

UNITED STATES PACIFIC FLEET
AIR FORCE
CARRIER AIR GROUP FOUR

CVG-4/EHR:gd
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From: Commander Carrier Air Group FOUR
To: Commanding Officer, U.S.S. LAKE CHAMPLAIN (CVA-39)

Subj: Action Report of Carrier Air Group FOUR for period 11 July 1953 to 27 July 1953 and Action Report of VC-4 Detachment 44N for period 19 June 1953 to 27 July 1953; submission of

Ref: (a) OPNAV INSTRUCTION 3480.4

Encl: (1) CVG-4 Action Report for period 11 July 1953 to 27 July 1953
(2) Addendum I - Action Report of VC-4 Detachment 44N for period of 19 June to 27 July 1953

1. In accordance with reference (a), enclosures (1) and (2) have been compiled and are forwarded for inclusion in the Action Report of the U.S.S. LAKE CHAMPLAIN (CVA-39).

2. Information, comments, and recommendations are presented under the headings indicated below:

I	MISSION
II	COMPOSITION OF FORCES
III	CHRONOLOGY
IV	OPERATIONS
V	MAINTENANCE
VI	MATERIEL
VII	ELECTRONICS
VIII	INTELLIGENCE
IX	ORDNANCE
X	BATTLE DAMAGE

J. R. Sweeney
J. R. SWEENEY

ENCLOSURE (1)

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PART I - MISSION

The mission of Carrier Air Group FOUR during this period has been, as directed by Commander Task Force SEVENTY SEVEN, the destruction of supply routes and the military traffic traveling on them in the Eastern section of North Korea with a simultaneous program of close and deep air support of United Nations troops. Support and defensive air operations have been conducted in conjunction with the offensive missions.

PART II - COMPOSITION OF FORCES

TYPE	ALLOW & TYPE A/C	OPER A/C		PILOTS	
		7/11	7/29	7/11	7/29
ComCVG-4 CDR J.R. SWEENEY, USN	0	0	0	5*	5
VF-111 CDR A.E. VICKERY, USN	16 F9F-5	16	15	23	22**
VF-62 LCDR W.W. KELLY, USN	14 F2H-2	14	13	23	23
VA-45 LCDR R.H. MILLS, USN	16 AD-4B	16	15	23	23
VF-22 LCDR M.J. WOOLEY, USN	14 F2H-2	14	11	20	18
VC-12 Det. 44 LCDR D.Q. JORALMON, USN	3 AD-4W	3	3	5	5
VC-62 Det. 44 LT E.D. KIMBLE, USN	3 F2H-2P	3	3	5	5
VC-33 Det. 44 LT A.F. KEOWN, JR., USN	4 AD-4N	4	4	6	6
# VC-4 Det. 44N LT G.G. O'ROURKE, USN					

* ComCVG-4 flies tactically in aircraft of VF-62 and VA-45.
ComCVG-4 Operations Officer (LCDR ALLEN) in aircraft with VF-22.
L.S.O.'s are assigned to squadrons for flying.

** CDR VICKERY is on detached duty.

VC-4 Detachment 44 NAN based at K-6 under operational control of CTF-91,
administrative control retained by ComCVG-4, in accordance CTF-77 directive.

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PART III CHRONOLOGY

- 11 July 1953 - Departed NOB Yokosuka. During the day ninety two (92) training sorties were flown for a total of one hundred thirty five (135) hours.
- 12 July 1953 - Conducted group tactics and training enroute to Korean Theatre of operations. Thirty six (36) sorties were flown.
- 13 July 1953 - No sorties were made due to speed of advance necessitated in order to effect rendezvous with Task Force SEVENTY SEVEN on schedule.
- 14 July 1953 - Air Group FOUR commenced combat flight operations on their second tour by flying 128 sorties during the day. Inclement weather forced both close and deep support missions to make radar controlled attacks.
- 15 July 1953 - Inclement weather at the Force, limited flight operations to 23 sorties. Those flights that were made, concentrated on close and deep support of hard pressed United Nations ground forces along the East Central front. The TAC controlling one of the Cherokee missions reported that their drop on an ammo dump, which resulted in 5 secondary explosions, "the best run in weeks."
- 16 July 1953 - The AD's concentrated on the East Central front in close support missions. Seven secondary explosions resulted from ordnance that had been hidden under bridges. The jets gave their efforts toward the destruction of bridges of the enemy in the Cherokee area. Seventy five (75) tons of ordnance were expended on 92 sorties flown
- 17 July 1953 - The props and jets continued their interdiction program by striking rail and highway bridges and the rolling stock of the enemy from the bomblines to the limits of the Cherokee area. One hundred nine (109) sorties delivered 76 tons of ordnance onto North Korean targets.
- 18 July 1953 - Inclement weather halted all flying after 10 sorties. Nine (9) tons of ordnance were dropped.
- 19 July 1953 - Close Air Support and interdiction of supply routes constituted mission of aircraft. Twenty-nine (29) tons of ordnance were expended on the enemy while flying 82 sorties.
- 20 July 1953 - The force was again hampered by fog and planes of Air Group FOUR were limited in their flight operations. However 20 tons of ordnance were dropped by the 29 sorties flown.

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PART III - CHRONOLOGY (Cont'd)

- 21 July 1953 - Inclement weather cancelled all flight operations.
- 22 July 1953 - Fog and low clouds over the bomblines forced the props to use radar bombing on their close support work. The jets flying RECCO missions along the supply routes of central and northern Korea were able to find better weather. The jets hammered their rockets and bombs into the trucks and box cars of the enemy who was trying to bolster the front line troops. On one of these missions the plane flown by LT Harold JOINES of Fighter Squadron SIXTY TWO was hit by flak. A resulting fire forced him to abandon his Banshee. LT JOINES landed in the water just off the Eastern coast of Korea and was rescued uninjured by helicopter.
- 23 July 1953 - A record number of sorties were flown by TF-77 aircraft in order to keep the enemy from augmenting his positions on the front and to prevent a buildup of his forces and supplies. CVG-4 accounted for one hundred and fifty seven (157) sorties against the enemy in the C.A.S. and Cherokee areas. In addition to troop positions and supplies being attacked, 24 box cars and 15 trucks were destroyed. During one of the catapult launches, ENS H.K. WALLACE, 551862/1325, USNR, of VF-22, was lost when his F2H-2 aircraft lost the port tip tank upon being fired. The aircraft careened down the deck and proceeded to rotate after reaching the end of the deck such that it immediately entered the water upside down. It sank in about 7 seconds, and though an extensive search was made, ENS WALLACE did not get out of the aircraft. A board of investigation of which LCDR W.B. ALLEN, USN, CVG-4, is senior member has been convened to investigate the accident.
- 24 July 1953 - A record number of sorties were again flown in Task Force SEVENTY SEVEN's interdiction program against the enemy. The planes of Air Group FOUR flew 149 sorties and dropped 104 tons of ordnance. The jets struck enemy supply routes and storage buildings, while the props concentrated on ammo dumps and mortar positions. Among other damage, 43 supply buildings were destroyed and 11 badly damaged.
- 25 July 1953 - The strikes against the enemy, which again was a record high, were being felt by him as shown by the increased amount of flak he was putting into the air. Several planes were damaged, but it did not prevent the completion of their attacks on the supply lines of the enemy. The jets again attacked rail and highway bridges and the props continued to conduct close support. One hundred five (105) tons of ordnance were dropped by 148 sorties.

