



FIXED WING ARNG AVIATION TRAINING SITE

FLIGHT TRAINING GUIDE

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NOTES

KA300 SERIES/MISSION QUALIFICATION COURSE**FLIGHT TRAINING GUIDE****TABLE OF CONTENTS**

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Preface

This Flight training Guide (FTG) standardizes the aircrew series qualification and flight evaluation procedures for the Beechcraft King Air KA300. This manual provides specific guidelines for executing initial KA300 aircrew training. It is based on the battle-focused training principles outlined in FM 7-1 and establishes crewmember qualification requirements, mission, and continuation training, and evaluation requirements.

This manual applies to all Active Army, Army National Guard (ARNG)/the Army National Guard of the United States (ARNGUS), and U.S. Army Reserve (USAR) KA300 crewmembers and their commanders training in support of Task Force ODIN-A.

This FTG is not a stand-alone document. All requirements contained in Army regulations (ARs), TC 3-04.11 and NSTC 3-04.350 must be met. This manual is the governing authority for training and flight evaluation purposes only. If differences exist between the maneuver descriptions in the Pilot's operating Handbook (POH) and This FTG, the POH is the authority for operating the aircraft. Implementation of this manual conforms to AR 95-1 and TC 3-04.11.

Standardization officers, evaluators, and unit trainers will use this manual in conjunction with the above references as the primary tools to assist the commander to develop and implement the aircrew training program. Crewmembers will use this manual as a supplemental source to NSTC 3-04.350 source for performing crewmember duties. It provides performance standards and evaluation guidelines so crewmembers know the level of performance expected. Each task has a description of how it should be done to meet the standard.

The proponent of this publication is the United States Army Aviation Center of Excellence (USAACE) Directorate of Training and Doctrine, Attn: ATZQ-TDT-F, Flight Training Branch, Fort Rucker, Alabama 36362-5000, with input from the FWAATS. Send comments and recommendations on DA Form 2028 (*Recommended changes to Publications and Blank Forms*) through the commander: Commander, U. S. Army Aviation Center of Excellence ATTN: Directorate of Training & Doctrine Fort Rucker, AL 36362-5000.

Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

This publication has been reviewed for operations security considerations.

CHAPTER 1. INTRODUCTION

1-1. GENERAL. This Flight Training Guide is designed to provide guidance for the King Air KA300 Series and Mission Qualification Course in support of Task Force ODIN.

a. Purpose of Course: To qualify selected Army aviators in the safe and thorough operation of the KA300 aircraft during Intelligence, Surveillance and Reconnaissance (ISR) Operations.

KA300 Aircraft Qualification

Location: Fixed Wing ARNG Aviation Training Site, Bridgeport, WV 26330
Duration: Peacetime: 15 days Mobilization: 15 days

b. Scope: This course consists of academic and flight instruction to qualify aviators as ISR Pilots in the KA300 airplane and to ensure standardization of training. Training will be conducted IAW this Flight Training Guide, NSTC 3-04.350 Aircrew Training Manual (ATM), the Airplane Flight Manual/Airplane Operating Manual, and appropriate regulations.

1-2. SELECTED TASKS AND PROCEDURES. Tasks and procedures selected for training are listed in chapter 2, paragraph 2-3. A flight period outline is provided as a guide to the instructor for the purpose of pacing KA300 Student Pilots and presents the correct day-to-day sequence in which tasks are to be demonstrated (chapter 2, paragraph 2-4 and 2-5). Ground time should be used to the best advantage during preparation for and conduct of flight briefings and debriefings.

