GENERAL

Featuring: **MUSTANGS**

VOL. 30, NO. 5 · GENERAL
CONTENTS

Features

Columns

The Reader Survey conducted in Vol. 30, No. 3 has given me a very good idea of who is the "average" subscriber.

He is 38 years old, male, with two kids (if he has any) and has been playing TAHGC games since his teenage years. He subscribes to 1.2 other gaming magazines, owns a computer, splits his game spending evenly between boardgames and computer games, rarely plays collectible card or role-playing games, devotes about four hours per sitting to a game and spends one-third of his playing time at the computer. His favorite topic, without question is World War II. A distant second, but still popular, is the American Civil War. He shows some interest in buying modern warfare, Napoleonic, ancient and other 20th century warfare games. He has only mild interest in the 17th-19th centuries, medieval, science fiction and family games. He shows almost no interest in fantasy games and low interest in sports, economics and politics. Interestingly, adult age group breakdowns show only a few deviations from this pattern.

In fact, the striking uniformity of subscriber interest in World War II inspired the form taken by this issue of *The GENERAL*. Although less than half of you like issues devoted to one theme, it seems safe to say that should the theme be related to World War II, acceptance will be broader (and the playability of the game and historical notes in the scenarios should also help). The current issue represents a rather large departure from what you will find in most issues under my editorship, as I don't like to so dominate an issue with one subject. Even here, I have sprinkled other topics into the back half to appeal to other tastes.

Yet, averages are misleading, often masking the great diversity of opinions held by subsets of subscribers. Furthermore, the average subscriber is not the average NEW subscriber. In truth, the survey of subscribers' children reveals substantial divergence between the kids and their parents.

The "average" responding child of a subscriber is 12 years old (40% are female), has played TAHGC games since age nine and has read *The GENERAL* for one year. He (and I use the term generically) often collects cards and plays rpgs. The average child devotes much less time than his father to each sitting at a game and more of that time is at the computer. His three favorite topics are fantasy, family games and science fiction. He also shows interest in World War II and sports. He has almost no interest in 20th Century, 17th-19th century, Napoleonic, political or economic games. He has low interest in civil war, modern, medieval and ancient games.

What do these differences mean? Do the young magically transform into people more like their parents as they grow up? Or are they a new wave of gamer that will remain differ-

THE AVALON HILL
PHILOSOPHY
Part 171
The Average Gamer
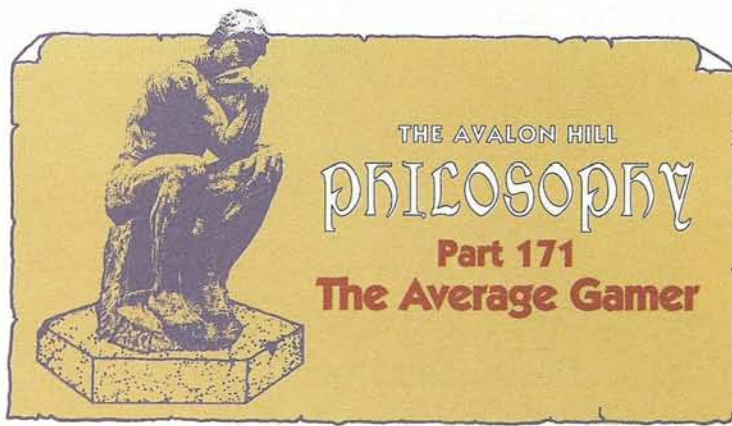
ent? Put in another way, which will dominate: rebellion or mimicry?

My five-year old, Vivienne, has given me ample examples of both trends. Her feminist mother and I continue to be taken aback by her fondness for wearing dresses. I have not yet been able to interest her in basketball, despite how much she has had to live and breathe it at times. Yet, the other day, I was floored by a most unexpected occurrence.

As I typed away at my computer terminal, Vivienne asked me for scissors, crayons and paper (nothing new so far). Then, she proceeded to color a large sheet completely in three base colors while cutting little squares of various colors out of a second sheet. After awhile, she grabbed my attention and sat me down to play. In the next three minutes she proceeded, without prompting to explain how to play her "game" (actually, I was too dumbfounded to speak). The large sheet contained three terrain types: sand, grass and stone. She took the pink squares and gave me the blue squares and told me to "set up" in the sand. She placed the yellow squares in the stone and announced that they were the bad guys. Next, she produced a small plastic treasure chest which she called the "die" (its seven irregular sides make for a rather interesting problem for probability analysis). For the next several minutes we took turns rolling the die and shooting at the bad guys while moving our pieces forward through the sand and grass. The game had conflict and cooperation (the players were on the same side), was easy to play and conveyed a simple moral lesson (the bad guys always lose—especially when they have no guns). Of course, replay value was very low and as a historical simulation, well . . . The experience was repeated, again without prompting, a few minutes later with my wife (I wish wargame rule books were so uniform in presentation). The event has given new meaning to my daughter's expressed interest in being an artist. For the moment, gamers outnumber nongamers in my household (but my wife vows to work on the newborn).

The divergence of interests between generations leaves this editor with more questions than answers—only going to show that what comes out of a number-crunching exercise is quite dependent upon what goes in. In fact, I found the free-form written comments to be much more revealing.

The Letters section (p. 53) of this issue contains a representative sampling of the written comments of your fellow readers. The distribution of negative and positive comments conforms to that of the overall response to the reader survey, but the specific comments of each type have been randomly selected. As you will see, the positive and supportive comments outnumber the negative ones 4-1. Nonetheless, negative comments must not go unheard. We would hate to lose any current subscribers, and will attempt to please as many of you as we can.

On the other hand, we cannot stand still and watch readership dwindle. The reader survey doesn't gauge well how to entice new customers into the hobby and to the magazine, but somehow we must accomplish this. Of course, the "we" is you and us. Your enthusiasm for this hobby and our products can be infectious. Most people will not have the attention-span or attention to detail and history to become fans of strategy games, but the resistance of some can be worn down with the right products. (I happen to think *The GENERAL* is one such product and urge readers to show non-subscribers the "new subscriber offer" on page 31 on the back of the contest page in the middle of the magazine.)

I am struck by how games like *DINOSAURS OF THE LOST WORLD*, *Magic* and *HISTORY OF THE WORLD* appeal to the young without losing the interest of adults. While *Doom*, *Mortal Kombat* and Nintendo games in general have a great appeal for the 15-24 year olds, they in no way spell the death of strategy gaming. The successes of recent wargames for computers hold out hope that more studious players exist for both the boardgame and computer markets. The drift from baseball card collecting to collectible games (emphasis on a *game* that can be played!) shows that our culture, far from deadening the minds of our young, is providing products that allow their creative juices to flow into new avenues.

In sum, the splintering of strategy gaming into diverse subject matters and modes of play shows the strength of our consumer-led economy. No single company can dominate the field like Avalon Hill once did in the 1960s. However, with rising incomes to fuel spending on leisure activities, the kids of the future will be demanding more and better strategy games than they did in the past. Manufacturers will have to pay attention to playability and teachability, because there are too many "games in town" for poorly edited, overly-long, mammoth games (once prevalent in the hobby) to get the attention of the mainstream new gamer of the next century. *MUSTANGS* is one such playable game and this issue provides plenty of material for those who want to delve more into the history of WWII air warfare.

—SKT

★

Achtung, MUSTANGS!
Adding Historical Dogfights

By Shamsher Sheikh

Adolf Galland writes in his book *The First and the Last* that while flying during the American daylight bombing campaign, just as he had flamed a B-17 his wingman, Oberst Hannes Trautloft, shouted over the radio, *"Achtung,* Adolf, Mustangs!" The word was a grim and dreaded warning to many an Axis pilot. The Avalon Hill Game Company's game *MUSTANGS* brings us the chance to face that grim excitement of WWII dogfighting.

MUSTANGS allows players to recreate dogfights using famous fighter aircraft of the United States, Germany and Japan from the years 1944 and 1945. Players wishing for early fighters, the Battle of Britain, the Russian, Italian and Western Desert campaigns can purchase the *MUSTANGS Expansion Module (available from TAHGC for $15.95)* which provides 34 additional fighters from ten nations.

Many elements in *MUSTANGS* trace their ancestry to designer Craig Taylor's library of air combat designs. But in many ways, these are improvements over the earlier rules and are woven together to work well in a highly-playable, quick-playing and exciting format which retains a flavor of its own. *AIRFORCE* men or *FLIGHTLEADERs* will recognize the basic tenets of air combat but will have to learn new ones to succeed in *MUSTANGS*.

The Hardware

The mapboard is first-rate. The counters are beautifully designed and very distinctive. Each contains a wealth of information: the Name of the fighter, its Gun Factor, Ammunition, Defense Factor, Level and Dive Speeds, Engine Power (High or Normal) and Engine Type (inline or jet/radial), its Altitude (ceiling), Canopy (bubble canopy or normal), and its Loop, Roll and Turn rates. To avoid clutter, the counters are large one-inch squares. Each fighter type has its own color scheme, such as the black-and-white invasion stripes on the P-47D and the candy-stripe spinner on the FW 190A-4. The beautiful counters perform, break the monotony and add an immeasurable amount of flavor for aficionados and neophytes alike.

Four Aircraft Record Sheets (ARS hereafter) allow up to eight aircraft (if you can muster up a bunch of blood-thirsty flyboys) to wreak havoc over Germany or Japan. The ARS traces its ancestry all the way back to the venerable *RICHTHOFEN'S WAR*, and it serves the same functions of helping players keep track of their aircraft altitude, speed, ammunition, hits taken and conveniently provides tables that used during play. Each ARS is color-coordinated with a set of maneuver markers to make it easier to keep track of which maneuver belongs to

which aircraft, and which aircraft belongs to which ARS.

The Software

The object of the game is simple: get the other guy before that other guy gets you. To do this, you must bring your guns to bear by maneuvering your aircraft.

There are eight turns in the game, with each turn comprising six impulses. The player holding the sequence marker performs the phases first. The sequence of play is as follows:

1) **Current Impulse Phase:** Impulse markers are advanced;

2) **Move Phase:** The impulse record determines which air units are to be moved, based on the units' airspeeds;

3) **Spotting Phase (Optional Rule):** Players determine who sees whom;

4) **Fire Phase:** Only units that have completed a maneuver may fire;

5) **Maneuver Marking Phase:** Maneuver markers (straight, turns, tight turns, rolls or half loops) are placed on the board a number of hexes in front of each unit as determined by its maneuver movement requirements and the Maneuver Chart; and

6) **Change Phase:** Speeds and altitudes are adjusted.

Movement. Players familiar with *FLIGHT LEADER's* mechanics will be familiar with that of *MUSTANGS*, the difference being the scales of each game. Air units' speeds range from one to six. With six impulses in a turn, a diving ME 262 at speed 6 would move one hex during each impulse.

There are five maneuver symbols. From best to worst, they are: Red Circle, White Diamond, Blue Square, Green Shield and Tan Triangle. A player wishing to roll a Hellcat (roll rating of Blue Square) at speed three would place a roll marker two hexes in front of it. The marker is removed and the maneuver completed only when the Hellcat enters the hex in which the roll marker has been placed. While the roll marker is on the board, the Hellcat may not change its maneuver and may not fire. To be eligible to fire, a unit must have moved during the impulse and must have completed a maneuver (i.e. its maneuver marker must have been removed.)

A unit moving at speed 3 has theoretically three impulses in which to fire, as opposed to a 2-speed unit, which would have only two. It makes sense to stay fast and if close to enemy planes, it makes sense to perform simpler maneuvers to remain flexible to fluid situations.

Combat. Eligible units may fire at opposing air units. Players may choose which to fire at if there is more than one enemy unit in range. Same-hex combat is allowed, although units in the same hex at the same altitude may not fire at all (presumably they are too busy avoiding a collision.) Guns have a two-hex range: frontal attacks receive negative modifiers on the Firing Position Table (because of high closing speeds, there are fewer hits), while fire towards the tail of the enemy unit receives a positive modifier. In addition, a "–2" modifier is applied if there is a difference of one altitude level between the units. The attacking unit's Gun Factor and a ten-sided die roll are added to both altitude and Firing Position modifiers. This is compared with the
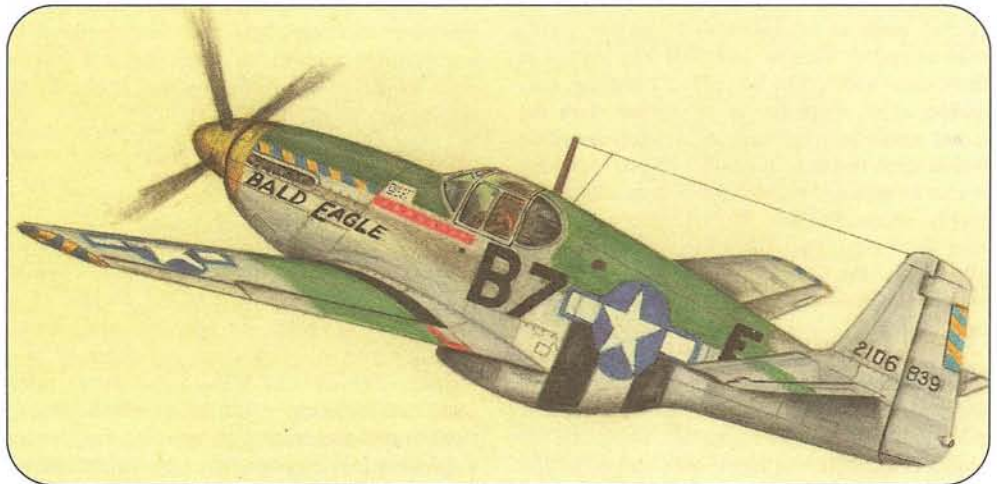
The game's namesake, the P-51C Mustang.

Aircraft Record #1

Altitude	Specific Hits	To Hit:	Speed
6	1 E Engine / 2 E Engine	1-2	6
5	1 C Crew / 2 C Crew	3	5
4	1 L Fuel / 2 L Fuel	4	4
3	1 W Wings / 2 W Wings / 3 W Wings	5-6	3
2	1 F Fuselage / 2 F Fuselage	7-9	2
1	3 F Fuselage / 4 F Fuselage		1
0	1 R Rudder / 2 R Rudder	10	0

Basic Game Hits or Ammunition

9	8	7	6	5
4	3	2	1	0

Aircraft Record #2

Altitude	Specific Hits	To Hit:	Speed
6	1 E Engine / 2 E Engine	1-2	6
5	1 C Crew / 2 C Crew	3	5
4	1 L Fuel / 2 L Fuel	4	4
3	1 W Wings / 2 W Wings / 3 W Wings	5-6	3
2	1 F Fuselage / 2 F Fuselage	7-9	2
1	3 F Fuselage / 4 F Fuselage		1
0	1 R Rudder / 2 R Rudder	10	0

Basic Game Hits or Ammunition

9	8	7	6	5
4	3	2	1	0

Mustangs Control Card

Effects of Hits (Op13b3)

Pilot Quality Effects (Op14b)

Players of *MUSTANGS* push the envelope on the mapboard with their favorite planes while using counters on this card to track the status of their own and their wingman's planes.

sum of the defender's die roll and Defense Factor. If the defender's total is equal to or more than the attacker's total, there is no effect. If the attacker's total is more than or a multiple of the defender's total, then hits have been scored.

An optional rule provides for hits to specific aircraft parts as in *AIRFORCE*, and is highly recommended. Engine and fuel hits can start fires, crew and rudder hits affect handling, etc., adding a lot more flavor to combat than the rather sterile basic rule where air units are eliminated upon reaching a number of hits. Spotting is also an optional rule but one which is likewise highly recommended. In fact, every optional rule should be used because the flavor of air combat and the excitement value added far outweighs the resultant loss in playabilty (which is negligible).

Central to the play of *MUSTANGS* is the use of the sequence marker. With it, a player must perform every phase of every impulse before the other player. This is an advantage during the fire phase, because unlike most other airwar games, damage is not inflicted simultaneously. However, holding the marker is a disadvantage because opposing players get to decide their next maneuver and/or get to decide whether to climb or dive after they have seen your actions. The sequence marker can however be relinquished to the other player at the start of any phase. For example, player A fires first, then surrenders the sequence marker during the maneuver marking phase, thus forcing player B to commit to a maneuver. Then player A gets to react to player B's maneuver and hopefully is able to stay on player B's tail.

Historical Scenarios for *MUSTANGS*.

The one major disappointment in *MUSTANGS* is the lack of historical scenarios. While the game "puts" a player in the cockpit of a World War II fighter, the scenarios are generic and take players away from any sense of historicity. *FLIGHT LEADER's* advanced rules introduce historical situations in which players fight to replicate history by winning the scenarios; losing players can admire the real-life pilots and marvel at how they succeeded in seemingly impossible situations. This sense of accomplishment or admiration is somewhat missing in *MUSTANGS*. Currently, the scenarios merely award points for scoring hits or destroying the enemy. Such objectives are a little too sterile. So below I present historical scenarios to give players real objectives, such as keeping the enemy engaged for a certain amount of time, screening bombers, etc. With these historical scenarios, it is hoped that players can get a sense of what pilots of World War II underwent. Here, players will have to fly against odds, or fly in adverse conditions but most importantly, they will fight for non-tangible objectives, such as keeping the enemy engaged, breaking through escorts, etc. Air combat involves many things; it involves experience, training, courage, heart, confidence, brutality, etc., but it never involves counting hits on opposing planes. I hope that after playing these scenarios, players will get a sense that their cardboard air ace alter egos are growing slowly but surely into veterans.

Optional Rule

19) Auxiliary Fuel Tanks or Drop Tanks.

19a) Auxiliary Tanks: To supplement the amount of fuel carried, especially on long-range missions, aircraft often carried auxiliary fuel

tanks. In design-your-own scenarios, which aircraft are carrying tanks can be mutually decided upon.

19a1) Drop tanks cause all maneuvers to be done at one level poorer (eg. blue square maneuvers become green shield maneuvers while the air unit is still carrying drop tanks; tan maneuvers remain unchanged.)

19a2) The defense factor of an air unit with drop tanks is also decreased by one. Fuel tank hits automatically cause a fire, which remains even if the auxiliary tanks are released.

19a3) Drop tanks can only be released when enemy air units are spotted, and then only during the fire phase by units that just completed a maneuver; tanks are released instead of, not in addition to, firing.

FOR FURTHER READING
Airwar by Edward Jablonski (1971).
Duels in the Sky by Captain E. M. Brown (1988).
Samurai! by Saburo Sakai (1958).
The First and the Last by Adolf Galland (1954).
Thunderbolt by Robert S. Johnson (1956).
Wing Leader by Group Captain J. E. Johnson (1956).
Full Circle by Group Captain J. E. Johnson (1964).
Famous Fighters of the Second World War by William Green (1957).
Focke-Wulf FW 190: Workhorse of the Luftwaffe by J. P. Spenser (1987).
Mustang by Robert Jackson (1992).
The Fighting One O Nine by Uwe Feist (1978).

SCENARIO A
The Duel
August 19, 1942
While providing air cover over Dieppe for Operation Jubilee, Johnnie Johnson's squadron was caught in a vicious dogfight. After shooting down a FW 190, he found himself alone in a hostile sky. He was then surprised to spot a FW 190 with Italian markings. Excited at the prospect of an easy kill, he forgot the vulnerability of a lone fighter on the wrong side of the Channel. The Italian proved a dangerous adversary and with a superior aircraft, turned Johnson's over-confidence into "a sickening apprehension." Finally, Johnson dived through the defensive flak screen of an Allied destroyer offshore, hoping to discourage the FW 190. Turning around, he found the sky empty again; the Italian had either been driven off or shot down. Johnson ended the war with 38 victories—all single-engine fighters making him the top American scorer in the European theatre.

SETUP
Allied Side
One Spitfire Vb with one ace pilot. Set up in hex F15, facing direction 1, speed 2 or 3, altitude 2. Starts with the sequence marker. Starts with one less ammunition point than usual.

Italian Side
One FW 190A-4 with one experienced pilot. Set up in hex L6, facing direction 5, speed 2 or 3, altitude 2.
VICTORY: Shoot down the other side's air unit. Any other result is a draw.

SCENARIO B
The Trap
April 18, 1943
At 9:33 am, a flight of P-38s attacked Admiral Isoroku Yamamoto over Bougainville. Decoded Japanese messages about Yamamoto's timetable had led to this carefully planned interception by 16 Lightnings (four of which were assigned to attack the bomber, a Betty, carrying Yamamoto while the rest provided cover). So confident were the Japanese of their air superiority that Yamamoto's escort was reduced to just six Zeros. Despite having to climb furiously, the attack went well for the Americans. They claimed three Bettys, with Captain Thomas G. Lanphier claiming Yamamoto's aircraft (although who shot Yamamoto down is still disputed). The Japanese claimed six kills and two probables, with ace Shoichi Sugita claiming two. Actual loses on both sides were two Bettys and one P-38. Most significantly, Japan's foremost naval strategist lay dead in the wreckage of a Betty, still clutching his ceremonial sword.

SETUP
Japanese Side
Two A6M5s, with one ace and one average pilot. Holds the sequence marker and places air units with their front facings touching the "a" and/or "b" side(s) of the blue hexagon and pointed in direction 4, altitude 2, speed 3.

American Side
Two P-38L Lightnings, with two experienced pilots. Places air units with their front facings touching the "d" and/or "e" side(s) of the blue hexagon and pointed in direction 1, altitude 2, speed 2.

SPECIAL SCENARIO RULES: The P-38s represent P-38Gs; their Power rating is Normal, not High. Allied air units are also carrying auxiliary tanks (See Optional Rule 19). Optional Rule 15b (Spotting) must be used. Optional Rule 16 (Breaking Contact) is not allowed.

SPECIAL VICTORY CONDITION: The side with more victory points wins. In addition, the American player may exit the mapboard from hex A1 to O1 before turn 7 to earn extra victory points. An air unit may only be considered as exited if no Japanese air units are within three hexes of the exiting unit. Two victory points are awarded for every Ammunition Factor still retained by the exiting air unit. This simulates the need for ammunition to destroy Yamamoto's aircraft.
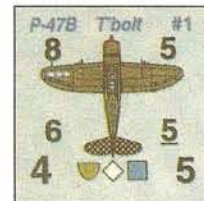
SCENARIO C
Little Friend to the Rescue
October 10, 1943
The 56th Fighter Group was assigned to escort B-24 bombers to Munster. Bob Johnson found himself alone when he discovered that his wingman had aborted with engine problems. After shooting down a Me 110, he sighted three FW 190s fast approaching the rear of the bomber formation. The only fighter between them and the Big Friends, Johnson dived onto the Germans to break up their formation. In the vicious dogfight, Johnson flamed one—his fifth—making him an ace. However, the Germans shredded his P-47 with 20mm shells before he was able to break off. He limped home in his battered Jug.

SETUP
American Side
One P-47C Thunderbolt, with an experienced pilot. Holds the sequences marker and places air unit with its front facing touching the "a" or "b" side of the blue hexagon and pointed in direction 4, altitude 5, speed 4.

German Side
Two FW 190A-4s, with two experienced pilots. Places air units with their front facings touching the "d" and/or "e" side(s) of the blue hexagon and pointed in direction 1, altitude 3, speed 3.

SPECIAL SCENARIO RULES: The P-47 has already used one Ammunition point. American gets three bonus victory points. Optional Rule 16 (Breaking Contact) is not allowed before turn 5.

SCENARIO D
Quick Killers
November 6, 1944
Captain Charles Yeager (11½ victories) was leading a flight from the 357th Fighter Group when he sighted a trio of Me 262s looking for a bomber formation. Diving onto the jets, he

Dogfighting gamers may not recognize this SNJ (which the US army called AT6), but pilots will. Every US pilot flew this in his final year of training.

scored hits on the last aircraft in the flight but the Germans pulled away. A few moments later, Yeager again sighted them and again scored hits, this time on the leader, but did not destroy it. The jets used their superior speed to pull away once more. Yeager later dived through intense flak to shoot down a jet on its landing run.

SETUP

American Side

Two P-5lD Mustangs, with one ace and one average pilot. Holds the sequences marker and places air units with their front facings touching the "a" and/or "b" side(s) of the blue hexagon and pointed in the 4, altitude 3, speed 4.

German Side

Two Me 262As, with one experienced and one average pilot. Places air units with their front facings touching the "d" and/or "e" side(s) of the blue hexagon and pointed in direction 1, altitude 2, speed 5.

SCENARIO E
Turning the Tables
February 16, 1945

Ensign Kinsuke Muto was flying a new George when he was jumped by 12 Hellcats. The Hellcats had just accounted for ten Zeros in another skirmish. Although Muto wanted to test the George thoroughly, he probably didn't expect such odds. However, the navy pilots were

surprised by Muto's skill and aggressiveness. Despite the impossible odds, Muto shot down four Hellcats, before nursing his battered plane home. Muto was killed in action on July 24, 1945, after amassing a score of 28 victories.

SETUP

Japanese Side

One NIKlJb "George," with an ace pilot. Holds the sequences marker and places its air unit with its front facing touching the "a" or "b" side of the blue hexagon and pointed in direction 4, altitude 2, speed 3.

American Side

Two F6F-3 Hellcats, with two average pilots. Places air units with their front facings touching the "d" and/or "e" side(s) of the blue hexagon and pointed in direction 1, altitude 3, speed 3.

SPECIAL SCENARIO RULES: Optional Rule 16 (Breaking Contact) is not allowed.

SPECIAL VICTORY CONDITION: Japanese side must shoot down one F6F-3 Hellcat without itself being shot down. American side must shoot down the NIKlJb "George."

VARIANT: Two sources state that Muto was flying the George against Hellcats. However, in *Samurai*, Saburo Sakai said that Muto was flying a Zero and shot down four Corsairs. Players wishing to test this can simply trade the George for a Zero and the Hellcats for Corsairs.

SCENARIO F
Last Hurrahs
March 19, 1945

American carrier planes raided the Kure naval base. Prior to this, other carrier raids had met virtually no resistance. On this day however, they were met by the elite Matsuyama Wing. Like Germany's Me 262-equipped JV 44, the Matsuyama Wing was made up of the few surviving aces and was equipped with the best available fighter. The aces of the Matsuyama wing tore into the surprised Americans who, for once, were the ones fighting for their lives. Ensign Shoichi Sugita shot down four Hellcats and claimed three probables during the engagement. Within a month however, the brilliant Sugita was killed while taxiing his Shiden under fire. Just 24 years old, his final tally was estimated at about 80 kills.

SETUP

Japanese Side

Two NIKlJb "Georges," with one ace and one experienced pilot. Holds the sequences marker and places air units with their front facings touching the "a" and/or "b" side(s) of the blue hexagon and pointed in direction 4. Altitude 3, speed 3.

American Side

Two F6F-3 Hellcats, with two average pilots. Places air units with their front facings touching the "d" and/or "e" side(s) of the blue hexagon and pointed in direction 1, altitude 2, speed 3.

SPECIAL SCENARIO RULES: Optional Rule 16 (Breaking Contact) is not allowed before turn 7.

SPECIAL VICTORY CONDITION: Japanese must destroy both American air units without losing a single air unit of their own.

★
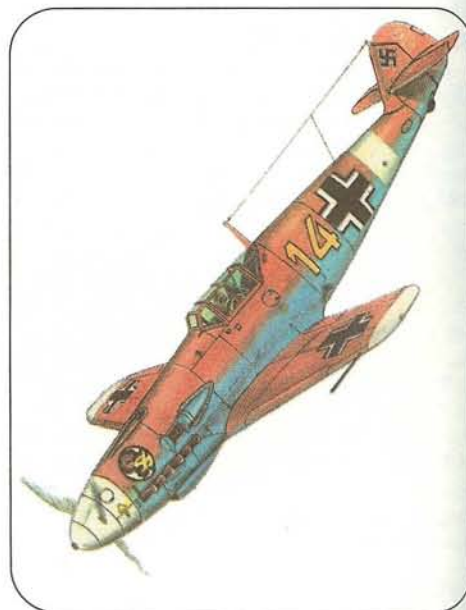
The Star of Africa (see p. 14)

Rodeos, rhubarbs & circuses

More Variant Rules and Historical Scenarios for *MUSTANGS*

By Michael S. Kass

MUSTANGS air combat game is an excellent, fast-paced, yet simple game that captures the excitement of air-to-air dog-fighting in the second world war. The relative capabilities for each air unit is amazing in its accuracy. (My biggest quibble is that the speed of the MiG-3 has been underrated. Toliver and Constable state in *Horrido (p.* 235) that the MiG-3 was faster than its contemporary Me-109F, and published technical data support this. The MiG-3 with a maximum speed of 398-407 MPH should have a level speed of four— higher at high altitudes.)

However, several aspects of aerial combat are not covered by the game rules. Th.s article discusses some other aspects of WWII aerial combat that can be incorporated into the game.

Eric Brown, renown Royal Navy test pilot discussed design features that made for a great fighter during the Second World War. These are in order of importance: speed, rate of climb, dive acceleration, maneuverability, firepower, pilot visibility, range, ammunition load, protection (self-sealing fuel tanks and armored cockpit), the engine layout and the ability of the aircraft to absorb punishment. Most of this is covered well in the game. Range does not play a part in *MUSTANGS*, but rate of climb, dive acceleration and protection should be incorporated to enhance the simulation. Superior climbing and diving abilities allow some aircraft to exploit the vertical plane against more maneuverable aircraft that would want to engage in combat on the horizontal plane. A fast rate of climb was of extreme importance both in the initial contact with an opponent and during the combat. World War I fighter ace Oswald Boelcke's classic rules for air fighting, the *Dicta Boelcke,* lists as number one in importance the ability to climb to secure the tactical advantage over your opponent. This was echoed years later by Soviet ace Pokryshkin's doctrine of "altitude, speed, maneuver and fire" that led him to be the second highest allied ace of the war. Dive acceleration was used for both hit-and-run attacks and to break off combat from a disadvantageous position (like the famous split-S maneuver of a half-roll and dive). The early A6M2 Zero possessed the advantages of rapid climb combined with excellent maneuverability, range and firepower over most of its opponents in the Pacific. These advantages were negated only by the American Volunteer Group (AVG) Flying Tigers exploiting the superior diving abilities of the P-40C using hit-and-run tactics (i.e. dive and zoom-climb back to altitude).

A previously published article in *The GENERAL* by Bruce Kohrn (Volume 28, No. 5) discussed the homogenization of the climb and dive capabilities of various air units in the original *MUSTANGS* game. His useful suggestions are worth reiterating for the reader not familiar with them. Due to the large number of new air units in the expansion module, I have added an additional rating of P for "poor" for aircraft with relatively poor diving abilities. Planes change altitude in order: first those rated "poor" followed by those rated "fair" then "average" and finally those considered "good." Aircraft with engine damage have their climb and dive ratings reduced to fair and poor, respectively. An air unit which doesn't spot an opponent in a firing position in a rear hex marks its altitude/speed changes first without effecting its ability to execute the change. Kohrn makes other suggestions for increased firing opportunities and simultaneously marking and hiding the maneuver chits except when an opponent is in a rear quadrant and has made a "tally" on an aircraft.

Table 1 has these climb and diving ratings for every air unit in the expansion module. For example, a P-47 Thunderbolt (G) can outdive a FW-19OA (A) which can outdive a Spitfire IX (F) which can still outdive an A6M2 Zero (P). An additional change that I would suggest is that an air unit rated fair should be allowed to climb only one altitude during the Change Altitude and Speed Impulse, except when this air unit has just dived during the prior impulse at its maximum speed (which would represent a zoom-climb). Only with a zoom-climb should an air unit rated fair be allowed to climb two altitudes. This same

concept should be applied to diving during this impulse. An air unit rated poor can only dive one altitude; an air unit rated fair can dive one or two altitudes; an air unit rated average can dive one, two or three altitudes; and an air unit rated good can dive as many as four altitudes.

The ability of an aircraft to climb is quantifiable. The climb rating is based on published data in feet per minute or a comparison to a set altitude, often 16,405 feet (5000 m). The ability of an aircraft to dive is more subjective. I based this rating on the air unit diving speed, descriptions by historians and personal recollections by many surviving aces on both sides of the conflict published in numerous books and articles. I have retained most of Kohrn's original ratings with the exception of an increased dive rating for the FW-19OA (from F to A) and an increased climb rating for the Ki-84 Frank (from A to G) for 1945.

Zoom-Climb Option: Any air unit that in the previous Change Phase elected to dive at least one altitude at its maximum speed may "zoom-climb" during the next Change Altitude Impulse. The climb rating is increased by one rating providing that the air unit did not perform a maneuver (tight turn or half loop) during the intervening turn that would slow its air speed from the maximum allowed. For example, a P-40N during the previous Change Altitude Impulse elected to dive one altitude at a speed of five now has its climb rating increased from F to A during its next Change Altitude Impulse and may climb one or two altitudes during this impulse.
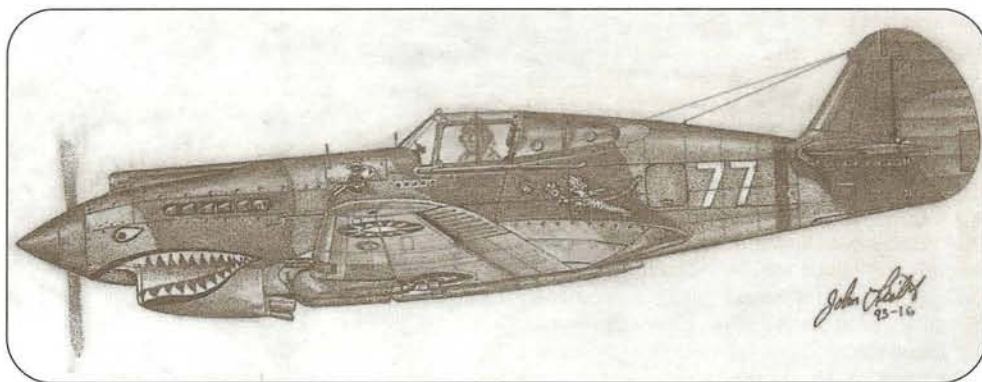
Americans volunteering in China made their name in P-40 Tomahawks esconced with the Flying Tiger nose art.

TABLE 1. CLIMB AND DIVE RATINGS

Aircraft	Climb	Dive	Notes & Rules	Aircraft	Climb	Dive	Notes & Rules
British (RAF):				**Japan:**			
CA-12				A5M4 Claude	A	P	13b3.4.1; 13b3.3.1
Boomerang	F	F		A6M2 Zero	A	P	13b3.4.1; 13b3.3.1
Gladiator	F	F	13b3.4.1; 13b3.3.1	A6M3 Hamp	A	F	13b3.4.1; 13b3.3.1
Hurricane	F	F		A6M5 Zeke	A	F	
Meteor III	G	G	13b3.2.1	Ki-10 Perry	G	P	13b3.4.1; 13b3.3.1
Spitfire I	F	F		Ki-27 Nate	A	P	13b3.4.1; 13b3.3.1
Spitfire V	F	F		Ki-43 I Oscar	A	P	13b3.4.1; 13b3.3.1
Spitfire VIII	A	F	Perf.= Spit.IX: 8G SA; 13 points	Ki-43 II Oscar	A	P	13b3.4.1
Spitfire IX	A	F		Ki-44 Tojo	G	A	13b3.4.1
Spitfire XIV	G	A		Ki-61 Tony	F	G	
Spitfire XXI	G	G		Ki-84 Frank	A	A	1945:Climb = G
Tempest V	G	G		Ki-100	F	G	
Typhoon IA	F	G		J2M3 Jack	G	G	
				NIK1 George	F	A	
Finland:				**Poland:**			
Fokker D.XXI	F	F	9 points	PZL P.llC	F	F	
MS.406 LaGG				PZL P.24A	A	F	
-Moraine	G	G	ceiling "6"	**Romania:**			
F2A-1 Buffalo	A	P	13b3.4.1; 13b3.3.1	I.A.R. 80	F	F	
France:				**Soviet Union:**			
D.520	F	A		I-15	A	P	8 points
MB-152	F	A		I-16 (Type 10)	A	F	8 points
MS.406	F	F		I-16 (Type 24)	A	F	9 points
Germany:				LaGG-3	F	A	14d2
Do-335A	F	G	13b3.2. 1	La-5	A	A	level speed = 3
FW- 1 90A	A	A		La-SFN	G	A	
FW-19OD	G	G		La-7	G	A	
He-112	F	F	9 points	MiG-3	A	A	level speed = 4
Me-109B	F	A	13b3.4.1; 13b3.3.1	Yak-1	G	F	
Me-109D	A	A	13b3.4.1; 13b3.3.1	Yak-3	G	A	
Me-109E	A	G		Yak-9	G	A	
Me-109F	G	G		**U.S.A.:**			
Me-109G	G	G		A-36A Apache	F	G	
Me-262	G	G	13b3.2.1	CW-21 Demon	A	P	13b3.3.1
TA-152H	G	G		F2A-3 Buffalo	F	P	
				F4F-4 Wildcat	F	F	
Italy (Regia Aeronautica):				F6F-5 Hellcat	G	A	
CR.42 Falco	F	F	15b8.3	F4U-I Corsair	A	A	
G.50 Freccia	F	A	1939:13b3.4.1; 13b3.3. 1	P-35	A	F	P13b3.4.1; 13b3.3.1
M.C.200 Saetta	A	A		P-36A Mohawk	A	A	13b3.4.1; 13b3.3.1
M.C.202 Folgore	G	G		P-38F Lightning	F	A	13b3.2.1
Re.2000 Falco	A	F		P-38G	A	G	13b3.2.1
				P-38L	G	G	13b3.2.1
Italy (ANR della RSI):				P-39D Airacobra	F	A	
G.55 Centauro	A	G	13 points	P40C/E/N	F	A	
M.C.205 Veltro	G	G	12 points	P-43a Lancer	A	A	13b3.4.1; 13b3.3.1
Re.2005 Sagittario	G	G	13 points	P-47B/C	F	G	12 Points
				P-47D	A	G	
				P-63A Kingcobra	A	A	
				P-51A Mustang	F	A	
				P-STB/C/D Mustang	G	A	
				P-80A Shooting Star	G	G	

OPTIONAL RULES

The notes for Table 1 refer to some new optional rules that address the various strengths and weakness of several air units that can be employed. These rules address such dangers as crashes, mid-air collisions, loss of communication and being killed while suspended in a parachute. The cumulative effect of these rules makes "flying" *MUSTANGS* a more deadly and dangerous affair.

9f) The quicker one player sees his opponent the more likely that this player will become the hunter and not the hunted. All air units, except in scenario four, can only fly straight and at its initial level speed with no altitude changes allowed until this air unit or its wingman make a tally or this air unit or its wingman are fired upon. This change allows the tactical initiative to belong with the first air unit that makes a tally. This would serve to maximize a "bounce" in which closing with the enemy air unit before the opponent can take evasive action becomes much more important. I would suggest covering each aircraft record altitude and speed track plus the ammo factor on the control card. Four-by-six inch index cards are excellent and can be used for notes on climb/dive abilities, record of tallies, etc. The altitude and speed of an air unit remains covered until the air unit is tallied (at the option of the pilot that made the tally, who may wish to keep the tally unknown to his opponent). The ammo track should always stay covered.

13b3.2.1) Air units with twin engines are eliminated with THREE engine hits. These air units are: P-38 Lightning, Me-262, Meteor, and Do-335A. After two engine hits the maximum level speed and diving speed is reduced by two.

13b3.3.1) Effects of one crew hit for air units with no pilot protection (i.e. cockpit armor or armored windows): When a single crew hit is scored, immediately roll the die again. A die roll of one or two, the pilot is killed and the air unit is eliminated. The air units affected by this rule are: Ki-10 Perry, Ki-27 Nate, Ki-43 I Oscar, A5M4 Claude, A6M2 Zero, A6M3 Hamp, Me-109B/D/E-1, Finnish F2A-1 Buffalo, Gladiator, CW-21 Demon, P-35A, P-43a Lancer, American P-36A (Pacific Scenario).

13b3.3.2) Further effects of one crew hit: When a single crew hit is scored, immediately roll the die again. The radio/telephone (R/T) has been damaged on a die roll of ten. The effect of this is to limit communication between wingmen as per rule l5b8.3.

13b3.4.1) Effects of one fuel hit on air units with no self-sealing fuel tanks: When a fuel hit is scored, immediately roll the die again. A fire starts if a one, two, three, four or five is rolled for an air unit without self-sealing fuel tanks. These air units are: Ki-10 Perry, Ki-27 Nate, Ki-43 I Oscar, ASM4 Claude, ASM2 Zero, A6M3 Hamp, Gladiator, CW-21 Demon, P-35A, P-36A Mohawk, Me-109B/D/E-1, Finnish F2A-l Buffalo. Air units with at least rudimentary or inefficient self-sealing fuel tanks, a fire starts with a die roll of 1 through 4; the air units effected by this: Ki-43 II Oscar, Ki-44 Tojo, and P-43a Lancer.

13c3) A pilot may attempt to bail out of an aircraft *before* it has been eliminated. Two is added to this player's die roll. The bail-out attempt, successful or not, eliminates the air unit.

13c4) Some pilots, most notably American (in both the ETO and PTO) and Japanese seem to have indulged in rather unchivalrous conduct by shooting at pilots suspended in their parachutes. A parachute counter can be made from page 23 of the *MUSTANGS* rules booklet. The victorious pilot would at least have the opportunity to exercise this option in order to gain victory points. The attacker would use one ammunition factor while the pilot in the parachute has no defense factor (except luck!). The pilot in the parachute descends one altitude with every Change Phase Impulse. One USAAF ace when ordered to strafe downed enemy jet pilots explained, "It's a rough war!"

13d) Mid-air collisions and ramming: Air-to-air collisions and delibrate ramming did occur with some frequency in the frenzy of combat. This optional rule should be used with spotting options (15). Both collision and ramming are resolved immediately after the Fire Phase and before the Maneuver Marking Phase. Thus, an air unit firing would lose the tally (unless the wingman maintains this tally) with the air unit occupying the same hex and would suffer the greater risk of a potential collision or ramming. In other words, you can choose to fire or evade.

13dl) Optional air unit elimination: The potential of a mid-air collision would exist when two air units that have not tallied each other occupy the same hex at the same altitude at the end of the current movement impulse phase. The pilots may bail out for both collision and ramming using rule 13c3.

13dl.1) As neither player is attacking or defending but both are trying to evade each other, both players roll the dice and sum the

result. The dice roll is increased by the sum of the combined speeds of both air units involved. A combined modified dice roll greater than 21 means that the air units have collided and both are eliminated.

13dl.2) This would be the one situation where friendly air units might be forced to use the spotting phase to attempt to tally each other, including wingmen, using the spotting rules in order to prevent a possible collision. As long as there is one tally the possible collision is cancelled.

13dl.2) If more than two air units are involved, resolution is in order of the faster speed of the air units involved, regardless of whether they are friendly or enemy air units.

13d2) Russian, Japanese and Polish pilots often actively attempted to ram enemy aircraft. The Russians called this tactic *taran*. To apply this rule a friendly air unit must make a tally with the air unit that it is attempting to ram and must move into the hex occupied by its opponent during its current movement impulse. Both air units must be at the same altitude.

13d2.1) Ramming modifiers are added or subtracted to the numbers rolled on a die to resolve ramming. All ramming modifiers are cumulative.

For the air unit attempting to ram:

13d2.1.1) Add the ramming air unit's speed.

13d2.1.2) Add two for an ace, one for an experienced pilot and zero for an average pilot, but subtract one for an inexperienced pilot and two for a green pilot.

For the target air unit:

13d2.1.3) Add the target air unit's speed.

13d2.1.4) Add four if the target air unit has made a tally on the air unit attempting to ram, but subtract four if a tally has not been made.

13d2.2) Ramming resolution: If the target aircraft's die roll is equal to or greater than the ramming aircraft's die roll the *taran* attack failed.

14d) Optional crash rule: This represents the danger of an aircraft not being able to pullout of a terminal dive or crashing into low-level obstacles. This caused the death of many pilots, including Luftwaffe *experte* Anton Hafner (204 victories). The assumption being that a wounded pilot or damaged aircraft would have less control.

14dl) An air unit diving to zero altitude with one crew hit or one engine hit or two wing hits is eliminated with a die roll of "10" or more. These hits could be prior to diving or recorded during the dive. The die roll is increased by the speed of this dive.

14dl.1) The pilot survives the crash with a modified die roll of 10. For the rest of this turn the pilot may be strafed using rule 13c4. There is a story that Soviet ace Lavrinekov (35 victories) landed his plane next to a German plane he just shot down, jumped out and killed with his bare-hands the fascist pilot who survived the crash. Just remember: it is only a game!

14d2) LaGG-3 were notorious for spinning out of control during tight turns, hence the Russian pilots gave the nickname of *Lakirovanny Garantirovanny Grob* meaning "varnished guaranteed coffin" to this aircraft. A player using this air unit and attempting to make a tight turn rolls a die. On a 10 or more, the air unit spins out of control, crashes and is eliminated. The die roll is

increased by the the speed at which the turn was attempted before completing the maneuver.

15b8.3) Air units lacking radio/telephone (R/T) communication: Some aircraft in WW II lacked R/T communications. For these air units wingmen can share tallies only if they are two hexes from each other and at the same altitude. Neither air unit can be engaged in combat (firing or being fired at). This effects all Russian air units between 1939-1941, all Japanese air units between 1939-1942 and the Italian CR.42. See rule 13b3.3.2 for the same effects of one crew hit.

16) As this rule originally states: air units that break contact just simply disappear on a die roll, which seems to me to be far to "gamey." A successful attempt to break contact, results in the designated air unit no longer tallied by the opponent or his wingman. The air unit that breaks the tally remains in the game and also loses all of his tallies.

17) "Honcho" optional rule: The aggressive spirit and superior aerobatic ability of a top fighter pilot could allow for an increase by one line *higher* (on the Maneuver Chart) than normal when plotting a new maneuver for an ace. For example, a white diamond symbol is treated as a red circle symbol. This option can only be used *once* per game by an air unit piloted by an ace, and the air unit must be undamaged. The air unit is immediately eliminated if one engine hit, one crew hit, one wing hit or one rudder hit is recorded while the air unit is attempting to "push the envelope."

