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During this operating period a considerable amount of photography and interpertation was accomplished for units outside the carrier Task Force. Mosaics were prepared, gridded and copied at scales of one to fifteen thousand for the use of surface bombardment groups and naval gunfire spot planes. These UTM gridded mosaics are more accurate and show physical detail not found on the one to fifty thousand AMS charts normally used.

4. Combat Information Center

a. Radars

(1) General: All radar performed in a satisfactory manner but many breakdowns were encountered due to the lack of time to maintain them. It has been necessary for one carrier to have strike control and the other JetCap control. It was found that ships without MK5 IFF could only control JetCap to 40 miles and then one CV would have to home the JetCap. Even if JetCap control was assigned to a support or screening vessel one CV had to stand by to assume control over 40 miles or to home planes, leaving no time for radar maintenance. The addition of the DDR helped this problem immensely and it is recommended that one DDR be present at all times. The DDR can take JetCap control, YE, Trout, Mother, as well as radar guards, giving the CV's necessary time for repairs.

(2) Specific: The SPS6/B performed as satisfactorily as before but approximately one week was lost as the equipment suffered casualties due to long periods of operation with little time for maintenance. The most serious time loss was caused by a casualty to the antenna motors and approximately 3½ days were lost before it was restoreded to full operation.

The SK operated extremely well and made several pickups of planes over 125 miles from the force. The SK was also used to interrogate MK III IFF identifying a large number of bogeys, especially since the new IFF code system was adopted.

The SG was inoperative for several days due to casualties and still needs several field changes that are authorized to get peak performance.

The SM was of no value as an altitude determining radar as the tilting motor of the antenna burned out and could not be replaced at sea; however, it made an excellent replacement for the SG in surface search and in station keeping.

b. Communications

The communications were as good as could be expected from the type, location and age of the equipment. One significant fact was noted: When two transmitters were used on the CI Net they both had to be of a carbon type, for two magnetic or a combination of one magnetic and 1 carbon caused a loss of volume and much feed back.

c. Flag Operations

CIC functioned as the Flag CIC for Task Force 77 and despite its obvious limitations was able to perform its duties in a satisfactory manner. Flag personnel commented on the fine cooperation received from the officers and men of CIC. The Air Controllers were especially praised for their outstanding work in all types of control.

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d. Recommendations

Most of the recommendations have been made before in other Action Reports and the most important are to be done during the conversion of the ship. CIC should be moved to the 02 level; more AN/ARC or units capable of working those frequencies should be made available; at least two units for UHF should be set up on the CI net frequency at all times; modern gear should replace all our RCM equipment and all radars but the SPS6/B. It is felt that the ship is not adequate for another tour in the Korean conflict without a major overhauling of CIC.

5. Public Information

Administration of the Public Information Office aboard this ship was the collateral duty of the Aerology Officer. He was handicapped by the lack of trained enlisted personnel and sufficient space in which to operate. A system set up by him for the dissemination of information suitable for public consumption functioned very well under the circumstances, but several recommendations for improvements are included in this report. At the end of each flying day, the squadron P.I.O's turned in their stories to the Air Group P.I.O, who edited them and condensed them into one release. This in turn was forwarded to the ship's P.I.O., who further edited the condensed releases and wrote other material released by means other than by dispatch form. On feature stories, pictures with captions, and other material released by means other than by dispatch, a similar release procedure was followed in order to coordinate the work in the photo lab, prevent repetition, and check the work for compliance with censorship regulations. By following this procedure, one record is kept of all material that is sent to the press from this ship.

It is recommended that the billet of Public Information Officer be made a primary duty of an officer trained in such work. He should occupy a billet in the administrative department. It was at times difficult to determine the type of stories and pictures desired by ComNavFe; this was especially true when the ship first came to the area, and the problem was only solved by experience. It is therefore recommended that Ship's P.I. Officers spend a few days TAD at ComNavFe Headquarters at the beginning of the combat tour. Many excellent releases were apparently overlooked because there was no defined policy on the part of other P.I.O's. It is further recommended that, except for the dispatch releases, each unit should be permitted to disseminate its information direct to the naval sources of their own choice. This is particularly true in the cases of the Air Groups, whose squadrons may have originated at any one of the many Naval Air Reserve Training Units throughout the United States. It is considered particularly desirable that their home stations be kept fully aware of their activities in the operating area. Finally, a P.I.O should be thoroughly familiar with the Photographer's Manual and censorship regulations. A knowledge of security regulations is particularly desirable since much delay would be encountered if all public information were to be passed by the Security Officer of a large ship, whose full time is taken up with registered publications and other matters of internal security.