1-3. SAFETY PRECAUTIONS.

a. The aircraft will be operated in compliance with the current Pilot's Operating Handbook (POH) and checklist for the KA300 aircraft.

b. Where operational differences occur between the POH and this Flight Training Guide (FTG), the FTG and checklist will take precedence.

c. The KA300 Student Pilot will inform the Instructor Pilot (IP) of any malfunction or when unsure if the aircraft or equipment is safe for flight.

d. All emergency procedures denoted as "**Immediate action items**" in the Aircraft Operator's Checklist shall be memorized for safe operation.

e. All maneuvers in the aircraft are to be demonstrated by the SP/IP or performed by the KA300 Student Pilot with the SP/IP acting as pilot/copilot. The KA300 Student Pilot will be required to demonstrate proficiency in both pilot and copilot tasks IAW the POH, FTG, and the aircraft checklist. The Student Pilot performance will be considered unsatisfactory when a maneuver is not performed within the standards and under the conditions listed in the POH and FTG, or when in the opinion of the SP/IP an unsafe condition exists which requires the SP/IP to take control of the aircraft.

f. Those topics requiring special safety emphasis are:

- (1) Specific aircraft handling characteristics.
- (2) Performance planning.
- (3) King Air accident experience and lessons learned.
- (4) Environmental restrictions/limitations.
- (5) Situational awareness.
- (6) Weather avoidance.
- (7) Crew coordination and teamwork.

1-4. DESCRIPTION OF TRAINING. Airplane flight training will be conducted in the KA300 airplane. All training will be dual instruction.

a. Phase Sequence:

- (1) Phase 1: Provides Primary training in the KA300 and is designed to complete a series qualification for the crewmembers. This seven day portion of training consists of 20 dual flight hours with one Phase evaluation of 1.6 PI hours on Day 7. The daily block time is approximately 5 hours with an average daily flight time of 1.4 PI hours per Student Pilot. The Phase I will consist of 7.5 hours minimum with the successful completion of a flight evaluation.
- (2) Phase 2: This three day portion of training consists of 8.4 dual flight hours to be flown in 3 training periods. The daily block time is approximately 5.0 hours with an average daily flight time of 1.4 PI hours per Student Pilot. The student will be evaluated continuously with all tasks completed to satisfaction. The student may proceed to phase 3, but not with less than 3.0 flight hours.
- (3) Phase 3: This five day portion of training consists of 12 dual flight hours to be flown in 4 training periods. The daily block time is approximately 5.0 hours with an average daily flight time of 1.5 PI hours per Student Pilot. The student will be evaluated continuously with all tasks completed to satisfaction. The student may complete Phase 3 with less than the programmed hours, but not less than 4.0 hours.

b. Each Student Pilot should fly their daily Syllabus. Consistent with effective training, every reasonable effort should be made to meet or exceed this time to allow for time lost due to weather, maintenance, administrative reasons, etc.

c. Proficiency Progression:

(1) All training will be of the proficiency advancement type, with course completion being on an individual basis. All flight periods will be completed. However, to allow for the advanced KA300 MARSS Student Pilot, flight periods may be completed prior to the day indicated.

(2) Tasks will be introduced by the instructor pilot at an appropriate time so as to permit sufficient practice by the KA300 Student Pilot to achieve proficiency. The suggested sequence for demonstrating tasks is provided in Paragraph 2-4 and 2-5

(3) Evaluation flights during this course will be conducted IAW Para 2-5 by an FWAATS or DES IP/SP. At the FWAATS, the FWAATS Commander will make evaluator assignments.

e. Primary instructor will be designated for all classes with a preferred Instructor/Student Pilot ratio of 1:2, but will not exceed a 1:3 ratio. The Evaluator/Student Pilot ratio will not exceed 1:2.

1-5. STUDENT HANDOUT MATERIAL. The following material will be issued to the KA300 rated Student Instructor Pilot during the initial Instructor Pilot's Briefings.

- a. KA300 Flight Training Guide (FTG).
- b. Training Schedule.
- c. Appropriate KA300 Student Handouts.
- d. FWAATS Course Critique.

- e. Reference publications required for the course that the rated Student Pilot did not bring.

