

Dogfight!

rules for WW1 aerial combat with miniatures

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APPENDIX A: DESIGN THEORY

DESIGN THEORY: GENERAL

These rules are an attempt to create for players a different experience in gaming WW1 aerial combat. They are meant to confront players with broader tactical decisions that reach beyond the immediate specific-maneuver-choices of a moment within a battle to deal with what is (or will be) happening within the scope of the engagement as a whole. The demands placed on players emphasize these larger decision-making aspects of a pilot's energies rather than the common, traditional focus on flying of most other rules. By removing the need for the player to micro-manage the piloting of the aircraft (these rules assume that the little fellow in the model already knows how to do that...), gametime can be devoted to deciding *what* to do rather than *how*. Instead of choosing which specific maneuver to use to position one's aircraft in a particular way, players will choose amongst tactical objectives (such as "attack that enemy" or "be over there") and then decide on the risk-level undertaken to achieve that goal. The success of an effort (attack, defense, movement, observation, etc...) is determined by dice rolls that are influenced by the pilot / aircraft quality as well as the level of risk (which reflects the difficulty of the task attempted).

The level of control held by players (and the degree of detail of the action displayed on the tabletop) is significantly less than that found in the dominant, traditional flight-sim games common to the genre in which players' chief (if not only) concern / input is the movement and positioning of the aircraft. The point-of-view of this game is similar to that of many / most hand-to-hand skirmish games: Players control the general movement and actions of their character-warriors, but once in the "heat of battle" of close-in combat, their concern (and control / input) lies not in the specific details of each cut and thrust, but instead with the overall tactical intent that I believe occupies the mind of the warrior being represented on the tabletop much more than the technical motions and actions of hand-to-hand combat --or, in the case of aerial combat: the movement and positioning (ie: flying) of the aircraft. I believe that pilots don't think about flying --anymore so than martial artists think about hand / arm positioning or footwork. I therefore believe that players --who are gaming as pilots-- shouldn't think much about flying either. I believe a player should be inside the head of the pilot --not holding the stick.

DESIGN THEORY: MOVEMENT

General movement on the table is hex-based, and is handled as with similar miniatures games (with the addition of a randomization factor described below in "MANEUVER TESTS"). The hexes (and altitude levels) used, however, represent large areas (approximately 500' across --meant to be interpreted as combat / engagement range) within which any number of aircraft can exist. The larger-scale hexes make the position / display of the models on the table more abstract than in other games: there is no representation made of an aircraft's specific position, and those aircraft engaged in a hex (as opposed to merely "passing through") have no facing. Also, models do not display any particular flight attitude: the banking / pitching shown simply indicate the level of maneuver difficulty undertaken / vertical facing (respectively) of the aircraft. It is best for players to view the models as representative playing pieces (much as one would treat a miniature in another genre --a tank model or stand of infantry, for example), rather than as displaying an exact configuration / position.

DESIGN THEORY: FOG OF MOVEMENT

This facet of the game results from dice being used to determine most aspects of movement: from how far a model will move or how tight it will turn to how well a wingover is executed or how much speed can be gained or lost. Models will not move on the table as predictable chess pieces. When one considers the quality of the machines of the time being handled by fallible (though skilled) men, such precision-controlled movement seems unlikely, if not outright impossible. Total chaos and unpredictability is not the objective, however: The odds for the success of many/most moves are very good (or, in the case of simple turns and such: guaranteed). But the gremlins are always out there, and maneuver difficulty (such as tighter turns), poor pilot skill (either basic or modified by wounds), and/or aircraft quality (as with pilot skill: either basic or resulting from damage) can combine to lessen the odds of success --which also increases the risks / dangers involved in failure-- and make it hard for a player to calmly plot his future moves with a great deal of certainty.

The intent of this is to communicate to players what I feel to be the mood of a WW1 dogfight stemming from the unreliability of the machines involved and the inability of the pilots to control these aircraft (and themselves) in a predictable, calculated fashion in a fluid arena where everything -- themselves, their opponents and allies, and the terrain itself-- is moving. Risk and uncertainty yielding peril and opportunity: that is the mood that these rules attempt to create for players.

