flight Planning Lecture and workbook text, the student will interpret the flight planning requirements set forth by OPNAVINST 3710.7 series, and the Helicopter Training (HT) Squadrons, for use during syllabus cross-country flights and on the flight planning portion of the final examination for this course.

ENABLING OBJECTIVES

1. Solve Single Engine/Jet Flight Logs (CNATRA-GEN 3760/1) and fuel plans for practice problems one through nine.

    a. Given the route of flight, select the optimum cruising altitude consistent with the Instrument Flight Rules (IFR) semicircular cruising rules from a list containing four or more altitudes and their forecast winds.

    b. Given outside air temperatures and indicated airspeeds, with the selected altitude, determine true airspeeds for climb, cruise, and descent.

    c. Given forecast winds, with the True Airspeeds (TAS's) and courses, determine ground speeds.

    d. Given aircraft gross weight, and with the selected cruising altitude, OAT, and IAS, determine fuel flow for cruise flight.

    e. With ground speed, route of flight, and fuel flow, compute the Estimated Time Enroute (ETE) and fuel required.

    f. With TAS, Wind Velocity (W/V), and courses, determine ground speeds for climb, cruise, and approaches.

    g. State OPNAVINST 3710.7 series requirements for reserve fuel on cross-country flights.

    h. Determine the reserve fuel required for a cross-country flight by HT squadrons.

i. Determine the "go-no-go" fuel as defined by HT squadrons.

j. Determine the extra fuel and time at cruise fuel flow for each cross-country flight.

k. Determine the hours of fuel on board at takeoff for a cross-country flight.

2 Plan IFR Flights.

a Plan IFR flight to destination.

b. Plan IFR flight to destination with an alternate.

c. Plan IFR flight to destination with an enroute delay or terminal delay.

d. Plan IFR flight for stopover flights.

3. Complete the DD-175 for IFR flights.

a. Complete the DD-175 for IFR flight to destination.

b. Complete the DD-175 for IFR flight to destination with an alternate airport.

c. Complete the DD-175 for IFR flight to destination with an enroute delay or terminal delay.

d. Complete the DD-175 for IFR flight for stopover flights.

4. Demonstrate a working knowledge of the information contained in the Flight Information Publications (FLIP) and the appropriate sections of OPNAVINST 3710.7.

DIRECTIONS TO STUDENT

STEP 1 Read Chapters 1 - 3 of the Instrument Navigation Workbook, Advanced Helicopter (CNATRA P-403).

STEP 2 Incorporate errata information, if any was provided, into this workbook. Read the information on pages xi – xv of this workbook.

STEP 3 Attend the Helicopter Flight Planning Lecture. Bring this text, a TH-57 NATOPS Manual, 2009 Flight Information Publications (FLIPS), and a flight computer (CR-x and know how to use it) to the lecture with you. The class is a REVIEW only. It is your responsibility to read thoroughly all pubs/instructions prior to completing the practice problems and test.

STEP 4 Read Chapters 4 - 9 of the Instrument Navigation Workbook, Advanced Helicopter (CNATRA P-403).

STEP 5 After attending the Flight Planning Lecture, complete the nine practice problems contained in this text.

1. Check your answers against the answer key for each problem. There are **amplifying remarks** for particular answers which require a bit more thorough explanation. If your answers don't match, figure out why!

2. Check your flight logs and DD 175s carefully and pay particular attention to the explanations and amplification given for specific areas on each jet log.

3. Once you've completed all of the 9 problems, refer to the **"R.O.E for The Test"** at the back of the workbook.

At anytime during this process you are highly encouraged to ask one of the INAV instructors for clarification of any question or flight planning issue that may be unclear to you. If you cannot find one of the course instructors, see Mr. D'Ambra in room #4 or ask one of your squadron instructors for help.

For all problems follow these procedures:
- Show all work on Jet Log.
- Fill out all blocks (freqs, dates, etc. – Do not write "Today") on each flight log.
- Include all references for question answers (include specific pub and page).
- Plan on spending about three hours per problem.

STEP 6 Keep track of your simulator and flight schedule, you must complete the nine problems and take the exam prior to your first flight in the I-4300 block.

FLIGHT PLANNING INFORMATION

Use the following information for all practice problems and tests unless different figures are stated in the specific problem. Some information and procedures are not realistic for actual flight, but have been standardized for the academic learning process.

1. Aircraft and Engine: All flights and problems will utilize the TH-57 with a 250-C20 engine.

2. Gross takeoff weight: Computed for flights; as stated for problems.

3. Maximum fuel load: 91 gallons for problems. (may not be realistic for actual flights).

4. Start and Taxi Fuel: Three gallons.

5. Indicated airspeeds for flights and problems: Climb 70 KIAS, Cruise 100 KIAS, Descent/Approach 90 KIAS.

6. Calibrated airspeeds: Flights and problems will compute calibrated airspeed from NATOPS chart, page XI-23-3.

7. True Airspeed (TAS): Computed for climb, cruise, and descents/approaches. Climbing and descending TAS is computed using the average altitude and temperature of the climb or descent to the nearest one-thousand-foot level. Cruising TAS is computed using cruising altitude and temperature.

8. Initial cruising altitude: For training purposes, flight to the destination will be planned to be flown at one altitude for the entire flight. If an alternate is required, it may be flown at the same or a different altitude. IFR semicircular cruising rules are used in uncontrolled airspace, and Air Traffic Control (ATC) will generally assign you an altitude consistent with these in controlled airspace depending upon aircraft separation. When planning your cruise altitude to the destination, select an altitude that is consistent with IFR semicircular cruising rules. Use your average course to the destination for this determination. Select then, the best altitude based on the given winds which would give the highest ground speeds (use CR-2 to spin best winds). The procedure for this is as follows: determine a base altitude (highest of the three phase altitudes: take-off, enroute and approach). Measure the average course from the departure airport to the destination airport. On the computer, plot all winds at or above the base altitude and consistent with IFR semicircular cruising rules. Using the average course, determine which altitude would give the highest ground speed.

For direct legs, consider the following information for altitude selection: A direct leg is an off-airway segment of a flight-planned route. Examples include the initial segment from the airport to the first NAVAID or fix on the airway, enroute between fixes and NAVAIDs not connected by airways, and the segment from the airway to an off-airway initial approach fix (IAF). (SIDs, DPs and approach procedures are not considered direct legs.)

To select the correct altitude from the airport to the first NAVAID or fix on the airway, consider the following sources for altitudes, based on area covered, small to large. Remember, the goal is to select a safe altitude for that leg, not necessarily the highest one.

a. Obstacle departure procedure. If the departure airport has an obstacle departure procedure that includes specific routing to the airway and altitudes to be flown, that procedure should be used to get to the airway. Existence of these procedures in noted on the approach plates using the  symbol. Refer to the tabulation in the front of the volume.

b. Missed approach procedure. If a missed approach procedure exists that will take you from the vicinity of the airport to the desired NAVAID or fix on the airway, use the altitude stated in the procedure.

c. Approach or feeder route segment. If an approach or feeder route exists from the desired NAVAID or fix to the airport, use the altitude associated with it. Remember though that feeder routes feed you to the IAF which may not be over the airfield.

d. Airway MEA. If the airport is within 4 NM of an airway (airport under the airway) that contains the first NAVAID or fix along the route, the airway MEA may be used as the minimum altitude for the direct leg.

e. MSA. If the first NAVAID or fix on the route is within the range specified on the MSA circle on the approach plate (usually 25 NM), use the MSA as the minimum altitude.

f. ESA or OROCA. If none of altitudes discussed above apply, use the ESA or OROCA, as appropriate, as the minimum altitude.

To select an appropriate altitude for an off-airway segment enroute, use the same considerations as above.

To select an appropriate altitude for an off-airway segment to an IAF, consider the following altitudes in descending order:

a. Feeder route. A feeder route is often depicted to provide guidance from the airway to the IAF. If a feeder route exists that is consistent with the routing given in the flight planning problem, use the altitude associated with it.

b. Airway MEA. If the direct leg to the IAF remains within the 4 NM of an airway, use the airway MEA as the minimum altitude for the segment.

c. MSA. If the MSA for the airport covers the entire length of the direct leg to the IAF, use it as the minimum altitude.

d. ESA or OROCA. IF the direct leg to the IAF is not completely covered by any other

means, use the ESA or OROCA as the minimum altitude for the leg, as appropriate.

NOTE

In no case shall the selected altitude be less than the IAF/procedure turn altitude given for the approach to be flown.

9. Fuel flow (NATOPS, chap 26): Climb fuel flow of 0.5 gallons per minute is standard for flights and problems. Cruising fuel flow is determined from the NATOPS Cruise Charts for the Clean Configuration and Indicated Airspeed (IAS) to determine fuel flow. To find cruise fuel flow for odd thousand foot altitudes, use next higher thousand. Example: 3000 feet cruise altitude, you would use 4000 feet fuel flow. **For descent, use the cruise fuel flow.**

10. Rate of climb/descent: 500 feet per minute for flights and problems.

11. Groundspeeds for climbs, cruise and descents/approaches: Use the wind at average altitude for climbs, winds at cruise altitude for cruise, and surface winds at the landing facility from the Initial Approach Fix (IAF) inbound for descents/approaches. For average altitudes, use standard rounding.

12. Full approaches are planned for time and fuel consumption. There are five basic approaches: **45° procedure turn**, **teardrop**, **holding pattern**, **straight-in**, and **arcing** approaches. The flight planning procedures are: **45° procedure turn** and **teardrop** outbound and inbound from the IAF to the IAF; a standard time of seven minutes is allowed. Use Groundspeed (GS) and distance to a point over the airport to compute the additional ETE from the Final Approach Fix (FAF) to the airport.

Mandatory holding pattern: Patterns, where no time is published, are one minute straight legs, therefore, require 4 minutes for one complete circuit from the IAF to the IAF. Use GS and distance to compute the additional ETE from the IAF to a point over the airport. Holding patterns where the straight leg time differs from one minute will have the straight leg time published. Disregard requirement for arrival holding depicted on some approach plates or "maneuvering airspace" which may be needed for alignment on an actual flight.

Straight-in approaches: Where the IAF is not located at the FAF, the entire ETE depends upon the GS and distance from the IAF to a point over the airport. Disregard requirement for arrival holding or "maneuvering airspace" which may be necessary depending on arrival heading.

Arcing approaches: The entire approach is planned as published. The approach may have two or three legs; the initial leg, intermediate leg, and the final leg. When solving the arcing leg, the average course of the arc is determined using point-to-point procedures. On the computer wind vector side, plot a point on the beginning radial and a point at the ending radial, align the two points vertically, parallel to the lines on the wind face of the computer, with the starting radial of the arc on the lower half of the computer. The answer will be under the TC INDEX. The distance of the arc is computed using the following formula:

$$\frac{\text{DME of the ARC}}{} = \frac{\text{(DISTANCE of the ARC)}}{}$$

60 (INDEX) No. of RADIALS of the ARC

It is important that you plan to a point over the airport and not to the Missed Approach Point (MAP) if the MAP is short of the runway. If the Navigational Aid (NAVAID) (Tactical Air Navigation [TACAN], DME Transmitter) is located on the airport use the entire Distance Measuring Equipment (DME) unless the actual distance to the end of the runway can be determined, in which case use the actual distance.

When an alternate airport is required for the practice problems, you will plan for the approach at the destination airport followed by a missed approach and proceed to the alternate. **This requirement is in excess of OPNAVINST 3710.7 fuel planning requirements but is done to provide additional training.** Real flight planning requirements vary and depend on the situation.

13. **Alternate airport flight planning:** When an alternate airport is required, the cruising altitude to the alternate will be the first altitude at or above the highest Minimum Enroute Attitude (MEA) consistent with the IFR semicircular cruising rules. **Disregard the altitude for the best winds on the leg to the alternate.**

The climb will begin at the Minimum Descent Altitude/Decision Height/Decision Altitude (MDA/DH/DA) over the destination airport. TAS's for the climb, cruise, and descent are computed as above in step 6. The time to climb will be determined from the MDA/DH to the new cruising altitude. Fuel flow to the alternate is not recomputed. Use the previously computed cruising fuel flow from the departure airport to the destinations.

The highest MEA from the destination airport to the alternate may be found on the approach plates at the destination and alternate airport if they are overlapping. In addition, if they do not overlap, the MEA on the chart must be considered.

14. **Missed approach instructions:** You must comply with the published missed approach instructions (including altitude regardless of cruising rules) for the planned instrument approach at your destination **IF** those instructions match the PLANNED route to the alternate (or portion thereof). If your flight plan requires an alternate, be sure to compare the published missed approach instructions with the planned route of flight to the alternate given to you in the problem. If no portion matches, you need not comply with the published missed approach instructions/restrictions when flight planning.

15. Rounding procedures: Round miles and minutes off to the nearest whole number for each leg on the log (round 0.5 up). Round fuel up. Any fraction over a gallon, round up to the next gallon. Example: Computed 10.1 gallons to 11 gallons.

16. All practice problems, and the test, are done in **standard time.**

17. Flight problems that you will face are as follows:

    a. to destination - no alternate required,

b. to destination - alternate required,
c. to destination with a planned enroute or terminal area delay, and

d. stopover flights with two or more destinations.

Nine practice problems are included in this workbook text involving these problems.

STOP! Attend the flight planning lecture before proceeding further.

After completing the practice problems and all the programmed texts for this course, the final examination is authorized.

LECTURE PROBLEM DATA

DIRECTIONS:

1. Read all of the information given.

2. Complete a jet log, fuel plan, and DD-175.

3. Answer the questions about this problem.

PROBLEM DATA:

ACFT/BUNO/Call sign/Equipment TH-57/162042/1E078/VOR TACAN GPS ADF

Type flight plan: IFR

	Airport	**Weather ETA ± 1 hour**
Departure:	NAS New Orleans, LA	04010KT 2400 BKN004 SCT005 QNH2910INS
Destination:	Jackson Evers INTL, MS	15004KT 3200 HZ SCT010 BKN025 QNH2910INS
Alternate:	Hawkins Field, MS	18010KT 4800 HZ SCT020 BKN030 QNH2910INS

Route of flight:

Destination: Plan a takeoff time of 0900 CST via radar vectors to SNAKI V552 Picayune VORTAC V555 Jackson VORTAC (IAF) for a RNAV (GPS) RWY 16R Approach into Jackson Evers INTL.

Alternate: Direct to BRENZ for an Instrument Landing System (ILS) RWY 16 Approach into Hawkins Field.

Indicated Airspeeds:	**ALT**	**WINDS**	**TEMP**
Climb 70 KIAS	1000	060/10	+15
Cruise 100 KIAS	2000	070/12	+15
Descent 90 KIAS	3000	080/14	+13
	4000	100/15	+10
	5000	070/15	+9
	6000	060/19	+6

Gross weight at takeoff:	3000 lbs.
Fuel load:	91 gal.
Climb rate:	500 feet per min.
Climb fuel flow:	1/2 gal. per min.
Transponder:	4096 with Mode C
Instrument Rating:	Standard
Variation:	10° E (exaggerated for demonstration purposes)

2 LECTURE PROBLEM DATA

HELO INAV PRACTICE PROBLEM PROCEDURES (FLIGHT LOG)

Step 1: READ ALL THE INFORMATION PROVIDED IN THE FLIGHT PLANNING PROBLEM.

Step 2: EXAMINE DEPARTURE WEATHER AND DETERMINE IF TAKEOFF MINIMUMS ARE MET (OPNAV 3710.7) BY:

NOTE

Actual takeoff (T/O) minimums for flight will be determined using current weather observation at the time you receive your T/O clearance.

1. Selecting the lowest published minimums for an approach you can shoot, and;

2. Comparing with the following:

Standard Instrument Rated Pilot.
Precision – published minimums but not less than 200-1/2.
Nonprecision –published minimums but not less than 300-1.

While looking up these minimums, copy the appropriate frequencies into the top line of your flight log.

Step 3: EXAMINE DESTINATION WEATHER AND DETERMINE IF AN ALTERNATE AIRFIELD IS REQUIRED (OPNAV 3710.7, Figure 4-1). Additionally, read any special instructions that may be contained in the DOD FLIP.

While looking up these minimums, copy appropriate frequencies onto your Flight Log.

Step 4: SELECT AN ALTERNATE (IF REQUIRED) USING THE FOLLOWING CONSIDERATIONS:

1. Terminal Forecast,

2. NAVAID Compatibility,

3. Notice to Airmen (NOTAMS),

4. Approach plate remarks (i.e.,  symbol and  symbology).

If an alternate is required, copy appropriate information for the alternate onto your Flight Log.

Step 5: REVIEW ROUTE OF FLIGHT AND SELECT APPROPRIATE CRUISING ALTITUDE FOR DESTINATION AND ALTERNATE (IF REQUIRED) USING THE GUIDANCE IN THE FRONT OF THE WORKBOOK.

Step 6: COMPUTE CLIMB TAS USING CR-2, 3, OR 5.

1. Compute average altitude for climb:

   a. Departure elevation plus cruise altitude divided by two.

NOTE

Starting altitude for alternate climb is MDA/DH on the destination approach plate.

$$\frac{\text{DEP FIELD ELEV + CRUISE}}{2}$$

   b. Round to nearest 1000 feet.

2. Using provided information, spin TAS on CR-2, 3, or 5.

Step 7: COMPUTE DESCENT/APPROACH TAS USING CR-2, 3, OR 5.

1. Compute average altitude for descent:

   a. Destination elevation plus cruise altitude divided by two.

$$\frac{\text{DEST FIELD ELEV + CRUISE}}{2}$$

   b. Round to nearest 1000 feet.

2. Using provided information, spin TAS on CR-2, 3, or 5.

Step 8: COMPUTE CRUISE TRUE AIRSPEED (TAS) USING CR-2, 3, OR 5.

Step 9: COMPUTE TIME TO CLIMB.

1. Subtract starting altitude from cruise altitude.

NOTE

Climb to alternate starts as MDA/DH.

4 HELO INAV PRACTICE PROBLEM PROCEDURES (FLIGHT LOG)

2. Round to the nearest 100 feet and divide by rate of climb.

3. Round time to nearest whole minute.

Step 10: IF AN ALTERNATE IS REQUIRED, REPEAT STEPS 5 THROUGH 9 FOR THE ALTERNATE.

Step 11: DETERMINE YOUR CLIMB AND CRUISE FUEL FLOW USING THE FUEL FLOW CHARTS (Chapter 26) IN YOUR NATOPS MANUAL.

NOTE

For problems and test, climb calculation has been done for you (0.5 gallons per minute [GPM]). Use original cruise flow for alternate legs if alternate is required.

Step 12: REVIEW ROUTE OF FLIGHT AND RECORD EACH LEG ON FLIGHT LOG.

1. Rules for leg entries on the Flight Log:

   a. NAVAID to NAVAID, on and off airways;

   b. Course changes of six degrees or more on Victor Airways;

   c. Both ends of a direct route – anytime aircraft is not on an airway;

   d. Any mandatory reporting point.

2. Fill in the NAVAID, frequency, magnetic course, and distance:

   a. Magnetic course and distance from the departure airfield to the first fix (INTERSECTION OR NAVAID) on an airway may be found in:

      i. The Enroute Supplement in the Navigational Aids (NAVAIDS) section of some airports; or,

      ii. On appropriate Approach Plates as Enroute/Feeder Fixes.

