Wing Leader: Origins



















Wing Leader: Origins

B-534

The Avia B-534 was the primary Czechoslovak fighter at the time of the country's partition. Though advanced for the 1930s, by the end of the decade it was outclassed by modern monoplanes. Some B-534s were used by the Slovak air force in the invasion of Poland. A number were flown by the Bulgarians, though they saw limited combat.

## Variants

This card depicts the B-534-I, -II, -IV, the re-gunned Bk-534 and the B-534 Dogan ('Hunting Falcon') in Bulgarian service





PZL.37B Łoś

The PZL.37 Łoś ('Elk') was an advanced medium bomber from Poland's PZL state aviation works. It carried a large bomb load and could operate from rough airstrips.

When the Germans invaded, PZL.37s were dispersed to rough fields. This saved them from destruction, but severely limited operations and the bomb load they could carry. Despite losses, they succeeded in slowing the enemy advance in places.

The listed Bomb rating assumes the bomber is based at a rough field. If operating from a regular airfield, increase the Bomb rating to Max Load



PZL.23B Karaś

Poland's primary reconnaissance aircraft and light bomber was the PZL.23 Karaś ('Carp') from the PZL state aviation works. By 1939 it was obsolescent, due to being seriously underpowered and lacking protection. In the invasion of Poland the PZL.23 suffered heavy combat losses at the hands of enemy fighters and flak.



P.11c

The P.11 was the product of Poland's PZL state aviation works. It was advanced for the mid-1930s-an all-metal monoplane with a high gull wing-but by 1939 it had fallen way behind the cutting edge. Though it put up a brave fight during the invasion of Poland it was overwhelmed by the Luftwaffe's modern fighters.

## **Variants**

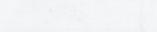
This card also depicts the Polish P.11a and the P.11b and P.11f, both in Romanian service

WING LEADER











Fokker's G.I was a revolutionary and influential twin-boom heavy fighter design. The twin engines allowed the fighter to carry an impressive battery of machineguns. When the May War began, a number of G.Is were caught on the ground in the Luftwaffe's surprise first strike. The remainder fought on in the fighter and ground-attack roles. Export versions were made for Spain and Finland but none were delivered before the German invasion.

G.I





D.XXI

Fokker built the D.XXI as a lightweight fighter for the Dutch colonial army. Squadrons were also formed for the metropolitan Luchtvaartafdeling, and it was the Netherlands' primary fighter of the May War. Though underarmed and underpowered, the D.XXI was agile and performed well against opponents such as the Bf 109.

### **Variants**

This card depicts all Dutch variants of the fighter, including the D.XXI-2, -4 and -5

D.XXI-3 License-built Finnish variant with armour and self-sealing tanks Increase Protection to 4





R-Z

WING LEADER

A development of the R-5 light reconnaissance bomber, the modernised Polikarpov R-Z boasted a monocogue fuselage and an improved engine. The aircraft would go on to see service in Spain and Mongolia. By the time of the German invasion, the R-Z was being replaced in service with the IL-2, though some light bomber regiments continued to use the type.

## Variants

R-ZSh Sturmovik variant Increase Firepower to 1/0





I-15 'Chaika'

The Polikarpov I-15 'Chaika' ('Seagull') was so called because of the gull shape of its upper wing. Pilots were divided on its virtues, some liking its manoeuvrability, while others found the wing configuration a problem, particularly during take-off and landing. I-15 fighters were deployed to Spain and a later version, the I-152, with a more conventional biplane layout, saw combat in China and Mongolia. Some were still in service at the time of the German invasion, despite their obsolescence.

### **Variants**

This card also depicts the I-152 (or I-15 bis) with a conventional wing, in service late 37





















## Halifax B Mk.I

Wing Leader: Origins

The Handley Page Halifax emerged from the same heavy bomber requirement that resulted in the Lancaster. The Mk.I and Mk.II proved inferior to the Lancaster in speed, ceiling, bomb capacity and cost. However, the needs of Bomber Command's night bombing campaign meant the Halifax was built in great numbers, eventually evolving into the more capable Mk.III.

