Buffalo Wings
Addenda as of Sept 12, 2018

The Rules:

Table of Contents: (corrections):

Scale should be 2.1
Delete **Concept** (integrated with Introduction)
Delete **Map Position**
Altitude should be **2.6**
Facing should be **2.7**

2.4.1 ADC Layout: The description for "E" is in "F" and the description for "F" is in "E". They should be switched

2.6 Altitude, Chart (correction)**: UH+** should state "43.000 and above"

3.0 Initiative Determination, 5th line: this should state " …the order of lowest result first to the highest result last."

4.5.8, 4th line Bracketed text (addition) add "-1 modifier" before "for each existing spar hit…"

6.2.2: Power vs Speed Chart: The rule states that, "there may be one number, or two separated by a slash". Always use the number left of the slash when playing Buffalo Wings.

7.1 Fixed Gun Combat (clarification): Aircraft in half shaded hexes in the diagram are valid targets. Aircraft on non-shaded hex sides of a half shaded hex are not.

8.1.2 Flying Restrictions, line one (correction): change the word "optional" to "direction" and add "(Section 5.1)" after reversal.

10.0 Example of Play

Turn 1 Finn, 1st paragraph, line 1: The value should be 3 accel points.

Turn 1 Finn, 3rd Paragraph;

1st line: Should be "3 accel"
4th line: Should be "Net decel = 3 - (6+9+2) = -14"
5th line: Should be "… the 4 remaining decel"…

Turn 2 Finn, 1st Paragraph: To get onto the I-16's tail the Brewster must reverse turn direction, which will delay when it can start turning right (rule 4.5.9). This will take 2 FPs as the Brewster's banking FP requirement at speed 4.5 is 1.

Turn 2 Finn, 2nd Paragraph: should read: "Ending altitude is 10,400 - 500 = 9,900. Ending speed is calculated as follows: 0 engine power + 5 (diving accel) - {3 (one HT turn decel) + 6 ((HT x 2) nose pitch transition decel) + 4 (decel carry from the turn before) + 3 (climb attitude decel penalty)} = 5 - {16} = -11 accel. A -11 accel (or 11 decel) reduces the Brewster's speed by 1.0 to 3.5. There will be a 1 decel carry over to the next turn. There will be no half FP carry to the next turn."

Plot Sheet Diagram Example
The following entries should be:

Turn 1, Pwr Accel: 3 **Turn 1, Total Accel:** 3 **Turn 1, Accel – Decel:** -14 **Turn 1, Spd Change: -1.0, -4
Turn 2, HPFs:**4 **Turn 2, Decel carry:** 4 **Turn 2, Total Decel:** 16 **Turn 2, Accel – Decel:** -11 **Turn 2, Spd Change:** -1.0, -1
Turn 3, Speed: 3.5 **Turn 3, Decel carry:** 1, **Turn 3, Dive / Dv Pitch Acc.:   / 1**

13.0 Basic Bomber Rules (addition)

B) Bomber Data Sheet For combat purposes, the defense strength of all bombers is 5.

C) Bomber Defensive Fire The critical hit rating of all defensive fire is 4.

D) The diagrams referred to as "below" are the firing arc diagrams on page 6

14.5 Scenario Length (addition): Unless stated otherwise in a scenario, each scenario is 15 turns long (one log sheet per plane). If all players agree prior to the end of turn 15, play may be extended to 30 turns (2 log sheets per plane per game). Only one such extension is allowed per game.

The Charts:

Scenario 17.14 Set Up:

Brewster #1	2930
Brewster #2	3035
LaGG #1	2825
LaGG #2	3025

Flight play aids Table / Flight Rules Summary, Item C, first bullet should read: "• 1 to ≤ half of total FPs may be VFPs if first turn of climb or dive."

Gun Attack Percentile – Die Roll Modifiers: Ignore the "-G" and "A/C Inverted" entries. These are for the full Fighting Wings rules.

Brewster ADC
Notes & Variants: The date of the change from a .30 cal MG to the 50 cal MG should say "…by June 1943,…"

The Magazine:

There a Missing Table from this issue's "And the Data Shows" article by Ed Heinsman:

