

ARI Contractor Report 2002-13

Exploratory Research to Demonstrate the Feasibility of Conducting Crew Coordination Training in the OH-58 Aircraft

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13. ABSTRACT (Maximum 200 words) This document provides the results of exploratory research to demonstrate the feasibility of conducting crew coordination training in the OH-58 aircraft, using the Army's Aircrew Coordination Exportable Training Course. The hands-on portion of the course, usually conducted in visual flight simulators, was conducted instead in OH-58 aircraft. Observation pilots and aerial observers from an attack helicopter battalion received the academic portion of the course in conjunction with attack crews from the unit. Two OH-58 instructor pilots (IP), a unit trainer (UT), and four aircrews were selected to conduct the hands-on portion of the course in the OH-58 aircraft. The IPs and UT trained and evaluated the four aircrews during three missions flown in the aircraft. Audio recordings of each flight, gradeslips and evaluator worksheets modified for OH-58 crews, and participant exit interviews were used to collect data. The demonstration showed that it is practicable to conduct the hands-on portion of the course in the OH-58 aircraft but did not assess the effectiveness of the training. Recommendations concerning the best type of audio recorder, number of evaluation and training flights, and use of the 2B24 non-visual Flight Simulator are provided.				
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System Safety

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Delivery Order #0006

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Demonstrate the Feasibility of
Conducting Crew Coordination
Training in the OH-58 Aircraft**

December 1993

Prepared by:

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Prepared for:

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Exploratory Research to Demonstrate the Feasibility of Conducting Crew Coordination Training in the OH-58 Aircraft

Background

During 1992, the U.S. Army Research Institute (USARI) developed and validated a new crew coordination exportable flight simulator-based training program, the Aircrew Coordination Exportable Training Program (Pawlik et al., 1992), that unit instructor pilots (IPs) could directly implement. The validation test for this training program relied heavily on video recording the hands-on portion in visual flight simulators. In 1993, the U.S. Army Aviation Center (USAAVNC) requested USARI to continue their efforts in this area by exploring the relative contributions of battle-rostering to crew coordination and performance. As part of this effort, the attack helicopter crews assigned to the 229th Attack Helicopter Battalion (ATK BN) at Fort Rucker, AL were scheduled to receive the new training during June 1993. To maximize the benefit to the unit, the battalion commander requested that his OH-58 aviators and aerial observers (AOs) also receive the training. USARI agreed to provide the academic portion of the course to the battalion's observation helicopter crews because there is no visual flight simulator for the OH-58 aircraft in which to conduct the hands-on portion of the course.

The Aircrew Coordination Exportable Training Course (Pawlik et al., 1992) was provided to the 229th ATK BN from June 1 - July 9, 1993. Attack aircraft (AH-64) and observation aircraft (OH-58) IPs and unit trainers (UTs) received the Crew Coordination Instructor Course from June 1-11 and provided the Crew Coordination Student Course to the battalion's aviators and AOs from June 14 - July 9. Attack IPs/UTs and crews received all academic and simulator portions of the course, whereas the observation IPs/UTs and crews (except those selected for the test) received only the academic portions. The observation IPs/UTs observed one of the simulator training sessions for the attack IPs/UTs during the Instructor Course.

The USAAVNC, concerned how to implement the new crew coordination training program in aircraft without visual flight simulators, used this opportunity to demonstrate the feasibility of conducting the training in an aircraft instead of in a flight simulator. Because of the lack of a visual flight simulator and air worthiness restrictions associated with mounting video cameras in the cockpit, the OH-58 aircraft provided an excellent airframe for this test. During the Instructor Course, the OH-58 IP/UTs developed and conducted training and evaluation missions for selected observation crews to test the feasibility of conducting the hands-on portion of the course in the OH-58 aircraft. The results of the test would be provided to the USAAVNC Crew Coordination Training Team to assist them in implementing crew coordination training throughout the Army.

Objective

The objective of the exploratory research was to demonstrate the feasibility of conducting crew coordination training and evaluation flights in the OH-58 aircraft in conjunction with the Aircrew Coordination Exportable Training Course (Pawlik et al., 1992).

Method

Personnel

Two OH-58 IPs and one OH-58 UT assigned to the 229th ATK BN received the academic portion of the Crew Coordination Instructor Course given from June 1-11, 1993. This instruction included the academic portion of the Student Course (18 hours) and additional academic classes covering evaluation procedures, scenario development, and methods of instruction (8 hours). The OH-58 IPs and UT also observed a simulator training mission for the AH-64 IP/UTs.

After receiving instruction, the OH-58 IPs/UT provided the academic portion of the Student Course to 19 OH-58 aviators and AOs from the 229th ATK BN on June 18-22. The unit selected four crews to participate in the hands-on test scheduled for June 28 - July 1. Selection was based primarily on availability of qualified personnel. The crews included a two-pilot crew and three-pilot/AO crews, for a total of five pilots and three AOs. The UT was part of one crew.

Materials

The OH-58C is a small, single-engine, four-place helicopter that the Army uses for observation and light utility missions. The 2B24 Flight Simulator is a non-visual UH-1 simulator used for instrument and procedures training. OH-58 pilots are experienced using the 2B24 since they must obtain their minimum simulator time in it each training year. OH-58 AOs, however, do not use the 2B24 for their training.

The OH-58 IPs developed three scenarios to train and evaluate crew coordination during the test. (Only three of the four scenarios normally scheduled during the Student Course were developed due to flying hour constraints and insufficient time to conduct a pretraining evaluation.) Two of the scenarios were conducted in the OH-58C aircraft assigned to the 229th ATK BN, and one was conducted in the 2B24 Flight Simulator.

The first scenario was a training mission conducted in the 2B24 simulator. This required the crew to plan and brief an instrument flight rules (IFR) mission but actually fly an inadvertent entry into instrument meteorological conditions and a

subsequent instrument recovery procedure in the flight simulator. The IP observed from the instructor station behind the crew stations.

The second scenario, also a training mission, was conducted in the aircraft. It required the crew to plan and conduct a multi-ship deliberate attack mission. The third and final scenario, an evaluation mission conducted in the aircraft, required the crew to plan and execute a route reconnaissance mission. Early in the flight, a mission change required the crew to plan and execute an entirely different mission. During the missions, the flight crew occupied the two front seats, while the IP observed from the rear seat.

Each of the three scenarios included an air mission briefing with required maps and mission graphics, a sequence of events list and script for the IP/controller, communications card, and an evaluator worksheet and grade slips. The Battle-Rostered Crew Evaluation/Training Grade Slip (DA Form 7121-R, Department of the Army, 1992) and the Aircrew Coordination Training Grade Slip (modified DA Form 5865-R, Department of the Army, 1993), were completed after each mission to record each crew's grades on various Aircrew Training Manual (ATM) tasks and to document their progress during the test. Evaluator worksheets were used to grade each maneuver and to capture IP comments during the mission. Examples of scenario materials and grade slips are located in Appendices A and B, respectively.

Because of air worthiness restrictions, video recording equipment could not be used in the aircraft during missions. Instead, all internal and external communications were recorded during each mission using a battery powered micro-cassette audio tape recorder connected to the aircraft's communication system via a locally fabricated Y-cord. The IP, who observed and controlled missions from the rear seat of the aircraft, plugged his helmet and the audio recorder into the Y-cord. The same audio recording system was used during the mission in the 2B24 due to a shortage of video recording equipment.

Procedures

The IP provided each crew with the mission briefing and then observed their planning and briefing activities. Each crew had 90 minutes to plan and brief the mission before pre-flying the aircraft. The IP observed and controlled missions from the rear seat of the aircraft or simulator. Following each mission, the IP observed the crew conducting their after-action review (AAR) and then debriefed them on their performance. Both the pre-flight mission briefing and the post-flight AAR were videotaped.

The audio recorder was turned on during each mission to record all communications. The IP used the tape during the crew debriefing to point out good and bad examples of crew coordination, to emphasize important crew coordination techniques, and to resolve disagreements. Following the mission

debriefing, the IP completed the two grade slips using the evaluator worksheets from the mission.

At the end of the test, project staff conducted exit interviews with the IPs/UT and OH-58 crews to get feedback on the course itself and to document any problems that they encountered while conducting crew coordination training and evaluation flights in the OH-58 aircraft and 2B24 Flight Simulator. Summaries of these interviews are located in Appendix C.

Results

Ten of the twelve scheduled missions were completed during the hands-on test. All four crews completed the 2B24 Flight Simulator mission and the first training mission in the OH-58. Due to weather problems and mission priority conflicts, only two of the crews completed their final evaluation flight in the OH-58 during the research period. Continuing mission-related conflicts precluded the accomplishment of these final evaluation flights.

Crew Coordination Measures

Crew Coordination measures were evaluated as described in the Aircrew Coordination Exportable Training Course (Pawlik et al., 1992). All of the crews were graded satisfactory (S) for all missions. Although several maneuvers were graded less than satisfactory (S-) during each mission, not one maneuver was graded unsatisfactory (U). Table 1 summarizes the maneuver grades by crew for each mission. Based on the increasing number of superior (S+) and satisfactory (S) grades and mean grade for each mission, all four crews seemingly improved their performance between the first and second training missions. However, these two missions differed in that one involved only instrument flying in a non-visual flight simulator, while the other involved tactical flying in the actual aircraft. Also, more maneuvers were graded during the second mission. The two crews that did complete both missions in the aircraft improved performance for several maneuvers as shown by an increased number of superior grades (S+), improved mean grade, and IP comments. Unfortunately, one IP failed to rate the Basic Qualities (BQs) for any of his crews, thus, precluding any analysis of these dimensions.

