

Analysis of Factors Contributing to "Pilot-Error" Experiences in Operating Experimental Aircraft Controls

DC/AS for Research & Development

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Office of The Air Surgeon, AC/AS-1

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Inclosed for your information is a copy of Research Memoranda TSRAA-694-12 from Psychobiology Branch, Aero Medical Laboratory, subject as above. Incidents of errors in Experimental Aircraft controls were obtained through accident reconstruction and written 621 Proj. reports.

The recent air accidents at White Sands Proving Ground, as outlined by 28 May Collection Branch, Air Intelligence Requirements Division Report dealing with mutant experiments of extreme altitude flight, capsule ejection, and decompression effects, could be classified under six major categories as follows: (1) substitution errors, (2) forgetting, (3) adjustment errors, (4) reversal errors, (5) unintentional activities, and (6) unable to reach controls.

In regards to radio-biological hazards, the Army Air Forces Tactical and Technical Liaison Committee, in conjunction with the Atomic Energy Commission, has initiated action to determine the requirements for procedures to assure the relative safety of those concerned with "special" flight operations. The Army Air Forces Tactical and Technical Liaison Committee requested a "Research Flight Surgeon" representing Headquarters, Army Air Forces to conduct radio-biological hazard studies incident to the work of this Project. These studies were performed at Kirtland Field and all data was classified "Restricted Data" under the provisions of AAF Letters 46-22 and 46-22A.

As to the actual causes of the two incidents on 25 March and 4 July 1947, of the loaned S- Aircraft (PF), analysis of the engine design and thrust stress factors, P9 personnel and Atomic Energy Commission consultants in conjunction with advisory people from Army Air Forces Scientific Advisory Group, and Armed Forces Special Weapons Project, could not fully agree as to the exact cause of engine failure in both cases. One plausible problem has been examined which might help in correcting "Pilot Error" operation. Interaction of symbolic instrumentation with tactile manipulation of flight controls and pilot shielding in high performance operation, has been a continuing factor of study by Research and Development.

Recent inquiries from other commands and government agencies requesting information about experimental projects as being the cause of so-called "Flying Saucers," has prompted the control of Restricted Data. A case in point was the request by Eighth Air Force AC/AS-2 to Headquarters, Strategic Air Command, that a central control of Restricted Data be established contrary to AAF Letter 46-24, 10 March 1947, Par. 24(1). To insure tighter security and access to Project Restricted Data, a new policy has been in effect. Under a recent decision by the Military Liaison Committee to the Atomic Energy Commission, "Top Secret - Restricted Data" can now be transmitted by couriers who have cleared for access to "Restricted Data. The present War Department Courier Service did not meet the requirements as mentioned. Presently Headquarters, Research and Development has assumed this responsibility.

FOR DETAILED HISTORY OF THE "S" CRAFT SEE ATTACHED, R/10