

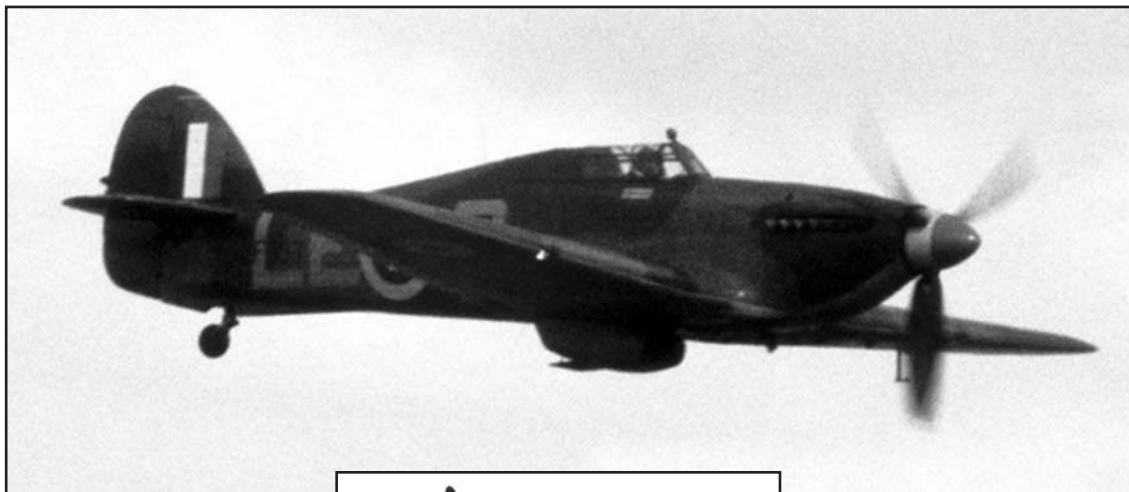
G U R P S[®]

WWII[™] Their Finest Hour

The Battle of Britain

Written by Michele Armellini • Edited by Scott Haring

**AN E23 SOURCEBOOK FOR GURPS[®] THIRD EDITION
FROM STEVE JACKSON GAMES
FOR 3 TO 6 PLAYERS**



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1. THE BATTLE OF BRITAIN

In 1940, after a dazzling series of victories, the seemingly unstoppable Nazis were soundly defeated over England.

Hitler knows that he will have to break us in this Island or lose the war. If we can stand up to him, all Europe may be free and the life of the world may move forward into broad, sunlit uplands. But if we fail, then the whole world, including the United States, including all that we have known and cared for, will sink into the abyss of a new Dark Age made more sinister, and perhaps more protracted, by the lights of perverted science. Let us therefore brace ourselves to our duties, and so bear ourselves that, if the British Empire and its Commonwealth last for a thousand years, men will still say, "This was their finest hour."

– Winston Churchill

THE STAGE IS SET

On June 21, 1940, the French accepted Adolf Hitler's heavy-handed armistice. In the previous ten months, Germany had also attacked, defeated and occupied Poland, Holland, Belgium, Luxembourg, Denmark and Norway. Most other European countries were either Germany's outright allies, or at least nervously friendly neutrals. The United Kingdom was the only remaining enemy.

Hitler was well aware that in terms of geo-political interests, Germany had no reason to wage war on Great Britain, which was a colonial empire and had no claims on the European continent. Nazi Germany's long-term plan was to secure *Lebensraum* (living space) in the East. This meant war with the Soviet Union, sooner or

later, and the sooner the better because the Red Army was rearming. The British had repeatedly demonstrated they feared the Communists more than the Nazis (see p. W:DWE8), so it all seemed ready to come nicely together: close the meaningless squabble with Great Britain, and turn East against the real enemy. Hitler's admiration for the British Empire and the Royal Navy strengthened his resolve for such a course.

The British, however, had declared war with good reason. Dying for Danzig might have seemed foolish, but preventing any one European country from becoming a lone continental superpower was an established policy for the insular nation. Hitler's behavior before the war (see p. W11) had already shown he was bent on a major shift in the balance of power.

Nevertheless, there were politicians as well as other influential people in London who favored peace. The Führer would have probably managed to strike a deal with them in June, 1940, as they were decent, reasonable and ordinary – and for this very reason, they found it difficult to see that Hitler and his regime were nothing of that. However, it wasn't an ordinary politician the new Prime Minister who had promised the Commons "blood, toil, sweat and tears" on May 13, 1940. In his own party, he had a reputation as a war-mongering maverick: he was Winston Churchill.

Thus the stage was set for the next German offensive. Since the Channel served as a very wide anti-tank moat, and the Royal Navy very much mastered the seas, Germany needed to take control of the air.

DOOMSDAY WEAPONS?

In the 1930s, some believed the bomber aircraft would decide the next war's outcome. Dropping incendiary bombs and possibly poison gases over cities, they would lay waste the industrial districts and break the

enemy country's will to wage war. This was the idea of Giulio Douhet, an Italian general. Others, including British Prime Minister Stanley Baldwin in 1932, at least expected the bomber to "always get through," as intercepting it was a daunting task in daylight, an impossible one at night. Billy Mitchell in the USA thought along these lines, too.

Douhet was a theorist, however, and Mitchell something of an outsider. On the other hand, Hermann Göring headed Germany's *Reichsluftministerium* (Air Ministry), and Sir Hugh Trenchard was the British Chief of Air Staff until 1929. They both wanted the air force to be independent from the other arms; the concept of the bombers as key strategic assets, or even war-winning weapons, suited them very well, and they had the power to make policy of this theory. Both Great Britain and Germany embarked in a costly bomber production drive; the Germans were the latecomers, but they spent more. Also, in the 1930s an aircraft would be obsolete in five years, thus having the most recent models carried a disproportionate advantage.

The ideas about the bombers' supremacy did not remain on paper only. In the restless inter-war period, they had been enthusiastically field-tested at the expense of Iraqis, Abyssinians, Chinese and Spaniards (by British, Italian, Japanese and German-Italian aircraft, respectively). It all seemed to work, but the bombers' accuracy, and therefore their effectiveness, remained a function of the quality of the defense.

Even when the latter wasn't totally absent as in the Iraqi or Abyssinian skies, it seemed to be at a distinct disadvantage. Post-WWI fighters still were biplanes, because agility, not speed, was what made them winners in the WWI-style dogfight. On the contrary, bombers did not need to maneuver, so they could be powerful monoplanes; for a few years in the 1930s, it was possible for a new bomber to be faster than the fighters. They were sturdier, too, and the average fighter's firepower was quickly becoming too little. Finally, the sky is a wide place and in order to engage the attackers, the defenders would have needed to find them first.

Thus, in order to beat back these seemingly invincible doomsday weapons, a defender would need recent, fast, well-armed fighters, and a way to locate the bombers.

A Chain to the Door

If we can produce such apparatus it would become the "eyes" of our defense system, and the greatest innovation we could dream of.

— Air Vice Marshal Hugh Dowding in 1935

Just four years before the war, enemy aircraft would mainly be located by sight; bad visibility prevented that. Experiments were being carried out with

unwieldy, highly unreliable sound locators, and even with infrared devices. In 1935, however, an Air Ministry scientific commission explored the possibilities offered by high-frequency radio waves. A Scottish scientist, Robert Watson Watt, came up with a proposed experiment that was carried out in February of that year. A transmitter loaned from the BBC sent out a short-wave signal. The test target reflected it back, and a receiver displayed it on a cathode ray tube screen. Thus Radio Direction Finding, or RDF, was born.

It was indeed good for finding the direction of a target; evaluating the distance on the basis of the signal's delay was difficult. However, using *two* signals, from two different stations, would make a triangulation possible, and a position could be pinpointed. If several airplanes flew in a close formation, counting them was next to impossible, but experienced operators could make fair estimations. Height was the toughest determination to make, and mistakes would later be made throughout the battle; savvy Squadron Leaders would add a couple of *Angels* (see p. 63) to the directions they received, just to err on the safe side.

In those four years leading to 1939, the British set up their Chain Home and Chain Home Low radar stations, effectively putting a chain to their skies' door (see p. 28). The stations' ranges overlapped, making the system less vulnerable as well as allowing triangulations. Even if one station was knocked out by enemy action, a small mobile unit could partially replace it. The radar stations still had weaknesses, and the Germans should have known their purpose; nevertheless, the bombers had lost their first advantage, surprise.

Be Prepared

The Chain Home radars were revolutionary and unique, but they were but one part of the system. Behind this early-warning line, traditional methods were put to good use by the Observer Corps (see pp. 28, 44). Both these elements provided the initial data, but these wouldn't be very useful without a processing system. This was the brainchild of the man who had become the first Commander in Chief of the British fighters in 1936, Hugh Dowding. Coincidentally (or not), before 1936 he had been member of the Air Council and he had pushed hard for both the modern monoplane fighters and for Watson Watt's RDF experiments (see p. 4). Dowding was a difficult man whose nickname was "Stuff," and he had been given Fighter Command because his well-placed rivals in the RAF top ranks thought that it was less important than the bombers; but he really turned out to be the right man in the right place (see p. W:AKM55).

The air defense system he created in 1937 and was still improving in 1940 started with the raw data from the radars and the observers. These forwarded everything to the Filter Room at Fighter Command's

HQ in Bentley Priory. The information was sent both to the Operations Room of the HQ and down along the chain of command, to the Groups and Sectors (see p. 24), who had their own Operations Rooms. Observers Corps stations got feedback from the Sectors. Anti-Aircraft Command was also kept in the loop.

Tactical decisions were taken by the Group Commanders, who decided when and where to commit their forces, and managed by the Sectors, which guided the interceptions and gave orders to the squadrons.

The system provided everybody with all the data they needed (while Dowding was the only one to get the complete picture). It was resilient and redundant, as it worked on telephone lines and teleprinter networks. Its main vulnerability was that most of its command centers were not contained in well-protected, underground shelters. However, those parts that could be damaged by the enemy could be easily replaced by neighboring elements and then quickly repaired.

Apart from dispersing most of the fog of war, the air defense system also dispensed with the need of flying tiresome, wasteful patrol missions, keeping fighters in the air, ready to intercept the enemy. Finally, it was a kind of preparedness the enemy had not the slightest idea of.

Flying Artillery

Born in the shadows of the Versailles prohibition, having grown too fast in the four years before the war, the Luftwaffe was a very different organization from the RAF. If the latter had staff rivalries, the German arm was riven with the typically Nazi feuds, intrigues, personal enmities and resorting to higher patronage. Its commander was Reichsmarschall Hermann Göring, a vainglorious man of robust appetites, a morphine addict, a Nazi politician and a decorated WWI fighter pilot (see p. W:IC52); the latter qualification could hardly balance the rest. All of the real work was done by his deputy, General Erhard Milch, a ruthless schemer and sharp administrator who, as the Lufthansa chairman, had supported the Nazis in their campaigns. Göring had to replace three chiefs of staff between 1936 and 1939, two of them because they couldn't work together with Milch. Additionally, *Der Eiserner* (the Iron Man, Göring's WWI nickname) appointed Oberst Ernst Udet as Inspector of Fighters and Dive-Bombers, and Chief of the Technical Department – both tasks for which the popular WWI pilot was unqualified for. Most of the previous war's veterans did not realize how fast the technology was evolving.

Meanwhile, great expectations were being placed on the Luftwaffe. Hitler wanted a big air arm, and he wanted it soon. This automatically ruled out building the kind of heavy, four-engine bombers that could really become the city destroyers of Douhet's theory

(see p. 4); developing them would take time, building them would cost too much. Göring decided he would make do with a larger number of smaller bombers, delivered as soon as possible. Milch could and did prod manufacturers; indeed, he mercilessly persecuted his former employer, Hugo Junkers, who was not pliable enough. Unfortunately, the development of new designs was in the less competent hands of Udet, and this caused delays. Additionally, Hitler did desire to have his cake and eat it; i.e., he needed a strong military but did not want to disappoint his people by putting the German industry on a total-war footing. Thus, by 1940, aircraft production was not what it could have been. The same could be said of pilot training. The Luftwaffe was a sizable standing force, but had not invested enough in long-term planning.

Another peculiar feature of the Luftwaffe in the late 1930s was its fixation on dive-bombing. While Göring wanted to believe an air force could win a war on its own, most of his officers came from the army, and did not buy that. On the contrary, a bomber force that could deliver timely close support to fast-moving armored units tied in well with the German new land warfare theories, making the panzers independent from slow artillery pieces. However, close air support needs to be accurate: it has to be delivered on small targets, and in the proximity of friendly ground troops. The Germans lacked a bomb sighting device, and Udet had fallen in love with a Curtiss Hawk dive bomber in 1933. The end result was the famous Stuka (see p. W114). Ideally suited to serve as the panzer divisions' flying artillery, this dive bomber couldn't be used without air superiority. Additionally, Udet insisted that the Ju 88 should be capable of diving, too. This delayed production, added weight and reduced performance (see p. W:IC87).

Finally, very little effort had been spent on naval and anti-shipping resources. Torpedo bombers were just one step out of the experimental stage, cooperation with the Kriegsmarine was bad, and there were no bombs capable of piercing the top armor of a battleship before exploding.

All of this made the Luftwaffe of 1940 ready for accurate but short-ranged and relatively light bombing, in a violent but brief campaign against tactical land targets.

THE FALL OF FRANCE

After the winter of the "Phony War," the Germans finally moved to settle the score in the West. *GURPS WWII: Blitzkrieg* describes this campaign in detail, and further information can be found in *GURPS WWII: Return to Honor*. The offensive began on May 10, 1940, the same day Winston Churchill accepted the King's appointment to form a new government. The

Nazis ruthlessly attacked neutral Belgium and Holland, luring the French and British troops in those countries; meanwhile, they moved through the Ardennes and forced a crossing of the Meuse. By May 20, the Germans' "sickle stroke" had reached the sea, cutting off in Belgium the best Allied units.

The Allies reacted by counterattacking the exposed flanks of this deep German penetration, but their moves, though worrisome for the Germans, were uncoordinated and untimely. Hitler was more concerned with the bulk of the French army trying to rebuild a line to the South, and ordered his main force to attack in that direction. In the pocket, the hard-pressed Belgians finally gave up at the end of the month, thus making the Anglo-French position unsustainable. The British had already made plans for an evacuation by sea, and had begun withdrawal moves. On May 25, that became a general withdrawal, and it was high time; in the previous days, the Germans had taken all the Channel seaports but one, Dunkirk, and they had arrived within 15 miles of it.

On May 26, Operation Dynamo began; the British Expeditionary Force and many French soldiers were leaving the continent (see pp. W15, W:AKM10). A bold dash by German armored troops might have caught them between a rock and a hard place.

Save Them for Later

As in previous campaigns, the air component had played a major role in this Blitzkrieg, though mostly in the close support task. The Stukas had once again delivered their pinpoint attacks, as well as their morale-shattering effects. On the other hand, fighters had had a secondary role. They could not rely on a centralized control, nor on timely intelligence, nor on a solid network of technical assistance. Additionally, the Allied air forces had had to fight under the threat of losing their forward airfields not because of air attacks but because of the enemy ground forces, and redeploying from those airfields had caused delays.

At the end of May, however, both the Luftwaffe and the RAF would move to center-stage, because Hitler chose not to order that final panzer rush towards Dunkirk. The reasons for this decision are unclear. Possibly, he thought that the campaign had been too good to be true, and that the final shove towards Paris would cost him more. The terrain around Dunkirk was not very suitable for tanks, and once they were on the coast itself, they'd be exposed to the heavy fire of the best naval gunnery in the world. Political considerations may have had their weight: Hitler wanted to make peace with Great Britain, and he may have thought that destroying its army on the beaches would have prevented a settlement.

Nevertheless, Hitler gave orders to keep up the pressure on the British: he decided that this would be

the Luftwaffe's task. Göring eagerly promised a victory, and sent his bombers against the ever-decreasing beachhead. The German aircrews put on another impressive series of attacks, relentlessly pounding the pocket. The RAF fighters did stop many of them, but often out of sight of the ground troops, who would come home with a bitter resentment against the flyboys who had not protected them against the Stukas.

That feeling was only partially unwarranted. While the British squadrons that were committed to the Battle of France and to cover Dunkirk during the evacuation fought hard, Fighter Command as a whole was not doing everything it might have done. This was because Dowding was always acutely aware of his task: defending Great Britain. He stubbornly opposed plans to deploy more fighters in France, and he fiercely husbanded his resources. Just as every soldier who left Dunkirk could fight another day, every Hurricane not lost in Belgium would be precious over the Home Counties.

Operation Dynamo was over on June 4, 1940. The British forces, including the RAF, withdrew to defend their own island. The Luftwaffe had lost some 290 aircraft in Poland, 250 in Norway, and a whopping 1,450 in France. Repair crews were backlogged with similar numbers of heavily damaged machines, and production wasn't keeping up with this rate. The Battle of France had cost Fighter Command 300 airplanes, but many of their pilots had come back, and the core of the force had not been dented. Dowding had saved his strength for the battle to come.

The Last Appeal

On the basis of political considerations that certainly looked sound from his point of view, Hitler made overtures to the British. By the end of June the French were out of the war, 35 German divisions were either demobilized or dropped to a lower degree of combat readiness, and peace feelers were sent out through several neutral countries. Hitler began talks with his generals about the Soviet Union. At the same time, he reluctantly ordered to carry on with preparations for continuing the war against the United Kingdom.

Even after the British had declared war on September 3, 1939, the Wehrmacht had never contemplated the possibility of attacking them. There wasn't even a feasibility study. This was ordered on July 2, and only on July 16, Directive #16 was issued by the Führer; a vague and tentatively phrased project. Its timing was unrealistic, as it stated that in a month all preparations had to be completed. The text was broadcast by Enigma-coded radio messages – and the British decrypted it (see *Intelligence*, p. 29), which put them on high alert and made them even less willing to consider settlement proposals.

On July 19, Hitler appeared before the Nazi-filled Reichstag, and made a “final appeal to common sense,” advocating peace. Since he did not put forth a detailed proposal, the British should have accepted the current situation, a triumphant Germany. English-language leaflets, titled “A Last Appeal to Reason,” were also dropped over London. They failed to sway the British.

THE EAGLES STRIKE

Geography and the balance of naval forces dictated the shape of the battle.

SEA LION PLANS

As England, despite the hopelessness of her military situation, has so far shown herself unwilling to come to any compromise, I have therefore decided to begin preparations for, and if necessary to carry out, an invasion of England.

– Adolf Hitler, Directive #16

Hitler did not show he meant business until July 13, 1940. On that date, Feldmarschall Walther von Brauchitsch (see p. W:IC55), Commander in Chief of the Heer, presented his plans. He intended to deploy elements of three armies, two of them in the main thrust between Dover and Brighton; a smaller thrust would go from Cherbourg to Lyme Bay. Von Brauchitsch wanted a first wave of 85,000 troops; the second wave would include armored and motorized units, which needed to land in ports. The operation would employ 39 divisions, over 500,000 men (see p. W:IC13).

Numerous enemy landings on such a wide front would have created serious problems for the under-equipped British Army. On the other hand, defending the convoys from the Royal Navy along the length of the Channel would have been impossible for the Kriegsmarine; by the end of the month, Admiral Erich Raeder (see p. W:IC55) pleaded for a much narrower landing operation, in front of Calais. What’s more, according to him the first wave would take ten days to land. The generals were furious; such constraints would have meant a defeat on land.

On July 31, von Brauchitsch and Raeder met Hitler, without any Luftwaffe representative present. The army and the navy insisted that, taking into account all the limitations, total air superiority was a precondition.

They basically agreed to leave the overzealous Göring holding the baby. Ideally, the British would change their minds once they realized the Luftwaffe controlled their skies; or at least, the latter would keep them at bay for an almost unopposed landing. In the worst case, if Göring did not make it, the blame would be upon him alone.

The Heer kept gathering its units and hastily training them for what they called a large-scale “river crossing.” The Admirals knew better; they realized how the Royal Navy outgunned them, and were aware that the waves in a river can’t be compared to those of the English channel. Yet they marshalled their river barges, tugboats, other odds and ends. They all wanted to be ready, just in case – *if* the Luftwaffe could deliver. Time was running out, however; the invasion couldn’t be carried out in the autumn weather, which meant that the last days of September were the final deadline.

FRIENDLY FIRE

At the beginning of the war, the British air defense system still had a major drawback: there was no way of telling the sheep from the goats. On September 6, 1939, the so-called “Battle of Barking Creek” took place: because of one stray Dutch airplane, Spitfires from Hornchurch engaged Hurricanes from North Weald and downed two of them. Radar operators still lacked experience, observers and pilots were unused to the problems of snap-decision identification, and everybody was nervous.

The friendly fire accident, however, led to the adoption of the IFF (Identification Friend or Foe) equipment; primitive, hand-made contraptions that nevertheless marked the friendly fighters’ radar signature. Additionally, the aircraft radios automatically emitted a signal that was tracked by their Sector HQ; this device was known as the “beep-squeak.” Thus, the positions of the squadrons could be known and updated (see p. 14).

All of this prevented ground control from vectoring friendlies against friendlies; but in a huge dogfight, there was nothing but the pilot’s reflexes, eyes and experience (in *GURPS* terms, Vision and the Aviation skill).

It is important to notice that different squadrons, unless flying as a whole wing, would not normally be working on the same radio frequencies. Similarly, German bomber crews were unable to speak with the fighters escorting them.

Throughout the Battle of Britain, minor friendly fire accidents continued to happen, on both sides.

A Requisite Condition

The British control of the sea was a formidable challenge for the invasion. The Kriegsmarine, smaller than its opponent to start with, had suffered heavy losses in the Norwegian campaign. They could use minefields and submarines to fence in the ferrying corridor across the Channel, but the enemy had mines and minesweepers too, and the grand total of available U-Boote was a puny 27. Assuming the landing went relatively well, the German ground forces would then face a whole army. The British were under-equipped and not every unit was well trained, but they'd have numbers, supplies, tanks and heavy artillery, all things the first German wave would sorely lack.

Hitler and Göring, however, wanted to rely on their trump card: air superiority. They hoped that, once the RAF was defeated, the Luftwaffe could keep the Royal Navy under check by attacking it in its ports and in the Channel. The Stukas would replace traditional field artillery in supporting the infantrymen.

Everything pivoted on air superiority, an area in which the Luftwaffe leaders were experts. They had demonstrated its effectiveness over Poland. In that campaign, however, they had benefited from their superior aircraft and overwhelming numbers.

In France, the Germans had also won the contest, but they only had achieved local, temporary superiority, by using the traditional advantages of the attacker: surprise, concentration of forces, and choice of the battlefield. Without an efficient command network, the Allied fighters had been defeated, but they had not been wiped out of the sky. The Germans thought that obtaining similar results would be possible and sufficient.

Achieving air superiority, however, meant consistently high kill rates. The Germans, who would be attacking, would need to down many enemy fighters, day in, day out. And their fighters could not simply hunt their opponents; they'd need to protect the bombers. Fighter-only formations could not seriously damage ground targets, and might not be engaged by the British, so the bombers would be needed for the unenviable role of bait.

Also, the German aircraft couldn't be lavishly expended in this task. Assuming that Fighter Command would indeed be beaten, then both fighters and bombers would be necessary for covering the invasion. The Luftwaffe needed to kill a lot and lose very little.

Finally, the German pilots had a very short time to win the battle. Even assuming that Göring was correct and that the RAF really only had 500 fighters, the Germans would need 42 kills per week over a month and a half, just to reduce the enemy by 50% - and this figure did not take replacements into account.

Poised to Strike

At the end of June, 1940, the bulk of the German units began moving to take possession of the air stations in northern France. They did so leisurely; they needed rest after the French campaign, and everybody thought the war was almost over.

Level-flight bombers could have the major airports, while the fighters and Stukas, constrained by their shorter range, ended up in minor airfields and forward airstrips. Some of these had been prepared in all haste by the personnel of the units themselves; the Desvres airfield had to be mowed and leveled in this way. The Luftwaffe was used to operating from improvised bases, but bumpy landings would be especially tough for the thin, weak undercarriage of the Bf 109s, especially in the hands of newcomers; this meant frequent, dangerous accidents. On the other hand, the sea was close and an airman could go to the beach in his free time.

Since the British did not seem in a hurry to surrender, the German began putting pressure on them. Hitler had forbidden flights in British air space as a pointless provocation, but targets in and over the Channel would be fair game (see p. 6). On July 21, Hitler requested an air campaign against the stubborn enemy, and on July 25, he decided that attacks on England would indeed be necessary. Attacks on cities were still forbidden.

The air generals finally managed to convene a staff meeting in the Hague on August 1. Göring was there in a new gala uniform, and was met by all of his top-ranking officers. The men of *Luftflotte 2* came from Brussels. They were led by Feldmarschall Albert Kesselring (see p. W:IC55). *Der lächelnde Albert* ("Smiling Albert") had excellent communication skills, but he was also an organizational powerhouse and a shrewd planner. His only handicap was that he remained a land soldier at heart, and while he could conceive an air campaign in support of a Blitzkrieg, an air-superiority campaign was another matter. He was the most skeptical of the officers about the whole affair, and during the meeting he reminded everybody that sizable assets had to be set aside for covering the invasion. His subordinates made several eager and contradictory proposals, covering the full range of potential targets.

Luftflotte 3, whose HQ was in Paris, was headed by Feldmarschall Hugo Sperrle. A huge man, difficult to deal with, who rivaled Göring in his tastes for good living, he was nevertheless a professional air commander. He thought that the enemy fighters would be forced to take off and fight if the Luftwaffe bombed the right targets.

That was the plan Göring finally pushed through. The idea was to launch several bomber raids with fighter escort, to force the enemy to take off. These would be followed by a wave of fighters, to shoot the British out of the sky. In the days to come, variations would be attempted on this same theme.

The Germans, because of their poor intelligence (see *Intelligence*, p. 29), mistakenly thought they still had a technological edge (they did not), and overestimated their advantage in numbers. Kesselring correctly deemed they had two advantages: ace pilots and superior tactics, both thanks to their greater combat experience. Reliance on the qualities of the individual “knight of the air” had been fostered by WWI veterans like Göring. But the Germans could not lay claim to a monopoly on those two elements. The British were already grooming their own aces, too, and as to tactics, while the German ones were better indeed (see p. 57), it remained to be seen whether the British wouldn’t simply learn.

Finally, the Germans knew nothing about the British defense system, knew of the radar stations but totally underestimated them, and had not calculated the kill ratio they needed to really achieve their aim. More than a plan, all of this was wishful thinking. The Luftwaffe generals had a catchy name for it, however: *Adler* (“Eagle”). It would follow the *Kanalkampf* (the “Battle of the Channel”), which had already begun.

PROVOCATIONS ON THE CHANNEL

If the British air space was off-limits (see p. 8), Göring had ordered his *Geschwader* to attack targets of opportunity, in order to familiarize themselves with the opponent and the environment; beginning to whittle down the RAF could also do no harm. The enemy was still carrying out coastal traffic in small convoys; this made a battlefield of the Channel.

Oberst Johannes Fink, a dedicated veteran commanding KG 2 (see p. 32 for an explanation of German abbreviations), set up shop in a bus on Cap Blanc Nez; he had been appointed as *Kanalkampfführer*, “Commander of the Channel battle.” Since *Kanal* also means “sewer,” he was nicknamed *Kanalarbeiter*: “sewer worker,” or “sewer rat.” His main tool was a mobile *Freya* radar station, which he used to locate the convoys.

While Fink commanded the bombers, General Theo Osterkamp (*Onkel Theo*, “Uncle Theo”) commanded the fighters that would be most involved in this stage of the battle.

Both made the best of a difficult job. Fink ruthlessly hunted shipping with Stukas. Osterkamp quickly realized that fighters roaming on their own over the British coast were ignored. He also ordered his pilots to only pursue sure kills. (Osterkamp may have been the only member of the Luftwaffe top ranks to understand how favorable the kill ratios had to be. On the other hand, if the Bf 109s had attacked only when they had the advantage, the campaign would have had no chance of success in less than two months.)

After minor skirmishes, large actions were carried out on July 10 and 11. Either the German radar or recon flights spotted the convoys. Stukas and/or Dorniers were sent in, with a close escort of Bf 110s, while JG 51 sent free-ranging Bf 109 over them. The RAF had standing patrols, flights of 6 fighters or less, over many of those convoys.

The battle for the convoy code-named Bread, on July 10, was a huge dogfight. The first British unit on the scene was a flight from #32 Squadron, which was outnumbered, but the radar operator had spotted the large enemy formation and #56, #111 and #74 Squadrons joined the fray. #111, in particular, jumped in with the most effective type of attack, a slashing dive pass that cut through the enemy formation and dispersed it. Many kills in the whole Battle of Britain would be achieved in this way, though normally from behind; this time, the Hurricanes made the hair-raising head-on version. The bombers’ aim was spoiled, and they sank one small ship; other convoys would not be so lucky in the following days. The other Squadrons were fed into the battle one by one, and chased away the enemy; #64 arrived last, in time to pursue the retreating Bf 110s.

The Luftwaffe lost ten aircraft in combat and three in landing accidents, and had twelve damaged machines. Fighter Command lost two fighters, one in an accident, and had eight aircraft damaged, one by friendly fire. Bomber Command lost five Blenheims out of six employed in a reckless, unescorted, low-level attack on an airport.

On July 11, the Luftwaffe did better. The British fighters had been scrambled too late and with too long intervals, and the Bf 109s were able to fight them from an altitude advantage, downing three of them. A radar operator underestimated a raid of Bf 110s, and a small flight of British fighters was sent to intercept it. More fighters were scrambled only after the first flight saw the size of the raid and reported in by radio.

Valuable lessons were already being learned. Standing patrols were easy to surprise and outnumber. The first pass was key to success (see *Air-to-Air Tactics*, p. 57). The British needed to scramble fast, and radar information needed to be reliable to be useful; but even when making mistakes Fighter Command was able to redress them quickly. Sending in squadrons in waves was good tactics; it allowed flexibility, and it often ensured that the last one would find retreating enemies, low on ammo and fuel. On the German side, the vulnerability of the Stuka was expected and confirmed, but that of the *Zerstörer* was a disappointing surprise. The Germans missed the most important truths: they did not realize how and why the British attacks were so timely, and, because of their pilots’ inflated claims, they did not understand they were not downing enough fighters. These factors dogged them for most of the campaign.

CHIVALRY IS GONE

Some Luftwaffe pilots entered WWII with a lingering, romantic self-image as knights of the air. As to their British counterparts, they were conscious that they were officers and gentlemen. Both were in for disappointments. In retrospect, the Battle of Britain doesn't hold a candle to the slaughterhouse that would become the Eastern Front, but chivalry was already long gone in 1940.

The most successful behavior in air combat was nothing like chivalrous to start with (see *Air-to-Air Tactics*, p. 57). Pilots who wanted to improve their score routinely sought out crippled enemies, such as the bombers who limped home out of formation, leaving behind a trail of smoke. Others would keep firing on goners just because a "probable" kill wasn't enough for them, while the sky was full of other targets for their limited ammo.

Both sides reported individual cases of pilots being machine-gunned while dangling from their parachutes. This is certainly unsportsmanlike, but it still is not a war crime, no more than firing at an infantryman who is running away. Both the foot soldier and the pilot would be back fighting in a short while. The exception to this was German aircrews parachuting over England; they would all become POWs, and Fighter Command explicitly prohibited harming them for this very reason. They were seen as intelligence sources.

