UNITED STATES MARINE CORPS Marine Fighter Attack Squadron 251 Marine Aircraft Group 31, 2d Marine Aircraft Wing, FMFLant Marine Corps Air Station Beaufort, South Carolina 29902

> 3:MRM:rmg 5750 4 January 1977

From: Commanding Officer

To: Commandant of the Marine Corps (Code HD) Via:

- Commanding Officer, Marine Aircraft Group 31
   Commanding General, Second Marine Aircraft Wing
- (3) Commanding General, Fleet Marine Force Atlantic

Command Chronology, period 1 July 1976 through 31 December 1976 Subj:

Ref: (a) MCO P5750.1D

# Encl: (1) First Endorsement, Appreciation for Air Support in Support of Marine Air Control Squadron-23 Annual Training Duty

- (2) MCAS Yuma OpOrder 2-76
- (3) Post-deployment Report for Training Deployment at MCAS Yuma, Arizona
- (4) Staff Study on Proposed Revisions and Additions to the Aviation Training and Readiness Manual

1. Organizational Data

a. <u>Designation/Location</u>. Marine Fighter Attack Squadron 251, Marine Aircraft Group 31, Second Marine Aircraft Wing, Fleet Marine Force Atlantic, Marine Corps Air Station Beaufort, South Carolina 29902.

b. Period Covered. 1 July 1976 through 31 December 1976.

c. Command and Staff

Executive Officer

Commanding Officer

Aircraft Maintenance Officer

**Operations** Officer

Administrative Officer

Intelligence Officer

LtCol. J. B. WUERTZ 1 July - 31 December 1976

Major N. E. DOUGLAS 1 July - 31 December 1976

Major D. P. BROWN 1 July - 31 December 1976

Major G. R. VAN GYSEL 1 July - 31 December 1976

Captain A. R. CALDERON 1 July - 31 December 1976

1stLt H. A. DECKER 1 July - 31 December 1976

ENCLOSURE (6)

Jul - Der 76

Logistics Officer Logistics Officer Captain D. T. KRUPP 1 July - 7 November 1976 Captain D. H. DOUGHERTY 8 November - 31 December 1976 Captain I. P. ZIMMER

1 July - 14 October 1976 Major N. E. DOUGLAS 15 October - 7 November 1976 Captain D. T. KRUPP 8 November - 31 December 1976 1stSgt. J. M. URITESCU

1 July - 12 December 1976 1stSgt. W. T. VINCENT

13 December -31 December 1976

Sergeant Major

## 2. Sequence of Events

a. July

(1) VMFA-251 flew 251 sorties for 250.8 flight hours.

(2) 9 July 1976. Six sorties were flown in preparation for and participation in a dynamic demonstration of Marine Aviation assets conducted for personnel at MCDEC Quantico, Virginia.

(3) 14-16 July 1976. The Commanding Officer represented the squadron at the annual Fighter Symposium hosted by the Navy Fighter Weapons School at NAS Miramar.

(4) 14 July 1976. BGen D. E. BJORKLUND, the Assistant Wing Commander, arrived in a Thunderbolt Phantom for a periodic visit to MCAS Beaufort.

(5) 26-30 July 1976. Fleet adversaries from the Navy Fighter Weapons School provided 25 dissimilar ACM (DACM) sorties for squadron training.

(6) 26 July 1976. The squadron was visited by the Commanding General of the Second Marine Aircraft Wing, MGen R. H. SPANJER. The General was accompanied on this visit by his soon-to-be successor, MGen R. E. CAREY, and the 2nd MAN Chief of Staff.

(7) 28 July 1976. A near tragedy befell the squadron when the Commanding Officer and one enlisted Marine were rendered unconscious by a nearby lightning strike. The CO and other personnel were participating in a rehearsal for the upcoming 2nd MAW change of command ceremony. Both men were hospitalized for observation and were subsequently released. (8) 30 July 1976. The squadron took part in the 2nd MAW Change of Command.

b. August

(1) WFA-251 flew 136 sorties for 221.2 flight hours.

(2) 2-6 August 1976. A detachment from VMA-513, flying AV-8 Harriers, provided approximately 10 DACM sorties for squadron training.

(3) During the first week of August, preparations began in earnest to augment VMFA-122's participation in Exercise Teamwork/Bonded Item 76. Previously selected aircrews were scheduled for concentrated aerial refueling training in aircraft configured for the ferry mission. Area briefings and navigation procedures were stressed.

(4) 6 August 1976. A pre-deployment liaison visit to MCAS Yuma was conducted by squadron representatives. Arrangements for the upcoming deployment in late September were discussed.

(5) 8 August 1976. The squadron provided an aircraft for a static display at Tinker AFB in connection with that base's open house. activities.

(6) During this month, plans to implement a promising new concopt in aircraft camouflaging techniques began to take shape. The intent is to paint one of the squadron's aircraft using the Keith FERRIS method, a system that attempts to disguise the aircraft's aspect rather than conceal it totally. The F-4 paint design, the appropriate shades of paint, and authorization from MR. FERRIS were obtained.

(7) 23-27 August 1976. The squadron participated in ECM training against EA-6 aircraft from VMAQ-2.

c. September

(1) VMFA-251 flew 193 sorties for 268.0 flight hours.

(2) 7 September 1976. The squadron launched 12 VMFA-122 aircraft plus two of its own as backups on trans-lant Agile Heron.

(3) 6-10 September 1976. An enroute maintenance support team was established at Loring AFB to provide required support for Agile Heron.

(4) 4-18 September 1976. The Squadron flew 47 sorties for 64.9 Flight hours in support of Parine Air Control Squadron-23 during their Annual Training Buty Frogram. Enclosure (1).

(5) 24-26 September 1976. Flight movement of 11 F-4J aircraft to MCAS Yuma was conducted for a squadron training deployment. Embarkation of personnel and cargo was also completed. Enclosure (2).

(6) 28 September 1976. Deployed flight operations commenced with fighter intercept and fighter weapons training missions.

d. October

(1) VMFA-251 flew 360 sorties for 408.2 flight hours.

(2) 6 October 1976. An ACT(I) course for two squadron aircrewmembers was completed.

(3) 8 October 1976. Concentrated ground attack training began during the Yuma deployment. Both practice and live ordnance delivery were conducted.

(4) 22 October 1976. A realistic exercise scenario created by the Intelligence Section culminated in a joint stream raid conducted by this squadron and WMAT-102 against a target complex in the Chocolate Mountain impact area.

(5) 23 October 1976. Flight ferry of the squadron's aircraft following the Yuma training deployment was completed. Enclosure (3).

(6) 25 October 1976. The retrograde movement of personnel and cargo from MCAS Yuma to MCAS Beaufort was completed,

e. November

(1) VMFA-251 flew 151 sorties for 212.6 flight hours.

(2) 3 November 1976. The squadron published a staff study on p proposed revisions and additions to the Aviation Training and Readiness (T&R) Manual and the FREDS interface as applies to the Marine F-4 community. The study, which offers a realistic approach to training with limited assess, was forwarded to the training manager, VMFAT-101, for consideration. Enclosure (4).

(3) 20 November 1976. Two squadron aircraft on a cross-country training flight conducted mutually beneficial fighter intercept training with MACS-15, a 4th MAW GCI unit at Dobbins AFB.

(4) 23-24 November 1976. The squadron flew 11 sorties in support of MAG-31 Operation "Turkey One".

f. December

(10 VMFA-251 flew 122 sorties for 207.4 flight hours.

(2) 2-3 December 1976. A section of A-4E's from NAS Willow Grove and a KC-130 from 2nd MAW operated with the Thunderbolts for dissimilar ACM and aerial refueling training.

(3) 8-10 December 1976. The squadron flew eight sorties in the MAG-31 MISSILEX. Because of various problems, only two Sparrow firings resulted. Each of these missiles guided successfylly.

(4) 9 December 1976. Acting as augmentation forces to the 20th Air Defense Region, the squadron launched four alert aircraft in support of Exercise Vigilant Overview 77-1.

(5) 17-22 December 1976. The squadron conducted concentrated ECCM training against EAR-3 aircraft from VAQ-33. Additional aerial refueling training with KC-130 aircraft from 2nd MAW was also accomplished.

## 3. <u>Narrative Summary</u>

Marine Fighter Attack Squadron Two Five One continues to prepare itself for the execution of its primary mission - "To intercept and destroy enemy aircraft and missiles under all weather conditions, to attack and destroy surface targets, and to conduct such other air operations as may be directed". In times of peace, the squadron devotes its energies toward development of the aviation skills of its aircrewmembers and enlisted Marines and the military expertise of all hands. The Commanding Officer, by providing guidance and carefully directing his staff, continually seeks to attain the highest levels of combat readiness, technical proficiency and professional excellence. Realistic and challenging training programs are the means by which this development occurs. By channeling its efforts in this direction, the squadron readies itself to perform its assigned mission in the typically outstanding manner characteristic of a Marine Fighter Attack Squadron.

Throughout this six month period, a constant battle has been waged to achieve personnel stability and to mangge available assets effectively. Enlisted strength figures have hovered close to critical levels and several significant loss trends have been noted. Enlisted maintenance personnel possessing basic airframes military occupational specialties (i.e., metalsmiths, hydraulics mechanics and power plants technicians) have been in short supply. The drain on these skills bears a striking resemblance to the critical shortage of avionics personnel that plagued the aviation community a few short years ago. Although VMFA-251 is not the only unit to experience these personnel shortages, this squadron has made a concerted effort to focus command attention on the problem. Through these efforts VMFA-251 hopes to avert a personnel crisis which could affect readiness.

In order to supplement the existing home-base training program, the squadron conducted an extensive training deployment to MCAS Yuma from 25 September to 25 October 1976.

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The training objectives for the deployment were:

a. To obtain advanced aircrew training in fighter weapons missions against dissimilar adversaries.

b. To increase aircrew proficiency in the fighter intercept mission of the F-4 with added emphasis on low-level, over-land intercepts.

c. To obtain advanced aircrew training in a tactical ground attack role using mixed loads of high explosive ordnance and TAC(A) support.

d. To augment the training of the S-2 Section in aircrew briefing/ debriefing and intelligence gathering/interpretation techniques.

e. To provide advanced training for H&MS-31 TAC(A) pilots in reconnaissance techniques, target identification, flight control and bomb damage assessment.

f. To offer advanced training for maintenance personnel in rapid turn around of live ordnance loaded aircraft during high intensity operations.

g. To obtain advanced training for ordnance personnel in rapid loading of mixed, live ordnance loads during high intensity operations.

Each of these training objectives was fully realized. A total of 414 sortiles and 484.7 flight hours were flown during the deployment period. Five hundred seventy (570) initial syllabus completions and two hundred one (201) refresher completions were achieved. The average CRP increase for first tour pilots and RIO's was 5.1%, while that of second tour personnel was 6.4%. Perhaps more significant was the introduction of a carefully planned wartime scenario. This unique training situation required the aircrew to employ the multi-mission Phantom in all of its roles simultaneously and permitted the squadron to test the "stream raid" concept. The valuable lessons learned from this training exercise form a solid foundation from which future tactics may be developed to counter the high threat environment.

In an effort to make the F-4 training syllabus more efficient and realistic, one of this squadron's officers, CAPT. R. D. STEARNS, proposed some sweeping revisions and additions to the Aviation Training and 4 Readiness Manual. This detailed staff study, included as enclosure (3), recommends increased emphasis on advanced training, introduces reasonable criteria for defining and establishing combat readiness percentage, and dedicates a larger portion of training to prepare aircrews for the postulated enemy threat. The study has been forwarded to WFAT-101 for consideration. Hopefully, CAPT STEARNS' proposals will be adopted and will become the basic guide for F-4 training.

As this period draws to a close, VMFA-251 finds itself deeply engrossed in planning for a future deployment to the western Pacific as a participant in the unit rotation program. While a lack of essential information regarding the details of this move has hampered planning somewhat, the squadron has taken steps to ensure that all personnel will deploy at the maximum training level possible.

How with

UNITED STATES MARINE CORPS Marine Air Reserve Training Unit Marine Air Reserve Training Command Buckley Air National Guard Base Aurora, Colorado 80011

> 6:HJP:tkm 1650 3 October 1976

From: Commanding Officer

- Commanding Officer, Marine Fighter Attack Squadron-251, Marine To: Aircraft Group-31, 2d Marine Aircraft Wing, Fleet Marine Force Atlantic, Marine Corps Air Station, Beaufort South Carolina 29902 Via:
- Commanding Officer, Marine Aircraft Group-31
- Subj: Appreciation for Air Support in Support of Marine Air Control Squadron-23 Annual Training Duty

1. Please accept sincere gratitude and appreciation from the officers and men of Marine Air Reserve Training Unit and Marine Air Control Squadron-23 for the fine training support provided by the aircrews of Marine Fighter Attack Squadron-251 during the period 4-18 September 1976 while MACS-23 was performing Annual Training Duty at Beaufort, South Carolina.

2. Many of the student controllers gained invaluable training and instruction during the briefings and debriefings conducted by your aircrews. The willingness of your flight crews to provide constructive "in-flight" critiques greatly motivated the entire operations section. Special mention must be made of the support and assistance provided by Squadron Leader TAYLOR and Captain STEARNS for the additional time they took in providing instruction on the 15C4 trainer and in the conduct of Major General CAREY's flight operations on 15 September 1976.

3. During our deployment to Beaufort, four enlisted controllers and five officers were able to increase their proficiency during "actual" flight missions.

4. Again, a "very well done" to VMFA-251.



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ENCLOSURE [2]

Copy\_\_\_\_\_of\_\_\_Copies Marine Fighter Attack Squadron 251 MCAS BEAUFORT, SOUTH CAROLINA 29902 271200Z September 1976 GRV-1

## Operations Order 2-76

Ref: (a) LOI MAG-31 121405Z Aug 76 (b) CG 2D MAW 181234Z Aug 76 (c) MAG-31 231501Z Aug 76 (d) MAG-31 231500Z Aug 76 (e) MAG-31 021545Z Jun 76 (f) CG 2D MAW 121240Z Aug 76 (g) NWIP 10-1E (h) MCO P3500.8 (i) MAG-31 301511Z Aug 76 (j) OPNAVINST 3710.7H (k) MCAS Yuma Station Order 3722.3A (l) OPNAVINST 5442.2 (m) WgO 3700.2A (n) WgO 3120.6A

Time Zone: T (Commencing 290701Z Sep 76)

Test Organization:

VMPA-251 (REIN)

## LtCol WUERTZ

MAG-31 Detachment ALPHA

Capt ETHINGTON

VMO-1 (--)

Capt PARKER/CAPT GUEIRNOT

1. SITUATION

a. Enemy Forces. Not Applicable.

b. Friendly Forces

(1) 2D Marine Aircraft Wing provides liaison and logistical support.

(2) Marine Aircraft Group 31 provides liaison and logistal support.

(3) Commanding Officer, MCAS Yuma provides base facilities and aircraft operating area.

(4) Marine Aircraft Group 31, DET ALPHA provides; maintenance, logistic, food service, medical personnel augmentation, TA-4 adversary and C-117 air operations support in accordance with reference (a).

(5) MCAS Yuma provides general intermediate maintenance support.

(6) VMO-1 provides TAC(A) and flare drop support in accordance with reference (b).

(7) TA-4/A-4M adversary support has been requested from VMFAT-102 - reference (c).

(8) A-4F adversary support has been requested from Fourth Marine Aircraft Wing - reference (d).

(9) VMGR-252 provides airlift of squadron equipment from MCAS Beaufort to MCAS Yuma.

2. <u>MISSION</u>. VMFA-251 (REIN) deploy to MCAS Yuma for fighter intercept, fighter weapons, and ground attack training.

## 3. EXECUTION

a. <u>General</u>. As directed in references (a) and (e), VMFA-251 (REIN) will deploy to MCAS Yuma during the period 28 September to 23 October 1976 with II aircraft and MAG-31 DET ALPHA support to conduct fighter intercept, fighter weapons, and ground attack training.

b. <u>VMFA-251 (REIN</u>)

(1) Provide operational planning and principle liaison between all units concerned.

(2) Deploy on order to MCAS Yuma with 11 F-4J aircraft, 39 officers and 141 SNCO<sup> $\circ$ </sup>s and enlisted men.

(3) Flight ferry ll F-4J aircraft from MCAS Beaufort to MCAS Yuma via the flight ferry route contained in Appendix 1 to Annex A (Air Operations).

(4) Report for coordination in accordance with reference (f).

(5) Submit MOVREPS in accordance with reference (g) as required.

(6) Submit daily flight data (FREDS) to MAG-31 by Naval Message in accordance with reference (h).

(7) Submit daily flight schedule to TACC MCAS Cherry Point in accordance with reference (i).

(8) Conduct air operations described in Annex A (Air Operations) in accordance with references (h), (j) and (k).

(9) Submit appropriate 3M data in accordance with reference (1).

(10) Submit Daily OPSUM (STAR) to MAG-31 via AUTOVON/HF radio at the completion of flight operations in accordance with reference (m).

(11) Submit after action report in accordance with reference (n) within ten working days of the unit's return to MCAS Beaufort.

4. ADMINISTRATIVE AND LOGISTICS. See Annex B

## 5. COMMAND AND SIGNALS

a. <u>Signals</u>. AUTOVON circuits will be the primary means of communications between VMFA-251 (REIN) and MAG-31 during normal working hours. The TRC-75 NET will serve as a secondary means of communications in the event "MINIMIZE" is imposed. Commercial telephone will be utilized for time sensitive information when AUTOVON/TRC-75 NET is not available. Naval Message traffic will be utilized for routine administrative traffic.

 $t_{\circ}$  Command. There will be no change in normal command relationships.

B. WUERTZ

Leiutenant Colonel, U. S. Marine Corps Commanding

ANNEXES:

- A. AIR OPERATIONS
- B. ADMINISTRATIVE AND LOGISTICS
- C. DISTRIBUTION

DISTRIBUTION: Annex C (Distribution)

Marine Flighter Attack Squadron 251 MCAS-BEAUFORT, SOUTH CAROLINA 29902 271200Z September 1976 GRV-1

Annex A (Air Operations) to Operations Order 2-76

Ref: (a) WgO 3710.24B

- (b) NAVAIR OL-245FDB-IT
- (c) MCO P3500.8\_
- (d) OPNAVINST 3710.7H
- (e) Sqdn0 3710.2E

Time Zone: T (Commencing 290701Z Sep 76)

1. SITUATION

a. Enemy Forces. Not Applicable.

b. Friendly Forces. See paragraph 1.b. of the basic order.

2. <u>MISCION</u>. VMFA-251 (REIN) will deploy via flight ferry route, and airlift to MCAS Yuma, Arizona to conduct approximately 340 advanced ground attack and fighter intercept/fighter weapons sorties.

3. EXECUTION

## a. <u>Concept of Operations</u>

(1) VMFA-251 (REIN) will deploy with 11 F-4J aircraft 39 officers and 141 staff and enlisted men to MCAS Yuma, Arizona.

(2) "The principle items of squadron maintenance equipment and supplies are on site at MCAS Yuma. Shop pack-ups and additional GSE will be transported to MCAS Yuma via airlift on 27 and 28 September 1976.

(3) The advance party (30 personnel) will depart MCAS Beaufort on 25 September 1976 via C-9 airlift. See Annex B (Administrative and Logistics).

(4) Staff and enlisted personnel plus 8 officers will depart MCAS Beaufort on 27 and 28 September 1976 via airlift. See Annex B (Administrative and Logistics).

(5) Four (4) F-4J aircraft and crews will depart MCAS Beaufort 25 September 1976 and seven (7) F-4J aircraft and crews will depart MCAS Beaufort 26 September 1976 according to the schedule depicted in Appendices 1 and 2 to this annex.

(6) Area familiarization and course rules briefs will be conducted at the MCAS Yuma Officers Club at 1900 on 28 September 1976 by the Fleet Liaison Officer.

## A-l

(7) The on site flight schedule will begin on 29 September 1976 as depicted in Appendix 3 to this annex.

(8) Personnel and equipment retrograde will commence on 22 October 1976.

(9) WMFA-251 (REIN) aircraft will depart MCAS Yuma, Arizona on 22 October 1976.

b. All fighter weapons flights will be conducted in strict accordance with 2D MAW ACM rules of engagement contained in reference (a) and with any additional or more stringent rules levied by MCAS Yuma.

c. All air-to-ground ordnance, practice and live, will be preflighted, carried and delivered in accordance with the techniques delineated in reference (b).

d. All missions will be conducted in such a manner as to provide maximum training and syllabus requirement completions in accordance with reference (c).

e. All flights will be conducted in accordance with references (d) and (e).

## 4. COMMAND AND SIGNALS

a. <u>Signals</u>. Frequencies and appropriate call signs are provided in the aircrew deployment briefing cards.

b. Command. See paragraph 5.b. of the basic order.

(J. B. WUERTZ) Lieutenant Colonel, U. S. Marine Corps Commanding

## APPENDICES

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- 1. FLIGHT FERRY ROUTE
- 2. FLIGHT FERRY CREWS
- 3. PROPOSED LAUNCH SCHEDULES
- 4, MCAS YUMA TARGET INFORMATION
- 5. YUMA COURSE RULES
- 6. VMFA-251 PILOT/RIO ROCKET NUMBERS,
- 7. SAFETY

DISTRIBUTION: Annex C (Distribution)

## A-2

Marine Fighter Attack Squadron 251 MCAS BEAUFORT, SOUTH CAROLINA 29902 271200Z September 1976 GRV-1

Appendix 1 (Flight Ferry Route) to Annex A (Air Operations) to Operations Order 2-76

Time Zone: T (Commencing 290701Z Sep 76)

1. Movement of aircraft to MCAS Yuma, Arizona via Tinker AFB, Oklahoma City, Oklahoma.

a. Radar climb to MCN, direct BHM, J14 OKC direct TIK 149/7. (Land and refuel at Tinker AFB) Radar climb to OKC, J74 SJN, J18 YUM, direct NYL 340/43.

b. Total flight time to TIK IAF is 1+59 with 50 Kts headwind component at FL350, 505 Kts TAS. Total flight time to NYL IAF is 2+04 with 50 Kts headwind at FL350, 505 Kts TAS.

2. Movement of aircraft from MCAS Yuma to MCAS Beaufort, South Carolina via Tinker AFB, Oklahoma City, Oklahoma.

a. Radar climb to GBN, J18 SJN, J74 OKC, direct IAF TIK 149/7. (Land and refuel at Tinker AFB) Radar climb to LIT, J14 BHM direct MCN direct SAV direct NBC 100/40.

b. Total flight time to TIK IAF is 1+35 with 50 Kts tailwind at FL350, 505 KTAS. Total flight time to NBC IAF is 1+40 with 50 Kts tailwind at FL350, 505 KTAS.

## 3. Ferry Configuration

- a. One 600 gallon centerline tank per aircraft.
- b. Two LAU-17's per aircraft.

c. One CNV-169A baggage tank per serial.

d. One TER adapter on Sta #1 and #9 per aircraft

4. Launch Times

Flight B	251900Z
Flight A	261700Z
Flight C	261800Z

## A-1-1

Marine Fighter Attack Squadron 251 MCAS BEAUFORT, SOUTH CAROLINA 29902 271200Z September 1976 GRV-1

Appendix 2 (Flight Ferry Crews) to Annex A (Air Operations) to Operations Order 2-76

Time Zone: T (Commencing 290701Z Sep 76)

Flight A.

LTCOL WUERTZ/CAPT SLOAN CAPT DOUGHERTY/CWO-4 MASSEY CAPT ZIMMER/MAJ DOUGLAS LT MARTHILJOHNI/CAPT CLUELOW

Flight B.

MAJ VAN GYSEL/LT FOLEY LT NORMAN/LT WHITEHEAD CAFT CALDERON/LT ROMANCZYK LT POSPISCHIL/LT SCHALK

Flight C.

MAJ EROWN/LT SENN CAPT MOHR/CAPT COBY MAJ KRALOVEC/CAFT STEARNS

(.d. B. WUERT) Lieutenant Colonel, U. S. Marine Corps Commanding

DISTRIBUTION: Annex C (Distribution)

Marine Fighter Attack Squadron 251 MCAS BEAUFORT, SOUTH CAROLINA 29902 271200Z September 1976 GRV-1

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Appendix 3 (Proposed Launch Schedule) to Annex A (Air Operations) to Operation Order 2-76

## Time Zone: T (Commencing 290701Z Sep 76)

## PROPOSED LAUNCH SCHEDULE

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2	1345	1425	1355-1415	ACMR 4 PODS
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2	1800	1900	1815-1845	CM .
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2	1000	1100	1015-1045	CM
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2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	12 00T 0700 0800 1000 1100 1200 1300 1400 1900	0800 0900 1000 1100 1200 1300 1400 1500 2000	18 SORTIES: (15)         0715-0745       PS         0815-0845       LL         0915-0945       RL         1015-1045       LL         1115-1145       PS         1215-1245       RL         1315-1345       PS         1415-1445       LL         1915-1945       RL
R R R R R R R R R R R R R R R R R R R	<u>13 OCT</u> 0300 0815 1000 1100 1300 1400 1530 1900 2100	0900 0915 1100 1200 1400 1500 1630 2000 2200	18 SORTIES (18)         0815=0845       LL         0830=0900       PS         1015=1045       LL         1115=1145       PS         1315=1345       PS         1415=1445       LL         1545=1615       PS         1915=1945       RL         2115=2145       PS

