Flying Circus simulates the individual aircraft warfare which occurred from 1915 to 1918 over France and Belgium. Various scenarios are provided to demonstrate typical actions of aerial combat.

Flying Circus employs radically new and different rules to simulate this unusual warfare. As such, Players have been provided with two complete sets of rules. The first set of rules describes the Introductory Game, which will introduce several of the new techniques employed. ALL Players should become accustomed to this version before proceeding to the Standard Game.

GENERAL COURSE OF PLAY

Flying Circus is basically a two-player game, although it is relatively easy for more than one person to play each side in the game. The rules will, however, assume that only two players are involved. Each Player manipulates and maneuvers his units (henceforth referred to as aircraft or planes) in an attempt to place himself in such a position where he may shoot ("attack") at the opposing Player's aircraft, and they may not shoot at his own. Combat is resolved by reference to a particular aircraft's Combat Results Table (as given on the Aircraft Chart) and the number of hexes through which the unit is firing ("firing range"). A die is rolled and the die result is cross-indexed with the appropriate firing range column. The resulting Damage Points are applied to the target aircraft.

STANDARD GAME

Game Map: There is relatively little terrain shown on the map, as befits an air game. However, there are certain areas which must be distinguished. These are:

- Trenches: there are two types of trenches: Allied and German. If any portion of a hex is German or Allied trenches, then the whole hex is considered to be that type of terrain. Thus, no hexes are both Allied and German trench hexes.

- Artillery Positions: these are labelled hexes on the map; their function will be described in the scenarios, as well as the function of lettered hexes (A through H) on the map. Note: Terrain never affects movement.

Game Scale

Each hex on the map represents approximately 80 metres in width. Each set of turns represents 10 seconds of real time, so don't worry about fuel. Each step of speed on the aircraft chart is approximately 20 kilometers per hour.

Sequence of Play

Flying Circus is played in turns. Each Player, in turn, moves his aircraft and flies his weapons.

1. First Player Turn: (Players should decide by a roll of the die who shall move first.)

   A. First Player's Movement Phase: First Player moves and turns his aircraft, in accordance with the rules of movement.

   B. Combat Phase: First Player may fire his guns at the opposing aircraft, if he is within range and in the Line of Fire (see Combat, Cases D and F). The Second Player may not fire during the First Player's Combat Phase.

2. Second Player Turn: Second Player repeats same procedure (Steps A and B), using his own aircraft.

These procedures are repeated until one Player has shot the other's aircraft down.

MOVEMENT

General Rule: during each Player's Movement Phase all of the aircraft's Movement Points must be expended. No aircraft may remain stationary during an owning Player's Movement Phase.

Procedure: move each aircraft individually, tracing the path of its movement through the hexes.

Cases

(A) Movement is calculated in terms of hexes. Basically each aircraft expends one Movement Point for each hex it enters. Every hex of I movement in a position so that he may fire his guns, the Movement Allowance is reduced by substituting lower numbered aircraft markers.

(B) Turning: Aircraft may only proceed in a forward direction (i.e., in the direction they are facing). When they enter the adjacent hex, they maintain that same facing. The aircraft may not change direction except by "turning." To turn, aircraft remain in the same hex, and change their facing with relation to the hex side. Each hexide is turned through sequentially. Thus with relation to the original facing, an aircraft would first turn to a new, different facing of 60 degrees, then to 120 degrees, and finally to 180 degrees. No aircraft may turn through more than three hexides (180 degrees) while in a given hex. Each turning through one hex side (60 degrees) absorbs one Movement Point of the aircraft's Movement...
Ties are more than one would expect. The Players could try opposing Player's aircraft is the winner. Players begin. The First Player to shoot down the other Player does the same, and play opposite ends of the map. The First Player (if any).

**Introductory Game.**

The Players could try opposing Player's aircraft is the winner. Players begins. The First Player to shoot down the other Player does the same, and play opposite ends of the map. The First Player (if any).

**Die Result and the Firing Range.**

The Player rolls the die, and refers to the Firing Range column to the right of the die result. The number of hexes is the firing range of the aircraft.

**Procedure:**

1. Trace the straight line through the hexes to the target. The number of hexes is the firing range of the aircraft.
2. Roll the die and refer to the Firing Range column to determine the number of hexes that the target is hit.
3. Each aircraft is supplied with the following types and numbers of markers. These are placed on the Aircraft Charts as described. Where the placement of these markers is described, their function is also explained.

**Altitude Level Markers.**

The altitude level markers (a maximum of 22) indicates the altitude level (height in thousands of feet). The aircraft is represented on the map by the marker of the altitude that the aircraft is flying at. Place all the counters in their appropriate Altitude Level boxes, and then place one of the markers to represent the aircraft at the appropriate place on the map.}

**IMPORTANT SPECIAL NOTE:**

It is particularly vital that players grasp the concept that the Altitude Level marker in play on the map, represents the aircraft as well as the altitude. The marker is the aircraft, and its positioning and movement is the positioning and movement of the aircraft. The Altitude markers not in play, should be kept in strict order on the Aircraft Chart (which incidentally can be thought of as the cockpit of the aircraft).

**Ammunition Supply.***

Record marker (one for each gun) is placed at the highest point of the scale for each Combat Phase that a gun is fired, the marker is moved downward. On the track, there are sometimes dots separating the ammunition boxes. This indicates that the aircraft must take two Combat Phases to reload its guns before firing again. As the marker is moved across this dot, it is turned face-down. At the end of the second consecutive Combat Phase of firing, the upside down Ammunition marker is placed face up to indicate that the gun is reloaded. Note that some aircraft never need reload (belt-fed ammunition), that some need to reload each time that they fire (single drum ammunition), and some need to be reloaded every other time they fire (double drum ammunition).

**Climb Progress Scale.**

The Aircraft charts show the accumulated number of Movement Phases that an aircraft has been climbing. The number of points in this track indicates the number of Movement Phases of climb that it takes the aircraft. The markers not in play, should be kept in strict order on the Aircraft Chart, as represented by the symbols printed on the counters.