Pilots Operating Handbook 300 and supplement pack P/N 101-590097-3
US ARMY KA-300 Checklist (Mission Aircraft 16 December 2013 version 6)
Universal Avionics MFD Operator's Manual P/N 34-20-02.01
Universal Avionics SCN 1000/1100 FMS Operator's Manual 2423sv/1000/1100
ASE IR Countermeasures Maintenance Guide (R) C-12 MARSS/ ARMS Aircraft
Operating Procedures For ASE on KA-300 DOC. NO. 6001
AN/ARC 210 RT-1794 (C) Advanced VHF/UHF Multimode Communications Sys.
Pilot's Operating Guide, Rockwell Collins P/N 523-0778776-004217
Garmin 400W Series Pilot's Guide & Reference P/N 190-00356-00 Rev. D
Universal Avionics Terrain Awareness Warning System Operators Manual SCN 10.5 and
Later P/N 34-40-01.03
Technical Manual/ Operator's Manual Transponder Set Digital AN/APX-119, Raytheon
Skywatch HP Pilot's Guide Traffic Alert Advisory System Model SKY899, Goodrich
Primus 660 Digital Weather Radar System Pilot's Manual, Honeywell
UNSI Operators checklist SCN 1000/1100
Pilot's guide Skywatch Traffic Advisory System Model SKY497
Universal Avionics Operator's Training Manual for FMS SCN 1000/1100 models

CHAPTER 2. TRAINING SEQUENCE

2-1. FLIGHT HOURS. The course consists of a total of 20.2 flight hours subdivided as follows:

OBJECTIVE FLIGHT HOURS CHART

TNG DAY	01	02	03	04	05
FLT PD	01	02	03	04	05
DAY	1.4	1.4	1.4	1.4	1.4
NIGHT					
EVAL					
CUM TNG	1.4	2.8	4.2	5.6	7.0
TNG DAY	06	07	08	09	10
FLT PD	06	07	08	09	10
DAY	1.4			1.4	1.4
NIGHT			1.4		
EVAL		1.6			
CUM TNG	8.4	10	11.4	12.8	14.2
TNG DAY	11	12	13	14	15
FLT PD	N/A	11	12	13	14
DAY	0.0	1.5	1.5	1.5	1.5
NIGHT					
EVAL					
CUM TNG	14.2	15.7	17.2	18.7	20.2

Training Day 7 is Phase evaluation.

Training Day 8 is night training.

2-2. FLIGHT PERIOD. Each flight period in the KA300 airplane will normally be broken down as follows:

- a. Flight Briefing by the Commander or his representative covering the following:
 - (1) Special Announcements.
 - (2) Flight Equipment Check.
 - (3) Weather.
 - (4) Daily Questions.
 - (5) Aircraft Assignments.
 - (6) Aircraft Schedule Time.
 - (7) Safety Comments. (Refer to para 1-3e as applicable).
 - (8) Questions from Student Pilots.

- b. Instructor Pilot's Briefing. SP/IPs will briefly summarize the training of the previous period and discuss the tasks to be performed for the day. (SP/IPs conducting flight training will be briefed IAW AR 95-1, DA Form 5484-R and FWAATS Form 7 Mission / Schedule Brief.)

- c. Academics as required.

- d. Flight Training. Includes the crew briefing, preflight checks, engine start and run-up (as required) and flight period.

- e. Debriefing. SP/IPs will debrief each Student Pilot. The debriefing will include an analysis of performance, recommendations to improve weak areas, and study assignments as appropriate.

2-3. TASKS SELECTED FOR TRAINING. The following tasks have been selected for training.

TASK CHART

<u>TASK NO</u>	<u>TASK TITLE</u>
1000	Conduct crew mission briefing
1004	Plan a VFR flight
1006	Plan an IFR flight
1011	Prepare a KA300 TOLD Card
1029	Perform Preflight Inspection
1034	Perform Engine Start
1035	Perform Aircraft Taxi
1045	Perform Engine Run-Up
1104	Perform Normal takeoff and climb
1120	Perform Steep Turns
1122	Perform Climbs and Descents
1125	Perform Slow Flight
1148	Perform Fuel Management Procedures
1144	Perform Touch-and Go Landing
1145	Perform Normal Landing
1177	Perform Go-Around
1179	Perform Balked Landing
1182	Perform Radio Communications procedures
1200	Perform Instrument Takeoff
1210	Perform Holding Procedures
1212	Perform Enhanced GPWS Operations
1215	Perform Precision Approach
1220	Perform Non precision Approach
1240	Perform Missed Approach
1245	Perform Unusual Attitude Recovery

