THEATER MODIFICATIONS
More Expansions for B-17
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B-17, QUEEN OF THE SKIES is the game of high-altitude tension and roaring excitement. It nicely simulates the bombing operations carried out by the 8th Air Force based in England, or by the 15th Air Force based in Italy (Vol. 23, No. 1), during World War II. You, as player, are the aircraft commander; you must make the decisions regarding the fate of your B-17 and crew. It is, quite simply, the most fun you can have in solitaire gaming. It highlights the *adventure* in ''Adventure Gaming''.

But there are some shortcomings in simulating the real tension of certain facets of a mission. How good a formation flyer is the pilot? Is the target recognizable to the navigator and bombadier? Will your B-17 even make it to Zone 2 before a mechanical fault forces an abort? Questions like these plagued every B-17 commander, and have yet to be integrated into the game. I enjoy *B-17* immensely. But I also believe in tinkering with a game to make it even better. [*What wargamer doesn't?*] After some weeks of research and several pads of paper, I offer the following modifications for devotees to this great adventure.

GROUP FORMATIONS

When the B-17 first flew in combat against targets in Europe in August 1942, a six-plane squadron formation was used for combat. When a ''bombardment group'' (two or more squadrons) were sent aloft, the group formation had a lead six-plane squadron followed by the second squadron at a three mile distance. The other squadrons involved were spaced four miles apart at the midpoint between lead and tail squadrons. While risk of collision was low, the squadrons were usually unable to get a concentrated bomb pattern on the target or to support each other with defensive fire.

In September 1942, a new group combat formation was instituted, based on a nine-plane line-abreast squadron organization. The group formation consisted of a high squadron, with a lead squadron offset to the left and some 500 feet lower. While more compact than the previous formation, flexibility suffered. Collision risks were higher with pilots un-used to the rigors of formation flying (a specialized skill), and the fire from the waist gunners was greatly restricted to reduce the risk of hitting neighboring friendly aircraft. Also, in the early missions, aircraft aborts due to mechanical failure were so common that these formations were often terribly disrupted before even reaching the French coast.

Colonel Curtis LeMay, commander of the 305th Bombardment Group (Heavy), had noted the flaws in the group formations his men were using. Being new to the theater, he didn't immediately speak up against them. But after flying several practice flights and some combat missions, he introduced what would become known as the ''high-lead-low'' group combat formation. While harder to fly, demanding better pilots, the new formation was much improved in two respects. The gunners were able to fire in all directions unimpeded, or to concentrate defensive fire in a single direction if the need arose. And the bombing pattern was relatively compact, leading to more substantial damage to the target.

After reviewing this information on the early group formations, here are some proposed modifications to the rules of *B-17* for those who might wish to use these earlier formations to simulate the historical first missions:

1. Since group defensive fire, for the most part, will be ineffective against enemy fighters—when rolling for any fighters on Table B-3, ignore results of ''16'', ''36'' and ''56'' and roll again if not using the April 1943 formation.

2. With the August 1942 formation, bombing accuracy will not be as effective. Apply a ''−1'' modifier to the Table O-6 die roll.

EVASIVE ACTION

Upon initial entry into the skies above Europe by the B-17, the theory was that flying straight and level on the bomb run was simple asking for the flak guns to send you and your aircrew a personal invitation to join the *Luftstalags*—or worse. So evasive action by the formation was a standard tactic on the bomb run. While certainly good for morale, ther was one major drawback. Dropping bombs while jinking to evade flak sent the bomb-on-target accuracy rate way down.

Again, it was Colonel LeMay of the 305th who set the new standard for performance. He established the rule, and enforced it, that from now on evading flak on the bomb run was forbidden. On the very next mission, personally commanding his group, he flew a straight-in bomb approach.

No muss and no fuss, evading no flak bursts. It was a practical and effective solution. While flak damage to the airplanes rose, so did the accuracy rate. For those who, playing early scenarios, wish to recreate the dictum of evading flak in 1942 common to all pilots, here are the modifications:

1. While using evasive action, you may apply a ''−2'' modifier to the O-2 Flak Table die roll.

2. While using evasive action, you must apply a ''−3'' modifier to the O-6 Bomb Accuracy Table die roll.

FORMATION DEFENSIVE GUNNERY

Occasionally, the tight formations produced accidental hits on a B-17 by the guns of another. When rolling for enemy fighters on Table B-3, should a ''16'', ''26'', ''36'', ''46'' or ''56'' be rolled, roll one die and check for possible hits from friendly fire: ''1-5''=no hits; ''6''=hits. Should a ''6'' result, roll for number of hits and location using two dice and the table below:

Hits by Friendly Fire:	Location of Hits:
''2''=two hits	''2''=Nose
''3-11''=one hit	''3''=Pilot Compartment
''12''=two hits	''4''=Bomb Bay
	''5''=Radio Room
	''6''=Wing
	''7''=Waist
	''8''=Wing
	''9''=Tail
	''10''=Bomb Bay
	''11''=Pilot Compartment
	''12''=Nose

CREW EXPERIENCE

Another problem for the 8th and 15th Air Forces in those early days, one totally unforseen, was that of target identification. There was a significant difference in finding a town in America, with easy checkpoints on training runs, and finding one in war-time Europe where the close proximity of towns to each other and enemy action meant sometimes the wrong target got bombed.

Once again LeMay devised a solution. He started a ''Lead Crew'' school that taught teams of bombadiers and navigators to recognize certain sets of targets from the air. If a target that a particular ''lead crew'' was familiar with was selected for a mission, they were placed in the lead bombers on the belief that they would most readily recognize it—and thus that the entire group would bomb it with a reasonable chance of success. And it worked, as these specialists became an elite and important facet of the American effort. Modifications for recreating the impact of these lead crews are:

1. Anyone who has flown in the lead bomber position in the lead squadron at least twice against the same target is entitled to apply a ''+1'' modifier to the O-6 Table die roll.

2. Anyone using the lead crew concept can designate the target system they wish to use the bonus against (i.e., marshalling yards, industries, dockyards).

Pilot experience was a major factor in formation flying. Flight schools in the States had concentrated on the basics, and did not teach the finer points of flying, leaving indoctrination to formation combat flying to the group theater schools. Subsequently, the first few missions of a new pilot were somewhat riskier in terms of possible collision. Impliment the following:

1. Any novice pilot (five or fewer missions flown) must apply a ''+1'' modifier to the die roll of Event 12 of the Random Events Table.

2. Any veteran pilot (ten or more missions flown) can apply a ''−1''modifier to the die roll of Event 12 of the Random Events Table.

Gunner experience was also a prime factor in air-to-air combat, when the bomber was beset by the enemy. Lack of adequate training Stateside led to some gunners who simply didn't understand the fine points of their guns, or how to use them effectively against oncoming fighters. After a