A more contentious issue is that of the German sea rescue seaplanes. These had a white paint job

and Red Cross markings. The applicable international conventions provided for such vehicles for evacuating wounded and sick personnel, and mentioned rescuing shipwrecked servicemen, but the status of these seaplanes remained unclear. The British found some of them in close proximity to convoys, and suspected they were radioing back reports. They decided the use of the Red Cross was a violation of the conventions by the Luftwaffe, and treated the He 59s as any other enemy aircraft. Some of the crews they captured did not include medical personnel, but the Germans protested strongly, anyway. When the RAF set up a sea rescue service in 1941, the aircraft did not carry the Red Cross symbol.

A few unflattering episodes may also have taken place on land. Home Guard members are reported as playing out a barbarous parade with the head of a German airman. Thankfully, in all likelihood it had been severed in the crash of an enemy bomber, not by the militiamen themselves from a living prisoner. The Guard was also trigger-happy, as some pilots, including British ones, would learn at their own expense.

On the other hand, once surrender had been accepted, POWs were treated well on both sides. Intelligence officers made thorough attempts at interrogation, but did not employ threats or force, and they only succeeded when the prisoners themselves felt talkative.

Removing the Signposts

The British were still under the Blitzkrieg shock, and the Army sorely missed all the equipment lost in France, but they were recovering. Manpower was abundant, while training and armaments were insufficient. At the end of the Dunkirk evacuation, there were 24 complete divisions in Great Britain, half of them still in training. Equipment included 790 artillery pieces, 167 anti-tank guns, and a grand total of 261 tanks, most of which were too light and/or obsolete. However, every day that went by was one more for drills, and one more for industrial output. The Germans were aware of this, and it was one of the reasons for pushing for an immediate, though risky, invasion.

Indeed, the coastal regions, the Home Counties, London, and the rest of Great Britain were getting ready. The Home Guard had plenty of recruits (see p. 43). The most exposed beaches were being fortified, though the available mines, barbed wire and obstacles were still spread quite thin.

In the first days of July, the government kicked in more robust anti-invasion measures. Wide tracts of coastal regions were made restricted areas, and the population was even evacuated from the most exposed centers; Margate looked like a ghost town, with grass sprouting from the pavements' cracks. Earthworks were being built on the beaches, and by August they'd be supplied with no less than 80,000 light machine guns (most of them of WWI vintage). The best defenses however were reserved for the ports; the wharves were prepared for demolition, and new bunkers covered the approaches. Crossroads were manned by the Home Guard with makeshift barricades and "fire mines": hidden barrels of petrol ready for ignition. That wasn't the least creative measure taken at crossroads: signposts had been removed, in order to make things more difficult for the invaders, and in some cases fake indications had been placed.

A dress rehearsal of these preparations was involuntarily held on September 7, 1940. The sheer weight of the raids on London (see p. 15), coupled with

intelligence data about the growing invasion fleet and rumors of airborne and seaborne commandos made the jittery British authorities to issue the highest alert. The bells rang, roadblocks were manned, bridges were blown up, but the enemy never came.

Revvng the Engines

While the Germans were probing the enemy's reaction time and capabilities with the attacks over the Channel, the combat readiness of the RAF was peaking. Fighter Command had lost 300 aircraft in France, but by July numbers were up again, and rising. Production was not a problem. William Aitken, Lord Beaverbrook, had been appointed as Minister of Aircraft Production in May. Industrial output was already on the rise, and Lord Beaverbrook, a Fleet Street tycoon, shamelessly took credit for it; nevertheless, his unorthodox methods and bullying attitude did get positive results on the whole. He sympathized with Dowding and disregarded the priorities set by the Air Ministry; this meant brand-new fighters were delivered from the factories to the squadrons that needed them most. The "shadow" Spitfire-making factory of Castle Bromwich (Birmingham), which had had long teething problems, produced its first aircraft thanks to Beaverbrook.

Dowding increased the official size of each squadron to a line of 20 fighters, plus two reserve machines. He also had almost all the 1,454 pilots officially listed, so he decided he actually needed 1,588; at a stroke of his pen, Fighter Command had a shortage of pilots. It wasn't a true shortage, but it soon would be; in the meantime, Dowding could ask for more men.

The Channel battle continued. By the end of July, the Navy decided that daylight crossing of "Hellfire Corner" (the Dover Straits) had become too dangerous. While the Germans certainly couldn't attack the convoys in the dark, the *Freya* radar could spot them. On August 8, convoy CW9 ("Peewit" for the RAF) was leaving the narrowest part of the Channel when it was attacked at dawn by E-Boats (see p. W:IC90). The task was completed by the Stukas in three subsequent waves. Fighter Command intervened in force, but the Bf 109s were there, too. After a day of fighting, just four ships out of twenty remained unscathed, and thirteen British fighters were on the sea bottom; the Germans, on their part, had lost eight fighters, four Bf 110s, and ten Stukas. The balance could have been worse if *Luftflotten* 2 and 3 had cooperated.

The British decided to move their coal by rail. The Germans had won the *Kanalkampf*, and downed some 200 enemy pilots, most of them irretrievably. They believed Fighter Command had had to expend a sizable part of its strength in these opening moves, and that the battle would continue in this way; they were wrong on both counts.

DAY OF THE EAGLES

By mid August it was time to launch *Adlertag*, or "Eagle Day"; the beginning of the German intensive air campaign directly aimed at gaining air superiority over the south of England. It had an important prologue on August 12, as *Erprobungsgruppe* 210 (see p. 64) carried out a successful surprise attack against a key element of Dowding's defensive system: four radar stations. Since their speed gave them away as lone fighters on the radar screens, no timely interception was attempted, and all the four stations went off the air. A well-protected attack by Ju 88s of KG 51 took down the Ventnor radars, too.

The latter was actually the only lasting success, because the attack had cut off the power supply, but this hole could be covered by nearby stations. All other centers had suffered repairable damages, and were operational again in a matter of hours. This contributed to the Germans' impression that it was useless to attack the radars. In the evening, a few air bases were bombed, and #65 Squadron had to save its aircraft by scrambling from Manston while under bombardment. The Luftwaffe marked the airfields as destroyed; on the following morning, the holes filled, the rubble removed, they were all serviceable.

Thus *Adlertag* was launched on August 13. The beginning was less than auspicious; the weather was bad over the targets but good in parts of France, and the lack of coordination between the two *Luftflotten*, and between fighters and bombers, immediately showed. Göring had ordered the mission postponed due to the cloud cover, but the order did not reach *Luftflotte* 3 at all. Similarly, the bombers of KG 2 did not receive it, but their escort fighters of ZG 26 did (see p. 12). The Dorniers moved in alone, and suffered accordingly. In the afternoon, the cancellation was countermanded, and the Luftwaffe attacked several airfields – most of which were not Fighter Command bases, such as Eastchurch, Andover and Detling. The latter suffered heavy losses in personnel and aircraft, but as sad as those were, they still belonged to Coastal Command and left the fighter force unimpaired.

August 13 was a typical day for this stage of the battle. The Luftwaffe mounted large, impressive operations, but these were not well coordinated and suffered from intelligence flaws. Their blows were painful, but far from decisive. The Ju 87s and Bf 110s continued to show how vulnerable they were. Most importantly, fourteen RAF fighters were destroyed and just three pilots killed, while 47 attacking aircraft went down. This ratio would never yield the results the Germans needed.

BLIND-MAN'S CHESS

Offensive air operations by the Germans needed to be planned beforehand and then either executed or aborted. The Luftwaffe simply lacked the radars, the communication and command networks and the capability to control an operation in real time from the ground. The radios, as it happened, could not even be always relied upon for transmitting simple countermands out to everybody. The worst was when they only reached somebody (see p. 11)!

The Germans made some attempts at directing a battle from the air, but even just a *Geschwader* was too much for an airborne officer to control, especially if he had to watch his six (over his shoulder), too. Bf 109 pilots did react to threats and even to the appearance of targets of opportunity but those were tactical decisions. On August 18, IJG 52 dived down to strafe Manston because its commander had realized a British fighter unit was landing to refuel there, but this was very unusual.

Therefore, each raid was like a chess game played by a blind man. The German planners had unreliable intelligence both on the targets and on the expected threat; they would not receive useful updates during the attack. So they sent their assets out on pre-determined plans, setting out altitudes, meeting points between bombers and escorts, main targets and alternative targets, approaches and turning directions. Once airborne, the units were on their own. Officers were expected to carry on with the mission, whatever the situation.

The Germans did not know how and when the raid would be met by the enemy, but they could usually be sure they *would* see British fighters. At times, they tried to stagger their fighter escorts, so that there would be some that could join the action at any time, or to have multiple bomber *Gruppen* in the air over France for some time, in order to swamp the enemy with potential raids. Both tactics worked up to a point, but they meant a waste of limited resources.

Black Thursday

August 14 was less busy, though a gaggle of Stukas provided bait for British fighters, which were engaged by the whole of JG 26. For once, the casualty ratio of 3:1 was in favor of the Germans; but those figures were also the actual numbers of aircraft downed, i.e., too meager a result.

On August 15, with weather improving, the Luftwaffe carried on with its saturation attempt. The Kent air bases were attacked again, with mixed results. Manston was too close to the coast to be effectively protected against low-level attacks. The Germans managed to sever the cables that powered three radar stations, but they did so by mere chance and did not exploit the short-lived gap.

Meanwhile *Luftflotte 5* threw its weight in the battle for the first time. Flying all the way from Scandinavia, its bombers could not benefit from a proper fighter escort; they relied on the action in the South and a diversion towards Edinburgh, and on being accompanied by Bf 110s and Ju 88Cs (the heavy fighter version, see p. W:IC87). These precautions were not enough, and both the bombers and their heavy-weight escorts were slaughtered over the coast. On a larger scale, this mirrored the daylight Bomber Command attack against Denmark that had taken place two days before, where 11 unescorted Blenheims out of twelve had been downed. Bombers could simply not travel alone in daylight any more.

Other bombing runs were more successful; among them, KG 3's attack against the Short Bros. factory at Rochester. This delayed the production of the Stirling bomber, but did not cause problems for Fighter Command. KG 3 had been escorted by no less than three fighter *Geschwader* and preceded by a fourth, JG 26, which claimed many kills.

Erprobungsgruppe 210 hit fast and hard, but unfortunately for the Germans, not its intended targets. Coming in low against airfields, they left Fighter Command too little time to scramble; once they had dropped their ordnance, the Bf 109s were as dangerous as ever against British fighters struggling to gain altitude. This did not come cheap: Hauptmann Walter Rubensdörffer, the energetic leader of this independent *Gruppe*, was lost that day. Additionally, the last strike was carried out against the wrong target: Croydon instead of Kenley. Croydon was within London's suburbs. So far, Hitler's order not to bomb London had been respected; but with this mistake, over 60 civilian Londoners were killed in a factory producing soap and perfume.

Biggin Hill also was on the target list, and was missed by bombers which hit West Malling. Both Kenley and Biggin Hill were not just airfields, they were Sector stations, critical HQs in #11 Group's command network. They had been spared, this time.

At the end of the day, the Luftwaffe licked its wounds. Bomber crewmen thought they knew who had won, and called August 15 "Black Thursday." On the other hand, their leaders met with Göring and reckoned they could cope with the toll. They decided that KG 3 and its four *Jagdgeschwader* escorts were a model, helped in this by JG 26's excessive claims. From then on, each bomber should have one close watchdog, another roaming above, and a third one for the journey

back. The problem with such an approach was that Göring had given production priority to bombers and Bf 110s, and the Luftwaffe simply did not have three Bf 109s for each bomber. By this same token, the unescorted *Luftflotte 5* bombers would never again try to cross the North Sea.

Göring also decided that no air base should be bombed again after a successful attack, and suggested that the radar stations were not worth the effort: two strategic mistakes.

A Tough Nut to Crack

On August 16, the Luftwaffe tried again with some tested tactics and some new tricks. After midday, 54 Stukas of StG 2 attacked Tangmere, a Fighter Command airfield, and another 51 struck less important targets. These 85 dive bombers came with 214 Bf 109s and 54 Bf 110s; Göring's instructions were being followed by *Luftflotte 3*. However, such large concentrations could not be dealt with sparingly, and eight squadrons scrambled. The Stukas could not be entirely screened by the Messerschmitts, but their bombs got through; Tangmere was seriously damaged and 14 fighters undergoing repairs were destroyed on the ground.

Sperrle had also decided to give the radars another try, and Stukas closed down Ventnor for another week. This made surprise tactics work, though the Germans failed to understand the reason. Manston was strafed by low-flying Bf 109s, with the loss of two fighters on the ground. Similarly, two Ju 88s appeared low and slow, with their wheels out as if going to land, over Brize Norton; they hit two hangars with perfect accuracy and destroyed 46 aircraft. This ruse would have been a major blow to the British defense, if the aircraft had been fighters. They were bombers.

It was on this day that Churchill, paying a visit at #11 Group's HQ in Uxbridge, happened to see a situation where all the fighters were either engaged or refueling, while more hostile raids were being reported; no reserve was at hand – within #11 Group. He was understandably shaken, but Park could always request reinforcements from #10 and #12 Groups in order to defend his own airfields, as he would do in the days to come.

A welcome respite followed; no attacks at all came on the following day. The attackers needed rest, too, just like the British pilots. While the flying personnel napped, mechanics worked like beavers repairing damaged aircraft, and airmen made cratered runways serviceable again. Meanwhile, the Luftwaffe top officers were informed that the enemy was estimated to have 300 serviceable fighters. The actual number was 1,438, though only 850 were serviceable and deployed with operational squadrons. Fighter Command's manpower was under strain, but it remained a much tougher nut to crack than the Germans believed.

Scrambling for the Airfields

August 18 became known as “the hardest day.” The Germans meant serious business, and were determined to keep the pressure up on the airfields. Around midday, with weather conditions improving, the radar operators spotted the largest plot to date, and they were right. There were two full bomber *Geschwader* (KG 1 and KG 76), and an impressive phalanx of 410 Bf 109s and 73 Bf 110s from *Jafü 2*. KG 1 launched a conventional, high-level attack of limited success against Biggin Hill, but there was a complex plan aimed at Kenley (both were key Sector stations). KG 76 was a mixed *Geschwader*, so its Ju 88s were tasked with dive-bombing the hangars, most of its Dorniers would crater the runways, and the *coup de grace* would be inflicted by *Staffel 9*. This unit was specially trained for low-level bombing, and would arrive over Kenley skimming the hills to strafe and bomb whatever remained.

KG 76 got its timing all wrong, thanks to lingering clouds and the usual problems of rendezvous with the fighter escort. *Staffel 9* arrived first, after a hair-raising flight at 60 feet from the waves and treetops. They had not appeared on the radar screens. But the Observer Corps saw and reported them. The defenders were ready. The Germans were welcomed by intense 40mm and .303 fire from AA guns and MGs. They completed their bombing run, and while evading ended across a Parachute-and-Cable line (see *Fireworks*, p. 47) whose task was to hamper exactly this kind of attacks; a damaged Dornier was brought down by a cable. Seven Do 17s made it away from Kenley (one of them piloted by Oberfeldwebel Wilhelm Illg, its navigator, as the pilot was dying), but #111 Squadron was over them. In the end, only three aircraft of *Staffel 9* made it back without crash-landing, and only one had no wounded or dead crewmen aboard.

Back at Kenley, the level-bombing mission had also hit, and the Ju 88s opted for a secondary target because the airfield was enveloped in smoke. The raid destroyed three hangars out of four, and five fighters. The airport would not be operational until the next day. However, these results were largely due to *Staffel 9*, and the Luftwaffe could simply not afford their cost. KG 1's traditional raid on Biggin Hill was paid for with just one Heinkel; but, unbeknown to the Germans, it had done no damage.

Luftflotte 3 used its Stukas, instead. They targeted the radar station of Poling and no less than three coastal airfields – none of which belonged to Fighter Command! StG 77, at full strength, committed nearly 100 Stukas, and lost 26. Their escorting Bf 109s also took significant losses, for little return. What shocked the Germans was not only the heavy overall casualty rate of the dive bombers, but the fact that one Gruppe alone, I/StG 77, lost 11 aircraft out of 28. The unit had been

caught while lining up for the dive, and its escorts had engaged the attackers, but not all of them. If the Stukas were left alone, for whatever reason, their survival chances were abysmal.

The Germans meant to end the day with raids against Hornchurch and North Weald, but cloud cover prevented this, and the bombs fell on secondary targets. The Bf 109s parried most attacks against the bombers, and not all attempted interceptions were successful.

At the end of the day, the Luftwaffe had lost 69 aircraft; they had destroyed 34 fighters in the air and an additional 29 machines on the ground. No other single day had seen or would see so much destruction.

So Few

#11 Group was beginning to be swamped. Airfields could be repaired in a day, but what if the Germans attacked them every day? And the manpower shortage had begun; the pilots needed rest.

Luckily for Fighter Command, the same applied to the Luftwaffe. Göring was worried about the casualty rates, and he summoned his commanders on August 19. After a round of recriminations and criticism, they opted for policies striving to contain the losses. The Stukas were to be used only in the absence of enemy fighters; that is, they were withdrawn from action. The Ju 87 would only put in one appearance much later. The rendezvous points with bombers would be right over the fighters' bases. Fighters were to be used in greater numbers for each raid. This was going to increase the Bf 109 units' workload.

The Luftwaffe was ordered to focus on its direct opponent, Fighter Command. The series of attacks on the airfields would continue. Other targets would only feature in harassment raids in bad weather; aircraft factories were to be bombed at night.

Göring completed the shake-up by promoting the most promising fighter aces to lead their *Geschwader*, and by redeploying practically all the Bf 109s in the Pas de Calais.

All of this, together with a spell of indifferent weather, brought about a lull in the fighting. Dowding exploited it with some redeployments of his own, while the hard-pressed units of #11 Group could get some rest. On August 20, Churchill gave the famous speech about the many who owed so much to so few (see p. 36). It uplifted the country's morale, and the pilots, though they wouldn't consider themselves "unwearied," were satisfied.

On August 24, the onslaught on the airfields began anew, under Kesselring's command. He was to destroy Fighter Command, either in the air or in its bases, and he had been ordered not to lose bombers. This meant pushing his fighters to fly three or four sorties per day. North Weald, Hornchurch and Manston were hit, the last by ErprGr 210. By now, the Manston airfield was

FROM YELLOW TO WHITE

The British defense network relied on its controlling links. At all three levels (Fighter Command, group HQ, sector station), accurate plotting was carried out on two separate tables, one for the friendlies and one for the *Bandits* (see *Radio Codes and Slang*, p. 63). A shift of WAAF auxiliaries (called the "beauty chorus") used telephone headsets to receive updates, and croupier rakes to move wooden markers on the huge, gridded map on the table. Symbols, figures and colors indicated the estimated size of the raid, its course, its height, and how fresh the last update was.

Colors and lights were used to identify the situation of air raids over individual locales and, most importantly, the status of the fighter squadrons. Yellow indicated a local warning, red that the attack was either imminent or "in progress," green was used when the raid moved over the place without attacking, and white was for "all clear." The squadrons had lighted panels on a "tote board," that showed their status: "released" (not available), "available" meant it could take off in 20 minutes, "at readiness" (in 5 minutes) or "standby" (in 2 minutes). When in standby, the pilots might be actually sitting in the cockpits, but more often they just hang around the dispersal area, waiting for the order to scramble. Even so, every second mattered in order to reach the best altitude, and the pilots knew it; experienced squadrons could take off at full strength in less than 90 seconds.

The final status panel, lighted by a red lamp, read "engaged." On August 15 and September 15, all the squadron panels at the HQ of #11 Group were red for some time.

The controllers, all experienced officers, observed the unfolding of the raids from a balcony. There were enough of them to deal with all the information, and one of them actually ordered the squadrons to scramble when the order from the group HQ arrived. The fighters would be vectored to intercept; the best controllers would send them frequent updates, and additional intelligence, when possible. After that, it would all be in the pilots' hands (see *Air-to-Air Tactics*, p. 57).

covered with rubble and unexploded bombs. For the first time, the British decided to evacuate an airfield.

Two days later, the raids went out for Kenley, Biggin Hill, Hornchurch and Debden. The attackers were pushing the fight North, but this also meant the Bf 109s

were coming closer and closer to their range limit. #11 Group found itself with too few squadrons, and Park called on #12 Group to cover the northernmost airfields; Leigh-Mallory's reinforcements arrived late. Nevertheless, several bomber *Staffeln* turned tail before reaching their objective, as their escorts disengaged on emptying fuel tanks. The bomber commanders complained that the high-flying Bf 109 did little good and demanded closer escorts. In the afternoon, *Luftflotte 3* launched a raid on Portsmouth; from then on, it would almost exclusively carry out night bombing.

August 27 saw little action, but on the following day Kesselring tried some new tricks. By massing the bombers over Calais, and making them wait, he could force at least a few British squadrons to scramble prematurely; by having the big build-up split later, he could conceal for some time the actual targets. He also had an ambush raid, with six *Gruppen* of Bf 110s, escorted by Bf 109s, flying as slowly as bombers. To a certain extent, the tricks worked. Rochford and Eastchurch were bombed, the former taking more damage; British fighters suffered serious losses, also because on that day the few remaining Defiants were committed for the last time (and were mauled). On August 29, there were a handful of bombers as bait, and all the fighters in *Luftflotte 2* (save those who patrolled their own airfields) served as the hook. The first squadrons to engage reported the situation, and Park countermanded the interception by other units. The British fighters took more losses, but Kesselring did not get the decisive results he was seeking, and the Bf 109s continued to pay a heavy price for these successes.

On both sides, a few fighter units were flying too many sorties. The reasons were their greater combat experience, the position of their air bases, bad luck, and the fact that both fighter forces were fraying at the edges. Combat exhaustion was setting in (see *Combat Stress*, p. 41).

On August 30, Kesselring used another successful tactical device. Instead of sending in two to four huge raids at long intervals, he launched a small attack every 30 minutes. Parrying all of them was hard even for the British defense system, and this saturation paid off both in terms of unopposed bombing runs on airfields and of air-to-air victories; but then again, it meant having the *Jagdgruppen* fly four or five missions in twelve hours. The Germans managed, by sheer luck, to cut the power of several radar stations, and a precision attack on Biggin Hill by ErprGr 210 (see p. 64) came in by surprise. The Section Station became non-operational; while Hornchurch temporarily took over, closing down these HQs would quickly degrade the network. Once again, Park had not enough squadrons, but this time the reinforcements were timely and Douglas Bader's (see *Aces*, p. 38) Canadian unit took down several Bf 110s.

These patterns carried on for several days more. Airfields were bombed and strafed, fighter sweeps tried to pass off as bomber raids in order to lure the defenders, the aircraft factories were attacked at night and sometimes in daylight too. The Germans seemed determined to erase Biggin Hill from the map, bombing it ten times in a week, and on August 31 they hit the Operations Room. Once more, nearby nodes of the network took up the slack. The Sector station was operational the next day, but it was starting to look like a lunar landscape. The ground crews set up an emergency HQ in a village shop, just in case. By September 4, only one hangar remained standing, and Group Captain Grice, realizing the Germans would come again for it, had it destroyed. He was censured, but not court-martialed.

Together with most airfields of #11 Group, and Duxford of #12, Croydon was also on Kesselring's list, and was hit with accuracy. The bombing was getting closer to London.

MISTAKEN ESCALATION

During the first week after Eagle Day (see p. 11), Fighter Command had a good 2.4:1 loss ratio, and was losing a manageable number of airplanes. By the first days of September, the loss ratio was 1.3:1, and some 140 fighters were destroyed in a week. Prospects looked bleak on the English side of the Channel. The veterans were tired, and the newcomers were easily shot down on their first mission.

Things weren't going well for the Luftwaffe either. All the units were understrength, both in pilots and machines; serviceable aircraft were 65% to 75% of the totals at hand. Ground crews were overworked, and spare parts hard to find. The worst situation was that of the fighter *Geschwader*. Depleted and exhausted British squadrons would be rotated North or West; the German fighters had to keep flying until downed. More and more pilots were reporting sick, and an increasing number of sorties were aborted because of technical failures.

It was an endurance match, and the clock was ticking; bad weather would soon bar any idea of invasion. Sea Lion Day was postponed from September 15 to 21, but that was already stretching it. However, a major shift in targets changed everything.

Bombs and the City

Apart from the mistaken first attack on Croydon, the Germans had also bombed, on August 24, the Thameshaven oil terminal, an industrial objective. However, the huge fires could be seen from a distance, and bombs had strayed over the East End. On the following night, Bomber Command bombed, and largely

missed, the airport of Tempelhof. Night attacks on Northolt and North Weald had made the air raid sirens blare in London, and on August 28, Churchill ordered a substantial mission against Berlin. Two days later, Hitler's ban on bombing London was lifted.

Göring had boasted that if bombs fell on Berlin, he could be called "Meyer" (a common Jewish name in the capital). He actually could not stop night raids; what he could do was retaliate. If Göring had political motives, Kesselring agreed, for practical reasons. His recon photos showed Lympne and Manston abandoned, Biggin Hill flattened; he thought the enemy fighters were moving North. Following them up with the airfield interdiction strategy became exponentially more difficult because of the Bf 109's range. If the British had given up Manston, they would not give up London; they would come up and fight for it.

In the afternoon of September 7, 340 bombers of five *Kampfgeschwader* crossed the Channel, escorted by 620 fighters. It looked like a flying armada. Ground controllers were expecting it to split up against multiple air bases; instead, it moved straight ahead, towards London. The interceptions were late, and though each and every squadron within range was scrambled, there were too few of them. Leigh-Mallory sent in a 3-squadron wing, but when it had finally formed up, it was attacked from above by the high-flying German escorts, and could not reach the bombers. These underwent minor attacks, but were not dispersed. Their target was the immense docks area, but the East End was also hit. They left the place ablaze, and they came back over it that night, when the British could do very little to stop them (see *Night Life*, p. 60).

This set the tone for the following days. The night raids might still force the British government to a conference table; if not, they would at least avenge the attacks on Berlin and begin a new siege strategy against the United Kingdom. The daylight action was the last attempt to achieve a victory over Fighter Command in time for Sea Lion.

On September 8, the weather prevented big raids, but on the following day the Southern outskirts, together with nearby airfields, were bombed. This time, #12 Group's big wing showed up in time and bagged a few kills. Park also conceded something to the theory of big numbers, ordering pairs of squadrons to be scrambled at the same time. Nevertheless, the weather was not ideal, and the clouds prevented some interceptions. This was bad for the ground targets, but it also meant no decisive air battle was taking place. The opposing fighter forces were denting each other, and the Germans were not delivering knockout blows.

After another cloudy day, on September 11 the Luftwaffe dished out more than it took, downing 27 fighters while losing a total of 21 between bombers, Bf 110s and Bf 109s. The Duxford wing had really

become a big wing now, with no less than five squadrons, and had some success against the main German formation.

Two more days of bad weather saw only nuisance raids. One of them helped the British sense of national solidarity, because it happened to hit Buckingham Palace. Now the Royal Family was on the same footing of the East Enders. Every night, the fires were awesome, and there was some concern in the government over whether the Londoners could "take it." They could and they did (see p. 58), and the "attack against the Crown" made the King even more popular.

Fighter sweeps took place on September 14. The Luftwaffe again came out slightly ahead. What was more, many interceptions had failed in the previous days. It was because of the weather, but the Germans thought that the British resistance was possibly softening. Perhaps they were really down to their last fighters.

Grand Finale

On September 15 the weather was fair. Churchill was visiting Park's Uxbridge HQ. Kesselring sent in one raid with just 27 Dorniers from KG 76 (the veterans of Biggin Hill) accompanied by no less than four *Jagdgeschwader*: JG 27 and JG 52 on a path-clearing sweep ahead, JG 53 on a high cover mission and JG 3 flying close escort. Park felt under pressure to protect London, and he saw nothing else. He decided for a full commitment, asking for #10 Group to cover his airfields, and the Duxford big wing to engage the enemy over the capital.

Park was worried when he saw another marker on the table, but by its speed he judged it a lone fighter sweep and he left it unmolested. They were Bf 109s indeed, belonging to II/LG 2, but they were carrying 250-lb. bombs. The Luftwaffe was trying to replicate the precision attacks of *Erprobungsgruppe* 210 (see p. 64), with the wrong pilots and the wrong targets.

#72 and #92 were expertly maneuvered so that they made the lethal out-of-the-sun dive against the top cover. JG 53 was surprised, and engaged in the dogfight. Then #243 and #501 arrived from Kenley and made a head-on pass against the bombers. The veteran German crews did not make the mistake of breaking formation, but began taking hits. JG 3 joined the fray, but had to keep close to the bombers, because four more squadrons showed up in pairs, #229 and #303, then #504 and #257. Attacked on all sides, the bombers made their bombing run over the railway yards of Clapham Junction, only to see a cloud of fighters arriving: it was the big wing (#19, #302, #611, #310, #242). If the German unit was not annihilated, it was because there were too many attackers who hampered each other.

The British lost 13 aircraft. Six bombers and 12 Bf 109s went down, which could have been much worse

for the Germans. Most of the surviving bombers were damaged, and the German airmen had seen the RAF's "last 50 Spitfires" showing up four or five times. The fighter-bomber attack went in and out unmolested. The Bf 109 pilots hated their task and dropped the bombs as soon as they were over a railway station, achieving very little.

This action, however, was meant to exhaust the defenders. The real assault was just forming up. It included 114 bombers in five units, three in line abreast and two behind the left and right. There were five *Gruppen* from JG 3, JG 53, JG 77, and LG 2 to provide the top cover, one *Gruppe* from JG 54 for close escort together with a score of Bf 110s from LG 1 and ZG 76; the experienced hunters of JG 26 and JG 51 flew the forward free sweep. Kesselring was not interested in bombing; 360 fighters for 114 bombers meant he wanted to win an air-to-air battle. The Luftwaffe could have employed more bombers, but there were not enough fighters to maintain the same ratio.

Park used the same strategy again. The first squadrons that had been committed against the morning raid had refueled and rearmed. The German outrider fighters were engaged just beyond the coast by #41, #72 and #222 Squadrons, then the raiders were attacked every five minutes in harrowing succession. Flying close to the naval base of Chatham, they came under AA fire; contrary to orders, the batteries kept firing even when British fighters joined the fray.

The bulk of the defenses, however, were in front of London. There, the Bf 109 pilots would soon be short on fuel, but the bombers would not have dropped their payload yet. This defense line included 19 squadrons, totaling 185 Spitfires and Hurricanes. Many scattered around the escorts, while no less than six squadrons made it through the two right-most groups of bomber, handling them roughly. The Heinkels of KG 53, in the center, were attacked by four green squadrons that employed the textbook approach (see *Air-to-Air Tactics*, p. 57). Against a close formation of bombers, it worked. On the left, JG 53 had to come down and tangle with the Poles of #303 Squadron. It was then attacked by #253, and could not stop #73 from delivering a head-on pass on the bombers.

Finally, the Duxford wing showed up at 16,000 feet; but Galland (see *Aces*, p. 39) was above them. The ungainly large formation suffered three losses without having time to react, and the fighters of JG 26 made it away before seeing the red light telling them they had 15-20 minutes of fuel left. The bombers, however, were still there. They were now alone, but they were over their target.

There was a thick cloud cover over the target, too. The bombers could not see the docks. The *Kampfgruppen* discharged over West Ham and the Bromley-by-Bow gasworks, or on targets of opportunity on the way back. (Some British pilots saw this, and believed the

German bombers were turning tail upon seeing them.) The Dorniers and Heinkels still had a long way home, and were harassed until the escort for their withdrawal managed a rendezvous over Kent.