**Aircraft Charts.***

There are basically two types of information shown on the Aircraft Charts. The first type indicates current information on the aircraft; these are the Current Horizontal Speed (obtained during the aircraft's last Movement Phase), the amount of Ammunition remaining in the plane (and in some cases whether the guns are loaded), the cumulative progress of the plane (Climb Progress Scale) in climbing to a higher altitude, and the current Altitude Level (this is denoted by the absence or presence of the marker on the chart, since that marker is being used to represent the aircraft on the map). The second type of information printed onto the chart refers to the performance capabilities and characteristics of the individual aircraft. Each of the various tracks and the numbers contained in them provides information concerning the aircraft. The limits of the various tracks represent maximum and minimum abilities of the aircraft. For example, an aircraft may not climb to an Altitude Level greater than is allowed for on the Aircraft Chart, i.e., the last number on the Altitude track represents the aircraft's maximum altitude.

**Allowance.**

Example: Aircraft with a Movement Allowance of 10 begins in a hex. It first turns three hexsides, moves one hex, turns two more hexsides, moves one hex, and turns another three hexsides. It has expended all ten of its Movement Points, while only moving two hexes.

**FACING.**

An aircraft's Movement Allowance is set by the marker in play at the beginning of the Friendly Movement Phase. This may vary from ten to one due to Combat. All of these Movement Points must be expended, as described in Cases A and B.

**NO Enemy movement is permitted during a Friendly Movement Phase.**

**COMBAT.**

**General Rule.** Combat occurs by opposing Player's airports (or other units) firing at each other. To fire, an aircraft must be able to trace a straight line through hexes to the target aircraft, as shown in the diagram.

**Procedure.** Trace the straight line through the hexes to the target; the number of hexes is the firing range. Roll the die and cross-reference the die result and the firing range column to the resulting Damage Points (if any).

*For each Damage Point inflicted, reduce the Movement Allowance of the aircraft by one Movement Point (substituting the appropriate, lower-numbered aircraft counter).*

**Cases.**

A. Combat occurs only after the Movement Phase, during the Combat Phase.

B. Combat is always voluntary; it is never required.

C. A Player's aircraft may only fire in its own Combat Phase, never in the Enemy Combat Phase.

D. All aircraft have the same firing pattern. They may fire when the row of hexes directly to their face is occupied at some point by an Enemy aircraft. If an aircraft ends its Movement Phase pointing in the direction of an Enemy aircraft, it may fire at it. This row of hexes is termed the Line of Fire.

**E. Aircraft may only fire once per Combat Phase.**

**Example.**

An aircraft has a Movement Allowance of 10. It begins in a hex. It turns three hexsides, moves one hex, turns two more hexsides, moves one hex, and turns another three hexsides. It has expended all ten of its Movement Points, while only moving two hexes.

**Combust Results Table: Introductory Game.**

<table>
<thead>
<tr>
<th>Die</th>
<th>Firing Range (in hexes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>2</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>3</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>4</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>5</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>6</td>
<td>1 2 3 4 5 6</td>
</tr>
</tbody>
</table>

**Movement Point:** (substituting the appropriate, lower-numbered aircraft counter).
First Player's Movement Phase

A. Altitude Decision Segment:
   The Player must decide, and announce, whether his aircraft is to climb, dive or remain in level flight during his Movement Phase. If a given aircraft is to dive, it must be specified how many thousands (levels) of feet) that aircraft will dive.

B. Speed Decision Segment:
   The Player must also announce for each of his aircraft, at what speed will they be flying in his Movement Phase. The current horizontal speed of a given aircraft may never be increased more than one step (20 kph) or decreased by more than two steps (40 kph) in a given Movement Phase. The single exception to this limitation is the case in which a given aircraft's speed during the Movement Phase with its Current Horizontal Speed at a setting higher than its Dive Maximum Speed and the Player has announced that that aircraft will be diving during his Movement Phase. In such a case, the Player should reduce his Current Horizontal Speed to equal his Dive Maximum Speed. Then from that adjusted setting, he may further decrease his speed by a maximum of two steps (40 kph).

C. Movement Execution Segment:
   The Player now actually moves his aircraft, within the speed and altitude limitations he has placed upon himself by his decisions in Segments A and B. If a Player has decided to dive he may execute the dive at any point during his Movement Phase. That is, he may move horizontally, then dive, then continue horizontally at his new altitude; or dive and move horizontally at his new altitude; or move horizontally at his current altitude and then dive. The same holds true for climbing. The climb may be executed at any point in the course of the Movement Phase.

Note that an aircraft may not climb and dive simultaneously, that is, move horizontally, then dive, then continue horizontally at his new altitude. Such a thing as a "complete Game Turn." The determination of which Player is the "First Player" is given in the specific Scenario.

Second Player's Movement Phase

The Second Player now makes attitude and speed decisions concerning his aircraft (following the same procedure as outlined for the First Player). The Second Player moves his aircraft. The First Player may not move any of his aircraft during the Second Player's Movement Phase.

Joint Combat Phase:

 Players participate in another Joint Combat Phase.

Continue the above sequence of Phases until one Player or the other achieves a victory as outlined in the conditions of victory of the Scenario being played. There is no fixed limit on the number of Phases in a given game.

MOVEMENT

General Rule: during each Movement Phase, after a Player has made his Speed decision, all of the aircraft's Movement Points must be expended. No aircraft may remain stationary during an owning Player's Movement Phase. See Sequence of Play.

Procedure: Move each aircraft individually, tracing the path of its movement through the hexes. Finish the movement of one aircraft before moving the next.

Cases:

(A) Movement is calculated in terms of hexes. Basically each aircraft expends one Movement Point for each hex it enters. Every hex of horizontal, straight motion expends one Movement Point. Movement Points are also expended in changing facing within a hex (Turning).

(B) Turning and Momentum

An aircraft may not perform a turning maneuver in a hex in which it is diving. Aircraft perform turns by moving forward at least one hex and then changing direction in that hex (see Movement Phase). If the current limitations of their turning ability (i.e., their Turn Mode) There are four basic Turn Modes as outlined on the Turn Mode Chart. Each type of aircraft is assigned one of these Modes. The Modes dictates how many hexes an aircraft may turn to within a given hex and the Movement Point expenditure for each hex side turned to.

(C) Speed Limitations

Once a Player has announced his Speed and Altitude decisions for a given Movement Phase, he is bound by that decision (see Sequence of Play). In conjunction with and in addition to the limitations imposed upon an aircraft's speed, these decisions the following limitations apply: 1. a Player may never deliberately set his Current Horizontal Speed above Stall Speed. 2. an given aircraft may not exceed its Maximum Horizontal Speed. (Note that the Maximum Horizontal Speed is reduced as an aircraft suffers damage). 3. a Player may never change speed in the middle of a Movement Phase. 4. when diving, the Current Horizontal Speed must be equal to or less than the Dive Maximum Speed. 5. in the Speed Decision Segment of a given Movement Phase, the maximum Altitude Speed of an aircraft may not be increased by more than one step (20 kph) nor decreased by more than two steps (40 kph). See Case E for a modification of this rule.