Exit Interviews

The IPs and crews indicated that the simulator mission and the two OH-58 missions provided adequate opportunity to teach and evaluate all aspects of crew coordination. They stated that the three missions allowed adequate demonstration and observation of the 13 Crew Coordination BQs. They did not indicate any problems evaluating any specific BQ while conducting the missions. However, based on the improvements they observed during the three missions, the IPs expressed a desire to conduct four hands-on flight periods as required in the training syllabus.

Table 1

Summary of Maneuver Grades for Each Mission

Mission	Crew	Number of maneuver grades ^a			Mean
		Superior (S+)	Satisfactory (S)	Less than satisfactory (S-)	
Tng Msn #1	1	0	3	4	1.4
(2B24 flight	2	2	2	4	1.7
simulator)	3	0	4	3	1.6
	4	3	5	0	2.4
Tng Msn #2	1	2	13	8	1.7
(OH-58)	2	6	15	2	2.2
	3	4	15	6	1.9
	4	5	11	0	2.3
Post-Tng Eval	1	NA			
(OH-58)	2	NA			
	3	13	8	1	2.5
	4	21	3	0	2.9

^a(For Mean U = 0, S- = 1, S = 2, S+ = 3)

Comments by the IPs/UT were mixed concerning the advantages and disadvantages of using the 2B24 Flight Simulator for training. The first training mission conducted in the simulator prompted several comments from the crews. Non-rated crewmembers stated that their unfamiliarity with the UH-1 cockpit and technical aspects of instrument flying resulted in the mission being more difficult than intended for an initial training mission. Also, the OH-58 pilots had problems flying because of the UH-1 cockpit instrument and switch locations.

The IPs indicated that conducting training and evaluation missions in the OH-58 was an acceptable way of accomplishing the hands-on portion of the Aircrew Coordination Exportable Training Program (Pawlik et al., 1992). However, they did note several limitations with this method, including the additional time required to pre-flight the aircraft, fly to and from the training area, and the inability to control the weather and the environment. Thus, the IPs indicated that they would conduct training and evaluation missions only during low risk, day, visual flight rule conditions. The inability to introduce unexpected events such as threat, malfunctions, or emergencies, however, could result in less effective training.

The IPs also stated that their position in the rear seat of the aircraft precluded them from observing the crew directly and did not permit them to access the flight controls in the event of a high risk situation or problem. However, they indicated that conducting these missions from the front seat (as an active crewmember) or from another aircraft in the flight would be much less effective.

Although the IPs would have preferred to videotape the missions, they indicated that the audio tapes, in conjunction with observer notes, were adequate and necessary. However, the tapes' quality during playback was poor due to interference from other on-board electronic systems and wind noise through the microphones. Additionally, the IPs indicated that they did not have sufficient time to review the tapes during the mission debrief. As a result, they used the audio tapes sparingly during the post-mission debriefs to point out good and bad examples of crew coordination, to emphasize important crew coordination techniques, and to resolve disagreements. A rapid search capability that would enable trainers to quickly scan the tape to find a particular event would be very helpful. The OH-58 crews did not take time to review their pre-flight briefing or AAR videotapes.

During missions following the test, another method of taping the crew's conversations was tested with better results. A Sony Walkman (stereo radio cassette-corder, WMF2041) tape recorder with the earphones plugged into the microphone jack and inserted into the IP's helmet earcups provided clear, unobstructed recordings of all conversations. This method eliminated the interference from aircraft systems through the Y-cord and provided longer taping time.

Conclusions and Recommendations

Overall, it is feasible to conduct the hands-on portion of the Aircrew Coordination Exportable Training Program (Pawlik et al., 1992) in the OH-58 aircraft. All 5 Crew Coordination Objectives and 13 BQs can be taught and evaluated in the OH-58 without modification even with the limitations and restrictions associated with conducting the training in an aircraft. The following specific recommendations are provided:

1. If possible, all hands-on flight periods should be conducted in the OH-58 aircraft. The 2B24 Flight Simulator is not a satisfactory platform for conducting the hands-on portion of crew coordination training for crews with non-rated crewmembers. When resources preclude using only the aircraft, the simulator could be used on a limited basis for training missions for two-pilot crews.

2. The Student Course should include two evaluation and two training flight periods in the aircraft or simulator. Fewer periods may be acceptable during the Instructor Course.

3. The IP should occupy the rear seat in the aircraft and act as both the mission controller and trainer/evaluator.

4. Sony Walkman tape recorders should be used to record the crew's conversations during each aircraft flight period. Videotape recorders should be used for pre-mission planning and AARs and for any flights in the 2B24 Flight Simulator.

No assessment as to the effectiveness of conducting the training in the aircraft versus the flight simulator was attempted during this test. Although it appears practicable, conducting the hands-on portion of the course in the aircraft may not have the same impact on operational safety and mission performance as does conducting it in the simulator. Restrictions on the complexity of the missions flown in the aircraft may not provide the best environment to test the crew's ability to work together in accomplishing the mission. Further research into the effectiveness of conducting crew coordination training in the actual aircraft should be conducted to develop a full solution. This research would be especially useful in the OH-58D with its lack of a rear seat and limited on-board video recording capability.

References

- Pawlik, E.A., Simon, R., Grubb, G., & Zeller, J. (1992). Aircrew coordination exportable training package (Vols. I, II, & III). Wilmington, MA: Dynamics Research Corporation.
- Department of the Army. (1992, May). Aircrew training program: Commander's guide to individual and crew training (TC 1-210). Washington, D.C.: Author.
- Department of the Army. (1993, March). Aircrew training manual observation helicopter, OH-58A/C and OH-6 aviator/aeroscout observer (TC 1-215). Washington, D.C.: Author.

Appendix A

Scenario Materials

<u>A-1: IFR Training Scenario Number 4</u>	A-3
Instructor Script	A-5
Flight Weather Briefing	A-7
<u>A-2: Scenario 1 (ACFT)</u>	A-9
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<u>A-3: Scenario 2 (ACFT)</u>	A-31
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Appendix A-1

IFR Training Scenario Number 4

IFR TRAINING SCENARIO NUMBER 4
2B24 FS

SITUATION:

In an AH64, OH58, UH60, or UH1 SFTS; equipped as follows: FM, VHF, and UHF communications radios; 4096 3/A Transponder; All normal flight instruments; All navigation equipment installed IAW the current operators manual; Aircrew selected IAW the listed references; Attached weather briefing, notam briefing, and weight and balance data; Use the actual weight and balance, PPC information, weather, and notam briefings when conducting this mission in the aircraft.

MISSION:

Plan for and execute an IFR flight from GUU to the destination listed on the top of the weather briefing to pick up a small package for the commander and return IFR to OZR, then proceed VFR to GUU. The attached weather and notam briefings will be used ONLY for SFTS missions or practice planning exercises. Actual weather and notam briefings will be used when operating the aircraft.

EXECUTION:

Flight planning--accomplish the attached list of flight planning base tasks IAW the listed references; Flight--accomplish the attached list of flight base tasks IAW the listed references; Limitations--This mission will be accomplished with an actual weather and notam briefing when conducted in the aircraft. When flying the SFTS, the operator will program the information from the attached weather and notam briefings, and the computed PPC and 365-F for maximum training benefit; For all flights conducted in the aircraft, the PC is responsible for the compliance with regulations and DOD FLIP.

SERVICE AND SUPPORT:

Refuel as necessary when and where appropriate IAW the listed references; Insure that the fuel planning requirements of the listed references are complied with.

COMMAND AND SIGNAL:

The PC conducting this mission is the approving authority and assumes the responsibilities as described in AR 95-1; The current FLIP will be used to obtain communication and navigation radio frequencies.

REFERENCES:

AR 95-1, FAR, FM 1-240, GP, AP, FIHB, ATM, AIM, DOD FLIP, Operators manual, Operators manual checklist.

ABBREVIATIONS:

OZR-CAIRNS, MAI-MARIANNA, TLH-TALLAHASSEE, TOI-TROY, MGM-MONTGOMERY, LSF-LAWSON FIELD, CSG-COLUMBUS, CEW-CRESTVIEW, 79J-ANDALUSIA, LOR-LOWE, HEY-HANCHEY, GUU-GUTHRIE, IJO-TRI-COUNTY

FLIGHT WEATHER BRIEFING

PART I - MISSION / TAKEOFF DATA

DATE TODAY	ACFT TYPE/NO. RW / 12345	DEP PT/ETD GUU / NOW z	RUNWAY TEMP +40 °F/C	DEWPOINT +19 °F/C	TEMP DEV °C	PRESSURE ALT +1000 FT	DENSITY ALT FT
SFC WIND 2910	M T	CLIMB WINDS NA	LOCAL WEA WRNG/MET WATCH ADV NONE			RCR NA	
REMARKS/TAKEOFF ALTN FCST NONE							

