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**ALTERNATE
FLIGHT
APTITUDE
SELECTION
TEST (AFASST)
INFORMATION
PAMPHLET**

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ALTERNATE FLIGHT APTITUDE SELECTION TEST (AFAST) INFORMATION PAMPHLET

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ALTERNATE FLIGHT APTITUDE SELECTION TEST (AFAST) INFORMATION PAMPHLET

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Section I PURPOSE OF THIS PAMPHLET

This pamphlet has been prepared to give general information about the Alternate Flight Aptitude Selection Test (AFAST). The AFAST is used to select men and women for training to become Army helicopter pilots.

It is intended that after reading this pamphlet you will have a clearer understanding of the purpose and make-up of the AFAST and thus be more at ease when you take the test.

Additional copies of this pamphlet can be obtained through your servicing Test Control Officer.

Section II WHY AN AFAST?

To be an Army aviator requires that a person have special abilities, high motivation, good coordination, leadership skills, and be in excellent physical condition. Because flight training is so expensive, and there are a limited number of openings for new students, it is necessary to screen the applicants to insure that only those persons with the capabilities to succeed in flight school are accepted for training. People who score higher on the test are generally more successful in flight training than those who score low.

Section III WHAT IS THE AFAST?

The AFAST is not an intelligence test, but rather a test that measures those special aptitudes and personality/background characteristics that are predictive of success in Army helicopter flight training.

The AFAST has a total of 200 questions broken down into seven subtests. Each subtest has separate directions and time limits.

Section IV TAKING THE AFAST

Your application for flight training will be given further consideration only if your AFAST score is equal to or higher than the established cut score. Once you meet the cut score (qualifying score), *you may not* retest. Therefore, it is to your advantage to score as high as you can on this test.

If you fail to achieve a qualifying score, you must wait six (6) months before your commander can authorize a retest. If you fail to achieve a qualifying score on the retest, you *will not* be authorized to take the test again.

When you go in to take the test, you will be given a test booklet, a separate answer sheet and two soft lead pencils. You will receive complete instructions for each test section and be told how to mark your answers.

In some subtests, it is to your advantage to answer every question. In other subtests a portion of the wrong answers are counted against the right answers. Even in the latter case you should make the best choice you can unless your answer would be a pure guess. For this reason it is important that you listen closely to the test administration instructions and that you read the instructions for each test section to yourself as the test examiner reads the instructions aloud.

Section V THE AFAST ANSWER SHEET

The answer sheet has a space for your name, social security number, and other identifying information. This must be carefully completed.

Following the identification part are the subtest sections, with a different answer circle for each question. The questions are numbered from 1 to 200. Be sure you are always marking the same answer on the answer sheet that matches the question number in the test booklet.

Below is an example of how to properly mark an answer.

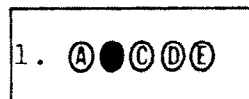


Figure 1.

If this were Question No. 1 on the test, and you decide that answer 'B' is the best choice you would carefully darken in the circle marked 'B' on your answer sheet. Remember to mark the circle heavily, completely filling in the circle. If your mark is too small or too light, the machine that scores the test may not read the mark. If you decide to change an answer you must *completely erase* the answer you wish to change, then mark your new answer. Also, never have more than one answer marked for each question. If you do, you will not receive credit for the answer.

Section VI THE AFAST SUBTESTS

This section will provide a description and instructions for each subtest on the AFAST. One practice question is given for subtest 2 through 7. Answers to the questions are on page 11.

SUBTEST 1. BACKGROUND INFORMATION FORM

Description. This section has 25 questions about your background. (Time: 10 min)

SUBTEST 2. INSTRUMENT COMPREHENSION TEST

a. Description. In this subtest, you will have to determine the position of an airplane in flight by looking at two dials, one showing the artificial horizon, the other showing the compass heading. From these you will determine the amount of climb or dive, the degree of bank to left or right, and the heading. Five airplane silhouettes are shown from which you will choose the one that **most nearly represents the position indicated on the dials.** There are 15 questions. (Time: 5 min)

b. Instructions. Below are shown two sets of dials, labeled ARTIFICIAL HORIZON and COMPASS. The heavy black line on the ARTIFICIAL HORIZON represents the horizon line. If the airplane is above the horizon, it is climbing. If it is below the horizon, it is diving. The greater amount of climb or dive, the farther up or down the horizon line is seen. The ARTIFICIAL HORIZON dial also has a black arrowhead showing the degree of bank to left or right. If the airplane has no bank, the arrowhead points to zero. If it is banked to the left, the arrowhead points to the right of zero. If the airplane is banked to the right, the arrowhead points to the left of zero.