(D) Climbing

Players may increase their altitude by climbing. Players announce their intention to climb in the beginning of their Movement Phase (see Sequence of Play). The act of climbing expends no Movement Points. In order to be able to climb, the Player must set the Current Horizontal Speed of his aircraft at least one step (20 kph) below the Maximum Horizontal Speed. Notice that because of this limitation, a plane will not be able to climb when, due to damage suffered, its Maximum Horizontal Speed is one step away from Stall Speed.

Note that on each of the Aircraft Charts there is a Climbing Progress Scale. The number of steps (grades) in this scale represent the number of Friendly Movement Phases which must be spent in climbing in order to change from one Altitude Level to the next highest Altitude Level (that is, to climb 1,000 ft.) In each Movement Phase that the Player announces a particular plane to be climbing, he moves the Climbing Progress indicator up one grade on the
scale. When the top of the scale is reached, return the indicator to the "0" position and exchange the Attitude/aircraft marker on the map for the next highest one on the Aircraft Chart. This actual change of altitude may be performed at any time during the Movement Phase in which the Climb Progress indicator has reached the top of the scale.

Note that as long as a given Altitude marker is on the map (representing the aircraft) the aircraft is considered to be at that altitude no matter what its position on the Climb Progress Scale. Even if the aircraft is near the top of the Climb Progress Scale, it is for all purposes still considered to be at that altitude printed on the counter in play. This rule is of course an abstraction of reality for the sake of the game mechanics and simplicity of play.

(E) Diving

Aircraft may decrease their altitude by diving. Players announce their intention to dive in the beginning of their Movement Phase (see Sequence of Play). They must specify exactly how many Altitude Levels they intend to dive in that Movement Phase. When diving, the Current Horizontal Speed must be equal to, or less than, the Dive Maximum Speed. If, at the very beginning of a Movement Phase in which a dive is to be performed, the Current Horizontal Speed is greater than the Dive Maximum Speed, it is automatically reduced to the Dive Maximum (and can be further reduced by two more steps [40 kph] if the Player so desires).

The dive may be performed at any point in the Movement Phase. The first 1,000 ft. of dive (one Altitude Level) expends no Movement Points. Continuing to dive another 1,000 ft. expends five Movement Points as does the next 1,000 ft. of dive. Actually, there is only one plane (the Nieuport 28) which can possibly dive three altitude levels in a single Phase. About half of the other planes can dive two Levels per Phase and the remainder have Dive Maximums low enough to prevent them from diving any more than the one initial Level (which does not cost any Movement Points).

The aircraft's Climb Progress status has no effect on its diving ability; diving is calculated in whole Altitude Levels. When an aircraft has dived to a new altitude it may adjust its Climb Progress indicator to any point on the scale. Place the proper Attitude/aircraft marker on the map immediately, as the dive is performed. Aircraft may not execute turning maneuvers in the hex in which they are diving. The entire dive takes place within a single hex; diving does not contribute towards horizontal motion (although planes may move horizontally before and/or after the dive, assuming they have the requisite Movement Points).

(F) Aircraft may not end their Movement Phase in the same hex as other aircraft at the same altitude (whether Enemy or Friendly). Aircraft may fly through hexes occupied by another aircraft at the same altitude. Any number of aircraft (Enemy and Friendly) may occupy the same hex as long as they are all at different altitudes. Aircraft cannot "ram" into one another accidentally or deliberately.

(G) Facing

As can be seen, the direction in which an aircraft is pointed (facing) has a tremendous bearing upon play. Aircraft must always be unambiguously pointed at a single hex side.

"Trial" Markers

The counters with the large aircraft top-views on them and no altitude number are trial-run markers which may be used by the Players to test out a move before actually committing themselves to it. This allows one to leave the actual aircraft/altitude marker in its Phase-start position and thereby not lose track of one's original position when figuring out a maneuver. When the final maneuver is decided upon leave the Trail marker in the hex of destination and move the aircraft marker to it. The non-moving Player may call upon the moving Player to commit himself to moving a given aircraft after making three trials.

**TURN MODE SUMMARY CHART**

<table>
<thead>
<tr>
<th>Turn Mode</th>
<th>Max Turn (in hexsides)</th>
<th>Movement Point cost per hexside of turn</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Side</td>
<td>Second Side</td>
<td>Third Side</td>
</tr>
<tr>
<td>A</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>D</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Note that the Turn Mode of each aircraft type is given on its individual aircraft chart. Special note: the Sopwith Camel and the Sopwith Snipe have a double Turn Mode: one Mode is used when turning to the right, and a different Mode is used to turn to the left. All other types have only a single Turn Mode which is regardless of which direction the turn is made.

**FIELD OF FIRE DIAGRAMS**

Shown are the three Fields of Fire of the three types of guns which are found in the game. The small numbers in the hexes are indicators of the range-to-target when shooting into that particular row of hexes. Assuming that Sighting requirements have been met, an aircraft may shoot at a target located anywhere within its Field of Fire.

**COMBAT**

**General Rule:** Combat occurs during the Joint Combat Phase. Opposing aircraft fire their machineguns at each other in an attempt to inflict damage upon the Enemy's aircraft.

**Procedure:** To fire at a target aircraft, determine whether that plane is in Field of Fire of the attacking aircraft, calculate the range to the target, and determine whether Sighting requirements have been met.

**Cases:**

(A) Both Players may fire their guns during the Joint Combat Phase.

(B) Fire is always voluntary; it is never required.

(C) If a given aircraft has fired its gun in the immediately preceding Joint Combat Phase, it may NOT fire the same gun in the current Joint Combat Phase. In other words, the greatest frequency with which a particular gun may be fired is once every other Joint Combat Phase. Aircraft which have two gun-mounts may consider each gun as a separate, independent case.

(D) A given aircraft may only fire at a given target if the Sighting requirements have been met. See Sighting rules.

(E) Fields of Fire and Gun Types

There are three types of machineguns with which the aircraft in *Flying Circus* are equipped. Each of these types of guns has a distinctive pattern of hexes into which they may direct their fire. Such a pattern is called the Field of Fire of the gun. All three types of
gun have a maximum range of eight hexes. The types of guns are as follows:

1. **Forward-firing, Fixed machinegun:** This gun may only fire directly ahead of the aircraft through the single row of hexes to the front.

