SWS No.13 - 1/32 川崎 キ45改丁 二式複座戦闘機 屠龍

Kawasaki Ki-45 Kai Tei TORYU (NICK)

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Actual Aircraft Dimensions, Performance and Characteristics

・用途：戦闘機　・乗員：2名
・全幅：15.02m　・全長：11.00m
・全高（水平時）：3.70m
・動力：三菱重工業　ハ102
　空冷複列星型14気筒 1,080hp
・最高速度／高度：540km/h ／ 6,000m
・固定武装：ホ203　37mm機関砲 × 1（機首）
　ホ5　20mm機関砲 × 2（上向き砲）

・Role: Fighter Aircraft　・Crew: 2
・Wingspan: 15.02m　・Length: 11.00m
・Height (when level): 3.70m
・Power: Mitsubishi Heavy Industries Ha-102
　14-cylinder air-cooled two-row radial engine developing 1,080hp
・Maximum speed/altitude: 540km/h ／ 6,000m
・Armament: One Ho-203 37mm Machine Cannon (Nose)
　Two Ho-5 20mm Machine Cannons (Upward-Firing Cannons)

川崎 キ45改丁 二式複座戦闘機 屠龍

Kawasaki Ki-45 Kai Tei TORYU (NICK)

二式複座戦闘機「屠龍」は、川崎航空機が開発・製造した大日本帝国陸軍の双発戦闘機である。試作名称を示すキ番号は「キ45改」。連合軍のコードネームは「Nick」。同年に採用された二式単座戦闘機「鍾馗」と区別するため、名称に複座と付けられた。1930年代半ばから1940年頃欧米では、単発機よりも航続距離が長く高速で、搭載能力も大きな双発機は、一機種で戦闘・爆撃・偵察・指揮など様々な任務をこなせて効率的であると考えられ、その影響を受けた大日本帝国陸軍は、1937年に主要航空メーカーに双発複座戦闘機の開発を命令。それを受けた川崎造船所（後の川崎航空機）は幾度の試作を繰り返し、1940年5月に完成したばかりの九九式双軽爆撃機の基本設計を流用して、翌1941年9月には「キ45改」の名称で試作1号機を完成。各種飛行テストの結果、1942年2月に「二式複座戦闘機」として制式採用された。

エンジンは、第二次世界大戦期に三菱重工業が開発・製造した航空機用空冷複列星型14気筒エンジン「ハ102」を搭載。初期の開発からキ45まで長らくつきまとったナセルストール問題も、ナセル自体の取り付け位置を主翼中心より下に配置するなどして解決された。離昇出力は1080hpで、遠心式スーパーチャージャー1段2速の過給機を持ち、海軍ではいち早く「瑞星」の名で実戦投入されていたこのエンジンの採用こそが、「キ45改」成功の鍵だったと言えよう。また、武装の違いにより大きく分けて甲・乙・丙・丁の4種類が存在した本機は、当初期待された多用途性により、あらゆる戦域の部隊に配備された。特に大型機の迎撃に威力を発揮し、本土防衛戦闘では大活躍となった。中でも対B-29迎撃ではエースパイロットを多く輩出し、終戦まで連日の出撃を行った。本機を「屠龍」と言わしめる最も特徴的な武装でB29撃墜の立役者でもある機首武装「ホ203」は、第二次世界大戦中に大日本帝国陸軍が使用した航空機関砲である。初速570m/秒、発射速度120発/分（搭載弾数は16発）で、一撃で4発重爆撃機を撃墜可能であった。

一見シンプルな外観形状は、実際は各部が複雑かつ有機的な形状で構成され、特に機首、キャノピー周り、胴体上・下面、胴体前・後部のねじれるような面構成は見所となっている。胴体内燃料タンクの搭載や、胴体下面武装の弾丸装填操作の必要性などの理由から、必然的に前後離れて配置された座席は、その設計から同乗するパイロット同士のコミュニケーションは難しかったと思われる。様々な武装は二人が分担して操作し、前席は機首武装・胴体下面武装・上向き砲の射撃を担当。後席は旋回機銃の射撃を担当する。本キットでは最後期の丁型および丙/丁型体当たり機再現のため、胴体下面の「ホ3」および後席「98式旋回銃」は非搭載となり、後席武装を外した際の後席覆いも立体化。しかしながら、実際には前後二人が搭乗した状態で特攻が行われたこともあると言われている。SWSキットではこれら外観の特徴や豊富な武装を懸架方法や給弾、排莢構造までを余すことなく再現。その身を挺して敵重爆撃機を屠った悲運の名機が、SWSキットで今、あなたの手に甦る。