   In the absence of these two sources, measure the distances directly off the Low Altitude Charts and compare to mileage scale, and use a nearby compass rose on the chart to measure the course.

   b. To determine magnetic course and distance on a direct leg:

      i. Use approach plate information (if available).

ii. Measure courses and distances directly off the charts. Use the compass rose for course and mileage scale for distance.

3. Flight plan the approach legs using the planning information in the front of the workbook and as demonstrated during the lecture problem.

Step 13: DETERMINE COMPULSORY REPORTING POINTS FOR NONRADAR ENVIRONMENT AND MARK ACCORDINGLY; e.g., FIXES ARE COMPULSORY REPORTING POINTS UNDER THE FOLLOWING CIRCUMSTANCES (FIH B-5):

1. Both ends of a direct route.

2. Solid Triangle at a Fix.

Step 14: COMPUTE GROUND SPEED (GS) USING WIND SIDE OF CR-2, 3, OR 5.

1. Using TAS, winds and variation, compute GS for each leg.

2. Using computed GS for the climb, compute the time to first fix.

3. Three possibilities concerning your point of level-off exist:

   a. Crossing the fix at the same point and time as reaching cruise; altitude.

   b. Reaching cruise altitude prior to the fix;

   c. Reaching cruise altitude after crossing the first fix.

4. The leg with the level-off is referred to as a split leg; part of the leg is climb and part is cruising. Fuel flow, air speed, ground speed, distance, and time for climb and cruise must be computed for this leg.

5. Compute ground speeds for remaining legs.

Step 15: COMPUTE ETE FOR EACH LEG USING THE COMPUTATION SIDE OF THE CR-2, 3, OR 5.

Step 16: CALCULATE LEG FUEL FOR EACH LEG.

Step 17: COMPUTE TOTAL DISTANCE, ETE AND FUEL FOR DEST AND ALT.

Step 18: CALCULATE EFR FOR EACH LEG.

Step 19: COMPLETE "ALTERNATE, ROUTE, ALT, TIME, AND FUEL" LINE (DRAFT report) OF THE FLIGHT LOG.

Step 20: COMPLETE H-57 FUEL PLAN USING FLIGHT LOG INFORMATION.

6 HELO INAV PRACTICE PROBLEM PROCEDURES (FLIGHT LOG)

Step 21: COMPLETE THE DD-175 IN ACCORDANCE WITH GP CHAPTER FOUR.

Step 22: ANSWER THE QUESTIONS AT THE END OF THE PROBLEM.

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LECTURE PROBLEM QUESTIONS

1. What is the planned cruise fuel flow? _____

2. How much reserve fuel is required? _____

3. What is the "go-no-go" fuel figure? _____

4. How much extra fuel will you have? _____

5. How many hours of fuel will you have on board? _____

6. How many mandatory position reporting points are there to the destination? _____

7. How much fuel is remaining at Picayune? _____

8. Over Picayune Very High Frequency (VHF) Omnidirectional Radio and Tactical Air Navigation (VORTAC), whom would you contact to change your flight plan, and on what Ultra-High Frequency (UHF)? _____

9. Can you accept an approach clearance for the TACAN RWY 34L approach at the destination? _____

10. What is the minimum sector altitude on the route that you approach the destination? _____

11. Shooting the GPS RWY 16 R approach with the duty runway 34R at the destination, what is the Height Above Aerodrome (HAA)? _____ AGL or MSL?

12. Is Automatic Terminal Information Service (ATIS) available at the destination? _____

13. What is the height of the destination's control tower? _____ Above Ground Level/Mean Sea Level (AGL/MSL).

14. What type of approach lights are available on the runway 34L at the destination? _____

15. Is there a military organization at Jackson Evers Intl and, if so, whom? _____

16. Referring to question 15, what phone number would you use to contact them if needed? _____

17. If you spent the night at the destination airport, with whom would you file your flight plan prior to departing the next day? _____

18. If your destination was NAS New Orleans, would you need permission to land there before beginning the flight? _____, if so, whom would you call? _____

ANSWERS TO LECTURE PROBLEM QUESTIONS

1. 26 Gallons per Hour (GPH)
2. 9 gals.
3. 81 gals. $\pm$ 2
4. 7 gals. $\pm$ 2
5. 2+44 $\pm$ 5
6. 1
7. 73
8. Greenwood FSS 255.4
9. Yes
10. 3500 feet MSL
11. 494 feet AGL
12. Yes
13. 474 feet MSL
14. Medium-Intensity Approach Lighting System with Runway Alignment Indicator (MALSR)
15. Air National Guard
16. DSN: 828-8372
17. Air National Guard Base Ops
18. Yes, DSN: 678-3602/3

PRACTICE PROBLEM #1 DATA

DIRECTIONS:

1. Read all of the information given.

2. Complete a jet log, fuel plan, and DD-175.

3. Answer the questions about this problem.

PROBLEM DATA:

ACFT/BUNO/Call sign/Equipment: TH-57/162042/1E078/VOR TACAN GPS ADF

Type flight plan: IFR

	Airport	**Weather ETA ± 1 hour**
Departure:	NAS Whiting Field South, FL	32005KT 9999 SCT015 SCT100 QNH2910INS
Destination:	Maxwell AFB, AL	09012KT 9000 HZ SCT020 BKN120 OVC250 QNH2910INS
Alternate:	Dannelly Field, AL	08004KT 6000 HZ OVC200 QNH2910INS

Route of flight:

Destination: Plan a takeoff time of 1000 CST. Direct Crestview VORTAC V115 Montgomery VORTAC direct Maxwell TACAN direct to SEEME (IAF) for the TACAN RWY 15 Approach into Maxwell AFB.

Alternate: Direct to IAF for an NDB RWY 10 approach into Dannelly Field.

Indicated Airspeeds:	**ALT**	**WINDS**	**TEMP**
Climb 70 KIAS	1000	080/04	+13
Cruise 100 KIAS	2000	080/05	+12
Descent 90 KIAS	3000	080/06	+11
	4000	080/08	+10
	5000	110/15	+9
	6000	090/20	+8

Gross weight at takeoff:	3000 lbs.
Fuel load:	91 gal.
Climb rate:	500 feet per min.
Climb fuel flow:	1/2 gal. per min.
Transponder:	4096 with Mode C
Instrument Rating:	Standard
Variation:	1° W

PRACTICE PROBLEM #1 QUESTIONS

1. What is the planned cruise fuel flow? _____

2. How much reserve fuel is required? _____

3. What is the "go-no-go" fuel figure? _____

4. How much extra time will you have? _____

5. How many hours of fuel will you have on board? _____

6. How many mandatory position reporting points, in a non-radar environment, should there be on this jet log (in accordance with the rules in the FIH, section B)? _____

7. How much fuel is remaining at PIGON intersection? _____

8. Which approach will you be shooting at the destination? _____

9. What is the final approach course for your approach at the destination? _____

10. If instructed to hold at REDDI Int on V115, what course would you set in the KDI 206 (CDI)? _____

11. Could you accept a visual approach clearance to the destination airport at night in Visual Flight Rules (VFR) conditions? _____

12. If you arrived at your destination at 1500Z on Wednesday, September 2 with weather CLR 7, could you expect to receive a TACAN approach clearance? _____

13. What is the latest time you could arrive at the destination during operating hours on a Thursday? _____ (Local)

14. What rate of descent must you maintain to remain on the glideslope of the Precision Approach Radar (PAR) 23 approach to NAS Whiting (South) (Assume 90 Kts ground speed)? _____

15. If you were at the missed approach point and at the prescribed MDA for the TACAN approach at the destination, what should your radar altimeter read? _____

16. What are the lowest possible approach minimums to RWY 15 at your destination? _____

17. Canceling an IFR flight plan with Air Route Traffic Control Center (ARTCC) is the same as "closing out" a flight plan? _____ (True/False)

18. A pilot is executing a TACAN RWY 15 approach to runway 15 at Maxwell AFB and is at 0.5 DME at 610 feet MSL (50 feet above MDA). If the pilot does not have visual reference with the runway, must he/she execute missed approach now or can the pilot continue down to the MDA before executing missed approach? _____

FLIGHT LOG

DEP ELEV	CLNC DEL	GND CONT	TOWER
NDZ 177'	355.6	346.8	348.675/121.4
ALT CORR	**TIME OFF**	**TAS**	**LBS PH/MIN**
		72/107/93	0.5 gpm/26 gph

CLEARANCE 020°

TTC = 10 MIN

DEPARTURE

DEST ELEV	APC CONT	TOWER	GND CONT
MFX 171'	380.225/121.2	253.5/118.15	289.4/127.15

ROUTE TO	IDENT CHAN	CUS	DIST	ETE	ETA ATA	LEG FUEL	EFR AFR	GS	NOTES
CRESTVIEW	CEW 115.9	060	11+8 19	10+5 15		5+3 8	80	66 98	-6 -9
V115 PIGON	CEW 115.9	358	44	23		10	70	113	+6
V115 Montgomery	MGM 112.1	021	43	24		11	59	107	0
MAXWELL	MXF 97X	341	10	5		3	56	117	+10
SEEME	MXF 97X	338	6	3		2	54	117	+10
			122	1+10		34			
TCN RWY 15 APP	MXF 97X	158	6	7+4 11		5	49	88	-5

ALTERNATE	ROUTE	ALTITUDE	TIME	FUEL
ALT ELEV	**APC CONT**	**TOWER**	**GND CONT**	

Figure 1-1 Single Engine Jet Flight Log

PRACTICE PROBLEM #1 (2009)

TH-57 FUEL PLAN

1. RESERVE FUEL (gallons)
   greater of:

10 % PLANNED FUEL REQ	4
20 MIN BURN AT CRUISE FF	9

2. REQUIRED FUEL (gallons)

FUEL TO DEST IAF	34
FUEL FOR DEST APP *	5
FUEL TO ALTN IAF	
FUEL FOR ALTN APP	
RESERVE FUEL	9
MINIMUM ON DECK FUEL	10
TOTAL FUEL REQUIRED at T/O (GO-NO-GO FUEL)	58

3. EXTRA FUEL \ TIME AT CRUISE FF

FUEL LOAD	91
MINUS START/TAXI	3
EST TAKEOFF FUEL	88
MINUS FUEL REQUIRED	58
EXTRA FUEL	30
EXTRA TIME	1+09

4. FUEL ON BOARD (Time)

TIME TO DEST IAF	1+10
TIME FOR DEST APP	11
TIME TO ALTN IAF	
TIME FOR ALTN APP	
RESERVE TIME	20
EXTRA TIME	1+09
TOTAL TIME (Fuel on Board)	2+50

Departure to Destination

Altitude Selection

T/O	2300 MSA
Enroute	2500 MEA
Approach	3000 App
Time to Climb	10 MIN

Altitude

Cruise	5000
Avg Climb	3000
Avg Descent	3000

TAS

Climb	72
Cruise	107
Approach	93

Destination to Alternate

Altitude Selection

T/O	
Enroute	
Approach	
Time to Climb	

Ave Course

Altitude

Cruise	
Avg Climb	
Avg Descent	

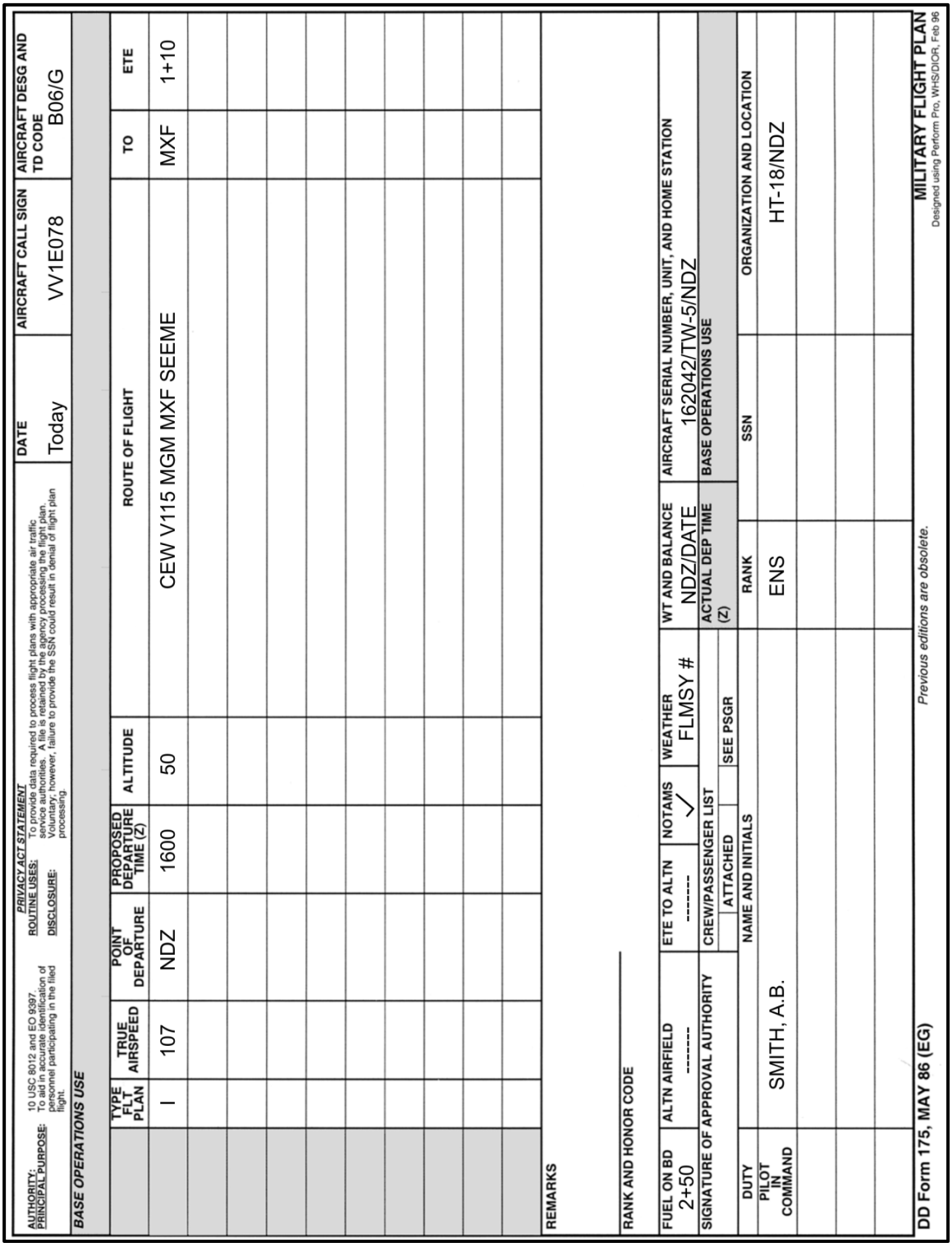
TAS

Climb	
Cruise	
Approach	

***Dest app not required for 3710 fuel planning when an alternate is required, including destination approach provides worst case scenario**

TW-5 Academic Training Department Form (Feb 08)

Figure 1-2 Fuel Plan



AUTHORITY:
PRINCIPAL PURPOSE: 10 USC 8012 and EO 9397. To aid in accurate identification of personnel participating in the filed flight.

PRIVACY ACT STATEMENT
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.

DATE: Today
AIRCRAFT CALL SIGN: VV1E078
AIRCRAFT DESG AND TD CODE: B06/G

BASE OPERATIONS USE

TYPE FLT PLAN	TRUE AIRSPEED	POINT OF DEPARTURE	PROPOSED DEPARTURE TIME (Z)	ALTITUDE	ROUTE OF FLIGHT	TO	ETE
I	107	NDZ	1600	50	CEW V115 MGM MXF SEEME	MXF	1+10

REMARKS

RANK AND HONOR CODE

FUEL ON BD	ALTN AIRFIELD	ETE TO ALTN	NOTAMS	WEATHER	WT AND BALANCE	AIRCRAFT SERIAL NUMBER, UNIT, AND HOME STATION
2+50	------	------	✓	FLMSY #	NDZ/DATE	162042/TW-5/NDZ

SIGNATURE OF APPROVAL AUTHORITY | CREW/PASSENGER LIST: ATTACHED / SEE PSGR | ACTUAL DEP TIME (Z) | BASE OPERATIONS USE

DUTY	NAME AND INITIALS	RANK	SSN	ORGANIZATION AND LOCATION
PILOT IN COMMAND	SMITH, A.B.	ENS		HT-18/NDZ

DD Form 175, MAY 86 (EG) — *Previous editions are obsolete.* — MILITARY FLIGHT PLAN
Designed using Perform Pro, WHS/DIOR, Feb 96

Figure 1-3 Flight Plan

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ANSWERS TO PROBLEM #1 QUESTIONS

1. 26 GPH

2. 9 gal

3. 58

4. 1+09 hours

5. 2+50

6. 4

7. 70

8. TACAN 15

9. 158°

10. 021

11. Yes – See definition of "Visual Approach" GP 2-49

12. No "No-NOTAM MP" IFR Supplement B-396. What is a NO, NOTAM MP? See IFR Supp, Section C

13. 2200, the field closes at 0400Z

14. 478 Feet per Minute (FPM) (glide slope is 3.0 degrees, GS 90)

15. Impossible to determine. When at the MDA for a straight-in landing, you would be 389 feet above the **touchdown zone** of the runway. However, your height above the ground is impossible to determine from the information at your disposal during the approach since the ground elevation at any given spot is not provided and the Missed Approach Point is not over the touchdown zone.

16. 200 – ¼. Per OPNAV 3710, pg 5-35, vis may be reduced by ½ published mins but no lower than ¼ mile.

17. False. See note, OPNAV 4-16

18. Execute missed approach now. You have already passed the MAP for the TACAN approach.

PRACTICE PROBLEM #2 DATA

DIRECTIONS:

1. Read all of the information given.

2. Complete a jet log, fuel plan, and DD-175.

3. Answer the questions about this problem.

PROBLEM DATA:

ACFT/BUNO/Call sign/Equipment: TH-57/162042/1E078/VOR TACAN GPS ADF

Type flight plan: IFR

	Airport	**Weather ETA ± 1 hour**
Departure:	NAS Meridian, MS	02003KT 9999 SCT015 SCT100 QNH2910INS
Destination:	NAS Pensacola, FL	05006KT 4800 HZ BKN020 QNH2910INS
Alternate:	Pensacola Reg., FL	07004KT 4800 HZ SCT010 OVC040 QNH2910INS

Route of flight:

Destination: Plan a takeoff time of 1300 CST. Direct Kewanee VORTAC V209 Semmes VORTAC direct Sidny (IAF) for a TACAN RWY 7L into NAS Sherman Field.

Alternate: Direct to Saufley VHF Omnidirectional Range (VOR), direct to BRENT (IAF) for an ILS RWY 17 approach into Pensacola Regional.

