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OXC-3450
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MEMORANDUM FOR: Director of Central Intelligence

SUBJECT : OXCART Program

1. The official first flight of OXCART A-12 Aircraft #1, utilizing Pratt & Whitney J-75 engines with afterburner, took place [redacted] the morning of 30 April 1962. The aircraft, piloted by Lockheed Aircraft Corporation test pilot Mr. Louis Chalk, was taken off at 170 knots per hour, at a gross weight of 72,000 lbs., and climbed to 30,000 feet. A speed of 340 knots was indicated on climb-out, but due to a minor problem, involving a fairing bending, the aircraft speed for the flight was held to a limit of 250 knots. During flight, instrumentation calibration and preliminary stability and control checks were made. The aircraft stability and augmentation system was turned off during flight, and yaw-roll (lateral directional coupling) was checked. The aircraft handled exceptionally well in these maneuvers down to very low speeds. The test was concluded after 59 minutes of flight with aircraft touchdown on the runway occurring at a speed of 170 knots per hour. The pilot, Mr. Chalk, reports that the aircraft feels good in all regimes tested, has good response to controls and is extremely stable with or without stability augmentors in the speed regimes tested. Minor squawks concerning the aircraft, requiring corrective action, included: (a) a bent fairing (corrected either by spring-loading or beefing up the fairing); (b) two slightly dragging wheel brakes requiring adjustment; and (c) adjustment of a rudder trim actuator. Mr. C. L. Johnson, designer of the OXCART aircraft, reports this to be the smoothest official first flight of any aircraft he has designed and tested. Photographs of OXCART aircraft #1 in flight are attached to this report.

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2. The second test flight of OXCART A-12 Aircraft #1, conducted 4 May, with Mr. Louis Chalk, Lockheed test pilot, at the controls was

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satisfactorily completed after a total of one hour and twelve minutes in the air. Take-off occurred at a gross weight of 77,300 lbs. with a rapid climb-out to a scheduled altitude of 40,000 feet and a scheduled maximum speed of 340 knots per hour indicated. Actual top speed for the flight was mach 1.1 at 40,000 feet. The aircraft was checked throughout the transonic range and performed exceptionally well. In low subsonic ranges, the aircraft performance was excellent. Gross evaluation was made of single engine performance and handling characteristics at altitudes from 7,000 to 30,000 feet. No aircraft problems were encountered during the flight except a minor instrumentation problem relating to a fuel tank venting system. According to Mr. C. L. Johnson the aircraft performed well throughout the flight range covered thus far in tests.

3. Three test flights of Aircraft #1 are scheduled for 8 May. Within three weeks test flights are scheduled in the mach 2.2 and up to 60,000 feet regimes. OXCART Aircraft #2, the AR (anti-radar) configured aircraft, is scheduled for delivery in June 1962. Intensive pole testing of this aircraft on the anti-radar test range will be followed by extensive flight tests.

4. The Pratt & Whitney JT11D-20 (J-58 OXCART configuration) engine development program is now in the phase of intensive ground endurance testing preparatory to flight qualification. Four special preliminary 50-hour endurance engine tests have been completed. Of the nine engines in the development program, five now are on test with the other four being overhauled preparatory to further testing. Test time accumulation now stands as follows:

Total Engine Time (Various J-58 configurations)	3883 hours
Afterburner Time	548 hours
JT11D-20 Configuration Time	1030 hours
Mach 1.5 Temperature Time	398 hours
Mach 2.0 Temperature Time	243 hours
Mach 3.0 Temperature Time	23 hours
Maximum Turbine Temperature Time	276 hours
Engine Time with Automatic Controls	295 hours

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Significant progress has been realized since February 1962 in the major problem area of hydraulic pump durability, combustion temperature distribution as it affects turbine durability, and engine controls development. Further engine development and endurance testing is required in order to establish flightworthiness. The official 50-hour preliminary flight rating test to establish flightworthiness is scheduled for June 1962. A strong effort is being made to accelerate the development and testing program. Also, back-up alternate design work has been accelerated on certain key engine components as insurance to the program. An additional engine hot test stand facility has been authorized at Pratt & Whitney's Florida test center and a modification of a test stand at the Pratt & Whitney Willgoos facility in Connecticut to accommodate the J-58 engine in order to speed up endurance engine testing and calibration.

5. Production delivery engines are on or slightly ahead of schedule at this time. The first production engine targeted for a 30 June 1962 delivery passed the initial acceptance test and now is being reassembled for the final acceptance test. The second engine targeted for a 31 July 1962 delivery has been assembled and is being prepared for an initial acceptance test run. The third and fourth production engines are on schedule.

/S/
HERBERT SCOVILLE, JR.
Deputy Director
(Research)

Signature recommended:

Acting Chief, DPD

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