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- 26 July 1953 - A new phase of operations was displayed in that the jets went far to the north to strike the air fields in North Korea. Hoeryong Air Field received at least 63 craters. The props, unable to conduct close support because of inclement weather struck targets in the Wonsan area. After an attack, the Banshee flown by ENS Edwin C. BROYLES, 551849/1325, USNR, of Fighter Squadron TWENTY TWO, failed to rendezvous. A large explosion on the ground occurred at about the time he should have effected rendezvous. ENS BROYLES' aircraft was last seen in a 40 degree dive at about 6000'. No pilot ejection noted. An extensive search of the area conducted with negative results. He has been declared "missing in action". During a deck launch, the engine of the Skyraider flown by LTJG L.E. BRUMBACH cut out. A successful water landing was made by the pilot and he was quickly rescued by helicopter.
- 27 July 1953 - In conjunction with the signing of a truce between the forces of the United Nations and the North Koreans, a leaflet drop was conducted on major cities along the east coast of Korea. Simultaneously strikes were made to render all airfields in North Korea non-operational at the time of the signing of the truce. Close Air support missions were carried out by the Props up until the truce was signed. One hundred twenty four (124) sorties dropped 61 tons of ordnance.

PART IV - OPERATIONS

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A. GENERAL

1. No training was conducted by Air Group FOUR between its first and second tour on the line.

2. While in port at Yokosuka, Japan, VF-111, commanded by Commander A. F. VICKERY, USN, reported aboard with sixteen F9F-5's to replace VF-44 (Lieutenant Commander W.D. HOUSER) which was transferred to the U.S.S. BOXER (CVA-21). VF-111 was a seasoned, experienced unit, having completed prior to reporting, forty-six (46) days of "on the line" operations. The reason for the exchange was to enable the F9F-5's to take advantage of the H-8 type catapult characteristics.

3. By the time VF-111 commenced its second combat tour, a period of twenty-two (22) days had transpired since the completion of the first tour. Although the squadron performed outstandingly well on its second tour, it is considered that a lay-off of more than fifteen (15) days is excessive in modern carrier-type aircraft.

4. The second tour on the line brought out one important operational aspect which is as follows:

The situation in Korea, particularly the Communist offensive on the front lines, necessitated Task Force SEVENTY SEVEN operations under fog and visibility conditions which were very marginal. Carrier pilots must be prepared to make carrier flights under such conditions when the tactical situation requires it, as it did on this tour.

5. This Air Group has tried both the ATP-1 rendezvous for jets (10000 to 15000) and the standard low altitude rendezvous for jets. Whenever the aircraft in a jet flight are eight (8) or less, the low altitude rendezvous is far superior in that it permits a quicker rendezvous and subsequent quicker departure for the target. During this tour with three jet squadrons deployed, two jet squadrons rendezvoused low, and one high. This worked satisfactorily.

6. For the first time, with three jet squadrons deployed, this Air Group directed that all jets, irregardless of type, rendezvous at 15000' in the proper sector upon return to the force. This worked without any difficulty. Obviously, in view of its limited fuel endurance, the F9F-5 was landed first in almost every case.

7. The importance of having Landing Signal Officers qualified (L.S.O. wise) in all carrier types paid off when F9F-5's were assigned. The U.S.S. BOXER (CVA-21) assigned one L.S.O. to aid in refreshing CVG-4 L.S.O.'s and after one week both he and the Commanding Officer of VF-111 were satisfied with CVG-4 L.S.O. techniques.

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A. GENERAL

8. As a result of an intensified program of training three CVG-4 L.S.O.'s were completely qualified (L.S.O. wise) in type aircraft assigned prior to deployment. This permitted the L.S.O.'s to be assigned to squadrons for tactical flying and their morale was outstanding.

9. Pilots of aircraft and ship CIC and control personnel must become more cognizant with the fuel burn-rate of jet aircraft without resorting to computers or guess-work. There were occasions during this combat tour when fuel emergencies existed and ship personnel didn't realize it, and occasions when jet pilots would cry "wolf" too soon. To clarify, the following facts must be known to all concerned:

- a. Fuel Burn Rate of F9F-5 at 10000' for 10 minutes at 82% power. (about 400#).
- b. Fuel Burn Rate of F2H-2 at 10000' at 85% (both engines) power for ten minutes. (about 600#).
- c. Fuel Burn Rate of F2H-2 at 10000' at 92% (single engine) power for ten minutes. (about 400#).

B. SPECIFIC OPERATIONAL COMMENTS RELATIVE TO TYPE AIRCRAFT DEPLOYED

1. AD-4B

a. The AD-4B was employed for a three hour mission, normal loading being 4000# of bombs and full internal fuel.

b. Only in rare cases was it found necessary to use dive brakes in the missions assigned. All Close Air Support missions were begun at an altitude of about 12,000' and dive brakes were not employed.

c. Several MPQ (ground radar-controlled, horizontal bombing attacks) were made at altitudes up to 18,000' with no difficulty.

d. The amount of survival and personal gear that a pilot must wear in combat is so great that, in the opinion of this command, parachuting from this aircraft would be difficult and dangerous. It is considered that an ejection seat installation on all carrier propeller type aircraft would eliminate the hazards of a pilot getting clear of the aircraft.

2. AD-4W

a. Aircraft were utilized for ASP hunters, with the escort (gator) being an AD-4B or AD-4N. Normal operations.

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PART IV - OPERATIONS (Cont'd)

B. SPECIFIC OPERATIONAL COMMENTS RELATIVE TO TYPE AIRCRAFT DEPLOYED

3. AD-4N

a. Aircraft were utilized for day E.C.M., Gator, day hecklers, coastal RECCO, and ferry missions.

b. There were no night flights during this period, and as a result the night proficiency of the night AD detachment is at a marginal level of safety acceptability. It is recommended that the pilots of the night AD detachment receive dusk CV refresher bounce prior to next scheduled night operations.