### **Variants**

This card depicts early Merlin-engined variants, including the Halifax B Mk.II (Mar 42), and B Mk.V (Jun 43)

For the Hercules-engined variants see the Halifax B Mk.III card





# Manchester Mk.IA

Though often described as a twin-engined bomber, Avro's **Manchester** was fitted with four engines, driving two propellers. This system, similar to that of the **He 177**, suffered from a lack of reliability and power. With a full bomb load the aircraft struggled for altitude. However, the airframe had potential, and so four separate Merlin engines were fitted, and the wings lengthened, to evolve the inadequate **Manchester** into the iconic **Lancaster**.

## **Variants**

This card also depicts the early-production Manchester Mk.I





# Stirling Mk.I

The first of the great RAF heavy bombers, the Short **Stirling** was also the least, lacking speed and ceiling when compared with the **Halifax** and **Lancaster**. Nevertheless, the **Stirling** pioneered many of the night bombing and pathfinding techniques that served Bomber Command so well in the late war, before finding a late lease of life as a glider tug.

## **Variants**

This card also depicts the main-production **Stirling Mk.III**, in service Jan 43





# Wellington Mk.IC

A versatile Vickers design, the **Wellington** medium bomber, nicknamed 'Wimpy' after the *Popeye* character J. Wellington Wimpy, saw front-line service in every theatre. In Europe the threat from fighters forced the **Wellington** to bomb at night. But elsewhere it performed long-range daylight bombing right up to the end of the war.

For space reasons Wellington counters are labelled 'Wimpy'.

### Variants

This card depicts all major bomber variants, including the **Wellington Mk.I** and **Mk.IA**, available Oct 38, as well as the **Mk.II**, **Mk.III**, **Mk.IV** and **Mk.X** 





## **BF2C Goshawk**

The Curtiss **BF2C** was designed as a carrier fighter-bomber for the US Navy, but its career was short-lived, due to problems with the landing gear and metal wings. The export version, named the **Hawk III**, had less problematic wood-framed wings and saw action with both the Chinese and Thai air forces. However, the aircraft was outclassed when facing modern opponents. In China they were eventually relegated to night actions and the training role.

## **Variants**

This card also depicts the export **Hawk III** in Chinese, Thai, Turkish and Argentine service





# CW-21B 'Interceptor'

The Curtiss-Wright **CW-21B** was designed as a lightweight interceptor with a blistering rate of climb, but tricky handling. The US Army Air Corps declined to buy it, but some were sold to the Chinese, and 24 aircraft were bought by the Dutch military. Lacking firepower and armour, these were mostly lost in the battles over Java.

## **Variants**

This card depicts the CW-21B in Dutch service and the CW-21 in Chinese service

Note: Some sources refer to the **CW-21** as the 'Demon', but the Dutch called it the 'Interceptor'





# **B-339D Buffalo**

Exports of Brewster's F2A Buffalo were hamstrung by the additional weight of armour and a lack of high-powered motors. However, the Dutch were able to obtain 1,200-hp powerplants, and with less equipment, their B-339D fighters proved more nimble than those of their British allies. The similar B-239 became a mainstay of the Finnish fighter force in the Continuation War.

## **Variants**

This card depicts the uprated Buffaloes in service with the Dutch, as well as the **B-239** variant in Finnish service, available Feb 40

For the 'heavy' Buffalo variant see the F2A-3 card





# Hampden Mk.I

Responding to a pre-war requirement for a high-performance bomber, Handley Page built the **Hampden**, a slim-looking aircraft. Along with the **Whitley** and **Wellington**, the **Hampden** formed the backbone of Bomber Command for the first few years of the war. However, as a new generation of heavy bombers entered service in 1942, it was withdrawn from the front line, though it would continue to serve in the anti-shipping role with Coastal Command and the Soviets through 1943.