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# <u>14 OCT</u>

# 20 SORTIES (21)

<u>A/C</u> 2 2 <b>2</b> 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	<u>T/0</u> 0700 0800 1000 1015 1300 1400 1600 1900 2045 2115	LAND 0800 0900 1100 1115 1400 1500 1700 2000 2145 2215	<u>TOS</u> 0715-0745 0815-0845 1015-1045 1030-1100 1315-1345 1415-1445 1615=1645 1915-1945 2100-2130 2130-2200	AREA RL LL RL PS LL PS RL PS PS
~~~~~~~~~~	1	<u>5 OCT</u>	<u>20 SORTIES</u>	(21)
	0800	0900	0815-0845	LL
	0815	0915	0830-0900	RL
	1000	1100	1015-1115	LL
	1200	1300	1215-1245	RL
	1300	1400	1315-1345	PS
	1400	1500	1415-1445	LL
	1900	2000	1915-1945	RL
	2000	2100	2015-2045	PS
	2045	2145	2100-2130	RL
	2115	2215	2130-2200	RL
<b>2</b> 2 2 2 2 2	<u>1</u>	6 OCT	<u>12 SORTIES</u>	(12)
	0700	0800	0715-0815	PS
	0500	0900	0815-0845	KB
	0900	1000	0915-0945	IB
	0950	1050	1000-1030	PS
	1020	1120	1030-1100	PS
	1100	1200	1115-1215	KB
<u>~</u> ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	17 OCT 17 OCT 0650 0720 0950 1020 1250 1320 1545 1715 1745	SUNDAY <u>3 OCT</u> 0750 0820 1050 1120 1350 1420 1645 1815 1845	<u>18 SORTIES</u> 0700-0730 0730-0800 1000-1030 1030=1100 1300=1330 1330-1400 1600-1630 1730=1800 1800-1830	<u>(21)</u> CM CM CM CM CM CM CM CM

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	<u>19 OCT</u>	<u>18</u>	SORTIES (18)	
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<b>2</b> 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	20_0CT 0750 0950 1020 1250 1320 1530 1730 1915 1945	18 0850 1050 1120 1350 1420 1630 1830 2015 2045	<u>SORTIES (15)</u> 0800-0830 1030-1030 1300-1330 1330-1400 1545-1615 1745-1815 1930-2000 2000-2030	CM CM CM CM CM CM CM CM
<b>લ                                    </b>	21 <u>00T</u> 0750 0920 0950 1130 1330 1530 1945 2015	<u>16</u> 0850 1020 1050 1230 1430 1630 2045 2115	<u>SORTIES (15)</u> 0300-0830 0930-1000 1000-1030 1145-1215 1345-1415 1545-1615 2000-2030 2030-2100	CM CM CM CM CM CM CM CM
2 2 2 2 2 2	<u>22 OCT</u> 0650 0920 0950 1120 1150 1315	12 0750 1020 1050 1220 1250 1415	SORTIES (12) 0700-0730 0930-1000 1000-1030 1130-1200 1200-1230 1330-1400	CM CM CM CM CM CM
TOTAL I TOTAL I TOTAL A	PRACTICE GA: 124 LIVE GA: 82 A: 132 338	C	VM +	

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Marine Fighter Attack Squadron 251 MCAS BEAUFORT, SOUTH CAROLINA 29902 271200Z September 1976 GRV-1

Appendix 4 (MCAS Yuma Target Information) to Annex A (Air Operations) to Operations Order 2-76.

## Time Zone: T (Commencing 290701Z Sep 76)

DESCRIPTION:

- (1) LOOM LOBBY: MANNED CONVENTIONAL OR-DNANCE TARGET.
- (2) <u>INKEY EARLEY, KITTY BAGGAGE, RAKISH</u> <u>LITTER (WESTERN TGTS)</u>: UNMANNED CON-VENTIONAL WEAPONS ALR TO GROUND ROCKETS AND EOMES TGTS CONSISTING OF 20' DIA. BULLSEYE WITH CONCENTRIC CIRCLES OF 75', 150', AND 300' RADIL RAKISH LIT-TER WEST TGT-NO STRAFFING.
- (3) PAKISH LITTER (EAST TGT): LAYDOWN AND FRACTICE NAPAIM DELIVERIES. TARGET CON-SIST OF A 20' DIA. BULLSEYE WITH CON-CENTRIC CIRCLES OF 75', 150', 300', AND 450' RADII. IT ALSO HAS DISTANCE MARKERS ON THE RUN-IN LINE EVERY 6000' FROM 34000' TO 6000' AT THE HEAD OF THE HUN-IN LINE IS A 40X12 PANEL WITH LET-TERS RL FOR EASE OF ID. THERE ARE 4 STRAFING PANELS, 2 OF WHICH ARE ACOUSTICALLY SCORED.
- (4) <u>PANEL STAGER</u>: A FULLY INSTRUMENTED CONVENTIONAL AIR TO GROUND ROCKET AND BOMB RANGE CONSISTING OF A 50' BULLS-EYE (20' FOR CONVENTIONAL) AND CONCENTRIC CIRCLES OF 75', 150', 300' AND 1000' RADII. THE TARGET IS CAPABLE OF PROVIDING: WIND (SURFACE TO 10,000'); SURFACE TEMPERATURE; ALTITUDE AND AIR-SPEED FROM THE 36000' MARKER. TWO MAN-UALLY SCORED STRAFING TARGETS ARE AVAILABLE AND ARE LOCATED 4500' EAST OF TARGET.
- (5) <u>CHOCOLATE MOUNTAIN IMPACT AREA</u>: FOUR TARGET COMPLEXES AND ASSORTED SEARCH AND ATTACK TARGET LOCATIONS CONSISTING OF MORE THAN 200 INDIVIDUAL TARGETS INCLUDING 3 SURFACE TO AIR MISSILE SITES, 1 SURFACE TO SURFACE MISSILE SITE, AND 3 SIMULATED AIRFIELDS.

A-4-2

TYPE EXERCISE AND ORDNANCE AUTHORIZED:

USAGE LIMITATIONS:

OVERLAPPING.	INCLU	DED AND
CONTRACTOR DESIGNATION OF A DATA DATA DATA DATA DATA DATA DATA D	C. THE PLOYMER DEPARTMENT	State of the second second
ADJACENT AREA	S AND	TARGETS:

- (1) LOCM LOBBY, PANEL STAGER: (NO STRAFE) (NO 5" ROCKETS), CONCENTIONAL DELIVERY. INFRT ONLY.
- (2) <u>INKEY BARLEY</u>, <u>KITTY BAGGAGE</u>: AIR TO GROUND ROCKETS AND BOMBS. <u>INERT</u> ONLY.
- (3) <u>RAKISH LITTER</u>: <u>INERT</u> ONLY. HEAVY OR-DNANCE (UP TO AND INCLUDING 5" ROCKETS AND 20001b)
- (4) <u>CHOCOLATE MOUNTAIN IMPACT AREA</u>: ALL TYPES HIGH EXPLOSIVE AND INERT ORDNANCE UP TO AND INCLUDING 10001b G.P., WITH THE PROVISION THAT ALL HIGH EXPLOSIVE DELIVERIES MUST BE UNDER POSITIVE CONTROL OF A TACP/TAC(A).
- (1) <u>ALL TARGETS</u>: CONTINUOUS, VFR ONLY.
- (2) <u>RAKISH LETTER:</u> MANNED 0700T 2300T DAILY EXCEPT WEEKENDS AND HOLIDAYS. LIGHTED BY FIXED FLARES.
- (3) PANEL STAGER: MANNED 0700T 1800T DAILY EXCEPT WEEKENDS AND HOLIDAYS.
- (1) LOOM LOBBY: PARACHUTE TEST AREA LOCATED EAST IN R-2510.
- (2) <u>INKEY BARLEY</u>: KITTY BAGGAGE IS LOCATED IN R-2512, 4 MILES NORTH.
- (3) <u>KITTY BAGGAGE</u>: INKEY BARLEY IS LOCATED IN R-2512, 4 MILES SOUTH.
- (4) <u>RAKISH LITTER</u>: 1. YUMA GUNNERY RANGE AIRSPACE OVERHEAD FROM 18000' TO 80000'. 2. PANEL STAGER'S AIRSPACE IS ADJACENT ONE MILE TO THE EAST OF THE EASTERN TARGET. PANEL STAGER'S RUN-IN LINE IS TWO MILES EAST OF THE EASTERN TARGET.
- (5) <u>PANEL STAGER</u>: 1. YUMA GUNNERY RANGE IS OVERHEAD FROM 18000<sup>1</sup> TO 80000<sup>1</sup>.
  2. NO INCLUDED AIRSPACE
  3. RAKISH LITTER IS ADJACENT THREE MILES TO THE WEST.

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## APPLICABLE DIRECTIVES:

FLIGHT PATTERNS:

(1) ALL TARGETS EXCEPT TWENTY-NINE PAIMS: MCAS YUMA STATION ORDER 3710.6

ALL TARGETS: AIRCRAFT MUST HAVE AT LEAST AN OPERABLE RECEIVER TO FIRE OR DROP ORDNANCE ON THE RANGES.

LOOM LOBBY: RUN-IN LINE 143M, PULL OFF TARGET TO THE WEST.

INKEY BARLEY: (BOMBS, ROCKETS, STRAFE) RUN-IN 073M OR 253M. RECOVER TO THE SOUTH.

KITTY BAGGAGE: RUN-IN HEADING 180M WITH EITHER A RIGHT OR LEFT HAND PATTERN.

RAKISH LITTER: (WEST TARGET) 1. RUN-IN HEADING OF 195M RIGHT HAND PATTERN.

2. CALL

ROLLING IN AND OFF TARGET ON EACH RUN.

3. A MAN-

DATORY 30 SEC INTERVAL BETWEEN A/C FOR CONVENTIONAL ORDNANCE .

4. FOR

ROCKETS AND BOMBS THE RANGE CONTROL TOWER WILL DESIGNATE BULLSEYE TO BE USED.

## 5. REMAIN

CLEAR OF PANEL STAGER RESTRICTED AREA. EASTERN TARGETS - (RAKISH LITTER)

## 6. RUN-IN

HEADING 180M RIGHT HAND PATTERN.

7. 35001

IS THE MAXIMUM ALTITUDE ON THE OUTBOUND LEG OF THE PATTERN.

## 8. CHECK

IN/OUT WITH YUMA RADIO 255.4 GIVING T.O.T.

9. STAY

SOUTH OF AUX #1.

STRAFE TGTS: (RAKISH LITTER)

10. PANELS NUMBERED FROM RIGHT TO LEFT.

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11. GUNS WILL, BE ON

"SAFE" WHEN OFF TARGET; GUNS WILL BE "ARMED" ONLY WHEN ON RUN-IN-LINE HEADING 195M.

12. THE FIRE LINE IS THE ROAD RUNNING FROM THE CENTER TOWER TO THE EASTERN TARGET.

PANEL STAGER: (ROCKETS, BOMBS, STRAFE) RUN-IN HEADING 180M LEFT HAND PATTERN. CALL ROLLING IN AND OFF TARGET ON EACH RUN.

CHOCOLATE MTN IMPACT AREA: AS ASSIGNED.

(3) ADDITIONAL TARGET INFORMATION:

RAKISH LITTER: 1. LIVE ORDNANCE JETTISON AND DROP TANK JETTISON AREA IS LOCATED 11M SOUTH OF THE CENTER TOWER. IT CON-SISTS OF A LARGE BLADED SQUARE. WITH BLADED "X" AND VERTICAL BANNERS OF THE CENTER, APPROACH FROM NORTH USING 195M RUN-IN LINE. DO NOT ENTER AREA UNTIL CLEARANCE IS GIVEN BY RAKISH LITTER. CLEARANCE WILL NOT BE GIVEN UNTIL THE PILOT CALLS "SWITCHES SAFE", FLIGHT PATH WILL BE AS DIRECTED BY THE CONTROL TOWER. DEPART TO THE WEST AND INFORM RAKISH LUTTER OF DEPARTURE, BOMB AND STRAFING PATTERN WILL BE LIFTED DURING JETTISONING. EXCEPT IN CASES OF EMERGENCY, LIVE ORDNANCE WILL NOT BE JETTISONED WITHOUT TWOWAY RADIO COMMUNICATIONS WITH RAKISH LITTER TOWER. ORDNANCE WILL BE DROPPED "UNARMED".

RAKISH LITTER/PANEL STAGER: 1. CONTACT RAKISH LITTER/PANEL STAGER FIVE MINUTES OUT GIVING TARGET TIMES AND A/C LINE-UP. IF NO RADIO CONTACT AFTER THREE ATTEMPTS OVERFLY THE CONTROL TOWER AND OBSERVE A GREEN FLARE FOR CLEARANCE TO DROP. IF A RED FLARE IS OBSERVED REMAIN CLEAR OF TARGET AREA.

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CEOCOLATE MTN IMPACT AREA: 1. NON-CLOSE AIR SUPPORT MISSIONS: FOR ALL NON-CLOSE AIR SUPPORT MISSIONS DELIVERING LIVE OR-DNANCE IN THE IMPACT AREA, THE FLIGHT LEADER OF INDIVIDUAL FLIGHTS OR A DE-SIGNATED MEMBER OF THE FLIGHT WILL ACT AS THE TACA FOR PURPOSES OF CONTROL AND THE REPORTING OF DUDS TO MCAS YUMA. 2. FOR ALL CLOSE AIR SUPPORT MISSIONS TACRON PERSONNEL WILL PROVIDE A TACP/TAC(A) FOR CONTROL PURPOSES. 3. FLIGHTS SHALL NOT ENTER THE IMPACT AREA PRIOR TO SCHEDULED COMMENCEMENT TIME AND MUST CLEAR BY THE EXPIRATION TIME. 4. PRIOR TO COMMENCING ANY STRIKE, THE FLIGHT LEADER OR TACA WILL ENSURE THAT NO TRESPASSING PERSONNEL ARE IN THE IMPACT AREA BY MAXING A VISUAL CHECK.

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Marine Fighter Attack Squadron 251 MCAS BEAUFORT, SOUTH CAROLINA 29902 271200Z September 1976 GRV-1

Appendix 5 (Course Rules) to Annex A (Air Operations) to Operations Order 2-76

## Time Zone: T (Commencing 290701Z Sep 76)

1. <u>TAKEOFF</u>. Climb straight ahead for 3 NM; remain below 1200 Ft until clear of traffic patterns. Turns prior to 3 NM are authorized, traffic permitting and tower approval. Aircraft carrying external live ordnance are not authorized take-off on runways 26 or 35.

#### CAUTION

Numerous restricted areas and southern border domestic ADIZ in immediate vicinity. Do not overfly KOFA/ROLLE schools or City of Yuma.

## 2. <u>RECOVERY</u>

a. <u>Southwest Initial</u>. Abeam town of Somerton (NYL 210R/6NM) enter southwest initial at 3500 Ft, at an angle of 30° or less. Do not exceed 250KTAS\* in the pattern, descend to 1700 Ft at the "ENEAK". Remain clear of air station buildings and housing area. Right break. Maintain 1700 Ft until 180° position.

b. <u>Northeast Initial</u>. Abeam intersection of Colorado/Gila Rivers (NYL 030R/GNM) enter northeast initial at 3500 Ft, at an angle of 30° or less; do not exceed 250 KTS IAS\* in pattern, descend to 1700 Ft at "BREAK". Remain clear of air station buildings and housing area. Left "BREAK". Maintain 1700 Ft until 180 degree position. Remain clear of ROLLE school.

c. <u>Hung Ordnance</u>. Report Southwest/Northeast initial at 2500 Ft for straight-in approach.

\* Greater speed authorized if required by NATOPS.

## NOTE

# Other than high performance aircraft will fly 1200 Ft pattern after "BREAK".

3. <u>Arming/Dearming Areas</u>. Arming and de-arming of aircraft will be accomplished in areas designated and by qualified personnel only. Operators of aicraft equipped with parachute braking devices will have ground crew personnel store them in a suitable place prior to to de-arming the aircraft. Pilots shall ensure that unit safety instructions are followed as well as those published by MCAS, Yuma and higher authority.

#### A-5-1

a. Arming Areas

(1) 21L - use arming area west of taxiway 2 heading 210 magnetic.

(2) 21R - aircraft turn-up area on the southwest side of taxiway 3 heading 210 magnetic.

(3) 3L - aircraft turn-up area on the southwest side of taxiway 4 heading 210 magnetic.

(4) 3R - aircraft turn-up area on the southwest side of taxiway 6 heading 210 magnetic.

b. <u>De-arming Areas</u>

(1) 21L - south end of runway 21L on the last turn-off heading 210 magnetic.

(2) 21R - south end of runway 21R on the last turn-off heading 210 magnetic.

(3) 3L - north end of runway 3L on taxiway 3, as depicted on Plate 1, heading 210 magnetic.

(4)  $3\mathbb{R}$  - the de-arming areas on taxiway 2 or 3 may be used, depending on unit requirements.

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## A-5-2

Marine Fighter Attack Squadron 251 MCAS BEAUFORT, SOUTH CAROLINA 29902 271200Z September 1976 GRV-1

Appendix 6 (Pilot/RIO Rocket Numbers) to Annex A (Air Operations) to Operations Order 2-76

Time Zone: T (Commencing 290701Z Sep 76)

1. VMFA-251 Pilot/RIO Rocket Numbers:

## PILOT

RIO

COL BRADSHAW	01	MAJ DOUGLAS	30
LTCOL WUERTZ	02	SQNLDR TAYLOR	31
MAJ VAN GYSEL	03	CAPT STEARNS	32
MAJ BROWN	04	CAPT CLUELOW	33
MAJ KRALOVEC	05	CAPT SLOAN	34
CAPT MOHR	03	CAPT STRICKLAND	35
CAPT HANCHETT	07	CAPT COBY	36
CAPT ZIMMER	08	LSTLT WHITEHEAD	37
CAPT DOUGHERTY	09	ISTLT SCHALK	38
CAPT KRUPP	10	lstlt senn	39
1STLT POSPISCHIL	11	LSTLT ROMANCZYK	40
ISTLT LANNERT	12	LSTLT DECKER	41
ISTLT NORMAN	13	<b>ISTLT FOLEY</b>	42
ISTLT SHIPMAN	14	CWO-4 MASSEY	43
ISILT ELLIOTT	15		
1STLT MARTHILJOHNI	16		

## 2. Augmentees:

## PILOT

## RIO

MAJ HYNES	17	CAPT ROHLOFF	44
CAPT VALERGA	18	<b>1STLT SNOWDEN</b>	45

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Marine Fighter Attack Squadron 251 MCAS BEAUFORT, SOUTH CAROLINA 29902 271200Z September 1976 GRV-1

Appendix 7 (Safety) to Annex A (Air Operations) to Operations Order 2-76.

Time Zone: T (Commencing 290701Z Sep 76)

1. All applicable ground and aviation safety directives will remain in effect during the deployment. The rapid change to a high tempo flight operation will increase the hazards to personnel and equipment. Safety awareness should be emphasized to all personnel.

2. An informal safety survey will be conducted by the ASO and GSO upon arrival at MCAS Yuma. A report of findings will be made to the **C**ommanding Officer.

3. The ASO and GSO will establish liaison with their MCAS Yuma counterparts.

4. The ASO will review the MCAS Yuma pre-accident plan before WMFA-251 flight operations commence at MCAS Yuma.

 $5_{\circ}$  All personnel observing a safety hazard will report same to the ASO or GSO  $_{\circ}$ 

6. The Safety Officers will supply the operations department with inputs for the after action report within 5 working days after the unit's return to MCAS Beaufort.

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Marine Fighter Attack Squadron 251 MCAS BEAUFORT, SOUTH CAROLINA 29902 271200 Z September 1976 GRV-1

## Annex B (Administrative/Logistics) to Operation Order 2-76

Time Zone: T (Commencing 290701 Z Sept 76)

1. <u>Supply</u>

a. <u>General</u>. Normal supply procedures will be utilized. The Material Officer and NCOIC will receive a briefing from the MAG-31 Supply Officer on any special procedures prior to departure. Any questions regarding supply support shall be directed to the Station Supply Officer MCAS Yuma; Bldg 324, Autovon number 933-9264, local extension 2264.

b. Supplies and Equipment Available.

(1) Class I furnished by MCAS Yuma. MCAS Beaufort will provide box lunches enroute. MCAS Yuma will provide box lunches for return flight.

(2) Class II none.

(3) Class IIa taken in VMFA-251 packup and procured from MCAS Yuma Supply Department and other West Coast sources of supply.

(4) Class III will be provided by MCAS Yuma.

(5) Class IIIa will be provided by MCAS Yuma.

(6) Class IV none.

(7) Class V Pilot/Rio survival ammo will be carried by individuals concerned.

(8) Class VI none.

c. Control and Distribution of Materials and Supplies.

(1) All requests for materials and supplies will be submitted through the Squadron Material Section.

(2) Each Department will carry sufficient administrative supplies and equipment to support normal operations.

(3) Instructions will be issued to cover changes in requisitioning and turn-in procedures as the need arises.

B-1 UNCLASSIFIED (4) Prior to departure from MCAS Beaufort aircrews will draw Flight Packets for flight to MCAS Yuma.

## d. <u>Resupply</u>

(1) Sources of resupply will be the VMFA-251 packup and MCAS Yuma.

(2) Records of all aircraft spare/repair parts procured from sources other than the VMFA-251 packup will be maintained and turned over to the MAG-31 Supply Officer upon return to MCAS Beaufort

(3) The Squadron Material Officer will insure that personnel are assigned as supply expeditors at MCAS Yuma.

e. Air Delivery.

(1) If urgency demands, VMFA-251 Aircraft will be used for air delivery of supplies.

(2) When available the MAG-31 TA-4's or C-117 aircraft will be utilized for supplies needed from MCAS Beaufort.

(3) The Schools Flight from Cherry Point to El Toro via ACAS Beaufort and MCAS Yuma may be utilized as required.

2. Hospitalization.

a. MCAS Yuma Medical Facilities will be utilized.

b. Personnel from VMFA-251 needing medical attention will muster during normal sick call hours (0800-0900), (1300-1400) at the MCAS Yuma Medical Facility.

c. One (1) Navy Corpsman will be assigned to VMFA-251 to supplement the Medical Staff.

3. Transportation.

a. Transportation between MCAS Beaufort and MCAS Yuma - Seet Appendix 1 (Embarkation).

b. Ground transportation at MCAS Yuma. will be provided by MCAS Yuma.

c. Personnel operating Government Vehicles while at MCAS Yuma must have a valid government drivers license in their possession at all times.

d. No temporary licenses will be issued.

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e. MCAS Yuma will privide three (3) GSA cars for use by VMFA-251.

f. MCAS Yuma Motor Transportation Officer will provide one (1) yellow van or pickup and one (1) general pickup truck for squadron use. Other vehicles (6X6, Jeep, etc.) will be available on request.

4. <u>Services</u>. The Aircraft Intermediate Maintenance Department MCAS Yuma will be utilized for Avionics equipment and other services. AIMD will be augmented as required by reference (a).

5. <u>Administrative</u>. See Appendix 2 (Administrative)

6. <u>Miscellaneous</u>

a. Facilities

(1) The Squadron Administrative and Operations Department will be located in Bldg 212, see Appendix 3 (Facilities).

(2) Maintenance spaces will be located in hangar 226. See Appendix 3 (Facilities).

(3) Officers will be billeted in the BOQ, Bldg 1060. Room assignments will be handled by Capt KRUPP.

(4) Staff and Enlisted personnel will be assigned to Barracks 920. Room assignments will be handled by the lstSgt.

b. General Support Equipment

(1) GSE will be provided by AIMD, MCAS Yuma and MAG-31 DET ALPHA.

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APPENDIXES

- 1. Embarkation
- 2. Administrative
- 3. Facilities

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Marine Fighter Attack Squadron 251 MCAS BEAUFORT, SOUTH CAROLINA 29902 271200 Z September 1976 GRV-1

Appendix 1 (Embarkation) to Annex B (Administration/Logistics) to Operation Order 2-76.

- Ref: (a) WgO 4600.Z (b) Gru0 4000.3 C (SOP for Embarkation) (c) Sqdn0 4000.1F (d) MAG-31 msg 271736 Aug 76
  - (e) MAG-31 msg 271755 Aug 76

Time Zone: T (Commencing 290701 Z Sept 76)

1. <u>Airlift</u>. Airlift will be conducted in accordance with references (a), (b) and (c).

2. <u>Initial Airlift</u>. Reference (e) requests the initial airlift for VMFA-25!'s Advanced Party to commence 25 September 1976. This Advanced Party will consist of twenty-five maintenance personnel and five headquarters personnel.

a. Main Body movement is presently planned to commence on 27 September 1976 reference (d), with two C-130's and one C-9 aircraft. The vemaining two C-130's and one C-9 aircraft are to complete Main Body movement on 28 September 1976.

3. <u>Return Airlift</u>. Reference (d) requests that the return airlift commence on 22 October 1976. Manifest and staging for the return airlift will be promulated by separte directives.

4. <u>Staging of Equipment and Supplies</u>. Present plans are for the VMFA-251 to utilize four C-130's aircraft to embark the squadrons pack-up and required GSE. Lt. Shipman will direct the preparation of equipment and supplies for mount out.

a. Requests for moving embark boxes out of the storage area will be submitted from each shop to VMFA-251's S-4 by box number no later than 1600 23 September 1976. Embarkation boxes will be distributed on 24 September 1976.

b. Palletized cargo contained in reference (d) will be inspected by the Squadron Embarkation Officer and Shop Embarkation NCO's on 26 September 1976.

c. Rolling stock contained in reference (d) will be inspected and prepared for staging not later than 24 September 1976. Vehicle preparation will be conducted in accordance with MCO 4030.19.

d. All shop pack-ups contained in reference (d) will be staged between hangar 415 and the ordnance shop prior to 0800 28 September 1976.

> B-1-1 UNCLASSIFIED

e. The unloading of cargo at MCAS Yuma will be under the direct supervision of Capt. Krupp.

5. <u>Movement of Personnel</u>. Present plans are to utilized two C-9 aircraft for movement of personnel. Flight manifest for personnel will be promulgated by separate directive.

a. Personnel departing MCAS Beaufort will muster two (2) hours prior to departure time at Station Air Freight Terminal.

b. The Senior Marine on each flight will conduct a muster, ensure all personal baggage is properly tagged and distribute box lunches to each member of his flight. Wax type ear plugs will be issued if necessary.

c. Each passenger is limited to sixty pounds of baggage.

d. Appropriate travel uniform will be as follows:

(1) C-9 Aircraft: Clean uniform of the day.

(2) C-130 Aircraft: Enlisted- clean utilities Officer - flight suit

e. Travel time to MCAS Yuma will be approximately four hours for the C-9 Aircraft.

f. Unloading of personnel will be directed by Capt. Krupp.

6. <u>Aircrew Baggage</u>. Aircrew baggage will be tagged and staged in the ready room prior to 1600 26 September 1976.

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Marine Fighter Attack Squadron 251 MCAS, BEAUFORT, SOUTH CAROLINA 29902 271200Z September 1976 GRV-1

Appendix 2 (Administrative) to Annex B (Administrative/Logistics) to Operations Order 2-76

Time Zone: T (Commencing 290701Z Sep 76)

1. <u>Strengths</u>. VMFA-251 will deploy at on-hand strength, less personnel hospitalized or confined at the time of deployment and those personnel due for separation or transfer after 1 November 1976. A roster will be published 6 days prior to departure listing the OIC of the rear echelon and the names of all personnel not deploying.

2. <u>Replacements</u>. Personnel will not normally be replaced while deployed. Exceptional cases will be handled on an individual basis. Personnel ordered to this squadron and personnel returning from schools will report to the OIC of the rear echelon for assignment.

## 3. Discipline, Law and Order

a, Law and legal matters will be handled in accordance with the UCMJ and other directives locally in force at MCAS Yuma.

b. All members of the rear echelon suspected and/or accused of violations of the UCMJ will appear before the Commanding Officer upon return of the squadron to MCAS, Beaufort. The OIC of the rear echelon, (TBA) will personally ensure that pre-adjudicative restraint is exercised, if necessary, to ensure the accused's presence before the Commading Officer immediately upon the squadron's return. All exceptions to the above will be handled on an individual basis upon direct communication with the Commanding Officer.

### 4. Morale and Personnel Services

a. Leave. Annual leave will not be authorized during the deployment period. Emergency leave will be granted only when verified through the local representative of the Red Cross or the Red Cross representative at MCAS Beaufort.

b. Liberty. Normal liberty regulations will prevail, operations permitting. Liberty will commence at the end of working hours and secure at the beginning of working hours the next day. Overnight liberty will be restricted to within sixty (60) miles of MCAS Yuma. Liberty will be extended on weekends to include San Diego, Los Angles and Las Vegas.

B-2-1
(1) Liberty buses run regularly between MCAS Yuma and downtown Yuma. The point of departure from MCAS Yuma is the MCX parking lot. Turn around point in Yuma is the corner of 3rd Ave and 3rd Street.

(2) Liberty buses depart the Air Station at 1300, 1730, 2000, 2300, and 0100.

(3) Scheduled time from MCAS Yuma to the turnaround point is 30 minutes.

(4) Military ID card and appropriate civilian/military attire are required for boarding.

c. <u>Mexico</u>. No person under 18 years of age deployed at MCAS Yuma will be in Mexico after 1830 unless he has written permission on his person from the Commanding Officer.

d. <u>Postal Service</u>. The mailing address for personnel of this squadron will not change while deployed at MCAS Yuma. All mail addressed to members of this command will be sorted by the rear echelon mail orderly. Only mail belonging to personnel who have designated in writing their desire to have their mail routed to MCAS Yuma will be forwarded.

e. Exchange Services. Marine Corps Exchange services are available at MCAS Yuma. Hours of operation are as follows: Monday through Friday - 0930 to 1700. Saturday - 0930 to 1300. Sundays and Holidays - CLOSED.

f. Pay

(1) The OIC of the rear echelon will coordinate the forwarding of checks for deployed personnel. Pay call is scheduled for 30 September and 15 October. Personnel who desire their pay check to be retained and picked up by another party at MCAS Beaufort, are required to obtain a "Power of Attorney" for that party. Checks will not be released unless a "Power of Attorney" document is presented by persons designated to receive them.

(2) <u>Per diem Pay</u>. Advance per diem checks will be available. Personnel deploying will receive 20 days advance per diem. The balance will be settled upon the squadron's return.

(3) <u>ComRats</u>. ComRats will not be adjusted until after the deployment. ComRats will not be checked until eligibility dates are determined based on actual travel times to Yuma.

B-2-2

g. <u>Religious Activities</u>. **Protestant, Catholic and Jew**ish services are held in the Station Chapel (Building 1176) as follows:

> Protestant Services: Sunday 1100, Sunday School 0945 Catholic Mass: Saturday 1700, Sunday 0930 Jewish Services: As scheduled by the local Jewish community. Normally conducted every other Friday at the Air Station Chapel at 2000.

h. <u>Special Services</u>. Special Services facilities are available at MCAS Yuma. Hours of operation are contained in TAB A.

## 5. Personnel Procedures

a. Promotion. Promotional opportunities will not be affected by the deployment.

b. <u>Transfer, Separation and Retirement</u>. Personnel due for transfer, separations or retirement before 1 November 1976 will remain attached to the rear echelon until such date as their transfer, separation, or retirement is effective.

6. Interior Management. The S-4 Officer will be responsible for the management of working, billeting and messing areas while deployed.

a. Officers will reside in the MCAS Yuma BOQ. Officers desiring dependent billeting will be required to make separate arrangements.

b. SNCO's and Enlisted personnel will be billeted in building 622 and 630. Room assignments will be coordinated by the lstSgt prior to arrival at MCAS Yuma.

c. Messing.

(1) The Officers Club will be available to Officers for lunch daily and evening meal Wednesday thru Sunday. The Officers Club does not serve breakfast. Officers may eat breakfast daily and evening meal Monday and Tuesday only, at the Enlisted Mess.

(2) SNCO's and Enlisted personnel will utilize the Enlisted dining facility, building 710, located adjacent to barracks 740.

### B-2-3

(3) MCAS Beaufort meal cards will be honored at the Yuma dining facility.

(4) Enlisted dining facility schedule of hour/dress TAB B.

7. Miscellaneous

a. Uniform

(1) Uniform for Embarkation. Utilities are to be worn by personnel abcard KC-130 aircraft. The Uniform of the Day is to be worn aboard C-9 aircraft.

(2) Uniform of the Day. Summer Service "C" for Officers and Summer Service "A" or "B" for enlisted. All personnel deploying are required to take one "Uniform of the Day."

