AIR PUBLICATION **1222**
AND
AIR PUBLICATION **4517**

PILOT'S NOTES

Spitfire 40

Spitfire '40 is The Avalon Hill Game Company's trademark for its World War II flight simulator

SPITFIRE IA

MERLIN OR GRIFFON VEE-12 ENGINE

Prepared by direction of the
Minister of Aircraft Production

Promulgated by order of the Air Council

microcomputer games DIVISION
The Avalon Hill Game Company

NOTES TO OFFICAL USERS

It is important to carefully read the contents of this booklet. In it, you will find the information necessary to successfully carry out your mission. The instructions enclosed have been culled from hundreds of flight hours and (in so much as the new pilots are concerned) will help them to stay alive. Experienced pilots should not neglect the importance of constantly reviewing instructions and procedures.

The Air Ministry and related departments will issue leaflets on an erratic schedule that will affect the subject matter of this publication. Where a leaflet contradicts any portion of the established edition of the Pilot's Notes, the assumption must be made that the leaflet takes precedent.

Where amendment action has taken place, information regarding sequential filing, precedence and order of revision will be displayed in the upper right corner of the page. If an entire section has been revised, notice shall be taken on the cover.

LOADING INSTRUCTIONS

Apple II/Atari: insert the disk into the drive and turn on the computer. Commodore 64/128: to load the game, type **Load" *",8,1** and press the Return key. **Commodore 64/128 owners remove or disable all cartridges before loading the game.** IBM: boot up the computer with any DOS from 1.1 to 2.1. Put the disk into the drive and type S and press the Return key.

When the following prompts appear, make a selection with the joystick and/or press the fire button.

1. SIMULATOR or GAME. If GAME is chosen, see below for the menus that will appear.
2. THE ORIGINAL LOG or THE SAVED LOG. To use a saved log, see the SAVING A LOG section.
3. Five names of pilots will appear.
4. The name and flight record of that pilot. If a saved log was loaded, this will reflect the previous total hours and kills saved.
5. PRACTICE or COMBAT. A practice flight is the same as the combat option except no enemy planes are about. If this is your first flight, we suggest a practice flight.

When the instrument panel appears, you're ready for takeoff. Refer to the flight manual for further instructions.

GAME

After GAME is chosen from #1 above, the following options will appear:

1. FIGHTER or BOMBER
2. Enter your name and you'll see the instrument panel with your plane in the thick of a dogfight at 10,000 feet. Press the Space Bar and begin play. For more information on the game feature, see Appendix B at the back of the flight manual.

This rulebook is written and presented in the same style as the Pilot's Notes, the instruction manual presented to Spitfire pilots during the Battle of Britain. Keep it in mind as you read, and you may be drawn back to those times when the pilots of Spitfires and Hurricanes were the last line of defense against the then-inevitable German invasion.

SECTION I
PILOT'S CONTROLS AND EQUIPMENT

THE CONTROL COLUMN (JOYSTICK)

1. When the column is pushed forward, this action causes the trailing edge of the elevator to move downward. This will have the effect of lowering the nose and placing the aeroplane in a dive.

2. When the column is pulled toward the pilot, the opposite effect will be observed. That is, the aeroplane will climb.

3. When the column is pressed to the left, the aileron on the trailing edge of the left wing will point down and the aileron on the right wing will point up. The effect of this is that the plane will roll anticlockwise and commence a left bank.

4. Pressing the column to the right will, of course, execute a right bank.

5. If the column is in the neutral (or home) position, the aeroplane will continue to execute the last command given. If the pilot places the aeroplane in a right bank, he cannot resume level flight until he has performed a left bank of equal and opposite force.

6. The button located on the control column fires the machine guns.

THE RUDDER PEDALS (THE Z AND X KEYS)

7. Pressing the left rudder pedal (the z key) causes the rudder to deflect to the left. This will turn (or yaw) the aeroplane to the left.

8. Pressing the right rudder pedal (the x key) will have the opposite effect.

9. It is helpful to bank the aeroplane slightly when using the rudder pedals as this affords better control.

10. Unlike using the control column, when the rudder pedals are returned to the neutral position, whatever control they exerted on direction and attitude is negated.

AUXILIARY CONTROLS (THE F,G, AND B KEYS)

11. Engaging the flaps control (the F key) will cause the flaps to either extend or retract. The purpose of the flaps is to improve the handling of the aeroplane at low speeds. They also reduce the stall speed of the Spitfire by approximately ten miles per hour. It is important to note that should the flaps be extended at over 150 miles per hour, it will result in loss of control and the ultimate loss of the aeroplane.

12. Activating the brake mechanism (the B key) causes the pneumatic brake system to either engage of disengage. It is advisable to have the brakes disengaged when either taking off or at touch down when landing.