PART II - ENROUTE DATA

FLT LEVEL 10-80	FLT LEVEL WINDS/TEMP 10-3010+38 20 3010+36 30 3115+35 40 3215+31 50 3215+28 60 3320+25 70 3320+23 80 3225+21						
CLOUDS AT FLT LEVEL <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> IN AND OUT			MINIMUM VISIBILITY AT FLT LEVEL OUTSIDE CLOUDS 1 MILES DUE TO <input type="checkbox"/> SMOKE <input type="checkbox"/> DUST <input type="checkbox"/> HAZE <input type="checkbox"/> FOG <input checked="" type="checkbox"/> PRECIPITATION <input type="checkbox"/> NO OBSTRUCTION				
MINIMUM CEILING 05 FT AGL	LOCATION RTE	MAXIMUM CLOUDS TOPS 80 FT MSL	LOCATION RTE	MINIMUM FREEZING LEVEL 200 FT MSL	LOCATION RTE		
THUNDERSTORMS	TURBULENCE		ICING		PRECIPITATION		
MWA/WW NO. MB59A	CAT ADVISORY 071515Z z		NONE X		NONE		
<input checked="" type="checkbox"/> ISOLATED 1-2%	LIGHT	<input checked="" type="checkbox"/> IN CLEAR	<input checked="" type="checkbox"/> IN CLOUD	TRACE		LT	<input checked="" type="checkbox"/> RAIN
<input type="checkbox"/> FEW 3-15%	MOD		<input checked="" type="checkbox"/> IN CLOUD	LIGHT		MOD	
<input type="checkbox"/> SCATTERED 16-45%	SVR			MOD		HVY	
<input type="checkbox"/> NUMEROUS - MORE THAN 45%	EXTREME			SVR		SHWRS	<input checked="" type="checkbox"/> RAIN
HAIL, SVR, TURB, SEVERE, ICING, PRECIPITATION AND LIGHTNING EXPECTED IN AND NEAR TSTMS.	LEVELS SUF -50	LEVELS		FRZG			
LOCATION RTE--TOPS 400	LOCATION RTE	LOCATION		LOCATION RTE			

PART III - TERMINAL FORECASTS

AIRDROME	CLOUD LAYERS	VSBY/WEA	SFC WIND	ALTIMETER	VALID TIME
DEST/ALTN *	04SCT 05BKN 100VC	½RW	3010	2991 INS	ETA z to +1:00 z
DEST/ALTN **	08SCT 10BKN 150VC	2R-	2910	2992 INS	ETA z to +1:00 z
DEST/ALTN ***	08SCT 10BKN 150VC	1½R-	3010	2993 INS	ETA z to +1:00 z
DEST/ALTN **	INTERMITTENT 08BKN	1RW		INS	z TO z
DEST/ALTN *	TLH, LSF, CSG			INS	z TO z
DEST/ALTN **	CEW, TOI, MGM, 79J			INS	z TO z
DEST/ALTN ***	MAI, LOR, HEY, OZR			INS	z TO z
DEST/ALTN				INS	z TO z

PART IV - COMMENTS / REMARKS

BRIEFED ON LATEST RCR FOR DESTN AND ALTN <input type="checkbox"/> YES <input checked="" type="checkbox"/> NOT AVAILABLE	REQUEST PIREP AT SIG WX
PMSV 128.8 344.6	

PART V - BRIEFING RECORD

WEA BRIEFED NOW z	FLIMSY BRIEFING NO. 060	FORECASTER'S SIGNATURE OR INITIALS BM
VOID TIME 1+30 z	EXTENDED TO NA z	WEA REBRIEFED AT NOW z
FORECASTER'S INIT RM		NAME OF PERSON RECEIVING BRIEFING YOU

ATC RADIO CALL FORMAT			
CLEARANCE (CAIRNS CLR DEL. R-11111, IFR TO _____ OVER.)			
ACFT ID:			
CLEARANCE LIMIT TO:			
DEP PROC: OR SID:			
ROUTE OF FLIGHT:			
ALTITUDE DATA:		EXPECT:	MIN AFTER
HOLDING INSTR:			
SPECIAL INFO:	ALTIMETER:	WINDS:	SQUAWK
CONTACT FREQ AND BEACON INFO:			
HOVER/TAXI INSTR (OZR CRD. R-11111 ON A- , FOR HOVER TO PAD, IFR TO , OVER			
HOVER TO OR SHORT OF:		CONTACT:	
WINDS:		ALTIMETER:	
TOUER/DEP INSTR (OZR TUR, R-11111, SHORT OF , READY FOR T/O, IFR TO , OVER			
RUNWAY IN USE:		CLEARED ON:	(LANE OR PAD)
SURFACE WINDS:		ALTIMETER:	
TIME (WHEN REQUESTED)			
CEILING AND VISIBILITY:			
APPROACH CLEARANCE:			
CLEARED FOR (APPROACH)		CIRCLE TO RUNWAY:	
CONTACT TOWER ON:		MISSED APPROACH INSTR:	
HOLDING INSTRUCTIONS			
HOLD (DIRECTION)		HOLDING FIX:	
RADIAL, BEARING, COURSE TO, AIRWAY:			
TURNS:			
EAC OR EFC:			
TERMINAL INFORMATION:			
EXPECT TYPE APPROACH		RUNWAY IN USE	
WINDS		CEILING AND VISIBILITY:	
ALTIMETER:			

Appendix A-2
Scenario 1 (ACFT)

INSTRUCTOR SCRIPT
OH-58 SCENARIO #1
(ACFT)

PLAYERS:

S-3 (BENGAL OSCAR)	-	TRENT
ARTY (REDLEG 06)	-	TRENT
LT TM LEAD (T-26)	-	TRENT
HVY TM (T-25)	-	TRENT
MANEUVER CDR (BLACKNIGHT 06)	-	TRENT
FIRING BTRY (REDLEG 10)	-	NICK
HVY TM LEAD (T-06)	-	NICK
LT TM (T-27)	-	NICK
GROUND CDR (GRUNT 06)	-	NICK

-
1. AFTER COMM CHECK BENGAL OSCAR ADVISES T-06 TO HAVE SCOUTS MOVE ALONG ROUTE GOLD TO RECON HA JILL AND EST. COMMS WITH GRUNT 06. PROVIDE INTEL UPDATES TO BENGAL OSCAR FROM JILL.
 2. AFTER 5 MIN. IN HA JILL GRUNT 06 CONTACTS T-14 AND ADVISES ENEMY ARMOR PENETRATING FLOT VCNTY OF FK 730264 MOVING WEST ON HWY. BLACKNIGHT ELEMENTS ARE IN DEFENSE PROVIDING DELAY. ESTIMATE ARMOR TO REACH EA DEATH IN APPROX. 40 MIN..
 3. AFTER INTEL UPDATE IS SENT TO BENGAL OSCAR HE ADVISES T-06 TO MOVE ROUTE GOLD, BYPASS HA JILL THEN ROUTE BLUE TO HA SUE.
 4. BENGAL OSCAR ADVISES T-14 TO MOVE ROUTE BLUE TO RECON HA SUE. AWAIT LINK-UP WITH TOMAHAWK GUNS IN SUE. (TELL SCOUTS TO LAND AT HA SUE FOR FACE TO FACE WITH BLACKNIGHT LIASON.)
 5. ONCE ARRIVAL AT RT-157 ALLOW SCOUTS TO LAND. NO ONE WILL BE THERE TO MEET THEM SO THEY SHOULD T/O AND CONTACT GRUNT 06. GRUNT 06 TELLS T-14 THAT LIASON COULDN'T MAKE IT. CONTACT BLACKNIGHT 06 THIS NET NOW.
 6. T-26 CALLS 5 MIN. OUT OF HA SUE.
 7. BLACKNIGHT 06 SENDS SPOT REPORT:
S - ARMOR BN (T-64/72, ZSU-23-4, BMP2)
A - COMBAT FORMATION MVG WEST AT 5mph
L - FK 705 260
T - CURRENT TIME

9. T-06 SAYS HE MONITORED TRANSMISSION FROM BLACKNIGHT.
TELL SCOUTS T-06 AND RECON BP-21 AND CALL CLEAR.
10. ONCE THE GUNS ARRIVE IN THE BP T-26 CALLS FOR FFE MISSION
ON LEAD ARMOR ELEMENTS AT FK --- ---.
(AT THE INSTRUCTORS DESCRETION HE WILL CALL OUT SMALL
ARMS FIRE OR ENEMY VEHICLE TO INITIATE TARGET HANDOVER)
10. AFTER APPROX. 10 MIN IN BP. T-06 REQUESTS FARM. (ALL "T"
ELEMENTS CALL BINGO IN ORDER) T-06 CALL EGRESS. TELL
SCOUTS TO FIRE ARTY SERIES. TELL T-14 TO CONTACT
BLACKNIGHT 06 AND ADVISE EGRESS.
11. T-06 CALL BENGAL OSCAR TO ADVISE OF SITUATION. BENGAL
OSCAR ADVISES T-06 TO MOVE WITH SCOUTS TO FAA ORANGE
FOR FRAGO.