(3) In operational areas, bloused utility trousers (unbloused with safety shoes) with clean white "T" shirts will be authorized.

(4) The flight suit may be worn to and from work but is not authorized in any service facilities, i.e., PX, Disbursing, ect.

(5) Snack bar regulations require that shoes, socks, and at least a "T" shirt are gorn, i.e., no tank tops.

b. Duty Officer. SDO procedures will be in accordance with current squadron directives. The Senior Watch Officer will publish a watch bill incorporating procedures peculiar to local situations at MCAS Yuma.

Mil. A.

J. B. WUERTZ Lieutenant Colonel, U. S. Marine Corps Commanding

TAB

A. Special Services Functions

B. Enlisted Dining Facility

# B=2-4

TAB A (Special Services Functions) to Appendix 2 (Administrative) to Annex B (Administrative/Logistics) to Operations Order 2-76.

BOWLING ALLEY (Bldg 673) (Ext 222)

Monday	1630	-	2300
Tuesday through Saturday	0930	-	2300
Sunday and Holidays	1300	-	2300

GYNMASIUM (Bldg 545) Ext 2727)

Monday through Friday	0600 -	2100
Saturdays	1000 -	1800
Sunday and Holidays	1300 -	1800

# HOBBY CRAFT SHOP

Monday and Tuesday	CLOSED
Wednesday through Friday	1200 - 2100
Saturdays	1200 - 2130
Sunday and Holidays	1300 - 1800

HOBBY SHOP GARAGE (Bldg 561) Ext 2395)

Monday and Thursday	CLOSED
Tuesday through Friday	1390 - 2200
Saturdays	1000 - 1800
Sunday and Holidays	1300 - 1800

LIBRARY (Bldg 681) (Ext 2878)

Monday through Thursday	1000 - 2100
Friday and Saturday	1100 - 1900
Sundays	1300 - 1900
Holidays	CLOSED

MARTINEZ LAKE (Ext 783) - (3422)

Fridays		0600		2100
All other	days	0600	-	1900

# B-2-A-1

THEATER (Bldg 672) (Ext 2358)	
Monday Tuesday through Sunday Saturday (Childrens Mat)	CLOSED 1900 1400
GEAR ISSUE (Athletic Gear) (Bldg 6	533) (Ext 2727)
Monday through Friday Saturday, Sunday and Holidays	0830 - 1700 CLOSED
GEAR ISSUE (Warehouse) (Bldg 832)	(Ext 2848)
Monday, Tuesday, Thursday and Frida Wednesday, Saturday, Sunday and Hol	ay 0830 - 1700. Lidays CLOSED
NOTE: For camping gear issue only.	The Special Services

Office is located in Bldg 633 and is open during normal working hours from 0800 - 1630. After working hours, a duty NCO is on-call and can be reached by calling the Special Services Office at Ext 2278 or 2279. In order to reserve athletic fields or the Ramada (Picnic area), call Special Services, during normal working hours only, for reservations. The same applies to requests for discount ticket sales.

# B-2-A-2

TAB B. (Enlsited Dining Facility) to Appendix 2 (Administrative) to Annex B (Administrative/Logistics) to Operations Order 2-76

A. The Enlisted Dining Facility is directly adjacent to barracks 740. Hours of Operation are:

MON - FRI

	0400 - 04301 Eerly
Breakfast	0430 - 07301 Normal
Snacks	1000 - 1100
Lunch	1100 - 1300
Dinner	1600 - 1800
Midrats	2300 - 0045
SAT/HUN/HOLIDAYS	

	0600 - 0630 Early
Brunch	0700 - 1100 Normal
Snacks	0900 - 1100
Dinner	1600 - 1800
Midrats	2300 - 0045

B. A clean working uniform (Utilities only) or Uniform of the Day is required. Appropriate civilian clothing may also be worn in the dining facility. The wearing of flight suits is permissable.

C. For personnel working late or for whom it would be impractical to attend meals at the mess hall only; ten hot meals "to go" can be requested through the S-4 Officer without prior notice. Eleven or more may be requested with a minimum of three hours prior notice.

#### B-2-B-1

Marine Fighter Attack Squadron 251 MCAS BEAUFORT, SOUTH CAROLINA 29902 271200 Z September 1976 GRV-1

Appendix 3 (Facilities) to Annex B (Administrative/Logistics) to Operation Order 2-76

Time Zone: T (Commencing 290701 Z Sept 1976)





Lieutenant Colonel, U. S. Marine Corps Commanding

DISTRIBUTION: Annex C (Distribution)

B-3-1 UNCLASSIFIED

Marine Fighter Attack Squadron 251 MCAS, BEAUFORT, SOUTH CAROLINA 29902 271200Z September 1976 GRV-1

Annex C (Distribution) to Operations Order 2-76

Time Zone: T (Commencing 290702Z Sep 76)

**DISTRIBUTION:** 

Lieutenant Colonel, U. S. Marine Corps Commanding

DISTRIBUTION: Annex C (Distribution)

C-1

# UNITED STATES MARINE CORPS Marine Fighter Attack Squadron 251 Marine Aircraft Group 31, 2d Marine Aircraft Wing, FMFLant Marine Corps Air Station Beaufort, South Carolina 29902

3:GRV:rmg 3120 18 Nov 1976

- From: Commanding Officer
- To: Commanding General, Second Marine Aircraft Wing
- Via: Commanding Officer, Marine Aircraft Group 31
- Subj: Post Deployment Report for Training Deployment at MCAS Yuma. Arizona
- Ref: (a) WgO 3120.6A
- (1) Administrative and Personnel Remarks Encl:
  - (2) Intelligence Remarks
  - (3) Operations and Training Remarks

  - (4) Logistics, Embarkation Remarks(5) Maintenance, Material Remarks

1. In accordance with reference (a), enclosures (1) through (5) constitute the Post Deployment Report for the period 25 September to 25 October 1976 at MCAS Yuma.

2. The training accomplished and experience gained by aircrew of this squadron points out the need for future deployments of this type. The support received from MCAS Yuma and tennant units was outstanding and greatly appreciated by all members of this command. Specific comments are contained in enclosures (1) through (5).

A B. WIJERTZ

Copy To: CO, MCAS Yuma CO, VMAT-102 OIC. ISD MCCRTG-10

#### ADMINISTRATIVE AND PERSONNEL REMARKS

#### 1. Personnel Deployed

a. Naval Aviators	15
b. Naval Flight Officers	13
c. Aviation Ground Officers	03
d. Marine Enlisted	143
e. NA/NFO Augmentees	04
f. Royal Air Force Officers	01 179 TOTAL

g. VMFA-251 deployed to MCAS Yuma at on-hand strength less personnel hospitalized or confined and those Marines due for separation or transfer before 1 November 1976. Special consideration was given to unique personal problems on an individual basis. A rear party was established and an OIC was assigned.

### 2. Administrative

a. <u>Unit Diary</u>. The squadron's administrative department deployed in its entirety except for the Unit Diary Section. On a previous deployment, the Unit Diary Section had also been deployed; this arrangement, however, created problems because of the time lag involved in forwarding the unit diary to MCAS Beaufort for routing to ACU and Disbursing. Errors were not detected and subsequently, corrections could not be entered in a timely manner. By allowing the Unit Diary Section to remain with the rear party, the error rate was significantly reduced as compared with previous deployments. A 98% acceptance rate was obtained during the deployment period.

b. <u>SRB/OQR's</u>. All record books were taken to Yuma for deployed personnel. The records of those assigned to the rear party remained with the Unit Diary Section in Beaufort. It was thought that this action would create a problem for the Unit Diary Section in that necessary documentation would not be available for diary entries when required. It was found that all but four unit diary entries were generated by personnel in the rear party. Entries which required verification against records held at the deployment site were verified via autovon.

c. <u>OCR Typewriters</u>. An potentially significant problem was solved by leaving the Unit Diary Section with the rear party, but it required that the squadron's only OCR typewriter be left also. This decision caused a minor problem with respect to the preparation of fitness reports. Although regular fitness reports due during the deployment period were prepared in advance, it was necessary to request assistance from VMFAT-101 and VMAT-102 in making OCR corrections.

d. <u>Commuted Rations</u>. On previous deployments, a problem existed with regard to the checkage of ComRats for deployment travel. This problem occurred because embarkation manifests and transportation arrangements were constantly changing. During this deployment, the checkage of ComRats was delayed until all travel was complete. This procedure ensured the accuracy of checkages on the unit diary.

#### e. <u>Pay</u>

(1) <u>Check Delivery</u>. The squadron was not able to get early pay prior to the deployment. This deficiency in our disbursing system established the requirment for pay checks for 30 September and 15 October to be flown to MCAS Yuma, in tactical aircraft which is against OPNAVINST 3710.7H para. 202.2. This requirement is unsatisfactory and should be eliminated by proper application of the automated pay system.

(2) <u>Check Disposition</u>. Prior to the deployment, squadron personnel were afforded the option of designating whether their pay check was to be forwarded to MCAS Yuna or held at MCAS Beaufort. Those Marines deploying who desired to have their pay check picked up by another party at Beaufort were required to designate, in writing, who was to pick up the pay check receipt for cashing purposes.

f. <u>Mail</u>. As with disposition of pay checks, mail was designated to be held at MCAS Beaufort or forward to MCAS, Yuma. <u>Mail</u> was delivered to Yuma along with pay checks by H&MS-31 aircraft. This procedure contributed to undue delays and poor mail service in general.

#### Intelligence Remarks

1. The Intelligence Department developed a wartime scenario (Operation Thunderbolt) during the final week of the Yuma deployment. The scenario, written verbatum in paragraph 2. below, was distributed on 17 October 1976 at an "all aircrew meeting". To expand the written scenario an intelligence briefing was presented on the history of the war, location and strength of various enemy units, the threat that could be expected, and intelligence inputs concerning expected enemy movements. Charts and maps were used to depict enemy occupied positions, friendly occupied positions (FEBA), and the enemy threat (SAM and AAA rings). Slides were presented for aircrew recognition and a briefing was given on the effectiveness and limitations of each type of threat (Air, SAM, AAA), At the conclusion of the intelligence brief, the Operations Officer defined VMTA-251's mission:

"Provide for air superiority of the AOA and such close and deep air support missions as may be directed by higher authority. Specifically; stop the build-up of enemy fortifications in the Chocolate Mountain area and deny the enemy a position from which to launch a future offensive".

2. Operation Thunderbolt

### HISTORY

The 21st Peoples United Forces (PUF) was organized in 1960 in the country of Fologna. At that time, it consisted of the 10th and 11th Infantry Divisions and two Air Groups; the 19th, flying IL-28 Beagles, and the 2nd, flying MIG-17 Fresco's. In 1972, the 21st PUF added the 12th and 13th Infantry Divisions (fully mechanized), to bring it to its present strength. The 21st PUF is presently under the command of General Phil Latievich, a very tyrannical leader.

In December 1975, the 21st PUF launched Operation Kwik-Killski with simultaneous- landings in the San Diego and Los Angeles areas. The 1st MarDiv and 3rd MAW were pushed back to the Yuma area by the initial thrust of the Bolognese.

During March 1976, the 21st PUF was reinforced by the 10th Armored Division, the 3rd and 4th Artillery Regiments and the 7th SAM Brigade. The 2nd Air Group was re-equipped with MAG-21 Fishbeds and was relocated to the air base at El Centro.

In June of 1976, a second offensive was launched towards the Phoenix area. After two weeks of heavy fighting, the offensive stalled because of supply and reinforcement problems. A counter-offensive mounted by combined USMC and US Army forces drove the 21st PUF back to its present positions west of the Colorado River.

During the past four months USMC and US Army elements have been in frequent contact with enemy forces in the El Centro and Chocolate Mountain areas. All units of the 21st PUF mentioned above have been identified in this area. IL-28 Beagles of the 19th Air Group, flying out of Mexicali, have intensified their bombing of our supply routes leading into Yuma. MIG-21's, operating from El Centro, have flown escort for the bombers. Several MIG's have been downed by Marine Fighters based in Yuma.

# INTELLIGENCE SUMMARY AND ESTIMATE OF ENEMY SITUATION

Ref: Map 1:50,000 Series V795 Sheets 2850 I and 2950 IV

<u>Mission</u>. To interdict and destroy assigned targets in the Chocolate Mountain area.

Enemy Situation. Presently, the 21st PUF is deployed along a front which stretches from Needles, south to Blythe on the Colorado River; extending southwest from Blythe to Mezicali, and west along the Mexican border to the Pacific Ocean. All infantry units along this line are supported by light artillery and armored units.

A photo recon mission flown on 12 Oct 76 revealed heavy truck movement in the Chocolate Mountains. It also showed an airstrip and a SAM site under construction in the vicinity of OP-2 (Coord. PG381933).

A W Septered 15 Oct indicated that morale among the Bolognese troops was low due to long periods of inactivity. The PW also indicated that rumous of a new offension were being circulated. The PW was then SHOTH

#### Themy Military Situation

Strength. Approximately 100,000 personnel.

Location. The 21st PUF headquarters is located in San Clemente, California. The 15th Air Group has 15 IL-28 bombers based at El Toro, and 15 IL-28's based in Mexicali. The 2nd Air Group has 10 MIG 17's in El Toro, 15 MIG 21's at Mexicali and 30 MIG 21's at El Centro. Three battalions of infantry with supporting artillery and tanks are locate in the Chocolate Mountain area.

Logistics. Enemy forces seem to have an adequate amount or equipment to support their operations.

Reinforcement Availability. Reinforcements are available to ground units in the Chocolate Mountain area in less than 72 hours.

SAM/AAA Order of Battle. In general all major roads (supply routes), airfields, and supply storage areas are heavily defended by AAA and SAM's. SAM's identified have been SA-2 and SA-3; also there are unconfirmed reports of SA-7's being made available to ground units. AAA observed has been 85mm and 57mm.

<u>Air Order of Battle.</u> The 2nd and 19th Air Groups are in full operational status. The 19th Group's main mission seems to be to seven our supply routes with their IL-28's. The 2nd Group and their MIG-21's have the dual responsibility of bomber escort and air superiority. The airfields in El Centro and Mexicali have 5 MIG-21's on 5 minute alert at all times. There is a GCI site in El Centro to provide control of the Chocolate Mountain area, but it is somewhat limited due to heavy terrain masking. All Bolognese pilots are well trained and 50% are combat seasoned.

<u>Analysis of Enemy Capabilities.</u> The enemy is capable of attacking in force at many points along the FEBA, although it appears that he is concentrating on building up in the Chocolate Mountain area in preparation for a later thrust into southern Arizona.

<u>Conclusion</u>. If friendly aircraft can destroy enemy positions, equipment, and personnel in the Chocolate Mountain area, the threat of an attack from this area will be greatly reduced.

Escape Routes. Any aircrew downed over the Chocolate Mountains should plan their escape to the east.

<u>Safe Areas</u>. All inhabited areas will be avoided, unless defined as a military target. There are many rural habitations south of the target area that will be avoided. Considering the U.S. Government's waivering relations with Mexico, the airfield at Mexicali is strictly off limits at the present time.

#### 3. Scenario Development

a. The first three (3) days of the exercise were conducted within a low to medium threat environment. This artificiality was necessary to allow aircrew time to gain proficiency in the delivery of explosive ordnance while under TAC(A) control, and to complete required T & R Syllabus flights.

b. The fourth and fifth days of operations were flown in a high threat environment. Intense enemy AAA, SAM, and MIG employment required that aircrew devise appropriate tactics to counter this threat during ingress, ordnance delivery, and egress.

c. Prior to every mission, aircrew and TAC(A)'s were assigned specific targets. Aerial photographs were used for target identification. Additionally, crews were briefed on the expected threat within the target area. TAC(A) pilots were briefed independently on scenario developments and the type enemy threat to call while on target.

d. Following each mission all aircrew were debriefed. Bomb damage assessment (BDA), provided by the TAC(A), was used to determine whether the assigned target was destroyed or whether it would be reassigned. Inputs from aircrew as to the type and intensity of fire they received were used. for further scenario development.

ex On 21 October intelligence source's learned from a reliable informant, that the enemy planned to launch an offensive to the east at 1200 T 22 October 1976. This squadron and VMAT-102 were directed by higher authority to attack an enemy command and control complex in hopes of stalling this offensive. Through coordination between the two squadrons, it was deter mined that this complex would be attacked using stream raid tactics. At 0630 T on 22 October a joint brief was conducted for all participants in this raid. The brief consisted of weather, intelligence, rules of engagement, and administrative and operational details. The specifics on the conduct of this raid and the lessons learned are covered in enclosure (3).

1. VMFA-251 deployed to MCAS Yuma, Arizona with eleven F-4J aircraft during the period 25 September to 25 October 1976 for squadron training. A total of 414 sorties and 484.7 flight hours were flown during the deployment. Five hundred seventy (570) initial syllabus completions and two hundred one (201) refresher completions were accomplished.

2. Deployments exist to compliment a squadron's overall training program. Training goals for VMFA-251's fall deployment were determined by the following factors:

a. Requirments to increase and maintain individual combat readiness as set forth in the Training and Readiness Manual. The February 1976 deployment to MCAS Yuma emphasized fighter Weapons (FW) training using the ACMR and the TOP GUN Fleet Adversary Program. Ground Attack training was not stressed since the majority of these sorties have a twelve (12) month refly factor and had been accomplished at N. S. Roosevelt Roads only three months earlier. Since virtually no ground attack training was accomplished between deployments, (for reasons described in paragraph 2.b. below) VMFA-251 found itself approaching a fall deployment with many aircrew about to go delinquent or requiring initial training in this portion of our mission.

b. Performance of type training that is difficult or impracticable to obtain at MCAS Beaufort. The distance to adequate raked ranges and the experienced lack of air refueling support to efficiently use them has made it impracticable to conduct a ground attack training program from MCAS Beaufort. Blast report restrictions on the Eastern Seaboard have all but precluded the dropping of live ordnance (other than MK77 fire bombs and 5" Zuni Rockets) on this coast. The lack of an ACMR and overland supersonic working areas has affected the quality of fighter weapons/fighter intercept (FI) training.

Based on the above factors it was determined that the majority of the deployment would be spent conducting ground attack training. The dates 28 September thru 7 October would be spent conducting FW/FI training with a maximum number of sorties to be flown on the ACER. The dates 7 October thru 17 October would be spent conducting practice ground attack training on raked ranges using low, medium and high angle delivery both day and night. The dates 18 October thru 22 October would emphasize the tactical delivery of live ordnance in a low, medium, and high threat environment based on the scenario, Operation Thunderbolt (Enclosure 2). Three hundred eighty four (384) sorties and four Hundred thirty two (432) hours were planned for the deployment.

3. Flight Ferry Movement.

a. MCAS Beaufort to MCAS Yuma: The flight ferry of eleven (11) F-4J aircraft to MCAS Yuma was planned with an enroute refueling stop at Tinker AFB. Since plans called for this squadron to occupy the same spaces and flight line as VMFA-312; the arrival times of VMFA-251 aircraft were determined by the availability of parking space on VMFA-312's flight line. It was originally planned to launch five (5) aircraft on or about 25 September to arrive at MCAS Yuma the same date.

The remaining six (6) aircraft would launch on 26 September to remain over night (RON) at Tinker AFB. Recovery of these aircraft at MCAS Yuma would be on 27 September as aircraft parking spaces became available. The timely departure of VMFA-312 on 26 September precluded the necessity of an RON at Tinker AFB. Eleven (11) VMFA-251 aircraft were in place at MCAS Yuma by 1600 on 26 September 1976. Aircraft were configured with centerline tanks for the ferry movement. Previous liaison with Tinker AFB Operations personnel ensured excellent support and priority for refueling. 26 sorties and 50.3 hours were recuired to move squadron aircraft to Yuma.

b. MCAS Yuma to MCAS Beaufort: The flight ferry of twelve (12) F-4J aircraft (one additional aircraft from SDIM North Island was joined while deployed) to MCAS Beaufort was planned using aerial refueling in the vicinity of Carswell AFB. Tanker support consisted of (2) KC-130s from VMGR 234 Fourth MAW. Two (2) serials of four (4) aircraft each were to be refueled with ARCT's four (4) hours apart. The movement of aircraft from MCAS Yuma began on 22 October 1976 after completion of tactical flight operations. Three (3) aircraft were launched to MCAS Beaufort with an enroute stop at Tinker AFB. On 23 October 1976 the first serial of four (4) aircraft launched from MCAS Yuma at 0800 T. The weather was marginal at the reserved altitudes along the tanker track. One section had affected a rendezvous with the tanker and another was in the process of joining up when the tankers went IFR. This second section diverted to Carswell AFB while the section with the tankers refueled and continued enroute to Beaufort. VMGR personnel considered the weather along the tanker track too marginal to continue the refueling mission. The second serial proceeded to MCAS Beaufort with an enroute stop at Conswell AFB. Eleven (11) aircraft were in place at MCAS Beaufort by 2030 R. 23 October 1976. One aircraft remained at MCAS Yuma to be flown by the OIC of the rear party. This circraft flew daily from MCAS Yuma and arrived at Beaufort on 26 October 1976. The movement of twelve (12) aircraft from MCAS Yuma to MCAS Beaufort required 22 sorties and 48,6 flight hours.

### 4. Flighter Weapons and Fighter Intercept Training

a. The training objective for this phase of the deployment were formulated as follows:

(1) The primary objective was to obtain advanced aircrew training in fighter weapons missions against dissimilar adversaries. Participation in the Fleet Adversary Program had originally been planned; however, overriding commitments placed upon the Navy Fighter Weapons School precluded this. Responsive TA-4 support from H&MS-31 adequately bridged the gap and permitted this phase of the deployment to preceed with little or no derrogation of training.

(2) A secondary objective of this phase was to increase aircrew proficiency in the fighter intercept mission of the F-4. Added emphasis was placed on low level, over land intercepts in order to supplement the normal, over water situation that prevails at MCAS Beaufort. In so doing it washoped that the following additional goals could be satisfied:

(a) To allow the aircrews to become comfortable when operating at low level;

(b) To expose the aircrew to the environement where the adversary fighter threat is expected to be; and,

(c) To train the aircrew in the techniques used to defeat postulated enemy air defenses.

b. Aircrew ground training in preparation for this phase was conducted, prior to the deployment. Fighter intercept considerations, air combat maneuvering VID's, 2v1 and 2v2 tactics were comprehensively reviewed during the latter part of September. MCAS Yuma course rules, operating areas, and targets were thoroughly explained by both squadron personnel and the Yuma Fleet Laison Office. Desert survival was also covered in anticipation of the climatic change at Yuma. Finally, after arriving in Yuma, the squadron's ACT(I)'s were indoctrinated in the operation of the Air Combat Maneuvering Range (ACMR) as Ground Instructor Pilots (GIP). This training enabled the ACT(I)'s to monitor those fighter weapons mission that were flown on the ACMR.

c. Deployed flight operations commanced on 29 September with the FI/FW phase continuing through 7 October. During this period the squadron flew 146 sorties for 143.3 hours and acheived 176 initial syllabus completions and 57 refresher completions. This total includes 23 one vs one sorties, 62 two vs one sorties, and 14 two vs two sorties against H&MS-31 advectables. Forty-two of the fighter weapons sorties were conducted on the ACMER, thereby enhancing the safety and training of these flights and introducing a unique and invaluable aid to the debriefing process. Excellent radar availability throughout this phase allowed the aircrew to achieve early visual sightings and begin most engagements offensively. A squadron ACT(I) course, previously begun at MCAS Beaufort was completed during the deployment and strengthened the squadron's training base.

## 5. Practice Ground Attack Training Phase

a. On the afternoon of 7 October, flight operations were temporarily halted to allow ordnance personnel to reconfigure the aircraft for ordnance delivery. During this brief respite, the aircrews received lectures on ordnance preflight, weapons loading, arming and de-arming procedures, aircraft jettison system, and ground attack switchology. A ground attack phase test was administered and reviewed. One of the squadron's refresher pilots attended the one week BAM/BCWD course offered by VMFAT-101. Practice ground attack missions were conducted from 8-16 October. A safety UR concerning stray voltage restricted the carriage and firing of 2.75 or 5 inch rockets; consequently, these missions were confined to delivery of MK76 practice bombs.

b. The training objectives for this phase of the deployment were:

(1) To renew and/or establish combat readiness percentage for the squadron's aircrew. The unavailibility of local air-to-ground targets in the Beaufort area had caused nearly all tactical currency in this phase to lapse.

(2) To refresh the aircrew in the fundamentals of ordnance delivery prior to commencing live ordnance missions. Dive angle calibration, airspeed control, error sensitivity and analysis, swithchology, pattern dimensions, and corrections for wind effects received primary emphasis.

(3) To gradually prepare the maintenance and ordnance sections for a high tempo of flight operations which would eventually involve rapaid turn around of aircraft and rapid loading of mixed, live ordnance loads.

c. To accomplish these goals, the squadron made extensive use of the instrumented targets in close proximity to MCAS Yuma. The information provided by these ranges formed the base upon which the aircrew's delivery skills were developed. An average of 10 MK76 bombs were carried by each aircraft to compensate for the absence of rockets. To heighten the interest in the relatively mundane routine of practice ordnance delivery, a squadron bombing deroy was conceived. The competition fostered greater enthusiasm, increased aircrew concentration, and helped to accelerate the mastery of delivery techniques. Statistically, the squadron flew 115 practice ground attack sorties for 117.2 hours. Within these figures were 55 sorties in the 30 degree dive pattern, 43 sorties in the 45° dive pattern, and 17 sorties in the 10 degree dive pattern. The sorthes accounted for 218 initial syllabor completions and 12 refresher completions. Of the 1143 MK76 bombs loaded, 1124 were successfully delivered, producing an admirable drop rate of 93.34%. Significantly, continued radar availibility permitted aircrews to conduct fighter intercepts after expending their ordnance. Although no syllabus completions were claimed, this extra training was in consonance with original deployment objectives.