Indicated Airspeeds:	**ALT**	**WINDS**	**TEMP**
Climb 70 KIAS	1000	160/03	+12
Cruise 100 KIAS	2000	180/05	+10
Descent 90 KIAS	3000	180/06	+10
	4000	200/10	+10
	5000	270/12	+8
	6000	290/14	+7

Gross weight at takeoff:	3000 lbs.
Fuel load:	91 gal.
Climb rate:	500 feet per min.
Climb fuel flow:	1/2 gal. per min.
Transponder:	4096 with Mode C
Instrument Rating:	Standard
Variation:	1° W

PRACTICE PROBLEM #2 QUESTIONS

1. What is the planned cruise fuel flow? _____

2. How much reserve fuel is required? _____

3. What is the "go-no-go" fuel figure? _____

4. How much extra fuel will you have? _____

5. How many hours of fuel will you have on board? _____

6. How many mandatory position reporting points are there to the destination? _____

7. How much fuel is remaining at Sidny? _____

8. If you experience lost comm with holding enroute, when would you be expected to commence your approach at the IAF? _____

9. If you arrived at the alternate airfield after its published TWR hours in a VHF transceiver-equipped aircraft, whom would you contact and on what frequency to land at the airport? _____

10. Upon arriving at Semmes VORTAC you receive the following: "Cleared for a TACAN 7L approach to NAS Pensacola." When could you leave your cruising altitude and how low could you descend? _____

11. If flying to NAS Meridian, at what range should you initiate contact with Meridian approach control? _____ (VFR flight)

12. On what frequency would you contact Pensacola METRO? _____

13. If flight planning to NAS Pensacola from the east, what route of flight are you expected to file for? _____

14. The reported weather at NAS Pensacola is 400 feet, ½ mile, and you have received clearance to execute NAS Pensacola's TACAN RWY 7R approach. Can you accept the approach clearance? _____. Can you shoot a practice approach if no landing is intended? _____

15. On a precision approach, a missed approach is executed immediately upon reaching the _____ unless the runway environment is in sight and a safe landing can be made.

16. To "close out" a flight plan, VFR or IFR, it is the pilot in command's responsibility to ensure the proper agency is notified of _____ _____.

17. Must a suitable alternate have a published instrument approach compatible with installed aircraft navigation equipment? _____

FLIGHT LOG

DEP ELEV	CLNC DEL	GND CONT	TOWER
NMM 317'	301.0	336.4	340.2/126.2
ALT CORR	**TIME OFF**	**TAS**	**LBS PH/MIN**
		72/107/93	0.5 gpm/26 gph

CLEARANCE Ave course 150

TTC = 9 MIN

DEPARTURE

DEST ELEV	APC CONT	TOWER	GND CONT
NPA 28'	270.8/120.65	340.2/120.7	336.4/121.7

ROUTE / TO	IDENT / CHAN	CUS	DIST	ETE	ETA / ATA	LEG FUEL	EFR / AFR	GS	NOTES
⊣D⊢ Kewanee	EWA 113.8	152	10+2 12	9+1 10		5+1 6	82	67 113	-5 +6
V209 SEMMES	SJI 115.3	174 171	98	54		24	58	109	+2
⊣D⊢ SIDNY	NPA 119X	121	59	30		13	45	117	+10
			169	1+34		43			
TAC RWY 7L	NPA 119X	025	1	1		1	44	88	-5
ARC	NPA 119X	312	8	5		3	41	94	+1
FINAL	NPA 119X	061	13	9		4	37	87	-6
			22	0+15		8			

ALTERNATE	ROUTE	ALTITUDE	TIME	FUEL
PNS	⊣D⊢ NUN ⊣D⊢ BRENT	3000	0+10	1+25
ALT ELEV	**APC CONT**	**TOWER**	**GND CONT**	
121'	269.375/119.0	257.8/119.9	348.6/121.9	

⊣D⊢ SAUFLEY	NUN 108.8	352	6+1 7	5+1 6		3+1 4	33	76 110	+5 +6
⊣D⊢ BRENT IAF	NUN 108.8	052	8	4		2	31	108	+4
				10		6			
ILS RWY 17	I-PNS 111.1	166	4	7+3 10		5	26	91	0

Figure 2-1 Single Engine Jet Flight Log

PRACTICE PROBLEM #2 (2009)

TH-57 FUEL PLAN

1. RESERVE FUEL (gallons)
   greater of:

10 % PLANNED FUEL REQ	6
20 MIN BURN AT CRUISE FF	9

2. REQUIRED FUEL (gallons)

FUEL TO DEST IAF	43
FUEL FOR DEST APP *	8
FUEL TO ALTN IAF	6
FUEL FOR ALTN APP	5
RESERVE FUEL	9
MINIMUM ON DECK FUEL	10
TOTAL FUEL REQUIRED at T/O (GO-NO-GO FUEL)	81

3. EXTRA FUEL \ TIME AT CRUISE FF

FUEL LOAD	91
MINUS START/TAXI	3
EST TAKEOFF FUEL	88
MINUS FUEL REQUIRED	81
EXTRA FUEL	7
EXTRA TIME	0+16

4. FUEL ON BOARD (Time)

TIME TO DEST IAF	1+34
TIME FOR DEST APP	15
TIME TO ALTN IAF	10
TIME FOR ALTN APP	10
RESERVE TIME	20
EXTRA TIME	0+16
TOTAL TIME (Fuel on Board)	2+45

Departure to Destination

Altitude Selection

T/O	1900 MSA
Enroute	2500 Feeder
Approach	2200
Time to Climb	9 MIN

Altitude

Cruise	5000
Avg Climb	3000
Avg Descent	3000

TAS

Climb	72
Cruise	107
Approach	93

Destination to Alternate

Altitude Selection

T/O	1700 APP
Enroute	1700 Feeder
Approach	1700

3000-380=2620

Time to Climb	5 min
Ave Course	040

Altitude

Cruise	3000
Avg Climb	2000
Avg Descent	2000

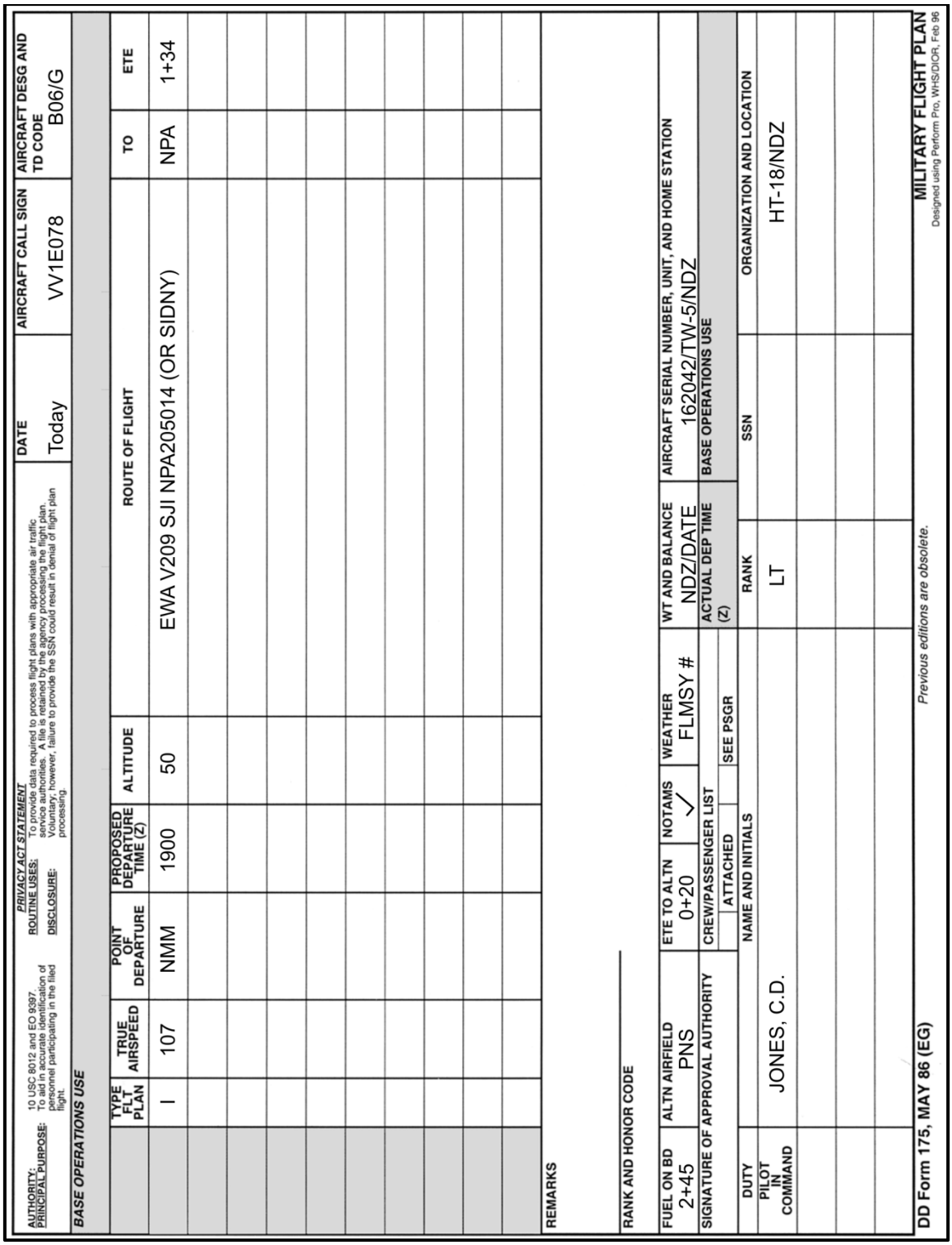
TAS

Climb	71
Cruise	104
Approach	91

***Dest app not required for 3710 fuel planning when an alternate is required, including destination approach provides worst case scenario**

TW-5 Academic Training Department Form (Feb 08)

Figure 2-2 Fuel Plan



AUTHORITY: 10 USC 8012 and EO 9397.
PRINCIPAL PURPOSE: To aid in accurate identification of personnel participating in the filed flight.
PRIVACY ACT STATEMENT
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.

DATE: Today
AIRCRAFT CALL SIGN: VV1E078
AIRCRAFT DESG AND TD CODE: B06/G

BASE OPERATIONS USE

TYPE FLT PLAN	TRUE AIRSPEED	POINT OF DEPARTURE	PROPOSED DEPARTURE TIME (Z)	ALTITUDE	ROUTE OF FLIGHT	TO	ETE
I	107	NMM	1900	50	EWA V209 SJI NPA205014 (OR SIDNY)	NPA	1+34

REMARKS

RANK AND HONOR CODE

FUEL ON BD	ALTN AIRFIELD	ETE TO ALTN	NOTAMS	WEATHER	WT AND BALANCE	AIRCRAFT SERIAL NUMBER, UNIT, AND HOME STATION
2+45	PNS	0+20	✓	FLMSY #	NDZ/DATE	162042/TW-5/NDZ

SIGNATURE OF APPROVAL AUTHORITY
CREW/PASSENGER LIST: ATTACHED ☐ SEE PSGR
ACTUAL DEP TIME (Z)
BASE OPERATIONS USE

DUTY	NAME AND INITIALS	RANK	SSN	ORGANIZATION AND LOCATION
PILOT IN COMMAND	JONES, C.D.	LT		HT-18/NDZ

DD Form 175, MAY 86 (EG) — *Previous editions are obsolete.* — MILITARY FLIGHT PLAN
Designed using Perform Pro, WHS/DIOR, Feb 96

Figure 2-3 Flight Plan

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ANSWERS TO PROBLEM #2 QUESTIONS

1. 26 GPH

2. 9 gals.

3. 81 gals. $\pm$ 2

4. 7 gals. $\pm$ 2

5. 2+44 $\pm$ 5

6. 3

7. 45 $\pm$ 2

8. The actual takeoff time adjusted for the ETE and the time spent in holding (clearance amended by ATC). FIH A-7

9. After TWR hours CTAF on 119.9. IFR Supp

10. SEMMES, 2500'. Since you are on an enroute feeder facility you can begin a descent at Semmes VORTAC down to the published MEA (2500). AIM Para 5-4-6 Approach Clearance.

11. 25 NM if on a VFR flight. IFR Supp Remarks B-412.

12. 359.6 MHz

13. V198 - 241 PENSI Direct NPA. IFR Supp Remarks → See AP-1 Supplementary Airport Information, pg 3-129.

14. Yes/Yes. OPNAV 5.3.5.1 – reduce required vis so you are within minimums. You can make practice approaches at your destination and alternate as long as the weather is at or above your minimums. OPNAV 5.3.5.7.

15. Decision height. OPNAV 5.3.5.4 or GP chap 2.

16. Flight termination. OPNAV 4.9.2

17. No, if the forecast ceiling and visibility at the alternate is 3000/3 $\pm$1 hour of your ETA and the destination has a published instrument approach compatible with the installed operable aircraft navigation equipment. See note at top of OPNAV pg 4-13.

PRACTICE PROBLEM #3 DATA

DIRECTIONS:

1. Read all of the information given.

2. Complete a jet log, fuel plan, and DD-175.

3. Answer the questions about this problem.

PROBLEM DATA:

ACFT/BUNO/Call sign/Equipment: TH-57/162042/1E078/VOR TACAN GPS ADF

Type flight plan: IFR (Enroute delay)

	Airport	**Weather ETA ±1 hour**
Departure:	Cairns AAF, AL	12008KT 8000 HZ OVC008 QNH2992INS
Destination:	Tyndall AFB, FL	08012KT 9000 HZ BKN020 QNH2992INS
Alternates:	Panama City-Bay Co., FL	18010KT 9000 HZ OVC018 QNH2992INS
	Eglin AFB QNH2992INS	29005KT 3200 RA SCT001 BKN004

Route of flight:

Destination: Plan a takeoff time of 2000 CST. Radar departure to Wiregrass VORTAC, V521 to Marianna VORTAC, direct Chaso Intersection. Request 15 minute delay at Chaso to practice holding. Depart Chaso direct to NENCY (IAF) for a TACAN RWY 13L approach at Tyndall.

Alternates: Panama City-Bay Co; Direct to IAF for a VOR RWY 14 approach. NOTAM: QFALN.

Eglin AFB; Direct to Panama City VORTAC, Direct Ginty IAF ILS Z RWY 30.

Indicated Airspeeds:	**ALT**	**WINDS**	**TEMP**
Climb 70 KIAS	1000	180/15	+5
Cruise 100 KIAS	2000	120/20	+2
Descent 90 KIAS	3000	090/18	-4
	4000	050/18	-10
	5000	060/12	-11
	6000	060/08	-12
	7000	030/20	-15

Gross weight at takeoff:	3000 lbs.
Fuel load:	91 Gal.
Climb rate:	500 feet per min.
Climb fuel flow:	1/2 gal. per min.
Transponder:	4096 with Mode C
Instrument Rating:	Standard
Variation:	2° W

PRACTICE PROBLEM #3 QUESTIONS

1. What is the planned cruise fuel flow? _____

2. How much reserve fuel is required? _____

3. What is the "go-no-go" fuel figure? _____

4. How much extra time will you have? _____

5. How many hours of fuel will you have on board? _____

6. How many mandatory position reporting points are there on this flight log? _____

7. How much fuel is remaining at Marianna VORTAC? _____

8. Which type of approach will you be shooting at the destination? _____

9. At Cairns, you would receive your ATC clearance from

   a. Ground Control
   b. Departure Control
   c. Clearance Delivery
   d. Tower

10. At Cairns, your lowest weather minimums for takeoff on RWY 6 are

    a. 200 - ½
    b. 300 – 1
    c. 300 - 3/4
    d. 400 - 1/2

11. At Cairns, prior to takeoff on RWY 6, you should tune your KR-87 radio to _____ frequency, in case of emergency approach to the field.

12. At Cairns, after takeoff, you would probably be assigned a frequency of

    a. 255.4
    b. 353.5
    c. 125.4 or 327.125
    d. 242.6

13. At Cairns, after airborne, your initial voice report would be with

    a. Cairns Approach Control
    b. Jacksonville Center
    c. Dothan FSS
    d. Wiregrass ARTC

14. You departed Cairns at Estimated Time of Departure (ETD) (assume radar services terminated). You will be over Wiregrass VORTAC 11 minutes later at your flight-planned altitude. Write your position report._____

_____

15. If you should lose communications inbound to Marianna, you would be expected to begin your approach to Tyndall at Cairns time plus

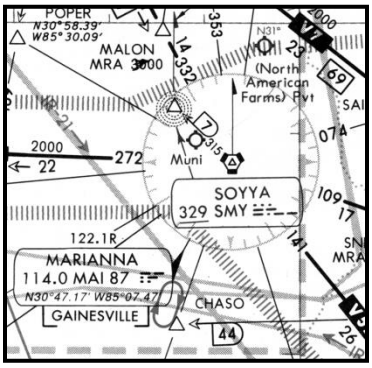
a. 0 + 39
b. 0 + 51
c. 1 + 06
d. 2 + 00

Outbound from Marianna, you receive the following clearance:

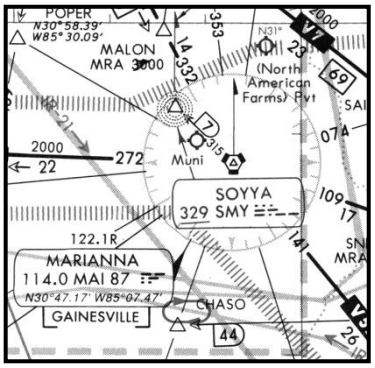
"Navy 1E078 JACKSONVILLE CENTER, HOLD EAST OF CHASO ON THE 267 RADIAL OF THE SEMINOLE VORTAC 2 - MILE LEGS. MAINTAIN (ALTITUDE) EXPECT FURTHER CLEARANCE AT (CHASO ARRIVAL TIME PLUS 15 MINUTES), OVER."

16. At CHASO, your holding pattern would be

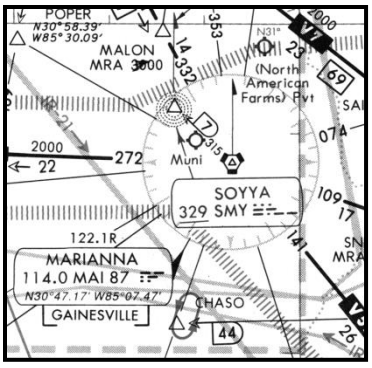
a.



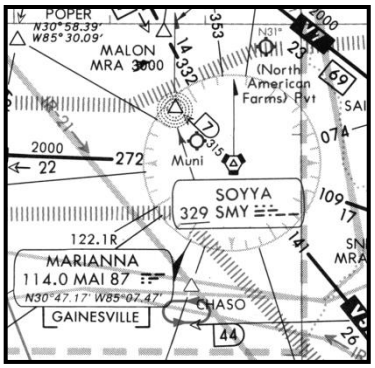
b.



c.



d.



17. To enter holding at CHASO, you would turn _____ (right/left) to _____ heading.

a. left . . . 132
b. right . . . 267
c. right . . . 017
d. right . . . 087

18. At CHASO, what holding course would you set in the KI-525A Horizon Situation Indicator (HSI)? _____

19. After departing CHASO, if you should lose communications, you would be expected to begin your approach at Tyndall at Cairns departure time plus

a. 0 + 39
b. 0 + 51
c. 1 + 06
d. 2 + 00

20. If you arrived at Tyndall at 2300 CST, your approach controller would be

a. Panama City Approach Control
b. Tyndall Approach Control
c. Jacksonville Center
d. Tallahassee Radio

21. At Tyndall, you would expect your controller to

a. clear you for a TACAN RWY 13L approach.
b. radar vector you for a straight-in TACAN approach to RWY 13L.
c. clear you for a PAR approach (without request).