Minor engagements took place to the West, one of them over Portsmouth, and #10 Group was rather unlucky in its interception timing, achieving little. September 15, later to be known as Battle of Britain Day, ended with the night raids. These would go on as expected, with few losses for the bombers, but also scanty results. Nor were the German bombers the only ones to take off after dusk; Bomber Command did the same, as usual.

Routine Bombing

The Germans had run out of time, and it was just as well, because otherwise they would have risked running out of aircraft. Regardless of the inflated claims on both sides, the Luftwaffe had lost 56 airplanes on September 15, and the RAF just 28. Sending in more bombers, as Kesselring had done in the afternoon, meant losing more of them.

Göring needed a political spin to the end of the campaign, and he built it in a final meeting with his staff. The story was that the British were on the verge of defeat, and they had clearly left most of the island unprotected in order to defend London, as evidenced by the little resistance met over Portsmouth. They were employing unpainted fighters straight from the factories and raw recruits straight from the schools; indeed, they could do little more than ramming the bombers (there had been three collisions in head-on attacks). Unfortunately, the weather was turning bad . . . this was the one accurate piece of information in the German appraisal.

The bombing campaign would continue, of course. Since the British were critically short on aircraft, the factories were to be targeted, but only at night. Cities would be hit, too. In daylight, fighter-bombers would be used, mostly for the nuisance value and in order to wear down the fighter force. Indeed, intercepting them was difficult, because they came in fast and high, escorted by pure fighters; scrambling on the warning would not give the interceptors enough time to reach the altitude they needed, and exposed them to attack by the escorts. On the other hand, fighter-bomber pilots loathed a true long dive, and instead dropped their puny payload from some 15,000-18,000 feet. At that height, they could not do significant damage.

Apart from saving Göring's face, these measures had nothing to do with Sea Lion. There still was some faint hope that the British government could be forced to negotiate, so the invasion became a bluff and the bombing the real threat. Alternatively, the bombing would become the first step in a sea and air siege.

London was in for the Blitz. The capital was bombed almost every night for more than two months. Other cities were mercilessly and rather pointlessly bombed, too. The civilians somehow managed to take it in stride: they spent the night in the shelters or the subway, in the morning they picked up the pieces and went about their “business as usual” (see p. 58). The bombing itself became a matter of routine on both sides. It would ease up in the spring of 1941, when the Luftwaffe began moving east.

OPERATION CANCELLED

On October 12, 1940, Hitler ordered that further preparations for Sea Lion would be carried out in such a way as to maintain pressure on the enemy, but without causing an excessive strain on the German economy. In other words, the operation was turned into a bluff. The barge fleets began dispersing, since they were massed targets for Bomber Command’s unrelenting attacks.

The invasion was postponed; Hitler never ordered it cancelled. By the end of 1940, however, Enigma intercepts, aerial recon photos and other reports made it clear to all who had won the Battle of Britain.



Aftermath

The Germans never managed to establish the air superiority they needed for Sea Lion. They never even came close, notwithstanding the exhaustion felt by the men of the best British squadrons at a critical time in the battle (see p. 41). The Germans simply never engaged the whole of Fighter Command. The alternative objective of the Luftwaffe’s onslaught, forcing the British to seek a diplomatic deal, was not in the cards, either.

The Luftwaffe lost nearly 1,900 aircraft in the battle. Fighter Command lost around 1,000 fighters, and the RAF as a whole a total of some 1,550. The operations carried out by Bomber Command and Coastal Command to forestall the invasion were vital, but the issue of air superiority would be settled by fighters; German bombers attacked the airports among a long list of targets, but their main task was forcing British fighters to scramble. In the air battle, the Germans had an unfavorable 1.8:1 kill ratio, an outcome that would never translate to true air superiority. Additionally, they

lost many more fighter pilots than the enemy; having lost many bombers, each of them carrying several crewmen, their losses in personnel were five times the enemy’s. Meanwhile, the British production and training systems consistently remained ahead of the enemy in churning out machines and pilots. In six months, the German fighter force dipped by 30%, while Fighter Command ended the battle 40% stronger than at the beginning. The margin looks narrow if one considers only the figures of destroyed aircraft, but that was not the bottom line at all.

The War Goes on

After 1940, different outlooks were needed on both sides of the Channel.

The British became able to employ the peripheral strategy again, and resources could be shifted to the Empire’s outposts (see pp. W18-19, W:AKM88-117). As to the air war, Bomber Command would carry on with its optimistic views about strategic bombing, but as its losses mounted it would abandon daylight bombing. Meanwhile, the new commander of Fighter Command, Leigh-Mallory, eagerly tried to use big-wing tactics to bring the war to the enemy, attacking with unwieldy formations the few German fighters that the Luftwaffe had left in France when it had begun moving East and South. The outnumbered Germans repelled the big wings, and when they succumbed they parachuted to safety; the overall outcome of the 1941 fighter campaign over France largely mirrored that of the Battle of Britain, with the home team doing better than the guests. Luckily, the British were not trying to establish air superiority. Their goal was to take some Luftwaffe away from the real front, away from Russia.

On the German side, the Luftwaffe’s offensive capabilities were being redeployed; other means would be used against the stubborn British. The U-boats would lay siege to the English sea lanes. Only minimal German forces would be committed against the British, in North Africa, mainly to prop up the faltering Italians (see p. W:GL9); the bulk of the Reich’s forces would turn East. It was, however, a maimed air force: being geared for a short war, it could never make up for the losses incurred in 1940. The Luftwaffe never fully recovered from that defeat.

Apart from the useless daylight fighter actions over France, the focus of the air war would shift towards strategic bombing. Radars and countermeasures, heavy four-engine bombers with huge payloads in immense numbers, radar-equipped night fighters, very long-ranged daylight escort fighters, and finally reaction engines and unmanned rockets would enter the equation in the years to come (see pp. W25, W:AKM23-24, W:IC13). Most of this, however, was built over the experience gained and the lessons learned during the Battle of Britain.

WHAT IF...?

Many alternate-history scenarios have been built over a German success in 1940. Historically, the chances were abysmal even assuming a beaten RAF; the German first wave of Sea Lion could have been defeated by any one of the Royal Navy, ground forces, bad weather or supply problems, not to mention a combination thereof. However, nobody said that roleplayers need to stick to realistic scenarios!

Uneasy Peace

The easiest way for the Germans to “win” is if Churchill never comes to power and other politicians seek peace terms. Hitler would probably grant token concessions, but basically, the continent would be his to launch Barbarossa from. He could use the full might of his land and air forces against the Soviet Union. Meanwhile, an increasingly unpopular pro-German British government would struggle with its own people, possibly harassing “subversives” who campaign against neutrality and for “Uncle Joe.” London would be teeming with Axis agents from the newly reopened embassies, keeping tabs on hostile expatriates and possibly murdering some of them. When the Germans extort from weak continental governments permission to build U-boat bases in Iceland, the Faeroes and the Canary Islands, even the British appeasers should see what’s coming... but won’t it be too late?

The Wish List

For Sea Lion to succeed, Hitler would need a genie with far more than three wishes to grant. *Most* of the things listed here would be necessary. The success would yield the results described on pp. W:IC124-125.

The Luftwaffe concentrates its attacks on #11 Group airports, mainly with escorted Bf110s as fighter-bombers, and with night raids by bombers. If maintained for long enough, this might pressure Dowding to close some airfields and to withdraw squadrons to the North, creating a contested air space over coastal areas.

The Luftwaffe attacks the radar stations, while the Kriegsmarine and/or paratroopers also carry out small raids against them. This levels the field by partially blinding Fighter Command.

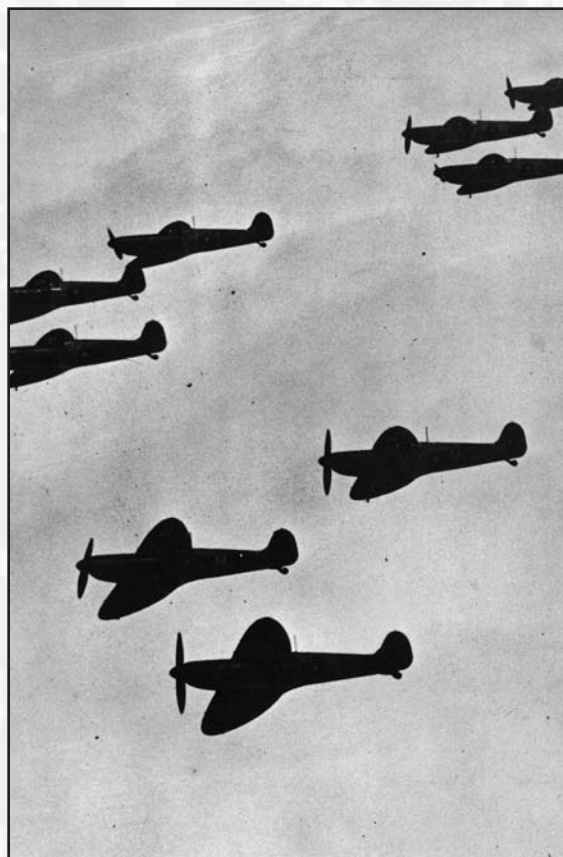
The weather stays good during the invasion, and only a small percentage of the barges sink in the Channel.

The Kriegsmarine is even luckier than in actual history, losing fewer ships up to the autumn of 1940; the reverse is true for the Royal Navy. The difference between them is no longer so daunting.

The German air and naval arms cooperate to develop bomber crews trained for ship-hunting, anti-shipping bombs, effective air-dropped sea mines and the like.

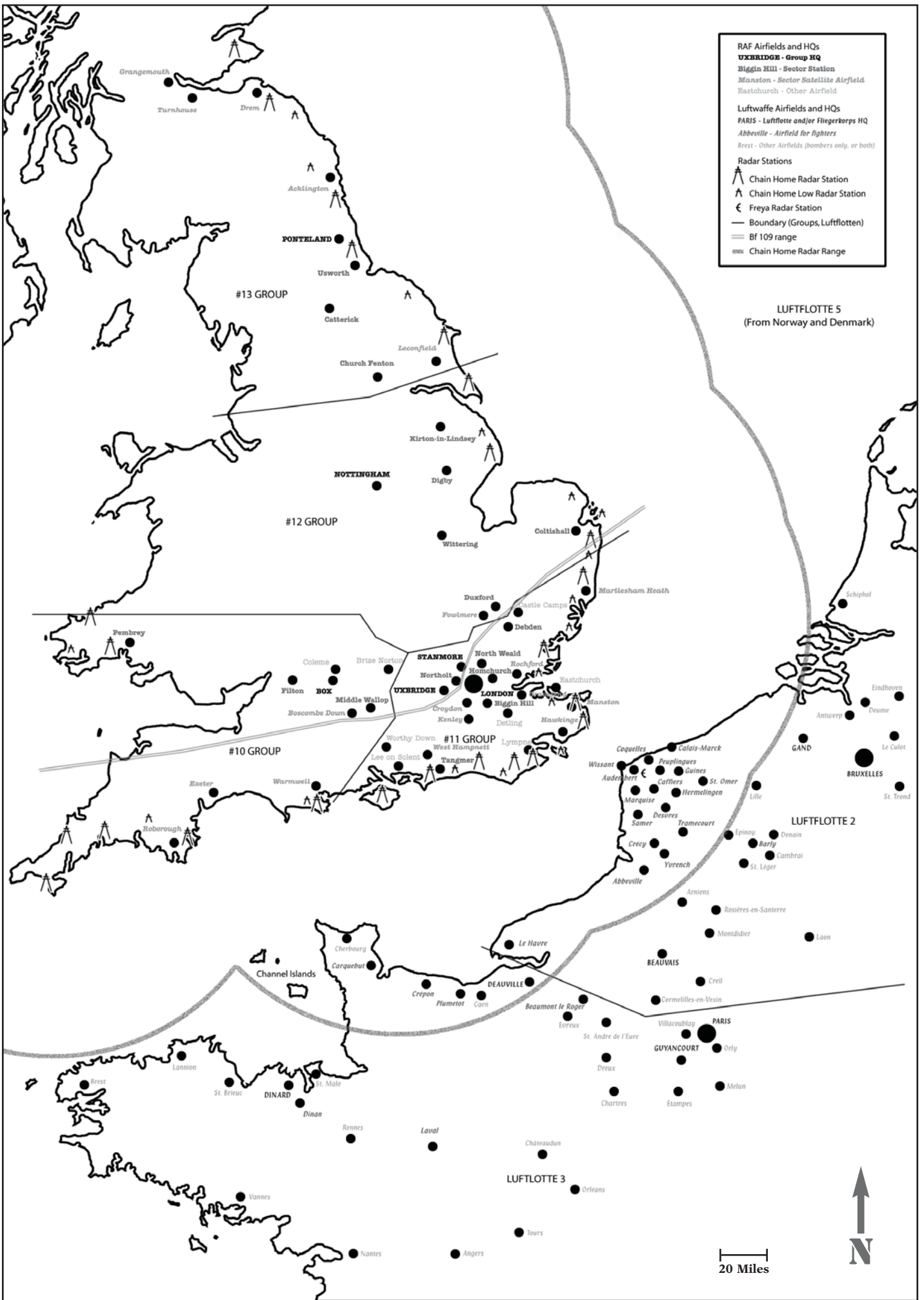
The British Army does not react quickly enough to the landing, and there are still enough Stukas to engage its artillery units.

By a stroke of luck, the Germans manage to seize a serviceable port during the first two days of operations.



They Have Come!

Another interesting possibility for the Germans to buck the odds and attempt Sea Lion anyway. Even if the prospects are grim for the scattered, under-supplied and beleaguered German landing forces, nobody can be sure of the outcome. The operation will fail, but not without bloody sea, land and air fights.



RAF Airfields and HQs
UXBRIDGE - Group HQ
 Biggin Hill - Sector Station
 Manston - Sector Satellite Airfield
 Eastchurch - Other Airfield

Luftwaffe Airfields and HQs
PARIS - Luftflotte and/or Fliegerkorps HQ
 Abbeville - Airfield for fighters
 Brest - Other Airfields (bombers only, or both)

Radar Stations
 Chain Home Radar Station
 Chain Home Low Radar Station
 Freya Radar Station
 — Boundary (Groups, Luftflotten)
 Bf 109 range
 Chain Home Radar Range

LUFTFLOTTE 5
 (From Norway and Denmark)

LUFTFLOTTE 2

LUFTFLOTTE 3







20 Miles

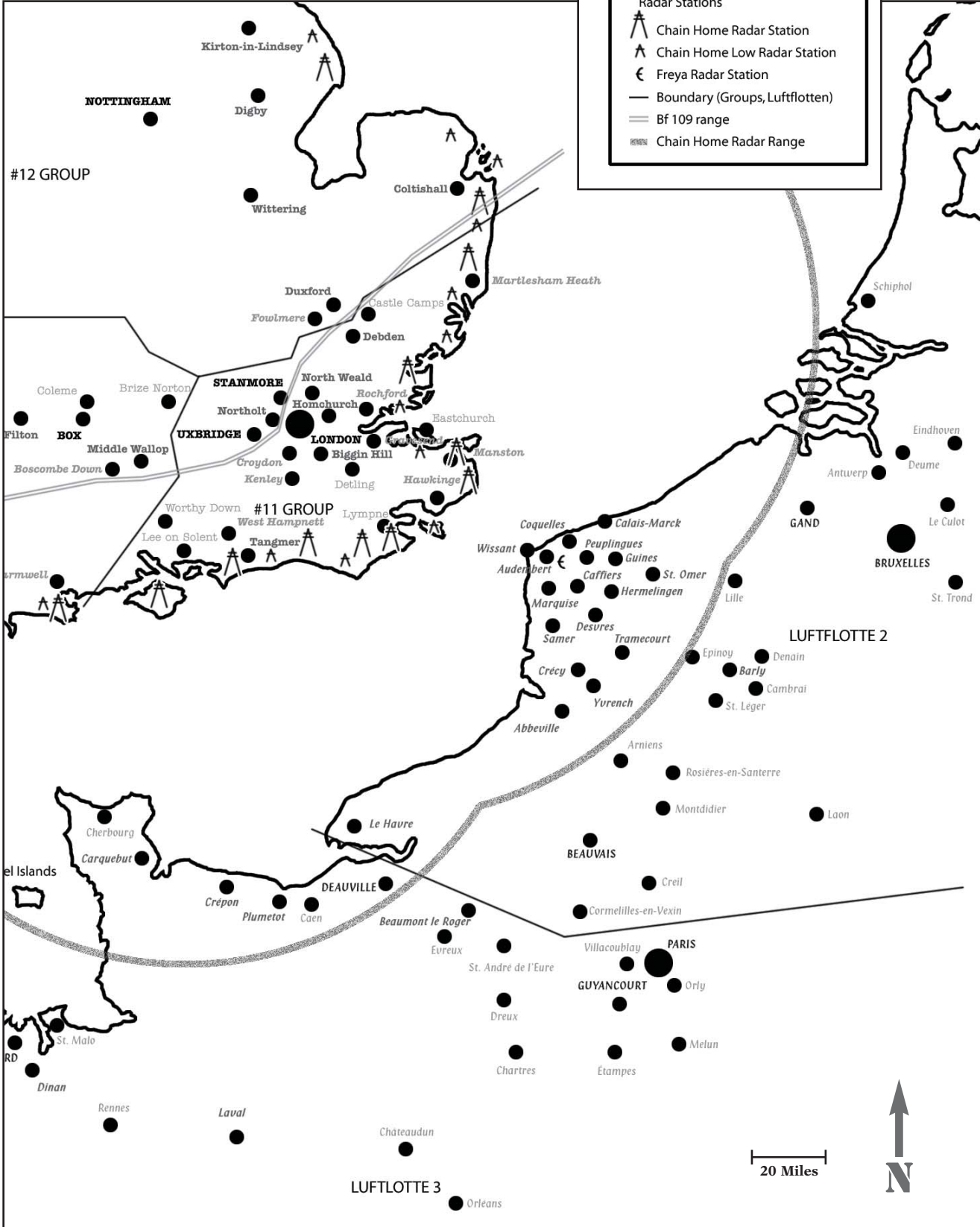


THE BATTLE OF BRITAIN

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UXBRIDGE - Group HQ
Biggin Hill - Sector Station
Manston - Sector Satellite Airfield
Eastchurch - Other Airfield

Luftwaffe Airfields and HQs
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Radar Stations
 Chain Home Radar Station
 Chain Home Low Radar Station
 Freya Radar Station
 Boundary (Groups, Luftflotten)
 Bf 109 range
 Chain Home Radar Range



2. THE COMBATANTS

Powerful and diverse assets were committed to the first all-air campaign in the war.

What General Weygand called the Battle of France is over. I expect the Battle of Britain is about to begin. Upon this battle depends the survival of Christian civilization, upon it depends our own British life and the long continuity of our institution and our Empire.

– Winston Churchill

DEFIANT DEFENDERS

Undoubtedly, British fighter pilots bore the brunt of the German onslaught. The RAF aircrews were the “few” Churchill referred to. However, many other organizations apart from Fighter Command, and even outside the RAF, gave an invaluable contribution to this effort; this section provides a run-down. *GURPS WWII: All the King’s Men* also provides useful insights.

THE ROYAL AIR FORCE

The Royal Flying Corps was established in 1912, and the navy branch, the Royal Naval Air Service, two years later. The German airship bombing raids over England in the last years of WWI greatly spurred the strengthening of air defenses, and by April 1918 the Royal Air Force was created by merging the two services; an Air Ministry had been formed a few months before.

Post-war downsizing hit the youngest British arm hard. However, in 1919 Sir Hugh Trenchard became Chief of the Air Staff, and he was determined to have the RAF on an equal footing with the Army and the Royal Navy. The theory of strategic bombing (see p. 4) tied in nicely with this aim. The RAF also demonstrated the theory in bush wars in Somalia, Iraq,

Waziristan and other colonies between 1920 and 1932; of course its opponents had little in the way of air defenses.

The rearmament race that began in 1934 (after Hitler came to power) involved the air force, too. New and better aircraft models were continuously introduced; the total strength was repeatedly increased. Yet, all the emphasis was on the offense, not the defense. Bombers were considered the main weapon of the RAF. In 1936, the air arm was reorganized in four largely independent functional commands; two more were added in 1938. The war further boosted the recruitment drive, and by the end of 1940, the RAF had over 435,000 personnel, including 17,000 women in the WAAF. Most of them had contributed, at least in a small part, to the victory in the Battle of Britain.

Basic and Advanced Training

Just like any other high-technology arm, the RAF needed well-educated personnel to start with, and would invest remarkable amounts of time, skill, and money in its pilots. Even so, in 1940 some shortcuts were taken.

After a first screening, would-be pilots were sent to an Initial Training Wing, or ITW (also, Initial Training School, or ITS). This included all the training common airmen would undergo (basic military skills, drills, PE, and so on) and classroom basic courses about the theory of flight, technology of engines, navigation, signals, and meteorology. Before the war and after 1940, this initial training could last four months or more, but in 1940 it was often three months or even ten weeks. ITS ended with a graduation exam.

The next step was the Elementary Flying Training School, or EFTS. Again, a standard duration of two months could be cut back to six or even five weeks in 1940-1941. At this time, the pupils would eagerly begin flying, on dual-control trainers such as the De Havilland Tiger Moth (see p. 49). At the end of this course, some would be steered toward navigator duties (which the trainees tended to consider as flunking). The advanced training began with the Service Flying

Training School, or SFTS. Fighter pilots would move from aging biplanes to modern monoplane trainers, such as the Miles Master – provided there wasn't a shortage. This advanced course lasted four months, but it could be reduced to twelve or ten weeks.

The weakness of this system was that through all these steps a pilot would spend only a handful of flight hours in an actual combat aircraft, if at all. He would be sure to fly a modern fighter only in the last stage of the training, the Operational Training Unit, or OTU. Taking into account waiting times, reassignments and the like, some 18 months could be needed from the enlistment to the first operational sortie; but in 1940, the last, most important stages of this long training were being hurried up. The time spent with the OTU would normally be three months, and later in the war it could reach six months, but not in 1940. Professor Frederick Lindemann, Churchill's scientific advisor, had argued that the finishing touches could be added once the pilots had moved to their combat unit. Training with the OTUs was cut short to four or even two weeks.

The consequences were grave. In December 1939, four trainees arrived at a fully operational Hurricane unit without having ever flown a monoplane. Many trainees reached their squadrons having logged 10 to 30 hours with a Hurricane or Spitfire, possibly with just a couple of live-fire drills (which sometimes had a target as wide as the sea). These novices had little chance of surviving their first engagement.

There were three other training systems. An Empire Air Training Scheme had been in the works for years, but it had been delayed by Canadian reluctance, and in 1940 the program, now known as the British Commonwealth Air training Plan, was not yielding its fruits yet. However, Commonwealth pilots joined the fray, either individually or as a full squadron (in the case of the Royal Canadian Air Force).

Then there were the "Sunday flyers." They began in the university clubs and had a natural outlet in the Auxiliary Air Force (AAF) with its 600-series squadrons. This was the air equivalent of the Territorial Army (see p. W:AKM40), but its pilots were wealthy members of the establishment. By 1939 many of them were very experienced. On the down side, most of this experience had not been acquired on fighters, the pilots were on average five years older than the RAF men, and, from the psychological point of view, they were unprepared for combat and its casualties. These squadrons became part of the RAF in 1939, and the differences were gradually erased.

Finally, there was the RAF Volunteer Reserve, since 1936. This was similar to the AAF, but had no social requirements; and indeed, since officers had better be gentlemen, most of RAFVR men had not reached a rank higher than Sergeant in 1940. This might well have been a reason for bad blood, as some sergeants

were more experienced than their officers. About a third of the fighter pilots in the battle came from this reserve.

With all its limitations, the British training system would provide a steady flow of trainees throughout the battle. Some of them would be ill prepared to survive their first fight, but if they did, they could become useful replacements.

Operations

The fighter units that defended Great Britain belonged to a centralized organization, Fighter Command. The key of its operational successes was in very good communications, command, and control functions that processed reliable information and fed it to effective combat units. The full procedure for handling a raid is described in the box on p. 14, *From Yellow to White*. The standard operational procedure was for fighters to scramble on alert, gain altitude, be vectored by ground control towards the enemy formation, then engage it. During the engagement, tactical command reverted to the airborne commander.

Within this framework, tough decisions had to be taken. Some top RAF commanders advocated the "big wing" theory, which called for set-piece air battles involving as many fighters as possible, in order to inflict a shattering defeat upon the enemy. This concept was especially favored by Air Vice Marshal Trafford Leigh-Mallory, the commander of #12 Fighter Group. The "big wing" not only was slower to form up, it could also mean risking a lot in one throw of the dice. Additionally, each German raid it might be used against could well later be shown to be a diversionary move, with a more devastating attack being carried out while all or most of the friendly fighters were landing, refueling, rearming and taking off again. In a few occurrences, the "big wings" did engage the enemy and cause heavy casualties, presumably more so than if a single squadron or two had been employed. On the other hand, sometimes the "big wing" was late, and/or tended to wander off in search of targets (the British equivalent of a *Freie Jagd* mission, see p. 31; but the Germans had no radar!). Both Sir Hugh Dowding and the commander of #11 Fighter Group, Air Vice Marshal Keith Park, preferred a more flexible and prudent husbandry of their resources. A personal rivalry between Park and Leigh-Mallory might have had some weight on the issue.

Another operational alternative was for Fighter Command to wage a forward defense: engaging the Germans as soon as possible, in order to prevent as much bombing damage as possible. However, this would have meant more battles over the Channel, with British fighters taking off from exposed forward airfields and attacking with a disadvantage in altitude; German fighters would not have suffered from range problems. Finally, a British pilot who had to parachute

over England would often be in action again within a day; a battle over the sea would forgo this distinct advantage. Nevertheless, at times such early confrontations were sought due to considerations linked with the civilians' morale.

For details about the British air-to-air tactics, see p. 57.

Organization

In 1940, the Royal Air Force was organized in several combat commands and additional administrative and support services. While Fighter Command was the most heavily engaged in the Battle of Britain, all the commands contributed to it. Above the commands there was the RAF General Staff, and above that the Air Ministry. Disputes could and did arise between commands as to the employment of resources, be they human (pilots and crews) or otherwise (airports, supplies).

The commands were functional groupings, appointed with carrying out specific tasks. They were organized in groups, which were more of a territorial subdivision than actual large units. The basic unit of each group was the squadron. With 16-18 aircraft assigned to each of them (on paper, they should have had 22 airplanes including two reserves), this unit was small enough to be manageable and large enough to optimize organizational processes. Two or more squadrons could be put together into wings, but these were temporary units.

<i>Aircraft</i>	<i>July 1 (1)</i>	<i>July 17 (2)</i>	<i>August 13 (2)</i>
Hurricane	462	331	353
Spitfire	292	237	226
Defiant	37	20	26
Blenheim	114	67	71
Gladiator	12	unreported	2

(1) The figures in this column are all the airplanes assigned to the squadrons.

(2) The figures in these columns are actually operational, serviceable airplanes.

The whole country was covered by just four fighter groups, each of them organized in several sectors and fielding a number of squadrons. #11 Fighter Group was the largest, and protected the most threatened area: from the southern half of East Anglia to London, Kent, and the coast where the Channel is at its narrowest. #10 Fighter Group was tasked with the southwestern corner of the island. #12 Fighter Group defended the Midlands and the northern parts of Wales and West Anglia. #13 Fighter Group was the peripheral unit, in northern England and Scotland; reinforcements would be taken from it as the battle attrition took its toll.

The sector was much more important. An administrative and territorial organization, it gave a remarkable contribution to the campaign with its battle-management capability. Each sector controlled a number of airports and, therefore, the squadrons based off them. Apart from the Sector HQ and the main airports, almost every sector also had satellite airfields and emergency-only airstrips that provided additional flexibility under attack and in case of damages.

A Squadron's sub-units are detailed under *Air-to-Air Tactics*, p. 57.

Fighter Command

A separate command tasked with controlling all the fighters of the RAF was established in 1936, at the RAF headquarters of Bentley Priory, Stanmore.

Throughout the battle, Fighter Command was in the forefront (and in the limelight, some critics from other units would mumble). Notwithstanding the losses taken in France, the fighter force had made an amazing comeback over a very short time, and by the beginning of August it could largely rely on its newest models: the famed Spitfires and Hurricanes. Additionally, there were a few second-line squadrons flying on Defiants, Gladiators, or the experimental night fighter units (see p. 60).

The following table shows the strength Fighter Command could muster on key dates (these figures do not include reserves and aircraft already produced but not yet assigned to combat units).



The table below shows the force that Fighter Command could muster in the first days of the battle. A few units were fielded by mid-late August, and they are noted as such. Squadrons that became operational much later are listed separately, under "Other." Squadrons were often moved, as losses mounted, airports were damaged, and the threats shifted.

#11 Group

<i>Sector</i>	<i>Squadron</i>	<i>Base</i>	<i>Aircraft</i>
Biggin Hill	32	Biggin Hill	Hurricane
	501	Gravesend	Hurricane
	600	Manston	Blenheim
	610	Biggin Hill	Spitfire
Kenley	64	Kenley	Spitfire
	111	Croydon	Hurricane
	615	Kenley	Hurricane
North Weald	25	Martlesham	Blenheim & Beaufighter
	56	North Weald	Hurricane
	151	North Weald	Hurricane
Hornchurch	54	Hornchurch	Spitfire
	65	Hornchurch	Spitfire
	74	Hornchurch	Spitfire
	266	Hornchurch	Spitfire
Tangmere	43	Tangmere	Hurricane
	145	Westhampnett	Hurricane
	601	Tangmere	Hurricane
	FIU	Shoreham	Blenheim & Beaufighter
Debden	17	Debden	Hurricane
	85	Debden	Hurricane
Northolt	1	Northolt	Hurricane
	1 (Canadian)(1)	Northolt	Hurricane
	257	Northolt	Hurricane
	303 (Polish)(2)	Northolt	Hurricane

1) Operational since August 16, 1940; later renumbered 401

2) Operational since August 31, 1940

FIU is the experimental night Fighter Intercept Unit



#10 Group

<i>Sector</i>	<i>Squadron</i>	<i>Base</i>	<i>Aircraft</i>
Middle Wallop	152	Warmwell	Spitfire
	238	Middle Wallop	Hurricane
	609	Middle Wallop	Spitfire
	604	Middle Wallop	Blenheim
Filton	87	Exeter	Hurricane
	213	Exeter	Hurricane
St. Eval	234	St. Eval	Spitfire
	247	Roborough	Gladiator
Pembrey	92	Pembrey	Spitfire

#12 Group

<i>Sector</i>	<i>Squadron</i>	<i>Base</i>	<i>Aircraft</i>
Duxford	19	Fowlmere	Spitfire
	310 (Czech)(1)	Duxford	Hurricane
Coltishall	66	Coltishall	Spitfire
	242	Coltishall	Hurricane
Kirton-in-Lindsey	222	Kirton-in-Lindsey	Spitfire
	264	Kirton-in-Lindsey	Defiant
Digby	29	Digby	Blenheim
	46	Digby	Hurricane
	611	Digby	Spitfire
Wittering	23	Collyweston	Blenheim
	229	Wittering	Hurricane
Church Fenton	73	Church Fenton	Hurricane
	249	Church Fenton	Hurricane
	616	Leconfield	Spitfire

1) Operational since August 18, 1940

#13 Group

<i>Sector</i>	<i>Squadron</i>	<i>Base</i>	<i>Aircraft</i>
Catterick	41	Catterick	Spitfire
	219	Catterick	Blenheim
Usworth	72	Acklington	Spitfire
	79	Acklington	Hurricane
	607	Usworth	Hurricane
Turnhouse	141	Prestwick	Defiant
	245	Aldergrove	Hurricane
	253	Turnhouse	Hurricane
	602	Drem	Spitfire
	605	Drem	Hurricane
Dyce	263	Grangemouth	Hurricane
	603	Dyce	Spitfire
Wick	3	Wick	Hurricane
	232	Sumburgh	Hurricane
	504	Castletown	Hurricane

Other

<i>Command</i>	<i>Squadron</i>	<i>Base</i>	<i>Aircraft</i>
Coastal Command	235	Bircham Newton	Blenheim
Coastal Command	236	Thorney Island	Blenheim
Coastal Command	248	Sumburgh	Blenheim
Fleet Air Arm	804	HMS Furious	Sea Gladiator
Fleet Air Arm	808 (1)	Castletown	Fulmar
Fighter Command	302 (Polish)(2)	Northolt	Hurricane
Fighter Command	312 (Czech)(3)	Speke	Hurricane

1) Operational since September 5, 1940

2) Operational since October 11, 1940

3) Operational since September 26, 1940

Bomber Command

Established in 1936 at the same time of Fighter Command, this organization grouped all land bomber squadrons. In 1940, its HQ was in High Wycombe.