#### 6. Live Ordnance Ground Attack Syllabus

a. The live ordnance Ground Attack phase of the deployment was conducted 18 October through 22 October. To facilitate training in the more advanced stages and to create a tactical atmosphere, a wartime scenario was written. On 17 October an intelligence briefing was conducted for all aircrew to include; history, Air, SAM, and AAA order of battle, intelligence estimate, and missions. Aircrew training was also conducted on fighter escort tactics and techniques.

b. The training objectives for this phase of the deployment were:

(1) Advanced aircrew training in a tactical ground attack role utilizing TAC(A) support and mixed loads of high explosive ordnance.

(2) Advance training for the S-2 Section in aircrew briefing/ debriefing and intelligence gathering/interpretation techniques.

techniques, target identification, flight control, and BDA assessment.

(4) Advanced training of maintenance personnel in rapid turn around of live ordnance loaded aircraft during high intensity operations.

(5) Advance training of Ordnance personnel in rapid loading of aircraft with mixed live ordnance loads during high intensity operation.

:. The squadron flew 70 sorties for 80.6 flight hours achieving 160 initial syllabus completions. All training objectives were realized. The effectiveness of the ordnance section can be measured by a 99.1% drop rate. Ordnance expended, was as follows:

 Bomb, MK 77
 80

 Bomb GP, MK 82HE
 500

 Rocket, 2.75"FFAR
 64

 20 MM
 434

d. Operation Thunderbolt. The tactical scenario was developed so that the lovel of threat would increase as aircrew experience in the delivery of explosive ordnance increased. Initially, operations were conducted in a low to medium threat environment much the same as pre-1972 South East Asia. H&MS-31 and MAG-31 TA-h's and Ontario ANF O-2's were used as TAC(A). As the week progressed the level of threat changed from low to high. Aircrew were given the opportunity to practice ingress/egress techniques, crew occulination, tactical delivery of ordnance stressing minimum time on target, and lookout doctrine. To add realize to the tactical situation TA-4's were utilized to aggress aircraft leaving the target area. On 22 October the threat reached its highest level and a strike was conducted using stream raid tactics. This ten (10) plane strike utilized four (4) A-4Ms from VMAT-102 as a strike group and six (6) of this squadron's F-4Js as MIGCAP and TARCAP. H&MS-31 TA4s were used as aggressors.

(1) <u>Stream Raid</u>. A coordinated attack was conducted against an enemy command and control complex on 22 October 1976. The attack scenario called for sections of aircraft with fighter escorts, ingressing at low altitudes, and using different routes of flight to arrive over the target at a preplanned time. The entire raid from first to last aircraft on target took only ninety (90) seconds. The first ordnance on target was forty eight (48) MK76 bombs delivered on target at 1000T using conlabs delivery. This ordnance was used to simulate a Rockeye attack for flak suppression. Thirty seconds prior to this attack a MIG CAP of two F-4J aircraft swept through the target area to engage any enemy airborne threats. Thirty seconds after flak suppression a section of two (2) A4M each carrying MK 82 high drag bombs and escorted by two Phantoms attacked the command and control complex using a "pop up" delivery. All aircraft egressed using high speed "nap of the earth" tactics. Aggressor aircraft sighted and attacked the strike group under the guidance of very

specific rules of engagement. A joint debrief was conducted immediately following the raid. The following are the lessons learned:

(a) Lookout doctrine while flying escort in the high speed low altitude environment is diffcult to maintain. Pilots found themselves engrossed in keeping the A4's in sight and the mechanics of flying their airplane rather than concentrating on look out responsibilities. RIO's found that they had to spend the majority of their time "checking six" leaving little time for maintaining a good radar search pattern. With more exposure to this environment, pilots will be able to maintain lookout doctrine which will allow the RIO's to use their radar more effectively.

(b) To survive in a high threat environment, attack aircraft must be able to ingress and egress at a minimum of 500 KIAS. Using the F-4 as part of the strike group will ensure proper entry and exit speeds and will allow for an offensive anti-air capability.

(c) F-4 aircrew need to train in low level dead reckoning navigation to gain experience so they may be able to meet the exacting "time on target" requirements of a stream raid.

(d) Crew and section coordination should be refined to the extent that little or no inter-flight communication is required. In this simulated "comm-jammed" environment, the benefits of having crewed sections was realized. Little or no communications was required by the elements of this strike.

(e) Ingress and egress routes should be planned to avoid easily recognizable terrain features or likely avenues of approach to the target area (e.g. valleys, dry lakes). In a separate brief, aggressor pilots were asked where they would place flak traps in the target area for the purpose of barrage fire. In the debrief it was discovered that both the flak suppression aircraft and the bonbers would have been exposed to barrage fire prior to reaching the target.

(f) The coordination required prior to a stream raid is as great that required of the traditional Alpha Strike; however, the execution is simpler. No matter how large a stream raid, all elements (flak suppression with TARCAP, bombers with TARCAP, MIGCAP, tankers, SAR, EW aircraft) work in an autonomus environment with the only requirement being "time on target". This greatly reduces the problems of launch, rendezvous, and recovery.

(g) The stream raid is more difficult to defend against than the Alpha Strike. Many attack elements, each made up of a small number of aircraft, ingressing from all guadrants below acquisition radar and arriving on target in close proximity to each other, greatly increases the element of surprise. Minimum time on target and nap of the earth egress techniques greatly increases survivability.

(h) For the fighter aircrew to survive in the high threat arena: keep a keen eye and back it up with "good knots"; keep turns to a minimum; attack only aircraft where an offensive advantage is enjoyed; once an offensive advantage is lost, leave; spend minimum time on target; beware, the egress is the most difficult and dangerous time.

## 7. Training Summary

a. Combat readiness training achieved on the deployment was significant. All deployment goals and training objectives were realized. Aircrew personnel deployed achieved an overall CRP increase of 5.8%. The average CRP increase for first tour pilots and RIO's was 5.1%, while that of second tourists was 6.1%.

b. This squadron's fall deployment to MCAS Yuma was unique from standpoint of aircrew training. Initially aircrew were given the opportunity to train in each phase of our complex mission; fighter weapons, fighter intercepts, and ground attack. During Operation Thunderbolt, the experience gained during the previous three weeks of training was tested. For the first time, aircrew of this squadron entered an arena that required them to employ the multi-mission F-4 in all its roles simultaneously.

#### Logistics, Embarkation Remarks

1. PROBLEM: Movement of twenty tons of cargo to MCAS Yuma.

<u>DISCUSSION</u>: One C-141 aircraft was used to accomplish the movement. Problem areas encountered were as follows:

(a) Lack of satisfactory loading equipment at MCAS Beaufort.

(b) Lack of scales to weigh palletized cargo.

(c) Group supply pack-up was in odd size boxes and was substantially increased in weight and cube from what had been planned.

RECOMMENDATION: Since the Military Airlift Command is being used more frequently for Marine Corps deployments, it is recommended that proper equipment be staged at MCAS Beaufort on a continuing basis to facilitate the loading of Air Force aircraft. This equipment should consist of one "K" loader and two forklifts specifically designed to handle Air Force 463L pallets. Type forklifts required are single axle steering forklift with a ten thousand pound lift capacity. Currently MCAS Beaufort is using a 7231 scoop loader with dual axle steering for loading C-141 aircraft. Without the availability of a "K" loader, the 7231 scoop loader is potentially dangerous for loading and makes the loading much more tedious and time consuming. A direct result of MCAS Beaufort deficiencies was readily apparent when a normal loading cycle of 60 minutes required six (6) hours.

The availability of accurate scales is essential to unit embarkation. Currently MAG-31 does not possess any type of scales for embarkation. It is recommended that MAG-31 acquire and maintain for unit checkout, scales 'capable of weighing built-up 463L pallets.

Group Supply planned to use one to two fifty cube boxes to be embarked with this unit thirty days prior to movement. Seven days prior to movement Group Supply updated their embarkation requirment to seven fifty cube boxes. Three days prior to movement the Group Supply pack-up was staged in VMFA-251's hangar and was the equivalent of eleven fifty cube boxes. The Group Supply pack-up was also packed in odd size boxes, (e.g., one (1) seven feet by three feet by three feet card board box) which further complicated weight and cube restrictions imposed upon this unit. It was only because of the flexibility and professionalism of the Air Force Load Master that this unit was able to embark the entire Group Supply pack-up. It is recommended that for future deployments Group Supply use proper prior planning for embarkation to include standard fifty cube boxes so that maximum utilization of available space may be attained.

2. <u>PROBLEM</u>: Movement of one hundred and seventy-two Marines from MCAS Beaufort to MCAS Yuma.

<u>DISCUSSION</u>: Thirty days prior to movement this unit's Maintenance Chief began a preliminary manifest for movement to MCAS Yuma. At that time

H&MS-31 S-1 and Maintenance Chief were contacted and were requested to submit a tentative personnel manifest. It wasn't until five days prior to movement that H&MS-31 S-1 provided this unit with the number of Marines requiring transportation. Two days prior to movement H&MS-31 notified this unit that they required an additional five maintenance technicians to be manifested and changed three other individuals on the manifest.

The majority of Marines were embarked aboard Marine C-9 aircraft provided by Second MAW. Major HATCH, COMCABSEAST, was very helpful in scheduling C-9 aircraft and meeting the needs of this unit.

Transportation from the barracks to Station Air Freight on the day of movement was provided by Station S-4. W.O. Johnson from Station S-4 was very helpful in arranging bus transportation for this unit.

<u>RECOMMENDATIONS</u>: It is a requirement of this unit to submit a special airlift request thirty days prior to movement. Without an accurate count of personnel to be deployed it is impossible to submit a realistic special airlift request. Therefore it is recommended that H&MS-31 use proper advanced planning for embarkation of personnel, and submit this information in a timely manner to the deploying unit.

3. PROBLEM: Logistics support for VMFA-251 while deployed at MCAS Yuma.

DISCUSSION: Logistics support provided to this unit was outstanding. A weekly C-9 was scheduled by Major HATCH, COMCABSEAST, through MCAS Beaufort to MCAS Yuma for movement of men and supplies. H&MS-31 provided a C-217 for the majority of this unit's deployment for logistics support. The logistics support received was outstanding in every way.

4. <u>PROBLEM</u>: The turnover of working spaces (Hangar 109) and the barracks (Bldg 920)

<u>DISCUSSION</u>: During a three month period, three MAG-31 fighter squadrons and H&MS-31 Det "A" used the same spaces for billeting and working. Although H&MS-31 Det "A" was the only unit that remained in place for the entire time they assumed none of the responsibility for either of the buildings. This arrangement required a formal turnover to be conducted three times. The turnover necessitated calling in station representatives on the weekend on two separate occasions. It also required a complete inventory of all furnishings and a room-by-room inspection of both buildings three times. This time consuming and tedious procedure was further complicated by the fact that H&MS-31 Det "A" continued to occupy the spaces during the turnover periods. Therefore a sterile turnover was impossible.

<u>RECOMMENDATION</u>: When units from the same Air Group deploy on a back-toback schedule and occupy the same spaces, responsibility should be given to only one unit for the entire time frame. In this instance, had H&MS-31 Det "A" assumed responsibility for the buildings there would have been only one check in and one check out evolution. An informal turnover could have been conducted in house, between Det "A" and each of the three gun squadrons.

ENCLOSURE (4)

2

## Maintenance, Material Remarkes

1. The Squadron deployment to MCAS Yuma, from a maintenance standpoint. was highly successful. The Aircraft Maintenance Department's ability to embark, deploy, operate and retrograde in an orderly fashion was verified. During this deployment VMFA-251 had a chance to test a newly instituted Aircraft Maintenance Program (developed by the Maintenance Department of VMFA-251 in June 1976) known as the coordinated Aircraft Maintenance/Programmed Aircraft Utilization System (CAMPUS). (NOTE 1) While working this system, the Maintenance Department was able to provide. on a continuing basis, Full Systems Capable (FSC) aircraft to meet a demanding and extensive daily flight schedule. By advance planning, all aircraft were programmed for more effective utiligation with greater economy of management of maintenance assets which led to increased systems reliability for the entire deployment. Since the basic' concept of CAMPUS is to fly each aircraft a given period and then hold it aside for maintenance for a given period, the Maintenance Department was able to plan and perform Programmed/Preventive Maintenance on all aircraft during the deployment, As a result, each aircraft had few "UP" discrepancies, remained in a flyable status longer and aircraft utilization was approximately equal for all eleven (11) aircraft on hand.

#### NOTE:

## 1. From VNFA-251 TIMI T-3-76; 16 JUN 76:

The corrdinated Aircraft Maintenance/Programmed Aircraft Utilizebion System (CAMFUS) is a comprehensive program for organizational level aircraft maintenance. It is designed as a tool to optimize management of manpower and material to accomplish scheduled and unscheduled maintenance on squadron aircraft. The goal of the program is to achieve maximum Full Systems Capability while maintaining maximum aircraft availability for the daily flight schedule. This goal is accomplished primarily through the scheduling of sequenced maintenance "down" periods for each squadron aircraft. During these periods, the aircraft is available for uninterrupted maintenance.

### 2. MAINTENANCE CONTROL

a. Through excellent supply support, an almost totally dedicated CCU (Component Control Unit), and outstanding GSE (Ground Support Equipment) availability, Maintenance Control had the capability to provide the following daily aircraft availability during the deployment:

DATE SEP 29 SEP 30	A/C ON <u>MAND</u> 11 11	I I OPSEXT/"UP" <u>A/C AVAIL</u> 8 7	#FSC 5 4	<b>%</b> 62.5 57.1	<u>OR</u>	%OR &FSC	DTE: 1 #A/C <u>IN QUAD</u> 4 5	NOTE: #4A <u>RADAR</u> 6 5	2 <u>%</u> A/CAVAIL. <u>WITH4ARAD</u> . 75.0 71.4
OCT 1 " 2 " 4 " 5 " 6 " 7 " 8 " 9 " 12 " 13 " 14 " 15 " 16 " 18 " 19 " 20 " 21	$ \begin{array}{c} 11\\ 11\\ 11\\ 11\\ 11\\ 11\\ 11\\ 11\\ 11\\ 11$	7.6 8 7 8 6 8 8 8 7 8 7 8 7 8 9 7 8 9 7 8 9 7 8 9	55432334346446444	71.4 83.3 50.0 42.8 25.0 50.0 37.5 50.0 37.5 57.1 75.0 57.1 50.0 66.6 57.1 50.0 66.6	231323 1211	71.4 62.5 66.6 75.0 75.0 75.0 75.0 77.7 85.7 62.5 55.5	53232334432333444	67777678779879777	87.5 100.0 87.5 100.0 87.5 100.0 87.5 100.0 112.3 114.2 87.5 100.0 100.0 87.5 77.7
" 22	12 	12	.6	50.0	1	58.3	0	7	<u>5</u> 8.3
AVERAG		PI:	Ω₽	OII O	л		סאתאפ		
	11.25	7.8 4.10	1.81	3.2	20	7.05	5		
TOPAL	FSC PLUS	OR = 5.15 DA	T.Y						
. Lo	Overal	l percent ave	rage for	the c	leplo	yment:			
	A/C da	ily availabil	ity = 69	9.3%	. *		. •		
	FSC =	36,83%							
	OR = COMBIN	16.03% ED FSC PLUS C	R = 45°	77%					
	PERCEN	TAGE IN QUAD	= 28.44	1					
	PERCEN	TAGE FSC AND	OR WITH	4A RAI	)AR =	- 62.66	5%		
NOTES:									
1.	From V	MFA-251 TIMI	<b>D-3-76;</b>	16 ET	1 76:	;			
	(a) <u>O</u>	PSEXT (Operat	cional Se	extet)					

The flying will be a six-day period. These days run consecutively, regardless of weekends or holidays. This flying period is called the Operational Sextet. (OPSEXT)

# (b) QUAD (Maintenance Quadrifid)

The maintenance period will be a four-day period, again regardless of weekends or holidays, and will commence immediately upon completion of the sixth day of the OPSEXT. These maintenance periods are called Maintenance Quadrifids (QUADS).

2. 4A Radar: Operational PD and Pulse radar systems plus CW power.

3. <u>AIRFRAMES</u>: Airframes Division support was excellent throughout the deployment, providing required airframes to meet training objectives.

4. <u>AVIONICS:</u> Avionics support from <u>AIMD</u> Yuma was outstanding from a general avionics support and also from the test equipment standpoint. Squadron <u>Avionics accomplishments</u> during the entire evolution was also cutstanding with an average daily radar availability of 62.6%. Electric Shop and COM/NAV production was superb during the entire deployment.

5. ORDANCE: The Ordnance Division accomplished a 99.38% drop rate for the deployment. The training received in weapons loading, down loading, and systems checkout in a high tempo environment was invaluable. Support provided by HAMS-31, Station Weapons MCAS Yuma, and AIMD MCAS Yuma was outstanding. Two problems noted that affected the Ordnance effort were; (1) the laak of a 6X6 truck for delivering munitions from the ordnance build-up area to the flight line; and, (2) only one vehicle assigned to the Ordnance Division for Arm/Dearm Crew caused delays in aircraft turm-around.

6. <u>MAG-31 DET A</u> The MAG-31 detachment concept worked extremely well and is highly recommended for future deployments. All sections performed their assigned tasks in a commendatory manner.

7. <u>MAG-31 SUPPLY DET A</u> SSGT FLATT and his CCU Section are commended for their excellent support and efforts in satisfying aircraft supply requirements.

<u>Subject</u>. Proposed revisions and additions to the Aviation Training and Readiness Manual (short title: T&R Manual), and the FREDS interface as applies to the Marine F-4 community.

<u>References</u>. (a) MCO P3500.8 (b) MCO 3760.5 (c) FXP-2E

### Introduction.

The T&R Manual is intended to standardize aircrew training throughout Marine Corps Aviation. Specific requirements are established for initial qualification, combat ready training, and retention of tactical currency. The FREDS interface is intended to provide commanders at all levels with real time data on tactical readiness.

Successful implementation of this system is dependent on common interpretation of the T&R Manual requirements and accurate reporting of training completions. Tactics must be reviewed to meet the changing threat and training must be amended accordingly. Therefore the T&R Manual and its associated FREDS interface must be periodically reviewed and updated if they are to continue to be the Marine Corps' management and reporting tools for combat training and readiness.

1. <u>Problem</u>. To determine what changes and additions to the T&R Manual and its associated FREDS interface are required to achieve the stated intent of standardizing aircrew training and accurately reporting tactical currency.

#### 2. Assumptions.

a. The T&R Manual and its associated FREDS interface will assume increased importance to Commanders in assessing combat readiness as the computerized reporting depicted in reference (b) becomes operational.

b. The Marine F-4 will continue to be employed in the multiple roles of fighter interceptor, air superiority fighter, and fighter ground attack (day and night).

### 3. Facts Bearing on the Problem.

a. The instructions provided in Appendix D of reference (a) on updating tactical currency and combat readiness percentage (CRP), and the chaining of syllabus flights are open to individual interpretation.

b. Tactical mission currency requirements task operational squadrons with continually reflying combat capable (basic training) sorties.

c. There are ten (10) check flights in the T&R Syllabus.

(1) Five (5) flights refer to non-existent evaluation criteria in reference (c).

(2) Two (2) flights refer to evaluation criteria in reference (c) which is incompatible with the specific objectives of the mission description.

(3) One flight refers to the evaluation of a strafe sortie, a mission not required by the T&R Syllabus.

d. There is no DECM training required by the T&R Syllabus.

e. Fighter intercept parameters outlined in the T&R Syllabus do not differentiatebetween bomber and fighter threats.

f. Fighter intercept parameters outlined in the T&R Syllabus provide only four sorties requiring visual identification (VID) of the target.

g. The fighter weapons portion of the T&R Syllabus does not address the 1 vs. many scenario and provides only two 2 vs. many sorties.

h. The refly interval for ECCM fighter intercepts defined by the T&R Manual is six (6) months.

i. There is no low level training (ie below 1000 ft. AGL) in the T&R Syllabus for fighter intercepts, navigation/ground attack, and fighter attack escort missions.

j. There is no T&R Syllabus requirement for minimum (annual) proficiency training tasks. For example:

- a. Section landings.
- b. Practice single engine approaches.
- c. Practice half-flap/no-flap approaches.
- d. Divert/bingo profiles.
- e. Airborne radar approaches.

k. First tour NA/NFO's arrive at operational squadrons without having completed the full combat capable phase of their training and require two weeks ground school in air-to-air and air-to-ground warfare.

1. A refresher training syllabus for second tour NA/NFO'S is outlined in the T&R Syllabus, but is not related to the individual's time out of aircraft model.

### 4. Discussion

a. The T&R Manual is intended to standardize aircrew training and provide operational squadrons with the means to determine individual aircrew and squadron combat readiness. The FREDS interface is used to record and report training completed, and provide Commanders at all levels with real time data on combat readiness. Periodic and critical scrutiny of the T&R Manual is essential for its update and revision to ensure that data provided to Commanders is realistic and correct.

b. The T&R Manual and FREDS interface has proven to be a most useful aid in guiding squadron training. Deployment training objectives are readily defined; flight hours and sorties are managed to provide the best numerical combat readiness percentage (CRP); monthly reports (MAUR & MIFAR) record past performance and provide for a reappraisal of training objectives, aircraft utilization, and future requirements.

c. The current data provided to Commanders for their assessment of combat readiness may be misleading. T&R Manual instructions for updating tactical currency and computing CRP are open to individual interpretation leading to non-standard reporting. Moreover, the T&R Manual outlines a syllabus for the F-4 community aimed more at basic training than at combat readiness.

(1) The refly interval compels operational squadrons to continually refly combat capable (basic training) sorties to maintain 70% CRP. This problem is compounded by the fact that first tour NA/NFO's arrive at operational squadrons without having completed the combat capable phase of their training. Similarly, noncurrent second tour NA/NFO's arrive at operational squadrons requiring flight support lectures and a nineteen (19) sortie combat capable refresher syllabus. The flight currency of refresher aircrewmen varies from several months to several years, diverting a considerable amount of squadron effort and assets to their retraining. As a result training objectives are not realized and the majority of aircrews are rarely exposed to advanced training sorties.

(2) The lack of valid check flights (see Para 3c) limits the capability of local commanders to realistically assess squadron/individual combat readiness.

(3) There is no DECM training required by the T&R Manual. Recent history has shown this training to be essential for successful mission accomplishment and survival in a real world combat environment. Current CRP reporting does not reflect this lack of essential training thereby misleading commanders as to the effectiveness of their forces.

Fighter intercept missions in the T&R Manual do (4) not differentiate between the bomber and fighter threats, and only provide four (4) syllabus sorties requiring visual identification (VID) of the target. It is essential to understand that fighter intercept and VID tactics of necessity change to counter the threat: weather; time of day; numbers, type, and defensive capabilities of threat aircraft; number of fighters making the intercept; enemy/friendly GCI availability and theatre of operations are some of the factors affecting these tactics. Crews capable of conducting successful intercept and VID of any threat in a VFR environment can be trained within the scope of the present T&R Manual. However, the training of crews capable of night all weather VID's against lights out, maneuvering, ECM equipped targets, at altitudes ranging from 200 ft. to 50,000 ft. would require an additional air defense T&R Manual, and for the purposes of this study is not considered to be a requirement of the Marine Phantom.

(5) The fighter weapons portion of the T&R Manual does not address the one vs. many scenario and provides only two sorties in the two vs. many scenario. Although aircrews are provided a good basis of fighter weapons training (1 vs. 1, 2 vs. 1, 2 vs. 2), they are not given sufficient exposure to the multiple bogey environment. Moreover, the refly interval for fighter weapons sorties is too great, again providing misleading data on the tactical currency of individuals. Squadrons recognizing this deficiency ensure that their aircrews remain current by conducting "refresher flights" Unfortunately these flights reported via the FREDS interface are listed as "syllabus support flights" and categorized as non productive sorties on the MAUR.

(6) The refly interval for ECCM fighter intercepts established by the T&R Manual is six (6) months, and is considered to be too great an interval to maintain tactical currency. Moreover, there is no requirement for operational squadrons to conduct ECCM training missions in an effort to achieve or maintain combat readiness. The latter is more easily maintained by refly of basic sorties thus again misleading commanders in their assessment of squadron(s) readiness.