AIRCRAFT AVAILABILITY

Table 2 allows players to match air units against each other by the appropriate time in the war and by theater. Once an air unit is introduced it may be used until WITHDRAWN. During some years and in different theaters the Axis player might have the technological advantage and other years the Allies might have the advantage. No attempt is made to change the point values of the air units, as the year and theatre of operations will determine the availability of improved aircraft. There are a couple of exceptions worth noting. The point values for pre-1939 Russian air units appear to be rather high. The I-16 was the most powerful fighter in the 1930s, but was clearly antiquated compared to the Russian fighters that appeared in 1941 or later (MiG-3, Yak-1, La-SFN) or the German Me-109F. I would suggest reducing by one point the value of the I-15 and both variants of the I-16. The P-47B or C is clearly less effective than the P-47D. Both were available in 1943; so the P-47B/C should be worth less (i.e. 12 points).

The restriction on Allied aces represents the initial advantage that Axis pilots gained from prior combat experience. There was one 1941 American ace, Lt. Boyd "Buzz" Wagner, flying the P-40E against the Japanese invasion of the Philippines. The flip side of this was the large number of inexperienced and green pilots, called *Nachwuchs* or "new growth" by the Germans, that the Axis powers force-fed into combat. This can be incorporated into the scenarios: the Axis player must use one inexperienced pilot (1943) or green pilot (1944-45) if the Axis player employs more than two air units.

FOR FURTHER READING

Dan Baur. *Great American Aces* (1992).

Eric Brown. *Wings of the Luftwaffe: Flying German Aircraft of the Second World War.* (1977).

Eric Brown. *Duels in the Sky:World War 11 Naval Aircraft in Combat.* Naval Institute Press, Annapolis, MD (1988).

Donald L. Caldwell. *JG 26. Top Guns of the Luftwaffe* (1991).

Daniel Ford. *Flying Tigers:Claire Chennault and the American Volunteer Group* (1991).

R.J. Francillion. *Japanese Aircraft of the Pacific War.* Funk & Wagnalls, N.Y. (1970).

Norman Franks. *Aircraft vs. Aircraft:The Illustrated Story of Fighter Pilot Combat Since 1914.* Bantam Press, London, England (1986).

William Green. *War Planes of the Second World War. Fighters vols I-IV.* Doubleday & Co. Inc., N.Y. (1960).

Bill Gunston. *The Encyclopedia of the World's Combat Aircraft.* Salamander Books, Hamlyn London, N.Y., Sydney, Toronto (1976).

Von Hardesty. *Red Phoenix: The Rise of Soviet Air Power, 1941-1945* (1982).

Helmut Lipfert and Werner Girbig. *The War Diary of Hauptman Helmut Lipfert JG 52 on the Russian Front, 1943-1945* (1993).

John B. Lundstrom. *The First Team and the Guadalcanal Campaign* (1994).

Paulo Matricardi. *The Rand McNally Encyclopedia of Military Aircraft 1914-1980.* Chicago, Ill. (1981).

Walter Musciano. *Messerschmitt Aces* (1989).

Christopher Shores. *Duel for the Sky* (1985).

John Stanaway, "Lightnings Strike at Wewak," *Aviation History* (1996).

J.R. Whelan. *Hunters in the Sky.Fighter Aces of WWII.* Regnery Gateway, Washington, D.C. (1991).

Ehud Yonay. *No Margin for Error: The Making of the Israeli Air Force* (1993).

The Hunters and the Hunted

World War II had a way of weeding out the average pilot. Although less than three percent of all US fighter pilots that flew in combat, the aces accounted for some 40% of all enemy aircraft shot down by American fighters; 15% of all the fighter pilots involved in combat got 85% of the kills. These scenarios emphasize the importance of the ace.

The air war far exceeded in intensity that of the First World War. Yet, the pilots retained the gallantry of the previous generation of fighter pilots. The scale of combat represented in *MUSTANGS* often involved very large numbers of aircraft of several different types. In order to recreate these aerial battles as accurately as possible, players will often have to use substitute aircraft counters. *[Players may want to use the photocopiable form on page 22 in the Kohrn article that follows. This allows actual values to be utilized and easily referenced.]*

Victory in each scenario should be determined using rule14b.

"Beware the Hun in the Sun." TALLY HO!

TABLE 2. AIR UNIT AVAILABILITY

CHINA-BURMA-INDIA:

This was primarily the Japanese Army (JAAF) area of operations with some Japanese Navy units (JNAF) present. These two military services feuded and rarely cooperated with each other. Thus, air units with *Ki-kitai* numbers (JAAF) can not be combined with JNAF air units except for 1943 Southwest Pacific.

1939:
ALLIES: China: I-15, I-16 "Abu" ("Gadfly"), Gladiator
JAPAN: Ki-10 Perry, Ki-27 Nate, A5M4 Claude

1940:
ALLIES: China: No Allied Aces allowed.
JAPAN: A6M2 Zero

1941:
ALLIES: AVG:P-40C Tomahawk. RAF: Hurricane, Buffalo (no R/T, see rule 15b8.3) No Allied Aces.
JAPAN: Ki-43 I Oscar
WITHDRAWN: I-15, I-16, Gladiator
Note that, in January 1941, Royal Thai Air Force Curtiss Hawk 75 (P-36A) fought French MS. 406 during a brief border war in Indo-China.

1942:
ALLIES: P-40E, P-36A Mohawk. China: P-43a Lancer.
JAPAN: Ki-43 II Oscar, Ki-44 Tojo
WITHDRAWN: Buffalo, Ki-10 Perry

1943:
ALLIES: P-38. RAF:Spitfire VC.
JAPAN: Ki-61 Tony
WITHDRAWN: P-36A.
Note: If Spitfire VC is opposed by Zeros or Oscars the Spitfire red circle maneuver symbol should be treated as if it were a white diamond symbol.

1944:
ALLIES: P-40N, P-SIA, A-36A, P-47B/C/D. RAF: Spitfire VIII.
JAPAN: Ki-84 Frank

1945: ALLIES: Soviet Union: P-63A, La-7, Yak-9

THE PACIFIC:

1939: SAME AS China-Burma-India

1940: SAME AS China-Burma-India

1941:
ALLIES: USA: P-40C/E, P-36A, P-35, Wildcat (Wake Is.). RAF: Hurricane, Buffalo. No Allied Aces.
JAPAN: Ki-43 I Oscar

1942:
ALLIES: RAAF: CA-12. USA: P-39, P-38F, Buffalo. Dutch: CW-21 Demon
JAPAN: Ki-43 II Oscar, A6M3 Hamp
WITHDRAWN: I-15, I-16, Gladiator, P-36A, P-35, Ki-10 Perry, Claude, Nate.

1943:
ALLIES: RAF: Spitfire VC. USA: Hellcat, Corsair, P-38G, P-47D
JAPAN: Ki-61 Tony, Ki-44 Tojo, A6M5 Zeke. This is the only year that JAAF and JNAF can be combined.
WITHDRAWN: Buffalo, CW-21 Demon

1944:
ALLIES: P-38L, P-40N.
JAPAN: Ki-84 Frank, J2M3 Jack, NIKI George

1945:
ALLIES: P-51D. RNAF: Seafire II.
JAPAN: Ki-100

1950 (Korean War):
NORTH KOREA: Yak-9, La-9 (a redesigned all-metal La-7: 8G,lOA,5D = 13 Points)
UNITED NATIONS: P-51D/H, Corsair, P-80 Shooting Star, Seafire

NORTH AFRICA AND SOUTHERN EUROPE:

1936-39 (Spanish Civil War):
REPUBLICANS: I -15, I-16 "Mosca" ("Fly")
NATIONALISTS: G.50 Freccia (subject to rules 13b3.4. 1 and 13b3.3. 1), CR.32 (essentially a CR.42 with an in-line engine, ceiling four), Me-109B, He-112B

1940:
ALLIES: Gladiator, Hurricane.
AXIS: M.C.200 Saetta, CR.42 Falco
WITHDRAWN: I-15, I-16, Me-109, He-112

1941:
ALLIES: P-40C, Greece: PZL P.24. Yugoslavia: Me-109E, Hurricane
AXIS: Re.2000 Falco II, M.C.202 Folgore, Me-109E/F. Vichy French: MS.406, D.520

1942:
ALLIES: P-40E, Martlet (Wildcat), Spitfire VB, Seafire II, P-39, P-38F
AXIS: Me-109G. Vichy French: Hawk 75 (P-36A)
WITHDRAWN: Gladiator, Greek and Yugoslavian air units.

1943:
ALLIES: Spitfire VC, Spitfire VIII, Spitfire IX, P-38G, A-36A, P-47C/D
AXIS: FW-19OA. RSI: G.55 Centauro, M.C.205 Veltro, Re.2005 Sagittario Romania: I.A.R. 80. Bu1garia. D.520
WITHDRAWN: Vichy French air units

1944:
ALLIES: P-SlB/C/D, P-40N, P-38L
WITHDRAWN: A-36A, CR.42, G.50, M.C.200

1945:
ALLIES: P-80
WITHDRAWN: I.A.R.80, D.520

1948 (Arab-Israeli War):
ISRAEL: Avia S.l99 "Mezec" ("Mule"). This was a Czech-built Me-109G but with the performance and firepower of Me-109B. Israel also had Spitfire IX and four P-SlD.
EGYPT: Spitfire VC, Spitfire IX, G.55, M.C.205. Egyptian pilots can be no better than average.

EUROPE:

1939:
ALLIES: Poland: PZL P.llc France: MB-152, MS.406, P-36 Hawk RAF: Gladiator. No Allied Aces.
AXIS: Me-109D/E

1940:
ALLIES: Belgium: CR.42. Netherlands: Fokker D.XXI. France: D.520. RAF: Hurricane, Spitfire I (Note: D.520 can only be combined with French Planes; Spitfire can only be combined with RAF planes).
AXIS: ltaly: CR.42, G.50

1941:
ALLIES: Spitfire V
AXIS: FW-109A, Me-109F
WITHDRAWN: All French and Italian Planes, Fokker D.XXI, Gladiator

1942:
ALLIES: Typhoon, Spitfire IX, P-39
AXIS: Me-109G-2
WITHDRAWN: Spitfire I, Me-109E

1943:
ALLIES: P-47B/CtD, P-38G
AXIS: Me-109G-6, FW-19OA-8
WITHDRAWN: P-39, Hurricane, Me-109F

1944:
ALLIES: RAF: Tempest, Spitfire XIV, Meteor. U.S.A.: P-38L, P-SIB/C/D France: D.520, P-63A
AXIS: FW-190D, Me-262

1945:
ALLIES: Spitfire XXI
AXIS: Ta-152, Do-335A

RUSSIAN FRONT:

1939:
SOVIET UNION: I-15, I-16 "Rata" ("Rat")
JAPAN: Ki-10 Perry, Ki-27 Nate, A5M4 Claude

1940:
SOVIET UNION: No Change.
FINLAND: Fokker D.XXI, Gladiator, MS.406, a dozen Hurricane I
WITHDRAWN: Japanese air units

1941:
SOVIET UNION: LaGG-3, MiG-3, Yak-1
AXIS: Finland: P-36 Hawk, G.50, F2A-1 Buffalo. Germany: Me-109E/F.
Romania: He-112, PZL P. 11/P.24. Italy: M.C.200. Hungary: CR.42

1942:
SOVIET UNION: La-5, Yak-9, P-39 Airacobra, P-40C/E, Hurricane, Spitfire VB
AXIS: Germany: Me-109G. Italy: M.C.202. Romania: I.A.R.80. Hungary: Re.2000 Heja
WITHDRAWN: I-15, He-112, CR.42, PZL P.11/P.24

1943:
SOVIET UNION: La-5FN, Yak-3, Spitfire IX
AXIS: FW- 190A
WITHDRAWN: I-16, M.C.200, M.C.202

1944:
SOVIET UNION: La-7, P-63A, P-40N, P-47D (195 sent). Romania: I.A.R.80
AXIS: Finland: MS .406 "LaGG-Moraine"
WITHDRAWN: MiG-3

1945:
SOVIET UNION: No change.
AXIS: FW-19OD, Me-262 (no wingman allowed)
WITHDRAWN: Finnish planes
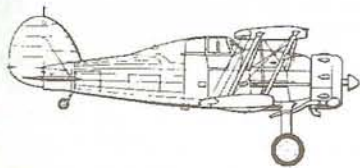
SCENARIO G
Faith, Hope and Charity
June 11, 1940

For the first 18 days of the epic siege of Malta, the initial defense of the island rested with three obsolescent Gloster Sea Gladiator biplanes. These were named *Faith, Hope* and *Charity* symbolizing the Sovereign and Military Order of the Knights of Malta. On June 11, 1940 the *Regia Aeronautica* launched the first aerial assault on the island. Flying Officer W.J. "Timber" Woods shot down an M.C.200 for the first of many victories recorded by Allied pilots against the Axis onslaught.

Tens of thousands of Maltese would come out to cheer as the outnumbered Gladiators dueled the Italians in the clear Mediterranean skies above their rooftops. Pictures of the British flyers would adorn the windows of shops on the island as they became symbols of Malta's heroic resistance. The three Gladiators were so effective in the defense of the island that the Italians estimated Malta's fighter strength to be 25 planes. *Faith* was the only Gladiator to survive the long struggle for Malta.

SETUP
Allied Side

Two Gladiators with one average and one inexperienced pilot, altitude 3.

Italian Side

Two CR.42 with one average and one inexperienced pilot, altitude 3.

One M.C.200 with one inexperienced pilot, altitude 3.

One G.50 with one inexperienced pilot, altitude 3.

NOTE: The Italian CR.42 lacked radios. As a result, these air units' wingmen can share their "tallies" only if they are within two hexes of each other and at the same altitude, while neither air unit can be engaged in combat (see Rule 15b8.3 above).
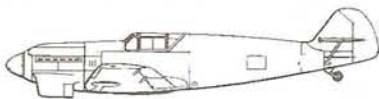
SCENARIO H
Freie Jagd
November 28, 1940

Major Helmut Wick, *Kommodore of JG2 Richthofen,* led a *schwarm* on a *freie Jagd* or "free hunt" over the English Channel in the late afternoon. Among his *stabschwarm* were two other *experten,* Oblt. Rudolf Pflanz (Wick's *rot-*tenflieger*—wingman) and Oblt. Erich Leie whose *rottenflieger* was Lt. Fiby. Approaching the Isle of Wight, the Germans spotted "Indians"–a formation of Spitfires from the 609 Squadron. The Germans attacked and Wick scored his 56th kill making him the top-scoring Luftwaffe pilot at this early stage of the war. However, during the melee Wick became separated from his wingman and was shot down by Fl. Lt. John "Dogs" Dundas for his 13th kill. Wick bailed out successfully into the *Scheisskanal* (or "sanitary sewer," as the Germans dubbed the Channel), but he was never seen again. Dundas was heard to report, "Whoopee, I've got one!" just before he was shot down and killed by Pflanz.

Rudi Pflanz (later Captain, with 52 victories) was later killed in action against Spitfires on July 31, 1942. Erich Leie (later Major, with 118 victories) was killed in action against Russian Yaks on March 7, 1945.

SETUP
British Side

Four Spitfire I, with one ace and three experienced pilots, altitude 3.

German Side

Four Me-109E-3, with three aces and one average pilot, altitude 3.
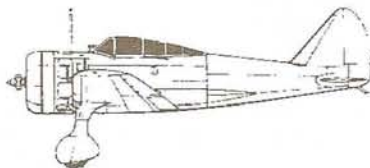
SCENARIO I
Flying Tigers
January 23, 1942

The fierce and ominous "shark-mouth" motif was first painted on Me-ll0s of the ZG76 *Haifsch* or "Shark Group." This unit had great success over Greece and Crete against the RAF. When the RAF pilots of the famous 112 Squadron were withdrawn to Egypt and refitted with Tomahawks they adapted the motif for their own unit. Erik Shilling, of the American Volunteer Group (AVG) saw a photograph of the RAF Squadron in the *Illustrated London News.* Shilling wanted the emblem as a squadron symbol but his commanding officer, Claire Chennault had the inspiration to use it as a group symbol; thus was born the legendary Flying Tigers.

Major Yasuo Makino's 50th *Sentai* and Major Hiroshi Yoshioka's 77th *Sentai* led two raids on the Mingaladon air base in Rangoon on January 23, 1942.

The AVG 2nd Pursuit Squadron ("The Panda Bears") aces David Lee "Tex" Hill (18 victories) and Frank Lawlor (four victories) led Tomahawks plus RAF Buffalos (from 67 Squadron) and Hurricanes (from 17 Squadron) against the two air raids. During the fighting, the Japanese lost two Nates while the Allies lost one Tomahawk piloted by Bert Christman. Christman was shot and killed in his parachute by overzealous Japanese flyers. One Buffalo piloted by Lt. Colin Pinckney (with four victories during the Battle of Britain) was also lost during this action.

SETUP
Allied Side

Two P-40C Tomahawks with two ace pilots, altitude 2.

One F2A-3 Buffalo with an experienced pilot, altitude 2.

One Hurricane II with an average pilot, altitude 2.

Japanese Side

Four Ki-27 Nates with experienced pilots, altitude one. The Japanese air units lack radios, see Rule 15b8.3 above.
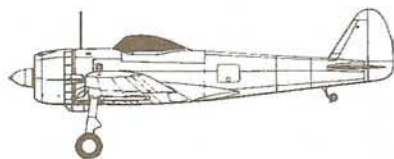
SCENARIO J
"God Hero of the Air"
April 8, 1942

Colonel Tateo Kato was the first and most famous ace of the JAAF. A national hero in his homeland, he was revered as the "God Hero of the Air." He led nine Ki-43 II *Hayabusas* (Peregrine Falcon, allied code named "Oscar") from his 64th *Sentai* on a strafing mission against the Loiwang airbase in Burma. For the first time, some of Kato's pilots were without combat experience.

His planes were bounced by the AVG 3rd Pursuit Squadron ("Hell's Angels") and Hurricanes from the RAF 17 Squadron. In the ensuing dogfight four Oscars were shot down, including the 3rd *Chutai* ace Captain Katsumi Anma, the first important JAAF flyer to die in the war. The Allies lost only one Kittyhawk (destroyed on the ground).

Both Col. Kato (18 victories) and AVG ace Bob Little (ten victories), who was flying a Kittyhawk that day, died in separate air battles on May 22, 1942.

SETUP
Allied Side

Two P-40D Kittyhawks with two ace pilots, altitude 2.

One P-40C Tomahawk with an experienced pilot, altitude 2.

One Hurricane II with an average pilot, altitude 2.

Japanese Side

Four Ki-43 II Oscars with one green, one experienced, and two ace pilots, altitude "1". The Japanese air units lack radios, see Rule l5b8.3 above. For the most accurate recreation use the "Bounce" scenario (see Rule 9e) with the Japanese side set-up *inside* the giant red hexagon.
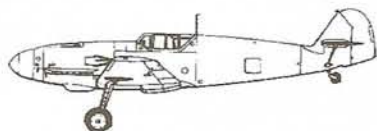
SCENARIO K
The Star of Afrika
June 3, 1942

Six Me-109Fs from I/JG 27 were escorting Stukas on a bombing mission when 12 to 14 P-40B Tomahawks from the 5th SAAF Squadron jumped the Stukas. Lt. Hans-Joachim Marseille (with his experienced *rottenfleiger*, Fw. Rainer Pottgen) went to the aid of the beleaguered Stukas. In the next eleven minutes, Capt. Parre, Lt. Martin, Capt. Morrison, Lt. Muir, 2nd Lt. Golding and Capt. Botha were shot down in succession by the deadly marksmanship of Marseille. Marseille needed an average of only 15 rounds per kill.

The handsome, long-haired, bohemian from Berlin was good press. Goebbels' propaganda machine churned out stories of the "Star of Afrika" for an adoring German public. Women would send fan mail, and Marseille's fame was like that of a movie star.

SETUP
Allied Side

Six P-40B Tomahawks with one experienced, two average, two inexperienced and one green pilot, altitude 1.

German Side

Two Me-109F with one ace and one experienced pilot, altitude 2.

SCENARIO L
Virtuoso
September 1, 1942

Marseille's most spectacular day was on September 1, 1942. Just a week earlier, Marseille was promoted to *Hauptman*, the youngest in the Luftwaffe at the age of 22. This fateful day he flew several combat sorties with his *rottenflieger*, Oblst. Stangel, during the Battle of Alam el Halfa during which Marseille shot down 17 Allied fighter planes, including five Kittyhawks in just seven minutes. This was the highest number of victories achieved by a single pilot against the RAF in one day.

Marseille's mercurial star blazed across the North African skies with his victory total reaching 158 until September 30, 1942 when his

Me-109G "Yellow 14" malfunctioned returning from a mission over Imayid. Marseille attempted to exit his smoking aircraft, but he struck his fighter's tail fin and he fell four miles to his death on the desert floor as his parachute failed to open. The Italians erected a pyramid over his gravesite with a plaque that read: "Here lies undefeated Hptm. Hans Marseille". *General der Jagdflieger* Adolf Galland eulogized Marseille as the "Virtuoso of the Fighter Pilots".

SETUP
Allied Side

Six P-40C Kittyhawks with one experienced, two average, two inexperienced pilots and one green pilot, altitude 2.

German Side

Two Me-109G-2 with one ace and one experienced pilot, altitude 3.
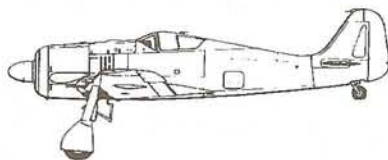
SCENARIO M
Kanalfront
June 2, 1942

To try to assist the hard pressed Soviet Union, Churchill ordered the RAF to engage in what the British dubbed "The Nonstop Offensive" against the Luftwaffe in northern France. The British codenamed the various kinds of missions. Ramrods or Circuses indicated a small formation of bombers escorted by large numbers of fighters, Rhubarbs were low-altitude probes by a maximum of four fighters, Roadsteads were attacks on German channel convoys, and Rodeos consisted of sweeps with large numbers of fighter aircraft.

Squadron Leader Al Deere from New Zealand, one of the most famous pilots from the Battle of Britain, led a Rodeo by the RCAF 403 Squadron, North Weald Wing on June 2, 1942. The squadron was being rebuilt after its losses that spring and most of the pilots were new to combat. The squadron was flying top cover for a two-wing Rodeo in conjunction with the Hornchurch Wing over the St. Omer area, home of the dangerous JG26 *Schlageter* Geschwader, known as the "Abbeville Kids" or "St. Omer Boys".

As the Spitfire formation headed back out to sea, a *staffel* of Focke-Wulfs jumped the Spitfires. Deere's pilots fought for their lives losing seven of their number with no losses to the aggressive Germans. The battle lasted only seven minutes. Among the German *experten* to tally victories in this engagement were Hptm. Joachim Muenchberg with his 80th and 81st kills and Hptm. Johannes Seifert with his 35th victory.

Al Deere survived the war with 21 kills to his credit. Neither German *experte* was as for-

tunate. Muencheberg (later Major) lost his life March 23, 1943 on his 500th mission when his Me-109 collided with the debris of a US-flown Spitfire he had just destroyed for his 135th victory over the Tunisian desert. Seifert (later Major, 54 victories) died on November 25, 1943 when his FW-190 collided with a Lightning on his 439th combat mission over northern France.

SETUP
Allied Side

Four Spitfire VB with one ace and three green pilots, altitude 4.

German Side

Four FW-190A-3 with two aces and two experienced pilots, altitude 4.
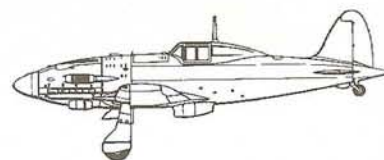
SCENARIO N
"Screwball"
July 27, 1942

The highest scoring pilot during the epic siege of Malta was Canadian ace George "Screwball" Beurling, with 26 victories. Beurling was a rebel, and in many ways resembled the "lone-wolf" fighter pilots of the early days of the First World War. Neither a drinker or a smoker, Beurling also did not swear, his prime expletive to anyone or anything unusual was "Screwball," and he totally dedicated himself to the art of aerial fighting.

His best day was on July 27, 1942 scoring four kills. His victories included two Me-109s and two Macchi M.C.202s. Among his victims was the Italian ace Captain Furio Nicot-Doglio (six victories) and Sgt. Faliero Gelli (two victories). Gelli was able to crashland his plane on Malta where he was taken prisoner. He was one of the very few Axis pilots to survive a successful attack by Beurling.

Beurling survived the war with 31 victories, but died May 20, 1948 while ferrying aircraft to the Israelis.

SETUP
Allied Side

One Spitfire VC with one ace pilot, altitude 3.

Two Hurricane IIB with one experienced and one average pilot, altitude 2.

Axis Side

One M.C.202 with one experienced pilot, altitude 3.

One M.C.202 with one ace pilot, altitude 1.

Two Me-109F with one experienced and one average pilot, altitude 2.
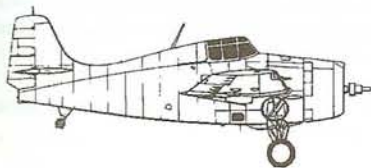
SCENARIO O
The Cactus Air Force
Spetember 13, 1942

Nine Zeros from the crack Tainan *Kokutai* under the command of Lt. Inano Kikuichi were escorting two Type 2 land reconnaissance planes on a mission over Guadalcanal (Allied code name, CACTUS). The pilots because of the long distances involved flying from their bases in Rabaul to Guadalcanal pulled their radios out of their planes to save weight.

The Zeros jumped three Navy Wildcats from VF-5 piloted by Wally Clarke, "Smokey" Stover and Don Innis. In the initial bounce, Innis was shot down and a long, low-level dogfight ensued. Six Marine Wildcats led by Major John Smith joined the battle.

In this fierce engagement, typical of the Guadalcanal campaign, an additional Wildcat was downed with pilot "Scotty" M. Lennan killed in action, but at a cost of four Zeros to the Japanese. This was a heavy blow to the Tainan *Kokutai* as Lt. Taraichi Takatsuka (16 victories), W.O. Susumi Matsuki (nine victories) and W.O. Kazushi Uto (19 victories) were all aces of note.

Major Smith would finish the campaign with 19 kills to his credit. He was one of four Marine aviators to be awarded the Medal of Honor for actions over Guadalcanal.

SETUP

American Side

Two F4F Wildcats with experienced pilots, altitude 5.

Turn 3: Two F4F Wildcats with one ace and one experienced pilot, altitude 5.

Japanese Side

Four A6M2 Zeros with four ace pilots, altitude four. The Japanese air units lack radios, see Rule 15b8.3 above.
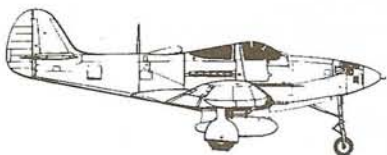
SCENARIO P
Stalinfalken
February16, 1942

The Kuban River in the north Caucasus became the scene of one of the most intense air battles of the war. For the first time, the Red Air Force, *VoyennoVozdushnyye-sily* (or VVS), challenged the might of the Luftwaffe for air superiority on a massive scale. Both sides committed large numbers of planes, and huge air battles became a daily occurrence. During this campaign, several *Stalinfalken* or "Stalin's Falcons" rose to prominence, including the brothers Dimitry (50 kills) and Boris (35 kills) Glinka who scored 21 and ten victories respectively over the Kuban.

The Soviets would concentrate their best and most aggressive fighter pilots in Guards units. These flyers would often paint the planes in bright red colors. One such unit, flying the American built P-39, which the Soviets nicknamed *Britchik* or "Little Shaver," was the 16th Guards Fighter Regiment commanded by Aleksandr Pokryshkin. He scored 20 of his eventual 59 victories in the Kuban. Gregorli Rechkalov (eleven victories in the Kuban out of a total of 58 kills) would often fly in the same *zveno* with Pokryshkin. They would switch to German radio transmission frequencies with the challenge: "Beware, all German pilots, the ace Pokryshkin is in the air!"

Over half the operational combat strength of the Luftwaffe on the Eastern Front was sent to stem the tide of battle, including many of their best fighter units, such as JG54 *Grunherz* ("Green Hearts") and JG52. *Geschwader* 52 was credited with over 11,000 victories during the war, making it the most successful fighter group in the Luftwaffe, and boasted such aces during the battle as Lt. Helmut Lipfert (later Captain, with 203 kills) and Lt. Walter "Graf Punski" Krupinski (later Captain, with 197 victories). However, the most feared German pilot was Hptm. Johannes Wiese (later Major, with 133 victories), known by the Russians as the "Kubanski Lion."

Attrition was high on both sides. In Lipfert's II/JG52 alone, these top pilots were lost during the struggle: Ofw. Nemitz (78 kills), Ofw. Kiworra (38 kills), Fw. Gleissner (34 kills), Oblt. Ritzenberger (21 kills), and Lt. Smiater (six kills). The battle ended in a bloody stalemate on June 7, 1943. The Soviets claimed that 35,000 combat sorties were flown with 800 Fascist planes destroyed in the air. The Germans claimed 2,280 Soviet planes by October, when the Germans were forced to evacuate the Kuban bridgehead.

SETUP

Russian Side

Two P-39 with two ace pilots, altitude 2.

Two Yak-9 or two La-5 or two Spitfire VB with one experienced and one average pilot, altitude 1.

German Side

Two FW-19OA-4 with one ace and one experienced pilot, altitude 1.

Two Me-109G-4 with one ace and one experienced pilot, altitude 1.
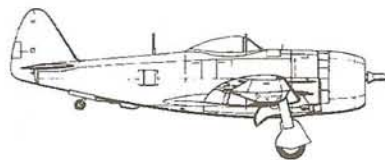
SCENARIO Q
The Wolfpack
Vs. Abbeville Kids
August 17, 1943

"Regensberg-Schweinfurt was the bloodiest and most savagely fought air battle of the war up to that time," stated Lt. General Ira C. Eaker commander of the U.S. Eighth Air Force. On August 17, 1943, aerial conflict raged across northern France deep into the Reich, with 60 B-17 Flying Fortresses shot down by the intense German resistance.

Wilhelm-Ferdinand "Wutz" Galland joined his brothers Adolf and Paul as a member of JG26 *Schlageter*, the yellow-cowled fighter elite of the Luftwaffe in 1941. This fighter group's reputation was so great that among Allied flyers any aggressive yellow-cowled fighter was attributed to the "Abbeville Kids." In two years, "Wutz" Galland had 55 victories to his credit and was *Gruppenkommandeur* of the hard-charging II/JG26.

On the returning flight, the only fresh *Gruppe* in the area was Galland's command. During the first attack on the bomber stream two B-17s *dicke Autos* or "fat cars" were shot down. As the Germans regrouped for a second pass they were jumped from the rear; the direction of Germany by Colonel "Hub" Zemke's 56th Fighter Group. The aggressive tactics of the 56th FG had earned them the nickname "The Wolfpack." In the prolonged dogfight five FW-190s, one Me-109 and four Me-110s were shot down versus a loss of three P-47s piloted by Lts. Arthur Sugas, Voorhis Day and Robert Stultz.

Galland's Focke-Wulf, "Black 8," was blown up in the initial bounce by Captain Walker "Bud" Mahurin (with 21 victories). Galland's remains would be discovered two months later, buried with the wreckage of his Focke-Wulf. The 56th Fighter Group ended the war with the largest number of aerial victories and the highest claim-to-lost ratio of any American fighter group in the 8th Air Force.

SETUP

American Side

Four P-47D with two aces and two experienced pilots, altitude 6.

German Side

Four FW-19OA-6 with two aces and two experienced pilots, altitude 5.

or

Two FW-19OA-6 with one ace and one experienced pilot, altitude 5.

Two Me-109G-6 with one ace and one experienced pilot, altitude 6. For the most accurate recreation, use the "Bounce" scenario (see Rule 9e) with the German side set-up *inside* the giant red hexagon.
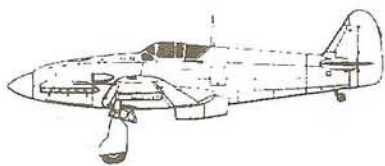
SCENARIO R
Headhunters
December 22, 1943

Sixteen P-38 Lightnings of the 8th Fighter Group were escorting B-25s of the 345th Bomb Group on a low-level raid on the Japanese stronghold of Wewak in New Guinea. The mission was led by Major Ed "Porky" Cragg commanding the 80th Squadron, known as the "Headhunters."

During the approach to the target the P-38s were jumped by Ki-61 *Hiens* (Swallows, Allied code name Tony) of the 68th *Sentai* and the 78th *Sentai* commanded by Major Akira Takatsuki and Ki-43 *Hayabusas* (Peregrine Falcon, Allied code name Oscar) of the 59th *Sentai* and the 248th *Sentai*. In the ensuing melee, Lt. Cornelius "Corky" Smith tallied an Oscar for his 12th victory and the raiders shot down three other Oscars and four Tonys including Takatsuki's plane. When the major jumped from his strickened Tony, his parachute was caught in the propeller of a P-38 causing the unfortunate pilot to fall to his death in the jungle below. Two other Tony pilots, *Chutai* leader Akinori Motoyama and Sgt. Maj. Iwao Tabata, managed to parachute to safety, though Motoyama later died from his wounds. The Americans lost two P-38s with both of their pilots (Lts. Howard Donaldson and Jennings Myers) and one B-25.

Major Cragg died in action four days later in action over Cape Gloucester after recording his 15th victory.

SETUP
American Side
Four P-38L with two aces and two experienced pilots, altitude 2.

Japanese Side
Two Ki-61 Tony with one ace and one experienced pilot, altitude 2.
Two Ki-43 II Oscar with one experienced and one inexperienced pilot, altitude 3.
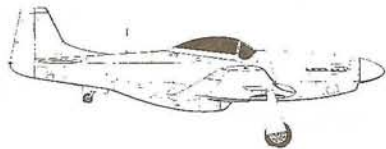
SCENARIO S
The One Man Air Force
January 11, 1944

A strike force of 663 B-17s were sent on the first large-scale American raid with fighter protection deep into Germany to bomb the Focke-Wulf factory at Oschersleben. Weather conditions forced about two-thirds of the bombers and most of the escorting fighters to abort the mission. The rest of the bombers accompanied by just 49 Mustangs continued the mission. The Germans reacted vigorously to this incursion by the "Amis" shooting down 60 B-17s and five Mustangs while losing 39 of their fighters.

Major James Howard, a former Flying Tiger ace, became separated from his wingman while flying his P-51B *Ding Hao!* during this fierce engagement. He single-handedly fought off 30 Luftwaffe fighters that were attempting to attack B-17s of the 401st Bomb Group.

"...It was a case of one lone American against what seemed like the entire Luftwaffe," stated Lt. Col. Allison Brooks, commander of the 401st Bomb Group. Howard's laconic reply was, "I seen my duty and I done it." Howard was given credit for three confirmed kills and awarded the Medal of Honor for his heroism. He was the only fighter pilot in Europe to win the Medal of Honor.

SETUP
American Side
One P-51B with an ace pilot, altitude 5.

German Side
Two FW-190A-6 with two inexperienced pilots, altitude 4.
Two Me-109G-6 with one experienced and one green pilot, altitude 5.
Two Me-109G-6/U4 with one average and one green pilot, altitude 4.
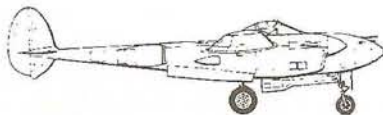
SCENARIO T
Zero-Happy
January 7, 1945

Major Tom McGuire led an unauthorized fighter sweep of four P-38s over Negros Island on a day in which poor weather forced the patrol to a low altitude. McGuire was the second highest American ace with 38 kills, but he had become "Zero-Happy" trying to pass Dick Bong's record of 40 kills before he was scheduled to go back to the states in February. Flying as his wingman was an experienced pilot, Douglas Thropp with one victory to his credit. A second flight consisted of two seasoned pilots, Major Jack Rittmayer (four victories) and Edwin Weaver (two victories).

The Lightnings encountered a lone Ki-43 Oscar piloted by Akira Sugimoto of the 54th *Sentai*. Sugimoto was an aggressive pilot and he managed to get behind and damage Douglas Thropp's P-38. McGuire in attempting to come to Thropp's aid failed to jettison his external fuel tanks and his Lightning became sluggish, went into a stall and crashed killing McGuire. Major Rittmayer shot the Oscar off Thropp's tail. Sugimoto was forced to crash-land his crippled plane in the jungle. This was spotted by Filipino guerrillas who killed Sugimoto.

Rittmayer in turn was jumped and shot-down by a Ki-84 Frank piloted by Sgt. Mizunori Fukuda who had attempted to come to the aid of the outnumbered Oscar. Fukuda then tried to finish off Thropp when the fourth Lightning piloted by Edwin Weaver came to Thropp's rescue, badly damaging the Frank.

Tommy McGuire was posthumously awarded the Medal of Honor, and the McGuire Air Force Base in New Jersey was named in his honor.

SETUP
American Side
Four P-38L Lightning with one ace and three experienced pilots. Begin in red hexagon facing direction 1, altitude 0, speed 2.

Japanese Side
One Ki-43 II Oscar with one experienced pilot. Begins anywhere outside the blue hexagon at altitude 2, speed 3.
Turn 3: One Ki-84 Frank with one ace pilot, altitude 3.
SPECIAL SCENARIO RULES: Americans start the game already Spotted by Japanese. Until Japanese are spotted, Americans cannot relinquish the sequence marker, cannot change altitude and cannot move air units more than two hexes apart from each other. American air units are carrying auxiliary tanks (see Optional Rule 19 in Sheikh's article). Optional Rule 15b (Spotting) must be used. Optional Rule 16 (Breaking Contact) is not allowed before turn 7.
SPECIAL VICTORY CONDITION: Americans win if the Zeke is destroyed. Japanese win if they shoot down one air unit and survive.
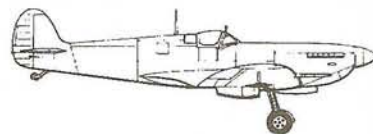
SCENARIO U
The Last Day of the War
January 7, 1948

On the last day of the Israeli War of Independence, four RAF Spitfires from 208 Squadron led by Flying Officer Cooper were on a recon mission over Faluja. One of the Spitfires was shot down by anti-aircraft fire by the Israelis, who may have mistaken the RAF planes for Royal Egyptian Air Force Spitfires.

The three remaining Spitfires circled their downed companion when they were bounced by two Spitfires of the IDF 101 Squadron flown by *Mahal* volunteers Canadian John McElroy (a former RAF WWII ace with 14 victories) and Chalmers "Slick" Goodlin (a top American test pilot). McElroy got two and Goodlin shot down the third Spitfire.

One RAF pilot was killed and the other two parachuted to safety. The British protested this "unprovoked aggression."

SETUP
RAF Side
Three Spitfire XVIII with one experienced and two average pilots, altitude 1.
Israeli Side
Two Spitfire IX with one ace and one experienced pilot, altitude 1. For the most accurate recreation use the "Bounce" scenario (see Rule 9e) with the RAF side set-up *inside* the giant red hexagon.

★

The Last Roundup of MUSTANGS Strays

By Bruce Kohrn

Some fine (as well as very poor) aircraft aren't available for *MUSTANGS*. Few special purpose variants, like photo-reconnaissance, fighter-bomber, or multi-crewed/heavy interceptor types, are included in either the original counter set or expansion set…until now.

Using secondary sources and primary guess-work, the Air Unit Values Chart at the end of this article provides all fighter types used, or available, for daylight operations. Radar-equipped night fighters are included because they were occasionally used as interceptors. All *MUSTANGS'* aircraft are listed with extra variants and mission types. Suggested rule changes, optional rules and new generic scenarios are also provided to add to the thrill and the challenge of dominating the skies.

MUSTANGS is a successful design aimed to cover plane-to-plane combat: 1944-1945. The *MUSTANGS EXPANSION KIT (available from The Avalon Hill Game Company for $15.95)* opened new possibilities with aircraft from earlier years. However, many are still missing. There is a saying, "less is more." What?! MORE is more and the more "more" the better. That is the goal of this article.

However, adding to a game is similar to overloading an aircraft. One risks a serious performance penalty. I hope that for WWII aircraft enthusiasts the inclusion of new mission capabilities outweighs this drawback.

This is a game, not a flight simulator. *MUSTANGS* performance values are abstractions. For example, aircraft ratings tend to be their best, whether they occurred at 3 or 30,000 feet. Though two game aircraft may appear equal, their real world capacities could be vastly different. Major features, such as speed, are rounded off. Yet, *MUSTANGS* allows exciting competitions. With the new material provided herein, the game is bigger and, I hope, better than ever.

The new material allows a greater variety of missions. For example, many aircraft were used in ground/sea attack missions. Using the "escape interception" rules (see 9f below), one side could have escorted fighter-bombers attempting to exit the map. These loaded fighter-bombers could have restrictions such as a maximum altitude of 4, one climbing or up to two diving altitude changes per turn, and no tight turns or half-loops.

If they drop their ordinance, these limits are removed, but no bonus victory points are scored

for exiting the map. An alternate would be air units on a strafing mission. Bonus victory points are scored only for attackers ending the game with 50% or more of their starting ammunition (in order to conduct the strafing mission after the fighter combat).

Another new mission type would have a defending force protecting a map area. This would represent a target (such as a train). Attackers at altitude 0 would receive bonus points for firing a set number of times at this area.

The *MUSTANGS* designer has offered an unofficial mission. One side has Me-262s plus a fighter covering force. This side's objective is to land the Me-262s in the face of Allied fighter opposition. The Me-262s must survive through turn 8 and finish at speed 1 or 2 and altitude 0.

Perhaps this data will spur others to contribute additional scenarios including historical missions. Bomber/ramming/air-to-air rockets/flak rules? Air-ground and air-sea missions? Night combat/radar? More aircraft! More scenarios! More *MUSTANGS!*

SUGGESTED RULES MODIFICATIONS

2b1) MULTICREWED AIR UNITS

As the game cards were not designed for these variations, crew positions other than pilot should be recorded on paper.

2b1.1) Rear gun equipped air units with two crewmen have one pilot and one rear gunner (RG). See the new Air Unit Values Chart's Notes section for exceptions.

2b1.2) Air crews may include a co-pilot (CP), reserve rear gunner (RRG) and other crewmen. The RRG could take over the rear gun in an emergency. Other crewmen assist with spotting and count as victory points if lost. See the Notes section of the Air Unit Values Chart for crew assignments.

3d3.1.1) Optional: Me109 H-0, H-1, Ta-152H-1 and Welkin I have a maximum altitude of seven. To show this level, place the chit above the altitude column on the *MUSTANGS* Control Card.

5d4.1) All aircraft with a maximum level speed of one may perform a half-loop manuever. The normal speed reduction of one does not apply unless the current speed is greater than one (which could happen after a dive). *MUSTANGS* generally rounds down historical maximum level speeds to the next lowest hundred m.p.h.. This wouldn't normally allow the inclusion of some 1930's aircraft.

5d6.1) All aircraft with a maximum level speed of one may perform a tight turn maneuver without the normal speed reduction of one. If the current speed is greater than one, a tight turn does decrease an air unit's speed by one. See 5d4.1 for an explanation.

6a5) REAR GUNS

Rear guns are usually positioned dorsally. Exceptions are explained in the Notes section to the Air Unit Values Chart found below.

6a5.1) A rear gun may fire at any eligible target during any non-consecutive fire phase. For example, the rear gun of a Me-110 C-1 fires at a target during the firing phase of turn 1, impulse VI. The rear gun may not be used again until the firing phase of turn 2, impulse II.

6a5.2) A target must be in a rear sector hex within two hexes of the firing air unit. See diagram. This target may be at the same altitude or at one altitude level higher. A target in the same hex as the firing unit MUST be one altitude level higher.

6a5.2.1) A rear gun may also fire one altitude level lower at a target if allowed in the Notes section. Rules 6a5.1 and 6a5.2 apply but a target in the same hex must be one altitude level lower.

6a5.2.2) Units with multiple rear guns (see Notes) may attack one target at the same altitude or one level higher plus a target at the same altitude or one level lower (see 6a5.1, 6a5.2 and 6a5.2.1). Each rear gun must wait one Fire Phase before firing again.

6a5.3) A rear gun equipped air unit does not have to fire at an eligible target. If more than one target is available, the firing air unit may choose. If multiple units declare an attack on the same target, all are considered to have fired (even if the target is destroyed before a friendly unit can resolve its combat). This applies to fire attacks from ANY gun position. A new target may not be declared that Fire Phase. If a campaign (rule 18) is in effect, all shots should be completed in any order chosen by the attacker(s) and credit DIVIDED for any kill (see rule 18e.1).

6a5.4) A rear gun may not fire at the same target as the firing unit's forward, oblique forward (OF) or other rear guns during the same friendly impulse. It may fire as a separate attack against the same target as another unit's forward, OF or rear guns.

6a5.5) An aircraft must have a non-incapacitated RG or RRG to fire its rear gun factor(s).

6a6) OBLIQUE FORWARD GUNS

6a6.1) Fire from OF guns is performed the same as per rule section 6. An air unit may use
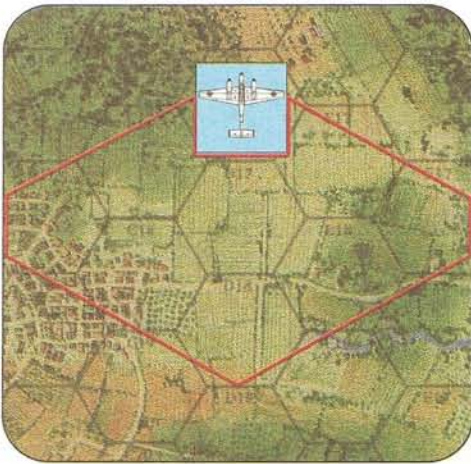
Rear gun firing arc: planes inside the red-outlined area may be targetted.

the forward guns OR the OF gun factors during a single firing phase. A rear gun set as an OF position MAY fire the same phase as a forward gun. The Notes show aircraft with a rear gun which could be used as an OF position. The owning player must choose this option at the start of the game and may not change. Rule 6c1.4.8 does apply (but no other sections of 6c1.4) for rear guns set for OF fire. An airplane with two OF gun positions may not fire both during the same impulse.