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6. Air Intelligence

a. Organization: The Air Intelligence organization was established and modified in accordance with requirements indicated through operating experience.

Aboard this ship the Air Group operated independently, but at the same time totally dependent on the AI office for all intelligence. This, as might be expected, posed some problems, that only through the whole hearted effort on the part of the Squadron and ship's Air Intelligence Officers were successfully overcome.

It is strongly recommended that when the Air Group reports aboard that all AI's be placed under the immediate supervision of the ship's Air Intelligence Officer, who should be senior to all other AI's. This recommendation is made for the following reasons:

(1) The ship is responsible for all briefing and debriefing, the provision of supplies and keeping the Air Group and ship's personnel informed. The Commanding Officer is responsible for the proper functioning of the Air Intelligence Section.
(2) Authority to make certain that all connected with Air Intelligence carry out their duties efficiently should go with this responsibility.
(3) Pooling all AI's would insure an efficient briefing and debriefing schedule, an equal distribution of the workload among Squadron AI's and full use of AI personnel.

b. Training of Enlisted Personnel: The six months tour of duty saw five enlisted men serve in the AI office. Four of these advanced in rates outside AI work. Two SA's advanced to seaman; one yeoman third advanced to second class and one personnelman second advanced to first class. Heavy responsibilities were given these men, which is a difficult way to learn, but one which proved practical. The maintenance of charts, daily reports briefs and filing of highly classified material were among the activities in which the men were trained.

The men learned quickly with the practical experience presented and by ardent reading of publications. Nevertheless, it is definitely felt that training in Air Intelligence School is needed for enlisted men. An AI Office should be established with rated men in Air Intelligence work. This would lessen the burden of the AI Officer and increase efficiency.

c. Flak: In this, the last operating period, the pilots became increasingly concerned with enemy anti-aircraft fire. This concern was due largely to the heavy increase of accurate AA fire encountered in recent weeks. Pilots, therefore became more cautious in attacking minor insignificant targets and flight leaders planned tactics and approaches to primary targets with more care. Consequently, without a lessening of effectiveness or results, losses to enemy anti-aircraft became fewer. In the previous operating period ten planes were lost to AA. In the current period, in which there were an approximately equal number of flying days, only three planes were lost to enemy AA fire.

Another factor which tended to curtail losses was the shifting of attacks from heavily defended bridges to "rail cuts". The latter program has removed attacks from defended areas but nevertheless has been very effective.

d. Search and Rescue: Statistically speaking, Search and Rescue operations were not as successful as they were in the previous period of operations During the fourth period, three pilots were forced to ditch their planes in North Korean territory. All three were rescued by friendly helicopters. I this action period two planes were shot down and the pilots bailed out over land. Neither of these pilots has been recovered. However, certain circumstances practically precluded their rescue which were not present during the fourth period. Ensign G.C. CAMAAN, while on a night heckler mission, was hit just south of the city of Wonsan and forced to bail out.

The area of this incident is especially noted for its intense anti-aircraft fire and extremely heavy concentration of enemy troops. Because of this and the fact that he was hit at night, which prevented any rescue attempt until the next morning, the probability of his being captured before any help could be given was greatly increased. Unfortunately when a special flight was dispatched at first light the next day, no sign of the pilot was found, although it is known that his parachute did open and it is presumed that he did survive the jump. The second pilot to bail out, Lieutenant D. E. MORITZ, was seen to land in the immediate proximity of a bridge which was under attack. Due to unusually heavy and accurate small arms fire, the helicopter which had been dispatched from a cruiser to attempt the rescue was heavily damaged and the crewman injured. Although it is known that the pilot did land safely in his parachute and made an attempt to evade the many enemy troops in the area, he was observed to fall at the instant gr[illegible] fire was being directed at him. Because of the condition of the helicopter and crewman, plus his own inability to aid the rescue attempt, no further attempt was deemed feasible: It should be noted at this point that if the pilot of a downed plane can remove himself from the immediate vicinity of the attack and especially from the area of heavy troop concentrations, the ResCap can be set up effectively and protect the helicopter for a sufficient time to enable it to approach the survivor and pick him up. But where the pilot remains in the area of the attack, either by choice or because of his inability to assist in the rescue, and is surrounded by enemy forces, the operation of both the helicopter and the ResCap becomes increasingly difficult, if not almost impossible.

