Subject: TRIP REPORT OL-8, FEB. 23 - MAR. 16, 1969

Enclosure: Summary - OL-8 Combat Mission Briefing

The purpose of the trip was for general coordination on the OL-8 operation to review activity of ADP and our Vendor Field Representatives. It was also necessary to reregister the four automobiles used to provide transportation for our people.

OL-8 Transportation

All of our cars were reregistered and reinsured for the forthcoming year. In view of some special driving condition problems, I decided it was advisable to upgrade some equipment on three of the cars. This was accomplished by replacing three 1968 cars with new 1969 models. The new cars are equipped with seat belts and improved defroster systems to meet the special driving conditions in that area. One of the 1969 cars, which is intended for use on longer trips, has also been equipped with airconditioning and automatic transmission.

Special Combat Sortie Briefing

I attended a special briefing to review results of combat missions over targets in denied areas. This was a very frank discussion showing routes flown, targets covered and typical results from the various sensors. Details of this briefing are included in the attachment to this report for limited distribution.

Combat Mission Operations

Since many of our people are not familiar with details of a combat mission, it might be well for me to review the highlights of a typical combat mission as they are being flown.

Missions are scheduled 24 hours in advance of takeoff time. This is the minimum time needed to plan a mission because of the detailed timing, coordination with the tankers and action to be taken by other branches of the Military that have to be coordinated with our combat sortie. Two aircraft are always scheduled for a mission, one aircraft is primary and the other is secondary. Takeoff time of the secondary aircraft is scheduled 60 minutes after the primary takeoff. There is a prearranged count down to takeoff time, and all of the preflight servicing procedures are accomplished. For every mission there are 12 KC-135 tanker aircraft involved. It is therefore necessary that takeoffs be accomplished on time because of the tremendous coordination needed between the tankers and other ~~corporating~~ cooperating agencies.

Engines are started 45 minutes prior to takeoff. This is accomplished in the hangar, and the aircraft taxies out under its on power. Taxiing starts 30 minutes prior to takeoff. Takeoffs are always made on time. One minute late on takeoff is considered a bad thing. The back-up aircraft is fully loaded with film and sensors, the same as the primary aircraft. Engines are started at 45 minutes prior to its scheduled takeoff time; and 30 minutes prior to takeoff it starts taxiing to the end of the runway, and preparations are made for takeoff. Five minutes prior to takeoff time a report is reviewed to determine the status of the primary aircraft. If the primary aircraft has completed its first refueling and has had no difficulty, the secondary combat sortie is cancelled. At this time, the secondary aircraft will either taxi back to the hangar or it may takeoff on a CCTM (Combat Crew Training Mission). Normally, if a combat sortie is planned for the following day, the secondary aircraft will not make a CCTM but will be saved for use as the primary mission aircraft for the following day.

Tanker refueling for the 6+ hour long missions involve 5 or 6 refuels from a team of 12 tankers. Following is a brief description of how this operation works:

The first refuel is made at rendezvous No. 1 with two tankers. One tanker acts as a backup in case of malfunction with the first tanker. The aircraft then proceeds with its hot leg over the target and then to rendezvous No. 2 with three tankers. Refueling is then accomplished from two out of the three tankers. Because of the ranges involved, one tanker cannot carry sufficient fuel so it is necessary to take on fuel from two different tankers at rendezvous No. 2.

The third tanker acts as a backup. The aircraft then makes its second hot run over the target area. It proceeds to rendezvous No. 3 with three more tankers where it refuels from two of these three. It then makes its third hot leg over the target area and descends to rendezvous No. 4 with two tankers and its sixth refueling contact. The aircraft then makes another lower speed hot leg return to the base. Two additional alert tankers are held on the ground at convenient takeoff points for use as spares in the event of an abort on any of the ten primary tankers.

During the mission, no word is heard from the aircraft due to radio silence; and as the scheduled time for the aircraft to land draws near, there is a great deal of tension built up in all of the personnel involved with taking care of the airplane. Nobody says anything, but you really become aware of the great apprehension. Sometimes when an aircraft is 15 to 30 minutes late in returning from a mission, the ground crew and our FSR's become very tense until finally a radio call is received.