6a6.2) OF gun factors may not be used against targets one altitude level below the firing air unit. Exceptions are listed in the Notes section. To reflect the difficulty of aiming OF guns against fighter aircraft, OF gun factors are half their value against other aircraft types. Rear guns set as OF weapons (see above) should halve their listed values (round fractions down) but never less than zero. This information is provided if anyone wishes to design a bomber interception version of *MUSTANGS*. For simplicity's sake, the pilot controls OF guns (see exceptions in the Notes).

6c1.4) REAR GUN FIRING MODIFIERS

6c1.4.1) The Firing Position Modifier Diagram is not used for rear gun attacks. Firing modifiers depend on the relative positions of the rear gun and the target plus maneuvers plotted, or just completed, for the firing air unit.

6c1.4.2) Use the rear gun fire factor and modify as explained below. All modifiers are cumulative.

6c1.4.3) Draw an imaginary line from the center of the firing unit's hex to that of the target hex. If the target is adjacent and the fire line crosses its front hexside, add two; if the line crosses the rear hexside, subtract one; if the line crosses any other hexside, add zero. A line which doesn't clearly cross a front or rear hexside adds no modifier to the die roll.

6c1.4.4) For a target at two hex range, apply an extra "-2" modifier.

6c1.4.5) If a target is one altitude level away from the firing unit, include a "-2" modifier.

6c1.4.6) If the FIRING air unit is marked for, or completed, a right or left turn, use a "-1" modifier.

6c1.4.7) If the FIRING unit is marked for, or completed, any tight turn, roll or half-loop, include a "-3" modifier.

6c1.4.8) An experienced rear gunner adds two, and an ace RG adds a "+4" modifier. An inexperienced RG uses a "-1" and a "green" RG, a "-2" modifier. For example, a Ki.45KAIa "Nick" with an ace rear gunner is at altitude 3 plotted for a tight left turn. It targets a F4F-4 at altitude level 4 and a range of two hexes. The firing line crosses a side hexside. The final firing modifier equals "-3" (0 RG factor, plus "+4" for an "ace" rear gunner, "-3" for the firing air unit's tight turn, and "-2" for the one level altitude difference, with "-2" for the two hex range, plus 0 for the fire crossing the target's side hexside).

7b.1) All aircraft with a maximum speed level of one and a normal engine power rating (see 7b), may climb one altitude level without the usual speed reduction of one. If the current speed is greater than one, or if the air unit climbs two altitude levels, use the regular speed penalties (see 7b). This exception does not apply for damaged engines. For an explanation, see 5d4.1.

9a2.2.1) Optional: Single hits on CP, RG, and RRG crewmen don't count for victory points. One point is awarded for each incapacitated non-pilot crewman (see 13c2.3.1).

9a2.2.2) Optional: Total points scored for hits on an air unit may not exceed its original air unit point value. Victory points for incapacitated crew are in addition to those for hits on the pilot and on the aircraft (i.e. fuel, engine, etc.).

NEW GENERIC SCENARIOS

9f) SCENARIO FIVE-Escape Interception

One side has recon or interceptor air units which are trying to complete their primary mission off-map.

9f1) PLAYERS (2 OR 4): The multi-gamer rule (17a) must be used for the four-player game but rule 17a2 remains optional. The air unit and pilot point variants (Rule 14) are in effect.

9f2) REQUIRED AIR UNITS: Selection varies depending upon the number of players. Both sides should agree on a selection point total and choose air units as explained below.

9f2.1) One player chooses a reconnaissance type air unit (see Notes section of new Air Unit Values Chart) plus a fighter. The other player chooses an identical pair of fighters equal to the opponent's total point value. For example, one side takes a F-4 type P-38L with an average pilot (10 points) plus an escort P-51D with an ace (15 points) for 25 total points. The opponent chooses two fighters such as a Me-109G-6 with an ace (13 points) and a Me-109G-6 with an experienced pilot (12 points).

9f2.1.1) For four players (two per side), one side takes a pair of identical fighters (the pilot quality may differ) plus one additional fighter of any type and a reconnaissance airplane. The other side chooses four fighters (all of one type or two of two types) divided into two identical pairs (pilot quality may vary) equaling the point value total of the opponents.

9f2.1.2) For two- or four-player games, if the optional spotting rules (15b) are used, the recon and fighter air units are NOT wingmen. This applies even if both are similar types (i.e. a recon P-38L and a fighter P-38L).

9f2.2) For two-player scenarios with an interceptor containing force versus a fighter force, one chooses a fighter air unit as a bomber interceptor and another as an escort. While any armed unit could be an interceptor, it is suggested that it be a twin-engined, multicrewed type or an air unit with a forward gun factor of at least eight. The other player picks an identical pair of fighters. Pilot quality may vary.

9f2.2.1) If the interceptor and the escort are identical (i.e. two Me-262-1a units), they may be wingmen (optional rule 15b8). For victory purposes, only one unit is the interceptor. It must be designated prior to the game and identified to the other side.

9f2.2.2) For four players, one side chooses one identical pair of interceptors and another of escort air units. The other side chooses two identical pairs of fighters from one or two air unit types. Pilot quality may be unequal. For example, both sides have 48 points. One side chooses two Ki.102a air units with average pilots as interceptors (2 x 12= 24 points) and two escort Ki.84-Ia units, one with an experienced pilot and one with an "inexperienced" pilot (13 + 11 points). The other side takes four F6F-3 units with average pilots (12 points each). The pair of air units counted as interceptors for victory purposes are identified to the other side during game set up.

9f3) AIR UNIT PLACEMENT:

9f3.1) Option: The side with the initiative chit sets up first. The side with the recon or interceptor air unit(s) starts anywhere on the map edge between E21 and K21 inclusive. Facing is 6, 1, or 2. The other side sets up on the blue line touching the 1 direction side, anywhere between "a" and "b" inclusive. Facing is 3, 4, or 5. Both sides start at speed two and at an altitude not to exceed half (rounded up) of each friendly air units' maximum level(s).

9f4) SPECIAL SCENARIO RULES: Victory exit hexes are A1, C1, E1, G1, I1, K1, M1, or O1. Recon and interceptor unit(s) may not exit the map except through the victory exit hexes or by breaking contact (optional rule 16). The exiting unit(s) must be facing direction 6, 1, or 2 and have at least one remaining speed point while in an exit hex to qualify for the victory condition that turn. If it lacks a speed factor, it meets the victory condition on the next impulse it can move. A unit reaching a victory hex on the game's last turn must have at least one speed factor or it doesn't qualify for the victory condition. A reconnaissannce aircraft flown by a CP, or damaged, satisfies the victory conditions. Any exiting unit is immediately removed from play. Other air units may leave the map only by breaking contact. Optional rules 9f4.3 or 9f4.3.1 are strongly encouraged.

9f4.1) An exception is made for recon/interceptor unit(s) with a maximum level speed of two. Their victory exit hexes are A6, C6, E6, G6, I6, K6, M6, or O6. Other exit conditions are the same as 9f4.

9f4.2) If the maximum level speed of the recon or interceptor unit(s) is four or its dive speed is five, reduce the game length by one turn (turn 7). If the maximum level speed is five, the game should be reduced by two turns (turn 6). A game may end earlier if no units remain or by mutual player agreement.

9f4.3) Option One: The exit system in 9f4 and 9f4.1 is required because of the single game map. It is suggested that once the first recon/interceptor air unit exits, the positions of all aircraft and maneuver chits should be adjusted so that all are returned to the map. Other unit settings (i.e. speed, altitude, and facing) remain unchanged. A recon/interceptor air unit which hadn't exited has its exit hex changed to reflect the original distance. For example, an interceptor ME-163-B-1 in hex K-2 needs to move one hex in direction 1 to reach an exit hex from its new map location. The game length is always eight turns unless no units remain or by mutual player agreement. An aircraft may only exit once for bonus victory points.

9f4.3.1) Option Two: Add a second map with its 4 direction side against the first map's 1 direction edge. The game length is the same as 9f4.3. The set-up and exit hexes are on the first map, the same as 9f3, 9f4, and 9f4.1. An exited reconnaissance/interceptor unit(s) remains in play and forfeits its victory condition/bonus if destroyed. Other units may move on either map but don't receive victory points for transiting a victory hex. A recon/interceptor unit may only exit once for bonus victory points. Game length is always eight turns.

9f4.4) The side with the recon air unit must have it exit the correct victory hexes to be eligible for absolute or marginal victory. All other absolute and marginal victory conditions apply (rule 9a2.1 and 9a2.2). If the recon plane exits, that side wins a marginal victory (even if neither side loses a unit). No other marginal victory conditions are needed. If the recon unit didn't successfully exit but all other absolute or marginal conditions have been met, reduce the victory by one level. Had the other side achieved what would otherwise be an absolute or marginal victory, it is reduced one level (i.e. an absolute to a marginal or a marginal to a tie) if the recon unit exits. A reconnaissance unit which breaks contact doesn't count as exited. A recon air unit leaving the map while on fire must extinguish the fire or it is eliminated and doesn't count as exited. This is done during the Change Phase (see rule 13b4).

9f4.5) Only one interceptor must exit for that side to be eligible for absolute or marginal victory (see 9f4.4). It may be flown by a CP, or be damaged, but must have at least three total ammunition factors for its forward and/or OF guns (types with a rear gun set up as an OF or armed only with OF guns must also have a non-incapacitated RG). For example, if a Do-217 N-1/U3 has one ammunition factor for its forward guns and two for its OF guns at the moment it exits, it would qualify for the victory condition. If the optional ammunition rule (13a5) is used, at least one interceptor must start the game with three total ammunition factors for its forward
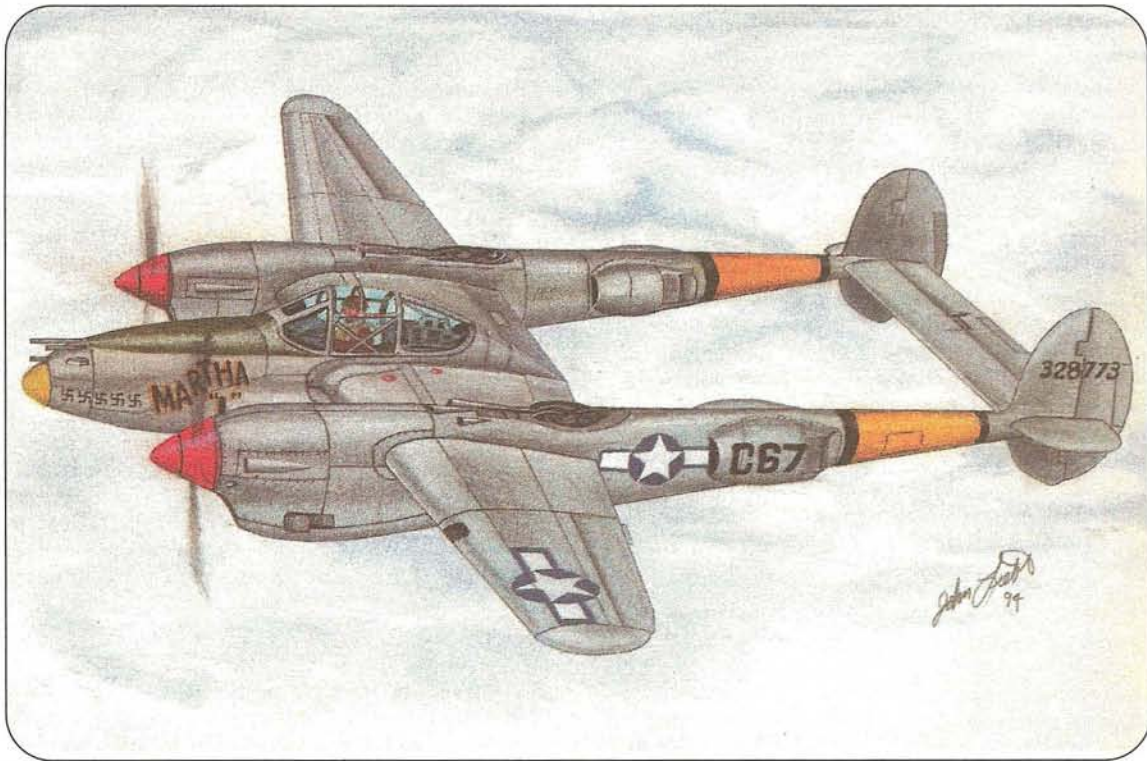
and/or OF guns. Rear gun ammunition doesn't count (except for rear guns set for OF fire or units which only have rear guns are used as interceptors). These units must have a non-incapacitated RG to qualify for the victory conditions. Interceptor units on fire exiting the victory hexes follow the procedure explained above. All other victory level modifications are the same as in rule 9f4.4. Interceptors which break contact or have less ammunition than required do not qualify as exited. The side eliminating interceptors gets two bonus victory points for each. The side exiting interceptors receives four bonus victory points for each.

9g) SCENARIO SIX-Kamikaze

A Japanese "Special Attack" (SA) formation attempts to reach Allied naval units "off-map." This scenario type combines features of 9d and 9f. Optional rules 14a and 14b must be used and use of rule 15 is encouraged.

9g1) PLAYERS (2, 3, or 4): Multi-gamer option (17a) is in effect as needed but rule 17a2 remains optional.

9g2) REQUIRED AIR UNITS: For four players, after agreeing on selection points, the Allied side chooses four aircraft divided into two pairs, one pair per player. All four may be identical or two pairs of identical types. The Japanese side chooses two identical fighter escorts for the use of one player and three SA air units for the other player. The SA airplanes may be of different types but it is simpler if they are the same. SA units are NEVER wingmen (if rule 15b8 is in effect). For two or three players, use a smaller selection point total. The Allied player chooses a pair of identical fighters and the Japanese side picks a single escort unit and two SA aircraft. In a three player game, one player controls the escort and another the SA units. In

a two player game, each player controls all the air units on one side. Pilot quality may vary for all aircraft (see 9g2.2.5).

9g2.1) Optional: While a common SA formation had two escorts and three SA airplanes, there were many variations. The Japanese side may choose any combination of escort and SA units, including all SA aircraft. An all-escort force is a game identical to Scenario Three (9d). If a single escort fighter is used, it will have no wingman.

9g2.2) AIR UNIT GUIDELINES:

9g2.2.1) Initial SA formations (escorts and SA units) were mainly JNAF Zeke types. As the war continued, the JAAF added its own SA formations. It was uncommon for the Japanese Army and Navy to cooperate. Almost anything which could fly was expended. Escort aircraft should preferentially be single-engine types. SA units can be multi-engined but should generally have only a pilot. Any rear or OF guns should be ignored. Selection points remain the same.

9g2.2.2) SA aircraft should have the same maximum level and dive speeds if options 9f4.3 or 9f4.3.1 aren't used. Escorts should follow this limit if using 9g3.1.1 or 9g3.2.1.

9g2.2.3) Optional: All SA airplanes have their ammunition factors halved (round fractions down) but not less than two ammunition boxes. These heavily loaded units are limited to a climb of one or a dive of up to two altitude levels per Change Phase. Speed changes are the same as those listed on the Change Chart (seven). Starting maneuver ratings are reduced one level (i.e. a Red Circle becomes a White Diamond) but never lower than a Tan Triangle.

9g2.2.4) Allied fighters should preferably be naval types (US or British).

9g2.2.5) Japanese escort and all Allied pilots are average quality or better (a maximum of one pilot may be inexperienced). SA pilots must be

The storied P-38J Lightning, which had a range suitable for the Pacific expanses.

inexperienced or green. For example, four players (two on a side) agree on 49 total selection points per side. The Allied side selects two average F4U-1As (12 points each) plus one ace F6F-3 (14 points) and one inexperienced F6F-3 (11 points). The other side picks one ace A6M5a (13 points) and one average A6M5a (11 points) as escorts for two green A6M5s (8 points each) and a green A6M5a (9 points) SA aircraft.

9g3) AIR UNIT PLACEMENT: The side with the initiative chit doesn't automatically set its units on the map first. The Japanese side must identify all SA aircraft after map placement.

9g3.1) Option One: The Japanese side places its units on the map first between hexes E21 and K21 inclusive with a direction facing 1, altitude 4, and speed 2. Then the Allied side sets its units touching the 1 direction side of the blue line between "a" and "b" inclusive with a direction facing of 3, 4 or 5, altitude 4 and speed 2.

9g3.1.1) If the SA unit(s) have a maximum level speed of 4 or a dive speed of 5, the game length is reduced to seven turns.

9g3.2) Option Two: First the Allied side places its units on hexes between A1 and O1 inclusive with a direction facing 4, altitude 1, and speed 2. Then the Japanese side sets up on hexes in the hexrow A15 to O15 inclusive with direction facings of 1, 2, or 6, altitude 0 and speed 2.

9g3.2.1) If the SA unit(s) have a maximum level speed of 4, reduce the game length to five turns.

9g4) SPECIAL SCENARIO RULES:

9g4.1) The Japanese side receives 12 victory points for each SA aircraft which successfully exits by the end of the game (see 9g4.2). SA units may be damaged. No additional points are scored for exiting escorts. All Japanese aircraft exit as per rules 9f4 and 9f4.1 for scenario option one (9g3.1). For option two (9g3.2), use rule 9f4 only (i.e. all Japanese units have the same exit hexes). An exited air unit is immediately removed from play. Use of optional rules 9f4.3 or 9f4.3.1 are strongly encouraged. Both sides receive normal victory points for eliminated or damaged enemy units. The Allied side gets a three victory point bonus for each extra starting Japanese plane (i.e. if the Allies started with two planes, and the Japanese three, Allies get three bonus points).

9g4.1.1) Any Japanese aircraft which leaves the map on-fire must extinguish the flames during that turn's Change Phase (see rule 13b4) or it is not counted as exited.

9g4.1.2) SA units may NEVER bail out (rule 13c) or break contact (rule 16). Escorts may break contact but don't qualify as exited.

9g4.2) At least one Japanese escort aircraft (even if damaged) must exit the map for exiting SA planes to automatically receive bonus victory points. Escort and SA units do not have to exit on the same turn. If the optional rules 9f4.3 or 9f4.3.1 are in effect, SA and escort units must survive until the game ends to qualify as exited. If no escorts have exited by the end of game, each SA unit that exits must roll a 10-sided die. A green SA unit must roll a 7 or higher, and an inexperienced SA unit, a 5 or higher, to get victory points (see 9g4.1). Any SA units which fail their die roll are worth no Japanese victory points. Historically, SA pilots lacked navigational training. These SA aircraft would be wasted, vainly searching for a target only to run out of fuel and crash.

9g4.3) In addition to the reqirements for absolute and marginal victory given in rule 9a2.1, the Japanese side must successfully exit at least one SA unit (as per 9g4.1 and 9g4.2) and the Allied side must eliminate at least one SA unit. SA units which crash (9g4.2) do count as eliminated. If either side achieves the conditions of an absolute or marginal victory without the SA unit requirement, it is reduced one victory level (i.e. an absolute to a marginal or a marginal to, at best, a tie).

OPTIONAL RULES

13a4) Ammunition factors for different guns are recorded separately. Guns may not use ammunition factors from any other position.

13a5) Variable Starting Ammunition: During scenario set up, for each gun position, roll a die. On a 1, add two ammunition factors. On a 2, add one factor. On a 3 through 6, no change. On a 7 or 8, subtract one ammunition factor. On a 9 or 10, subtract two ammunition factors. If the pilot, for the forward and OF guns, or the RG, for the rear guns, and types with only OF guns, is an ace, subtract two; if experienced, subtract one from the die roll. When the crew is green, add two; if inexperienced, add one to the die roll. No gun position should start the game with less than one ammunition factor.

13a6) Starting ammunition information is written down and kept hidden from opponents until the end of the game.

13b2.1) Multicrewed air units: On a hit number of 3, roll the die again. On a 1 through 5, the pilot is hit. On a 6 through 10, the RG is hit. With a 10, both pilot and RG are hit. If a CP (for a pilot hit) or RRG (for a RG hit) is present, roll the die again for each position; on a 1 through 5, the pilot or RG and on a 6 to 10, the CP or RRG is hit. Other crewmen, for the purposes of this rule only, are assigned to positions not already filled (i.e. CP, RG, or RRG), when beginning a scenario. An incapacitated crewman may be hit again but with no additional effect.

13b2.2) Since certain hits affect a bail-out's success, all friendly attacks against the same target should be completed. Bail-out attempts are delayed until this is done.

13b3.3.1) Multi-crewed air units:

13b3.3.1.1) One pilot hit: same as 13b3.3. Second pilot hit: incapacitated. The rest of the crew must attempt to bail out (13c) if no incapacitated CP is present. This cancels the prohibition in rule 13c1. A CP (even if wounded) will automatically substitute for an incapacitated pilot unless the air unit is currently marked for a tight turn, roll, or half-loop maneuver. If so, roll a die. On a 1 or 2 (1 to 4 if at altitude 0 or 1), the air unit is eliminated and no bail outs are allowed. On any other die roll, the change succeeds with no differences in that unit's settings.

13b3.3.1.2) One rear gunner hit: RG fire attacks have an additional "-2" modifier. Second RG hit: incapacitated. A RRG may only replace an incapacitated RG at the beginning of the next impulse. For example, on turn 3, impulse III, the RG of a Do-17Z-10 was eligible to fire on a P-51D. As the Allies had the Sequence chit, they attacked first and incapacitated the RG. The rear gun would not be allowed to fire that phase. The RRG wouldn't replace the RG until turn 3, impulse IV. A RRG is considered green and fires with an additional "-2" ("-4" if that RRG is wounded) modifier. This applies to RG controlled OF guns or rear guns set for OF fire (see 6a6.1).

13b3.3.1.3) A CP is considered "green" for all game purposes and "fires" with an additional "-2" modifier. A CP with one hit is limited to a maximum change of one altitude level per turn and attacks with an additional "-4" modifier. A second CP hit eliminates the aircraft (other crew may attempt to bail out).

13b3.3.1.4) Crew members may not be voluntarily changed between positions. A CP may substitute for a pilot, and a RRG for a RG, only if the latter are incapacitated.

13b4.1) Players should record which air unit's attack caused an opposing aircraft to be set on "fire." If the fire is not extinguished, that attacking air unit receives credit for a "kill." When different friendly air units cause a "fire" on the same target during the same turn, credit for the "kill" is divided equally.

13c1.1) Each crewman capable of a bail out makes an individual die roll with the same modifiers as rule 13c1 except using an additional "-3" modifier if the pilot (or substituting CP) is incapacitated. The "-3" modifier for a crew hit applies only to the crew member making the bail out attempt.

13c1.2) For Japanese pilot or CP bail out attempts, first roll a die. On a one through five, no bail out is possible. If allowed, use normal modifiers. Many Japanese aircrew chose not to wear parachutes, believing they impaired cockpit operations.

13c1.3) Crewmen may not bail out unless their aircraft is eliminated (see 13b3 and 13b4). Note: if a CP successfully replaces an incapacitated pilot, the airplane is not eliminated.

13c2.2.1) For CP, RG, and RGG bailing out over a neutral area, subtract 3/4 victory point from the normal air unit victory point value.

13c2.3.1) For each CP, RG, and RRG bailing out over an enemy area, subtract 1/2 victory point from the normal air unit victory point value.

13c2.4) The other side receives one victory point for each CP, RG, and RRG that fails to bail out or is incapacitated. This is in addition to victory points for a damaged or eliminated air unit.

14a2.1) The selection and victory point value of an air unit also varies due to the quality of the RG.

14a3.1) The victory point value of an air unit may decrease if aircrew successfully bail out (see 13c).

14b6) OTHER AIR CREW QUALITY:

14b6.1) The selection and victory point value of an air unit is reduced by one for a green RG, reduced by a half point for an inexperienced RG, increased by a half point for an experienced RG, and increased by one point for an ace RG. Other aircrew have no effect on air unit point values.

14b6.2) All point modifiers are cumulative (i.e. an air unit with an ace pilot and a green RG is worth a total of one more air unit point value).

14b6.3) Rear gunner firing and spotting modifiers:

Green RG, "-2"; Inexperienced RG, "-1"; Experienced RG, "+2"; Ace RG, "+4". An incapacitated crewman may not spot or fire.

14b7) Air crew with one hit spot with a "-1" and fire with an additional "-2" modifier.

14d) ROCKET FIGHTER

Only one rocket powered airplane saw combat during WWII. The ME-162-B was used mainly as a short range target-defence interceptor. After powering to its attack altitude, it had to glide.

14d.1) Set-up: Start the game at maximum speed (5) and at any altitude from level 3 to 6.

14d.2) Change phase (3f5): During the first change phase only, the airplane may climb up to THREE levels (to a maximum of 6) and keep (or increase to) its 5 speed. For the second change phase, and for turn 1 dives/no change, use the HIGH engine power column. On all subsequent turns, use the DAMAGED engine power column.

14d.3) Effects of One Engine Hit/One Fuel Hit (13b3.2/3.4): When an engine or fuel hit is scored, immediately roll a die. On a 1 through 3, a fire starts. With a 4 through 6, the airplane EXPLODES, is immediately destroyed, and no bail out (13c) is permitted. On any other roll, use the DAMAGED engine power column during the turn 1 or 2 Change Phases (i.e. this cancels rule 14d.2). No additional power penalties apply for engine Damage on turn 3 or later.

14d.3) Additional engine or fuel hits don't cause automatic elimination. A die roll for fire or explosion is made for each hit.

15b3.1.1) Multi-crewed aircraft:

15b3.1.1.1) The pilot's quality modifier is used for all spotting attempts against targets in the air unit's front sector. A CP substituting for an incapacitated pilot uses the green quality modifier.

15b3.1.1.2) The rear gunner's quality modifier is used for all spotting attempts in the air unit's rear sector hexes. Use the green modifier for a non-pilot crewman. Use the pilot's quality modifier for rear sector spots only if there is no other incapacitated crew.

15b3.5.1) The "+2" modifier doesn't apply to a pilot's (or a substituting CP's) spotting attempt against a target in the front sector hexes. It also doesn't apply to a RG's (or substituting RRG's) spotting in the rear sector hexes.

15b3.6.1) A RG cancels the "-3" modifier for a target in the air unit's rear sector. A crewman listed in the Notes section of the new Air Unit Values Chart as being able to spot in any, or in the rear, sector also cancels this "-3" modifier. The "-3" applies if the pilot is the only nonincapacitated crew member.

15b3.7) Open canopy: Add a "+1" spotting modifier if the target is in the rear sector hexes.

15b3.8) Twin-engines: Add a "+1" modifier to all spotting attempts against a twin-engined air unit. This includes all multicrewed air units except the Fox, Whiraway, Skua, Roc, Defiant, Fulmar, Firefly, Dauntless, Avenger, Val, Judy and Me109G-12. It includes the P-38, Shooting

Star, FR-1, Meteor, Whirlwind, Welkin, Me-262, Do-335, Fw-187, and I.M.A.M. Ro.57.

15b3.9) Extra crew: Add "+1" for a CP (for all spots to the front sector) and add "+1" for a RRG (for all spots to the rear sector). A CP or RRG substituting for an incapacitated crewman loses this "+1" modifier. A crewman listed as available for spotting (without restriction) in the Notes section of the new Air Unit Values Chart may add "+1" to all spots to the front OR rear sectors during a single Spotting Phase. A crewman listed as able to spot to the front or rear adds a "+1" only to targets in those sectors. This "+1" applies only if another crewman also spots to the same sector (i.e. the Me-388 has the pilot and 1 crewman covering the front and rear sectors; all spots to the front, for the CP, and rear, for the 2nd crewman, sectors add "+1"). Incapacitated extra crew lose the "+1" spotting modifier.

15b3.10) Add "+3" to all spotting attempts against a target on fire.

15b7.1.1) Since the forward/OF gun(s) and rear gun(s) in an air unit fire on separate targets, each crewman keeps its tally on his target but loses all others. On subsequent Fire Phases, any eligible gun position may fire on any tally. If ANY non-incapacited crewmen has not fired during a Fire Phase, the air unit keeps ALL tallies. When more than one air unit attacks the same target during the same Fire Phase, ALL are considered to have fired for ammunition use and tally loss (even if the target is destroyed prior to a friendly air unit resolving its attack). A new target may not be declared that Fire Phase.

18.1) Rules which apply to pilots also apply to the other crew positions.

18a2.1) Players should keep separate lists of specialized aircraft and crew (i.e. reconnaissance, interceptor, and SA).

18a3.1) If reconnaissance missions are included in a campaign, at least one recon type air unit must be chosen. Recon air units are not considered to be wingmen of fighter variants (see 9f2.1.2).

18a3.2) If interceptor missions are included in a campaign, any air unit type may be used. It is encouraged that aircraft have at least 8G or be a twin-engined type.

18a5) Scenario six (9g) could be a separate campaign game; most missions would have the Allied side defending against Japanese Kamikaze attacks plus recon/interceptor and pure fighter vs. fighter actions.

18a5.1) The Japanese side should chose a force of two fighter/recon/interceptor units for every three SA units.

18a5.2) Players should agree on the number of non-Kamikaze mission types. For example, the Allies might fly one recon mission daily and one interceptor mission every other day. The Japanese may schedule one reconnaissance and one interceptor mission daily plus one pure fighter mission every other day. Pilot quality for all-fighter missions can vary from rule 9g2.2.5.

18b2.1) Japanese SA missions may have five aircraft but no more than four may be escorts.

18b6) When both sides schedule recon or interceptor missions (which require exiting units from the map) at the same time grant both sides 10 bonus campaign victory points. Neither mis-

sion is actually conducted but all air-crew gain a mission's experience.

18b6.1) If players chose to complete the above missions, all special absolute and marginal victory conditions (see 9f and 9g) are in effect except bonus points for unequal starting numbers. Exit hexes and initial facings for one side will be the mirror image of those in rules 9f and 9g. If the mission length, as determined by the speed of the exiting air unit(s) differs, each side rolls a die. The side with the higher roll uses the speed of its air unit as the determinant. The other side gets the sequence chit. Alternatively, use a two map set up (see 9f4.3.1).

18b6.2) Starting locations for missions (i.e. enemy, neutral or friendly areas) should be determined randomly.

18b7) Players may start units with one fuel box when a mission is over an enemy area. This would not reduce its defence value but a single fuel hit would eliminate the airplane.

18b7.1) For historical campaigns where a side's fuel was limited, players could reduce the available number of air units. For example, after assigning morning missions, one side randomly determines which are not flown. Variations include limits starting on a chosen campaign day, limits only on afternoon missions, or flying a mission with one fuel box. One side could also establish a fuel depot. This starts the campaign with a set number of fuel boxes. Each air unit assigned to a mission reduces the fuel supply by two. Each morning add a set/variable amount of fuel to the depot.

18b7.2) A side gets half of the air unit's point value (rounded down) for each unit not flown due to fuel limits.

18c.1) "Bounce" (9e3) set ups should not be used if both sides are conducting missions which require exiting any air units from the map. If only one side has such a mission, set up as per 9e3 and adjust the exit hexes to keep the original starting distance. Use of rule 9f4.3 or 9f4.3.1 is encouraged.

18d2.1) A side successfully exiting interceptor air units (with at least three ammo boxes for its forward and/or OF guns) receives four bonus campaign victory points for each.

18d2.2) A side eliminating interceptor units gets 2 bonus campaign victory points for each.

18d2.3) A side successfully exiting reconnaissance units receives eight bonus campaign victory points for each.

18d2.4) A side eliminating recon air units gets four bonus campaign victory points for each.

18d2.5) A side successfully exiting SA units receives 12 bonus campaign victory points for each (see 9g4.2).

18d2.6) A side eliminating SA units gets six bonus campaign points for each.

18d3) When conducting a Kamikaze campaign, players should finish a set number of days and then switch sides. Forces/mission types for the rematch are chosen using the original selection guidelines (see 18a). Add the final results for both campaigns to determine the overall winner.

18e.1) All air units' gun positions which hit a target during the same Fire Phase divide the credit equally for a kill. Friendly players must agree on the order that attacks are resolved.

18e.2) Players may choose to keep lists of all personnel or only for pilots and RGs. CPs and RRGs which gain experience may be promoted (to pilots and RGs respectively) at the owning players choice. Use their actual experience modifiers, instead of green, where called for in the rules.

18f1.1) Incapacitated aircrew are permanent losses.

18f3) WOUNDED AIRCREW: Roll a die for each hit crewman at the end of a mission. The result equals the number of full day(s) off. For example, a pilot hit on the afternoon of day 2 rolls a one. The next allowed mission would be the afternoon of day four. Add one to the die roll for bail outs over a friendly area or "+3" over a neutral area.

18g2.1) Players may wish to use randomized replacement aircrew quality, starting number of kills, and missions survived. For example, both sides might agree that in a 1939 Soviet Union vs. Japanese campaign, the later side would have more experienced crewmen and increase the proportion of higher quality replacements. A simple system would use a die roll to generate crew values with modifiers to increase the chance of certain qualities for each side.

18g3) For a Kamikaze campaign, SA replacements draw two green pilots before each inexperienced pilot. The Japanese escort pilot pool should add one average after each inexperienced pilot. For the Allied replacement pool, first add one average, then one inexperienced (having already survived two missions), and then one experienced pilot (having already scored two kills). Repeat each sequence as needed.

This Vultee also served well as a trainer and messenger plane.

18g4) Players may wish to randomize the chance of receiving aircraft/crew replacements. For example, if one side in a historical campaign was at a disadvantage, there should be a reduced chance of replacing losses. Damaged aircraft might be repaired (suggested: those with one or two non-crew hits are ready the next day, three or four hits, available in two days, five or more hits are not repairable).

18g4.1) Players may opt to fly damaged air units. Remove up to two non-crew hits (owning player's choice) for each day's morning mission. Wounded aircrew should not fly. All hit results are in effect. The other side gets victory points for additional hits and full original air unit point values for kills.

MUSTANGS AIRPLANE FORM

Aircraft Name   I.D.

Gun Factor   Ammo

Pilot Experience

Crew

Alt. & Can.   Def./Eng.

LS & P   Loop   Roll   Turn   Dive

Rear Gun   RG Ammo

KEY TO AIR UNIT VALUES CHART

Column Headings:

GF	Gun Factor (forward and oblique forward)
AF	Ammo Factor (for forward guns)
AC	Altitude & Canopy
DF	Defense Factor & Engine Type
LS	Level Speed & Power
DS	Dive Speed
RGF	Rear Gun Factor
RAF	Rear Gun Ammo Factor

An asterisk ("*") before a planes name indicates a version of the non-"*" plane above. Retain all unchanged values of that non-"*" plane. Arm. var. indicates an armament variation on the same plane. Gun factors separated by a comma mean that aircraft has a choice of more than one value. Gun factors, and their ammo, listed to the right of a "/" means an additional oblique forward (OF) armament (some Japanese aircraft have only OF guns). Players will find fighter aircraft not listed as fighter-bombers which can function in that role. If flown loaded with bombs, reduce the turn rating and, optionally, the roll rating and/or level speed by one level (i.e. BS to GS; "4" to "3").

TT = tan triangle	⑤ = all-round vision canopy
GS = green shield	oc = open cockpit
BS = blue square	4 = radial engine
WD = white diamond	6➤ = jet engine
RC = red circle	3➤ = rocket engine, see rule section 14d
	❸ = high-performance engine
	v = ventral gun

NOTES
Lettered notes contain information about which honest gamers may honorably disagree.

KEY TO NOTES

VP = victory point(s)
OF = oblique forward
CP = co-pilot
RG = rear gunner
RRG = reserve rear gunner

AIR UNIT VALUES CHART

Aircraft	GF	AF	AC	DF	LS	Loop	Roll	Turn	DS	RGF	RAF	Crew	PTS.	Notes
AUSTRALIA														
Commonwealth CA-12, 13, 19 "Boomerang"	6	5	4	4	2	GS	BS	WD	3				10(E)	
* "Whiraway"	1		④			TT	GS			0	8		9	1
BELGIUM														
Avions Fairey Fox VIC	1	4	⑤	3	2	BS	WD	RC	3			2	8	2
* (arm.var.)										0, 1	4		9	
* VII	2													
* VII 2-seat										0	4	2		
Czechoslovakia														
Avia B-534-III, IV, Bk-534 (arm.var.)	2	7	5	4	2	BS	WD	RC	4				9	3
* B-534 (early)			5oc	3										
* Bk-534	3	5												
Av-135	3	5	4	3	3	GS	BS	WD	4				9	4
DENMARK														
Fokker D.XXI	4	4	5	3	2	TT	BS	WD	4				10	
FINLAND														
V.L.-Fokker D.XXI	2	4	⑤	3	2	GS	BS	WD	4				9	5
V.L. Myrsky II "Storm"	4	6	4	4	3	TT	GS	BS	4				10	6
FRANCE														
Bloch MB-152	5	5	5	3	3	TT	BS	BS	4				10(E)	A, 7
* MB-151	2	4		2									9	
* MB-151(arm.var.)	5			2										
* MB-152 (arm.var.)	2			2									9	
* MB-152 (early)				2										
Bloch MB-155	6	7	5	4	3	TT	BS	WD	4				11	8
* (arm.var.)	3	7											9	
Caudron C.714	2	4	4	3	2	TT	GS	WD	4				9	9
Dewoitine D.510, D.501	3	4	4oc	3	2	BS	GS	WD	3				9	10
* D.500	1												8	
* D.500 (late)	2													
Dewoitine D.520	4	6	5	4	3	TT	WD	WD	4				10(E)	11
Loire 46C.1	2	4	4oc	3	2	BS	BS	WD	3				9	12
Morane-Saulnier MS-406, MS-405, D-3800, D-3801	3	4	4	3	3	GS	BS	WD	4				9(E)	13
* MS-406 (arm.var.)	1												8	
* "Super-Morane"	2	6	5											
* MS-410	4	7											10	
Nieuport-Delage NiD.-629, 622	1	6	4oc	3	1	GS	WD	RC	3				8	14
Potez-631, 630	2	4	④	4	2	TT	TT	BS	4				9	15
(arm.var.)										0, 1	9			
* Potez-630	4									0, 1	9	2, 3	10	
* 631 (arm.var.)	6, 7									0, 1	9	2, 3	11	
* 631 (arm.var.)	4									0, 1	9	2, 3	10	
Spad-510	2	7	4oc	3	2	BS	WD	RC	3				9	16
GERMANY														
Arado Ar-68E, F, G	1	6	4oc	3	2	BS	WD	RC	3				8	17
Arado Ar-440A-0	12	7	⑤	5	❸	TT	TT	TT	5	2	5		13	18
* Ar-240A-0	Unarm.			4	3								10	19
* Ar-240A-0 (var.)	Unarm.			4	3								10	19
* Ar-240B-0	Unarm.			4	❸								10	19
Dornier Do-17A-10 Kauz II "Screech Owl"	6	8	④	5	2	TT	TT	GS	4	0	8	4	11	20
* Z-6 Kauz I	3	8											10	
* Do-215B-5				5							3			
Dornier Do-217 J-1,2	9	8	4	5	3	TT	TT	TT	4	1 ventral	7	3	12	21
* (arm.var.)	10			5										
* Do-217 N-1				5						1 ventral	7			
* (arm.var.)	10/4	/6		5										
* Do-217 N-1/U3	10			5										
* Do-217 N-2	10/2,4	/6											13	
* (arm.var.add.)														
Dornier Do-335 A-1, A-0 Pfeil "Arrow"	7	5	5	5	❹	TT	WD	GS	5				13(E)	
* A-4													15	19
* A-6					❸							2	12	22
Focke-Wulf FW-187A Falke "Falcon"	5	5	5	4	3	TT	TT	BS	4			2	10	23

A) Change defense to 4D. Sources say it was capable of absorbing considerable battle damage. Maximum level speed of early MB-152s should be two. 2G MB-152 ammo should be 7A.

1) Whiraway was a light bomber. It was Rabaul's only fighter defense in early 1-42. Boomerang also used as fighter-bomber. If flown loaded with bombs, increase turn rating to BS.

2) Fox types were Belgium's most numerous aircraft in 5-40. The only single seat VII was assigned to WWI ace Major Willie Coppens.

3) 300 in service Sept. 1938. 445 delivered plus 54 Bk-534s a few armed with a 20mm cannon. Served with the Slovak Air Force over Kiev in 1941, but many units deserted. Three Slovak Avias fought against the Germans in 1944. 14 sent to Yugoslavia and four to Greece. Used by the Luftwaffe as 2nd line equipment.

4) Bulgaria received 12 in 1941. Used against US bomber attacks on Rumanian oilfields.

5) Finnish production started in 1941. The type used in the Winter War was the Netherland's version.

6) 46 produced in 1944. Employed against the retreating Germans.

7) Seized from Vichy forces and transferred to Rumania in 1942. Greece had nine MB-151s by October 1940 Italian attack. One MB-153 built, flown by Vichy.

8) Taken from Vichy by Germany in 1942.

9) 56 delivered by 1940. Flown by Polish volunteers in France. Six reached Finland by March 1940.

10) With second line units on Sept. 1939. Assigned to North African units by May 1940. 34 D.510s exported to China. Served

at least until the end of 1941. Other D.510s: Turkey (9), Republican Spain (16), Lithuania (7), Japan (2), USSR (1) and Great Britain (1).

11) Standard Vichy fighter. Used vs. Allies in Syria and North Africa. Served with Free French, Rumania and Bulgaria. Used by Italian 2nd line and Luftwaffe training units (some operational use over USSR).

12) Generally trainers by WWII, but could have been used in combat. 39 Loire 46C.1s in France on May 10, 1940 (others served Republican Spain in the Spanish Civil War).

13) D-3800, 3801 were Swiss-built. 45 MS-406s supplied to Turkey. 36 captured MS-406s sent to the Croatian Air Force. Finns received 60, 30 by the Winter War. 406s engaged Me109Bs, Cs and Me110s during the Phoney War. MS-406s fought the British in Syria. Others, including 1G version, were in French Indochina. Super Morane was a MS-406 modified by the Finns with a Russian engine and available June 1944. MS-410s were first used by the Vichy and later the Croatian Air Force.

14) Both aircraft with French 2nd line forces in 9-39. NiD 629s used over France by two squadrons in 1940.

15) Both types used as interceptors or with single-seater units as fighter directors. Engine problems grounded most 630s. 2-seater version usually was a night fighter. Swiss had 2 630s. Few 6/7G versions made from Do-215B-1 bomber. Vichy used 631s, including in Africa.

16) With French North African units May 1940. 27 sent to the Republicans in the Spanish Civil War.

17) Ar-68 reportedly used as an emergency night fighter early in WWII.

18) Seven A-0,B-O in service over USSR 1943. In 1940-41, one A-O used over the English Channel coast. four Ar-440s made, field tested late 1942. Rear guns can fire up or down one altitude level.

19) Photo-reconnaissance versions. Field modifications allow MUSTANGS'players leeway in armament. Air unit point values for these planes are high compared to their gun factors due to their missions' importance.

20) Night fighter/intruder conversion of Do-17Z-3 bomber one Z-6, 9 Z-9 made. Z-10s used an infra-red spot-light, later replaced with radar. Do-17Z's rear gun could be fixed to fire obliquely forward and up. 12 Do-215s converted from Do-215B-1 bomber. Sortied over Britain spring/summer 1941. In Sicily, 10-41. Crew= one pilot, one CP, one RG, one RRG.

21) Radar equipped night fighter. Early J-1s night intruders without radar.J-2s also supplied to Italy. Models with ventral rear guns can fire up OR down one level each normal rear gun fire phase. "Js" were converted Do-217E-2 bombers while "Ns" were made from Do-217Ms. Crew= one pilot, one CP, one RG. Crew for models without rear guns=one pilot, one CP, one crewman who spots to any sector.

22) Radar equipped night fighter. Crew=one pilot plus one crewman who spots to any sector.

23) Three completed. Protected Focke-Wulf's Bremen plant in the summer of 1940. Used in Norway during the winter of 1940.

Aircraft	GF	AF	AC	DF	LS	Loop	Roll	Turn	DS	RGF	RAF	Crew	PTS.	Notes
Focke-Wulf FW-190 A-8, A-7, A-7/U2, A-5/U9, A-5/U12 Wurger "Butcher Bird"	9	5	⑤	4	4	GS	WD	GS	5				12(M)	1
* A-0/A-1	2	9			3			BS					9	
* A-2	4,5	6			3			BS					10	
* A-3	7	6			3								11	
* A-4	7	6		❹									11	
* A-5, A-5/U2, A-6	7	6											11	
* A-5/R6	7	6					BS						11	
* A-4/U8, A-5/U3, U8, U13	4	6		3			BS						10	
* A-4/Trop	5	6		,									10	
* A-5/U4	7	6											13	2
* A-5/U11	12	4		3			BS							
* A-5/U15	7	6		3									11	
* A-5/U16	12	4		5	3		BS						13	
* A-6/R2	5	6		3			BS						10	
* A-7/R2	13	4					BS						13	
* A-8/R1	14			❹			BS						13	
* A-8/R3	14	3					BS						13	
* A-8/R11	14	4					BS						13	
* FW 190 F-0, F-1	5	6	4	5	3		BS						11	3
* F-2, F-3	5	6	④	5	3		BS						11	
* F-3/R3	13	3	④	5	3		BS						13	
* F-7, F-8, F-9	6	6	④	5	3		BS						11	
* F-8/R2	14	4	④	5	3		BS						13	
* F-8/R3	14	3	④	5	3		BS						13	
* G-0, G-1, G-2,G-3/Trop,G-4/Trop,G-7	4	6			3		BS						10	3
* G-3	5	6			3		BS						11	
* G-8	4	6			❸		BS							
Focke-Wulf FW-190 D-9 "Dora"	6	9	⑥	4	❹	GS	WD	BS	5				13(M)	4
* D-0, D-1	9	5		4										
* D-10	8	4												
* D-11	12	4	5										14	
* D-11/R5	12	4	5				GS						14	
* D-11/R21	12	4	5	4									14	
* D-12	10	5	5	5									14	
* D-12/R5	10	5	5	5			GS						14	
* D-12/R21	10	5		4									14	
* D-13	8	6												
Focke-Wulf Ta-152 H-1, H-0	8	4	⑥	4	❹	GS	WD	BS	5				13(E)	A
* H-1/R21				4										
* C-0, C-1, C-3	12												14	
* C-1/R14	12		5				BS							4
* E-1, E-1/R1	4	9												2
Focke-Wulf Ta-154 A-0, A-1	11	6	5	4	3	TT	TT	TT	4			2	12	5
Heinkel He-51C-2	1	6	4oc	3	2	GS	WD	RC	3				8	6
Heinkel He-100D	3	5	5	4	4	TT	BS	WD	5				10	7
Heinkel He-112B	4	6	4	4	3	TT	GS	WD	4				10	8
Heinkel He-162A-3 Salamander Volksjager "People's Fighter"	8	2	5	3>	5	TT	BS	TT	6				12	
* A-0, 1, 2	4	5											11	
Heinkel He-219 A-0/R1, R2 Uhu "Owl"	20	9	⑥	5	3	TT	TT	TT	5			2	15	9
* A-0/R3	12												13	
* A-0/R6	12/4	/5											13	
* A-2/R1, A-5/R1	8/4	/5											12	
* A-5/R4	18	4								1	5	3		
* A-6	12			4			GS						13	
* A-7/R1, R2	20/4	/5		4										
* A-7/R3, B-3	16/4	/5		4									14	
* A-7/R4	12/4	/5		4									14	
* A-7/R5	12			❹										
* B-2	4			4			GS						11	
Junkers Ju-88 C-6a, C-6c	7	8	⑤	5	3	TT	TT	TT	4	1	8	3	11	10
* (arm.var.add.)	/2	/8												
* C-0	5													
* C-2, C-4	3									0	8			
* C-5	3			5						0	8			
* C-6b					2									
* C-7a, C-7b	7													
* C-7c, R-1, 2	7			5										
* C-7/R (arm.var.)	15												14	
Junker Ju-88 G-1, G-6a	8	8	④	5	3	TT	TT	TT	4	1	9	4	12	11
* G-0	12												13	
* G-6b	8/2	8/8												
* G-6c, G-7a, b, c				5										
* H-2	12											3	13	
Junkers Ju-188R	8	8	④	5	3	TT	TT	TT	4	1	9	4	12	12
Junkers Ju-388J-1 Stortebeker	10	8	⑥	5	3	TT	TT	TT	4			4	12	13

A) The "H" model had a wing span over 30% larger than the others. Its roll rating should be "BS".