13. Activating the undercarriage control system (the G key) raises and lowers the landing gear. As with the flaps, it is important to know that should the landing gear be in the down position at speeds in excess of 200 mph, this will result in a high speed crash and the loss of a costly aeroplane.

COCKPIT INSTRUMENTS

The instruments can be located on the chart provided as their functions are described. Numbers in parenthesis corresponds to the same number on the chart.

14. Air Speed Indicator. — The measurement of the plane's flying speed (1) is calibrated in hundreds of miles per hour. The red delta (triangle) is the aeroplane's stall speed. With the flaps extended and the gear down, the stall speed will be ten miles per hour slower.

15. Artificial Horizon. — The artificial horizon (2) represents the earth hemisphere in brown and the sky hemisphere in blue. As the plane maneuvers, the roll and pitch are depicted here.

16. Verticle Speed Indicator. — The rate at which the craft is rising or falling (3) is calibrated in thousands of feet per minute.

17. Tachometer. — The current operating speed of the engine (4) is calibrated in hundreds of revolutions per minute. The higher the number, the more power is available. Also, as the speed of the engine increases, so does the fuel consumption.

18. Turn and Bank Indicator (5)
    (a) The upper needle indicates the rate at which the aircraft is slipping. Slipping is the lateral or sideways motion which the aeroplane experiences whilst maneuvering.

    (b) The lower needle is the rate of turn indicator. This part of the instrument shows the pilot how fast and in what direction the aeroplane is turning.

19. Gyro. — The gyro (6) provides the pilot with an accurate indication of the aeroplane's current course. Since the direction is maintained by an inertial gyroscope rather than a magnetic compass, it is not affected by the electrical or mechanical activity within the aeroplane.

20. Altimeter. — The altimeter (7) utilizes a clock-like display to measure the distance to the ground. The short hand of the display measures the thousands of feet, the long hand the hundreds. Altitudes of up to 9,999 feet will be shown. Above that, the pilot must mentally add 10,000 feet to calculate the plane's true altitude (i.e. if the hands indicate 2100 feet, the real altitude is 12,100 feet). The Spitfire's maximum operational ceiling is approximately 35,000 feet.

21. Elevator Indicator. — The elevator indicator (8) displays its angle of attack. This is the movable control surface on the trailing edge of the stabilizer. The forward and backward motion of the control column activates the elevator.

22. Fuel System. — The fuel gauge (9) shows the combined fuel remaining in both tanks.

There are two fuel tanks mounted one above the other, just to the rear of the engine. The top tank drains into the lower tank, which feed petrol to the engine using gravity-flow assisted by a pump. The lower of the two is self-sealing.

23. Rudder Indicator. — Located in the center of the panel is the rudder indicator (10). Similar to the elevator, the rudder is the movable control surface at the trailing edge of the tail fin. As the rudder pedals are activated, the movement of the red triangle shows the direction and amount that the rudder is deflected.

STATUS INDICATORS

24. Landing Gear Indicator. — The current status of the landing gear (11) will show a red color when the landing gear is in the UP or retracted position, and green when it is in the DOWN or advanced position.

25. Brake Indicator. — The indicator (12) will show red when the brakes are engaged.

26. Flaps Indicator. — The indicator (13) will show a U when the flaps are retracted, and a D when they are extended.

NAVIGATIONAL EQUIPMENT

There are some navigational aids to assist you when viewing through the windscreen. They will help to avoid taking your eyes off of the conditions before you.

27. Rear View Mirror. — The mirror (14) is used to fill in the blind spot immediately behind the pilot. Any enemy aeroplane in this position will be visible in the mirror.

28. Air Speed Repeater. — When looking through the canopy, the speed repeater (15) appears as a white dot on the lower left edge. As the speed increases, the dot will move further to the right.

29. Rudder Repeater. — When looking through the canopy, the rudder repeater (16) duplicates the function of the panel instrument. It is a white dot on the lower right hand edge of the canopy. When the rudder is activated, a second dot will appear. The location and distance from the first dot repeats the action of the red triangle in the panel instrument. See paragraph 23 above.

30. Vertical Proximity Indicator. — Because of the inaccuracy of altimeters when flying at low altitudes, the aeroplane is equipped with a vertical proximity indicator (17). This instrument activates automatically at an altitude of 800 feet, and appears as a black bar on the right hand edge of the canopy. As the altitude decreases, the bar increases in length towards the bottom of the canopy. When it reaches bottom, the plane is at zero altitude.

OPERATIONAL EQUIPMENT AND CONTROLS

31. Guns. — The machine guns (18) are fired pneumatically using the push-button on the control column spade grip.

32. Gunsight. — In the center of the windscreen is the bracketed gunsight (19). When the aeroplane is in level straight flight, this marker will indicate the point of aim of the machine guns. When executing maneuvers the actual point of aim will move away from the sight.

SECTION II
NAVIGATION

1. The home airfield runs true north to true south. The course followed for take off and landing in both cases will either be 0 or 180.

