

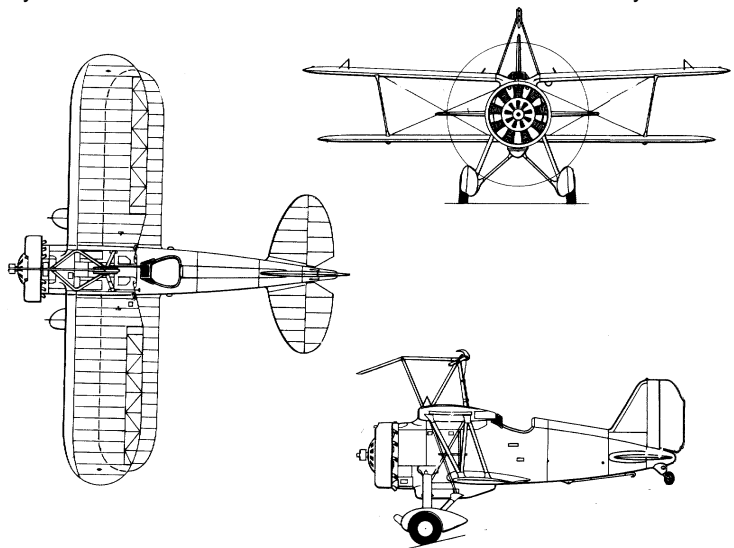
F9C-2 Sparrowhawk

Country: USA

Service Entry Date: 1933

A/C Type: Scout Fighter
 Engine(s): Wright R-975 E-3 radial
 Eng. Pwr: 438 hp, Air-cooled
 A/C Crew: Pilot

Maximum Speed: 176 mph
 Maximum Ceiling: 19,200
 Defense factor: 5 Size Modifier: -1
 Damage Factor: 6/9 Endurance: 129
 Cockpit View: Fair Blind Area: Rear low
 Protection: Cockpit +0 Engine +0 Fuel +0
 Climb Dece/ Dive Accel: 2.0 / 1.0
 Weight and Load Limit: 250 / 1-2
 Wpn Stations Weight Allowed Loads
 1 250 30 gal FT



AIRCRAFT PERFORMANCE CHART

Altitude		Minimum Speed	Maximum Speed	Maximum Dive Spd	Min TT(1)	Min HT(2)	Min BT(2)	Min ET(3)	Altitude		Average Rate of Climb
Levels	Bands								Levels	Bands	
43+	UH	--	--	--	--	--	--	--	43+	UH	--
37-42	EH	--	--	--	--	--	--	--	37-42	EH	--
31-36	VH	--	--	--	--	--	--	--	31-36	VH	--
25-30	HI	--	--	--	--	--	--	--	25-30	HI	--
19-24	MH	1.5	3.0	6.5	2.0	3.0	4.5	5.5	19-24	MH	200
13-18	ML	1.5	3.5	6.6	2.0	3.0	4.0	5.0	13-18	ML	800
7-12	LO	1.0	3.5	6.0	1.5	2.5	3.5	4.5	7-12	LO	1,300
1-6	VL	1.0	3.5	5.5	1.5	2.0	3.0	4.0	1-6	VL	1,700

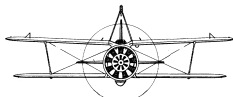
FIRE POWER CHART

Guns	Type Weapons	Ammo	Criticals
N1	2x .30 cal MG	10	4

GUN ATTACK FACTORS

Range	N1
0	11
1	8
2	5
3	3
4	2
5	1
6	--
7	--

WEAPON STATION LOCATION



1

POWER VERSUS SPEED CHART

Levels	Bands	1.0 - 4.5	5.0 - 7.5	8.0 - 9.5	10.0+	Band
43+	UH	--	--	--	--	UH
37-42	EH	--	--	--	--	EH
31-36	VH	--	--	--	--	VH
25-30	HI	--	--	--	--	HI
19-24	MH	1	--	--	--	MH
13-18	ML	2	--	--	--	ML
7-12	LO	4	--	--	--	LO
1-6	VL	5	--	--	--	VL
Banking FPs		1	2	4		
Side Slip FPs		1	3	5		

NOTES AND VARIANTS

F9C-2: This aircraft is famous beyond its size, capability, and numbers due to its deployment. The F9C-2 was carried aloft by the US Navy's zeppelins Akron and Macon. 6 were built, as well as two prototype aircraft. These tiny craft - 5.9m long, 7.77m wingspan - scouted for the zeppelin, whose job was to scout for the fleet, as well as defend it. Open cockpit, fixed gear, Ring & bead gunsight.

The F9C-2 deployed in flight by dropping it off a Trapeze. It was recovered by flying to the Trapeze and hooking up to it. (See Zeppelin rules for details.)