2. **Swivel-mounted, Rear machinegun:** This gun may only direct its fire to any point found within a 120-degree arc to the rear of the plane (see diagram). They may not fire into their “blind spot” which is the two hexes directly to the rear of the aircraft.

3. **Ring-mounted, Rear machinegun:** This gun may direct its fire into any hex within an eight-hex radius, except for that row of hexes directly to the front of the plane and the two-hex blind spot directly to the rear of the aircraft.

All forward firing guns are the fixed variety outlined above. All rear guns are of the swivel type with one attack point. The German, Holland C II is the only aircraft in the game which has a ring-mounted gun.

The Field of Fire of any type of gun only extends horizontally. That is to say, aircraft may only fire at Enemy aircraft which are at the same Altitude Level (regardless of any difference in Climb Progress Grades). Aircraft which are at different altitudes during the Joint Combat Phase may under no circumstances fire at one another during that Combat Phase. 

(F) Except for one special situation, fire is simultaneous. That is to say, damage is recorded at the end of each Movement Phase. The only exceptions to this rule are:

1. Fire of the aircraft to a climbing attack. It is the climbing aircraft in the above example that would have had to make the altitude change before it expended its last three Movement Points to be able to fire against the moving aircraft. The second level to which aircraft dives from any Altitude Level to the next highest one, it may only count those Movement Points expended at the new Altitude level towards fulfilling Sighting requirements. 

2. Fire of an aircraft performing a dive being made at a speed of 120 kph and then changing altitude towards fulfilling Sighting requirements.

(E) Be careful to take Altitude Level into consideration when determining whether an aircraft can fire a single burst at a target, even if it expended its last three Movement Points at Level 10 and then moving two hexes horizontally, would be considered to have expended all its Movement Points at Level 10.

Qi should at the same time place “Target Acquisition markers will be found on the individual aircraft charts to simulate the vulnerability of rear-gun aircraft. 

### Sighting

**General Rule:**

In order to fire at a target aircraft, the target must be sighted by the firing aircraft. That is to say, the target must have been continuously in the firing aircraft’s Field of Fire for at least the last half of the total Movement Point expenditure during the immediately preceding Movement Phase. This represents the amount of time necessary to “track up the shot” (approximately five seconds).

**Calculating Range:**

Simply count the shortest distance from the firing aircraft to the target aircraft. All guns have a maximum range of eight hexes. Differences in Climb Progress have no effect upon the range.

**Cases:**

(A) If the immediately preceding Movement Phase was that of the TARGET aircraft, then the target aircraft must have spent the last half of its Movement Allowance within the Field of Fire of the firing aircraft.

(B) If the immediately preceding Movement Phase was that of the firing aircraft, then the firing aircraft must have expended the last half of its Movement Allowance with the TARGET aircraft in its Field of Fire.

(C) Even if the target aircraft was in the Field of Fire of the firing aircraft for half or more than half of the last Movement Phase, it may not be sighted if it was not in the Field of Fire continuously during the last half of the Movement Point expenditure of the aircraft. 

(D) There will be instances in which a given plane will be considered to be sighted by an Enemy plane, and yet not be considered to have sighted that Enemy plane. It is possible that two opposing aircraft will be in each other’s Field of Fire and will have mutually sighted each other and (assuming neither had fired in the previous Combat Phase) would fire at each other simultaneously.

(E) Be careful to take Altitude Level into account when determining whether an aircraft can fire a single burst at a target, even if it expended its last three Movement Points at Level 10 and then moving two hexes horizontally, would be considered to have expended all its Movement Points at Level 10.

(F) In a given Movement Phase, the first level which a plane dives expend no Movement Points, and therefore need not be considered when calculating time-spent-in-Field-of-Fire. 

(G) Although more than one aircraft may be in the FIELD of Fire of a given plane, only one target per gun may be shot at. Those planes which have two guns (one forward and one in the rear) may fire at separate targets with each gun during the same Combat Phase.

(H) Aircraft may not combine the effects of fire against the same target. Each aircraft attacks individually, even if they happen to be shooting at the same target in the same Combat Phase.

(I) How to Resolve Combat

There are four Combat Results Tables which are used to determine the effects of fire by various types of guns at various ranges. Note that different aircraft (and sometimes different guns on the same aircraft) are assigned different Combat Results Tables. This assignment will be reflected in the individual aircraft charts next to the ammunition tracks and also on the Aircraft Summary Chart. The Combat Results Table to be used by a specific aircraft never changes.

Within a given Combat Results Table, the sole determinant of how effective an attacker's gunfire will be is the range-to-target. There are no “Combat odds” to calculate as in most other games. All the different types of guns which may use a given Combat Results Table have the same firespeed.

To resolve combat, simply count the range (in hexes) to the target aircraft, find the appropriate column on the correct Table and roll the dice once to determine the outcome (cross-index the die-number rolled with the proper Result column to find the answer). Results are given in terms of Damage Points inflicted upon the target. Each Damage Point reduces the Maximum Horizontal Speed and the Dive Maximum Speed of a plane by one step (20 kph). Once a plane’s Maximum Horizontal Speed has been reduced to “Stall” or below, the aircraft is considered to be shot down.

Note that the raw ability to fire is never affected by sustaining Damage. Nor is it possible to “kill the pilot” with a single burst and thereby bring down an Enemy plane. This chance event has been “factored in” on the Combat Results Tables and one may assume that, runs of luck permitting, one or two attacks which result in an aircraft being shot down represent pilot-death or some other such freak shot to a vital part of the aircraft itself.

(J) Aircraft may fire through hexes has no effect upon the planes in those hexes. Friendly or Enemy aircraft which are behind other Enemy aircraft being subjected to fire are not affected by that fire in any way. Fire only affects the target aircraft.

(K) Calculating Range

Simply count the shortest distance from the firing aircraft to the target aircraft. All guns have a maximum range of eight hexes. Differences in Climb Progress have no effect upon the range.
Examples of Play
The following examples illustrate how most of the basic game-actions are executed. Anything which can be logically inferred from these examples is tantamount to a rule unless it is specifically prohibited by the written rules. The small numbers printed in the hexagons are the Movement Points expended by the aircraft in that hex.

TURNING MANEUVER
The aircraft illustrated has a "B" Turn Mode. It is moving at a speed of "8" (160 kph). Notice that although the aircraft does expend all eight Movement Points (as it must), it only travels a distance of three hexes.