4. F9F-5

a. The H-8 catapult of the 27A conversion class CVA permitted a normal ordnance loading of eight 250# bombs or equivalent without difficulty.

b. However by increasing the ordnance loading over that formerly carried (about 1200# total), the radius of action and combat endurance figures were lowered considerably. Specifically, the F9F-5 in its interceptor configuration has a radius of action of about 300 nautical miles. In its fighter-bomber configuration, this radius of action is reduced to about 200 nautical miles with twelve minutes allowed for target identification and attack.

c. The F9F-5 with tip tanks carries 5800# of fuel (1400# total in tip tanks). However, its fuel burn-rate is sizeably larger than that of the F9F-2 due to the newer type engine installed. The one hour and a half flight was that normally scheduled during this period with external ordnance of 2000# carried on two MK-51 racks and six Aero 14A Launchers. This utilization resulted in an excessive number of low-fuel emergencies whenever the recovery time was late or when improper cruise control procedures were used. Specifically, with such a utilization there is an insufficient margin of safety. In order to attain an improved operating characteristic it is recommended that the two inboard MK-51 racks be removed. This will decrease fuel consumption, increase speed, and increase the service ceiling. Ordnance loadings can be compensated by carrying 500# on the two inboard MK-14A Launchers vice 250#.

d. It was noted that the F9F-5 service ceiling is considerably less than that of the F2H-2. Accordingly, where the two types of aircraft are employed at the same time on CAP and interceptor work, the F2H-2 should be the higher and the F9F-5 should be the lower.

3. The design of the F9F-5 provides for fueling its tip tanks with the wings folded. Insofar as carrier operations are concerned, such a design is preferable to that condition in the F2H-2 which precludes fueling until the wings are spread.

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PART IV - OPERATIONS (Cont'd)

B. SPECIFIC OPERATIONAL COMMENTS RELATIVE TO TYPE AIRCRAFT DEPLOYED

5. F2H-2

a. As indicated in the U.S.S. LAKE CHAMPLAIN (CVA-39) Action Report for 11 June 1953 to 29 June 1953, (Part V, para. A1, of enclosure 1), the necessity for having wings spread in order to fuel tip tanks is undesirable for the fast flight deck operations required during combat.

b. The present F2H-2 tip tank transfer system is unsatisfactory in that fuel transfer is unreliable with the result that an excessive number of tip tanks had to be jettisoned. F2H-2 tip tanks are in very short supply in WesPac, and if an interim measure of sending aircraft with a faulty transfer of tip tanks to emergency fields had not been adopted the shortage of tanks would have curtailed proper utilization of the aircraft. It is recommended that tip tanks on jet aircraft be of the design wherein if the transfer fails the fuel in the tip tanks can be jettisoned under positive control of the pilot.

c. One tip tank broke loose when the aircraft was catapulted. As a result the pilot was lost when the plane spiraled directly into the water. A Board of Investigation of which Lieutenant Commander W. B. ALLEN, CVG-4, is senior member is investigating the accident. A preliminary investigation indicates the after tip tank holding pin broke.

d. The F2H-2 has an excellent tail hook installation but the necessity for raising it manually whenever the pneumatic pressure is too low caused numerous "getting-out-of-the-gear" difficulties. (Part IX, para. A, of enclosure 1 to U.S.S. LAKE CHAMPLAIN (CVA-39) Action Report for period 11 June 1953 through 29 June 1953 refers). BuAer has under study a service change (proposed BuAer Service Change F2H-2 #252) which provides an additional airbottle so that separation of the arresting hook from the gun charging system is possible. It is strongly recommended that such a service change be issued as soon as practicable for whenever there is insufficient air pressure to raise the tail hook, it must be raised and secured manually. The unsafe gun condition in the same system has been reported in the previous Action Report.

e. In spite of the foregoing comments, the F2H-2 has definitely proven itself to be a good fighter-bomber even though it was primarily designed as a high altitude interceptor. It is an excellent carrier jet aircraft, and its dual-engine installation possesses definite advantages for modern day carrier operations. Its range and speed definitely are superior to those of the F9F-5. It was the only carrier-based aircraft in the area which could carry a full bomb-load (4 - 250# and 4 - 100#; total 1400#) to targets on the upper reaches of the Yalu, remain on target about 22 minutes, and return to the task force in 90 minutes. (task force in normal operating area).

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PART IV - OPERATIONS (Cont'd)

B. SPECIFIC OPERATIONAL COMMENTS RELATIVE TO TYPE AIRCRAFT DEPLOYED

6. F2H-2P

a. Same comments in general as for F2H-2 above except that the newer 125 series aircraft assigned were easier to maintain than the overhauled 123 series.

b. The installation of the Photo Image Compensator to permit low-altitude photographs at high speeds is pending. It should remedy one of the major weaknesses of photo aircraft.

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PART IV - OPERATIONS (Cont'd)

FLIGHT SUMMARY BY SORTIES

	<u>F2H-2</u>	<u>F9F-5</u>	<u>AD-4B</u>	<u>AD-4N</u>	<u>AD-4W</u>	<u>F2H-2P</u>	<u>TOTAL</u>
STRIKE			49	14			63
ASP (DAY)					24		24
GATOR (DAY)				12	9		21
PHOTO						43	43
PHOTO ESCORT	57						57
CAP	54	58					112
CAS			54				54
ECM				7			7
AEW					2		2
CHEROKEE	167	116					283
RECCO	268	134	92				494
TRAINING	20	16	37	6	5		84
MISC.				24	2		26
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TOTALS	566	324	232	63	42	43	1270

Total number sorties flown	1270
Total number sorties scheduled	2180
Total number sorties lost to weather	765
Total number of sorties aborted	23
Total number sorties lost due to availability	115
Total number of hours	2549.5
Days of operation	19
Average number of hours per operating day	134.2

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PART V - MAINTENANCE

A. JET

(1) F9F-5 Aircraft

a. Availability of aircraft was in general excellent. Much of this was due to the around-the-clock maintenance program in effect.

b. Maintenance was hampered to some extent by lack of F9F-5 parts and spares aboard. Even though the Supply Department of the U.S.S. LAKE CHAMPLAIN (CVA-39) exerted every effort possible, the lack of certain parts due to non-availability held up maintenance to a degree.

c. Due to lack of familiarity with the aircraft, ten (10) aircraft handling accidents occurred on F9F-5's during the reporting period. This is considered excessive although it is admitted that the tempo of operations was very fast. These accidents coupled with the critical spare parts situation did not enhance aircraft availability.

d. The aircraft of VF-111 had not been operated to any extent for twenty-two (22) days prior to the commencement of this second combat tour. As a result, minor deficiencies in the electrical and mechanical systems were excessive the first two days on the line. The adage that aircraft must be flown regularly to improve operating characteristics and lessen minor maintenance squawks is more apropos than ever insofar as jet aircraft are concerned.

e. The turn-up of F9F-5's on the hangar deck for test was used whenever the deck spot precluded the aircraft being moved to the flight deck. Full use of the open area about #2 (deck edge) elevator was made and with adequate safety precautions in effect no difficulty was experienced. In such cases the tail of aircraft would be pointed outboard in the open area.