DESIGN THEORY: MANEUVER TESTS

The mechanism used to inject this uncertainty into the game is the Maneuver Test (MT). All changes in facing (horizontal or vertical) as well as the abstract maneuvering done within a hex require a dice roll (2d6) to determine success: these rolls are called Maneuver Tests. A target number which must be matched or exceeded is dictated by the difficulty of the facing or maneuver attempted, and the roll is modified by both pilot skill and aircraft quality. Failure requires a second roll to determine the effects: this usually only amounts to a slight reduction in the maneuver desired (for example: turning only one hexside instead of two), but failing more difficult maneuvers by a greater amount on the dice roll can result in increased speed penalties (and the associated risk of stall / spin) as well as possible stress damage --generally, the harder the maneuver (and therefore the higher the target number) the greater the risk. MTs have a numerical level --0, 1, 2, or 3 = easy to hard-- which can be roughly translated as: 0 = training school, 1 = basic flying, 2 = combat maneuvering, 3 = pulling the wings off. The MT level affects target acquisition, signaling, collision, orientation, and firing (both by and against) --generally, the more difficult / violent the current maneuvering done, the harder it is to do other things.

DESIGN THEORY: COMBAT

Firing and damage is handled similarly to other games: dice are rolled (modified by both pilot skill and aircraft quality / status) to determine the number of hits, critical hits (affecting vital parts of the aircraft), and possible jamming. An oddity of the rules is that an aircraft may suffer an infinite number of hits: barring a catastrophic critical hit, any number of rifle-caliber holes can be accumulated and a player can still be in the game –albeit restricted in maneuver. Sure kills are hard to come by and require persistence (in the face of other enemy aircraft) or a lucky shot.

The main difference in how combat is treated relates to the physical positioning of the models on the tabletop during the course of play. The lack of display (and player input) regarding specific maneuvering / movement has a direct impact on how combat is handled. Firing opportunities are determined not by model position (which, since specific maneuvers are not shown, is not representative of an aircraft's place in the sky), but are instead represented by an abstract, numerical game-mechanic of relative combat-values (similar to that used in ground-based skirmish games). There is still player input in regard to firing opportunities and/or evasion attempts to get out of an enemy's line-of-fire: but it is handled by dice rolls and numbers instead of the physical positioning of the models on the tabletop.

Thus in this game, players wishing to fire upon an enemy must --instead of choosing maneuvers to point their model at the intended target model-- succeed in abstract Maneuver Tests that will gain them a numerical advantage over their opponent (the size of which advantage will determine the shot's quality). Exactly how the shot is lined up is left to the little fellow in the model (and the player's imagination) --just as with other games in other genres, the details of the close-in fighting are not determined / displayed: only the results of the round of combat are resolved. I readily concede that rolling dice is not nearly as dramatic visually as placing one's model on the tail of another after completing a tricky High Yo-Yo maneuver...but I feel that relying on imagination to fill in that gap is not only possible but can be a part of a successful / satisfying game (as is demonstrated regularly in other genres).

DESIGN THEORY: COMBAT VALUE

Like the Maneuver Test in movement, the Combat Value is a notably different concept that deserves elaboration. Most every other aircombat game has players involved in physically positioning their models in order to determine firing possibilities. This game differs markedly in that whether a shot is possible or not is dictated by the presence of a Combat Value advantage held by the firing aircraft over its target. The Combat Value is an abstract, numerical description of the firing position held by an aircraft on another. The size of the advantage reflects the quality of the position based on the variables of range and deflection: a low number can be viewed as at extreme range and/or large deflection, while the highest value used for firing (10) can be thought of as point-blank range on a target's tail. Besides its primary use in attacking, the Combat Value is also used to modify movement order (to improve tailing odds) as well as movement distance (to allow a pursuing aircraft to maintain contact on a target).

DESIGN THEORY: CONCLUSION

If you as a player like to control and see each and every twist and turn of your aircraft, and to have it do exactly what you want it to do when you want to do it then this game is not for you. If, however, you view a dose of uncertainty as a challenge, and you have no problem leaving the specific display of the heroic sword-stroke that felled the troll to your imagination, then you may find them an interesting diversion.

APPENDIX B: NUTS AND BOLTS

PIECES-PARTS: GAMING SURFACE

The gaming table is divided into hexes which represent engagement / combat areas approximately 500' across. The size of the hexes is determined by the miniatures used: they should be large enough to allow at least four stands to occupy a single hex --though larger is better. Obviously, table size (and reach of the players) will restrict the hex size. To allow for a reasonable amount of maneuver space, it is recommended that a minimum of a 6 x 6 --hex area be available for most games --though greater space would be needed for a larger engagement, and "bigger is better" is a good rule-of-thumb to apply, especially in a genre where the combat arena is airspace! An "open sea" convention (shifting all the pieces an equal number of spaces) can easily be used to expand the playing area should the action move close to the edge of the table. Also: a separate hexboard (either blank or from an existing game such as AH's "Richthofen's War") can be used with counters to move units / aircraft in the initial stages of an encounter until they close to within table-distance.