## **Variants**

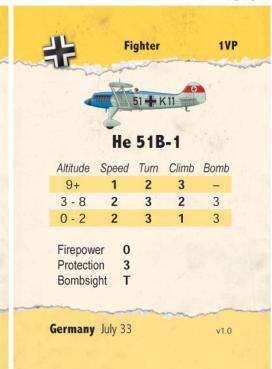
This card also depicts the anti-shipping Hampden TB Mk.I





















## He 51B-1

Wing Leader: Origins

Designed before the Luftwaffe's existence was publicly revealed, Heinkel's **He 51** was one of the primary fighters of the fledgling air force. A number were sent to Spain, only to find themselves outclassed as fighters and relegated to the close-support role. A number of **He 51**s participated in the invasion of Poland as close-support aircraft before being retired from the front line.

#### Variants

He 51A-1 Early fighter variant Remove Bomb rating
He 51C-1 Fighter-bomber variant Increase Bombs to 6





## Bf 109D-1 'Dora'

Messerschmitt lacked the Daimler-Benz engines that would turn its lightweight fighter airframe into a world-beater, so as an interim had to make do with Junkers engines. The resulting **Bf 109D** lacked speed, but in its short-lived career it served in Spain and in the Polish campaign before being replaced by the superlative **Bf 109E**.

## **Variants**

This card depicts all early variants, including the **Bf 109A** and **B**, in service Mar 37, and the **Bf 109C**, produced in small numbers





## He 112B

A candidate to be the Luftwaffe's main fighter, Heinkel's He 112 was beaten in competition by the Bf 109. It was underpowered and more expensive to build than the Messerschmitt machine. Around a hundred were built, mostly for export, and it saw limited combat in Spain, as well as service in the Japanese Navy and Romania.



## T.V

The Fokker T.V was designed around an 'aerial cruiser' requirement for a multi-role bomber and bomber-destroyer. The resulting five-man aircraft was equipped with a forward-firing cannon (albeit with a small ammo box). The T.V fought briefly as a fighter in the May War before reverting to a bombing role against the Maas bridges.

When assigned an intercept, sweep or escort mission, add the Heavy Gun 2 and Rear View abilities

WING LEADER



## Do 17E-1

Dornier's **Do 17** 'flying pencil' was a slim, high-winged bomber with good handling qualities. It also had the benefit of using existing engines at a time when a lack of powerplants was affecting the **He 111** and **Ju 86** programs. Though touted as a fast bomber, the early versions lacked pace when carrying combat loads.

#### Variants

This card also depicts the export **Do 17K** in Yugoslav service

**Do 17F** Reconnaissance variant Remove Bomb rating





# He 111E-1

Based on an airliner, the **Heinkel He 111** would become ubiquitous in the Luftwaffe bomber arm, serving in numerous roles from bomber to transport. However, the early variants were underpowered and underwent many revisions.

## **Variants**

This card depicts the **E-0** to **E-5**, as well as other early combat models, including the **He 111B-1** and **B-2**, in service early 1937, and the improved **He 111F**, available 1938

He 111A Underpowered variant that saw service in China from 1936 Reduce Bombs to 11





## He 46C-1

Designed as a short-range reconnaissance and army cooperation aircraft before the Nazis came to power, Heinkel's **He 46** monoplane saw service in Spain as an attack aircraft, but equipped just a couple of units by the time of the Polish invasion. It was brought back to front-line service in 1943 as a night harassment bomber.

### Variants

This card depicts all service variants, including the export He 46C-2





# **SM.81 Pipistrello**

A militarised version of Savoia-Marchetti's SM.73 airliner, the SM.81 Pipistrello ('Bat') was a tri-motor bomber rushed into service as a result of the Ethiopian crisis. A solid utility aircraft, it would go on to serve in Spain and was still in use by the opening of the Second World War, though mainly in a second-line role, often as a transport.

