UNITED STATES PACIFIC FLEET
AIR FORCE
COMMANDER
CARRIER AIR GROUP ONE HUNDRED TWO
c/o Fleet Post Office, San Fran.

ORIGINAL

DECLASSIFIED

OPS:ing
A8
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11 December 1951

From: Commander, Carrier Air Group ONE HUNDRED TWO.
To : Commanding Officer, U.S.S. BON HOMME RICHARD (CV-31)

Subj: Action Report of Carrier Air Group ONE HUNDRED TWO for period of 30 October 1951 to 30 November 1951

Ref : (a) OpNav Instruction 3480.4 of 1 July 1951.

Encl: (1) Statistical summary of operations from 28 May to 30 November 1951.

1. This report is forwarded for inclusion in the Action Report of the U.S.S BON HOMME RICHARD (CV-31) as required by reference (a).

2. Information, comment and recommendations are presented under the following headings:

I. Mission and Composition
II. Chronology
III. Ordnance
IV. Damage
V. Personnel performance and casualties
VI. Comments and recommendations.
  A. Operations
  B. Intelligence
  C. Maintenance
  C. Electronics
  E. Survival
  F. Medical
  G. Composite Squadron Teams
    1. VC-3
    2. VC-11
    3. VC-35
    4. VC-61

I. MISSION AND COMPOSITION:

1. Mission Carrier Air Group ONE HUNDRED TWO departed Yokosuka, Japan, 29 October 1951 aboard the U.S.S. BON HOMME RICHARD (CV-31) for the fifth period of duty in the operating area. The mission of Carrier Air Group ONE HUNDRED TWO was to fly close air support, armed reconnaissance, and strikes in support of the United Nations' effort in Korea as assigned in the daily air plan promulgated by Commander Task Force SEVENTY SEVEN.

2. Composition.

UNIT	TYPE A/C	A/C 10/28	A/C 11/30	PILOTS 10/28	PILOTS 11/30
CAG 102					
CDR H. N. FUNK					
VF 781					
LCDR C. I. OVELAND	F9F-2B	18	16	29	29
VF 783					
LCDR J. O. ANTHONY	F4U-4	15	13	24	24
VF 874					
LCDR D. L. WATTS	F4U-4	15	11	19	19
VA 923					
LCDR H. W. WILEY	AD-3	14	10	27	24
	AD-4Q	2	0		
VC-3					
LT R. D. WISE	F4U-5NL	4	4	6	6
VC-11					
LT L. E. KIRK, Jr.	AD-4W	3	3	5	5
VC-35					
LCDR A. WALDMAN	AD-4N	2	2	5	4
	AD-4Q	0	2		

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VC-61					
LT W. WESTMORELAND	F9F-2P	5	3	4	4

3. This does not include the Air Group Executive Officer who flies the AD or the Assistant Operations Officer who flies the F4U-4. Three LSOs and the Administrative Officer are also attached to the Staff in a flight status. The Electronics Officer flies frequently in the AD-4Q as an observer. NOTE: The aircraft as shown on 30 November 1951 includes two F9F-2B, one F9F-2P, two AD-4Qs transferred to the U.S.S. ESSEX (CV-9); one F9F-2B, two F4U-5NLs, one F9F-2P, the U.S.S. ANTIETAM (CV-32). Transfers were made at the end of the period.

II CHRONOLOGY

1. At 0600 on 29 October 1951 Carrier Air Group ONE HUNDRED TWO aboard the U.S.S. BON HOMME RICHARD, departed Yokosuka for its fifth and last offensive action against the Communist forces in North Korea.

2. The ship rendezvoused with Task Force SEVENTY SEVEN on 31 October and the following day combat operations were begun. Restricted by very poor weather, 34 sorties were launched, 22 offensive and 12 defensive. Two jets on armed reconnaissance rocketed a tunnel, killing 15 troops in the vicinity. Three oxcarts were destroyed in the same area. A piston strike was unable to penetrate to its target and was forced to jettison its ordnance in the Wonsan area with unobserved results. Weather reccos were flown for the remainder of the day but impossible flying conditions prevailed.

3. On 2 November, although hampered in the forenoon by continued poor weather 64 sorties were launched, 50 offensive, 14 defensive. One special strike, led by LCDR WILEY of VA 923, destroyed two large warehouses and blew up an ammunition storage building. Interdiction missions continued against enemy supply routes with another flight cutting a section of railroad track in 15 places. Night hecklers knocked down one span of a highway bridge and attacked a large convoy of trucks. Although accurate assessment of damage was difficult because of darkness, it was believed, in the light of ensuing explosions and fires that many were destroyed. Photo reconnaissance completed 100% of their assigned missions while all defensive sorties were without vectors.

4. Clear skies greeted the Task Force on 3 November and 81 sorties (offensive and defensive) were flown. Jets on armed reconnaissance attacked two locomotives damaging one and knocking the other from the track. An interdiction mission led by the Air Group Commander cut railroad supply lines in 12 places, cratered the entrance to two tunnels, destroyed seven railroad cars and inflicted strafing damage on three locomotives. Mr. O.H.P. KING head of the Tokyo office of the Associated Press was Commander FUNK's observer on this strike and was given a convincing demonstration of the effectiveness of naval aviation tactics and the accuracy of its pinpoint bombing. Two other rail breaking missions were as successful, splitting track in 19 places. A Naval gunfire flight, after completing its spotting mission destroyed two boxcars and strafed a pier loaded with supplies. Both blew up. Jets on reconnaissance strafed and rocketed 40 oxcarts, 25 of which were destroyed and 30 troops killed.

5. 59 offensive and 21 defensive missions were flown on 4 November. At least 45 railroad cuts were made by three interdiction flights. The jets rocketed and destroyed six trucks on one mission and destroyed seven railroad cars on another. Night hecklers destroyed one span of a railroad bridge and were particularly effective against rolling stock. On two different occasions, three to eight trucks were observed to enter buildings in an attempt to avoid detection. Direct hits were scored on the buildings and it is believed all vehicles destroyed. On this flight the Air Group lost its ninth pilot, ENS Gerald CANAAN of VC-35. He was hit with automatic fire, lost oil pressure and was forced to bail out. A flare was dropped by an accompanying plane and a parachute observed on the ground. The remaining planes landed at K-18 to be ready for an early morning search.

6. On 5 November, the Task Force replenished and no offensive operations were scheduled. Six F4Us and two ADs led by LCDR WATTS of VF 874 were launched

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to search for the downed pilot but with negative results. The flight took under attack and silenced one 40 MM, two 50 calibre and seven light machine gun positions and killed 10 troops.

7. Impossible flying conditions settled over the Task Force on 6 and 7 November and no flight operations were conducted.

8. On 8 November the skies cleared and the Air Group resumed the offensive with 75 interdiction missions, Naval gunfire spot, armed reconnaissance, photo missions, combat air patrols and anti-sub patrols. Three groups of pistons cut rail lines at 30 widely separated points, in addition to destroying two large warehouses and closing the entrances to two tunnels with well directed 1,000# bombs. A Naval gunfire mission, after completing its spotting assignment caved in an additional tunnel entrance and strafed and sank six small boats. Jet planes on armed reconnaissance attacked and destroyed eleven oxcarts, two railroad cars and two trucks. All defensive missions were without vectors, while photo flights were successful in completing 100% of their assigned missions.

9. The dawn hecklers on 9 November opened what was to be one of the most successful days for the Air Group and disastrous for the enemy. Led by LCDR WALDMAN of VC-35, the four planes succeeded in damaging and stalling five locomotives and scored a direct hit with a 500# bomb on a roundhouse sheltering two more. Day strikes were then diverted from their original missions and vectored to the area. All locomotives were either hit and knocked from the tracks or severely damaged. The roundhouse originally hit by the hecklers, was totally demolished after direct hits with 1000# bombs. The jets got into the act with three rocket hits on a locomotive leaving it a mass of flames and steam. With all locomotives well taken care of, another flight of pistons cut railroad lines in nine places and destroyed a convoy of seven trucks, killing an estimated 75 of 150 troops. Anti-aircraft was intense throughout the day. LT BADEWITZ of VA 923 was hit and injured in the arm by automatic fire. He applied a tourniquet, stopped the profuse bleeding, and landed safely at a friendly field.

10. Back to concentrated interdiction missions three flights of pistons split track at 39 widely separated points on 10 November. A flight of jets destroyed two factory buildings while three well placed rockets destroyed three anti-aircraft positions. Photo flights completed 100% of their assigned missions. All defensive combat patrols were without vectors. In all 72 sorties were flown, 55 offensive and 17 defensive.

11. On 11 November the Task Force replenished.

12. Poor weather restricted operations on 12 November when but six sorties were launched. All flights were of a defensive nature with the weather reconnaissance reporting impossible conditions over the target areas.

