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12 August 1963

MEMORANDUM FOR: Assistant Director, OSA
Deputy Assistant Director, OSA

SUBJECT : Summary of OSA Activities for Week Ending
7 August 1963

OX CART

1. A suit test flight was made this week in an OXCART vehicle to evaluate the suit with the neck seal, the manual press-to-test control, and the spring balance for reducing helmet weight. The neck seal proved to be comfortable, but the oxygen consumption during the flight was unreliable due to varying cabin altitude, and the hoses in the occipital area of the head were extremely uncomfortable. However, the results of the test were promising enough to warrant additional evaluation. The test of the "press-to-test" proved completely successful and was a valuable assist by allowing the driver to reduce helmet weight by partial pressurization. One problem did occur during the test and that was that the driver could not adequately grip the "D" ring after reducing the pressure to 3 psi. This problem is especially important since the suit would be pressurized to 3.5 under emergency conditions. The spring helmet balance test was satisfactory in all aspects.

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2. Regarding the fuel contamination problem at [] Shell Oil Company has informed [] officials that the fuel they now have in the POL tank S-3 can be brought up to specifications by the addition of Dupont JFA-5. Since it is possible that they could get another shipment of fuel which does not meet specifications, it is felt that the Dupont JFA-5 procedure should be explored. If Lockheed and Pratt and Whitney agree to the use of this additive, [] officials have asked that Headquarters

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obtain the mixing procedure from Shell. If they find the additive can be blended satisfactorily under field conditions, it may solve a future problem at [] and solve the present one at Kadena. However, Headquarters has advised [] to procure one or two months limited supply of on spec fuel as an interim measure. This might provide sufficient time for further solicitation of bids and evaluation thereof in an attempt to locate a supplier with a lower price for spec fuel.

3. Several modifications are being made at this time to the KC-135's used in support of our OXCART and IDEALIST programs. A strobe light was installed in one plane on 7 August, but SAC desires an evaluation flight be made on the lighting arrangement before the rest of the fleet are modified. Two KC-135's were modified with the ARC 50 and a complete new fuel quantity system was installed in another. Plans are to modify five more planes starting 5 August.

4. On the last "dummy" ejection seat test at El Centro, the seat ejected satisfactorily, but the lap belt did not fire. As a result, the chute did not deploy and the seat and dummy crashed. Since the lap belt is a standard Air Force part, we will not be concerned with its redesign. The cause of the failure is being investigated. One more test will be made this week which will be a test of full deployment of the main chute at 290 knots.

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5. Regarding the throttle hump problem, [] is including a corrective device in the controls delivered beginning 1 September for new engine installation. With [] help in defining the hump, Pratt and Whitney designed an external device which they are producing on a crash basis for installation in the OX aircraft.

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6. Pratt and Whitney representatives met with Mr. Johnson at Lockheed on 31 July to review OXCART program problems and spent the next day at [] for on-site meetings. An agreement was reached on the next phase of the investigation of the roughness problem, and appropriate hardware changes were made on an accelerated basis that week-end to enable a flight test on 5 August. The two most pressing problem areas are: the roughness situation and throttle hump. Results of the hardware changes and flight test will be forthcoming.

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7. OXCART Aircraft #125 suffered foreign object damage on the right engine number 204 on 5 August while running at full power, exhausting into the Solar sound suppressors. The left hand engine severely damaged the suppressor and the bits and pieces were re-circulated and injected into the right engine. Large quantities of water were used to cool the suppressors and this water was sucked into the inlets in large whirlpools. By the time these vortices of water had been discovered and the water shut down, the right engine had sustained damage. This was the first use of the suppressors since early J-75 ground runs, and after this incident, it has been decided that use of the suppressors would be discontinued. The engine was repaired, and was declared serviceable on 7 August.

8. The Lockheed people have decided to approach the roughness problem from the rear end of the engine-nacelle configuration for the next few flights. They are currently closing off the shock trap bleed air tubes and cutting holes in the outer nacelle skin to dump the shock trap boundary layer air overboard. By increasing the secondary flow through the ejector they hope to determine the contribution of this area to the roughness, if any. They also feel that the by-pass door louvers may be chocking the flow of by-pass air and are therefore considering replacing the louvers with backward facing scoops, for flight test purposes only.

9. Two OXCART engines sustained foreign object damage on 6 August in Aircraft #121 during a pre-flight ground run. It has been determined that the damage to the two engines was caused by partial disintegration of the second stage honeycomb on both. The missing pieces lifted and seriously damaged the engines from the second stage aft. Engine #226 will be sent to overhaul and it is now being determined whether or not engine #228 can be repaired at

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[] has been named the Program B COMOR representative.