WING LEADER





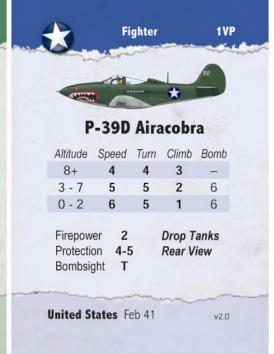














Wing Leader: Origins

# G3M2 'Rikkō' Allied Codename: Nell

Mitsubishi's **G3M** (or 'Type 96 Land-based Attack Aircraft', abbreviated as 'Rikkō') was a naval bomber designed to defend against fleets approaching Japan. It required a great bomb load and range, which was achieved at the expense of protection. It performed numerous feats of arms in China and the early stages of the Pacific War, before being replaced by the **G4M**.

### Variants

This card also depicts the long-range **G3M3**, in service summer 41

**G3M1** Early variant, in service 1936 Reduce Firepower to 0





# A5M4 Allied Codename: Claude

The Mitsubishi A5M (or 'Type 96 Carrier Fighter') was the first all-metal monoplane to enter service with the Imperial Japanese Navy. Thrown into the fighting in China in 1937 it proved capable against American monoplanes in Chinese service, such as the P-26. But by the beginning of the Pacific War it was being phased out in favour of the A6M 'Zero'.

## **Variants**

A5M1, A5M2, A5M3 Early variants without drop tanks

Remove Drop Tanks ability





## Ki-30 Allied Codename: Ann

Mitsubishi's **Ki-30** (or 'Type 97 Light Bomber') met the Imperial Army's mid-30s requirements for a modern light bomber. It proved effective against weak opposition in China, but when deployed against the Americans it was found to be vulnerable, particularly when flown without escort. After losses suffered in the Philippines, the type was retired from front-line service, though some survivors were later used for kamikaze attacks.



## Ki-27b Allied Codename: Nate

The Nakajima Ki-27 (or 'Type 97 Fighter') was the Japanese Army's primary fighter until 1940. Like all Japanese fighters of this era it was built for manoeuvrability and lacked protection. The Ki-27 would see extensive service in China and against the Soviets at Khalkhin Gol before being replaced by the Ki-43 Hayabusa.

### Variants

Ki-27a Initial production variant, in service

Remove Bomb rating; remove **Drop Tanks** and **Rear View** abilities





# P-39D Airacobra

Bell's **P-39** fighter was a novel design, built around a big 37mm gun, but the lack of a turbo-supercharger limited it to low altitude combat. The Soviets appreciated the firepower of the *Kobrushka* ('Little Cobra'). Meanwhile the USAAF pressed it into service in the Pacific as a ground-attack fighter.

## **Variants**

This card also depicts the P-39F and the 20mm-armed Airacobra Mk.IA export variant in British service (the latter named P-400 in US service)





## Re.2001 Falco II

Reggiane upgraded the Re.2000 for domestic use by installing a licence-built German engine. The resulting Re.2001 Falco II ('Falcon II') was competitive with Allied fighters. However, engine production was diverted to the manufacture of the MC.202, so just 250 Re.2001s were produced. Attrition meant that only a small number remained by the armistice.

### **Variants**

This card also depicts the Re.2001CB fighter-bomber

**Re.2001CN** Improved night fighter and fighter-bomber

Increase Bombs to 11; add Gun Pod ability





## **CR.32**

Fiat's CR.32 was a mainstay of the Italian air force in the mid-30s. Robust and aerobatic, it was an outstanding fighter for its era and a major export success. It saw extensive service in Spain where it helped establish air superiority for the Nationalists. However, as faster monoplanes entered service, the CR.32 began to look obsolescent. It would serve until May 41, though its late successes were mainly on the periphery of the World War, such as in East Africa.

## **Variants**

This card depicts all major variants, including the CR.32 bis, CR.32 ter and CR.32 quater





## Ro.37 Lince

Designed as a reconnaissance aircraft, the biplane Ro.37 Lince ('Lynx') was the product of the Meridionali company. Standard equipment in observation units, it saw action in Ethiopia and Spain, and was still flying into 1943. The Ro.37 was to serve in many roles other than observation, including as an attack aircraft and even as a heavy fighter.

### **Variants**

This card also depicts the improved Ro.37 bis





















## MiG-3

The flaws of the MiG-1 high-altitude fighter proved difficult for Mikoyan-Gurevich to fix. The resulting MiG-3 was tricky to fly and had many bugs.