* END OF MISSION *

AIR MISSION BRIEFING
OH-58 SCENERIO #1
(DELIBERATE ATTACK)

OPORD 24-1

REF: AO DRAGON MAP

TASK ORGANIZATION

<u>POSITION</u>	<u>CREW</u>	<u>ACFT</u>	<u>CALL SIGN</u>
SCOUT #1	HALL/BOWLING(EVANS)	TBD	KILLER 39
SCOUT #2	GARDNER/JONES	TBD	WARLORD 55
LT TM LEAD			TOMAHAWK 26
GUN #2			TOMAHAWK 27
HVY TM LEAD			TOMAHAWK 06
GUN #4			TOMAHAWK 25
GUN #5			TOMAHAWK 21

1. SITUATION

a. ENEMY: UNIDENTIFIED ENEMY TANK REGIMENT CONSISTING OF T-72, T-64, ZSU23-4, AND BMP 1'S HAVE CONSOLIDATED NEAR THE TOWN OF MALONE ALONG THE FLOT. INTEL REPORTS ENEMY RECON ELEMENTS HAVE BEEN OBSERVED TRYING TO PENETRATE THE FLOT IN THE 2nd BDE SECTOR WEST OF MALONE ALONG HWY 2. ARMOR FORCES ARE CONSOLIDATING ALONG THE FLOT AND ARE BELIEVED TO BE PREPARING FOR A PUSH INTO THE 2nd BDE SECTOR IN THE VICINITY OF FK660250 THEN TURNING NORTH INTO 1st BDE SECTOR TOWARD THE OBJECTIVE OF COTTONWOOD.

b. FRIENDLY: A CO. IS OPCON TO 2nd BDE. 2nd BDE IS IN A DEFENSIVE POSTURE IN THE SOUTHERN DIVISION SECTOR. 1st BDE IS PREPARING FOR COUNTER ATTACK IN THE NORTHERN DIVISION SECTOR.

c. ATTACHMENTS/DETACHMENTS: NONE

d. WEATHER: REAL WORLD

(1) CURRENT:

(2) FORECAST:

(3) SPECIAL CONSIDERATION:

2. MISSION:

O/O A CO. SCOUTS WILL DEPART FAA ORANGE ALONG ROUTE GOLD TO RECON HA BLUE AND ESTABLISH COMMUNICATIONS WITH 2nd BDE. SCOUT LEAD WILL PROVIDE BENGAL 03 WITH INTEL UPDATES FROM HA JILL. O/O A CO. GUNS WILL DEPART FAA ORANGE ALONG ROUTE GOLD THEN ROUTE BLUE TO HA SUE. O/O A CO. WILL OCCUPY BP 21 OR BP 22 TO CONDUCT A DELIBERATE ATTACK IN SUPPORT OF 2nd BDE INTO EA DEATH. ONCE IN 2nd BDE SECTOR, ALL LEAD ELEMENTS WILL CONTACT GRUNT 06 WHEN CROSSING ALL PHASE LINES. RETURN

TO FAA ORANGE ALONG ROUTE BLUE THEN GOLD TO REARM AND REFUEL AS DIRECTED.

3. EXECUTION:

a. CONCEPT OF OPERATION: A CO. WILL PROVIDE DEFENSIVE FIRES FOR 2nd BDE FROM BP 21 OR BP 22. SCOUTS WILL PRECEDE GUNS TO ESTABLISH COMMUNICATIONS WITH GRUNT 06. SCOUTS AND GUNS WILL LINK UP AT HA SUE.

(1) SCHEME OF MANEUVER: GROUND UNITS IN DEFENSIVE POSITIONS ALONG FLOT.

(2) FIRES AND CLOSE AIR SUPPORT: PRIORITY OF FIRES TO 2nd BDE AND SUPPORTING ELEMENTS IN CONTACT. A BTRY, 2/45 FA (FK 558185) IS DS TO 2nd BDE WITH 155 MM SP HOWITZERS. CALLS FOR FIRE SHOULD BE SENT THROUGH ARTY FM 50.15.

(3) SUPPRESSION OF ENEMY ADA: ORGANIC

b. COORDINATING INSTRUCTIONS:

(1) ACTIONS ON CONTACT: PER SOP

(2) TIMES:

(a) REPORT: 1245
(b) STARTUP: 1420
(c) RELEASE: 1730

(3) REPORT ALL PHASE LINES.

c. FLIGHT COORDINATION:

(1) AIR ROUTES AND COORIDORS: SEE OVERLAY

(2) AIR CONTROL POINTS, RALLY POINTS. SEE OVERLAYS.

(3) HA'S, PHASE LINES, BATTLE POSITIONS: SEE OVERLAYS.

(4) MODES OF FLIGHT: SOP

(a) COORDINATING ALTITUDE: 200' AGL

(5) MOVEMENT TECHNIQUE OF FORMATION: COMBAT CRUISE

(6) INADVERTENT IMC BREAKUP: SOP

(7) SERE: SOP

d. SPECIAL MISSION EQUIPMENT:

(1) AMMUNITION: SCOUTS - 2 STINGER MISSILES
GUNS - 8 HELLFIRE, 1200 30MM, 38 HE 2.75
30 CHAFF

(2) FUEL: 450 LBS (SCOUT)
2400 LBS (GUN)

(3) MOPP: 0

(4) DEBRIEFING TIME/PLACE: 1100/FAA ORANGE

4. SERVICE SUPPORT:

a. SUPPLY:

(1) CLASS I: ORANGE

(2) CLASS III: ORANGE

(3) CLASS V: ORANGE (EXXON), JILL (TEXACO) FOR OH ONLY.

b. SERVICES AND TRANSPORTATION:

(1) LOCATION OF CONTACT TEAMS: JILL

(2) DOWNED AIRCRAFT RECOVERY PROCEDURES: SOP

c. MEDICAL AND PERSONNEL SERVICES:

AIR-GROUND MEDEVAC PROCEDURES: SOP

5. COMMAND AND SIGNAL:

a. COMMAND:

(1) CHAIN OF COMMAND: HVY TM LEAD, LT TM LEAD, SCOUT LDR

(2) LOCATION OF FLIGHT OPS: FAA ORANGE

b. SIGNAL:

(1) SOI IN EFFECT: DAY 04

(2) IFF CODES: PRE-LOADED (IFF ON LINE SP BLUE)

(3) LOST COMMO PROCEDURES: SOP

(4) TACTICAL AIR AND JAAT FREQS: COMM CARD

(5) INTERNAL FREQS: COMM CARD

(6) TIME HACK: CURRENT TIME

(7) ARTILLERY: COMM CARD

(8) GROUND CDR: COMM CARD

WHAT ARE YOUR QUESTIONS

EVALUATOR WORKSHEET
OH-58 SCENARIO #1 (AIRCRAFT)

SEGMENT 1: Prepermission planning

DESCRIPTION: The prepermission planning segment begins when the crew receives the mission briefing and includes all preparatory tasks associated with planning the tactical mission. These tasks include terrain flight mission planning, performance planning, assigning crew member responsibilities, and all required briefings and brief-backs. The segment ends when the crew completes all required briefings and prepares to begin aircraft preflight inspection.

TASK 1033 Perform terrain flight mission planning

GRADE S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1004 Prepare DA Form 5701-R (OH-58 Performance Planning Card)

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1000 Conduct crew mission briefing

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

AIRCREW COORDINATION BASIC QUALITIES

1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR
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OH-58 SCENARIO #1 (AIRCRAFT)

SEGMENT 2: Movement from the forward assembly area (FAA) to initial HA

DESCRIPTION: The segment includes aircraft preflight inspection, start, run-up, and hover checks prior to departing home base. During this segment, the crew departs the administrative area (Cairns) using required corridors and navigates to the initial holding area (HA Jill). Crew reconnoiters the holding area and coordinates with battalion operations for further instructions. The segment ends when the crew is directed to proceed to HA Sue.

TASK 1005 Perform preflight inspection

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1007 Perform engine-start, run-up, hover, and before-takeoff/landing checks and after-landing tasks

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1016 Perform hover power check

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

AIRCREW COORDINATION BASIC QUALITIES

1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR
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OH-58 SCENARIO #1 (AIRCRAFT)

SEGMENT 2: (Continued)

TASK 1017	Perform hovering flight
GRADE:	S+ S S- U Basic Qualities: __, __
NOTES:	

TASK 1018	Perform normal takeoff
GRADE:	S+ S S- U Basic Qualities: __, __
NOTES:	

TASK 1023	Perform fuel management
GRADE:	S+ S S- U Basic Qualities: __, __
NOTES:	

TASK 1079	Perform radio communications
GRADE:	S+ S S- U Basic Qualities: __, __
NOTES:	

AIRCREW COORDINATION BASIC QUALITIES												
1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR

OH-58 SCENARIO #1 (AIRCRAFT)

SEGMENT 2: (Concluded)

TASK 2009	Perform multi-aircraft operations									
GRADE:	S+	S	S-	U	Basic Qualities: _____, _____					
NOTES:										

TASK 2061	Reconnoiter and recommend a holding area									
GRADE:	S+	S	S-	U	Basic Qualities: _____, _____					
NOTES:										

AIRCREW COORDINATION BASIC QUALITIES												
1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR

OH-58 SCENARIO #1 (AIRCRAFT)

SEGMENT 3: Movement from the initial HA to successive HA

DESCRIPTION: The segment begins when the crew departs HA Jill. During this segment, the crew navigates from HA Jill to HA Sue, lands in HA Sue, and receives "face-to-face" mission update from unit operations. The segment ends when the crew completes final coordination of mission details and is in position ready for takeoff from the HA.

TASK 1035 Perform terrain flight

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1023 Perform fuel management

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1025 Navigate by pilotage and dead reckoning

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

AIRCREW COORDINATION BASIC QUALITIES

1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR
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OH-58 SCENARIO #1 (AIRCRAFT)

SEGMENT 3 (Concluded):

TASK 1038	Perform terrain flight approach										
GRADE:	S+	S	S-	U	Basic Qualities: __, __						
NOTES:											

TASK 1036	Perform hover OGE check										
GRADE:	S+	S	S-	U	Basic Qualities: __, __						
NOTES:											

TASK 2009	Perform multi-aircraft operations										
GRADE:	S+	S	S-	U	Basic Qualities: __, __						
NOTES:											

AIRCREW COORDINATION BASIC QUALITIES												
1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR

OH-58 SCENARIO #1 (AIRCRAFT)

SEGMENT 4: Movement from the HA to the initial Battle Position (BP)

DESCRIPTION: The segment begins when the crew departs the HA enroute to the BP. During this segment, the crew navigates from the HA to the initial BP, encounters enemy ground fire, takes appropriate evasive action, and hands off target to accompanying attack aircraft. The segment ends when the crew arrives at the initial BP.

