

~~TOP SECRET~~

DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS UNITED STATES AIR FORCE  
WASHINGTON 25, D.C.



AHF

JUL 15 1966

MEMORANDUM FOR DR. FLAX

SUBJECT: TAGBOARD Program

The attached report reflects the current status of the TAGBOARD Program. I am happy to conclude my duties with an optimistic outlook for the Program.

A handwritten signature in cursive script, reading "Leo P. Geary", is positioned above the typed name.

LEO P. GEARY  
Brigadier General, U. S. Air Force  
Director, Program D

1 Attachment  
Subj Report

Handle via BYEMAN  
Control System

BYE-54335-66  
Cy 1 of 2 cys  
Pg 1 of 1 pgs

~~TOP SECRET~~

~~TOP SECRET~~

## TAGBOARD PROGRAM

Current Status as of 15 July 1966

1. Major milestones achieved since the last report were the separation and flight of three (3) TAGBOARD (D-21) drones launched from the modified A-12 carrier aircraft. As you are aware, both of the presently available carrier aircraft (M-134 and M-135) have been equipped with improved 34K engines. The separation phase of the three flights was highly successful and proved the separation theory, however, difficulties encountered during the flight profiles precluded hatch recovery and these are enumerated below.

a. 5 March 66. D-503 flew for approximately  $2\frac{1}{2}$  minutes in free flight condition during which programmed course, altitude, and speed (3.3M) were attained. Shortly after beginning the cruise climb profile, the D-21 experienced a rapid pitch over causing inlet unstart resulting in further pitchover. This pitchover caused the "D" to lose speed and altitude until the "D" reached self-destruct altitude of 55,000 feet and was destroyed. Theory is the pitchover was caused by a spurious electrical signal to the Air Data Computer.

b. 27 April 66. D-506 was programmed for a total range of 1730 NM with a 9 degree right turn, 540 NM from the separation point, which was executed satisfactorily. The flight terminated at approximately 1170 NM when the "D", unable to respond to autopilot commands, went out of control due to failure of the

Handwritten to DIRECTOR  
Control System

BYE-54335-66

Cy 1 of 2 cysPg 1 of 4 pgs~~TOP SECRET~~

~~TOP SECRET~~

hydraulic pump which powers the flight controls. The "D" destroyed itself at programmed self-destruct altitude.

c. 16 June 66. The flight profile for D-505 was programmed for 1570 NM and incorporated seven heading changes varying from 18 to 83 degrees. The route was flown with programmed distance and course being achieved. At fuel cutoff point, battery power to the autopilot failed, causing the "D" to deviate from programmed descent and subsequent hatch ejection resulting in self-destruct at 55,000 feet.

d. Performance of the Inertial Navigation System during the above flights was exceptional with the system maintaining the "D" within 2 NM of planned course.

2. M-134 is now out of modification and has 34K engines installed. The aircraft has flown twice since modification and is undergoing further testing and tank curing at the present time. Testing of an improved nose cone fairing, range extension and mated sensor flights will be accomplished with this aircraft. These tests have been delayed due to having only M-135 available and the heavy emphasis on achieving separation as rapidly as possible.

3. D-504 is scheduled for launch 20-21 July with a programmed profile of 2220 NM incorporating 12 heading changes varying from 36 to 82 degrees.

4. The sensor tests utilizing the hot pod (a sensor hatch flown on the M aircraft) are concluded. To date the results have been very successful, achieving a resolution of

Handle via DOTTAN

BYE-54335-66 Control System

Cy 1 of 2 CysPg 2 of 4 pgs~~TOP SECRET~~

~~TOP SECRET~~

approximately 16 inches. The next step is to test the sensor in a captive mated configuration to check out electrical loads and complete interface function. This test will commence in July and will be followed by the scheduled free flight of the drone with sensor.

5. The Star Tracker is presently installed in the Jet Star. Two flights have been made and the results appear very promising.

6. A visit to Hq SAC 11 July 66 was made to coordinate the formation of an operational organization for the TAG system. Initially, this force will consist of a commander, ops officer, three (3) crews, a planning section and an administrative section. Two LCO's are currently assigned to the Area. The force will be built up slowly as facilities for training become available. LAC has prepared a course outline for the ground phase of training.

7. I am pleased to conclude with a very optimistic outlook for the TAGBOARD program. The separation theory is now a successful reality. The guidance system is equal to or better than specification. The sensor in tests to date is equally promising. The immediate test objectives are set high but rightfully so in view of the excellent results to date. Accordingly, the next two free flights of the drone are scheduled to achieve 2220 and 3000 NM ranges with programmed hatch ejection. The courses will be altered by changes in heading. If these flights are successful then two follow-on

Handle via OVENMAN

BYE-54335-66 Control System  
 Cy 1 of 2 Cys  
 Pg 3 of 4 pgs

~~TOP SECRET~~

~~TOP SECRET~~

flights will be programmed to include the sensor. Assuming success of the next four flights, a limited operational TAGBOARD capability will be available. As we near attainment of an operational capability, decisions concerning the operational employment of TAGBOARD will be required. Preliminary operational plans have been prepared covering TAGBOARD operations from both Area 51 and from a deployed location.

Handle via BYEMAN  
Control  
BYE-54335-66  
Cy 1 of 2 Cys  
Pg 4 of 4 pgs

~~TOP SECRET~~