The Sparrowhawk could fly with its landing gear detached and with a 30 gal (non-dropable) FT instead. Without landing gear: +1 accel; turn decel = 1-1-2-2 - but landing can only be by trapeze on the zeppelin.

30-gal FT: Wgt: 250 lbs **Ld:** 2.0/1.5 **End:** +30

Akron-class Zeppelin

A/C Type: Large Dirigible
 Engine(s): 8x Maybach VL-11
 Eng. Pwr: 8x 560 hp, Air-cooled
 A/C Crew: 77 men, 8 officers

Maximum Speed: 72.5 mph
 Maximum Ceiling: 7,500 ft

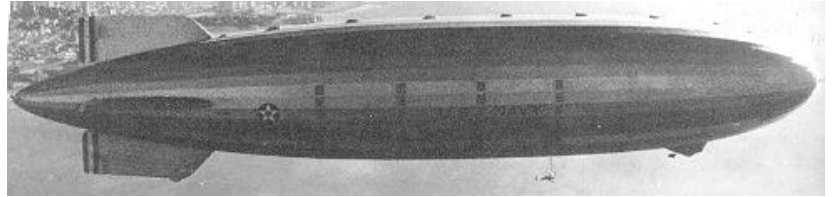
Defense factor: 4 Size Modifier: +5
 Damage Factor: 60/90 Endurance: 10,800
 Cockpit View: Good Blind Area: None

Protection: Cockpit +0 Engine +0 Fuel +0
 Climb Dece/ Dive Accel: 1.0 / 1.0
 Weight and Load Limit: 15,000 lbs

Wpn Stations	Weight	Allowed Loads
1 (Trapeze)	2,800 lb	1 Sparrowhawk ftr
2 (Hangar)	11,000 lb	4 Sparrowhawk ftr

Country: USA

Service Entry Date: ZR-4: March, 1931
 ZR-5: April, 1933



Class: Dirigible

Victory Points: 12-18

AIRCRAFT PERFORMANCE CHART

Altitude Levels	Bands	Minimum Speed	Maximum Speed	Maximum Dive Spd	Min TT(2)	Min HT(-)	Min BT(-)	Min ET(-)	Altitude Levels	Bands	Average Rate of Climb
43+	UH	--	--	--	--	--	--	--	43+	UH	--
37-42	EH	--	--	--	--	--	--	--	37-42	EH	--
31-36	VH	--	--	--	--	--	--	--	31-36	VH	--
25-30	HI	--	--	--	--	--	--	--	25-30	HI	--
19-24	MH	--	--	--	--	--	--	--	19-24	MH	--
13-18	ML	--	--	--	--	--	--	--	13-18	ML	--
7-12	LO	0	1.5	2.0	0.5	--	--	--	7-12	LO	200
1-6	VL	0	1.5	2.0	0.5	--	--	--	1-6	VL	500

FIRE POWER CHART

Use .30s for pre-1941 scenarios.

Guns	Type	Weapons	Ammo	Criticals
F/DG	1x .30cal	M2 MG	12	4
TG	1x .30cal	M2 MG	12	4
VG	1x .30cal	M2 MG	3x5	4
F/DG	1x .50cal	M2 MG	10	2
TG	1x .50cal	M2 MG	10	3
VG	1x .50cal	M2 MG	3x10	3

GUN ATTACK FACTORS

Pre- 1941 1941 and later

Range	F/D/TG	VG	F/D/TG	VG
0	4	4	6	6
1	3	3	4	4
2	2	2	3	3
3	1	1	2	2
4	1	1	1	1
5	1	1	1	1
6	--	--	1	1
7	--	--	--	--

WEAPON STATION LOCATION

POWER VERSUS SPEED CHART

(per engine)

Levels	Bands	1.0 - 4.5	5.0 - 7.5	8.0 - 9.5	10.0+	Band
43+	UH	--	--	--	--	UH
37-42	EH	--	--	--	--	EH
31-36	VH	--	--	--	--	VH
25-30	HI	--	--	--	--	HI
19-24	MH	--	--	--	--	MH
13-18	ML	--	--	--	--	ML
7-12	LO	.125	--	--	--	LO
1-6	VL	.125	--	--	--	VL
Banking FPs		*	--	--	--	
Side Slip FPs		--	--	--	--	

NOTES AND VARIANTS

Defensive Gun Arcs

Gun	Location	Arc	Notes
FG	Hex1,top	Front, Lvl to High	Mounted front/top of envelope.
DG	Hex 2, top	sweep 3-6-9:00, Hi	Mounted rear/top of envelope.
TG	Hex 3,bottom	Rear, High to Low	Wide field of vertical fire.
VG	Hex1, bottom	Rear, Low	Mounted aft end of control car.

