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project to ferry it to Wright. The JU had been assigned to the fighter branch and Captain Everett W. Leach had been assigned as test pilot and project officer.

We met Capt. Leach in Col. Gilkey's office and then went with him to the fighter branch. Lt. Cook was introduced to the maintenance personnel and he started to pass on his knowledge of the JU so they could pick up support responsibility. I worked with Capt. Leach to get him checked out on the aircraft. We also worked with Col. Hayward's technical intelligence staff to answer as many questions as we could about the plane and the ferry flight to expand their data base on the JU 88 D- 1. Col. Hayward also asked me to write a chronology of the project. A few days later, he asked me to fly the airplane for night movie shots as they wanted to make a film for technical and identification purposes.

At the end of a week, Capt. Leach had made several flights and Lt. Cook felt he had done all he could. We asked to be released to go on leave, as we had been overseas for a year and a half. Col. Gilkey released Cook, but I was held for a few more days. At the end of my leave, I received orders assigning me to the Material Command with duty as the Chief of Bomber Flight Test Branch, Flight Test Engineering Division, fulfilling an aspiration I had held since service testing the B-25 in March of 1942.

### **COMMENTS ABOUT THE PROJECT, THE JU 88, AND THE JU 88 PROGRAM.**

The project to ferry the JU 88 D- 1 to Wright Field was a success partly due to luck, but mainly because a lot of people worked long, hard, and enthusiastically to prepare the aircraft and provide support for the project. Not only was there a lot of work, it was the quality and professionalism of that work that counted. The efforts of 26th Air Depot Group personnel were outstanding. Lt. Cook's contributions were unique and critically important. The JU 88 was delivered to Wright Field undamaged and with very little alteration, having flown 11,342 miles with only one discrepancy that could be attributed to its design, manufacture, or reliability. That problem was the loss of hydraulic pressure going into Natal. All the other problems were caused by our own lack of knowledge, like overfilling the oil tanks and not turning on the fuel boost pumps when climbing above 10,000 ft. The worst mistake we made was using highly leaded fuel on a long flight at low power. The AAF was not aware of this serious problem until some months later and the technique of using higher power periodically to clear it. I still wonder if the Lord wasn't flying with us on this episode.

There was only one major discrepancy found on the JU 88 while inspecting and preparing the aircraft: the left-right mix-up on the bomb salvo switch. Finding that error saved us from some serious injuries. All other discrepancies were minor, such as sheet metal cracks, wire bundle or tube chafing, and some improperly safety wired items. It was a very well manufactured airplane.

I rate the JU 88 as a quality aircraft with excellent flying and handling qualities in the air. The stability in flight was outstanding. Our comparable aircraft started to surpass the JU 88 in 1943 and 1944, particularly in payloads and top speed under test conditions, but the JU 88 had very high cruising speeds. Our indicated speed ranged from 220 to 245 mph on the long distance legs we flew. I indicated 165 to 170 mph in the B-25D flying to Deversoir over the same route. We flew the JU 88 only in daylight, but flew in one day the same legs which took us two days in the B-25. It is not my intention to knock the B-25, because it still ranks as one of my favorite birds of the WW II era.

Our people who worked on the JU 88 considered German design for maintainability to be excellent, with the exception of spark plug access. Panels had quick action locks with a simple push to lock or unlock feature. When the left engine showed metal particles on the oil screen during the 200 hour periodic inspection and needed to be replaced, the fighter branch crew started its removal at 1300 hours and had the aircraft on ramp for engine runup, with a replacement German engine from the power plant laboratory, at 1600 that afternoon. All disconnect points were painted white with red crosshatch lines. There was a perfect match up between the aircraft and the two engines. The oil and coolant systems were totally self contained in the engine pod, eliminating any need to clean tanks and lines on the airframe which was typical of our designs. I never saw a quick "Change Engine Package" design on our equipment that could come close to the simplicity of the JU 88 packages.

On the shortcomings side, I would say handling the JU 88 on takeoff roll and landing required close attention. The throttle handles are short and awkward to handle, contributing to the takeoff control problem. Several pilots complained of both faults, though for some reason, I never had any trouble with it, even on my first takeoff. Also, the JU 88 had a built-in trim change when the flaps were placed in the down (landing) position. This was to give an automatic small nose up trim condition to counteract a small nose down condition that resulted with the flaps in the full down position. The problem was that the nose up trim change came abruptly as the flaps were activated, but before the nose down component took effect. This momentary nose up trim had to be counteracted and some pilots found this objectionable.

The JU 88 evolved into one of the most versatile and valuable aircraft for Germany. The original design started in 1935 and a number of prototypes were built. The first production JU 88s were built and went into service in late 1939. Although numerous improvements and modifications were made throughout its production life, many features and its basic profile remained the same. It was used in almost every role imaginable: it was a bomber, a dive bomber, a fighter, an attack aircraft, a night fighter, a reconnaissance aircraft, a long range patrol aircraft, a radar patrol aircraft, a high altitude reconnaissance plane, barrage balloon cable cutter, and even a pilotless flying bomb. It remained in production throughout the war and was still in production at its conclusion. Well over 10,000 in all variants were built. This airplane and project provided solid evidence of German ingenuity, exceptional engineering prowess, highly disciplined production, quality control achievement, successful attainment of excellent maintainability and reliability, and the fielding of equipment of respectable performance.

I rank the JU 88, as a very good airplane for its time, and its reliability was exceptional. It was indeed a good airplane in anyman's language.

The JU 88 (popularly referred to as "Baksheesh") survived numerous disposal programs after the war and is now displayed in the Air Force Museum, an appropriate outcome to a memorable and perhaps historic event.

A special note of thanks. Two of Bob Cavanagh's British contacts—Frank Cheesman and Richard Bateson were instrumental in identifying Wing Commander Eaton, the test pilot and OIC at No 1 BARU who introduced Newby and Cook to the JU. Also, the photograph of the JU with the P-38 tanks was from an original snapshot by R.F. Trimble.

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