During the battle of Britain, its bombers were used for retaliation against Germany, but also and more importantly for attacking the enemy forces preparing for Operation Sea Lion (see p. 7).

Coastal Command

The RAF dedicated substantial efforts to the vital task of maintaining air superiority over the sea lanes. From its HQ in Eastbury Park, Northwood, Coastal Command took care of anti-submarine missions, convoy escorts, and long-range ground-based recon.

Training Command

Tasked with training all the RAF personnel, Training Command was split into the Flying Training Command and the Technical Training Command in May 1940, just before the Battle of Britain. During the battle itself, these commands came under severe pressure to provide more trainees from its courses, schools and operational training units.

Fleet Air Arm

While Bomber Command and Coastal Command had many experienced pilots, virtually all of them were trained to fly multi-engine aircraft and did not know air-to-air tactics. Therefore, it was difficult to use them to bolster the British air defense. On the other hand, the Fleet Air Arm was the flying branch of the Royal Navy (it had come under naval control in 1937), and as such it did train fighter pilots. By early August, 68 of them were “loaned” to Fighter Command, and two FAA squadrons took active part in the battle.

Other Pilots

A few RAF squadrons were assigned to air cooperation with the Army. These would fly light aircraft used for short-ranged recon, observation and liaison. As such, these pilots could not be of much help to Fighter Command without additional training, but a few squadrons had done exactly that in the months before the battle; for instance, #602 had been redesignated a fighter squadron in January, 1939.

The Air Transport Auxiliary was a civilian organization of the Air Ministry whose task was to move all kinds of RAF aircraft across the country. Its pilots were not eligible for active service (many of them were too old), but they freed combat pilots from these duties. They ran the whole gamut from gruff but experienced professionals to amateurs.

As Good as New

Another very important non-military outfit was the Civilian Repair Organization. It had been created as a semi-official service, but in 1940 it was taken under the new Ministry for Aircraft Production. The CRO officials, often hand-picked by Lord Beaverbrook, scoured the hangars, looking for spare parts to salvage. Its crews retrieved downed aircraft from the countryside in record times. Its technicians helped the RAF ground crews whenever needed. No less than 61% of the

AIR RAID PRECAUTIONS

Once everything else failed, the British resorted to passive defense: ARP, or Air Raid Precautions. The first and most pervasive of these measures was black-out: since brightly lit cities could easily be seen at night by enemy bombers, each and every window had to be shrouded with heavy black curtains, street lamps were extinguished, and even vehicle headlamps were reduced to a low-pointing sliver of light. 40 London pedestrians were killed in a month by such blacked-out vehicles (mainly buses) at night. Wardens (see p. 44) strictly enforced these regulations.

Assuming the bombers did find their objectives, sirens would warn the citizenry. People then rushed to the shelters. These ranged from reinforced basements in public buildings to concrete bunkers in factories; families often used their cellars or Morrison shelters, corrugated-iron structures they placed in their gardens and covered with earth. They would never survive a direct hit, but they were useful against fragments and incendiaries. Londoners also used the subway as a shelter. Although discouraged, this practice couldn't be forbidden; people just bought the ticket and remained underground.

When the enemy bombs had landed, firemen (see p. 45), rescue worker teams and ambulances moved in. Policemen, too, as gangs of youngsters would try and steal from bombed-out houses. All of these jobs were hazardous. In addition to the fires, and the dangers in entering damaged buildings, the Germans also used mines and delay fuses.

Putting out the fires as quickly as possible was of paramount importance, as they provided all the light the enemy bombers needed. Indeed, the German equivalent of Pathfinders, i.e., specialized, highly trained bomber crews tasked with identifying and marking the target, tended to use incendiary bombs for this purpose. Because of this, the British resorted to the *Starfish* fire decoys. As soon as a city or factory had been bombed, a decoy cluster of false buildings, placed in the countryside some 5 miles away, would be ignited. By the spring of 1941, there were more than 100 *Starfish* sites, and they drew a lot of German bombs. Operating such a place would be a thankless and dangerous job, not to mention that it didn't make you popular with the local farmers.

For more about Air Raid Precautions, see also p. W:AKM26.

fighters that could not be repaired at their bases returned to combat, thanks to the CRO. This return rate contributed to the German underestimations of the strength of Fighter Command (see p. 24).

GROUND DEFENSES

While the first line of defense the German attackers would face was in the air, even the fighters needed to rely on ground control, command, and intelligence. Other important defensive measures were ground-based, as well.

The Chains

The RDF tower antennas had been built all along the Eastern and Southern British coasts. There were 18 long-range radar stations of the Chain Home (see p. 4) at the beginning of the war, covering the coast between Portsmouth and Aberdeen. By the summer of 1940, four more had been built, and the stretch from Portsmouth to Cornwall had come under surveillance, too, as well as part of Wales. The Chain Home stations could give an early warning, spotting aircraft at medium to high altitudes while they were 100 or more miles away. The Chain Home Low scanners provided protection against low-altitude surprise attacks, being able to detect aircraft flying at 2,000 feet out to 35 miles, and even sea-skimming targets coming in at 500 feet were picked up at 20 miles.

The radar stations were very conspicuous; the CH compounds featured four 350-foot high towers for transmitting the signals, and additional lower antennas for receiving them. The CHL towers were also quite noticeable, being 185 feet tall. The control centers were ordinary buildings, not underground shelters.

The Observer Corps

Detecting objects in the air, over the flat surface of the sea, was easier than over land (where anything could echo back the waves, producing clutter and interference). Besides, the radar Chains were meant as early-warning networks. Once the enemy sortie crossed the coast, it was in the hands of a largely volunteer organization, the Observer Corps (later honored by the prefix "Royal").

Churchill once said that behind the cutting-edge technology of the radar stations, the British tracking methods reverted to "stone age." It was another of his exaggerations; the 29,000 Observer Corps members did rely on their eyes, but they also had binoculars (often, their own property) and optical direction-finding devices to track the enemy aircraft, and telephone lines to relay the information. On cloudy days, of course, the 1,400 observation posts had nothing more than keen ears and the phones.

TAKING THE FLAK

It was in the Battle of Britain that anti-aircraft fire became ubiquitous and that the term "Flak" acquired its iconic value. "Flak" is the abbreviation of a German term, *Flugabwehrkanone*, i.e., air defense gun. The British used the term "Ack-ack" at the time.

While the light 40mm guns (and MGs) would engage low-flying targets as individuals, the heavier ones fired by battery, under centralized control. They could try and carry out *continuous-pointed*, i.e., aimed fire, if visibility was good or, at night, if a searchlight was tracking the target (or, later on, if good radar information was available). If a full battery is firing in this way, the personnel serving the predictor (also called "Perry") and height-finder need to make their Gunner (Cannon) rolls first; they are "aiming" for the battery. Any failed roll by the predictor and height-finder means a miss for the whole battery. Next, the gun crews roll against Gunner (Cannon)+2 to see if they properly follow the battery commander's directions.

When lacking good target information, heavy batteries would perform barrage fire, trying to place a blanket of explosions over the predicted path of the enemy aircraft. Evasive maneuvers by the target would spoil the gunners' aim, but bombers on their final run could not take evasive action, unless they wanted to scatter their bombs everywhere. Thus the main merit of AA fire was to intimidate and distract the enemy pilots and bombardiers. The GM might require a Will Roll (see p. W97) by the aircrews, possibly with penalties for an especially thick barrage. As to the chance of a hit, this is best represented by a roll of 3 (an unqualified critical success) per battery, per action; while seemingly harsh, this is actually rather generous (see p. W:IC116).

Finally, AA batteries could also perform *box barrages*: simply firing at a given sector between the expected general direction of arrival of the enemy formation and their assumed target, at full rate, until ordered to cease fire, regardless of anything else. This was the most wasteful procedure. It could have some marginal harassment value, and it told the civilians that the enemy was being engaged. For gaming purposes, the chances of a hit are negligible.

Women auxiliaries (see p. 37) were allowed to perform as predictors, while gun battery crews remained all-male.

An Observers' station would be forewarned of likely incoming aircraft. Its updates about the course taken by the enemy would be filtered by the Observer Corps HQ in Horsham, then forwarded to Fighter Command (see also p. 24).

The members of the Corps wore a black-and-white striped armband that served as evidence of their special constable status. It also protected them from being treated as spies if the enemy landed and captured them.

Anti-Aircraft Defenses

Anti-Aircraft Command was an Army organization, but it had been wisely subordinated to the RAF. It controlled all anti-aircraft batteries, as well as the searchlights and other less conventional devices (see p. 47). At the beginning of the war, it could rely on 695 heavy guns, 255 light ones, and some 2,700 searchlights. By the end of June, these figures had grown to 1,204, 581 and almost 4,000, respectively. The heavy guns included the 3.7" and 4.5" anti-aircraft guns, which had an effective ceiling of 25,000 feet; just some 270 were WWI-era 3" guns (effective ceiling: 14,000 feet). The standard light gun was the excellent 40mm Bofors ROQF Mk I (see p. W:MP25).

Balloon Command

Established in 1938 and based in Stanmore, Balloon Command controlled all the barrage balloon units. It belonged to the RAF, but it served largely as a ground defense.

At the beginning of the war, only 624 balloons were available of a planned force of 1,460; by the summer of 1940, some 1,500 were in use. These defenses were the aerial equivalent of minefields, and could be used to interdict certain areas or routes; there were even mobile squadrons, with smaller-sized balloons tethered to trucks or barges. They were only useful up to a limited height (around 4,500 feet), and the enemy aircraft could therefore avoid them by climbing; but in doing so they would be deprived of the advantages of low altitude. The direct approaches to London were thick with balloons in August 1940.

The LZ (Low Zone) balloons were expected to be especially effective in that they carried an ingenious explosive device linked to their tether cable. If that was pulled, it would break free from the balloon above the device, which would slide down and hit the aircraft.

On Sea and Land

The Army and the Royal Navy are most likely to come into play in an Operation Sea Lion invasion scenario. They are detailed on pp. W:AKM34-37, 39-43. These forces also cooperated with the RAF in the defense against the Luftwaffe. The opening moves of the German assault had ships as their main objective; the Luftwaffe even attacked sea ports that the

INTELLIGENCE

The most important Allied intelligence success in the war, the decryption of the German Enigma codes (see pp. W41, W:AKM43) had no effect on the Battle of Britain. Fighter Command was not privy to the initial output of the Ultra program. The major breakthroughs came later, and much of the Luftwaffe's strategic-level traffic was not transmitted by radio.

Therefore, the RAF's air intelligence work was based on the traditional, unglamorous, thankless methods: counting the enemy airplanes, studying the enemy procedures, analyzing the target selection in order to attempt predictions, inspecting downed aircraft, and interrogating POWs. The one ace in the hole was Y Service, a radio listening service whose Hawkinge station intercepted uncoded German transmissions. By June, 1940, a WAAF detachment in Fairlight (Sussex) had several German-speaking operators whose one task was to listen in to enemy pilots and radio operators. These would often chatter and disclose meaningful details as they formed up over their bases or waited for the bombers.

On the other side of the hill, the Germans were seriously hampered by the poor quality of their intelligence. The basic analysis was the so-called *Blau* (Blue) Study, which underestimated the British aircraft production, misjudged the effectiveness of the new enemy fighters, and made no mention of the radar network, even though the Germans had captured an intact mobile station in Boulogne. The only things the Germans had almost right were the total numbers of modern fighter squadrons and operational aircraft the British had.

However, their expectations, based on these data, were immediately invalidated by the main mistake intelligence made on both sides: believing the pilots' kill reports. It is now a well-known fact that a fighter pilot will overestimate his catch no less than an angler, but in 1940 that wasn't so obvious. The Luftwaffe leadership expected the enemy to collapse because of its calculated casualty rates – but the calculations were wrong.

Kriegsmarine would have needed for the invasion! The Army's anti-aircraft units engaged targets of opportunity, and provided the batteries for the RAF-controlled Anti-Aircraft Command.

German airmen could also come into contact with British land troops . . . if they were downed. Even though policemen, wardens, aggressive-looking cricket players and unarmed civilians are reported to have

captured POWs, this would normally be the Home Guard's business. This had been established on May 14, 1940 as the Local Defense Volunteers, and in two weeks 750,000 men had indeed come forth. By the end of July, the organization was renamed Home Guard, and it was more than 1,000,000 strong. Though no serious match for a full-fledged invasion, it could have provided an early reaction and some co-operation for the Army; it handled parachuted aircrews easily. See also p. W:AKM30.

ASSURED ATTACKERS

An important role in the incredible early German successes in WWII had been played by their air force, the Luftwaffe; or, at least, so it seemed. Certainly its fighters had proven better than anybody else's, and its bombers very effective; in particular, the dive bombers had shown unprecedented accuracy and flexibility in tactical close support. Besides, the black-crossed airplanes had featured prominently in the newsreels, and the Luftwaffe's chief, Hermann Göring (see p. W:IC52) was favored by Hitler. It wasn't inconceivable that an air onslaught, alone, could convince the stubborn British to come to terms. Alternatively, the German aircrews could at least pave the way for an amphibious operation across the Channel. This section describes these assured attackers; *GURPS WWII: Iron Cross* also provides useful details.

THE LUFTWAFFE

The Versailles Treaty forbade a German air force. This should have put many leading German companies out of business. However, the government did not want to lose the national aviation industry, thus, instead of encouraging the industrials to convert their lines to other goods, they heavily supported civil aviation ventures. In the 1930s, the Lufthansa was among the most important airlines in the world, and the best in Europe. The *Deutsche Verkehrsflieger Schule* (German School of Air Transport) trained the future bomber pilots; the *Deutsche Lufsportverband* (German Gliding Sport Union) had 50,000 members who would become eager recruits. The future cadres were sent to the secret training base of Lipetsk, in Russia.

In January, 1934, a few months after Hitler's electoral victory, the Air Ministry ordered 4,000 airplanes, including 1,760 basic trainers. The existence of the Luftwaffe was officially announced in 1935 (see also p.

GERMAN AIRCRAFT MARKINGS

German aircraft carried letter and number codes on the fuselage, used to identify their unit and position within it; here's a brief explanation of their system. In the Battle of Britain, all airplanes save fighters used a 4-digit code. The first two digits were a code for the *Geschwader*, the third identified the individual plane, and the fourth a letter defining its *Staffel* or *Stab*. Since the *Staffeln* were numbered consecutively within the *Geschwader*, this also identified the *Gruppe*. A was for the *Geschwader Stab*, B, C and D for each *Gruppe Stab*, and H, K, L, M, N, P, R, S and T covered the 9 *Staffeln*. For instance, 6N and S9 were the codes for *Kampfgruppe* 100 and *Erprobungsgruppe* 210, respectively.

Fighter units needed a simpler system for fast identification during dogfights. The Bf 109s carried a colored number next to their *Balkankreuz* black-on-white cross; the number identified the individual airplane and the color its *Staffel* within the *Gruppe* (normally white for *Staffeln* 1, 4 and 7, red for *Staffeln* 2, 5 and 8, and yellow for *Staffeln* 3, 6 and 9). The *Gruppe* was defined by a tactical symbol: no symbol meant the I. *Gruppe*, a horizontal bar the II. *Gruppe*, and a vertical bar the III. *Gruppe*. The *Geschwader* was distinguished by its insignia.

The British conventions are described on p. W:AKM77.

W:IC32). The powers that had prohibited such a thing back in 1919 could only begin rearming their own air forces.

The Luftwaffe mushroomed. Between 1935 and 1939, it leapt from 18,000 men of all ranks to 385,000. The overwhelming majority of its resources would be deployed against Great Britain in 1940.

Basic and Advanced Training

In 1939, the German aircrew training system was geared for a short war, just like their aircraft industry. On the one hand, they could avail themselves of the sizable peacetime efforts done by Göring's *Reichsluftfahrtministerium* (Air Ministry, abbreviated RLM). Thousands of Lufthansa crewmen and technicians, the glider pilots of the *Deutsche Lufsportverband* (see above), and the Luftwaffe itself, the fastest-growing military organization in Europe, could provide the

human resources needed in the initial campaigns. Additionally, the Germans had hugely benefited from the Spanish Civil War (see p. W10), which provided their aircrews with actual combat experience in a low-threat environment. They had wisely rotated personnel with the Legion Condor, thus spreading that experience throughout their units. All of this meant that by the beginning of WWII, German pilots averaged hundreds of hours of flight, and much of those in the aircraft model they would fly in combat; since there wasn't a large number of different types, they enjoyed great familiarity with their own airplane. All of this was a definite advantage over the enemy.

On the downside, however, the Luftwaffe training system was totally unprepared for replacing combat casualties. Four training schools had been set up in 1935, and, notwithstanding the immense expansion of the air force, by 1939 just one other school had been added (and that was a specialized establishment for naval service). By 1940, these schools were on their way to being overwhelmed, with a trainer-trainee ratio of 1 to 6 or higher.

The Germans reckoned a fighter pilot's training took one year, and up to two years were needed for a bomber pilot (which included extensive dive-bombing training). Other bomber crewmen also took a long time in training, since they were taught to cover every station in case of need. This gave excellent results, as to quality – but not as to quantity.

The final stage, that is the advanced training, was carried out within the operational units. The *Geschwader* set a fourth unit apart for training purposes. This arrangement helped in giving the trainees a valuable firsthand input as to practical combat instructions, but it also had its limits. Being directly subject to an operational *Geschwader*, the fourth training *Gruppe* could face increasing pressure when combat casualties mounted; its instructors would be the first to move back to frontline *Gruppen*. Similarly, the main trainer for bomber pilots was the Ju 52/3m (see p. W:IC86), which was also, unfortunately, the only transport aircraft available. So bomber training units soon experienced a shortage of "Aunties," as they were moved to operational outfits. Throughout the war, the average number of flight hours given in the Luftwaffe training programs would decrease. In 1940, however, that figure was still high, between 220 and 250 for a fighter pilot who had had no experience in the Spanish Civil War.

A specifically German concept was the so-called *Lehr* unit. While "*lehren*" means "teaching," these were not training organizations, but rather "model" units, built on a cadre of trainers and experienced veterans, that set a standard for others and field-tested new procedures and devices. The idea worked, but the *Lehrgeschwader* were obviously subject to combat attrition like any other operational unit.

Combining its accurate training system and its valuable actual experience, the German air manpower was at its peak in 1940. Its Achilles' heel was that it was prepared for a first-round victory, not for an endurance match.

Operations

Throughout the Battle of Britain, the Luftwaffe operations were plagued by the fact that the Germans wanted results in a hurry. Their plans had been hastily improvised, and Göring had just two months to deliver what he had promised. This led to frequent changes in procedures, target selection, and even overall strategy. The Luftwaffe attacks came by day and by night, at varying heights (with their accuracy being inversely proportional to altitude), with different targets. Fighters could fly standard escort missions by defending the bombers from above, or carry out close protection duties, which were less effective; they could also search for targets in *Freie Jagd*, or "free hunt" sorties. Not concentrating on a specific class of targets meant that no lasting results were achieved. Even when the Germans did something right, they'd never do it for long enough to accomplish their mission. The lack of reliable intelligence feedback compounded the problem.

The Luftwaffe's operational art also had other flaws. The *Luftflotten*'s self-contained nature meant each of them could plan independently – and this is what they did on occasion, with their lack of co-ordination clearly benefiting the enemy. Another problem was the tendency to assume that a bombed target would obviously be destroyed; the Germans didn't expect the repair works to be as quick and effective as they actually were.

For details about the German air-to-air tactics, see p. 57.

Organization

In 1939, the German air force depended from the Air Ministry, through the *Oberkommando der Luftwaffe* (abbreviated OKL, the equivalent of the OKH, see p. W:IC28).

The administrative territorial subdivision was the *Luftgau* (Air Region), and the operational one was the *Luftflotte*. A *Luftflotte* (Air fleet) was a balanced, independent force fielding all kinds of aircraft; its strength and composition would be tailored to its tasks. Each of these army-level formations included up to three *Fliegerkorps* (bomber divisions) and one or two *Jafüs* (fighter divisions), and possibly more specialized divisions.

The largest flying unit was the *Geschwader*. This had its own complement of ground technicians and other personnel, and fielded from 80 to 120 aircraft. It was task-oriented: there were fighter, bomber, recon

GERMAN UNIT NAMES

German unit names, numbering system, and abbreviations and conventions for their air units could be bewildering, both for British officers at the time and for players today.

The final part of a unit's abbreviated designation is normally a *G* (for *Geschwader*), *Gr* (for *Gruppe*) or *Sta* (for *Staffel*). The initial part, instead, identifies the unit's function, and it is very often abbreviated:

Kampf-, *K*: bomber.

Jagd-, *Ja-*, *Jg-* or *J*: fighter.

Sturzkampf-, *St*: dive bomber.

Zerstörer-, *Z*: heavy fighter.

Schlacht-, *Sch*: (ground) attack, fighter-bomber.

Nachtjagd-, *NJ*: night fighter.

Lehr-, *L*: used for "model" units.

Aufklärungs-, *Fernaufklärungs-*, *F*: recon, long-range recon.

Seeflieger-, *Küstenflieger-*, *Kü*: seaplane, coastal.

Erprobungs-, *Erpr*: testing, experimental; only referred to *Erprobungsgruppe* 210 (see p. 64).

Wetterkundlich-, *WeKu*: meteorological.

Geschwader were identified by a number, *Gruppen* by a Roman numeral within the *Geschwader*. *Staffeln* were identified by an Arabic figure again. Both *Gruppe* and *Staffel* identification numbers came before the *Geschwader*'s, and were separated from it by a slash. Thus I/KG 1 meant *Gruppe* I of *Kampfgeschwader* 1 (a bomber *Geschwader*), 4./JG 2 meant the fourth *Staffel* of *Jagdgeschwader* 2 (a fighter unit). Since *Staffeln* were numbered consecutively within the whole *Geschwader*, the fourth one belongs to *Gruppe* II. See also p. W:IC32.

Geschwader and so on (see *German Unit Names*). It was organized in a *Stab* (a command section with 3-4 airplanes) and three combat-ready *Gruppen* (with 35-40 aircraft each). In action, a *Gruppe* could split down into three *Staffeln* of 9 airplanes, but other tactical formations were used, too (see p. 57). The average operational strength of a *Gruppe* was around 18. This included the operational units, but a *Geschwader* normally had a fourth, or rarely even a fifth *Gruppe*. As a rule, the fourth *Gruppe* was intended for training, and not normally committed to operations, especially in 1940.



The Luftflotten

For the Battle of Britain, the Germans had deployed *Luftflotte* 2 in the forefront, around the Pas de Calais; therefore, this unit had most of the available fighters, in order to minimize range problems. *Luftflotte* 3 had more bombers and was based in Normandy or farther. Finally, *Luftflotte* 5 made a rare appearance, with bombers only, from its airports in Denmark and Norway.

A few days after the beginning of the *Kanalkampf* and on the date of the *Adlerangriff*, the German strength returns were the following, respectively (night fighters not included).

<i>Units</i>	<i>Aircraft</i>	<i>July 20</i>		<i>August 13</i>
		<i>Strength</i>	<i>Operational</i>	<i>Strength</i>
Luftflotten 2 & 3	Bf 109 (1)	809	656	882
	Bf 110	246	168	231
	Ju 87	316	248	311
	Other Bombers	1,131	769	865
	Recon	67	48	71
Luftflotte 5	Coastal	82	46	80
	Bf 109 (2)	84	69	37
	Bf 110	34	32	34
	Bombers	129	95	123
	Coastal & Recon	105	63	91

(1) The experimental/"model" *Gruppen* assigned to fighter-bomber duties are included.

(2) For local defense only; these fighters' range is too short to reach the UK.

The table below shows the complete Luftwaffe order of battle on August 13, 1940. Of course the units were reinforced as the losses mounted; in particular, almost 100 bombers were later shifted from Luftflotte 5 to French bases.

Luftflotte 2

<i>Unit</i>	<i>Gruppe</i>	<i>Base</i>	<i>Aircraft</i>
I <i>Fliegerkorps</i>	I/KG 1	Montdidier	He 111H
	II/KG 1	Amiens-Glisy	He 111H
	III/KG 1	Rosières-en-Santerre	He 111H
	I/KG 76	Beauvais-Tilles	Do 17Z
	II/KG 76	Creil	Ju 88A
	III/KG 76	Cormeilles-en-Vexin	Do 17Z
	I/KG 77 (1)	Laon	Ju 88A
	II/KG 77 (1)	Asch (North)	Ju 88A
	III/KG 77 (1)	Laon	Ju 88A
	II <i>Fliegerkorps</i>	I/KG 2	Epinoy
II/KG 2		St. Lèger	Do 17Z
III/KG 2		Cambrai (South)	Do 17Z
I/KG 3		Le Culot	Do 17Z
II/KG 3		Antwerp-Deurne	Do 17Z
III/KG 3		St. Trond	Do 17Z
I/KG 53		Lille (North)	He 111H
II/KG 53		Lille (North)	He 111H
III/KG 53		Lille (Mourvaux)	He 111H
II/StG 1		Pas-de-Calais	Ju 87B
IV(St)/LG 1		Tramecourt	Ju 87B
II(Schl)/LG 2		St.Omer	Bf 109E
ErprGr 210		Calais-Marck	Bf 109E, Bf 110C, Bf 110D
9. <i>Fliegerdivision</i>	I/KG 4	Soesterberg	He 111H
	II/KG 4	Eindhoven	He 111P
	III/KG 4	Amsterdam-Schipol	Ju 88A
	KGr 100	Vannes	He 111H
	KüGr 126	Nantes	He 111H
<i>Jagdfliegerführer 2</i>	I/JG 3	Grandvilliers	Bf 109E
	II/JG 3	Wierre au Bois	Bf 109E
	III/JG 3	Desvres	Bf 109E
	I/JG 26	Audembert	Bf 109E
	II/JG 26	Marquise (East)	Bf 109E
	III/JG 26	Caffiers	Bf 109E
	I/JG 51	Pihen (Calais)	Bf 109E
	II/JG 51	Marquise (West)	Bf 109E
	III/JG 51	St. Omer	Bf 109E
	I/JG 52	Coquelles	Bf 109E
	II/JG 52	Peuplingues	Bf 109E
	I/JG 54	Guines	Bf 109E
	II/JG 54	Hermelingen	Bf 109E
	III/JG 54	Guines	Bf 109E
	I/ZG 26	Yvrench	Bf 110C
	II/ZG 26	Crècy, St. Omer	Bf 110C
	III/ZG 26	Barly, Arques	Bf 110C
	II/ZG 76	Abbeville	Bf 110C
	I (Jg)/LG 2	Calais-Marck	Bf 109E
	Recon and liaison	4 <i>Staffeln</i>	various
Long-range recon and coastal	4 <i>Staffeln</i>	various	Ju 88, He 111, He 115, He 59, Do 17, Bf 110

(1) This *Geschwader* was re-training with Ju 88s and saw no actual action.

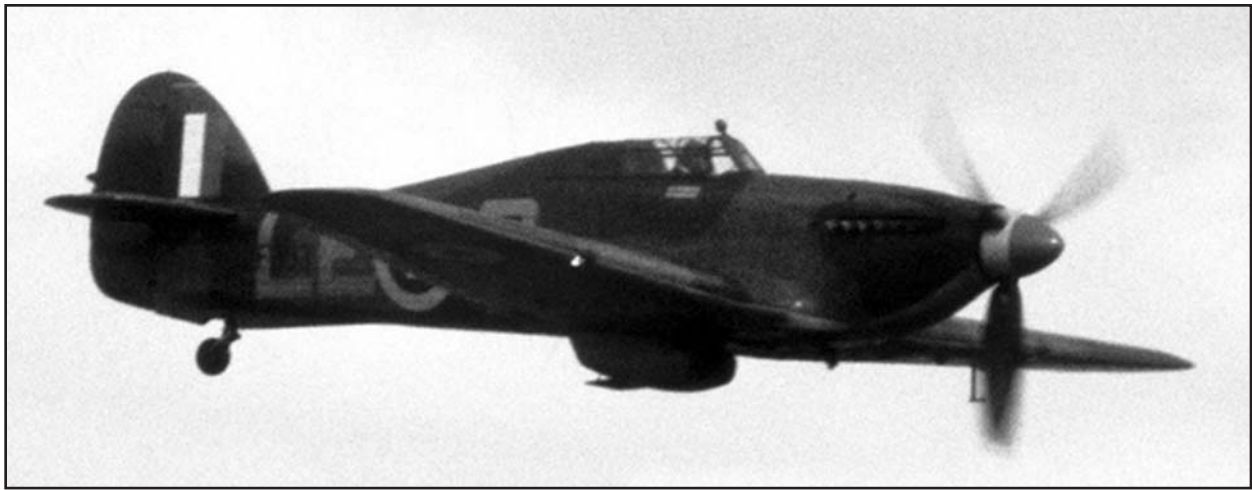
Luftflotte 3

<i>Unit</i>	<i>Gruppe</i>	<i>Base</i>	<i>Aircraft</i>
IV <i>Fliegerkorps</i>	I/LG 1	Orléans-Briey	Ju 88A
	II/LG 1	Orléans-Briey	Ju 88A
	III/LG 1	Châteaudun	Ju 88A
	I/KG 27	Tours	He 111H
	II/KG 27	Dinard	He 111P
	III/KG 27	Rennes	He 111P
	I/KG 40	Brest	FW 200C
V <i>Fliegerkorps</i>	KGr 806	Nantes, Caen	Ju 88A
	I/KG 51	Melun	Ju 88A
	II/KG 51	Orly and Etampes	Ju 88A
	III/KG 51	Étampes-Mondésir	Ju 88A
	I/KG 54	Evreux	Ju 88A
	II/KG 54	St. André de l'Eure	Ju 88A
	I/KG 55	Dreux	He 111H
VIII <i>Fliegerkorps</i>	II/KG 55	Chartres	He 111P
	III/KG 55	Villacoublay	He 111P
	I/StG 1	Angers	Ju 87B
	III/StG 1	Angers	Ju 87B
	I/StG 2	St. Malo	Ju 87B (and Do 17M)
	II/StG 2	Lannion	Ju 87B
	I/StG 3	Caen	Ju 87B
Jagdfliegerführer 3	I/StG 77	Caen	Ju 87B
	II/StG 77	Caen	Ju 87B
	III/StG 77	Caen	Ju 87B
	II(Sch)/LG 2	Böblingen	Bf 109E
	V(Z)/LG 1	Caen	Bf 110C and Bf 110D
	I/JG 2	Beaumont-le-Roger	Bf 109E
	II/JG 2	Beaumont-le-Roger	Bf 109E
	III/JG 2	Le Havre	Bf 109E
	I/JG 27	Plumetot	Bf 109E
	II/JG 27	Crépon	Bf 109E
	III/JG 27	Arcques, Carquebut	Bf 109E
	I/JG 53	Rennes	Bf 109E
	II/JG 53	Dinan	Bf 109E
	III/JG 53	Brest	Bf 109E
Recon and liaison	I/ZG 2	Caen-Carpiquet	Bf 110C
	II/ZG 2	Guyancourt	Bf 110D
	III/ZG 76	Laval, Dinard	Bf110C
Long-range recon	7 <i>Staffeln</i>	various	Hs 126
	5 <i>Staffeln</i>	various	Ju 88, Do 17, Bf 110

Luftflotte 5

<i>Unit</i>	<i>Gruppe</i>	<i>Base</i>	<i>Aircraft</i>
X <i>Fliegerkorps</i>	I/KG 26	Stavanger-Sola	He 111H
	III/KG 26	Stavanger-Sola	He 111H
	I/KG 30	Aalborg	Ju 88A
	III/KG 30	Aalborg	Ju 88A
	I/ZG 76	Stavanger-Forus	Bf 110C
Coastal and recon	II/JG 77 (1)	Trondheim	Bf 109E
	12 <i>Staffeln</i>	various	He 115, Do 17, Do 18

(1) For local defense only; these *Gruppen*'s range is too short to reach the UK.