13. Greeted with clearing skies on 13 November, the Air Group resumed interdiction missions on a full-time scale 79 sorties were flown, 59 offensive and 20 defensive. A flight of ADs and F4Us diverted from its primary target which was concealed by ground fog, attacked a group of 300 railroad cars, destroying 25 and damaging an additional 25. An F9F had a flameout in the groove, landing about 100 yards astern. The pilot, LT IVES, of VF 781 was picked up without injury. Twenty four separate rail breaks were made by another group of pistons in addition to sinking a 300 foot frigate. The night hecklers, after playing hide and seek for ½ an hour finally destroyed a locomotive and string of seven boxcars. The train was spotted and illuminated with a flare but no attack was initiated because of the proximity of a tunnel which would have afforded good shelter if the first bombs had gone astray. Half an hour later the train was taken under attack miles from any shelter and destroyed.

14. On 14 November, seventy six offensive and defensive sorties were launched. Harassment of the enemy supply lines continued, with rail breaking missions, armed reconnaissance and spotting for ships of the bombardment forces. A Headquarters area was totally obliterated by the heavy bombs of the ADs following flak suppression runs by F4Us. Twelve medium AA positions were

silenced and the bombing attack was practically unopposed. A flight of jets on armed reconnaissance attacked and destroyed 12 trucks while leaving four in flames. A following jet flight, diverted to the same target, destroyed 14 more and damaged six. The night hecklers taking a leaf from the jet's book concentrated on rolling stock and when the evening was over, sixteen trucks and one tank had been destroyed. The anti-sub patrol picked up a surface target moving slowly toward the Task Force and skillfuly vectored two destroyers to, through, and over the enemy (a large school of porpoises). Good practice and proof positive our "orbiters" are vigilant.

15. Taking advantage of inclement weather the Task Force replenished on 13 November.

16. Although hampered somewhat by poor flying conditions, a total of 59 sorties were launched on 16 November, 42 offensive and 17 defensive. The two piston flight groups launched broke enemy railroad supply lines in 23 widely separated places. Two F4Us on gunfire spot destroyed a railroad by-pass bridge by a direct hit with a 500# bomb. All defensive missions were without vectors.

17. On 17 November, jets, ADs and F4Us teamed up to attack a railroad marshalling yard reported by intelligence to be very heavily defended with automatic weapons. The reports were correct but were no match for the 20 MM guns of the jets and frag. bombs and 50 calibre machine guns of the F4Us. With almost all anti-aircraft positions silenced, the ADs, led by the Air Group Commander hit and totally destroyed six repair buildings and two barrack type buildings. A railroad by-pass bridge was dropped and 200 feet of track ripped out. Another piston strike knocked out one or more spans of three bridges. An F9F, piloted by LT SCULLY of VF 781 suffered a faulty catapult shot and dribbled off the bow. The pilot was picked up speedily by the hovering "angel".

18. Enemy bridges and lines of supply continued to suffer on 18 November when 70 sorties were launched (52 offensive and 18 defensive). Three piston flights of F4Us and ADs completely destroyed six bridges after direct hits with 500 and 1,000# bombs. A flight of jets on reconnaissance rocketed a group of trucks, burning four and killing 20 troops. The Air Group lost another F4U when LTJG John KEANE of VF 783 was hit by automatic fire and forced to bail out. He was picked up safely by a helicopter from the U.S.S. LOS ANGELES.

19. On 19 November 54 offensive and 16 defensive sorties were launched. Interdiction missions continued to receive the lions share of the Air Group's effort. One strike scored five direct bomb hits on one bridge toppling all spans. Four bomb hits on another brought about the same result. Two other piston strikes accounted for four more railroad bridges in addition to 16 rail cuts. F9Fs on reconnaissance rocketed and started large fires in a supply dump and killed 20 of 50 troops in the area. All photo flights completed 100% of their designated missions, while all defensive ASPs and CAPs were without vectors.

20. On 20 November the Task Force replenished.

21. The dawn hecklers found good hunting on the morning of 21 November, hitting and destroying a locomotive and rail shed. Also destroyed were a six story mining building and five smaller buildings. Another strike broke enemy rail lines in eight places, destroyed two bridges, strafed and damaged a locomotive. On the debit side, the air group lost three planes. An F9F, piloted by Lieut. ECCLES of VF 781 was catapulted through error after the pilot had indicated his plane was down. The plane settled in the water and the pilot picked up by helicopter. Four of the flight deck crew were injured one fatally. LT BROWN of VF 874 experienced engine failure shortly after take-off, ditched, and was speedily picked up by helicopter. LT Dale MORITZ of VA 923 was hit by enemy AA deep in North Korea and forced to bailout. Despite the valiant efforts of the helicopter crew, one of whom was hit by enemy fire, a rescue could not be made. When last seen the pilot was surrounded by enemy troops and is believed to have been captured.

22. On Thanksgiving Day all hands were able to enjoy their turkey without

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the hustle and furor of war. When weather cancelled out all afternoon flights. The offensive missions found good targets however. The dawn hecklers hit a convoy of trucks, eleven were left in flames and four destroyed. The one piston strike launched out rails in ten places and knocked out one bridge. A close air support mission, the first flown in many a week, dropped their load on the reverse slope of a hill and 95% coverage was estimated by the controller. A total of 28 sorties were flown, 20 offensive and 8 defensive.

23. Taking advantage of the continuing poor flying conditions the Task Force replenished on 23 November.

24. On 24 November poor weather continued. One piston strike was launched but could not penetrate to the target area and was aborted.

25. Once again, on 25 November, bad flying conditions prevented effective offensive action against the enemy. The dawn hecklers had a good morning destroying an estimated thirty of two hundred boxcars. The piston strike made five rail cuts before being forced back to the Task Force by increasingly bad flying conditions. In all, 25 sorties were attempted, 19 offensive and six defensive.

26. On the 26th of November, winter struck with a vengeance, high seas and blinding snow grounding all aircraft.

27. Despite very high seas and strong gusty winds, the Air Group returned to offensive action on 27 November, launching a total of 67 sorties. Two piston strikes broke enemy railroad supply lines in 16 places and destroyed one bridge. A close air support mission bombed, strafed and napalmed a group of enemy gun positions with the controller estimating six destroyed. F9F Panthers on reconnaissance attacked two locomotives, severely damaging one with rocket hits. The last piston flight of the day, while enroute to a rescap over a downed pilot from the USS ESSEX was taken under attack by a flight of two MIGs in the vicinity of Kowon. Before evasive action could be taken, the attack was over, with one AD piloted by LT McMASTERS of VA 923 receiving hits in the propeller and engine accessory section. The flight descended rapidly to 1,000 feet and continued the rescap.

28. On 28 November, 63 sorties were flown, 47 offensive and 16 defensive. Interdiction missions continued with rail cutting strikes and armed reconnaissance along vehicular routes. A close air support mission attacked and destroyed three enemy bunkers. Another flight knocked one locomotive and 3 railroad cars from the track and damaged another after direct hits with 500# bombs. Photo flights completed 100% of their assigned missions while all defensive flights, including the newly installed "MIG" Patrol were without vectors.

29. On the final day of operations 41 sorties were flown. The morning hecklers destroyed seven trucks and one span of a railroad bridge. The jets final efforts resulted in direct rocket hits on a locomotive and string of three cars, destroying both, while the pistons knocked out two bridges, destroyed a warehouse and factory building and cut rail lines in ten places. One pilot, LT A. T. ANDERSON of VF 783 came close to "missing the boat" figuratively and literally when his Corsair was riddled with enemy small arms fire. He was able to make a successful emergency landing at a friendly air strip.

30. At 1630, after the presentation of awards, the ship left TF 77 for the last time, and turned toward Yokosuka on the initial leg of the trip to the U.S.

31. On 1 December the Air Group conducted its last launching operations from the deck of the USS BON HOMME RICHARD when 48 planes were flown to NAS ATSUGI for transfer to FASRON 11.

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B. Daily Sorties

DATE	OFFENSIVE	DEFENSIVE	TOTAL
Nov 1.	22	12	34
2	50	14	64
3	64	17	81
4	59	21	80
5	8	0	8
8	57	18	75
9	54	18	72
10	55	17	72
12	2	4	6
13	59	20	79
14	59	17	76
16	42	17	59
17	50	17	67
18	52	18	70
19	54	16	70
21	54	15	69
22	20	8	28
24	0	2	16
25	19	6	25
27	52	15	67
28	47	16	63
29	31	10	41
Total	924	298	1222

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III ORDNANCE

1. Total ordnance expended by the Air Group has been covered in the ordnance expenditure report submitted by the ship.

2. Most discrepancies and troubles described in previous action reports have been worked out and eliminated. Cold weather has brought some new problems. Suggestions are included that will cut down the overall ordnance arming time under all weather conditions and will make cold weather and night arming of bombs safer.

3. One of the first serious cold weather discrepancies encountered and one that involved crew welfare and morale as well as loading and arming efficiency was a lack of proper working gloves. It is recommended that supply allowances be amended to include flexible working gloves suitable for ordnance work, for all ordnancemen who may be required to work in cold weather.