This massive airship is spread over 3 hexes and fills two altitude levels. See the additional Zepp rules attached. Pre-1941, use .30 cal defensive guns.

ZR-4 USS Akron: Available 1931. Destroyed in a storm off the New Jersey coast in April, 1933.

ZR-5 USS Macon: Available April, 1933. Destroyed in a storm off the California coast in Feb, 1935.

Zeppelin Rule Expansions

These pages include experimental rule expansions to allow zeppelins in *Fighting Wings*. Admittedly, these babies are in way over their heads. These expansions include:

- Locations
- Critical hits
- Movement
- Collisions
- Launching & recovering Zeppelin-borne aircraft
- Scenarios

Zeppelin Locations

The *Akron*-class zeppelins were 787 feet long and about 150 feet in diameter, making it larger than hex or vertical increment. The *Hindenburg* and *Graf Zeppelin* were of a similar size. A Zeppelin is 3 hexes long and takes up two vertical increments. Thus, a zeppelin takes up a six hex/increment block. Base the altitude on the control car's height; the top of the zeppelin is one increment higher. Since each block contains different equipment, each has a separate damage chart:

Top: BowMiddleStern

Keel: BowMiddleStern

These terms were not used by the military; I use them for convenience. You can shoot at any one section of the zeppelin in your gunnery arc.

I have tried to keep the *Akron*-class fairly consistent with reality as a target:

- No armor to speak of.
- A flying barndoor of a target, easy to hit and damage.
- Takes a lot of punishment due to size and (comparative) lack of vulnerable parts.

Zeppelin Critical Charts

Use the critical hit chart appropriate to the section of the vessel you attack.

Bow Top/Middle Top

Each contains a gun position and lots of gas cells.

1-9 Gas cell

10 Other:

1-8 Support

9 Crew (serving weapon)

10 Weapon (FG/DG)

Stern Top

Contains gas cells and tail gun position

1-9 Gas cell

10 Other

1-3 Crew

4-8 Support

9 Weapon (TG)

10 Rudder

Bow Keel

Contains control car and gas cells.

1-8 Gas cell

9 Support

10 Cockpit (use normal cockpit hit)

Middle Keel

Contains radio room, hangar, trapeze, fuel, and gas cells.

1-6 Gas cell

7 Support

8-9 Hangar

10 Other:

1-3 Crew

4-6 Fuel

7-9 Controls

10 Radio - radio room out of commission.

Stern Keel

Contains controls, engines, auxiliary bridge.

1-5 Gas cell

6-7 Fuel

8-9 Engines

10 Controls

Effects of Zeppelin Critical Hits

Gas Cell: Note each gas cell critical hit (a running total of tick marks will suffice). For each Gas Cell hit, decrease the zeppelin's ceiling by an increment. If playing with hydrogen-filled (German) zeppelins, each hit has a 1/10 chance of starting a fire.

Support: Damaged a critical part of the zeppelin's framework. Roll 1D10 and compare it to a running total of the number of support hits each turn the zeppelin takes a support critical hit. If the number rolled is less than the total, the zeppelin suffers catastrophic structural failure.

Crew: One of the key crew suffers a casualty. Roll based on position hit:

Cockpit: Pilot, Captain, Elevator, Navigator, Gunner, Loader,

Any Top: Gunner, Loader

Mid Keel: Pilot, Mechanic (Loads the trapeze), Pilot, Pilot, Radioman, Radioman (pilots are for carried aircraft)

Others: general crew.

Weapon: The weapon in that location is destroyed.

Hangar: Equal chance to damage the trapeze gear or any aircraft in the hangar (roll 1Dn+1, where n is the number of aircraft in the hangar; the extra is a chance to damage the trapeze gear).

- Trapeze gear: Launching or raising new aircraft from the hangar deck impossible, although an aircraft on the trapeze can be launched or one hooked on.

- Aircraft: Apply the damage amount (for one critical) as well as a critical hit to the aircraft instead of damaging the zeppelin.

Fuel: Administer a fuel hit on an American zeppelin normally, but ignore any endurance loss due to fuel leaks. If playing with hydrogen-filled (German) zeppelins, the chance of explosion for a fuel fire roll is 1-4. However, by the third turn of a fire, add 1 each turn to the chance of the fire going out (to a maximum of 7-10 = fire out) due to the crew efforts. Track each fire separately.

Zeppelin Movement

The following rules additions affect zeppelin movement:

- Turns take 5 times as long to accomplish as aircraft.
Example: at Speed 1, an EZ turn requires 5 FP to complete.
- When a zeppelin turns, pivot on its center hex.
- Due to its inertia, using IDL setting for engines does not slow a zeppelin immediately; it simply adds no acceleration.
- A zeppelin CAN reverse engines for negative acceleration.
A zeppelin can stop in place.