(2) F2H-2 Aircraft

a. The failure of the tip tanks to transfer fuel with certainty, has already been discussed under the operations section of this report. F2H-2 maintenance load was increased unnecessarily whenever the tanks failed to transfer for the aircraft was a "down" until it could be assured the tip tanks would transfer. Kenyon valve failures were so excessive and short in supply that defective valves were overhauled by squadrons and reinstalled.

b. An excessively high usage of fuel controls due to sticking of closely meshed parts led to an investigation which disclosed rust particles and water in the filters. In every case the aircraft involved had landed ashore at one of the emergency fields which would indicate the fuel obtained there was contaminated to some extent. It was necessary to instigate a very thorough inspection of the fuel filters so that this problem could be controlled. Aircraft squadrons operating ashore in advanced areas must take all

PART V - MAINTENANCE (Cont'd)

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A. JET

(2) F2H-2 Aircraft (Cont'd)

possible precautions (use of chamois skins, etc) whenever contamination of fuel is suspected. By proper safety measures, the adverse effect on aircraft availability was reduced.

e. An incident occurred wherein an F2H-2 aircraft was spotted on the catapult with engines turning up and pilot giving "salute" to catapult officer. At this point one of the engines started spouting flames. By prompt action the aircraft was not launched. An investigation revealed that a catapult hold-back ring had passed through the engine, necessitating an engine change. This is the second engine change due to this cause (see U.S.S. LAKE CHAMPLAIN Action Report, period 11 June 1953 to 29 June 1953, enclosure 1, Part V A2). Pending the receipt of a better designed hold-back ring, the use of boots on the catapult hold-back fittings is considered necessary and has been instituted. In this connection, jet carrier operations demand that the flight deck be free of small debris, rags, white hats, and newspapers as these items passing into the ducts can be disastrous. In addition, the periodic cleaning of the flight deck waterways cannot be too strongly stressed.

d. A great deal of trouble was encountered due to the failure of aileron boost motors. It is thought that this trouble stems from the continual use and over-heating of the motors. The service life of these motors is set at 3 minutes of work and 15 minutes of non-use for cooling. This cycle has necessarily been exceeded in combat. It has been noted that the aileron boost fluid on aircraft landing aboard has been approaching the boiling point. It is recommended that the boost motors be redesigned so as to be more rugged and reliable under combat conditions.

e. As has been indicated previously in this report, one F2H-2 was lost off the catapult due to the unstable flight characteristics set up upon the loss of a tip tank. The pilot of the aircraft was lost. A Board of Investigation is reviewing the accident, but a preliminary review indicates a tip tank attachment pin failed. The unsatisfactory tip tank attachment had been reported by this command at least a month prior to the accident, but the lateness of receipt of the fix prevented its incorporation. (F2H-2 ASC #228).

f. An abnormal number of micro switch failures occurred. Although these switches are supposed to be waterproof, all the trouble with them has been attributed to corrosion within the switch. These switches are exposed to weather continuously and consequently an investigation of the cause of the failure should be instigated. Squadron facilities prevent a proper evaluation of the cause of the failures.

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PART V - MAINTENANCE (Cont'd)

(2) F2H-2 Aircraft (Cont'd)

g. Three oil tank failures occurred on aircraft during this tour. The failures consisted of one pin point hole and two leaks in the weld. VF-22 RUDM #26-53 covers this item.

h. F2H-2 availability was generally excellent. However, the maintenance procedures of the Two F2H-2 squadrons are under observation because of the variance which existed.

B. PROPS

(1) Availability was outstanding due in large part to the all-out effort of maintenance personnel.

(2) No unusual problems were encountered during the period of this report.

C. GENERAL

(1) A high degree of cooperation existed on the part of the Air Department V-2 division personnel throughout this reporting period.

PART VI - MATERIEL

A. GENERAL

The logistic support furnished by the Supply Department of the U.S.S. LAKE CHAMPLAIN (CVA-39) was excellent. Prompt action in obtaining ACOG material from other ships in the Task Force, particularly as regards the F9F-5, enabled aircraft availability to be high.

B. SPECIFIC

(1) F9F-5 Aircraft

a. Support excellent.

b. Seventeen ACOG stub requisitions existed during this period. This was due to the fact that a complete F9F-5 section B allowance was not possible prior to deployment due to overall fleet shortages. Prompt supply action and cannibalization of downed aircraft alleviated the problem greatly.

c. In general the following items were in short supply:

- (1) elevator control surfaces
 - (2) stabilizers
 - (3) aileron boost "off-on" valves
 - (4) low pressure fuel filters
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PART VI - MATERIEL (Cont'd)

(1) F9F-5 Aircraft (Cont'd)

- (5) wing flaps
- (6) fuel control unit
- (7) G-2 compasses

(2) F2H-2 Aircraft

- a. Support excellent.
- b. Items in short supply were:

- (1) gun chargers
- (2) fuel controls
- (3) tip tanks
- (4) aileron boost motors
- (5) box adjustment fuel

Note - The excessive use of tip tanks, fuel controls, and aileron boost motors has been discussed previously.

c. The disadvantages of deploying with a type aircraft foreign to the theatre of operations were obvious.

(3) AD-4B Aircraft

- a. Support excellent.
- b. Items in short supply were:

- (1) ARC-1 radio control box
- (2) throttle switch assembly
- (3) right angle adaptor
- (4) 30" bomb ejector

C. SURVIVAL EQUIPMENT

(1) Some complaints were received that the 38 caliber revolver issued to pilots was too heavy. It is recommended that consideration be given to the issuance of a lighter pistol.

(2) Three cases of difficulty with oxygen masks were noted. The trouble was that the exhalation valves became clogged too easily by dirt, dust, and perspiration. It is recommended that adequate drainage of perspiration be investigated as it is a problem.

(3) Several of the oxygen masks are reaching the point of being marginal in acceptability due to useage, etc. This is a fleet controlled item which is in short supply and a periodic check of equipment by qualified personnel, with replacement if necessary, is in order.

