

# The CIA Mission using the A-12 Reconnaissance Vehicle

by Frank Murray - Dutch 20

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This treatise is a history of what happened during the heyday of CIA operations using the A-12 Airplane in the mid/late sixties. My experiences with the operational A-12 Program started after I had about ten training missions in the A-12 equipped with the Pratt & Whitney J-58 bleed bypass engines. Earlier training missions in the A-12 Trainer which

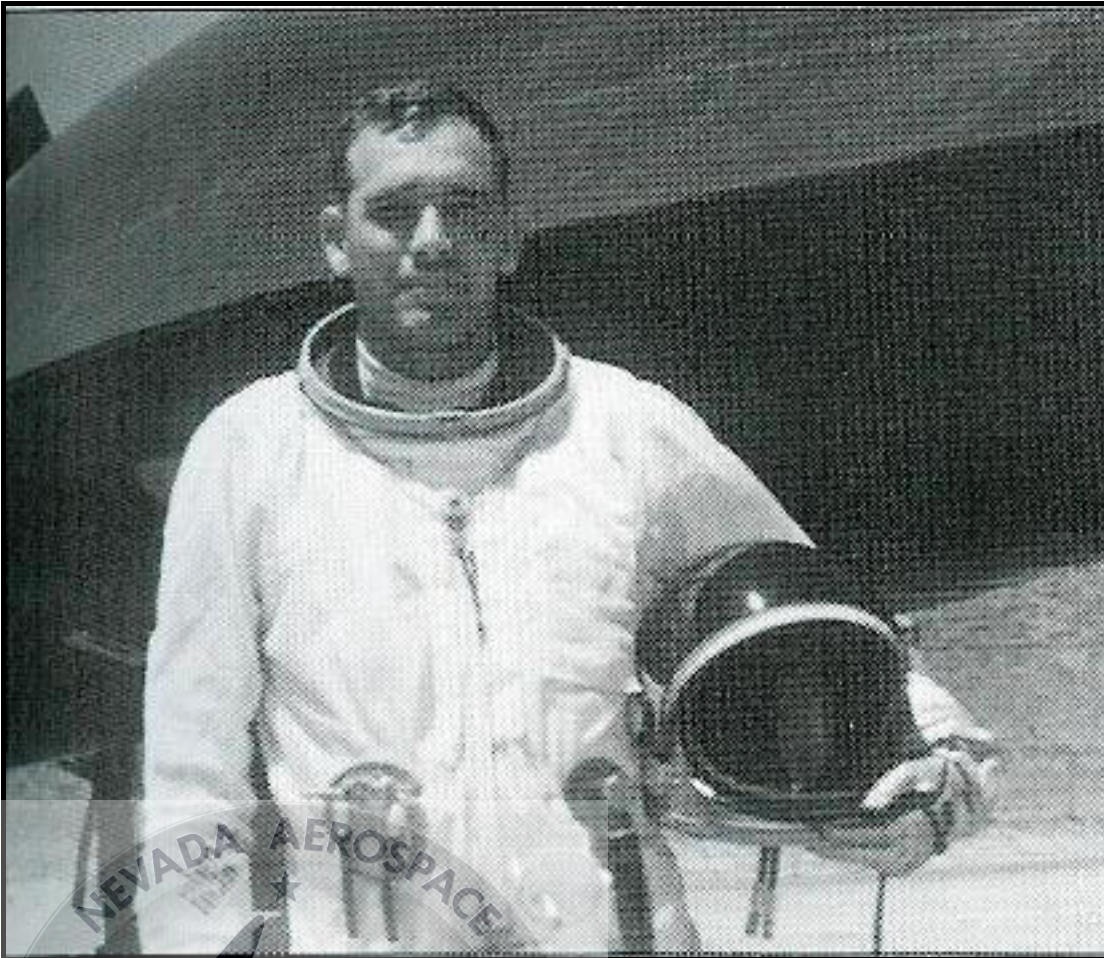
had the Pratt & Whitney J-75 engines were performed to learn the handling characteristics, navigation systems and general use of the airplane at less than Mission speeds and altitudes. There was no Flight Simulator developed for the A-12 Program.