Side-boards (in the form of single, larger hexes) can also be used --ala "Axis and Allies" battle boards-- to accommodate the engagement of a greater number of aircraft crowding a single hex no matter the scale of models used. This playing convention --used in conjunction with counters / figures to show the movement / position of flights of two or more aircraft on a smaller-scale, master-movement board-- should allow players to game with these rules no matter the scale / size of miniatures available on any reasonable-sized gaming table.

Relevant terrain that should be shown on the table would include trench lines (which would affect pilot survival in a forced landing as well as possible ground fire) and bombing / observation targets (airfields, supply depots, roads, etc...) --these could / should be indicated with moveable / temporary pieces to allow for different scenarios as well as the shifting required in using the "open sea" convention noted above. Clouds (an important part of the "hide-and-peek" or just plain "hide" aspect of the genre) can be shown with either markers on the table surface indicating height / thickness in certain hexes, or with a more physical representation involving cotton or some such material on a stand (similar to those used for the aircraft) displaying the extent of the coverage. No matter the means of representation: terrain / clouds should in no way impair / interfere with the practical / efficient movement of the aircraft models on the playing surface.

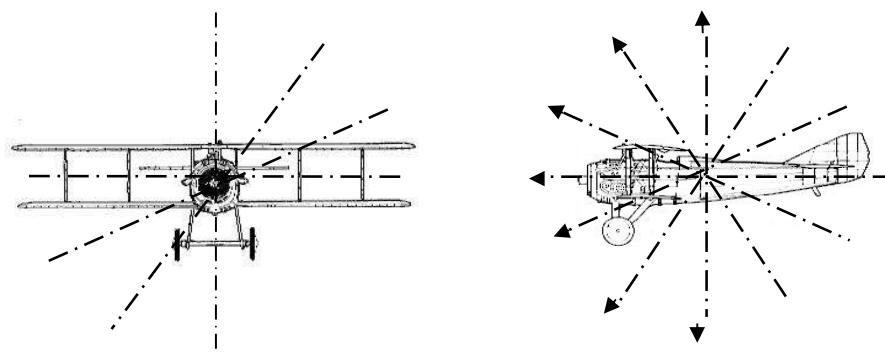
The altitude of each aircraft needs to be shown in 500' increments with a provision for indicating whether the aircraft is in the level or leaving it, either with telescoping / multiple-section stands or counter / chit indicators. While possible, it is not recommended to have players keep track of their altitude in a log: every effort should be made to make the information available in plain view to the other players. As with the horizontal space / hexes: an "open sea" playing convention can be used to shift play / miniatures to a common altitude range --there is no reason to restrict changes in altitude to any more of a constraint than horizontal movement --until, of course, you bump up against terra firma...

PIECES-PARTS: MINIATURES

Models represent individual aircraft.

The size of models used is up to the players, but since base size is tied closely to this and directly affects the hex size and resultant table space available, smaller is definitely better. 1/72 models -- while common-- are, to put it bluntly, almost too large, and further cost / assembly disadvantages far outweigh any possible selection advantage. If entering the genre, the recommended choice is currently between three scales: 1/144, 1/300(1/285), and 1/600. The factors of cost, assembly / painting, and inventory selection pretty much align with the range: the bigger the model = the higher for all three.

No matter the scale chosen, each model will have to be mounted in such a manner as to display a four-segment range of both bank and pitch (up as well as down):



There seem to be as many means of accomplishing this as there are gamers --methods range from magnets to alligator clips to flexible straws...it matters not: as long as the model can be positioned to indicate four distinct steps / positions of both bank and up- / down- pitch.

An option to physically moving the models would be to use chits / markers to display the state of a model's pitch and/or bank status --so long as all the players can see the current status.

The speed for each aircraft should also be displayed by some means: some sort of dial or scale or chits that will allow any player to easily see how fast an aircraft is going.

In sum: the facing, altitude, speed, and bank of all aircraft should be indicated with the model / stand and visible to all around the table. Logs can be used for any/all of these factors, but avoiding the drag such place on play (by forcing players to ask each other for the information) is well worth the effort of devising / constructing / buying a more "public" means of displaying the information on the gaming table.

In addition to the game information and statistics displayed, each aircraft / stand should have a number or other identifier to make targeting and aircraft-specific referrals easier during play.