The Type 2 Two-Seat Fighter “Toryu” was a twin-engine fighter aircraft designed and developed by Kawasaki Aircraft Industries for the Imperial Japanese Army. The prototype short designation number was “Ki-45 Kai” and the Allied reporting name was “Nick.” “Two-Seat” was added to the title in order to distinguish it from the Army Type 2 Single-Seat Fighter “Shoki”, which was commissioned in the same year.

From the mid-1930s to around 1940, twin-engine aircraft were considered in Europe and the Americas to be most effective due to their long flying range, high speed, and high payload capacity, and were employed for combat, bombing, reconnaissance, and command, among a variety of other duties. Influenced by this, the Japanese Imperial Army ordered major aircraft manufacturers to develop twin-engine fighter aircraft. In response, the Kawasaki Shipbuilding Corporation (later to become Kawasaki Aircraft Industries) conducted numerous trials. After appropriating the basic design of the Army Type 99 Twin-engine Light Bomber, which had just been completed in May 1940, they completed the first prototype in September 1941, named “Ki-45 Kai.” After passing the flight tests, the aircraft was designated as the “Type 2 Two-Seat Fighter” and officially adopted for army use in February 1942.

The Ki-45 was powered by the “Ha-102” air-cooled 14-cylinder double-row radial aircraft engine developed and manufactured by Mitsubishi Heavy Industries during World War II. Nacelle stall, which had plagued the Ki-45 from its earliest stages of development, was resolved by mounting the nacelles lower on the main wings.

The aircraft’s engine, with its 1,080 horsepower takeoff and single-stage two-speed centrifugal superchargers, was soon named “Zuisei” (“Holy Star”) by the Navy. It can be said that the use of this engine was the key to the success of the Ki-45 Kai.

From the beginning, the Ki-45 was expected to be a versatile aircraft and was divided into four major variations based on armament; “Ko,” “Otsu,” “Hei,” and “Tei.” It was deployed to a variety of different military units, playing a major role in the defense of the mainland. The Ki-45 proved to be particularly capable of intercepting large aircraft, and many pilots became aces counterattacking the B-29. The aircraft was active in combat on a daily basis up to the end of the war.

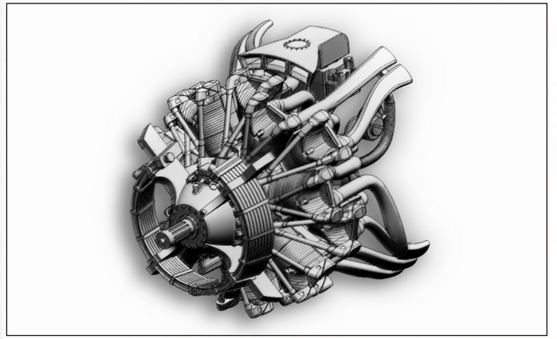
The root of the name “Toryu” (or “Dragon Slayer”) was the World War II Japanese Imperial Army’s Ho-203 cannon mounted in the aircraft nose, the Ki-45’s most distinctive armament and one of the leading stars of intercepting B-29s. The Ho-203 muzzle velocity was 570m per second, it could fire 120 rounds per minute (loaded with 16 rounds) and could shoot down a four-engine heavy bomber in a single blow.

While the external appearance of the aircraft may seem simple at first glance, every part of the airframe is actually engineered in a highly-complex and interconnected fashion. In particular, the nose, canopy area, upper and lower fuselage and the curving construction of the front and rear fuselage is very impressive. Due in part to the placement of the internal fuel tank and the necessity for loading operation of the underside fuselage machine gun, the pilot seats had to be placed far apart. It is thought that this separation caused difficulty in communication between the two pilots.