1) A-4 and later models had power boost capabilities. Players may choose to use the high engine performance column. A-4/R6 carried air-to-air rocket-propelled mortars. A-5/R2 fitted as night fighter. A-4/U8, /Trop., A-5/U3, U8, U11, U13, and A-6/R2 were fighter-bombers. A-5/U15 was a torpedo carrier. A5/U16 used by "Sturmgruppes" late 1943. Their tactics involved attacking bombers at close range and ram if needed. Models with more than 9G were bomber destroyers, except A-5/U11. "Trop."=tropicalized. Many other field conversions possible, capable of cannon, bomb, fuel and rocket tubes packs. 100 A-3s sent to Turkey.

2) Photo-reconnaissance versions. Field modifications allow MUSTANGS players leeway in armament. Air unit point values for these planes are high compared to their gun factors due to their missions' importance.

3) Armored ground attack, fighter-bomber, fighter-dive-bomber versions. Many field conversion pack variants.

4) D-11 and D-12 were ground attack models. /R5s could carry bombs. Few "Ds" other than the D-9 built. Questionable if these saw action. Ta-152 C-1/R14 was a fighter-bomber.

5) Radar equipped night fighter. 15 total reached service trials starting summer 1944. Crew=one pilot plus one crewman who spots to any sector.

6) HE-51C-2 used in close support role against Poland. Main service was in Spanish Civil War with Nationalists and German Kondor Legion (HE 51 A-1, B-1 as fighters and C-1 as Spanish close support fighter). All types would have same game values.

7) 12 flown by test pilots to defend Heinkel plant. three sold to Japanese Navy (as AXHei) in 1939. Six prototypes sold to Soviet Union.

8) 17 flown for the Nationalists in Spanish Civil War, 15 later with Spanish Air Force. 24 served with Rumanians in WWII. 12 sold (as A7Hei) to Japanese Navy as a bomber interceptor over China.

9) Radar equipped night. Over 18 subvariants. Crew=one pilot plus one crewman who can spot to the rear sector. HE-219A5/R4 crew adds 1 RG. A-6, A-7/R5, and B-2s were counters to the British Mosquito.

10) Crew=one pilot, one RG, one crewman who spots to any sector. JU 88C-0 used for ground attack in Poland 9-39. 6b, C-6c, R-2 were radar equipped night fighters. C-2, C-4, C-5 were night fighters/intruders. C-6a, C-7c, R-1 were heavy day fighters. C-7a and 7b were day fighters/fighter-bombers. "Cs" were modifications of Ju-88A-1, A-4 bombers.

11) H-2 model was a long-range fighter; 10 served over the Atlantic in 1942-43. Crew=one pilot, one CP, one RG. "Gs" were radar equipped night fighters. In action summer 1944. Crew=one pilot, one CP, one RG, one RRG.

12) Radar equipped night fighter. Three made from Ju-188Es. Crew=one pilot, one CP, and one RG, and one crewman who spots to any sector.

13) Radar equipped night fighter. Three made. Crew=one pilot, one CP, and two crewmen who spot to any sector.

Aircraft	GF	AF	AC	DF	LS	Loop	Roll	Turn	DS	RGF	RAF	Crew	PTS.	Notes
Messerschmitt Me109B-2, C-0, C-1, C-2	2	9	4	3	3	GS	BS	WD	4				9(E)	A, 1
* B-2 (arm.var.)	1													
* B-0, 1	1				2								8	
Messerschmitt Me-109D-1 "Dora"	3	7	4	3	3	TT	BS	WD	4				9(E)	2
* D-0	1	9											9	
Messerschmitt Me-109E-3, T-0 "Emile"	5	6	5	4	3	TT	BS	WD	4				11(E)	3
* E-0, E-1 (early)	2	9											9	
* E-1/B, E-4/N	4	7					BS							
* E-1(arm.var.), E-4, E-4/Trop, E-7, E-7/Trop, T-1, T-2	4	7											10	
* E-5, E-6, E-9	1	9											10	4
* E-7/U2	4	7		5			BS						10	
* E-7/Z	4	7			8									
Messerschmitt Me-109F-4, F-4/Trop "Friedrick"/"Fritz"	3	6	5	4	4	GS	BS	WD	5				10(E)	B, 5
* F-1, F-2, F-2/Trop, F-3	2	7			3								9	
* F-2/Z	2	7			8									
* F-4/R1	7	5			3		BS						12	
* F-4/B					3		BS							
* F-5	1	7											10	4
* F-6	Unarm.												10	4
Messerschmitt Me-109G-5, G-6, G-1/Trop, G-5/R2 "Gustav"	4	5	6	4	4	TT	GS	BS	5				11(M)	C, 6
* G-0, G-3, G-4	3	6			3		BS						10	
* G-1	3	6			8		BS							
* G-12	3	6			8							2		
* G-2	1	7			3									4
* G-14, G-14/Trop, G-14/R2, G-14/R2/Trop							GS							
* G-6, G-14 (arm.var.), /U4N, /R2 Trop	8						GS						12	
* G-10, G-10/R2, /R6, K-2, K-4	7	4											12	
* K-6, K-14	6	4					BS						12	
* G-6/R1, /R2								GS						
* G-8	2	6												4
* G-6/R6	8	5	5	4	3	TT	GS	GS	5				11(E)	
* G-6/U4	14	3	4	5	3	TT	TT	GS	5				13(E)	D
* G-10/U4	14	4					TT	GS					13	
* K-6	14	4						GS					13	
* H-0, H-1	5	4	6	4	8	TT	GS	TT	4				11	7
Messerschmitt Me-110C-0, 1,2,3,4, B-1	5	7	5	4	3	TT	TT	GS	4	0	9	2	11	8
* A-0, B-0	2	9	4	4	2				4				9	
* C-4/B, C-7, E-0, 1, 2, F-0,1,2, G-0,1								TT						
* C-5, E-3, F-3	2	9											11	4
* D-0, 1, 2	2	9						TT						
* C-6	9	3						TT					12	
* F-4	13	3						TT				3	13	
Messerschmitt Me-110 G-2, H-2	6	9	5	4	3	TT	TT	GS	4	1	5	2	11	
* (arm.var.)	10	8						TT					12	
* G-2/R1	7	4												
* G-2/R2	7	4			8									
* G-2/R3	16	4						TT					14	
* G-2/R4, H-2/R1	13	4						TT				2	13	
* H-2/R2	13	4			8								13	
* G-2/R5	13	4											13	
* G-3/R3	12	7										7	13	
* G-3	2											7		4
* H-3	8	5											13	4
* G-4			4	5				TT				3		
* G-4/U7,R6	6		4		8			TT				3		
* G-4/U8	6		4					TT						
* G-4/R3	12	6	4					TT				3	13	
* G-4/R7	11	6	4					TT					13	
* G-4/R3, 7 (arm.var.)	11/2	6/5	4					TT						
* H-4			4	5				TT				3		
* H-4 (arm.var.)	10												12	
* H-4/U7			4	5	8			TT				3		
* H-4/U8			4	5				TT						
Messerschmitt Me-163B-1 Komet	8	3	6	3↗	8	GS	BS	WD	6				13	
* (arm.var.)	4	4											12	
Messerschmitt Me-210A-1, 2	5	6	4	4	3	TT	TT	TT	4	1	6	2	11	9
* B-1	4												13	4
Messerschmitt Me-262 A-1a, 1a/U2, A-1b, Schwalbe "Swallow"	16	4	5	4➤	5	TT	TT	TT	6				14(M)	10
* A-1a/U3	Unarm.												13	4
* A-1a/U1	20												15	
* A-2a Sturmvogel "Stormbird"	8				4								12	
* A-3a				5➤	4									
* A-5a	8												15	4
* B-1a/U1					4							2		
* B-2a	16/4	4/4			4							1		

A) 1G "B" models are most reasonable. Armament was 3x 7.9mm MGs. Game design usually has 2x7.9mm/0.3in. MG = 1G factor, "odd" numbers rounded down. A few "Bs" had a 20mm cannon but this proved unsatisfactory. If this is the 2G version, consider 6A.

B) Maximum level speed should be three.

C) Except for G-10 model, maximum level speed was less than 400mph, especially if "loaded" with extra armament. Level speed should be three and altitude five, if gun factor greater than 7G. According to one source, the G-6/U4's gun factor should be 12G. Most sources state the basic G-6 had 8G. G-10 should have 6G.

D) This model seems to be a bomber interceptor, if so the game piece has the altitude and defense numbers reversed (i.e. the altitude should be five and the defense 4D).

1) Spain had 45 Bs.

2) D-1s sold to Hungary and Switzerland. 235 in service Sept. 1939.

3) E-7/U2 was armored for a ground attack role. E-1,4/B,4/N= fighter-bombers. One source says 4/N was a night fighter. /Trop= tropicalized for African service. 10 T-0s and 60 T-1s were carrier versions. T-2s were T-1s with naval equipment removed and served in Norway. E-3s sent to: Bulgaria 19, Hungary 40, Japan 2, Rumania 69, Russia 5, Slovakia 16, Switzerland 80 (plus 8 license-built), Yugoslavia 73. Spain had 15 E-1s.

4) Photo-reconnaissance versions. Field modifications allow MUSTANGS'players leeway in armament. Air unit point values for these planes are high compared to their gun factors due to their missions' importance.

5) /Trop= modified for African service. /B= fighter-bomber. /R1= extra cannon. Spain had 10 Fs.

6) Me-109Gs sent to other countries: Bulgaria 145, Finland 30 G-2s and 130 G-6s plus some G-14s after 9-44, Rumania 70 (mostly G 8s) and 16 license-built, Hungary 59 plus 700 license-built, Spain 25, Slovakia 15, Japan 2, and Switzerland 12 G-6s. Others flown by Croatia and the German controlled Italian Air Force. /U4N= night fighter. G-6/R1, G-14 were fighter-bombers. G-6/R2 with rocket propelled air-to-air mortar tubes. /Trop= tropicalized. G-12s were trainers used operationally by the end of the war. Crew=one pilot, one crewman who spots to any sector. G-6 and higher models could have high or normal performance engine values. Players may modify as desired.

7) High altitude version of Me-109. Field tested Spring 1944.

8) D-0, D-1, were long-range escort fighters. A, B models available after the Spanish Civil War but not used operationally. C-4/B, D-2,3, E-0,1,2, F-0,1, G-0,1,4 were fighter-bombers. H-4,U-7 could carry bombs or extra guns. two-seaters with >5g were bomber destroyers. F-2 had air-to-air rocket tubes. Three-seaters (G-4 and later radar equipped) were night fighters. If no rear gun, all non-pilot crewmen spot to any sector.

9) Rear guns can fire up or down one altitude level. 352 made plus 108 by Hungary. "As" = fighter-bombers.

10) A1-b could carry air-to-air rockets. A-2a= bomber version. A-3a= armored ground attack model. B-1a/U1,B-2a= radar equipped night fighters. Crew =one pilot plus one crewman who spots to any sector.

Aircraft	GF	AF	AC	DF	LS	Loop	Roll	Turn	DS	RGF	RAF	Crew	PTS.	Notes
Messerschmitt Me-410A-1/U2,														
Hornisse "Hornet"	9	6	⑤	4	3	TT	TT	GS	5	1	6	2	12	1
* A-1	5												10	
* A-1/U1, A-2/U1, A-3	4												12	2
* A-2	12												13	
* A-2/U2									4					
* B-1	6													
* B-2, B-2/U1	10													
* B-2/R2	13	4											13	
* B-2/R3	14	4											13	
* B-2/U2	14												13	
* B-2/U3	12						TT	4					13	
* B-3	10									1	9		15	2
GREAT BRITAIN														3
Blackburn Roc			4	4	2	TT	BS	GS	4	3	8	2	9	4
* Skua	2	4	④			GS		WD		0	4			
Firebrand II	8	8	4	4	❸	TT	GS	BS	5				12	5
* III			④	4										
Boulton Paul Defiant I, II			5	4	2	TT	BS	GS	4	3	8	2	9	6
Bristol Beaufighter If, C, IIF	11	9	4	5	3	TT	GS	GS	5			2	13	7
* VIF ,C, XIC, TF Mk.X										0	4			
* Mk. 21	12													
Blenheim IF, IVF	3	7	4	4	2	TT	TT	GS	4	0	4	2	9	8
* (Yugoslavian)	4													
Bulldog IVA	1	8	5oc	3	2	BS	WD	RC	3				8	9
De Havilland Mosquito F.B. VI,														
F.B. Mk21, 24, 26, 40	10	6	⑤	5	3	TT	GS	GS	5				13	10
* F.B. XVIII	2												10	
* P.R.I, IV, VIII, IX, XVI,														
Mk.32, 34, 40, 41, 42	Unarm.												10	2
Fairey Firefly F.1	8	5	4	4	3	TT	GS	BS	5			2	12	11
* F.R.Mk.I, IA													14	2
Fairey Fulmar I, II	4	7	4	4	2	TT	GS	BS	4			2	10	11
* (arm.var.)										0	4			
Gloster Gauntlet II	1	8	5oc	3	2	BS	WD	RC	4				8	12
Gloster Gladiator I, II/Sea Gladiator	2	6	5	3	2	GS	WD	RC	4				9 (E)	13
Gloster Meteor III	8	5	⑥	5>	❺	TT	BS	GS	6				14 (E)	
* I					❺				5				13	A, 14
Hawker Fury I, II	1	8	4oc	3	2	BS	WD	RC	3				8	15
* (Persian)				3										
* (Yugoslavian)	2												9	
Hawker Hurricane I, IIA, XIIA/														
Sea Hurricane IA, IB, XIIA	4	4	5	4	3	TT	GS	WD	4				10 (E)	16
* I (early)				3										
* IB (arm.var.)	6												11	
* IIB, X,XI,XII,Sea Hurricane XII,IIE	6												11	
* IIC, IC, XII Sea Hurricane IC, IIC	8												12	
* IID	11	2		5	2			BS					12	
* IIE, IV	11	2			2			BS					11	
* P.R.II	Unarm.												10	2
* IIC (var.)	8												14	2
Hawker Tempest V	8	6	⑤	4	❶	TT	BS	BS	5				13 (E)	17
Hawker Typhoon IA	5	6	4	4	❶	TT	GS	BS	5				11 (E)	B
* IB	8	5	④										13	17
* F.R. IB	4	5	④										13	2
Supermarine Spitfire IA, IIA	4	4	5	4	3	GS	GS	RC	4				10 (E)	
* I (early)	2			3									9	
* IB	6	2												
* IIB	6												11	
* P.R.I, II, III	Unarm.												9	2
Spitfire VA	4	6	5	4	3	GS	BS	RC	4				10 (E)	18
* VB/Seafire IB	6	4											11	19
* VC/Seafire IIC, L.F.IIC,III,L.F.III	8	5											12	
* Seafire F.R. IIC, III	4	4											12	2
* VC (arm.var.)	6	4											11	
* VI	6	4	6		3		GS						11	
* VI (arm.var.)	4	6	6		3		GS						10	
* VII	6	4	6		❶		GS	WD	5				12	
* P.R.VII, XIII	4	4	5		❶		GS	WD	5				12	2
* P.R.IV	Unarm.				❶								9	2
* P.R.VI	Unarm.		6		❸								9	2
* P.R.VII	Unarm.				❶								10	2
* VIII	6	4			❶			WD	5				12	
* VIII (arm.var.)	8	5			❶			WD	5				13	
* VIII (high altitude)	6	4	6		❶		GS	WD	5				12	
* VIII (high alt.arm.var.)	8	5	6		❶		GS	WD	5				13	

A) Meteor III maximum level speed should be 4.

B) Only the earliest IAs didn't have all-round vision canopies. IA should have 6G.

1) Rear guns can fire up or down one altitude level. Also built in Hungary. Over 1,000 made of all types. A-1, B-1= fighter-bombers. B-2/U3 was an anti-shipping model with search radar and provision for a torpedo. Others=bomber destroyers.

2) Photo-reconnaissance versions. Field modifications allow MUSTANGS'players leeway in armament. Air unit point values for these planes are high compared to their gun factors due to their missions' importance.

3) British fighters could accept wings with variable armament. Generally, "A"= 4G, "B"= 6G, and "C"= 8G; universal armament wing could accept any earlier guns or attachments for external stores.

4) Used by Fleet Air Arm. All Roc guns were in dorsal rear power turret. 133 built. Skua was dual purpose fighter/ dive-bomber. Used as a fighter over Norway and Dunkirk. Optional: maximum altitude of level three for both.

5) Torpedo-strike fighter. 12 shore based F.II in service Autumn 1944. 24 F.III available in 1944. If used in a game as loaded, change turn rating to GS.

6) Withdrawn from day operations by 9-40. Afterwards used on night operations. All guns in dorsal rear power turret.

7) Is started in Autumn 1940 as radar equipped night fighter, later Coastal Command strike plane, and long-range day fighter over Western Desert. VI was first used over Calcutta 1-43. Beaufort I, II's 2nd crewman spots to rear sector hexes. T.F. Xs and Australian built Mk. 21s were radar-equipped torpedo or rocket carrying strike fighters. If used as loaded, change roll rating to TT.

8) 200 converted from bombers at start of war. Withdrawn from day operations due to high losses. Modified as first British radar-equipped nightfighter. IVF used usually as anti-shipping strike fighter. If loaded, change turn rating to TT. Some Yugoslavian "Is" converted to day fighters.

9) 17 flown by Finns during Winter War. Variants exported to Estonia, Latvia, Denmark, Sweden and Siam.

10) Fighter-bomber. XVIII was anti-shipping strike plane with a 6 pdr. cannon. Crew=one pilot, one CP. If used as loaded, change roll rating to TT.

11) Shipboard fighter, fighter-bomber. Fulmars built: 250 Is and 350 IIs. Firefly first produced 9-42, in general service from end of 1943. Firefly's (and Fulmar's without a rear gun) second crewman spots to the rear sector. F.R. Mk.Ias were ship detection radar equipped, fighter-recon types. If loaded, change turn rating to GS.

12) Home based British service to late 1939 and the Middle East until July 1940.

13) Served with Egyptian Air Force. Belgium had 22, Latvia 26, Lithuania 14, Norway 12, Greece 6, Eire 4, Portugal 30, Iraq 15 (fought during May 1941 revolt), Finland 30, Sweden 37 (12 used by volunteers in Finland during Winter War) and China 36.

14) 16 I's reached operational service starting in July 1944. IIIs first operational April 1945.

15) Generally trainers by WWII, but could have been used in combat. Furies were sold in the 1930s to Portugal, Spain and Persia. Six D.XVIIs were available in the Netherlands. 39 Loire 46C.1s in France on May 10, 1940 (others served Republican Spain in the Spanish Civil War).

16) IID was armored tank-buster. IIE, IV were fighter-bombers or tankbusters. Hurricane Is: Belgium 22, Finland 12, Rumania 12, Turkey 15, Iran 2, Poland 1, Yugoslavia 38. 2952 later Hurricane types: IIA, B, C (main types), IID, IV, and X were sent to the USSR. Turkey received 14, Egypt 20 and India 300. Also served with Canadian and South African Air Forces.

17) If loaded, change turn rating to GS.

18) Spitfire Vs served with USAAF, Turkey and the USSR.

19) Carrier based Seafires usually had 6G. Engaged Vichy (French) D.520s in 11-42. Early Seafire IBs (6G) armament not successful.

Aircraft	GF	AF	AC	DF	LS	Loop	Roll	Turn	DS	RGF	RAF	Crew	PTS.	Notes
Spitfire L.F. IXE, F.IX	6	5	5	4	4	TT	BS	WD	5				12(E)	
* H.F.IX			6											
* P.R.X	Unarm.		6										10	1
* P.R.XI	Unarm.												10	1
* P.R.XIII	2												11	1
* XVI			5											
Spitfire XIVE	6	5	6	4	4	GS	GS	BS	5				12(E)	
* (late)			6											
* F.R.XIVE, XVIII													14	1
* XII, Seafire XV			5		3			BS						
* P.R.XIX	Unarm.												10	1
Spitfire 21	8	5	6	4	4	TT	BS	BS	5				13(E)	A
* 22			6											
Westland Whirlwind	8	4	4	4	3	TT	GS	BS	4				12	2
Welkin I	8	5	6	4	3	TT	TT	GS	5				12	3
ITALY														
Caproni Vizzola F.5	2	7	5	3	3	BS	BS	WD	4				9	4
Fiat C.R.25bis	2	8	4	4	2	TT	TT	GS	4	1	7	3	9	5
Fiat C.R.32, 32quater	2	7	4oc	3	2	BS	WD	RC	4				9	6
* 32bis, 32ter	3													
Fiat C.R.42bis Falco	2	7	5oc	4	2	BS	WD	RC	4				9(E)	B, 7
* C.R.42	1												8	
* 42ter, 42A.S.	4												10	
* 42A.S. (arm.var.)	2												9	
Fiat G.50 Freccia "Arrow"	2	5	5	4	3	TT	GS	WD	5				9(E)	C, 8
* G.50 (early)			5	3									8	
* G.50			5oc	3										
* G.50bis			5oc										8	
Fiat G.55/I Centauro "Centaur"	8	8	6	4	3	GS	WD	WD	5				13	8
* G.55/O (early)	6												11	
I.M.A.M. Ro.57	2	8	4	4	2	TT	GS	GS	4				9	9
* Bis	6												11	
Macchi M.C. 200 Saetta "Lightning"	2	7	4oc	4	2	BS	BS	WD	5				9(E)	D, 10
* (early)		6	4											
* (late)	3	7												
Macchi M.C. 202 Folgore "Thunderbolt"	3	8	5	4	3	GS	BS	BS	5				10(E)	10
* (cannon)	5								4					
* (early)	1												9	E
Macchi M.C. 205V Veltro "Greyhound"	3	8	5	4	3	GS	BS		5				10	
* Serie III	6												12	11
Reggiane Re.2000 Falco I	2	6	5	4	3	GS	BS	WD	4				9(E)	F, 12
* Serie I				3										
* 2001 Falco II Serie II, III	3	7	5	4									10	13
* 2001 Serie I, IV	2	7	5	4									9	
* 2001 CN	7	6	5	4				BS					12	
* 2002 Ariete "Ram"	3	7	5	5				BS					10	14
* 2005 Sagittario "Archer"	8	7	6	4	3				5				13	15
JAPAN														
Aichi D3A1, D3A2 "Val"	1	5	4	4	2	TT	GS	WD	4	0	9	2	8	16
Kawanishi N1K1-Jb Model 11b "George 11"	7	5	6	4	3	BS	WD	WD	5				13(M)	
* N1K1 "Rex"	4	5	5	4	3	GS	WD	WD	4				10	17
* N1K1-Ja	6												12	
* N1K1-J (early)	4												11	
* N1K2-J "George 21"	8	6											13	
Kawasaki Ki.10-I, II "Perry"	1	5	5oc	3	2	BS	WD	RC	3				8	18
Kawasaki Ki.45-KAIa Toryu "Nick"	3	5	5	4	3	TT	GS	BS	4	0	9	2	10	19
* KAIc	2/2	2/4								0	9		10	
* KAIc (late)	2/2	2/4								spotter	9		11	
* KAId	6	4								0	9		10	
* KAId (late)	6	4								spotter			11	
Kawasaki Ki.61-Ib Hien "Tony"	4	5	4	4	3	TT	BS	WD	5				10(E)	G, 20
* Ia	3	6												
* Ia (mod), Ib (mod)	5	6											11	
* "KAIc"	6												11	
* "AId"	9	4											12	
* II	6						GS		4				11	
* II-KAI, II-KAIa	6		5										11	
* II-KAIb	8		5										12	

A) The Spitfire 21 model was made and issued before the end of the war but not the 22 model.

B) The C.R.42 counter values are those of the C.R.42bis. This correction was made for this article's chart.

C) Counter shows the in-line engined G.55 Centauro. Expansion module chart and unit counter lists aircraft as "G.50" but its defense should be 3D. Early G.50s had all-round vision canopies. Later G.50s and all G.50bises had open cockpits.

D) First 240 M.C.200s had all-round vision cockpits (1st 12 with 6A).

E) The early version had 2x12.7mm MG. Change gun factor to 2G.

F) Only the Serie I had the all-round vision cockpit.

G) Ia (mod) & Ib (mod) had 2x12.7mm MG plus 2x20mm German cannon. Change to 6G. "KAIc" is I-KAIc and had 4x20mm cannon. Increase to 8G. "AId" is I-KAId. The I-KAIc, I-KAId should have maximum altitude of 4. Others should have maximum altitude of 5.

1) Photo-reconnaissance versions. Field modifications allow MUSTANGS'players leeway in armament. Air unit point values for these planes are high compared to their gun factors due to their missions' importance.

2) 114 made. In service 10-40 to 1943. Effective fighter bomber. If flown loaded, change turn rating to GS.

3) Starting 9-43, 67 made in anticipation of high-altitude attacks which didn't materialize.

4) 14 made. Used in Rome's night defence.

5) Ten made. Escort fighter for convoys between Italy and Sicily plus maritime reconnaissance. Engaged Beaufighters. Crew=one pilot, one CP, one RG.

6) 1st line service 9-39. By 6-40, with 2nd line units as close support and night fighter. Bis served with Italian forces in Spain. Engaged Hurricanes over East Africa. Exported to China, Paraguay, Spain, Hungary, Argentina and Venezuela.

7) 50 used by Hungarian Air Force in home defense role. 25 reached Belgium by 5-10-40. Sweden received 72 in 1940. Fought French D.520s in 6-40. The A.S.model was a close support type, modified for African service. Night fighter variant= C.R.42N.

8) Finland got 35 G.50s after the Winter War and the Croatian Air Force received 10 G.50 bises. 12 G.50s (out of 45 total) with all-round vision cockpits were flown by the Italians late in the Spanish Civil War and then transfered to the Spanish Air Force. 200 G.50s and 421 bises with open cockpits produced. G.55s served with the German controlled Italian Air Force after 9-43.

9) Small numbers used as Italian home based interceptor. Bis type modified as fighter-bomber and dive-bomber.

10) 1000 M.C.200s built. 156 available 6-40. Used over USSR until Spring 1942. 1500 M.C. 202s made.

11) First used 7-43. 262 made. After 9-43, flown by Italian forces with the Germans and the Allies.

12) Serie I exported to Sweden and Hungary (license-built version called Hejja). 24 (plus 12 modified for catapult trials) used by Italian naval air forces in Sicily.

13) In action starting 5-42. After 9-43, served with Italian forces on both sides. The Serie IV was a long range escort or fighter-bomber version. If used loaded, change turn rating to BS. The CN was a night fighter and the main 2001 version.

14) Armored low-level fighter-bomber. Contested Allied landings on Sicily. After 9-43, served with German controlled Italian Air Force. 50 made.

15) Fought over Sicily. After 9-43, flown by the German controlled Italian Air Force. Also used in defense of Bucharest and Berlin.

16) Naval bombers. Used as aircraft carriers' emergency CAP against enemy bombers. Other types of Avengers and Dauntlesses were made but unlikely if used in this role. Avenger crew: one pilot, one RG, one RRG. The RRG uses the ventral rear gun and has a "-2" ("-4" if wounded) firing modifier. The ventral rear gun may only target aircraft co-altitude or one level lower. Aircraft with multiple rear guns may fire all during the same impulse but not at the same target (see 6a5.4). The RG and RRG may substitute for each other only if one is incapacitated (see 13b3.3.1.3).

17) Floatplane predecessor of George. 97 made starting in early 1943. Defensive role over South Pacific, Dutch East Indies, and Honshu.

18) Faced Soviet I-15s and I-16s over China in the late 1930s. With second-line forces by start of the Pacific War.

19) Ki.45KAIc and KAId were generally night fighters and most Nicks were modified to this standard by mid-1944. Oblique forward guns were first used in 1944. The 2nd crewman (in types without a rear gun) spots to rear sector hexes. Mitsubishi Ki.46-III-KAI also known as Rikugun Ki.46-III-KAI.

20) Most common Ki.61 was (I-)KAIc version. I-KAId was bomber interceptor.

Aircraft	GF	AF	AC	DF	LS	Loop	Roll	Turn	DS	RGF	RAF	Crew	PTS.	Notes
Kawasaki Ki.100-Ia Type 5 Model Ia	6	5	5	4	3	TT	BS	WD	5				11(E)	
* Ki.100-Ib Type 5 Model Ib			⑤											
Kawasaki Ki.102b "Randy"	9	2	5	5	3	TT	TT	GS	5	1	6	2	12	1
* 102a	8	3	⑤					BS						
* 102c	8/2	4/5												2
Mitsubishi A5M4 Model 24, A5M1 Model 1, A5M2a Model 21, A5M4 Model 34 "Claude"	1	5	4oc	3	2	BS	TT	RC	3				8(E)	3
* A5M2b Model 2	2		4											
Mitsubishi A6M2 Model21 "Zero" Model 11	4	5	⑤	3	3	BS	BS	RC	4				10(E)	
* A6M2-N "Rufe"				2			GS		WD	4					4
Mitsubishi A6MB Model 32 "Hamp," Model 22	4	5	⑤	3	3	BS	WD	RC	4				10(E)	
Mitsubishi A6M5a/b Model 52a/b "Zeke"	5	6	⑤	4	3	GS	WD	RC	4				11(M)	A
* A6M5 Model 52	4												10	
* A6M5c Model 52c, A6M6c Model 53, A6M7 Model 63	7												12	4
* A6M5c, A6M6c, A6M7 (arm.var.)	6													
Mitsubishi J2M3a "Jack", J2M6a, J2M7a	8	4	6	4	⑧	TT	BS	BS	5				13(E)	
* J2M1					3									
* J2M2, J2M3, J2M5	4	6											11	
* J2M4	8/2	6/4												
* J2M3 (arm.var.), J2M6, J2M7	7												12	
Mitsubishi Ki.46-III KAI "Dinah"	4/2	8/9	5	4	3	TT	GS	BS	5			2	11	5
* Ki.46-I, II										0	3		10	6
* Ki.46-III(2)	Unarm.			4									11	6
Nakajima J1N1-S, J1N1-C-KAI "Irving"	0/2	0/5	⑤	4	3	TT	TT	BS	4			2	9	7
* J1N1-C	3	5										3	12	6
* J1N1-F										2	5	3	11	6
Nakajima Ki.27 "Nate"	1	5	4	3	2	GS	TT	RC	4				8(E)	3
* Ki.27b			④											
Nakajima Ki.43-Ic "Oscar"	2	4	⑤	3	3	BS	GS	RC	4				9(E)	8
* Ki.43-Ia,Ib	1													
Nakajima Ki.43-IIa, IIb, II-KAI, IIIa	2	5	⑤	3	3	GS	BS	RC	4				9(E)	
Nakajima Ki.44-IIb, Ib, Ic "Tojo"	4	5	⑤	4	3	TT	GS	BS	5				10(E)	
* Ia	3													
* IIc, IIIa	8	4											12	
* IIc (arm.var.), IIIb	12	2											13	
Nakajima Ki.84-Ia "Frank"	6	6	⑤	4	❶	TT	GS	WD	5				12(M)	
* Ib		5												
* Ic	9	4											13	B
Yokosuka (Kugisho) D4Y2-S "Judy"	0/1	0/5	⑤	4	3	TT	BS	BS	5			2	9	7
* (arm.var.)	0/2	0/5											9	
* D4Y1-C	1	5								4	0	7		10	6
* D4Y2-C	1	5									0	7		11	6
THE NETHERLANDS														
Fokker D.XVII	1	6	4oc	3	2	BS	WD	RC	3				8	9
Fokker D.XXI	2	4	5	3	2	GS	BS	WD	4				9	
Fokker G.1a	4	4	4	4	2	TT	TT	BS	4	0	4	3	10	10
* G.Ib	5	4										2	11	
* G.1b (arm.var)	2	4											9	
Koolhaven F.K.58	2	4	5	3	3	GS	BS	BS	4				9	11
POLAND														
PZL P.11c "Jedenastka," PZL P.7a	1	8	4oc	3	2	BS	BS	RC	3				8(E)	
* P.11a, b		9												12
* P.11c (arm.var.), P.11f	2	6											9	
* P.24A, E, F	4	5											10	13
* P.24B, C, G	4	7											9	
* P.24C, G (arm.var.)	2												9	C
RUMANIA														
I.A.R. 80 A, B, D, 81A, B, C	5	5	⑤	4	3	GS	BS	WD	4				10(E)	D, 14
* 80 C	6													
SWEDEN														
FFVS J 22A	3	6	4	4	3	GS	BS	WD	5				11	
* J 22B	4	5												
U.S.S.R.														
Lavochkin LaGG-3	3	4	5	4	3	TT	BS	BS	5				9(E)	
* LaGG-3 (arm.var.), LaGG-1	4	5											10	
* (arm.var.)	1,2	5												
Lavochkin La-5FN	4	6	⑤	4	4	GS	BS	BS	5				10(E)	
* La-5, LaG-5 (early)			5											E
Lavochkin La-7	6	8	⑤	4	4	TT	BS	BS	5				11(E)	
* La-7 (Moskva)	4												10	
* (Yaroslavel)		4												

A) Clarifications: A6M5 Gun 4G, Ammo 5A, Defense 3D; A6M5a Gun 4G, Ammo 6A, Defense 3D; A6M5b is the same as the game piece, A6M5c and A6M6c were underpowered. Consider changing their Loop ratings to TT.

B) Ic had 2x20mm and 2x30mm cannon. Increase to 12G.

C) It seems the 2G variant should cost nine air unit value points and the 4G type 10 points.

D) This plane had a raised but not an all-round vision canopy. Several other planes in the game are similar but are NOT counted as all-round vision.

E) LA-5 similar in game terms to LA-5FN. LaG-5 (also called La-3) was an early production type without all-round vision canopy.

1) Ki.102a's 2nd crewman spots to rear sector hexes.

2) Radar equipped night fighter. Crew=one pilot plus one crewman who spots to any sector.

3) Primary fighter of the Manchoukuo (Manchurian) Air Force. Japan's most numerous fighter on 12-7-41. The Japanese Navy's most common fighter on that date was the A5M Claude.

4) A6M2-N was a floatplane version. 327 made. Fought over Guadalcanal, the Aleutians (vs Canadian Air Force Kittyhawks) and Honshu. Some A6M5 types were converted as dive-bombers but were unreliable. A6M7 was a successful fighter/dive-bomber but mainly used as a Kamikaze.

5) Ki-45KAIc and KAId were generally night fighters and most Nicks were modified to this standard by mid-1944. Oblique forward guns were first used in 1944. The 2nd crewman (in types without a rear gun) spots to rear sector hexes. Mitsubishi Ki.46-III-KAI also known as Rikugun Ki.46-III-KAI.

6) Photo-reconnaissance versions. Field modifications allow MUSTANGS'players leeway in armament. Air unit point values for these planes are high compared to their gun factors due to their missions' importance.

7) Night fighters. Later Irvings were radar equipped. J1N1-C-KAI and J1N1-S had only one set of OF guns facing up and another down. Downward facing guns may only fire at targets co-altitude or one level lower. Separate ammunition tracks should be kept for each set of OF guns. J1N1-C-KAI, J1N1-S crew=one pilot, one RG (who is manning either of gun set). J1N1-F crew=one pilot, one RG, one RRG. J1N1-C crew =one pilot plus two crewmen who spot to any sector. The D4Y2-S was a modified naval dive bomber with only OF guns (controlled by the RG). Only one set of OF guns may be used during any single fire phase.

8) Royal Thai Air Force flew Ki.43 Is.

9) Generally trainers by WWII, but could have been used in combat. Six D.XVIIs were available in the Netherlands.

10) 23 G.1a planes ready on 5-10-40. No G.1b type had the heavier armament fitted in time for the invasion but 3 flew with the 2G armament. 3rd crewman spots to any sector.

11) 18 ordered by France and used in local defence role by Polish volunteers.

12) 30 P.7a and 128 P.11 types operational in 9-39. P.11b was exported to Rumania who also license-built the P.11f. 50 P.11 types evacuated to Rumania after the German conquest. In Rumanian service as late as 1941.

13) Turkey imported 40 P.24Cs (26 with 2G and 14 with 4G) plus more built under license. Rumania imported 6 P.24Es, plus more license-built, as their main early WWII fighter. Bulgaria: 24 P.24F. Greece: 6 2G P.24G and 30 P.24F.

14) I.A.R. 80D and 81s were fighter-bombers. If used loaded, change turn rating to BS. 120 I.A.R. 80 types built.

Aircraft	GF	AF	AC	DF	LS	Loop	Roll	Turn	DS	RGF	RAF	Crew	PTS	Notes
Mikoyan-Gurevich MiG-3, MiG-2	2	6	6	4	3	TT	GS	BS	5				9(E)	
* MiG-1	1		6oc										10	
* MiG-1 (arm.var.)	4		6oc										10	
* MiG-3 (arm.var.)	4												10	
* MiG-5			5	4				GS						1
Polikarpov I-15, I-15bis "Chato"	2	8	4oc	3	2	BS	WD	RC	3				9(E)	2
* (arm.var.)	1												8	
* I-153 Chaika "Gull"		9						4						2
Polikarpov I-16 Type 24 "Ishak"	5	5	4oc	3	3	GS	WD	BS	4				10(E)	3
* Type 1, I-16bis	1	8	4		2			WD	3				8	
* Type 4, 5	1	8	4		2			WD					8	
* Type 6	1	8	4		2								8	
* Type 10, 18	2	7			2								9	A
* Type 17					2									
* I-17	3	4	5	3			BS	WD					9	4
Yakovlev Yak-1	3	4	5	4	3	GS	BS	WD	4				10(E)	
* (arm.var.)		5												
* (late)	3,4	5												
Yakovlev Yak-3	4	5	⑤	4	4	GS	WD	WD	5				11(E)	
* (Spring 1943 variant)	7	4											12	
Yakovlev Yak-9M	4	4	⑤	4	3	GS	WD	BS	5				10(E)	
* Yak-7A	3	5												
* Yak-7B, 7DI, 9 (basic)	3													
* Yak-9B, D, DD	3	5												
* Yak-9K	5												11	
* Yak-9K (arm.var.)	5	2												
* Yak-9L	1												9	
* Yak-9T		5												
* Yak-9T (arm.var.)	5	3											11	
* Yak-9T (arm.var.)	3													
* Yak-9T (arm.var.)	2												9	
* Yak-9U	3	5			⑧								11	
U.S.A.														
Bell P-39D, F Aircobra	4	7	④	4	3	TT	BS	GS	4				9(E)	5
* P-39C		6												
* P-39D-3, 4, F-2				5										
* P-39 D-1, 2, P-400, Aircobra I	5												10	
* P-39K, L, M, N,Q	6			5									10	
* P-39N-5, Q-5-BE	6												10	
* P-39Q-20-BE (arm.var.)	4													
Bell P-63A Kingcobra	4	6	⑤	5	4	TT	BS	BS	5				11(E)	B, 5
* (early)				4										
* A-6				3				GS						
* A-9	7	7											12	
* P-63C	7	7			⑥								12	
Boeing P-26A, B, C "Peashooter"	1	9	4oc	3	2	GS	WD	RC	3				8	6
* (alt.)		8												
Brewster F2A-3, A-2 Buffalo, B-339, E, D B-439	4	4	5	4	3	TT	GS	BS	4				10(E)	7
* F2A-1	2	5		3		GS	BS	WD					9	
* B-239, F2A-2 (early)	4	5		3		GS	BS	WD						
* B-339D, E (arm.var.)	2												9	
Chance Vought F4U-1A, 1D, FG-1A, 1D, F3A-1A Corsair, Corsair II, III, IV, F4U-1B	6	6	5	4	❹	TT	WD	WD	5				12(M)	
* F4U-1, Corsair I, FG-1, F3A-1, F4U-1A (early)					4									
* F4U-1 (early)	4				4								11	
* F4U-1C	8	5											13	
* F4U-2	4						BS						11	8
Chance Vought F4U-4A, F4U-4D, FG-1D, F3A-1D, FG-4	6	6	6	4	❹	TT	BS	BS	5				12(E)	
* F4U-4P								GS					14	9
* F4U-4E, U-4N							GS							8
* F4U-4C	8	5											13	
Curtiss P-36A Mohawk, H-75C	2	5	4	3	3	GS	BS	BS	4				9(E)	10
* P-36A (arm.var.)	1													
* P-36C	3													
* H-75A-1, Mohawk I, A-6, A-7, A-9		4												
* H-75A-2, Mohawk II, A-3, Mohawk III, A-4, Mohawk IV	3	4												
* P-36G, H-75A-8	4													
* Hawk 75H, M	1			2									8	11
* Hawk 75N, O	3			2										
Curtiss P-40C Tomahawk	4	5	4	4	3	TT	BS	WD	4				10(E)	12
* P-40	2			3		GS							9	
* P-40 (arm.var.)	3			3		GS								
* Tomahawk I, IA, IB	4			3		GS								
* Tomahawk IIA	3			3		GS								
* P-40B	3													
* Tomahawk IIB		6												
Curtiss P-40E, P-40D, Kittyhawk I, IA P-40F, Kittyhawk II, III, P-40K, Kittyhawk III	6	5	4	4	3	TT	BS	BS	5				12(E)	
* P-40D (arm.var.)	4												10	
* P-40L, M, Kittyhawk III	4	4						WD					10	

A) Type 10 maximum level speed should be two.

B) P-63s' armament similar to later P-39 types. Suggest increase to 6G. Armor weight progressively increased. Early versions should have 4D

1) In service 1943 as a fighter-bomber.

2) Used by Republican Spain. Fought vs Japanese Ki.10s, Ki.27s, and A5Ms during the late 1930s. Captured I-15bises, I-154s used by the Finns in 1941.

3) Type 6 and 10s flown for the Republicans in the Spanish Civil War. Captured planes used by the Nationalists. Some I-16 Type 6s and Type 10s had enclosed cockpits. China had about 150 Type 6s after 1937 plus 50 flown by Russian volunteers. I-16s vs Japanese Ki.10s, Ki.27s and A5Ms in the late 1930's. Captured I-16s flown by the Finns in 1941.

4) I-17 in service until 1942. Engaged Hungarian units.

5) Four Aircobra Is flown in service trials over France Oct. to Dec. 1941. United States used P-400s and P-39Ds in North Africa, Autumn 1942. P-63s didn't serve with United States. 2,421 sent to USSR and 300 Cs to Free French Air Force.

6) Flown by Philippine Air Force in 1941. Also present at some US bases such as Pearl Harbor. 11 served with pre-WWII Chinese Air Force.

7) A-1 (as B-239) flown by the Finns after the Winter War. B-339s sent to Crete 3-41. B-339Es and 2G,3D variant defended Malaya for the British Commonwealth. The Dutch flew 30 B-339Ds in the Far East. 21 F2A-3s were with the U. S. Marines at Midway.

8) Single-seat night fighters. F6F-5N was also flown without radar.

9) Photo-reconnaissance versions. Field modifications allow MUSTANGS' players leeway in armament. Air unit point values for these planes are high compared to their gun factors due to their missions' importance.

10) Flown by African based Vichy Air Force, Finland (A-1, 2, 3, 6) after the Winter War, by Indian Air Force (A-4,9) over Burma, the Dutch (A-7) in East Indies, South African Air Force in East Africa, and Peru (A-8). H-75s (A-1,2) served with French Air Force after March 1939. Some escaped to Great Britain after the fall of France in 1940.

11) Export version of Hawk 75 with fixed-landing gear. China had 113 75Ms, one 75H. Royal Thai Air Force used 25 75Ns in 1-41 invasion of French Indochina (vs. MS-406s) and later vs. Japan. 30 75Os, one 75H sold to Argentina (plus 200 license-built).

12) P-40Bs and Cs served with US Army, A.V.G. ("Flying Tigers"), USSR, China and Turkey. Early P-40, Tomahawk models not well armored or equipped with self-sealing fuel tanks. Tomahawk I types originally ordered by France but not operational prior to French surrender; diverted to Britain and would have fought against a 1940 German invasion. P-40Fs served with the Free French, USSR and United States. P-40Ks used by China, Canada, and United States. The P-40 L, M, and 4G N types were lightened to improve performance as a fighter. Many types were flown by British Commonwealth.