PIECES-PARTS: GAME MECHANICS

PILOT SKILL

Since game success is based upon a player's ability to maneuver his aircraft and shoot his opponent, it is only natural that a pilot's skill be included as a factor. Each pilot has three ratings (usually ranging from -1 to +2) that measure: experience (affects target acquisition and initiative), flying skill (affects moving and maneuvering), and shooting skill (affects...well: guess). Experience can be seen in the usual interpretation: familiarity with a combat situation and the ability to spot / identify / react to that situation in a meaningful manner. Flying skill covers the pilot's ability to handle / manipulate the controls to make the aircraft do what he wants it to do. Shooting skill applies to the pilot's skill in judging range, bullet-drop, deflection, and the other myriad complications that arise from attempting to put a round into a moving target from a shaky, moving platform.

The individual numbers assigned to each pilot in a game are left to the GM's discretion, though anything beyond the recommended -1 to +2 range should be justified for scenario / historical reasons (example: giving a +3 flying skill to a player representing a pilot of Werner Voss' caliber). Also, the specific situation should be considered when assigning skill ratings: such as whether the pilot has skill flying rotary-engine-powered aircraft (like someone climbing into a Camel for the first time) or has relevant combat experience (such as a veteran of 1915 faced with the battles of the later war).

AIRCRAFT RATING

As much as a pilot's skill, the outcome of a dogfight depends upon the performance / quality of the aircraft under his control. As such, aircraft have ratings / statistics that determine and/or modify their movement and firing, including:
min / max speeds, maneuverability, climb, strength, power, drag, and ammo supply.

These numbers (in the AIRCRAFT LOG DATA BASE) are, admittedly, best-guesses from amongst a myriad of data obtained in only a cursory examination: it seemed to me that for every two sources consulted there came back three answers to any particular performance / stat question. I have attempted to describe the means used to obtain the numbers applied to the game: where they are only anecdotal / opinion-driven I have noted such. If anyone has a source that contradicts / modifies a performance figure / statistic for a particular aircraft, I sincerely invite them to contact me with that information. Truth be told: I got tired of seeking / waiting for the "truth", and decided to just go with what I had...

The bottom line for aircraft ratings is this: as long as all players involved agree on using a particular number to rate / describe an aircraft's performance, then it's okay.

PIECES-PARTS: GAME MECHANICS (cont'd)

NUMBERS

The numbers used in the game --both as quantity and effect values as well as dice roll targets / modifiers-- have been kept as much as possible to whole numbers and intuitive quantities / increments. Example: for each level / step of steepness in a climb (1, 2, or 3) an aircraft loses a point of speed (1, 2, or 3). While sacrificing exact performance simulation, the intent is to capture / reflect the impact these numbers / effects have on the decision process of the pilot / player and to produce comparative results / consequences (if not actual values) for the choices made while making it as easy as possible for gamers to play without repeated reference to charts / tables containing difficult-to-remember modifiers or calculators to process complicated formulae.

Put simply: given a choice of a fraction and/or formula to determine an effect / modifier, I went with a whole number or intuitive modifier (such as "skill +1 = +1 modifier" or "divide by the range in hexes"). These arbitrary numbers may not reflect exact performance values, but their effect on the game performance (and by extension, player decision-making) is intended to mirror the effects of the relevant factors (whether speed or climb performance or structural strength...) and produce a historical parallel to what may have occurred in the skies over Europe some 90 years ago, as well as (more importantly) not get in the way of a swift-playing game.

DICE ROLLS

High is good and low is bad. If trying to accomplish something, a roll higher than (or matching) a target number will yield success, and a lower roll will result in failure and/or a greater penalty.

Though there is a lot of dice-rolling in the game, much of it is to account for events (collision, gun-jamming, missed turns, etc...) that will occur rarely due to the long odds: thus "drop the dice...check only if necessary" is a good playing convention to utilize to keep the game moving. Example: a player wishing to perform a particular maneuver (especially if it is easy --say one requiring a 2d6 roll of greater than perhaps 2 or 3) should simply roll the dice without even consulting the table or determining the target number for success --if the roll comes up low (--maybe less than 4 or 5?) then the appropriate time can be spent to determine if the maneuver was a success. Otherwise, in most cases, play can proceed without the tedium of calculating that yes, indeed, the sun rose in the East today...

PIECES-PARTS: RULES

The actual, need-to-read rules are in plain type. Sections / paragraphs that provide a general description or definition or example of a rule's subject are *in italics*. Sections / paragraphs that provide design notes or theory or play tips are highlighted in grey.