TABLE 1: ESTIMATED FULL ESTABLISHMENT SIZE OF MAJOR POWER OR BELLIGERENT AIR FORCES ON 1 SEPTEMBER, 1939

	Ftr	Obs Ftr (1)	Bmr (2)	Obs Bmr (1)	Recce	Transport	Sea Planes	Trainers	Other (3)	Total AC	Personnel
USSR	120	11,289	770	3,263	687	2000	300	5,000	6,000	29,429	363,700
Italy	629	163	62	1,231	465	87	302	2450	400	5,789	101,000
Germany	1,179	141	1250	336	604	552	240	456	95	4,853	203,500 (4)
Japan: IJAAF	280	350	450	172	180	175	NA	300	NA	1,907	21,875 ?
Japan: IJN	371	337	644	362	30	23	518	500	NA	2,785	12,250 ?
Japan Total	651	687	1,094	534	210	198	518	800	NA	4,692	34,125 ?
France	515	99	8	710	296	24	218	1,000	1,600	4,470	77,500
UK: RAF	852	148	486	256	113	18	40	982	1,000	3,895	175,708
UK: RN	21	12	0	127	40	0	83	38	(5)	321	6,420 ?
UK Total	873	160	486	383	153	18	123	1,020	1,000	4,224	179,200
US: AAF (6)	492	NA	777	NA	378	761	(7)	131	NA	2,539	24,724
US: USN (8)	200	NA	374	NA	408	103	(7)	277	NA	1,362	23,451
US Total	692	NA	1,151	NA	786	864	(7)	408	NA	3,901	48,175
Poland	0	280	76	205	210	0	21	669	NA	1,461	10,000
China (9)	0	80	0	97	114	50 ?	NA	100?	100?	541	NA
Finland	42	34	17	34	14	2	33	153	NA	NA	329

KEY Ftr = fighters; Bmr = bombers; Obs = obsolete; AC = aircraft; Pers. = personnel; ? = best conservative "guesstimate" based on inferences from sources consulted. NA: no figures available.

(1) Obsolete planes still used in first line units.

(2) Includes level, dive and torpedo bombers, if any.

(3) A catch-all category used in many sources. Can include obsolete planes not assigned to any unit, liaison aircraft, first line reserves, even new planes not yet assigned to units (especially used by the UK).

(4) Does not include paratroopers or FLAK units.

(5) Included in RAF total above.

(6) Information on US air power after Pearl Harbor is copious but data for before7 December 1941 is quite scarce. Figures for total number of aircraft exist but the types and their modernity is not revealed. Figures for US are accurate as to totals only, with obsolete and modern planes lumped together.

(7) Apparently, the US included sea planes in another category, most likely reconnaissance.

(8) Includes carrier and land based aircraft for Navy and Marine Corps.

(9) Figures are given for start of Sino-Japanese War in 1937 and are even sketchier that those for Japan. By October, 1939 Chinese Air Force was down to 135 aircraft of all types but had received delivery of 215 Soviet fighters and bombers which would be available for combat by the end of the year—and were lost in operations shortly thereafter.

Table 4: Due to a SNAFU there were some mistakes in Table 4 (Estimated Losses...) on the UK rows. The correct figures are:
UK:RAF: Total Aircraft Lost:34,435; Total Air Crews lost 82, 208; Aircraft Lost in Combat: 19,726(57%); Air Crews Lost in Combat: 67,449(82%);Aircraft Lost Non-Combat 14,709(43%); Air Crew Non-Combat Losses: 14,759(18%)
UK:RN: Aircraft Lost in Combat: 530. Air Crew Combat Losses 1,925.
These figures make total UK aircraft combat losses 20,256; and combat crew losses 69,734.

List of Sources: This was also cut and reproduced here for those that are interested.
Varley, Micheal. "Aspects of the Combined British and American Air Offensive Against Germany: 1939-1945" www.homepage.ntlworld/r_ m_g_.varley/Strategic_Air_Offensive.html
"Army Air Forces Statistical Digest: World War II" www.usaaf.net/ digest/index.htm
"Naval Aviation Combat Statistics: World War II" Washington, D.C.: Office of the Chief of Naval Operations, 1946. www.history.navy.mil
"Backwoods Landing Strip: Finnish Air Force Aircraft" www.scifi/faf/ ambush
Tillman, Barrett. "The Cost of Doing Business" (Dec. 2009) www.flightjournal.com

The Amended Example of Flight & Combat

For purposes of this example, a Soviet I-16 is flying along at speed 3.5 (175 mph), at altitude 9.5 (9,500 feet), heading SSE and unaware of a Brewster Model 239 that is about to attack. It will move first for two turns straight ahead.

Note that since the I-16 has a half speed (3.5), it can only move three HFPs (horizontal flight points) on turn 1, but on turn 2, the unused 0.5 FP carry will join up with its speed of 3.5 to provide a total of 4 HFPs to play.

The Finnish Brewster starts game one turn facing SSW with a speed of 5.5 FPs (275 mph), at altitude 9.8 (9,800 feet). To make his attack the player wants to climb and turn left to avoid overshooting the enemy, then dive and reverse the turn to the right to swing in behind the I-16. The example uses all normal and optional rules.

Turn 1 Soviet The I-16 moves 3 HFPs SSE from hex 2816 to 2517.

Turn 1 Finnish The Finnish player selects max power gaining 3 accel points and chooses a climb. Since this is the first turn of climbing, only two of his FPs (half of 5.5 rounded down) may be VFPs. He declares a left turn at the BT rate. At speed 5.5, this is a 2-1 facing cycle. He expends FPs as follows - 2 HFPs to move from 2817 to 2616 and turns left once at the BT rate to a facing of S. 1 HFP to move onto the 2515 / 2516 hexside turning again at the BT rate (remember the 2-1 cycle), sliding off the hexside into hex 2516 and ends up facing SSE. He then expends his last two FPs as VFPs to gain 600 feet without leaving hex 2516, turning left again at the BT rate to SE. His move is done. He has not shot since his nose is up.