Aircraft	GF	AF	AC	DF	LS	Loop	Roll	Turn	DS	RGF	RAF	Crew	PTS.	Notes
Curtiss P-40 N Warhawk, Kittyhawk IV	6	5	4	5	3	TT	BS	BS	5				12(E)	A
* (arm.var.)	4			4		GS							10	
Curtiss-Wright CW-21B Demon	3	5	4	3	3	GS	BS	WD	4				9(E)	B, 1
* CW-21	1												8	
Douglas SBD-3 Dauntless	2	7	4	4	2	TT	GS	BS	4	0	7	2	9	2
* SBD-2	1	7											8	
Douglas P-70A-1, A-2 (arm.var.)	6	9	4	5	3	TT	TT	GS	4			2	11	3
* P-70	8	8											12	
* A-2	10	8											13	
* Havoc I (early)	2			2						0	4	3	9	
* Havoc I	4			2						0	4	3	10	
* Havoc II	6													
Grumman TBF-1C, TBM-1C Avenger	2	9	4	5	2	TT	TT	BS	4	1, v=0	9	3	9	2
* TBF-1, TBM-1	1	9												
Grumman F3F-2, 3	1	8	5	3	2	BS	WD	RC	4				8	4
Grumman F4F-4 Wildcat, F4F-4B, Martlet II, IV	6	5	5	4	3	TT	BS	WD	4				11(E)	
* F4F-3, F4F-3A, Marltet I, III, II (early)	4	6											10	
* F4F-3 (early)	4	6		3									10	
* F4F-7, F4F-3P	Unarm.			3									9	5
* FM-1, Martlet V, Wildcat V	4	9											10	
* FM-2, Wildcat VI	4	9				GS							10	
* FM-2P	Unarm.			3		GS							9	5
Grumman F6F-3 Hellcat, Hellcat I	6	7	5	4	3	GS	BS	WD	5				12(M)	
* F6F-3P	Unarm.												10	5
* F6F-5, Hellcat II, F6F-3 (late)						8							12	
* F6F-5P	Unarm.					8							10	5
* F-5, F-5N (arm.var.)	8	5				8							13	6
Grumman F8F-1	4	6	5	4	6	GS	WD	WD	5				12	7
Lockheed P-38F, G, H Lightning	7	6	5	5	4	TT	TT	BS	5				12(E)	
* P-38D	6	5						GS					11	
* Lightning I				3				GS					11	
* P-38E				8				GS					11	
* F-4, F-5 types	Unarm.												10	5
Lockheed P-38J, L	7	7	6	5	4	TT	GS	BS	5				13(M)	
* F-4, F-5 types	Unarm.												10	5
* P-38J								GS				2		8
* P-38M								GS				2		
Lockheed P-80	7	6	6	5➤	5	TT	GS	GS	6				14(E)	7
North American A-36A Apache/Mustang I	6	6	4	4	3	GS	WS	WS	5				11(E)	C
* F-6								BS					13	5
* P-51, Mustang IA	8	5											12	
* F-6A	8	5											15	5
* P-51A, Mustang II	4							BS					10	
* F-6B	4												12	5
* F-6, 6A, 6B (arm.var.)	Unarm.												10	5
North American P-51B, C, Mustang III	4	6	6	4	4	GS	WS	WS	5				11(M)	
* (late)					4									
* F-6C													13	5
* F-6C (arm.var.)	Unarm.												10	5
North American P-51D, K, Mustang IV	6	7	6	4	4	TT	WS	WS	5				13(M)	
* (arm.var.)	4												11	
* F-6D, 6K								BS					15	5
* F-6D, 6K (arm.var.)	Unarm.												10	5
* P-51H		6						GS						
* (arm.var.)	4	7						GS					11	
North American NA-50A	1	5	5	3	2	GS	BS	WD	3				8	9
* (arm.var.)	4												10	
Northrop P-61 A-1	12	8	5	5	3	TT	TT	BS	4			3	13	10
* (var.)	8	8								4	9			
* (arm.var.)	8	8											12	
* A-1 (late)					8					4		2		
* A-1 (late var.)	8	8			8					4	4	9	2	
* A-5, A-11, B-2, B-10	8	8			8					5		2		
* B-15					8					5			14	
* B-15 (arm.var.)	8	8			8					5	4	9		14
* C-1			6		4			GS		5			14	
* C-1 (arm.var.)	8	8	6		4			GS		5	4	9		14
Republic (Seversky) P-35A	3	5	4	3	3	GS	BS	WD	4				9(E)	D, 11
* EP-1, EP-106	4	4		4		TT							10	
* P-35 (early)	1	6			2								8	
Republic P-43 A-1 Lancer	4	5	5	4	3	GS	BS	BS	4				10	12
* P-43, P-43A	3			3										
*P-43B, C	3			3				GS					12	5
* P-43B (var.)	4							GS					12	5
Republic P-47B,C Thunderbolt	8	5	6	5	4	GS	WD	BS	5				13(M)	
Republic P-47D, G Thunderbolt	8	6	6	5	4	TT	WD	BS	5				13(M)	E, 13
* (early)			6											
* (arm.var.)	6	8											12	
* P-47M		8						GS						
* P-47N								GS						
Ryan FR-1 Fireball	4	6	6	5➤	4	TT	BS	BS	5				12	14
Vultee Vanguard Model 48C	4	5	4	4	3	GS	BS	BS	4				10	15
YUGOSLAVIA														
Ikarus IK-2	3	5	5	3	2	BS	BS	RC	3				10	16
Rogozarski IK-3	3	5	4	4	3	GS	BS	WD	4				10	17

A) A source says the Soviets didn't believe the P-40N could take damage as well as the P-39. Early 4G Ns were lightened versions and the fastest of all P-40 types. Suggest defense of 4D.

B) This plane had a raised but not an all-round vision canopy. Several other planes in the game are similar but are NOT counted as all-round vision.

C) Apache also called Mustang I. P-51D, Ks had less ammo than 4G version. Suggest change ammo value for 6G type to 6A. Photo-recon versions of P-51s retained usual armament.

D) Information on game counter is for P-35. P-35As were EP-1s reclaimed for US service.

E) P-47D, Gs with 8G had same ammunition load as P-47B, Cs. Suggest change ammunition factor to 5A.

1) 35 CW-21s sent to China in 1939. 17 Bs with Netherlands East Indies Air Force on 12-8-41. 3 Bs sent to A.V.G..

2) Naval bombers. Used as aircraft carriers' emergency CAP against enemy bombers. Other types of Avengers and Dauntlesses were made but unlikely if used in this role. Avenger crew: one pilot, one RG, one RRG. The RRG uses the ventral rear gun and has a "-2" ("-4" if wounded) firing modifier. The ventral rear gun may only target aircraft co-altitude or one level lower. Aircraft with multiple rear guns may fire all during the same impulse but not at the same target (see 6a5.4).

The RG and RRG may substitute for each other only if one is incapacitated (see 13b3.3.1.3).

3) Radar equipped night fighters. Converted DB-7/A-20 series bombers. US 59 P-70s delivered in mid-1942. Generally as trainers. Starting 1943, 39 A-1s and 65 A-2s produced. Early Havoc Is (originally named "Ranger") without radar. 50 used as night intruder/bomber. Change turn rating to GS if used loaded. 50 other Havoc I night fighers. "I" deliveries started 12-40. 80 Havoc IIs made. 2-seater crew= 1 pilot plus 1 crewman who spots to the rear. 3-seater crew=one pilot, one RG, and one crewman who spots to the front sector.

4) In US Navy/Marine service until 7-41.

5) Photo-reconnaissance versions. Field modifications allow MUSTANGS' players leeway in armament. Air unit point values for these planes are high compared to their gun factors due to their missions' importance.

6) Single-seat night fighters. F6F-5N was also flown without radar.

7) US Navy deliveries of F8F started in May, 1945. Deliveries of 13 pre-production YP-80s started 10-44. P-80 first built 5-44. Neither saw combat in WWII.

8) 2-seater Js had a bombardier in transparent nose. They led P-38s' fighter-bomber missions. Others had radar in place of the transparent nose to aid bad weather bombing missions. Crew=one pilot plus one crewman who spots to the front sector. Ms were radar equipped night fighters. Crew=one pilot plus one crewman who spots to any sector.

9) Built for export. Seven sold to Peru. In action vs. Ecuador 1941.

10) Radar equipped night fighter. A-5 and later could carry bombs. If flown as fighter-bomber, change turn rating to GS (or GS to TT). 2-seater crew=one pilot plus one crewman who spots to any sector. 3-seater adds one RG (8G plus 4G rear gun versions) or one crewman who spots to the rear sector (12G versions). 3-seater had a dorsal turret which could be fixed to fire forward or used as rear gun. 37 12G A-1s delivered, plus 10 with high performance engines, starting 10-43. 153 later As produced. Starting 7-44, 450 Bs completed. 41 Cs made by V-J Day.

11) 60 EP-1 model sold to Sweden as EP-106. 48 P-35As sent to Philippines and 12 to Ecuador.

12) 108 A-1s sold to China. Australian Air Force received A-1s later converted to P-43Bs (4G). United States used P-43s, As, and some A-1s as 3G Bs, Cs, and 4G Bs.

13) Decrease to 5A when used as loaded fighter-bombers.

14) One jet plus one radial engine. Equipped one US Navy squadron but not operational during WWII.

15) 144 sent to China by 4-42.

16) Eight available 4-41. Survivors given to Croatian Air Force.

17) A Yugoslavian air unit with 6 IK-3s and 10 Me109-E3s was available April 1941.

Kentucky	1996		Arkansas	1994		Kentucky	1954		
C Walter McCarty	D		C Darnell Robinson	E		C Cliff Hagan	A		**MARCH MADNESS**
LF Antoine Walker	C		LF Corliss Williamson	B		LF Lou Tsioropoulos	C		
RF Derek Anderson	D		RF Dwight Stewart	E		RF Bill Evans	E		
LG Tony Delk	B		LG Scotty Thurman	E		LG Gayle Rose	E		**NEW TEAM CARDS**
RG Anthony Epps	E		RG Corey Beck	E		RG Frank Ramsey	B		1996, 1994 and the 1950s
Bench Grade	AA		Bench Grade	AA		Bench Grade	C		
Defensive Grade	A		Defensive Grade	A		Defensive Grade	A		
Coach Rick Pitino	3		Coach Nolan Richardson	4		Coach Adolph Rupp	4		
Wildcats	108		Razorbacks	102		Wildcats	104		

Massachusetts	1996		Arizona	1994		North Carolina	1957		Kentucky	1948
C Marcus Camby	B		C Joseph Blair	D		C Joe Quigg	D		C Alex Groza	D
LF Dana Dingle	D		LF Ray Owes	D		LF Pete Brennan	C		LF Wallace Jones	D
RF Donta Bright	C		RF Reggie Geary	E		RF Lennie Rosenbluth	AA		RF Cliff Barker	E
LG Carmelo Travieso	D		LG Khalid Reeves	A		LG Bob Cunningham	E		LG Ralph Beard	D
RG Edgar Padilla	D		RG Damon Stoudamire	B		RG Tommy Kearns	D		RG Ken Rollins	E
Bench Grade	E		Bench Grade	B		Bench Grade	F		Bench Grade	A
Defensive Grade	A		Defensive Grade	A		Defensive Grade	B		Defensive Grade	A
Coach John Calipari	3		Coach Lute Olson	2		Coach Frank McGuire	4		Coach Adolph Rupp	4
Minutemen	88		Wildcats	104		Tarheels	84		Wildcats	88

Mississippi St.	1996		Florida	1994		Indiana	1953		Univ. of Virginia	1995
C Erick Dampier	C		C Andrew DeClercq	E		C Don Schlundt	A		C Chris Alexander	F
LF Russell Walters	F		LF Dametri Hill	D		LF Charles Kraak	E		LF Junior Burrough	B
RF Dontae Jones	C		RF Brian Thompson	F		RF Dick Farley	D		RF Jason Williford	F
LG Darryl Wilson	B		LG Craig Brown	C		LG Burke Scott	E		LG Curtis Staples	D
RG Marcus Bullard	C		RG Dan Cross	C		RG Bob Leonard	C		RG Harold Deane	C
Bench Grade	F		Bench Grade	B		Bench Grade	C		Bench Grade	B
Defensive Grade	B		Defensive Grade	A		Defensive Grade	B		Defensive Grade	A
Coach Richard Williams	2		Coach Lon Kruger	2		Coach Branch McCracken	4		Coach Jeff Jones	3
Bulldogs	74		Gators	84		Hoosiers	84		Cavaliers	88

Syracuse	1996		Duke	1994		Seton Hall	1953		Michigan	1992
C Otis Hill	D		C Cherokee Parks	C		C Walter Dukes	A		C Juwan Howard	D
LF John Wallace	A		LF Antonio Lang	D		LF Henry Cooper	F		LF Chris Webber	C
RF Todd Burgan	D		RF Grant Hill	B		RF Arnie Ring	D		RF Ray Jackson	F
LG Jason Cipolla	E		LG Chris Collins	D		LG Harry Brooks	D		LG Jimmy King	D
RG Lazarus Sims	E		RG Jeff Capel	E		RG Richie Regan	C		RG Jalen Rose	B
Bench Grade	C		Bench Grade	C		Bench Grade	D		Bench Grade	B
Defensive Grade	B		Defensive Grade	A		Defensive Grade	B		Defensive Grade	B
Coach Jim Boeheim	3		Coach Mike Krzyzewski	4		Coach Honey Russell	3		Coach Steve Fisher	2
Orangemen	78		Blue Devils	94		Pirates	80		Wolverines	80

Oklahoma State		1995
C	Bryant Reeves	B
LF	Scott Pierce	F
RF	Terry Collins	E
LG	Randy Rutherford	B
RG	Andre Owens	E
Bench Grade		B
Defensive Grade		A
Coach Eddie Sutton		2
Cowboys		88

Kansas		1991
C	Mark Randall	C
LF	Mike Maddox	E
RF	Alonzo Jamison	D
LG	Terry Brown	C
RG	Adonis Jordan	D
Bench Grade		A
Defensive Grade		A
Coach Roy Williams		3
Jayhawks		98

Kentucky		1993
C	Rodney Dent	F
LF	Jared Prickett	F
RF	Jamal Mashburn	B
LG	Dale Brown	D
RG	Travis Ford	C
Bench Grade		AA
Defensive Grade		A
Coach Rick Pitino		3
Wildcats		100

UNLV		1990
C	David Butler	C
LF	Stacey Augmon	C
RF	Larry Johnson	B
LG	Anderson Hunt	C
RG	Greg Anthony	D
Bench Grade		C
Defensive Grade		A
Coach Jerry Tarkanian		3
Running Rebels		104

North Carolina		1995
C	Rasheed Wallace	B
LF	Jerry Stackhouse	B
RF	Dante Calabria	D
LG	Donald Williams	C
RG	Jeff McInnis	D
Bench Grade		D
Defensive Grade		B
Coach Dean Smith		4
Tar Heels		90

UNLV		1991
C	George Ackles	E
LF	Stacey Augmon	B
RF	Larry Johnson	A
LG	Anderson Hunt	B
RG	Greg Anthony	D
Bench Grade		B
Defensive Grade		B
Coach Jerry Tarkanian		3
Runnin' Rebels		102

Michigan		1993
C	Juwan Howard	C
LF	Chris Webber	B
RF	Ray Jackson	D
LG	Jimmy King	D
RG	Jalen Rose	C
Bench Grade		D
Defensive Grade		B
Coach Steve Fisher		2
Wolverines		82

Arkansas		1990
C	Mario Credit	D
LF	Todd Day	B
RF	Lenzie Howell	C
LG	Arlyn Bowers	F
RG	Lee Mayberry	C
Bench Grade		AA
Defensive Grade		B
Coach Nolan Richardson		4
Razorbacks		100

Arkansas		1995
C	Darnell Robinson	E
LF	Corliss Williamson	B
RF	Scotty Thurman	C
LG	Clint McDaniel	D
RG	Corey Beck	E
Bench Grade		A
Defensive Grade		B
Coach Nolan Richardson		4
Razorbacks		88

North Carolina		1991
C	Pete Chilcutt	D
LF	George Lynch	D
RF	Rick Fox	B
LG	Hubert Davis	C
RG	King Rice	E
Bench Grade		A
Defensive Grade		A
Coach Dean Smith		4
Tar Heals		104

Kansas		1993
C	Eric Pauley	D
LF	Richard Scott	D
RF	Darrin Hancock	E
LG	Adonis Jordan	D
RG	Rex Walters	C
Bench Grade		AA
Defensive Grade		A
Coach Roy Williams		3
Jawhawks		100

Georgia Tech		1990
C	Malcolm Mackey	E
LF	Johnny McNeil	F
RF	Dennis Scott	AA
LG	Brian Oliver	A
RG	Kenny Anderson	A
Bench Grade		E
Defensive Grade		C
Coach Bobby Cremins		2
Yellow Jackets		88

UCLA		1995
C	George Zidek	D
LF	Charles O'Bannon	C
RF	Ed O'Bannon	B
LG	Toby Bailey	D
RG	Tyus Edney	C
Bench Grade		B
Defensive Grade		B
Coach Jim Harrick		2
Bruins		90

Duke		1991
C	Christian Laettner	B
LF	Grant Hill	D
RF	Thomas Hill	D
LG	Billy McCaffrey	D
RG	Bobby Hurley	D
Bench Grade		A
Defensive Grade		A
Coach Mike Krzyzewski		4
Blue Devils		104

North Carolina		1993
C	Eric Montross	C
LF	George Lynch	C
RF	Brian Reese	D
LG	Donald Williams	C
RG	Derrick Phelps	E
Bench Grade		A
Defensive Grade		A
Coach Dean Smith		4
Tarheels		104

SECTION PATROL AND RAID LOG

Date	Time	Patr #1	Patr #2	Raiders @	Alt.	Flight Paths	Bombing	Int. Loc.	Angels #1/#2	Direction #1/#2	Altitude Change	Top Cover	Raid Composition (ac #s)
example: 8/24	10a	Rye@20	Rye@20	5@4	10,000	1-213.	Kenley=5	D5	20/15	Sun/"	0	None	2,4-18,20,21

SECTION COMBAT DEBRIEFING

Date	Time	Loc.	Rnd #	#1 ac Perf.	GE ac	GE Perf.	Att. Bursts	DMG	Return Fire	DMG	#2 ac Perf.	GE ac	GE Perf.	Att. Bursts	DMG	Return Fire	DMG
example: 8/24	10a	D5	R1 GE	Too High							5+2+2 +2	#2 #2	6+1+3 +4	122456	1355=BO=2+1,WNDser.		

(empty grid rows follow)

SERIES REPLAY
MACHIAVELLI

AUSTRIA: Will Wible   FLORENCE: Jim Yerkey

FRANCE: Dan Mathias   THE PAPACY: Joe Lux

VENICE: James Garzillo

NEUTRAL COMMENTATOR: Stephen Koehler
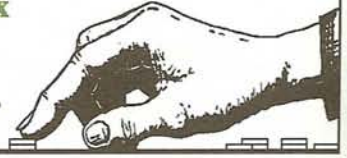
*W*hen I talked Stephen Koehler into doing this Series Replay, I don't think he fully realized how much aggravation he was facing. You see, he thought that it would be a good idea to get a group of excellent DIP *players together at a convention tournament and do the Series Replay. What could be better than to show readers of* The GENERAL *the new version of* MACHIAVELLI *under top competitive conditions? The error in the logic was not considering how a weekend tournament location would add all sorts of environmental factors to handle. We all owe these guys a vote of thanks for persevering under difficult circumstances to bring us this replay.*

Just to give you some idea of the matter, Stephen wanted to run the game at a convention with players coming from diverse locales. He first had to send the new rules to players who were attending PrezCon '96 (in Charlottesville, VA, on President's Day weekend) and who had promised to be in his event. The first problem was one of the many snowstorms that hit the eastern seaboard this winter. Of course, when the event happened, he had new guys (substitutes) who had not received the new rules (so they had to be briefed). The eight-player, Balance of Power scenario got off to a start and proceeded until 2 p.m. Then, despite having committed to playing this as a Series Replay with all the necessary baggage (a lot of time to write comments), three of the players announced that they had another tournament to go play. Imagine the horror now facing the poor GM. He has an anxious editor awaiting an article that is suddenly falling apart. Fortunately, the remaining players were willing to try again, later in the weekend. The next day Stephen gathered five players for a second stab at this thing. In the now much shortened time remaining, Koehler managed to run an interesting, fast-paced game (considering the need to write comments) which illustrates well the rules of the new MACHIAVELLI. In the short Series Replay that follows, you will witness Famine, Plague, Bribery, Counterbribery, Strategic Movement, Conquest, Money Lending, Promises, Alliances, Broken Promises and...Loyalty (even if misguided).

Stephen Koehler, being the glutton for punishment that he is, has volunteered to run the MACHIAVELLI *tournament at AvalonCon '96 as well. Perhaps, the assassination rules will be invoked there for early departures.*

—*SKT*

COMMENTATOR'S INTRODUCTION

We used Scenario II: Struggle for Dominance (Part One) 1499-1521, five player variant (Turkish territory is neutral and off-limits). All Optional and Advanced rules were used except Assassinations.

I bought the original MACHIAVELLI *back in the early 1980's and I've enjoyed playing it ever since. Unfortunately, the game went out of print and there were relatively few copies in circulation. Opponents were hard to come by and, being a multi-player game, it was sometimes years between games. Playing it postally helped. When I could round up some DIPLOMACY players at a tournament to give it a go, it was thoroughly enjoyed. Now with the release of the completely revised edition of* MACHIAVELLI (MAC), *everyone who has missed out all these years gets a chance to join the fun. As the introduction to the rules states: "If you are power mad, treacherous by nature and can lie with a straight face, then MAC is the game for you!"*

The replay you are about to see was played face-to-face at a local gaming tournament in Charlottesville, Virginia. It took approximately six hours to play, and I acted as a GM, which made it possible for the players to keep their treasuries private. The newness of some of the rules caused one or two errors, but for DIPLO-MACY (DIP) players, the mis-written order is no stranger.

The players in the replay were all new to the "new" rules contained in the revised edition, and some were new to MAC entirely. They are, however, some of the best DIP players in the country.

Jim probably has the biggest portfolio of DIP Tournament wins of anyone who still participates in the hobby. Just last year he won the COLONIAL DIPLOMACY tournament at AvalonCon '95 and has been game master for the DIP tournament at AvalonCon for at least three years. He is, if not tall, a legend. Will is also a seasoned gamer and winner of the Avalon Con '94 DIPLOMACY Tournament. Dan Mathias has been playing DIP for years and this July will be hosting DipCon XXIX and World Dip-Con VI in Columbus, Ohio. James and Joe have both been playing DIP for years as well.

PRE-GAME COMMENTARY
AUSTRIA

The Plan is to capture and consolidate in the North/Center of the board. I might make an attempt to take Milan, but I plan to leave France

otherwise intact, so I can, in the future, play both sides of France and Venice.

FLORENCE

I plan to remain as neutral as possible. I'll take out those Autonomous Garrisons in Siena and Piombino via sieges and take out Lucca with a bribe. That should improve my cash flow.

VENICE

As Venice, I am surrounded. A powerful Austria to my north and a lot of lesser states to the south. Which way am I to go?

NEUTRAL COMMENTARY

This scenario is interesting in that it has two large powers, Austria and France, with power-bases in the north and more vulnerable possessions to the south. With the Turks (and their fleets) being neutral in this five-player variant, Austria's possessions are more secure than they would be otherwise. The Western Seas (Gulf of Lions, Ligurian Sea, Tyrrhenian, etc.) will be fought over initially by France and Austria. The lone Florentine fleet may decide the balance of power in this area.

Venice has the large Austrian to his north, but generally has enough cash flow to be an able competitor to much larger states. He has plenty of prizes in his area to capture, such as Ferrara, Mantua, Trent and, with the Turks gone fishing, even Ragusa. As long as he has control of the Upper Adriatic, it would be very difficult for any power other than Austria to pose a threat. Therefore his goals should be to take or negotiate for the UA, and kill or befriend the Austrian.

The Papacy and Florence are somewhat smaller states in this arena. Their first task is to deal with the other. If satisfactory arrangements cannot be made, war is unavoidable. Once hostilities begin, outside forces from all directions may begin to see the area as a fertile target for expansion. Therefore, to survive, these nations need to tolerate each other, at least until they are strong enough to play with the big boys.

TURN 1 (Spring 1499)

No famines take place on the first turn of the game.

No income calculations take place on the first turn (each scenario provides players with a
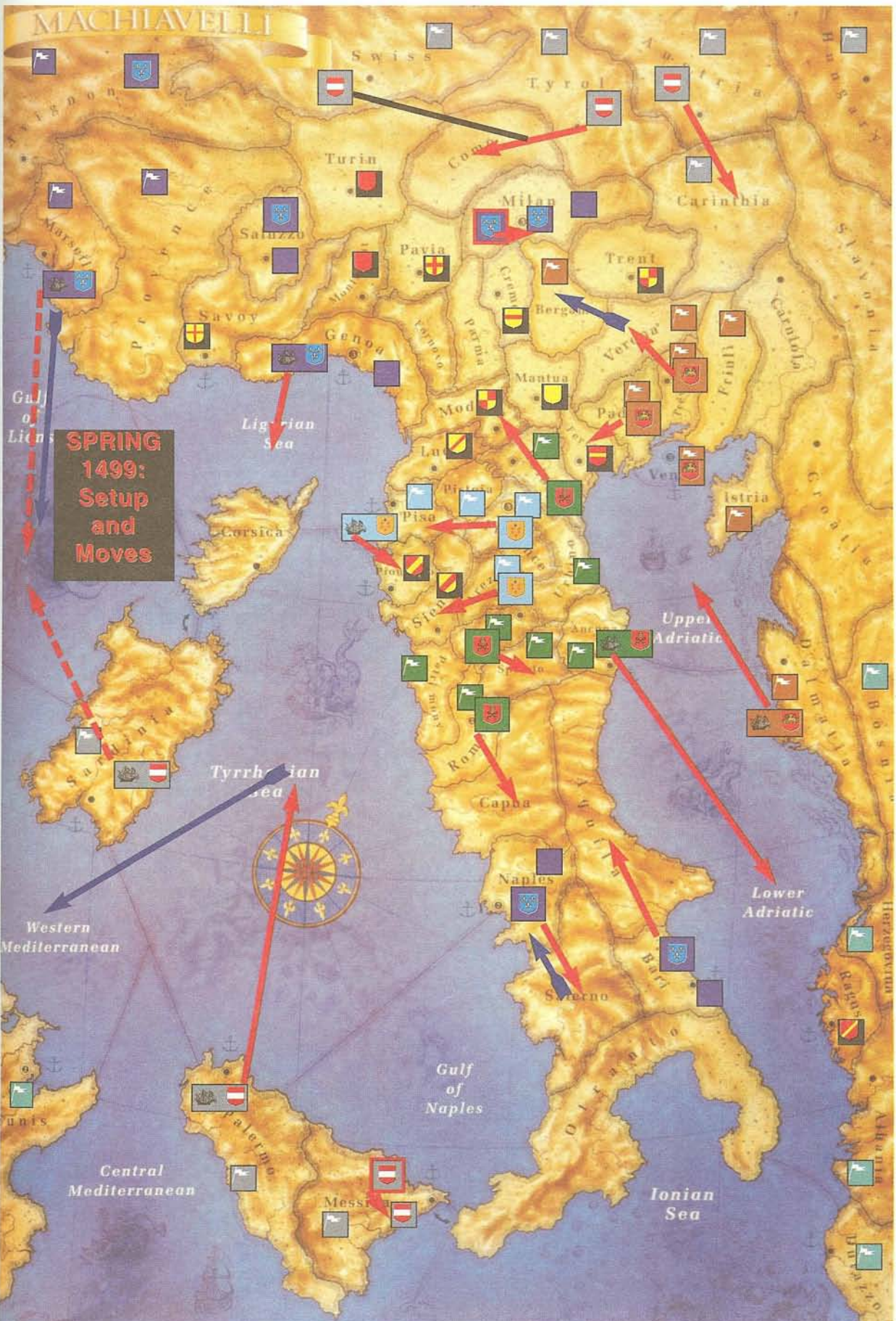
KEY:

Home Controlled Area

Controlled Area

Turkish (Off Limits)

Successful Move

Support to or Convoy of Another Unit

Failed Move

Retreat

Impossible Order

Strategic Move

Disbanded or Converted Unit

Bribe

Counter-bribe

Starting Treasuries:

1

x 11
x 0
x 4
x 9
x 6

FIGURE 1. Turn one sets the tone. The initial moves reveal that Florence and The Papacy have chosen to trust each other and move in opposite directions. Venice coordinates with The Papacy in the Adriatic. Austria and The Papacy move on France. A few units hold in place, not wanting to stir up controversy. See article regarding incorrect play of Strategic Movement rule.

starting treasury reflecting their starting position and play proceeds with the diplomacy phase).

THE PAPACY

During the diplomacy phase, I offered to enter into a possible financial arrangement with Austria, who is in need of cash. The subject? The "currently" French city of Naples!

VENICE

I talked to everyone during the diplomacy phase. Austria is tractable but nothing firm. Florence warned me of a possible French-Austrian Alliance. The Papacy agrees to my claims vis-a-vis Ferrara and Mantua. I may continue across to Genoa if Austria agrees to work in cooperation.

SPRING ORDERS

Ducat Borrowing and Expenditures: None.

Treasuries: FR 11, VE 9, FL 6, PA 4.

Movement and Conflict:

[This article follows the usual PBM practices of underlining failed moves and abbreviating provinces. A is army, F is fleet and G is garrison. H means Hold. As in Chess commentary, the ? and ! will be used to identify questionable and dramatic moves.]

Papacy: A ROME-CAP, A PER-SPO, F ANC-LA, A BOL-MOD.

Florence: A ARE-SIE, A FLO-PISA, F PISA-PIO.

Venice: A PAD-FER, A TRE-VER, F DAL-UA, G VEN H (automatic hold for units without orders).

France: A AVI-H, F MAR—GOL, A SALZ-H, F GEN-LS, A MIL=G, A NAP-SAL, A BARI-AQU.

Austria: A AUS-CAR, A TYR-COMO, A SWI S A TYR-COMO (support not possible, due to lack of adjacency to COMO), F SAR-GOL, F PAL-TS, A MES=G.

STRATEGIC MOVEMENT

The player with the most cities moves first, with ties broken by a die roll.

France: F MAR>GOL, A SAL>NAP.

Austria: F TS>WM.

Venice: A VER>BER.

Surprisingly, there seems to be no prohibition on Strategically Moving to an area left vacant by reason of a conflict. [While Steve's remark is correct in that such conflict does not affect control, strategic movement is limited to movement to a friendly controlled province—thereby forcing fleets to end their strategic move on a coast, not out to sea as was played in this game. SKT]

TURN 2 (Summer 1499)

Plague roll of 1 determines that it is a "Good Year" with no plague.

FRANCE

I'm in trouble!!!

AUSTRIA

I screwed up last move. Strategy is very important: one must read the rules carefully to get a handle on the differences between this game and *DIP*.

VENICE

Austria has made a move towards the French. I will militarize my frontier, taking the autonomous provinces for which I've negotiated (i.e. Ferrara, Trent and Mantua).

FLORENCE

Same as before. I try to create conflict all around me. The spring results were picture perfect!

NEUTRAL COMMENTARY

France's protest seems to be a little early. Certainly, Austria's initial moves are Anti-French, and France's were clearly cautious. Now he is on the defensive in and around his homeland, and may lose Milan, a vital city. Why did he convert to a garrison? [My guess is "because the garrison, being in a major city, will cost double for Austria to bribe." SKT] His naval moves were much more successful. He has captured the Gulf of Lions and the Ligurian Sea, and has Corsica in his sights, but Genoa is threatened by the Pope now (who has shown his colors by advancing on Naples). France can't afford to lose the Gulf in the Austrian counterattack. The strategic movement rules played a strong role in France's ability to react to unexpected moves by Austria and the Pope.

Austria seems to have one enemy in sight: France. Every move he made has the potential to be Anti-French. At least he's not going at this halfheartedly! He can help the Pope in Naples, or deny Corsica to France. Of course, Rome is wide open!

Florence has taken the neutral route. He has plenty of fish to fry in and around his home centers and can, at this stage of the game, remain uninvolved with the Franco-Austrian conflict brewing around him. He seems to have accomplished the one thing he needs: Papal units heading AWAY. Venice also has played it safe, and has multiple autonomous garrisons to keep him busy for the foreseeable future.

Perhaps there is a lesson to be learned here? Neutral moves (i.e. moves that don't directly antagonize or threaten) are fine when they are aimed at a real goal. Cautious moves (i.e. do-
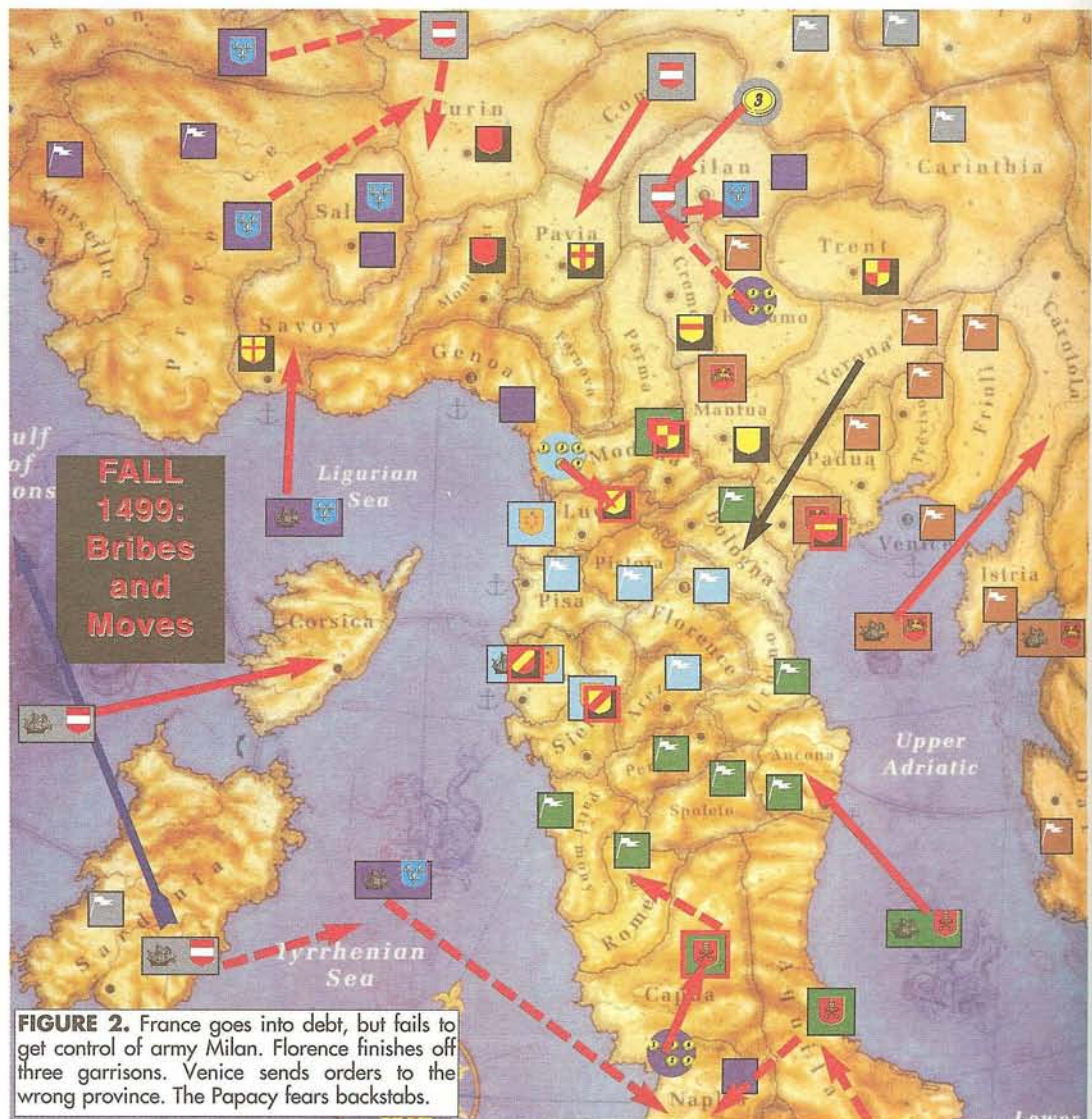
FIGURE 2. France goes into debt, but fails to get control of army Milan. Florence finishes off three garrisons. Venice sends orders to the wrong province. The Papacy fears backstabs.

nothing moves that are merely meant to appease neighbors, like Avignon and Saluzzo holding) rarely work. In my opinion, they have the opposite effect and invite an attack: a good player will smell your indecision and, like a shark smelling blood in the water, move in for the kill.

POST-DIPLOMACY COMMENTS

FRANCE

Still no definite alliances, but a few possibilities.

AUSTRIA

The Pope keeps trying for Naples, and I am NOT interested in giving support to him for a few measly ducats.

VENICE

The Papacy is worried, asking for centers that were agreed to be mine (e.g. Mantua). I said "no way." I made a mistake last turn not converting my garrison in Venice to a fleet, so that I could pick up Carniola this Fall. *[Note that the new MAC map removes the differentiation between Venice and the Lagoon, making Venice into a sea area that also contains a city. Consequently, a Fleet in Venice may move directly to the Upper Adriatic. SKT]* Austria is still aggressive in his overtures, but I'll hold back from declaring a full alliance. France has asked for help down the line, but against the Papacy. This may come about, given Papacy's demands. I have no problems with Florence, as he has provided some good advice in strengthening my position (the garrison conversion was his suggestion).

SUMMER ORDERS

Ducat Borrowing and Expenditures: Papacy borrows six ducats for two years (nine due in Summer 1501) and uses bribe "F" (Counterbribe) on A CAP, A SPO and F LA (three ducats each). Treasuries: FR 11, VE 9, FL 6, PA 1.
Movement and Conflict:
France: A AVI-H, A SALZ-H, A NAP-CAP, A AQU S A NAP-CAP (Cut, dislodged, retreats to Bari), F GOL-TS, F LS S F GOL-TS, G MIL=A.
Austria: F WM-GOL, A SWI-AVI, A CARIN-MIL, A COMO S A CARIN-MIL, F SAR S F WM-GOL, G MES=F.
Venice: G VEN=F, F UA-CRO, A FER B, A BER-MAN.
Papacy: A CAP-NAP, A SPO-AQU, F LA S A SPO-AQU, A MOD B.
Florence: A SIE B, F PIO B, A PISA-LUC.

STRATEGIC MOVEMENT

France: A NAP>PRO?
Venice: F VEN>UA.

TURN 3 (Fall 1499)

FLORENCE

Now, the task is to get Venice moving against Austria.

FRANCE

Well, I seem to be fighting both Austria and the Papacy. I am trying to negotiate with them and others, but so far failing.

VENICE

I see the opportunity to grow in all directions. The Papacy is going to war with France, as is Austria, but they have given me a free hand.

NEUTRAL COMMENTARY

Florence and Venice go about the tasks of securing their holdings, besieging several cities. The Papacy pounds south, towards his goal of Naples and Bari. Interestingly, the Pope decides to take the time to besiege Modena. I would think, given that he has already attacked France, the move would have been to attack Genoa. Of course, that was a guessing game: if France goes there and they bounce, Papacy won't get Modena this year. Rather than guess wrong, the Pope takes the sure thing.

Meanwhile, France is so concerned with Austria that he abandons Naples. But at least now, his homeland should be secure…except he let Austria into Gulf of Lions. Now he has to guard Marseilles, doesn't he? Corsica is still waiting to be picked up.

Austria must guard Palermo, now that France is in the Tyrrhenian Sea. Fleet Messina could block, but perhaps he can rely on France's desire to keep GOL French? We'll see.

POST-DIPLOMACY COMMENTS

FLORENCE

Everything seems picture perfect.

AUSTRIA

For some bizarre reason, France is annoyed with me!

VENICE

The Papacy is having a fire sale! I make a deal with him where I get a province in exchange for eight ducats and half of the income in Naples for three years. Austria will work with me but Florence wants me to eventually move against the Austrian.

FALL ORDERS

Ducat Borrowing and Expenditures: France: Borrows 20 ducats for two years (30 due Fall 1501) and uses bribe "K" (buy) A MIL (18 ducats), failed due to Austrian counterbribe. Bribe "J" (disband) A CAP (12 ducats).
Austria: Borrows three ducats for one year (four due Fall 1500) and uses bribe "F" (counterbribe) A MIL (three ducats)!!
Florence: Bribe "G" (disband autonomous garrison) G LUC (6 ducats).
Treasuries: FR 1, VE 9, PA 1
Movement and Conflict:
Florence: A SIE B (succeeds: garrison removed), F PIO B (succeeds: garrison removed), A LUC H.
Austria: F GOL-COR, F SAR-TS, F MES-GON, A MIL B, A SWI-TUR, A COMO-PAV.
France: A AVI-SWI, A PRO-TUR, F LS-SAV, F TS-NAP, A BARI-AQU, G MIL=A, A MIL-CARIN (bribe failed, A MIL remains Austrian), A SALZ H (automatic).
Venice: F CRO H, F UA-CAR, A VER-BOL (no such unit), A FER B (succeeds: garrison removed), A MAN H (automatic).

Papacy: A MOD B (succeeds: garrison removed), F LA-ANC?, A AQU-NAP, A CAP-ROM (unit was disbanded by French bribe)?

STRATEGIC MOVEMENT

Austria: F SAR>GOL.

NEUTRAL COMMENTARY

Austria's timely counterbribe of his Milanese Army was devastating to the French economy. In retrospect, it was a predictable bribe, but to Will's credit, he was on his toes and saw it coming. Now, when the debt collector comes calling at the door, France probably won't be able to pay. But then again, the way things are going, perhaps he won't even be in the game!

Florence finishes off the two sieges and buys off the Autonomous Garrison in Lucca for good measure. Now, without any more neutrals to go seize, he'll have to decide where to make his enemies.

Likewise, the Papacy and Venice finish sieges, just in time for the Spring builds. Unfortunately for the Pope, even though he's tried his best, he's still failed to take either Naples or Bari from the French. Fear of the Venetian's Fleet forced him to retreat to Ancona, instead of taking Bari with support. Why protect Ancona, though? It was speculation that Venice would attack, and he could have guaranteed himself the French area. Even if Venice did attack, he would have been out of position and Ancona could be retaken easily.

Austria takes Corsica and sets sail with his other fleets, grabbing the one ducat fishing bonus. He begins the siege of Milan, still does not seem to be in a position to knock out France, despite the clever counterbribe.

FIGURE 3. The French lose their control of the province of Milan. With the French under siege in Milan, the 3-pt. city produces no income in Spring 1500. The province is worth one to Austria. France retains Milan's variable income.

TURN 4 (Spring 1500)

Famine roll of 1 determines that it is a "Good Year" with no famine.

[Players have been spared this year; usually they lose some income and must maneuver around an Italy littered with Famine-ridden provinces acting like craters in the road. Garrisons are always unaffected and preserve the income of cities in starving provinces. Famines also prevent the building of new units in affected provinces. SKT]

Variable income die roll of 2 is applied to the variable income table for all recipients.

[In this version of MAC, control of areas only transfers when an area is occupied at the

start of the Spring. Areas through which armies passed in the previous Spring and Summer have not changed hands. SKT]

INCOME SUMMARY

Country	Seas +	Prov. +	Cities +	Var.	Total =Income	Spent on - Units	Net Incr. =in Treas.
Austria	2	11	8	2	23	18	5
Florence	0	7	8	2x2	19	12	7
France	1	8	9	2+2+3	25	18	7
The Papacy	0	9	6	3	18	12	6
Venice	0	11	9	3x2	26	18	8

[It is very important to realize that income may accrue even in the absense of control and that occupation does not necessarily give control. The siege of MIL well illustrates this. France received variable income from the cities of MIL and NAP due to this scenario's variable income rule. However, the siege of MIL robs France of the three ducats of city income. The ongoing siege also removes the French control marker, but does not allow Austria to place one. France also receives the provincial, but not city, income for occupying the province of SAV, as do Venice for MAN and Austria for COR, PAV and MIL. SKT]

Austria: Maintains A MIL, A SWI, F COR, F GOL, F GON; Builds A TYL; Disbands A PAV.

Florence: Maintains A SIE, A LUC, F PIO; Builds A FLO?

France: Maintains A AVI, A PRO, F SAV, F TS; Builds F MAR, G AVI; Disbands A SALZ, A BARI, G MIL.

Papacy: Maintains F ANC, A AQU, A MOD; Builds A PER.

Venice: Maintains F CAR, A FER, A MAN; Builds A PAD, A TRE, A DAL; Disbands F CRO?

PRE-DIPLOMACY COMMENTS
FRANCE

I have abandoned Italy proper (Naples and Bari) and Milan to defend my home. Otherwise, I am out of this game.

VENICE

Blowing the Bologna order last time cost me a loan of eight ducats to the Papacy. I will still hold him to our agreement.

NEUTRAL COMMENTARY

The mass of Venetian armies to his south can't make Austria too comfortable. He must be very concerned they are aimed at Hungary. Fortunately for Austria, France abandoned Milan, leaving that A MIL free to defend the homeland in case Venice should get frisky.

France also abandons Bari and Naples. Since he is not allowed to build there, he figures, probably correctly, that it is a lost cause. Despite his hardships, France might still be able to come back in this game, if he can only get Venice to give him a hand.

Florence and the Pope seem to be sitting pretty except for one thing: Florence has absolutely nowhere to expand, except for the Papal areas. He could attempt to capture Genoa again, but what chance is there of that if France and Austria are banging away in the Ligurian

Sea with their three fleets. The big question, of course, is whether the Pope sees the danger.

For his part, the Pope must be salivating over Naples and Bari. Also, there are fertile lands above Modena for the taking. Will he be blinded by these riches, and fail to see the danger Florence poses? We shall see.

POST-DIPLOMACY COMMENTS
FRANCE

Still trying to get Austria off my back. No promised help from the others, except Florence says he will help me into the Ligurian Sea.

VENICE

France laments his position, but I can do nothing (nor do I want to). Austria will work with me, and the Pope still says I can have Bologna. Florence is bothered by this, but all I can say is Sorry!

SPRING ORDERS

Ducat Borrowing and Expenditures: Papacy: Bribe "F" (Counterbribe) for both A AQU and A MOD (three ducats each). Treasuries: FR 8, AU 5, VE 17, FL 13.