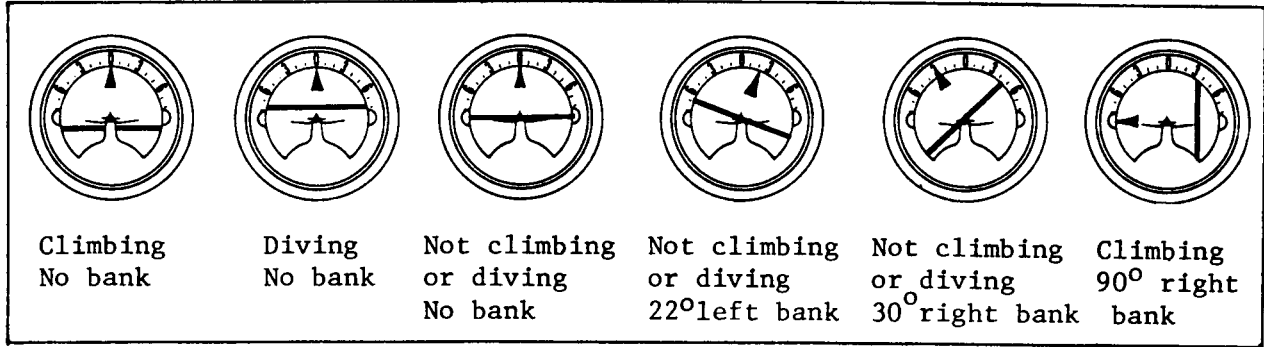


Figure 2. EXAMPLES OF THE ARTIFICIAL HORIZON DIAL

The COMPASS dial shows the direction the airplane is headed at the moment.

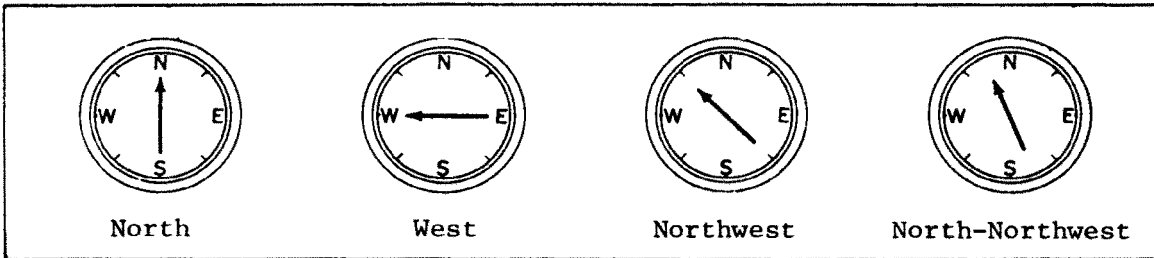
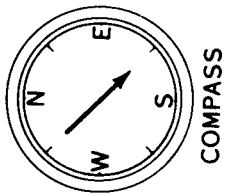
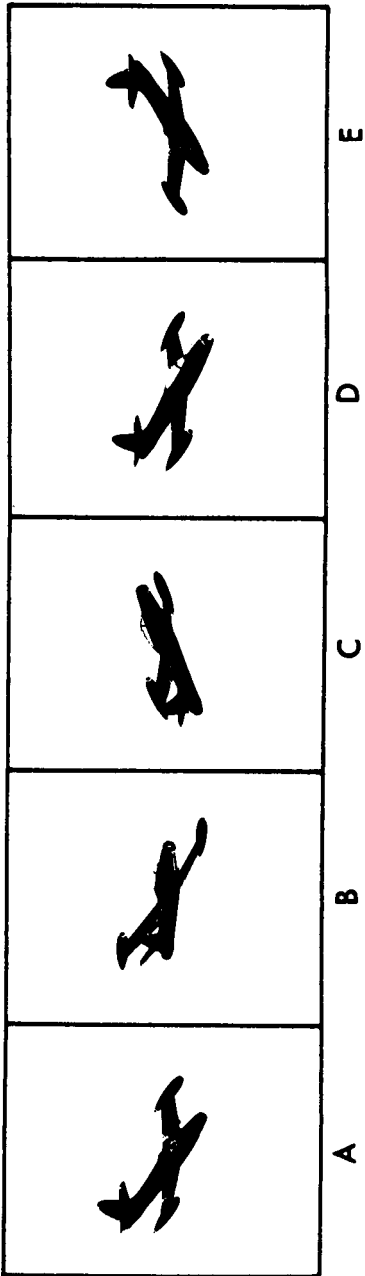


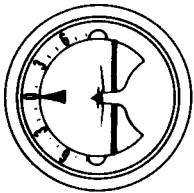
Figure 3. EXAMPLES OF THE COMPASS DIAL

Now look at Problem P2 and decide which airplane is in the position indicated by the dials. You are always looking north at the

same altitude as each of the planes. East is always to your right as you look at the page.