THE ITALIAN AIR CORPS

It was the end of October, 1940, when the Italian Air Corps arrived in Belgium. Mussolini wanted to take part to the air war alongside his German ally, for propaganda reasons. So, some 200 Italian airplanes that could have been useful if deployed in the desert against the winter British offensive (see p. W18), were wasted in a battle that was already over.

Nor were those airplanes up to the task. The bombers were 76 Fiat BR.20M "*Cicogna*" (Stork), a recent all-metal design plagued with faulty engines. The fighters were 48 Fiat G.50 "*Freccia*" (Arrow) and 50 Fiat CR.42 "*Falco*" (Hawk; see p. W:GL34). The first was a modern monoplane, but not fast enough for a Hurricane (its top speed was 295 mph). The second was an outdated biplane. Both featured the open cockpit preferred by the Italian pilots, not exactly a comfortable battle station high over the Channel in November.

Being well aware of the vulnerability of these allies, *Luftflotte 2* initially employed them in night actions - which the Italians were not trained for. This caused as many losses in accidents as engagement by the enemy. Day missions were attempted, with disappointing results. On November 11, 40 CR.42s and 10 BR.20s were intercepted over Harwich; three fighters and three bombers were downed, and no less than 19 fighters had to crash-land in Belgium on empty fuel tanks. The RAF recorded no losses in the action, notwithstanding the Italians' claims.

The Italian Air Corps began redeploying to Italy in January, 1941.

GERMAN GROUND FORCES

Historically, the German ground troops played no active part in the war against Great Britain in 1940. Yet they remained, so to speak, an "army in being," and the British commanders were only too aware that many enemy divisions, so far unbeaten, were deployed within 50 miles of Calais. All the plans made in London had to take this threat into account.

The French, Belgian, and Dutch coasts, therefore, were crowded with German troops; most were concentrated around ports, such as Le Havre, Antwerp, and Cherbourg, because the plan relied on conventional shipping for most of the troops. Operation Sea Lion called for 39 divisions, and several of them spent a lazy summer on the coast.

Indeed, only a minuscule fraction of these forces would fire a shot in anger in the Battle of Britain. Apart from those anti-aircraft units that tried to stave off the British bombers' pre-emptive strikes against the invasion fleet, there were a few land-based batteries of naval guns, emplaced between Calais and Boulogne. Their heavy-caliber shells (380mm, 305mm, 280mm) could reach the British island and sometimes did so, mainly attacking the port of Dover and its defenses. At that range, it was an inaccurate if impressive waste of ammo and barrel rifling; it might have had some morale effect on the civilian population.

After the successful but costly invasion of Scandinavia (see p. W13), the third German arm, the Kriegsmarine, was down to one heavy cruiser (the *Admiral Hipper*), two light cruisers and ten destroyers. They could also rely on a rather small submarine fleet, mines, and light craft, but all of this paled in comparison to the Home Fleet alone.

3.

CHARACTERS

In 1940, the fastest aircraft and the most advanced scientific wizardries still required a man in control – or a woman.

Never in the field of human conflict was so much owed by so many to so few.

– Winston Churchill

BRITISH CHARACTERS

General information about the background of British characters can be found on pp. W39-41. Additional details can be found on pp. W:AKM46-51.

Any given group of servicemen fighting abroad in WWII would normally have much in common, since they would belong to the same unit and arm, with similar in-theater experiences. But British characters in the Battle of Britain may well be quite diverse, since they are fighting from their own homeland. Indeed, a “mixed campaign” might be both warranted and particularly interesting.

This is not to say that men of comparable rank in any British unit in the Battle of Britain came from many different walks of life. The peacetime background of recruits, and of volunteers, played an important role in determining what battle stations they would take in the war. This applied, first and foremost, to their rank. Working-class types could be promoted if determined, gifted, and lucky, but this would become more common as the war continued; in 1940, wartime attrition had not opened up many upper-rank slots, yet.

Social standing could also influence the chances of joining any given unit. The RAF had more or less socially fashionable squadrons (see p. 58), but, since it still was a young service, it was seen as somewhat adventurous. True conservatives were more likely to join the Royal Navy or Dad’s good old regiment. This left the middle ranks of the Air Force offering more opportunities for either non-conventional aristocrats or middle-class people.

ROLEPLAYING

The summer of 1940 was the beginning of the roughest stretch of the war for Britons. With the fall of France, fear struck the Home Counties; the Germans seemed unstoppable. Nevertheless, the evacuation of Dunkirk (see pp. W15, W:RH9, W:AKM10) was somehow turned into a victory by British propaganda. The country had a tradition of facing off powerful continental enemies from their shores, and a history of evacuating armies by sea and fighting on. Churchill’s radio speeches and visits by members of the Royal family soon bolstered the population’s morale.

In these months, British characters may well display a quiet, stubborn determination to “show the Huns.” Even an almost irresponsible optimism might not look out of place among the rank and file; officers knew better but they would resort to their famous wry understatements (see p. W:AKM119). Civilians would make a point of carrying on “business as usual” (see p. 58). The British insisted that their civilized habits be disrupted as little as possible by those barbarians; the immaculate lawns of a country house in Kent were regularly swept by the butler, so that they wouldn’t look like an unseemly mess at tea-time because of the spent machinegun casings.

Virtually everybody, from enlisted men to top-ranking officers to civilians, would refrain from the fiery war rhetoric that they considered typical of emotional, worked-up continentals. They knew the United Kingdom would win, in a matter-of-fact way.

RAF fighter pilots would behave with typical swagger and self-confidence. However, as the battle went on, some of them became more somber because of the increasing toll and the growing awareness of their responsibility. Not all the RAF personnel were under the same strain, but they all did their duty with a self-deprecating, unassuming attitude.

CIVILIANS

In the summer of 1940, Great Britain was already on its way to full mobilization, not only of its armed forces but also of the nation as a whole. Such an

objective was still far ahead when it came to war production, but as to the civilian involvement in the war, that was already being achieved. The overwhelming majority of Britons were determined to help their country's war effort, and if they couldn't volunteer for armed service, they would do their best as civilians. The Dunkirk evacuation had not only stirred a surge of patriotism, but more importantly, moved into top gear many paramilitary, civil-defense, and auxiliary services. Part-time volunteers flocked in. "Help the war effort" was the byword of the day.

Some of the duties they were appointed to, such as patrolling highly unlikely landing sites, were probably more intended to give these volunteers something to do, in order not to discourage an enthusiasm that could later be put to better use. Certainly the roles of air-raid wardens, auxiliary firemen, observers, and ambulance drivers became much less academic when the Luftwaffe shifted its sights to the British cities. This is why such civilian, part-time volunteers can become interesting roleplaying characters and are given their own templates (see pp. 43-45).



FEMALE ROLES

What goes for civilians, above, applies to British women, too. In 1940, they could volunteer to serve their country, and they did just that in great numbers. They were put to good use in a variety of services: they could be nurses, replace men in factories and in the fields (through the part-time Women's Land Army), and carry out many other tasks. They could drive trucks and ambulances, and serve in civil-defense positions (see also p. W:AKM46). Even housewives would find ways to contribute to the war effort, for instance by collecting funds, participating in the recycling of waste materials, caring for refugees and evacuated children, and replacing their flowerbeds with kitchen gardens. Some of them would do that on their own, many others would coordinate their efforts through the WVS (Women's Voluntary Service).

A greater commitment would see a woman join the armed forces, since each one had its own auxiliary branch: the ATS (Auxiliary Territorial Service), the WRNS (Women's Royal Naval Service) and of course the WAAF (Women's Auxiliary Air Force). Both "Wren" and "Waaf" became nouns, and the protagonists of many servicemen's dreams as well. For more about these roles, see the *Auxiliary Servicewoman* template, p. 45.

CHARACTERS

GERMAN CHARACTERS

General information about the background of German characters can be found on pp. W48-50. Additional details can be found on pp. W:IC42-45.

The Luftwaffe, the youngest armed force in the German military, had seen fast growth in the inter-war years, first covertly, then publicly after 1935. This meant that its members had diverse backgrounds and had reached varying degrees of preparedness in 1940.

Despite the political position of the Luftwaffe's commander, Hermann Göring (see p. W:IC52), at the time of the Battle of Britain the party influence was limited and the overwhelming majority of the personnel was motivated by their Sense of Duty and/or Code of Honor (see pp. 39-40), rather than by ideology. A sizable proportion of the officers came from either military families or at least upper-class backgrounds.

In terms of human resources, the great advantage of the Germans was their previous combat experience. A core of flight and ground crews had already fought with the German Legion Condor in the Spanish Civil war (see p. W10), which the Luftwaffe had wisely employed as live-fire testing grounds; many others had at least experienced a brief war deployment in Poland, France and maybe Scandinavia. This did not apply to all hands, especially as the battle of Britain continued. Administrative personnel had received little military training, and by late 1940 it was not uncommon for farm boys to reach antiaircraft units straight out of basic training. However, most of the maintenance crews had sound technical backgrounds, career NCOs had often worked in aircraft factories or in civilian airports, and they were supported by experienced civilian personnel.

ROLEPLAYING

After the Battle of France, it would take a huge dose of pessimism for a German not to feel confident in victory. The successes had been uninterrupted and heady, especially for the younger servicemen who had also lived through years of Nazi propaganda; but the evidence was before the eyes of prudent, experienced officers, too. Thus German characters should behave accordingly, at the beginning of the campaign. Depending upon their inclinations, they might believe in the invincibility of the Führer, of the Luftwaffe, or of their allegedly superior aircraft. They might show it off with a swagger if fighter pilots, carry it with a quiet confidence if senior officers, or gloat over it if faithful Nazis. Anyway, they'd be very confident.

ACES

Statistical studies show that during the Battle of Britain, less than 4% of the fighter pilots scored five kills or more, but that small percentage of aces accounted for over 30% of the kills. A much larger percentage never scored a kill; in fact, they did not even survive their first mission. While there was a middle ground of average pilots who were experienced enough not to be easy targets, but not good enough to score often, most aerial combat featured easy prey picked off by the skilled predators.

It is easy for pilot characters to meet and be subordinated to these aces. They might even work side by side with them, and in the case of cinematic campaigns, help them out of some tight spot! Here are a few real-life examples; the ranks are those held during the Battle of Britain.

Squadron Leader Douglas Bader (1910-1982). Bader, a professional pilot, used his Strong Will, Charisma and connections (Contacts) to get back in a cockpit even though he had been Legless since an air accident in 1931. In June, 1940, he was appointed to lead #242 Squadron, whose Canadian pilots were demoralized by the losses suffered in France. Bader turned them into an aggressive unit through his example and Leadership. He had little patience with desk pilots, and once declared the squadron “non-operational as regards equipment” to get the spare parts he needed. He became the best-known proponent of the Big Wing (see p. 23), and he led the Duxford Wing in action several times, sometimes with good results.

Flight Lieutenant Adolph “Sailor” Malan (1910-1963). Nicknamed “Sailor” because of his past in the merchant navy, as a boy in South Africa Malan had been an eager hunter. He took command of #74 Squadron on August 8, having already bagged 16

kills. He was businesslike and uncompromising, had some scraps with the RAF top brass, and violated regulations to develop what he called the “fours in line astern”: a British *Schwarm* (see *Air-to-Air Tactics*, p. 57). He must have had a high Gunner (MG) skill level and very good Vision (he achieved two kills in one night, see *Night Life*, p. 60). When possible he’d try to close in and hit the cockpit of enemy bombers in order to kill the pilot (which might qualify him as Bloodthirsty).

Flight Sergeant James “Ginger” Lacey (1917-1989). “Ginger” of #501 Squadron was one of the best shots of Fighter Command. While he would regularly feel sick before taking off, he was nevertheless endowed with Fearlessness: on September 15 he took on a dozen Bf 109s by himself and downed two of them. It also took courage to climb back in the cockpit after having been forced to bail out or to crash-land nine times.

Flight Sergeant Josef Frantisek (1913-1940). Frantisek, with 17 confirmed kills, was the top ace of the RAF in the Battle of Britain, and he achieved that in little more than a month: he flew with #303 (Polish) Squadron, which became operational at the end of August, and he died in a landing accident on October 8. The reason of this success is that he already was a veteran: though flying with the Poles, he was a Czech, and had fought in the French campaign. Having fled his country, Poland, and France before the advancing Germans, he probably had some Intolerance towards them. He also was a Loner, and couldn’t be relied upon for teamwork – only for downing enemies.

Continued on next page . . .

Things changed in a couple of months, obviously. While most personnel would continue to fight with bravery and dedication, the losses did sap the morale of the bomber crews, and the fighter pilots suffered both because of the casualty rates and of the lack of rest (see p. 41). The Nazi propaganda hugely backfired when, no matter how many enemies the Luftwaffe downed, the supposed last 50 enemy fighters continued to show up, and when Berlin was bombed. German characters may well begin to question the strategic purposes of the offensive, especially if they get wind of how unlikely the launch of Operation Sea Lion (see p. 7), that their comrades are dying for, actually is. If they do, they’ll need to be careful; at this time in the war, outspoken criticism by frontline officers was common and normally not punished, but you never know.

ADVANTAGES, DISADVANTAGES, AND SKILLS

This section offers more detail for both British and Germans characters.

ADVANTAGES

These descriptions expand upon useful Advantages available to pilots, airmen and other characters.

ACES (CONT'D)

Major Adolph Galland (1912-1996). A flashy, Charismatic *Experte* of the Spanish Civil War, at the beginning of the Battle of Britain he led III./JG 26, and during it he was appointed *Geschwaderkommodore* of the whole JG 26. By the summer of 1940, Galland's Tactics (Air-to-Air) skills were exceptionally refined. Like other veterans, Galland disregarded formalities, but also technological innovations; critics say he pursued his own score at the expense of his wingmen, but his pilots surely felt inspired by such a leader. He had an Addiction to tobacco, and had an electric lighter installed in his cockpit.

Major Werner "Vati" Mölders (1913-1941). The commander of another famous fighter unit, JG 51, in 1940 Mölders was already a Luftwaffe star (a solid Reputation) and a Spanish Civil War ace. In fact, he is credited with the invention of the *Schwarm* tactics (see *Air-to-Air Tactics*, p. 57) in Spain. His nickname

means "Daddy," and he certainly cared for his pilots; he had experienced being downed, captured by the French, and wounded by the British. He had very high levels both in Tactics and in Gunner (and, indeed, he was another ace who was fond of hunting and shooting). He was promoted during the Battle of Britain, and by the end of the year he scored his 55th kill.

Hauptmann Helmut Wick (1915-1940). Wick was an up-and-coming officer, and indeed, while listed as a Hauptmann above, he entered the Battle of Britain as *Oberleutnant* and was a Major when he died; he climbed from acting as a *Staffelkapitän* to leading the whole JG 2. Wick was a natural-born hunter. On November 28, 1940, he scored his 55th and 56th kills, and was downed into the Channel by Flight Lieutenant John Dundas of #609 Squadron. He was never found.

Acceleration

Tolerance see p. CI19

This is a typical Advantage for fighter pilots, and it is indeed a special option for their selection of National Advantages in their corebook template (see p. W83). It is important to remark that this ability to withstand short-term high-G forces can be acquired; a character can get accustomed to sudden accelerations through training and actual combat. A straight acceleration by any 1940 aircraft is never dangerous, but things change if there is a centrifugal force too, as in a *bend* (see pp. W150, CIII131, VE153-155).

Acute Vision see p. W182

Pilots used to say the most valuable equipment they had was the Eyeball Mk I. Seeing the enemy first often was a life-or-death proposition. Acute Vision is also a special option in the Fighter Pilot template (see p. W83).

Contacts see p. CI22

Both the RAF and the Luftwaffe were growing fast, but in 1940 they still had a backbone of regulars who knew their ways and could sometimes take a shortcut through the red tape. The British old boys' network and its German counterpart could be represented by means of a Reputation (see p. W:AKM47), or additional Status (see p. W:IC45); or, if the character's friends only provide timely gossip, they can be considered Contacts of the Military sort.

Luck see p. W183

Many pilots were very superstitious and a few seem to have been simply lucky, surviving against all odds. Luck is an especially suitable Advantage for cinematic campaigns (see p. 55).

Reputation see pp. W63, W179

Only fresh recruits start with a blank slate. An officer being transferred from another unit will almost always be preceded by his Reputation, even though this applies to the small group represented by his own service's officers. Success, bravery, luck (see above) and care for his men may all contribute to a positive Reputation.

DISADVANTAGES

These descriptions expand upon suitable Disadvantages available to pilots, airmen and other characters.

Code of Honor see p. W64

Both the Officer's and the Enlisted Man's Code of Honor were common in the RAF and the Luftwaffe. Both had a core of professionals, and new recruits were indoctrinated as much as possible in their own service's mystique. For the *Standard* form of this Disadvantage, worth -10 points, the following details can be added:

among one's mates, special care should be taken of one's wingman; if a ground crewman, the aircraft's readiness and reliability come before any other consideration.

The *Extreme* form of this Disadvantage was rarer, which is understandable since it verges on the suicidal. The description offered on p. W64 can be fleshed out for the Battle of Britain and other aerial campaigns, as follows. Fighter pilots should not abandon the bombers they are escorting; they should not bail out of their planes while over their own country's cities. Bomber pilots, if forced to jump, should keep flying straight and level until every crewman has made it out; they should not jettison their bombload lightly. Most of the servicemen having this Disadvantage also maintain that their own laws of war include not shooting at parachuting enemies. These details do not modify the point value.

Sense of Duty see p. W186

While many of the men involved in the Battle of Britain felt an obligation towards their comrades, units, or country, this should not overlap with Code of Honor (above) or Fanaticism (Patriotism, see p. W184). If a character already is a fanatical patriot, he should not gain anymore points from a Sense of Duty towards his country!

SKILLS

Characters can be created according to templates (see pp. W72-85, pp. 41-45), which already provide a selection of Skills. However, the following notes can be added.

Area

Knowledge see p. W188

Pilots having this Skill will in all likelihood know the area not only from the ground (as usual, maybe focusing on good pubs and cafes), but also from the air. They will be aware of aerial landmarks (rivers, cities, coast lines etc.) and of any places suitable for emergency landings.

Ground Area Knowledge can be of great help when a character is finding his way through the night in a fully blacked-out environment.

Aviation see p. W188

This skill is for airmen what Soldier means for ground troops (see p. W65). It represents the basics, such as where to step and where not to around, inside or over an aircraft. It also represents their general-purpose training, wherein complex matters (provided they weren't one of the trainee's main responsibilities) were reduced to simple three-step instructions.

Apart from the examples on p. W188, Aviation can be substituted for *easy*, *routine* tasks, in place of the standard DX or IQ defaults. It can be used, for instance, for the first roll for Parachuting (see below), instead of Operations in order to understand the essentials of a briefing, or as a substitute of Meteorology for very short-term forecasts.

Camouflage see p. W188

In this setting, this skill includes the ability to properly apply black-out measures to buildings, vehicles and environments, so that at night, no light can be visible by an enemy bomber flying overhead. It also includes knowledge of the relevant regulations, and the ability to properly create smoke screens, even by using improvised means.

Electronics

Operation see p. W188

In 1940, solving problems or facing emergencies with sensors and communication equipment actually had more to do with electro-mechanical, mechanical, or optical devices. This included things such as the pedestal-mounted range-and-bearing finders used by observers (see p. 44), the "predictors" used to direct antiaircraft fire, and the complex switchboard systems used to convey real-time information to operations rooms. For want of a better definition, Electronics Operation (Sensors, or Communications) is the skill used to represent this.

NBC Warfare see p. W190

It might seem strange that even characters with little or no military background may have this skill (as evidenced by the templates, see pp. 41-45). However, the threat of gas attacks was perceived as very real in 1940, and the British authorities made Herculean efforts in order to provide a gas mask for *everybody*. Air-raid wardens, and the members of other services, were trained not only to check and quickly wear the masks, but also to identify gases by their smell and to react accordingly.

Parachuting see p. W190

Flying personnel received directions on how to leave their aircraft and open their parachute, but perfunctory information, if any at all, beyond that. If a character lacks this skill, however, the short lessons above qualify him for using as a default his Aviation skill for the first roll to employ a parachute (see p. W65). He still has to roll either against Parachuting or against the standard defaults (DX-4 or IQ-6) when it comes to landing well.

COMBAT STRESS

The Battle of Britain was the first long, sustained and not lopsided air campaign of WWII. Pilots and flight crews on both sides discovered that fighting could injure not only their bodies but also their minds.

Combat stress was caused by many cumulative factors. Unlike riflemen, aviators did not live in brutish conditions and were less subject to sheer physical labor. However, they suffered from sleep deprivation (see p. W205) and from the strain caused by repeated exposure to the dangers of aerial fights.

This stress could often be kept in check for a while, but it might suddenly take its toll just after traumatic events, such as being downed, having one's aircraft hit, or seeing one's fellow crewmen wounded or dying; being downed in the Channel was obviously very distressing, too. These are situations that require Fright Checks (see p. W197), with appropriate penalties. It would be realistic for characters failing their rolls to develop mental Disadvantages, thus giving way to the character erosion that is typical of a 1,000-Yard-Stare campaign (see p. W158).

In the summer of 1940, many pilots reacted to combat stress by acquiring Disadvantages such as Callous (see p. W184), Compulsive Behavior (Binge Drinking) (see p. W64), Edgy (see p. CI90), or Post-Combat Shakes (see p. W186). An incapacitating Disadvantage is Flashbacks (see p. CI90). Other consequences of psychological exhaustion are listed on p. W:D122.

If a terrifying event happens in a cinematic campaign, a forgiving GM might let such Disadvantages to be acquired only temporarily, so that the players get to know "what it would be like," without their characters being permanently scarred. Recovering from such a temporary Disadvantage would require some off time, attention and care by friends or loved ones, and good roleplaying.

Professional Skills see p. B58

Two Professional Skills are suggested for use with the templates: PS (Fireman), that can be used for auxiliary and full-time firemen (see p. 45), and PS (Aircraft Identification). The latter isn't exactly a profession, but it represents the body of knowledge needed to identify flying airplanes from a distance, on the basis of their shapes, sizes, performance, symbols and markings. Aircraft identification tables and silhouettes were ubiqui-

tous in air bases, Observer Corps stations, and boy's bedrooms; the skill is used by observer and amateurs, while servicemen will normally roll against their Aviation skill, if needed. Both Professional Skills are considered to be Mental/Average skills as per the rules.

Scrounging see p. W191

In occupied France, but also in Great Britain, the supply services could fail to deliver even the most trivial items. Scrounging is useful for *any* wartime character, but it's particularly important for mechanics and ground crewmen (see p. 43), if they don't want too many airplanes grounded by a by-the-book approach.



Survival (Urban) see p. CI153

This skill can be extremely useful to firemen and rescue workers (see p. 45). While they won't need to find clean rainwater or a place to sleep outdoors in a city, they may be forced to navigate crumbling buildings, locate entrances, stairwells, emergency exits, and manholes, and generally find their way through an urban environment turned hazardous by bombing, fire, and gas or water leaks. The skill can also be used to judge whether a shelter or cellar can offer effective protection against bombing raids.

CHARACTER TEMPLATES

The templates follow the rules set forth on pp. W68-85. The protagonists of the Battle of Britain can be built by using a few corebook templates only: the Fighter Pilot first and foremost (see p. W83), then the Bomber Crewman (see p. W82) and possibly the Old-Guard Officer (see p. W81). A more diverse campaign can make use of other templates, too, both from the corebook and from the British and German nation books. The Spiv, or petty criminal (see p. W:AKM48), is priceless in a mixed campaign featuring civilians, too. The Eastern Front Experte (see p. W:IC48) techni-

HELP FROM ABROAD

Trained pilots were a valuable commodity, and all the more precious if they had actual combat experience. Therefore, it isn't surprising if the RAF put them to good use, even when they weren't British. Top-ranking officers had reservations about employing these foreigners, and some of them, such as the Poles, had a dubious if unwarranted reputation because of the quick defeat they had suffered. Additionally, all of these volunteers had to learn English first, and train with their new Hurricanes. However, their experience was worth the effort, as it was soon demonstrated, for instance, by #303 Squadron (see pp. 62, W:DWE45).

Fighter Command thus employed 276 pilots from the continent. 146 of them were Poles, who made up 5% of the Command's whole force at the beginning of the fight. Like other foreigners, they did not serve just in their own squadrons, under British officers. Many of them felt at home in English units.

The Czechs contributed the second largest contingent with 88 pilots, including a full squadron, where they tended to deal rough justice on their own in cases of poor performance. Many of the 29 Belgians already knew the Hurricane, so they were directly posted to British squadrons, as it were the 14 Free French. There were even 9 pilots from Ireland.

It is difficult to count the Americans in the Battle of Britain, because some of them pretended to be Canadians; the USA was not at war and its laws forbade volunteering. Estimates range from 6 to 11.

Canada had its own squadron, and pilots from the Empire also gave a substantial contribution, representing some 10% of Fighter Command. There were 91 Canadians, but the largest group came from New Zealand, with 103 volunteers. Then there were South Africans (23, including the Rhodesians) and Australians (21).

These varied backgrounds can make for colorful roleplaying. For ideas about refugee characters, see also p. W:AKM51.

cally should not appear in the Battle of Britain. However, this template can be used as a generous guideline for the handful of true veterans serving on both sides, see Customization Notes, below.

The other templates provided in this chapter cover roles not already dealt with in the corebook or other books.

CUSTOMIZATION NOTES

The corebook templates cover six years of war. These additional notes help focusing them on those few months of 1940.

Fighter Pilot (p. W83)

Electronics Operation (Sensors) and Explosive Ordnance Disposal were relatively uncommon, on both sides.

British pilots often lacked Gunner (Bombs) and/or Gunner (Cannon). Meteorology was a wise investment. An old-timer without Savoir-Faire (Military) would be unheard of. These would mainly be *Average* airmen (see p. W71).

German pilots will normally invest in Tactics (Air-to-Air) more points than those mandated by their rank, especially if they are Military Rank 3. Veterans of both the Spanish Civil War and the Polish Campaign would be at least *Seasoned* (see p. W71), and even just a few combat missions in September 1939 should give a Luftwaffe pilot an edge over an opponent who may be well trained but has never been shot at.

Bomber Crewman (p. W82)

Electronics Operation (Sensors) and Gunner (Cannon) were relatively uncommon, on both sides.

The personnel of late-war heavy bombers, with up to 10 crew stations, could afford a higher degree of specialization than in 1940, when bombers had smaller crews. Some of the 7 character points primarily meant for Optional Skills should certainly be spent on additional Basic Skills instead (an option allowed by the template). This especially applies to German crews.

British crewmen require no additional customization.

German dive bomber pilots were among the best; they could be *Seasoned* (see p. W71) and they usually had high Tactics (Air-to-Ground) levels.

Old-Guard Officer (p. W81)

This template can be used to represent "desk pilots," those ground officers (administrators, airfield commanders) that the flying personnel often met and seldom liked. The template can be customized as follows. Increase the levels in Administration above and beyond what is mandatory for the rank (see p. W70). Replace (Land) and (Infantry) specializations with (Air) and (Air-to-Air) or (Air-to-Ground). Add Law (Military Regulations) and Meteorology to the Optional Skills.

This template can also be used for the unit's or airport's intelligence officer, who briefed and debriefed the crews and might even happen to interrogate an enemy pilot just out of his parachute harness. Such a character would have higher levels than what is mandatory for his rank in Intelligence Analysis and Operations; additionally, he might have Detect Lies, Interrogation, and Research.

GROUND CREWMAN 35 POINTS

Ground crewmen were the unsung heroes of the Battle of Britain. Fighters were in the spotlight, bombers were next, but both flew because of the greasy-handed men who tended them. They were the mechanics, engineers, armorers; many took a personal pride in the readiness of the aircraft entrusted to them, and worried for the pilots until they were back. Even at the peak of the campaign, the RAF had more fighters than trained pilots; this was Lord Beaverbrook's success (see p. 11), but also the result of these men's obscure work. The Germans called these technicians *schwarze Männer*, affectionately shortened as *Schwarzer* (Blackmen, or Blackies), though by 1940 their trademark black overalls were often replaced by blue or gray ones.

Additionally, other air force personnel who never went airborne also kept an airfield running. There were privates for doing the heavy work, manning the AA guns, and patrolling the base; repairing the runways could be as important as maintaining the airplanes. The RAF and the Luftwaffe tried to impart some "soldierly" attitude, both to the specialists and the airmen; but bearing a bayoneted rifle was not their task, and in some cases the basic training for these duties was as short as three weeks.

Some of the men serving on the ground might harbor some resentment towards their glamorous flying colleagues. A few were dropouts of the flight courses, so they might have some piloting skills; many mechanics could taxi an airplane on the ground. Aircrew shortages on bombers could give armorers a chance to volunteer for action as gunners.

Attributes: ST 10 [0]; DX 11 [10]; IQ 11 [10]; HT 10 [0].

Advantages: Fit [5] and 25 points in *National Advantages*.

Disadvantages: Rear Area Duty [-15] and -30 points in *National Disadvantages*.

Basic Skills: Aviation (M/A) IQ+1 [4]-12; Camouflage (M/E) IQ [1]-11; First Aid (M/E) IQ-1 [1/2]-10; Guns (Rifle) (P/E) DX+1 [1]-12*; and one of these specializations:

Armorer: Armoury (Vehicular) (M/A) IQ+2 [6]-13; Explosive Ordnance Disposal (M/H) IQ-2 [1]-9; Gunner (Machine Gun) (P/A) DX+1 [2]-12*; Gunner (Bombs or Torpedo) (P/A) DX [1]-11*. Minimum MR 1.

Mechanic: Engineer (Propeller Plane Engine) (M/H) IQ-1 [2]-10; Mechanic (Propeller Plane Engine) (M/A) IQ+3 [8]-14. Minimum MR 1.

Radio technician/electrician: Electronics Operation (Communications) (M/A) IQ+3 [8]-14; Mechanic (Electric Devices) (M/A) IQ [2]-11. Minimum MR 1.

Airman: Gunner (Machine Gun or Cannon) (P/A) DX+2 [4]-13*; Soldier (M/A) IQ [2]-11; and 4 points in any Basic Skills of the Rifleman Template (p. W72).