Movement and Conflict:

Austria: A TYR-TUR, A SWI S A TYR-TUR, A MIL-PAV, F GOL-LS (Dislodged, retreats to SAR), F COR-LS, F GON S (Papacy) A AQU-NAP.

Florence: A SIE H, F PIO S (French) F SAV-LS, A LUC-MOD, A FLO-BOL.

France: G AVI S A AVI, A AVI S F MAR, F MAR S F TS-GOL, F TS-GOL!, F SAV-LS!, A PRO-SAV. *[Note the effective chain of supports France orders for his units whose actions did not involve advancing. SKT]*

Papacy: A PER-ROM, F ANC-LA, A AQU-NAP, A MOD-GEN!

Venice: A DAL-CRO, F CAR-UA, A FER-BOL, A MAN B, A PAD-VER, A TRE-PAD.

STRATEGIC MOVEMENT

Austria: F GON>TS.

France: F MAR>PRO.

Papacy: A ROM>BOL!? *(into the fire, eh?).*

Venice: A VER>BER, A PAD>VER.

NEUTRAL COMMENTARY

Florence assisted France into the Ligurian Sea, but it may be too little, too late. He seems to have convinced the Pope that he needed Modena as an outlet, and the Pope was more than willing to trade Modena for Genoa.

The Pope finally gets Naples and, seeing the bounce over Bologna, sends reinforcements to that area. Despite Venice's references to a deal for Bologna, the Pope doesn't seem to recall it.

If Austria can trust Venice, he can begin to push the French inward. That is THE question of this game: will Venice attack Austria? He seems to be primed for a stab of his northern ally. A move of A BER-MIL, A VER-CAR, A MAN-CRE and A CRO-SLA would be devastating. Even if Austria covers Milan this next turn, Milan, Austria and/or Hungary could be taken by Venice in the Fall campaign. Venice should recognize that he is earning more than Austria.

Plague roll of 3 determines that it is a "Poor Year," calling for a roll on the rows of the table only. Row roll of 7: PAL, GEN, ALB, PIS, TUN, AVI, MIL, SAR are hit with plague. Units Destroyed: Papal A GEN, French G AVI, A AVI, Austrian F SAR.

PRE-DIPLOMACY COMMENTS
AUSTRIA

France is still a bit annoyed at me for some reason!

VENICE

The Papacy reneged on the Bologna Deal, but winks at me! He will pay for this!

FLORENCE

I am going to try to set up a complete take-over of the Papacy in the Fall.

FRANCE

Plague killed both my garrison and army in Avignon. I have no defenses against Austria.

NEUTRAL COMMENTARY

France has been decimated by plague. Whatever defense he thought he had is now rotting corpses in the streets of Avignon. Bring out your dead! Bring out your dead! [I guess this sort of disaster calls for dispersion of forces at the end of Spring. SKT]

This is all the more reason for Venice to act NOW against Austria. He is almost certain to capitalize on France's misfortune and will likely be moving away from the stab, aggravating the damage. But Venice is concerning himself with Bologna and the "deal" he had with the Pope. He's paying no attention to his chance to win the game outright.

It's not even a matter of turning his entire army north. Fleet Upper Adriatic and the Army in Ferrara are more than enough to deal with the recalcitrant Pope. The problem is his inability to step back and see what he could do in addition to taking Bologna.

POST-DIPLOMACY COMMENTS
VENICE

The Austrians again indicate that they will work with me. They will get Milan per our agreement and I will get Genoa and the other autonomous garrisons. The Florentines have come up with a plan to stab the Papacy. Lets see what happens this turn!

FRANCE

Still being destroyed by Austria, who has no enemies at all. It looks like Florence may now be allying with Austria. Venice is playing much too neutral for my taste, but it may work for him.

SUMMER ORDERS

Ducat Borrowing and Expenditures: Austria: Borrows four ducats for one year. (five ducats due Summer 1501) and repays previous loan (four ducats). Treasuries: FR 8, AU 5, VE 17, FL 13.

Movement and Conflict:

Austria: F COR S (Florence) F PIO-LS, F TS S (Florence) F PIO-LS, A SWI-TUR, A TUR-SAL, A PAV-MIL.

Venice: A VER-TRE, A BER-CRE, A MAN B (autonomous garrison removed), <u>A CRO-BOL</u>, F UA C A CRO-BOL, A FER S A CRO-BOL.

Papacy: F LA-ION, A BOL-URB, A NAP H (automatic).

Florence: F PIO-LS, A SIE H, <u>A FLO-BOL</u>, A MOD S A FLO-BOL.

France: <u>A SAV-TUR</u>, F PRO-MAR, F LS-GEN, F GOL-AVI.

STRATEGIC MOVEMENT
Papacy: A URB>ROME.
France: F MAR>GOL.

NEUTRAL COMMENTARY
If Venice had attacked that turn, he would have had two units on Milan, and Austria and Hungary would have fallen in the Fall as well. Instead, Austria has generously given him the rights to Genoa (a classic example of promising your ally that which you can't deliver). Will is doing a marvelous job in leading James around by the nose.

TURN 6 (Fall 1500)
FLORENCE
The time is NOW! If Austria and Venice play along, the Papacy will be GONE and I will also get Genoa!

FRANCE
Austria continues to attack me.

VENICE
I still did not get Bologna last turn, but Florence told me we would bounce. Do I go for Ancona, as Joe (the Pope) did pull out of our agreement? Answer: Yes. Time to move him out. My flank is sewn up. Time to move south across the Adriatic.

POST-DIPLOMACY COMMENTS
FRANCE
Florence has accepted my offer of support into Austria's Corsica. We'll see if he actually does it!

AUSTRIA
Florence talked me into it (the stab of the Pope). I know he's a liar, but what the heck.

VENICE
We (Austria and I) have decided to take out the Pope. I, however, will land an army in Ancona, not the fleet. I will allow Florence to have Bologna.

FALL ORDERS
Ducat Borrowing and Expeditures:
Austria: Borrows seven ducats for one year (nine due Fall 1501) and bribe "J" (disband) A ROME (12 ducats). *[Though in a major city, the disbanded unit must be a garrison for the cost to be doubled. SKT]*

Papacy: Borrows three ducats for one year (four due Fall 1501) and bribe "F" (counter-bribe) A NAP (3 ducats).

Florence: Borrows 23 ducats for one year (28 due Fall 1501) and bribe "J" (disband) A MAN (12 ducats)? and bribe "K" (buy) A FER (18

CONVENTION CALENDAR

The *GENERAL* will list any gaming convention in this column free of charge on a space-available basis, provided that we are notified at least six months in advance of the event date. Each listing must include the <u>name, date, site and contact address</u> for the convention. Additional information of interest to our readership, such as tournaments using Avalon Hill/Victory games, is solicited and will be printed if made available. The Avalon Hill Game Company does not necessarily attend or endorse these gatherings, nor do we guarantee that events using our titles will be held. Readers are urged to contact the listed source for further information before making plans to attend any of these events.

ORIGINS '96
July 4-7, 1996, Columbus, OH
The flagship convention of the gaming industry, held at Greater Columbus Convention Center and the attached Hyatt Hotel, will include over 1000 events: card games, roleplaying, miniatures, boardgames, auction, special guests, DIPCON XXIX/World DIPCON VI, seminars, AH classics, and AH-run tournaments. Registration is $34.95 by June 14, $40 at the door, daily passes available. For more information contact Andon Unlimited, Origins '96 P.O. Box 1740, Renton WA 98057-1740 or email Andon@aol.com or call 206-204-5815 x7290.

AVALONCON '96
July 31-August 4, 1996, Baltimore, MD
The sixth annual Avalon Hill championships convention sponsored by Avalon Hill. Hundreds of AH games, scores of tournaments, over 1,000 of the world's best players, dedicated game masters, prizes and plaques, and Juniors events. Register for $35; no event fees. For information, call 1-800-999-3222 or write to: The Avalon Hill Game Company, 4517 Harford Road, Baltimore, MD 21214. For hotel accommodations, call 1-800-228-9290 and ask for the special AvalonCon room rates.

GEN CON Game Festival
August 8-11, 1996, Milwaukee, WI
The 29th annual event sponsored by TSR, Inc. expects 30,000 participants, will be at the Milwaukee Expo & Convention Center & Arena, and features over 200 exhibitors, collectible cards, role-playing, miniatures, boardgaming, computers, art, costume contest, live entertainment, autographing, seminars, auction and more. Registration is $40. For more info., send a SASE to Gen Con Game Fair, 201 Sheridan Springs Rd., Lake Geneva, WI 53147; fax (414) 248-0389; or email TSRINC@AOL.COM

MIGSCON XVII
August 23-25, 1996, Hamilton, Ontario
The Military Interst & Gaming Society Convention, held at the Royal Connaught Howard Johnson Plaza Hotel, includes 100 gaming events, exhibitors, children's area, sci-fi and fantasy miniatures, painting competition and more. Registration is $20. For more information contact MIGS, Box 37013, Barton Postal Outlet, Hamilton, ON, L8L 8E9 or call Brian Lewis at 416-351-7207.

DRAGONFLIGHT '96
August 23-25, 1996, Seattle, WA
This 16th annual convention for the Pacific Northwest will include board, role-playing, trading card, miniatures and computer games in historical, fantasy and sci-fi genres. ASL, DIP, HWD, 1830, TTN, RBN and ACQ tournaments, seminars, auction, and videos will also highlight the weekend. On-site dormitory housing available. For information contact DRAGONFLIGHT '95, PO Box 417, Seattle, WA 98111-0417 or call 206-781-0047.

MAGE CON SOUTH XI
August 30-September 1, 1996, Sioux City, IA
Midwest Area Gaming Enthusiasts (MAGE) sponsors this event at the Hilton Hotel, featuring board, miniature, computer, card and role-playing games of all types and an auction. The ASL tournament carries a $100 prize for 1st place. DIP, TRC and 1830 also featured. For info., contact Burnie Hegdahl, 737 N.E. 3rd Street, Madison, SD 57042, (605) 256-3909 or Curt Lyons, 2801 Jennings St., Sioux City, IA 51104, (712) 258-7403 6-10 p.m. weekdays or 12-10 p.m. weekends.

GATEWAY 16
Aug. 30-Sept. 2, 1996, Los Angeles, CA
Strategicon sponsors this convention at the L.A. Airport Wyndham Hotel (formerly LAX Hyatt), featuring all types of family, strategy and adventure games, collectible card games, role-playing, miniatures and computer gaming. Additional activities include flea markets, auction, exhibitor hall, seminars, demos and special guests. For info., contact Strategicon, 333 N. San Fernando Blvd., Burbank, CA 91502 or Jeff Albanese at (818) 848-1748 or fax (818) 848-1098.

TENNCON '96
October 12-13, 1996, Knoxville, TN
The Knoxville Convention and Exhibition Center will host the second annual TennCon. Board, strategy, card and role-playing games along with miniature games and guests are featured. Write Gameboard, 3018B Mall Rd. North, Suite 161, Knoxville, TN 37924 or visit the web site at www.gameboard.com.

ASLOK 1996
October 16-20, 1996, Middleburg Heights, OH
The ASL Octoberfest XI, at the Holiday Inn, is where ASL FANatics meet and compete. Tournament themes include Special Forces, Winter Wars, DASL, Night, Paratroops, T scenarios, The Blitzkrieg years and 1943 as well as Theatres. Registration is $15 by July 1 or $20 at the door. For more information contact ASLOK '96, 1419 Willshire Road, Lyndhurst, OH 44124 or email rickt@nwsup.north-olmsted.oh.us or call Mark Nixon at 216-442-6127.

Churchill's Few

S E P T E M B E R

A First Look at *LONDON'S BURNING*

By Ben Knight

When Don Greenwood asked me to design a Battle of Britain game for Avalon Hill, I knew I had a tough task. Not only would the game have to satisfy Don (it is always hard to satisfy another game designer, particularly one who knows the trade as well as Don does), but the game would have to compete with many previous Battle of Britain games. Among these, West End Games' *RAF* still claims high respect as a solitaire strategic-level game. TSR's two-player *Battle of Britain* uses the *Axis & Allies* approach by including molded plastic aircraft with stands and unique dice. To compete against these and other previous designs would call for something different.

Another reason the task looked daunting was that I knew very little about the battle—just the common impression that a "few" British fighters defied Goering's Luftwaffe and won. So I had to start reading many accounts of the battle, searching for themes as well as hard facts. At the time I was also playing with a group who enjoyed role-playing games and Games Workshop's *Man O'War*. I was familiar, too, with Craig Taylor's *MUSTANGS*, which handles air combat at the tactical level. All of that synthesized into the concept behind *LONDON'S BURNING*.

The sources on the Battle of Britain contain many personal accounts written by the participants. Reading these stories and rolling dice with role-players led me toward a design based on individual pilots. In fact, my initial design proposal to Don Greenwood started out, "You are one of Churchill's 'few.'" However, the decisions made by the ground controllers and Air Vice Marshal Keith Park (in charge of Fighter Command's No. 11 Group) were just as interesting as the decisions made by the pilots. Therefore, I settled on a microcosmic approach that blends tactical and operational decision-making from the viewpoints of individual pilot, ground controller and air vice marshal. I also expanded the player's role to more than one pilot because initial research showed that the individual British pilot in the Battle of Britain had a low survival rate.

About 1,000 of the nearly 3,000 British pilots in the battle were casualties, almost evenly split between killed and wounded. Furthermore, most of those casualties occurred over the small corner of England shown in the game, between the Strait of Dover and London. This area was the real crucible of the battle—easily 80 percent of the Luftwaffe's daylight raids happened here. In fact, after a week or two of battle, the Luftwaffe had given up daylight raids elsewhere because of strong RAF opposition and the limited range of the Me109, the principal German fighter. The Germans could not afford to send bombers over England in daylight without a strong escort, and their Me109s based in the Pas de Calais could provide effective escort only along the Dover-London corridor. Thus, the RAF pilots of No. 11 Group, defending the southeast corner of England, suffered the brunt of the Luftwaffe's daylight attack, while the other RAF sectors were relatively quiet. During the height of the battle, some of the hard-hit RAF squadrons in No. 11 Group estimated the life expectancy of their replacement pilots in terms of mere flying hours.

Solitaire Version

In the solitaire version of *LONDON'S BURNING*, you control a pair of RAF fighters, but you are limited to eight pilots for the 34 days of the battle covered by the game—August 13 ("Eagle Day") to September 15 ("Battle of Britain Day"). Having two fighters to control offers many interesting decisions because the two must coordinate their attacks for the best chance of success. Of course, a full-strength RAF section had three fighters, but I found that three fighters increased the player's workload without adding another level of decision-making. The limit of eight pilots reflects the historical pilot shortage that Fighter Command faced and encourages players to treat their pilots as something more than expendable cardboard. If you are careless with their paper lives, you are almost guaranteed to lose the battle!

On each day of the battle, your pilots may expect anywhere from zero to four German raids. Most players keep their pilots on the ground on standby where they can scramble to meet any incoming raid. This is more efficient than having the pilots fly patrols in the air, which tires out the pilots. A pilot on patrol is usually in a better position to intercept the enemy, but you must put him on patrol before you know whether a raid is inbound or not, so his sortie may be wasted.

The game map shows a hex field based on the British Grid system used by Fighter Command's operations room during the battle. Basically, I copied their 10-kilometer square grid, staggered the borders of every other row to form a brick grid, then transformed those square bricks into hexes. (In fact, I use this approach whenever I design a hex map because it causes less relative distortion between any two points on the map than occurs when you lay a transparent hex grid over the source map.) The hex field appears small with only 169 total hexes, but aircraft can be dispersed on the airfield or at one of seven altitude levels (from Ground Level to 30,000' in increments of 5,000'), so there are well over a thousand different positions on the map.

Each German raid consists of four to six aircraft drawn randomly from the German force mix and placed face down so their identity is unknown. The ratio of two British fighters against four to six German aircraft reflects the average ratio of contact during the actual battle. The raiders enter play across the English Channel, race inland along a randomly generated path and bomb the first undamaged target they reach.

There are 28 targets on the map, including Chain Home radar stations, shipping, three types of airfields, the Thameshaven oil depot and London. The German raids tend to follow the actual Luftwaffe strategy in that the raiders usually hit the coastal targets first, penetrate deeper inland as the battle heats up and finally bomb London itself.
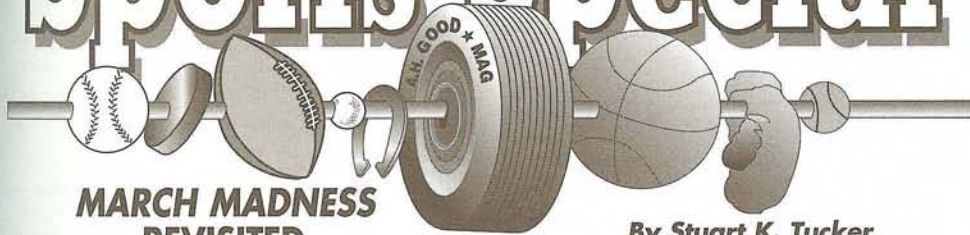
Fighter Command was originally established and deployed to defend the industrial and civilian centers, particularly London, from enemy bombers. The ultimate irony of the Battle of Britain was that Fighter Command experienced the bombing of London not as a defeat but as a relief. To bomb London in force, the Germans stopped bombing the RAF airfields, thus relieving pressure on Fighter Command at a critical moment. In truth, Fighter Command's airfields and radar stations were the most vital targets to defend, not the capital.

In the game, the Luftwaffe scores victory points according to the German perspective. The Luftwaffe earns the most victory points for bombing London and the least victory points for bombing radar stations, which the Germans largely ignored historically. In game terms, though, every damaged radar station delays the reaction of your fighters to new raids. Every airfield bombed limits where your fighters can land and how well your pilots rest. Historically, the Luftwaffe sent its most massive raids against London and used the pillars of smoke rising from the burning city as a morale-boosting beacon for following waves of bombers. Therefore, the more London burns in the game, the stronger the German raids become. As the RAF player, you must balance all of these factors when you decide how you will intercept the German raids and how you will allocate your limited repair points to repair bomb damage.

Interception & Combat

Interception and combat are the heart of the game. Just as Fighter Command used ground controllers to vector its fighter squadrons onto the enemy, so you will maneuver your fighters on the map to intercept German raids. Ideally,

you will try to intercept a raid from out of the sun, which means having a one-level advantage in altitude and approaching the enemy from the direction of the sun as determined by the time of day. You may also try a head-on attack or simply charge into the raiders lest they get by you. In either case, it is better to intercept near an airfield. That way, if your engine is damaged during combat, you can force land safely or bail out over land, which is safer than bailing out over the Channel. Furthermore, when you intercept an unidentified raid, the altitude of the raiders may change one or two levels from what radar had reported. So instead of diving your fighters out of the sun onto the enemy, you may find enemy fighters above your aircraft at the point of contact.

You must also decide whether to intercept the raiders before or after they bomb. Intercepting after they bomb gives you the best chance of jumping them, but you will soon find too many of your defenses bombed out. Another good tactic is to let a raid penetrate far inland before intercepting. Then, if a German aircraft is damaged, it is more likely to crash land before reaching the safety of France.

Each individual aircraft is represented by a one-inch square counter similar to those in *MUSTANGS*. However, the combat system is different from that game. Each aircraft has a full-color display on the game board with three to six damage positions, depending on the type of aircraft. For example, a Spitfire has one Engine, one Pilot and one Airframe position. Combat is fought on the Altitude Display in one to four rounds, with each side's fighters taking turns attacking.

An attacking fighter selects its target and rolls to see if it outperforms the target. An aircraft's basic performance value is affected by climbing, diving, pilot fatigue, unengaged enemy fighters and damage to the aircraft. Only if you outperform the target aircraft may you fire bursts at it by rolling the correct number of dice and looking for given numbers to hit. RAF fighters have only five bursts (15 seconds worth of ammo), and combat may end suddenly after any round (reflecting the way pilots in combat often lost contact with the enemy). RAF pilots who shoot down five enemy aircraft achieve ace status, which improves their basic performance value and their marksmanship. Wounded pilots may be out of play permanently or return to the game after a period of recovery.

Two-Player Versions

Although *LONDON'S BURNING* was designed primarily to be a solitaire game, we also included two separate two-player versions. In the "RAF Player vs. Luftwaffe Player" version, the Luftwaffe player chooses the composition and targets of his raids from a restricted selection at the start of each day. (The restric-

The status of aircraft is recorded on the mapboard.

tions represent limits imposed by *Reichsmarschall* Goering, which you may not ignore.) The German player also makes decisions in choosing his flight path and conducting his fighter attacks during combat.

In the "Two RAF Players" version, each player takes responsibility for one of the fighters. The two fighters operate as a section, with the highest ranking player acting as the section leader. When a pilot is wounded or killed, the surviving wingman becomes the new section leader. The section leader performs all actions first, and the wingman may or may not follow his lead. The player who scores the most kills wins the game, but neither wins unless the Germans are beaten.

While this version sounds easy enough, it is difficult to find two gamers who can cooperate effectively to beat the enemy, while competing for the highest personal score. In the first playtest of this version, the two RAF players had a personal agenda. They were more concerned with who was section leader than with defeating the German raiders. In fact, at one point the wingman broke off combat, leaving the section leader to meet the counterattacking German fighters alone. Not surprisingly, the outnumbered section leader was shot down. Meanwhile, back at base, the surviving wingman became the new section leader—but could he really expect the other player to follow him into combat?

Tournaments

I plan on running a tournament of *LONDON'S BURNING* at Origins, AvalonCon and GenCon this summer. The tournament players will enlist in Fighter Command and form an entire wing of RAF pilots who must battle massive raids together. The players will be divided into two-player sections (two players per board).

Four sections—Red, Yellow, Blue and Green—will make up a squadron. Two or more squadrons will form a wing.

One player in each section will start as an officer. The other player in each section will start as a sergeant pilot. The various ranks in descending order will be as follows:

Wing Commander
Squadron Leader
Flight Leader
Pilot Officer
Sergeant Pilot

An eight-player squadron will thus consist of one squadron leader, one flight leader, two pilot officers and four sergeant pilots. Players will rise in rank when pilots above them are killed or wounded. For example, if the flight leader is killed, then the senior pilot officer in that squadron becomes the new flight leader, the wingman of the previous flight leader receives his commission as a pilot officer, and the previous flight leader reenters the game as the junior sergeant pilot.

The senior squadron leader will act as wing commander. Only the current wing commander will make decisions about patrols, standbys, movement, interception and repairs. All the other players must follow his lead into combat at the same instant. Once he gives the tallyho

Some of the enemy raiders.

identifying the raiders, each section will conduct its combat on its own, with the officer of each section making his decisions first. When all sections have finished, we will total the results and proceed to the end of the raid.

Every player will be allowed four pilots for the battle—two Spitfire and two Hurricane pilots. Once you lose all four pilots, you are out of the game, or perhaps you may continue playing as a Defiant pilot. You should quiver in fear at that thought because the Defiant was hopelessly outclassed by the German fighters. Rewards will be given for highest scoring aces and ranks obtained. I hope to see you there.

★

SECTION SUMMARY REPORT

RAF Base_____

No. 11 Group, _____ Sector, _____ Squadron, _____ Section

WEATHER

CLEAR	RAIN

Pilot / ac#	Player	Section Leader Date / Time	Me109	Me110	Ju88	Do17	He111	Ju87	#Miss.	Hurr.	Spitf.	Notes
					KILLED ENEMIES					Ditched / DMG ac		

| | | | | | | | | | | | | |

GE ac Losses: [ ] [ ] [ ] [ ] [ ] [ ]   RAF [ ] [ ]

GE ac DMGd: [ ] [ ] [ ] [ ] [ ] [ ]   DMGd [ ] [ ]

Notes:

a _____

b _____

c _____

d _____

e _____

f _____

g _____

h _____

i _____

j _____

k _____

l _____

m _____

n _____

o _____

p _____

q _____

r _____

s _____

t _____

u _____

Target	VP Value	DMG
London N5	3	
London N6	3	
London O5	3	
London O6	3	
Thameshaven	2	

AIRFIELDS

Biggin Hill	2	
Croyden	2	
Debden	2	
Detling	2	
Eastchurch	2	
Gravesend	2	
Hawkinge	2	
Hornchurch	2	
Kenley	2	
Lympne	2	
Martston	2	
North Weald	2	
Redhill	2	
Rochester	2	
Rochford	2	
Stappleford	2	
West Malling	2	

SHIPPING

Convoy	2	
Dover	2	

RADAR

Canewdon	1	
Dunkirk	1	
Pevensey	1	
Rye	1	

PILOT SUMMARY

#WNDd	#Retired	#KIA	Surviving Aces
[ ]	[ ]	[ ]	[ ]

VICTORY POINT SUMMARY

Total GE Loss / RAF VPs [ ]   RAF Losses [ ]

Player #1 VPs [ ]   Player #2 VPs [ ]

	VPs	DMG
Subtotals	[ ]	[ ]
Total GE VPs	[ ]	

Squadrons by Sector:	Kenley	Debden	North Weald	Hornchurch	Biggin Hill
Hurricanes:	111, 253, 615	17, 73, 85, 257, 601	46, 56, 151, 249		32, 79, 501
Spitfires:	64, 66, 72, 616			41, 54, 65, 74, 222, 266, 603	610, 92

PLAYER AID FOR *LONDON'S BURNING*

Sports Special

MARCH MADNESS REVISITED

By Stuart K. Tucker

Nit-picking basketball fanatics (like myself) never miss a chance to chime in with their own two-cents on the great teams and players of the past. I have never been comfortable with *MARCH MADNESS* card additions published in the past. Now that we need to do the 1996 Final Four, I think it is time to urge players to adopt some changes. The information below is motivated by two desires: 1) to correct glaring factual errors in past cards appearing in the pages of this magazine and 2) to provide my own reasoned judgment on the two areas of team ratings that are matters of opinion: coach rating and defensive grade. See magazine insert page for new and corrected *MARCH MADNESS* Team Cards.

The factual errors fall into three general categories. First, a number of typos gave us teams with mystery coaches.

Second, in quite a few cases, the positions of players have been inverted, leaving the point guard in the shooting guard position, for instance. In *MARCH MADNESS*, most strategy cards can be played only upon specified positions. The RG is clearly the point guard in this game system. Furthermore, the LF position is the power forward.

Third, according to my records of pre-tournament scoring average records, several players and benches have been graded incorrectly. I am sure that there are inconsistencies in the utilization of seasonal data, so this issue is a debatable one. However, it seems to me that the most appropriate data to use is the pre-tournament data combined with the actual lineup taking the floor in the semi-final game. This would produce the team card that most accurately portrays a team's chances of winning games in the Final Four. The post-tournament scoring data hurts the ratings of teams that performed poorly or incurred injuries in the Final Four, while over-rating the "hot" teams.

Some key players must be dropped from the cards due to injuries during the tournament leading up to the Final Four (such as Kentucky's Rodrick Rhodes in 1995). However, an injury affecting the lineup for only the Championship game (such as to Tyus Edney in 1995) should not affect the card—I let the player stay on the card since he entered the Final Four weekend healthy.

COMMENTS ON CORRECTIONS
(For cards appearing in *The GENERAL* 28#4, p. 31)

Whatever sanctions have been leveled for dubious practices, the fact remains that UNLV was and is a non-entity without the coaching of Tarkanian. He should never have been rated as a two. In recent years, I have gained new respect for what Bobby Cremins can do with a mediocre squad and his ability to recruit against the coaches of the game's best conference. Does a coach deserve credit for a team's unique chemistry? For 1990, I say no, Cremins should have the rating of two. However, I think the 1996 squad proves that Cremins has matured to be a three. Coach Nolan Richardson should be rated as a four (the man was great long before his victory in 1994 silenced his detractors). Coach Mike Krzyzewski's rating is four (can there be any doubt that the "2" was a typo?) Coach Roy Williams' rating is three (a successful coach indeed, but his teams' talent levels have not been matched with championship rings.) Fisher stepped into a strange situation and did well immediately. However, his subsequent lack of success with this highly-touted "Fab Five" must be considered one of the greatest disappointments in NCAA history. He is a two. Once upon a time, I thought Knight deserved a rating of three instead of four, but after seeing Cheaney and the rest of this crew in the pros, I have to say Knight deserves to be called "The GENERAL" of basketball to have done so much with them.

UNLV 1991 defensive grade is B (although intense at times, the Amoeba defense was largely aimed at resting players for whom Tarkanian could find no substitutes on the bench). UNC 1991 defensive grade is A (another Carolina team known for its quick hands). The "Lethal Weapon Three" (GoeTech 1990) didn't care much for defense and their shooting was awesome.

(For cards appearing in *The GENERAL* 30#1, p. 17)

Coach Jim Harrick's (UCLA 1995) rating is two (he had a great run in 1995, but his tournament record speaks for itself—with understatement). I have no quibble with the Arkansas 1995 card other than the fact that Martin always sat on the bench for most of the game after starting at tip-off. His role on the team was not really a starting one at all. Darnell Robinson would have been a better choice for center, especially once the Final Four started, but that means giving the center a grade of E, dropping the bench from AA to A, and dropping the team rating to 88. I am still of two minds on this one.

TEAMS FROM THE 1950s

The original set of team cards included some intriguing teams from the 1950s (with players that made it big in the NBA and have high name-recognition value). However, the era also produced a number of excellent teams which did well, but had less-well-known stars—or infamous characters, in some cases. Team ratings in this game do not necessarily transfer well across eras. This is particularly true of the teams of the 1950s, when the rules for basketball included oddities such as three quarters. These rules were in constant flux, making any rating system somewhat subjective. Players of *MARCH MADNESS* have a handful of teams of the late 1950s and early 1960s which need more opponents from their own time. Five such teams are included on the insert. They represent a somewhat forgotten time, but deserve more notoriety.

The 1948 Kentucky team won the NCAA tournament and fielded an equally talented team in 1949. However, the program was shrouded in scandal when it was discovered that the 1949 team had shaved points. The NCAA leveled severe sanctions that forced Rupp to keep the basketball program going with intra-squad scrimmages. The effects of the sanctions spilled onto the 1954 Kentucky team which was allowed to participate in the NCAA. Three players of that 1954 squad had suffered under the sanctions and soldiered onward academically. Entering the 1953-54 season, one star had graduated and two would do so prior to the NCAA tournament. Today's rules would allow these players to have four years of basketball eligibility regardless of graduation, but the NCAA rules in 1954 made them ineligible for the tournament. SEC rules allowed the three (Hagan, Tsioropoulos and Ramsey) to play, and the team went undefeated and won the SEC bid to the tournament. Rupp complained that the NCAA rules would require two of his stars to fail classes to be eligible to play and refused the tournament bid instead of playing without the stars.

The 1953 Indiana team were one of the first up-tempo teams, affectionately known as the "Hurryin' Hoosiers." With each player required to run four miles a day, even the big guys charged down the court. However, they never met the number two team of the year, Seton Hall. In those days, the NCAA tournament was competing head-to-head with the National Invitational Tournament for prestige. Honey Russell decided to turn down the NCAA bid and took Seton Hall to the NIT, where they won that championship. Indiana went on to win the NCAA championship and fans can only speculate which was the better team.

North Carolina hired Frank McGuire to build its program. By 1957, the man from New York had imported an impressive group of players to this southern school and put the basketball program on the map. The crowning achievement came in the NCAA finals with a one-point win against Wilt Chamberlain's Kansas.

DREAM TEAM

Having gone to the University with Ralph Sampson and Jeff Lamp, I have long lamented the failure of Virginia to win an NCAA championship and tire of harkening back to the Wally Walker-led cinderella ACC champions of 1976. In 1995, with the defeat of a top-notch Kansas in the Sweet Sixteen, Virginia once again raised my hopes. The 1995 Virginia team certainly had the talent to beat any of the teams that actually made it to the final four, so I take advantage of leftover space to provide the team card. In fact, this Virginia team may have been its best in history. With *MARCH MADNESS*, Virginia fans can make their championship dreams come true (hey, at least it's more realistic and less time-consuming than getting an ACC tournament ticket).

★

A GREAT WAR ENDING
FOR History Of The World

by Gary W. Graber

It is the final turn of a rousing game of *HISTORY OF THE WORLD (HDW)*. Five of the six players have already moved in this the seventh Epoch of the game, and the only person yet to take his turn is sitting pretty. Yes, he has drawn Germany, and since there is no one else that will move after him, he is assured of enjoying the artificial safety that moving last provides. There are several audible groans from around the table as everyone realizes he is within striking distance of winning. They know that this opponent can—and will—methodically plan and carry out his move with full knowledge of *exactly* how many victory points are needed to win. It does not matter if he stretches himself out ridiculously thin in the quest for points, because nobody will be able to take advantage of it. Sure enough, he squeaks out *just* enough points to claim victory by the tiniest of margins over his helpless adversaries.

Veteran *HWD* players will recognize the above situation. The end of Epoch VII provides the person who draws the last Empire to be played the tremendous security of knowing that it does not matter if his forces are vulnerably spread out or not, since there is no Epoch VIII. If the fortunate player is within reach of winning, all that matters is the final—and sometimes quite calculated—dash for victory points. This is especially true in games with less than a full complement of gamers and Britain is the final Empire to be played.

This end-game situation is not a factor in every game of *HWD* that is played, but when it does occur it can be distasteful. This variant addresses the situation by introducing a special "mini-Epoch"—representing events surrounding the outbreak of the Great War in 1914. This sub-epoch occurs *after* the last player has taken his turn in Epoch VII. It introduces a degree of doubt into the game. Players must keep in mind that now additional actions will occur after the final Epoch, and must plan and move accordingly.

Unless otherwise specified, all regular rules are in effect. My previous *HWD* variant and optional rules (see "Shortening History," in Vol. 29, No. 1) are also compatible with what follows. The Great War Sub-Epoch variant may be used no matter how many people are playing.

THE GREAT WAR SUB-EPOCH

As far as the historical context is concerned, the events as described in the table below take place at the very beginning of World War I hostilities, which, in turn, occurs immediately after the end of Epoch VII. The game ends after this sub-epoch is completed.

To implement this variant, observe the following procedures. Every Empire controlled by a player during Epoch VII will have a turn during the sub-epoch, as described in the Great War Table. The table will indicate the number of armies or fleets available to the Empire, the place or places the pieces start, and the Victory Points that may be gained from expansion. During each player's turn in the sub-epoch, these pieces may expand as usual. Victory points, however, are awarded differently, as indicated by the table. Victory point accumulation and loss only applies to those Lands/Seas actually conquered by pieces conducting the sub-epoch; the regular accumulation of victory points does not occur. You will notice that France, Britain and Germany stand to gain or lose additional victory points at the very end of the sub-epoch as well, as indicated by the table.

The order of play during the sub-epoch is randomly generated by placing army counters from each player in a cup, and blindly drawing one at a time. The draw is weighted as follows: one German, two American, three British, four French, five Dutch, six Manchu and seven Russian army counters are placed in the cup. (If an Empire was not played in Epoch VII, do not place counters in the cup for that Empire.) The drawn counter will indicate the first player to take his turn and adjust victory points as necessary. After he is finished, ignore subsequent draws of that player's armies from the cup and draw another counter from the cup to determine who goes next. In this way, each player will have one turn during the sub-epoch. Once all players have taken their move, play is finished, victory points for end-of-sub-epoch position are totaled (see Britain, France and Germany in the table below) and a winner is declared.

While victory point levels will not be dramatically changed when using this variant, the threat generated does introduce uncertainty into the picture. Gamers must take this into account when moving. The variant should make for a more defensive and strategic Epoch VII, and keep interest and excitement high until the very end. The draw is weighted to provide a framework suggestive of the unfolding of World War I, but, of course, anything can happen once the counters start coming out of the cup. A wise player will be acquainted with all eventualities.

EXAMPLE OF PLAY: Let's say Epoch VII of a five-player game has just been completed. Faction counters from each of the five players are put into a cup, and one is drawn. In this example, the faction that played Russia is drawn. A quick look at the Great War Table shows what happens. The person who played

Russia in Epoch VII gets to place three armies in one of the Lands indicated. He may expand with them as usual, and gains two victory points for each Land he conquers, as well as causing victory point losses for factions losing Lands. In the case of Russia, the most victory points that the player could generate during his Great War turn is six. After the Russian player is finished, another counter is drawn from the cup, the next player takes a Great War turn, and play continues on through the end of the sub-epoch.

GREAT WAR TABLE

Russia: MOBILIZATION. Three armies available in either Dnieper, Caucasus, Western Steppe or North European Plain (your choice as long as the Land is controlled by your color). The three armies may expand as usual. You gain—and the player losing the Land loses—two victory points per Land conquered.

Manchu Dynasty: MANCHU REBELLION. Two rebel armies are placed in Manchurian Plain. If this Land is occupied by owning player's unit(s), the two armies may expand as usual. If Manchurian Plain is occupied by another player, it must be attacked and conquered before any other expansion is attempted. You gain—and the player losing the Land loses—two victory points per Land conquered. If Manchurian Plain and all adjacent Lands are occupied by owning player, no expansion is possible, but you gain four victory points.

Netherlands: TRADE EXPANSION. One army is placed in each of two separate Lands of your choice, as long as each is controlled by your color. The two armies may expand as usual. You gain—and the player losing the Land loses—three victory points (if a Resource) or two victory points (if not a Resource) per Land conquered.

France: MOBILIZATION. Three armies are available in Western Gaul, Northern Gaul and/or Central Massif (your choice as long the Land(s) is controlled by your Empire VII unit). The three armies may expand as usual. You gain—and the player losing the Land loses—two victory points per Land conquered. In addition, you lose an additional four victory points if Western Gaul is not under your control at the end of the sub-epoch.

Britain: MOBILIZATION. Two fleets may be placed in any Sea (or Seas) on the board not already under your control. Usual combat occurs if Sea is occupied by enemy fleet. You gain—and the player losing the Sea (if applicable) loses—one victory point per Sea conquered. Also, one fort (or upgrade to fortress) is placed in Albion, Highlands or Northern Gaul, if controlled by the British Empire or it may be given to the French player to be placed in any Northern European Land that is under the French empire's control. In addition, if any one player (other than Britain) controls over one-half of the Northern European Lands at the end of the sub-epoch, you lose an additional four victory points at the end of the sub-epoch.

United States: JOINS THE WAR. Place two armies in the Atlantic Ocean. You may use the fleets of any ally willing to transport these armies through adjacent seas to attack Lands in Northern Europe. If no ally may be found, these armies may attack any Land adjacent to the Atlantic Ocean. You gain— and the player losing the Land loses— two victory points per Land conquered.

Germany: CENTRAL POWERS' EXPANSION. Four armies are placed in Baltic Seaboard, Lower Rhine, Central Europe and/or Northern Gaul (your choice as long as the Land(s) is under your control, and no more than two start in any one Land). The four armies may expand as usual. You gain—and the player losing the Land loses—two victory points per Land conquered. In addition, (1) if you control both Western Gaul and North European Plain at the end of the sub-epoch, you get an additional four points and (2) if you control less than four Northern European Lands at the end of the sub-epoch, you lose an additional four points.

★

The Editor's Choice Awards

Volume 28 Winner

Our apologies to authors, voters and those of you who looked in vain for the 1993 Editor's Choice Award announcement. As many readers will recall, Volume 28, No. 6 promised to announce in Volume 29, No. 6 the winner of the award for the best article of volume 28. Readers were asked to vote for the article among the six nominees that they thought was the best to grace the pages of *The GENERAL* in that year.

And now for the long awaited announcement…(readers must provide their own drum roll here)…

The winner is Richard Berthold, author of "Athens in Viet Nam." The article in question appeared in Vol. 28, No. 1 and provides an excellent summary of the history of the Peloponnesian war. This article pleased players of TAHGC's *PELOPONNESIAN WAR* as well as the general readership by giving us a better understanding of how a powerful nation can self-destruct. Mr. Berthold will receive $100 in merchandise certificates for Avalon Hill products and a lifetime subscription to *The GENERAL*.

Volume 29 Nominees

The nominees for best article in Volume 29 are provided below in order of publication. The list is a combination of the current editor's preferences with the reader responses to our regular invitations to "Rate This Issue." As usual, reprints and articles by current or former Avalon Hill staff are not eligible. The winner will receive $100 in merchandise certificates for Avalon Hill products and a lifetime subscription to *The GENERAL*.

❑ **ROASTING CHESTNUTS**

By Jim Stahler (Vol. 29, No. 1)

❑ **VICTORY IN THE COLONIES**

By Andrew R. Maly (Vol. 29, No. 2)

❑ **A MATTER OF PRIORITIES**

By Andrew R. Maly (Vol. 29, No. 3)

❑ **ROADS TO ANTIETEM**

By Kenneth E. Lee (Vol. 29, No. 4)

❑ **THREE DAYS IN PENNSYLVANIA**

By Steven Mones (Vol. 29, No. 4)

❑ **ARDENNES BREAKTHROUGH II**

By Randy Heller and John B. Grant, Jr. (Vol. 29, No. 5)

❑ **TAKING A BITE OUT OF A HUNK OF CHEESE**

By Don Clouse (Vol. 29, No. 6)

Honorable mention is also due to some very fine articles in Volume 29 which are excluded by the rules: Donald Greenwood's "In Defense of Normandy" (No. 3), Robert Waters' "The Flow of Battle" (No. 4), David W. Richman's "Myths of the Pearl Harbor Attack" (No. 5) and Paul L. Penrod's "The American Military on the Eve of War" (No. 6).

Please refresh your memory of these articles. Send in your vote for one of these articles to:

Stuart K. Tucker
Managing Editor, *The GENERAL*
The Avalon Hill Game Company
4517 Harford Rd.
Baltimore, MD 21214

CALL FOR ARTICLES

I need your input and want you to know that I value it.

Until recently, *The GENERAL's* author payment rate has stood still despite inflation. The writer, economist and editor in me said this is wrong. Authors should not feel that we value them today any less than in previous decades. Consequently, effective December 1995, we have increased our payment rates by 50% (to $9 per 10-inch column of text, with the usual 50% additional increase if payment is taken entirely in merchandise). I recognize that writing for this magazine remains a labor of love. I thank authors for past submissions and ask you to please send more. Outside authors continue to be the backbone of this magazine. To honor these efforts, I promise to have a plan of action for article submissions before accepting them. I know the frustration of awaiting publication of my own articles. You deserve an understanding of the schedule for publication. I will be frank about any doubts that an article will make it into print within one year.

First-time writers, young and old, should not be timid either. A substantial portion of the readership is teen-aged. Articles geared toward the less-experienced player are welcome. Furthermore, hobby interest articles have a place in these pages.

Currently, we seek articles covering our most recent games, especially those of the Smithsonian Institution history series. We accept articles on computer games, board games of strategy, leisure time games and sports games. *The GENERAL* will continue to emphasize strategy gaming, but all games produced by The Avalon Hill Game Company are eligible. Games that ought to receive more attention in these pages include:

Strategy Games
MACHIAVELLI
STONEWALL IN THE VALLEY
EMPIRE OF THE RISING SUN
GERONIMO
SOLITAIRE ADVANCED SQUAD LEADER
COLONIAL DIPLOMACY
MAHARAJA
ROAD TO GETTYSBURG
HERE COME THE REBELS
ACROSS FIVE APRILS
MIDWAY
GUADALCANAL
D-DAY
GETTYSBURG
TOKYO EXPRESS
GUERRILLA
PAX BRITANNICA
NAVAL WAR
PATTON'S BEST

Computer Games
ADVANCED CIVILIZATION
D-DAY: AMERICA INVADES
1830

Leisure Time Games
ACQUIRE
RAIL BARON
TITAN

Sports Games
CIRCUS MAXIMUS
SPEED CIRCUIT
TITLE BOUT

★

Staff Briefing
An Interview with Bill Levay
By Stuart K. Tucker

SKT: When did you begin wargaming?

WTL: I played my first wargame in 1968 when I was a sophomore in high school. It was *1914* by Avalon Hill. Admittedly, the game was quite complex for the time and I felt overwhelmed. Fortunately the experience made me want more, not less, of games.

SKT: What did you do prior to being hired by Avalon Hill?

WTL: By training and profession, I'm an electrical engineer. Initially, I spent six years on active duty in the Navy. Later I worked for various defense contractors such as Sperry, Unisys, Hercules, and Westinghouse.

SKT: What was it like to work in the DOD? How is the environment at Avalon Hill different?

WTL: Well the work I did was certainly interesting, and I was able to indulge in two of my favorite activities— designing electrical circuitry and software programming. Later in my career I did a lot less designing and a lot more managing, organizing and technical writing. While my Avalon Hill job is essentially the same (i.e., software projects), I thoroughly enjoy the creative atmosphere that surrounds game designers. That's not to say that electrical engineering isn't creative, but game designing is more art and less 'out of the book' solutions. I also enjoy *not* having to deal with the mountain of military specifications that have to be met to develop DOD software. I enjoy not having to wear a coat and tie to work every day. I can hang up sci-fi and Star Trek posters without having someone think that "I'm weird."

SKT: Where did you live prior to moving to the Baltimore area? What brought you here?

WTL: Hmm…this'll be a rather long list. I was born in Rome, Italy. Entered the United States when I was seven, and lived in New York city for two years. Lived till high school in Honolulu. Went to high school in St. Pete, FL. Went to college at Tulane in New Orleans. Was stationed in San Diego, Jacksonville, FL, and on the carrier USS Saratoga (CV-60.) Worked in Alameda, CA, Baltimore, Dunedin, FL, and back to Baltimore. The reason I came back to Baltimore was to start a test engineering firm with two friends in 1988. In 1992, the president left to go work at Microprose. In 1995, I joined Avalon Hill.

SKT: What got you interested in military history?

WTL: I seem to have always had a strong sense of history. My father had an immense library (more than three rooms) full of books and was quite knowledgeable about history. Also, being born in Rome and going back to visit, one has no choice but to rub up against history. Finally, while most people here had a father or grandfather that fought in WWII, both my parents were very intimately involved. My mother was an Italian national and witnessed the rise of Mussolini and since she lived in the Piedmont region was behind enemy lines throughout the war. My father was a Hungarian national and watched Hitler brow beat the Hungarians and then he himself fought on the Russian front.

SKT: With the pressures of family life, do you get much time to game outside the office? How do your wife and children view your devotion to this activity?