COMPASS



ARTIFICIAL HORIZON

P2

P2. (A) (B) (C) (D) (E)

Figure 4.

SUBTEST 3. COMPLEX MOVEMENTS TEST *a. Description.* The 30 questions in this subtest measure your ability to judge distance and visualize motion. Five pairs of symbols are given representing direction and distance. You will choose the one pair that represents the amount, and direction of movement to move a dot from outside a circle into the center of the circle. (Time: 5 min)

b. Instructions. Look at the heavy dark dot below the circle in Example P3. Your task is to move this dot to the center of the circle. You will have to decide which *direction* or *directions* (right or left and up or down) the dot has to be moved and the *distance* in each direction moved to reach the center of the circle.

Look at the **KEYS**. These show the meaning of the symbols in the test. There is a **Direction Key** which shows the meaning of the *top row of symbols* for movement *right* or *left* (horizontal movement) and the *bottom row of symbols* for movement *up* or *down* (vertical movement). Notice in each there is a symbol for no movement. The **Distance Key** shows the three line widths in which the arrows can be drawn. The thinnest line width represents movement of approximately 1/8 inch. The medium width line represents approximately 2/8 inch and the thickest line represents approximately 3/8 inch.

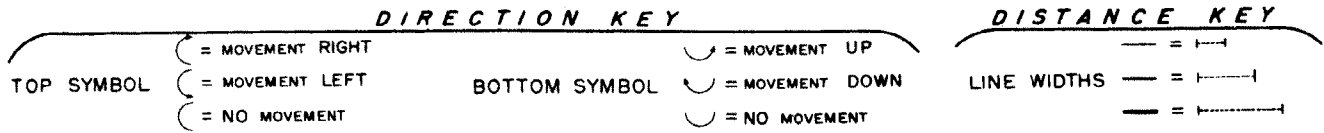


Figure 5.

Now decide which answer in P3 is correct by looking at the arrows in the top row **and** the arrows in the bottom row and the width of

the line in which the arrows are drawn. Only one pair of symbols is correct.

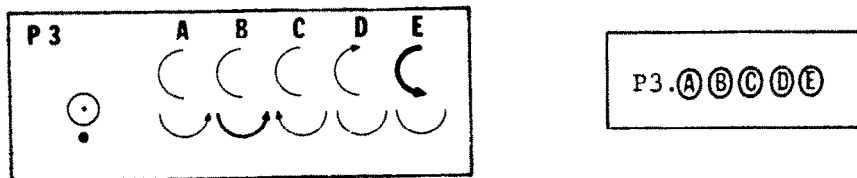


Figure 6.

SUBTEST 4. HELICOPTER KNOWLEDGE TEST *a. Description.* This subtest deals with your general understanding of the principles of helicopter flight. It contains 20 incomplete statements followed

by 5 choices. You will decide which one of the 5 choices **best** completes the statement (Time: 10 min).

b. Instructions. The incomplete statement is followed by choices. Decide which one of the choices **best** completes the statement.

P4 You are in a helicopter in straight and level flight with a constant power setting. When the nose of the helicopter is pulled up, the altitude will:

- A) Remain the same
- B) Initially increase
- C) Initially decrease
- D) None of the above

P4. (A) (B) (C) (D) (E)

Figure 7.

SUBTEST 5. CYCLIC ORIENTATION TEST a. *Description.* This is a test of your ability to recognize simple changes in helicopter position and to indicate the corresponding cyclic(stick) movement. You will look at a series of three sequential pictures that represents the pilot's view out of a helicopter windshield. The three pictures change from top to bottom showing a view from an aircraft in a climb, dive, bank to the left or right or a combination of these maneuvers. You will determine which position the cyclic would be in to perform the maneuver indicated by the pictures. This test contains 15 questions of this type. (Time: 5 min)

b. *Instructions.* You are the pilot of a helicopter with a constant

power setting going through a maneuver as shown in the pictures on the next page. The helicopter can be climbing, diving, banking (turning) to the right or left, or in a climbing or diving bank. Look at the pictures from *top* to *bottom* and decide what maneuver it is doing. Next, your task is to decide which position the cyclic (stick) would be in to perform the maneuver.

For items in this test, the cyclic is moved as follows: *For banks:* To bank left, move the cyclic stick to left. To bank right, move the cyclic to right. *For climbs and dives:* To dive, push the cyclic forward. To climb, pull the cyclic back.