Approximately 15 minutes prior to landing the aircraft will call in by radio and report the status of the aircraft. "Code 1" indicates the aircraft has no major problems. "Code 2" indicates a malfunction which is going to require attention. When the aircraft lands, the entire ground crew is on the ramp waiting for it, and the aircraft taxies directly into the hangar where the engines are shut down.

At engine shutdown, a crew of 20 men swarm all over the aircraft. A casual observer might think it's a confused situation, however, everything is proceeding exactly to a prearranged plan, and every man involved knows exactly what his job is. In a countdown from engine shutdown, the MRS tapes are removed in one minute and are rushed to the MDRDE room for processing. In two minutes, the camera windows are removed and placed in their special containers. The SLR film recorder is removed in five minutes. The OOC is removed in five minutes. The Terrain Cameras are out in eight minutes, and the TEOC cameras are out in ten minutes. As each sensor is removed, the camera is covered, and two men rush each camera into their respective shop at a high speed trot. In the camera shop, the film is removed and is turned over to a courier who loads it onto a C-130 aircraft for a flight to Yakoda AFB, Japan where the film is processed. At Yakoda twelve sets of prints are made and distributed. The original film is then sent to Beale AFB where additional copies are prepared for further distribution. The SLR film is processed only at Beale.

Activity of our SFR's is not too bad as long as there are not airplane problems, however, it is necessary for our people to be available at the aircraft prior to the launch so that if any last minute problem occur, it can be dealt with swiftly. It is also necessary for them to attend the debriefing following all missions, and to remain long enough to resolve any problems which might turn up. On days where combat sorties are run, it makes a long day for our people. On occasions where problems occur, it has been necessary for our people to work rather long hours to make sure that an aircraft will be available for a sortie the following day. This has, on occasion, involved working all night.

General Facilities

Since my last trip to OL-8, our operation has moved from the three hangars next to the runway to the "T" hangar which was originally used by one of our other programs. This facility is far enough away from engine run ups and takeoffs to avoid the terrible noise problem which we had in the other hangar. Also, facilities are much improved both for office space and for shop facilities. The latrine in the new facility is a monument to Dorsey Kammerer's planning capability. It is a forty unit capability, and the size of this facility is larger than the shop area which we had at the previous hangar.

Recently, there was a B-52 accident which occurred about 4 a.m. in the morning. The bomber aborted a takeoff, and one of the bombs on board exploded. Some damage occurred to the "T" hangar as a result. The concrete beams were cracked near their supporting columns, and all of the roof panels in our office were blown out by the concussion.

Laird Visit

Our new DOD secretary, Melvin Laird, stopped at OL-8 on March 6 on his way to Viet Nam. He was scheduled to make a tour through the SR-71 facility during this stop, however, his airplane arrived four hours late, and his visit was cancelled.

OL-8 Maintenance Personnel

At the present time, the maintenance shops have the following number of people assigned at OL-8:

AEMS	67
FMS	69
OMS	47
Total	183

On the basis of a 50 percent utilization factor, I would estimate that we are expending approximately 15,000 manhours per month on maintenance and flight preparation activity. It is impossible to make an accurate estimate of this because detailed time keeping records are not maintained at this facility because of its combat status.

Weather

The weather at OL-8 is just about the worst you can imagine for flight operations. Humidity is running 85 to 95 percent with rain and low clouds every day. Occasionally there are high winds also. On one occasion, we had winds gusting between 20 and 45 knots, blowing 90° to the two parallel runways. On one occasion, we had to divert an aircraft returning from a combat sortie to Naha where they have a choice of two runways set 90° to each other. It is not incommon for us to launch a combat sortie in heavy rain and to recover the aircraft under the same conditions.

Runway Conditions

The rough runway condition which I reported on my trip one year ago is still not corrected on the south runway which has the barriers installed.

Our normal procedure is to takeoff on the main runway which is smooth and to make the landing on the other runway, and to stop the aircraft before it hits the rough area. On this occasion just prior to our scheduled takeoff, a B-52 landed on the main runway with a loose bomb lying on the bomb bay doors. This resulted in closing of the main runway temporarely, and it was necessary for us to takeoff on the rough runway. The aircraft had accelerated to rotation speed when it hit the rough area. The bump was so hard that it caused everything in the cockpit to fly around, and the pilot, Lt./Col. Buddy Brown, would have aborted the takeoff except it was too late to do so at that point, so he continued his takeoff. The force of the bump caused both liquid oxygen systems to lose pressure for a short time. The pilot believed that the force of the bump was responsible for the loss of oxygen pressure because shortly afterward the pressure was regained, and no further oxygen trouble was encountered during the mission. Perhaps we should investigate the effect of severe turbulance on the liquid oxygen dewers.