<u>TASK NO</u>	<u>TASK TITLE</u>
1253	Perform auto pilot/flight director operations
1254	Perform IFR Navigation
1260	Operate Weather Avoidance System
1261	Perform Circling Approach
1264	Perform GPS Approach
1265	Perform TCAS operations
1070	Perform emergency procedures
1303	Perform Approaches to Stalls
1310	Perform Emergency Procedure for Engine Failure During Flight
1315	Perform Single-engine landing
1320	Perform Single-engine go-around
1330	Perform Emergency Procedure for Engine Failure after V1
1336	Perform Emergency Procedure for Engine Failure during Final Approach
1352	Perform Rejected Takeoff
1800	Perform after-landing tasks
2905	Perform Tactical Departure Procedures
2910	Perform Tactical Arrival Procedures
2405	Operate Aircraft Survivability Equipment
3105*	Perform an IMINT Mission
3106*	Perform a COMINT Mission

NOTE 1: NSTC 3-04.350 ATM will be used as the source document for task descriptions. Newly developed or original tasks modified from the NSTC 3-04.350 are identified with an asterisk (*) and are provided in chapter 4 of this FTG.

2-4. FLIGHT PERIOD OUTLINE.

TD	TASK	PERIOD TIME								
			FPD	NO	TASK/PROCEDURES	CONF	TV	PE-1	EVAL	FS
TD 01 PD 1	1. Commander's Briefing	1.0								
	<ul style="list-style-type: none"> a. Introduction to the course. b. Student responsibilities. c. Objectives of the course. d. Local area policies/procedures. e. Safety comments (See Para 1-3). 									
	2. Instructor's Briefing	0.5								
	<ul style="list-style-type: none"> a. Introduction b. Student responsibilities c. Objectives for phase 1 training 									
	3. Before Flight Checks					1.0				
	4. Flight Training					2.8				(1.4)
	1000 Conduct crew mission brief									
	1004 Plan a VFR flight									
	1006 Plan an IFR flight									
	1010/11 Prepare TOLD									
	1029 Perform Preflight Inspection									
	1034 Perform Engine-start									
	1035 Perform Aircraft taxi									
	1045 Perform Engine Run-up									
	1104 Perform Normal Takeoff and Climb									
	1120 Perform Steep Turns									
	1125 Perform Slow Flight									
	1145 Perform Normal Landing									
	1303 Perform Approaches to Stalls									
	1352 Perform Rejected Takeoff									
	1800 Perform After Landing Tasks									
	5. Debriefing	0.5								
	<ul style="list-style-type: none"> a. Period Review b. Assignments 									

TD	TASK	PERIOD TIME								
			FPD	NO	TASK/PROCEDURES	CONF	TV	PE-1	EVAL	FS
TD 02 PD 2	1. Commander's Briefing	0.25								
	2. Instructor's Briefing	0.5								
	3. Before Flight Checks					1.0				
	4. Flight Training					2.8				(1.4)
	Demonstrate and practice previous tasks and maneuvers									
	1122 Perform Climbs and descents									
	1148 Perform Fuel management procedures									
	1144 Perform Touch and Go Landing									
	1070 Describe or perform emergency procedures									

- 1310 Perform EP for engine failure during flight
- 1315 Perform Single-engine Landing
- 1336 Perform EP for engine failure during final approach
- 1070 Perform Emergency procedures
- 5. Debriefing 0.5
 - a. Period Review
 - b. Assignments