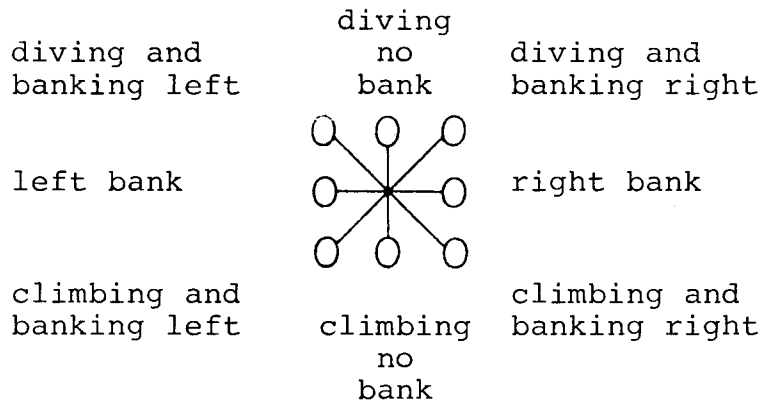


Figure 8. EXAMPLE OF CYCLIC MOVEMENTS

Now look at the pictures below in practice problem P5 and decide the cyclic for the maneuver shown.

P5

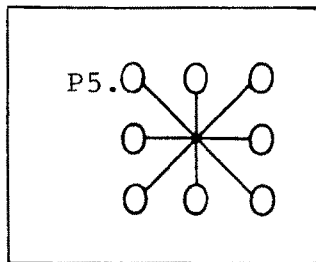


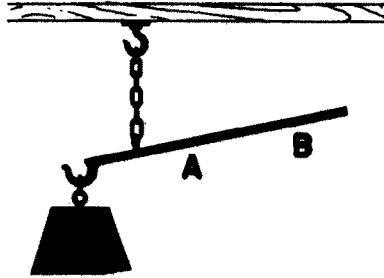
Figure 9. EXAMPLE OF CYCLIC MOVEMENTS

SUBTEST 6. MECHANICAL FUNCTIONS TEST a. Description. This subtest determines your understanding of general mechanical principles. In this part, pictures are shown, and questions are asked

on the mechanical principles illustrated. There are 20 questions in this test. (Time: 10 min)

b. Instructions. Looking at the picture, decide which mechanical principle is illustrated. Pick the best answer. There is only *one* right answer.

P6 At which point should one pull down to raise the weight more easily; At Point A or at Point B?



P6. (A) (B)

Figure 10.

SUBTEST 7. SELF-DESCRIPTION FORM a. Description. This

section has 75 questions dealing with your interests, likes, and dislikes. (Time: 25 min)

b. Instructions. On this test you will read the question, then pick the one answer that applies best to you.

P7. From each pair, select the one activity you would prefer

- A) Keep a set of office files in order
- B) Keep a piece of machinery in order

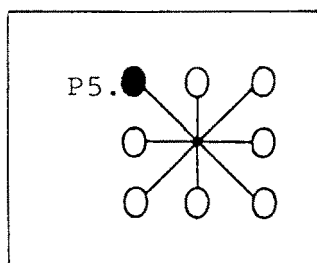
P7 (A) (B)

Figure 11.

P2. (A) (B) (●) (D) (E)

P3. (●) (B) (C) (D) (E)

P4. (A) (●) (C) (D) (E)



P6. (A) (●)

P7 (A) (B)

Either A or B

Figure 12. ANSWERS TO SUBTEST PRACTICE PROBLEMS

REFERENCE LIST The intent of this reading list is to provide the applicant with materials which may aid in the understanding of some of the subtests in the AFAST. It should be noted that this is not a required reading list nor does it include all possible reference sources.

1. Advisory Circular (AC) 61-13B, Department of Transportation, Federal Aviation Administration, Basic Helicopter Handbook. Government Printing Office, Superintendent of Documents, Washington, DC 20402.

2. Field Manual (FM) 1-51, Department of the Army, Rotary Wing Flight.

3. St. John, Clark, Airline Pilot Employment Test Guide. California: Aviation Book Company, 1973. Aviation Book Company, PO Box 4187, Glendale, CA 91202.

4. Saunders, G. H., Dynamics of Helicopter Flight, New York: John Wiley & Sons, Inc., 1975. John Wiley & Sons Inc., 3rd Avenue, New York, New York 10016.

5. Tower, Merrill E., Flight Facts for Private Pilots. Aero Publications, 1971. Aero Publications, 329 W. Aviation Road, Fallbrook, CA 92028.

6. Misenhimer, T. G., Aeroscience, California: Aero Products Research, Inc., 1976. Aero Products Research, 11201 Hendry Avenue, Los Angeles, CA 90045.

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