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CONTROL SYSTEM

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OXCART

BYE-3197-64
Copy 5 87

MEMORANDUM FOR: Deputy Director for Science and Technology

SUBJECT: Effect on OXCART Program if Aircraft
S/N 121 is Used for Speed Record Attempt

1. The initial look at the problem indicates that two separate and distinct effects would result if A-12 S/N 121 now were to be used for a speed record attempt, one resulting in a gross risk to the projected technical time schedule of the program and the other resulting in an immediate gross security compromise. No equipment effect would result on the SKYLARK (Mach 2.8 contingency capability) program since S/N 121 already has installed a complete set of reworked servos so that none would have to be diverted from SKYLARK aircraft and would only require that the engines, which had been removed during the recent YF-12A speed trial deliberations, be reinstalled. However, the flight test support to SKYLARK will be diluted since Lockheed flight test personnel will be concentrating on the speed run. The support to SKYLARK is in the area of check-out and test of ancillary equipments for SKYLARK, such as, ARC-50, single side band and countermeasure packages.

2. The gross risk to the projected technical time schedule alluded to above takes into consideration the fact that aircraft S/N 121 is the primary flight test vehicle (see Attachment I for roles of the four OXCART A-12 flight test aircraft), and, as such, is very heavily instrumented to measure and record flight test results. Any damage to this aircraft, or to consider the ultimate, loss of this aircraft, would seriously retard the progress of the program until another vehicle could be similarly instrumented. The extensive wiring and large number of very close tolerance sensors installed in S/N 121 are such that it would take approximately two months to similarly equip another vehicle in the event that S/N 121 were lost. To risk serious impairment of the program objective solely for a propaganda advantage hardly seems justified.

3. The overall program will be set back because of the curtailment of flights necessary to solve many of the technical problems still plaguing the program. Optimistically S/N 121 would be removed from the program for three to four weeks which would equate to 10-12 lost meaningful test flights.

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4. The utilization of S/N 121 for speed record trials at Edwards AFB would be most disadvantageous to OXCART. Exposure of a single seater aircraft of the YF-12A/SR-71 configuration would betray to the world for the first time, the existence of a one seat version of the aircraft, that version is peculiar to the OXCART mission. Needless to say, the speculation by the technical press as to the mission of the one seater would be rampant.

5. During the past year extreme care and effort has been expended to compartmentalize the knowledge being imported to personnel supporting the YF-12A and SR-71 at Edwards AFB. An elaborate clearance and briefing system, controlled by CIA, is in effect to prevent personnel employed at Edwards from becoming knowledgeable of a third version of this aircraft. This system employs the code word access systems of UNLOCK (YF-12A) and KEDLOCK (SR-71). The arrival of S/N 121 at Edwards AFB would betray the compartmented system.

JACK C. LEDFORD
Colonel USAF
Assistant Director
(Special Activities)

Atts: I - Roles of Flight Test Aircraft
II - Summary Flights Above Various Mach Numbers

ASD/OSA/ [].mvp (19 Aug 64)

Distribution:

- 1 - DD/S&T (w/att)
- 2 - AD/OSA (w/att)
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- 6 - Chrono (w/att)
- 7 - RB/OSA (w/att)

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SUBJECT : Roles of the Four OXCART A-12 Flight Test Aircraft

1. S/N 121 - This airplane is the primary flight test vehicle. It is the only vehicle completely instrumented to test out the internal aerodynamics of the propulsion system. It is utilized to flight test all of the ejector modifications, the various by-pass door configurations, and the tertiary doors. The schedule for the variable area by-pass at the engine face (onion slicer) is being developed on aircraft 121. The aircraft is the only A-12 which has been flown to Mach 3.0. See Attachment II for total flight times and number of flights above various Mach numbers. The very limited number of Mach 3.0 and above flights is due to the fact that aircraft 121, being the primary flight test aircraft to test all of the modifications noted above, rarely is flown in the same configuration on two successive flights. Since it is also the only J-58 equipped, all metal, A-12, it will be used initially to verify cycling temperatures encountered between high speed flight and low speed refueling prior to subjecting the plastic configured A-12 to such an environment.

2. S/N 122 - This airplane is being used for inlet and fuel control development. It has been assigned to Pratt and Whitney tests for the next three months to develop and optimize the main fuel controls, both Bendix and Hamilton Standard.

3. S/N 129 - This airplane is being readied for a long range, high speed mission to determine the cruise fuel consumption characteristics of the A-12. The mission to be flown is 3320 n.m. and the majority of the flights will be at Mach 3.2. Subsequent to a successful mission, #129 is scheduled to be turned over to the Detachment.

4. S/N 131 - This airplane is being used to flight test the various countermeasures equipment being developed to enhance the survivability of the A-12.

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Attachment to
BYE-3197-64

SUBJECT : Summary of Time and Flights Above Mach No. Noted
as of 4 August 1964.

	<u>2.0</u>	<u>2.2</u>	<u>2.4</u>	<u>2.6</u>	<u>2.8</u>	<u>3.0</u>	<u>3.2</u>
121	15:03 55	11:23 52	6:57 44	4:17 28	2:37 19	1:35 15	:12 4
122	15:36 48	11:27 44	5:47 29	1:58 12	:07 3	-	-
123	:09 2	-	-	-	-	-	-
124	-	-	-	-	-	-	-
125	26:14 52	18:15 43	:40 2	-	-	-	-
126	5:56 17	3:03 13	:05 1	-	-	-	-
127	15:49 43	7:25 31	-	-	-	-	-
128	25:28 34	18:40 30	:40 3	-	-	-	-
129	13:54 43	10:34 39	6:55 34	3:05 25	:54 5	:17 1	-
130	9:14 25	3:15 8	-	-	-	-	-
131	2:20 7	1:36 6	1:05 6	:20 4	-	-	-
132	2:41 7	1:45 7	:50 6	:15 2	-	-	-
133	2:53 7	2:20 7	1:52 7	1:12 7	:57 4	-	-

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