<u>TD</u> <u>FPD</u>	<u>TASK</u> <u>NO</u>	<u>TASK/PROCEDURES</u>	<u>CONF</u>	<u>TV</u>	<u>PERIOD TIME</u>			
					<u>PE-1</u>	<u>EVAL</u>	<u>FS</u>	<u>AC</u>
TD 03 PD 3	1.	Commander's Briefing	0.25					
	2.	Instructor's Briefing	0.5					
	3.	Before Flight Checks			1.0			
	4.	Flight Training Demonstrate and practice previous tasks and maneuvers			2.8			(1.4)
	1177	Perform Go-around						
	1179	Perform Bailed Landing						
	1245	Perform Unusual Attitude Recovery						
	1330	Perform EP for engine failure after V1						
	5.	Debriefing	0.5					

<u>TD</u> <u>FPD</u>	<u>TASK</u> <u>NO</u>	<u>TASK/PROCEDURES</u>	<u>CONF</u>	<u>TV</u>	<u>PERIOD TIME</u>			
					<u>PE-1</u>	<u>EVAL</u>	<u>FS</u>	<u>AC</u>
TD 04 PD 4	1.	Commander's Briefing	0.25					
	2.	Instructor's Briefing	0.5					
	3.	Before Flight Checks			1.0			
	4.	Flight Training Demonstrate and practice previous tasks and maneuvers			2.8			(1.4)
	1212	Perform Enhanced GPWS Operations						
	1265	Perform TCAS Operations						
	1320	Perform Single-engine go-around						
	2905	Perform Tactical Departure Procedures						
	2910	Perform Tactical Arrival Procedures						
	5.	Debrief	0.5					

<u>TD</u> <u>FPD</u>	<u>TASK</u> <u>NO</u>	<u>TASK/PROCEDURES</u>	<u>CONF</u>	<u>PERIOD TIME</u>			<u>FS</u>	<u>AC</u>
				<u>TV</u>	<u>PE-1</u>	<u>EVAL</u>		
TD 05 PD 5	1.	Commander's Briefing	0.25					
	2.	Instructor's Briefing	0.5					
	3.	Before Flight Checks			1.0			
	4.	Flight Training Demonstrate and practice previous tasks and maneuvers			2.8			(1.4)
	4.	Debriefing	0.5					

<u>TD</u> <u>FPD</u>	<u>TASK</u> <u>NO</u>	<u>TASK/PROCEDURES</u>	<u>CONF</u>	<u>PERIOD TIME</u>			<u>FS</u>	<u>AC</u>
				<u>TV</u>	<u>PE-1</u>	<u>EVAL</u>		
TD 06 PD 6	1.	Commander's Briefing	0.25					
	2.	Instructor's Briefing	0.5					
	3.	Before Flight Checks			1.0			
	4.	Flight Training Demonstrate and practice previous tasks and maneuvers			2.8			(1.4)
	4.	Debriefing	0.5					

<u>TD</u> <u>FPD</u>	<u>TASK</u> <u>NO</u>	<u>TASK/PROCEDURES</u>	<u>CONF</u>	<u>PERIOD TIME</u>			<u>FS</u>	<u>AC</u>
				<u>TV</u>	<u>PE-1</u>	<u>EVAL</u>		
TD 07 PD 04	1.	Commander's Briefing	0.25					
	2.	Flight Evaluator's Briefing Introduction Oral Examination Before Flight Checks	2.0					
	3.	Phase 1 Flight Evaluation				3.2		(1.6)
	4.	Debriefing	0.5					

2-5. PHASE 2 FLIGHT PERIOD OUTLINE

TD	TASK	PERIOD TIME	CONF	TV	PERIOD TIME			
					PE-1	EVAL	FS	AC
FPD	NO	TASK/PROCEDURES						
TD 08 PD 8	(N)	1. Commander's Briefing	0.25					
		2. Instructor's Briefing	0.5					
		3. Before Flight Checks		1.0				
		4. Flight Training Demonstrate and practice previous tasks and maneuvers at a minimum: Preflight, run-up, takeoff, go-around, and landing during night operations			2.8			(1.4)
		1182 Perform Radio Communications 1200 Perform Instrument Takeoff 1210 Perform Holding Procedures 1215 Perform Precision Approach 1220 Perform Non precision Approach 1240 Perform Missed Approach 1250 Perform auto pilot/flight director operations 1254 Perform IFR Navigation 1260 Operate Weather Avoidance System 1261 Perform circling approach 1264 Perform GPS Approach						
	5. Debriefing	0.5						