Fortunately all pilots who ditched at sea were promptly rescued by either helicopters or other United Nations ships operating in the area.

7. Air Plot

a. Hooker Control: During this period a modified visual Hooker Control was utilized during all night recoveries. This addition proved to be of great value, especially from the morale standpoint of the pilots. Pilots were able to enter the traffic pattern without worry of instrument failure. Also directions by Hooker enabled pilots to maintain position about the force, thus avoiding disorientation. Hooker Control is considered a great safety factor.

Hooker was stationed in Air Defense forward which afforded best visual coverage. Equipment utilized was radio, chest set, 1 JG sound power phone and MC box. Radio was tuned to land/launch frequency, Sound power added communication to Air Plot, CIC, Primary Fly, Bridge and Landing Signal Officer.

It is strongly recommended that a visual Hooker Control be utilized by carriers operating at night. It is also recommended that the port and starboard 24" search lights be manned during all night launches and recoveries when circumstances permit.

b. Efficiency Quotients:

(1) Ratio of sorties scheduled to those completed: 79.9 percent
1583 sorties scheduled for November - 1265 sorties actually flown.

(2) Aborted flights: 26
(1) 3 JetCap (2) 3 JetPhoto (3) 2 ASP (4) 4 NGF (5) 14 Strike

(3) Jettisoned Ordnance:

6-2000# GP	30-250# GP
8-1000# GP	30-100# GP
6- 500# GP	23 rockets

(4) Number of planes lost to enemy fire:
1 F4U 2 AD's

(5) Operational losses:
3 F9F's 1 F4U

8. Photographic Laboratory

Photography results from the necessity for obtaining adequate and complete aerial photographic coverage for current target areas as well as those areas designated as future objectives. Also there is a desire for permanent photo records of all operations. To meet this demand the Photo Lab has worked on a 24 hour basis. Work such as aerial film developing, sonne printing, reversal film developing, copying operational and public information stills has indicated that not enough supplies were available. 100,000 9x9 aerial, 30,000 feet of reversal movie film were processed, and several thousand public information and file prints were made. To keep up with this workload, photographic supplies by necessity were replenished every thirty days. A normal three month supply of such items as sonne paper, film, chemicals, has lasted only one month.

The model J dryer has held up work because it is too slow and was under constant repair. Defects noted were breaks in drive belts, cogs and wooden roller chain drive. Aerial film processing was greatly delayed because of these breakdowns.

Recommendations: The aerial film dryers should be replaced with newer and faster dryers where possible. It is further recommended that because of the expanded necessity of photographic coverage that a Lieutenant be assigned as Photographic Officer, with a Warrant Officer as his assistant.

9. Electronics

Following is a summary of electronic maintenance problems that have been encountered by this vessel during the period from the first sea trials 19 February 1951 to date.

At that time the ship had completed reactivation by the Bremerton Group, Pacific Reserve Fleet, and had undergone its initial yard availability at Puget Sound Naval Shipyard, Bremerton, Washington.

Upon completion of the initial activation yard availability less than 50% of the major electronic equipment aboard was giving satisfactory operation. Typical of the condition existing were the following:

(a) SK-2 Radar Equipment - Bearing information was inaccurate due to wiring errors in the synchro system.
(b) AN/SPS-6B - Were unable to pick up aircraft targets at a range greater than approximately 25 miles, while surface targets were observed up to approximately 65 miles. This was found due to improper assembly of antenna feed horn upon installation.
(c) SM Radar Equipment - Operation of this equipment was erratic and unreliable. Subsequent inspection and test of this equipment by General Electronic Engineers revealed 29 assorted undesirable conditions and malfunctions existing, most of which had been in existance at the time of sea trials.
(d) YE-2 Homing Equipment - Provided improper bearing information due to wiring error in synchro system. Strip heater in antenna drive unit was not connected which subsequently caused a failure due to condensation of moisture in this unit.
(e) AN/CPN-6 Homing Equipment - The thermostatic control governing the receiver blower motor was inoperative causing subsequent failure of the components due to severe overheating.
(f) FSA Frequency Shift Equipment (Radio III) - Reversed keying due to incorrect wiring within the equipment.
(g) VHF/UHF Radio Antennas - Five of the 12 installed antennas were open due to improper assembly of coaxial connectors in the transmission lines.
(h) TBS Radio Equipment (Radio I) - Inoperative due to wiring error causing reversed rotation of motor generator.