TASK 1034 Perform terrain flight takeoff

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1035 Perform terrain flight

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1025 Navigate by pilotage and dead reckoning

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

AIRCREW COORDINATION BASIC QUALITIES

1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR
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OH-58 SCENARIO #1 (AIRCRAFT)

SEGMENT 4: (Continued)

TASK 1023	Perform fuel management procedures				
GRADE:	S+	S	S-	U	Basic Qualities: ___ , ___
NOTES:					

TASK 2009	Perform multi-aircraft operations				
GRADE:	S+	S	S-	U	Basic Qualities: ___ , ___
NOTES:					

TASK 1095	Operate aircraft survivability equipment				
GRADE:	S+	S	S-	U	Basic Qualities: ___ , ___
NOTES:					

TASK 2008	Perform evasive maneuvers				
GRADE:	S+	S	S-	U	Basic Qualities: ___ , ___
NOTES:					

AIRCREW COORDINATION BASIC QUALITIES												
1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR

OH-58 SCENARIO #1 (AIRCRAFT)

SEGMENT 4: (Concluded)

TASK 1096	Perform actions on contact
GRADE:	S+ S S- U Basic Qualities: __, __
NOTES:	

TASK 1093	Perform techniques of movement
GRADE:	S+ S S- U Basic Qualities: __, __
NOTES:	

TASK 2054	Perform target handover to an attach helicopter
GRADE:	S+ S S- U Basic Qualities: __, __
NOTES:	

AIRCREW COORDINATION BASIC QUALITIES												
1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR

OH-58 SCENARIO #1 (AIRCRAFT)

SEGMENT 5: Battle position (BP) operations

DESCRIPTION: The segment begins when the crew arrives at the initial BP. During this segment, the crew reconnoiters the BP, acquires targets, conducts target handover, and calls for artillery fire. The segment ends when the crew departs the BP to return to the FAA.

TASK 1023 Perform fuel management procedures
 GRADE: S+ S S- U Basic Qualities: __, __
 NOTES:

TASK 1090 Perform masking and unmasking
 GRADE: S+ S S- U Basic Qualities: __, __
 NOTES:

TASK 1092 Transmit a tactical report
 GRADE: S+ S S- U Basic Qualities: __, __
 NOTES:

AIRCREW COORDINATION BASIC QUALITIES												
1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR

OH-58 SCENARIO #1 (AIRCRAFT)

SEGMENT 5: (Concluded)

TASK 2020	Call for and adjust indirect fire													
GRADE:	S+	S	S-	U	Basic Qualities:								___,	___
NOTES:														

TASK 2040	Select a combat position													
GRADE:	S+	S	S-	U	Basic Qualities:								___,	___
NOTES:														

TASK 2054	Perform target handover to an attack helicopter													
GRADE:	S+	S	S-	U	Basic Qualities:								___,	___
NOTES:														

AIRCREW COORDINATION BASIC QUALITIES												
1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR

OH-58 SCENARIO #1 (AIRCRAFT)

SEGMENT 6: Movement from the BP to the FAA

DESCRIPTION: The segment begins as the crew departs the BP enroute to the FAA (Orange). The segment includes an inadvertent IMC unexpected event while navigating from the BP to the FAA. The segment ends when the crew completes VHIRP.

TASK 1034 Perform terrain flight takeoff

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1035 Perform terrain flight

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1023 Perform fuel management procedures

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

AIRCREW COORDINATION BASIC QUALITIES

1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR
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OH-58 SCENARIO #1 (AIRCRAFT)

SEGMENT 6: (Concluded)

TASK 1025	Navigate by pilotage and dead reckoning													
GRADE:	S+	S	S-	U	Basic Qualities:								___,	___
NOTES:														

TASK 1083	Perform or describe inadvertent IMC procedures/VHIRP													
GRADE:	S+	S	S-	U	Basic Qualities:								___,	___
NOTES:														

AIRCREW COORDINATION BASIC QUALITIES												
1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR

Appendix A-3
Scenario 2 (ACFT)

INSTRUCTOR SCRIPT
OH-58 SCENERIO #2
(ACFT)

PLAYERS:

S-3 (BENGAL OSCAR)	-	NICK
ARTY (BANGER 06)	-	NICK
LT TM LEAD (K-46)	-	NICK
HVY TM (K-41)	-	NICK
UN CDR (MERCURY 30)	-	NICK
FIRING BTRY (BANGER 10)	-	TRENT
HVY TM LEAD (K-06)	-	TRENT
LT TM (K-27)	-	TRENT

-
1. AFTER COMM CHECK BENGAL X-RAY TELL WARLORD 55 TO CALL OFF WHEN DEPARTING AA PEACH. ALSO CALL ALL SP/RP/ACF AND ARRIVAL AT FSR.
 2. WHEN JUST SHORT OF ACP 2 BENGAL X-RAY TELL WARLORD 55 TO LAND AT FK 598 415 FOR A FACE-TO-FACE WITH UN LIASON TO RECIEVE FRAGO. (WARLORD 55 SHOULD ASK FOR AUTHENTICATION)
 3. AT RT-174 TRENT GETS OUT OF AIRCRAFT AND MEETS WITH W-55 AND GIVES THE FOLLOWING FRAGO:

BN SIZE SPECIAL OPS TROUPS WERE INSERTED ACROSS FRIENDLY LINES VCNTY TOWN OF FADETTE. INTEL REPORTS THEIR OBJ IS THE TOWN OF GRACEVILL. MISSION IS TO SET UP SCREEN LINE NORTH OF TOWN. KILLER SPADE ELEMENTS WILL LINK UP ON SCREEN. SELECT COMBAT POSITIONS ALONG SCREEN. ARTY IS AVAIL FROM BANGER 06 ON 50.15(RED) WITH 155SP AT FK 445 265. ONCE SCREEN IS ESTABLISHED CONTACT MERCURY 06 AND PROVIDE INTEL UPDATES ON FM #1 SECURE.
 4. AFTER GUNS ARRIVE ON SCREEN INSTRUCTORS ENSURE TARGET HANDOVERS ARE DONE AS WELL AS CFF.
 5. AFTER ALL TASKS ARE COMPLETE, MERCURY 06 ADVISES HIS UN TROOPS BECAME DECISIVELY ENGAGED ALONG HWY 103. UN FORCES TOOK HEAVY CASUALTIES. APPROX 75% OF ENEMY BN WAS CAPTURED. 25% KIA. THANKS FOR ASSISTANCE. GO HOME!
 6. KILLER SPADE 06 TELLS W-55 TO LEAD ALL ELEMENTS OFF SCREEN AND PROCEDE DIRECT TO RP SILVER ENROUTE TO AA PEACH.

* END OF MISSION *

OH-58 SCENERIO #2
(AIR ROUTE RECON)

OPORD 25-1

REF: AO DRAGON MAP

TASK ORGANIZATION

<u>POSITION</u>	<u>CREW</u>	<u>ACFT</u>	<u>CALL SIGN</u>
SCOUT #1	GARDNER/JONES	TBD	WARLORD 55
SCOUT #2	HALL/BOWLING/EVANS	TBD	KILLER 39
GUN #1			KILLER 41

1. SITUATION

a. ENEMY: NO ENEMY ACTIVITY IS PRESENT OR SUSPECTED IN OR NEAR THE AREA OF OPERATIONS.

b. FRIENDLY: NATO AS WELL AS HOST NATION FORCES ARE OPERATING THROUGHOUT THE ENTIRE AREA OF OPERATION.

c. ATTACHMENTS/DETACHMENTS: NONE

d. WEATHER: REAL WORLD

(1) CURRENT:

(2) FORECAST:

(3) SPECIAL CONSIDERATION:

2. MISSION:

O/O TEAM RECON WILL DEPART AA PEACH ALONG ROUTE SILVER TO CONDUCT AN AIR ROUTE RECON OF ROUTE AMBER IN SUPPORT OF FUTURE AIR MOVEMENTS OF SUPPLIES INTO USMC FSR LOCATED AT FK 845276. UPON COMPLETION OF RECON, REFUEL AND RETURN TO AA PEACH ALONG ROUTE AMBER AND SILVER.

3. EXECUTION:

a. CONCEPT OF OPERATION: TEAM RECON WILL CONDUCT DETAILED ROUTE RECON OF ROUTE AMBER TO INCLUDE ALL HAZARDS TO FLIGHT AS WELL AS POSSIBLE LANDING ZONES.

(1) SCHEME OF MANEUVER: N/A

(2) FIRES AND CLOSE AIR SUPPORT: NONE

(3) SUPPRESSION OF ENEMY ADA: ORGANIC

b. COORDINATING INSTRUCTIONS:

(1) ACTIONS ON CONTACT: PER SOP

(2) TIMES:

(a) REPORT: 1245
(b) STARTUP: 1420
(c) RELEASE: 1730

(3) REPORT ALL ACP'S.

c. FLIGHT COORDINATION:

(1) AIR ROUTES AND COORIDORS: SEE OVERLAY

(2) AIR CONTROL POINTS, RALLY POINTS. SEE OVERLAYS.