(7) There is no requirement for low level (i.e. below 1,000 ft. AGL) training in the T&R Manual. The Marine Phantoms' ability to support troops in any theatre of operation requires the capability for low level fighter intercepts and VIDS; low level navigation/ground attack; and low level fighter attack escorts (STREAM RAIDS). Lack of training in this environment

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will adversely affect the performance of the Phantom community in this role.

(8) There is no requirement in the T&R Manual for minimum (annual) proficiency training tasks as listed in para.
3j. This lack of proficiency training is highlighted because there seems to be no logic in training fighter crews for success in combat if the aircraft is to be lost on recovery under adverse conditions.

#### 5. Conclusions.

a. The present system of CRP reporting based on the mission objectives outlined in the T&R Manual does not present a true picture of individual/squadron combat readiness.

b. Aircrews are being declared combat ready (70% CRP) without exposure to DECM training; ECCM intercepts; low level fighter intercepts and VID's; low level navigation/ground attack; low level fighter attack escorts, and fighter weapons vs. multiple bogies.

c. Squadron assets are wasted by the necessity to refly basic training sorties to maintain 70% CRP at the expense of providing aircrews with more advanced training.

d. Current fighter intercept mission descriptions are inadequate and misleading. Fighter intercept missions should be primarily aimed at the fighter/fighter ground attack threat while retaining the capability of intercepting supersonic bombers.

e. Squadron assets are drained by the requirement to provide refresher training to second tour aircrews who are delinquent not only in tactical currency but also in flight currency.

f. Annual proficiency requirements should be included in the T&R Syllabus to ensure that aircrews achieve the desired proficiency in this area.

6. Recommendations.

It is recommended that:

a. The T&R Manual establish four separate training sections. A combat capable training section, an advanced training section, a carrier qualification section, and a proficiency training section.

(1) <u>Combat Capable training</u>. This section to continue to provide the syllabus for replacement aircrewmen (RAC) training and refresher training by the training group. Once completed this section of the T&R Syllabus should not be reflown unless required by loss of tactical currency as explained in para 6 c.

(2) Advanced training. This section to provide the syllabus for advanced training by the tactical group and should be divided into three separate phases; combat ready, combat qualified, and full combat qualified.

(3) <u>Proficiency training</u>. This section to provide minimum quarterly flight proficiency requirements.

b. The 60% CRP achieved by RAC and refresher aircrewmen, on completion of the combat capable phase of their training, should not be lost or require updating unless tactical currency is lost as explained in para 6 c., thus enabling the tactical group to concentrate on the advanced training phases of the T&R Syllabus.

c. Loss of tactical currency be defined as any NA/NFO assigned to the tactical group who has not flown a tactical training mission within ninety (90) days of his last T&R Syllabus flight. In the event tactical currency is lost the NA/NFC will fly FAM 4/FAM 1, INST 4/INST 5, FORM 3/FORM 2, FI 13, AND BAM4/BAM 3.

d. The responsibility for refresher training of second tour NA/NFOS be allocated as follows:

(1) NA/NFO with more than three (3) months but less than six (6) months since last F-4 Flight - tactical group.

(2) NA/NFO with more than six (6) months since last F-4 flight training group for ground school/tactical group for refresher flights.

(3) NA/NFO with more than twelve (12) months since last flight training group for full refresher.

e. The following check flights be added or amended with local evaluation by squadron ACTI's, WTI's, or MAWTU instructors. References to FXP-2 for evaluation criteria should be deleted.

- FI-13 Fighter Intercept check ride.
   FI-18 Fighter Intercept check ride.
   FW-10 Fighter Wespona (2 vs. 1) check ride.
   FI-32 Fighter Intercept check ride.
- (5) GA-13 Ground Attack (30°/45°) check ride (practice ordnance).
- (6) FW-19 Fighter Weapons (2 vs. 2) check ride.

f. DECM/EN training be added to the advanced training section of the T&R Syllabus, with DECM/EW sorties included in each phase of the section

g. Fighter intercept mission descriptions should be more specific on the threat aircraft to be intercepted. ECCM intercepts should be planned and conducted for the heavy bomber threat, and the remainder for the fighter/ fighter ground attack threat.

h. ECCM fighter intercepts be included in the combat ready phase of the syllabus.

i. The fighter weapons syllabus be revised to include the 1 vs. 1 vs. 1, 1 vs. many, and 2 vs. many scenarios, and the refly interval be reduced to provide for more realistic tactical currency in this role.

j. The T&R Syllabus be revised to include realistic low level training in fighter intercept, navigation/ground attack, and fighter attack escort missions.

k. The T&R Manual include a requirement to achieve quarterly minimum proficiency training in section landings, half-flap/no-flap approaches, divert/ bingo profiles, airborne radar approaches, and single engine approaches.

#### T&R MANUAL

### CHAPTER 4

## F-4 PILOT AND RADAR INTERCEPT OFFICER

400 TRAINING PROGRAMS

# 401 BASIC, TRANSITION AND CONVERSION PILOT AND RIO

WEEKS	COURSE	ACTIVITY
1	Pilot Familiarization	NAMTRAD ET
2	Aero 1A/AWG 10	NAMTRADET
3-6	Squadron Lectures and Flight Simulator Traini	Training Group
7-8	Appropriate Air-To-Air a Air-To-Ground Courses	nd MAWTU
9-26	Combat Capable Training	Training Group
26-28	Air-To-Air & Air-To-Grou Schools	nd MAWTU
29-50	Advanced Training	Tactical Group

# 402 REFRESHER PILOT AND RIO

3.

# 1. NA/NFO WITH MORE THAN THREE MONTHS BUT LESS THAN SIX MONTHS SINCE LAST F-4~FLIGHT

WEEKS	COURSE	ACTIVITY
<b>1</b> .	Squadron Lectures and Flight Simulator Trainin	Tactical Group
2-3 4-8	Tactical Currency Refres Combat Ready Training	her Tactical Group Tactical Group

# 2. NA/NFO WITH MORE THAN SIX MONTHS SINCE LAST F-4 FLIGHT.

WEEKS	COURSE	ACTIVITY
1-2	Squadron Lectures and Flight Simulator Training	Training Group/
3-4	Appropriate Air-To-Air and Air-To-Ground Refreshers	MAWTU
5-7	Combat Capable Training	Tactical Group
8-12	Combat Ready Training	Tactical Group
NA/NFO WITH	MORE THAN TWELVE MONTHS SIN	CE LAST FLIGHT

WEEKS	COURSE	ACTIVITY
1	Pilot Familiarization	NAMTRADET (if available
2	Aero 1A/AWG-10	NAMTRADET (if available

ACTIVITY
Training Group
g · · ·
nd MAWTU
Training Group
Tactical Group

# 403 INSTRUCTOR UNDER TRAINING

WEEKS	COURSE	ACTIVITY
1-4	Squadron Lectures and	Training Group
	Flight Simulator Training	
5-6	Appropriate Air-To-Air and	MAWTU
	Air-To-Ground Courses	
7-11	Instructor Under Training	Training Group

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# 410 GROUND TRAINING

411 SCHOOLS

Pilot's Familiarization Aero 1A/AWG 10 NAMO MAWTU Air-To-Air and Air-To- Ground Courses ACM Course ACM Instructor Course WTI

412 FLIGHT SIMULATOR TRAINING

# 1. BASIC, TRANSITION AND CONVERSION PILOT AND RIO

	TRAINER	PERIODS	HOURS
	COT	4	4
	2855/2800	16	10
	1564	$\frac{18}{38}$	$\frac{18}{38}$
2.	REFRESHER PILO	T AND RIO	
	TRAINER	PERIODS	HOURS
	COT	4	4
	2F55/2F88	. 7	7
	15C4	_5	
		16	16
## 3. INSTRUCTOR PILOT AND RIO UNDER TRAINING

TRAINER	PERIODS	HOURS
CÓT	2	2
2F55/2F88	8	8
15C4	7	7
· .	17	17

413 <u>SQUADRON LEVEL TRAINING</u>. Prior to first flight, the basic, transition, conversion, and instructor pilot and RIO will attend two weeks of ground training at the Training Group. Refresher Pilot/RIO will attend ground training as per para. 402. These lectures will include the subjects listed below. Additionally, prior to commencing each stage of flight training the appropriate stage lecture will be given.

Aircraft Systems VID's Binders Cross-Country Packets Aircraft Preflight Plane Captain Signals Safety Aerodynamics Emergency Procedures Course Rules Aircrew Teamwork and Responsibilities Basic Radar Navigation Computer ANCS Flight Planning Performance Data

420 FLIGHT TRAINING

# 421 BASIC, TRANSITION AND CONVERSION PILOT AND RIO

#### 1. COMBAT CAPABLE TRAINING SECTION

a. PILOT

STAGE	SORTIES	HOURS	PERCENT
Basic Qualification			25.0
Familiarization	4	.4.8	2.0
Instrument	4	. 6.0	2.0
Formation	3	3.9	1.5
Field Mirror Landing Practice	1	1.0	1.0
Fighter Intercept	13	16.9	12.0
Ground Attack	9	9.0	4.5
Aerial Refueling	. 2	2.6	1.0
Basic Aircraft Maneuvering	4	4.0	4.0
Fighter Weapons	. <b>7</b>	5.7	7.0
	47	53.8	60.0

# **b.** RADAR INTERCEPT OFFICER

STAGE	SORTIES	HOURS	PERCENT
Basic Qualification	·		10.0
Familiarization	1	1.2	· 1.5
Instrument	5	7.5	5.0
Formation	2	2.6	2.0
Field Mirror Landing Practice	1	1.0	0.5
Fighter Intercept	13	16.9	-21.0
Ground Attack	9	9.0	5.0
Aerial Refueling	2	2.6	2.0
Basic Aircraft Maneuvering	3	3.0	3.0
Fighter Weapons	_7	5.6	10.0
-	43	49.4	60.0

# 2. ADVANCED TRAINING SECTION

# a. COMBAT READY TRAINING, PILOT AND RIO

STAGE	SORTIES	HOURS	PERCENT
Fighter Intercept		13.4	3.5
Ground Attack	4	4.0	2.0
Fighter Weapons	8	6.4	3.5
Electronic Warfare	1.	1.3	0.5
Navigation	1	1.5	0.5
	25	26.6	10.0

# b. COMBAT QUALIFICATION TRAINING, PILOT AND RIO

STAGE	SORTIES	HOURS	PERCENT
Fighter Intercept		10.4	6.0
Ground Attack	7	7.0	3.0
Fighter Weapons	8	6.4	5.0
Electronic Warfare	1	1.0	0.5
Navigation	1	1.5	0.5
	25	26.3	15.0

# c. FULL COMBAT QUALIFICATION TRAINING, PILOT AND RIO

STAGE	SORTIES	HOURS	PERCENT
Fighter Intercept	7	9.1	3.5
Ground Attack	5	5.0	2.0
Fighter Weapons	6	4.8	6.0
Electronic Warfare	2	2.0	2.0
Fighter Attack Escort	3	3.6	1.5
	23	24.5	15.0

TOTAL, PILOT TOTAL, RIO	<u>SORTIES</u> 121 117	HOURS 132.2 127.8	PERCENT 100.0 100.0
3. PROFICIENCY TRAINING SECTION	QUARTERLY REQUI	REMENT)	
Section Landings Half-Flap/No-Flap Approaches Divert/Bingo Profiles Airborne Radar Approaches Practice Single Engine Approaches	4 4 4 4 4		
422 REFRESHER PILOT AND RIO			
1. PILOT			
STAGE Familiarization Instrument Formation Fighter Intercept Ground Attack Basic Aircraft Maneuvering Fighter Weapons	<u>SORTIES</u> 2 1 5 3 <u>4</u> 20	HOURS 2.4 3.0 1.3 6.5 3.0 3.0 3.0 <u>3.2</u> 22.4	
2. RADAR INTERCEPT OFFICER			
<u>STAGE</u> Familiarization Instrument Formation Fighter Intercept Ground Attack Basic Aircraft Maneuvering Fighter Weapons	<u>SORTIES</u> 1 1 7 2 2 <u>4</u> 18	HOURS 1.2 1.5 1.3 9.1 2.0 2.0 <u>3.2</u> 20.3	
423 TACTICAL CURRENCY REFRESHER PILOT	AND RIO		

# 1. PILOT AND RADAR INTERCEPT OFFICER

STAGE	SORTIES	HOURS
Familiarzation	1	1.2
Instrument	1	1.5
Formation	1	1.3
Fighter Intercept	1	1.3
Basic Aircraft Maneuvering	<u>_1</u>	1.0
	5	6.3

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# 424 INSTRUCTOR UNDER TRAINING

#### 1. PILOT

STAGE	SORTIES	HOURS
Familiarization	3	3.6
Instrument	1	1.5
Formation	2	2.6
Fighter Intercept	4	5.2
Ground Attack	2	2.0
Aerial Refueling	1	1.3
Field Mirror Landing	1	1.0
Air Combat Tactics		
Instructor Course	6	6.0
	20	23.2

#### 2. RADAR INTERCEPT OFFICER

STAGE	SORTIES	HOURS
Instrument	1	1.5
Formation	1	1.3
Fighter Intercept	4	5.2
Ground Attack	2	2.0
Aerial Refueling	1	1.3
Field Mirror Landing Practice	1	1.0
Air Combat Tactics		
Instructor Course	6	6.0
	16	18.3

# 430 FLIGHT SIMULATOR TRAINING SYLLABUS

#### .431 EMERGENCIES

1. <u>PURPOSE</u>. To acquaint aircrewmen with the F-4 cockpit controls and their operation in normal and emergency modes and to develop proficiency in handling aircraft emergencies.

2. <u>GENERAL</u>. All aircrewmen shall complete all emergency training flights in the WST or COT prior to FAM 1. If a ground trainer is not available, similar training in the cockpit of the aircraft may be substituted. If available the COT will be utilized for ESIM 1-4 and the WST utilized for ESIM/ISIM 5-8.

#### 3. SYLLABUS.

ESIM 1 Cockpit introduction. NATOPS checks and discussion 1.0 of all switches, controls and indicators. Normal start, COT/WST pretaxi checks, engine runups and shutdown. CRT takeoff and normal landing, time permitting. ESIM 2 Preflight NATOPS checks. Engine starting emergencies. 1.0 CRT takeoff. Investigate flight characteristics of COT/WST the trainer. BLC malfunctions and failure.

ESIM 3 1.0 Preflight NATOPS checks. One starting emergency. Discuss abort procedures. Afterburner takeoff with after-COT/WST burner blowout. Hydraulic system failures, emphasize equipment lost with each type of failure. Landing will be made with the utility system failed. Cover emergency lowering of landing gear and flaps.

ESIM 4 Preflight NATOPS checks. One starting emergency. MRT 1.0 takeoff, engine flameout. Cover all engine malfunctions COT/WST and emergencies. Landing will be single-engine.

ESIM 5 1.0 Preflight NATOPS checks. Bleed air check valve failure during engine runup. Review of engine emergencies. COT/WST Electrical system malfunctions and emergencies. Discuss equipment lost in each case and what is regained on the RAT. Landing will be make on RAT power.

ESIM 6 Preflight NATOPS checks. One engine start emergency.

1.0 CRT takeoff with engine fire or overheat. Review COT/EST electrical system emergencies. Fuel system management and malfunction. Review of previously introduced emergencies, one from each group. Landing emergency shall be unsafe landing gear.

 $\frac{\text{ESIM 7}}{1.0}$  Preflight NATOPS checks. Review of all emergencies with emphasis on weak areas. Landing emergency at COT/WST instructors discretion.

ESIM 8 Emergency procedures check with squadron familiarization 1.0 instructor. COT/WST

432 INSTRUMENT

1. <u>PURPOSE</u>. To acquaint the aircrew with F-4 cockpit instrumentation and navaids. To develop an instrument scan and familiarize the aircrew with instrument procedures peculiar to the F-4.

2. SYLLABUS

ISIM 5-8 All aircrewmen in training shall combine a canned 1.0 instrument flight on emergency trainer flights ESIM 5-8. WST

433 RADAR INTERCEPT

1. <u>PURPOSE</u>. To acquaint the aircrew with the techniques of radar intercepts. Special emphasis will be given to search techniques, AERO reports, switchology, and intercept geometry. 2. <u>SYLLABUS</u>. All aircrewmen in training shall fly each fighter intercept mission in the WST/15C4 prior to the actual flight.

#### **434 ELECTRONIC COUNTERMEASURES**

1. <u>PURPOSE</u>. To acquaint the aircrew with various electronic countermeasures so they Will recognize when they are being used against the aircraft. To familiarize the aircrew with the radar techniques to be used when attacking an active ECM threat.

2. <u>SYLLABUS</u>. All aircrewmen in training shall fly each ECM fighter intercept mission in the WST prior to the actual flight.

#### 435 ELECTRONIC WARFARE (DECM)

1. <u>PURPOSE</u>. To acquaint the aircrew with defensive electronic countermeasures equipment so they will recognize when radar is being used against them. To familiarize the aircrew with tactics to be employed against threat radars.

2. <u>SYLLABUS</u>. All aircrewmen in training shall fly each electronic warfare mission in the WST prior to the actual flight.

#### 436 NAVIGATION

1. <u>PURPOSE</u>. To acquaint the aircrew with low level navigation techniques and planning.

#### 440 FLIGHT TRAINING SYLLABUS

#### 1. GENERAL.

a. This syllabus specifies the training requirements for first tour pilots and RIO's. Transition and conversion pilots will fly the entire syllabus. The 60% CRP attained while undergoing combat capable training will be retained as a minimum as long as the pilot/RIO is tactically current.

b. Mission guidance is general to allow for local conditions as much as possible and squadrons are encouraged to utilize the full range of tactics in the tactics manual and to adopt the latest developed and proven tactics.

c. Combat capable training phase for the pilot and RIO differ and envisions an instructor and trainee in each aircraft to maximize training and minimize syllabus support hours. The optimized syllabus provides no syllabus support time in the F-4.

d. Subsequent phases of training for the aircrew are identical to provide for the teamed aircrew concept where practical. e. All flights shall terminate with a comprehensive debrief with emphasis on performance, utilizing all evaluator techniques, e.g. scope camera, ACMR, airground delivery analysis, tape recorders, and participating aircrew and GCI personnel.

f. Combat capable training provides the building blocks for qualification and advancement to the tactical group. The advanced training section along with those missions authorized by their inclusion in the F-4 tactical manual shall serve as the syllabus for all current first and second tour pilots and RIO's based on each flight's refly interval.

#### 2. CODE DESIGNATIONS

PUT - Pilot Under Instruction RUI - RIO Under Instruction IP - Instructor Pilot IR - Instructor RIO (TC) - Tactical Currency Flight WTI - Weapons Tactics Instructor ACTI- Air Combat Tactics Instructor MAWTU-Marine Air Weapons Training Unit (S) Can be flown in the simulator (WST) (R) Refresher flight (N) To be flown at night (O) Must be flown overland

441 COMBAT CAPABLE TRAINING PILOT

# 1. FAMILIARIZATION (4 SORTIES, 4.8 HOURS)

a. <u>Purpose</u>. To develop proficiency and familiarity with aircraft flight characteristics, limitations, emergency procedures and maneuvering envelope including all authorized aerobatics.

b. <u>General</u>. Configuration of the aircraft shall be clean for all flights in this stage. All flights in familiarization stage shall be flown during daylight hours in VFR conditions.

c. Syllabus.

FAM 1 IP demonstrate CRT takeoff MRT climb, supersonic man-

1.2 euvering, transonic pitchup, dirty and accelerated stall characteristics, adverse yaw, five unit nosehigh recoveries, aerobatics, single-engine flight, and touch and go landings to include one simulated single-engine and one no-flap landing. CREW: IP/PUI.

FAM 2PUI perform CRT takeoff, MRT climb, general airwork,1.2 Rsupersonic maneuvering, transonic pitchup, approaches1 A/Cto clean, dirty, and accelerated stalls, five unit

nose-high recoveries, aerobatics (not to include overhead maneuvers), VFR recovery and touch and go landings. CREW: PUI/IP. This flight requires LSO Monitor.

FAM 3 PUI perform CRT takeoff, MRT climb, maneuvers from FAM

 1.2
 2, STAB AUG out flight, use of AFCS, radio navigation,
 1 A/C instruments, aerobatics, VFR recovery and touch and go landings (full-flap, no-flap, half-flap, simulated singleengine); final landing to be MOREST if available. CREW: PUI/IP. This flight requires LSO Monitor.

FAM 4 MRT takeoff and climb, review all previously introduced
1.2 R familiarization maneuvers, aerobatics including over1 A/C head maneuvers, single-engine performance and relight
(TC) procedures at 10,000'. VFR entry to touch and go

landings. Full stop landing to be no-chute. CREW: PUI/IP.

# 2. INSTRUMENT (4 SORTIES, 6 HOURS)

a. <u>Purpose</u>. To develop ability to execute precision maneuvers under instrument conditions, complying with IFR procedures and utilizing all installed navigation aids.

b. <u>General</u>. INST 4 shall be flown as the first night sortie of this syllabus. This stage terminates with an in-type instrument check.

c. Syllabus.

INST 1 Practice basic instrument patterns to develop a scan pattern for the F-4 cockpit instrumentation. Practice 1 A/C TACAN penetration and GCA's until bingo fuel. CREW: PUI/IP. (S) INST 2 Fly a round robin stereotype instrument route. CREW: PUI/IR. 1.5 R 1 A/C (S)

INST 3 File DD-175 with route to include an enroute TACAN ap-1.5 proach to a GCA at a strange field. PUI perform all 1 A/C voice communications. CREW: PUI/IR. (S)

INST 4 Same as INST 2. VFR recover for minimum of four VFR 1.5 R night landings. Takeoff should be prior to EENT. Upon 1 A/C completion of this sortie the PUT will be considered (N) (TC) instrument qualified in type. CREW: PUI/IR.

#### 3. FORMATION (3 SORTIES, 3.9 HOURS)

a. <u>Purpose</u>. To develop the ability to perform basic formation flying in the F-4 section and division flights, both day and night. b. Syllabus.

FORM 1 Practice parade formation, rendezvous, free cruise. 1.3 R tail chase, tactical formations, and section penetration 2 A/C to GCA low approach. CREW: PUI/IR. FORM 2 Practice parade formation, rendezvous technique, free 1.3 cruise, tactical formations, tail chase, section pen-~4 ~A/C etration. CREW: PUI/IR. FORM 3 To be flown after INST 4. Practice parade formation. 1.3 rendezvous, section penetration to GCA low approach 2 A/Cand night landing until bingo. (N) (TC)

# 4. FIELD MIRROR LANDING PRACTICE (1 SORTIE, 1 HOUR)

a. <u>Purpose</u>. To familiarize the PUI with precision landing techniques utilizing the Optical Landing System. Special emphasis should be placed on pattern, altitude, airspeed and glide slope control. Prerequisite: Receive appropriate stage lecture.

b. Syllabus.

<u>FMLP 1</u> Day FMLP with ten acceptable landings. CREW: PUI/IR 1.0 1 A/C

I A/U

#### 5. FIGHTER INTERCEPT (14 SORTIES, 18.2 HOURS)

a. <u>Purpose</u>. Introduction to the tactical use of the F-4 fire control system.against a bomber or fighter threat.

b. General.

(1) Prior to intercept training, lectures will be given to review the aircraft weapons system, radar utilization and techniques, intercept geometry, and intercept procedures.

(2) The F-4 tactical manual (NAVAIR 01-245FDB-IT) is the basis for tactics to be employed and all crewmen shall refer to this publication for detailed tactical information prior to briefing each flight.

(3) Each fighter intercept sortie should be flown in the WST or 15C4 prior to actual flight in the aircraft.

(4) The controlling GCI unit must be briefed prior to takeoff and contacted as soon as possible after takeoff in order to save time and fuel and to get the maximum number of intercepts per sortie. (5) AIM-7E simulators and one AIM-9 captive missile should be carried on all sorties.

(6) Speeds and altitudes may be adjusted by the unit Commander to conform with airspace restrictions in the local area. Bogie speed will be subsonic with the fighter having a 50 knot speed advantage.

(7) The RIO under instruction will practice using the APG-59 or APQ-72 in all modes of operation with emphasis on manual track while flying as bogie.

(8) When feasible, use a 30 second interval on takeoff. PUI practice acquisition and track from trail position during climbout.

(9) If bogie aircraft is not used PUI and RUI aircraft split fighter time. RUI practice UHF/ADF procedures on other aircraft while bogie.

(10) Minimum intercepts for completion of each syllabus sortie are listed in the flight descriptions, however maximum runs per sortie should prevail over the tendency to obtain more than one completed sortie per flight.

(11) Flying fighter intercept missions at night promotes realism in training without sacrificing safety. An effort should be made to fly as many FI sorties at night as can be allowed by local restrictions.

(12) Prerequisite: Completion of NAMTRADET AERO-1A Course and AWG-10 Course.

c. Syllabus

FI 1 Objective. Weapons system familiarization. Detect and 1.3 acquire targets from a position abeam and execute a rear 2 A/C quarter attack to an AIM-9 firing position.

<u>Mission</u>. Conduct three successful  $90^{\circ}$  intercepts to an AIM-9 firing position and rear quarter VID's at medium altitude. One run will be in search only. Bogie at an altitude 2,000' above the fighter. CREW: PUI/IR

FI.2 Objective. Detect and acquire targets in the head-on 1.3 R environment and execute a rear quarter attack to an AIM-9 2 A/C firing position.

<u>Mission</u>. Conduct four successful 180 intercepts to an AIM-9 firing position. One run will be in search only and one to a VID. Medium altitude. Bogie at an altitude  $\pm 2,000$ ' from fighter. CREW: PUI/IR.

FI 3 Objective. Detect and acquire targets in the forward quarter environment and execute a rear quarter attack 2 A/C to an AIM-9 firing position.

**(S)** 

<u>Mission</u>. Conduct three successful forward quarter  $(170^{\circ} \text{ to } 120^{\circ} \text{ TCA})$  intercepts to an AIM-9 firing position. One run will be in search only and one run to a VID. Medium altitude. Bogie  $\pm 2,000^{\circ}$  from fighter altitude, CREW: PUI/IR.

**FI 4** Objective. Detect and acquire targets in the head-on 1.3 environment and execute a forward quarter AIM-7 attack 2 A/C with an AIM-9 reattack.

> <u>Mission</u>. Conduct three successful head-on intercepts converted to forward quarter ( $150 \circ -160 \circ TCA$ ) AIM-7 attacks with AIM-9 reattacks. Medium altitude. Bogie +2,000' from fighter altitude. CREW: PUI/IR.

FI 5 Objective. Detect and acquire targets in the forward 1.3 R quarter environment and execute a forward quarter AIM-7 2 A/C attack with an AIM-9 reattack.

**(S)** 

<u>Mission</u>. Conduct three successful forward quarter (170° to 120° TCA) intercepts converted to forward quarter (150°-160° TCA) AIM-7 attacks with AIM-9 reattacks. Medium altitude. One run in search only until 10 mile range. Bogie  $\pm 5,000°$  of fighter altitude. CREW: PUI/IR

FI 6 Objective. Detect and acquire high altitude targets in the forward quarter environment and execute an AIM-7 2 A/C attack with an AIM-9 reattack.

<u>Mission</u>. Conduct three successful high altitude (30,000' - 40,000') forward quarter intercepts  $(170^{\circ} - 120^{\circ} \text{ TGA})$  converted to forward quarter  $(1.50^{\circ} - 160^{\circ} \text{ TCA})$  AIM-7 attacks with AIM-9 reattacks. Bogie  $\pm 5,000'$  of fighter altitude. CREW: PUI/IR.

 $\begin{array}{ccc} FI & 7\\ \hline 1.3 & 0 \\ \hline forward & quarter & environment & and & execute & an AIM-7 & attack\\ \hline 2 & A/C & with & an & AIM-9 & reattack. \end{array}$ 

<u>Mission</u>. Conduct three successful low altitude forward quarter (170°-120° TCA) intercepts on a bogie below 5,000' AGL converted to forward quarter (150°-160° TCA) AIM-7 attacks with AIM-9 reattacks. CREW: PUI/IR.

FI 8 Objective. Detect and acquire targets looking down in 1.3 the forward quarter environment and execute an AIM-7 2 A/C attack with an AIM-9 reattack. Mission. Conduct three successful forward quarter (1700-120° TCA) intercepts on a bogie 10,000' below fighter altitude converted to an AIM-7 attack and AIM-9 reattack. CREW: PUI/IR.

- FI 9Objective.Detect and acquire a medium altitude jinking1.3 Rbogie.Execute an AIM-7 attack and AIM-9 reattack.
- 2 A/C
   (S) <u>Mission</u>. Successfully complete three forward quarter AIM-7 attacks with visual reattacks. Bogie in an altitude block 5,000'-25,000' allowed to jink <u>+</u>5,000', 250 knots to .95 IMN and <u>+</u>30° in heading.
- FI 10Objective.Detect and acquire a medium altitude unknown1.3bogie.Excecute an AIM-7 attack and AIM-9 reattack.2 A/C
- (S) <u>Mission</u>. Successfully complete three forward quarter AIM-7 attacks with AIM-9 reattacks against an unknown bogie. Bogie +10,000' of fighter altitude, +45° base heading, and at a constant airspeed. CREW: PUI/IR.
- FI 11 Objective. Detect and acquire a medium altitude nonmaneuvering target and execute section stern VID's.
- 2 F-4
- 1 AD-VERSARY Mission. Conduct four successful stern VID's from a forward quarter intercept. Two VID's performed as TAC Lead and two VID's performed as TAC Wing. Medium altitude. Bogie +5,000'. CREW PUI/IR.
- FI 12Objective. Detect and acquire a medium altitude non-1.3 Rmaneuvering target and execute section forward quarter2 F-4VID's.