When the Nazis invaded, many MiGs were destroyed on the ground or succumbed to aerial attrition. The MiG-3's speed was exceptional at high altitude, but was mediocre low down, where most combats took place. In the right hands it was formidable, but defects and performance issues resulted in production being discontinued in 1941. The surviving MiGs were withdrawn from Frontal Aviation to air defence units. By 1943 it had been eclipsed by more reliable fighters.



# I-153 'Chaika'

The Polikarpov I-153 'Chaika' ('Seagull') evolved the I-15 series by adopting retractable undercarriage and revising the wing of the I-152 back to a gull shape. Performance improved, and the biplane had better agility than the I-16. Many 'Chaika' were in Soviet service when the Germans invaded, but by early 1942 attrition and modernisation meant that few remained.

### **Variants**

This card depicts all major variants of the I-153

I-153P Cannon-armed variant built in small numbers, in service in Feb 40 Increase Firepower to 2



## SB

When the Germans invaded, the Soviet bomber force was largely equipped with the SB (Skorostnoy Bombardirovschik, or high-speed bomber). Tupolev's bomber was impressive in the mid-30s and had been an export success, seeing combat in Spain. But by the time of Barbarossa it was obsolete. As losses mounted, it was replaced by more modern aircraft and by 1942 it was largely withdrawn from front-line combat.

## **Variants**

This card depicts all major variants of the SB series, including the Czech-built Avia B-71 and the B-71 Zherav ('Crane') in Bulgarian service



# DB-3F (IL-4)

The Ilyushin bureau built the **DB-3** as a fast long-range bomber. It was one of the best medium bombers in the world when it entered service in 1937 and served with distinction in the long-range air arm. Progressive improvements and a redesign in the run-up to war resulted in the definitive **DB-3F**, which was renamed **IL-4** in Mar 42.

## **Variants**

This card depicts all major variants of the series, including the **DB-3** (in service 1937) and the **DB-3T** torpedo bomber





# I-16 Type 5 'Ishak'

The Polikarpov I-16 'Ishak' ('Donkey') was one of the most advanced monoplanes in the world when it debuted in 1935. In Spain and Mongolia it carved out a reputation as a simple but effective fighter.

## **Variants**

Card also depicts the 1935 I-16 Type 4

I-16 Type 10 Improved 1937 variant Increase Firepower to 1

I-16 'Chupete' High-altitude 1938 variant Increase Speed and Turn by 1 at altitude 8-11; increase Firepower to 1

I-16 Type 12, 17 Cannon-armed variants, in service 1939 Increase Firepower to 2





# I-16 Type 24 'Ishak'

Polikarpov continued to develop the I-16 'Ishak' ('Donkey'), with new engines helping improve performance and offset the weight of extra equipment and armament. The Type 24 was the primary mass-production version in service when the Germans invaded and in the early months of Barbarossa it was to shoulder the main burden of air combat against the Luftwaffe.

## **Variants**

This card also depicts the improved I-16
Type 28 and 29

I-16 Type 27 Cannon-armed 'gunship' variant Increase Firepower to 2

WING LEADER



## **Bre 693**

Starting life as a twin-engined fighter, Breguet's **Bre 693** was a versatile platform and was adapted into an attack aircraft just in time for the war. French doctrine emphasised low-level attack, which cost the **Bre 693** and its sister, the **Bre 691**, dearly during the invasion of France. Severe losses meant that the type was cashiered as a combat aircraft soon after the Armistice.

### Variants

This card also depicts the very similar Bre 691





## LeO 451

Lioré et Olivier built the **LeO 451** to be an advanced medium bomber that depended on speed for its protection. As France began to rearm for war the prototypes demonstrated excellent performance, so it was rushed into production. However, it was only available in modest numbers when Germany invaded in May 40. In combat the **LeO 451** was effective, particularly against the Italians, but German flak and fighters ultimately proved too strong and many were lost in action.

WING LEADER