22. At Tyndall, your MDA is

a. 49
b. 520
c. 560
d. 600

23. At Patrick AFB, TACAN RWY 20, during your IFR approach in VFR conditions, you should wait until reaching 1.7 DME from the TACAN before descending below the MDA. _____ (TRUE/FALSE)

24. The Tyndall TACAN is usable in all directions within a distance of 40 NM. _____ (TRUE/FALSE)

25. If your destination weather is greater than the required minimums but less than 3000-3, the ILS RWY 14 approach at Panama City-Bay Co. airport can be used as an alternate anytime the weather there is forecast to be 400-1 or higher. _____ (TRUE/FALSE)

26. At Panama City-Bay Co., if approach control advised you of Tyndall AFB altimeter setting while executing the VOR RWY 14 approach to RWY 14 _____.

a. your MDA is 420.
b. your MDA is 600.
c. your MDA is 460.
d. the approach procedure is not authorized.

27. At Panama City-Bay Co. the Class D airspace effective times are from _____ to _____ .

a. 1330Z . . . 0130Z
b. 1200Z . . . 0400Z
c. 1230Z . . . 0300Z
d. 1200Z . . . 0200Z

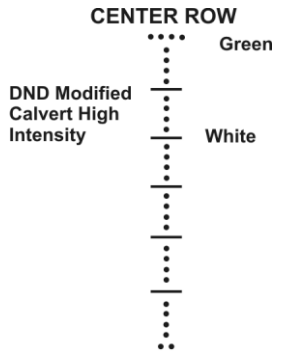
28. At Eglin AFB, the recommended altitude for your approach is higher at the IAF than at the FAF. _____ (TRUE/FALSE)

29. At Eglin AFB, the DH to RWY 30 is _____ feet above the field elevation.

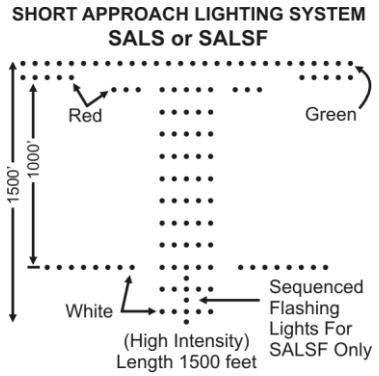
a. 187
b. 200
c. 270
d. 320

30. At Eglin AFB, you would expect to see approach lighting system

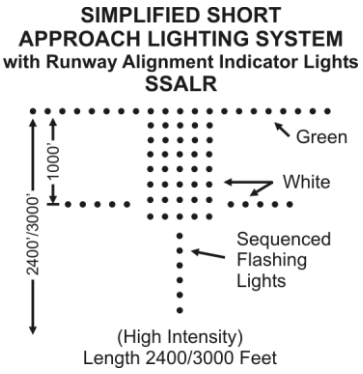
a.



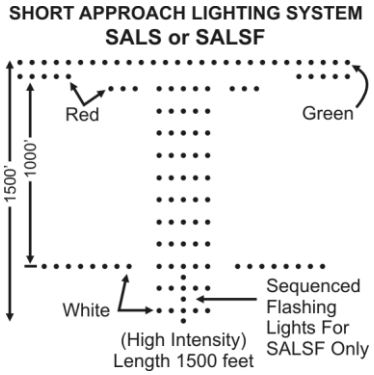
c.



b.



d.



e. None of the above

32 PRACTICE PROBLEM NUMBER THREE

FLIGHT LOG

DEP ELEV	CLNC DEL	GND CONT	TOWER
OZR 301'	380.1/118.0	288.25/121.9	248.55/135.2
ALT CORR	**TIME OFF**	**TAS**	**LBS PH/MIN**
		72/107/91	0.5 gpm/25 gph

CLEARANCE Ave course 175

TTC = 13 MIN

DEPARTURE

DEST ELEV	PAM 17'	APC CONT	<5K 341.7124.15 392.1/125.2	TOWER	384.4/133.95	GND CONT	259.3/121.9

ROUTE TO	IDENT CHAN	CUS	DIST	ETE	ETA ATA	LEG FUEL	EFR AFR	GS	NOTES
⊕ Wiregrass	RRS		12+3	13+2		7+1	80	56	-15
	111.6	085	15	15		8		95	-12
V521 MARIANNA	MAI	150					72		
	114.0	152	34	17		8		117	+10
⊕ CHASO	MAI						68		
	114.0	199	16	8		4		127	+20
HOLDING DELAY							61		
				15		7			
⊕ NENCY	PAM						56		
	124X	235	22	11		5		126	+19
			87	0+51		32			
				1+06					
TAC RWY 13L ARC	PAM						52		
	124X	243	14	8		4		102	+11
	PAM						47		
FINAL	124X	126	15	11		5		82	-9
			29	0+19		9			

ALTERNATE	ROUTE	ALTITUDE	TIME	FUEL
VPS	⊕ PFN ⊕ GINTY	4000	0+23	1+53

ALT ELEV	APC CONT	TOWER	GND CONT
87'	360.6/132.1	353.65/118.2	335.8/121.8

ROUTE TO	IDENT CHAN	CUS	DIST	ETE	ETA ATA	LEG FUEL	EFR AFR	GS	NOTES
⊕ PANAMA CITY	PFN						43	88	+18
	114.3	330	10	7		4			
⊕ GINTY IAF	DWG						36		
	2	284	30	16		7		113	+11
				23		11			
ILS Z RWY 30	I-VPS						31		
	110.3	300	17	12		5		85	-5

Figure 3-1 Single Engine Jet Flight Log

PRACTICE PROBLEM #3 (2009)

TH-57 FUEL PLAN

1. RESERVE FUEL (gallons)
   greater of:

10 % PLANNED FUEL REQ	5
20 MIN BURN AT CRUISE FF	9

2. REQUIRED FUEL (gallons)

FUEL TO DEST IAF	32
FUEL FOR DEST APP *	9
FUEL TO ALTN IAF	11
FUEL FOR ALTN APP	5
RESERVE FUEL	9
MINIMUM ON DECK FUEL	10
TOTAL FUEL REQUIRED at T/O (GO-NO-GO FUEL)	76

3. EXTRA FUEL \ TIME AT CRUISE FF

FUEL LOAD	91
MINUS START/TAXI	3
EST TAKEOFF FUEL	88
MINUS FUEL REQUIRED	76
EXTRA FUEL	12
EXTRA TIME	0+29

4. FUEL ON BOARD (Time)

TIME TO DEST IAF	1+06
TIME FOR DEST APP	19
TIME TO ALTN IAF	23
TIME FOR ALTN APP	12
RESERVE TIME	20
EXTRA TIME	0+29
TOTAL TIME (Fuel on Board)	2+49

Departure to Destination

Altitude Selection

T/O	2000 Feeder
Enroute	3200 OROCA
Approach	3000 IAF

Time to Climb 13 MIN

Altitude

Cruise	7000
Avg Climb	4000
Avg Descent	4000

TAS

Climb	71
Cruise	107
Approach	91

Destination to Alternate

Altitude Selection

T/O	2600 MSA
Enroute	2500 Feeder
Approach	2500 APP

4000-520=3480

Time to Climb	7 min
Ave Course	295

Altitude

Cruise	4000
Avg Climb	2000
Avg Descent	2000

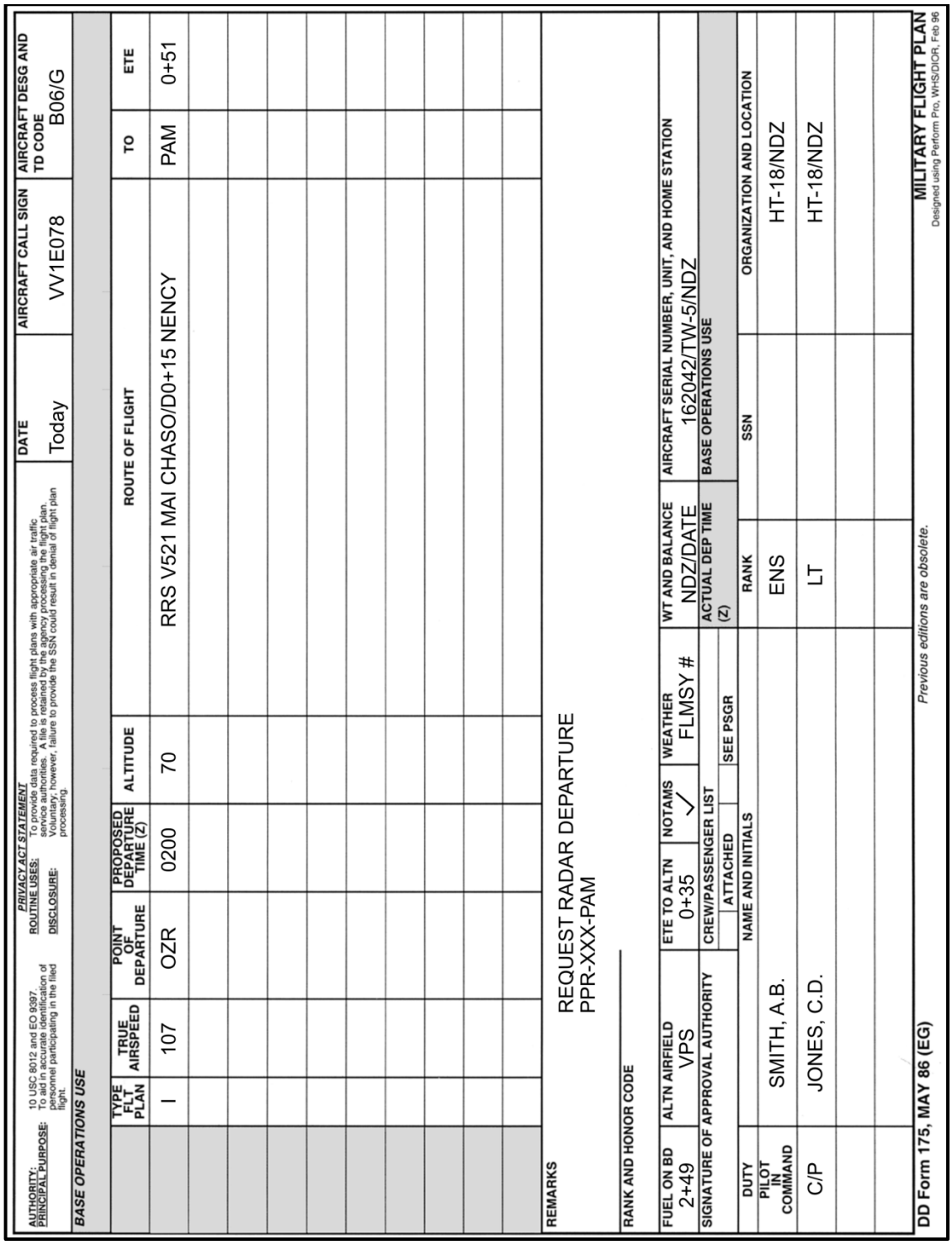
TAS

Climb	70
Cruise	102
Approach	90

***Dest app not required for 3710 fuel planning when an alternate is required, including destination approach provides worst case scenario**

TW-5 Academic Training Department Form (Feb 08)

Figure 3-2 Fuel Plan



AUTHORITY: PRINCIPAL PURPOSE: 10 USC 8012 and EO 9397. To aid in accurate identification of personnel participating in the filed flight.

PRIVACY ACT STATEMENT
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.

DATE: Today

AIRCRAFT CALL SIGN: VV1E078

AIRCRAFT DESG AND TD CODE: B06/G

BASE OPERATIONS USE

	TYPE FLT PLAN	TRUE AIRSPEED	POINT OF DEPARTURE	PROPOSED DEPARTURE TIME (Z)	ALTITUDE	ROUTE OF FLIGHT	TO	ETE
	I	107	OZR	0200	70	RRS V521 MAI CHASO/D0+15 NENCY	PAM	0+51

REMARKS: REQUEST RADAR DEPARTURE
PPR-XXX-PAM

RANK AND HONOR CODE: _____

FUEL ON BD	ALTN AIRFIELD	ETE TO ALTN	NOTAMS	WEATHER	WT AND BALANCE	AIRCRAFT SERIAL NUMBER, UNIT, AND HOME STATION
2+49	VPS	0+35	✓	FLMSY #	NDZ/DATE	162042/TW-5/NDZ

SIGNATURE OF APPROVAL AUTHORITY

CREW/PASSENGER LIST — ATTACHED ☐ SEE PSGR

ACTUAL DEP TIME (Z)

BASE OPERATIONS USE

DUTY	NAME AND INITIALS	RANK	SSN	ORGANIZATION AND LOCATION
PILOT IN COMMAND	SMITH, A.B.	ENS		HT-18/NDZ
C/P	JONES, C.D.	LT		HT-18/NDZ

DD Form 175, MAY 86 (EG) — *Previous editions are obsolete.* — MILITARY FLIGHT PLAN
Designed using Perform Pro, WHS/DIOR, Feb 96

Figure 3-3 Flight Plan

ANSWERS TO PROBLEM #3 QUESTIONS

1. 25 GPH

2. 9 gals.

3. 76 gals. $\pm$ 2

4. 0 + 29 mins. $\pm$ 3

5. 2 + 48 $\pm$ 5

6. 6

7. 72 gals. $\pm$ 1

8. TACAN ARCING

9. c. Approach Plates

10. c.

11. 212 KHZ. App Plates, Vol 14 pg 53 ILS RWY 6 approach. Know your aircraft radios (review NATOPS or the workbook) KR-87 is the ADF receiver.

12. c. IFR Supp B-94, sector frequencies or App Plates Vol 14 pg 53.

13. a. App Plate Vol 14 pg 53

14. JACKSONVILLE CENTER, NAVY 1E078, WIREGRASS, ONE ONE, SEVEN THOUSAND, MARIANNA, TWO EIGHT, CHASO, OVER. Basic voice reports (PTAPTP) IAW FIH B-6.

15. b. FIH A-7. Assuming you haven't received ATC clearance (amended clearance) to hold yet, if you go lost comm., why would you still practice holding along the way?

16. b.

17. d. W/in $\pm$ 5 degrees, choose between right direct entry or left to parallel.

18. 267

19. c. FIH A-7. Assumes that ATC amended your clearance to allow the practice holding at Chaso, as requested in you DD-175.

20. c. IFR Supp B-649 Comm section "OT CTC JAX CTR" Other times, contact JAX Center.

21. b.

22. b.

23. True. VDP at 1.7 DME on approach plate. Definition of VDP in GP Chap 2.

24. True. IFR Supp pg B-649, NAVAIDS section lists Tyndall TACAN as a "HA" NAVAID. Supp Legend, pg A-24 explains what that means.

25. False. Published minimums 200-1/2 plus OPNAV reqd 200-1/2 = 400/1. While this is sufficient WX to select field as an alternate, see A at top of approach plate in pilot briefing section. Refer to "IFR Alternate Minimums" section, pg XLII. Panama City-Bay County is "NA when tower closed" and the question asked "can be used **anytime**." Read the questions carefully!

26. c. Double set of minimums on the approach plate. Use DME minimums and apply the note at the top which stated to "Increase all MDAs 40 feet" when using Tyndall altimeter setting.

27. b. IFR Supp B-489

28. True

29. a. The question did NOT ask for HAT, if you selected answer B. Question is asking for difference between DH (274') and field elevation (87')

30. e. IFR Supp or APP Plates for approach lighting codes.

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PRACTICE PROBLEM #4 DATA

DIRECTIONS:

1. Read all of the information given.
2. Complete a jet log and fuel plan for the first leg only.
3. Complete a DD-175 for the entire flight.
4. Answer the questions about this problem.

PROBLEM DATA:

ACFT/BUNO/Call sign/Equipment: TH-57/162042/8E078/VOR TACAN GPS ADF

Type flight plan: IFR

	Airport	**Weather ETA ± 1 hour**
Departure:	NAS Key West, FL	14008KT 9999 SCT025 SCT100 QNH2991INS
1st Destination:	Homestead ARB, FL	11005KT 8000 HZ BKN040 OVC060 QNH2910INS
Alternate:	Ft. Lauderdale Int.	11005KT 8000 HZ BKN009 OVC040 QNH2910INS
2nd Destination:	Patrick AFB, FL	18006KT 3200 HZ OVC100 QNH2910INS
Alternate:	Melbourne INTL, FL	15004KT 8000 HZ BKN100 QNH2910INS

Route of flight:

Destination: Homestead ARB, FL: Plan a takeoff time of 0800 EST via radar departure to Key West VORTAC. V157 to Dolphin VORTAC, direct to RYDOM (IAF) for a TACAN RWY 5 approach into Homestead ARB.
Plan for a 3+00 stopover at Homestead for servicing. Homestead NOTAM: QNNAF.

Alternate: Direct to DOLPHIN VORTAC, direct to FT. LAUDERDALE VOR (IAF) for a VOR or GPS RWY 27R approach.

Indicated Airspeeds:	**ALT**	**WINDS**	**TEMP**
Climb 70 KIAS	1000	200/08	+25
Cruise 100 KIAS	2000	190/08	+23
Descent 90 KIAS	3000	190/12	+20
	4000	150/12	+18
	5000	180/12	+14
	6000	200/06	+12
	7000	225/15	+10

Gross weight at takeoff:	3000 lbs.
Fuel load:	91 gal.
Climb rate:	500 feet per min.
Climb fuel flow:	1/2 gal. per min.
Transponder:	4096 with Mode C
Instrument Rating:	Standard
Variation:	4° W

SECOND LEG DATA

When filling out your DD-175, use the following data for the second leg.

Patrick AFB (destination):	Radar departure from Homestead ARB to Dolphin VORTAC, V437 to Pahokee VORTAC, V51 to Vero Beach VORTAC (IAF) for a practice approach into Vero Beach Muni (total time for the practice approach delay at Vero Beach 0+15 minutes). Depart Vero Beach direct to the Vero Beach VORTAC, V3 to Melbourne VORTAC then direct to ZEVEX (IAF) for the ILS RWY 20 approach to Patrick AFB.
Melbourne Intl (alternate):	Direct to Melbourne VORTAC (IAF) for the VOR RWY 9R approach into Melbourne Intl.