Collisions

As noted, Zeppelins take up a lot of space - but do not quite take up the entire hex. Rather like flying toward a wall. Use the collision rules as described except that you roll for every aircraft that enters the hex containing a zeppelin with the following modifiers:

- Entering hex with zeppelin fore or aft section: +2
- Entering hex with zeppelin mid section: +4

Aircraft making hook attempts do not need to roll for collision.

Launching and Recovering Zepp-borne Aircraft

Launching Aircraft in the Tactical Phase

- An aircraft carried on the trapeze requires one turn to launch.
- An aircraft in the hangar may be launched every two turns.

Launching Aircraft in the Combat Phase

It is possible to launch aircraft in the combat phase.

- Start on Trapeze: An aircraft already on the trapeze can be launched in 1D10 turns.
- Being launched (begun before entering combat phase): launch in 2D10 combat turns.
- Begin to launch during combat: 15+2D10 combat turns.

All launched aircraft start at speed 1.5, flying level.

Recovering Aircraft in the Combat Phase

To recover aircraft.

- Aircraft must be equipped with a hook.
- Aircraft flies into mid keel hex/increment, ending turn at speed 1.5.
- Aircraft remains for 1 turn at that speed. At end of turn, roll 6+ (pilot mods apply for Vet & Green) to hook up.

Once hooked up, the aircraft no longer can move or shoot. It takes 5 combat turns to haul it into the zeppelin and 1D10+6 to remove it from the hook so that the hook can be re-used.

Recovering Aircraft in the Tactical Phase

One aircraft can be recovered every two tactical turns. Once recovered, aircraft are considered in the Hangar.

Operational Phase Issues

Aircraft can be rearmed and refueled and reused in an operational game.

Up to 5 aircraft can be recovered in an Operational turn. No refueling or rearming can occur during recovery operations.

Zeppelin Scenarios

The following scenarios are utter fantasy. Zeppelins proved too fragile in long-term use for continued military use. Both *Akron* and *Macon* were lost to storms by 1935. The hydrogen-filled *Hindenburg's* disaster is well known. Two other large civilian zeppelins, *Graf Zeppelin* and *Deutschland*, were disassembled at the beginning of the war. *Deutschland* was larger than *Hindenburg* and had just finished assembly when the war came. But let's just say that the disasters did not occur, and that Admiral Moffett's replacement favored the aggressive use of LTA craft to prove their worth...

Poking Our Nose In (November, 1939)

Background: Admiral Moffett's replacement orders *Akron* to cruise across the Atlantic to England for a good will, show the flag visit. While cruising past Dover across the North Sea, *Akron* catches the attention of an enthusiastic German radar operator, who mistakes her for a flight of bombers. The enthusiastic pilots follow orders to "attack the target" without further clarification, inciting quite the international incident.

Map: Blue sky

Aircraft: US Navy 5 FC9-2, USS *Akron*
German 4 Bf-109 E3

Setup: Set the zeppelin up left of center of the board, heading toward the nearest edge at 5000 ft. Set up all 5 FC9-2s within 5 hexes and 1000 ft altitude. Set up the 109s in loose formations entering at 7000 ft. at speed 4.5 entering from the other end of the board.

Game Length: 20 turns.

Special Rules: Zeppelin Rules apply.

Scouting for the Fleet (December, 1941)

Background: After the "accidental" loss of USS *Akron* off Holland, The White House orders no more LTA operations over the Atlantic, an order that will cost the US a lot of shipping in early 1942 until it is rescinded. The *Macon* is assigned to the Pacific fleet. On December 6th (or 8th), the USS *Macon*, while on a routine cruise west of the Hawaiian Islands notices a large fleet of ships, including aircraft carriers. As the radiomen frantically reported in, the pilots frantically launched before the CAP could climb all the way up...

Map: Blue sky

Aircraft: US Navy 5 FC9-2, USS *Akron*
Japanese 3 A6M2 Reisen

Setup: Set the zeppelin up in 2530, heading E at 6000 ft., speed 1.0. Set up 2+1D3 FC9-2s w/i 5 hexes, 1000 ft alt., speed 2.0.

Set the A6Ms in a vic, 10 hexes away from the nearest F9C-2 at 4500 ft East of *Akron*, Jap player's choice of speed (up to max level), heading, bank, and attitude.

Game Length: 20 turns.

Special Rules:

1. Zeppelin Rules apply.
2. If less than 5 F9C-2s are aloft at the beginning, the others can be launched during combat.

Variants: Play this earlier vs 6 A5M Claudes (flying in vics) in a Plan Orange war in the late thirties. Start the second vic at 6,000 ft. That will be a little more even...

Warning: Either of these scenarios are likely to end in the destruction of the zeppelin. Enjoy!