The preceding are representative examples of the conditions encountered on a large percentage of the electronic equipment. The large number of equipment malfunctions remaining after completion of reactivation and yard availability is contributed to the non-availability of engineering services at Puget Sound Naval Shipyard, Bremerton, Washington. It is believed that a thorough engineering test and inspection would have uncovered most of these conditions in time for them to be corrected during yard availability.

a. Personnel: The enlisted personnel situation aboard this vessel has been unsatisfactory throughout the entire cruise. While the allowed complement is adequate and the number of rates on board conforms fairly close with the complement, comparatively few of the rated men on board are fully qualified for the rates they hold.

b. Shop Facilities: At the time this vessel left the United States for the Far East there were no adquate electronic repair ship facilities or stowage for electronic test equipment provided. One space was subsequently modified by ship's force to provide rudimentary shop facilities and test equipment stowage. This lack of facilities needlessly impaired the functioning of the electronic repair division during the critical period immediately following activation.

c. Test Equipment Allowance: With a few exceptions the allowance of electronic test equipment is considered adequate. However at the time of departure from the United States approximately 60% of the allowance was on board. The remaining 40% unfortunately include some of the more critical items such as multimeters, meggers, signal generators, RF wattmeters and precision oscillascope. After exchange of inumerable dispatches and the passing of time, about 4 months, eight multimeters were received on board. This was an occasion of great rejoicing until it was discovered that 7 of the 8 meters were defective due to weak magnets.

d. Spare Parts: Experience indicates that unless a vessel receives the authorized type bins for stowage of electronic spare parts it is inadvisable to convert from the old box system.

e. Maintenance Troubles: This vessel has encountered more major aircraft casualties than should normally be expected. A great majority of these have been of a mechanical nature. Typical examples follow:

(1) Bad main support bearings in the SK-2 radar antenna pedestal.
(2) Worn gears and frozen guide bearing on antenna assembly of YE-Z homing equipment.
(3) Defective lube switching assembly in MK 12 radar antenna due to non removal of silica gel bags inside housing prior to placing equipment in service.
(4) Approximately 10 bad bearings in various amplidynes.
(5) Replaced 5 blower motors in various equipment due to bad bearings, replacement bearing not being available.
(6) Replaced 5 open armatures in TBM radio equipment.
(7) Re-aligned 75% of the HF/VHF/UHF radio receivers on board in order to achieve specified sensitivity.

Many of the bearing failures are attributed to improper or lack of lubrication at the time of reactivation.

At the present time most of the electronic equipment on board is in a satisfactory operating condition. The SM radar equipment continues to be very difficult to maintain. In the past two months it had been necessary to replace the antenna azimuth drive motor and the antenna elevation drive motor; A spare azimuth drive motor was available from spare parts. No spare elevation motor being available necessitated sending this item to Ship Repair Facility, Yokosuka, Japan to be repaired. Also the slip rings and associated brushes in the antenna pedestal have repeatedly caused difficulties.

D. SUPPLY DEPARTMENT

1. Publication of Supply Department Instructions

Supply Department Instructions of this vessel are published in the form of a Supply Department Organization and Order Book. This book was submitted by the Supply Officer and approved in its entirety by the Commanding Officer. It consists of the following divisions and sub-divisions:

Part I - The Supply Department Organization

Chapter 1. Personnel and Functions of the Supply Department
Chapter 2. Departmental Organization
Chapter 3. The Supply Division
Chapter 4. Duty Supply Officer
Chapter 5. Duty Sections and Watches
Chapter 6. Locks and Keys
Chapter 7. Inventories
Chapter 8. Surveys

Part II - Supply Department Responsibilities

Chapter 9. Stores Group
Chapter 10. Commissary Group
Chapter 11. Ship's Store and Service Activities Group
Chapter 12. Clothing and Small Stores Group
Chapter 13. Disbursing Group
Chapter 14. Special Bills and Details
Chapter 15. Safety Precautions

Part III - Supply Department Orders

Section A. General Instructions
Section B. General Stores Section
Section C. Clothing and Small Stores Section
Section D. Ship's Store Section
Section E. Commissary Section
Section F. Steward's Section
Section G. Aviation Stores Section
Section H. Disbursing Office
Section I. Training

Each person in the Supply Department is required to read the book and to show that he has read and understood the orders affecting him and he is required to initial the original continuation sheet of those particular orders.