On another occasion following the return of a combat sortie, the wind had blown water onto the floor of the hangar making it slippery. After the aircraft taxied onto the hangar and applied brakes, all six wheels locked up and skidded for approximately five feet with the aircraft moving very slowly.

Fuel Leak Fire Hazard

All three of the aircraft are leaking badly due, I believe, to a combination of the rough runway plus a lot of flight time at maximum mach number. As a result, there is considerable fuel leakage, most of which is caught in drip pans. I believe that the low vapor pressure of our fuel, which makes it relatively safe from accidental ignition, has lulled some of the maintenance people into a false sense of security. There have been occasions where I observed engine runs being made in the hangar with considerable amounts of fuel in drip pans under aircraft. Also, I observed occasions were electrical cords and drop lights without adequate covers being dragged through liquid fuel under the aircraft. I believe that an electrical short circuit or a broken light could start a fire, and once started would be extremely difficult to extinguish without loss of an aircraft and probably the hangar. I will ask Clint Street to add some additional cautionary notes to require more care in regard to fuel hazards.

Towbar Failure

During the recovery operation at Naha, we had a towbar failure just after the towing operation had been completed. This could have been serious if the failure occurred earlier. It could have allowed the aircraft to run down a slope with probably serious damage. The failure was due to separation of a weld at the ring end of the towbar. A tube was butt welded to a flat disc and the weld failed in pure tension. The weld was of poor quality with the effective weld area being only 1/16" wide on a diameter of 1.6". An investigation showed that the part was not made according to print. We should make an investigation to make sure that all the towbars are properly constructed. X-ray examination will probably be necessary to determine this because the location of the weld cannot be determined from external examination.

Mitsubishi Visit

My return trip was routed through Japan so I had an opportunity to visit the Mitsubishi Aircraft Works where the F-104 production contract is just being completed. Mr. Hikita, who was formerly chief engineer and my direct counterpart during the F-104 program, has been promoted to General Manager of the aircraft works.

The aircraft factory in Nagoya is being expanded and many new projects are being untaken. They are currently working on both Hawk and Nike missiles as well as several new type aircraft.

They have a new twin engine trainer called the XT-2 which will fly in 1971 similar to the T-38. It is powered by two Rolls Royce engines which Mitsubishi will manufacture under license. It has a capability of Mach 1.6.

They also have a new cargo airplane called the XC-1 which has a configuration similar to a mini C-141. It has two JT8B engines and grosses 56,000 lbs. The Mockup has been completed, and it is expected to fly in 1970.

The YS-11 passenger aircraft is having a good production run with airplane No. 130 presently in the jigs. Contracts for F4E production in Japan are under final negotiation, and they expect to build 104 units. The program is expected to last for seven years with the first airplane flying in 1971. There will be 56 Mac Donald/Douglass people in Nagoya to assist them in getting production started similar to our program on the F-104. Mr. Hikita said that the F4E is very expensive, and the unit cost is four times an F-104 cost. You will recall that the Japanese F-104's cost 50 percent more than Burbank produced F-104's, so the F4E must be awful expensive.

The MU-2 executive transport has under gone several model revisions, and a new stretch version called MU-2R has just started its flight test program. Mooney aircraft was the agent for selling, servicing and final assembly of the MU-2 aircraft in the U.S.; however, Mr. Hikita says that they are in financial trouble so Mitsubishi is looking for a new agent to handle the MU-2 in the U.S. They would like Lockheed to accept this responsibility, however, five years ago we had an opportunity to take on this MU-2 assignment, and we rejected it at that time. I assume our feelings are still the same.

Mr. Hikita had a lot of interest in high-performance aircraft such as the SR-71. He had a lot of questions which I was unable to answer because of security restrictions. I believe that Mitsubishi would be interested in obtaining a few SR-71 type air frames less equipment to promote future research and advaned aircraft programs. Again, because of security restrictions, we did not have any direct discussions on this subject. If Japan could get approval to buy SR-71 type vehicles, I feel that they would be willing to cut short the F4E program.