A-12's and pilot assets.

After the establishment of the Black Shield capability at Kadena Air Base, Okinawa in early 1967, the Agency positioned three A-12's and a support detachment to maintain and operate the A-12's for the Recon Mission in

the Eastern Pacific Region. There were plans to have two A-12 pilots on station for missions at all times. During the times when a replacement pilot was in place, there would be three pilots for a week or so. The three A-12's were in place for the duration of Black Shield, Plans to rotate the A-12's were overcome by the cessation of the Black Shield Operation.

**Mission Alert**



A normal Mission Alert was ordered from the CIA HQ about 24 hours prior to the desired takeoff for the Overflight. Most of the missions were ordered to reconnoiter North Vietnam and the surrounding border countries. Three missions were ordered and flown over North Korea following the Pueblo Incident in 1968.

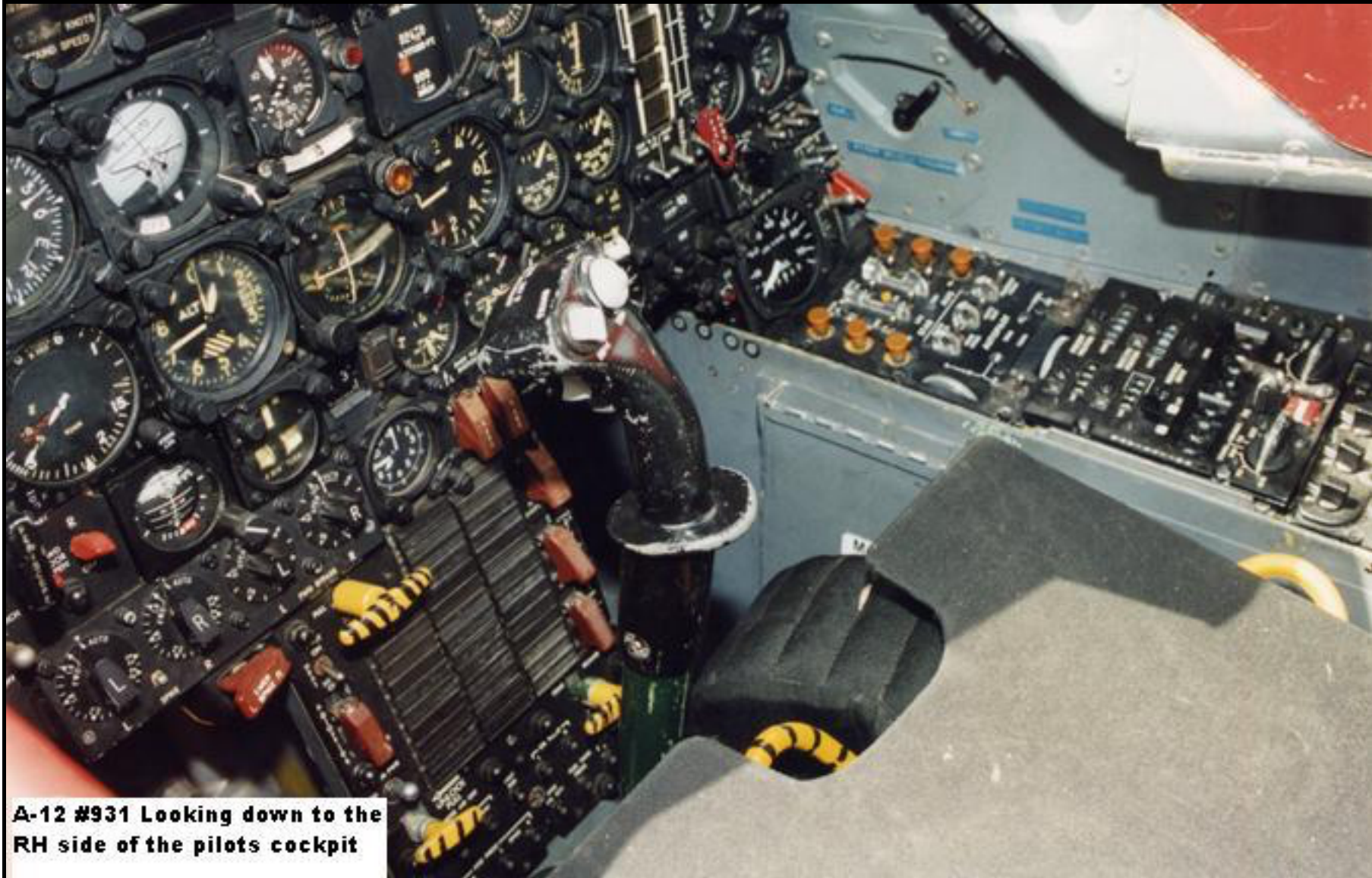
The pilots on station at Kadena were ready for the operational missions. The normal routine was to fly each of the A-12's once per week, whether for an operational mission, or to exercise the airplane and give currency training to the pilots. Most of the time there were enough operational missions to give the exercise needed. The rotation for pilots was set for about six weeks interval, but at times, some changes were made as required. At the time of the Black Shield operation there were six trained operational A-12 pilots. The activation of the Detachment at Kadena started in May 1967 with the move of three A-12's from Area 51 to Kadena. The first A-12 made the trip without a problem, flown by Mele Vojvodich, another A-12, flown by Jack Layton made the trip easily. The last A-12, flown by Jack Weeks had some problems with INS and comm, and he made a stopover at Wake Island, followed by a move on to Kadena the next day.