TAS:	107 KTS
Altitude:	4000 FT
ETE to Vero Beach VORTAC:	1 + 22
Delay at Vero Beach:	0 + 15
ETE Vero Beach to Zevex (IAF):	0 + 26
Patrick Approach:	0 + 15
ETE to Alternate IAF:	0 + 10
Approach time at Alternate:	0 + 07
Hours of fuel on board:	2 + 50

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PRACTICE PROBLEM #4 QUESTIONS

1. What is your cruise fuel flow from Key West to Homestead? _____

2. What is your groundspeed from STRAP to DVALL Int.? _____

3. At Homestead, what is your ground speed on the final approach? _____

4. What is your climb groundspeed from EYW to STRAP intersection? _____

5. What is the fuel required from EYW to Dolphin VORTAC? _____

6. At Homestead, how much fuel is required to execute the approach? _____

7. What is the ETE from NAVY Key West to Key West VORTAC? _____

8. How much extra fuel do you have for the flight to Homestead? _____

9. What is your "go-no-go" fuel requirement from Key West to Homestead? _____

10. How many compulsory position reports are there from Key West to Homestead? _____

11. What is your reserve fuel requirement from Key West to Homestead? _____

12. The VASI lights at Opa-Locka provide standard threshold clearance. _____ (TRUE/FALSE)

13. At Opa Locka, the RWY 9L approach lights are

a.	SSALR	c.	MALSR
b.	SALSF	d.	ALSF - 1

14. At Key West, your lowest weather minimums for takeoff on RWY 3 are

a.	200 - ¼	c.	200 - ½
b.	300 - 1	d.	300 - ¾

15. What is the definition of cruise (clearance)? _____
_____

16. If your aircraft cannot climb or descend at _____ FPM you must advise ATC.

a.	500 FPM	c.	1500 FPM
b.	1000 FPM	d.	2000 FPM

Use A.I.M. for 17 - 19

17. What does NOTAM(D) stand for? How are they distributed?_____
_____

18. What does NOTAM(L) stand for? How are they distributed? _____
_____

19. What is an FDC NOTAM? How are they distributed? _____
_____

20. What type of procedure turn is authorized when a "barb" is displayed? _____
_____

21. When will a pilot execute a missed approach? _____
_____

22. Where is a green, yellow, and white rotating beacon located?

a. Military land airport
b. Heliport
c. Military water airport
d. Civil water airport

23. Which of the following is NOT controlled airspace?

a. Class A
b. Class D
c. Class F
d. Airway

24 What are your VFR cloud clearances in class "B" airspace?

a. 500 FT Above, 1000 FT Below, 2000 horizontally
b. 1000 FT Above, 500 FT Below, 2000 horizontally
c. 500 ft. horizontally, clear of clouds
d. Clear of clouds with 3 miles visibility

25. Which of the following is NOT class "E" airspace?

a. Airway
b. Control Zone
c. Transition Area
d. Uncontrolled Airspace

26. Mode "C" is required when within _____ NM of the class "B" primary airport.

a. 20
b. 30
c. 40
d. 50

27. Define class "G" airspace.
_____

FLIGHT LOG

DEP ELEV	CLNC DEL	GND CONT	TOWER
NQX 6'	357.4/121.2	336.45/121.7	340.25/118.1575
ALT CORR	**TIME OFF**	**TAS**	**LBS PH/MIN**
		75/112/96	0.5 gpm/26 gph

CLEARANCE Ave course 050

TTC = 14 MIN

DEPARTURE

DEST ELEV 5' HST	APC CONT 257.675/123.8	TOWER 279.55/133.45	GND CONT 275.8/121.75

ROUTE TO	IDENT CHAN	CUS	DIST	ETE	ETA ATA	LEG FUEL	EFR AFR	GS	NOTES
D▶ Key West	EYW 113.5	279	6	4		2	86	82	+7
V157 DVALL	EYW 113.5	037	14+57 71	10+27 37		5+12 17	69	81 127	+6 +15
V157 Dolphin	DHP 113.9	068	39	19		9	60	126	+14
D▶ RYDOM	HST 19X	207	33	20		9	51	98	-14
				1+20		37			
TAC 5	HST 19X	053	16	10		5	46	93	-3

ALTERNATE	ROUTE	ALTITUDE	TIME	FUEL
ALT ELEV	APC CONT	TOWER	GND CONT	

Figure 4-1 Single Engine Jet Flight Log

PRACTICE PROBLEM #4 (2009)

TH-57 FUEL PLAN

1. RESERVE FUEL (gallons)
   greater of:

10 % PLANNED FUEL REQ	5
20 MIN BURN AT CRUISE FF	9

2. REQUIRED FUEL (gallons)

FUEL TO DEST IAF	37
FUEL FOR DEST APP *	5
FUEL TO ALTN IAF	
FUEL FOR ALTN APP	
RESERVE FUEL	9
MINIMUM ON DECK FUEL	10
TOTAL FUEL REQUIRED at T/O (GO-NO-GO FUEL)	61

3. EXTRA FUEL \ TIME AT CRUISE FF

FUEL LOAD	91
MINUS START/TAXI	3
EST TAKEOFF FUEL	88
MINUS FUEL REQUIRED	61
EXTRA FUEL	27
EXTRA TIME	1+02

4. FUEL ON BOARD (Time)

TIME TO DEST IAF	1+20
TIME FOR DEST APP	10
TIME TO ALTN IAF	
TIME FOR ALTN APP	
RESERVE TIME	20
EXTRA TIME	1+02
TOTAL TIME (Fuel on Board)	2+52

Departure to Destination

Altitude Selection
T/O 1400 MSA
Enroute 5000 MEA
Approach 1500 IAF

Time to Climb 14 MIN

Altitude
Cruise 7000
Avg Climb 4000
Avg Descent 4000

TAS
Climb 75
Cruise 112
Approach 96

Destination to Alternate

Altitude Selection
T/O
Enroute
Approach

Time to Climb min
Ave Course

Altitude
Cruise
Avg Climb
Avg Descent

TAS
Climb
Cruise
Approach

***Dest app not required for 3710 fuel planning when an alternate is required, including destination approach provides worst case scenario**

TW-5 Academic Training Department Form (Feb 08)

Figure 4-2 Fuel Plan

AUTHORITY: 10 USC 8012 and EO 9397. PRINCIPAL PURPOSE: To aid in accurate identification of personnel participating in the filed flight. PRIVACY ACT STATEMENT 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.	DATE	AIRCRAFT CALL SIGN	AIRCRAFT DESG AND TD CODE
	Today	VV8E078	B06/G

BASE OPERATIONS USE

BASE OPERATIONS USE	TYPE FLT PLAN	TRUE AIRSPEED	POINT OF DEPARTURE	PROPOSED DEPARTURE TIME (Z)	ALTITUDE	ROUTE OF FLIGHT	TO	ETE
	I	112	NQX	1300	70	EYW V157 DHP RYDOM	HST	1+20
	I	107	HST	1730	40	DHP V437 PHK V51 VRB VRB		1+22
						Ⓡ D 0+15 VRB COF		
	I	107	VRB	1907	40	VRB V3 MLB ZEVEX (2+50 MLB 0+17)	COF	0+26

REMARKS

REQUEST RADAR DEPARTURE - NQX and HST
S-HST

RANK AND HONOR CODE

FUEL ON BD	ALTN AIRFIELD	ETE TO ALTN	NOTAMS	WEATHER	WT AND BALANCE	AIRCRAFT SERIAL NUMBER, UNIT, AND HOME STATION
2+52	----------	-----------	✓	FLMSY #	NDZ/DATE	162042/TW-5/NDZ

SIGNATURE OF APPROVAL AUTHORITY	CREW/PASSENGER LIST	ACTUAL DEP TIME (Z)	BASE OPERATIONS USE
	ATTACHED / SEE PSGR		

DUTY	NAME AND INITIALS	RANK	SSN	ORGANIZATION AND LOCATION
PILOT IN COMMAND	SMITH, A.B.	ENS		HT-18/NDZ

DD Form 175, MAY 86 (EG) — *Previous editions are obsolete.* — MILITARY FLIGHT PLAN

Designed using Perform Pro, WHS/DIOR, Feb 96

Figure 4-3 Flight Plan

ANSWERS TO PROBLEM #4 QUESTIONS

1. 26 GPH

2. 127 KTS $\pm$ 3

3. 93 KTS $\pm$ 3

4. 81 KTS $\pm$ 3

5. 26 gals $\pm$ 1

6. 5 gals

7. 4 mins $\pm$ 1

8. 27 gals $\pm$ 2

9. 61 gals $\pm$ 2

10. 3

11. 9 gals

12. True. Approach plate shows Ⓥ. See FIH B-38 for explanation.

13. c. App Plate and FIH B-33

14. 200 - ½. PAR RWY 3 mins are 100-1/2 (black stripe pages in front of App Plates). OPNAV 5.3.4.1 states published minimums for a precision approach but no lower than 200-1/2.

15. Used to assign a block of airspace to a pilot from the minimum IFR altitude up to and including the altitude specified in the cruise clearance.

16. a. FIH B-6

17. Distant NOTAM, distributed automatically via the Service A telecommunications system. NOTAM(D) are obtained through the internet or FSS briefings. GP or AIM.

18. Local NOTAM, distributed locally only, through the local FSS. Based on 2009 GP. L NOTAMS have been discontinued per latest version of GP or AIM.

19. Flight Data Center NOTAM, Transmitted only once as a Class A NOTAM. GP 2 or AIM.

20. Any procedure the pilot wants as long as he/she stays in the protected airspace (procedureturn side of the course line). APP Plate Legend, for the "barb" it indicates "type, degree, and point of turn optional." As students however, you will be expected to fly the procedure as depicted.

21. Upon arrival at MAP runway environment is not in sight, a safe landing is not possible, or when instructed to do so by ATC.

22. b.

23. c.

24. d.

25. d.

26. b.

27. Uncontrolled airspace

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PRACTICE PROBLEM #5 DATA

DIRECTIONS:

1. Read all of the information given.

2. Complete a jet log, fuel plan, and DD-175.

3. Answer the questions about this problem.

PROBLEM DATA:

ACFT/BUNO/Call sign/Equipment: TH-57/162043/1E076/VOR TACAN GPS ADF

Type flight plan: IFR

	Airport	**Weather ETA ± 1 hour**
Departure:	McComb Pike County, MS	28012KT 9999 SCT030 QNH3012INS
Destination:	Mobile Regional, AL	28012KT 1800 RA OVC010 QNH3002INS
Alternate:	Gulfport-Biloxi Intl, MS	30007KT 3200 RA OVC010 QNH3004INS

Route of flight:

Destination: Plan a takeoff time of 0900 CST. Direct McComb VOR, V555 Picayune VOR, V552 to OBOES (IAF) for an ILS RWY 32 approach to Mobile.

Alternate: Direct Semmes, V20 Gulfport for a VOR RWY 32 at Gulfport-Biloxi Intl.

Indicated Airspeeds:	**ALT**	**WIND**	**TEMP**
Climb 70 KIAS	1000	300/05	+08
Cruise 100 KIAS	2000	280/10	+06
Descent 90 KIAS	3000	300/12	+04
	4000	320/14	+02
	5000	340/15	+-0
	6000	350/20	-02

Gross weight at takeoff:	3100 lbs.
Fuel load:	91 gallons
Climb schedule:	500 feet per min.
Climb fuel flow	½ gal. per min.
Transponder:	4096 with Mode C
Instrument rating:	Standard
Variation:	1° E

When filling out your DD-175, use the following data for the next leg(s).

Takeoff time:	Landing plus 1 hour 30 min.
TAS:	102 KTS
Altitude:	3000 feet
Route of flight:	Direct Semmes, V241 PENSI, direct Saufley VOR for a practice approach to Pensacola Regional, then direct PENSI and direct IAF for a TACAN RWY 5 to Whiting North Field.
NOTAMS:	Whiting Field South is closed.

ETE to Saufley	0+46	Approach to Pensacola	0+13
ETE to TROJN	0+14	Approach to Whiting	0+12

The required alternate for Whiting is NAS Pensacola with a total ETE of 0+25. Fuel on board leaving Mobile was 2+47.

PRACTICE PROBLEM #5 QUESTIONS

1. What is your fuel remaining in time at the destination IAF? _____

2. What is your total fuel required? _____

3. What is your destination approach time (how long to shoot the approach)? _____

4. What are your takeoff minimums from McComb Pike County (duty Runway 33)? _____

5. What is your alternate approach time (how long to shoot the approach)? _____

6. What is the TCH on the ILS 32 into Mobile Regional? _____

7. What type of approach lighting is on Rwy 32 at Mobile? _____

8. Does Mobile Tower operate continuously? _____

9. There are _____ helicopter alighting (landing) areas at Mobile.

10. Does Wisle NDB have continuous Transcribed Weather Broadcast (TWEB)? _____

11. Prior Permission Required (PPR) is required to RON at Mobile Regional. _____ (True/False)

12. Timing from FAF to MAP, using your ground speed, at Mobile is _____.

13. What approach control frequency(s) would you expect to be on if you went to Keesler AFB as your alternate? _____

14. Keesler Metro is full service continuous. _____(True/False)

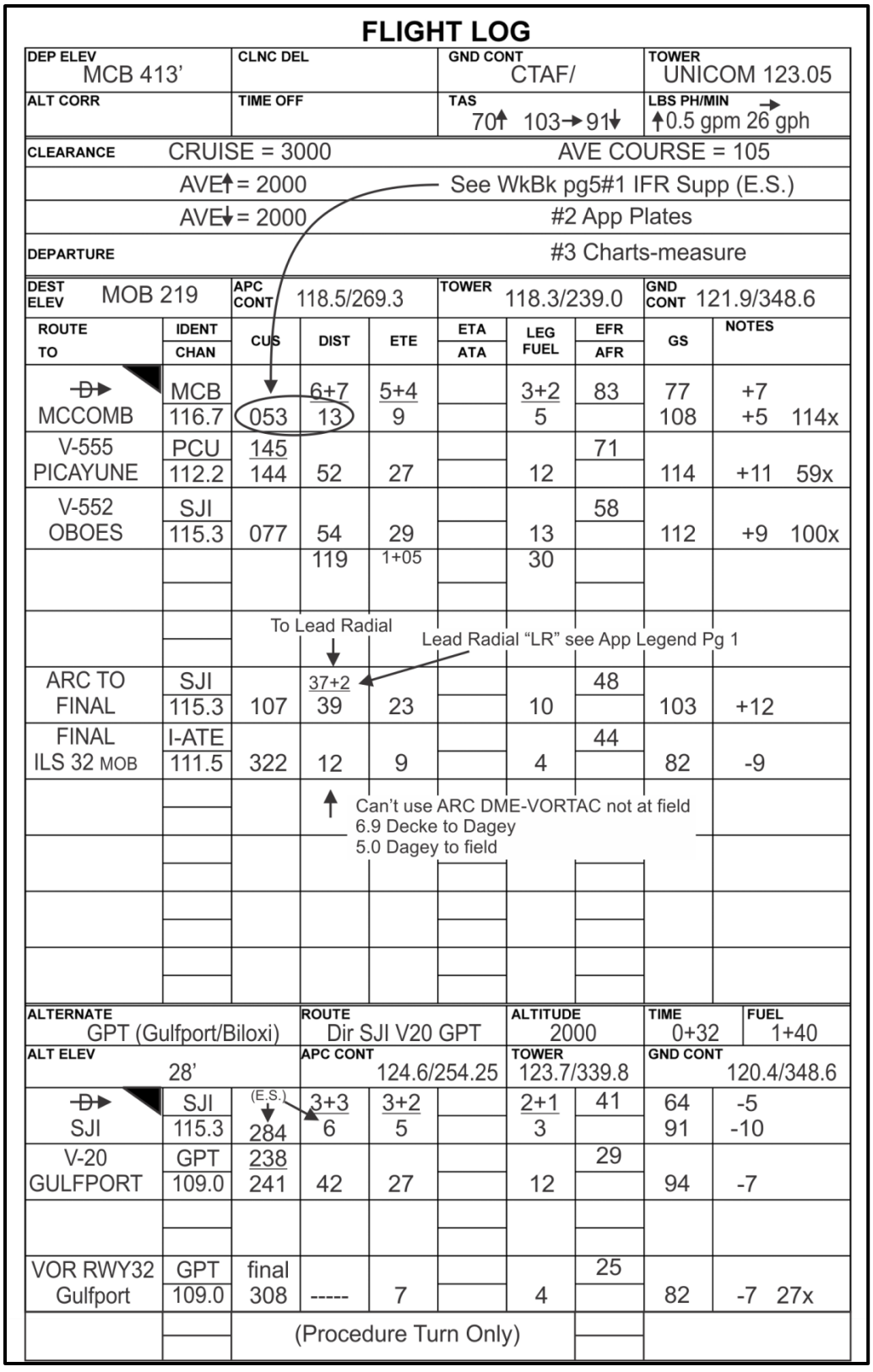
15. Distance remaining markers indicate what distance at Keesler? _____

16. What are the hours of operation for the Class D airspace at Gulfport-Biloxi INTL, Mississippi? _____

17. How would you identify Scaly Intersection if your DME was inoperative? _____

18. Over MINDO Intersection, who would you call to change your destination? _____

19. At what time (local) do you expect to touch down at NSE? _____



FLIGHT LOG

DEP ELEV	CLNC DEL	GND CONT	TOWER
MCB 413'		CTAF/	UNICOM 123.05
ALT CORR	**TIME OFF**	**TAS**	**LBS PH/MIN**
		70↑ 103→91↓	↑0.5 gpm 26 gph

CLEARANCE: CRUISE = 3000 — AVE COURSE = 105

AVE↑ = 2000 — See WkBk pg5#1 IFR Supp (E.S.)

AVE↓ = 2000 — #2 App Plates

DEPARTURE — #3 Charts-measure

DEST ELEV: MOB 219 — APC CONT: 118.5/269.3 — TOWER: 118.3/239.0 — GND CONT: 121.9/348.6

ROUTE / TO	IDENT / CHAN	CUS	DIST	ETE	ETA / ATA	LEG FUEL	EFR / AFR	GS	NOTES
⊣D→ MCCOMB	MCB 116.7	053	6+7 / 13	5+4 / 9		3+2 / 5	83	77 / 108	+7 / +5 114x
V-555 PICAYUNE	PCU 112.2	145 / 144	52	27		12	71	114	+11 59x
V-552 OBOES	SJI 115.3	077	54 / 119	29 / 1+05		13 / 30	58	112	+9 100x
			To Lead Radial						Lead Radial "LR" see App Legend Pg 1
ARC TO FINAL	SJI 115.3	107	37+2 / 39	23		10	48	103	+12
FINAL ILS 32 MOB	I-ATE 111.5	322	12	9		4	44	82	-9
			↑ Can't use ARC DME-VORTAC not at field 6.9 Decke to Dagey 5.0 Dagey to field						

ALTERNATE	ROUTE	ALTITUDE	TIME	FUEL
GPT (Gulfport/Biloxi)	Dir SJI V20 GPT	2000	0+32	1+40
ALT ELEV	**APC CONT**	**TOWER**	**GND CONT**	
28'	124.6/254.25	123.7/339.8	120.4/348.6	

⊣D→ SJI	SJI 115.3	(E.S.) 284	3+3 / 6	3+2 / 5		2+1 / 3	41	64 / 91	-5 / -10
V-20 GULFPORT	GPT 109.0	238 / 241	42	27		12	29	94	-7
VOR RWY32 Gulfport	GPT 109.0	final 308	-----	7		4	25	82	-7 27x
		(Procedure Turn Only)							

Figure 5-1 Single Engine Jet Flight Log

PRACTICE PROBLEM #5 (2009)

TH-57 FUEL PLAN

1. RESERVE FUEL (gallons)
   greater of:

10 % PLANNED FUEL REQ	5
20 MIN BURN AT CRUISE FF	9

2. REQUIRED FUEL (gallons)

FUEL TO DEST IAF	30
FUEL FOR DEST APP *	14
FUEL TO ALTN IAF	15
FUEL FOR ALTN APP	4
RESERVE FUEL	9
MINIMUM ON DECK FUEL	10
TOTAL FUEL REQUIRED at T/O (GO-NO-GO FUEL)	82

3. EXTRA FUEL \ TIME AT CRUISE FF

FUEL LOAD (gal)(max 91)	91
MINUS START/TAXI	3
EST TAKEOFF FUEL	88
MINUS FUEL REQUIRED	82
EXTRA FUEL (gal)	6
EXTRA TIME (hrs+min)	0+14

4. FUEL ON BOARD (in time)

TIME TO DEST IAF	1+05
TIME FOR DEST APP	0+32
TIME TO ALTN IAF	0+32
TIME FOR ALTN APP	0+07
RESERVE TIME	0+20
EXTRA TIME	0+14
TOTAL TIME (Fuel on Board)	2+50

Departure to Destination

Altitude Selection

T/O 2000 (ILS MISSED)

Enroute 2000 MEA

Approach 1900 IAF

Time to Climb 5 MIN

Altitude

Cruise	3000
Avg Climb	2000
Avg Descent	2000

TAS

Climb	70
Cruise	103
Approach	91

Destination to Alternate

Altitude Selection

T/O 2000 ILS Missed App

Enroute 2000 MEA

Approach 1900 PT

Time to Climb 3 min

Ave Course

Altitude

Cruise	2000
Avg Climb	1000
Avg Descent	1000

TAS

Climb	69
Cruise	101
Approach	89

***Dest app not required for 3710 fuel planning when an alternate is required, including destination approach provides worst case scenario**

TW-5 Academic Training Department Form (Feb 08)

Figure 5-2 Fuel Plan

AUTHORITY: 10 USC 8012 and EO 9397.
PRINCIPAL PURPOSE: To aid in accurate identification of personnel participating in the filed flight.