2. To examine the map of the entire patrol area, press the M key.

3. To examine the map for details, press the N key. There are three different scales of detail available. Repeated pressings of the N key will access these as well as the patrol map.

4. Bandits will appear as black aeroplanes, while your own aeroplane will appear in red.

5. The patrol map will always appear in correct North/South orientation. The detail maps will always orient such that the top of the map is the direction the aeroplane is heading.

6. To return to the windscreen/instrument panel, press the M key again.

7. During the time which maps are being examined, the progress of the flight is halted.

SECTION III
HANDLING AND FLYING NOTES FOR PILOT

1. MANAGEMENT OF THE PLANE

(a) When moving on the ground during both take off and landing, you will hear a swishing noise that is the propwash being reflected between the ground and the underside of the aeroplane. It is audible only when the wheels of the aeroplane are actually on the ground.

(b) Listen to the sound of the engine. If you are completely disoriented the engine noise can give you a general idea of your current attitude with respect to the ground.

(c) Ground detail is only visible below 3000 feet.

(d) A high-pitched whine cutting in over the sound of the engine is an indication of a bandit in the vicinity.

2. FINAL PREPARATION FOR TAKE-OFF

The following instruments should be in their proper setting:

Flaps	-Up
Brakes	-Red
Landing Gear	-Green

3. TAKE-OFF

(i) The first step is to look forward and examine the runway for any obstructions which might interrupt takeoff. (Pressing the space bar will switch between the forward canopy view and the instrument panel.)

(ii) Look at the instrument panel and raise the engine RPM to 1,800. (Pressing the Q key will start the engine, and holding it down will allow the engine speed to increase.)

(iii) Disengage the brakes. (Press the B key, the brake indicator should now go from red to green.)

(iv) As the aeroplane begins to roll you will hear the propwash.

(v) Raise the engine speed to above 3,000 rpm (the Q key again).

(vi) As the Air Speed Indicator approaches 90 miles per hour, ease the stick back. (Pull the joystick toward yourself.)

(vii) When the swishing sound of the propwash fades away, raise the landing gear. (Press the G key, the landing gear indicator will now go from green to red.)

(viii) Move the stick back to neutral position when the Verticle Speed Indicator shows a rate of climb between 1000 and 2000 feet per minute. Reduce the engine speed to 2,600 rpms. (Press and hold down the W key.)

(ix) Look forward and begin to experiment with the various controls of the aeroplane. (Press the Space Bar to receive the windscreen view.)

(x) Cruising should be done at between 2200 and 2600 rpm to use fuel most efficiently.

4. ROLLING

All practice aerobatic maneuvers should be executed at not lower than 7,000 feet. When practicing maneuvers utilizing both the rudders and ailerons, permit even more airspace to give more time for recovery.

The first maneuver to experiment with should be the roll. The roll should be executed in the following manner.

(i) Place the aeroplane in level flight at or above 200 mph.

(ii) Press the control column to the extreme right or the extreme left. Watch the horizon as it rotates through a full 360 degrees.

(iii) As the horizon approaches its original position, take the pressure off the stick.

(iv) It will take some practice to get the feel for the control column. As with all aerobatics, this maneuver should be practiced before going into combat.

(v) Careful use of the rudder will allow the pilot to keep the aeroplane on course whilst executing the roll.

5. LOOPING

Looping is permitted by pilots who have the required written permission from their squadron C.O. Failure to follow standard operating procedure with resultant crash and loss of life shall result in court-martial.

(i) Place the aeroplane in level flight at a speed exceeding 250 miles per hour.

(ii) Raise the engine to full power (3000 rpm or above) and pull back on the stick.

(iii) As the aeroplane reaches the top of the loop (that is, when the horizon reappears), reduce power to 1900 rpm. At this time the sky and ground will be reversed (actually the aeroplane is currently in the inverted position).

(iv) Keep pressure on the stick. As the horizon comes up for the last time, push the stick back to neutral and return the engine to cruising speed.

6. LOOPING WITH A ROLL OFF

(i) Execute a loop as instructed.

(ii) When you reach the top of the loop, perform a half roll (return the aeroplane to normal attitude) and reduce the engine to cruising speed.

7. THE SPLIT S

(i) From level flight, execute a half roll to the inverted position.

(ii) Pull back on the stick and perform the second half of a normal roll.

8. APPROACH AND LANDING

(i) Start the approach some distance from the airfield. Use your map and visual references to ensure that you are lined up with the long axis of the runway.

(ii) Descend to 1,000 feet, and reduce air speed to 120 miles per hour. If you encounter difficulty shedding the excess speed, reduce the engine speed to 1,000 rpms and execute a number of brief climbs (being careful not to stall) until the airspeed is close to the desired level.