COMBAT
The aircraft in the example is moving at a speed of "8" and has a "B" Turn Move. It has a Fixed, Forward firing machinegun. At the end of its Movement Phase, it is calculated that it has had the target in its Field of Fire during the expenditure of its last four Movement Points and therefore has fulfilled the Sighting requirements and may shoot at the target (at a range of two hexes). Note that if it had been moving at a speed of "5" and had ended its movement in hex marked "A", it would NOT have fulfilled the Sighting requirements and would not have been able to shoot at the target even though the target was within range and in the Field of Fire.

CLIMBING
The aircraft illustrated has a Maximum Horizontal Speed of "9" (180 kph) and is considered to have begun its Movement Phase with its Current Horizontal Speed set at "9" (before the Speed/Altitude Decision Segment). The speed must be reduced to at least "7" in order to climb; the Player decides to make the maximum reduction (to "7"). At any point in the movement the Player may execute the climb (even in the hex in which a turn is extended). As he executes the climb he moves the Climb Progress Indicator up one grade on the Climb Progress Scale. Note that if the indicator is thereby brought to the top of the scale, the Player would change the Altitude/ aircraft marker to the next highest number and then move the Climb Progress Indicator back to the Zero setting. Note that the act of climbing expends no Movement Points in and of itself.

ALTITUDE EFFECT UPON COMBAT: Note that the two opposing aircraft shown cannot shoot at each other simply because they are at different altitudes.

(J) The Effect of Turning Manoeuvres Upon Sighting
In the case of the non-moving aircraft firing at the moving aircraft, the act of turning in a hex does not present any unusual problem insofar as calculating Sighting: the Movement Points expended in turning are counted along with other Movement Point expenditures, the only consideration being whether the turn is being executed in the Field of Fire of the non-moving aircraft.

When calculating the Sighting of a moving aircraft firing at the non-moving aircraft, however, turning maneuvers present some what special case. The rule is that: Movement Points expended to turn to a hexside which places the target in the Field of Fire of the moving aircraft do count towards the fulfillment of Sighting requirements.

Example 1: If an aircraft is moving at a speed of "4" and has a "B" Turn Mode and expends the last two Movement Points of its movement in turning one hex side, and that turn brings a target into its Field of Fire, then those two Movement Points constitute a fulfillment of the Sighting requirements.

Example 2: If an aircraft were travelling at a speed of "4", and had a "B" Turn Mode and moved in the following manner... one hex forward (target not in Field of Fire); turn one hexside expending two Movement Points (target still not in Field of Fire); turns one more hexside expending one Movement Point (target now in Field of Fire)... then sighting requirements would not be fulfilled.
AMMUNITION AND RELOADING

General Rule:
There are three types of ammunition-feeds: (a) Belt-fed, (b) Single-drum Clip-fed, and (c) Double-drum, Clip-fed. Each gun on a given type of aircraft is represented by an Ammunition Supply Track on the Aircraft Chart. The number of boxes in the track represent the number of times that that particular gun may be fired in a given game.

Procedure:
Each time a gun is fired, move the Ammunition Supply marker one step on the track to indicate the expenditure of ammunition.

Case:
(A) When a gun has used up all its ammunition (that is the marker is on "Empty"), it may no longer fire for the remainder of the game.

(B) Reloading
Clip-fed ammunition must be loaded into the machinegun while in flight. Guns which depend on single-drum ammunition must be reloaded after every firing. Guns which depend on double-drum ammunition must be reloaded after every two firings. Belt-fed guns need never be reloaded.

To reload, the gun must spend two Combat Phases out of use. On the third Combat Phase, the gun is then considered to be reloaded and ready to fire. Players will find a heavy dot on the dividing lines of the gun's Ammunition Supply Track which are the signal to the Player that the gun needs to be reloaded. As a memory device, the Player may place the Ammunition Record marker upside down on the Dot during the first Combat Phase spent in reloading and then move it (still face down) fully into the box to the right of the dot during the second Combat Phase of reloading. On the beginning of the third Combat Phase, turn the marker face-up to indicate that the gun may fire.

Anti-aircraft Fire
General Rule: there are two things which are capable of firing at aircraft, (other than other aircraft). These are Trenches and Artillery positions.

Procedure: if an Enemy aircraft ends its Movement Phase over a Trench hex or Artillery Position, it may be fired at by those areas.

Case:
(A) Trenches may only fire at aircraft flying at an Altitude Level of 1 (1000 feet). They roll a die for each aircraft fired at: a roll of "one" indicates that the target aircraft incurs one Damage Point (see Combat Results Table explanation). If any other number is rolled, there is no effect.

(B) Artillery Positions (as marked on the map) may only fire at aircraft flying at an Altitude Level of 1 (1000 feet). A die is rolled for each aircraft being fired at: if a "one" is rolled, the target aircraft receives one Damage Point; if a "two" is rolled, the target aircraft receives two Damage Points; any other number has no effect.

(C) There is no limit on the firing of anti-aircraft as to reloading or sighting, etc. Each Artillery Position or single Trench hex may only fire at a single Enemy aircraft per Combat Phase.

A Note on Altitude
Although many of the aircraft in Flying Circus are shown as having maximum ceilings of more than 15,000 feet, it was rare that any combat flying was done above that altitude. In fact, most of the action took place at, or well below, 10,000 feet. The main reasons for this are simple: aircraft performance on most of the planes began to decline sharply beyond 10,000 feet, and pilot performance begins to deteriorate above 15,000 feet without the use of oxygen equipment. Oxygen equipment was used only experimentally in WW I on a few high altitude observation planes. If Players wish to reflect this limitation in the game, they can simply prohibit flying above 15,000 feet or, alternatively, prohibit flying above 15,000 feet for more than 24 continuous Friendly Movement Phases. This of course is a pain to keep track of, which is why it's not included as a regular rule. Players will seldom have to face the issue in any case, since due to the characteristics of the fighting, they will most often find themselves spiraling downward at one another, ending the games at lower altitudes than that at which they began.