A few days after the first A-12 arrived on the Island, Mele Vojvodich flew the first operational over flight of North Vietnam by an A-12. The mission was launched in a rain storm, probably the first time an A-12 was launched in rain. Mele's mission was a success, and the Intelligence world got their first taste of the high quality photography from the Perkin-Elmer type 2 camera system

#### Mission buildup.

Notification of a impending mission was forwarded to the Detachment by Secure Communications, from CIA HQ, this occurring usually 24 hours in advance of the mission take-off time. At this time the Detachment Commander selected the primary and backup pilot for the mission. The primary pilot was selected on a rotation basis, he being the backup pilot on the previous mission. Both pilots attended the mission briefings. Normally, a mission prebrief was conducted to inform all detachment participants of the peculiar mission needs, Tanker support, camera selection/settings, comms decisions, mission route, expected weather conditions. The tankers needed to support the missions were based with the detachment at Kadena.

The final mission briefing was done about three hours before the planned takeoff. Final details of the mission were covered, latest intelligence on SAM defenses, Escape and Evasion procedures and route review were covered. Camera targets and other interests were briefed to the pilots. The backup pilot was suited up like the primary pilot and proceeded to the backup airplane at the same time. The support tankers took off prior to the mission A-12 so as to be in position for any planned refueling operations. The tanker support always had two tankers on station for each refueling.



**A-12 #931 Looking down to the RH side of the pilots cockpit**

Doing their best to make sure the mission was covered from their area of responsibility. The tankers did provide for a top-off refueling of the A-12, since the A-12 could not take off with a full fuel load. More tankers were normally required to refuel the A-12 after the first leg of the over flight. In the case of the North Vietnam missions, these tankers were holding in a pattern over central Thailand. These tankers took off hours before the A-12 got airborne.

About an hour before the scheduled takeoff, the pilots were given a cursory physical exam and went to the personal equipment section to put on their pressure suits. The suits were checked and the pilots did some pre-breathing to purge the nitrogen from the blood to prevent the Bends syndrome.