(iii) Ideally as you approach the edge of the runway you should be in the following conditions:

a. Speed between 80 and 100 mph

b. Altitude under 100 feet
c. Undercarriage in the down position (green light)
d. Nose slightly below the horizon
e. Engine speed 600 rpm

(iv) Just before touching down, raise the aeroplane nose above the horizon. At this same time kill your engine as soon as you hear the propwash.

(v) Apply the brakes (red light).

Appendix A: Saving The Flight Log

SPITFIRE '40 does not have skill levels per se. Instead, the player creates a log on a formatted disk, and uses it to save the number of flight hours and kills. This log is loaded into the game before playing the simulator version. The higher the number of hours flown and kills, the tougher the game. Taking off and landing become more difficult, and the enemy pilots improve in combat skill.

Your time in the air is recorded in real time. That is, if at the end of the flight, the clock reads 12 minutes and 34 seconds, that was the actual length of the flight.

The accumulated experience is saved to a SEPARATE formatted disk. See the manual that came with your computer or disk drive for formatting instructions.

Commodore 64 owners: a program is on the game disk that will format your flight log. The file, but not the game, may be copied and used.

Place the SPITFIRE '40 game disk into the drive and type **LOAD "FORMAT",8**(return). Follow the instructions on your screen.

Pilots with 60 hours of flight time may send a copy of their flight log and the enclosed coupon to The Avalon Hill Game Company software division and receive a certificate of merit for outstanding service.

Appendix B: Spitfire '40 As A Game

The game feature is more for fun than historical realism. When the feature is used, as noted earlier, the pilot begins at 10,000 feet in the middle of a dogfight. Use the Space bar to toggle from the instrument panel view to the forward view.

On the lower right-hand side of the screen is a small white and black window (which is not present in the simulator mode). It is divided into three parts. The left most third is the amount of ammunition the Spitfire has left. As the guns are fired, the black box shrinks from the bottom. The center section contains three black rectangles counting the number of times you have been shot down. One rectangle disappears every time you are shot down. The right hand third keeps track of every enemy plane shot down.

After entering your name and pressing the Return key, you start with a full load of ammo, fuel, and three lives. Firing all of your ammo, losing all of your lives, or expending all of your fuel will end your turn, with the screen displaying your record for that flight. Hit the Return key and the top of the log page shows the five highest scores for that session. Enter the name of the next pilot and proceed with the turn.

In the FIGHTER mode you're pitted against Me-109s with varying levels of skill. Enemy pilot skills are displayed by the color of the plane. From student pilot to ace, the colors are white, yellow, red and black.

In the BOMBER mode you're pursuing STUKA dive bombers. The Stukas do not shoot back until you are very close, and they are very accurate. They are also very evasive, so good luck.

Appendix C: Principles Of Aerodynamics

When an object is in flight, there are four forces at work on it: lift, thrust, gravity, and drag.

Lift is generated by the combined forward acceleration (or thrust) and the wings (sometimes called planes).

In the Spitfire, thrust is provided by the propellor. As it pulls the aircraft through the air, the wings are tilted back so that the trailing edge — that is, the back of the wing — is lower than the leading edge. This causes the air underneath the planes to become more dense; the barometric pressure increases. Above the wing a low pressure area develops. Natural laws being what they are, the wing is pushed toward the low pressure area in a vain attempt to stabilize pressure.

As long as there is thrust present (and all other factors not changing) the high and low pressure areas are maintained, and so is lift. The wings are located near the aircraft's center of mass (sometimes called the center of gravity) so that the aircraft is balanced as it lifts much like an adagio dancer lifts his partner by balancing her on the small of her back.

The aircraft is kept stable and under control by the use of drag. At the tail of the aircraft are three small planes. Two protrude from either side of the tail section, and are called stabilizers. At the trailing edge of the stabilizers are two movable surfaces called collectively the elevator. The third small plane extending vertically from the dorsal surface is called the fin, and the movable surface at its trailing edge the rudder. These small wings function under the same principles as the wings, but as they are so small and so far from the aircraft's center of mass, all they can do is to move the tail section up and down or left and right. They control the direction and attitude of the aircraft. Because of this, the elevator and rudder are called the control surfaces.

Both the stabilizer and fin also use drag to keep the tail section behind the aircraft. Drag can be observed when the angle of the wings (called the angle of attack) become vertical, such as in a very steep climb. At this point, the effects of thrust and lift are overpowerd by drag and gravity and the aircraft stalls. You can tell when you have accomplished a stall by the speed with which you approach the ground, assisted by a total lack of control of the aircraft. If you experience a stall, get the nose of the aircraft below the horizon, and when the airspeed is out of the red portion of the airspeed indicator, bring the nose to level flight. As a P-38 pilot in the South Pacific once observed shortly before his death, the worst position you can be in combat is below stall speed and too low to do anything about it.

Moving through air is rarely straight and level. The plane is affected by changing weather conditions, the presence of enemy fighters, high winds, and pilot skill (or lack thereof). As a plane moves in three-dimensions, so there is a term to describe each movement.

