TESTED TO DESTRUCTION

BEFORE BEING RELEASED FOR SQUADRON USE, NORTH AMERICAN ENGINEERS BRUTALLY TESTED MUSTANG COMPONENTS TO MAKE SURE THEY COULD STAND UP TO THE RIGORS OF AERIAL COMBAT

BY HOWARD CARTER

The main point of this photographic article is to illustrate the great lengths North American Aviation engineers and personnel went to in order to make sure that their product could face the harsh realities of combat — in this case the product was the P-51 Mustang. Structural testing to destruction had not developed into today's fine art of computer-controlled static testing. Back in the 1930s/1940s, when the military issued a contract for a new fighter — or pursuit as they were then called — it would usually be for two XP airframes (experimental pursuit, flying) and one static airframe. The static airframe would rarely be assigned a serial number or designation and it was usually incomplete — just the basic airframe without electrics, hydraulics, etc. This is the airframe that would be statically tested to destruction. When it comes to the Mustang, this is the earliest photograph we have been able to find relating to static destruction testing. As a point of interest, it seems that the airframe was referred to as XX-73, but the code on the negative is "81." This coding was usually reserved for the particular type of Mustang being photographed. For example, if you found a negative with the coding 99-001 this would translate to a photograph of an NA-99, the NAA model designation for the P-51A while the -001 would be the sequence in the set of photographs being taken. The coding 81 does not relate to any NAA model number and may be an in-house designation for photographs concerning static testing. In this photograph, we have the XX-73 wing and fuselage with the wing being heavily loaded with lead ingots. The aircraft has been surrounded with a relatively crude plywood "wall." This was put in place in case the airframe violently came apart under extreme load — pieces of aircraft could fly some distance, injuring personnel and property. The photograph was taken on 16 January 1941 (the NA-73X had gone aloft for the first time on 26 October 1940 with Vance Breese at the controls) and illustrates a crucial point — wing strength trials. The wing failed at 105% of its design load.