

# How the Pilot's Checklist Came About

It was July 18, 1934. The final phase of aircraft evaluations under U.S. Army specification was about to begin. Three manufacturers had submitted aircraft for testing. Martin submitted their Model 146; Douglas submitted the DB-1; and Boeing submitted their Model 299. At that time, Boeing (a producer of fighters for U.S. Navy aircraft carriers) had little success in either commercial airliners or earlier developed bombers for the U.S. Army Air Corps.

Yet Boeing's entry had swept all the evaluations, figuratively flying circles around the competition. Many considered these final evaluations mere formalities—talk was of an order for between 185 and 220 aircraft. Boeing executives were excited; a major sale would save the company.

At the controls of the Model 299 this day were two experienced Army pilots. Major Ployer P. Hill (his first time flying the 299) sat in the left seat with Lieutenant Donald Putt (the primary Army pilot for the previous evaluation flights) as the co-pilot. With them was Leslie Tower (the Boeing Chief Test Pilot), C.W. Benton (a Boeing mechanic), and Henry Igo (a representative of Pratt and Whitney, the engine manufacturer).

The aircraft made a normal taxi and takeoff. It began a smooth climb, but then suddenly stalled. The aircraft turned on one wing and fell, bursting into flames upon impact.

Putt, Benton, and Igo—although seriously burned—were able to stagger out of the wreckage to the arriving safety crews. Hill and Tower were trapped in the wreckage but were rescued by First Lieutenant Robert Giovannoli who made two trips into the burning aircraft to rescue both men.

Both men later died of their injuries. Lt. Giovannoli was awarded the Cheney Medal for his heroism that day, but he died in an aircraft accident before receiving it.

The investigation found "Pilot Error" as the main cause of the accident. Hill, unfamiliar with the aircraft, had neglected to release the elevator lock prior to take off. Once airborne, Tower evidently realized what was happening and tried to reach the lock handle but by that time it was too late.

It appeared that the Model 299 was out-of-the-running. Some newspapers had dubbed it as "too much plane for one man to fly." Most of the aircraft contracts went to the runner-up, notably the Douglas DB-1. Some serious pleading and politicking by Air Corps officers gave Boeing a second chance to keep the Model 299 project alive – an additional 13 aircraft were ordered for further testing. Douglas, however, received contracts for 133 aircraft for active squadron service. The DB-1 eventually became the B-18.

Twelve of those Boeing aircraft were delivered to the 2nd Bombardment Group at Langley Field, Virginia, by August 1937. The 2nd Group's operations were closely watched by Boeing, Congress, and the War Department. Any further accidents or incidents with the Model 299 would end its career. Commanders made this quite clear to all the crews.

The pilots sat down and put their heads together. What was needed was some way of making sure that everything was done properly; that nothing was overlooked. What resulted was a pilot's checklist. In the end, four (4) checklists were developed - takeoff, flight, before landing, and after landing. As it turned out, the Model 299 was not "too much airplane for one man to fly,"—it was simply too complex for any one man's memory. These checklists for both the pilot and the co-pilot made sure that nothing was forgotten.

With these new checklists, careful planning and rigorous training, the twelve aircraft managed to fly 1.8 million miles without a serious accident. The U.S. Army accepted the Model 299, and eventually ordered 12,731 of the aircraft. This was then numbered the B-17. The B-17 went on to become the most widely used aircraft in WWII.

With this, the idea of the pilot's checklist quickly caught on. Other checklists were developed for additional crew members and checklists were then developed for the other aircraft in the Air Corps inventory. It became invaluable.

The Pilot's Checklist is now standard operating procedure (SOP) in every aircraft flown today.

## References:

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Above article written by John Schamel, and edited for clarity.