TD	TASK	PERIOD TIME	CONF	TV	PERIOD TIME			
					PE-1	EVAL	FS	AC
FPD	NO	TASK/PROCEDURES						
TD 09 PD 9		1. Commander's Briefing	0.25					
		2. Instructor's Briefing	0.5					
		3. Before Flight Checks		1.0				
		4. Flight Training Demonstrate and practice previous tasks and maneuvers			2.8			(1.4)
		5. Debriefing	0.5					

<u>TD</u> <u>FPD</u>	<u>TASK</u> <u>NO</u>	<u>TASK/PROCEDURES</u>	<u>CONF</u>	<u>TV</u>	<u>PERIOD TIME</u>			<u>FS</u>	<u>AC</u>
					<u>PE-1</u>	<u>EVAL</u>			
TD 10 PD 10	1.	Commander's Briefing	0.25						
	2.	Instructor's Briefing	0.5						
	3.	Before Flight Checks		1.0					
	4.	Flight Training Demonstrate and practice previous tasks and maneuvers			2.8			(1.4)	
	5.	Debrief	0.5						

2-6. PHASE 3 FLIGHT PERIOD OUTLINE

<u>TD</u> <u>PD</u>	<u>TASK</u> <u>NO</u>	<u>TASK/PROCEDURES</u>	<u>CONF</u>	<u>TV</u>	<u>PERIOD TIME</u>			<u>FS</u>	<u>AC</u>
					<u>PE-1</u>	<u>EVAL</u>			
TD 12 PD 11	1.	Commander's Briefing	0.25						
	2.	Instructor's Briefing	0.5						
	3.	Before Flight Checks		1.0					
	4.	Flight Training			3.0			(1.5)	
2405 3106		Operate Aircraft Survivability Equipment Perform an IMINT Mission							
	5.	Debriefing	0.5						

<u>TD</u> <u>PD</u>	<u>TASK</u> <u>NO</u>	<u>TASK/PROCEDURES</u>	<u>CONF</u>	<u>TV</u>	<u>PERIOD TIME</u>			<u>FS</u>	<u>AC</u>
					<u>PE-1</u>	<u>EVAL</u>			
TD 13 PD 12	1.	Commander's Briefing	0.25						
	2.	Instructor's Briefing	0.5						
	3.	Before Flight Checks		1.0					
	4.	Flight Training Demonstrate and practice previous Tasks and maneuvers			3.0			(1.5)	
3106		Perform a COMINT Mission							

5. Debriefing 0.5

<u>TD</u>	<u>TASK</u>	<u>TASK/PROCEDURES</u>	<u>CONF</u>	<u>TV</u>	<u>PERIOD TIME</u>			<u>FS</u>	<u>AC</u>
					<u>PE-1</u>	<u>EVAL</u>			
TD 14 PD 13		1. Commander's Briefing	0.25						
		2. Instructor's Briefing	0.5						
		3. Flight Training Demonstrate and practice previous tasks and maneuvers				(3.0)			(1.5)
	2405	Operate Aircraft Survivability Equipment							
		5. Debriefing	0.5						

<u>TD</u>	<u>TASK</u>	<u>TASK/PROCEDURES</u>	<u>CONF</u>	<u>TV</u>	<u>PERIOD TIME</u>			<u>FS</u>	<u>AC</u>
					<u>PE-1</u>	<u>EVAL</u>			
TD 15 PD 14		1. Commander's Briefing	0.25						
		2. Instructor's Briefing	0.5						
		3. Flight Training Demonstrate and practice previous Tasks and maneuvers				3.0			(1.5)
		5. Debriefing	0.5						

2-7. EVALUATION REQUIREMENTS.