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C. SURVIVAL EQUIPMENT (Cont'd)

(4) Pilots for the main part were dissatisfied with the present combat flight uniform which consists of G-suit, coverall, survival vest, and Mae West. It is felt that a one-piece survival suit is desirable. The average time to "suit up" is now about seven minutes.

(5) It is becoming obvious that survival is a specialized field. Fast carrier task force operations only aggravate its importance. It is felt that the entire survival problem should be reviewed with the idea of stream-lining it to modern day warfare. (see U.S.S. LAKE CHAMPLAIN Action Report for period 11 June to 29 June 1953, Part VI B, of enclosure 1).

(6) AN/PRC-17 survival radios were obtained and installed in pararafts. It is considered that these radios are an interim answer only in that they are too large and too heavy. It is recommended that the cognizant technical Bureau initiate research towards the development of a much smaller and much lighter survival radio. All pilots want a survival radio, but the AN/PRC-17 is definitely not the answer.

(7) On 22 July 1953, Lieutenant H. JOINES, USNR of VF-62 had to eject from his burning F2H-2 over water after being hit by flak over North Korea. Pertinent comment on his ejection and resultant helicopter rescue follows:

- a. Due to instability of aircraft, he attempted to jettison the canopy by pulling up one of the two pre-ejection levers with his unused arm.
- b. Such attempt failed since the aircraft had the old style pre-ejection levers which necessitate that both be pulled up to jettison the canopy.
- c. Canopy was jettisoned by using emergency canopy release.
- d. Seat belt connection was then broken intentionally so as to aid in leaving the seat upon ejection.
- e. Face curtain and seat ejection worked properly. Pilot separated from seat at height of travel.
- f. Difficulty was experienced in locating rip cord.
- g. Parachute blossomed properly.
- h. Difficulty was experienced in sitting back in chute, pilot feels this was due to his leg straps being too tight.
- i. Pilot hit water feet first, parachute leg straps still on but his hand on one of buckles.

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PART VI - MATERIEL (Cont'd)

C. SURVIVAL EQUIPMENT (Cont'd)

- j. Parachute disattached and life raft inflated.
- k. Pilot in raft; helicopter rescue in 12 minutes.
- l. No injuries to pilot.
- m. Pilot comment - "Dilbert Dunker paid off".
- n. Seas calm, wind 4 knots.

PART VII - ELECTRONICS

(1) No serious problems involving Airborne Electronic Equipment was experienced during this reporting period due to the splendid support provided by the V-2E Division, the close cooperation between ship and squadron electronics technicians and the assistance rendered by the embarked NAESU Technician.

(2) The AN/ARC-1 continued to be the largest single source of electronic difficulties, especially in the F9F-5. This is due to both the advanced age of most units and the forces imposed upon it in catapult launches and arrested landings. It is felt that the replacement of this equipment with the AN/ARC-27 equipment will eliminate most communication equipment difficulties because of the superior design and construction of the ARC-27 unit.

PART VIII - INTELLIGENCE

(1) With but one exception, the Air Intelligence section of Air Group FOUR operated very smoothly. It was found that while in Yokosuka, pertinent information, such as bomb-line changes, changes in flak positions, etc., was not sent to the ship's air intelligence officer, with the result that during our first two days back on the line we operated without that essential data.

(2) After operating for some time, each pilot developed what he believed to be the best presentation of information on his charts. The ship's Air Intelligence Office is to be commended on its ability and willingness to supply the type chart desired by each pilot.

PART IX --ORDNANCE

(1) A near accident occurred during this reporting period when the aileron of an AD-4B was jammed due to a 20mm link becoming encircled about the starboard aileron push-pull tube in the starboard outboard gun bay. This occurred at wing station 144 13-17. The link was wrapped around the tube

PART IX - ORDNANCE (Cont'd)

assembly PN 4262943-500 in such a way that it became lodged in the hole in the after gun bay, thus freezing the aileron control. Examination of all aircraft disclosed four (4) more links that were in positions which could possibly have caused similar occurrences. A close periodic check of all gun bays is therefore recommended. The embarked Douglas Aircraft Representative has reported four (4) other similar occurrences of this nature in this area.

(2) Malfunctions of the aero 14A racks have been considerably less on this tour than on the previous period of combat operations. This is thought due to the continuous use of the rack and its consequent smoother operation:

(3) During this tour, 20mm cannon malfunctions were:

Feed Mech Jam	28
Ruptured Rounds	16
Broken Belts	39
Broken Electrical Lead	11
Bad Charges	16
Calibration	14
Light Struck Primes	8
Link Jam	12
Chamber Seizure	5
Lost Tension in Feed Mech	10
Broken Slide	1
Broken Breech	1
Bad Solenoid	3
Charger Air Lock	6
Oper. Lever came out	4
Brass Jam in Ejection Chute	1
Manual Drive Nut Rivet Broken	1
Charging Lug Off	3
Bent Drive Spring Guide	2
Total:	<u>181</u>

(4) A few instances occurred in which it is thought that aircraft flew through their own or another aircraft bomb blast, incurring considerable damage to aircraft from flying rocks. This has again brought out the extreme importance of pilots being properly briefed and continuously indoctrinated regarding safe release altitudes for type of fuzing and bomb load carried.

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PART IX - ORDNANCE (Cont'd)

(5) Ordnance Expenditures:

<u>TYPE A/C</u>	<u>F2H-2</u>	<u>F2H-2</u>	<u>F9F-5</u>	<u>AD-4N</u>	<u>AD-4W</u>	<u>AD-4B</u>
Squadron	VF-62	VF-22	VF-111	VC-33	VC-12	VA-45
2000						172
1000						381
500	7	100	20	25		96
250	609	697	1346	52		
100	697	733	564			
Rockets	236	105	72	14	22	
Depth Bombs				1	2	
20mm Ammo	48296	44670	32375	9000	5000	60500
Total Weight Bombs (pounds)			1,680,633			
Total Bombs Dropped			5,399			
Total Rockets Fired			499			
Total Ammo Expended (20mm)			199,841 Rounds			

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PART X - BATTLE DAMAGE

A. BATTLE DAMAGE TO CVG-4 AIRCRAFT

<u>DATE</u>	<u>TIME</u>	<u>TYPE A/C</u>	<u>BUNO</u>	<u>CAUSE</u>	<u>EMPLOYMENT</u>	<u>DAMAGE</u>
16 July	1445	F9F-5 37mm in fuselage	126255	T	1T2	D3
17 July	0815	F9F-5 30cal. in nose	126026	T	1T2	D3
17 July	1715	F9F-5 6X50cal. in underside	125307	T	1T2	D3
19 July	1530	F9F-5 37mm in nose	125307	T	1T1	D3
20 July	1630	F2H-2 37mm projectile went through wing forward of stub tank, did not explode	123330	T	1T2	D3
22 July	0805	F2H-2 Hit by 37mm projectile in port stub tank area; tank commenced blazing; pilot ejected safely; aircraft lost	123282	T	1T2	L
22 July	1430	F2H-2 45cal. projectile went through Horizontal Stabilizer	123324	T	1T2	D3
23 July	1830	F2H-2 Flak fragments underside of fuselage, forward of speedbrakes, Link assembly and side of plane forward of front fuel cell.	123261	T	1T2	D3
23 July	1845	F9F-5 37mm in nose door	126088	T	1T2	D3