2. Use of Liaison Officers at Yokosuka

The Supply Department has been fortunate in being granted permission to send an officer on TAD orders to Yokosuka a few days prior to the ship's entering port each time. This has been a tremendous help in loading since advance arrangements can be made for supplies and their deliveries in order to save much valuable time during these short availabilities.

3. Recommended Improvements in Logistics in TF-77

a. General Stores: It is recommended that all material on one Bill of Lading be placed on the same ship so that the paper work can be accomplished without having to wait for split shipments. It is recommended that freight carried by the Codfish be landed on the carrier for which intended in order to prevent multiple handling and unnecessary delays in delivery.

b. Provisions: Logistic support in furnishing food has been most satisfactory.

c. Ship's Store and Clothing: It is recommended that ship's store stock and clothing and small stores be made available in full case lots on the line as it has been impossible to get any re-supply of these items on at least one visit in port.

4. Allotment and Fiscal Accounting

This vessel has experienced no difficulty with the new Afloat Accounting Procedures which became effective 1 July 1951. The present quarterly ship's maintenance allotment has proved to be adequate since all departments have been able to operate within their budgets and no over-expenditures have occurred. A portion of the allotment has been allocated to the Supply Officer for the purpose of replenishing storeroom items in order to maintain GSK stocks at the required operating level.

E. AIR DEPARTMENT

1. General

a. Inasmuch as this will be the final Action Report submitted during the current tour of this ship, the comments listed under the Air Department are a summary of the experience gained and the recommendations for the correction of discrepancies for the entire six (6) months operating tour in the Korea area.

b. For the type of air operations in which the ship has been engaged the following number of personnel are recommended for efficient and prolonged operations:

Division	No. Men	
V-1	136	
V-2	43	
V-3	87	
V-4	83	
V-5	0	(for CASD)
V-6	85	
V-7	71	
Total:	505	

Note 1: The requirements by rate were submitted in CO, BON HOMME RICHARD ltr. ser. 0110 of 30 October 1951.

Note 2: Air Department organization in accordance with ComAirPac ltr. ser. 10/16006 of 17 September 1951.

c. During the tour of this vessel, the below listed times were the best established for the indicated evolutions:

(1) Launch - 4 F9F's, 16 pistons in 5 minutes, 36 seconds for average interval of 18.3 seconds.
(2) Jet launch - 8 F9F's in 2 minutes, 4 seconds for average interval of 20.7 seconds.
(3) Recovery - 18 pistons in 7 minutes, 11 seconds for average interval of 25.3 seconds.

d. During this tour and particularly during the last operating period, combatant type aircraft of the AD-Q,-N, and -W series were utilized for the expeditious transfer of personnel (particularly V.I.P.'s) ashore and of parts for aircraft making emergency landings at airfields in Korea. In addition to the aircraft utilized for these purposes, an escort had to be furnished for cross-water flight, thereby decreasing the aircraft availability by two (2) aircraft for at least two (2) days, and sometimes longer under adverse weather conditions. Because of the many disadvantages, (i.e. spare parts, maintenance personnel and pilots familiar with the type required) in assigning a TBM to one of the operating carriers, it is recommended that a TBM assigned to VR-23 be rotated on the carriers. As COD flights are made to TF-77 at least every 2-3 days, weather permitting, one of the 2 or more arriving TBM's and crew could relieve the one on board. By this method, the services of a TBM would always be readily available while all maintenance could be performed at the home station.

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2. Aircraft Handling

a. Flight Deck

(1) The recommissioning of the USS BON HOMME RICHARD for active duty found the V-1 Division with 129 enlisted personnel of which six had previous experience. The flight deck organization was built around these men until such time as more men were trained and capable of holding key positions. It was found, due to the shortage of experienced personnel and the rapidity with which they were readied for operations, that quite often the job was learned the hard way, by practical experience. This resulted in numerous flight and hangar deck crashes during the movement of aircraft. In order to help alleviate the accidents and yet forcibly bring to the minds of the personnel responsible for the crash the seriousness of the offense, a written report containing statements of personnel concerned and a recommendation by the Flight Deck Officer of action to be taken after a thorough investigation was made as to the cause of the accident was forwarded to the Air Officer. This, plus the experience gained by the flight deck personnel, resulted in cutting down the number of accidents to such a minimum as to be negligible.