Turning about an imaginary axis extending from wing tip to wing tip is called pitch. Turning about an axis extending from propellor to tail is called roll. There is also a motion about an axis extending vertically through the center of gravity (roughly where the pilot sits). This side-to-side turning motion is called yaw.

An aircraft banks using a combination of all three forces. To begin a bank, roll the aircraft in the direction you wish to turn. The turn is created by the the now off-center lift combining with the constant downward pull of gravity.

Appendix D: Historical Commentary

The history of aviation is marked and highlighted by the dramatic scenes of combat and pilot testing. What is ignored is the struggles that took place behind the scenes. When dealing with military aircraft in the western democracies, before the test pilot can climb into the cockpit, it is a waltz of competing firms scrambling after government contracts, attempting to meet specifications that change without warning.

The Spitfire story is no different. And through it all, and with the best-designed planes it seemed to be a prerequisite for greatness, through the long years of design and testing and redesign and retesting, the designer must hold that mental image of what he wants in his mind, fashioning a reality something only he can see. Blueprints can only lock into place the latest thinking, not what is to be.

The Spitfire story begins in 1931 with the Supermarine company, and the firm's designer, Reginald Joseph Mitchell. Noted for building flying-boats since the First World War, the company decided to enter the military hardware business. The Royal Air Force had issued specifications in October 1931 (Ministry Specification F.7/30) for a single-seat day and night fighter armed with four machine guns. Work began on two fronts as representatives persuaded government officials to look at their prototype, and Mitchell performing the design.

He started with a previously successful Supermarine product. The ancestors of the Spitfire was the S series of advanced, fast twin-float monoplanes (S.4, S.5 and S.6); of which the S.5, S.6 and S.6B had won the Schneider Trophy. Like Willy Messerschmitt and his Bf 109, Mitchell fashioned the smallest airframe possible around a large inline piston engine. Everything not essential to the running of the aircraft was chopped away. The cockpit was so tight that the canopy had to be curved to allow headroom for taller pilots.

A series of redesigns were instituted in response to changes in the government standards, and by 1933, Mitchell found himself in a race of his own. Diagnosed with terminal cancer, Mitchell continued to work to have his plane become the accepted model. He died in June of 1937, but not until his design was accepted, and the production of 310 Spitfires was began.

The first assembly line Spitfires were flown on 14 May 1938. By September 1939, over 400 had been completed, with at least 1,600 more in the works.

Flying a Spit during the Battle of Britain was a daunting task for the inexperienced pilots who were rushed to the airfields with less than a dozen hours of training. Slipping into the tight cockpit, they discovered that their field of vision was severely restricted while taxiing, forcing them to bob and weave their head. Planes had to take off quickly before the engine would overheat. Taxiing with the flaps down, the skin could be damaged by debris blown up from the propwash. These were all crimes to the ground crew, punished by a fine of several shillings.

But the awkwardness vanished in the air. Slightly faster than the Messerschmitt, it was capable of tighter turns. The controls were large and easily adjustible, the only fault being the location of the undercarriage control unit lever on the right side meant that the pilot must swap hands on the control column before raising the landing gear. A sure sign of an inexperienced pilot was his Spitfire wobbling immediately after takeoff.

Such problems were minor and the pilots easily adjusted their flying styles to compensate. The design was a successful one. Given its quickness, tight turns and overall agility, the Supermarine Spitfire went through more than 20 marks, earning its description (in the words of one aircraft expert) as "the best conventional defense fighter of the war."

YOU NAME IT, WE GAME IT ...

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ATTENTION COMMODORE 64 OWNERS:

If your copy of *Spitfire '40* has trouble loading, try this simple test: with the disk in the drive, type LOAD"$",8 and press Return. When the cursor reappears, type LIST and press Return. If you can get a list of files, then the game disk is fine, but your disk drive is out of alignment just enough to prevent the game from loading.

IF YOU CANNOT LOAD THE PROGRAM

1. Check your equipment carefully to be sure that all cables and connections are correct.
2. Re-read the section in your computer's manual that tells you how to load software. Try to load software again.
3. If possible, load another program from a tape or disk you know works on your computer. This will prove that your equipment works. Try once more to load your game.
4. The normal reason software will not load is tape recorder or disk drive head misalignment. Your computer may be able to save and load programs on its own disk drive, but be unable to read software made on a different disk drive for this reason. Be sure your heads are correctly aligned. Your local computer store or dealer can help you with this.
5. If the program still cannot be loaded, send the software, with a complete description of the problem (what type of computer you have, what the computer says, if anything, when you try to load the software or play the game, and what you did to try to get it to load) to:

Avalon Hill Microcomputer Games
4517 Harford Road
Baltimore, Maryland 21214

Defective software will be replaced.