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PART X - BATTLE DAMAGE (Cont'd)

<u>DATE</u>	<u>TIME</u>	<u>TYPE A/C</u>	<u>BUNO</u>	<u>CAUSE</u>	<u>EMPLOYMENT</u>	<u>DAMAGE</u>
23 July	1845	F9F-5	125980	T	1T2	D3
37mm in stub wing						
24 July	0700	F2H-2	123372	T	1T2	D2
37mm projectile exploded in radio compartment, 37mm hit starboard outboard elevator, 20mm in tail cone of both engines and tail section, 20mm hit starboard fuselage in aft & center fuel cell.						
24 July	0830	F9F-5	123255	T	1T2	D3
37mm in underside						
25 July	0700	F2H-2	123211	T	1T2	D3
Flak entered bottom side of Horizontal Stabilizer through top hitting top of Vertical Stabilizer.						
25 July	0700	F2H-2	123226	T	1T2	D3
Flak entered control cable fairing (elevator) out on other side						
25 July	1600	F9F-5	125494	T	1T2	D3
30cal. port elevator						
26 July	1045	F2H-2	123226	UNKNOWN	1T2	L
Pilot and aircraft are missing.						
26 July	1530	AD-4B	132252	T	1S2	D3
Small arms fire.						

PART X - BATTLE DAMAGE (Cont'd)

B. OPERATIONAL DAMAGE

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<u>DATE</u>	<u>TYPE A/C</u>	<u>BUNO</u>	<u>CAUSE</u>	<u>REMARKS</u>
12 July	F2H-2	123252	K	Starting Circuit fire burned wiring and battery.
12 July	F9F-5	126088	K	Nose damaged. Hangar deck accident. (handling)
12 July	AD-4B	132252	A	Barrier Crash - Prop & Nose Cowl
17 July	F9F-5	126213	K	Starboard horizontal stabilizer and elevator tip damaged. Handling accident.
19 July	F9F-5	125565	K	Tail section, (tail pipe area) (handling accident)
19 July	F9F-5	126026	A	Damaged by rocket blast, flaps down
19 July	F2H-2	123340	A	Bomb Blast, 4 holes repaired with patches.
19 July	AD-4B	132255	A	Hit by Rocket (on deck) - Damage to Port Keel..
20 July	F9F-5	125568	K	Port elevator trim tab. (handling accident)
20 July	F9F-5	125612	K	Port elevator tip. (handling accident)
20 July	F9F-5	125903	K	Port elevator. (handling accident)

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PART X - BATTLE DAMAGE (Cont'd)

<u>DATE</u>	<u>TYPE A/C</u>	<u>BUNO</u>	<u>CAUSE</u>	<u>REMARKS</u>
22 July	F9F-5	125586	A	No flap landing - pendant broke
23 July	F9F-5	125903	A	Port elevator. Pilot taxied into another aircraft.
23 July	F2H-2	123341	A	Possible Bomb blast - 1 hole in flap area near fuselage.
23 July	F2H-2	123341	A	Bomb Blast - 3 frags required patches in wings.
23 July	F2H-2	123336	A	Port tip tank came off during catapult run causing erratic launch. Plane lost, Pilot not recovered.
24 July	F2H-2	123315	A	Bomb Blast - 1 hole over engine, patched.
24 July	F2H-2	123323	A	Bomb Blast - Entered wing hitting spar.
25 July	F2H-2	123340	A	Bomb Blast - 4 frags entered starboard engine; engine change.
25 July	F2H-2	123280	A	Bomb Blast - 5 frag holes; wing change.
25 July	F9F-5	125909	K	Starboard elevator tip. (handling accident)
25 July	F9F-5	125586	K	Starboard elevator tip. (handling accident)

PART X - BATTLE DAMAGE (Cont'd)

<u>DATE</u>	<u>TYPE A/C</u>	<u>BUNO</u>	<u>CAUSE</u>	<u>REMARKS</u>
26 July	F9F-5	126037	K	Port elevator tip. (handling accident)
26 July	F2H-2	123322	A	Taxi Accident - damaged nose and wings.
26 July	F2H-2	123295	A	Taxi Accident - damaged port wing in flap area.

C. THE FOLLOWING IS BATTLE DAMAGE DONE TO THE ENEMY DURING PERIOD

	<u>DESTROYED</u>	<u>DAMAGED</u>	<u>OTHER</u>
Secondary Explosions			40
Personnel Shelters	44		
Trenches (yards)	570	310	
Road Cuts			107
AA Positions	35	8	
Bunkers	16	12	
Box Cars	43	118	
Supply Buildings	268	170	
Trucks	38	50	
Road Cuts			148
Troops			39
Supply Dumps	11		
Airfield Craters			370
Rail Bridges	9	13	
Road Bridges	6	38	
Factories	3	4	
Rail Road Turntable	1		
Transformers	2	2	
Lighthouses		1	
Boats		17	
Tunnels Closed			7
Fuel Storage Tanks	6		
Command Post	1		
Radar Stations		2	
Locomotives	1	2	