(3) HA'S, PHASE LINES, BATTLE POSITIONS: N.A

(4) MODES OF FLIGHT: SOP

(a) COORDINATING ALTITUDE: NO RESTRICTIONS

(5) MOVEMENT TECHNIQUE OF FORMATION: AS NEEDED

(6) INADVERTENT IMC BREAKUP: HOST NATION VIHRP

(7) SERE: SOP

d. SPECIAL MISSION EQUIPMENT:

(1) AMMUNITION: SCOUTS - NONE
GUNS - 8 HELLFIRE, 1200 30MM, 38 HE 2.75
30 CHAFF

(2) FUEL: 450 LBS (SCOUT)
2400 LBS (GUN)

(3) MOPP: 0

(4) DEBRIEFING TIME/PLACE: 1100/AA PEACH

4. SERVICE SUPPORT:

a. SUPPLY:

(1) CLASS I: PEACH

(2) CLASS III: PEACH

(3) CLASS V: PEACH (CONOCO), USMC FSR

b. SERVICES AND TRANSPORTATION:

(1) LOCATION OF CONTACT TEAMS: PEACH

(2) DOWNED AIRCRAFT RECOVERY PROCEDURES: SOP

c. MEDICAL AND PERSONNEL SERVICES:

AIR-GROUND MEDEVAC PROCEDURES: KRANKENWAGON

5. COMMAND AND SIGNAL:

a. COMMAND:

- (1) CHAIN OF COMMAND: KILLER 35, TOMAHAWK 14, KILLER 41
- (2) LOCATION OF FLIGHT OPS: AA PEACH

b. SIGNAL:

- (1) SOI IN EFFECT: DAY 05 .
- (2) IFF CODES: PRE-LOADED
- (3) LOST COMMO PROCEDURES: ICAO
- (4) TACTICAL AIR AND JAAT FREQS: COMM CARD
- (5) INTERNAL FREQS: COMM CARD
- (6) TIME HACK: CURRENT TIME
- (7) ARTILLERY: N/A
- (8) GROUND CDR: N/A

WHAT ARE YOUR QUESTIONS

EVALUATOR WORKSHEET
OH-58 SCENARIO #2 (AIRCRAFT)

SEGMENT 1: Prepermission planning

DESCRIPTION: The prepermission planning segment begins when the crew receives the mission briefing and includes all preparatory tasks associated with planning the tactical mission. These tasks include terrain flight mission planning, performance planning, assigning crew member responsibilities, and all required briefings and brief-backs. The segment ends when the crew completes all required briefings and prepares to begin aircraft preflight inspection.

TASK 1033 Perform terrain flight mission planning

GRADE S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1004 Prepare DA Form 5701-R (OH-58 Performance Planning Card)

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1000 Conduct crew mission briefing

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

AIRCREW COORDINATION BASIC QUALITIES

1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR
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OH-58 SCENARIO #2 (AIRCRAFT)

SEGMENT 2: Movement from the assembly area (AA) to designated check point

DESCRIPTION: The segment includes aircraft preflight inspection, start, run-up, and hover checks prior to departing home base. During this segment, the crew departs the administrative area (Cairns) using required corridors and navigates to designated check point along Route Amber. The segment ends while reconnoitering the route when the crew receives a mission change from unit operations and lands to receive mission information.

TASK 1005 Perform preflight inspection

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1007 Perform engine-start, run-up, hover, and before-takeoff/landing checks and after-landing tasks

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1016 Perform hover power check

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

AIRCREW COORDINATION BASIC QUALITIES

1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR
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OH-58 SCENARIO #2 (AIRCRAFT)

SEGMENT 2: (Continued)

TASK 1017	Perform hovering flight
GRADE:	S+ S S- U Basic Qualities: __, __
NOTES:	

TASK 1018	Perform normal takeoff
GRADE:	S+ S S- U Basic Qualities: __, __
NOTES:	

TASK 1023	Perform fuel management
GRADE:	S+ S S- U Basic Qualities: __, __
NOTES:	

TASK 1079	Perform radio communications
GRADE:	S+ S S- U Basic Qualities: __, __
NOTES:	

AIRCREW COORDINATION BASIC QUALITIES												
1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR

OH-58 SCENARIO #2 (AIRCRAFT)

SEGMENT 2: (Concluded)

TASK 2009	Perform multi-aircraft operations											
GRADE:	S+	S	S-	U	Basic Qualities: ___,							___
NOTES:												

TASK 2067	Perform an area reconnaissance											
GRADE:	S+	S	S-	U	Basic Qualities: ___,							___
NOTES:												

TASK 1038	Perform terrain flight approach											
GRADE:	S+	S	S-	U	Basic Qualities: ___,							___
NOTES:												

AIRCREW COORDINATION BASIC QUALITIES												
1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR

OH-58 SCENARIO #2 (AIRCRAFT)

SEGMENT 3: Movement from designated check point to initial BP

DESCRIPTION: The segment begins when the crew receives the mission change. During this segment, the crew plans the new mission, navigates to the initial BP, reconnoiters the BP, acquires and hands off targets to attack helicopters, and calls for fire support. The segment ends when the crew departs the BP for the assembly area.

TASK 1034 Perform terrain flight takeoff

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1035 Perform terrain flight

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1025 Navigate by pilotage and dead reckoning

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

AIRCREW COORDINATION BASIC QUALITIES

1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR
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OH-58 SCENARIO #2 (AIRCRAFT)

SEGMENT 3 (Continued):

TASK 1023 Perform fuel management procedures

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1090 Perform masking and unmasking

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1092 Transmit a tactical report

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1093 Perform techniques of movement

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

AIRCREW COORDINATION BASIC QUALITIES												
1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR

OH-58 SCENARIO #2 (AIRCRAFT)

SEGMENT 3 (Concluded):

TASK 2020 Call for and adjust indirect fire

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 2040 Select a combat position

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 2054 Perform target handover to an attack helicopter

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 2063 Perform a security mission

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

AIRCREW COORDINATION BASIC QUALITIES												
1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR

OH-58 SCENARIO #2 (AIRCRAFT)

SEGMENT 4: Movement from the BP to the AA

DESCRIPTION: The segment begins as the crew departs the BP enroute to assembly area AA (Peach). The segment includes an inadvertent IMC unexpected event while navigating from the BP to the AA. The segment ends when the crew completes VHIRP.

TASK 1034 Perform terrain flight takeoff

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1035 Perform terrain flight

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

TASK 1023 Perform fuel management procedures

GRADE: S+ S S- U Basic Qualities: __, __

NOTES:

AIRCREW COORDINATION BASIC QUALITIES

1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR
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OH-58 SCENARIO #2 (AIRCRAFT)

SEGMENT 4: (Concluded)

TASK 1025 Navigate by pilotage and dead reckoning
 GRADE: S+ S S- U Basic Qualities: __, __
 NOTES:

TASK 1083 Perform or describe inadvertent IMC procedures/VHIRP
 GRADE: S+ S S- U Basic Qualities: __, __
 NOTES:

AIRCREW COORDINATION BASIC QUALITIES

1. CREW CLI- MATE	2. PLAN RE- HEARS	3. DECI- SION TECH	4. WORK- LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR
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Appendix B

Grade Slips

B-1:	Battle Rostered Crew Evaluation/ Training Grade Slip (DA Form 7121-R)	B-3
B-2:	Aircrew Coordination Training Grade Slip	B-7

Appendix B-1

Battle Rostered Crew Evaluation/Training
Grade Slip (DA Form 7121-R)

Appendix B-2

Aircrew Coordination Training Grade Slip

MANEUVER/PROCEDURE GRADE SLIP FOR OH-58/0H-6 AVIATORS

For use of this form, see Aircrew Coordination Exportable Training Package and TC 1-215

P _____ Date _____

CP/AO _____

Instructor or evaluator will sign in the first unused block of each area trained or evaluated

NO	STANDARDIZATION EVALUATION/ TRAINING TASKS	GR	NO	STANDARDIZATION EVALUATION/ TRAINING TASKS	GR
①	CREW MISSION BRIEFING		23	HOVERING AUTOROTATION	
②	VFR FLIGHT		24	SIMULATED ENGINE FAILURE, IGE HOVER	
③	IFR FLIGHT		25	SIMULATED ENGINE FAILURE AT ALTITUDE	
④	DD FORM 385-4		26	SIMULATED HYDRAULIC SYSTEM MALFUNCTION	
⑤	DA FORM 4887-R		27	STANDARD AUTOROTATION	
⑥	PREFLIGHT INSPECTION		28	AERIAL OBSERVATION	
⑦	ENG START, RUN, HOVER, BEFORE- T/O, LDG, AND AFTER-LDG TASKS		29	EMERGENCY PROCEDURES	
⑧	HOVER POWER CHECK		30	LOW-LEVEL AUTOROTATION	
⑨	HOVERING FLIGHT		31	LOW-LEVEL AND LOW-AIRSPED AUTOROTATION	
⑩	NORMAL TAKEOFF		32	STANDARD AUTOROTATION WITH TURN	
11	TRAFFIC PATTERN FLIGHT		33	INSTRUMENT TAKEOFF	
12	FUEL MANAGEMENT PROCEDURES		34	RADIO NAVIGATION	
13	EMERGENCY PROCEDURES NVG FAILURE		35	HOLDING PROCEDURES	
14	PILOTAGE AND DEAD RECKONING		36	UNUSUAL ATTITUDE RECOVERY	
15	VMC APPROACH		37	RADIO COMMUNICATION PROCEDURES	
16	SLOPE OPERATIONS		38	PROCEDURES FOR TWO-WAY RADIO FAILURE	
17	TERRAIN FLIGHT MISSION PLANNING		39	NONPRECISION APPROACH	
18	TERRAIN FLIGHT TAKEOFF		40	PRECISION APPROACH	
19	TERRAIN FLIGHT		41	INADVERTENT IMC PROCEDURES/ VHIRP	
20	HOVER OGE CHECK		42	MASKING AND UNMASKING	
21	NOE DECELERATION		43	TACTICAL COMMUNICATION PROCEDURES AND ECCM	
22	TERRAIN FLIGHT APPROACH		44	TACTICAL REPORT	