RADAR

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A meeting was held in Dr. McMillan's office on 1 August 1963 to discuss proposed locations of the [] type radars being built by the [] It was decided that the S-Band radar would be installed at Eglin AFB and the C-Band radar would go [] According to the present schedule, the S-band equipment will be available 1 November and the C-Band equipment 1 December.

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[] equipment will be operational approximately 1 February. It has not been determined whether [] or EG&G will operate [] 25X1A radar.

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Chief, Programs Staff
(Special Activities)

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- 4 - D/NRO
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- 7 - D/TECH/OSA
- 8 - C/SD/OSA
- 9 - PS/OSA
- 10 - PS/OSA
- 11 - PS/OSA

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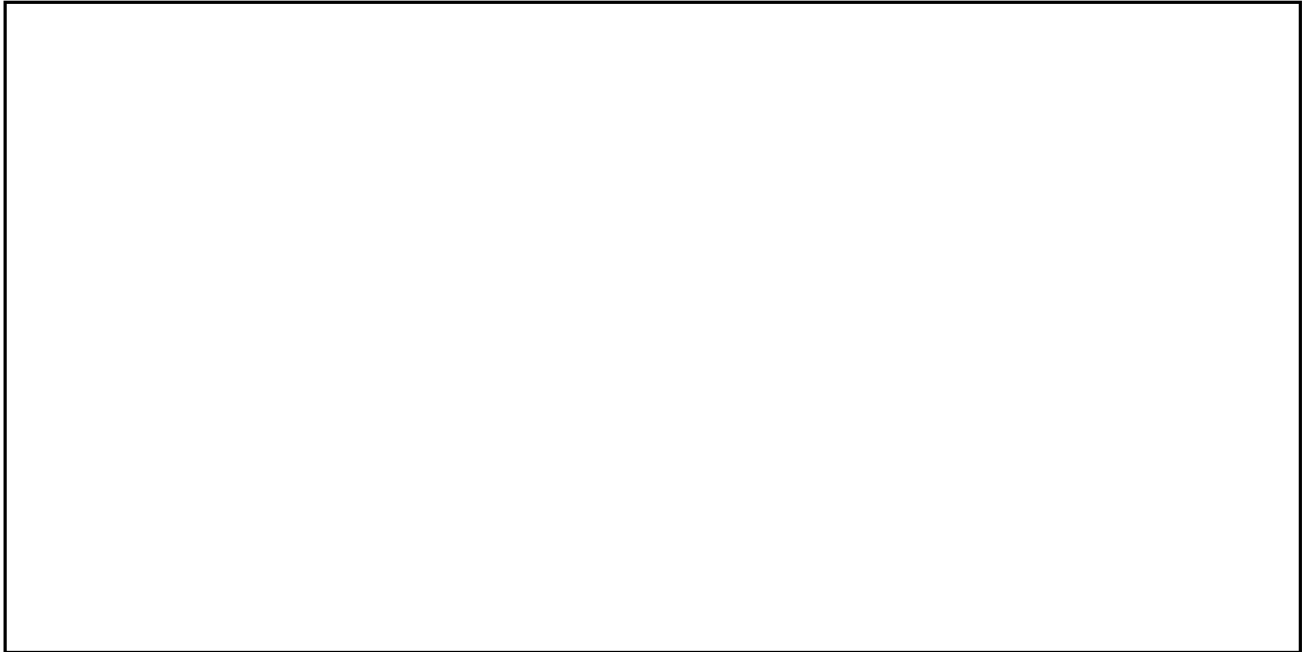
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2. The test of U-2 carrier operations from the Kitty Hawk took place from San Diego on 5 August as planned. The test went well and it is felt by all concerned that the security aspects of the operation were excellent.

3. [redacted] attended a meeting at Eastman Kodak on 9 July at which time [redacted] requested that preparations be made for color photography of the target area (location undetermined as yet) during unusually clear weather following a hurricane. Film, chemicals and processing equipment are being made ready at this time at EK, but in view of the new materials being used for the color photography, EK has requested authorization to send representatives to the staging area during the mission or missions.

DD/T&S

Dr. Albert Wheelon was appointed Deputy Director for Science and Technology (DD/S&T) (formerly Deputy Director/Research) effective 5 August 1963. [redacted] will be his Deputy and [redacted] 25X1A [redacted] was appointed Executive Officer.

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