4. Another discrepancy is more or less common to all bombing ordnance used in the Korean area and is very apparent in cold weather and night operations when either cold clumsy fingers or lack of good visibility act to lower efficiency. The present methods of arming bombs is unnecessarily tedious and time consuming. This becomes particularly apparent under adverse conditions of weather and visibility and is the one operation that consumes more time between flights and is a particularly critical factor in the meeting of the exacting timing of the flight schedules of this Task Force. It is believed that a little thought given to this problem could result in cutting the bomb arming time short by more than half the present time needed to arm bombs under ideal conditions and even more time could be saved when bombs have to be armed under extreme conditions of night or weather. The following suggestions on possible work-saving modifications could be incorporated by supporting activities in the fuzes now most commonly used and available in the Korean area; (see attached drawings.)

Fig. 1. This figure shows how commonly used nose fuzes AN-M103A1 and AN-M139A1 could be modified by incorporating a short length of arming wire in the fuze with Fahnstock clips and about a 1" diameter loop on the wire. A sealing wire could be incorporated on the fuze and not removed until fuze was used. The main arming wire from the arming solenoid could be threaded through the 1" loop turned back and fastened as described in figure 5 below. The advantage gained would be that arming wire would not have to be threaded through arming holes in fuze, and wind vane arms and Fahnstock clips would not have to be squeezed and threaded on with cold and clumsy fingers in cold weather or at night. Even under ideal weather conditions the operation would be so fast and simple that a great deal of time could be saved. A decrease in the safety factor is unlikely and as far as night and cold weather operations are concerned it is believed the safety factor would be increased.

Fig. 2. This figure shows how the commonly used tail fuzes AN-M100A2, AN-M101A2 and AN-M102A2 could be also modified to obtain the above advantages. In this case the arming wire would have to be longer than for the noze fuzes so the loop would clear the tail assembly and not foul up proper arming. In this case it is believed that an arming wire two inches longer than the total length of the individual fuze it is attached to, would do the job. To keep this arming wire from kinking it is advised that the loop end be taped to the fuze body. Sealing wire could also be incorporated in this assembly without difficulty. The arming wire from solenoid would be attached as described and shown under Fig. 5.

Fig. 3 and 4. These figures show respectively a representation of any ring type VT fuze with shortened modified arming wires and a modified VT fuze jump-out pin. In this fuze the shortened arming wire used in con-

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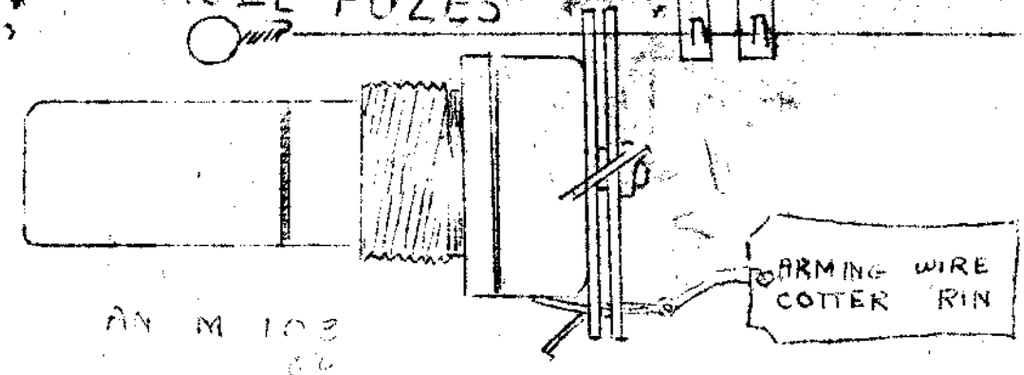
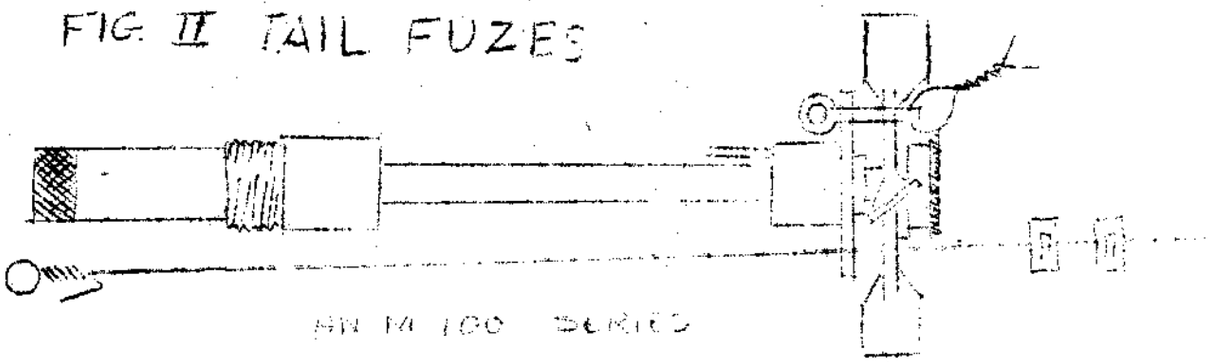
FIG. I NOZE FUZES



AN M 103
&
139 FUZE

FIG II TAIL FUZES



AN M 100 SERIES

FIG III

VT FUZE

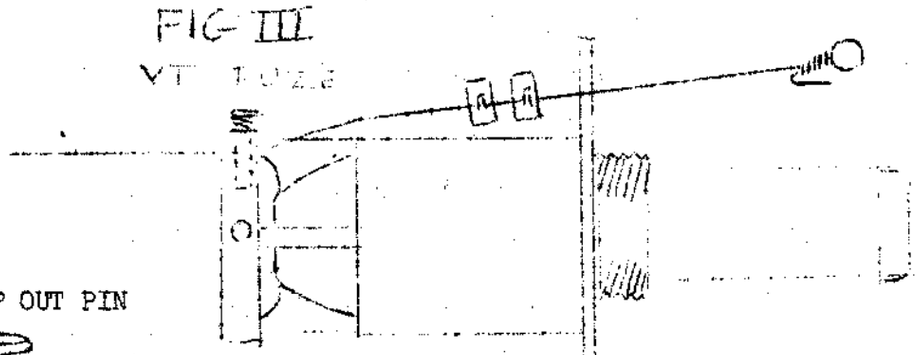
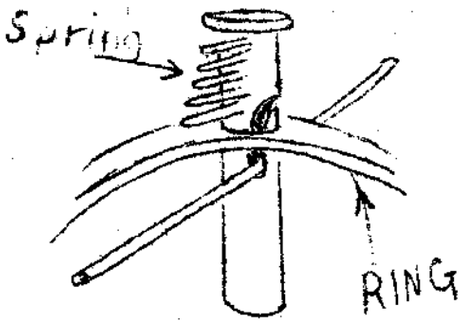
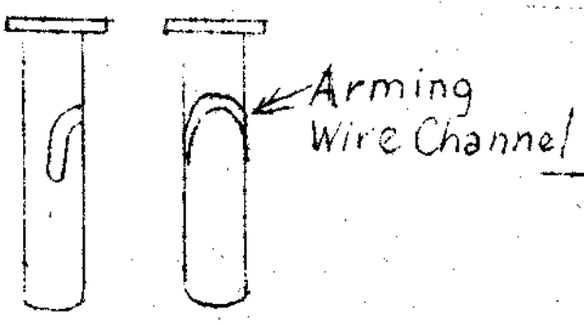


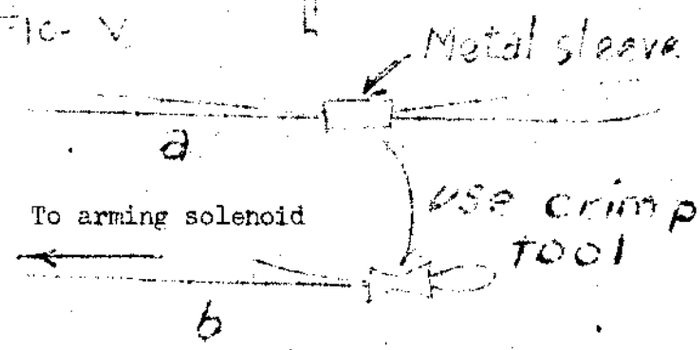
FIG IV JUMP OUT PIN





POP-OUT PIN
SUGGESTED CHANGE

FIG. V



junction with the mofidied jump-out pin will also result in the increased efficiency and safety described above. The arming plates used with this type of fuze could be set up, with the short arming wires and fahnstock clips attached, in a warm or lighted space and at convenient times by ordnancemen. Then, when actual bomb fuzing is to be accomplished the pre-prepared arming plates will be attached in their proper places and the arming wire extended out beyond the fahnstock clips would be placed through the fuze ring and a modified jump-out pin placed in hole provided in the fuze ring. The spring would then be compressed and arming wire pushed into channel provided by modification of pin and then the spring tension allowed to act and the pin would spring outward and lock the arming wire in place. (See fig. 4 for detail) These modifications would be simple to make and eliminate much of the difficult job of trying to thread an arming wire through a small hole on the jump-out pin, while at the same time maintaining pressure on the pin's spring release. This is a very difficult procedure to accomplish with any speed at night or in cold weather and is even slow and awkward under ideal conditions of warmth and visibility.