WTL: Game outside the office? You mean I can get *paid* to game inside the office? Only kidding! Well, this was a problem in the past. However, now I have two kids who are the right age to play these games and I'm in hog heaven. Just think, two opponents built right into the house, ready to play at the drop of the hat. And mom thinks it's wonderful because although she doesn't care for games, she now finds herself with more free time since the kids are focused on playing games with me. *[Now, I am really jealous. How long do I have to wait before my 4-year-old and newborn have such focus?]*

SKT: What is your favorite period for wargaming and why?

WTL: My favorite period is the Pacific from 1920 through the end of WWII. I suppose it has to do with brainwashing <g> but I was an Airedale while in the Navy and the 1920's is when Naval aviation really became exciting. *[The Navy slang, Airedale, refers to the naval air guys who stand apart— by mutual agreement— from the parts of the Navy that do the sailing.]* Also, since I grew up in Hawaii, I couldn't avoid the importance of Pearl Harbor upon the Navy and the United States, plus I grew up watching Japanese language television broadcasts. Instead of watching cowboys and indians, my friends and I grew up on samurai sagas. It gave me a very good insight and appreciation of Japanese culture and psychology.

SKT: What are your favorite wargames to play?

WTL: I like air/sea strategic level games, and near tactical situations.

SKT: What is your favorite non-wargame?

WTL: *AIR BARONS* and (don't laugh) *DINOSAURS OF THE LOST WORLD*.

SKT: Do you have any interests outside the hobby?

WTL: Sci-fi, Star Trek, software programming, making scale models, making pinball machines and photography.

SKT: What was your first wargame design?

WTL: Sadly, I have to admit that I've never designed a game. Naturally, there's a game designer lurking within us all. Fortunately I know my limitations so I've resisted that impulse. It didn't stop me, however, from baiting Don Greenwood one day as he was analyzing a game submission, by saying "gee... now that I work here, I'd like to try my hand at game design." Don gave me the most long suffering look . . .

SKT: What other design, development, programming projects have you done?

WTL: Well, a while ago I decided that I'd like to switch careers. Knowing I didn't have the proper background I decided to create a video resumé. I programmed a computer wargame based on GDW's give away trainer game *Battle for Moscow*. It was a small game and my intention was to create a freeware game that I could post and serve as a resumé. Since GDW was giving the game away to attract people to the board wargame hobby, I thought it would be appropriate to create a give away game to attract people to the computer wargame hobby. At about the time that I was thinking of doing this, Keith Zabaloui published his first *V for Victory* title *Utah Beach*. I was so impressed with that game that I decided to emulate the *Utah Beach* interface and graphics. When the project was about half finished I sent what I had done to receive his approval and blessing. That was in 1993 and we've been friends since. I did do a very minis-

cule amount of work on *OPERATION CRUSADER* but my real life work schedule was starting to approach 80+ hours a week and I just didn't have the time to freelance.

SKT: What part of computer game designing is most time-consuming? Most difficult?

WTL: I think that one of the most time consuming tasks for a good computer game designer is developing the human machine interface, or how the game is presented to the player. A computer game has a lot of horsepower available to it these days. With sound effects, music, video, animation and color, the game can go a long way toward drawing in the player and providing a sense of actually being the commander, pilot or hero. A computer game designer has to balance the immense number crunching capability of the computer with the number of choices that the game presents a player. A designer cannot bombard the player with data, that's what the computer should handle. The data that is made available has to be easily understood and manipulated. If a game has a difficult or non-intuitive manner of communication, it simply will not draw in the player. Conversely, if the game does not do a good job of suspending disbelief, it will not succeed regardless of how good a game design sits under the hood.

The most difficult task has to be the computer opponent. It will be a very long time before a computer program can actually be a better decision maker than a human, especially when the target is a home computer. The greatest strides have been made with chess programs, but the best ones run on mainframes, and they have to manipulate fewer variables: 64 spaces on a "map," one "terrain type" (clear), six unit types, linear moves (except for the knight), a maximum of 16 units per side, one piece moved per turn, and one attack factor with no defense factor. Now, compare that to the variables that have to be considered in just one turn of an *ASL* game. Obviously, the computer opponent is no match to a typical wargamer. However, before you nay say the computer game on this account you have to go back to what I said before about suspension of disbelief. It is my belief that it is possible to create a computer opponent that can give a decent account of itself, that can learn a human player's style, that can have a personality, and thereby give the impression of intelligence. If a computer opponent can evince an emotion out of a human player, then I think it has succeeded. As an example, while playing one game of *ADVANCED CIVILIZATION* the Cretan computer opponent made such a pain of itself that I started concentrating on ripping out its entrails and thoroughly enjoyed every moment.

SKT: What do you think is the most important aspects of a game that the designer has to consider for today's gaming market?

WTL: I am loath to say this, but one of the most important aspect is the flash and sizzle. I say "loath" because I like a good solid game. The problem, though, is that there are so many competing products (many with vastly inferior game systems) that the game has to go out of its way to call attention to itself. A good but plain game will not invite the first look, let alone the second. People will not give it a chance and they won't find out what a great little system is inside.

SKT: How do you view the evolution of the wargame market? Do you think the hobby is adapting well to changing consumer demands?

WTL: Computer wargaming genre is expanding. I think that some of the boardgame people are defecting to computers because of changing (maturing) lifestyles. Computer games don't require additional physical space beyond what you've already allocated for your computer. There aren't zillions of little pieces to be eaten, drooled on, lost, or found in the cat box! Plus, you don't need to scare up one or more guys to come over (as if you all had the spare time at the same time). Since I am a long-time boardgamer, however, I'd like to offer an optimistic view of the future as I've experienced it with my children. I've already stated that my kids and I are playing constantly on the weekends, and I see that they're very interested in the games and the genre. Rather than forcing the games on them, they've grown up with them so that they're the ones that asked me to play. Now, they head to the wargame section of the hobby store and tell me what they'd like to try. It is very satisfying. By the way, these kids will also never give up their Nintendos and Segas. I think they show a good balance.

SKT: What do you see as the most worrisome trend?

WTL: People that *decry* games such as *Magic, the Gathering*. I think that is a very biased and narrow outlook.

SKT: What do you see as the most hopeful sign?

WTL: The number of young people at occasions such as AvalonCon, Origins, etc. Also, the popularity of *Magic*. People that play *Magic* are literate and display a strong sense of strategy and tactics. They may not be tread heads, but they're also not very far away from it. If we welcome them, they'll respond.

SKT: Can you give us a glimpse of your ongoing activities at Avalon Hill right now?

WTL: My job is to find, develop or create new and exciting computer games for Avalon Hill (sounds simple, eh!). I have my ideas of what will make a good computer game. I hope to see my vision carried out. Creating computer games at Avalon Hill has one very distinct advantage. Since we have so many boardgame titles to our credit, we can take many of these designs and computerize them. This gives us the advantage of not having to devote so much time on the game mechanics (they've already proven themselves). Instead, we can devote time to bringing a fresh perspective to the game.

SKT: I have noticed that TAHGC has been taking boardgame favorites and adapting them to computers. What sort of continuity will these provide for gamers familiar with the board version? What sorts of innovations can computer game players expect in these?

WTL: I guess these questions will allow me to summarize what I've been saying. I hope to take these boardgame favorites and give them a fresh perspective. I hope to take some of the tedium inherent in charts, tables and countless die rolls and amalgamate them into a player interface that is easy to use. I draw a distinction between putting a boardgame on the computer and bringing a boardgame to the computer.

A very good example is our latest computer game, *WOODEN SHIPS & IRON MEN*. The boardgame is hex-based with overhead views of the ship units. It has charts, tables and game log sheets (to record ship movement and status). The boardgame has a phase sequence, with plotting and simultaneous movement. The computer game offers an isometric view of the action and looks quite a bit like a miniatures game. It offers sound effects and music to capture the theme. Movement plotting is done by clicking on a ship and steering a ship's wheel. The range is well represented and movement is not restricted to the six directions of a hexagon grid. Damage is presented more intuitively by either looking at the ship, by looking at bar graphs in the corner of the screen, or by going to a separate screen to quantitatively see the amount of damage to sail, hull, guns or personnel. Assigning the crew can either be done by clicking on a ship's position (sail, guns, boarding party or repair crew) and typing in a number, or by just using the mouse buttons alone. The phases can now be done in any order with no affect to the game mechanics. As you can see, the game mechanics have been preserved, but this is no mere conversion. It is a game that stands on its own merit and overcomes the limitations imposed by cardboard, paper and pencil. ★

WHEN BAD THINGS HAPPEN TO GOOD WEAPONS

How Weapons Break in ASL By Perry Cocke

Upon firing a weapon, it may become accidentally broken in two ways.

You can either roll greater than or equal to its elimination number (X#), which means it is disabled (removed for good) or you can roll greater than or equal to its breakdown number (B#) but less than its elimination number, which means it has malfunctioned, but may be repaired. Some weapons have a breakdown number on the counter (for example, a B11 means it malfunctions when you roll an 11 or higher while firing it). Others have an X# (for example, X10 means it is removed when you roll a 10 or higher while firing it). Still others have a Low Ammo B# (LA#—D3.7) as signified by having a circled B# shown on the counter. These weapons malfunction on a roll of 12, but have a Low Ammo counter placed after rolling greater than or equal to their LA#. Thereafter, they have an X# equal to their original LA#, and a new, regular B# one lower than that original LA#. Weapons without any B# or X# shown have a B# of 12.

Medium Machine Gun (SW) A9.

Breakdown number A9.7
Firepower A9.1

Flamethrower (SW) A22.

Removal Number A9.7
Firepower-Range

A weapon's inherent B# or X# can be lowered due to various reasons, all of which are cumulative (A.11). Any of these reasons which lowers a weapon's B# also turns its Original B# into an X# (A.11). Sustained fire, intensive fire, capture use, non-qualified use and non-Finnish Axis extreme winter usage all reduce a weapon's B# or X# by two. A German MMG being fired by an American unit would have its B# reduced by two—and would be removed on a roll of 12. If it were being sustained fired, its B# would be reduced to 8 but it would still disable on a 12, its original B#. No matter what penalties are incurred, a German machinegun's original B# is a 12 , and its X# will never be lower than that.

A circled B11 gun suffering non-qualified use penalties would disable on a 12 (its original B#), malfunction on a 10 or 11 (two lower than

originally), and would have a Low Ammo counter placed on an 11. (There is no provision for lowering the LA#.) If it was also using intensive fire, it would disable on a 12, receive a Low Ammo counter on an eleven, and would malfunction on 8 through 11.

Inexperienced use and Russian extreme winter use lower the B# or X# of a weapon by one. A Russian LMG being fired by a conscript would have its B# reduced by one, to 10, and would disable on an 11 or 12. A Panzerschreck being fired by a German conscript would have its X# reduced by one, to 9; one fired by a Russian conscript would have its X# reduced by three, to 7.

Ammunition shortage lowers the B# or X# of a support weapon by one (and turns its original B# into an X#), but it affects guns much differently. It changes a gun's inherent B# into a LA# one lower than the inherent B#, although guns with an original LA# instead start off with a Low Ammo counter in place. During an ammunition shortage, a gun with an original B11 would disable on an 11 or higher and have a Low Ammo counter placed on a 10, after which it would disable on a 10 or higher and malfunction on a 9. If it were also using intensive fire, it would disable on a 10 or higher and malfunction on 7 through 9. During an ammunition shortage, a gun with an original circled B11 would begin play with a Low Ammo counter and thus would disable on an 11 or higher and malfunction on a 10. If it also suffered unqualified use penalties, it would malfunction on an 8.

These issues are *not* crystal clear in the *ASL* rule book. I have interpreted them several different ways over the years. The other editors of *Multi-Man Publishing* and I struggled long and hard before coming to the conclusions above. Below are some of my thoughts on the subject.

Plenty of players (myself included at times) have applied the cumulative effect of increased Breakdown frequency to both the weapon's B# and its newly acquired X#. When intensive firing a captured gun, for instance, we would first change the original B# to an X# and lower the B# by two, making it a B10/X12 Gun, and then change the B10 to an X10 and drop the B10 by two more, making it a B8/X10 Gun. The problem here is that a weapon only has one *original* B#. Whatever penalties are incurred by a German HMG, its original B# will always be 12. So when A.11 says to change the HMG's original B# to an X#, that new X# will always be 12, no matter how many times the B# is lowered by other penalties.

I have also had a tendency in the past to confuse a gun's original LA# with its original B#. The wording of D3.7 probably had something to do with this, but the two are separate. Indeed, they have separate listings in the index. All guns with a circled B# have an original B# of 12 (i.e., they malfunction on a 12). When these guns suffer one of the usual breakdown penalties (such as for intensive firing), their LA# is unaffected, while their original B# of 12 becomes an X# and their regular B# is lowered by two, to 10. Only after they have a Low Ammo counter placed on them, does their original LA# (by the grace of D3.7) become an X#.

I have on occasion, in the heat of battle, placed a Low Ammo counter on a circled B11 gun that rolled a 9 while intensive firing, but this was wrong (see a correct example above). There is no indication anywhere that a gun's LA# would *ever* be lowered. B#s and X#s are lowered, and LA#s can become an X# or a lower B#, but none of the penalties affect the LA# itself.

There is little doubt that, given the chance, I once may have said that a B11 gun during an ammunition shortage would not only start out with a Low Ammo counter in place but would also have its LA# reduced by one. Reading A19.131 might lead one to this belief when it says "all vehicles and guns are considered to have a circled B# (D3.71) one lower than their inherent B# during an ammunition shortage." On careful reflection, however, I believe that if that were the case, the following sentence would read "In addition, those which already have a circled B# start play with a Low Ammo counter already in place." I am sure the reader would be more confident of my interpretation if the sentence started "Instead…" but I am convinced that during an ammunition shortage a LA# gun does not have its LA# lowered, but only starts out with a Low Ammo counter.

Malfunctioned; subject to Repair A9.7

Repair Number C2.2
May fire Illuminating Rounds C8.7
Removal Number C2.2

BREAKING DOWN THE NUMBERS
Figuring the Odds of Malfunction or Disabling of Your Weapon in ASL

By Mike Clay and Morgan Samuels

You've just captured an enemy Panzerschreck (PSK), its previous owner having been eliminated for failure to rout. A good stroke of fortune for you, since the Germans have a Jagdpanzer V on top of the hill that you must take, and your own PIAT will not be able to defeat its frontal armor, barring a Critical Hit.

As you maneuver the squad into firing position, you wonder how many shots you can expect to get out of this new acquisition to your arsenal. You wonder which will happen first, a hit and a kill on the Jagdpanther, or rolling the breakdown number for the PSK and its removal from your armory.

This situation occurred in a recent game, and we bet many similar situations have happened to you. Every support weapon in ASL is subject to the possible misfortunes of malfunction (B#) or elimination (X#). We would all like to peer into a crystal ball and know when we are going to roll that B# or X# for our valued support weapons (SW) and guns. Well, we have no such crystal ball lying around, but we have the next best thing, a table of the average number of shots expected for every combination of breakdown number, elimination number and repair number. Using the accompanying table, we can check how many shots we are likely to get before any SW or gun is removed from the board, whether due to having rolled its X# or having rolled its B# followed by rolling a "6" on a repair attempt (R#).

In the case of SW and guns with an X#, consult Table 1. For example, that field phone that your platoon sergeant has been talking about has an X# of "12" but no B# or R#. Looking at the row for X#12, we can see that it will average 36 calls to Lieutenant Reinsch of the battalion's mortar company before that field phone will be removed from the board for having rolled boxcars. Considering that radio contact or maintenance could be attempted twice per game turn, this means that we probably won't see the demise of the field phone due to having rolled a "12" on the contact or maintenance attempt in a typical ten-turn scenario.

Table 1. Longevity of Non-Reparable Weapons
(those with original malfunction numbers)

Modified Elimination Number	Average Shots Before Removal from Play
X12	36.0
X11	12.0
X10	6.0
X9	3.6
X8	2.4
X7	1.7
X6	1.4
X5	1.2
X4	1.1
X3	1.0

That flamethrower which Corporal Kreiser used to such great effect against remnants of the Soviet 138th Rifle division in Stalingrad got twelve shots before it ran out of fuel in one scenario. Considering that the average number of shots for an X10 weapon is six, Corporal Kreiser was doing a lot of damage with a very light pull on the trigger. Maybe it is time for his promotion to an 8-0!

A captured PSK (X8) would be expected to get only 2.4 shots before its removal from play. Make the most of every shot for such a short-lived weapon! For that matter, you might well want to *not* use it, but instead keep it around as a threat.

How about some SW that have both a B# and a R#? How will they stand up? How many shots can we expect from that German heavy machinegun (HMG) that we have pointed down the road? Take a look at Table 2 for the answer. Since the HMG is a B12 and R3 (see the column marked "X# none"), we see that the average number of shots before it is malfunctioned and subsequently becomes disabled is a whopping 144! Considering that we are playing an eight turn scenario, even if we get much better than average rate of fire, it is unlikely to see the HMG removed from the board during the course of the scenario for having been disabled after a malfunction (if we don't use sustained fire during the course of the scenario).

Table 2. Longevity of Reparable Weapons
(average number of shots of those with original breakdown numbers)

Original breakdown numbers and repair numbers of weapon:

	B12			B11			B10		
	R1	R2	R3	R1	R2	R3	R1	R2	R3
	72	108	144	24	36	48	NA	18	NA

Net Modified Breakdown Number	Original breakdown number becomes elimination number when penalized								
	X12			X11			X10		
	R1	R2	R3	R1	R2	R3	R1	R2	R3
B11	18	22	24	NA	NA	NA	NA	NA	NA
B10	10	13	16	8	9	10	NA	NA	NA
B9	7	9	11	6	7	8	NA	5	NA
B8	5	6	8	4	5	6	NA	4	NA
B7	3	5	6	3	4	5	NA	3	NA
B6	3	4	5	3	3	4	NA	3	NA

What if we do use sustained fire? What then can we expect from our meat-chopper? Well the German HMG using sustained fire falls into the category of B10/X12/R3 (see Table 2). We can see that the average number of shots expected falls from the superb 144 down to a much more fragile 16 shots! Frequent sustained fire shots from this weapon could mean its removal from the game in even a moderately short scenario. The lesson here is that even the best SW are removed from play with a much more alarming frequency when used with lowered breakdown numbers (e.g., ammo shortage, inexperienced infantry, sustained fire, extreme winter). Use sustained fire sparingly! If that same German HMG were subject to both the sustained fire and ammunition shortage penalties, it would be a B9/X12/R3, giving us a measly 11.1 shots per game. Heavy and medium machineguns are always more reliable for the same breakdown number than any SW or gun with an R1 because their higher repair number makes them more likely to be repaired than the R1 weapon.

Speaking of repair, what effect does malfunction play into the results presented in the accompanying data table? Table 2 reflects the exact average number of shots that you would get from these weapons with unlimited time. Of course, in a real scenario we don't have unlimited time, nor can we expect "average" luck, and it often takes several rally phases to repair a SW once it has malfunctioned. In a short scenario, we might never get the weapon repaired once it malfunctions, and so we might have gotten only two or three shots from it in the course of the scenario. Don't expect your opponent to be sympathetic!

When we start a new scenario, we always look over the OB to get a feel for how long the SW and guns in both orders of battle are likely to last. We want to know things like how many shots we can expect from our flamethrowers. This will help us to decide if we want to risk long range shots with them or shots versus concealed units, or if we want to take only full firepower shots. Or when our German MMG and manning squad ELR break to conscripts and then later rally, should we wait a turn and transfer the MMG to a non-inexperienced MMC? Or should we go ahead and fire the MMG now at a target of opportunity, risking a greater chance of malfunction? On the attack, there is a reasonable chance that the defender's artillery piece might fall into our hands. When it does, we want to know how many shots we can expect from it. The breakdown number, and thus the expected number of shots from that captured weapon, depend on who is manning the gun. Is it worth moving a crew up to man this captured weapon, or will a half squad suffice? Should we use this gun strictly against enemy vehicles, or take a shot at enemy infantry moving in the open? The data in Tables 1 and 2 can help you to decide these tactical decisions. We hope that you find this data useful in helping you make judgement calls with your SW and guns in ASL. ★

Letters

Would like to see more Series Replays, but not just new games. Game variants are great!

—Idaho

Solicit gaming groups to submit articles about their groups/clubs/etc. with pictures and have "human interest" articles. Publish an extra page of letters.

—Virginia

[Let me reiterate our standing invitation to clubs to submit human interest and club material that may interest the wider readership. SKT]

Still would like to see articles (from AvalonCon winners, for example) on strategy in older, out-of-print games which are still being played.

—Maryland

Very much like your present magazine format. Also pleased with your market balance of board vs. computer games.

—Colorado

Theme issues two to four times a year are good. *ASL, A3R* articles are good, so are annuals to supplement interest. Some of your articles induced me to buy games (surprise). I even like history articles (i.e. Lafayette, *ASL* armies, etc.). I don't play that often but I enjoy reading.

—Virginia

Most of my gaming is on computer and most (but not all) of your computer games have received poor reviews. Glad to see you guys into computer games, but conversion of boardgames to computer is a bad idea. Although your boardgames are great, they fail to utilize all the abilities of a computer. See Clash of Steel for a great wargame. Am disappointed at your breakup with Atomic games. Despite computers, I'm still an *UP FRONT* die-hard. Good Luck.

—Kentucky

I enjoy boardgames more than computer games, but due to ease of setup/saving games, time scheduling opponents, I play more computer games. I would prefer the human interaction of a boardgame though.

—Virginia

Don't forget the *traditional* boardgamer.

—West Virginia

I'm concerned about "where did all my free time go." Find there seems less time to do games then years ago. I'm also tired of learning new game systems all the time. I liked the classics. You could play one (any one) and get right into it. The learning curve was low.

—Connecticut

I believe you are mistaken in gearing *The GENERAL* toward computer games— those gamers will seek information elsewhere. I miss Rex Martin. I want more letters to the editor (get rid of the decoration and go back to smaller type). How about a "basics" series on *ASL*?

—California

I don't have much time to play games. *The GENERAL* allows me to stay in touch with the hobby. There's been a lot of improvement over the years— keep it up!

—Texas

There are dozens of computer game magazines; stay a boardgame magazine. Advertising TAHGC games in other magazines and in other media would help bring others into the hobby. Get back into toy stores. Distribute the magazine through mainstream outlets.

—Pennsylvania

I'm still waiting for my computer version of *Third Reich.*

—New Jersey

On coverage of other companies' games: do only those that compare or are similar to Avalon Hill games. On coverage of out-of-print games: just because a game is no longer printed doesn't mean it can't be played. Interest may be sparked in those who don't own the game and may bring demand for the game to be printed again.

—Ohio

I subscribe only to get *ASL* materials.

—Illinois

Need more scenarios and counters and boards for *Panzerblitz, Panzer Leader, Arab-Israeli Wars* or Korean *Panzerblitz*-type games and boards. Snow-covered boards are very important!

—New York

If the bulk of the hobby is pale, pudgy, white males with facial hair (based on the AvalonCon photos) we have a serious image problem. *ASL* articles are poor, with too many typos, errors, etc.

—Washington

[The sedentary, contemplative life-style of strategy gaming does tend to take over our lives a bit much, but then again, desk jobs in today's society do quite a number on us as well. Hey, Don, I thought those were preconditions for entering the finals in every AvalonCon tournament. Actually, my wife insists that I keep my beard. As for the pale faces, I think we could use a better camera and backdrop next time. SKT]

The GENERAL is a good magazine, but like the Company, must realize that the number of WWII games and eastern Civil War games is now overkill. I beg you to ask readers if there is a marketable interest in other wars. The *GERONIMO* game is a step in the right direction. Please, please remodel the old *GUNS OF AUGUST* game.

—New York

Bring back some of the old games: *1914, GUADALCANAL, FRANCE 1940, AIR ASSAULT ON CRETE.* Get rid of Smithsonian games…kids stuff "for ages 12 and up" makes it uneasy for a 35-year-old to buy. Too much coverage of AvalonCon and computer games could make me drop the subscription.

—New York

[I find it interesting that this is said by a guy who started playing Avalon Hill games at age ten! I believe the term "12 and up" is a commonly accepted denotation of people interested in adult-oriented games. I think that anyone who opens a Smithsonian game will see that simplicity in design and presentation does not necessarily eliminate subtlety of play. SKT]

The best game company is Avalon Hill. The best game magazine is *The GENERAL.* Great job!! Keep it up.

—Arkansas

You don't cover many games I have any more, and I'm not motivated to buy many of your new titles. Aside from your lack of coverage, I really like the quality, especially the graphics, of *The GENERAL*

—Oklahoma

Please do not split Series Replay articles over two issues. Can you remember where a game stood for two or three months?

—Pennsylvania

Enjoy Stuart's presence on GEnie! My current computer is obsolete. When we get a new Pentium I expect game time and interest to rise considerably. *The GENERAL* has always been a class magazine, regardless of variation in article emphasis. Please continue the potpourri approach.

—Kentucky

Had hoped for more computer issues.

—Sweden

More Replays, especially new games. Have at least one per issue. Have more stories that were generated by actual games played (game results are written into story line).

—Michigan

I would like more articles on older out-of-print games and how to find their parts.

—Virginia

AR: Adult gamer looking for FTF in Hope, AR area. Michael C. Marks, 1103 S. Elm, Hope, AK 71801, (501)777-5982.

CA: FREE Lessons! ASL advanced tactics instructor seeks new students for FTF instruction. Learn from the best to become the best! ASL Institute of Advanced Tactics. Earl Ryan, 2831 Juniper Dr., Corona, CA 91720, (909) 736-RYAN

CA: Expierenced A3R player seeks FTF in greater LA area for A3R, ERS, and your favorites. Dennis Clark, 1865 Wagner St., Pasadena, CA 91107, (818) 795-2630.

CA: Seek local AH game players who think they can run or hold a fortified gauntlet! Tom Walker, 2889 El Sobrante St., Santa Clara, CA 95051, (408) 241-8180.

CO: Denver Area wargamers! I am looking for opponents to play vast library of games. Sontact: Scott Johnson, 2039 Shiloh Dr., Castle Rock, CO 80104, (303) 660-2029.

FL: Experienced gamer seeks FTF opponents along Treasure Coast for WSIM, SOA, SST, W&P, others. Charles Lobdell, 1150 Carlton Ct., Apt. F, Ft. Peerce, FL 34949, (407) 464-1325.

ID: ASL, KM, RB, SUB, UF WSIM, know many more. Prefer ASL. Kevin Knoell, 506 Chestnut St., Mtn. Home, ID 83647, (208) 587-2354.

IN: In Louisville, KY area. Wanted: club, FTF, PBM for A3R/3R, GOA, TRC, 1776 or others. Greg Edwards, 1315 Georgetown-Greenville Rd., Georgetown, IN 47122, (812) 951-3909.

IN: FTF in Lafayette area. Will play most historical games. Carl Schwamberger, 1212 N. 18th St., Lafayette, IN 47904, (317) 742-0998.

IN: FTF in or near Lafayette. Will try most wargames. Carl Schwamberger, 1212 N. 18th St., Lafayette, IN 47904, (317) 742-0998.

MA: Anyone playing the classics anymore? Moderately disabled adult gamer (46) seeks FTF; BZK, SGD, AK, plus my own version of Europe 1939-45. Write to: John K. Modugno, 23 Albany Circle, Beverly, MA 01915-1234.

MA: "Paydirt" NFL team charts from 1973, 1974, 1975 seasons. Desperately looking for these years. Make me an offer. Peter Vorias, 48 E. Grand Ave., Old Orchard Beach, MA 04064, (207) 934-2286.

MD: Seek FTF play in Balto. City ASL, TRC, others. Also interested in buying a copy of Gettysburg '77. Damon Norko, 3217 Guilford Ave. #1, Baltimore, MD 21218, (410) 366-8826.

MI: PBM for PL/PB, ASL, others. Area if desired. Playing since 1972. On-line, also, or FTF. Herb Diehr, P.O. Box 970718, Ypsilanti, MI 48197-0812, (313) 461-3304.

MN: WAT, DD '65 opponents wanted for rated PBM. Pat McNevin, 12985 Raven St., N.W., Coon Rapids, MN 55448, (612) 754-5140.

MO: Veteran gamer seeks PBM opponents. Serious reliable adults only. PZB, PZL, BB, MD, etc. Ray Chapin, Rt. 1, Box 56B, Mtn. Grove, MO 65711, (417) 948-2628.

NC: I know you're out there. Make contact for FTF gaming in triangle. WTP, HWD, RFT, TPS BB'81, A5A and others. Jim Falling, 605 Jones Ferry Rd., Apt. TT10, Carrboro, NC 27510, (919) 932-7901.

NJ: Experienced gamer looking for FTF, GOA and CIV variants. D77, SGD '77, most others. Jim Chambers, 87 Candace Lane, Chatham, NJ 07928, (201) 635-2096.

NJ: Wanted: Opponents for PBM SL, BKN. PBM helper for ASL. Any multiplayer A3R PBM. Larry Balawender, 608 Huff Ave., Manville, NJ 08835.

NJ: Just moved to southern NJ. Opponents wanted for EIA. Willing to learn/play others especially W&P, WSIM, CIV, RFN. Michael Fottler-Gurley, 289A Indian Mills Road, Shamong, NJ 08088, (609) 268-3017.

NY: New to New York. Looking for FTF ASL opponents in the Newburgh/West Point area. Jeffrey Musk, 4175 Sluga Drive, New Windsor, NY 12553, (914) 567-3926.

NY: TP:S opponent wanted by 27-year-old novice. Anthony Burnet, P.O. Box 1472, N. Mass., NY 11758, (516) 731-4354.

NY: Strat-O-Matic Baseball FTF opponent wanted by experienced 27-year-old. Anthony Burnet, P.O. Box 1472, N. Massapequa, NY 11758.

NY: Looking for FTF, SJW, HCR, RTG and A5A. William Voll, 2810 Moreland St., Yorktown Hts., NY 10598, (914) 245-4636.

PA: Gamed in my youth, looking to begin anew. FTF/PBEM PL, 3R, SL. Lehigh Valley Adult/Teen gamers welcome. Bob Meledandri, Jr., Box 3293, Allentown, PA 18106, (610) 398-5376.

PA: Adult gamers wanted for FTF in PB, PL, RF, TRC, TPS and many more. Keith Althouse, 519 Bickel Dr., Hamburg, PA 14526, (610) 562-2089.

PA: Novice player looking for FTF of Feu at Avaloncon '96 Email: Cross@leba.net. James D. Cieland, III, 921 Maple St., Lebanon, PA 17046, 273-9753.

PA: Opponent wanted for ASL/SL, TCA, and GSR games. Write to: Candy Walker, 3343 Webster Ave., Pittsburgh, PA 15219.

PA: Experienced gamer looking for FTF players in Phila., Trenton, Princetown area. I'll play anyone on one or multiplayer game. Bill Livesey, 105 Garden Ridge Circle, Yardley, PA 19067, (215) 428-1335.

TX: PBM opponent for TRC, AK, Waterloo, Midway. e-mail: hollern@hasting.com any WWII. Larry Hollern, 4452 Ridgecrest Circle, Amarillo, TX 79109, (806) 351-0566.

TX: Play DIP by mail! For a sample of Maniac's Paradise, write Douglas Kent, 10214 Black Hickory Rd., Dallas, TX 75243 or e-mail 73567.1414@compuserve.com.

TX: Diplomacy World is the flagship 'zine of the PBM DIP hobby. For info write Douglas Kent, 10214 Black Hickory Rd., Dallas, TX 75243 or e-mail 73567.1414@compuserve.com.

TX: Jutland, RFT, LFW, FLD, Waterloo, SUB, G88, B88, m64, F40, Shot and Shell, Iron-Clads Shenandoah. John Cates, Rt. 1, Bx. 481, Huntsville, TX 77340.

VA: Hey Hampton Roads, I would really love to find opponents for A5A, ASL, A3R, BKB, BKN, PZB, SJW. Other titles possible. Call Dave O'Dell (804) 440-9061, Norfolk, VA.

Opponents Wanted

Avalon Hill does not vouch for the character or business practices of any advertisers.

CLUBS

CANADA: The Winnipeg ASL Club want you. Join us for the '96 campaign. All levels of experience welcome. Contact: Bill Bird (204) 783 2186.

CA: ASL Club seeking new members. New ASL players can enter ASL University. Contact Philip Manoff, 1853 Delancey Dr., Salinas, CA 93906, (408) 442-0433.

CT: Connecticut Game Club. Monthly meetings, 2nd Saturday of every month from noon to midnight at the Comfort Inn of Darien, CT. Contact Phillip Spera, (203) 332-0410, or email: CGCSBS@aol.com, or write POB 403, Fairfield, CT 06430-0403.

CT: Connecticut ASL Players Open Gaming Days, Sunday, June 2, 1996; Sunday, September 8, 1996. My office is located in the Little Italy section of the city of Hartford. Can accommodate 10-12 ASL players. Scott Brady, (860) 871-8740.

FL: The Tampa area ASL group invites all ASL players to join us on weekends for friendly competition and for Schwerpunkt '96, The Florida ASL Tournament, Nov. 9-10. Evan Sherry, 503 Manatee Dr., Ruskin, FL 33570, (813) 645-6264.

FL: Join our growing gaming group in Sarasota, FL. For more info call Mike Bakken at (941) 355-3429 e-mail: M.BAKKEN@GENIE.GEIS.COM. Mike Bakken, 5016 Medalist Rd., Sarasota, FL 34243.

IL: Game club in Chicago area. We play ASL, A3R, DIP, MBT, VIP and many more. Louie Tokarz, 5724 W. 106th St., Chicago Ridge, IL 60415, (708) 857-7060.

MA: Saturdays are ASL time here at the Bunker! The Southern New England ASL Players Association. Vic Provost, 1454 Northampton St., Holyoke, MA 01040, (413) 536-9661.

MD: Games of Maryland meets every other Wednesday. We play TT, HOW, CM and numerous other games. Players of all levels welcomed. Happy to teach new players and learn new games. Contact: Keith Levy, 7310 Kathydale Rd., Baltimore, MD 21207, (410) 653-2735.

OH: ASL club formed! We play once per month. Other games also, contact Peter Shelling, 2177 Rexwood, Cleveland Heights, OH 44118. (216) 321-4184.

OH: Tri-State-Con, May 10 & 11. Cincinnati Adventure Gamers, call (606) 525-2080, send e-mail to JCuculic@aol.com, or write to Cincinnati Adventure Gamers, P.O. Box 17, Monroe, OH 45050.

PA: Eastern Pennsylvania Gaming Society. Meetings are held at the Inn at Plymouth Meeting, located at Plymouth Road and Germantown Pike in Plymouth Meeting, Pa. Call Steve at (610) 352-3126.

TX: Austin, TX ASL Club. Call Matt Shostak, (512) 280-8414.

TX: Interested in amateur multi-player PBM gaming? Send a SASE for a sample of Pontevedria; the listing of North American 'zines and GMs. W. Andrew York, P.O. Box 2307, Universal City, TX 78143.

FOREIGN

Brazil: PBM opponents wanted for FE. Either side. Will help you learn old games like this. Gregory Straw, Amcongen Rio De Janeiro, APO AA 34030.

Canada: Lower mainland resident looking for opponents for GOA, DD, A3R. Willing to try others, too. Contact Garry McFarland, 24590 16th Ave., Langley, B.C. Canada C2Z 1J9, (604) 534-8378.

Canada: Looking for people to play BP by mail. I am a beginner, but will play an opponent. Shandy Ardern, R.R. #5, Shawville, Quebec, Canada J0X 2Y0, (819) 647-5094.

Estonia: Looking for opponents in the Baltic (Riga, Helsinki). ASL, BKN, WWII mainly. Raymond Woloszyn, Imanta 41-36, EE-0001 Tallinn, Estonia.

Germany: Adult gamers wanted in Germany, KMC area, FTF, play ASL, AK, PAA, TPS, WSIM, others. Martin Bacon, PSC #2, Box 5601, APO AE 09012, Phone 0631-51579.

Italy: Opponents wanted for BKBD, VRIT, CM, GL, GSL, KM, ROR, SOJ, TRI, CL, CAE. Contact: Deponti Ezio, Via Ciccotti 8, Milano, Italy 20161, Phone: 02/6460148.

Japan: Don't give up your hobby if you come to Japan! Join J.I.G.G. Call Mike 03-3824-7946. Levom Birms. 2659-4 Tsukahara, Minami Ashigara, Kanagawa Japan 250-01.

Japan: Opponents wanted for PBM, Col. Dip, Quebec Libre, Canadian Civil War, Indianomacy Dip Variant, United Nations and others. Kevin Burns, 2659-4 Tsukahara, Minami Ashigara, Kanagawa 250-01 Japan .

Japan: Free membership. DIP, COL DIP, Brit. FTF PBM 'Zine Available Members World Wide Write or call Kanagawa International Wargamers, La Kasa Inove #105 Iwahara 144-3, Minami Ashigara, Kanagawa 250-01 Japan, Phone 0465-74-8767.

FOR SALE

Feudal, Jutland, Third Reich, Kingmaker, Richthofen's War, Blitzkrieg, Anzio, France 1940, Twixt, Oh-Wah-Ree, Go, Executive Decision, Stocks and Bonds, PanzerBlitz. Owen Curtis, 14 Sweetbriar La., St. Louis, MO 63122-5130.

At The Kiosk

By Glenn E. L. Petroski

GMing PBM Competition

A year ago I wrote an article about the pitfalls of organized PBM competition, most particularly how frail the system can be. Under discussion were the problems with players, most especially with GMs and with the unforeseen effects of personal life on the whole system.

It was my intention to make it clear that I wasn't real keen about the whole concept. Nonetheless, I sincerely wanted to help everyone who might be having problems of any kind. So, I offered my services to assist in ironing out any difficulties.

There is now another memo in my notebook of life: "Do not offer to assist efforts which you would otherwise discourage." In short, the whole thing has backfired, in more ways than one.

My most tentative offers of assistance have gotten me deluged in mail asking for information on PBM competitions. High on the list are offers to GM more competitions, if I will only help out with a little advice and encouragement.

Your enthusiasm is as contagious as any. I am getting into this. I enjoy helping. The entire reason that I write this column is to encourage our hobby. Quite by accident, I am now PBM coordinator, among other duties, and I am enjoying it!

Back to the question at hand. What is required to GM a PBM competition?

1) Have a very good knowledge of the game you wish to GM. It should go without saying that to GM or judge anything you need to know it well enough to be an authority on the subject.

2) A willingness to do the job to the best of your ability, no matter how limited that ability may be at this time. I assure you, if you take on the responsibility, you will learn as you go.

3) A commitment to your fellow players. Before starting you must realize that to start a PBM competition, or to take over GM duties for one, is a 5- to 10-year commitment. Life will have to be dealt with along the way. You may not be able to fulfill that initial promise, but you must be willing to do everything in your power to see it to the end. When the time comes that you cannot, be ready to smoothly pass it to a successor.

This is all that you have to do. But let me add some other advice:

WORK—The work is not hard. Usually it is not large. It may take six or more months to organize yourself and collect some prospective players. Then, you will have a one-month flurry of activity every two years (on average) to match up the next round. You must be willing to promptly reply to the mail and phone calls that you will receive. This about sums up the actual work involved.

METHODS—Beyond the above, you are free to run it any way that you might like—house rules, game system, your own scoring or point system. As long as it is unbiased, it is all yours. A ladder system is the simplest to understand and to administer. Fast players tend to end up waiting for rounds to end, but it saves everyone's sanity.

GAME RULES—Stick as close to the published rules as is practical. PBM is usually cumbersome. Any deviation from what players already understand, no matter how slight, is likely to cause problems. Some adaptation will be necessary, but keep it minimal.

VARIANTS—Forget it!

OPTIONAL RULES—*NOT* recommended!

NUMBER GENERATORS—I have found that the random number tables work best. But they require simultaneous mailings, or phone calls at some point. Every system has its snag.

CODE OF CONDUCT—Get copies of signed codes of conduct from every player, preferably for every game. This is not to say that anyone is intentionally difficult, but everything then becomes crystal clear in everyone's mind. The act of signing codes usually does away with the need for them. Ironically, not having them usually causes the problems that require them.

RECORD KEEPING—Make sure that everyone, especially yourself, understands it. Keep it simple.

PLAY YOURSELF—Some GMs try to remain unbiased by not playing. Unfortunately, they lose touch with the system they have created and the players they serve. You won't understand what you are putting your players through when you are not going through it yourself.

ASSISTANTS—Recruit two assistants from your players. Two of your more knowledgeable and reliable players. Make sure that they understand that they will have to take over if you have to bow out. Be sure that the other players know who they are and have confidence in them. Your assistants should make rulings on any game dispute which involves you.

IN WRITING—Virtually everything should be written. Even if you make a ruling by phone, back it up with a letter. Keep a copy for yourself. Any rulings, house rules, PBM adjustments, in turn, should go into an information packet for your players.

STAY IN TOUCH—Even when everything seems smooth and quiet, drop a round of post cards to your players. Let them know that you are watching. Keep them all informed of rulings you have made, of changes of any kind and of tangles and delays in your private life which will affect PBM scheduling.

GRAND POO BAH!—Don't second guess yourself. Set, stick with and enforce your own policies. Don't let anyone tell you how to run the show, during any round of play. Be consistent. Be in charge. Listen after each round. Analyze, review and adjust your policies as you go, as you plan for the next round. But don't be buffaloed by someone else's ideas. However, if you abuse your power, your players will quit. This will leave you without any power, any friends or any hobby. Nonetheless, be firm. Do what you feel is best.

APPEALS—Forget it! You are the GM. You are in charge. There is no reasonable appeal process that isn't going to create more problems than it cures. Make a judgement call when you must, then check it out yourself. Reverse yourself later, if you must, with profuse apologies.

MISTAKES—You are going to make some. Admit them and fix them, in writing. Then go on. Don't try to undo the past. Do your best not to repeat your errors.

ADVICE—Accept advice and weigh it carefully. Use that with which you are comfortable. You cannot and will not please everyone. Don't get ulcers. Don't destroy your own game system trying to please critics who will never be satisfied. Your competition won't work if it is watered down with everyone's ideas.

FOCUS—Concentrate on the one game that you run. Don't concern yourself with VIP, WSM, PZL, NVW, DIP, WRS or how any of the others are done. Don't hesitate to borrow ideas that fit. However, the way someone else does it may have no relevance to your particular game!

RESPONSIBILITY—Since you are Game-Mastering, you have to make all of the final decisions. You, and you alone, will be ultimately responsible for those decisions and the outcome. Examine advice offered. Then accept, reject or modify as seems best to you. Whatever you do, set a desired result and keep your eye on that.

With every idea, ask yourself:

1) How will this ultimately affect the end result?

2) Is this the effect or the result that I want to see? Is it the effect that my players really want?

3) Will the side effects contribute to, or detract from, the desired result?

Every decision will have side effects. It becomes a matter of what those side effects are, and what they will cause.

That is a fast run down. More specific help is available from myself, as well as from others, who have been doing it for quite some time. References are available.

Next issue. I will share a bit more on this subject. I also intend to cover what I will ask of you in return for my help and support.

KIOSK...*(Continued from page 55)*

REPORTING IN:

• *ADVANCED CIVILIZATION:* Needs a GM! I currently know of no PBM competition in progress, but I have a number of interested players asking questions.

• *ADVANCED SQUAD LEADER:* A PBM ladder has started by my famous predecessor, Russ Gifford. Contact Russ at 320 E. 27th Street, Sioux City, NE 68776. (402) 494-8746.

• *AFRIKA KORPS:* Well known Joe Beard is the GM for this continual PBM favorite. 3822 E Sahuaro Drive, Phoenix, AZ 95028.

• *BATTLE OF THE BULGE 1981:* Off and running. First round has just been matched up. A quick response now may get you into the round. Contact Mark Poulson, 204 E. Cannon, Lafayette, CO 86026.

• *GETTYSBURG ('88):* Chuck Synold has begun a PBM competition. Prospective players need to contact Chuck at 408 Annie Glidden Blvd., #4. Dekalb, IL 60115. (815) 756-7314.

• *PANZERBLITZ:* Searching for a GM! I believe that there is PBM competition in progress and I have interested parties. Who is interested in running a PZB-pbm AREA competition?

• *PANZER LEADER:* Alive and well! Thriving PBM competition is being run by Jim McAden, Route 2, Box 42, Millbrook, NY 12545.

• *RUSSIAN FRONT:* Needs a GM! I currently know of no PBM competition in progress, but I have a number of interested players asking questions.

• *STALINGRAD:* John Grant GM's a long standing PBM competition. Contact him at 198 Brookdale Road, Stamford, CT 06903. (203) 329-7837.

• *THE RUSSIAN CAMPAIGN:* Current Champion is C. J. Sorbello. 35 players on the roster. New players welcome in what is a tightly run, no excuse, competition. James H. "BJ" Bjorum, 4029 Rooney, Corpus Christie, TX 78413.

• *THIRD REICH* (4th edition): Needs a GM! I currently know of no PBM competition in progress, but I have a number of interested players asking questions.

• *VICTORY IN THE PACIFIC:* We have a thriving competition going here, and more are always welcome. Contact me for more info.

• *WAR AND PEACE:* Needs a GM! I currently know of no PBM competition in progress, but I have a number of interested players asking questions.