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RECOMMENDATIONS

1. It is recommended that if it is known that carrier squadrons are to be in active a period in excess of 15 days that provision for basing a detachment ashore for familiarization be provided. (Part IV para. 3 page 6)
2. It is recommended that continued emphasis be placed upon instrument flying. Due to the necessity of conducting air operations during adverse weather conditions it is strongly recommended that all pilots and CIC control personnel become thoroughly familiar with a standard instrument let down procedure and that this procedure be practiced at every opportunity. (Part IV para. 4 page 6)
3. It is recommended that jet type aircraft rendezvous at low altitude, 2000' - 3500'. The low altitude rendezvous is effected much more expeditiously than that of 10000'. This is particularly true of the F9F-5, as fuel state was a constant problem due to the increased ordnance load during subject tour. (Part IV para. 5 page 6)
4. It is recommended that returning jet flights, all types, return at a minimum of 15000' in order to take advantage of lower fuel consumption at higher altitudes. Further, it is recommended that all returning jet type flights join in a group orbit, base altitude 15000', in order of recovery upon release from strike control to that of their parent carrier, while awaiting the "Charley". (Part IV para. 6 page 6)
5. It is recommended that assigned L.S.O.'s be qualified (LSO wise) for all types of aircraft embarked. It is further recommended that each LSO be assigned to a squadron for tactical flying, thereby maintaining a more proficient potential in those naval aviators who are assigned as LSO's, and solving a morale problem among those naval aviators so assigned. (Part IV para. 8 page 7)
6. It is recommended that all pilots and CIC control personnel become thoroughly familiar with the fuel burn-rate of all embarked jet type aircraft. The time consumed in referring to computers and/or publications on fuel consumption for a particular type caused unnecessary delay and occasionally contributed to an emergency situation. It is mandatory that all personnel concerned know the fuel burn-rate; pound/minute for each jet type aircraft embarked, for those altitudes assigned (i.e. 20000', 15000', 10000' and the carrier pattern). (Part IV para. 9 page 7)
7. Due to the difficulty a pilot experiences clearing a propeller driven aircraft when bailing out with the required cumbersome survival gear worn in combat, it is recommended that ejection seats be installed in all carrier propeller type aircraft. (Part IV para. B(d) page 7)

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RECOMMENDATIONS (Cont'd)

8. It is recommended that the two inboard MK-51 bomb racks be removed from the F9F-5 and the ordnance load be compensated by carrying 500# bombs on the two inboard MK-14A Launchers. This action will decrease fuel consumption, increase speed and service ceiling, and afford one and one half hour flights without critical low fuel state on return. (Part IV para. B 4(c) page 8)
9. It is recommended that tip tanks on all jet aircraft be of the design wherein, if the transfer system fails, the fuel in the tip tanks can be jettisoned under positive control of the pilot without the necessity of releasing the entire tank. (Part IV para. B 5(b) page 9)
10. It is strongly recommended that a service change be issued for the F2H-2 as soon as practicable, to isolate the air pressure required to raise the tail hooks from that required to charge the guns in a safe position. (Part IV para. B 5(d) page 9)
11. It is recommended that squadrons required to utilize forward area shore facilities exercise all possible precautions against aircraft fuel contamination. (Part V para. A 2(b) page 12)
12. It is recommended that aileron boost motors for the F2H-2 aircraft be redesigned to perform more satisfactorily under the continual and fatiguing conditions of combat. (Part V para. A 2(d) page 13)
13. It is recommended that an investigation, above squadron level, be instigated to determine the cause of corrosion of the supposedly waterproof micro switches used in the F2H-2. (Part V para. A 2(f) page 13)
14. The hold-back ring presently in use is definitely a hazard to jet aircraft engines. A boot on the hold-back should be used as an interim measure until a design can be developed which will prevent the hold-back rings from going aft when an aircraft is catapulted. (Part V para. A (2)e page 13)
15. A lighter pistol should be developed. (Part VI para. C(1) page 15)
16. A solution to the problem of inadequate drainage of perspiration in oxygen masks should be obtained. (Part VI para. C(2) page 15)
17. Oxygen masks should become a responsibility of flight surgeons, and adequate supplies should be made available to permit periodic replacement. (Part VI para. C(3) page 15)
18. A one-piece survival suit should be developed. (Part VI para. C(4) page 16)
19. Entire survival problem should be reviewed. (Part VI para. C(5) page 16)
20. A smaller, lighter survival radio should be developed. (Part VI para. C(6) page 16)

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RECOMMENDATIONS (Cont'd)

21. The AN/ARC-1 should be replaced by the AN/ARC-27. (Part VII para. (2) page 17)
22. A close periodic check of all aircraft gun bays is recommended. (Part IX para. (1) page 17)
23. Pilots must be repeatedly indoctrinated with the lethal areas of bombs. (Part IX para. (4) page 18)

ADDENDUM I

Action Report of VC-4 Detachment 44N
for period 19 June 1953 to 27 July 1953

PART I - MISSION

The mission of VC-4 Detachment 44N during this period had been, as directed by Commander Task Force NINETY ONE and as employed as an integral part of Marine All Weather Fighter Squadron 513 based ashore, providing night fighter escort for U.S. Air Force medium bomber (B-50) strikes on targets in North Korea and providing night combat air patrols in the Chodo Island area, extending from the Haeju peninsula to the Yalu River.

PART II - COMPOSITION OF FORCES

<u>TYPE</u>	<u>ALLOW & TYPE A/C</u>	<u>OPER A/C</u>		<u>PILOTS</u>	
		<u>7/11</u>	<u>7/29</u>	<u>7/11</u>	<u>7/29</u>
VC-4 DET. 44N	4	4	4	5	4
LT G. G. O'ROURKE, USN	F3D-2				

PART III - CHRONOLOGY

- 19 June 1953 - Landed 4 F3D-2 at K-18 after completing pre-dawn heckler mission in Wonsan area - 21,000 rounds of 20MM ammunition expended on targets of opportunity (lights on roads) with unobserved damage. Operational control of detachment shifted to Commander Task Force NINETY ONE; administrative control retained in ComCVG-4 aboard the U.S.S. LAKE CHAMPLAIN (CVA-39).
- 19 June - At K-18.
- 21 June 1953 -
- 21 June -
- 23 June 1953 - Joined and became integral part of VMF(N) 513 at K-6 and flew familiarization flights in local area.
- 23 June -
- 27 July 1953 - Conducted night bomber escort and night combat air patrol missions in NorthWest Korean areas.

PART IV - OPERATIONS

A. GENERAL

1. During the period of this report, VC-4 Detachment 44N, flew

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PART IV - OPERATIONS (Cont'd)

twelve (12) night bomber escort missions and thirty-nine (39) night combat air patrol missions. In making approximately fifty-five (55) radar contacts with enemy fighters during these missions, the only positive results obtained was on 2 July 1953, approximately 12 miles North of Chodo Island, when LTJG Robert S. Bick's F3D-2 encountered at least four (4) enemy fighters. After making radar contact, firing on and observing an explosion from one enemy fighter, LTJG Bick's plane, with Chief L.C. Smith, Jr., ATC, as radar operator was attacked and lost to enemy action. LTJG Bick and Chief Smith are listed as Missing in Action.

2. Of all the USAF bombers escorted, none were damaged and none were forced to abort bombing runs due to enemy action. Other than the loss of the aircraft cited above, no damage from the enemy was inflicted on the detachment's aircraft.

3. During the numerous enemy fighter radar contacts, several hot chases were conducted by the detachment's pilots, all of which terminated with the enemy using his superior speed, apparently excellent GCI control and proximity to home base to evade.