AIRCREW COORDINATION BASIC QUALITIES

1. CREW CLI- MATE	2. PLAN RE- HEARSE	3. DECL- SION TECH	4. WORK LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR
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AIRCREW COORDINATION TRAINING GRADE SLIP

MANEUVER/PROCEDURE GRADE SLIP FOR OH-58/OH-6 AVIATORS

NO	STANDARDIZATION EVALUATION/ TRAINING TASKS	GR	NO	STANDARDIZATION EVALUATION/ TRAINING TASKS	GR
45	TECHNIQUES OF MOVEMENT		69	AREA RECONNAISSANCE	
④6	MAJOR US/ALLIED AND THREAT EQUIPMENT IDENTIFICATION		70	-10 EXAM	
④7	AIRCRAFT SURVIVABILITY EQUIPMENT		71	ORAL EVALUATION	
④8	ACTIONS ON CONTACT				
④9	WIRE OBSTACLES				
⑤0	MARK XII IFF SYSTEM				
⑤1	SIMULATED ANTITORQUE MAL- FUNCTION (FIXED-PEDAL SETTING)				
52	PINNACLE OR RIDGELINE OPERATION				
53	FM RADIO HOMING				
54	EVASIVE MANEUVERS				
55	MULTIAIRCRAFT OPERATIONS				
56	RECONNOITER/RECOMMEND AN LZ/PZ				
57	ROUTE RECONNAISSANCE				
58	INDIRECT FIRE				
59	INSTALLATION AND LOADING OF WEAPONS				
60	PREFLIGHT INSPECTION OF WEAPON SYSTEM				
61	ATAS ENGAGEMENT				
62	WEAPON SYSTEMS (SAFE AND CLEAR)				
63	COMBAT POSITION		<p>NOTES:</p> <p>ENTER S+, S, S-, OR U IN GRADE BLOCK IF GRADE IS S- OR U DUE TO AIRCREW COORDINATION INCLUDE BASIC QUALITY NUMBER(S)</p> <p>LEGEND :</p> <p>○ STANDARDIZATION</p> <p>□ INSTRUMENT</p> <p>◇ NVG</p>		
64	TARGET HANDOVER TO ATTACK HELICOPTER				
65	HOLDING AREA RECON AND RECOMMENDATION				
66	SECURITY MISSION				
67	AERIAL RADIOLOGICAL SURVEY				
68	ZONE RECONNAISSANCE				

AIRCREW COORDINATION BASIC QUALITIES

	1. CREW CLIF- MATE	2. PLAN RE- HEARSE	3. DECL- SION TECH	4. WORK LOAD	5. UNEXP EVENTS	6. INFO XFER	7. SIT AWARE	8. COMM ACK	9. INFO SOUGHT	10. CROSS MON- ITOR	11. INFO OF- FERED	12. ADVOC/ ASSERT	13. AAR
G R A D E													

Appendix C

Exit Interviews

C-1:	OH-58 Instructor/Evaluator Exit Interview Recapitulation	C-3
C-2:	OH-58 Crewmember Exit Interview Recapitulation	C-13

Appendix C-1

OH-58 Instructor/Evaluator Exit Interview Recapitulation

OH-58 Instructor Pilot/Unit Trainer Exit Interview

I. Course of Instruction

1. Was the number of students in the class about the right size for this training?

- Class size was no problem. But there were barriers in the classroom, that made it seem too large. The pillars were a problem. I like to see everyone in the class. There were 18-20 people in the classroom.
- The class size will be driven by the facilities. The horseshoe arrangement is a good idea. It facilitates participation. The size was good.
- It's not too many people.
- If it's more than 20, then doing the PEs would be hard to keep everyone involved.
- I think the optimum would be 16, max 20.

2. Has adequate time (or too little/too much time) been allocated for each segment of the course? In answering this question, consider both the Instructor Course and the Student course.

- I think the 4 hour introduction segment in the Student Course should be cut down to about 2 hours. It would be better if it could be cut down to one day of instruction. Three days is too much to expect a unit to support. So we had people missing from class because of one reason or another. The instructor course should stay at 3 days, but the student part should be 1 to 1.5 days.
- I felt time for the instructor course was about right. It worked out very well. Its well thought out. The DES participation was helpful because they had been exposed to it before and provided them added insight. It would, however, be better to cut down on the MOI portion. I liked getting into the model and the meat of the course. It took too long to get into it.
- Maybe it would be better to put the MOI part at the end. Keep in mind that all of us are instructors, we are trained, we can rehearse, and we can take the ball and run with it.
- I thought the introduction in the student course was good. There are too many definitions of crew coordination out there now. If its going be an 18 hr block of instruction, then the students need a road map to know what is coming their way. I suggest a lot of use of the model. It makes understanding things easier. The "three ring" graphic is useful.
- The model keeps everyone knowing what is going on.
- The big book is discouraging. Few people will read it. A good introduction and reiterating what the course is about is important.

3. How many simulator sessions [AH] or flight periods [OH] are required in the Instructor Course? In the Student Course?

- I would like to see two flights, at least one, in the instructor course. We need experience being evaluated. Everyone needs that type of training.
- I like to know where I stand, so the instructor flights are important.
- We would have been better prepared if we had our own flights.
- All instructors need practice flights.
- All maneuvers were able to be performed in the A/C. Gross weight was not a problem with the extra person aboard. However, it may be a problem in Germany.
- The student course should have 1 simulator flight and 3 flights in the aircraft. We only had two flights and I saw a big difference between those two flights. We need more.
- I think we need to have the pre-training flight. That would help with the instruction. The pre-training flight should be simulator.
- The simulator is good. That way we can take our time. We could freeze things. It was a good teaching tool.
- I don't think that the simulator (SFTS, Simnet) should be used for pre-training. It should be used only for the first training ride, not baseline.
- Units can afford four more hours in the OH-58. It's worth it.
- It wouldn't really work to piggy back missions. The training missions are better using two aircraft.
- We have 30 people, 15 crews. For 3 days, that's 90 flight hours. But we can only put 5 crews together. We need only 30 hours of flight time to train those 5 crews. Then reserve the crew coordination flight time for the staff aviators when they become combat crews. The classroom instruction wasn't all new. It put it in perspective and brought it all together.
- The new stuff is BQs and CCOs. One of my aviators said that to me.
- I like the BQs. It has to do with our job; not the commercial airline pilot at 30,000 feet.
- We don't have enough IPs and PCs to keep the FAC 2 aviators current -- with crew coordination or otherwise.
- It would be good if everyone could have all the training.
- The training requires that the battalion be shut down for a few days. Increasing the number of crews to be trained would increase the number of days the unit would be out of the net.
- It would be possible to train one company at a time instead of training the whole battalion. Then the battalion could remain operational.
- BUT, I think it would be better to do it all at once. Take the whole battalion and do the training.
- If the training is important and scheduled well in advance, then it could be done at the battalion level by giving the commander the option of declaring the battalion readiness level C4 for the period.

- It's worth it. If you put two of us together and let us fly together for three days in a row, we're going to improve because we've practiced together. That's a problem I see now. The Army is cutting down on the time we can practice as intact crews.

- However, I think that if the crews are crew coordination trained, it will help. The crew coordination trained crews would have a common focus at the start. But after three days, crews can all obtain a high level of proficiency.

[Would a laminated lap card be helpful in reminding folks of the BQs?]

- No, the crews will just memorize BQs as an acronym.

- I don't think it's needed. People understand the BQs without memorizing them.

- Whenever we go through a crew brief, everything is delegated. So, we're always thinking about it. Especially after we've practiced, we have good habit transfer.

- Crews really benefitted from thinking about segments and rehearsal. Those were really helpful concepts for us.

[Do you battle roster?]

- yes

[Does battle rostering breed complacency?]

- I don't think crews will remember the specific BQs or CCOs. They have the gist of it. But complacency is a problem for battle rostered crews. In a case where I evaluated a battle rostered crew two times, before and after crew coordination training, I saw big improvements for the crew after crew coordination training. The crew coordination training kept them talking.

- Crew coordination training will help the battle rostered crews avoid complacency. It will keep them talking.

- Actually battle rostering doesn't mean the crews fly together. Battle rostering is just a thorn in our side.

- Once we complete the training, I think that we should get rid of CRL levels and battle rostering. The crew coordination training will take care of the performance issues. Crew coordination training is the key.

- Battle rostering assignments are always changing. When battle rostering changes, then we have to go through the progression again.

4. What effect, if any, did crew coordination trained IPs and UTs operating with their battle-rostered crewmember have on the training?

- On the 2B24 flight and then progressing to the aircraft, communications flowed a bit better. As far as I'm concerned, lots of things happened in the simulator that didn't happen in the aircraft. Personally, I think that everything went smoother as we learned more with each of the flights. The tapes really helped.

