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MEMORANDUM FOR: Special Assistant to the Director
for Planning and Development

SUBJECT : Zoom Climb Tests

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1. During [redacted] current visit to Headquarters, the subject of zoom climb tests has been gone into very thoroughly. A meeting to cover all facets of these tests was held this date. Persons in attendance were [redacted]

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2. To begin with, the choice of a base at which these tests should be conducted was reviewed. [redacted] suggested in a cable [redacted], and still recommends that, because of superior capability in equipment as well as experienced people for weapons systems testing, Eglin is the proper location. It was the consensus that if realistic results are to be obtained, full use of Eglin facilities and experienced people should be used. The only airborne weapons system presently at Edwards is the F-104. In addition, the Eglin GCI capability is far superior to the practically non-existent capability in the Edwards area. For these reasons, if the tests are to be conducted at all, it is assumed that they will be conducted at Eglin.

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3. Keeping security in mind insofar as is practicable, it was also agreed that the U-2's could be operated from Del Rio with no degradation of the results while maintaining reasonable security. It may require additional sorties due to aborts by the Eglin aircraft as well as the additional hours of en route time between Del Rio and Eglin. It is planned to launch the U-2's from Del Rio using Project people from Edwards.

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4. Recently [redacted] made a visit to ATIC for the express purpose of determining what weapons systems and techniques constituted the most serious threat to the U-2. It is intended that the vulnerability testing program which is conducted against the U-2 will be conducted in such a manner so as to most nearly simulate what is considered to be the Russian air-to-air capability. There follows the sequence of testing which ATIC feels should be evaluated:

a. Using the F-104 under GCI control, it will be vectored to a point astern of the U-2 at an altitude of 64,000 feet straight and level at speeds of mach 1.3 and 1.6. At this altitude it is presumed that pilot can be placed into visual contact at which time he could launch an IR guided missile. Any pull-up maneuver will be executed on pilot initiative rather than GCI predictions of proper pull-up point.

USAF review(s) completed.

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- 2 -

b. Still using the F-104 and from an altitude of approximately 45,000 feet at a speed of mach 2, the interceptor would be vectored by GCI to execute normal snap up techniques for simulating both IR and beam riding guided missile attacks. These first two tests would be to simulate a day fighter attack within the capability of the F-104 and F-105. Further along in this day phase, camouflaged U-2's will be used. It is also planned to evaluate evasive techniques such as programmed turns.

c. To simulate vulnerability against the YAK-25 all weather interceptor, an aircraft having the performance of mach .91 at 50,000 feet and all weather intercept search and lock-on radar will be used. This will probably be the F-102 or F-101B. The technique here will be to first obtain a radar lock and then to pull the nose up and fire after which the interceptor would return to a nose level attitude while maintaining lock-on. It is also intended that an IR guided missile system will be used in this phase of the testing.

d. At such time as the proves effective, it will be introduced.

5. A test program of this scale will necessarily require that certain people at Eglin be made knowledgeable of the U-2, its operating speed and altitude. However, from a review of the processes through which the testing and analysis of results would go, it appears that the numbers involved could be held down within reason. Conservatively speaking, providing we can get concurrence and adequate priority from ARDC Headquarters, the following people would be made knowledgeable. It is emphasized that no reference to the Agency is necessary or contemplated to anyone. As far as any of the people at Eglin are concerned, the target U-2's will be FOG.

a. The Base Commander should be briefed on type and performance. We hope to have ARDC send an "EYES ONLY" directive to Maj. Gen. Joe Kelly pointing out that this is a highly classified test to determine (for SAC's benefit) the vulnerability of the U-2.

b. A Test Project Officer whose duties would be to set up, direct, coordinate and have analyzed all phases of the test program.

c. It may be necessary (depending on the desires of Gen. Kelly) to bring in the officer who is Director of Air Defense Weapons Systems testing.

d. Four pilots.

e. The chief of the GCI team and possibly all three members of one GCI team.

f. One operations analyst whose duties would be to assemble the data collected, and analyze it so as to come up with the kill probabilities under the different circumstances.

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6. It is intended that the pilots flying the U-2's will be Lockheed. This will restrict the results obtained to reduce rumors among our drivers. There should be no conflict or competition with [redacted] tests. It is also understood that if there is any conflict for support, the [redacted] tests will take precedence.

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7. It is planned that [redacted] will submit this proposal to Gen. McNickle and Col. Appold at ARDC. A tentative appointment has been made with Gen. McNickle at 1430 ~~4~~ 5 November.

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8. Your concurrence with the above program is requested.

[redacted]

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Director of Operations

CONCURRENCE: NOV 4 1958

(sgd) Richard M. Bissell, Jr.

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