Secondary Skills: Area Knowledge (Any) (M/E) IQ [1]-11; NBC Warfare (M/A) IQ-2 [1/2]-9; Savoir-Faire (Military) (M/E) IQ [1]-11; Scrounging (M/E) IQ [1]-11; and 4 points in specializations other than the primary one, above.

Optional Skills: Spend no more than 2 points on any one of the following, for a total of 6 points: Bicycling, Brawling, Guns (Pistol, Light Automatic), Motorcycle, Swimming (all P/E); Driving (Automobile, Construction Equipment), Gunner (Cannon, Mortar), Piloting (Single or Multi-Engine Prop) (all P/A); Carousing (P/A - HT); Cooking, Telegraphy (both M/E); Administration, Electronics Operation (Communications), Gambling, Intimidation, Streetwise (all M/A); Engineer (Combat), Explosive Ordnance Disposal (both M/H).

* Includes +1 from IQ.

Customization Notes:

The rules regarding *Familiarity* (see sidebar, p. B43) definitely apply not only to piloting but also to repairing airplanes. A mechanic working on an unfamiliar model gets at the very least a -2 penalty.

HOME GUARD VOLUNTEER 20 POINTS

The members of the Home Guard (see p. 30) were part-time volunteers who were too old for regular service, or not physically fit, or whose conscription had been postponed for whatever reason. While the age bracket was 17 to 65, many were just middle-aged men that were not being drafted, but wanted to do their duty anyway; some 40% of them were veterans of World War One. Thus, while the average member wasn't prime soldier material, he wasn't an ailing grandfather either.

The training these men received was hasty and certainly, in the event of an invasion, they would not have resisted for long; however, they could have provided an early reaction, a tripwire defense and some assistance to

the regulars. As with resistance fighters, their main advantage was their intimate knowledge of their home area, and they were trained to exploit it by laying ambushes.

Later in the war, every volunteer would receive a denim khaki battledress, American WWI rifles, and a complete infantryman's kit. However, in those first months after the Guard's creation, they often had an armband and maybe a cap, and the rifle could be replaced by a hunting shotgun or even a pitchfork or stick (though mostly for drills, rather than in active duty).

Since the Germans never came, the Home Guard served by tirelessly patrolling the coastlines, the countryside and the boundaries of restricted-access areas, manning local anti-aircraft defenses, helping out after air raids, and building fortifications.

Attributes: ST 10 [0]; DX 10 [0]; IQ 10 [0]; HT 10 [0].

Advantages: 30 points in *National Advantages*; Volunteers may improve their Attributes as part of their National Advantages.

Disadvantages: Duty [-10] and -25 points in *National Disadvantages*. Volunteers may take any Physical Disadvantages worth up to -20 points as part of their National Disadvantages, and still find ways into the Home Guard.

Basic Skills: Agronomy (or other civilian skill) (M/A) IQ+1 [4]-11; Area Knowledge (Home Region) (M/E) IQ+2 [4]-12; Guns (Rifle) (P/E) DX+1 [1]-11*; Soldier (M/A) IQ [2] 10; Stealth (P/A) DX-2 [1/2]-8; Throwing (P/H) DX-2 [1]-8.

Secondary Skills: Camouflage (M/E) IQ [1]-10; First Aid (M/E) IQ-1 [1/2]-9; NBC Warfare (M/A) IQ-2 [1/2]-8; Scrounging (M/E) IQ [1]-10; Spear (P/A) DX-2 [1/2]-8; Traps (M/A) IQ-1 [1]-9.

Optional Skills: Spend 8 points on improving any Primary skill or on any of: Bicycling, Brawling, Guns (LAW, Light Automatic, Pistol, Shotgun), Motorcycle, Swimming (all P/E); Driving (Automobile), Gunner (Machine Gun, Mortar) (all P/A); Carousing (P/A - HT); Cooking, Telegraphy (both M/E); Administration, Demolition, Electronics Operation (Communications), Gambling, Orienteering, Streetwise, Teamster (all M/A); Animal Handling, Engineer (Combat) (both M/H).

* Includes +1 from IQ.

WARDEN/ OBSERVER 6 POINTS

Both Air Raid Wardens and members of the Observer Corps were overwhelmingly volunteers operating on a part-time basis; what has been said about British civilians applies to these roles, too (see p. 43).

Even more often than the Home Guard men, wardens and observers were retired citizens who gladly put in many more hours than officially required. Although treated together by this template, they were not members of the same organization.

The wardens' main task was to enforce black-out regulations; they prowled the night, spying the neighborhood's windows in search for a glimpse of light, eager to reproach the culprits with their typical "Put that light out!" cry (busybodies made excellent wardens). More usefully, they shepherded people into the shelters, reported damage and fires, and cooperated with the other services. They were ready and trained to deal with the gas attacks that fortunately never came.

The observers were the defense system's eyes inland. They would spend many boring, cold hours in their posts, often perched atop roofs, all for those rare moments when they could report a sighting.

It may be interesting to roleplay wardens or observers serving in or close to target cities. Otherwise, these can be useful background roles for characters that will become involved in campaigns having an altogether different focus.

Attributes: ST 10 [0]; DX 10 [0]; IQ 10 [0]; HT 10 [0].

Advantages: 25 points in *National Advantages*; Wardens and Observers may improve their Attributes as part of their National Advantages.

Disadvantages: Duty [-5] and -25 points in *National Disadvantages*. Wardens and Observers may take any Physical Disadvantages worth up to -20 points as part of their National Disadvantages.

Basic Skills: Agronomy (or other civilian skill) (M/A) IQ+1 [4]-11; Area Knowledge (Home Region) (M/E) IQ+2 [4]-12; and one of these two specializations:

Warden: Camouflage (M/E) IQ+1 [2]-11; Explosive Ordnance Disposal (M/H) IQ-2 [1]-8.

Observer: Electronics Operation (Sensors) (M/A) IQ-1 [1]-9; Professional Skill (Aircraft Identification) (M/A) IQ [2]-10.

Secondary Skills: First Aid (M/E) IQ [1]-10; NBC Warfare (M/A) IQ-1 [1]-9; Scrounging (M/E) IQ [1]-10; Survival (Urban) IQ-1 [1]-9.

Optional Skills: no points are allocated, but likely additional Skills would be: Bicycling, Motorcycle (both P/E); Cooking, Telegraphy (both M/E); Administration, Electronics Operation (Communications), Gambling, Orienteering (all M/A); and other civilian skills.

* Includes +1 from IQ.

Customization Notes:

See p. 40 for an explanation of the Electronics Operation Skills for Observers.

AUXILIARY SERVICEWOMAN 20 POINTS

In 1940, the unprecedented conscription of women was still a year away. However, British girls and young women could volunteer for service, thus freeing men for combat assignments. What the recruitment officers looked for the most was good health, followed by eagerness.

This template can be used for the women's services of the three British armed forces, but it devotes more attention to the RAF's own. Later in the war, it can be used to represent a German Luftwaffe *Helperin* (Auxiliary).

The women's service of the RAF was the Women's Auxiliary Air Force. The WAAF was established in 1939, from pre-existing auxiliary RAF women's companies. In 1940, the WAAF was mainly intended for replacing men in clerical, administrative, and catering duties. However, working in the operations rooms of HQs during a raid could be as difficult and exhausting as many tasks normally carried out by men; it could alternately be boring and exciting. If working at an airfield command post or a radar station, it could also be dangerous. Additionally, women were already increasingly being employed for anti-aircraft defense, initially in units operating barrage balloons, searchlights, and PAC lines (see p. 47). Later on they were also included in actual antiaircraft batteries, even though they normally handled targeting devices rather than the guns. A woman could be a general's driver or a motorcycle dispatch rider.

The RAF had its own nurses, in the Princess Mary's Royal Air Force Nursing Service. In 1940 these nurses still weren't military personnel. For more about nurses, see p. W54.

Attributes: ST 10 [0]; DX 10 [0]; IQ 10 [0]; HT 11 [10].

Advantages: 25 points in *National Advantages*.

Disadvantages: Duty [-5] and -25 points in *National Disadvantages*.

Basic Skills: Administration (M/A) IQ [2]-10, Aviation (M/A) IQ-1 [1]-9, Electronics Operation (Communications) (M/A) IQ [2]-10, First Aid (M/E) IQ [1]-10.

Secondary Skills: Area Knowledge (any) (M/E) IQ [1]-10, Camouflage (M/E) IQ [1]-10, NBC Warfare (M/A) IQ-1 [1]-9, Savoir-Faire (Military) (M/E) IQ-1 [1/2]-9, Typing (P/E) DX-1 [1/2]-9.

Optional Skills: Spend 5 points on improving Primary Skills or on any of: Bicycling, Motorcycle, Swimming (all P/E); Driving (Automobile), Gunner (Cannon or Rocket Launcher) (both P/A); Hiking, Carousing (both P/A - HT); Cooking, Scrounging, Telegraphy (all M/E); Electronics Operation (Sensors), Mechanic (Gasoline Engine), Professional Skill (Nursing),

Survival (any) (all M/A); Airshipman, Cryptography (both M/H); and civilian skills.

Customization Notes:

The Airshipman skill is provided for the ground crews handling *tethered, unmanned* barrage balloons. The Gunner skill will most likely be used with battery targeting devices (see p. 29) and with PAC lines (see p. 47) rather than with actual guns.

AUXILIARY FIREMAN 25 POINTS

The Germans made extensive use of incendiary bombs when they attacked cities. The professional firefighters of the peacetime Fire Brigades would never have coped with the ensuing conflagrations, alone. Fortunately, they were helped by the Auxiliary Fire Service. In the first days of September, 1940, London could rely on 25,000 trained full-time and part-time volunteers, with their 300 auxiliary stations. They worked almost non-stop for about two months, putting out the blazes every night. They saved lives, property, and war materials, sometimes at the cost of their own lives.

Women served in the AFS, too. They would operate the pumps only in emergencies, but they rode motorcycles carrying vital orders and reports, and drove tanker trucks and mobile canteen vans through the Blitz nights.

Attributes: ST 11 [10]; DX 10 [0]; IQ 10 [0]; HT 11 [10].

Advantages: Fit [5]; and 25 points in *National Advantages*.

Disadvantages: Duty [-15] and -30 points in *National Disadvantages*.

Basic Skills: First Aid (M/E) IQ+1 [2]-11; Professional Skill (Fireman) IQ+2 [6]-12; Survival (Urban) IQ [2]-10.

Secondary Skills: Architecture IQ-1 [1]-9; Area Knowledge (Home City) IQ [1]-10; Climbing DX [2]-10; NBC Warfare IQ-1 [1]-9.

Optional Skills: Spend a total of 5 points, but no more than 2 on any one of: Bicycling, Brawling, Jumping, Motorcycle, Swimming (all P/E); Driving (Automobile, Construction Equipment, Heavy Wheeled) (all P/A); Carousing (P/A - HT); Cooking, Scrounging (both M/E); Administration, Demolition, Electronics Operation (Communications), Gambling, Mechanic (Gasoline Engine), Powerboat, Streetwise, Teamster (all M/A); Animal Handling, Engineer (Civil), Explosive Ordnance Disposal (all M/H).

Customization Notes:

This template is meant for auxiliary firemen. Skill and Attribute levels should be liberally increased if using it for professionals.

4. THE ARMOURY

Some of the equipment and vehicles employed in the Battle of Britain would become long-lasting successes, sometimes developing in unexpected ways. Others were tested and found wanting. All were ruthlessly pushed to their limits in a high-tech, high-risk, high-attrition campaign.

PERSONAL GEAR

Other books in the *GURPS WWII* line already provide plenty of information about personal gear: see pp. W87-90, W:IC57-59 and W:AKM59. However, some more details are in order for the equipment worn and used by the pilots and aircrews of the Battle of Britain.

Both British and German flying personnel used as their headgear a leather flight helmet (the Type B for the British, the *Flieger-Kopfhülle* S 100 for the Germans). Press studs, straps and headbands were used to attach the oxygen mask, goggles, and a microphone; most models included integral earphones. They were similar to the standard presented on p. W87, but slightly bulkier (PD2, DR2, protecting areas 3-4, weight 4 lbs.). The combination of goggles and mask offers some protection to the face (area 5): PD1, DR1. This might not seem a lot, but it's much better than nothing in the most dreaded event: fire in the cockpit.

The flight suit most used by the British fighter pilots was much lighter than that listed on p. W87. They weren't out for a long night's winter flight in a drafty bomber at high altitudes, so they used light cotton twill overalls with no armor value nor bonuses to resist cold. The various squadrons tended to prefer distinctive colors: blue, gray, even white. The Germans, both on fighters and bombers, tended to favor the equivalent summer overalls K So/34. At night, however, bomber crews might use the winter overalls (KW 1/33 or KW s/34): use the stats of the Leather Flight Suit on p. W87. Turret gunners of the Defiants (see p. W:MP84) would

have a very difficult time bailing out from their station with standard equipment, so they wore the special GQ Parasuit that incorporated a parachute. Add up the weights of a standard Parachute (p. W88) and of the Leather Flight Suit (p. W87). Some pilots, fearing fire, chose to bundle themselves in layers of clothes; treat this as winter clothing with PD0, DR1 (see p. W87). As for boots, gloves and gauntlets, the generic types described on p. W87 can be used.

Both the RAF and the Luftwaffe used three different types of parachutes, depending on the position the wearer would take in the aircraft. The seat models were used by pilots, while other crewmen would wear chest or back models; functionally, there were no differences. It is worth mentioning that the German *Sitzfallschirm* 30-IS-24B and *Rückenfallschirm* 12B did not feature the one-riser design used for the German paratroopers; their risers went up from both shoulders, so they give no penalty to the Parachuting skill as per p. W88.

The 1932 Pattern Life Jacket used by the RAF had to be inflated by the wearer; therefore, the survival chances of an injured or unconscious pilot in the water were next to none. The Luftwaffe had both the *Schwimmweste* 10-76A, using kapok for flotation, and the *Schwimmweste, pneumatisch* 734 10-30, that could be topped up by oral inflation but also had a small compressed-air cylinder. However, both German models provided more buoyancy in the back, which meant that an unconscious wearer would easily go face down in the water. This fault wasn't corrected until late 1940.

In the Channel waters, even in summer, death could come not only by drowning but by hypothermia. After three to four hours in the water, the body temperature would drop to a fatal level. While almost all bombers had a dinghy, an inflatable raft that would keep the crew out of the sea, the only fighter to carry a one-man version was the Bf 109 (as part of the seat cushioning). British fighter pilots would not have one until 1942.

Aircrews, and the two to five-man rafts, also carried survival and escape kits. For more details, see pp. W:MP71, 86.

AIRMEN'S WEAPONS

Small arms used in the Battle of Britain have been covered by other books in the *GURPS WWII* line. Here is just a short rundown with references to those sources. For general reference, see pp. W91-99, W:AKM 60-65 and W:IC60-65.

For most of the battle, German pilots carried a pistol, though they never were unwise enough to use it after parachuting in England; the Home Guard fired on them – and on unlucky British pilots too – with much less provocation than that. The German handgun could be a Walther PPK (p. W94) or a Mauser C34 (see p. W:IC62); Lugers were not official issue but still in use (see p. W94). The bomber survival kits included a shotgun, the Sauer *Fliegerdoppelflinte* (see p. W:IC62).

British pilots were not required to pack a sidearm aboard, though a few did so; in that case, it might be a Colt M-1911 (chambered for the .455 Webley Automatic round, see p. W:AKM61), or a Webley #1 Mk IV revolver (see p. W:AKM62). Of course the British were very unlikely to land or bail out over enemy territory. When asked why he needed a pistol, one pilot used to

FIREWORKS

The British anti-aircraft defenses included an experimental measure that could be considered creative, desperate, or both. Since traditional AA guns were already being produced around the clock, these initiatives tried to make do by means of other resources, i.e., rockets.

The Parachute and Cable (or PAC) defenses were meant for interdiction against low-level attacks. They were lines of launchers that sent up a steel cable by means of a rocket; at around 600 feet, the rocket spent, a parachute opened, suspending the cable. If an airplane hit the cable, the impact opened another parachute at the lower end; the combined braking effect would make the airplane stall. The PACs were seldom used and in the rare instances in which a wing hit a cable, it might just slip away. It is, however, a good role-playing device, as a German PC might suddenly see multiple vertical smoke lines in front of him... He might try to dodge them (in itself a potentially dangerous bend, see p. W150). Or, if the aircraft does hit a cable, that would be a Hazard with a -4 penalty to the Control Roll (see p. W151).

mutter about “sharks.” This probably did not mean he wanted to keep them at bay with a handgun, but that he pictured himself bleeding in the Channel and wanted a convenient way to hasten the unavoidable, if need be. In September, new Luftwaffe regulations forbade sidearms; the German authorities wanted to have a chance of saving their pilots from the sea, even at the last minute.

THE MOTOR POOL

Unsurprisingly, the most important aircraft models used in the Battle of Britain by both sides are covered by other sources in the *GURPS WWII* line. In order to avoid repetition, this section offers basic information and book references for those key airplanes, and, additionally, complete write-ups for less famous vehicles. Standard notation is used for the vehicles, see p. W100.

BRITISH FIGHTERS

The Supermarine Spitfire I (see p. W:AKM78) and the Hawker Hurricane I (see p. W:AKM77) were the RAF's mainstays in the battle, and the fighters that won it. They were the newest designs, both recent mono-plane fighters. The Spitfire was faster and slightly more agile; it was also more expensive. The Hurricane was more numerous. In the summer of 1940, they equipped 22 and 19 Fighter Command squadrons, respectively; eight additional Hurricane squadrons became operational in the first days of the battle. Older or less successful models were relegated to marginal roles.

These secondary craft included the Gloster Gladiator II, an obsolete biplane fighter (1 squadron, see p. W:FH41), and the Bolton Paul Defiant I (2 squadrons, see p. W:MP84). The latter was a design resulting from the fear that pilots of fast fighters couldn't keep their weapons aimed for long enough to bring down a big bomber; the Defiant had a second crewman manning a heavily armed turret, and it was intended to close formation with enemy bombers before firing. For real single-seat fighters, however, these overweight two-seaters were easy targets; it happened to the Defiant just as to the Bf 110.

The Bristol Blenheim IF, originally a bomber (see p. W:MP85), also was too big and slow for a *day* fighter; indeed, it was large enough to carry the first experimental airborne radars, thus it served perfectly well with the night fighter units. Other Blenheim squadrons (equipped with the IVF) were employed by the Coastal Command (see p. 27) for convoy escort and recon

missions; long range was more important than agility on those duties, and anyway, fighters escorting convoys out at sea would be needed to chase away German reconnaissance and anti-shipping aircraft, not fighters.

Finally, the Fairey Fulmar II (see p. W:MP86) equipped one of the Fleet Air Arm squadrons; the other had Sea Gladiators, though in October, 1940, it switched to Grumman Martlets (better known as Wildcats, see p. W:D81).

Generally speaking, when Germans encountered British fighters, these were either Hurricanes or Spitfires. But the potential for variation is there, for the creative GM.

BRISTOL BEAUFIGHTER

The Bristol Beaufighter was a two-seat, twin-engine fighter based on components of the Bristol Beaufort torpedo-bomber. Its name was formed from "Beaufort" and "fighter." 5,584 were built until 1945 in several marks.

The Beaufighter I was introduced in July 1940. It was powerfully armed with four cannon and six machine guns, but slightly underpowered, and thus slower than the Hawker Hurricane (p. W:AKM77). Deemed unsuited as a day fighter, it was assigned as a night fighter. After August 1940, many samples of the Beaufighter I received a 3-mile radar to replace the makeshift Bristol Blenheim IF night fighter (p. W:MP85). By the end of 1941, ten RAF squadrons used this version. As the night raids over Britain were scaled down, it was used as a night intruder over mainland Europe. Some 553 of these were built. It was redesignated the Beaufighter IF after the Beaufighter IC was introduced in 1941.

The Beaufighter was considered difficult to handle; in particular, wild swings on take-off were reported (the GM may assign a -2 penalty on Pilot rolls on take-off). It lacked an autopilot and was relatively unstable, requiring constant trimming. On the other hand, it was rugged, fast at sea level, and quiet on approach (in the Far East, the Japanese dubbed it "Whispering Death").

The aircraft has a roomy cockpit with excellent view to the front, and a rear-facing observer's station in the dorsal position, separated by an armored door. The radio operator/observer also has to switch the heavy 60-round drum magazines of the cannons when they are empty.

Armament of the Beaufighter I consists of four forward-firing 20mm Hispano-Suiza II autocannons in the belly, and six .303 Browning II machine guns in the wings (four in the right wing, two in the left wing).

The engines burns 123.1 gallons of aviation gas per hour at routine usage. Fuel and ammo cost \$410.

Bristol Beaufighter I

Subassemblies: Medium Fighter-Bomber chassis +4; Heavy Fighter-Bomber wings +3; 2×Large Weapon pods 1-2 [Wings:F] +2; 3×retractable wheels +1.

Powertrain: 2×1,044-kW aerial HP supercharged gas engines with 2×1,044-kW props [Pod1-2] and 660-gallon self-sealing tanks [Wings]; 4,000-kWs batteries.

Occ: 2 CS Body **Cargo:** 34.6 Body

Armor	F	RL	B	T	U
Body:	3/5	3/5	3/5	3/5	3/5
Wings:	3/5	3/5	3/5	3/5	3/5
Wheels:	2/3	2/3	2/3	2/3	2/3
Pods:	3/5	3/5	3/5	3/5	3/5
Pilot:	0/+10	0/+0	0/+25	0/+0	0/+25
Observer:	0/+25	0/+0	0/+0	0/+0	0/+25

Weaponry

4×20mm LAAC/Hispano II [Body:F] (240 rounds each).*

6×Aircraft LMG/Browning II [Wings:F] (1,000 rounds each).**

* Linked. ** Linked.

Equipment

Body: IFF; 0.5-man/day life-support system, navigation instruments; large radio receiver and transmitter.

Statistics

Size: 42'×58'×16' Payload: 3.6 tons Lwt.: 10.5 tons

Volume: 448 Maint: 29 hours

Cost: \$48,660

HT: 7. HPs: 210 Body, 450 each Wing, 20 each Wheel, 120 each Pod.

aSpeed: 309 aAccel: 6 aDecel: 20

aMR: 5 aSR: 2

Stall Speed 88.

gSpeed: 195 gAccel: 10 gDecel: 10

gMR: 0.5 gSR: 2

Ground Pressure Extremely High. No Off-Road Speed.

Design Notes

The wheels retract into the engine pods, but were placed in the wings for design purposes (as was a slight overflow of the engines). Designed with 990×20mm rounds. The historical 503-sf wing area was used for performance calculations. Lwt. was reduced by 6%, aSpeed by 3% to the historical figures. aMR was reduced from designed 7.5 to 5 (this is realistic, given that the historical wings had only 83% the surface of the design wings).

Variants

The Beaufighter IC (1941) was used by Coastal Command as a maritime long-range day fighter, first operating from Malta in the Mediterranean. It was also used by Australia. It had 749-gallon tanks, no wing guns, and replaced the radar with a radio-direction finder. 397 were made.

The Beaufighter VIC (1942) was used by Coastal Command for maritime strike missions. It had 1,245-kW engines, 749-gallon tanks, no wing guns, 250-lb. wing hardpoints, and a radio-direction finder. 693 were made.

The Beaufighter VIF (1942) was a night fighter variant with radar, mainly used in the Mediterranean and the Far East, equipped like the Beaufighter IF except for the 1,245-kW engines. It was also employed by a few USAF units in North Africa until replaced by the Northrop P-61 (p. W:MP108). 1,079 were made.

The Beaufighter X (1942) was the main production version, designated a torpedo-fighter. It had 1,294-kW engines, 749-gallon tanks, and a surface-attack radar; Lwt. 12.7, aSpeed 318. Intended as a torpedo-bomber/fighter, it had a 2,200-lb. fuselage hardpoint for a 450mm or 569mm torpedo (p. W:MP16) and 250-lb. hardpoints for bombs or rockets under the wings. It also received dive brakes. It was armed with four Hispano-Suiza V (20mm Long Aircraft AC) with 283 belted rounds each, as well as a rear-firing, trainable .303 Vickers G.O. I (Aircraft LMG) with 960 rounds for the observer. The Beaufighter X could carry a third crew member to assist torpedo-dropping. 2,205 were made.

DE HAVILLAND TIGER MOTH

In 1928, the RAF decided it needed new trainers. The De Havilland Gypsy Moth (D.H.60), a light biplane civil model, was commercially available. The RAF requested a few modifications (including better visibility and easier access to the front seat), and the Tiger Moth was born. It was highly durable and maneuverable, easy to fly and to maintain. Between 1934 and the end of the war, it was the most common aircraft in RAF Elementary Flight Schools all over the world. Most British pilots in the Battle of Britain would be familiar with this light and highly agile but slow and unarmed biplane.

The Tiger Moth II or D.H.82A (1932), the most common version with over 7,000 aircraft built, wasn't just used as a trainer. The British Expeditionary Force had six of them for liaison duties. At the very beginning of the war, a few were assigned to Coastal Command for anti-submarine patrolling; though unarmed, the mere presence of an aircraft overhead was expected to force the U-boats to dive away. Other trainers saw some special adaptations. In the Far East, #224 Squadron cut an access to the small cargo locker and the empty rear

fuselage space, thus creating a medical-evacuation version that could carry one stretcher. Replace one of the exposed crew stations with a passenger seat; it must have been quite harrowing for the claustrophobic.

It was, however, in the wake of Dunkirk that possible combat roles were studied even for these light biplanes. 1,500 plywood bomb racks were built and distributed to Flight Schools. The Tiger Moths were expected to carry 8 21-lb. bombs under each wing, but the German landing they would have had to attack never came.

Luckily, weirder proposals were shelved: these would have included scythe-equipped airplanes for attacking the German paratroops' risers and canopies as they came down, and crop-dusting equipment converted into chemical-weapon delivery systems. Instead, the Tiger Moths continued providing sterling service in their main role as basic trainers throughout the war.

The instructor and the trainee sit in tandem exposed seats. The Tiger Moth uses 4.85 gallons of aviation gas per hour (Filling the tank costs \$3.80). An optional 10-gallon standard tank can be fitted in the cockpit for extended range.

De Havilland Tiger Moth II

Subassemblies: Recon Plane chassis +2; Recon Plane wings with Biplane option +3; 3× Fixed-Strut wheels +0.

Powertrain: 97-kW aerial HP gas engine with 97-kW old aerial props [Body] and 19-gallon standard tanks [Wings].

Occ: 2 XCS Body, one with Ragtop option

Cargo: 7.4 Body, 1.6 Wings

Armor	F	RL	B	T	U
Body:	2/2C	2/2C	2/2C	2/2W	2/2C
Wings:	2/2C	2/2C	2/2C	2/2C	2/2C
Wheels:	2/3	2/3	2/3	2/3	2/3

Weaponry

None

Equipment

Body: Navigation instruments; backup driver option.

Statistics

Size: 24'×30'×9' Payload: 0.4 tons Lwt.: 0.9 tons
Volume: 96 Maint: 127 hours Cost: \$2,480

HT: 12. HPs: 15 Body, 50 each Wing, 2 each Wheel.
aSpeed: 109 aAccel: 3 aDecel: 44
aMR: 11 aSR: 1

Stall Speed 43.
gSpeed: 93 gAccel: 6 gDecel: 10
gMR: 0.5 gSR: 2
Ground Pressure High. 1/6 Off-Road Speed.

Design Notes

Design empty weight was within 1% of the historical value. The actual top speed, stall speed and loaded weight are provided here.

The cloth armor option is used almost everywhere, save on the fuselage top, where wooden armor represents the light plywood used for that part.

On many trainers, the trainee's seat could mount a detachable hood that was used for instrument flight training. When fitted, it gives the seat *No View* (see p. W144).

For the attack version, add two 168-lb. hardpoints; when they are loaded, with just one pilot aboard, apply these performance figures: aAccel: 2, aDecel: 36, aMR: 9. The data provided for the German 22-lb. HE bomb can be used for the ordnance (see p. W:IC68).

Variants

The first model, the Tiger Moth I (D.H.82; 1931) had an 89-kW Gypsy III engine. 101 were built.

The D.H. 82C (1937) was a winterized version built in Canada; it featured an enclosed cockpit, wheel brakes, a tail wheel instead of a skid, and the possibility to mount snow skis or floats instead of wheels. The engine was upgraded, too: it was the 108-kW Gypsy Major IC. 1417 were built. The USAAF also ordered a batch as the PT-24, but the 200 or so planes built were diverted to serve with the RCAF.

The D.H. 82B Queen Bee was a radio-controlled drone used for AA fire training. Its construction replaced steel tubing with all-wood elements. The fuel tank was larger. Electricity for the on-board radio was provided by a wind generator. Some 380 were built.

OTHER BRITISH VEHICLES

Several other British vehicles, apart from fighters, can be found in other books of the *GURPS WWII* line, and can be useful in a 1940 campaign. Bomber Command was busy retaliating against the Germans' attacks, chiefly with the Armstrong Whitworth Whitley (see p. W:MP83), but also with the Bristol Blenheim (see p. W:MP85). Coastal Command employed, among others, the Short Sunderland (see p. W:AKM82). In the Channel, a variety of boats were of great help in rescuing downed pilots, and the Fairmile Motor Launch is a good representative (see p. W:AKM87).

Improvised armored trucks like the Bedford "Armadillo" (see p. W:AKM70) saw service on the airfields under attack, hopefully offering protection against strafing runs and fragments. 40mm antiaircraft guns (see p. W:MP25) gave a more active defense. The Standard Beaverette Armored Car (see p. W:MP37) can come in handy for a Home Guard campaign.

COLLIMATION

With wing-mounted machine guns, there is a sizable distance between the left-most and the right-most weapon. If they were all pointing straight ahead, the fire would be similarly spread out. In order to prevent this, the 8 MGs of the Spitfires and Hurricanes were collimated, or as the British put it, "harmonized." They were installed with a slight convergence, giving a point of concentrated fire at a given distance. At the beginning of the war, this distance was mandated by the Air Ministry and set at the factory: 400 to 500 yards depending on the production run.

However, the pilots soon discovered that if they wanted to hit, they needed to come up closer to the target. So they soon asked their unit armorers to collimate the MGs at 150 to 250 yards; the innovation spread by word of mouth through the squadrons, starting with the veterans. When the Ministry got wind of that, it tried to oppose to the change.

GMs wanting to add this detail might optionally rule that when engaging at the collimation range, the outcome of just one throw of the die, possibly with a +1 bonus, will determine the result of all the MGs; when engaging at any other distance, individual rolls will be required for each gun, thus representing the individual spread.

German pilots had much less of a problem with this, given their weapon array (see p. W119). It is worth mentioning that suddenly exploding targets sometimes damaged their attacker with fragments and/or coated its windshield with oil and fuel.

DORNIER Do 17

The Do 17 began life in 1934 in answer to a Lufthansa request for a commercial plane carrying six passengers or mail. The three prototypes proved unsuitable for passenger service due to the narrow fuselage, but the high speed (coming mostly from the plane's very clean lines) interested the Luftwaffe and the plane was developed further as a medium bomber. Dubbed the "Flying Pencil", the lightly armed E-1 and F-1 versions were tested with the Legion Condor in Spain starting in 1937. By 1939, the definitive Z model had flown, and it was this version that was primarily used during the invasions of Poland and France and the Battle of Britain.

Although bristling with machine guns, the Do 17 suffered heavy losses over England while delivering only half the bomb load of the Ju 88 (p. W:IC87) and He 111 (p. 52). By the end of 1941, most Do 17s had been pulled out of frontline service. Some 1,700 Do 17Zs were built in 1939 and 1940.