PRIVACY ACT STATEMENT
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.

DATE	AIRCRAFT CALL SIGN	AIRCRAFT DESG AND TD CODE
Today	VV1E076	B06/G

BASE OPERATIONS USE

	TYPE FLT PLAN	TRUE AIRSPEED	POINT OF DEPARTURE	PROPOSED DEPARTURE TIME (Z)	ALTITUDE	ROUTE OF FLIGHT	TO	ETE
	I	103	MCB	1500	30	MCB V555 PCU V552 OBOES	MOB	1+05
	I	102	MOB	1807	30	SJI V241 PENSI NUN PNS		0+46
						(R) D 0+13 PNS NSE		
	I	102	PNS	1906	30	PENSI TROJN (2+47 NPA 0+25)	NSE	0+14

REMARKS

RANK AND HONOR CODE

FUEL ON BD	ALTN AIRFIELD	ETE TO ALTN	NOTAMS	WEATHER	WT AND BALANCE	AIRCRAFT SERIAL NUMBER, UNIT, AND HOME STATION
2+50	GPT	0+39				

SIGNATURE OF APPROVAL AUTHORITY | **CREW/PASSENGER LIST** ATTACHED / SEE PSGR | **ACTUAL DEP TIME (Z)** | **BASE OPERATIONS USE**

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

DD Form 175, MAY 86 (EG) *Previous editions are obsolete.* **MILITARY FLIGHT PLAN**
Designed using Perform Pro, WHS/DIOR, Feb 96

Figure 5-3 Flight Plan

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ANSWERS TO PROBLEM #5 QUESTIONS

1. 2+13. If you gave your answer in Gallons, read the question carefully!

2. 84 gal $\pm$ 2

3. 0+32

4. 500-1. Circle to land minimums off VOR or ILS/LOC plates since there is no approach to RWY33.

5. 0+07 (procedure turn only w/NAVAID at the field)

6. 58'. App plate profile view.

7. MALSR. App plate and FIH

8. No ★ on App plate in the tower frequency box. See legend.

9. 3. Look for ⊖ on the airport sketch.

10. No. Check low chart legend and NAVAID box on low chart L-22.

11. False. IFR Supp B-429 Remarks. PPR only req for unscheduled aircraft over 65,000 lb.

12. 3+40 @ 82 kts ground speed. (CR-2)

13. 127.5/254.25. Sector frequencies on App plate. Inbound from north-east half.

14. False. FIH C-22

15. Distance for landing roll-out **only**. This is not a question about what distance remaining markers are but rather what they mean at Keesler. Start with IFR Supp Remarks B-329 → See AP-1 Supplementary Airport Information, pg 3-101. I.E. do not use the boards to determine amount of runway available for take-off roll.

16. 1200-0500Z. IFR Supp.

17. SJI 257R & GPT 028R. L-22G

18. Greenwood FSS. "book (test) answer" – FSS is responsible for processing making changes to flight plans. On a workload permitting basis, your ATC controller may do it for you (real world).

19. 1332 LOCAL time. Read the question carefully!

PRACTICE PROBLEM #6 DATA

DIRECTIONS:

1. Read all of the information given.

2. Complete a jet log, fuel plan, and DD-175.

3. Answer the questions about this problem.

PROBLEM DATA:

ACFT/BUNO/Call sign/Equipment: TH-57/162043/7E007/VOR TACAN GPS ADF

Type flight plan: IFR

	Airport	**Weather ETA ± 1 hour**
Departure:	Patrick AFB, FL	13012KT 9999 SCT030 QNH3012INS
Destination:	Tampa International	13012KT 1800 RA OVC010 QNH3002INS
Alternate:	Sarasota Bradenton	13012KT 3200 RA OVC010 QNH3004INS

Route of flight:

Destination: Departure time 1300 local standard time Direct MELBOURNE VOR, V441 LAKELAND VOR, Direct MERRA (IAF) for an ILS RWY 18R to TAMPA INTERNATIONAL. Cruise altitude to the destination will be 4000 ft.

Alternate: Direct to ST. PETERSBURG VOR for an ILS RWY 14 at BRADENTON AIRPORT. Cruise altitude to the alternate will be 3000 ft.

Indicated Airspeeds:	**ALT**	**WIND**	**TEMP**
Climb 70 KIAS	1000	120/08	+24
Cruise 100 KIAS	2000	130/10	+20
Descent 90 KIAS	3000	140/10	+19
	4000	150/10	+18
	5000	170/12	+16
	6000	180/15	+14

Gross weight at takeoff:	3100 lbs.
Fuel load:	91 gallons
Climb and descent schedule:	500 feet per min.
Climb fuel flow	½ gal. per min.
Transponder:	4096 with Mode C
Instrument rating:	Standard
Variation:	4° W

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PRACTICE PROBLEM #6 QUESTIONS

1. What is your planned cruise fuel flow? _____

2. What is your total fuel required? _____

3. How many hours of fuel do you have on board? _____

4. What is your destination approach time? _____

5. Why is the altitude to the alternate listed as 3000 instead of 4000 ft (cruising rules)? _____

6. How many hours and minutes of fuel do you have remaining at your destination IAF? _____

7. If the weather met the minimum requirements, could you fly special VFR into TPA? _____

8. If your DME is inoperative, can you fly the ILS RWY 18R into TAMPA? _____

9. To enter the holding pattern at MERRA you would turn to a heading of _____.

10. Is there a TACAN at TPA? _____

11. The approach lighting system on RWY 18R at TAMPA is _____.

12. Your are cleared for the ILS RWY 36L CAT II approach at Tampa, can you shoot the approach? _____ In the TH-57, which runway allows approaches in the worst weather conditions? _____

13. At SRQ, what type of weather observation system is used? _____

14. What is your timing from FAF to MAP (using your groundspeed) at SRQ? _____

15. How would you activate the runway lights at SRQ? _____

16. What are the Class C airspace hours at SRQ? _____

17. Over the LAL VOR, you would contact _____ for pilot-to-metro service on frequency _____.

18. Your route of flight crosses IR46. What is IR46? _____

19. If you took off from Patrick AFB heading north, what would be your MSA? _____

20. What is the TCH at SRQ on ILS RWY 14? _____

21. What are your takeoff minimums from Patrick AFB (duty runway 20)? _____

FLIGHT LOG

DEP ELEV	CLNC DEL	GND CONT	TOWER
COF 8'	289.4/118.4	355.8/124.35	269.375/133.75
ALT CORR	**TIME OFF**	**TAS**	**LBS PH/MIN**
		72↑ 107 93	↑0.5 gpm 27 gph →

CLEARANCE CRUISE = 4000 AVE COURSE = 260

AVE↑ = 2000

AVE↓ = 2000

DEPARTURE

DEST ELEV	APC CONT	TOWER	GND CONT
TPA 26'	118.5/290.3	119.5/269.4	121.7/269.4

ROUTE / TO	IDENT / CHAN	CUS	DIST	ETE	ETA / ATA	LEG FUEL	EFR / AFR	GS	NOTES
~~D~~ MELBOURNE	MLB / 110.0	(ES) 195	8	7		4	84	67	-5 37x
V-441 ODDEL	MLB / 110.0	271	1+27 / 28	1+14 / 15		1+7 / 8	76	79 / 112	+7 / +5
V-441 LAKELAND	LAL / 116.0	260	45	25		12	64	110	+3 107X
~~D~~ MERRA	PIE / 116.4	294	30	16		8	56	114	+7
				1+03		32			
									Mandatory holding per instructions
TAMPA ILS 18R	I-JRT / 108.5	184	12	4+8 / 12		6	50	85	-8 22X

ALTERNATE	ROUTE	ALTITUDE	TIME	FUEL
SRQ	Dir PIE	3000	0+07	1+51
ALT ELEV	**APC CONT**	**TOWER**	**GND CONT**	
30'	125.72/379.95	120.7/257.8	121.9/348.6	

~~D~~ ST PETE	PIE / 116.4	(E.S.) 242	8+1 / 9	6+1 / 7		3+1 / 4	46	75 / 106	+3 / +1
(IAF)↑									
PIE TO PASOE	PIE / 116.4	185	22	15		7	39	86	-7
FINAL ILS 14	I-FFV / 111.3	136	12	9		5	34	81	-12
				0+24		12			

Figure 6-1 Single Engine Jet Flight Log

PRACTICE PROBLEM #6 (2009)

TH-57 FUEL PLAN

1. RESERVE FUEL (gallons)
   greater of:

10 % PLANNED FUEL REQ	5
20 MIN BURN AT CRUISE FF	9

2. REQUIRED FUEL (gallons)

FUEL TO DEST IAF	32
FUEL FOR DEST APP *	6
FUEL TO ALTN IAF	4
FUEL FOR ALTN APP	12
RESERVE FUEL	9
MINIMUM ON DECK FUEL	10
TOTAL FUEL REQUIRED at T/O (GO-NO-GO FUEL)	73

3. EXTRA FUEL \ TIME AT CRUISE FF

FUEL LOAD (gal)(max 91)	91
MINUS START/TAXI	3
EST TAKEOFF FUEL	88
MINUS FUEL REQUIRED	73
EXTRA FUEL (gal)	15
EXTRA TIME (hrs+min)	0+33

4. FUEL ON BOARD (in time)

TIME TO DEST IAF	1+03
TIME FOR DEST APP	0+12
TIME TO ALTN IAF	0+07
TIME FOR ALTN APP	0+24
RESERVE TIME	0+20
EXTRA TIME	0+33
TOTAL TIME (Fuel on Board)	2+39

Departure to Destination

Altitude Selection
T/O 1700 MSA off MLB
Enroute 2600 MEA 2700 OROCA
Approach 4000

Time to Climb 8 MIN

Altitude
Cruise 4000
Avg Climb 2000
Avg Descent 2000

TAS
Climb 72
Cruise 107
Approach 93

Destination to Alternate

Altitude Selection
T/O 3000 Missed App
Enroute
Approach 2000

Time to Climb 6 min
Ave Course
Altitude
Cruise 3000
Avg Climb 2000
Avg Descent 2000

TAS
Climb 72
Cruise 105
Approach 93

***Dest app not required for 3710 fuel planning when an alternate is required, including destination approach provides worst case scenario**

TW-5 Academic Training Department Form (Feb 08)

No enroute segment going to alternate. Missed App procedure takes you directly to the IAF.

Figure 6-2 Fuel Plan

PRIVACY ACT STATEMENT

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.

DATE	AIRCRAFT CALL SIGN	AIRCRAFT DESG AND TD CODE
DDMMYY	VV1E007	B06/G

BASE OPERATIONS USE

	TYPE FLT PLAN	TRUE AIRSPEED	POINT OF DEPARTURE	PROPOSED DEPARTURE TIME (Z)	ALTITUDE	ROUTE OF FLIGHT	TO	ETE
	I	107	COF	1800	40	MLB V441 LAL MERRA	TPA	1+03

REMARKS

RANK AND HONOR CODE

FUEL ON BD	ALTN AIRFIELD	ETE TO ALTN	NOTAMS	WEATHER	WT AND BALANCE	AIRCRAFT SERIAL NUMBER, UNIT, AND HOME STATION
2+39	SRQ	0+31	X	FLMSY#	NDZ/DDMMYY	162043/TW5/NDZ

SIGNATURE OF APPROVAL AUTHORITY	CREW/PASSENGER LIST		ACTUAL DEP TIME (Z)	BASE OPERATIONS USE
	ATTACHED	SEE PSGR		

DUTY	NAME AND INITIALS	RANK	SSN	ORGANIZATION AND LOCATION
PILOT IN COMMAND	LAST NAME, INITIALS	XXXX		HT-XX/NDZ

DD Form 175, MAY 86 (EG) — Previous editions are obsolete. — MILITARY FLIGHT PLAN
Designed using Perform Pro, WHS/DIOR, Feb 96

Figure 6-3 Flight Plan

ANSWERS TO PROBLEM #6 QUESTIONS

1. 27 GPH.

2. 73 gal $\pm$ 2.

3. 2+40.

4. 0+12. Holding Pattern approach (holding in lieu of procedure turn). Don't forget to add 4 minutes for the mandatory (bold) holding pattern.

5. Missed approach instructions. 3000' direct to PIE VORTAC, which is the IAF. Per instruction in front of this book, if the missed approach instructions go where you need to go, comply with them.

6. 2+04. 56 gallons remaining at the IAF @ 27 GPH. Flight log and CR-2.

7. Yes. Look above airport name on chart. "NO SVFR" above the name. However, if you have read the legends, "NO SVFR" applies to F/W acft only and you are in a helicopter.

8. Yes. App plate says "DME or RADAR REQUIRED." APP plate legend pg I states "radar required" means "radar **vectoring** required for this approach." Even though we took away your DME, since you still have 2-way communications (required for radar vectors) you can still legally fly the approach.

9. 004 or 334 degrees, depending on your exact inbound course to Merra.

10. NO. Tampa does not have a TACAN located there. Nearest one is at St. Petersburg (PIE) about 9 miles away. Do not confuse DME channel 22 in the Localizer box as a TACAN.

11. 

MALSR. App plate & FIH.

12. NO. Special aircraft and aircrew certification required for CAT II & III ILS approaches. ILS 36L. 18L, 18R and 36L all have the same weather requirements (200-1/2) but 36L has the lowest DH at 212'.

13. ASOS. IFR Supp, Comm section. If you put down ATIS, read the question carefully! Question asked for "observation system" rather than how can you get the weather.

14. 4+21. 5.9 miles (from top of timing box) @ 81 kts ground speed.

15. Pilot Controlled Lighting on CTAF 120.1 when the tower is closed. App Plate or IFR Supp.

16. 1100Z-0500Z. IFR Supp.

17. MacDill AFB. 344.6. FIH C-22. Question specifically asked for "pilot-to-metro" rather than just weather so FSS is not a valid answer.

18. Instrument (IR) Military Training Route (MTR). Any Low Chart legend.

19. 3000. App plate Vol 19 pg 290. Assuming a "north" heading of 360 degrees, use the MSA based on the Patrick TACAN which is located at the field rather than using the MSA off the Melbourne VOR which is 7 miles south of the field and slightly offset.

20. 53' Approach plate

21. 300-3/4, ILS 20 approach

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PRACTICE PROBLEM #7 DATA

DIRECTIONS:

1. Read all of the information given.

2. Complete a jet log, fuel plan, and DD-175.

3. Answer the questions about this problem.

PROBLEM DATA:

ACFT/BUNO/Call sign/Equipment: TH-57/162043/8E078/VOR TACAN GPS ADF

Type flight plan: IFR

	Airport	**Weather ETA ± 1 hour**
Departure:	Cherry Point MCAS	33012KT 2400 BR OVC015 QNH2989INS
Destination:	Mackall AAF NC	36010KT 3200 BR OVC010 QNH2991INS
Alternate:	Fayetteville Regional, NC	36005KT 3200 BR OVC008 QNH2990INS

Route of flight:

Destination: Departure time 1300 local standard time. Direct NEW BERN VOR, V56 FAYETTEVILLE. Direct MACKALL for an NDB RWY 11 approach to MACKALL AAF (RWY 11).

Alternate: Direct RAEFO, V54 LORRY intersection, direct to DOONE LOM (IAF) for the ILS RWY 4 of Fayetteville Regional.