Following the suit checkout the crews were driven to the hangars to board the A-12's and get on with the pre-start checks. The INS crew was finishing their checks of the Navigation system while the pilots went through the pre-start check of the airplane. About fifteen minutes before the scheduled takeoff, the engines were started, system checks were completed and the A-12 started the taxi to the runway for departure. The launch crew followed the A-12 to the departure point, chocking the airplane prior to engine run-up, where the engine exhaust gas temperature was adjusted for the takeoff, each engine set with the engine running at full Military power. At the end of the run-up, the pilot signaled the launch crew to remove the chocks and the airplane was ready for takeoff. The pre-takeoff checklist was run and given clearance by the Tower, the

A-12 proceeded with the normal afterburner takeoff and turnout to the heading for the top-off tanker. During the climb out towards the tanker, the pilot accelerated the airplane to check the performance of the inlet system to assure that the spike and bypass door systems would modulate as required to achieve high Mach performance. At the completion of a successful acceleration test, the backup pilot would be released to break-down and the spare A-12 would be released to the ground crew. The top off tanker(s) were positioned in a holding pattern about 150 miles downrange, the inbound A-12 was tracked by the tanker taking advantage of the radar beacon that made the A-12 highly visible to the tanker radar. The rendezvous with the tanker was always made without radio communication. The tanker monitored the A-12's approach and would turn to the refueling heading as the A-12 approached. All this was done without radio contact. When the A-12 was in the pre-contact position behind the

tanker, the boom operator (Boomer) would let the A-12 pilot know he was ready by moving his refueling boom up and down. As the A-12 pilot approached the tanker, he would configure the airplane for refueling by opening the

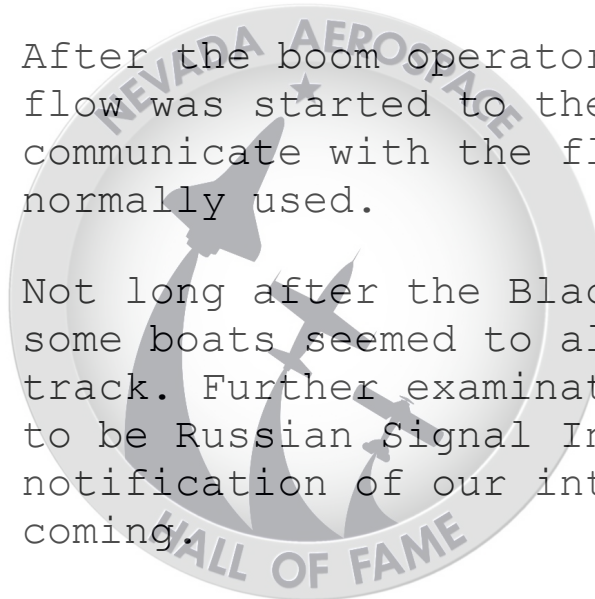


**A-12 Article #924 Early all-metal look w/KC-135Q**

refueling slipway door and transferring some fuel to the number one fuel cell for CG management.

After the boom operator established contact with the receiving A-12, fuel flow was started to the A-12 and the boom intercom system was used to communicate with the flight. Prior to this time there was no radio normally used.

Not long after the Black Shield operation was active, it was noted that some boats seemed to always be in the near vicinity of the refueling track. Further examination by reconnaissance airplanes showed these boats to be Russian Signal Intelligence trawlers. This activity probably led to notification of our intended target countries that the A-12's were coming.