The Do 17Z-2 has a crew of four. The pilot flies the plane. The navigator drops the bombs and operates one of two windscreen-mounted MG 15s. The radio operator fires either a ventral MG 15 facing the rear or one of two lateral MG 15s. A gunner fires either a dorsal MG 15 aimed to the rear or one of two nose-mounted MG 15s. The Do 17Z-2 uses 67 gallons of aviation fuel per hour.

Do 17Z-2

Subassemblies: Medium Fighter-Bomber chassis +4, Heavy Fighter-Bomber Wings +4, 2×Large Weapon Pods +2, 3×retractable wheels +1.

Powertrain: 2×746 kW aerial HP gasoline engines w/ 746-prop each [Pod:F] with 409-gallon self-sealing tanks [Wings]; 4,000-kWs batteries.

Occ: 4 CS **Cargo:** 19 Body, 6.7 Wings

Armor	F	RL	B	T	U
All:	2/3	2/3	2/3	2/3	2/3
Crew:	0/0	0/0	0/+20	0/+0	0/+20

Weaponry

4×Aircraft LMG/MG 15 [Body:F] (750 rounds each)
 2×Aircraft LMG/MG 15 [Body:B] (750 rounds each)
 Aircraft LMG/MG 15 [Body:L] (750 rounds)
 Aircraft LMG/MG 15 [Body:R] (750 rounds)
 10×110-lb Bombs [Body:U]

Equipment

Body: Large radio receiver and transmitter, direction finder, IFF, autopilot, navigation instruments, bombsight, environmental control, 2,200-lb bomb bay. **Pods:** Fire extinguisher.

Statistics

Size: 52'×59'×15' **Payload:** 2.96 lbs. **Lwt.:** 8.7 tons
Volume: 448 **Maint.:** 26 hours.
Price: \$60,100.

HT: 7. **HP:** 210 Body, 450 each Wing, 30 each Wheel, 120 each Pod
aSpeed: 255 **aAccel:** 5 **aDecel:** 37
aMR: 9.25 **aSR:** 2

Stall speed: 77 mph.
gSpeed: 190 **gAccel:** 9 **gDecel:** 10
gMR: 0.5 **gSR:** 2

Design Notes

The historical wing surface of 592 sf was used. Unloaded weight was increased 5% to match historical unloaded weight. Many Do 17Zs lacked two of the forward firing MG 15s, as they were installed in individual aircraft in the field.

If required, a 236 gallon auxiliary fuel tank could be fitted in the fuselage.

Variants

Until the Z model, halve crew armor and used standard fuel tanks.

The Do 17E-1 (1937) was the initial production version, with only two MG 15s, both firing to the rear and a crew of three. Bomb load was only 1,100 lbs and top speed was 220 mph with two 559-kW engines.

The Do 17F-1 (1937), similar to the E-1, was designed for reconnaissance and added two cameras and extra fuel, which reduced the bomb load to 550 lbs.

The Do 17K was used by Yugoslavia. Except for the engines (731-kW), it was similar to the Do 17M.

The proposed Do 17L would have used 671-kW engines and performed the role of pathfinder. Only two prototypes were built.

The Do 17M-1 added a third MG 15 firing to the right windscreen and could carry 2,200 lbs of bombs internally.

The Do 17P was another recon version. Using 652-kW engines it reached 249 mph.

Two planes used for engine tests were designated Do 17R.

The three Do 17S were high-speed recon prototypes.

The fifteen Do 17U-0 and Do 17U-1 were used as pathfinders, carrying two radio operators as part of an increased five-man crew.

The Do 17Z represented the most produced type. The Z-0 was similar to the S, but used 671-kW engines. The Z-1 added a nose MG 15 but, being underpowered, could only carry 1,100 lbs of bombs. The Z-3, of which 22 were built, was another reconnaissance version. The Z-4 was a dual-control trainer. The Z-5 was similar to the Z-2, but had flotation bags in the body and rear of the engine pods. The Z-10 was a conversion of 9 planes to the night fighter role; it mounted four MG 17s and four MG FF (20mm Short Aircraft AC) forward and one MG 15 to the rear. A radar set was added. However, due to the low performance of the Do 17, no further conversions were carried out. The single Do 17Z-6 Kauz I was similar, with one less MG 15 to the front in a nose from a Ju 88C-2.

The Do 215 was the export version of the Do 17, reaching 292 mph with two 820-kW engines. However, except for two Do 215B-3s sent to Russia in 1940, all Do 215s were operated by Germany.

HEINKEL HE 59

When Germany began rearming in the early 1930s, the Heinkel He 59 was one of the first military seaplanes it built, although the first prototype used fixed-wheel landing gear rather than floats. It was a large twin-engine biplane which entered production in 1932. Over 1,400 were built before production ended in 1936.

The He 59B-2 saw use in bomber and anti-ship- ping roles with the Legion Condor in the Spanish Civil War. In 1940, several were used to transport 60 troops to help seize the bridges at Rotterdam. The seaplane's main purposes during the war, however, were recon- naissance or search and rescue operations. The capabil- ity of carrying out both tasks under the Red Cross insignia sparked off bitter controversy during the Battle of Britain (see *Chivalry is Gone*, p. 10). This aircraft was already old in 1940, but in 1943 three squadrons were still flying the obsolete He 59.

The He 59B-2 has a crew of three: pilot, forward observer/gunner (who mans one MG 15) and rear observer/gunner (who fires either the dorsal or ventral MG 15). It uses 42 gallons of aviation gas per hour.

He 59B-2

Subassemblies: Medium Fighter-Bomber chassis +3, Heavy Fighter-Bomber Wings with Biplane option +3, 2×Large Weapon Pods [Wings:F] +2, 2×sealed Medium TD Pontoons [Body:U] +2, 2×fixed skids +1.

Powertrain: 2×492-kW HP aerial gasoline engines w/ 492-kW prop each and 399-gallon standard fuel tanks [Pontoons]; 2,000-kW batteries.

Occ: 3 XCS, 1 CS **Cargo:** 34 Body

Armor	F	RL	B	T	U
Body:	2/2C	2/2C	2/2C	2/2C	2/2C
Wings:	2/2W	2/2W	2/2W	2/2W	2/2W
Pods:	2/2	2/2	2/2	2/2	2/2
Pontoons:	2/3	2/3	2/3	2/3	2/3

Weaponry

Aircraft LMG/MG 15 [Body:F] (750 rounds)
 Aircraft LMG/MG 15 [Body:T] (750 rounds)
 Aircraft LMG/MG 15 [Body:U] (750 rounds)

Equipment

Body: Medium range radio transmitter and receiver, navigation instruments, autopilot, 2,200-lb hardpoint.

Statistics

Size: 57'×77'×23' Payload: 1.6 tons Lwt.: 8.4 tons
 Volume: 448 Maint.: 35 hours.
 Price: \$32,400.

HT: 8. HPs: 210 Body, 300 each Wing, 180 each Pontoon, 120 each Engine Pod.

aSpeed: 134 aAccel: 4 aDecel: 25
 aMR: 6.25 aSR: 2

Stall speed 44.

wSpeed: 24 wAccel: 4 wDecel: 10
 wMR: 0.1 wSR: 2

Flotation Rating 9.25 tons.

Design Notes

The historical wing area of 1,651 sf has been used. Performance numbers do not include a loaded hardpoint.

The weight (and thus cost and HPs) of the pon- toons and wings were divided by two to reduce weight. For better realism, aMR and aDecel were reduced from their design values of 12.75 and 51.

The He 59 needs a head wind of at least 3 mph to take off.

The body uses the cloth armor option and the wings the wooden armor option.

All He 59s carried an inflatable raft.

Later in the war, the MG 15s were replaced with MG 81s.

Variants

The He 59B-1 (1932) was a limited (16 plane) pre- production version which added a single MG 15, in the nose, to complement the dorsal MG.

Some B-2s replaced the nose MG 15 above with a MG FF (20mm Short Aircraft AC) when operating in the anti-shipping role.

The He 59B-3 dropped the nose MG 15 and added fuel tanks to the fuselage to increase range for recon- naissance.

The He 59C-1 was stripped down (with weapons removed) for training and long-range patrols.

The He 59C-2 was the sea rescue version. It had no weaponry and no hardpoint; it could carry medical sup- plies and an additional inflatable liferaft. This was the aircraft that downed German pilots hoped to see in the Channel.

The He 59D-1 combined the roles of the two C versions.

A trainer for torpedo bombing was designated the He 59E-1. The E-2 reconnaissance trainer carried three cameras.

The final version was the He 59H, which was a navigational trainer converted from D-1s, with improved radio equipment.

HEINKEL HE 111

The *Spaten* or "Spade" (so named because of the distinctive tail shape) was the most common German bomber during the Battle of Britain, though it was already starting to show its age. It was derived from a mid-1930s civilian aircraft but, like most German air- liners of the period, was designed from the start with an eye towards future military use. The He 111 entered mass production in 1939, though small numbers had been in use since 1937, with thirty He 111B-1s used in Spain. While the bomber was faster than most fighters it went up against in the Spanish Civil War, it was quickly learned that the three machine guns of the ear- liest models were completely insufficient.

Unfortunately for the Germans, by the Battle of Britain there were very few fighters slower than the He 111, and the Hurricane and Spitfire were both over 50 mph faster. The only bright spot was that it took a lot of .303-caliber bullets to bring down an He 111 and, for most of the battle, this was the only weaponry carried by the Spitfires and Hurricanes. As the war went on, the He 111s were used less as bombers and more as transports. By the end of 1944, some 7,000 He 111s had been built for the Luftwaffe, with 236 He 111Hs constructed in Spain during the war.

The He 111 has a crew of five. The pilot sits in the cockpit. The bombardier sits in the nose and operates the forward MG 15s (one at a time). The navigator/radio operator fires one rear MG 15. A gunner lies in the disliked gondola position and fires the MG 17. The waist gunner operates the left or right mounted MG 15s. The He 111H-3 uses 80.6 gallons of aviation fuel per hour.

Heinkel He 111H-3

Subassemblies: Heavy Fighter-Bomber chassis +3, Light Bomber Wings with STOL option +2, 2×Large Weapon Pods, 3×retractable wheels

Powertrain: 2×895 kW aerial HP gasoline engines w/ 895-prop each [Pod:F] with 898-gallon self-sealing tanks [Wings]; 2,000-kW batteries.

Occ: 5 CS **Cargo:** 26 Body, 3.3 Wings

Armor	F	RL	B	T	U
Body:	3/5	3/5	3/5	3/5	3/5
Wings:	3/5	3/5	3/5	3/5	3/5
Pods:	3/5	3/5	3/5	3/5	3/5
Wheels:	2/3	2/3	2/3	2/3	2/3
Crew:	0/0	0/0	0/25*	0/0	0/0

* Protects all crew but waist gunner from rear and only waist gunner from the front

Weaponry

2×Aircraft LMG/MG 15 [Body:F] (750 rounds)
 Aircraft LMG/MG 15 [Body:B] (750 rounds)
 Aircraft LMG/MG 17 [Body:B] (750 rounds)
 Aircraft LMG/MG 15 [Body:L] (750 rounds)
 Aircraft LMG/MG 15 [Body:R] (750 rounds)
 8×550-lb Bombs [Body:U]

Equipment

Body: Large radio receiver and transmitter, IFF, autopilot, navigation instruments, bombsight, environmental control, 4,400-lb bomb bay, 4,400-lb hardpoint. **Pods:** Fire extinguisher.

Statistics

Size: 54'×74'×13' **Payload:** 5.8 lbs. **Lwt.:** 13.9 tons
Volume: 640 **Maint.:** 23 hours.
Price: \$72,600.

HT: 8. **HP:** 525 Body, 413 each Wing, 50 each Wheel, 120 each Pod
aSpeed: 258 **aAccel:** 4 **aDecel:** 7
aMR: 5.25 **aSR:**

Stall speed 65 mph.

gSpeed: 165 **gAccel:** 8 **gDecel:** 10
gMR: 0.5 **gSR:** 2

Design Notes

Design speed was 235 mph. Historical surface area was 943 sf. Unloaded weight was decreased 9% to match historical unloaded weight. The underbelly gondola has been modeled as part of the body, to simplify design. As it was retained on almost all He 111s, this should not be a problem. Some had a fixed, remote-controlled MG 17 in the tail firing to the rear. The second forward-firing MG 15 was installed in the field and thus many He 111s lacked it. The MG 17 was also optional and not found in all aircraft.

The hardpoint was used for torpedoes or large bombs (the bomber could not carry anything larger than a 1,100-lb bomb in the bomb bay), but if any ordnance was carried on the hardpoint, the bomb bay was not usable.

Variants

Like many German aircraft, the He 111 was built in a bewildering number of variants and subvariants. Only a few are listed. Over 7,300 He 111s of all types were built before production ended in 1944.

The He 111A-0 was the initial military version, with 10 models produced. It was armed with three MG 15 (Aircraft LMG) in the nose, dorsal and ventral positions. They were found wanting in performance and sold to China.

The B-1 followed (1936) with 656-kW engines, which brought performance up to an acceptable level. The B-2 increased this to 708-kW engines.

The He 111E-1 (1938) used 746-kW engines and carried a 3,750-lb bomb load, increased to 4,400-lbs in the E-3. The E-4 could carry an additional 2,200-lbs on racks under the fuselage and the E-5 added 221 gallons of auxiliary fuel tanks in the fuselage.

The He 111G introduced a slightly redesigned wing.

The He 111H-2 was the first model produced in large numbers. It lacked the cockpit armor. To the original three MGs were added one nose MG 15 and one MG 15 in the ventral gondola.

The He 111H-4 replaced the 4,400 hardpoint with two 2,200-lb hardpoints for bombs or torpedoes.

The He 111H-6 added a fixed MG 17 in the tail and an MG FF (20mm Short Aircraft AC) with 180 rounds firing forward in the gondola.

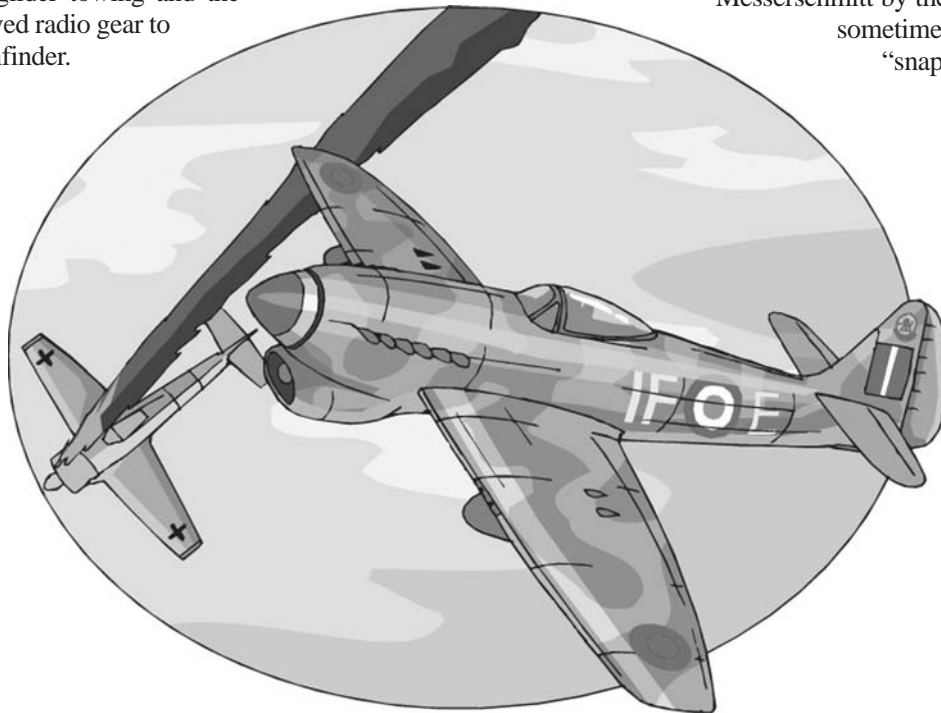
The He 111H-8 were H-3 and H-5 aircraft fitted with a device on the nose to prevent entanglements with

balloon cables; they could also hopefully sever those cables.

Armament was greatly changed in the He 111H-11, with a fully enclosed MG 131 in the dorsal position, a 20mm MG FF in the nose and a MG 81Z in the gondola. When the beam MG 15s were replaced with MG 81Zs, the planes were designated He 111H-11/R1.

Only a few He 111H-12 and H-15s were built, without the gondola, in order to carry surface-to-air missiles.

The He 111H-16 (1942) was based on the H-11 model, but could carry up to 7,165-lbs of bombs using rockets for a take-off boost. The 1,007-kW engines gave a top speed of 227 mph. The R1 had a rotating turret for the dorsal MG 131. The R2 was equipped for glider towing and the R3 had improved radio gear to serve as a pathfinder.



The He 111H-18 pathfinder version had modified engine exhausts for night missions.

The He 111H-20 was primarily used to carry 16 paratroopers (R1) or tow gliders (R2). The R3 and R4 subvariants were used as night bombers.

When the H-20s received supercharged engines, they were designated He 111H-21.

The He 111H-22 was modified to carry and launch a pair of V-1 rockets.

The J series were intended as torpedo bombers and powered with 708-kW engines.

The most unusual He 111 variant was the He 111Z (1942), which was two He 111H-6 joined together, with a fifth engine mounted to the new wing section joining them. Two prototypes and ten production He 111Z-1s were used to tow the massive Me 321 glider.

OTHER GERMAN AIRCRAFT

The other bombers used by the Luftwaffe in the Battle of Britain, apart from those listed above, were the Ju 87 (see p. W114) and the Ju 88 (see p. W:IC87). The former, better known as the Stuka, was the specialized German dive bomber; it equipped nine *Geschwader*, but it soon showed its weaknesses. The sturdy Ju 88 outfitted 16 *Geschwader*, counting those deployed in Denmark and the re-equipping KG 77, and it was largely used as another level-flying bomber.

The German protagonist of the battle was of course the Bf 109 (see p. W119), simply called the Messerschmitt by the British (and sometimes nicknamed “snapper”). It was

just a tad slower than the Spitfire, faster than the Hurricane, and slightly less robust than both. The Bf 109 equipped all the fighter units and also a couple of experimental outfits that were field-testing the concept of fighter-bombers. The German heavy fighter, the Bf 110 (see p. W:IC88) was in use with seven “destroyer” *Geschwader*, and it turned out to be a great disappointment. It could be more useful for long-range escort missions when the Bf 109 couldn't make it, with recon units, and with the fledgling night fighter units.

One understrength unit used the Fw 200 Condor (see p. W:MP77) from Brest over the Atlantic. The meteorological and long-range recon units used a mixture of slightly modified aircraft of the above-mentioned models; the short-range recon and air co-operation *Staffeln* used the light Henschel Hs 126.

5. CAMPAIGNS AND ADVENTURES

There was a job to do; for the Germans it meant ending the war, for the British, preventing the end of the world as they knew it.

What losses might we not suffer if our refuelling planes were caught on the ground by further raids of “40 plus” or “50 plus”? The odds were great; our margins small; the stakes infinite.

– Winston Churchill

CAMPAIGN STYLES

The Battle of Britain provides an ideal setting for any kind of campaign style. It is a classic, well-known WWII setting, which most players will feel comfortable with. Additionally, it provides opportunities for unique campaign themes. For more about campaign models, see pp. W157-160. General advice for the British and German sides, respectively, can be found on pp. W:AKM118-120, W:IC110-115. Ideas and background information for air campaigns can be found on pp. W:162, W:AKM23, W:IC116.

TALLY HO!

The Battle of Britain lends itself to a full cinematic campaign, where the quintessential roles are those of fighter pilots. Ideally, each player would be in control of a high-powered character (around 150 points) and of the best fighter available to their side. By adding a couple of suitably heroic NPCs, the GM should be able to put together a nearly invincible flight or *Schwarm*, as the case may be.

A cinematic campaign will probably focus on combat, with our heroes going up in the boundless sky against all odds. British characters are therefore more

suitable, as the GM can then describe the endless waves of enemy bombers glistening in the sun. Additionally, British fighters had the advantage provided by the radars and the ground control, which will be invaluable in realistically making the characters more survivable and effective than their counterparts. The latter could either be chivalrous opponents, ready to jostle one-on-one, or faceless Nazi war machines who coldly kill parachuting pilots and only attack when the odds are in their favor.

“Tally Ho” campaigns might make use of the cinematic rules on pp. CII176-177, keeping in mind that if the characters are to survive unscathed for long, the enemy should rarely line up a shot on their tail; *GURPS WWII* fighter firepower is realistically murderous. The GM should never be afraid to employ miraculous events and wartime propaganda clichés. Given that historically, air combat tended to create a minority of exceptional high-scoring pilots, the characters may well belong in that category.

WEARY HEROES

The realistic, gritty style opens up more options within this setting. The characters may be above-average, but not exceptional individuals who just carry out their duties – with that extra bit of dedication. Combat can be more realistic, keeping in mind that several pilots used their parachutes or crash-landed more than once or twice; therefore, the enemy may well destroy the aircraft, but the GM will let the character make it through with a sprained ankle. Additionally, character types may be more varied: bomber crewmen and ground personnel were, in their own ways, heroic.

Balancing realism and exceptional deeds, the GM may alternate combat and non-combat scenes; gritty campaigns will feature arguments with “desk pilot” officers about the “correct” tactics, problems with spare parts, and interaction with civilians, just as often as air engagements. The latter may vary a lot, too: from the huge, confused melee where the characters will have

maybe one chance of lining up a shot, to the merciless ambush on an unwary enemy . . . or the reverse.

Characters will need 75 points or more, while the GM may use the templates as they are for their adversaries. The GM will probably do well not to employ the suggestions provided under *Combat Stress* (see p. 41), but, for a little dose of realism, he could apply the rules for sleep deprivation (see p. W205) from time to time.

THE GRUELING GRINDER

On July 19, 1940, #141 Squadron was committed for the first time with nine of its Defiants (see p. W:MP84). An hour later, four of them were back, and of these, one crash-landed, another was so damaged that it was written off. This may be the worst-case outcome, but it was not uncommon for fresh, untested fighter units to take extremely heavy losses on their first sorties. Being experienced was no guarantee either, for crews flying bombers or Bf 110s, i.e., potential targets.

A realistic campaign style has to take into account these prospects, and the fact that if air combat created a minority of aces, it also created a majority of victims. The characters should become aware of their mortality, and the point can be driven home by the disappearance of their NPC friends. *Combat Stress* (see p. 41) would certainly play a role in these campaigns, and Fright Checks would be common; characters would fly often and be tired most of the time. With some playing groups, this environment is probably best suited for one-shot adventures.

Notwithstanding this heavy toll, this style can have its own ways of satisfying the players, first of all with the knowledge that this is the way things were. Additionally, the characters should experience the joys of their historical counterparts: the primeval relief of making it back in one piece, the simple pleasure of flying, the little victories over the establishment, the roleplaying interactions . . . and finally the exceptional, rare satisfaction of having their first kill acknowledged. Bomber crewmen, ground personnel, and characters such as London firemen or simply civilians should all feel happy indeed for just making it through alive.

BRITISH HUMOR

Just by backing a step or two away from the front-line, the Battle of Britain can become an interesting backdrop against which to enact a humorous campaign. Defiant or Stuka pilots probably aren't the ideal roles for such a style, even though it must be said that the servicemen did their best to laugh their fears away. A minor accident, a crash-landing, or a mistake like

forgetting to extend the undercarriage for landing (it did happen) made a pilot the butt of many jokes.

A play-for-laughs campaign could mainly focus on roleplaying, in a British fighter squadron that for some reason (maybe the ineptitude of its senior officers, or maybe because it was equipped with obsolete aircraft) is never or seldom committed to real action, although it continuously carries out pointless patrols, silly drills, and routine procedures. Another setting could be a training unit equipped with Tiger Moths that is suddenly equipped with plywood bomb racks and parachute-cutting scythes (see p. 49) and ordered to train with these devices. A "Dad's War" campaign, finally, with civilians or part-time servicemen as characters, could easily take on a humorous tone.

In such a campaign, combat is rare. If there is a huge fire on the ground it's not London but a decoy site (see p. 27), and accidents are catastrophic but always non-lethal. Officers will be pompous, hide-bound and/or dim-witted, and German pilots to be captured by our heroes will haplessly parachute in the most inconvenient places and talk like Nazi faceless foes ("the glorious Third Reich *vill vin!*"; see p. W:IC115).

CAMPAIGN THEMES

Within the general style categories listed above, a campaign set in the Battle of Britain can develop several themes, depending primarily on the duties and roles of the characters.

Sortie After Sortie

The quintessential Battle of Britain storyline deals with a handful of brave, beleaguered fighter pilots. Their adventures can be played out with any of the proposed campaign styles (see p. 55), though they are ideally suited for cinematic heroics. This is the theme for players who dream about laying their hand on the throttle. The GM should be able to describe the physical sensations of piloting a cutting-edge fighter aircraft: the cramped Bf 109 cockpit, the blinding glare of the sun above the cloud ceiling, the shudder of the Spitfire when it comes close to its stall speed, the terror of tracers out of nowhere nearing the windscreen. The characters will spend much time in the air (which is not unrealistic, as at the height of the battle fighter pilots might be flying three sorties a day), and they'll probably be out to improve their own score. The players would need to learn the right air combat tactics (see *Air-to-Air Tactics*, p. 57). The GM would do well to be familiar with the vehicle rules on pp. W150-156, or he might use the *Space Opera Combat System* that can be found on pp. CII106-111 for fast-paced, cinematic dogfights.

AIR-TO-AIR TACTICS

In most air engagements between fighters, the outcome was determined by who saw whom first. The surest way to achieve a kill was diving out of the sun onto an unwary opponent and taking him out even before he realized an enemy was there; surprise, height advantage, and the sun in the target's eyes were key elements. Once a dogfight had developed, it became much more difficult to keep an alerted enemy in the sights, and the larger the fight the more likely it was to end with inconclusive results. Altitude was a safety factor; one was less exposed to attack and could choose when to engage. He could also exchange height for speed in a dive.

Therefore, the best tactics was anything that allowed a pilot to spot the enemy first, from above if possible. Being vectored by ground control could be very useful to the British fighters, because they might get a general idea where to look. On the other hand, being scrambled in a hurry could mean having foes above. However, these were only details if compared to the tactical formation used.

The German fighters entered the Battle of Britain flying in the *Schwarm* formation of four aircraft. They had adopted it in Spain, that is, in battle, against the agile Soviet biplane fighters (see *Aces*, pp. 38-39). It consisted of two *Rotten* of two fighters each. Once a target was spotted, the leader would choose how to engage it. The wingman would fly some 200 yards behind, and higher; his only task was to follow the leader and to watch his back. Meanwhile, the leader could concentrate on the target. The *Schwarm* was flown with enough space between all the aircraft, all flying at slightly different altitudes. This gave the best chances of spotting an enemy closing in from behind.

The RAF fighters' task had been defined as engaging bombers: slow and easy targets, which could absorb a lot of damage. For this job, the tight V formation (called "vic") was employed. Three fighters could deliver a lot of concentrated fire on a bomber formation; however, two of them were flying so close to their leader that they had to keep an eye on him, instead of on their backs. Flying at the same altitude also increased the chances of not seeing the enemy first. Some of the squadrons that suffered heavy losses in their first engagement were ambushed while flying in vics. Finally, against a small target, only one aircraft out of three could bring its guns to bear (as opposed to one out of two with the *Rotte*).

Certainly, the vics looked neater than the haphazard *Schwärme*, and RAF regulations strictly mandated the vics. Independent-minded commanders thus had better survival chances. As a limited improvement over the vic, the fighter squadrons tried to employ

"weavers." These would shuttle back and forth behind the vic, watching their six. This meant they could easily fall back (or burn more fuel to stay with the vic); also, the weavers tended to be vulnerable fresh trainees. In practice, they were often killed without even having time to yell a warning, and then the attackers would set their sights on the vic.

Once a dogfight had begun, the rule was to turn, never to fly straight – in other words, don't be a good target. Diving could take one away from danger and increase one's speed, and that is why dogfights gradually descended. Many dogfight shots happened at a deflection: that is, the target crossed the firer's path. Deflection shooting was very difficult, as one had to anticipate where the target would be; only the best pilots achieved hits in this way. Firing at a target that was moving in the same direction was much easier, and that is why one had to watch his tail. Head-on engagements also had no deflection, but there were only a couple of seconds before collision.

When fighters engaged bombers, they often had a choice as to the side to attack from. The tail was the easiest to target, but also the most defended. A frontal assault was good because the nose wasn't as well defended, and also because it often broke the bombers' formation as their pilots instinctively tried to avoid collisions. The tight formation meant a deadly crossfire from several aircraft, either downing the bombers on the spot or damaging them to the point that they could be chased and brought down as they limped home. Bomber gunners weren't as ineffective as they are sometimes portrayed, and if firing at a fighter attacking their aircraft, they had 0 deflection; but when a gunner hit, the most likely result was only minor damage, as he was hitting with one or at most two MGs. It might be enough to scare the fighter away, though.

The *Zerstörer* had a tactical problem of its own; it wasn't agile enough to get rid of a British fighter on its tail, and its rear-facing MG was not enough of a deterrent. When engaged in a dogfight, the Bf 110s thus formed a defensive circle; each one defended the next with its main forward-facing weaponry. Of course, sooner or later they'd need to break and run for it, and then they'd be vulnerable.

The Stuka had the same problems, and it was slower and less well-armed, too. It was safe during its dive, as any fighter without dive brakes would simply overtake it or lose control. Just before the dive, however, the Stukas formed in single file (the reason why Germans called bomber sections *Ketten*, or "chains"), and after it they were low and slow; ideal targets in both situations.

The Thankless Jobs

For a different tack, the characters might be bomber crewmen. The bombers are a good choice for players wanting a more realistic campaign, and for gaming groups who like their characters to always stick together: a full bomber crew is perfect for that. Additionally, they'd be the underdogs here. Bomber missions would start with the tiresome, boring, and at the same time dangerous tasks of readying for action, taking off, gaining height, closing formation, and moving off over the Channel with the growing certainty that the *Schpitfeuer* will appear sooner or later; and, "Where are our fighters?" The flak will distract the bomber and the pilot. Not all missions need to be the same, especially if the crew belongs to an elite *Geschwader* (see p. 61); there might be terrifyingly lonesome recon missions, hair-raising low-level attacks, and then the switch to night bombing, which provides challenges of its own. Much of the same applies to British Bomber Command or Coastal Command personnel, with the added frustration that all the praise is going to the fighters.

Back for Tea

Though there were hectic days, airmen still spent a lot of time in civilized places, in comparison to infantrymen on the front. For this reason, a campaign can focus on non-combat roleplaying, with combat acting as a backdrop. Such a theme might work with all kinds of characters, and is the best choice with ground crewmen and personnel. Players who like nothing better than to really act the part can develop relationships as members of an interesting, tense, and focused microcosm: an air base during the Battle of Britain. Characters, from maintenance repairmen to WAAF radar operators to mere airmen, would need to do their best as small cogs in the machine, with the knowledge that every little detail contributes to the score of the locally based squadron. Then there would be their precious free time: at the NAAFI canteen, the local pub, or just behind the hangar for a smoke. Possibly, the pilots are NPCs only, and the protagonists live the battle through their accounts . . . and worry for them every time they take off.