AIRCRAFT CAPABILITY SUMMARY CHART

<table>
<thead>
<tr>
<th>Aircraft Available Chart</th>
<th>Allied-1915</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fighters:</td>
</tr>
<tr>
<td></td>
<td>Nieuport 11, DH 2</td>
</tr>
<tr>
<td></td>
<td>Observation: Nieuport 12</td>
</tr>
<tr>
<td></td>
<td>Nieuport 12</td>
</tr>
<tr>
<td></td>
<td>Observation: Nieuport 12; Spowith 1% Strutter</td>
</tr>
<tr>
<td></td>
<td>Nieuport 17a; Spad 7; DH 2</td>
</tr>
<tr>
<td></td>
<td>Observation: Nieuport 12; Spowith 1% Strutter; F2B</td>
</tr>
<tr>
<td></td>
<td>Nieuport 17b(A)</td>
</tr>
<tr>
<td></td>
<td>Observation: Nieuport 12; Spowith 1% Strutter; F2B</td>
</tr>
<tr>
<td></td>
<td>Fokker Dr. I</td>
</tr>
<tr>
<td></td>
<td>Roland C II</td>
</tr>
<tr>
<td></td>
<td>Observation: Nieuport 12; Spowith 1% Strutter; F2B</td>
</tr>
<tr>
<td></td>
<td>Nieuport 17b(A)</td>
</tr>
<tr>
<td></td>
<td>Roland C II</td>
</tr>
<tr>
<td></td>
<td>Observation: Nieuport 12; Spowith 1% Strutter; F2B</td>
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<tr>
<td></td>
<td>Spad 7</td>
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<td>Nieuport 29</td>
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<td>Observation: Nieuport 12; Spowith 1% Strutter; F2B</td>
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<table>
<thead>
<tr>
<th>- Type of Aircraft</th>
<th>Max Horiz Speed</th>
<th>Dive Max Speed</th>
<th>Turn Max Speed</th>
<th>Combat Results Table</th>
<th>Supply Prog(D) Mode Alt</th>
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<tbody>
<tr>
<td>Nieuport 11</td>
<td>8</td>
<td>4</td>
<td>3</td>
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<tr>
<td>Nieuport 12</td>
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<td>3</td>
<td>4</td>
<td>Rear Gun 5b</td>
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<tr>
<td>Nieuport 17a(A)</td>
<td>9</td>
<td>4</td>
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<td>4</td>
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</tr>
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<td>Nieuport 17b(A)</td>
<td>9</td>
<td>4</td>
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<td>3</td>
<td>C</td>
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<td>Spad 7</td>
<td>10</td>
<td>8</td>
<td>3</td>
<td>3</td>
<td>Front Gun 9b</td>
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<tr>
<td>Spad 13</td>
<td>11</td>
<td>9</td>
<td>3</td>
<td>1</td>
<td>Rear Gun 9b</td>
</tr>
<tr>
<td>Nieuport 29</td>
<td>12</td>
<td>11</td>
<td>3</td>
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<td>B</td>
</tr>
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<td>DM 2</td>
<td>7</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>6dd</td>
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<tr>
<td>Bop with 1% Strutter</td>
<td>8</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>2</td>
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<tr>
<td>Bop with Triplane</td>
<td>10</td>
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<td>2</td>
<td>3</td>
<td>9b</td>
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<tr>
<td>Bop with Camel</td>
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<td>8</td>
<td>3</td>
<td>1</td>
<td>9b</td>
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<tr>
<td>Bop with Snipe(B)</td>
<td>10</td>
<td>8</td>
<td>3</td>
<td>1</td>
<td>9b</td>
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<td>Fokker E III</td>
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<td>3</td>
<td>3</td>
<td>Front Gun 10</td>
</tr>
<tr>
<td>Roland C II</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>Rear Gun 10b</td>
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<tr>
<td>Albatros D III</td>
<td>9</td>
<td>7</td>
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<td>1</td>
<td>10b</td>
</tr>
<tr>
<td>Pfalz D III</td>
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<td>1</td>
<td>10b</td>
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<td>Fokker Dr. I</td>
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<td>2</td>
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<td>Front Gun 9b</td>
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<tr>
<td>Fokker D VII</td>
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<td>8</td>
<td>3</td>
<td>1</td>
<td>Rear Gun 10b</td>
</tr>
</tbody>
</table>

| (A) These two aircraft are identical except for their Combat Results Tables. Thus they use the same Aircraft Charts, where this discrepancy is noted.
| (B) The Sopwith Snipe uses the same Aircraft Charts as the Sopwith Camel, the only difference between these two aircraft is that the Climb Time for the Snipe is 5, rather than 4.
| (C) The small letters following the number of Game-turns of fire available (Ammunition Supply) refer to the aircraft's ammunition type, as described in "How to Set Up the Chart." It defines how often the aircraft must reload its guns.
| (D) The length of this track dictates how many Friendly Movement Phases it takes for an aircraft to climb one Altitude Level. |
from the map. To exit from the map, aircraft must simply fly off the hexagonal grid. However, they may not exit at the same map edge that they moved onto the map. If they leave by any other edge of the map, they are considered to be shot down.

How to win. Each of the scenarios has listed in its preamble the conditions of victory; these are either based on shooting down more aircraft than your opponent, or on achieving your mission and gaining Victory Points.

Starting. Each Scenario indicates a method of determining which aircraft to use, who moves first, and the beginning altitude. All aircraft must start at the same altitude. Frequent reference to choosing aircraft appropriate to a particular year, with no more than two of any type. The Player defending against the reconnaissance receives 10 Victory Points for each Enemy Observation aircraft and 5 Victory Points for each Enemy fighter shot down. The Player with more Victory Points is the victor. If the same number, the game is a draw. The Strafing Player chooses the starting altitude and moves first. The nationality of the Strafing Player is indicated by the title of the given Scenario.

1915 Air Superiority
Start at 5000 feet. Allies move first.
- Fokker E III vs. DH 2
- two Fokker E III vs. one DH 2 and one Nieuport 11

1916 Air Superiority
Start at 10,000 feet. Allies move first.
- Albatros D III vs. Nieuport 17a
- Albatros D III vs. Spad 7
- two Albatros D III vs. two Nieuport 17a and one Spad 7

1917 Air Superiority
Start at 15,000 feet. Allies move first.
- Fokker Dr. I vs. Sopwith Triplane
- Albatros D III vs. Nieuport Dr. I vs. Nieuport 17b and Spad 9
- Albatros D III and Pfalz D III vs. two Sopwith Triplanes
- two Albatros D III vs. Spad 7 and Spad 13
- each Player chooses three aircraft from the appropriate year, no two of which are the same.