4. Extremely poor weather prevailed during the early part of this reporting period. In spite of several take-offs when no field in the area was forecast above GCA minimums, not a single flight was cancelled due to weather.

5. In addition to the above operations, this detachment maintained aircraft on strip alert during non-flying hours.

6. As a matter of interest, in view of the peculiar operations of a carrier based VFJ(N) team operating with a Marine Squadron from an advanced shore base, escorting USAF bombers, a resume of a typical night's operations follows:

a. At 1600 the squadron musters for the night's briefings. This starts with a briefing on very meager weather information, due primarily to the lack of this information from China. Next comes news and squadron notices. The Operations Duty Officer then reads off the schedule for the night's operations. A typical one would include four (4) to ten (10) NCAP missions, each scheduled for one hour on station, in pairs. This schedule is occasionally run in conjunction with Air Force F-94s and the assignment of the number of planes may vary from night to night. After the completion of this briefing, all pilots and radar operators scheduled for night escort of bombers are retained for further briefing. The flight leader of the night escorts conducts this briefing. The target may be an airfield or a supply dump and the attacking force usually consists of twelve (12) to twenty-four (24) B-50s from either Japan or Okinawa. Their line of flight is plotted on a map and displayed on a briefing board. The flight leader, using this board, assigns planes as follows:

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PART IV - OPERATIONS (Cont'd)

(1) Two (2) planes as a barrier to operate just south of the Yalu at 30,000'.

(2) One (1) plane to escort on the north side and one (1) to escort on the south side of the bombers from the Initial Point. (Usually a turning point some fifteen (15) minutes flight time from the target).

(3) Two (2) planes as outbound escort to pick up the bombers after their drop and escort them about half way out of North Korea and out of range of MIGs.

(4) Two (2) or four (4) more planes are assigned as spares; a misnomer. Their mission is to proceed ten (10) to fifteen (15) minutes before the other aircraft and assume a low barrier position south of the Yalu, in an attempt to intercept MIGs shortly after their take-off. When the regular barriers report on station, these spares either fill in for escorts which may have aborted due to poor radar, or else they retire to a more southerly position, well clear of the target, to avoid confusion.

(5) The leader is the Target Combat Air Patrol. He arrives over the target at about 32,000' prior to the bombers arrival and orbits there throughout the drops of all bombers. He further remains in this vicinity until all bombers are well clear. Here, he also coordinates the effective use of all escorts, often diverting spares or escorts to barrier positions, or, in some cases of late arrival of the bombers, establishing departure times for various aircraft in order to prevent stacking in bad weather over K-6.

(6) Some forty (40) to fifty (50) minutes prior to TOT for the bombers, the escort planes take-off at intervals of about one (1) to three (3) minutes. The climb out and proceed to target or to Initial Point or to barrier position are varied in order to arrive at the exact time specified. The inbound escorts usually pick up the bombers at about twelve (12) to twenty (20) miles, establish themselves on parallel course, and run a race track pattern alongside the bombers, watching them first on nose gear, then on tail gear. A bandit in the stream is detected by the unusual relative motion of the target blip. Any such target is immediately intercepted, with the singular purpose of driving him away from the bombers. The escort then resumes his station, if possible. Experience of this detachment has shown that when one (1) bandit appears, many others, usually in groups of three (3) flying loose formation also appear. By the time an intercept is started, tail contacts begin to show up, necessitating a series of erratic evasive maneuvers, starting with hard seventy (70)

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PART IV - OPERATIONS (Cont'd)

to ninety (90) degree banked turns and sometimes ending with split-Ss into clouds at a lower altitude. With the instruments in the F3D, these maneuvers are possible and have often been used. An attempt is always made to swing back on the bandit and get him on the nose gear, but, with the 100 to 150 knot speed advantage of the MIG, results were usually negative. In one case, encountered by a pilot of this detachment, a good nose contact was worked from 12 miles down to 4, but further closure was impossible. The bandit then proceeded to flash a white light and to dive down, at which time three (3) tail warning contacts appeared, at one and one-half (1½) miles, closing rapidly.

7. The type of mission described above, although admittedly an unusual one for a carrier based team, might well be utilized some day as cover for a group of carrier-based night attack planes. The F3D is presently the only aircraft in either the Navy or USAF capable of accomplishing such a mission. It's only advantage lies in its radar. It's disadvantages are numerous, led by lack of speed and rate of climb and followed by the extreme visibility of the tail pipes. The F2H-3 and 4 promise added speed and rate of climb, and with competent night pilots can attain equal or better results than the F3D. Their serious drawbacks are their lack of tail warning radar, and their extreme tailpipe glow. Their use on missions similar to the above would be limited. However, as a night interceptor for fleet use, they are definitely superior in every respect to the F3D.

8. The only serious problem of this detachment was the training of competent Radar Operators. This program, believed greatly over looked in the Navy due to the intended use of single plane VFJ(N), produced only four (4) of the expected six (6) Radar Operators for this detachment. Of these four (4), one (1) was lost in combat on 2 July. One (1) VC-4 pilot used a marine as his Radar Operator with excellent results. The three (3) remaining qualified Radar Operators are all Aviation Electronics Technician's third class (AT3).

B. SPECIFIC OPERATIONAL COMMENTS RELATIVE TO THE F3D-2

1. The radar equipment in the F3D-2 is excellent, however the relatively slow speed and slow rate of climb of the aircraft prohibits exploiting the advantage of the excellent radar coverage against high speed enemy jets.

2. The extreme visibility of the glow from the engines' tailpipes offers an easy target for a pursuer and a detriment to evasiveness of the aircraft.

3. The near vertical forward windshield and the lack of windshield wipers, limits the visibility of the pilot, on a final GCA approach in heavy rain, to the curved side panel. Under such conditions of heavy rain, forward visibility is extremely poor.

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PART V - MAINTENANCE

1. The F3D is an unusually reliable fighter and no serious maintenance troubles were encountered.

2. No flights were lost due to non-availability of aircraft.

3. During the early part of this reporting period, maintenance personnel and pilots were hampered by poor living conditions due to the recent activation of the area of K-6 that the detachment occupied and aggravated by heavy rains. None of the personnel were adequately equipped for the mud and weather conditions encountered but clothing and foul weather gear provided by VMF(N) 513 alleviated this situation. As the construction of heads and roads and drainage of the muddier portions of the area progressed, living and working conditions rapidly improved. With the coming of the dry season, conditions improved from good to excellent.

PART VI - MATERIAL

1. The logistic support rendered by VMF(N) 513 was outstanding and left nothing desired.

PART VII - ELECTRONICS

1. All electronic equipment functioned ably and was maintained easily with the excellent logistic support rendered.