At the end of the in-flight refueling, the A-12 would clear the track and start the acceleration maneuver (whifferdill) and proceed down the track towards the first over flight targets. Upon reaching first level-off altitude and setting up cruise climb, The pilots workload was easier for a while. The initial level off altitude was 75000', with cruise speed set at 3.2 Mach Number. After achieving these conditions the airplane was cruise climbed in mach hold function of the Autopilot. As the A-12 approached the entry to denied territory, some necessary tests of the airplane systems were made. First, the EWS (jammers) must be checked for basic function. This was referred to as a Built in Test (BIT) which did a system logic test. This test was forwarded to the ground Command Post, since it activated the telemetry radio link (Birdwatcher) This served to alert the flight followers where the A-12 was on the mission profile. If the BIT failed at this point, the mission would be aborted by making a turn to clear denied territory. As the A-12 proceeded towards its target, the camera system was turned on at a predetermined distance to go (DTG) to the interest area. The "mute" switch was activated now to prevent any transmissions from the A-12, except the Birdwatcher telemetry system. The actions to be done by the pilot were cued to him on the mission film strip which was displayed on the viewfinder at the top of the instrument panel.

At the end of the first camera run, the camera control would be set to Standby. If the mission called for repeated camera passes, the controls would be reset to operate as required. On the average North Vietnam mission, the first camera pass was completed, and then a leg was flown to the second refueling over Thailand.

The rendezvous with the second tanker was the same as the first top off, except that the A-12 would be approaching from much higher altitude and speed. Once again the tanker could observe the approaching A-12 beacon. Similarly, the rendezvous was done in radio silence. At the end of refueling the A-12 pilot would instruct the tanker pilot to turn to the end refueling heading and the A-12 would depart for the next leg of the mission. These procedures were practiced frequently and worked very well.

All of the North Vietnam missions called for a second refueling that was fairly close to the denied area re-entry point. This situation found the A-12 heavy with fuel at the entry and start of the camera run. Some difficulty with achieving minimum penetration speed and altitude was to be expected. On one mission, I had the misfortune of experiencing a duct unstart upon entering denied territory. It was a busy part of that mission, finally got the duct right as the camera was turned on for the run. This kind of mission is better remembered than the one where everything worked "just right."

After the final camera run(s), the run for home was anticlimactic. Usually the need to increase altitude was diminished so the flight was made as comfortable as possible, maybe the Mach number was reduced a bit and the flight headed for home by a fairly direct route.



The cruise leg for home was usually long enough and without threats, so it was a nice thing to do. A couple hundred miles from the recovery base, the AB's were shut down and the airplane was configured for recovery. By this time on the average over flight mission, the cockpit temperature was starting to get uncomfortable due to lack of cooling heat exchange fuel to the air conditioning systems. But as the airplane slowed in the descent the need for cooling diminished. By the time the airplane went subsonic, it was a nice ride to landing.

All recoveries from Black Shield over flight missions were made to Kadena, with one exception. Frank Murray experienced an airplane problem and he recovered into Takhli Air Base in Thailand after his first leg over North Vietnam. Frank flew the repaired A-12 to Kadena subsonic accompanied by the tankers about a week later.

On the average over flight mission, after landing, the A-12 was positioned back at the starting point, the pilot was met by the Detachment Commander and the recovery crew. The INS data were recorded and the engines were shut down. After deplaning, the pilot was taken to the personal equipment area where he was relieved of his pressure suit, then headed for the mission debrief, where a comprehensive review of the mission happenings was done. Meanwhile the camera film was recovered and the data recorders were read, these to be developed, analyzed and forwarded to the interested parties. On the first Blackshield over flights, the film was downloaded and sent to Kodak in New York for

processing. Later the capability at the Recce Tech Unit at Tachikawa Air Base, Japan was used, which reduced the time required to furnish the latest intelligence to the field units.

At the completion of the debrief, the post mission report was sent to CIA HQ. The National Photographic Interpretation Center (NPIC) did the analysis of the coverage. NPIC published the official reports to the various Agencies. These reports included a summary of targets covered and a Highlight Report of the significant discoveries made on the mission.

#### Significant Events during the Overflight.

Some missions had the added excitement of SAM missile launches against the A-12. Some discussion of what and how the Electronic Warfare System (EWS) operates is warranted in order to better appreciate what the A-12 pilots faced at times.

The EWS was built to provide defense for the A-12 mainly from the Russian developed SA-2 anti-aircraft missile systems deployed throughout the Soviet Union and her sister states, including North Vietnam and North Korea.