Indicated Airspeeds:	**ALT**	**WIND**	**TEMP**
Climb 70 KIAS	1000	340/12	+06
Cruise 100 KIAS	2000	330/15	+04
Descent 90 KIAS	3000	320/18	+02
	4000	300/20	+00
	5000	280/22	+02
	6000	250/25	+04

Gross weight at takeoff:	3000 lbs.
Fuel load:	91 gallons
Climb Rate:	500 feet per min.
Climb fuel flow:	½ gal. per min.
Transponder:	4096 with Mode C
Instrument rating:	Standard
Variation:	9° W

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PRACTICE PROBLEM #7 QUESTIONS

1. Prior to reaching Mackall, who should you contact for jump advisory? _____

2. When departing runway 5R at NKT, if told to "fly runway heading," what heading would you maintain? _____

3. Your takeoff minimums for RWY 5R at NKT would be _____.

4. What would your minimum altitude be at MORUS Intersection when using the SIMMONS AAF altimeter setting? _____

5. What is your final approach fix on the NDB RWY 11 at HFF? _____

6. If you departed from RALEIGH DURHAM INTL, to whom would you turn in your DD 175 prior to departure? _____

7. The runway gradient on RWY 22 at FAY is _____.

8. What type of glide slope lighting, if any, is available for runway 4 of Fayetteville? _____

9. If you had to proceed to your alternate, how much fuel would you have remaining upon landing? _____

10. What is your ground speed between LORRY and DOONE? _____

11. If your weather forecast was accurate, what heading would you have to maintain to stay on course from LORRY to DOONE? _____

12. What will your rate of descent have to be to maintain glide slope on the ILS at your groundspeed? _____

FLIGHT LOG

DEP ELEV	CLNC DEL	GND CONT	TOWER
NKT 29'	316.125/125.95	239.025/128.625	340.2/121.3
ALT CORR	**TIME OFF**	**TAS** 70↑ 104→90↓	**LBS PH/MIN** → ↑0.5 gpm 26 gph

CLEARANCE CRUISE = 4000 AVE COURSE = 280

AVE↑ = 2000

AVE↓ = 2000

DEPARTURE

DEST ELEV	APC CONT	TOWER	GND CONT
MACKALL AAF HFF 376'	343.725/127.8	254.4/121.0	251.05/41.75 FM

ROUTE TO	IDENT CHAN	CUS	DIST	ETE	ETA ATA	LEG FUEL	EFR AFR	GS	NOTES (don't forget 9°W variation)
~~D~~→ NEWBERN	EWN 113.6	330	7+6 13	8+4 12		4+2 6	82	55 85	-15 -19 83X
V-56 WALLO	FAY 108.8	264	47	31		14	68	90	-14 25X
V-56 FAYETTEVILLE	FAY 108.8	282	45	31		14	54	86	-18
~~D~~→ MACKALL	HFF 278	279	30	21		10	44	87	-17
			135	1+35		44			
NDB 11 MACKALL	HFF 278	-	-	7		4	40	93	+3 FINAL

ALTERNATE	ROUTE	ALTITUDE	TIME	FUEL
FAY (FAYETTEVILLE)	Dir RAEFO V54 LORRY, Dir DOONE	3000	0+16	1+32
ALT ELEV 189'	**APC CONT** 133.0/295.0	**TOWER** 118.3/269.2	**GND CONT** 121.7/348.6	

~~D~~→ RAEFO	SDZ 111.8	135	6	4		2	38	85	+15 55X
V54 LORRY	FAY 108.8	091	13	7		4	34	111	+9
~~D~~→ DOONE	GR 367	120	9	5		3	31	119	+17
ILS 4 (PT) FAYETTEVILLE	I-GRA 110.5	038	5	7+3 10		5	26	86	108.8 -4 25X

Figure 7-1 Single Engine Jet Flight Log

PRACTICE PROBLEM #7 (2009)

TH-57 FUEL PLAN

1. RESERVE FUEL (gallons)
   greater of:

10 % PLANNED FUEL REQ	6
20 MIN BURN AT CRUISE FF	9

2. REQUIRED FUEL (gallons)

FUEL TO DEST IAF	44
FUEL FOR DEST APP *	4
FUEL TO ALTN IAF	9
FUEL FOR ALTN APP	5
RESERVE FUEL	9
MINIMUM ON DECK FUEL	10
TOTAL FUEL REQUIRED at T/O (GO-NO-GO FUEL)	81

3. EXTRA FUEL \ TIME AT CRUISE FF

FUEL LOAD (gal)(max 91)	91
MINUS START/TAXI	3
EST TAKEOFF FUEL	88
MINUS FUEL REQUIRED	81
EXTRA FUEL (gal)	7
EXTRA TIME (hrs+min)	0+16

4. FUEL ON BOARD (in time)

TIME TO DEST IAF	1+35
TIME FOR DEST APP	0+07
TIME TO ALTN IAF	0+16
TIME FOR ALTN APP	0+10
RESERVE TIME	0+20
EXTRA TIME	0+16
TOTAL TIME (Fuel on Board)	2+44

Departure to Destination

Altitude Selection
T/O 3100 MSA
Enroute 3000 MEA
Approach 2000 IAF

Time to Climb 8 MIN

Altitude
Cruise 4000
Avg Climb 2000
Avg Descent 2000

TAS
Climb 70
Cruise 104
Approach 90

Destination to Alternate

Altitude Selection
T/O 2000 Feeder
Enroute 2400 MEA
Approach 2300

Time to Climb 4 min
Ave Course

Altitude
Cruise 3000
Avg Climb 2000
Avg Descent 2000

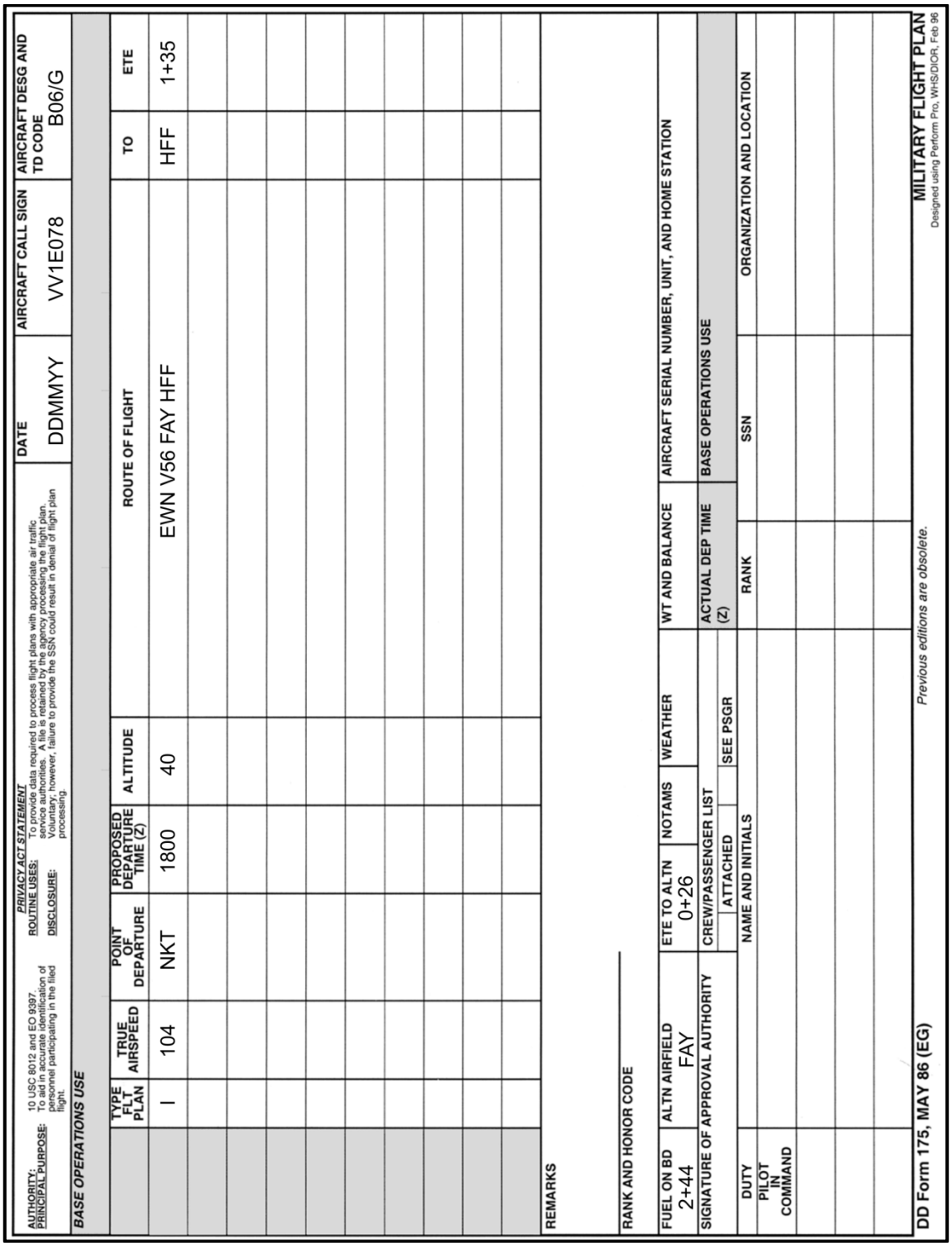
TAS
Climb 70
Cruise 102
Approach 90

TTC 3000
- 860
2140 2100/500=4.2

***Dest app not required for 3710 fuel planning when an alternate is required, including destination approach provides worst case scenario**

TW-5 Academic Training Department Form (Feb 08)

Figure 7-2 Fuel Plan



AUTHORITY:
PRINCIPAL PURPOSE: 10 USC 8012 and EO 9397. To aid in accurate identification of personnel participating in the filed flight.

PRIVACY ACT STATEMENT
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.

DATE: DDMMYY
AIRCRAFT CALL SIGN: VV1E078
AIRCRAFT DESG AND TD CODE: B06/G

BASE OPERATIONS USE

TYPE FLT PLAN	TRUE AIRSPEED	POINT OF DEPARTURE	PROPOSED DEPARTURE TIME (Z)	ALTITUDE	ROUTE OF FLIGHT	TO	ETE
I	104	NKT	1800	40	EWN V56 FAY HFF	HFF	1+35

REMARKS

RANK AND HONOR CODE

FUEL ON BD	ALTN AIRFIELD	ETE TO ALTN	NOTAMS	WEATHER	WT AND BALANCE	AIRCRAFT SERIAL NUMBER, UNIT, AND HOME STATION
2+44	FAY	0+26				

SIGNATURE OF APPROVAL AUTHORITY	CREW/PASSENGER LIST		ACTUAL DEP TIME (Z)	BASE OPERATIONS USE	
	ATTACHED	SEE PSGR			

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

DD Form 175, MAY 86 (EG) *Previous editions are obsolete.* MILITARY FLIGHT PLAN
Designed using Perform Pro, WHS/DIOR, Feb 96

Figure 7-3 Flight Plan

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ANSWERS TO PROBLEM #7 QUESTIONS

1. Fayetteville Approach Control. Read carefully! IFR Supp Remarks said to see both AP-1 Flight Hazards – Sandhills VORTAC and Supplementary Airport Information. Answer is located in the Flight Hazards section, pg 3-162. Most students skip right over the Flight Hazards part of the note and immediately go to the Supplementary Airport Information section.

2. Whatever is displayed on your RMI when lined up straight down the runway. Should be approximately 055 deg (055.2 deg) based on Cherry Point airport diagram, Vol 17 pg 75. Remember, runway numbers are "rounded off" and not actual magnetic heading.

3. 300-1. Best option, PAR RWY 5R, Vol 17 pg XXXIV (black stripe pages).

4. 1100'. Found on profile view of App Plate. Vol 17 pg 164.

5. None depicted/FAP. Remember, on a non-precision approach, the FAF is designated by the  symbol and this plate doesn't have one. However, go back and read the definition of final approach fix in the GP (chapter 2) and it will refer you to the definition for "Final Approach Point." While there, also read the definition of "Stepdown Fix" and you will understand why Morus Intersection is on the plat.

6. Army National Guard Base Ops. DD-175 is a "military" flight plan and doesn't get turned into FSS directly. IFR Supp pg B-528 and legend pg A-5 (Operating Agency), OPNAV 4.5.5 states the DD-175 is used for other than local flights originating from airfields in the U.S. at which a military operations department is located.

7. 0.3% upslope. Airport diagram, VOL 17, pg 109.

8. PAPI. Question asked for "glide slope" not approach lights. Ⓟ on App plate, FIH B-38.

9. 26 gallons. Flight log, fuel remaining column.

10. 118 kts. Flight log.

11. 115 deg mag. Use CR-2 wind side. 320/18 kts gives a 9 kt x-wind component (left -). Set TAS (102) at top of CR-2 (wind side) and find 9 on outside scale, read in to 5 degrees. 120-5= 115 deg. See CR-2 instruction booklet (or an instructor) if you are confused.

12. 456 ft/min. Use table at back of approach plates and CR-2 to set up ratio. 3 deg GS = 318ft/NM or 478 ft/min at 90 kts ground speed. This now gives you a ratio:

$\frac{90}{478} = \frac{86}{X}$ therefore X = 456 ft/min Of course, you can't read 456 ft/min on your VSI anyway! 3 deg GS is ballpark **about** 5 ft per KT of ground speed.

PRACTICE PROBLEM #8 DATA

DIRECTIONS:

1. Read all of the information given.

2. Complete a jet log, fuel plan, and DD-175.

3. Answer the questions about this problem.

PROBLEM DATA:

ACFT/BUNO/Call sign/Equipment: TH-57/162722/1E049/VOR TACAN GPS ADF

Type flight plan: IFR

	Airport	**Weather ETA ± 1 hour**
Departure:	Savannah Hilton Head Intl	16010KT 2800 HZ BKN009 QNH2972INS
Destination:	Asheville Regional	07003KT 4800 RA BKN030 QNH2980INS
Alternate:	Rutherford	08004KT 6000 BR OVC070 QNH2991INS

Route of Flight:

Destination: Plan for a departure time of 0700 local standard time. Proceed direct to Spong Intersection, V185 to Colliers VORTAC for a terminal delay with a practice approach at Augusta/Daniel Field. Colliers is the IAF for the VOR/DME-B approach into Daniel Field. Use your original approach TAS and winds of 16010KTs for the approach. At the completion of the approach return to Colliers (climbing at your original climb TAS) and proceed via V185 to Sugarloaf VORTAC, direct to the IAF for the ILS RWY 34 approach into Asheville.

NOTAMS: AVL --BROAD RIVER NDB OTS U.F.N.
NO 100 LL CONST E SIDE RWY 34
APP LGT RWY 16 LTD LOW INT

Alternate: As needed (route is your choice)

Indicated airspeeds:	**ALT**	**WIND**	**TEMP**
Climb 70 KIAS	2000	160/10	+12
Cruise 100 KIAS	3000	170/10	+10
Descent 90 KIAS	4000	180/12	+08
	5000	180/12	+02
	6000	200/18	-08
	7000	220/18	-10
	8000	240/20	-12

Gross weight at takeoff:	3000 lbs.
Fuel load:	91 gallons
Climb Rate:	500 feet per min.
Climb fuel flow:	½ gal. per min.
Transponder:	4096 with Mode C
Instrument rating:	Standard
Variation:	5° W

PRACTICE PROBLEM #8 QUESTIONS

1. What is your planned cruise fuel flow? _____

2. What is your total fuel required? _____

3. How many hours of fuel do you have on board? _____

4. What is your destination approach time? _____

5. How many hours and minutes of fuel do you have remaining at your destination IAF? _____

6. What is the height of the glide slope at the ILS FAF for your approach? _____

7. What is the MSA at TUXDO Intersection? _____

8. When departing from AVL, what altitude restrictions apply and why? _____

9. While flying the planned route of flight, what would be the minimum altitude at UNMAN Intersection on V185? _____

10. While flying V185, you pass over the GREENVILLE downtown airport. What is the operating hours of the class "D" airspace mentioned above? _____

11. What are your takeoff minimums for AVL? _____

FLIGHT LOG

DEP ELEV	CLNC DEL	GND CONT	TOWER
SAV 50'	119.55/291.775	121.9/348.6	119.1/257.8
ALT CORR	**TIME OFF**	**TAS**	**LBS PH/MIN →**
		72↑ 106→95↓	↑0.5 gpm 25 gph

CLEARANCE CRUISE = 6000 AVE COURSE = 350

AVE↑ = 3000 TTC=12min

AVE↓ = 4000 TTC after practice app (6000-920=5080)=10min

DEPARTURE

DEST ELEV AVL 2165'	APC CONT 124.65/269.575	TOWER 121.1/257.8	GND CONT 121.9

ROUTE / TO	IDENT / CHAN	CUS	DIST	ETE	ETA / ATA	LEG FUEL	EFR / AFR	GS	NOTES (don't forget 5°W variation)
~~D~~ ▶ SPONG	SAV / 115.95	342	16+8 / 24	12+4 / 16		6+2 / 8	80	82 / 119	+10 / +13 106Y
V-185 MILEN	SAV / 115.95	341	27	14		6	74	119	+13 106Y
V-185 COLLIERS	IRQ / 113.9	334	56	29		13	61	117	+11 86X
Terminal Delay			107	0+59					
VOR/DME B Straight-in	IRQ / 113.9	161	16	11		5	56	85	-10 Surface Winds
~~D~~ ▶ COLLIERS	IRQ / 113.9	341	14+2 / 16	10+1 / 11		5+1 / 6	50	82 / 119	+10 / +13
V-185 Greenwood	GRD / 115.5	005 / 002	33	16		7	43	123	+17
V-185 Sugarloaf	SUG / 112.2	356 / 357	69	34		15	28	122	+16
~~D~~ ▶ Broad River	SUG / 112.2	233	13	9		4	24	90	-16
			254	2+20 TOTAL		64			This leg 1+10
ILS 34	I-AVL / 110.5	344	10	4+6 / 10		5	19	95	0

ALTERNATE	ROUTE	ALTITUDE	TIME	FUEL
ALT ELEV	**APC CONT**	**TOWER**	**GND CONT**	

Figure 8-1 Single Engine Jet Flight Log

PRACTICE PROBLEM #8 (2009)

TH-57 FUEL PLAN

1. RESERVE FUEL (gallons)
   greater of:

10 % PLANNED FUEL REQ	7
20 MIN BURN AT CRUISE FF	9

2. REQUIRED FUEL (gallons)

FUEL TO DEST IAF	64
FUEL FOR DEST APP *	5
FUEL TO ALTN IAF	
FUEL FOR ALTN APP	
RESERVE FUEL	9
MINIMUM ON DECK FUEL	10
TOTAL FUEL REQUIRED at T/O (GO-NO-GO FUEL)	88

3. EXTRA FUEL \ TIME AT CRUISE FF

FUEL LOAD (gal)(max 91)	91
MINUS START/TAXI	3
EST TAKEOFF FUEL	88
MINUS FUEL REQUIRED	88
EXTRA FUEL (gal)	0
EXTRA TIME (hrs+min)	0+00

4. FUEL ON BOARD (in time)

TIME TO DEST IAF	2+20
TIME FOR DEST APP	0+10
TIME TO ALTN IAF	0+00
TIME FOR ALTN APP	0+00
RESERVE TIME	0+20
EXTRA TIME	0+00
TOTAL TIME (Fuel on Board)	2+50

Departure to Destination

Altitude Selection

T/O 2600 MSA

Enroute 6000 MEA

Approach 4400 IAF

Time to Climb 12 MIN

Altitude

Cruise	6000
Avg Climb	3000
Avg Descent	4000

TAS

Climb	72
Cruise	106
Approach	95

Destination to Alternate

Altitude Selection

T/O _____

Enroute _____

Approach _____

Time to Climb _____ min

Ave Course

Altitude

Cruise	
Avg Climb	
Avg Descent	

TAS

Climb	
Cruise	
Approach	

***Dest app not required for 3710 fuel planning when an alternate is required, including destination approach provides worst case scenario**

TW-5 Academic Training Department Form (Feb 08)

Figure 8-2 Fuel Plan

AUTHORITY: 10 USC 8012 and EO 9397.
PRINCIPAL PURPOSE: To aid in accurate identification of personnel participating in the filed flight.

PRIVACY ACT STATEMENT
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.

DATE	AIRCRAFT CALL SIGN	AIRCRAFT DESG AND TD CODE
DDMMYY	VV1E049	B06/G

BASE OPERATIONS USE

	TYPE FLT PLAN	TRUE AIRSPEED	POINT OF DEPARTURE	PROPOSED DEPARTURE TIME (Z)	ALTITUDE	ROUTE OF FLIGHT	TO	ETE
	I	106	SAV	1200	60	SPONG V185 IRQ DNL		0+59
						Ⓡ D 0+11 DNL AVL		
	I	106	DNL	1310	60	IRQ V185 SUG BRA	AVL	1+10

REMARKS

RANK AND HONOR CODE

FUEL ON BD	ALTN AIRFIELD	ETE TO ALTN	NOTAMS	WEATHER	WT AND BALANCE	AIRCRAFT SERIAL NUMBER, UNIT, AND HOME STATION
2+50	-	-	X	FLMSY	NDZ/DATE	162722/TW5/NDZ

SIGNATURE OF APPROVAL AUTHORITY	CREW/PASSENGER LIST	ACTUAL DEP TIME (Z)	BASE OPERATIONS USE
	ATTACHED / SEE PSGR		

DUTY	NAME AND INITIALS	RANK	SSN	ORGANIZATION AND LOCATION
PILOT IN COMMAND	LAST NAME, INITIALS	ENS		HT-18/NDZ

DD Form 175, MAY 86 (EG) *Previous editions are obsolete.* **MILITARY FLIGHT PLAN**
Designed using Perform Pro, WHS/DIOR, Feb 96

Figure 8-3 Flight Plan

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ANSWERS TO PROBLEM #8 QUESTIONS

1. 25 GPH

2. 88 gallons ± 2

3. 2+50

4. 0+10

5. 0+58. 24 gallons remaining at IAF @ 25 GPH (CR-2)

6. 4400'. Question asked for height of glide slope at the ILS FAF, not the Localizer FAF. If you have read the legends for the approach plates, you know that the lightning bolt **2400** is the precision FAF!