Fig. 5. These figures show progressively how the arming wire coming from the solenoid would be attached to the modified pre-arming wires already installed in the fuzes as described above. Figure 5a shows a straight length of wire over which a metal sleeve has been inserted. Figure 5b shows loop that fastens solenoid arming wire to fuze arming wire with sleeve which is loose enough fitting to be easily slid in place over doubled wire in the dark, holding this loop. A crimp is put in the sleeve with a special plier-like crimping tool. Figure 5b shows an additional safety feature, the turning up of the free end of wire, as an additional precaution against arming loop slipping out and releasing fuze arming wire accidentally.

5. Other discrepancies and recommendations as reported by the various squadrons are outlined as follows.

AD DISCREPANCIES.

MK 55 WING BOMB RACKS

1. Solenoid plunger accumulates corrosion and works off center tending to bind thus causing bombs to hang up. A RUDM was submitted showing pictures and describing how plunger could be shimmed over to maintain better centering of plunger in operation. In addition it is recommended that plunger be inspected periodically for corrosion and a light coat of oil placed on same.

2. This rack in cold damp weather will freeze from accumulated moisture and bombs will hang up in flight. They can usually be thawed out by dropping down to a lower flight level. Recommend keeping rack lightly oiled every 4 - 7 days and sway braces internally greased.

3. In damp weather this rack may also frequently short across electrical connections and trip improperly stations other than those selected on fire control station selector. No solutions have been worked out for preventing this type of malfunction.

4. Too tight sway braces may also cause hangups, and to eliminate this type malfunction it is recommended that sway braces be tightened then backed off one half turn.

DOUGLAS BOMB EJECTOR

1. Recommend a good supply of spare parts, locking rings and cartridge containers be obtained and kept on hand at all times. The cartridge container requires daily cleaning to maintain operation.

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20MM GUNS

1. These guns require constant attention and must be cleaned daily and a light oil used at all times. Special light oils have been prepared and are being made available for cold weather operation. This oil has not yet been made available or used by this activity. The oils being made available are special solenoid and gun oil plus a special lubricant for feed mechanisms. All should be available shortly and as soon as supply becomes sufficient for 20 MM gun needs it should be obtained and used where applicable in 50 calibre B.A.M. It is recommended that procedures of gun checks, maintenance and lubrication outlined in BuOrd Publication OP 1910 be followed very carefully.

2. Feed mechanism made by Oldsmobile have been found the most satisfactory for trouble free use.

3. Ammo must always be calibrated and links and nose of ammo oiled before use to insure operation.

4. Belts of 20 MM must be handled carefully as HEI shells have frequently proved unstable in use.

5. Ammo calibrated and ready for use should be maintained in spare ammunition cans to facilitate operation.

6. Malfunctions - - Preventative maintenance is very important. The new braided driving spring # J941-S-12837-45 and new annealed firing pin #J941-P-3274-175 will prevent a large number of the malfunctions encountered. The following list indicates major stoppages in a single squadron over a period of 47 days of operation.

Firing pins replaced (routine)	70
Firing pins broken	62
Number of driving springs replaced	35
Number of extractors and springs replaced	27
Link jam due to lack of oil and/or faulty links	19
Trouble with charger - (hyd and broken parts)	19
Number of drive spring guides replaced	19
Solenoids replaced	19
Breech block slides replaced	15
Number of drive spring guide plungers	14
Faulty firing mechanisms (Davis Mfgr)	13
Feed pawl was not engaged	13
Failure to lead ammo or failing to splice belts	13
Failure to wind ammo in feed mechanism	11
Broken breech block lock	10
Rear buffers broken (latch broken)	10
Clogged vent plugs	7
Ammunition out of calibration	6
Number of eject. crow feet lost	6
Jam in gun port because of lack of oil	5
Forward cannon mount - tube	3
Jam in feed mechanism because of link strippers	4
Loose gas cylinder guide	3
Bolts replaced	3
Ejectors replaced	3
Sears replaced	2
Magazine slide arm coming loose	2
Broken link chutes	2

7. Supply problems on 20 MM gun. In the forty seven (47) days of operation through August 31, 1951, approximately 210,000 rounds of 20MM ammunition were fired. Critical 20MM parts that were not available during operations were:

a. 19 Gun Chargers.
Ship's allowance for ADs is four. Chargers replaced in all cases had broken or cracked driving lugs. Recommended that chargers be replaced with Mk 5 Mod 1. or Aero 13A.

b. 62 Firing Pins.

Allowance in spare parts kits, Stock # J941-5-9684-110 is 40 per kit. Spare kits that were issued to the ship had no firing pins. Sixty-two (62) firing pins were broken during operations. Seventy (70) firing pins were changed during routine gun maintenance. Firing pins were of the old type Part #B164210, Stock #J941-P-3273-35.

c. 14 Plungers and Driving Spring Guide.

Replaced because broken or bent. Allowance in spare parts kit is two.

d. 10 Rear Buffers.

Replaced due to broken locking pins. Allowance in spare parts kits is none.

e. 4 Relay boxes MK-4

Had to be replaced due to points burning out. Ship's allowance is none.

F4 U

1. AERO 14A, Combination Rocket Launcher and Bomb Rack. The only new discrepancy developing in this rack was due to very cold weather and it is that some of the arming solenoid pins tend to accumulate moisture and freeze up. This freezing up has only been noted on the deck and has been brought out by the fact that arming wire loops could not be forced in between solenoid holding pins. Recommend giving these pins a light coat of oil every few days but do not allow an excess of oil to accumulate or get into solenoid body.

SUPPLY & SERVICING.

1. On two separate occasions there was a very critical shortage of almost all 50 Cal. BAM spare parts that necessitated using some worn parts beyond their ordinary replacement time.

2. Replacement guns were obtained from supply in heavy preservative that was very difficult to remove by hand. Recommend that replacement guns stocked by supply have an easily removable preservative.

3. Many jobs of maintenance were unnecessarily tedious and drawn out due to a lack of shot equipment in squadron armories. It is recommended that following equipment be made standard allowance for squadron armories aboard ship.

a. A small vat, long enough to take a complete gun, be supplied for gun and parts cleaning, removing preservative and for applying preservative.

b. A small power grinder and wire brush for repairing maintaining and cleaning guns and tools.

c. A ¼" electric drill.

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4. Flight deck servicing of planes could be made much easier by supplying the following two items.

a. A special cart for carrying ammo to planes, with large enough wheels to go over arresting cables without excessive bouncing or shock. This cart could also be used to transport guns when they are removed from planes.

b. Bomb skids with larger wheels than on present skids to make it easier and safer to cross arresting cables.

F9F

1. The following is a list of prevalent discrepancies occurring over a six months operating period with added notes of ideas or suggestions to eliminate some of the trouble.

Broken magazine anchor arms
Feed mech jams
Loose hydraulic chargers
Link chute jams
Failure to extract
Broken solenoid leads.
Bad solenoids
Broken breech block locks
Broken locking rings, (back plate)
Loose ammunition chutes (outboard)
Bad pressure switches.
Broken lock washer (gas cylinder)
Rocket launchers broken.

DISCREPANCIES.

1. Loose feed chutes caused by weak locks holding them to feed mechanism. This discrepancy occurred only on outboard guns. Flexible rubberized ends on feed chutes, such as on the inboard guns, would eliminate the majority of this trouble.

2. Broken anchor arms. This discrepancy will be eliminated when new bureau change is made using two arms instead of one on the outboard guns. Parts were not available for this change.

3. Broken solenoid leads. Quick disconnects on the solenoid lead should halt this discrepancy.

4. Bad hydraulic pressure switches. Seal or o-ring on high pressure side of switch appears inconsistent in construction inasmuch as some switches will fail after a very short period of use while others will last up to as long as six months.

5. Feed mech jams. These jams may be reduced considerably when new lubrication is used, especially during cold weather operations. Occasionally the rocker arm will pop out, or the feed mechanism loses tension.

6. Inboard link stoppages. A structural extension from link chute doors extending down below spar, where links are now hanging up would eliminate this trouble.

7. Outboard Ammo Cans. Recess holes out of line and too small for lock pins. As a corrective measure the squadron re-drilled and re-aligned all outboard cans.

8. Link chute jams. (outboard) No apparent reason other than link becoming crooked in chute.

9. Magazine Slides. Two rear studs are continually breaking caused by vibration and tension put on them by the magazine slide lock springs (2) and ejector springs (2). Recommend stronger studs or cushioned fibre blocks across face for springs.

10. Gun Camera. Electric lead to camera too short in length, causing undue pressure on lead. General handling causes excessive wear to this lead. A suggested fix for this discrepancy would be to lengthen the lead by two to three inches.

Cold weather operations have caused a considerable number of stoppages during our last operating tour. It is believed the new cold weather lubricants will eliminate the majority of these stoppages. At the present time these lubricants are not available, but it is felt that they will be in the near future. OP 1910 on lubrication and maintenance of 20MM guns should be followed very carefully.