The EWS components provided for a minimum display suite, a system power control panel and several receive and transmit devices mainly mounted in the chine boxes.

The system display was limited to a bank of lights situated above the pilot's viewscope at the central top of the instrument panel. These lights were marked DF for direction finding, LI for launch indicators, and a central light that could be illuminated in green or red colors. There were DF and LI lights on both sides of the central light. On activation by a threat radar, the normal sequence of events was to have the DF lights come on signifying tracking by a FanSong ground radar, the control radar for the SA-2 missile system.

DF lightings from one side or the other was indicative of the relative position of the ground radar relative to the A-12's nose. Simultaneous illumination of the DF lights would indicate that the threat radar was more in front of the A-12 flight path. Illumination of the LI light (s) indicated that the ground command system had started transmitting in the high PRF mode of the radar, this normally indicating that the missile(s) were launched. Following this the EWS started recording the command signals to the missile for replay later in the attack. This was retransmitted later to capture the missiles control system and force the missile to "miss" the A-12. In this case the EWS central green light would come on. If the pilot felt that the "auto" system was not taking care of the problem, he could operate the noise jammer by pushing on the "Jam Override" switch on the control stick. This switch was never activated in the history of the A-12.

On one A-12 mission, several SA-2 missiles were launched at the A-12

flown by Dennis Sullivan. He saw these missiles coming up for him, one detonated in front of him and he did get hit by a piece of the missile. This is the only missile contact with an A-12.

Anytime the EWS went active, the Birdwatcher was sending signals to the monitoring stations both at home station and the other CIA radio facilities in the area.

The EWS components had cryptic names. Blue Dog, Pin Peg, Mad Moth, Big Blast etc..... The Agency pilots were not informed much on the details of the EWS for obvious reasons. The pilots practiced the systems enough to understand how to operate the systems in a threat environment, but not exactly how the things worked. The systems worked very well as evidenced by the numerous attempts to down the A-12 with no successful intercepts.

#### Incidents along the way.

Most of the time the A-12 operated like a Lady, BUT At times she could be a Bitch. On one mission, as CIA pilot Jack Layton approached the top-off tanker, the Boomer told Jack that he was missing a lot of wing skin (chine skins). He told Jack that he had better not try going very fast!! Jack aborted the mission and headed for Kadena at lowest practical speed. On his let down to land the air conditioning system was super cooling and he had extreme fog in the cockpit. F-102's out of Naha Air Base scrambled and joined up with Jack to offer assistance on his recovery. The F-102's provided cues to keep Jack get his fogged up, broke A-12 back to Kadena. Good guys from Naha's F-102 Squadron.