Game Design: Mirrorsoft Ltd.
Conversions: William H. Maxwell
Rulebook Editor: John Huff
Art Director: Jean Baer
Graphics: Mike Creager
Production Coordinator: Phyllis Opolko
Project Leader: W.E. Peschel
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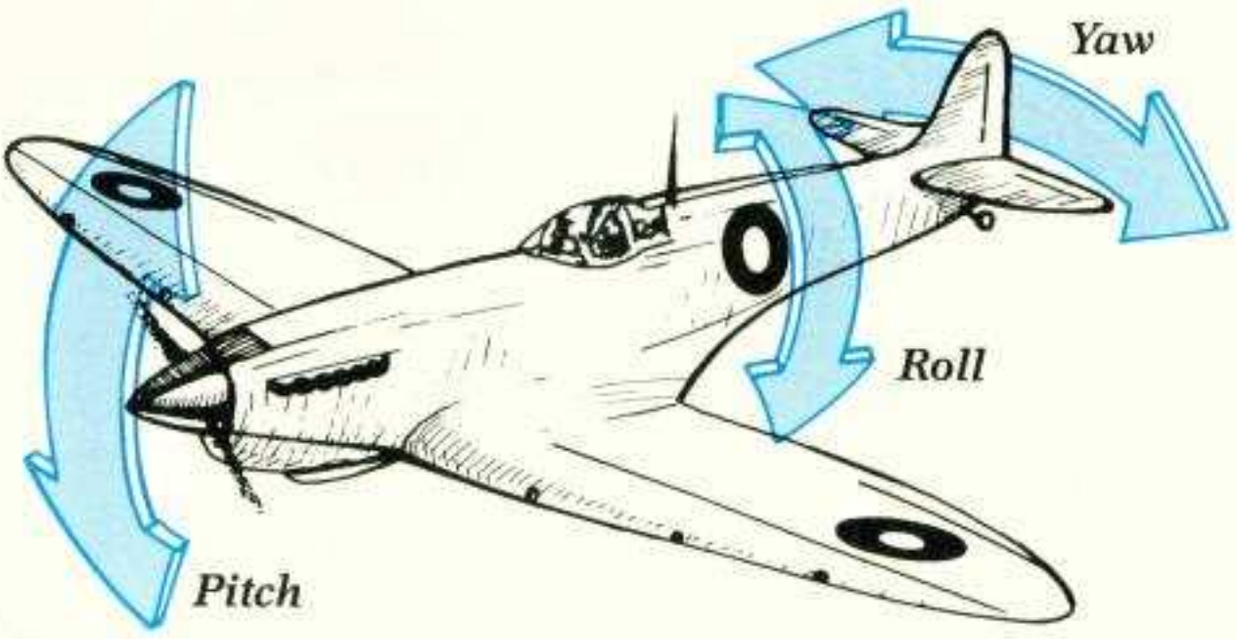
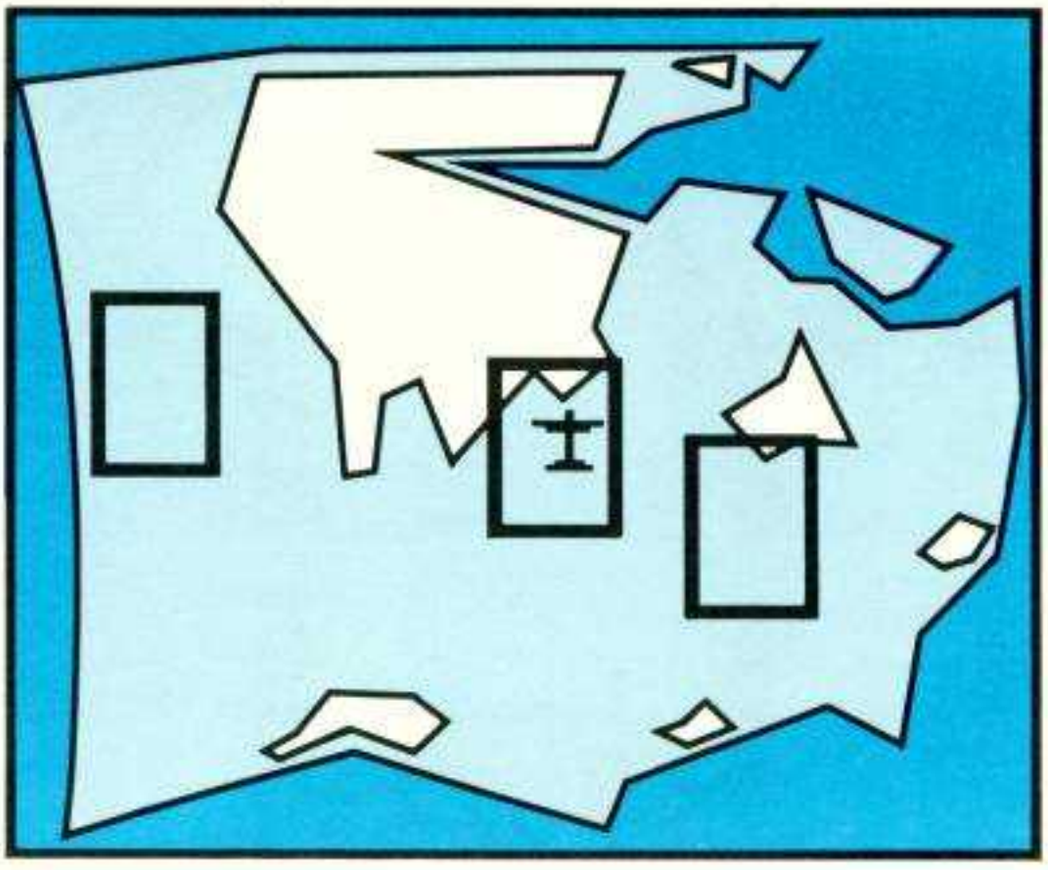
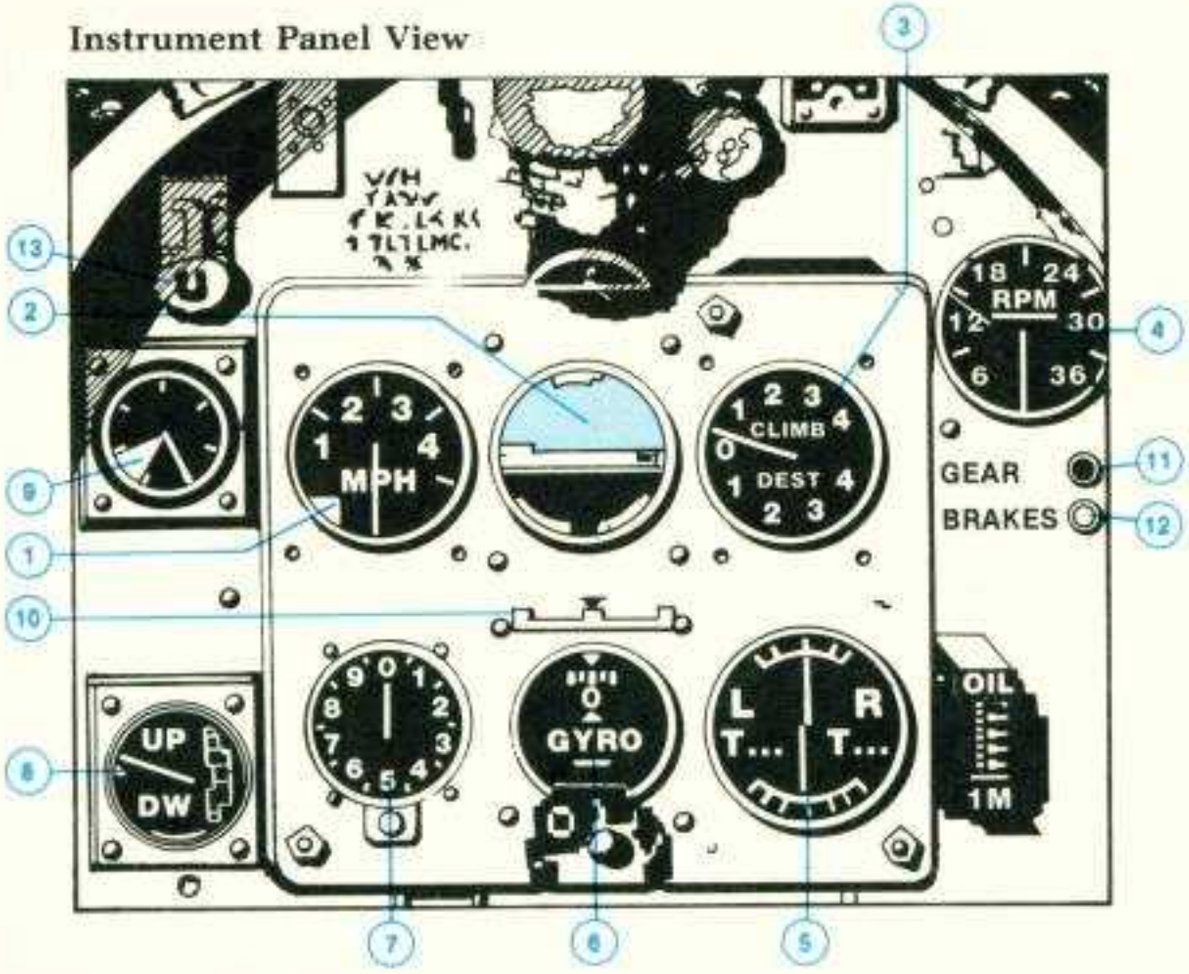
Spitfire 40 Player Aid Card