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IV. DAMAGE

A. DAMAGE TO OWN AIRCRAFT

TYPE OF PLANE	NUMBER HIT	CAUSE
F4U-4	22	Anti-Aircraft fire
Ad-3	9	Anti-Aircraft fire
AD-3	1	Enemy MIG
F9F-2B	4	Anti-Aircraft fire
F9F-2P	0	Anti-Aircraft fire
F4U-5NL	1	Anti-Aircraft fire
AD-4N	3	Anti-Aircraft fire
AD-4Q	2	Anti-Aircraft fire

B. LOSS OF AIRCRAFT

1. Not returned to base

Date	Squadron	Type	Bureau No.	Cause
11/4/51	VC-35	AD-2	122346	Crashed, anti-aircraft fire
11/13/51	VF-781	F9F-2B	123671	Flame out
11/17/51	VF-781	F9F-2B	123625	Defective catapult shot
11/18/51	VF-783	F4U-4	96851	Crashed, anti-aircraft fire
11/21/51	VF-781	F9F-2B	123664	Inadvertent catapult shot
11/21/51	VF-874	F4U-4	97295	Ditched, engine trouble
11/21/51	VA-923	AD-3	122767	Crashed, anti-aircraft fire
*11/29/51	VF-783	F4U-4		Anti-aircraft fire, K-18

*This plane was shot up over the target and made emergency landing at K-18 and will be transferred to another activity.

2. Returned to ship (off loads)

a. 3 November 1951. F9F-2B BuNo. 123639 received structural damage as a result of hard landing (barrier).

b. 9 November 1951. F4U-4 BuNo. 81981 received structural damage as a result of a hard landing.

c. 10 November 1951. F4U BuNo. 82099 received intense anti-aircraft fire over target causing damage to starboard stub wing.

d. 10 November 1951. AD-3 BuNo. 122729 received starboard stub wing damage from anti-aircraft fire over target.

e. 13 November 1951. AD-3 BuNo. 122739 received structural damage to the fuselage from anti-aircraft fire.

f. 17 November 1951. F4U-4 BuNo. 96880 received structural damage in fuselage by runaway 20MM gun on flight deck.

g. 27 November 1951. AD-3 BuNo. 122747 received structural damage to main spar of starboard wing from cannon bursts of MIG.

h. 28 November 1951. F4U-4 BuNo. 97054 received major damage when plane flared out and flew directly into barrier without engaging arresting cable.

C. SUMMARY OF ACCIDENTS

1. 4 November 1951. AD-2 BuNo. 122346 while on night heckler mission was hit by anti-aircraft fire in the vicinity of Amboyn. Pilot bailed out, plane crashed and burned. Pilot missing.

2. 13 November 1951. F9F-2B BuNo. 123671 while turning into the groove with pump light on had flame out. Ditched starboard quarter. Pilot recovered by helicopter.

3. 17 November 1951. F9F-2B BuNo. 123625 with full power on received defective catapult shot and ditched immediately in front of ship. Pilot recovered by helicopter.

4. 18 November 1951. F4U-4 BuNo. 96851 received anti-aircraft fire over target vicinity Hungnam. Plane caught fire enroute to emergency field. Pilot bailed out over water and recovered by helicopter.

5. 21 November 1951. F9F-2B BuNo.123664 without power on received inadvertent catapult shot and ditched ahead of ship. Pilot recovered by helicopter.

6. 21 November 1951. F4U-4 BuNo. 97295 lost power immediately after take-off and ditched outside screen. Pilot rescued by helicopter.

7. 21 November 1951. AD-3 BuNo. 122767 was hit by anti-aircraft fire approximately 40 miles west Wonsan. Pilot bailed out. Rescue failed when helicopter was shot up by intense anti-aircraft fire. Downed pilot last observed surrounded by troops. Missing in action.

D. DAMAGE INFLICTED ON THE ENEMY

Targets	Destroyed	Damaged
Buildings	86	101
Factories	3	13
Warehouses	12	15
Locomotives	8	14
Railroad cars	182	231
Vehicles	282	111
Tanks	0	2
Boats	14	28
Freighter (300)	0	1
Frigate type vessel	0	1
Bridges	11	27
Tunnels	0	10
Gun Emplacements	23	7
Supply Dumps	22	3
Fuel Dumps	3	0
Ammunition Dumps	1	0
Round Houses	1	2
Piers	1	2
Transformer	1	
Rail Cuts	338	
Highway cuts	42	
Troops killed (confirmed)	116	
Troops killed (estimated)	395	
Total Troops killed	511	

An estimated 1140 troops were attacked giving a coverage of 45 per cent. CAS flights were only flown the last few days.

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V. PERSONNEL PERFORMANCE AND CASUALTIES

A. PERSONNEL PERFORMANCE

1. The intensive on-board training of the 100 enlisted men who were received aboard as replacements in September and October continued during this final reporting period. All hands put out their best efforts and no personnel problem was encountered. ComSEVENTHFleet gave the Group plaudits by stating: "IT IS REGRETTABLE THAT SO MANY RESERVE PERSONNEL IN AIR GROUP 102 BECAME ELIGIBLE FOR SEPARATION FROM ACTIVE SERVICE WHILE THE GROUP WAS IN THE MIDDLE OF ITS COMBAT TOUR. SUCH A LARGE TURNOVER OF PERSONNEL UNDER THE STRINGENT OPERATING CONDITIONS CAUSES UNDUE COMPLICATIONS. THE DETERMINATION OF THE AIR GROUP TO CARRY ON THEIR PREVIOUS SPLENDID RECORD IS MOST COMMENDABLE."

2. It is felt that a well trained Air Group reaches its peak of performance in the first four months of combat operations of the type experienced by this Group. The rigid, intensive operations required with resultant strain, both physical and mental, on pilots and men, makes a combat tour of more than four months approach the point of diminishing returns. It is recommended that combat tours, if possible, be limited to four to five months maximum if present type of operation continues in the future.

B. CASUALTIES

1. Enemy Action.

a. 4 November 1951. Ensign Gerald C. CANAAN, 505807/1310, USN, while on night heckler mission over North Korea in an AD-2 Bu. No. 122346, was hit by anti-aircraft fire. He was seen to bail out and is reported missing.

b. 9 November 1951. LT Charles J. BADEWITZ, 250773/1315, USNR, was hit in the right forearm with anti-aircraft fire while on a strike. Made emergency landing at K-50 and flown to field Marine hospital by helicopter. Flown back to ship following day by AD-4Q.

c. 21 November 1951. LT Dale E. MORITZ, 301509/1315, USNR, bailed out approximately 40 miles west of Wonsan in enemy held North Korea after AD-3 he was flying was hit by anti-aircraft fire. Rescue attempted but called off after helicopter crewman injured badly by small arms fire. Helicopter pilot reported seeing pilot dropped by enemy fire on his third attempt to pick him up. Listed as missing.

2. Operational.

a. 21 November 1951. HODGSON, James, AD1, while attempting to inspect a downed plane that was hooked up to catapult was killed instantly when the catapult was fired inadvertently.

b. 11/13/51. IVES, Burdett L., LTJG, USNR 296290, VF 781. Flameout in approach to carrier required ditching aircraft resulting in abrasion of left forefinger.

c. 11/17/51 SCULLY, Robert L., LT, USNR 431853, VF 781. Ditched on launch resulting in strain of Cervical Vertebra.

d. 11/18/51 KEANE, John H., LTJG, USN 522000, VF 783. Bailed out when engine caught fire from AA fire. Submersion -- nonfatal.

e. 11/21/51 ECCLES, Richard D. LT USNR, 560359, VF 781. An inadvertent catapult shot forced him to ditch. Suffered a sprained neck.

f. 11/21/51, BROWN, Richard E., LT, USNR, 437520. VF 874. Ditched when engine failed on rendezvous with a resultant sprained neck.

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VI. COMMENTS AND RECOMMENDATIONS

A. OPERATIONS

1. During this final reporting period, the Air Group continued to operate with the efficiency, confidence and smartness of old hands. Perhaps the high point in regard to carrier operations was reached on 10 November when General Matthew Ridgway observed operations on the BON HOMME. In company with Admiral Martin (Commander SEVENTH Fleet) and Admiral Clark (CTF 77) General Ridgway climbed down into the catwalk to observe carrier landings first hand. Admiral Martin sent the following dispatch after the day's work:

> "THE WHOLE TASK FORCE SHOULD BE VERY PROUD OF THE SHOW IT PUT ON FOR GENERAL RIDGWAY X IN PARTICULAR THE BON HOMME RICHARD DESERVES A WELL DONE FOR AS FINE A DEMONSTRATION OF CARRIER OPERATIONS AS I'VE EVER SEEN."

2. The "rail-splitting" program continued during this operating period. The rail system of the enemy was cut day after day in an effort to stop the Communist supply route to the front lines from functioning. Pilots felt they were achieving success, especially toward the end of this reporting period when more and more oxcarts and vehicles were observed. The enemy apparently was being forced to move by road rather than rail. In addition to rail cutting, several key bridges were attacked, several special strikes on concentrated enemy targets were made, and some close air support flights were flown along with the usual jet reconnaissance missions and airfield sweeps.

3. Pilots used all the cunning and skill gained during four months of battle experience but planes continued to get hit. A total of 42 planes were hit this final reporting period. In an effort to reduce the effectiveness of the enemy anti-aircraft fire, some coordinated strikes, with jets sweeping in ahead of the props, were very successful. On targets, such as heavily defended key bridges where anti-aircraft positions were accurately plotted, the coordinated strikes seem to be the answer.