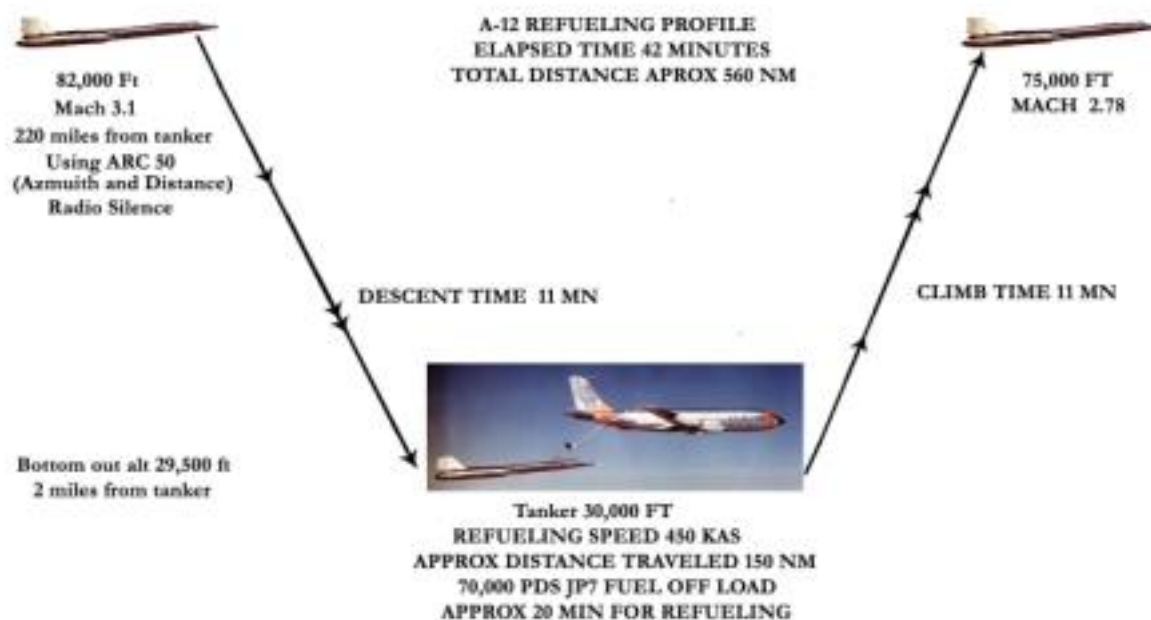
On a functional test flight, Frank Murray had a problem develop on one engine as he approached cruise speed. On the final point in the climb/acceleration, his right engine failed to do the correct shift of the bleed bypass until Mach 3.0. This shift should have happened at 2.5 MN. The rest of the cruise out was normal, but on the deceleration on letdown, the engine failed to come out of bypass, this leading to a compressor stall and engine flameout as the airplane slowed to subsonic. The engine was restarted and the airplane was landed normally. Following this incident, a decision was made to change the engine to correct the problem. The airplane was set up for a functional test flight two days later.

CIA Pilot Jack Weeks, the other duty pilot at the Detachment, was scheduled to fly this test flight. The first part of his flight was normal, he took off, met and refueled the top-off tanker and proceeded on his route to the south of Kadena. Sometime shortly after reaching speed and in the turn back towards Kadena, the Birdwatcher sent signals to the effect that Jack was experiencing overtemp conditions on the engine that was changed. The BW then sent low fuel flow signals and altitude below normal signals. Within seconds there were no more signals from his airplane. The Accident Board concluded that from the information available, the airplane suffered catastrophic destructive failure. A major search of the area did not provide any sign of the airplane or Jack



Weeks. A tragic loss of one of the original OXCART pilots. Jack had been flying A-12's since 1962. He was lost on 5 June 1968.

Then there was the recovery of the A-12's at the shutdown of the Blackshield. Two A-12's remained after the loss of Jack Weeks airplane. One of them was flown home to Area 51 without a hitch. Dennis Sullivan had the pleasure of doing this trip. The last airplane was launched with Ken Collins in the cockpit. He was well on his way when he discovered a fuel leak, this causing him to make an unplanned landing at Wake Island. A recovery crew was dispatched to Wake and the fuel leak was repaired in a few days. Ken's tanker landed with him so he was refueled on the ground and they took off for a low/slow flight to Hawaii.



Frank Murray was the spare pilot, riding along with the tanker. A lovely trip for Frank, since he usually looks at the tanker from a different angle. After Ken landed at Hawaii, he flew home to attend Jack Weeks Memorial Service. Frank stayed on at Hawaii to fly the final A-12 back to the Area.

This was sort of an adventure.....The same problem of a breaking fuel manifold persisted on repeated launches for home. Lockheed finally changed the entire engine accessory box and the airplane flew on home to the Area.

### Final Flight of the Cygnus.

Two days after the last A-12 was landed at the Area, it was sanitized of sensitive equipment and readied for flight into storage at Palmdale, where the other A-12's were stored already. On the early morning of 26 June 1968, Frank flew Article 131 (06937) to Palmdale. The pilots families were present to see the last flight.. At least they got a final glance at one of the finest airplanes to fly for the United States.