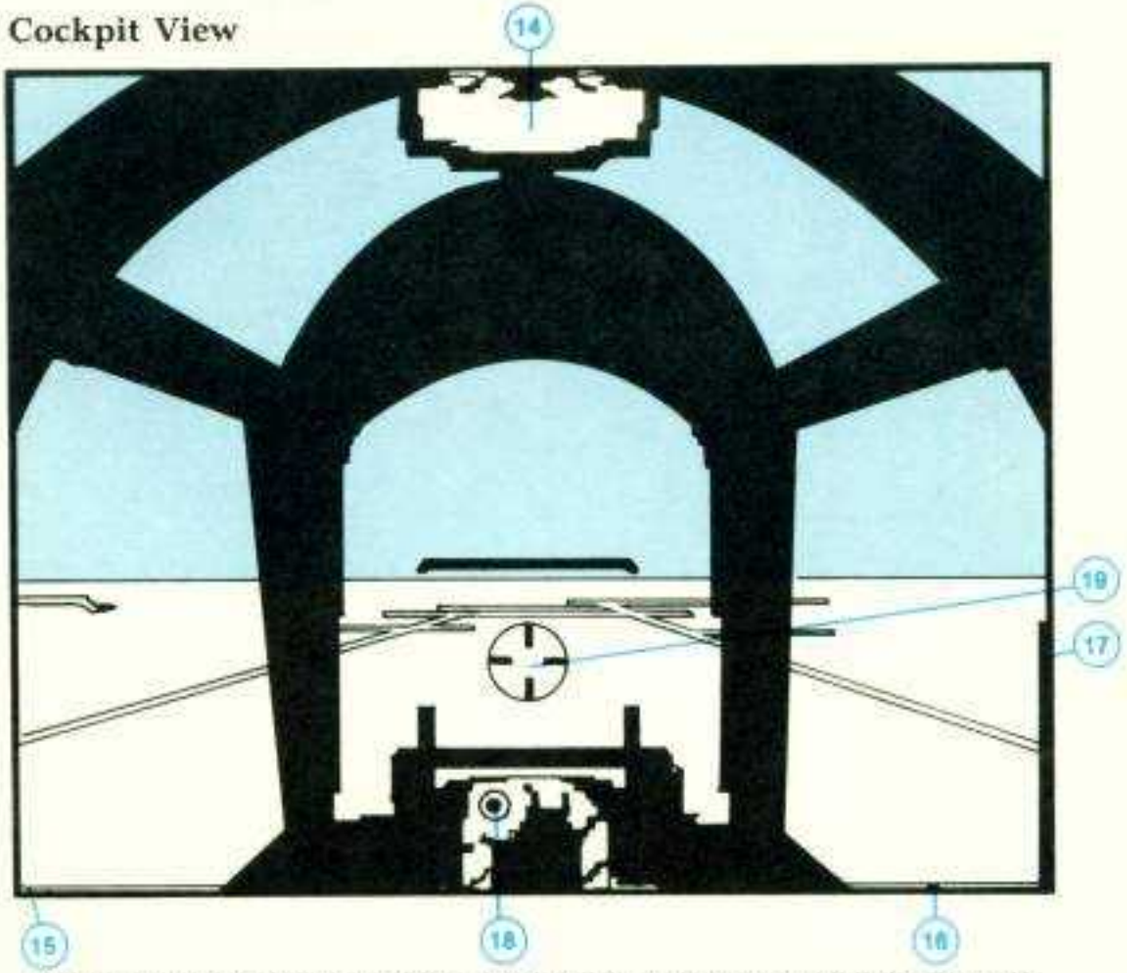
Patrol Area Map



Instrument Panel View



Cockpit View



Spitfire 40®

ATARI ADDENDUM SHEET

Loading The Game

Turn on the computer with the disk in the drive. If you have an Atari 800XL, suppress the BASIC language by pressing the OPTION key as the game is loading. Plug the joystick into port #1.

Saving The Log

Have a formatted disk on hand before playing your first game. Up to ten different logs can be saved onto the same disk.

Spotting Jerry

When the simulator is chosen, you will be given four pieces of information: how many German fighters (''bandit'') are invading, how far away they are in miles (the ''intercept'' number), where they are located in relation to the air field (the ''bearing'', given in degrees so that a bearing of 90 means that they are due east), and at what altitude they can be found (the ''height'' number).

If you survive the combat mission, the game ends only when your Spitfire is back onto the airfield, the engine is cut and the brakes are on.

Warning Buzzer

Your Spitfire comes equipped with a warning noise that goes off when it decides that if you keep to your present course, you stand a very good chance of crashing. These conditions include, but are not limited to: flying too fast with the gear down, reaching 250 m.p.h. with the flaps down or approaching the runway too steeply. Pilots are warned not to rely on the buzzer as there are situations where the plane is in danger but the buzzer will not go off.

Tally Ho!

4955301-A **B-3532 6/87**

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