The tasks of operating the various armaments were divided between the two pilots. The front-seat pilot controlled the armaments mounted on the nose, fuselage underside and the upward-facing cannons. The rear-seat pilot controlled the rear machine gun.

This kit replicates the final version of the Tei type, as well as the Hei/Tei “Tai-Atari” (aerial ramming) versions. In this final configuration, the Ho-3 cannon on the fuselage underside and the Type 98 rear machine gun are omitted, replicating the configuration of the aircraft with the rear seat armaments removed and rear seat covered. However, it is said that some Tai-Atari attacks were actually carried out with two pilots. SWS kits meticulously replicate the distinctive external appearance, abundance of armaments and their types of mounts, reloading and ejection. Infamous for risking it all to defeat the enemy heavy bombers, the tragically doomed Ki-45 is brought back to life in your hands via this SWS kit.

● ハ一〇二　発動機 ／ Ha-102 Engine

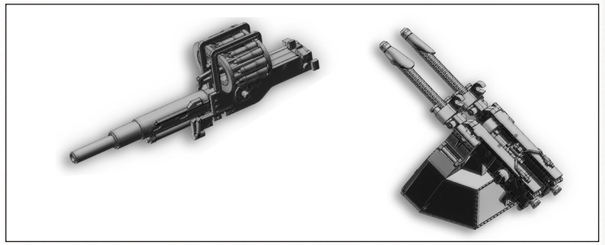


第二次世界大戦期に三菱重工業が開発・製造した航空機用空冷複列星型14気筒エンジン「ハ102」を搭載。離昇出力は1080hpで、遠心式スーパーチャージャー1段2速の過給機を持つ。採用は海軍のほうが早く、「瑞星」の名で実戦投入している。その確立された実用性を強みとして取り入れるべくして、迷走していたキ45に採用しキ45改として機体が完成した。土井技師による再設計が功を奏した箇所は機体全体に及ぶが、このエンジンの採用が一番重要な項目であったと言っても過言ではない。

The Ki-45 was powered by the Ha-102 air-cooled 14-cylinder two-row radial aircraft engine developed and manufactured by Mitsubishi Heavy Industries during World War II. With its 1,080 HP takeoff power and single-stage two-speed centrifugal superchargers, it was named “Zuisei” (“Holy Star”) by the Navy, who used the engine first.

After much wavering during the development of the Ki-45, the Zuisei engine was chosen for its established utility. With this choice, the Ki-45 Kai was completed. Aircraft designer Takeo Doi made many successful choices throughout the entire aircraft when he redesigned it, but to say that the choice of this engine was the most crucial would be no overstatement.

● ホ二〇三　三十七粍機関砲・ホ五　二式二十粍固定機関砲　2門 ／ Ho-203 37mm Machine Cannon Two Ho-5 20mm Machine Cannons (Upward-Firing Cannons)



機首に装備した「ホ203」は、第二次世界大戦中に大日本帝国陸軍が使用した航空機関砲である。初速570m/秒、発射速度120発/分（搭載弾数は16発）で、威力はホ3の3.3倍はあり、一撃で4発重爆撃機を撃墜可能であった。

機体上面に装備した上向き砲「ホ5」は、主力航空機関砲であった口径12.7mmの「ホ103」一式十二・七粍固定機関砲をベースに、機関部などを20×94弾に対応・大型化した口径20mmの機関砲で、二式複座戦闘機「屠龍」丁型（キ45改丁）を手始めに、陸軍機に搭載されていった。

The Ho-203, mounted in the nose of the Ki-45, was an automatic aircraft canon used by the Japanese Imperial Army during World War II. With its 570 m/s muzzle velocity and firing at a rate of 120 rounds/min (loaded with 16 rounds), the Ho-203 was 3.3 times as powerful as the Ho-3, capable of shooting down a four-engine heavy bomber with one blow.

Ho-5 upward-firing cannons were mounted on the upper fuselage of the Ki-45. Using the design of the Ho-103 12.7mm caliber Type 1 fixed machine gun, a powerful aircraft automatic cannon, the receiver and other aspects were enlarged to 20mm caliber, adjusted to fire 20 x 94mm ammunition. Ho-5 cannons were first carried on the Type 2 Two-Seat Fighter Toryu Ki-45 Kai Tei.