(2) For overall efficiency and morale the following breakdown of the V-1 Division was used and is highly recommended:

(a) Two crews forward with directors to handle spotting and chocking of aircraft when landing; pulling of planes when respotting.
(b) One crew and two directors working #2 elevator.
(c) One crew and two directors working #3 elevator.
(d) Two crews and four directors respotting planes aft.
(e) One crew and four directors and two tractor drivers on night shift to handle early morning launches, plus exchanging of aircraft from hangar to flight deck at night.

(3) A modification of the present asbestos "hot-suit" is recommended so that the "hot-suit" man will be able to move more freely. The present suit is a definite handicap when the "hot-suit" man, may be required at times to run half the length of the flight deck over barriers and arresting gear to get to the scene of the crash. The foot design is not adequate for climbing around the cockpit of an aircraft. A change could be accomplished by a re-enforcement of the foot section with a stiff sole and using a belt in the mid-section, or re-enforcing the mid-section to stand more abuse. It is recommended that the present type of fire-fighting suits used by the fire-fighters at NAS, San Diego be issued to CV's.

(4) Upon activation of the BON HOMME RICHARD the flight deck was thoroughly gone over by rotary sanders removing the preservative. Upon removal of the preservative it was found that a large amount of the planking had dry-rot caused by water or moisture collecting between the preservative and the planking. During the period of operation from March through November 1951, 6000 linear feet of deck planking were installed. Due to the porous quality of the planking, oil or grease falling upon the deck from aircraft will penetrate the planking to such a depth that neither cleaning nor scrubbing will remove the oil completely. Another cause of a slippery deck was the melting of the grease from the cross-deck pendants, by the jet blasts as the jets taxied forward after coming out of the gear. During the latter part of the tour only a minimum amount of grease was utilized on the pendants, thereby reducing this cause of slippage. When it rained, the water floated the oil out, causing the deck to become extremely slippery and dangerous. This often resulted in a slippage of chocks while aircraft were being turned up prior to launching. Due to the chock slippage, several incidents occurred in which the propeller of the after plane chewed the tail cone of the preceding plane. However, the flight deck has stood up well, with one exception. The area on the centerline of the flight deck aft, particularly from the #5 cross-deck pendant to the ramp, has been considerably dug out and splintered from the tail-hooks of aircraft.

This area was replaced during the last yard availability of this ship in April 1951. It is recommended that this area be completely covered with teak rather than douglas fir. Although the teak is dug out to some extent by tail hooks, it does not splinter like the fir, thereby being potentially less dangerous to the eyes.

(5) Throughout the tour in Korean waters the flight deck was normally spotted with a split spot consisting of two AD's and two F4U's across the deck. The split spot forward put the AD's on the port side and the F4U's on the starboard side. The split spot aft placed the AD's on the starboard side and the F4U's on the port side. Forward of the break in the deck on the port side aft, a 2-1 echelon spot was employed for the F4U's.

(6) The F9F jet spot employed for catapulting is considered the ultimate in handling of duds and still expediting the launch. After two jets are spotted on the catapults, the next plane was headed with its nose toward the tail of the plane on the starboard catapult. The next jet was pointed to port with its nose at a 90 degree angle to the plane in front of it. The remainder of the spot was staggered spot (with jets facing fore and aft) keeping each successive plane clear of the tail pipe of the plane ahead. On large jet launches, the last jets were tailed out over the port side aft of #2 elevator. The standby jet was kept on the elevator. The standby photo jet was spotted aft of the other jets on the flight deck and dropped down #2 elevator after the jet launch, if not needed. As there was only one regular jet as standby if 2 or more jets went "dud", the number of jets necessary to complete the launch were brought up #2 elevator after the piston launch. During this period the piston aircraft remaining on deck after the piston launch were taxied and spotted forward on one side of the flight deck while the jet(s) was (were) catapulted on the other side. In fact occasionally, returning piston aircraft were landing before the final jet launch was completed.

(7) It was found that the present type of equipment available for loading 250 lb. and 260 lb. bombs on AD's with wings folded was inadequate and extremely slow. On landing, the AD's were spotted forward on the port side with the wings spread. With a competent loading crew the average time of loading, fuzing and folding wings took approximately five (5) minutes per plane. Upon completion of loading the wings were folded and the spot was immediately tightened up.