- In the case of our UTs, it enhanced training for those crews.

- I flew with Chris [WO1 Elkins] and his crew. They were better because Chris had also had the instructor course. His briefings were much more thorough.

3. Was there enough pre-mission planning time for the crews?

- We had them do more planning than they usually have to do. We wanted to see if they could handle it and distribute the workload. We think that 2 hrs would have been a better amount of time.
- It definitely needs to be 2 hrs. They didn't have time to rehearse.

[Was planning more efficient the second time?]

- Yes, but the second flight was easier to plan.
- So required planning time depends on the type of mission and mission complexity.

4. Did the scenarios allow adequate demonstration and observation of the 13 crew coordination Basic Qualities?

- Yes
- The normal flow of a mission allows the opportunity to observe all BQs.
- Some of the BQs were hard to note. But a mission requires all 13 BQs.

5. Did the crew-level AAR checklist adequately cover all aspects of the mission? Should any items be added or deleted?

- It covered everything. Maybe too much.
- I tailored it, basically using the bold items. I used the major headings.

[CW4 Sheehan -- Would you get back to us on that?]

- We'll get back to you with our suggestions.

III. Evaluation

1. Were mission videotapes/audiotapes of pre-mission planning, flight, and crew-level after action review segments helpful to instruct and evaluate? If yes, how were they helpful?

- We didn't have time to sit and listen.
- If I was doing one crew per day, I'd definitely use it.
- Video would be better. It would be more interesting and helpful to know the aircraft orientation. But it may not be cost-effective.
- Personally, I think that audio will suffice. I don't think its necessary to see the flight path.
- It would help to have an ability to rapidly scan the tape for event markers. Now, its too hard to find particular areas of the tape.
- The biggest problem is that the tapes were very poor quality. I think its because of EMI aboard the aircraft. I found myself writing down quotes to use in the debrief. If the tapes were better quality, I definitely would have used them.

[Summary of tape needs: better quality, more time, and rapid search ability.]

2. Are audio recordings [OH] and evaluator observations of flight segments adequate to instruct and evaluate crew coordination skills?

- Audio recordings are adequate if the tape quality is good.

3. During your instructor debriefing, did you review the whole videotape/audiotape or did you refer only to specific segments?

- Reviewed none or only a few segments due to time limits and recording quality.

4. What general comments did the aircrews make as they observed/listened to their tapes?

5. If video recording of flight segments is not possible, can objective and reliable crew coordination evaluations be conducted in the aircraft? For example, can evaluations be conducted from--

a. A non-flying station (back seat or jump seat) [OH]?

- Yes. Let me give you a couple of examples. When a crew was conducting terrain flight navigation, I could see what the ambiguities were. Another example was when a crew member said that it was clear to the left, but I knew by his head movement that he hadn't looked left. Of course video would be better, but I could do the job from the back seat. I'll tell you, though, I would never sit in the back during an NVG flight.
- For the IMC portion, I just relied on the crew's integrity to only look at their instruments. It worked OK, but its better in the simulator.
- Now about 80% of our missions are day, usually its about 60% night, 40% day.

b. A flying station as a crewmember [AH & OH]?

- Personally, I don't think so.
- We do that every day. Some guys are narrow minded and think they are only evaluators. We're trainers. It depends on the individual instructor. It's possible to have the flights be very beneficial.
- The only problem is that you don't get the detailed information you can collect as a third person observer. You must rely on memory because you can't write all the things down that you want to.

c. Another aircraft [OH]?

- I don't think I could listen to a tape and/or watch a OH-58D Warrior tape and do a good job.
- I think it could work. We could follow them in flight and then debrief using the tapes and our notes.
- It seems possible, however, it would take too much time.

- You could listen to a tape and whatever, but not really know what happens aboard the aircraft in terms of crew coordination. Some pilots are very good at piloting, but we wouldn't know how well they do with crew coordination.
- Possible but not probable.

6. Were the behavioral anchors useful or not useful to you in achieving objective and reliable ratings of crew performance? How did you use the behavioral anchors?

- Yes. They were useful in setting crew coordination performance standards for evaluation.
- I referred to them for my evaluations.

7. Did the video segments [used in the Instructor Course evaluation workshop and practice evaluations] provide adequate opportunity for practicing your application of the rating scales?

- See item II, 5 for comments.

8. Were you reluctant to give crews task and mission grades below "satisfactory" or crew coordination ratings below "acceptable"? If yes, why?

9. How often did you refer to the written descriptions in the behavioral anchors?

10. Was the satisfactory plus (S+), satisfactory (S), and satisfactory minus (S-) grading system helpful?

IV. General Observations

1. What is your overall impression of the adequacy of the aircrew coordination *training* provided? Do you have any recommendations for improvement?

- Good. Decrease classroom time. Increase flight time. Allow more time for planning and AAR.
- Good program.
- This program is going to succeed because it ties training to evaluation.

2. What is your overall impression of the adequacy of the *evaluation training* provided? Do you have any recommendations for improvement?

- Very good.

3. What is your overall impression of the adequacy of the *aircrew coordination evaluations*? Do you have any recommendations for improvement?

- For evaluations in the aircraft, a place must be set aside away from distractions for planning and rehearsal and AAR.

4. Did anything presented in the classroom or hands-on instruction suggest actions that could potentially compromise flight safety? If yes, please provide specific examples.

- No.
- No problems.

5. Do you have any questions, concerns, or recommendations that you would like to ask or convey to the crew coordination project staff?

- I am concerned about the implementation. Seems that we're just telling higher authorities that we have a program. I think we need to train the flight line instructors first and then put it out in the field. I'm worried that we're just going to be spinning our wheels. We need the flight line instructors trained up. Otherwise, we're just wasting our money.
- This material has to be put in the IP course. It has to go to the field at that level first.
- Will the BQs be included in revisions to the ATM? [Currently not planned for but may introduce BQs in revisions to Task 1000, Crew Mission Briefing.]

Appendix C-2

OH-58 Crewmember Exit Interview Recapitulation

5. Was there about the right mix of instructor presentation, video segments, and written case studies to help you understand the Basic Qualities and Crew Coordination Objectives?

- Maybe cut down on the case studies. They get redundant. The videos are great. They really help.
- It works well to read the case study first, then see the video.
- Seeing crashes really makes me think about what I'm doing. I know what could happen.
- What I liked about the videos is that once you see it on the video, you can see what happens.

[Would you like two videos for each BQ?]

- Yes. ALL the guys said more video would be better. ALL the guys learned a lot from the video. Need more of these.

[Is it necessary to have videos for your particular aircraft mission and type?]

- No, it's just as effective to use mission examples from other aircraft. A PPC is a PPC. Maintenance is maintenance.

[Would it be better to sit with your crewmember in the classroom?]

- The only problem is that we don't always fly with our crew buddy. I've had a crew buddy for the last three months, but I haven't flown with him yet. So, I don't think it matters.

6. Was the interrelationship among Crew Coordination Elements in the ATM tasks, the Basic Qualities, and the Crew Coordination Objectives clearly established?

- I think so. Definitely. The model helped.
- It was kind of hard to tell because we had just received the ATMs.

7. Were the Student Handout, practical exercises, and read-aheads satisfactory?

- I thought the PEs went pretty well. The one that was kind of simple was the draw the triangle on top of a square, some guys complained it was too simple. I thought it was simple but effective.

[Did you receive the read-aheads?]

- Yes.
- Some of us read them.
- Gave me some insight, a basic overview of what would be going on in the class for the next three days.
- Need to be sure to issue read-aheads before the classroom period.

[How did you use the Student Handout?]

- Followed along.
- Kept notes in class.
- Probably won't need to keep the book. Probably wouldn't use it much in the future. Don't think I would go back and brush up on the BQs if I'm having a problem.

[Should we incorporate this material into Task 1000?]

- Yes, that would be good. We refer to the ATM. The BQs are in the class, but not the ATM.

8. Did you read any of the articles in the Reference Book? If yes, which ones and were they informative?

- We read some in class.
- Didn't read them outside of class.
- Don't remember. Nothing comes to mind.
- I read some.
- I don't remember them being used or referred to during the course.

III. Simulator/Flight (Hands-on) [AH & OH]

1. Was the "crawl-walk-run" approach to the training and evaluation missions effective? More missions needed? Adequate number of missions? Too many missions?

- Yes. It worked well.
- Something bothers me. While I have nothing against the AOs, its more like run, walk, crawl. The simulator mission is more like a run mission to non-rated crewmembers. I can fly tactics with my AO. That's easier for us to do than flying in the simulator. The AO doesn't know how to fly. He doesn't know about approach plates and technical flight stuff. So, its good to have the AOs in the simulator, but its hard in the crew coordination context. For it to be a good crew coordination training experience, the AOs need to have some technical training first. So, the crawl-walk-run doesn't really work for us. Another factor, is that the simulator is a different cockpit.
- As an AO, the simulator was a useless crew coordination training mission.
[What will happen when you experience inadvertent IMC during an actual flight?]
 - AO: I know what to do in the aircraft but not in the Huey simulator.
 - After the simulator mission, we did fine.

2. Did you have enough time during the hands-on periods; that is, pre-mission planning and rehearsal, mission execution, and after-action review?

- Depended on the mission we were planning for. The first day, we didn't have enough time. The second day was adequate.
- There was enough time to do the AAR.
- At first, the AAR checklist was confusing and seemed redundant. Now, it seems better and more useable. But, it still needs improvement.
- It's good to have a checklist like that. It helps us to focus.