1918 Air Superiority
Start at 15,000 feet. Germans move first.
- Fokker D VII vs. SE 5a
- Fokker Dr. I vs. SE 5a
- Fokker Dr. I and Pfalz D III vs. Sopwith Camel and SE 5a
- each Player chooses three aircraft from the appropriate year, no more than two of each type. The Player then chooses which side he wishes to be.

1919 Air Superiority
Start at 15,000 feet. Germans move first.
- Fokker D VII vs. SE 5a
- Fokker Dr. I vs. SE 5a
- Fokker Dr. I and Pfalz D III vs. Sopwith Camel and SE 5a
- each Player chooses three aircraft from the appropriate year, no more than two of each type. The Player then chooses which side he wishes to be.

Photographic Reconnaissance Scenarios
These scenarios deal with attempts of the Allies or the Germans to take photographs of a certain area behind his opponent's trench line. Each Player has four letters (A through D or E through H) on his side of the Trench Line; to photograph any one of these, an Observation aircraft must end its movement on the hex at an Altitude Level of 3 or 4. The reconnaissance Player secretly chooses which of the hexes on the opponent's side of the Trenches that he wishes to photograph, and then moves first. His opponent, who is in effect defending his side of the trench against reconnaissance, must try to shoot down the observation aircraft, without knowing its objective, before the aircraft takes the photo and moves off its Friendly map edge. These scenarios are won by Victory Points. The reconnaissance Player receives 15 Victory Points for each photograph successfully taken and flown off the proper map edge (only one per aircraft), and three Victory Points for each of the defender's aircraft shot down. The Player defending against the reconnaissance receives 10 Victory Points for each Enemy Observation aircraft and 5 Victory Points for each Enemy fighter shot down. The Player with more Victory Points is the victor.

1915 Photo Recon
Allied Recon: one Nieuport 12*, one Nieuport 11 and one DH2 vs. two Fokker E III,

1916 Photo Recon
Allied Recon: a. one Sopwith 1½ Strutter*, and one Spad 7 vs. two Albatros D III
Allied Recon: b. one Nieuport 12*, one Nieuport 17a and one Spad 7 vs. two Albatros D III
Allied Recon: c. Allied Player chooses any three aircraft for two Albatros D III
German Recon: a. two Roland C II* vs. two Spad 7 and one Nieuport 17a
German Recon: b. one Roland C II* and one Albatros D III vs. two Spad 7 and one DH 2

1917 Photo Recon
Allied Recon: a. one Sopwith 1½ Strutter*, and one Nieuport 17b vs. two Pfalz D III
Allied Recon: b. one F2B* and one SE 5a vs. two Fokker Dr. I
Allied Recon: c. one Sopwith 1½ Strutter*, one Sopwith Triplane and one Sopwith Camel vs. two Fokker Dr. I and one Pfalz D III
Allied Recon: d. three Aircraft for each side from the appropriate year, with no more than two of any type. The other Player chooses which side he wishes to be.

1918 Photo Recon
Allied Recon: a. one F2B* and one SE 5a vs. one Fokker Dr. I and one Fokker D VII
Allied Recon: b. two Fokker D VII and two Pfalz D III
Allied Recon: c. one Player chooses three aircraft for each side from the appropriate year, with no more than two of any type. The other Player then chooses which side he wishes to be.

Trench Strafing Scenarios
Trench Strafing was meant to disorganize Enemy troops in the opposing trenches. To strafe an Enemy trench, the attacking aircraft must end its Movement Phase over an Enemy trench hex, and fire its guns; while strafing, the aircraft expends two Ammunition Points (as opposed to the usual one). The aircraft may only fire one of its guns (if it is equipped with two) in the strafing. Strafing may only be done at an Altitude Level of 1 (1000 feet).

These scenarios are won by one Player accumulating more Victory Points than his opponent. The designated strafing Player receives three Victory Points for each successful strafing, and three Victory Points for each Enemy aircraft shot down. The Player defending against the strafing receives five Victory Points for each strafing aircraft shot down. The Player with more Victory Points is the victor. If the same number, the game is a draw. The Strafing Player chooses the starting altitude and moves first. The nationality of the Strafing Player is indicated by the title of the given Scenario.

1916 Trench Strafing
Allied: one Nieuport 11 and DH2 vs. two Fokker E III
German: one Fokker E III vs. one DH 2

1917 Trench Strafing
Allied: a. two Spad 7 vs. two Albatros D III
Allied: b. one Nieuport 17a and one DH2 vs. two Albatros D III
German: a. two Albatros D III vs. one Spad 7 and one DH2

Design Credits
Game System: James F. Dunnigan, Physical Systems Design and Graphics: A. Simonsen; Game Development: John Young; Rules Construction and Editorial: Redmond A. Simonsen and John Young; Production Assistance: Manfred Mitikuhm.
### Sopwith Camel

<table>
<thead>
<tr>
<th>Speed</th>
<th>80 kph</th>
<th>100 kph</th>
<th>120 kph</th>
<th>140 kph</th>
<th>160 kph</th>
<th>180 kph</th>
<th>200 kph</th>
<th>220 kph</th>
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</thead>
<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### CLIMB PROGRESS SCALE

Return Grade Marker to "G"; change Altitude Level to next highest.

- 0 1 2 3 4 5
- 6 7 8 9
- 10 11 12 13 14 15 16

### Sopwith Snipe

<table>
<thead>
<tr>
<th>Speed</th>
<th>80 kph</th>
<th>100 kph</th>
<th>120 kph</th>
<th>140 kph</th>
<th>160 kph</th>
<th>180 kph</th>
<th>200 kph</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
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<td></td>
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</tr>
</tbody>
</table>

#### CLIMB PROGRESS SCALE

Return Grade Marker to "G"; change Altitude Level to next highest.

- 0 1 2 3 4 5
- 6 7 8 9
- 10 11 12 13 14 15 16

### F2B

<table>
<thead>
<tr>
<th>Speed</th>
<th>60 kph</th>
<th>80 kph</th>
<th>100 kph</th>
<th>120 kph</th>
<th>140 kph</th>
<th>160 kph</th>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

#### CLIMB PROGRESS SCALE

Move marker up one grade for each Friendly Movement Phase spent climbing.

- 0 1 2 3 4 5
- 6 7 8 9
- 10 11 12 13 14 15 16
### Spad 13

**Horizon Speed**

<table>
<thead>
<tr>
<th>80 kph</th>
<th>100 kph</th>
<th>120 kph</th>
<th>140 kph</th>
<th>160 kph</th>
<th>180 kph</th>
<th>200 kph</th>
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<td>STALL</td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Ammunition Supply**

- Front Gun; CRT nr. 3
- **Empty:** 1 2 3 4 5 6 7 8 9

**Climb Progress Scale**

- Move marker up one grade for each Friendly Movement Phase spent climbing.