1 AD-

VERSARY <u>Mission</u>. Conduct four successful forward quarter (170 °-120 ° TCA) VID's from a forward quarter intercept. Two VID's performed as TAC Lead and two as TAC Wing. Medium altitude bogie <u>+</u>5,000' of fighter altitude. CREW: PUI/IR.

FI 13Objective,Fighter intercept check ride.1.3 R(TC)2 A/CMission.Conduct the following intercepts:

 Medium altitude forward quarter (170°-120° TCA) to an AIM-9 firing position.
 Medium altitude forward quarter (170°-120° TCA) AIM-7 attack with an AIM-9 reattack.
 Low altitude forward quarter (170°-120° TCA) AIM-7 attack with an AIM-9 reattack.
 High altitude forward quarter (170°-120° TCA) AIM-7 attack with an AIM-9 reattack.
 High altitude forward quarter (170°-120° TCA) AIM-7 attack with an AIM-9 reattack.
 Low Altitude unknown AIM-7 attack with an AIM-9 reattack. (Runs 1 through 4 nonmaneuvering, subsonic/run 5 Jink +5,000', 250 knots to .95 IMN and +30<sup>0</sup> heading) To be evaluated by a MAWTU instructor or squadron WTI.

## 6. GROUND ATTACK (9 SORTIES, 9 HOURS)

a. <u>Purpose</u>. To develop the ability to recognize dive angles, proper tracking techniques, basic weapons switchology, weapons characteristics, and to learn to effectively deliver ordnance on a raked range.

b. <u>General</u>. Adverse yaw, out of trim, center of gravity parameters, and g overshoot shall be briefed prior to each sortie. The prerequisite for this stage is successful completion of the appropriate MAWTU course. Ground attack 2 through 9 shall not be credited unless 50% of the ordnance carried is delivered. Introduce Pilot/RIO to radar slant range bombing during GA 7.

#### c. Syllabus

$\frac{GA 1}{1.0}$	Daylight 30 <sup>o</sup> dive angle calibration. Flown on a raked range. CREW: PUI/IR.
2-4 A/C	ORDNANCE: Not required.
$\frac{GA \ 2-5}{1.0 \ R}$	Daylight 30 <sup>0</sup> bombs and rockets on a raked range. Refresher pilots will fly GA-2 only. CREW: PUI/IR.
, .	ORDNANCE: 6 MK 76 bombs, 6 2.75" rockets.
$\frac{GA}{1.0}$	Night 30 <sup>0</sup> bombs and rockets on a raked range. CREW: PUI/IR.
(N)	ORDNANCE: 6 MK 76 bombs, 6 2.75" rockets.
<u>GA 7</u> 1.0 2-4 A/C	Daylight 30 <sup>0</sup> bombs and rockets on a raked range. CREW: PUI/IR.
	ORDNANCE: 6 MK 76 bombs 6 2.75" rockets.
$\frac{GA 8}{1.0 R}$	Daylight 10 <sup>0</sup> -20 <sup>0</sup> bombs and rockets on a raked range. CREW: PUI/IR.
2-4 A/C	ORDNANCE: 6 MK 76 bombs, 6 2.75" rockets.

GA 9Daylight 30° live ordnance. Low drag bombs and1.0 Rrockets or Mark IV gun. Flight will be flown under2-4 A/CFAC/TAC(A) control. CREW: PUI/IR.

ORDNANCE: 6 MK 82 bombs and four 5" rockets or 500 rounds of 20 MM.

#### 4-19

# 7. AERIAL REFUELING (2 SORTIES, 2.6 HOURS)

a. <u>Purpose</u>. To introduce tanker rendezvous techniques, tanker formations, communications, tanking switchology, and safety procedures.

b. <u>General</u>. These flights may be combined with other syllabus flights whenever possible. Prior to aerial refueling pilots shall successfully complete an examination covering procedures found in the NATOPS Aerial Refueling Manual and the F-4 NATOPS Manual. A minimum of eight successful plug-ins are required for completion when tanking from the KC-130.

c. Syllabus

AR 1<br/>1.3Day aerial refueling. CREW: PUI/IR.AR 2<br/>1.3Night aerial refueling. CREW: PUI/IR.

1-4 A/C (N)

## 8. BASIC AIRCRAFT MANEUVERING (4 SORTIES, 4 HOURS)

a. <u>Purpose</u>. To have the PUI experience and evaluate the maneuvering envelope of the F-4 and to teach him how to get maximum performance from his aircraft. To teach the basic fundamentals of air combat maneuvering in order to instill confidence, and to prepare him for the more advance concepts of ACM.

b. <u>General</u>. Tactics and techniques currently taught in the F-4 Tactical Manual and supplements shall be utilized. All aircrew members must have completed the appropriate MAWTU course or MAWTU refresher course within six months prior to flying this phase. Only MAWTU certified Air Combat Tactics Instructors who have been designated by their Commanding Officers shall instruct or lead sorties in this stage. Aircrews must complete each mission successfully in the sequence listed. All aircraft shall carry a captive AIM-7 or AIM-7 simulator and a captive AIM-9. Aircraft may either be clean or configured with a centerline tank. The ACMR shall be utilized when available.

c. Syllabus

BAM 1Rig check, dynamic zooms, adverse yaw drill (slow1.0 Rspeed and accelerated), slice turns, high g bar-1 F-4rel rolls over the top and underneath. CREW: PUI/IP.BAM 2Section takeoff (runway conditions and weather permit-1.0 Rting), rig check, loose deuce maneuvering, to include2 F-4

called and uncalled turns, hard and break turns, and in-place and cross turns. Basic scissors, high/how yo-yo and barrel roll attack. CREW: PUI/IR.

BAM 3Section takeoff (runway conditions and weather per-1.0 Rmitting), rig check, loose deuce maneuvering, rolling2 F-4scissors, dive away, defensive pullup, counter to de-fensive pullup and lag pursuit roll.CREW: PUI/IR.

BAM 4Section takeoff, rig check, loose deuce maneuvering,1.0(TC)review of previous maneuvers as required. CREW: PUI/IR.2 F-4

#### 9. FIGHTER WEAPONS (7 SORTIES, 5.6 HOURS)

a. <u>Purpose</u>. The objective of this stage is to introduce the aircrew to F-4 optimized maneuvers and loose deuce tactics against a dissimilar aircraft. Specifically:

(1) The aircrew should be able to describe and demonstrate all classic and F-4 optimized air combat maneuvers in the Tactical Manual.

(2) Work as a team in visual engagements, understanding the options and limitations of each crew position.

(3) Maneuver to the ACM missile launch zone against dissimilar aircraft, arriving there with the proper weapon selected and weapon system reuirements (including switchology) satisfied.

(4) Defeat equal or lesser numbers of dissimilar aircraft by employing tactics and teamwork.

(5) Describe and demonstrate formation positions appropriate to a multiple engagement.

b. <u>General</u>. All general comments in the Basic Aircraft Manuevering stage apply. Flights should stress optimum engaging advantages and maneuvering for the rear hemisphere ACM launch zone. Aircrew shall conduct airborne wespons checks prior to engagement.. All flights require full weapons systems. Credit cannot be given for flights during which an operational radar was not available for a minimum of two engagements. For flights against A-4 adversaries it is desirable to use the TA-4 when possible, with a qualified F-4 ACM instructor occupying one of the seats. When local assets of TA-4's or ACM instructors preclude this, A-4's may be substituted. Fighter Weapons missions shall be flown in accordance with the appropriate local directives on Air Combat Maneuvering. c. Syllabus.

FW 1Move to combat spread from climb, rig check, level0.8Rat 15,000'-20,000', 350 KCAS. Perform called turns,2 F-4in-place, cross, and tactical. Review offensivemaneuvering from a position of advantage. Introducehead-on pass options and techniques, stressing F-4optimum maneuvers. CREWS: IP/RUI, PUI/IR.

FW 2 F-4 under GCI control perform VID with 25 miles sepa-0.8 R ration. The dissimilar aircraft at 15,000'-25,000' 1 F - 4will engage the F-4 upon visual contact for a short 1 Disengagement (one minute maximum). F-4 attack from similar perch striving to maintain an advantage working for A/C a valid simulated kill. Adversary attack from perch, F-4 defending and attempting to force an overshoot. F-4 and adversary start from a neutral abeam position. F-4 strive to gain the advantage by capitalizing on F-4 optimized maneuvers. CREW: PUI/IR.

FW 3 F-4 under GCI control perform VID with 25 miles 0.8 separation. The dissimilar aircraft at 15,000'-1 F - 425,000' will engage the F-4 upon visual contact for 1 Disa short engagement (one minute maximum). F-4 attack similar from perch striving to maintain an advantage working A/C for a valid simulated kill. Adversary attack from perch, F-4 defending and attempting to force an overshoot. F-4 and adversary start from a neutral abeam position. F-4 strive to gain the advantage by capitalizing on F-4 optimized maneuvers. CREN: PUI/IR.

FW 4	F-4's perform section takeoff. Conduct rig and weapons
0.8 R	checks during vectors to operating area. Establish
2 F-4	combat spread and conduct VID to a short engagement
l Dis-	(two minutes maximum), achieve best shot postion.
similar	Commence engagements from canned set-up; F-4's attack
A/C	adversary from abeam, F-4's attack adversary from as-
	tern. CREWS: IP/RUI, PUI/IR.

FW 5

0.8F-4's perform section takeoff. Conduct rig and wea-2 F-4pons checks during vectors to operating area. Esta-1 Dis-blish combat spread and conduct VID to a short engage-similarment (two minutes maximum), achieve best shot position.A/CCommence engagements from canned set-ups; F-4's andadversary attack from abeam from a neutral start.CREWS:IP/RUI, PUI/IR.

FW 6	F-4's perform section takeoff. Conduct rig and wea-
0.8	pons checks during vectors to operating area. VID to
2 F-4	a short engagement (two minutes maximum), achieve best
1 Dis-	shot position. Commence engagements from canned set-up;
similar	adversary attack F-4's from abeam, adversary attack
A/C	F-4's from astern. CREWS: IP/RUI, PUI/IR.

FW 7F-4's perform section takeoff. Conduct rig and wea-0.8 Rpons checks during vectors to operating area. VID2 F-4to a short engagement (two minutes maximum), achieve1 Dis-best shot position. Adversary attacks F-4's establishedsimilarin a CAP. CREWS: IP/RUI, PUI/IR.A/C

# 442 COMBAT CAPABLE TRAINING, RADAR INTERCEPT OFFICER

## 1. FAMILIARIZATION (1 SORTIE, 1.2 HOURS)

a. <u>Purpose</u>. To develop the ability of the RIO under instruction to brief and assist the pilot in procedures for preflight, normal flight including takeoff and recovery, lookout doctrine, angle of attack during stall, aerobatics, landing, and basic UHF procedures.

b. Syllabus

FAM 1IP demonstrates all familiarization maneuvers, CRT1.2 Rtakeoff, MRT climb, subsonic and supersonic man-1 A/Ceuvering, aerobatics, approaches to stalls, five unit(TC)recoveries, area orientation and touch and go landings.CREW:IP/RUI.

#### 2. INSTRUMENT (5 SORTIES, 7.5 HOURS)

a. <u>Purpose</u>. To train the RIO under instruction in instrument filing procedures, flight planning and to acquire proficiency in departure, enroute and recovery techniques. To acquire proficiency in basic crew coordination.

#### b. Syllabus

INST 1 1.5 1 A/C	Daylight round robin stereo type instrument flight. CREW: IP/RUI.
INST 2 1.5 1 A/C (S)	Stereotype instrument flight to include TACAN navigation, penetration, missed approach at enroute facility. CREW: IP/RUI.
INST 3 1.5 1 A/C (S)	File DD-175, include TACAN navigation, holding, pen- etration, missed approach, and GCA at enroute facility. TACAN navigation to home base initial approach fix. penetration, missed approach and GCA to final landing. CREW: IP/RUI.
INST 4 1.5 1 A/C (S) (N)	Stereotype instrument flight to include TACAN navigation missed approach at enroute facility. CREW: IP/RUI.

INST 5File DD-175, include TACAN navigation, holding, pen-<br/>etration, missed approach, and GCA at enroute facility.1 A/CTACAN navigation to home base initial approach fix,<br/>penetration, missed approach and GCA to final landing<br/>Upon completion of this sortie the RUI will be con-<br/>sidered instrument qualified in type. CREW: IP/RUI.

# 3. FORMATION (2 SORTIES, 2.6 HOURS)

a. <u>Purpose</u>. To develop the ability of RUI to recognize formation positions while flying in the F-4 to include parade, cruise, rendezvous, crossunders, section approaches with emphasis on section hand signals and lookout doctrine.

b. Syllabus.

FORM 1Practice parade formation, rendezvous, free cruise,1.3 Rtail chase, tactical formations, and section penetra-2 A/Ction to GCA and low approach. CREW: IP/RUI

FORM 2<br/>1.3(TC)To be flown after INST 4. Practice parade formation,<br/>rendezvous, section penetration to GCA low approach<br/>and night landings until bingo. CREW: IP/RUI.(N)

#### 4. FIELD MIRROR LANDING PRACTICE (1 SORTIES, 1 HOUR)

a. <u>Purpose</u>. To familiarize the RUI with precision landing techniques utilizing the optical landing system with emphasis on airspeed, attitude, power setting and angle of attack relationships, and UHF procedures.

b. Syllabus.

FMLP 1Day FMLP with ten acceptable landings under LSO con-<br/>trol. CREW: IP/RUI.1 A/C

#### 5. FIGHTER INTERCEPT (14 SORTIES, 18.2 HOURS)

a. <u>Purpose</u>. To develop the skill level of the RUI in conducting fighter intercepts.

b. General.

(1) Prior to intercept training, lectures will be given to review the aircraft weapons system, radar utilization and techniques, intercept geometry, and intercept procedures.

(2) The F-4 Tactical Manual (NAVIR 01-245FDB-IT) is the basis for tactics to be employed and all crewmen should refer to this publication for detailed tactical information prior to briefing each flight. (3) Each fighter intercept sortie should be flown in the WST or 15C4 prior to actual flight in the aircraft.

(4) The controlling GCI unit must briefed prior to takeoff and contacted as soon as possible after takeoff in order to save time and fuel and to get the maximum number of intercepts per sorties.

(5) AIM-7E simulators and one AIM-9 captive missile should be carried on all sorties.

(6) Speeds and altitudes may be adjusted by the unit Commander to conform with airspace restrictions in the local area. Bogie speeds will be subsonic with the fighter having a 50 knot speed advantage.

(7) The RIO under instruction will practice using the APG-59 or APQ-72 in all modes of operation with emphasis on manual track while flying as bogie.

(8) When feasible, use a 30 second interval on takeoff. RUI practice acquisition and track from trail position during climbout.

(9) If bogie aircraft is not used PUI and RUI aircraft split fighter time. RUI practice UHF/ADF procedures on other aircraft while bogie.

(10) Minimum intercepts for completion of each syllabus sortie are listed in the flight descriptions, however maximum runs per sortie should prevail over the tendency to obtain more than one completed sortie per flight.

(11) Prerequisite: Completion of NAMTRADET AERO-1A course and AWG-10 course.

c. Syllabus.

FI 1	Objective: Weapons system familiarization.	Detect
1.3	and acquire targets from a position abeam an	nd execute
2 A/C	a rear quarter attack to an AIM-9 firing pos	sition.

<u>Mission</u>. Conduct three successful 90<sup>o</sup> intercepts to an AIM-9 firing position and rear quarter VID's at medium altitude. One run in search only. Bogie <u>+</u>2,000'. CREW: IP/RUI.

FI 2Objective.Detect and acquire targets in the head-on1.3environment and execute a rear quarter attack to an2 A/CAIM-9 firing position.

<u>Mission</u>. Conduct four successful  $180^{\circ}$  intercepts to an AIM-9 firing position. One run will be run in search only and one run to a VID. Medium altitude. Bogie  $\pm 2,000^{\circ}$ . CREW: IP/RUI.

FI 3Objective.Detect and acquire targets in the forward1.3 Rquarter environment and execute a rear quarter attack2 A/Cto an AIM-9 firing position.(S)

Mission. Conduct three successful forward quarter (170° to 120° TCA) intercepts to an AIM-9 firing position. One will be in search only and one to a VID. Medium altitude. Bogie +2,000'. CREW: IP/RUI.

FI 4Objective.Detect and acquire targets in the head-on1.3environment and execute a forward quarter AIM-7 attack2 A/Cwith an AIM-9 reattack.

<u>Mission</u>. Conduct three successful head-on intercepts converted to forward quarter  $(1^{50^{\circ}} \text{ to } 160^{\circ} \text{ TCA})$ AIM-7 attacks with AIM-9 reattacks. Medium altitude. Bogie +2,000<sup>\*</sup>. CREW: IP/RUI.

FI 5Objective. Detect and acquire targets in the forward1.3 Rquarter environment and execute a forward quarter2 A/CAIM-7 attack with an AIM-9 reattack.(S)

<u>Mission</u>. Conduct three successful forward quarter  $(170^{\circ} to 120^{\circ} TCA)$  intercepts converted to forward quarter  $(150^{\circ} to 160^{\circ} TCA)$  AIM-7 attacks with AIM-9 reattacks. Medium altitude. One run in search only until 10 mile range. Bogie +5,000<sup>3</sup>. CREW: IP/RUI.

FI 6Objective.Detect and acquire high altitude targets1.3in the forward quarter environment and execute an AIM-72 A/Cattack with an AIM-9 reattack.

Mission. Conduct three successful high altitude (30,000' to 40,000') forward quarter (170° to 120° TCA) intercepts converted to forward quarter (150° to 160° TCA) AIM-7 attacks with AIM-9 reattacks. Bogie ±5,000'. CREW: IP/RUI.

FI 7Objective.Detect and acquire low altitude targets in1.3 Rthe forward quarter environment and execute an AIM-72 A/Cattack with an AIM-9 reattack.

<u>Mission</u>. Conduct three successful low altitude forward quarter  $(170^{\circ} \text{ to } 120^{\circ} \text{ TCA})$  intercepts on a bogie below 5,000'AGL converted to forward quarter  $(150^{\circ} \text{ to } 160^{\circ} \text{ TCA})$  AIM-7 attacks with AIM-9 reattacks. CREW: IP/RUI.

FI 8	Objective. To detect and acquire targets looking
1.3	down in forward quarter environment and execute an
2 A/C	AIM-7 attack with an AIM-9 reattack.

Mission. Conduct three successful forward quarter (170° to 120° TCA) intercepts on a bogie 10,000' below fighter altitude converted to best shot AIM-7 or AIM-9 attacks. CREW: IP/RUI

FI 9Objective. To detect and acquire a medium altitude1.3 Rjinking bogie. Execute an AIM-7 attack and AIM-92 A/Creattack.

<u>Mission</u>. Successfully complete three forward quarter AIM-7 attacks with visual reattacks. Bogie in altitude block 5,000-25,000' allowed to jink  $\pm 5,000'$ , 250 knots to .95 IMN and  $\pm 30^{\circ}$  in heading. CREW: IP/RUI.

FI 10 Objective. To detect and acquire a medium altitude 1.3 R unknown bogie. Execute an AIM-7 attack and an AIM-9 2 A/C reattack. (S)

> Mission. Successfully complete three forward quarter AIM-7 attacks with AIM-9 reattacks against a unknown bogie. Bogie +10,000' of fighter altitude, +450 of base heading, and at a constant airspeed. CREW: IP/RUI

FI 11Objective.To detect and acquire a medium altitude1.3nonmaneuvering target and execute section stern VID's.2 F-4

1 AD-VERSARY Mission. Conduct four successful stern VID's from a forward quarter intercept. Two VID's performed as TAC Lead and two VID's performed as TAC Wing. Medium altitude. Bogie +5,000'. CREW: IP/RUI.

FI 12Objective. To detect and acquire a medium altitude1.3 Rnonmanuvering target and execute section forward quar-2 F-4ter VID's.

1 AD-

VERSARY <u>Mission</u>. Conduct four successful forward quarter (170° to 120° TCA) VID's from a forward quarter intercept. Two VID's performed as TAC Lead and two as TAC Wing. Medium altitude. Bogie <u>+</u>5,000'. CREW: IP/RUI.

FI 13<br/>13 R(TC)Objective, Fighter intercept check ride.2 A/CMission. Conduct the following intercepts:

1. Medium altitude forward quarter  $(170^{\circ} -120^{\circ} \text{ TCA})$  to an AIM-9 firing position. 2. Medium altitude forward quarter  $(170^{\circ} -120^{\circ} \text{ TCA})$  AIM-7 attack with an AIM-9 reattack.

FI 8	Objective. To detect and acquire targets looking
1.3	down in forward quarter environment and execute an
2 A/C	AIM-7 attack with an AIM-9 reattack.

<u>Mission</u>. Conduct three successful forward quarter (170° to 120° TCA) intercepts on a bogie 10,000' below fighter altitude converted to best shot AIM-7 or AIM-9 attacks. CREW: IP/RUI.

FI 9Objective.To detect and acquire a medium altitude1.3 Rjinking bogie.Executean AIM-7 attack and AIM-92 A/Creattack.(S)

<u>Mission</u>. Successfully complete three forward quarter AIM-7 attacks with visual reattacks. Bogie in altitude block 5,000-25,000' allowed to jink  $\pm$ 5,000', 250 knots to .95 IMN and  $\pm$ 30° in heading. CREW: IP/RUI.

FI 10Objective.To detect and acquire a medium altitude1.3 Runknown bogie.Execute an AIM-7 attack and an AIM-92 A/Creattack.(S)

Mission. Successfully complete three forward quarter AIM-7 attacks with AIM-9 reattacks against a unknown bogie. Bogie +10,000' of fighter altitude, +450 of base heading, and at a constant airspeed. CREW: IP/RUI

<u>FI 11</u> <u>Objective</u>. To detect and acquire a medium altitude nonmaneuvering target and execute section stern VID's.

2 F-4

1 AD-VERSARY Mission. Conduct four successful stern VID's from a forward quarter intercept. Two VID's performed as TAC Lead and two VID's performed as TAC Wing. Medium altitude. Bogie +5,000'. CREW: IP/RUI.

FI 12Objective. To detect and acquire a medium altitude1.3 Rnonmanuvering target and execute section forward quar-2 F-4ter VID's.

1 AD-

VERSARY <u>Mission</u>. Conduct four successful forward quarter (170° to 120° TCA) VID's from a forward quarter intercept. Two VID's performed as TAC Lead and two as TAC Wing. Medium altitude. Bogie +5,000'. CREW: IP/RUI.

FI 13 13 R(TC) Objective, Fighter intercept check ride.

2 A/C <u>Mission</u>. Conduct the following intercepts:

1. Medium altitude forward quarter  $(170^{\circ} - 120^{\circ} \text{ TCA})$  to an AIM-9 firing position. 2. Medium altitude forward quarter  $(170^{\circ} - 120^{\circ} \text{ TCA})$  AIM-7 attack with an AIM-9 reattack.  Low altitude forward quarter (170° -120° TCA) AIM-7 attack with an AIM-9 reattack.
 4. High altitude forward quarter (170° -120° TCA) AIM-7 attack with an AIM-9 reattack.
 5. Low altitude unknown AIM-7 attack with an AIM-9 reattack.
 (Runs 1 through 4 nonmaneuvering, subsonic run 5 jink ±5,000', 250 knota to .95 IMN and ±30° heading) To be evaluated by a MAWTU instructor or squadron WTI.

#### 6. GROUND ATTACK (9 SORTIES, 9 HOURS)

a. <u>Purpose</u>. To develop aircrew ability to recognize dive angles, basic weapons switchology, weapons characteristics and learn to deliver ordnance on raked, spotted ranges.

b. <u>General</u>. The prerequisite for this stage is successful completion of the appropriate MAWTU Course. Fifty percent of each type ordnance must be delivered for successful completion of each sortie.

Introduce aircrew to radar slant range bombing on GA 7.

c. Syllabus.

<u>GA 1-5</u> 1.0 R	Daylight 30° bombs and rockets on a raked range. Refresher RIO's fly GA-2 only. CREN: IP/RUI.
2-4 A/C	ORDNANCE: 6 MK 76 bombs, 6 2.75" rockets.
$\frac{GA}{1.0} = \frac{6-7}{4}$	Night 30 <sup>0</sup> bombs and rockets on a raked range. CREW: IP/RUI.
(N)	ORDNANCE: 6 MK 76 bombs, 6 2.75" rockets.
GA 8 1.0 R 2-4 A/C	Daylight 10 <sup>0</sup> -20 <sup>0</sup> bombs and rockets on a raked range. CREW: IP/RUI.
, .	ORDNANCE: 6 MK 76 bombs, 6 2.75" rockets.
<u>GA 9</u> 1.0 2-4 A/C	Day 30 <sup>0</sup> live ordnance. Low drag bomb and rockets or Mark-IV gun. Flight will be flown under FAC or TAC(A) control if available. CREW: IP/RUI.

ORDNANCE: 6 MK 82 bombs and four 5" rockets or 500 rounds 20 MM.

# 7. AERIAL REFUELING (2 SORTIES, 2.6 HOURS)

a. <u>Purpose</u>. To familiarize the RUI with proper techniques and procedures to safely accomplish aerial refueling.

b. <u>General</u>. These flights may be combined with other flights whenever possible. The RUI will be administered a test covering procedures found in the NATOPS Aerial Refueling Manual prior to aerial refueling. A minimum of eight successful plugins (KC-130 only) required for completion.

#### c. Syllabus.

AR 1<br/>1.3Day aerial refueling. Maximum use of rendezvous aids<br/>to be stressed. CREW: IP/RUI.1-4 A/CA/CAR 2<br/>1.3<br/>2 A/C<br/>(N)Night aerial refueling. Maximum use of rendezvous<br/>aids to be stressed. CREW: IP/RUI.

# 8. BASIC AIRCRAFT MANEUVERING (3 SORTIES, 3 HOURS)

a. <u>Purpose</u>. To train the RUI to recognize the classic tactical maneuvers utilized in a one-on-one engagement. The RUI should acquire a thorough knowledge of lookout doctrine and associated cockpit commentary.

b. <u>General</u>. Tactics and techniques currently taught in the F-4 Tactical Manual and Supplement shall be utilized. All aircrew members must have completed the appropriate MAWTU course or MAWTU refresher course within six months prior to flying this phase. Only MAWTU certified Air Combat Tactics Instructors who have been designated by their Commanding Officers shall instruct or lead sorties in this stage. Aircrews must complete each mission successfully in the sequence listed. Aircraft shall carry a captive AIM-7 or AIM-7 simulator and a captive AIM-9. Aircraft may be either clean or configured with a centerline tank. The ACMR shall be utilized when available.

#### c. Syllabus

BAM 1 1.0 R	Section takeoff (runway conditions and weather permitting), rig check, loose deuce maneuvering to include called
2 A/C	and uncalled turns, hard and break turns, and in-place and cross turns. Basic scissors, high yo-yo, low yo-yo and barrel roll attack. CREW: IP/RUI.
BAM 2 1.0 R 2 A/C	Section takeoff (runway conditions and weather permit- ting), rig check, loose deuce maneuvering, rolling scissors, dive away, defensive pullup, counter to de- fensive pullup and lag pursuit roll. CREW: IP/RUI.
BAM 3 1.0(TC) 2 A/C	Section takeoff, rig check, loose deuce maneuvering, review of previous maneuvers as required. CREW: IP/RUI.

#### 9. FIGHTER WEAPONS (7 SORTIES, 5.6 HOURS)

a. <u>Purpose</u>. The objective of this stage is to introduce the aircrew to F-4 optimized maneuvers and loose deuce tactics against a dissimilar aircraft. Specifically:

(1) The aircrew should be able to describe and demonstrate all classic, and F-4 optimized, air combat maneuvers in The Tactical Manual.

(2) Work as a team in visual engagements, understanding the options and limitations of each crew position.

(3) Maneuver to the ACM missile launch zone against dissimilar aircraft, arriving there with the proper weapon selected and weapons system requirements (including switchology) satisfied.

(4) Defeat equal or lesser numbers of adversary aircraft by employing tactics and teamwork.

(5) Describe and demonstrate formation positions appropriate to a multiple engagement.

(6) The RIO should be able to recognize advantageous and disadvantageous velocity vectors and know when and how to recommend specific and immediate action to the pilot, which will negate an attack by a hostile aircraft or serve to place his own aircraft in a more advantageous offensive position. The specific objective is to create instincts in the RIO identical to those of the pilot regarding maneuvering targets, and to enable him to verbalize these instincts, particularly when he has visual contact with the enemy and the pilot does not.

b. <u>General</u>. All general comments in the Basic Aircraft Maneuvering Stage apply. Flights should stress optimum engaging advantages and maneuvering for the rear hemisphere ACM launch zone. Aircrew shall conduct airborne weapons checks prior to each mission. All flights require full weapons systems. Credit cannot be given for flights during which an operational radar was not available for a minimum of two engagements. For flights against A-4 adversaries it is desirable to use the TA-4 when possible, with a qualified F-4 ACM instructor occupying one of the seats. When local assets of TA-4's or ACM instructors preclude this A-4's may be substituted. Fighter Weapons missions shall be flown in accordance with the appropriate local directives on Air Combat Maneuvering.

c. Syllabus.

FW 1Move to combat spread from climb, rig check, level at0.8 R15,000'-20,000', 350 KCAS. Perform called turns, in-2 F-4place, cross, and tactical. Review of offensive

maneuvering from a position of advantage. Introduce headon pass options and techniques, stressing F-4 optimum maneuvers. CREWS: IP/RUI, PUI/IR.