Dad's War

An intriguing and unusual campaign might have a cast of civilians and part-time volunteers: members of the Home Guard or of the Observer Corps, for instance. Again the Battle of Britain proper would provide a looming, noisy backdrop, and such a home-front theme could actually carry on well into 1941-42. The characters will not only worry about bombs, poison gases, and parachuted "Huns," but also and chiefly about the invasion threat. Roleplaying interactions and everyday life

BUSINESS AS USUAL

When bombs began falling on cities, some of the inhabitants moved to the countryside. They were a minority, though when possible children were sent away from danger. The people who remained under the German bombsights took pride in doing so, and shopkeepers began putting out signs that read "business as usual." Such signs could be seen even when the shop had been seriously damaged; it would be placed in the window as an act of defiance. Other people put up the day's score.

A campaign set in London during the Blitz might begin with the end of August and it would be a harrowing experience for ordinary civilian characters who might be volunteers in any British organization, including the Auxiliary Fire Service. During the day, they would need to get on with their jobs and everyday necessities, possibly negotiating with the damage done by "the Huns"; the occasional stray bombs flattened buildings in all neighborhoods. They might have to deal with the first spivs (see p.W:AKM48), assorted authorities, patriotic neighbors, nervous refugees. In the evening, they would stand to duty; most auxiliary fire stations had only a nominal shelter, and observers would be exposed atop roofs. Intervening as soon as possible after a raid was vital, because the fires guided the second wave. The firemen drove out in their engines, but policemen, ambulance drivers, wardens were out, too. In the narrowest London alleys, manhandled carts carrying the hoses had to replace true fire engines; these would sometimes hitched up to the typical London cabs, thus the volunteer firemen would ride a taxi to the fire.

Fires on the docks were usually infernoes, and the most that could be done was to attack their edges and try to contain them. On the other hand, small incendiaries would be scattered everywhere, and countless untrained civilians saved whole blocks by reacting quickly and smothering them. Other hazards included gas leaks and crumbling buildings; power failures and damages to the water network would be additional problems. Motorcycle dispatchers were needed too, because the phone lines between HQs and stations were often cut. The Germans also dropped mines and delayed-fuse bombs with the specific purpose of harming the emergency teams.

problems during a war will be other mainstays in this campaign. This might be done in any of the proposed styles (see p. 55). A humorous campaign, with the

Home Guard embarking on wild-goose chases in the night because of yet another false alarm, is perfectly possible. After several such pointless stunts, the charitable GM will let the huffing and puffing volunteers actually find a German pilot, though he will be suitably harmless and ridiculous, shivering in the pond he fell into. On the other hand, if the characters are auxiliary firemen and ambulance drivers in London, a realistic or outright hellish style would be in order.

United We Stand

A final possibility is to have all of the above at the same time. A British family could well have the father in the Home Guard, the mother tending the home fire, an uncle in the Observer Corps, a daughter in the WAAF, and a fighter pilot son. This is an ideal solution for gaming groups that find it difficult to meet regularly or whose members also like individual adventures. From time to time, some of the relatives might meet and investigate the black marketeer who cheated Mom, snoop around a suspicious-looking new neighbor, or save a boy from a crumbling building. Each of them would then be able to talk about his own experiences in the battle – or wouldn't he? Maybe the daughter's work with the radar sets is top secret. Will she be able to withstand Mom's curiosity?

CAMPAIGN UNITS

Fighting in the Battle of Britain could mean a great number of different things, depending not only on the task a serviceman was appointed to, but also on the unit he was assigned to. These sample campaign units will serve as examples of the various styles, tones and level of experience that this setting can provide. The section also includes small adventure seeds.

THE NEWCOMERS

Inexperienced personnel faced lethal dangers when thrown into battle. The most dangerous sorties are the first ones. Air combat has its own ruthless natural selection; veteran hunters can spot a newcomer's hesitant behavior and pick him as their prey. Players who love daunting challenges might thrive on making it through these initial missions.

Fresh Trainees

The Luftwaffe shifted some units between the *Luftflotten*, but there were no totally inexperienced *Geschwader* by this time; they of course had to replace

losses in all the units. The RAF moved new units to #11 Group, and sent individual replacements to under-strength squadrons. However, the lone new guy in is probably more suitable for the German side.

Roleplaying newly arrived trainees will be an uphill struggle for the players, first and foremost for the high likelihood of being downed on their first sortie, as mentioned above. An old cliché is to have the *Staffel* commander show the new boys a bullet-ridden, blood-stained Heinkel and exclaim: "Don't worry, in a couple of days it will be patched and you'll fly it!"

Additionally, not all of the old hands saw the trainees as a valuable resource; they could be considered as baby-faced intruders who usurped the good old chaps' place, or, worse, as liabilities and expendable pawns. The RAF tended to use them as weavers (see *Air-to-Air Tactics*, p. 57), and both sides placed them in the rear ranks of any formation, i.e., in the sights of any attacking enemy. A tough campaign tone will be suitable for this kind of experience.

Sunday Flyers

The squadrons of the Auxiliary Air Force (see p. 23) were not newcomers in the sky; many of them were wealthy people who loved to fly (#601 was nicknamed the "Millionaires' Squadron"). They were older than the average recruit, and more experienced as peacetime pilots. However, they were not experienced *fighter* pilots, and they were new to the strictures of RAF regulations and wartime necessities. They would wear school ties instead of black ones, and would have their uniform jackets lined in red silk. One of these squadrons examined a volunteer through a formal dinner (see also p. W:39) to make sure he could at least behave as a gentleman, though not being one by birth.

At their first engagement, these "Sunday Flyers" might avoid simple piloting mistakes that fresh trainees might make, but they would still be vulnerable to aggressive German tactics. Additionally, the fact that they knew each other very well and tended to consider their squadron as a flight club was a double-edged sword. In action, this would make them cohesive; but in case of heavy losses, it meant losing many long-time friends. #601 Squadron lost four chums on one day, and it was a severe shock. The survivors did not lose their edge, but they did lose some of their nonchalant attitude.

Working with old pals and on informal terms had its own disadvantages, however, as when this same squadron was sent to defend the ships of "Bosom" (a convoy code name), and it ended up patrolling the sky over the village of Bosham, including its pub, The Ship.

#72 Squadron

This squadron was not an inexperienced unit. It included professionally-trained pre-war pilots, and it had seen its share of action over Dunkirk. However, it

was a newcomer unit for the forbidding environment of #11 Group, when it moved South to Biggin Hill on August 31, 1940. What's more, it was still flying with the old linear vics (see *Air-to-Air Tactics*, p. 57). In its first six days, #72 Squadron lost 13 Spitfires and five pilots, over-claiming 14 kills. Characters flying and fighting in that way will not survive long, so shrewd players will begin to offer drinks to veterans of other squadrons - they just might learn the right tactics by word of mouth. Historically, this unit did adapt to the Messerschmitts' hunting grounds, and in fact ended the battle with 61 confirmed kills.

Adventure Seed: Learning on the Job

The characters are trainees hastily assigned to a combat unit. They still have not invested all the points required by their templates in the relevant skills (see pp. W82-83). They have to learn the ropes in their new station, from how to procure better food to acquiring familiarity with aircraft they might never have set foot in before. All the while, that first combat mission is looming over them: they see battered aircraft crash-landing all over the countryside. The unit commander is hard-pressed and wants them to go; maybe some senior NCO provides them with a hasty lesson in the air, and the veterans offer them advice, ranging from the useful to the ominous. Finally, there will be the first real mission, where they'll bring up the dangerous rear, and prove their mettle or die trying.

THE BACKBONE

Several air (and ground) units formed the backbone of the forces fighting on both sides. Unsurprisingly, these formations flew and fought a lot, and characters campaigning with them will see plenty of action. This will also mean both significant losses and good chances of scoring high; therefore, these units are suitable for all kinds of campaign styles.

#17 Squadron

This low-numbered squadron was one of the professional peacetime units of the RAF, and had a very experienced cadre. Being equipped with Hurricanes in June 1939, characters flying with #17 may have an interesting 1940, participating in the confused dog-fights over Belgium and then withdrawing to Brittany and the Channel Islands before making it back to Tangmere. They also flew from Martlesham, and on August 15 they were surprised while scrambling from there by an effective fighter-bomber attack (see p. 64) of *Erprobungsgruppe* 210. The squadron would repeatedly suffer on the ground because of these tactics, but downed many in the air. One of its last field days was

NIGHT LIFE

While the diverse elements of the British air defense system provided a formidable obstacle, the business end still relied on the fighter pilots' eyes, which were next to useless without light. Once the Germans changed tactics to night bombing of cities, both the head of Anti-Aircraft Command, General Frederick Pile, and Dowding himself came under intense pressure to do something.

There was little the AA guns could do without effective radar fire direction; the Gunlaying Radar Mark I, which some batteries had, could only provide range information. This forced the gunners to resort to barrage tactics (see *Taking the Flak*, p. 28).

Fighter Command had two main methods of night interception: ordinary day fighters guided by ground control, and experimenting with the new Airborne Interception (AI) Radar Mark I. Attempting to use Hurricanes in this role was a waste, often in the literal sense: in a month, 28 pilots, unused to these dangerous "cat's eye" missions, had accidents. Six of them died. They spent many fruitless hours on patrol, hoping to catch a glimpse of the enemy in the moonlight or in the cone of a searchlight (which could dazzle both friends and foes). Engine exhausts could be seen, too, but only from a very short distance.

The AI radars were used by dedicated night fighter units, initially on Blenheims and later on Beaufighters (see p. 48). The Blenheim was too lightly armed and not fast enough to catch its targets, but the Beaufighter had what it took, plus a more advanced airborne radar. Unfortunately, it did not become operational until mid-September, 1940. Ground control vectored the fighters towards the enemy formation until the airborne radar operator got a contact. He would then give directions to the pilot until visual contact was established, often at very close ranges. The bombers would try to evade, and sometimes they were successful - if they survived the first bursts.

The night fighters had a minor influence over the outcome of the Battle of Britain, but their meager successes drove home the message that not even the night was safe for the enemy bombers. Night fighting would develop into a war of its own in 1941 and the following years.

November 11, when it took part in the turkey shoot against the Italians (see *The Italian Air Corps*, p. 35). #17 served in the hottest spots of the Battle of Britain for its whole duration, placing itself in the thick of things at every opportunity.

#249 “Gold Coast” Squadron

This unit is ideal for a short but intense campaign. Initially equipped with Spitfires, the squadron was soon switched to Hurricanes, and characters will be able to mutter and complain about it no end. Operational on July 3, it stayed out of the way at Church Fenton, with #12 Group, but by mid-August it was moved South. As usual with reinforcements, it had a hard beginning; on August 16 three fighters were lost, but #249 also meted out punishment, both on that day and the day before. It was lucky to be initially assigned to #10 Group for two weeks, where it was able to get gradually up to speed. On September 1, when the squadron was moved to #11 Group, the pilots had learned the tricks of the trade and six of them would become aces; the squadron downed 75 enemy aircraft. Pilots of #249 Squadron can have varied backgrounds, from Poland, Ireland, Canada and Australia; being moved among the Groups can also be interesting in itself. Flight Lieutenant James Nicholson of #249 was the one fighter pilot to be awarded the Victoria Cross in the Battle of Britain. He deserved it not for an especially high number of kills, but for the “exceptional gallantry” shown in attacking and downing an enemy fighter – while he and his plane were on fire.



Airport Personnel

The airmen who never took to the air were as important as the flyers, and the Battle of Britain can be played from the point of view of ground crews (see the template on p. 43). It would be a campaign focused on non-combat activities; the characters would need to concentrate on their thankless, exhausting job of keeping the aircraft ready for action and their airport patrolled and defended. Meanwhile, there would be roleplaying interactions with hidebound commanders, nosy intelligence officers, and tight-fisted quartermasters. On the one side there would also be overeager foreign volunteers and meddlesome officials from Lord Beaverbrook’s Ministry (see p. 11). On the other side there would be visits by Nazi dignitaries.

Of course, an interesting relationship could develop on both sides with the pilots. They could be

infuriatingly swaggering, but they also rely on their technicians, and sometimes they will be on the brink of collapse (see p. 41). Occasionally, ground personnel could also experience real excitement: when a pilot they like tries to land while wounded, when one of them is accused of negligence over an engine failure, or when their airport comes under attack.

Adventure Seed: Under Attack

The characters are airport personnel, ground crewmen, maybe even civilian employees or WAAF auxiliaries. They carry out their necessary, unglamorous tasks, but they probably feel left out of the action as the NPC pilots brag about their exploits. The PCs might even be looked down on by high-status officers. Then the base comes under repeated, incessant attacks; the enemy is determined to close it down. Low-level bomber runs, night bombing, and sudden fighter-bomber strafing and bombing attacks put everybody’s nerves on edge, damage buildings, and cause losses. Yet the orders are to keep the airport operational. The PCs may get their limelight time as others refuse to leave the shelters. They can do their duty under fire, replace officers in critical tasks, and maybe even take a fighter to safety by taxiing it through the farm fields or bring down an enemy with accurate MG fire.

Jagdgeschwader 53 “Pik As”

The “Ace of Spades” was a unit of quality fighter pilots who served together throughout the battle. Its III *Gruppe* had been commanded by Werner Mölders until June. The *Geschwader* was in the forefront of the confused fighting of Eagle Day (see p. 11), and in countless other engagements, both with close-escort duties or hunting freely. Its sub-units were frequently moved between airfields, and at the end of August it was transferred from *Luftflotte 3* to *Luftflotte 2*. This allows characters serving in this unit to experience various background environments, to land and take off from more or less difficult terrain, and to see the command styles of different senior officers. For an interesting variation, two of the *Gruppen* spent some time on the Guernsey, in the Channel Islands (see p. W:AKM11), the one place where a non-POW German pilot might talk with a British civilian.

Zerstörerergeschwader 26 “Horst Wessel”

This unit, named after a Nazi hero, flew the “destroyer” Bf 110 heavy fighters. They were led by a formidable one-legged WWI aviation veteran,

Oberstleutnant Joachim-Friedrich Huth. These *Zerstörer* took part in many key battles, starting with the July 10 attacks on Channel convoys, where they began to serve in the difficult job of close escorts for the bombers. On that day, they were chased back to France, and learned that their single rear-pointing MG was not enough of a defense. On Eagle Day (see p. 11), they received the cancellation order and, unable to communicate with the bombers they escorted, they had to leave them alone. Characters serving with this unit will start out thinking of themselves as hunters, but they'll painfully learn they risk becoming prey. They can experience attempts at free hunting raids, but if they want to survive in those, they'll need to master the defensive circle maneuver. Historically, the personnel of Z26 disliked fighter-bomber missions, but PCs might well find them challenging.

VIII Fliegerkorps

A campaign confined to the Battle of Britain in this corps, largely made up of Stuka *Geschwader*, might be short and frustrating for the players . . . and deadly for the characters. However, the protagonists may end up here after participating in the initial, successful campaigns of Poland and France, and learn over the Channel that they are no longer the terror of the skies when the enemy fighters are up to the task. The Ju 87s of this unit, led by General Wolfram von Richthofen, were quite successful in the first stage of the battle, launching massed attacks against convoys. They were also used against a variety of other targets, and their casualties grew steadily. After the heavy losses incurred on August 17 and 18, the Stukas were withdrawn from action. This will be a sour anti-climax for characters flying them, and they might react by seeking a posting elsewhere. Coupled with the death of so many friends, it would also be a good starting point toward skepticism about the Nazi cause (see p. W:IC113).

Adventure Seed: Channel Trousers

The *Kanalhosen* (Channel trousers, see p. W:MP71) were the outfit one had to rely on when plunging in the cold sea. This was a fearsome experience (see *Combat Stress*, p. 41), but not uncommon. The pilot needs to break free of his parachute harness, keep his cool, and rely on his training and equipment (see p. 46). The GM may keep the players sweating for a while, as the character grows cold and thinks he sees a shark fin. Finally some help will show up, and its insignia will mean the difference between long years as a POW or being back in the afternoon. This is where a coal barge may be the most wonderful sight, though its crewmen may have a word of two about the “Brylcreem boys” who have not protected them. A He 59 (see p. 51) may be more welcome to German pilots. A

British airman saved by that seaplane may be a POW, but only for a short time, as it might be forced down in turn by RAF fighters. For an interesting twist, the first floating thing the PC sees may be a small dinghy . . . with an unconscious enemy in it. A final alternative was provided by the four-man *Rettungsbojen* (Rescue buoys); the Germans anchored them close to the French coast, but they often drifted away.

THE BEST OF THE BEST

A few units on both sides were highly-trained and specialized; fewer still consistently had outstanding performances. These were the elite of their forces, and they may suit players who like a cinematic campaign style or at least a good chance of roleplaying heroes.

#92 “East India” Squadron

The personnel assigned to this squadron had been “Sunday flyers” (see p. 23) coming from #601 Squadron. Characters flying with this squadron can have a very interesting 1940. They had been assigned to the drudgery of piloting the twin-engine Blenheim Is; but thanks to donations from East Indian patriots, they switched to Spitfires in March, 1940. After intensive training, they had their baptism of fire covering the Dunkirk beaches; by 1940 standards, this made them seasoned pilots.

Deployed out of the way in Pembrey, #92 intercepted attacks against Cardiff and Bristol; a detachment flew dangerous “cat’s eye” night missions (see p. 60) from the small airstrip of Bibury. On September 8, the squadron moved to the bombed-out airport of Biggin Hill, where the ground crews had to work under very difficult conditions. The Squadron was now squarely in harm’s way, and in a week it lost 9 Spitfires – but downed 19 enemy airplanes. #92 fought throughout the battle; its commanders led from the front, and three of them were wounded in September. The final tally of 94 confirmed kills places this squadron close to the top.

#303 “Kosciuszko” Squadron

The Polish refugees forming this squadron (also known as “Warsaw”) were battle-hardened pilots; by the summer of 1940, they had already had quite an adventurous war (see p. W:DWE45). They champed at the bit throughout August, while their British commanders had them patrol the rear areas and made sure they could understand orders in English. On August 30, a flight of #303 was on a training drill when its pilots sighted the enemy; ignoring orders, they engaged and downed a Dornier. The British authorities reacted by

RADIO CODES AND SLANG

Any realistic campaign will be enhanced by the players learning and using the historical code words and slang terms employed by the two sides. Shouting “Tally ho!” may seem odd, but it’s still great fun!

British Radio Codes

Scramble: take off for interception
Angels: height in thousands of feet
Orbit: circle on position
Vector: course
Bogey: unidentified aircraft
Bandit: enemy aircraft
Tally ho: enemy aircraft sighted, readying to attack
Bounce: attacking an unwary target
Liner: at cruising speed
Buster: at high cruising speed
Gate: at top speed
Pancake: land, refuel and rearm

German Radio Codes

Bodo: own base or airfield
Zirkus über (circle over): circle or assemble at given position
Kirchturm (church tower): own height in hundreds of meters
Hanny (“Johnny”): enemy height in hundreds of meters
Indianer (Indian): enemy aircraft
Konkurrenz (competition): danger, enemy present
Pauke-pauke (kettledrum): attack

Horrido: enemy aircraft shot down
Rotlicht (red light) or *Durst* (thirst): short on petrol
Halbzeit (half-time): breaking off

British and German Slang

The slang terms are not only a touch of color for GMs and players, but they also reveal a lot about the attitudes of the men who used them. For instance, the British pilots referred to their squadron comrades as “chaps,” as though they still were at their public school, and with typical understatement they short-handed the very rare cases of cowardice as “LMF,” that is, “lack of moral fibre.” What they thought of the Stukas can be seen by the nickname of the attacks on these bombers: “Stuka parties.”

The Germans also had a disparaging term, calling the V formation (see *Air-to-Air Tactics*, p. 57) the *Idiotenreihe* (line of idiots). The Germans showed their hierarchical mentality with the terms applied to those who attacked the *Idiotenreihe*: *Rotte* also means pack, so the *Rottenführer* (*Rotte* leader) was the alpha dog leading the pack, while his wingman was his *Katschmarek* (a Polish term indicating a family servant). Indeed, the wingman would watch the senior officer’s back, and often become a target, while the latter would have all the chances of improving his score. Those higher scores allowed an officer to cure his *Halsweh* (sore throat), i.e., to cover his throat with a Knight’s Cross.

declaring the squadron operational. Indeed, it was. In its first four days of continuous combat, #303 downed 24 aircraft, and by the end of the battle it had 126 kills on its roster – the highest score – largely achieved in just a month of fighting.

This squadron can serve as a campaign unit for Polish characters (see p. W:DWE45), but it may be very interesting for British officers. They will find the Poles proud and unruly, but also very effective, and notwithstanding their reputation for recklessness, they did not suffer heavy casualties. Polish pilots, of course, will tend to disregard inexperienced officers, and they could not care less about vics and RAF regulations.

Jagdgeschwader 26 “Schlageter”

Named after an Alsatian nationalist hero, this unit had proved its mettle during the campaign over France. In the Battle of Britain, it was based in forward airfields in the Calais area, on the very frontline. Halfway through, it came under the command of Adolf Galland

(see *Aces*, pp. 38-39). This was a unit with many budding aces, and it flourished under Galland. It had a favorable claims-to-losses ratio of over 5:1; even taking into account overclaiming, this is what the Luftwaffe needed to win. It is unsurprising that these hunters were often sent on free-ranging missions. On August 15, they preceded the bombers and ambushed #151 Squadron, causing heavy losses. On the “hardest day”, *Oberleutnant* Gerhard Schöpfel, carrying out such a hunt, surprised a vic (see *Air-to-Air Tactics*, p. 57) and downed four Hurricanes in two minutes.

Occasionally, JG 26 had to defend the Calais bases against enemy counterattacks, and this is a prelude to a continuing campaign (see p. 65). Indeed, characters serving with this unit will be among those who don’t leave for Russia; they’ll become known as the “Abbeville Boys,” and they’ll scramble against the British Circus Operations in 1941 (see p. 65). Players who love air-to-air fighter combat and a cinematic tone to their adventures will find this *Geschwader* a stimulating environment for their characters.

Adventure Seed: Freie Jagd

Characters belonging to the best German fighter units might be sent out time and again on “free hunt” missions. Historically, this was the task the Bf 109 pilots preferred, not being bound to slow and vulnerable bombers. And it may also be to some players’ liking; however *freie Jagd* had problems of its own. Free-ranging fighters were identified by their speed, and time and again the PCs might be frustratingly ignored. When the enemy chooses to challenge them, it will probably be with the advantage of surprise, since the radar-led British will know where to look! Fighters on *freie Jagd* might be ordered to carry out opportunistic attacks, forsaking their commanding altitude to sweep down on an airfield where their opponents have just landed; the nap-of-the-earth strafing run will be a hair-raising experience. Being hunted across the Channel by a fresh enemy while the whole *Schwarm* is low on fuel can also be challenging. The PCs will be able to participate in some monumental dogfights in the closing stages of the daylight campaign, and to improve their personal scores.

DOGLEG AND ASPIRIN

If a directional radio beacon could assist navigation and even landing in bad visibility, the same principle could be applied to assist bombing. The Luftwaffe adapted the Lorenz navigational aid by making it more sensitive and accurate, and called it the *Knickebein* (“bent leg”). Powerful radio stations transmitted a beam the bomber could ride; another radio beam warned the crew when it was time to release the bombs. Another later and more refined system, using no less than four radio beams, was the *X-Gerät* (“Device X”). If the equipment was well calibrated and the crews highly trained, these systems were very accurate: *X-Gerät* could deliver bombs within a 100-yard radius.

The procedure would have been a serious threat, but the Germans began training with these radio beacons too early, and the British picked them up. By the autumn of 1940, #80 Wing (a ground RAF unit and another specialist outfit) began disturbing and jamming the German signals. On the night of the Coventry raid, the jamming was unfortunately out of frequency, but many other British cities only suffered inaccurate bombings because of the “war of the beams.” Since the British operators said the Germans gave them a headache, their spoofing device was code named “Aspirin.”

SPECIAL JOBS

On both sides, there were especially thorny tasks to carry out, and special men for them. These men sometimes came from dedicated, highly trained, elite units – or sometimes they were just whoever was available at the moment, expected to learn on the job and muddle through.

The Radar Stations

The “eyes” of the British defense employed RAF ground personnel, WAAF auxiliaries, and the occasional civilian technician or Air Ministry bureaucrat. All of them could not talk about what they were doing with anybody outside the AMES (Air Ministry Experimental Stations). Working there could be exhausting, and at the same time exciting and boring. The former, because the personnel soon understood the critical importance of accurate and timely data; the latter, because the action was elsewhere. Save, of course, when the station itself was attacked! The buildings where the personnel worked were ordinary above-ground structures, so the PCs will have to rely on their helmets and ducking under the furniture. Other bits of adventuring may include manning anti-aircraft MGs, hunting parachutes, smothering incendiaries, or climbing on the tall, swaying masts for on-the-fly repairs, aware that a second raid might be on its way, and that the squadrons are temporarily “blind.”

Kampfgruppe 100

This independent bomber *Gruppe* was the Luftwaffe’s specialist pathfinder unit. Its highly trained crews mastered the use of the very accurate radio directional aids their bombers were equipped with (see *Dogleg and Aspirin*). In the first stages of the battle, *Kampfgruppe 100* was sparingly used, but once the Luftwaffe changed tactics, it became the vanguard of many night strikes. Its payload was largely incendiary bombs that would be seen by following waves. Individual *Staffeln* also carried out precision bombing against important targets, including the Spitfire factory of Castle Bromwich, near Birmingham. On August 17 the *Kampfgruppe* was reassigned from Kesselring to Sperrle.

This is the unit for bomber crewman characters who want to be more than targets. Recon and raid assessment missions may add variety. The navigator will need *both* a high skill in Navigation and Electronics Operation (Communications)-15+.

Erprobungsgruppe 210

This was the one Luftwaffe unit put expressly together for this campaign; it had a *Staffel* of Bf 109s, one of Bf 110s and one of Ju 87s. It was a field-test unit (see *German Unit Names*, p. 32) whose symbol was a

bombsight over Great Britain. Thanks to a combination of utter dedication, intense on-the-job training, and the fact that their kind of raid was objectively difficult to intercept, these men were highly successful. Characters serving with this unit would learn to come in fast and low, or alternatively in the shadow of a large bomber formation going elsewhere, in order to reduce the enemy's reaction opportunities. They would then carry out precision attacks against airfields and radar stations; they became regular visitors of Manston, Biggin Hill and, initially by mistake, Croydon, among other targets. Manston was closed down in no small part because of *ErprG 210*'s attentions. Once the Bf 109s had delivered their bombs, they'd climb to engage enemy fighters; if the Stuka *Staffel* was present, the Bf 109s might serve as their dedicated escort from the start. Being the only *Gruppe* capable of such effectiveness, it was soon overworked; sometimes it made it back unscathed, but in the long run its losses were heavy, especially among the Bf 110s.



Adventure Seed: Precision Bombing

Accurate bombing could be delivered by Stukas, fighter-bombers, or even level bombers flying so low and slow to be nearly suicidal. *Erprobungsgruppe 210* could uniquely employ Stukas and fighter-bombers at the same time. The commander would make it clear that at this critical juncture, accurately hitting the hangars, the runways and the fighters on the ground is vital. Such a mission could be played out in detail: the difficulties begin with timing the take-off and approach of the different units, and continue with risky nap-of-the-earth flying. The bombing run would be carried out in the face of intense low-altitude AA fire, then the Bf 109s would need to revert to their pure fighter role to fend off the enemy reaction, while Bf 110s might be expected to go down again to strafe the targets. The withdrawal across the Channel would not be safe, either!

THE CONTINUING CAMPAIGN

Hopefully, the brave protagonists who served in the Battle of Britain campaign will survive. If this was not meant to be a one-shot adventure, they can soldier on; the war is still young.

NEW THEATERS AWAIT

For the night bombers and fighters, the war largely went on in the old places. If the characters belong to these kind of units, they may keep flying from the same airfield for years to come . . . as long as they aren't downed. For night fighters, it will be a story of technological innovation, with more advanced airborne radars, jamming devices, and countermeasures. For bomber crews, it will be long, cold flights, the terror of searchlights and flak, and blazing cities below.

Day British fighters will be committed over France in 1941-42, in the Circus Operations that mirror *Freie Jagd* missions; it will be a difficult, costly task. The "Abbeville Boys" of *Jagdgeschwader 26* will remain there to face them, switching from their Bf 109s to the sturdier Fw 190s.

Many other units will redeploy. The bulk of the German forces will move East and South, to attack Russia and bomb Malta; characters will have no say in this, of course, and it should be remembered that from now on, the beleaguered Luftwaffe will not be able to keep all *Geschwader* cohesive. Individual *Gruppen* will be sent here and there, and often redeployed. British pilots may be posted to the Western Desert Air Force (see p. W:AKM38).

For more about the continuing air war, see also pp. W25, 162, W:AKM24, W:IC116.

BATTLE OF BRITAIN VETERANS

The personnel who fought for the English skies in 1940 ended up sharing a sense of comradeship. This always happens among men who have fought on the same front, however, campaigns normally take more time to develop this kind of bond. The Battle of Britain was seen as a unique experience, on both sides.

In the battle, the British people found a new spirit of unit and determination that lasted through the Blitz and throughout most of the war; it is only natural that they cherished “the Few” who had achieved that success for them. Fighter pilots enjoyed their popularity; many of the aces would have brilliant careers, and influence the way the RAF would fight the rest of the war thanks to the costly experience they had earned in the Battle of Britain. It was thanks to men like Malan

(see p. 38) that effective tactics replaced the old handbooks. Bomber crews would always resent their role being underestimated, and they went on with their thankless, risky job of bringing destruction to the enemy.

For the German aircrews, the Battle of Britain was an awakening. They had taken losses over Poland and France, but nothing like over England. For Germany as a whole, it was the first defeat, proof they weren’t invincible. Luftwaffe top officers, like Kesselring, tried to pass it off as something of a draw, caused by the fact that the time constraints had prevented them from winning. Others blamed Göring. But the pilots knew the truth, and for years to come, a standard, bitter joke among veterans was asking to see the other’s appendicitis scar. At the end of the offensive, with losses mounting and morale faltering (see p. 41), some of them had indeed stayed out of the fray for a few crucial days because of “health problems” such as appendicitis. This did not prevent German pilots from going on with their own war, especially in the easier, target-rich environment of the Eastern Front.

Both British and German characters should enter 1941 with a sizable increase in their point value. Aces with 10 kills or more should invest points not only in skills, but also in a promotion (a higher Military Rank) and in a Reputation from medals. They might reasonably be halfway between the Fighter Pilot template (see p. W83) and the Eastern Front Experte template (see p. W:IC48).



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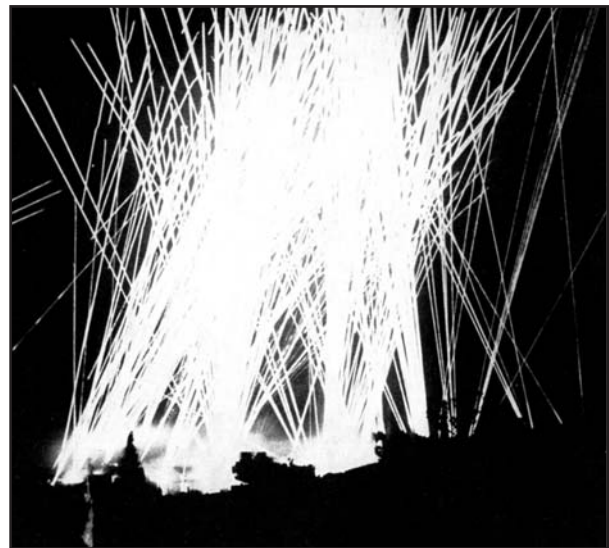
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Internet

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