- Return Grade Marker to "0"; change Altitude Level to next highest.

### Nieuport 29

**Horizon Speed**

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<thead>
<tr>
<th>60 kph</th>
<th>80 kph</th>
<th>100 kph</th>
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<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Ammunition Supply**

- Front Gun; CRT nr. 1
- **Empty:** 1 2 3 4 5 6 7 8 9

**Climb Progress Scale**

- Move marker up one grade for each Friendly Movement Phase spent climbing.

- Return Grade Marker to "0"; change Altitude Level to next highest.
### CLIMB PROGRESS SCALE
- Move marker up one grade for each Friendly Movement Phase spent climbing.

### AMMUNITION SUPPLY
- For Front Gun: CRT nr.2
- For Rear Gun: CRT nr.3

### ALTITUDE
- In thousands of feet

### TURN MODE
- "C":
- "B" or "A":

### HORIZ SPEED
- 80 kph
- 120 kph
- 160 kph
- 200 kph

### DIVE MAXIMUM SPEED
- Stall
- Maximum Speed

### SPEED
- 60 kph
- 120 kph
- 180 kph
- 240 kph

### AMS"
### Fokker E III

<table>
<thead>
<tr>
<th>ALTITUDE</th>
<th>CLIMB PROGRESS SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0 1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>2</td>
<td>0 1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>3</td>
<td>0 1 2 3 4 5 6 7 8</td>
</tr>
</tbody>
</table>

**Turn Mode**
- D

**Maximum Speed**
- HORIZ SPEED: 80 kph, 80 kph, 100 kph, 120 kph, 140 kph
- DIVE: Stall

**Ammunition Supply**
- Front Gun: CRT nr. 3
- Rear Gun: CRT nr. 3

Boards are marked to indicate climbing progress.

### Roland C II

<table>
<thead>
<tr>
<th>ALTITUDE</th>
<th>CLIMB PROGRESS SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</tr>
<tr>
<td>3</td>
<td>0 1 2 3 4 5 6 7 8</td>
</tr>
</tbody>
</table>

**Turn Mode**
- D

**Maximum Speed**
- HORIZ SPEED: 60 kph, 80 kph, 100 kph, 120 kph, 140 kph, 160 kph
- DIVE: Stall

**Ammunition Supply**
- Front Gun: CRT nr. 3
- Rear Gun: CRT nr. 3

### Albatros D III

<table>
<thead>
<tr>
<th>ALTITUDE</th>
<th>CLIMB PROGRESS SCALE</th>
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<tbody>
<tr>
<td>1</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
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<td>0 1 2 3 4 5 6 7 8 9</td>
</tr>
<tr>
<td>3</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
</tr>
</tbody>
</table>

**Turn Mode**
- "C"

**Maximum Speed**
- HORIZ SPEED: 60 kph, 80 kph, 100 kph, 120 kph, 140 kph, 160 kph, 180 kph
- DIVE: Stall

**Ammunition Supply**
- Front Gun: CRT nr. 1

Boards are marked to indicate climbing progress.
### AMMUNITION SUPPLY—Front Gun; CRT nr. 1

<table>
<thead>
<tr>
<th>ALITUDE</th>
<th>1</th>
<th>2</th>
<th>3</th>
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### CLIMB PROGRESS SCALE—move marker up one grade for each Friendly Movement Phase spent climbing.

<table>
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<tr>
<th>CLIMB PROGRESS SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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</table>

Move to next altitude.

### TURN MODE

- **C**
- **A**
- **B**

### HORIZ SPEED

<table>
<thead>
<tr>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<tr>
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<td>100 kph</td>
<td>120 kph</td>
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</table>

### DIVE MAXIMUM SPEED

<table>
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<td>80 kph</td>
<td>100 kph</td>
<td>120 kph</td>
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</table>

### Fokker Dr I

<table>
<thead>
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</tr>
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<tbody>
<tr>
<td>0</td>
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</tbody>
</table>

Move to next altitude.

### Fokker D VII

<table>
<thead>
<tr>
<th>ALITUDE</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMPTY</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>

### CLIMB PROGRESS SCALE—move marker up one grade for each Friendly Movement Phase spent climbing.

<table>
<thead>
<tr>
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Move to next altitude.
Explanation of Results

- **O** = no effect; firing ineffective, zero damage inflicted.
- 1, 2, ... 6 represents the number of Damage Points inflicted upon the Enemy aircraft. For each Damage Point, the target aircraft should move its Maximum Horizontal and Dive Maximum Speed indicators down one step (20 kph). The Dive Maximum indicator may never fall below one step (20 kph) greater than the Stall Speed of the aircraft, no matter what Damage is inflicted. If the Maximum Horizontal Speed falls to a step equal to, or less than, the Stall Speed of the aircraft, the aircraft is destroyed, since its air speed has fallen below the minimum needed to keep it aloft. The effect of this damage is permanent and cumulative.

Example: an aircraft with a Maximum Horizontal Speed of “10,” a Stall Speed of “3,” and a Dive Maximum of “8” sustains five Damage Points; its Maximum Horizontal Speed falls to “5,” but its Dive Maximum Speed falls only to “4” (one step above the Stall Speed).

Note: If, due to damage incurred during the Joint Combat Phase, the Maximum Horizontal Speed falls below the setting of the Current Horizontal Speed, the Current Horizontal Speed marker is immediately adjusted to equal the new Maximum Horizontal Speed. This adjustment takes place at the end of the Combat Phase, and has nothing to do with subsequent voluntary speed changes made during the Movement Phase.
Explanation of Results

- A aircraft flying within the hexes of an enemy aircraft will fire at it, regardless of distance, if its Horizontal Speed is greater than the enemy's Stall Speed. The Effects of this firing range are:

  - "O": no effect; firing ineffective, zero damage.
  - "1": each Damage Point, the target aircraft should fall to a speed of "2.5" (one step above the Stall Speed), and its Dive Maximum Speed falls one step (20 kph) greater than the Minimum Speed indicated.
  - "2": if, due to damage inflicted during the Joint Combat Phase, the Maximum Horizontal Speed fallen below the minimum needed to keep it aloft. The effect of this damage is permanent and cumulative during the Movement Phase.

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