7. 7900'. Approach plate, MSA circle. Question did **not** ask for the lowest safe altitude.

8. on approach plate indicates go to "obstacle departure procedures" in front of plates. Depending on runway in use, the procedures call for either a visual climb or a climb in holding to various altitudes before proceeding on course. The "why" is because there is a "Trouble T". Although the real reason is not indicated, it is due to the mountainous terrain around Ashville.

9. 4000'. There is a on UNMAN and the note says V185 4000N. L-25C. Look up the definition of "minimum crossing altitude" if you are still confused.

10. 1200-0300Z IFR Supp

11. 200-1/2. App plates. Best option is the ILS RWY 34 at 200/1/2 which also meets OPNAV 5.3.4.1 requirements.

PRACTICE PROBLEM #9 DATA

DIRECTIONS:

1. Read all of the information given.

2. Complete a jet log, fuel plan, and DD-175.

3. Answer the questions about this problem.

PROBLEM DATA:

ACFT/BUNO/Call sign/Equipment: TH-57/162058/8E063/VOR TACAN GPS ADF

Type flight plan: IFR

	Airport	**Weather ETA ± 1 hour**
Departure:	Tallahassee Regional	25011KT 9999 SCT012 SCT030 QNH2985INS
Destination:	Jacksonville NAS	36007KT 3600BR BKN008 QNH2980INS
Alternate:	Dayton Beach Intl	03005KT 4000HZ SCT010 BKN020 QNH2982INS

Route of flight:

Destination: Plan to depart at 0800 local standard time. Direct LLOYD, V198 MONIA, direct IAF for GPS RWY 9 approach to RWY 9 at Jacksonville NAS. Cruise altitude to the destination is 3000 ft.

Alternate: Direct BRADO, V267 BARBS, direct HANAV (IAF), for the ILS RWY 7L approach Daytona Beach Intl. Cruise altitude to the alternate is 3000 ft.

Indicated Airspeeds:	**ALT**	**WIND**	**TEMP**
Climb 70 KIAS	1000	260/15	+12
Cruise 100 KIAS	2000	270/16	+10
Descent 90 KIAS	3000	280/20	+06
	4000	290/22	+04
	5000	350/22	+03
	6000	360/25	+01

Gross weight at takeoff:	3000 lbs.
Fuel load:	91 gallons
Climb Rate:	500 feet per min.
Climb fuel flow:	½ gal. per min.
Transponder:	4096 with Mode C
Instrument rating:	Standard
Variation:	4° W

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PRACTICE PROBLEM #9 QUESTIONS

1. What is your cruise fuel flow? _____

2. What is the total time? _____

3. What is the proposed departure time on your DD-175? _____

4. What are your lowest takeoff minimums based on the S-LOC RWY 36 approach at Tallahassee? _____

5. Given the stated weather at NAS Jacksonville, how low can the weather be at Daytona Beach Intl and still be legal as the filed alternate? Assume RWY 7 in use _____

6. Which FSS services the Greenville VORTAC and how would you communicate with them? _____

7. Using the Jacksonville TACAN, what is the MSA at BRADO? _____

8. If the approach lights are inoperative at NAS Jacksonville, what effect will this have on a GPS RWY 9 approach? _____

9. What will be your FAF to MAP timing (using your groundspeed) on the LOC RWY 7L at Daytona Beach Intl.? _____

10. Departing RWY 7R at Daytona Beach Int., are there any takeoff obstacles? _____

11. Is a PPR required at NAS Jacksonville in your TH-57 aircraft? If so, who should you contact? _____

12. On the ILS 7L at Daytona Beach Intl., what will your altitude at TOMOK intersection be if you are on glidepath? _____

13. On the LOC 7L at Daytona Beach Intl., what is your height above touchdown at the missed approach point? _____

14. If you were arriving VFR to Daytona Beach Intl from the north at 3500 feet, what approach control frequencies should you use? _____

FLIGHT LOG

DEP ELEV	CLNC DEL	GND CONT	TOWER
TLH 81"	126.65/275.8	121.9/348.6	118.7/257.8
ALT CORR	**TIME OFF**	**TAS**	**LBS PH/MIN →**
		71↑ 103→91↓	↑0.5 gpm 26 gph

CLEARANCE CRUISE = 3000 AVE COURSE = 088
AVE↑ = 2000
AVE↓ = 2000

DEPARTURE

DEST ELEV	APC CONT	TOWER	GND CONT
NIP 22'	123.8/379.9	120.0/355.8	128.6/336.4

ROUTE / TO	IDENT / CHAN	CUS	DIST	ETE	ETA / ATA	LEG FUEL	EFR / AFR	GS	NOTES (don't forget 9°W variation)
⊣D▸	SZW		8+8	6+4		3+2	83	83	+12
LLOYD	117.5	052	16	10		5		116	+13
V-198	GEF						79	123	+20
GREENVILLE	109.0	090	17	8		4			
V-198	TAY	091					65	123	+20
TAYLOR	112.9	096	64	31		14			
V-198	TAY						59	123	+20
MONIA	112.9	096	26	13		6			
⊣D▸	GPS						57	117	+14
SNARL		151	8	4		2			
				1+06		31			
GPS RWY9	GPS						54	98	+7
HOWLR		184	8	5		3			
FINAL	GPS						50	92	0
		094	14	9		4			
				0+14		7			

ALTERNATE	ROUTE	ALTITUDE	TIME	FUEL
DAB	DIR BRADO V267 BARBS	3000	0+35	1+55

ALT ELEV	APC CONT	TOWER	GND CONT
34'	125.72/379.95	120.7/257.8	121.9/348.6

⊣D▸	CRG		7+15	5+8		3+4	43	80	+9
BRADO	114.5	151	22	13		7		117	+14
V-267	CRG	178					34	109	+6
BARBS	114.5	175	37	20		9			
⊣D▸	OMN	176	3	2		1	33	109	+6
HANAV(IAF)	112.6			35		17			
ARC	OMN						29	93	+2
	112.6	147	12	8		4			
FINAL	DAB						25	87	-4
ILS 7L	109.7	070	13	9		4			

Figure 9-1 Single Engine Jet Flight Log

PRACTICE PROBLEM #9 (2009)

TH-57 FUEL PLAN

1. RESERVE FUEL (gallons)
   greater of:

10 % PLANNED FUEL REQ	6
20 MIN BURN AT CRUISE FF	9

2. REQUIRED FUEL (gallons)

FUEL TO DEST IAF	31
FUEL FOR DEST APP *	7
FUEL TO ALTN IAF	17
FUEL FOR ALTN APP	8
RESERVE FUEL	9
MINIMUM ON DECK FUEL	10
TOTAL FUEL REQUIRED at T/O (GO-NO-GO FUEL)	82

3. EXTRA FUEL \ TIME AT CRUISE FF

FUEL LOAD (gal)(max 91)	91
MINUS START/TAXI	3
EST TAKEOFF FUEL	88
MINUS FUEL REQUIRED	82
EXTRA FUEL (gal)	6
EXTRA TIME (hrs+min)	0+14

4. FUEL ON BOARD (in time)

TIME TO DEST IAF	1+06
TIME FOR DEST APP	0+14
TIME TO ALTN IAF	0+35
TIME FOR ALTN APP	0+17
RESERVE TIME	0+20
EXTRA TIME	0+14
TOTAL TIME (Fuel on Board)	2+46

Departure to Destination

Altitude Selection
T/O 2900 NDB MSA
Enroute 3000 FEEDER
Approach 3000 IAF

Time to Climb 6 MIN

Altitude

Cruise	3000
Avg Climb	2000
Avg Descent	2000

TAS

Climb	71
Cruise	103
Approach	91

Destination to Alternate

Altitude Selection
T/O 3000 Trouble T
Enroute 3000
Approach 1600 IAF

Time to Climb 5 min
Ave Course

Altitude

Cruise	3000
Avg Climb	2000
Avg Descent	2000

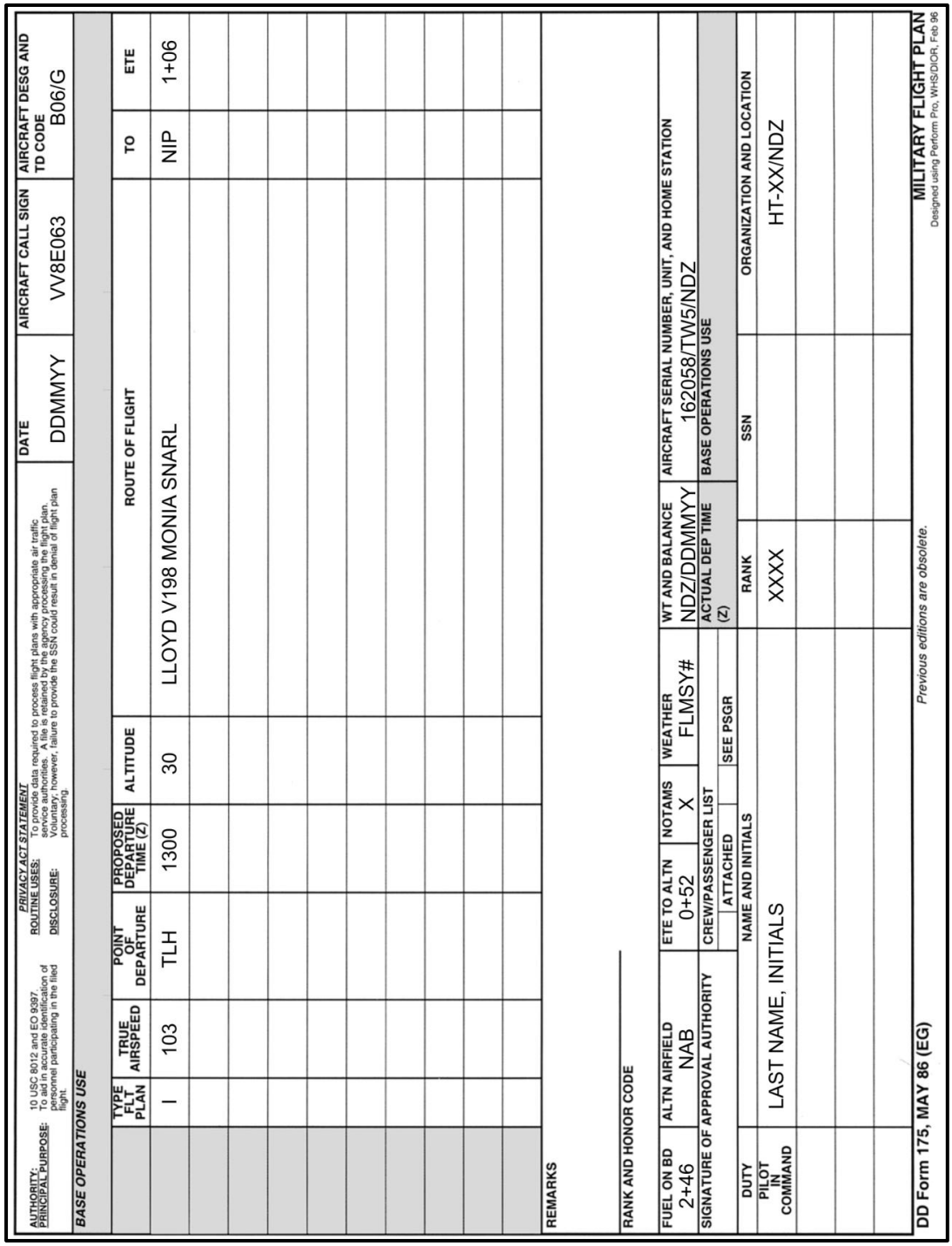
TAS

Climb	71
Cruise	103
Approach	91

***Dest app not required for 3710 fuel planning when an alternate is required, including destination approach provides worst case scenario**

TW-5 Academic Training Department Form (Feb 08)

Figure 9-2 Fuel Plan



AUTHORITY:
PRINCIPAL PURPOSE: 10 USC 8012 and EO 9397. To aid in accurate identification of personnel participating in the filed flight.

PRIVACY ACT STATEMENT
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.

DATE: DDMMYY

AIRCRAFT CALL SIGN: VV8E063

AIRCRAFT DESG AND TD CODE: B06/G

BASE OPERATIONS USE

	TYPE FLT PLAN	TRUE AIRSPEED	POINT OF DEPARTURE	PROPOSED DEPARTURE TIME (Z)	ALTITUDE	ROUTE OF FLIGHT	TO	ETE
	I	103	TLH	1300	30	LLOYD V198 MONIA SNARL	NIP	1+06

REMARKS

RANK AND HONOR CODE

FUEL ON BD	ALTN AIRFIELD	ETE TO ALTN	NOTAMS	WEATHER	WT AND BALANCE	AIRCRAFT SERIAL NUMBER, UNIT, AND HOME STATION
2+46	NAB	0+52	X	FLMSY#	NDZ/DDMMYY	162058/TW5/NDZ

SIGNATURE OF APPROVAL AUTHORITY

CREW/PASSENGER LIST — ATTACHED ☐ SEE PSGR

ACTUAL DEP TIME (Z)

BASE OPERATIONS USE

DUTY	NAME AND INITIALS	RANK	SSN	ORGANIZATION AND LOCATION
PILOT IN COMMAND	LAST NAME, INITIALS	XXXX		HT-XX/NDZ

DD Form 175, MAY 86 (EG) — *Previous editions are obsolete.* — MILITARY FLIGHT PLAN — Designed using Perform Pro, WHS/DIOR, Feb 96

Figure 9-3 Flight Plan

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ANSWERS TO PROBLEM #9 QUESTIONS

1. 26 GPH.

2. 2+46 ± 5. Total time/Fuel on Board from fuel plan or block #14 on DD-175.

3. 1300.

4. 400-1. Question was based on **Localizer** (non-precision) RWY 36 approach. Published mins for that approach are 400-1/2 but OPNAV 5.3.4.1 states "but not less than 300-1 so visibility must be bumped up.

5. 400-1 ¼. WX at the destination is better than minimums but less than 3000-3 so according to OPNAV Fig 4-1, we must add 200-1/2 to the published mins at the alternate (200-3/4) for an ILS.

6. Gainesville Radio. You can use the standard frequencies of 255.4 UHF, 122.2 VHF, or you can call them on 122.1 VHF (the R for receive is for them, not you) and listen over the VOR on 109.0. The "local" frequencies are especially useful if you are at lower altitudes and FSS will not answer on the standard frequencies. Just remember to tell them which NAVAID you are going to monitor, if you go that route.

7. 2100'. Approach plate.

8. Increase required visibility for the approach by ½ mile. LNAV MDA minima has an *. See note at top of approach plate. Vol 19 pg 127.

9. 2+52. 4.2 miles @ 87 kts ground speed. App Plate and CR-2.

10. Yes. T See page XXI in front of Vol 19.

11. Yes. Base Operations at DSN 942-2511 or comm. 904-452-2511. IFR Supp B-315

12. 1427'. Glide slope crosses TOMOK at 1427 ft. The ILS FAF altitude is 1600 ft but glide slope is intercepted outside of TOMOK.

13. 370'. Question asked about the HAT for the Localizer, not the ILS.

14. 125.8/385.5. IFR Supp B-164 Comm Section.

R.O.E. FOR THE TEST

1. In addition to your reading list/study guide, make sure you review the flight planning "rules" outlined in the front of your workbook and the lecture problem. Do not take your workbook into the exam.

2. Take your 2009 FLIP pubs, OPNAV 3710 and AIM (one will be provided if you do not have your own) with you into the test. Feel free to highlight, underline and tab the pubs if you desire. However, **do not make notes of ANY KIND in the pubs**. You will not need your NATOPS manual or pocket checklist. You will be given NATOPS Fuel Flow Charts and Terminal Area Forecasts (possible weather question/s) as appropriate.

3. You may bring a basic calculator, plotter/straight edge, dividers and number 2 pencils/erasers. You cannot use cell phones, PDAs, electronic flight planning calculators or similar electronic devices on the test. Scratch paper will be provided.

4. Your squadron may schedule you for the test. From an Academic Training standpoint, as long as you begin your test by 1130, we do not care when you arrive to take your test. However, check with your squadron prior to deviating from your scheduled test time. Friday morning from 0700-1030 is usually pretty hectic in the Testing Center, so you may want to try to begin your test no earlier than 1100.

5. You are allotted 3 hours to take the test. The test consists of 40 multiple choice questions on the computer (80%), as well as 5 fill-in-the-blank questions on the Jet Log and 5 entries on the DD 175 (20%). Jet Log questions are listed on back of the problem data sheet and a space for answers is provided on the Jet Log itself. You may take the test in whatever order you prefer, but it is recommended that you do the flight planning first then do the multiple choice questions. Also, it is recommended that you spend no more than 1+15 on the jet log and spend the rest of the time on the multiple choice questions.

6. If you give yourself at least 1.5 hours for the questions, that gives you about 2 minutes per question – more than enough time **if you have studied the books**. If you don't find an answer in 2 minutes, start a list of questions you want to review later and move on! Once you have gone through the entire test, you should have some extra time at the end; use it to go back to your list and dig a little deeper for the answers you didn't find the first time and review the test. Also, you will not turn in the flight log until you complete the test, so you can always go back to it if you have extra time.

7. **Be precise** when doing your flight planning. Small errors may tend to "snowball" into huge errors. The following items permeate the entire problem so pay particular attention to altitude selection, TAS calculations and fuel flow.

8. **Read the questions carefully.** On the jet log, answer the question that is asked. If it asks for fuel in "hours and minutes" do not answer in "gallons," etc. If one of the 5 questions asks for the number of compulsory reporting points to the "Destination IAF," do not include compulsory points that may have been marked for routing to the alternate.

9. Read the information in the FLIP/OPNAV/AIM carefully before answering the question, i.e. lookup and verify all answers! Pay attention to Helicopter "exceptions to the rule." **You are not allowed to ask questions during the test** (International Students may ask for language clarification only). After the test you are encouraged to seek clarification of anything you do not agree with or understand.

10. **USE THE READING LIST** as a study guide. If we mention the glossary, legend, etc. then ensure that you actually read through that particular section. **Do not merely tab its location!!!** Go back and review the practice problems, especially the ones that require stopover flight plans, terminal area delays and holding delays. Review the answers (both printed **and handwritten**) for each of the practice problems.

- "Careless" mistakes CAN KILL YOU when flying so there is no forgiveness for carelessness on the test either. Attention to detail!