Altitude and speed changes are as follows: The new altitude is 9,800 + 600 from the two VFPs which gave him 300 feet each = 10,400.

The Brewster gained 3 accel from engine power. It incurred 6 decel points for climbing 600 feet, and 9 decel for turning 3 times at the BT rate, which cost 3 apiece. It also pays the nose pitch decel of TT rate for 2 more. Net decel = 3 - (6+9+2) = -14. This drops the Brewster's speed by 1.0 to 4.5. And it carries an unused half FP and the 4 remaining decel to the next game turn.

Turn 2 Soviet The I-16 moves 4 HFPs SSE to hex 2119.

Turn 2 Finnish To get onto the I-16's tail the Brewster must reverse turn direction, which will delay when it can start turning right (rule 4.5.9). This will take 2 FPs as the Brewster's banking FP requirement at speed 4.5 is 1. Being above the enemy, the Finnish player chooses diving flight and 0 power points (not idle though). He plans to lose 500 feet using 1 VFP and a free

adjustment at the end of his move. He plays his move as follows - 2 HFPs to move from hex 2516 onto hexside 2417 / 2517 and on into hex 2418. He only needs to face 30° right to slide in on the I-16's tail. He chooses an HT turn rate, which at speed 4.5 requires 2 FPs. He plays his one VFP to lose 300 feet and another HFP moving onto hexside 2318 / 2419 and then changes facing once right to SSE, falling into hex 22318 in the process. He now has his extra FP to play and he moves forward into hex 2219, ending up one hex directly above and behind the I-16. As a final act - he free adjusts his altitude 200 feet downward.

Ending altitude is 10,400 - 500 = 9,900. Ending speed is calculated as follows: 0 engine power + 5 (diving accel) - {3 (one HT turn decel) + 6 ((HT x 2) nose pitch transition decel) + 4 (decel carry from the turn before) + 3 (climb attitude decel penalty)} = 5 - {16} = -11 accel. A -11 accel (or 11 decel) reduces the Brewster's speed by 1.0 to 3.5. There will be a 1 decel carry over to the next turn. There will be no half FP carry to the next turn.

Turn 2 Combat The Brewster is in normal diving flight, one hex behind the I-16 Rata. Range is 1 horizontal + 1 vertical (400 feet). It's horizontal and vertical gun arcs cover the target, which must be between 100 and 600 feet below the Brewster to be a legal target; it is. At range 2, the Brewster's firepower is 17 points. The initial deflection is a rear shot at "x 1" defense. Per the deflection instructions this is modified to a "x 2" since the Brewster is diving (one step from level) and the I-16 is in level flight. The defense factor of the I-16 is 5, times 2 = 10.

17 firepower to 10 modified defense is a 1-1 odds shot. Modifiers = the Brewster pilot is a veteran ace (-15), and the shot is taken from the target's 6:00 line (-20) and range 2 is in the Brewster's gun harmony range (-15). The Brewster used at maximum, an HT turn rate (+10). So the final shot modifier = +10-50 = -40, a pretty good shot really.

Combat Results The Finnish player rolls the die, getting a 58 - 40 = 18 final result for 3 damaging hits. This is enough for one critical hit die roll. Rolling for area hit results in a 7 - 1 for rear shot = 6, cockpit. The critical effect die roll = 3, which should kill the Russian pilot, but the I-16 has a +1 modifier for cockpit armor protection, which runs the roll up to 4, resulting in only a wounded pilot.

This concludes the example of play.

A revised AC Log sheet Use Example reflecting this update is on the next page.

BUFFALO WINGS AC BASIC LOGSHEET

Aircraft: *BREWSTER 1*
Pilot Quality:
Init. Mod:

Damage Notes:

Combat Notes:

Game Turn

Start / Information	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Initiative Roll	NA	NA													
Hex	2817	2516	2219												
Facing	SSW	SE	SSE												
Altitude	9.8	10.4	9.9												
Speed	5.5	4.5	3.5												
Half FP carry	---	0.5	---												
Nose Pitch	LVL	CL	DV												
Turn carry	---	LEFT- 0	---												
New Pitch	CL	DV													
HFPs	3	4													
VFPs	2	1													
Alt. By VFP	+600	-300													
Alt. Adjust	0	-200													
Total Alt. Change	+600	-500													
Accel Carry	0	0	0												
Pwr Accel	3	0													
Dive / Dv pitch Acc.	0	5	/ 1												
Total Accel	3	5													
Decel Carry	0	4	1												
Pitch Decel	2	6													
Climb / CL pitch Decel	6	0 / 3													
Turn Decel	9	3													
Misc. Decel	0	0													
Over Speed Decel	0	0													
Total Decel	17	16													
Accel - decel	-14	-11													
Spd. Change	-1.0, -4	-1.0, -1													