4. The only instance of Air Group ONE HUNDRED TWO planes being attacked by MIGs occurred on 28 November when two enemy jets made one pass on five Corsairs and three Skyraiders. The run was begun from slightly above and behind with the enemy planes swooping down and firing from below. One AD-3 was hit and damaged but returned safely to the carrier.

5. This reporting period completes the combat tour of Air Group ONE HUNDRED TWO. The Group is proud of its record of an entire cruise without a serious carrier landing accident. The Damage Control Officer stated that in his lengthy service on carriers in combat in World War II, he had never completed a full cruise without a serious landing accident. He was most happy that he was never called upon to use fire fighting equipment or make major repairs to the flight deck. This record was established in spite of landings of badly shot up aircraft and on some occasions with planes piloted by wounded pilots. The record stands as a tribute to the calibre of pilots and landing signal officers of Air Group ONE HUNDRED TWO.

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B. INTELLIGENCE

1. Briefing and Debriefing. This phase of the overall operation has been excellent and is a tribute to the high calibre of Squadron Air Intelligence Officers. All information received was promptly and properly disseminated to all interested pilots and aircrewmen. It is to be noted that no room is available for interrogation. This will be covered below in paragraph (3) regarding ready room recommendations.

2. Reports. A new recommended Air Attack Report form is being processed through channels and, if adopted, will be a great help to Air Intelligence Officers. Also, the operating commands will get more accurate information more quickly. Much ordered, much needed Aircraft Vulnerability Reports and Aircraft Crew and Survival Reports are still not aboard. We were able to get approximately 140 Aircraft Vulnerability Reports and 75 Aircraft Crew and Survival Reports from a sister ship. The total number needed for the entire period is over 7000 Aircraft Vulnerability Reports and over 1000 Aircraft Crew and Survival Reports. To fulfill the immediate needs, it is planned to make an original and one copy of each to forward to Chief of Naval Operations. All carriers departing for WestPac should have 10,000 Aircraft Vulnerability Report Forms and 1000 Aircraft Crew and Survival Report forms. With as many as 25 addressees requesting a copy of this report, either a stencil (such as the Air Attack form) should be made up, or the reports should be handled the same as the Air Attack Report form recommended by this Command.

3. Ready Room. It is suggested that all ready rooms be equipped with a 5-panel plywood briefing board. This could be accomplished with little cost and great results. Another item which is badly needed is proper lighting over the briefing board.

4. Escape and Evasion. All escape and evasion equipment should be issued to the Air Group prior to their departure from the West Coast. These items should also be turned in upon arrival in the continental limits of the United States for either survey or reissue. The Escape and Evasion Reports from FEAF giving the escape procedure used by each escapee are regarded by the pilots and aircrewmen as most useful and are thoroughly discussed and read. A definite escape and evasion program should be outlined to the pilots before each special flight. A weekly brief on all routes, methods, contacts, procedures and any new information received should be given all pilots and aircrewmen. This can be easily done at General Quarters. All escape and evasion material should be routed through the Intelligence Officers. Survival phases will be covered in detail under Survival of this action report.

5. Publications. When the Air Group is deployed aboard ship, publications such as the Weekly Intelligence Digest, Weekly Summary Digest should be sent to the Air Group Staff only as stowage space is critical

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C. MAINTENANCE - General

1. During this last period of operation, there has been no outstanding maintenance problems or changes. The cold weather has finally caught up with us. When the temperature dropped below 40° F., we started operation "Oil Dilution." It was found that by waiting until the planes were respotted and then having the plane captains perform the cockpit part of the oil dilution operation (turning up for four or five minutes and exercising the hydromatic propellers while a man from the engine-check crews operated the manual oil dilution valve and another man from the plane handling crew stood by with a fire bottle) the operation went off with a minimum of trouble. Close inspection of oil strainers after each day of operation is necessary, due to the diluted oil breaking loose sludge and tending plug up the oil strainers. It is the policy to use an outside source of electric power for all starts on the piston aircraft to conserve the aircrafts batteries.

2. Another suggested procedure is to start the aircraft at the rear of the pack first. It takes a little longer to get all the aircraft started, but it is believed that the safety factor involved is worth the loss in time. It is almost impossible to keep one's footing on a wet or icy deck with planes forward turning up.

F9F

1. An increased number of fuel system emergencies have occurred during the early winter months in the Korean area. Prior to 28 September 1951 only one case of a low boost warning light coming on had occurred during the summer months. From that date to the present time, twelve cases of low boost warning lights coming on have occurred.

2. The immediate thought was that this was due to fuel contamination although the low pressure filters were not particularly dirty. It was found that some fuel cells and tip tanks had accumulations of dirt so they were cleaned to prevent any power plant malfunctions.

3. After cleaning the fuel cells and tip tanks, low boost light warnings continued to occur and almost every case could not be duplicated on the deck. Also, in almost every case the boost light did not come on until the latter part of the flight and most of the flight up until that time had been flown at 10,000 feet or above. With this information, it was deduced that the low pressure filter was being clogged by ice crystals or high viscosity oil particles.

4. In order to study the possibility of moisture coming from the air, certain atmospheric data was obtained on days when aircraft had a low boost light. No conclusions were made from the data but it is submitted for reference.

Date 1951	A/C Bu. No.	Temp. @ 1200°C Sea Level	Relative Humidity	Temp. @ 1200°C 5000 feet	Relative Humidity	Temp. @ 1200°C 10,000 feet	Relative Humidity
9/28	123661	+16	72%	+12	64%	0	70%
10/3	123656	+15	65%	+ 6	——	- 3	--
	123676						
10/5	123369	+16	40%	+ 4	30%	0	Neg.
10/11	123663	+18	90%	+12	65%	+ 2	80%
	123625						
11/4	123704	+14	70%	+ 4	70%	- 4	70%
11/16	123702	+ 6	60%	- 4	80%	-10	Neg.
11/17	123664	+ 8	60%	- 2	70%	-10	Neg.
11/18	123701	+ 8	60%	- 2	60%	- 8	Neg.
11/21	123669	+11	77%	+2.5	55%	-2.5	Neg.

NOTE: Negligible - Less than 10%

5. The sequence of events that occurred on the 21 November flight were as follows: The flight to the target was made at an altitude of 13,000 feet for 30 to 40 minutes. On target, fuel in the tip tanks had been used up and four 30 to

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35 degree dives were made on target. During the first pull-out the pilot noticed a low boost light and that it would come on above 90% but would go out below that RPM. With the boost light out the remaining runs were made. Returning to the ship at 10,000 feet any increase above 90% would turn the light on. After landing, the boost light came on while accelerating away from the arresting gear. Several hours later, after the fuel temperature had increased, the aircraft was turned up and no boost light would come on. The fuel and filter were clean and the pressure sensing switch appeared to be functioning properly.

6. All jet aircraft assigned to this activity are being operated with 3% SAE 1100 oil and fuel mixture. Fuel and oil are mixed by proportioner whenever possible.

7. Moisture can come from two sources, the air and the fuel. Moisture in the air can enter the fuel cells through the pressurizing vent and the tip tanks through the air vents. Water is soluble in the fuel and can enter the fuel system in this state. The solubility of water in fuel decreases with a decrease in temperature, therefore as the temperature of the fuel is reduced, the water will precipitate. The submerged fuel pump is designed to separate, to a great extent, the water from the fuel. As the remaining water droplets pass through the lines to the low pressure filter it is highly conceivable that the droplets become frozen because the fuel lines and the filter assembly are exposed to the outside air. The water crystals then build up on the filter and cause a pressure drop.

8. It is recommended that normal emergency procedures for low boost light be followed except when a change in altitude below the freezing level can be maintained. By doing this, further freezing may be delayed in order to assure a safe landing.

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D. AVIATION ELECTRONICS

1. Results during this period continued to remain at the high standard experienced during previous periods. It appeared that all defects normally encountered during initial operational periods had been cleared and reports of failure during operation decreased about 20 per cent.

2. Although fewer personnel were available in the shop and line to maintain the equipment than during the previous periods no adverse effect or overload was noted. It could be expected that the personnel having gained valuable experience during the first five months of operation would be able to maintain the equipment although there had been a reduction in the number available. In addition, a large percentage of the seaman personnel assigned to electronic maintenance had advanced in rate through study and training and were capable of performing a better maintenance and repair job.

3. The work load continued to occur during the late afternoon and night period. This enabled the clearance of all troubles prior to the next day's flight operation There were only a few instances where plane availability was affected by electronic troubles. As a general rule no plane was considered to be "down" because of inoperative electronic equipment since all troubles were immediately cleared by interchange of the defective equipment using available spares. Clearance of the actual trouble in the defective unit was then handled on a routine basis and usually completed within three to five hours depending on the nature of the trouble.

4. Performance of the electronic equipment during the six month's period was reviewed to determine what can be expected. The following tabulation of results are based on this Air Group's idea of evaluating performance and has enabled the Staff Electronics Officer to determine work load assignment as well as spot equipment that was constantly being reported as defective.

5. The first tabulation shows the number of units maintained (including spares); operational troubles reported; troubles found on routine checks, operational troubles reported were found (OK on test), and total troubles cleared by shop personnel plus other data indicating performance.