FW 2 F-4 under GCI control perform VID with 25 miles sep-0.8 aration. The dissimilar aircraft at 15,000'-25,000' 1 F - 4will engage the F-4 upon visual contact for a short 1 Disengagement (one minute maximum). F-4 attack from similar perch striving to maintain an advantage working for A/C a valid simulated kill. Adversary attack from perch, F-4 defending and attempting to force an overshoot. F-4 and adversary start from a neutral abeam position. F-4 strive to gain the advantage by capitalizing on F-4 optimized maneuvers. CREW: IP/RUI.

F-4 under GCI control perform VID with 25 miles sep-FW 3 0.8 R aration. The dissimilar aircraft at 15,000'-25,000' 1 F - 4will engage the F-4 upon visual contact for a short 1 Disengagement (one minute maximum). F-4 attack from similar perch striving to maintain an advantage working for A/C a valid simulated kill. Adversary attack from perch, F-4 defending and attempting to force an overshoot. F-4 and adversary start from a neutral abeam position. F-4 strive to gain the advantage by capitalizing on F-4 optimized maneuvers. CREW: IP/RUI

FW 4F-4's perform section takeoff. Conduct rig and wea-0.8 Rpons checks during vectors to operating area. Esta-2 F-4blish combat spread and conduct VID to a short engage-1 Dis-ment, (two minutes maximum), achieve best shot posi-similartion. Commence engagements from canned set-ups; F-4'sA/Cattack adversary from abeam; F-4's attack adversaryfrom astern.CREWS: IP/RUI, PUI/IR.

FW 5F-4's perform section takeoff. Conduct rig and wea-0.8pons checks during vectors to operating area. Esta-2 F-4blish combat spread and conduct VID to a short engage-1 Dis-ment (two minutes maximum), achieve best shot posi-similartion. Commence engagements from canned set-ups; F-4A/Cand adversary attack from a neutral start. CREWS:IP/RUI, RUI / IR.

FW 6<br/>0.8F-4's perform section takeoff. Conduct rig and wea-<br/>pons checks during vectors to operating area. VID2 F-4to a short engagement (two minutes maximum), achieve1 Dis-<br/>similarbest shot position. Commence engagements from canned<br/>set-ups; adversary attack F-4 from abeam, adversaryA/Cattack F-4 from astern. CREWS: IP/RUI, PUI/IR.

FW 7F-4's perform section takeoff. Conduct rig and wea-0.8 Rpons checks during vectors to operating area. Con-2 F-4duct at least two VID's to a visual engagement,1 Dis-achieve best shot position. Adversary attacks F-4'ssimilarestablished in a CAP. CREWS: IP/RUI, PUI/IR.A/C

maneuvering from a position of advantage. Introduce headon pass options and techniques, stressing F-4 optimum maneuvers. CREWS: IP/RUI, PUI/IR.

FW 2 F-4 under GCI control perform VID with 25 miles sep-0.8 aration. The dissimilar aircraft at 15,000'-25,000' 1 F - 4will engage the F-4 upon visual contact for a short 1 Disengagement (one minute maximum). F-4 attack from similar perch striving to maintain an advantage working for A/C a valid simulated kill. Adversary attack from perch, F-4 defending and attempting to force an overshoot. F-4 and adversary start from a neutral abeam position. F-4 strive to gain the advantage by capitalizing on F-4 optimized maneuvers. CREW: IP/RUI.

F-4 under GCI control perform VID with 25 miles sep-FW 3 0.8 R aration. The dissimilar aircraft at 15,000'-25,000' 1 F - 4will engage the F-4 upon visual contact for a short 1 Disengagement (one minute maximum). F-4 attack from similar perch striving to maintain an advantage working for A/C a valid simulated kill. Adversary attack from perch, F-4 defending and attempting to force an overshoot. F-4 and adversary start from a neutral abeam position. F-4 strive to gain the advantage by capitalizing on F-4 optimized maneuvers. CREW: IP/RUI

FW 4F-4's perform section takeoff. Conduct rig and wea-0.8 Rpons checks during vectors to operating area. Esta-2 F-4blish combat spread and conduct VID to a short engage-1 Dis-ment, (two minutes maximum), achieve best shot posi-similartion. Commence engagements from canned set-ups; F-4'sA/Cattack adversary from abeam; F-4's attack adversaryfrom astern.CREWS: IP/RUI, PUI/IR.

FW 5F-4's perform section takeoff. Conduct rig and wea-0.8pons checks during vectors to operating area. Esta-2 F-4blish combat spread and conduct VID to a short engage-1 Dis-ment (two minutes maximum), achieve best shot posi-similartion. Commence engagements from canned set-ups; F-4A/Cand adversary attack from a neutral start. CREWS:IP/RUI, RUI / IR.

FW 6<br/>0.8F-4's perform section takeoff. Conduct rig and wea-<br/>pons checks during vectors to operating area. VID2 F-4to a short engagement (two minutes maximum), achieve1 Dis-<br/>similarbest shot position. Commence engagements from canned<br/>set-ups; adversary attack F-4 from abeam, adversaryA/Cattack F-4 from astern. CREWS: IP/RUI, PUI/IR.

FW 7F-4's perform section takeoff. Conduct rig and wea-0.8 Rpons checks during vectors to operating area. Con-2 F-4duct at least two VID's to a visual engagement,1 Dis-achieve best shot position. Adversary attacks F-4'ssimilarestablished in a CAP. CREWS: IP/RUI, PUI/IR.A/C

# 443 ADVANCED TRAINING/COMBAT READY TRAINING, PILOT AND RIO

#### 1. FIGHTER INTERCEPT (11 SORTIES, 13.4 HOURS)

a. <u>Purpose</u>. To increase aircrew proficiency in all-weather fighter intercepts. At the completion of this stage the aircrew will be capable of conducting successful AIM-7 attacks with AIM-9 reattacks against medium and low altitude maneuvering bogies. To introduce aircrews to ECCM intercepts.

b. <u>General</u>. Each flight should be accomplished in the WST or 15C4E Trainer prior to the actual airborne mission. AIM-7 and AIM-9 simulators should be carried on each flight. The teamed crew concept should be employed for flights in this stage.

# c. Syllabus.

<u>FI 14</u>	Objective. Conduct forward quarter (120°-170° TCA)
1.3	attack and reattack against a subsonic, medium altitude
2 A/C	nonmaneuvering bogie. Day or night (lights on).
(S)	

<u>Mission</u>. With a minimum of 30 miles separation, fighter commences intercept at 15,000<sup>°</sup>, bogie 10,000<sup>°</sup> to 30,000<sup>°</sup> subsonic, nonmaneuvering. Three successful ARA's required for completion.

FI 15Objective.Conduct forward quarter  $(120^{\circ}-170^{\circ} \text{ TCA})$ 1.3attack and reattack against a subsonic medium altitude2 A/Cmaneuvering bogie.

Mission. With a minimum of 30 miles separation, fighter commences intercept at 15,000', bogie 10,000' to 30,000', subsonic, jinking + 30° in heading, 10,000' in altitude, speed 200KCAS to .95 IMN. Three successful ARA's required for completion.

FI 16Objective.Conduct forward quarter (120°-170° TCA)1.3attack and reattack against a subsonic, low altitude,2 A/Cnonmaneuvering bogie.(S)

<u>Mission</u>. With a minimum of 30 miles separation, fighter commences intercept at 15,000', bogie 200'-2,000', speed 250 KCAS to 550 KCAS nonmaneuvering. Four successful ARA's required for completion.

FI 17	Objective. Conduct night forward quarter (120°-170°
1.3	TCA) ARA's against a low altitude nonmaneuvering bogie.
2 A/C	
(N)	Mission. With a minimum of 30 miles separation, fighter
	commences intercept at 15,000', bogie 1500'-3000',
	speed 250 KCAS to 550 KCAS nonmaneuvering. Four suc-
	cessful ARA's required for completion.

<u>FI 18</u>	Objective. Fighter intercept check flight.(ARA)
2 A/C (S)	Mission. With a minimum of 30 miles separation, fighter commences intercept at 15,000'. 2 runs medium altitude (10,000'-30,000') subsonic jinking +30°, +10,000', 200KCAS to .9IMN/2 runs low alti- tude (200'-2,000 <sup>4</sup> day, 1500'-3,000' night). To be evaluated by MAWTU instructor or squadron WTI/ACTI.
FI 19 1.3 1 F-4 1 Bogie	Objective. Conduct forward quarter medium altitude ARA's against a subsonic, nonmaneuvering chaff dis- pensing bogie.
with chaff cap	<u>Mission</u> . With a minimum of 30 miles separation, fighter commenses intercept at 15,000', bogie from 16,000' to 25,000' subsonic, nonmaneuvering, dispensing chaff. Three successful ARA's required for completion. Day only.
$\frac{FI 20}{1.3}$ $1 F-4$ $1 bogie$	Objective. Conduct forward quarter (120 <sup>0</sup> -170 <sup>0</sup> TCA) medium altitude best shot attack against a noise jamming bogie.
with noise jamming CAP.	<u>Mission</u> . With a minimum of 30 miles separation, fighter commences intercept at 15,000'; bogie 16,000'-25,000' subsonic, nonmaneuvering utilizing noise jamming techniques. Three successful runs required for completion. Day only.
$\frac{FI 21}{1.0}$ 2 F-4	Objective. Condust section forward quarter VID's against a medium altitude nonmaneuvering bogie.
1 AD- VERSARY A/C	<u>Mission</u> . With a minimum of 30 miles separation, fighters commence intercept at 15,000', bogie 10,000'- 30,000' speed as desired. At least one VID performed as TAC LEAD required for completion.
$\frac{FI 22}{1.0}$ 2 F-4	Objective. Conduct section forward quarter VID's against a medium altitude maneuvering bogie.
1 AD- VERSARY A/C	Mission. With a minimum of 30 miles separation, fighters commence intercept at 15,000', bogie 10,000'- 30,000' speed as desired, jink as desired after judy. At least one VID performed as TAC LEAD required for completion.
$   \begin{array}{r}     FI 23 \\     1.0 \\     2 F-4 \\     2 AD-   \end{array} $	Objective. Conduct section forward quarter VID's against a section of medium altitude nonmaneuvering bogies. Place emphasis on formation recognition.
VERSARY A/C	Mission. With a minimum of 30 miles separation, fighters commence intercept at 15,000',

4-33

bogie 10,000'-30,000' speed as desired, at least one VID performed as TAC LEAD required for completion.

FI 24 Objective. AIM-7/AIM-9 missile firex.

1.3

2-4 A/C

2 A/C <u>Mission</u>. Conduct an AIM-7/AIM-9 missile firex against a nonmaneuvering MQM/BQM. 'If aircrew have previously completed FI 24 conduct a missile firex against a maneuvering MQM/BQM.

2. GROUND ATTACK (4 SORTIES, 4 HOURS)

a. <u>Purpose</u>. To develop aircrew proficiency in high angle delivery techniques.

b. <u>General</u>. Two to four aircraft may be scheduled for each mission. These flights will be flown in sequence and CEP computed to determine aircrew qualification. The following scores will be used to determine aircrew qualification: bombs-150' rockets-50'. (GA 10-12 weighted 40%, GA 13 weighted 60%). The teamed crew concept should be employed for flights in this stage.

c. Syllabus.

ORDNANCE: 6 MK 76 bombs, 6 2.75 rockets.

<u>GA 12</u> Night 45<sup>o</sup> bombs and rockets on a raked range. A 1.0 minimum of 8 scored runs required for completion.

(N) ORDNANCE: 6 MK 76 bombs, 6 2.75 rockets.

ORDNANCE: 6 MK 76 bombs, 6 2.75 rockets.

3. FIGHTER WEAPONS (8 SORTIES, 6.4 HOURS)

a. <u>Purpose</u>. To advance aircrew proficiency in VID, intercept procedures, and loose deuce section tactics against an equal or lesser number of dissimilar adversaries. Introduce aircrew to the 1 vs. many secnario.

b. <u>General</u>. All previous general comments in the combat capable training section concerning basic aircraft maneuvering and fighter weapons missions apply to this phase. All two-ontwo missions should be conducted on separate frequencies controlled by two GCI controllers at adjacent scopes when feasible, after completion of this stage the aircrew are considered ACM qualified. c. Syllabus.

FW 8-9	Objective. To further develop aircrew proficiency
0.8	in successful employment of the F-4 aircraft in the
1 F-4	air-to-air combat environment. Evaluate first moves
1 AD-	from neutral, offensive and defensive starts, bugout
VERSARY A/C	techniques and F-4 optimized maneuvers.

<u>Mission</u>. Conduct two engagements from neutral starts (one 180° VID, one from abeam), one from an offensive start and one from a defensive start. All engagements will continue for two minutes, or until a valid kill is achieved, or an advantage is neutralized. (FW 8 similar)CREWS: IP/RUI, PUI/IR.

<u>FW 10-11</u> Objective. Conduct medium altitude VID's to a visual engagement against a dissimilar adversary.

1 AD-VERSARY A/C Mission. With a minimum of 30 miles separation, fighters will commence intercept at, 15,000', bogie 10,000'-30,000' speed as desired. Two successful VID's to visual engagements with one fighting disengagement required for completion. CREWS: IP/RUI, PUI/IR.

FW 12Objective.Loose deuce section tactics (2vsl) check0.8flight.Satisfactory completion of this flight is2 F-4required to continue this stage of training.1 AD-

VERSARY Mission. With a minimum of 30 miles separation, A/C fighters will commence intercept at 15,000', bogie 10,000'-30,000', speed as desired. Two successful VID's to visual engagement with one fighting disengagement required for completion. CREWS: IP/RUI, PUI/IR to be evaluated by MAWTU instructor, ACT(I) or WTI.

FW 13Objective.Introduce aircrew to the inherent pro-0.8blems associated with the multi bogey (lvlvl) en-3 A/Cvironment.

<u>Mission</u>. Fighters set up a neutral start and commence visual engagements until bingo. Two engagements required for completion. CREW: IP/PUI, PUI/IR.

 $\frac{FW 14-15}{0.8} \qquad \frac{\text{Objective.}}{\text{engagements against a section of dissimilar adversaries.}}$ 

2 F-4

2 F-4

2 AD-VERSAY Wission. With a minimum of 30 separation, fighters commence intercept at 15,000', bogie 10,000'-30,000' speed as desired utilizing enemy tactics. Two successful VIDS to visual engagements and one fighting disengagement required for completion. CREW: IP/PUI, PUI/IR.

#### 4. ELECTRONIC WARFARE (1 SORTIE, 1.3 HOURS)

a. <u>Purpose</u>. To introduce aircrew to present DECM equipment and its operation.

b. <u>General</u>. The teamed crew concept should be employed in flights in this stage.

c. Syllabus.

EW 1Conduct familiarization flight through DECM ranging to<br/>acquaint aircrew with SAM/AAA indications. 3 Runs1 F-4through range required for completion. Third run<br/>aircrew practice SAM/AAA evasive maneuvering.

#### 5. NAVIGATION (1 SORTIE, 1.5 HOURS)

a. <u>Purpose</u>. To demonstrate ability to plan and execute low level navigation flights using only aeronautical charts and visual check points.

b. <u>General</u>. Use of heading, airspeed and time will be stressed. The teamed crew concept should be employed for flights in this stage.

c. Syllabus.

NAV 1Cross country round robin flight utilizing only vis-1.5ual check points. Approved sandblower/low level to be2 A/Cutilized for this flight with emphais on DR.

444 ADVANCED TRAINING/COMBAT QUALIFICATION TRAINING, PILOT/RIO

#### 1. FIGHTER INTERCEPT (8 SORTIES, 10.4 HOURS)

a. <u>Purpose</u>. To increase aircrew proficiency against unknown and maneuvering targets. At the completion of this stage, aircrew will be capable of conducting successful allweather attacks against unknown and maneuvering targets.

4-36

b. <u>General</u>. The general comments from the fighter intercept stage of combat ready training apply. The teamed crew concept should be employed for all flights in this stage.

c. Syllabus.

FI 25 1.3 2 A/C	<u>Objective</u> . Conduct forward quarter (120 <sup>0</sup> -170 <sup>0</sup> TCA) best shot attack closing to a stern VID against an unknown subsonic nonmaneuvering bogie.
(")	<u>Mission</u> . With a minimum of 30 miles separation, fighter commences intercept at 15,000', bogie 5,000'-45,000', unknown heading, nonmaneuvering, subsonic. Two successful firing runs required for completion.
FI 26 1.3 2 A/C	<u>Objective</u> . Conduct forward quarter (120 <sup>0</sup> -170 <sup>0</sup> TCA) best shot attack against an unknown nonmaneuvering super- sonic bogie.
	Mission. With a minimum of 40 miles separation, fighter commences intercept a 15,000', bogie 200'-45,000', (minimum altitude 1500' at night), unknown heading, nonmaneuvering supersonic. Two successful runs required for completion.
FI 27 1.3 2 A/C	Objective and Mission. As FI 26 except bogie subsonic or supersonic.
FI 28 1.3 2 A/C	Objective. Conduct forward quarter (120°-170° TCA) best shot attack against an unknown maneuvering sub- sonic bogie.
·	Mission. With a minimum of 30 miles separation, fighter commences intercept at 15,000', bogie 200'-45,000' (minimum altitude 1,500' at night), unknown heading. Jinx <u>+45</u> after "Judy" with constant airspeed and altitude. Two suc- cessful firing runs required for completion.
$\frac{FI 29}{1.3}$	Objective. Conduct forward quarter (120°-170° TCA) best shot attack against an unknown maneuvering bogie.
2 A/C	<u>Mission</u> . With a minimum of 40 miles separation, fighter commences, intercept at 15,000', bogie 200'-45,000', unknown heading, subsonic, or supersonic. Jinks +45°, 45,000', any airspeed (maximum 1.2 IMN) after "Judy". Two successful firing runs required for completion.
<u>FI 30</u> 1.3	Objective. Advanced fighter intercept check flight.
2 Ā/C	<ul> <li><u>Mission</u>. Conduct the following intercepts:</li> <li>1. Forward quarter best shot attack against an unknown subsonic normaneuvering bogie (FI 25 parameters).</li> <li>2. Forward quarter best shot attack against an unknown maneuvering subsonic bogie (FI 28 parameters).</li> <li>3. Forward quarter best shot attack against an unknown maneuvering bogie (FI 29 parameters) to be evaluated by MAWTU instructor or or squadron WTI.</li> </ul>

- FI 31Objective.Conduct forward quarter (120°-170° TCA)1.3best shot attack against an unknown low altitude non-2 A/Cmaneuvering subsonic bogie.(0)
  - <u>Mission</u>. With 30 miles separation fighter commences intercept at 15,000', bogie 200'-1,000', overland, unknown heading, normaneuvering subsonic. Three successful firing runs required for completion. Day only.
- FI 32 Objective. Conduct forward quarter (120°-170° TCA) best shot attack against an unknown low altitude maneuvering bogie.
- 2 A/C
   (0) <u>Mission</u>. With 30 miles separation fighter commences intercept at 15,000<sup>1</sup>, bogie 200<sup>1</sup>-1,000<sup>1</sup> (1,500<sup>1</sup>-3,000<sup>1</sup> at night) over-land unknown heading, airspeed 200 KCAS to 1.2 IPN. Jinx +30<sup>o</sup>, any airspeed after "Judy". 3 successful firing runs required for completion.

# 2. GROUND ATTACK (7 SORTIES, 7.0 HOURS)

a. <u>Purpose</u>. To increase aircrew proficiency in close air support and interdiction missions.

b. <u>General</u>. Two to four aircraft may be scheduled for day missions and two aircraft for night missions. The team crew concept should be employed for flights in this stage. As much realism as possible should be provided on each sortie.

#### c. Syllabus.

GA 14-15	Daylight $10^{\circ}-20^{\circ}$ bombs and rockets on a raked range.
1.0 2-4 A/C	A minimum of 6 scored runs required for completion.
	ORDNANCE: 6 MK 76 bombs, 6 2.75 rockets.
<u>GA 16</u> 1.0 2-4 A/C	Daylight 30 <sup>0</sup> /45 <sup>0</sup> bombs, and rockets on a raked range. A minimum of 6 scored runs required for completion.
	ORDNANCE: 6 MK 76 bombs, 6 2.75 rockets.
$\frac{GA 17}{1.0}$	Night 30 <sup>0</sup> /45 <sup>0</sup> bombs and rockets on a raked range. A minimum of 6 scored runs required for completion.
2 A/C (N)	ORDNANCE: 6 MK 76 bombs, 6 2.75 rockets.
GA 18-19 1.0 2-4 A/C	Conduct daylight close air support under FAC or TAC(A) control. Dive angle should be based on target brief and weather.
	OPDNANCE, 6 WE 92 hombs (sended) - manual a

ORDNANCE: 6 MK 82 bombs (conical or snakeye), 8 5" rockets or 4 MK 77 FB. ORDNANCE: 6 MK 82 bombs (snakeye or concial).

#### 3. FIGHTER WEAPONS (8 SORTIES, 6.4 HOURS)

a. <u>Purpose</u>. To further expose aircrew to the multiple bogie environment and train combat sections to successfully attack, engage, and disengage from equal or superior numbers of dissimilar adversary aircraft.

b. <u>General</u>. All general comments on fighter weapons missions apply to this stage. The teamed crew concept should be employed for flights in this stage.

c. Syllabus.

FW 16Objective.Review problems associated with the mul-0.8tiple (lvlvl) bogey environment.

3 A/C

1 F - 4

<u>Mission</u>. Fighters set up a neutral start with visual engagements until bingo. Two engagements required for completion.

FW 17Objective.Further expose aircrew to the 1 vs. many0.8environment.

2 AD-VERSARY And one from an offensive start. All engagements to A/C a valid kill or until two minutes have passed.

FW 18Objective.Conduct medium altitude VIDs to a visual0.8engagement against a section of dissimilar adversaries.

2 F-4
2 AD- Mission. With a minimum of 30 miles separation,
VERSARY fighters will commence intercept at 15,000', bogies
A/C 10,000'-30,000', speed as desired. Two successful
VIDs to visual engagements and one fighting disengagement required for completion.

FW 19Objective.Conduct medium altitude VIDS to a visual0.8engagement against a section of dissimilar adversaries.2 F-4

2 AD-VERSARY A/C Mission. With a minimum of 30 miles separation, fighters will commence intercept at 15,000', bogies 10,000'-30,000', speed as desired. Two successful VIDS to visual engagements and one fighting disengagement required for completion. FW 20Objective.Conduct a combat air patrol in a hostile0.8area without GCI support.

2 AD-VERSARY A/C Mission. Wse 20 miles separation. Fighters 12,000'-18,000' until radar or visual contact. Bogies above or below until visual contact. GCI vector bogies to the section of patrolling fighters. Two successful engagements from radar or visual contact required for completion.

FW 21Objective.Loose deuce section tactics (2 vs. 2)0.8check flight.Satisfactory completion of this flight2 F-4is required to continue this stage of training.

2 AD-

2 F-4

VERSARY <u>Mission</u>. With a minimum of 30 miles separation, A/C fighters commence intercept at 15,000', bogie 10,000'-30,000' speed as desired. 2nd run utilize 15 miles separation, fighters 12,000'-18000' until radar or visual contact. Bogies above or below until visual contact. GCI vector bogies in on the section of patrolling fighters. Two successful engagements required for completion.

FW 22Objective.Conduct medium altitude VIDS to a visual0.8engagement against a superior number of dissimilar2 F-4adversaries.

versary Mission. With a minimum of 30 miles separation, A/C fighters will commence intercept at 15,000', bogies 10,000'-30,000', speed as desired. Two successful engagements and one fighting desengagement required for completion.

FW 23Objective.Conduct medium altitude VIDS to a visual0.8engagement against a section of dissimilar adversaries2 F-4and a "wild card".

3 AD-

3 AD-

VERSARY Mission. With a minimum of 30 miles separation, A/C fighters will commence intercept at 15,000', bogies 10,000'-30,000', speed as desired. GCI Vector "wild card" bogie into engagement. Two engagements and one fighting desengagement required for completion.

#### 4. ELECTRONIC WARFARE (1 SORTIES, 1.5 HOURS)

a. <u>Purpose</u>. To further expose aircrew to the DECM environment.

b. <u>General</u>. The teamed crew concept should be employed for flights in this stage.
## c. Syllabus.

EW 2Section evasive maneuvering against simulated AAA/1.0SAM systems stressing use of installed DECM equip-2 F-4ment. 3 runs through DECM range required for completion.

# 5. NAVIGATION (1 SORTIES, 1.5 HOURS).

a. <u>Purpose</u>. To demonstrate ability to plan and conduct low-level navigation and profile missions.

b. <u>General</u>. The teamed crew concept should be employed for all flights in this stage.

c. Syllabus.

NAV 2High-low-high profile with at least one aerial refue-1.5ling. Approved sandblower/low level to be utilized2 A/C F-4for low level portion.1 TNKR

T THINK

# 445 ADVANCED TRAINING SECTION/FULL COMBAT QUALIFICATION TRAINING, PILOT & RIO

## 1. FIGHTER INTERCEPT (7 SORTIES, 9.1 HOURS)

a. <u>Purpose</u>. To further expose combat aircrew to F-4 weapons system capabilities and intercept techniques against ECM equipped targets.

b. <u>General</u>. All general comments from previous fighter intercept training apply to this stage. The teamed crew concept should be employed for flights in this stage.

c. Syllabus.

FI 33	Objective. Conduct forward quarter medium altitude
1.3	best shot attack against a nonmaneuvering, noise jam-
2 F-4	ming, chaff dispensing bogie.
l Bogie	
with	Mission. With a minimum of 30 miles separation,
Noise &	fighters commence intercept at 15,000,' bogie from
Chaff	16,000'-30,000' subsonic nonmaneuvering utilizing
Cap.	chaff and noise jamming techniques. Three successful
-	firing runs required for completion.
FI 34	Objective. Conduct forward guarter medium altitude
1.3	best shot attack against a maneuvering noise jamming.
2 F-4	chaff dispensing bogie.
1 Bogie	
with	Mission. With a minimum of 30 miles separation.
Noise &	fighters commence intercept at 15,000' bogie 16,000'-
chaff	30.000' subsonic. Jink as desired after Judy. Utilize
Cap.	chaff and noise jamming techniques. Three successful
-	firing runs required for completion.

FI 35 Objective. Conduct medium altitude best shot attack against a subsonic, deception jamming bogie. 1.3 2 F-4 Mission. With a minimum of 30 miles separation 1 Bogie with Decep- fighters commence intercept at 15,000' bogie 16,000'-30,000' subsonic nonmaneuvering utilizing deception tion Capjamming techniques. Three successful firing runs ability required for completion. FI 36 Objective. Conduct low or medium altitude best 1.3 shot attack against a subsonic nonmaneuvering 2 F - 4bogie utilizing multiple jamming techniques. 1 Bogie with mul-Mission. With a minimum 30 miles separation, fighters commence intercept at 15,000', bogie 200'-10,000' tiple jam or 16,000'-30,000' subsonic. Jink as desired after Capability Judy. Utilize all types of jamming techniques. Three successful firing runs required for completion. Objective. Conduct low or medium altitude best FI 37 1.3 shot attack against a subsonic, maneuvering bogie utilizing multiple jamming techniques. 2 F - 41 Bogie Mission. With a minimum of 30 miles separation, with multiple Jam fighters commence intercept at 15,000', bogie 200'-Capability 10,000' or 16,000-30,000' subsonic. Jink as desired after judy. Utilize all types of jamming techniques. Three successful firing runs required for completion. FI 38 Objective. Conduct a medium altitude VID against a subsonic deception jamming bogie. 1.3 2 F-4 1 Bogie Mission. With a minimum of 30 miles separation fighters commence intercept a 15,000' bogie 16,000'with Mul-30,000' subsonic nonmaneuvering utilizing deception tiple Jam Capability. jamming techniques. Two successful runs required for completion. Objective. Conduct a low or medium altitude VID <u>FI 39</u> 1.3 against a subsonic maneuvering bogie utilizing 2 F - 4multiple jamming techniques. 1 Bogie Mission. With a minimum of 30 miles separation, with Mulfighters commence intercept at 15,000', bogie tiple Jam Capability. 200'-10,000' or 16,000'-30,000' subsonic. Jink as desired after Judy. Utilize all types of jamming techniques. Three successful runs required for completion. 2. GROUND ATTACK (5 SORTIES, 5 HOURS)

a. <u>Purpose</u>. To further train aircrews in simulated combat close air support missions and interdiction missions under FAC or TAC(A) control.

b. <u>General</u>. All missions must be under FAC or TAC(A) control and will include a mission profile. Aerial refueling should be included when feasible. Live ordnance may be varied as necessary but must meet mission parameters.

c. Syllabus.

- $\frac{GA \ 21}{1.0} \qquad \frac{Objective}{mission under FAC or TAC(A) control.}$
- 2-4 A/C

<u>Mission</u>. Each aircraft load appropriate ordnance for type mission. A minimum of 8 pieces of ordnance delivered for completion.

ORDNANCE: 6 MK 82 bombs, 8 5" rockets.

 $\frac{GA 22}{1.0} \qquad \frac{Objective}{against an interdiction target} ordnance mission$ 

2-4 A/C

<u>Mission</u>. Each aircraft load appropriate ordnance for type mission. A minimum of 8 pieces of ordnance delivered for completion. A high-low-high profile should be flown on this sortie.

ORDNANCE: 8 MK 82 bombs or 6 MK 82 bombs and 8 5" rockets.

 $\frac{GA \ 23-24}{1.0} \qquad \frac{Objective}{Port under FAC or TAC(A) control.}$ 