(8) The method of securing the cross-deck pendant chaffing plates to the flight deck proved inadequate. The plates are secured to the flight deck with wood screws. After a time the plates became "dished-out" in the center from the tail skags and hooks hitting it and the screws were pulled loose from the deck. It is recommended that studs be welded to the steel deck underneath and that the plates be bolted down with the nuts flush with the face of the plate.

(9) Due to the constant usage of the 15 lb. CO2 bottle used by Repair 8 when starting aircraft engines, it has been found that the present type of clip holder for securing the horn to the bottle is inadequate as it breaks off or loses its tensile qualities. It is recommended that a stronger and heavier clip be installed on future bottles.

b. Hangar Deck

(1) It was discovered that there was little or no use for the number one elevator during flight operations; hence it was secured. This allowed more room in Bay #1 as it permitted jets to be spotted with their nose sections extending out over number one elevator pit.

(2) Sixteen F9F's were parked and maintained in Bay #1 (frame 40 to 79). In an emergency seventeen could be parked in that area by lowering the nose wheel oleos on the jets, thereby permitting the nose section to go under the tail section of the plane parked ahead. The F9F's were parked to the port side so as to enable the fueling crews on replenishment to rig hoses at the fueling station forward on the starboard side of Bay #1 without moving any F9F's up to the flight deck. Parking in this manner made it necessary for only three F9F's to be moved. These were pulled back and parked alongside the deck-edge elevator.

(3) In Bay #2 (frame 79 to 145) one F9F was parked on the starboard side just forward of Hangar Deck Control. This space was used as an area for checking F9F's for it provided working space necessary for pulling the tail section and engines for checking. The three F9F photo planes were parked and maintained on the starboard side of Bay #2 (frame 91 to 123). This space was selected because of its proximity to the photographic laboratory. The area aft of the photo jets on the starboard side (frame 123 to 131) was used to park and maintain four F4U-5NL's. This made possible the use of either number two or number three elevator in moving the night fighters to or from the flight deck. The port side of Bay #2 (frame 100 to 131) was used for four F4U's. The area to the port side of number three elevator held one F4U.

(4) In Bay #3 (frame 145 to 193) the space on the starboard side was used to park and maintain four AD's. This spot left all hatches in that area accessible. Five AD's can be parked here by covering the torpedo hatch. The center row of Bay #3 was used to park and maintain four F4U's.

(5) By using the hangar deck spot described above it was possible to park forty-three planes, the helicopter and leave an emergency spot for two aircraft alongside the deck-edge elevator. This spot proved to be workable and flexible enough to meet the demands of the schedule.

(6) During the early part of the tour the number of hangar deck crashes was alarmingly high. As time progressed the number moved ever lower until the point was reached where damage to planes on the hangar deck was quite infrequent. This gratifying decrease was attributed to continued training of directors, the replacing of personnel who failed to respond to training, the use of a static spotting system, and the development of teamwork between pilots, plane captains and directors.

(7) A space on the hangar deck at frame 70 to 92 could be made available for movies by moving four jets to the flight deck. Movies were shown except when weather, operations or maintenance failed to permit them.

3. Catapults and Arresting Gear

a. Catapults

(1) Two cases of catapult accidents occurred during the last period of operations.

(a) In the first accident, the bridle spreader broke in half at the moment of firing of an F9F. This caused slack in the pendant and as the shuttle continued in its travel, the pendant was cut by the finger that protruded from the shuttle. The resultant force was sufficient to break the tension ring and give the F9F enough of a shot to start it rolling down the deck slowly. As the pilot did not realize what was happening, he made no attempt to retard throttle or hit the breaks. The plane went off the bow and the pilot was picked up immediately without injury.

(b) In the second accident, an F9F was inadvertently catapulted. On the one-finger turn-up the pilot of the F9F on the port catapult indicated his plane was down. The Catapult Officer turned to the F9F on the starboard catapult, which had received a one-finger turn-up at the same time as the other plane and launched it. It was at this time that an aircraft trouble shooter ran around to the port side of the plane on the port catapult to question the pilot as to his trouble and a director and two plane handlers walked in front of the starboard wing to push the plane aft from the catapult. Simultaneously with the plane on the starboard catapult being fired, the one on the port catapult fired. The trouble shooter received fatal injuries, the director received minor cerebral concussion and a broken hand, one handler received a cerebral concussion and the other handler received scratches. The plane made a water landing and the pilot was recovered uninjured.

