



MANFRED GRIEHL

LUFTWAFFE X-PLANES

German Experimental Aircraft
of World War II



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BY
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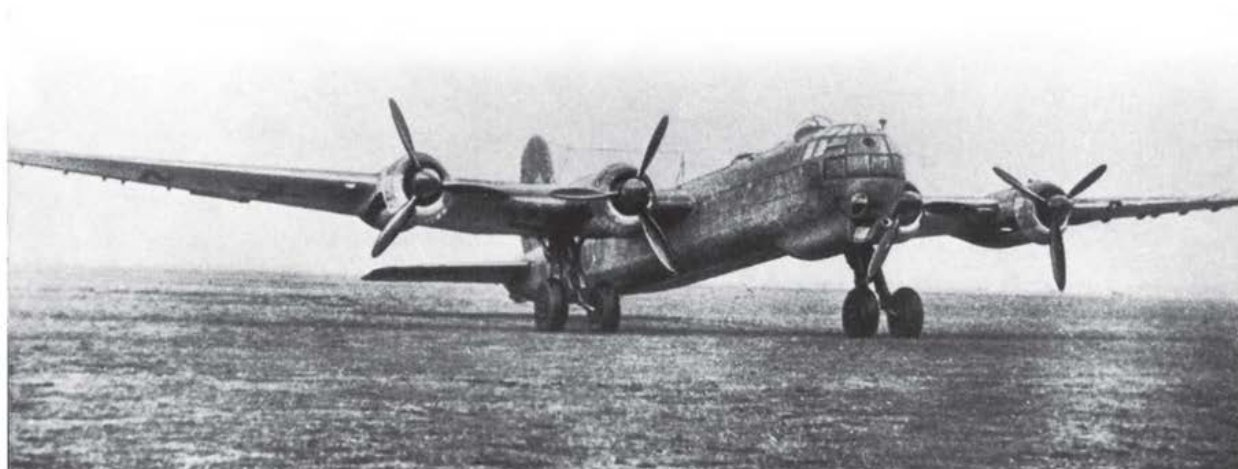
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Luftwaffe X-Planes

German Experimental and Prototype Aircraft of World War II

Preface

The development and evaluation of German prototype and experimental aircraft was largely carried out by the various German aircraft manufacturing companies at their own private airfields. All of the major German aircraft producers also employed their own skilled pilots, although these pilots typically boasted the technical know-how of an aeronautical engineer. A pilot such as this would be termed a *Flugzeugbaumeister* or aircraft master engineer. Only after passing the first stage of flight testing under company supervision by the local *Einflugbetriebe* (aircraft testing team), was a prototype experimental aircraft handed over to the Luftwaffe. After the initial testing of each of the major parts of an aircraft, typically the airframe, the engine(s) and installed ancillary equipment, new machines were tested by the *Kommando der Erprobungsstellen*, or KdE (Evaluation Sites Command), which itself fell under the command of the *Reichsluftfahrtministerium*, or RLM (Reich Air Ministry). Under the auspices of the KdE, several Luftwaffe evaluation sites were established to fulfil specifically the roles of testing the various parts (as above) of any new aircraft. After passing comprehensive tests, a new aircraft, together with its prototypes or pre-series aircraft, would be dispatched to an evaluation unit (or units), designated as either an *Erprobungskommando* (Evaluation Command) or an *Erprobungsstaffel* (Evaluation Squadron). Full test documentation accompanied these aircraft describing both the type's tactical performance and its technical parameters.



Early years of aircraft evaluation in Germany

Following the dissolution of the German aviation industry after the end of World War I, Germany's former aircraft producers (and a few new ones) commenced, in secret, the design and development of new aircraft types *without* the permission (permission being required) of the Allied authorities. At first, only small single-seat fighters were constructed, these being built in rather small quantities. Later on however, medium and heavy bombers such as the Dornier Do11 and the Do13 were developed and handed over to Lufthansa and other civilian firms, disguised as large transport aircraft, in order to gain these firms' help in carrying out a long-term evaluation.

During the growth period of the new German air force between 1935 and 1945, it became necessary to evaluate many aircraft designs in all categories, ranging from small one-engined- to powerful six-engined aircraft as produced by the various German aircraft manufacturers. Many new types were developed in Germany during the period of relative peace preceding World War II, yet because German resources, even then, proved to be limited, it was ordered by the RLM that a small number of prototype aircraft, typically three, were built by the various firms bidding for the same contract. As an example of this, the development of a prototype heavy four-engined bomber as offered out to Dornier and Junkers (amongst others), resulted in a contract to manufacture only a small batch of Do 19s and Ju 89s. Inkeeping with RLM practice, all of these developments were tested both by the various aircraft producers and the Luftwaffe evaluation sites simultaneously. Before 1935, the responsibility for and organisation of aircraft development and testing was veiled in secrecy, using special designations for the various new aircraft designs taking shape at German airbases, or indeed moving development abroad to places such as Switzerland, Sweden or the USSR. While Dornier tested new aircraft at Altenrhein near

the Swiss shores of Lake Constance for example, Junkers worked on new combat aircraft in both Sweden and Russia. Other military designs, especially those for long-range land- and sea-based aircraft, were produced by Dornier or Rohrbach at Italian and/or Danish production sites.

Furthermore, at a secret test site at Lipetsk in the USSR, aircraft research and development was jointly undertaken by the aviators and engineers of the USSR and the German *Reichswehr*. Because the Treaty of Versailles did not allow Germany to develop its own military aviation industry after the end of World War I, the German Supreme Command asked for Russian assistance. The Russians, for their part, were looking for both new techniques in air warfare *and* modern combat aircraft with which to equip the Red Army. With no influence or interference from the Inter-Allied Control Commission, the USSR and Germany planned to issue any aircraft jointly developed to their respective tactical training units – to the Red Army in Russia's case and, in Germany, to the secret military flying organisation under the command of the *Reichswehr* (the German army from the end of WW I to 1933). During the summer of 1921, the Germans tried to produce powerful single- and twin-engined combat aircraft capable of carrying out both day- and night-raids. Several types of Junkers aircraft were tested by the German authorities in Russia. A so-called flying school was established in Russia, tasked with carrying out frontline evaluation of new military types of German aircraft, far away from the prying eyes of controlling Allied officers in Germany. The first attempt at this frontline testing of new types was begun in the summer of 1928. Virtually all German designs capable of military use, such as new bombers, were transported to Lipetsk. For example, the Rohrbach RoVIII *Roland* was flown to Russia and tested as an auxiliary bombardment aircraft, but with only limited success. Additionally, smaller aircraft, for example the HD 38 and HD 45, the Heinkel He 59 and