<u>Mission</u>. Each aircraft load appropriate ordnance for type mission. A minimum of 8 pieces of ordnance delivered for completion. A low level route to the target area should be planned on these sorties.

ORDNANCE: 8 MK 82 snake eye or 6 MK 82 snakeye and 4 MK 77 FB.

<u>GA 25</u> <u>Objective</u>. Conduct live 45<sup>°</sup> night ordnance mission 1.0 against an interdiction target.

2 A/C

(N) <u>Mission</u>. Each aircraft load appropriate ordnance for mission. A minimum of 8 pieces of ordnance delivered for completion.

ORDNANCE: 8 MK 82 bombs.

3. FIGHTER WEAPONS ( 6 SORTIES, 4.8 HOURS)

a. <u>Purpose</u>. To train combat sections to successfully attack, engage and disengage equal or superior numbers of adversary aircraft. b. <u>General</u>. All previous notes on fighter weapons missions apply to this stage.

c. Syllabus.

FW 22-23 0.8 2 F-4 3 D1s-	Objective. Conduct medium altitude VIDS to a visual engagement against a superior number of dissimilar adversaries.
similar A/C	Mission. With a minimum of 30 miles separation fighters commence intercept at 15,000', bogies 10,000'- 30,000' speed as desired. GCI vectors fighters against a section of adversaries then vectors third adver- sary into the engagement. Two successful attacks and one fighting disengagement required for completion.
FW 24 0.8 2 F-4 4 Dis-	Objective. Conduct a medium altitude VID to a vis- ual engagement against a superior number of dissi- milar adversaries.
similar A/C	Mission. With a minimum of 30 miles separation, fighters commence intercept at 15,000', bogies 10,000'-30,000' speed as desired. Two successful attacks to visual engagements and one fighting dis- engagement required for completion.
FW 25-26 0.8 2 F-4 4 Dis-	Objective. Conduct medium altitude VIDS to a visual engagement against a superior number of dissimilar adversaries.
similar A/C	Mission. With a minimum of 30 miles separation, fighters commence intercept a 15,000', bogies 10,000',- 30,000' speed as desired. GGI vectors fighters against one section of adversaries then vectors se- cond adversary section into the fight. Two successful attacks to visual engagements and one fighting dis- engagement required for completion.
$\frac{FW}{0.8}$	Objective. Conduct medium altitude visual engagements against multiple bogies.
4 Dis- similar A/C	Mission. With a minimum of 30 miles separation, GCI vectors fighter sections against a division of adversaries. Two successful attacks to visual engagements and one fighting disengagement required for completion.
4. ELECT	RONIC WARFARE (2 SORTIES, 2.0 HOURS)

a. <u>Purpose</u>. To further expose combat aircrew to the DECM environment.

b. <u>General</u>. The teamed crew concept should be employed for flights in this stage. All previous notes on fighter weapons training apply.

# c. Syllabus.

EN 3Objective. Conduct a medium or low altitude VID to visual engagements<br/>against multiple bogies in a simulated high threat environment.2 F-43-4 AD-3-4 AD-Mission. With a minimum of 20 miles separation fighters commence<br/>intercept at 15,000' bogies 1,000'-30,000' speed as desired. Two<br/>runs through the DECN range with two visual engagements required for<br/>completion.

<u>EN 4</u> <u>Objective</u>. Escort a strike force through a simulated high threat 1.0 environment and defend it against airborne threat. 2 F-4 2 Attack <u>Mission</u>. Escort strike force to the target area speed and altitude A (2 2 4) as desired begins 1 0001 20 0001 speed as desired. The mea through

A/C 3-4 as desired, bogies 1,000'-30,000' speed as desired. Two runs through ADVERSARY the DECM range required for completion. GCI vector adversaries to A/C the strike force.

# 5. FIGHTER ATTACK ESCORT (2 SOETIES, 2.0 HOURS)

a. Purpose. To introduce combat aircrew to multiplane escort tactics.

b. <u>General</u>. All previous notes on fighter weapons training apply to this stage. The teamed crew concept should be employed for flights in this stage. A DECM range shall be utilized for FAE 3.

# c. Syllabus.

FAE 1Objective.To introduce aircrew to escort tactics.Escort a1.0Strike force on a designated track and be prepared to defend it a2-4 F-4against airborne threat.

1-2 Attack A/C <u>Mission</u>. Plan and execute a strike into a simulated high threat environment. Ingress and egress should be tailored to fit the threat. If available an adversary should be scheduled to test lookout doctrins.

<u>FAE 2</u> Objective. Escort a multiplane strike force on a designated track and defend it against airborne threat.
2-4 F-4
1-2 At- Mission. Plan and execute an alpha a strike into a simulated high tack A/C threat environment. Adversaries should utilize enemy tactics.
2-4 AD- Strike group 8,000'-12,000', bogies above or below until visual.
VERSARY A/C

FAE 3 <u>Objective</u>. Escort and defend a strike force utilizing stream raid 1.3 tactics. 2-4 F-4 2-4 At-Mission. Plan and excute a stream raid into a high threat environment tack A/Cutilizing sequential attacks. A high-low-high profile with aerial 2-4 ADrefueling shall be flown on these sorties. Adversaries utilize VERSARY enemy tactics. A/C 1-2 TIKR A/C 4-45

446 <u>ADVANCED MISSION TRAINING</u>. Commanders are authorized and encouraged to employ the F-4 on all missions described in the F-4 tactical manual in conjunction with fully combat qualified training. This mission training should include but not be restricted to CONLABS, air-to-air gunnery, helicopter escort, and 1 vs. many, and carrier qualification. No direct CRP increase is associated with these missions but each will be recorded as a productive sortie in accordance with Appendix D Tab 3.

# 447 PROFICIECNY TRAINING SECTION, PILOT AND RIO

a. <u>Purpose</u>. To ensure that combat aircrew complete a minimum number of proficiency tasks annually.

b. <u>General</u>. Each task must be completed quarterly as part of the NA/NFO's tactical currency. No CRP is associated with these tasks. These tasks should be monitered by an LSO when available.

c. Syllabus.

Section Landing Half-Flap/No-Flap Approaches Divert/Bingo Profiles Airborne Radar Approaches (Self-Contained) Practice Single Engine Approaches 4 Per Quarter 4 EA Per Quarter 4 Per Quarter 4 Per Quarter

4 Per Quarter

#### APPENDIX D

#### FLIGHT READINESS DATA SYSTEM (FREDS) INTERFACE

#### 1. BACKGROUND

a. The major purpose of FREDS is to construct an automated data base which will contain every data element required to manage Marine Corps aviation assets. These data elements are to be collected from a single data source document which can record any and all aviation activity involving utilization of aircraft and/or aircrewmen. The data elements are structured so as to enable not only record keeping, reporting and analysis but can be utilized for automated "modeling" and manual projection.

b. The data base constructed by this sytem is derived from daily flight/flight training actions completed at squadron level and recorded on a single source document. That document (the FREDS Yellowsheet) is keypunched and validated on local computers where the data base is built.

c. The data elements on the daily input constitute a superset of both the Individual Flight Activity Reporting System transaction and the 3M ASD-76 transaction cards. The validation routine encompasses all the validation criteria of both those systems thereby eliminating the need for separate input to those systems and replacing the validation requirement for both. The system then reformats the FREDS input to the standard output of those two systems daily transactions and forms the input source for them. This capability constitutes a considerable saving in duplicated effort but more significantly, eliminates the need for daily input for those systems by retaining their transactions in magnetic form until the end of each month and subsequent input to those systems in the form of magnetic tape vice cards. The combination of IFARS and ASD data further allows use of a single error correction procedure which ensures that corrections made to either are automatically included in both systems.

d. The FREDS Users Manual published in a separate MCO provides detailed direction for the operation of FREDS.

#### 2. READINESS RECORD KEEPING THROUGH FREDS

a. The basic source document for FREDS input will also be used to record specific training tasks accomplished by individual crewmen, both for flight and ground training, and the attainment of specific qualifications.

b. The syllabi provided in the T&R Manual are the basis for aircrew training. Individual and collective

progress through these syllabi has, in the past, been recorded on the Syllabus Board and other manual training records and these records utilized for periodic readiness reporting. One of the purposes of FREDS is to refine and automate the readiness reporting capability of the Syllabus Board and to extend that capability by providing information for planning the utilization of training assets to accomplish the training dictated by individual and collective progress through the syllabus.

c. Each of the flights listed in the various training syllabi in this manual has been assigned a three digit Training Code, an Update Code and Refly Factor, where appropriate, and a percentage figure which represents the flight's percentage contribution to overall combat readiness. One of the data elements to be included on the FREDS Yellowsheet is the three digit Training Code for the flight/training event scheduled/completed. This Appendix provides the syllabus codes for each syllabus set forth in detail in the various chapters of this manual!

d. For each training event for which a FREDS Yellowsheet is submitted, FREDS will update the training record of each crewman in accordance with the preestablished factors for each flight/training event.

### 3. INDIVIDUAL READINESS

a. It is widely recognized that specific flights and stages of training must be periodically repeated to ensure skill retention. Ideally, the frequency of such repetition should be based on individual learning and retention capabilities; however, reasonably accurate criteria have been established and are provided in this Appendix to establish a required frequency of repetition for each flight. The period of time following completion of each flight during which the acquired skill is considered as current is depicted in the Tabs of this Appendix as the "Refly Factor for each flight. This Refly Factor is expressed in number of months and will be added to the month of the year during which the flight is completed to compute the month through which the crewman is considered current in the skills acquired. Should the crewman not repeat the flight or otherwise update currency in the skills involved before the end of the refly interval, credit for having completed the flight is dropped and appropriate reduction in combat readiness will be computed.

b. The 60% CRP achieved by F-4 RAC and refresher aircrewmen on completion of the combat capable phase of their training is retained and does not require updating unless tactical currency is lost.

D-2

## 4. TACTICAL CURRENCY

Any NA/NFO assigned to the tactical group will retain tactical currency (and a minimum of 60% CRP) provided that he has flown a tactical training mission within ninety (90) days of his last T&R Syllabus flight. In the event that tactical currency is lost the corresponding CRP is also lost. NA/NFO's will revert to 25% CRP. Upon completion of the five designated refresher flights NA/NFO's will regain tactical currency-(and 60% CRP).

#### TAB 1

# SYLLABUS FLIGHT TRAINING CODES (F-4)

1. The Tabs of this appendix list the training codes for syllabus flights which are to be used when marking FREDS Yellow sheets or other input media. Each syllabus flight for the F4 is assigned a unique three digit training code (Tab 3).

a. Training codes are assigned in a manner which groups sequences of similar flights in a numerical order. The first digit of the Training Code identifies the phase of training. The second and third digits identify the stage within the phase, and also the order in which flights should be flown.

b. Certain syllabus flights are also allocated "Update" Codes" and "Refly Factors". Update Codes are used in conjunction with syllabus check flights to update preceding and related syllabus flights. For example, FI 18 Training Code 205, Update Code 201. Flight of FI 18 updates all the preceding FI sorties until Training Code 201 is reached. Where no Update Code is allocated each individual flight must be reflown when mission currency is lost.

c. No refly intervals are allocated to the syllabus flights in the combat capable phase. These flights are for initial training only and reflight for aircrew qualification is left to the discretion of the Training Group.

d. The Refly Factor listed is that number of months which should pass after completion of the flight before the flight must be reflown to assure retention of skill in the tasks involved. The crewman is considered "mission current" in those skills for that length of time. The factor is added to the current month (7=July, 9=September, etc.) when flown or updated by a more advanced flight and the resulting number is placed on syllabus progress records in lieu of a simple X. The letters "A", "B" and "C" are used in lieu of the numbers 10, 11, and 12 respectively. Mission currency is valid through the month recorded after which the number is to be replaced with the letter "D" until reflown or updated. Using this rationale, all syllabus flights will be updated as of the final day of the month to reflect currency status.

e. Combat Readiness Percentage (CRP%) is the readiness increase accrued by completion of the flight. This percentage is added to the CRP% of all flights in which a crewman is "mission current "to calculate his current readiness.

2. Syllabus boards should reflect status of flights as follows:

a. Upon completion of a flight, the month through which the crewman is thereby rendered "mission current" should be marked.

b. Flights not required (those not included in a refresher syllabus for example) should contain a dash (-) or asterisk (\*).

c. Flights previously flown but overdue for reflights as of the beginning of the current month should show the letter "D" (delinquent).

3. It must be clearly understood that each and every flight in the syllabus must be flown before it can be updated by a related syllabus check flight. No flights will be waived or skipped once automated by the FREDS computer programs. The computer will contain a "copy" of the F-4 syllabus and will daily effect the required updating based on the training code entered on the Yellowsheet.

4. Where the FREDS system is being supported by computers these syllabi and training codes are checked by the FREDS validation programs. Only those crewmen who are assigned to operational squadrons and are authorized in writing by higher authority (Group or Wing) to receive syllabus training will be accepted by the FREDS system and only those training codes listed in this Appendix are considered valid. It should be noted that use of any of the flight training codes listed which have no specific corresponding flight in Chapeter 4 through 28 is optional and in no way effects the accounting for syllabus flight and combat readiness. MANAGEMENT INFORMATION AVAILABLE THROUGH FREDS

1. Detail same as ref (a).

		TRNG	FLIGHT	REFLY					
STAGE	FLT NO	CODE	UPDATED	INTERVA	L CRP	Т	С	R	1
FAM	1	101		*	0.5	X	X		
	2	102	•	*	0.5	X	X	X	
	3	103		, <b>*</b>	0.5	X	X		
	4	104		*	0.5-	X	X	X	2
INST	1	111		*	0.5	X	X		
	2	112		*	0.5	X	Χ.	<b>X</b>	
	3	113		*	0.5	X	X		
-	4	114		*	0.5	X	X	X	2
FORM	1	121		*	0.5	X	X		
	2	122		*	0.5	X	X		
	3	123		*	0.5	X	X	X	2
FMLP	1	131	•	*	1.0	X	X		
FI	1	141		*	0.9	Х	X		
	2	142	•	*	0.9	Х	X		
	3	143		* .	0.9	X	X	X	
	4	144		*	0.9	X	X		
	5	145		*	0.9	X	X	X	
	6	146		*	0.9	X	X	. *	•
	7	147		*	0.9	X	X	X	
	8	148	. •	*	0.9	X	X		
	9	149		*	0.9	X	X	X	
	10	151		*	0.9	X	X		
	11	152		*	0.9	X	X		
	12	153		<b>π</b>	0.9	X	X		-
~	13	154		*	1.2	<u>X</u>	<u> </u>	<u> </u>	
GA	1	161	•	*	1.0	X	X	••	
	2	162		*	1.0	.X	X	X	
	3	103		*	1.0	X	X		
	4	104		· *	1.0	X	X		
	5	105		*	1.0	X	X		
		100		*	1.0	X	Ŷ		
	/	160		· •	1.0	A V	A V	v	
	0	100		<b>.</b>	1.0	A V	A V	A V	
PAM		171		*	1.0	$\frac{\Lambda}{V}$	- <u>A</u>		
DAM	1	171		÷	1.0	A V	A V	Λ	
	2	172			1.0	A V	N V	v	
	5	175		· · · ·	1.0	A V	N V	л V	,
FU	<u> </u>	191		*	1.0	$\frac{\Lambda}{V}$	$\frac{\Lambda}{V}$	- <u>~</u>	
E M	2	192		*	1.0	A Y	л V	л	
	2	192		*	1 0	A Y	л У	Y	
	5 4	184		*	1 0	Y	Y	Y	
		194		*	1 0	A Y	л Y	A	
	5	186		±	1 0	A Y	A Y		
	7	187		*	1 0	x Y	л У	Y	. 1
AD		101		 	<u> </u>				

•		TRNG	FLIGHT	RETEI	
STAGE	FLT NO	CODE	UPDATED	INTERVAL	CRPTCR 1
ADVANCED TH	RAINING/COMBAT	READY		_	
FI	14	201		6	0.3 X X
	15	202		6	0.3 X X
	16	203		6	0.3 X X
	17	204		6	0.3 X X
	18	205	201	3	0.5 X X
	19	206		6	0.3XX
	20	207		6	0.3 X <u>X</u>
	21	208		.6	0.3 X X
	22	209	208	3	0.3 X X
	23.	211		3	0.3 X X
	24	212		<u> </u>	<u>0.3 X X</u>
GA	10	221		6	1.0 X X
• •	11	222		0	
	12	223		0	
	13	224		0	
FW	8	231		- 3	
	9	232		3	
	10	233		0	
	11	234 225	<b>1</b> 22	0	
	12	~33 226	433 ·	3	
	15	230		6	
	14	<b>431</b>		6	
	15	230		0	
EW	1	251		<u> </u>	0.5 X X
NAV	1	261		6	0.5 X X
				· · · · · · · · · · · · · · · · · · ·	
ADVANCED TH	RAINING/COMBAT	QUALIFICATI	ON	,	
FI	25	301		6	0.7 X X
	26	302		6	0.7 X X
	27	303		6	0.7 X X
	28	304		6	0.7 X x
	29	305		6	0.7 X X
	30	306	301	3	$0.7 \times X$
	31	307	~~~	6	0.7 X X
<u></u>	32	308	307	3	$1 \cdot 1 \times X$
GA	14	311		C	
	15	312	311	0	
•	10	313		0	
	10	314 215		O C	
	10	212 214	21 5	C Z	$0.4 \lambda \lambda$
	77	510. 517	C1C	0 2	0.4 A X 0 6 V V
FW	16	221		<u> </u>	$0.0 \Lambda \Lambda$
Y. 44	17	200 Jet		5	$0_{\bullet}0 \wedge \mathbf{A}$
	±/ 1⊈	202		6	$0 \bullet 0 \bullet \Phi$
	10	נאג 201.		۵ ۸	0.6 7 7
	17 20	20K		U L	0.6 7 7
	21	206	202	4	O Q V V
	22 ·	207	J~J ·	) K	0.6.7 7
	~~	251	207	2	067 7
	/ <			-	

$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			TRNG	FLIGHT	REFLY					
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	STAGE	FLT NO	CODE	UPDATED	INTERVAL	CRP	T	C	R	TC
NAV       2 $341$ 3 $0.5 \times x$ ADVANCED TRAINING/FULL COMBAT QUALIFICATION       FI       33 $401$ 6 $0.5 \times x$ 34 $402$ 6 $0.5 \times x$ 34         35 $403$ 6 $0.5 \times x$ 35         36 $404$ 6 $0.5 \times x$ 36         37 $405 \pm 401$ 3 $0.5 \times x$ 36         38 $406$ 6 $0.5 \times x$ 37         39 $407$ $406$ 3 $0.5 \times x$ GA       21 $411$ 6 $0.4 \times x$ 23 $413$ 6 $0.4 \times x$ $x$ 24 $414$ 6 $0.4 \times x$ $x$ 24 $414$ 6 $0.4 \times x$ $x$ 24 $422$ $421$ 6 $1.0 \times x$ 25 $424$ $6$ $1.0 \times x$ $x$ 24 $422$ $421$ $6$ $1.0 \times x$ $25$ $424$ $6$ $1.0 \times x$ $x$ $26$ $425$ <t< td=""><td>EW</td><td>2</td><td>331</td><td></td><td>6</td><td>0.5</td><td>X</td><td>X</td><td></td><td></td></t<>	EW	2	331		6	0.5	X	X		
ADVANCED TRAINING/FULL COMBAT QUALIFICATION         FI       33       401       6 $0.5 \text{ X}$ X         34       402       6 $0.5 \text{ X}$ X         35       403       6 $0.5 \text{ X}$ X         36       404       6 $0.5 \text{ X}$ X         37       405       401       3 $0.5 \text{ X}$ X         38       406       6 $0.5 \text{ X}$ X         39       407       406       3 $0.5 \text{ X}$ X         22       412       6 $0.4 \text{ X}$ X         23       413       6 $0.4 \text{ X}$ X         24       414       6 $0.4 \text{ X}$ X         25       415       6 $0.4 \text{ X}$ X         24       421       6 $1.0 \text{ X}$ X         25       415       6 $0.4 \text{ X}$ X         24       422       421       3 $1.0 \text{ X}$ X         25       424       6 $1.0 \text{ X}$ X       24         25 $424$ 6 $1.0 \text{ X}$ X       25         24       423       6 $1.0 \text{ X}$ X       27 $426$ $1.0 \text{ X}$ X         27	NAV	2	341		3	0.5	X	X		
FI       33       401       6 $0.5 \times 1$ X         34       402       6 $0.5 \times 1$ X         35       403       6 $0.5 \times 1$ X         36       404       6 $0.5 \times 1$ X         36       404       6 $0.5 \times 1$ X         37       405       401       3 $0.5 \times 1$ X         38       406       6 $0.5 \times 1$ X         39       407       406       3 $0.5 \times 1$ X         21       411       6 $0.4 \times 1$ X         23       413       6 $0.4 \times 1$ X         23       413       6 $0.4 \times 1$ X         24       414       6 $0.4 \times 1$ X         25       415       6 $1.0 \times 1$ X         24       423       6 $1.0 \times 1$ X         25       424       423       6 $1.0 \times 1$ X         26       425       3 $1.0 \times 1$ X       X         FM       3       431       6 $0.5 \times 1$ </td <td>ADVANCED</td> <td>TRAINING/FULL COM</td> <td>BAT QUALIE</td> <td>TICATION</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	ADVANCED	TRAINING/FULL COM	BAT QUALIE	TICATION						
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	FI	33	401		6	0.5	X	X		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		- 34	402		6	0.5	X	X		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		35	403		6	0.5	X	X		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		36	404		6	0.5	X	X		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		37	405	401	3	0.5	X	X		
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GA       21       411       6       0.4       X       X         22       412       6       0.4       X       X         23       413       6       0.4       X       X         24       414       6       0.4       X       X         25       415       6       0.4       X       X         25       415       6       0.4       X       X         23       422       421       6       1.0       X         23       422       421       3       1.0       X         24       423       6       1.0       X       X         25       424       6       1.0       X       X         26       425       3       1.0       X       X         27       426       C       1.0       X       X         24       431       6       1.0       X       X         27       426       C       1.0       X       X         24       432       6       1.0       X       X         22       442       6       0.5       X       X     <		39	407	406	3 .	0.5	X	X		
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$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		23	413		6	0.4	X	X		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		24	414		6	0.4	X	X		
FW       22       421       6       1.0 X X         23       422       421       3       1.0 X X         24       423       6       1.0 X X         25       424       6       1.0 X X         26       425       3       1.0 X X         27       426       C       1.0 X X         27       426       C       1.0 X X         EN       3       431       6       1.0 X X         4       432       6       1.0 X X         FAE       1       441       6       0.5 X X         2       442       6       0.5 X X         JUVANCED MISSION TRAINING       451-459       *       0.0		25	415		6	0.4	X	X		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	FW	22	421		6	1.0	X	X		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		23	422	421	3	1.0	X	X		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		24	423		6	1.0	X	X		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	-	25	424		6	1.0	X	X		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		26	425		3	1.0	X	X		
EN       3 $431$ 6       1.0 X X         4 $432$ 6       1.0 X X         FAE       1 $441$ 6       0.5 X X         2 $442$ 6       0.0       X         JUVANCED MISSION TRAINING $451-459$ *       0.0		27	426		C	1.0	X	X		
4       432       6       1.0 X X         FAE       1       441       6 $0.5 X X$ 2       442       6 $0.5 X X$ 3       443       6 $0.5 X X$ DVANCED MISSION TRAINING       451-459       * $0.0$	EW	3	431		6	1.0	X	X		
FAE       1       441       6       0.5 X X         2       442       6       0.5 X X         3       443       6       0.5 X X         DVANCED MISSION TRAINING       451-459       *       0.0		4	432		6	1.0	X	X		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	FAE	1	441		6	0.5	X	X		
<u>3 443 6 0.5 X X</u> DVANCED MISSION TRAINING DTAC 1-9 451-459 * 0.0		2	442		6	0.5	X	X		
DVANCED MISSION TRAINING DTAC 1-9 451-459 * 0.0		3	443		66	0.5	X	<u> </u>		
DTAC 1-9 451-459 * 0.0	ADVANCED 1	ISSION TRAINING			_					
	ADTAC	1-9	451-459		¥	0.0				

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TAB 3	
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# COMBAT CAPABLE TRAINING/RIO

		TRNG	FLIGH	IT R	EFLY					
STAGE	FLT NO	CODE	UPDAT	ED I	NTERVAL	CRP	T	C	R	TC
FAM	1 .	101	· ,		*	0.5	X	X		
INST	1	111			*	0.5	X	X		
	2	112			*	0.5	X	X	X	
	3	113			*	0.5	X	X	X	
	4	114			<b>*</b> ,	0.5	X	X		
•	5	115		-	*	0.5	X	X		
FORM	. 1	121			* *	0.5	X	X		
•	2	122		•	<b>*</b> .	0.5	Х	X		
FMLP	1	131			* -	1.0	X	Х		
FI	1	141			*	0.9	X	Х		
	2	142			*	0.9	X	X		
	3	143			*	Ó.9	X	X	X	
	4	144			*	0.9	X	X		
	5	145			*	0.9	X	X	X	
	6.	146			*	0.9	X	X		
•	7	147			*	0.9	X	X	X	
	8	148			*	0.9	X	X		•
•	9	149			*	0.9	X	X	X	
	10	151			*	0.9	X	X		
	11	152				0.9	X	X		
· .	12	153			a 🛣	0.9	X	X		
	13	154			*	1.2	X	X	X	X
GA	1	161			*	1.0	X	X	-	
	2	162			*	1.0	X	X	X	
	3	163			*	1.0	X	X		
	4	164			*	1.0.	X	X		
	5	165			*	1.0	X	X		
	6	166			· *	1.0	· X	Х		
	7	167			*	1.0	X	X		
	8	168			*	1.0	X	X	X	
	9	169			*	1.0	X	Х	X	
ВАМ	1	171			*	1.0	X	-χ	Х	
	2	172			*.	1.0	X	Х		
	3	173			*	1.0	X	_X	X	
FW	1	181			*	1.0	X	Х	X	
	2	182			*	1.0	X	Х		
	3	183			*	1.0	X	Х	X	
	4	184			*	· <b>1</b> .0	X	Х	X	
	5	185			*	1.0	X	X		
	6	186			*	1.0	X	X		
	7	187			*	1.0	X	X	X	X
AR	1	191			*	0.5	X	X		
	2	192			*	0.5	Х	Х		
* NO RE	EFLY INTERVAL/NO	REFLY	REQUIRED	UNLESS	TACTICAL	CURR	ENC	Y	<u>1.0</u>	ST

		TRNG	FLIGHT	RELI	
STAGE	FLT NO	CODE	UPDATED	INTERVAL	CRPTCRTC
ADVANCED	TRAINING/COMBAT	READY			
FI	14	201		6	0.3 X X
	15	202		6	0.3 X X
	16	203		6	0.3 X X
	17	204		6	0.3 X X
	18	205	201	. 3	0.5 X X
	19	206		6	0.3 X X
	20	207		0	0.3 X
	21	208	004	0	0.3 X X
	22	209	208	.3	
	23	211		3	
GA	10	221		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
UA .	10	222		6	
	12	222		6	
	13	221.		6	
FW	8	231		 3	
2	<b>9</b>	232		ž	0.3 X X
	10	233		6	0.4 X X
	11	234		6	0.5X X
	12	235	233	3	0.5X X
	13	236		6	0.5X X
	-14	237		6	0.5X X
_	15	238	. •	6	0.5X X
· · ·	,				
EW	11	251		C	0.5 X X
NAV	1	261		6	0.5 X X
ADIRANO		OULT TOTA MT			
ADVANCED	TRAINING/CUMBAI	C QUALIFICATI	UN	4	0 M V V
LT	25	202		6	
	20	302		6	
	28	30J 30J		6	$0.7 \times X$
	20	305		6	0 7 Y Y
	30	306	301	3	$\begin{array}{c} 0 7 \mathbf{X} \mathbf{X} \\ 0 7 \mathbf{Y} \mathbf{Y} \end{array}$
	31	307		6	$\begin{array}{c} 0 & 7 \\ 0 & 7 \\ \mathbf{Y} \\ \mathbf{Y} \\ \mathbf{Y} \end{array}$
	32	308	307	ă	1.1 X X
GA	14	311		ć	0.4 X X
	15	312	311	Ğ	0.4 X X
	16	313		6	0.4 X X
	17	314		6	0.4 X X
	18	315		Ċ	0.4 X X
	19	316	315	6	0.4 X x
	20	317		6	0.6 X X
FW	16	321		3	0.6 X X
	17	322		6	0.6 X X
	18	323		6	0.6 X X
	19	324		6	0.6 X X
	20	325		4	0.6 X X
	21	326	323	3	0.8 X X
	22	327		6	0.6 X X
<u> </u>	23	328	327	3	0,6 X X

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		THNG	FLIGHT	REFLY					
STAGE	FLT NO	CODE	UPDATED	INTERVAL	CRP	T	C	R	TC
EW	2	331		6	0.5	X	X		
NAV	2	341		3	0.5	X	X		
ADVANCED 3	FRAINING/FULL C	CMBAT QUAL	FICATION						
FI	33	401		6	0.5	X	X		
	34	402		6	0.5	X	X		
	35	403		6	0.5	X	X		
	36	404		6	0.5	X	X		
	37	405	401	3	0.5	X	X		
	38	406	-	6	0.5	X	X		
	39	407	406	3.	0.5	X	X		
GA	21	411		6	0.4	X	X		
•	22	412		6	0.4	X	X		
	23	413		6	0.4	X	X		
	24	414		6	0.4	X	X		
	25	415		6	0.4	X	X		
FW	22	421		6	1.0	X	X		h <del>figurd (11</del> .64
	23	422	421	3	1.0	X	X		
	24	<u>i</u> 23	•	6	1.0	X	X		
	25	424		· 6	1.0	X	X		
	26	425		3	1.0	X	X		
	27	426		č	1.0	X	X		
EW	3	431		6	1.0	X	X		
	4	432		6	1.0	X	X		
FAE	1	441	· · · ·	6	0.5	X	X		
	2	442		6	0.5	X	X		
	3	443		6	0.5	X	X		
DVANCED M	ISSION TRAINTN	7	. *						
DTAC	1-9	 	ç.	*	0.0				
	- /	7/- 7/	•						