Equipment	No. of Units* Mtn'd	Troubles Opr	Troubles Rtine	OK on Test	Total Tbls Clrd	Troubles per unit per month	Total Oper. hours	Tbls per 1000 hrs of operation
AN/ARC-1	95	334	58	101	291	.51	18038	16.2
AN/ARR-2	86	229	31	49	211	.41	16235	13.0
AN/APN-1	86	89	20	18	91	.18	18200	5.0
AN/APX-1	57	21	34	3	52	.15	14704	3.5
AN/APX-6	26	30	10	13	27	.17	3334	7.9
AN/ARN-6	28	21	3	14	10	.07	3334	3.0
AN/APS	11	72	8	12	68	1.03	612	111.0
AN/APR-9	6	8	4	2	10	.28	550	18.0
AN/AIC-4	6	4	1	0	5	.14	5627	.90
AN/APS-20	4	37	3	0	40	1.66	756	53.0
AN/ARA-8	1	1	0	0	2	.17	50	Note (1)
AN/APG-10	19	0	6	0	6	.05	1250	4.4
AN/APS-4	19	15	20	0	35	.31	450	Note (1)
AN/APA-16	3	0	3	0	3	.17	0	Note (1)
AN/APA-64	6	3	4	0	7	.19	550	12.7
AN/APA-70	6	5	2	1	6	.17	550	10.9
AN/ARR-31	4	2	1	0	3	.13	156	Note (1)
AN/ARC-5	86	28	18	0	46	.09	16375	3.0
AN/ARC-2	4	2	1	0	3	.09	75	Note (1)
AN/ART-26	4	3	0	0	3	.17	175	17.2
AN/APA-61	4	0	2	0	2	.12	550	3.9
AN/APX-13	4	3	0	0	3	.17	756	4.0
Total	569	917	229	213	933	.28	97327	9.6

Note: * Number of units maintained includes spares
Note (1) Not used sufficiently to give good indication of performance.

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6. From the above it can be seen that the communication radio equipment performed very well whereas troubles frequently occurred in the radar equipment. The An/ARC-1 equipment operated on an average of about 70 hours before trouble developed. During this period the equipment withstood 20 to 23 carrier landings. In the case of the AN/APS-19 equipment, a trouble occurred about every 9 hours of operation. Although this appears high with respect to communication type equipment, this performance is above that expected of the equipment based on the knowledge of the numerous modifications that are in progress to increase its efficiency. Many of these changes have not been made due to the lack of new parts in the forward area.

7. The second tabulation shows the number of units having troubles as indicated:

	Number of units having				
Equipment	No Troubles	1-3 Troubles	4-6 Troubles	7-9 Troubles	10 plus Troubles
AN/ARC-1	6	50	32	7	0
AN/ARR-2	10	52	19	5	0
AN/APN-1	24	57	5	0	0
AN/APX-1&2	43	41	2	0	0
AN/APX-6	11	14	1	0	0
AN/ARN-6	21	5	0	0	0
AN/APS-19	0	2	3	0	0
AN/APR-9	1	4	1	0	0
AN/AIC-4	3	3	0	0	0
AN/ASG-10	14	4	1	0	0
AN/APS-4	10	2	5	2	0

Because of the little usage made of other types of equipment a complete summary under this study was not considered necessary.

8. In addition to the clearance of all troubles occurring in electronic equipment the shop also completed routine checks on 1928 units or an average of approximately 322 per month. This included acceptance checks on replacement aircraft, 60 and 120 hour checks. Repairs were also made to 36 AN/ARC-1's for destroyers of the Task Group as well as those used in Air Plot and CIC aboard the ship. A large number of AN/ARC-1's repaired for the destroyers were modified to comply with Technical Order 67-50 which placed 121.50 Megacycles on the guard channel.

9. During the six months a total of 438 RUDAEE's (Report of Unsatisfactory or Defective Aviation Electronic Equipment) were prepared and submitted. Breakdown of the RUDAEE Reports is as follows:

AN/ARC-1	116	AN/APA-64	2
AN/APN-1	58	AN/APR-9	1
AN/APX-1&2	32	AN/APS-4	20
AN/ARR-2	35	AN/APS-19	59
AN/ARC-5	18	AN/ART-26	5
AN/ARN-6	6	AN/APX-13	4
AN/APX-6	16	Test Equipment	6
AN/APS-20	18	General	37

10. During the six month period a total of 1364 vacuum tubes were used in repairing and maintaining electronic equipment. The largest number used of any one type was 698 6AK5 tubes used primarily in AN/ARC-1 type of equipment. In general the allowances were adequate and no change is recommended in quantities except in the following types:

Type tube	Allowance	6 month Allowance	Number Used	6 month Recommended
6AK5	AN/ARC-1	200	530	450
832-A	AN/ARC-1	60	88	80
6C4	AN/APX-1	12	29	24

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11. Shortages also occurred in a number of parts such as special resistors, pulse forming networks, parasitic dipoles, indicator visors, filter condensers, altimeter antennae and tuning assemblies for AN/ARC-1 transmitter-receivers. A large number of altimeter dipole antennae were used because the location of this antenna on the F9F-2 plane was not satisfactory insofar as plane handling under carrier operating conditions. It had previously been recommended that a flush type of antenna be installed in this type of aircraft. Approximately 87 antennae were used during the six months period as compared to an allowance of 12. The problem of having antennae was solved by repairing locally and placing them back in supply for reissuing.

12. From experience gained during this six months operation it appears that when an Air Group is embarked aboard a carrier that the electronic personnel in the squadrons and teams be placed under direct supervision of the Air Group Electronics Officer for coordinating the assignment of personnel to the shop and line. This arrangement was, in general, used during the time the Air Group was embarked aboard the carrier with the exception of the AEW Team which had its own Electronics Officer. Cooperation of these two officers permitted a satisfactory maintenance and repair schedule and eliminated any controversy between squadrons as to priority on repairs or use of the Electronics Shop and associated equipment.

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E. SURVIVAL

1. Over Land. During the entire period of operation from the time of our arrival in the battle area, Air Group ONE HUNDRED TWO lost 40 planes and had 40 pilots downed, 30 of these pilots have been returned to the ship. The following is a summary of the loss of aircraft where pilots were recovered:

7 shot down over Korea
6 hit by enemy fire and ditched in Wonsan Harbor
6 crashed into the sea after cat shot
4 crashed into the sea after take-off
2 crashed into the sea on landing approach
2 lost at sea, ran out of fuel
2 lost at sea due to faulty engine
1 landed on Korea emergency field (strike)

Ten planes were lost in which the pilots were not recovered. A committe was formed of the pilots who actually survived the above accidents [illegible] with the purpose of submitting recommendations for survival. It was found that survival gear has proved to be very satisfactory in some cases, while in other cases it seems to be very inadequate. Realizing that the wearing of gear is a prerogative, we do recommend these MUSTS:

a. Pre-deployment
(1) Don't panic! Think!
(2) Recommend the Dilbert Dunker be used extensively before deployment using the correct ditching technique in getting out of plane and into helicopter sling in windy and choppy waters.
(3) Dunker training with helicopter rescue should be made mandatory before deployment.

b. Clothing
(1) Clothing sizes should be as close fitting as possible. Clothing that is too small or too large does not give the pilot the necessary comfort he needs to react to all situations with the highest degree of performance.
(2) Do not wear torn or oily clothing since they create a fire hazard.
(3) Wear only clothing needed for the season and that seasonal wear list is suggested by the local area.

c. Survival Hints
(1) Unfasten the parachute straps for take-offs and landings. (Note: Three of the 30 board members recommended keeping the straps buckled).
(2) Leather shoe laces should be worn.
(3) Wear hard crash helmets at all times.
(4) Light waterproof gloves should be worn. Leather gloves were found to be impractical when in cold water.
(5) Extra winter gear should be carried in a back pack.
(6) A "G" suit and exposure suit combination would be highly desirable.
(7) Some pilots wear their "G" suits over the immersion suit, thus creating a vacuum in the legs which in turn causes their feet to come to the surface almost drowning the pilot.
(8) The personal first aid kit carried on the pilot's person should be smaller in size and contain only items for immediate first aid and should be made absolutely waterproof.
(9) The C-1 life vest is too bulky, especially for over-water flying. Many of the items are duplicates of the Mae West and could be sewn somewhere on the flight suit or put in a back pack.
(10) Check Mae West every day all items therein.
(11) Hoist line on Mae West should be made to connect with the helicopter sling to help insure safe hoist to helicopter.
(12) The carbon dioxide bottles on the Mae West container should be checked thoroughly and constantly. Each pilot should know how many turns it takes to insure the cap is fully down.
(13) Night fighters should carry tracer ammunition for their .38 calibre pistols.