(2) The largest single maintenance problem was controlling the amount of high pressure oil leaks. Due to the excessive amount of vibration during high pressure launches, the copper tubing connection was the greatest source of trouble. The copper tubing hardened on the flanged seat, and had to be annealed frequently. The return line from the compositive valve to the main gravity return line also leaked excessively. If this line which is steel tubing, could be changed to flexible tubing, the vibration on the composite valve would be greatly reduced.

(3) Many difficulties were encountered with the tubular bridle catchers. They were improved by inserting a 20MM gun spring in place of the original spring. With the usage of heavier bridles, the old spring allowed the plunger to bottom against the forward part of the catcher and usually the entire insides was lost over the bow. To keep the insides of the bridle catcher from being pulled out, a piece of strap iron was cut to a length of 8 inches. This was then bent to a 90 degree angle about 2 inches from the end. A bolt was welded to the long end and a key slot clip was inserted in the deck. When this piece of metal was installed it butted against the forward end of the catcher and acted as a brace.

(4) Approximately 90% of the personnel received on board and assigned to catapults were inexperienced. After about three (3) months of operations, (including the period of training) the peak of efficiency was reached although most of the men knew only one job. However, at the conclusion of the tour, all the non-rated men were familiar with all non-rated jobs and men could be shifted around as needed.

(5) The mercury relay timing switch that controls the hydraulic gear pumps was a critical item. One switch caused trouble on the No. 3 pump on the starboard catapult for several months. This defective switch was in a continual state of repair as replacement switches were not available in the area.

(6) The following minimums of relative wind across the deck were required for catapulting F9F's with full fuel (internal and wing tip tanks) and 20MM loads, using 3500 psi pressure on the catapults.

WIND KTS RELATIVE	ARMAMENT
30	Clean
31	2 Rockets
32	4 Rockets
33	6 Rockets

Rockets were removed, as necessary, to meet the above minimums. Catapulting pressures were reduced by 50 psi for every knot of wind obtained over the minimum required.

b. Arresting Gear

(1) Davis Barrier:

(a) The Davis Barrier proved highly satisfactory during this operation. All engagements were excellent and no major difficulties were encountered when re-rigging. The flight deck crews and Repair VIII were checked out on rigging, and this helped tremendously in the saving of time. A new Davis Barrier could be installed and ready in four minutes.

(b) A Davis Barrier that was not rendered useless by an engagement would last from five to six days until the normal wear of aircraft running over them required their replacement. Rain had no effect except that the barrier would stretch and the slack had to be taken out.

(2) Since there have been some cases of jets going through all the Davis Barriers without an engagement, the nylon barricade is highly recommended for installation on all carriers.

(3) When jets are landing the conventional barrier operators are alert for any possible emergencies. They have been instructed to use the conventional barriers in an attempt to stop a jet if the nose wheel is broken off, or if there is a possibility of its not being engaged normally. The barrier should be raised after the nose of the jet has passed the cable, thereby making it possible for the conventional barrier to engage the main landing gear or tail hook of the jet.

(4) Pilots and the Landing Signal Officers have been repeatedly cautioned of the probability that a normal barrier engagement cannot be made if an F9F lands with speed brakes down. As the speed brakes, when extended, are in the near vertical position, about six (6) inches from the deck and equidistant from the nose and main gear, they will probably slap the cables down to the deck after the cables have been flipped up by the action of the nose gear.

(5) There were numerous cases of the tail hook dropping from an F9F during taxiing out of the gear. The hook usually picked up No. 5 Davis Barrier and destroyed it. The most probable cause of this discrepancy was the nut cracker switch on the starboard wheel opening when the oleo extended during a taxi turn or excessive braking. When the switch opened the hook dropped.

(6) When a Davis Barrier was accidentally torn by the hook, there usually was not sufficient time to re-rig for the remaining jets. The jets were then brought aboard with two barriers up.

(7) The barriers were rigged in accordance with prescribed standards; No. 1 and No. 3 being conventional, and No.'s 2, 4 and 5 Davis. Except as noted above, three (3) Davis Barriers are always used for jet recoveries.

(8) The first three cross-deck pendants were changed quite frequently, one of the three being changed daily. This unusual wear is assumed to have been caused by the high speed and weight of the landing jet. To help save the pendants, every jet tail hook was greased before each launch by the plane captain.

(9) No maintenance difficulties were encountered with the arresting gear, and the equipment functioned highly satisfactorily.

(10) Approximately 75% of the arresting gear personnel were inexperienced when training was first commenced. Relatively little operating time was required before the crew was proficient in their duties.