At your service,
Glenn E. L. Petroski
210 W. Hunt
Twin Lakes, Wisconsin
53181-9786
(414) 877-4178

★

A.R.E.A. Ladders

Game: **PANZERBLITZ**
Players on List 59   Active Players 48
Date of Standings: March 5, 1996

Rank	Name	Rating	Qualifiers
1	David Giordano	1964	FHIA5
2	Johnny Hasay	1766	EE-A5
3	Ken Oates	1710	BCEA5
4	Mike Patterson	1695	BBB-4
5	Fred Wexler	1640	EGJ-5
6	Jeff Wolff	1615	BB- -4
7	Bruce Wright	1600	BB- -4
8	Stephen Andriakos	1570	AA- -5
9	Charles Leonard	1556	DEAA5
10	Steven Sheftic	1546	BD-A5
11	Bruce MacConnell	1536	CC-A4
12	Leslie Geraty	1535	AAA-5
13	Charles Braun	1534	AAA-4
13	Paul Reinert	1534	AAA-4
13	Russ Woods	1534	AAA-4
16	Angelo Valeri	1533	AB-A5
17	James Miller	1527	AB-A4
18	Mike West	1514	ABB-5
19	Bill Thompson	1504	CFFA4

Game: **PANZER LEADER**
Players on List 49   Active Players 44
Date of Standings: March 5, 1996

Rank	Name	Rating	Qualifiers
1	James McAden	1902	DFJ-5
2	Dan Price	1780	CCC-5
3	Bruce Wright	1735	CCC-4
4	Fred Wexler	1592	BCE-5
5	Rob Beyma	1568	AB-A5
6	Bill Scott	1564	CF-A5
7	Kevin Kinsel	1555	CCC-4
8	Steve Shambeda	1537	AA-A5
9	Tom Storey	1535	AAA-5
9	Stephen Andrikos	1535	AA-A5
9	Michael Pantaleano	1535	AA-A5
12	Roger Kyle-Keith	1502	AB-A5

Game: **ACROSS FIVE APRILS**
Players on List 34   Active Player 34
Date of Standings: March 5, 1996

Rank	Name	Rating	Qualifiers
1	Mark Miklos	1673	CE-A5
2	Mark Giddings	1632	BD-A5
3	Brian Conlon	1567	AC-A5
4	Mark Holly	1566	AB-A5
5	Jim Falling	1560	BD-A5
6	Bruce Kernan	1539	AB-A5
7	Chris Rice	1538	AB-A5
8	Andy Lewis	1535	AA-A5
9	Michael Sincavage	1533	AC-A5
10	Jeff Lange Sr.	1532	AC-A5
11	Earl Anderson	1528	AB-A5
12	Bill Place	1526	AB-A5
13	Keith MacFarland	1509	AB-A5
14	Ivan Lawson	1505	AB-A5
15	David Metzger	1503	AC-A5
16	John Selders	1502	AB-A5

Qualifiers refer to quantities of Games played, Opponents played, PBM games, Tournament participation, and Year of last activity with later letters indicating greater quantities and the number being the last digit of a year. For more information on the A.R.E.A. rating system, contact:

Glenn Petroski
210 W. Hunt
Twin Lakes, WI 53181-9786

TECH TIPS

Common Problems & Solutions
by Ken Robinson

ADVANCED CIVILIZATION
Problem: When building your first city, the game crashes.
Solution: There are two things which will cause this problem. The first is if you are running through Windows 95 in a DOS box. An upgrade is out which makes the game 100% Win95 compatible. The second is partial EMS. Check your EMM386 line in your config.sys file. After "EMM386.EXE" you should either see RAM or NO EMS. If there is a number anywhere (without characters) then partial EMS is running. This confuses a number of games. Removing the number should solve the problem.

Problem: When starting the game I get strange video or no video at all.
Solution: Running ADVCIVIL.BAT will assume your video card is 100% VESA compatible. RunningADVCIVV1.BAT will force the game to use your card's software. If after running this the problem persists, call Avalon Hill for assistance.

D-DAY: AMERICA INVADES
Problem: Even though the CD is in the drive, the game will not find it.
Solution: Win95 users must restart the system in MS-DOS mode. The game will not run from a DOS Window. Once there, make sure you can access the CD Drive. Most manufacturers will not configure a system to run from DOS and this could be a problem. If the problem persists increase your "LASTDRIVE=" line in your config.sys file and increase your "LASTDRIVE=" line by one. If you do not have a "LASTDRIVE=" line, insert a line which reads "LASTDRIVE=∗" where ∗ is one letter higher than your CD Drive.

Problem: I cannot get into setup or I get no sound with my Ensonique sound card.
Solution: From the Invade directory type "INVADE /SETUP /NOCHK" and enter the correct settings for your card. Ensonique users should select their sound blaster-settings.

Common Windows 95 Problems
Most of our games only need a mouse and sound card to run normally. We do not recommend running straight from a DOS Window. Restarting in DOS Mode will yield the best results. If your computer is not setup to run from MS-DOS mode, you may need to obtain the necessary drivers from your system salesperson.

Original and Current Versions
Here is the rundown of the current versions of Avalon Hill computer games.

KINGMAKER — IBM PC
3.5" disk
Original v1.50
Current   v1.52
Available upgrade v 1.50 to 1.52

OPERATION CRUSADER — PC and Mac
Original version 3.5" disk
Current version CD ROM only
Original v1.0 (Mac 3.5" disk)
         v 1.1(PC 3.5" disk)
Current   v2.35 (Mac and PC CD ROM)
Available upgrade v1.x to 2.35

5th FLEET — IBM PC
3.5" disk and CD ROM
Original v1.0
Current v1.2
Available upgrade v1.0 to v1.2

FLIGHT COMMANDER 2 — IBM PC and Mac
3.5" disk and CD ROM
Original v1.0
Current v1.04
Available upgrade v1.0 to v1.4

STALINGRAD — IBM PC and MAC
3.5" disk
Original v1.0
Current v2.0 for PC; v1.9 for MAC
Available upgrades v1.85 to v2.0 or v1.9

1830 RAILROADS AND ROBBER BARONS
IBM PC
3.5" disk and CD ROM
Original v1.0
Current v1.2
Available upgrade v1.0 to v1.3

D-DAY: AMERICA INVADES
IBM PC and MAC
CD ROM only
Original v1.0
Current v1.0
Available upgrade (1) IBM PC only

ADVANCED CIVILIZATION
IBM PC
CD ROM only
Original v1.00
Current v1.01
Available upgrade v1.00 to v1.01

SERIES REPLAY…(Continued from pg. 41)
MACHIAVELLI

ducats), failed, as bribed unit must be in or adjacent to a unit or province controlled by the bribing player.

Treasuries: FR 8, VE 17, FL 6.
Movement and Conflict:
Austria: F TS-ROME, F COR-GOL, A SWI-TUR, A MIL H, A SAL-SAV.
Papacy: A ROME-PER (disbanded by Austrian bribe), A NAP H, F ION H.
Florence: F LS-GEN, A MOD S F LS-GEN, A FLO-BOL, A SIE-PER, A FER-PAD (bribe failed, doesn't own unit).
France: F GEN=G, A SAV-GEN, F GOL S (Florence) F LS-COR (no such order by Florence), F AVI S F GOL.
Venice: A CRO-ANC, F UA C A CRO-ANC, A TRENT B, A CRE-PAR, A MAN-CRE (disbanded by Florentine bribe), A FER-MAN.

STRATEGIC MOVEMENT
Austria: F COR>TS.
France: F GOL>LS, F AVI>GOL.
The Papacy is eliminated from the game per conquest rules (failure to control any home city at the end of a year/beginning of Spring). Note that whereas rule 17 refers to the end of a TURN, province control transfers only at the end of a YEAR (start of Spring), and that is the only time in which conquest may happen. The Papal possessions are removed, including the newly-acquired control markers in Naples and Bari. However, France does not retain control, because all control is transferred simultaneously and Frances loses control as the Papacy is eliminated.

NEUTRAL COMMENTARY
An elegant elimination of the Pope. He obviously never saw it coming. Florence is the big winner, with the entire center of Italy to himself. But is that so good? Look at the board: Venice has shown his loyalty to Austria. He has passed up an opportunity to stab Austria for the win. Therefore Florence can't expect to be working with Venice any time soon. He knew this and therefore attempted to bribe his way into Padua. I question this play on Florence's part. The Papacy was an ally who had never crossed him. Even if the bribes had been successful, all he

---

would have had was a unit in Padua. Venice could bribe it right back and head it back to Ferrara. Now he has four enemy Venetian units bordering him. Assuming Austria sticks with Venice, and there appears to be no reason to think otherwise, then Piombino could fall in the Fall.

I just don't think this was a wise move by Florence. It was fun, and perhaps he wanted to experiment with the rules a bit.

TURN 7 (Spring 1501)
Famine roll of 2 determines that it is a "Poor Year," requiring a roll on the rows. Row roll of 6 yields famines in MAR, RAG, CARIN, BER, PIS, SPO, HUN, destroying income from those provinces (but not from the cities) Variable income die roll is five.

INCOME SUMMARY

Country	Seas +	Prov. +	Cities +	Var.	Total =Income	Spent on Units - Units	Net Incr. =in Treas.
Austria	1	11	13	4+4	33	24	9
Florence	0	10	11	4x2	29	18	11
France	2	3	5	5+3	18	15	3
Venice	0	12	11	4x2	32	21	11

Note: France received variable income from Genoa. Austria received variable income from Milan. No player earns variable income from Naples or the Papacy. To gain the Papal variable income, one player must conquer all of the Papal former home provinces.

Florence: Maintains A BOL, A PER, A MOD; Builds A FLO, A PIS, A ARE; Disbands F GEN.
Venice: Maintains A MAN, A PAR, A ANC, F UA, A TRENT; Builds A DAL, A PAD.
Austria: Maintains A TUR, A MIL, F TS, F ROME, A SAL; Builds F SAR, A SWI (Elite Mercenary, costing 6 ducats).
France: Maintains F GOL, F LS, A SAV, G GEN; Builds A AVI.
Treasuries: FR 11, AU 9, VE 28, FL 17.

PRE-DIPLOMACY COMMENTS
FLORENCE
I've got to try to get Venice against Austria at all costs. Fall almost worked!

VENICE
The Papacy is gone. Florence tried a double stab, disbanding Army Mantua and trying to bribe Ferrara as well. Ferrara was a mistake. I've got 28 ducats —what to do? Austria is still my ally.

FRANCE
Florence betrayed me, and moved into Genoa with support (I knew he would, that's why I garrisoned). I think I may still survive this year.

DIPLOMACY
At this point, the players decided to call the game a draw between Austria, Venice and Florence.

NEUTRAL COMMENTARY
Not surprisingly, in the aftermath of Papacy's elimination, Florence realizes he needs to break up the Venetian-Austrian alliance. But he lost all credibility with James,

after the botched bribe attempt. There would be no tearing Venice away from his only ally now! James and Will (The Venetians and the Austrians) are giving Jim a gift by letting him participate in the draw. If the alliance wished they could have taken a two-way draw in this game without too much trouble. I think, judging from their incomes and their positions on the board, Venice and Austria have this game wrapped up, barring a stab by one against the other. Venice has already demonstrated that he won't stab Austria, and Austria doesn't seem to have a need to stab Venice.

Venice now controls the Adriatic. Austria's two fleets (and those he could build) can play footsie all day with the combined naval power of the French and Florentines. As a result, I think that Florence has almost no chance of making any inroads into Venice proper and I think Bari and the other southern Italian provinces will be grey or brown soon.

Finally, there is no way Florence will be able to repay his loan of 23 ducats plus interest in the coming Fall and will undergo the effects of default (assassination).

FINAL COMMENTS

Will Wible (Austria)

This is a very good game— excellent, in fact. It seems that it would be best when left set up and played as a campaign game (over multiple game sessions). The map is beautiful. The speed of the new strategic moves is counter-productive. It counteracts the transitory effects of famine and plague, to some degree.

Dan Mathias (France)

The game has a good map and space arrangement. The color scheme for the map is lousy, however. It was too hard to determine national boundaries, and in some spaces it is hard to see certain color pieces. Overall, a fair game, and with a few cosmetic adjustments it could be a very good game.

James Garzillo (Venice)

A fine game. It was a bit slow, but I assume that was due to the fact that most of the players were unfamiliar with the "new" rules, as opposed to the game mechanics. There is also a lot of bookkeeping, but experience will reduce that (I've seen the same thing in *ADVANCED CIVILIZATION*). This game reminds me of a Judo match. You can use finances to turn an enemy's strength against himself.

Jim Yerkey (Florence)

An excellent re-release. Graphics are great. The strategic movement rule is good, because it speeds up the game. I also like the excommunication rule.

Suggestions:

1. The change in the rule for controlling territories and cities (that ownership changes at the start of the Spring turn, instead of each campaign turn, as in the old version) slows down the game. I would make the original rule an option.

2. In the interest of creating a game which can be played in a shorter period of time, I would suggest winning criteria based on the

amount of money each country has, and include a handicapping system to balance the various countries. For example, Venice would have a multiplier of .85 and Turkey, as a weaker position, would have a multiplier of, perhaps, 1.5!

Joe Lux (The Papacy)

I was thunderstruck by how they eliminated me. Playing for four years now in *DIPLOMACY* tournaments, I have never been eliminated! It is a rotten feeling that I would never want to inflict on anyone again.

These dynamic and complicated rules offer the potential for complex negotiations, deception and powerful alliances connecting any corner of the board. This vastness is well beyond the simple rules of *DIPLOMACY*. Advanced Dippers will love it!

COMMENTATOR'S CONCLUSION

I'd like to start my conclusion by thanking the players. Will, Jim, Joe, James and Dan made this series replay an enjoyable experience to moderate. I don't think anyone played poorly, although I think some opportunities were missed.

Dan had it tough from the start. France was beset by an aggressive Austrian and Papacy, and could find no friends. The failed bribe of Austria's Milanese army was typical of Dan's day. The plague ultimately confirmed it. It can't be that much fun to simply scrap for survival from turn one, but he succeeded in avoiding elimination.

Joe, as the Pope, played well, I thought. Ironically, he used counterbribes more than any other power, but his timing was off. He lost two units to hostile take-overs. Don't feel so bad, Joe! If the entire board decides to get you, you are not going to survive, no matter how good you are. As I indicated above, I don't think it was a good move for Florence.

Jim played one of those "behind the scenes" games, trying to pull the other player's strings. He did well at it too, and put himself in a powerful position by mid-game. I disagreed with his final strategy, although he was able to net himself a piece of the pie.

James played a solid game. He seemed to make no mistakes, and was in a very good position at the end. Assuming Austria and he continued to work together, he was probably in the best position by game's end. On the other hand, I think he failed to take advantage of a grand opportunity which presented itself in the second year to stab Austria and control DAL, CRO, CAR, VEN, TRE, PAD, FER, TRENT, HUN, AUS, TYL, MIL, CRE, MAN, BOL (15 cities). That would have been a Venice solo win!

Will, as Austria, played a good game as well. I don't have much criticism of Will's play. It appears that Austria, even when it did well, as Will did here, still has a tough time producing the income needed to really dominate. I think the most impressive thing Will did all game was to keep Venice pointed south, allowing him to harry the French. ★
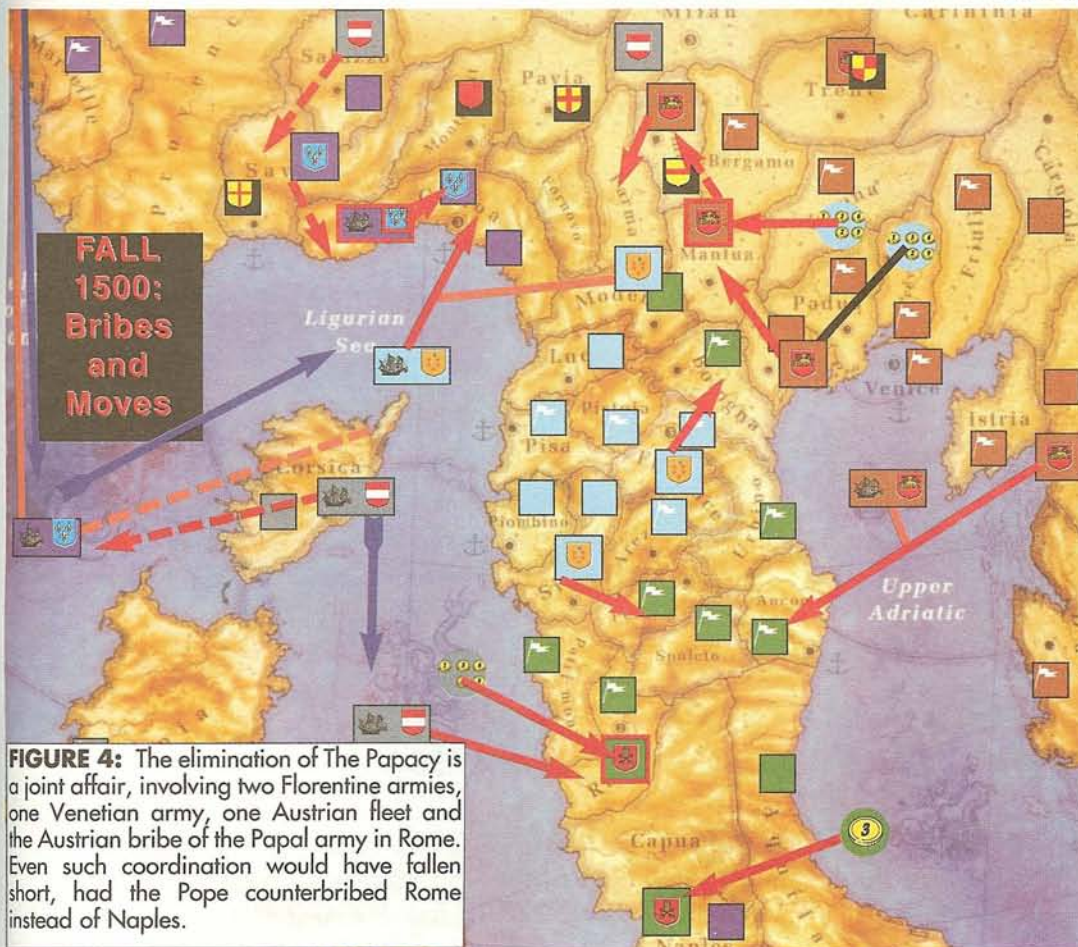
FIGURE 4: The elimination of The Papacy is a joint affair, involving two Florentine armies, one Venetian army, one Austrian fleet and the Austrian bribe of the Papal army in Rome. Even such coordination would have fallen short, had the Pope counterbribed Rome instead of Naples.

THE QUESTION BOX

ACROSS 5 APRILS

6.2 Can a unit adjacent to four enemy units in two enemy hexes attack all but one of the units, then automatically retreat before combat, allowing the last unit to be attacked overwhelmingly by other friendly units?
A. Yes.

4.2 Is the following move legal: A confederate infantry unit starts in 3419 and moves to 3519 (1 MP), then to 3618 (1 MP), then to 3718 (2 MPs)?
A. No. The move from 3519 to 3618 involves departing the path and moving through the woods within the hex and therefore would cost 2 MPs. The path allows movement through the woods at 1 MP only when completely following the path into and out of the hex. A good way to judge such a move would be to move along that path in the opposite direction to see if the movement costs are identical. Clearly, a move from 3618 to 3519 would cost 2 MPs.

BREAKOUT: NORMANDY

12.61 and 18.41 During a Storm turn, how much supply does the German player get?
A. Ten.

COLONIAL DIPLOMACY

9.2 The Trans-Siberian Railroad
Q. In the following situation, where do A Mos and A Omsk end up? Russian orders: A Mos-TSR-Vla, A Omsk-Kra, A Vla-Seo; Chinese orders: A Mac-Irk.
A. The standoff in Kra means that A Omsk does not move and A Mos stops in Perm.

Q. If Russia orders A Mos-TRS-Vla and China orders A Mac-Irk and A Mon-Kra, what happens?
A. A Mon-Kra fails, A Mac-Irk succeeds, A Mos stops in Omsk.

PAX BRITANNICA

Page 26. Is the purchase of Victory Points optional? Are unspent Treasury points carried forward to the next turn?
A. No. No, unspent Treasury must be converted to victory points at the end of each turn with all fractional remainders lost.

THE RUSSIAN CAMPAIGN

Errata 20.2: Worker units must be placed before movement of all other units. Rule 20.2 is in error. Consequently, worker units may not be placed in a city that began the impulse under German control but is occupied by Russian units during movement.

9.7 Can Railheads be placed in advance of your units thereby denying the enemy use of rails you have not actually occupied?
A. Yes. However, you do not gain possession of new rail hexes until the end of your turn. This gives the opponent the chance to retake the hexes, effectively denying to both sides the use of rails between their frontlines. The illustrations in the Series Replay of Vol. 15#4 are incorrect.

17.1 German forces have cut off a large group of Russian units. On the Russian turn, the units succeed in fighting into Koenigsburg in Poland. Are these units now in supply?
A. Yes, units are in supply by tracing a path to a city and cities need not trace supply paths.

TURNING POINT: STALINGRAD

8.31 Can AT/AA units contribute to ranged attacks as long as they are not the point unit?
A. Yes.

MARCH MADNESS

12.4 What happens when time runs out and some positions remain unresolved?
A. The remaining unresolved positions are resolved in order from position number one through six.

12.5 Does the 4-point bonus for "Clutch Free Throws" apply to an already existing foul? To a foul that is immediately removed by a "Key Sixth Man" or a "Zone Defense"? To a foul that is removed by a "Key Sixth Man" card played in the next action? To a foul that is negated by a timeout reroll?
A. No. Yes. Yes. No, unless the reroll also results in a foul on the opposing player.

12.5.1 What happens to a card removed by the act of withdrawing a strategy card? By coaching cards in the coaching box at the end of a half?

A. In both cases, the card is returned to the player's hand.

12.5.3 Can a "Boxing Out" or "Controlling the Boards" affect other positions before the position played upon is resolved? After?
A. Yes (the player reveals the card as necessary at the time the other position is resolved). No.

12.7 and 12.8 Can a coaching move negate an opponent's timeout reroll.
A. No, the scoring resolution, including all rerolls must be completed before the player may take a coaching move.

12.9 Who receives the foul listed on a card?
A. On coaching and defensive cards, defensive fouls apply to the rolling player and offensive fouls to the opponent. On offensive cards, offensive fouls apply to the rolling player and defensive fouls to the opponent.

12.9.1 What is the penalty for an "F" shooter who gets into foul trouble since he cannot lose a Letter grade?
A. The player he is guarding is eligible for a +1 die roll modifier.

13 How many coaching moves do you get in overtime? Where is the timer set?
A. Take the coach's end-of-regulation-time rating (original rating minus technical fouls) and divide by two, rounding up. Set the clock at five minutes.

14.1.2 When can a "Zone Defense" remove a foul?
A. The foul may be removed during a scoring resolution to counter immediately the effects of the foul. Otherwise, any one foul may be removed at any time in the half to affect future resolutions. It may be used at the end of the half after the last position is resolved.

14.2.5 How is the "Key Sixth Man" card used?
A. It is played as an offense card on any position. When that position is resolved, immediately remove an existing foul before scoring rolls. If the player does not have a pre-existing foul, then the card negates a foul acquired during this resolution. Alternatively, the card may be played to remove a second foul just acquired by a player, but only if the card is played in the action immediately following the scoring resolution in which the fouling out occurred.

Coming Attractions

AIR BARON

One of the first things I saw upon starting my job as editor, was the first draft of the *AIR BARON* map. I thought, "oh, *RAIL BARON* takes to the air, what else are you guys doing?" I then salivated over *HANNI-BAL: ROME VS. CARTHAGE* and *LONDON'S BURNING*. You see, despite being an economist, I do not find business games all that interesting. They do not have enough competitive conflict or are so simplistic that only one strategy makes sense. I naturally assumed *AIR BARON* would be another yawn.

I could not have been further from the truth. *AIR BARON* is an absolute gem of a game. Its popularity among the playtesters has become, ahem, somewhat of a problem for Avalon Hill productivity. You won't find us going out to lunch when a playtest session is rumored.

If you seek a fast-paced game with a variety of strategies, excellent replay value, brutal competition and dramatic swings of fortune, then look no further; this game is for you.

AIR BARON takes very little time to explain and about an hour and a half to play, making it an excellent family game. However, make no mistake about it, to win you must ruthlessly carve into each other's budding air empires. This is economic competition at its most cutthroat level. The term for a key aspect of the game, "Fare Wars," should give you some indication of your relationship with your opponents.

Your goal is to acquire moneymaking airline markets which allow you to expand your market share to the point where your money on hand plus your market share exceed the victory level required.

You begin the game on an even level with others— all with the same meager start-up capital. First, you decide where to establish your first base of operations (my favorites are Orlando or San Diego). The board portrays the US airline markets via twelve major hubs which have from three to six "spokes" attached (for example, Miami has Orlando, Tampa and West Palm Beach), plus one or two foreign connections (Miami connects to Panama City and Nassau). The counter that you purchased goes into a cup. Each player pulls two counters prior to each move— yielding the owner income from the spoke drawn. Early in the game, with few purchases in the cup, you can expect your purchases to be drawn rapidly. As play continues, the cup fills with purchases and the costly, but lucrative, foreign connections may never see the light of day. The income process resembles a lottery, with each player praying for their most profitable counters to emerge.

Your income is then reinvested to purchase other spokes, foreign connections, the government contract, Jumbo air fleets or SSTs. If you manage to purchase the spokes of a hub before others nudge into your territory, you gain control over that hub's profitable air service as well. Each strategic choice tugs at your scarce money, offering different benefits.

Sooner or later you are tempted into cutting your prices and declaring Fare Wars (thereby losing profits for awhile). The benefit of this action is that you can quickly seize other spokes and dominate hubs. You may borrow money to finance your takeover attempts. However, be prepared to be hit by an untimely strike, fuel price increase, or earnings drought— not to mention the angry former owner of the air market you just grabbed. Timing is everything.

No matter how bad is my timing, I find myself coming back for more of this exciting game of airline business strategy, which never plays the same twice.

—*Stuart K. Tucker*

STONEWALL'S LAST BATTLE

The award winning Great Campaigns of the American Civil War series continues to grow with the release of Volume 5, *STONEWALL'S LAST BATTLE,* The Chancellorsville Campaign: April to May 1963 scheduled for early this summer. Filling in the missing Chancellorsville campaign between the earlier volumes *HERE COME THE REBELS!* and *ROADS TO GETTYSBURG,* this game allows players to recreate one of the most dramatic campaigns in American military history.

Soon after the campaign opens, Generals Robert E. Lee and Thomas J. "Stonewall" Jackson are faced with the daunting challenge of thwarting a Union army that has successfully turned Lee's Rappahannock River defense line and positioned itself on the Confederate flank near a wooded crossroads named Chancellorsville. Confronted with Joseph Hooker's numerically superior Union forces on two fronts, Lee turns to his faithful lieutenant for yet another miracle. Lee decides to divide his already outnumbered force in two, sending Jackson on a day-long flanking march through the Wilderness. Lee asks Jackson, "what do you propose to make this movement with?" and is startled by Jackson's response, "with my whole corps." This leaves Lee with but 14,000 troops to hold off Hooker's 65,000. Jackson's goal is the destruction of Hooker's army.

This brilliant gambit succeeds in shattering the Union XI Corps and leads to Lee's campaign into Pennsylvania. Ultimately though, the cost of the victory is too high for the Confederacy, for Jackson is mortally wounded by his own troops just west of Chancellorsville. Lee has lost his "right arm" and marches north to Gettysburg without the Confederacy's greatest hero.

STONEWALL'S LAST BATTLE presents both players with unique problems. The Union player must utilize their 2-to-1 numerical superiority and capitalize on a strong opening position on Lee's flank. All the factors that plagued the Union command during the campaign are here in the game to haunt them again: poor lines of communication between the flanks, the tangled undergrowth of the Wilderness, the convoluted supply lines dependent upon pontoon bridges, the threat of Confederate reinforcements from Richmond and the lack of decisive leadership from Hooker himself. The Confederate player's challenge is to take advantage of their experienced generals and interior lines to deliver telling blows to the much larger Union army.

The creation of *STONEWALL'S LAST BATTLE* has been a team effort. Designer Ed Beach has consulted with series designer, Joe Balkoski, and many of the avid players of this game system to create a set of five scenarios that each portray either a critical engagement or a week or more of the full campaign. A sixth scenario, contributed by Trevor Bender, is unique for this game system, portraying Brandy Station, the first large-scale cavalry engagement of the war. Developer Mark Simonitch has updated the graphics, adding additional color to the counters and revising the charts and tables for easier comprehension.

With two scenarios that take only an hour to play, *STONEWALL'S LAST BATTLE* is a great introductory game for those players who have always wanted to try this popular series. But this game will prove challenging for the experienced player as well; four of the six scenarios were designed to be especially suitable for tournament play at AvalonCon.

Joe Balkoski is already at work on Volume 6 in the series, *ON TO RICHMOND,* covering the 1862 Peninsula Campaign.

—*Ed Beach*

WOODEN SHIPS & IRON MEN

You are Captain of the *USS Constellation.* It is the morning of June 16, 1812 and the lookout has spotted a topsail on the horizon. He thinks it is a man o' war's topsail. Do you sail away or approach?

They don't call you "Captain" for nothing, so you approach. The ship is identified as a 32-gun British frigate of the Amphion class. Do you flee or offer battle? Aye aye, Sir. The battle is about to begin.

Our classic *WOODEN SHIPS & IRON MEN* boardgame has come to the PC CD-ROM platform. For one or two players, including hot-seat and play-by-email, *WS&IM* PC offers 18 historical, open-sea battles ranging in size from John Paul Jones' fight against HMS *Drake* to the Battle of Trafalgar. The game includes a powerful scenario creator, which allows you to design your own scenarios choosing from 131 different ship classes during the Revolutionary and Napoleonic periods. Four nationalities are represented: American, British, French and Spanish. You can choose the quality of your crew and name your own ship.

If the historical scenarios and scenario creator are not enough to keep you in front of your screen, designer Joe Balkoski has added a campaign game. In the campaign game, you captain one of sixteen American warships in the War of 1812, hunting down British merhantmen for prizes and fighting British warships.

The game is played in turns with players issuing orders each turn (you may also have the computer issue any or all orders for you). After both sides have issued orders, all combat and movement are resolved simultaneously. Each turn represents three minutes of real time. You may choose between 3D and 2D perspective when fighting battles and you may zoom the scale in and out.

There are no hexes for movement. Instead, you sail in one of eight compass directions, turning whenever you please and as the wind allows you. If you assign enough crewmen to the rigging, you can back sail to slow down or tack across the wind, but that means fewer crewmen manning the guns. Ships have three sail configurations (not just the two in the boardgame): Battle Sail, Plain Sail and Full Sail.

Ships are armed with long-guns and carronades. Not only do you choose what type of shot to fire, you may select the range for opening fire and/or hold your fire until a raking position occurs. You may toggle on a 100-yard range grid or use the sextant feature to determine range. If you get close enough to the enemy, you can grapple his ship—or foul it with your own. Then, form a boarding party to capture the enemy. When the battle gets too hot, you can try to avoid combat and assign crewmen to repairing damage.

If you like ship-to-ship, squadron and fleet action in the age of fighting sail, *WOODEN SHIPS & IRON MEN* PC CD-ROM should more than satisfy your thirst for command on the high seas.

—*Ben Knight*

Readers voiced an increase in enthusiasm with Issue 30, No. 3, which scored a 3.8 overall rating. The variety of games covered was a big selling point, even for those not owning most of them. On the other hand, some respondents wanted more in-depth coverage of the Civil War series games and commented negatively about the serialization of articles. Swann's historical article not only garnered the most votes, but also high praise in the written comments as well. The AvalonCon coverage earned the usual "love it" or "hate it" responses, with no second place votes being cast for those articles. As a necessary and valued hobby service, it will continue, especially when I receive comments from readers who spent ten years away from the hobby and enjoyed hearing about recent gaming developments. Based upon three points for first, two for second and one for third, the relative ratings of the articles is as follows:

★★★★★

Here is the explanation for the joint victory (misreported as a tie) in the *EMPIRE IN ARMS* tournament at AvalonCon '95. The tournament had 15 entrants who did not want to play three 5-player games. Ed Slusarek and Hwan Ho Rhee volunteered to play as a team to allow two 7-player games. They won playing France at their table, and scored a bigger victory than did the winner at the other table (ah, the benefits of speaking with a forked tongue). I have heard no word yet on the division of the plaque.

★★★★★

DIPLOMACY fans should note that DIPCON XXIX and WORLD DIPCON VI will be held jointly at Origins '96 in Columbus, Ohio, July 4-7, 1996. *DIP* rounds will be held on Friday night and Saturday and Sunday mornings. A variant event will be held Saturday night and the Dipcon Society and World Dipcon Society meetings will be held early Sunday morning. Contact Andon Unlimited about the convention (andon@aol.com or 1-206-204-5815) and Bruce Reiff about *DIPLOMACY* (bdreiff@aol.com or 614-792-2764).

The Infiltrator's Report

The illustrious founder of Avalon Hill, Charles S. Roberts, and our computer game, *OPERATION CRUSADER,* were profiled in the February 3, 1996 issue of London's *Daily Telegraph.* Reportedly, our games "are well-researched, authentic and will appeal to history buffs."

★★★★★

The Eastern Pennsylvania Gaming Society is setting the standard for gaming clubs. With over 130 active members, monthly meetings that attract more than 50 members and a handy 4-page bimonthly newsletter, this club may be able to provide useful advice to those seeking to start or increase the activities of their own gaming club. The December newsletter includes information on the club's meetings, a short article on playing 1830-type railroad games, game ladders for *UP FRONT* and *ASL* and a bulletin board section. I am sure newsletter editor Jerry Smolens (215-361-9381) and society President Steve Cameron (610-352-3126) would be happy to discuss their efforts with other gamers.

★★★★★

Victoria's Revenge (Contest #174) gave contestants plenty of options. Entrants submitted ten different solutions. The most popular approach involved taking the contest's title literally and attacking each of the Green armies. While this had the added benefit, if successful, of eliminating the Caribbean fleet (since the Atlantic fleet has no adjacent port and could not support it), this plan still only yields a little more than seven net points on average (all those rough terrain attacks reduce the probabilities of success). Some entries revealed a misunderstanding about the option to attack in oceans (which can take place only at the moment of fleet placement—therefore, the pre-existing Black fleet may not attack the Green fleet in the Atlantic). No entries involved the winning combination announced last issue. However, a variant (Caribbean-Mexican Valley-Guiana) turns out to be almost as effective (yielding just under eight net VPs). While both S. Andes and Guiana are equal in

value to the Black, Guiana represents a step toward domination of S. America by Green. The failure to eliminate Guiana leaves a German Green player with the chance to use one SP to claim two VPs. Thus, the loss of Guiana must be considered to be worth about one VP to Germany (the opportunity cost of retaking another space in S. America after losing Guiana). An American Green player, however, would have to eliminate Guiana in order to dominate S. America anyway. Thus, the Guiana attack is only slightly worse than taking a free presence in S. America. The two contestants submitting this solution were Steven Katz (Fairfax, VA) and Klaas Tadema (Dickinson, TX) who each receive a $10 merchandise certificate.

★★★★★

Contest 175 (Issue 30#4) asked you twice to "decipher this message," a clue to the level of deception involved. Those of you with familiarity with the listed games should quickly recognize that the first aspect of deciphering the cryptogram was identifying the numbers associated with the clues: 3 3 2 3 7 8 4 6 6. The second level is identifying what the numbers signify. Single digits and the lack of a "1" is a clue. Answering the final game clue, you may have noticed another clue: the layout of the AST chart in *CIVILIZATION*, which arranges the trade card decks in the same pattern as the numbers on the keypad of a touch-tone telephone. The numbers from the clues match letters from the phone keypad. If you got this far, the elemental process of making a word out of your choice of letters for each number was your final barrier to success.

On the other hand, contestants could have skipped the cryptogram and relied upon old-fashioned research. The clue as to the origin of the message may have sent many a contestant diving into *The Art of War* to find out that "All warfare is based upon deception" (Chapter One). As you can see, there is rarely only one way to meet a challenge. Whether by perspiration or inspiration, game research or literary inquisition, contestants had the tools. In the next issue, we will reveal who effectively used their tools to discern that the word "DECEPTION" wins this contest.

CONTEST #176—FIVE BY FIVE

CLASS	Music Comp. Titles	American Ind. Tribes	Ocean Vessels	Lakes	Cities
CATEGORY	War Theme	W. of Miss. R.	Military	Foreign (non-US)	European Ports
T					
I					
D					
G					
M					

(left side label: INITIAL LETTERS)

In order to get your best friends to play *HISTORY OF THE WORLD*, you agreed to play *FACTS IN FIVE* knowing full well your vocabulary is the weakest. You have struggled to keep the score close, but you enter the final round with a large deficit. Then, as the cards are drawn, you realize that this is your dream round.

Normal scoring procedures will prevail, but to enter this contest, each of your answers must be accompanied by the name of an Avalon Hill/Victory Game in which the answer appears (the tie-breaker will be the number of such games that are still in print). Please write legibly (you may use game abbreviations if you wish).

Opponents Wanted/Games Sought/For Sale
50 cents

1. Ads will be accepted only when printed on this form or a facsimile and must be accompanied by a 50¢ token fee. No refunds. Payment may be made in uncancelled U.S. postage stamps.
2. For Sale ads of out-of-print games and magazines will be accepted.
3. Clubs are encouraged to announce regular meetings.
4. Insert copy on lines provided (25 words maximum) and print name, address, and (if desired) phone number on the appropriate lines. **Ads pertaining solely to AVALONCON are free.**
5. **PLEASE PRINT CLEARLY AND LEGIBLY.** If your ad is illegible, it will not be printed.
6. So that as many ads as possible can be printed in our limited space, we request that you use official state and game abbreviations. Don't list your entire collection; list only those games which you are most interested in playing.

Across Five Aprils—A5A, Advanced Squad Leader—ASL/SL, Advanced Third Reich—A3R, Afrika Korps—AK, Air Force/Dauntless—AFD, Assassin—ASN, Battle of the Bulge—B(yr.), Blackbeard—BKB, Blitzkrieg—BZK, Britannia—BRI, Circus Maximus—CMS, (Advanced) Civilization—ACV/CIV, Colonial Diplomacy—CDP, D-Day—D(yr.), Diplomacy—DIP, DUNE, 1830, Empires in Arms—EIA, Empire of the Rising Sun—ERS, Enemy in Sight—EIS, Firepower—FPR, Flat Top—FTP, Fleet Series—#FT, Flight Leader—FL, Gangsters—GSR, Geronimo—GER, Gettysburg—GBG, Gladiator—GLD, Guadalcanal—GDC, Guerilla—GUE, Hannibal: Rome vs. Carthage—HRC, Here Come the Rebels—HCR, History of the World—HWD, Hitler's War—HWR, Kremlin—KRM, Kingmaker—KMR, Knights of the Air—KTA, London's Burning—LBG, Luftwaffe—LFW, Machiavelli—MAC, Maharaja—MAH, Magic Realm—MRM, MBT, Merchant of Venus—MOV, Midway—M(yr.), Napoleon's Battles—NPB, PanzerBlitz—PZB, Panzergruppe Guderian—PGG, Panzer Leader—PZL, Rail Baron—RBN, Republic of Rome—ROR, Richthofen's War—RFN, Roadkill—RKL, Roads to Gettysburg—RTG, The Russian Campaign—TRC, Russian Front—RFT, 1776, Siege of Jerusalem—SOJ, Starship Troopers—SST, Stellar Conquest—STC, Stonewall in the Valley—SIV, Stonewall Jackson's Way—SJW, Storm Over Arnhem—SOA, Tac Air—TCA, Third Reich (4th ed.)—3R4, Thunder At Cassino—TAC, Titan—TTN, Trireme—TRI, Turning Point: Stalingrad—TPS, Tyranno Ex—TYX, Up Front—UPF, Victory In The Pacific—VIP, War and Peace—W&P, We The People—WTP, Wooden Ships & Iron Men—WSIM, Wrasslin'—WRS.

Name_____ Tel. _____

Address_____

City_____ State_____ Zip_____

Name _____

Address _____

_____

_____

RATE THIS ISSUE!

Issue as a whole ___ (Rate from 1 to 10, with "1" meaning excellent and "10" terrible). Plus, include your choice for the three best articles. Write their titles below:

1. _____
2. _____
3. _____

Comments _____

_____

_____

SMOKE THE KENTS!

DELUXE ASL SCENARIO C

Scenario Design: Marty Snow

ALBERT, FRANCE, 20 May 1940: The Battle for France was going badly for the Allies as the armor of von Kleist, Rommel and Guderian forged its way through Allied positions toward the Channel ports. The German objective was to drive a wedge through the center of the defenders' lines and so trap all of the Allied armies in Belgium and Flanders against the Channel coast. Every able Allied body was put on the line to halt the German columns. One such unit thrown before the German onslaught was the Queen's Own Royal West Kent Brigade. The Kents had received little combat training as they were immediately tasked with Home Guard duties from their inception in late 1939. In April, they had arrived in France under-equipped—less than four Bren guns and two anti-tank rifles per company—and were set to work in rail yards. Untrained as they were, with their only combat history being a small skirmish two days prior, the Kents were ordered to make the town of Albert a tank-proof bastion in an attempt to halt Guderian's panzers, which were attacking from the southwest out of Pe'ronne.

BOARD CONFIGURATION:

(Hexrows A-H on boards g and d are unplayable.)
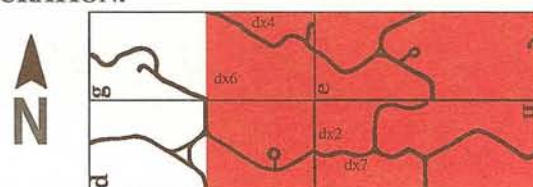
VICTORY CONDITIONS: The Germans win at game end if they Control six buildings on board d (see SSR 5). Each AFV with functioning MA exited off the west edge of board(s) g/d reduces the required number of buildings by one; the Germans must, however, actually Control ≥ 2 buildings at game end in order to win.

BALANCE:

◉ Replace one PzKpfw IIIF with a PzKpfw IIA.

✠ Replace the PzKpfw IB with a PzKpfw IIIF.

TURN RECORD CHART

		1 ◉✠	2	3	4	5	6	7	8	END
◉ BRITISH Moves First [84]										
✠ GERMAN Moves Second										

Company D, 7th Royal West Kent Battalion [ELR: 2] enter on Turn 1 along the west edge of board(s) g/d (see SSR 3): {SAN: 2}

SW Group A: SW Group B: SW Group C:

Elements of Panzer Division 1 [ELR: 4] enter on Turn 1 along the east edge of board(s) e/h (see SSR 4): {SAN: 4}

SPECIAL RULES:

1. EC are Moderate, with no wind at start. All buildings on board d are stone.

2. Place overlays as follows: dx2 on hN3; dx7 on hM1-N1; dx4 on gL1-M1; and dx6 on gI5-I4.

3. Prior to play, the British must secretly select *one* of the SW groups (A, B or C) for their OB.

4. The normal Inherent MF (A4.11; A17.2) allotment of all German Personnel is reduced by two, and all German AFV have their printed MP halved, during their Turn 1 MPh.

5. Connected Rowhouses are considered one building for victory purposes, but otherwise are treated as Rowhouses.

AFTERMATH: The Royal West Kent's 7th Battalion, commanded by Lieutenant-Colonel B. L. Clay, entered Albert at 0600 hours, with nearly a full complement of Brens and anti-tank rifles which they had received merely days before from 'Petreforce.' An hour later the German attack came swift and strong in the form of panzers and *panzergrenadiers*. The brunt of the assault fell on Company D which took immediate casualties, including its commander, Captain Hill. Despite their losses, the company attempted to fulfill its mission of stopping the enemy tanks, but their anti-tank rifles proved ineffective, no doubt in part due to the Kents' insufficient training. The remnants of Company D then barricaded themselves in an isolated house under the direction of their remaining officer, Lieutenant Phillips, himself also wounded. Eventually the Germans reduced this strongpoint with shellfire to its upper floors, forcing the small garrison into the cellar from which the few surviving Kents surrendered. With the remaining companies of the Royal West Kents managing to withdraw from Albert, yet another defensive position had fallen to the Germans, while Guderian continued the drive to the Channel coast.

CHANCE D'UNE AFFAIRE

ASL SCENARIO U

Scenario Adaptation: MMP

VICTORY CONDITIONS: The French win at game end if they Control ≥ 2 of the following buildings: V9, X5 and X8.

Near CHEHERY, FRANCE 14 May 1940: On the morning of the 14th, a French counterattack was ordered against the breach at Sedan in an effort to contain General Guderian's bridgehead on the river Meuse. The attack was to be comprised of two tank battalions, each supported by an infantry regiment. These two groups, however, were unable to co-ordinate with one another and so the attack commenced with only half of its intended strength. With the first of Guderian's armor across the Meuse shortly after dawn, his first head-on encounter with French armor was now imminent.

BOARD CONFIGURATION:

BALANCE:

✚ Add one 2-4-7 and one LMG to the initial German force in building N4.

◉ Exchange one French MMG for one French HMG.

TURN RECORD CHART

✚ GERMAN Sets Up First [0]	◉ 1	2	3✚	4	5	6✚	7	8	9
◉ FRENCH Moves First [72]									END

Elements of Infanterie Regiment 1, Panzer Division 1 [ELR: 4] set up within two hexes of any hex of building N4, with a maximum of one squad per hex: {SAN: 2}

Elements of Panzer Bataillon 1, Panzer Division 1 set up as indicated:

Hex K6 (CA: M6)   Hex L2 (CA: M4)   With Either AFV crew (D3.43):

Elements of Sturmpionier Bataillon 43 enter on Turn 3 along the north edge:

enter on Turn 6 along the north edge:

Elements of 213ème Régiment d'Infanterie, 55ème Division d'Infanterie and 7ème Bataillon Autonome de Chars de Combat [ELR: 3] enter on Turn 1 along the west edge: {SAN: 2}

SPECIAL RULES:

1. EC are Moderate, with no wind at start. Only buildings N4, K8, V9, X5 and X8 are of stone construction; all others are wooden.

2. The printed MP allotment of all French AFVs is halved during their Turn 1 MPh.

3. Both PzKpfw IIFs begin play Abandoned (D5.4).

4. Because the German vehicles were being refueled, the PzKpfw IIFs movement is restricted as follows: During setup, the Germans make a secret dr for each AFV; the resulting value is the number of the MPh in which that vehicle may enter a new hex.

AFTERMATH: The French attack started off well, catching tanks of the 1st Panzer Division refueling near the village of Chehery. A brief but savage confrontation resulted at close range with the French armor gaining the upper hand. The situation soon changed, though, as the chaseaurs hesitated to press their momentary advantage. Units of a nearby *Sturmpionier* battalion armed with hollow charges, realizing the danger of the situation, flung themselves at the French armor. This held the enemy at bay long enough for the rest of the panzer division to launch their own counterattack and smash the Allies' best hope of destroying the Sedan bulge.