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(14) A quick disconnect should be made to make the accessability easier for taking the raft with you on all ditches in water.
(15) There should be a thorough indoctrination of the proper way of inflating life rafts, such as knowing the snaps should be pulled from the top.
(16) Ammonia capsules and tourniquets should be made available in the cockpit. Perhaps tourniquets straps could be sewn on the pressure points of the arms and legs of the flight suit.
(17) It is recommended that immersion suit capsules be available for heating the water that creeps into the suit.
(18) Wear the necessary gear for a particular type of hop, but be prepared for survival in water.
(19) There is too much emphasis on survival for a long period of stay. The emphasis should be on immediate needs.
(20) A canteen of fresh water should always be carried on the person.
(21) Always carry additional flares and at least one mirror on person.
(22) Do not use your flare until the helicopter is in sight or until the sound is undoubtedly close.
(23) Always carry a burn ointment.
(24) A scarf should be worn and used as a directive of enemy fire on ground. Sew loud colored arrows on scarf, large enough to see from air. The arrow should be of fluorescent material.

d. Helicopter
(1) The step on the helicopter should be lowered one more flexible rung.
(2) Handles should be installed on the inside of the helicopter cockpit to assist the downed pilot in getting into the cockpit.
(3) A helicopter can only pick up 230 pounds so discard all unnecessary gear before being hoisted.
(4) We should have more helicopter stations more strategically located throughout operating coastal areas.
(5) The twofold duty of an LST could be: (1) a weather station and (2) as a base for a ready helicopter.
(6) Helicopter crewmen should wear immersion suits as well as the pilots, also, should be a qualified swimmer.
(7) Discard parachute before getting into the sling. (This is almost impossible to do when in cold water.)
(8) Rescue procedure should be practiced thoroughly for all conventional pilots and pilots and crewmen of helicopters before deployment.
(9) There should be pre-arranged signals between helicopter pilot and downed pilot to eliminate any lost motion as well as loss of life. Don't be in too much of a hurry. Know your rescue job!
(10) The helicopter should stay at a low altitude until the downed pilot is safely aboard.
(11) Helicopters can assist greatly to blow flame away from downed pilot when in a fire. This should be included in the helicopter training syllabus.
(12) The helicopter crewmen should be thoroughly and frequently indoctrinated with rescue procedure.
(13) Keep your arms down at all times while in the helicopter sling.
(14) Be indoctrinated on helicopter harness, and practice getting into the sling.
(15) A loud speaker should be installed on the helicopter to direct downed pilots. This can also be of great value when two or more persons are in the water at the same time and place.

e. Landings
(1) Be prepared for water landings at all times but have a separate kit for winter clothing in case of going down on land.
(2) Water landings are preferred to landings on land. However, this again is the pilot's prerogative and not always a choice.

A total of 6 survival kits have been dropped during our entire stay out here. Four of these kits were dropped inadvertently while the fifth was dropped to what appeared to be a parachute stretched out on the ground. The pilot carrying the kit circled the spot to see if there were any signs of life. There was no

indication of any survivors around but the kit was dropped to eliminate any doubt.

The last survival kit dropped was dropped on 21 November 1951 to assist LT MORITZ who was shot down over Korea by anti-aircraft fire. He parachuted to safety and was last seen running for cover. No word has been received from him or about him.

2. Over Water. The helicopter pilots and crewmen have been doing a magnificent job of returning our downed pilots from the water and land. We cannot do without them. All the AD-4Qs -4Ws and -4Ns of Air Group ONE HUNDRED TWO have been carrying extra life rafts that may be dropped. Our night fighters have been carrying their share of survival gear as well as extra life rafts. All pilots have been carrying an extra supply of night flares on their person as we have found that these flares greatly facilitate the visual search for life rafts or pilots in the water. We now have two complete survival kits aboard after our combat operation and these kits will be turned over to the representative for ComFAirJap in Yokosuka. We have not received the survival kits assigned to us by ComAirPac via dispatch 010144Z of September 1951.

3. Immersion suits. When the temperature of the water around the operating area dropped to a reasonably cold degree (around 55 degrees) all our pilots donned immersion suits as a precaution. These immersion suits proved to be highly successful as protection from freezing. With these immersion suits for water survival and all the land survival gear carried by each pilot and in the survival kit, our pilots felt quite secure in that their chances for survival were about as complete as possible.

4. Conditioning Room. The forward decontamination room, still being used for a conditioning room for all pilots, has proved its worth in maintaining the excellent physical condition of the pilots. This room has been in use constantly, before and after hops, and has actually served as a morale factor. All pilots were confident of their chances of survival when their bodies had been kept in the best condition possible.

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G. COMPOSITE SQUADRON TEAMS - VC-11

1. Recommendations.

a. AEW flights should be scheduled often enough to maintain the efficiency of the Airborne Controller in air to air intercepts as well as indoctrinating shipboard controllers in this phase of AEW Team operations. When newer equipment is in use in the fleet this may become the major field of operations for the AEW Team.

b.

During this six months tour the pilots of this team have flown an average of six hours instrument time apiece and feel that their proficiency on instruments is considerably lower now than at the beginning of this tour.

c. The VHF relay (Middleman) currently installed in the AD-4W and F4U5NL should be used often enough to insure its operation when needed and to indoctrinate the various personnel concerned in its use.

(1) A simple flight deck test for middleman should be developed to insure operation of this equipment after the plane is airborne.

d. One member of each Team should be trained in the use and maintenance of the P.O. equipment (Terminal equipment) and should act as liaison man between the ship's CIC and the AEW Team.

e. APX-6 (Bongo) should be incorporated into the APS20 installation at an early date in view of the widespread use of jet aircraft for combat air patrol.

2. Electronics

a. Communication equipment (ARC-1) has accounted for most of the electronics difficulties encountered by this team. Thirty-eight 6AK5's were used in the ARC-1's during the entire tour. The antenna location on the #1 VHF set is not satisfactory. Changing from set one to set two will usually help.

b. The radar has performed very well during this tour. Fifteen 1N21B were used which is by far the largest useage item in APS-20-A.

c. Instruments and Auto Pilot have caused a considerable amount of trouble. The gyro horizon has been the main source of this trouble. It was found that about one third of the gyro horizon's have been bad when received from supply. Ten gyro horizons were used during this cruise.

d. Two change over relays have failed, however, the new relay 8910-1A appears to be a better relay and a good fix. Future teams should be sure that the 8910-1A relay cans are installed in the change over relay. This change has only been in effect about one month.

e. It is our opinion that an emergency ICS system was necessary in the AD4W. When the present system gives out no cummunication between the pilot and crew is available. This team drew six sound power phones, stock numbers G-17-T-3050-60 and installed same for emergency ICS. The sound power system is completely independent of the ICS system and requires no power supply to operate.

f. A small tool box was installed in each plane with a few tools and tubes in it. This system has made it possible to fix the radar in the air when a crystal or accessible tube was causing trouble.

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VC-61

1. During the operating period from 31 May to 28 November 1951, the photo detachment flew a total of 242 flights off the ship. Of these, 24 were aborted by bad weather and five were aborted after launch by aircraft trouble. Seven aircraft were downed on the flight deck, five for ignitor trouble, one because of spot, and one because of radio failure. Only three standby aircraft were launched. On the other four occasions when the standby could have been launched all of the available aircraft were scheduled to go, so no standby was available.

2. Photo flights during the period averaged 1.5 hours. Distance to first target varied from 65 to 225 miles. The oblique camera was used on 73 of the 213 sorties in which photographs were obtained, and the vertical camera was used on 211 of these sorties.

3. Breakdown of targets covered by photographs during period:

	No. of targets	No. of exposures
Bridges	1117	4188
Railroad marshalling yards	231	1176
Miscellaneous	211	1072
Total (less mapping)	1559	6536
Total (with mapping)		14,659

4. In addition to the above, 500 mapping runs were made for a total of 8123 exposures. The total number of exposures for the entire period comes to 14,659. Mapping covered all main recco routes, major and minor cities, rail routes, beach defenses and supply areas. A total of 88 two-strip maps for flak analysis of heavily defended areas is included.

5/ Miscellaneous targets include small towns, airfields, supply dumps, storage areas, strangle areas, boat repair facilities, railcuts, trains, grenade factories, lumber mills, troops, dams, powerplants, quarries, flak traps, downed aircraft (friendly), and tanks.

Damage to Aircraft during Period

1. Aircraft were hit by small arms fire on 6 different flights and by medium flak (20mm) on one flight for a total of nine bullet holes. All damage was minor and no pilot was injured.

2. Aircraft were damaged on 13 occasions during handling on hangar deck or while secured on the hangar deck. This was due to improper securing of loose gear (fork lifts and jeeps), misjudgment of plane handlers and misjudgment of fork lift drivers. All damage was minor.

3. There were no landing, take-off or flying accidents.

Maintenance problems encountered throughout period

1. Three engine pump lights - cause, contaminated fuel, once from ships supply and twice from airfield on beach (K-18). It is suggested that a chamois and clamp be included in cockpit so that if a landing on a non-jet airfield is necessary, fuel can be filtered. Also, a thorough check and cleaning, if necessary, be made on gas tanks at least once every three months. Tanks should be inspected internally after being refueled at any field not operating jets and where no filter is used between the gas truck nozzle and the fuel cell.

2. Five failures of landing gear to retract immediately - remedied by setting up hydraulic pump pressure from 1400 pounds per square inch to 1600 pounds per square inch. No failures after this was done.

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