The Phase I End of Stage evaluation and the Phase II and III Proficiency Based Evaluations will be conducted IAW the procedures as outlined below to determine the examinee's ability to perform the duties as a qualified KA300 Pilot from either crew position with access to the controls. The evaluator is the final authority on the amount of time devoted to each phase.

a. Phase 1 - Introduction. In this phase, the evaluator -

- (1) Introduces himself to the examinee.
- (2) Verifies that the examinee meets all prerequisites for the rating.
- (3) Ensures that the examinee has all required equipment for the flight.
- (4) Confirms the purpose of the flight evaluation, explains the evaluation procedure, and discusses the standards and criteria to be used.

b. Phase 2 - Oral Examination. The examinee must have a working knowledge and understanding of all applicable topics in the respective subject areas below. He must correctly respond to topics that are selected by the evaluator. As a minimum, the evaluator will select two topics from each subject area.

(1) Regulations and Publications (ARs 40-8, 95-1, 95-2; Beech Super King Air 300/350 POH, KA300 Checklists, DA Pamphlet 738-751: DOD FLIP, local SOPs and regulations). Topics in this subject area are:

- (a) ATP Requirements.
- (b) DOD FLIP products and maps.
- (c) VFR minimums and procedures.
- (d) IFR minimums and procedures.
- (e) Aviation life support equipment.
- (f) Weight and balance requirements.
- (g) Publications required in an aircraft.
- (h) Flight plan preparation and filing.
- (i) Flight restrictions due to exogenous factors.

(2) Operating limitations and restrictions (Operator's Manual/ Airplane Flight Manual).

Topics in this subject area are:

- (a) Wind limitations.
- (b) Power limitations.
- (c) Engine limitations.
- (d) Weather limitations.
- (e) Pressure limitations.
- (f) Airspeed/ Mach limitations.
- (g) Temperature limitations.
- (h) Aircraft systems operations.
- (i) Flight envelope limitations.
- (j) Weight and balance requirements.
- (k) Interpretation of performance charts.

(3) Aircraft emergency procedures (Operator's Manual/ Airplane Flight Manual).

Topics in this subject area are:

- (a) Definition of emergency terms.
- (b) Emergency exits and equipment.
- (c) Engine malfunctions and restart procedures.
- (d) Landing gear malfunctions.
- (e) Engine fires and hot starts.
- (f) Smoke and fume elimination.
- (g) Hydraulic system malfunctions.
- (h) Fuel system malfunctions.
- (i) Electrical system malfunctions.
- (j) Landing and ditching procedures.
- (k) Flight control malfunctions.

- (4) Aero medical factors (AR 40-8, FM 3.4.301). Topics in this subject area are:
- (a) Fatigue.
 - (b) Hypoxia.
 - (c) Carbon monoxide.
 - (d) Drugs.
 - (e) Self-imposed stresses.
 - (f) Middle ear discomfort.
 - (g) Spatial disorientation.
 - (h) Decompression sickness.
- (5) Aerodynamics (FM 3.4.203). Topics in this area are:
- (a) Bernoulli's principle.
 - (b) Properties of the atmosphere.
 - (c) Lift and lift equation--critical airspeeds.
 - (d) Stall and stall characteristics.
 - (e) Spins
 - (f) Drag and drag equation.
 - (g) Aircraft performance.
 - (h) Stability
 - (i) Forces affecting performance.
 - (j) Climbing performance.
 - (k) Gliding performance.
 - (l) Turning performance.
 - (m) Takeoff and landing performance.
 - (n) Flight control systems.
 - (o) The v-g diagram.

c. Phase 3 - Flight Evaluation. This phase consists of a briefing, preflight inspection and engine-start and run-up procedures, flight tasks, and engine-shutdown and after-landing tasks.

(1) Briefing. The evaluator will explain the flight evaluation procedure and tell the examinee which tasks he will perform. In addition, the evaluator will conduct a crew briefing that includes, as a minimum, the items listed below.

- (a) Mission.
- (b) Weather.
- (c) Flight route.
- (d) Performance data.
- (e) Transfer of flight controls.
- (f) Crew duties, to include emergency duties.

NOTE: Refer to Operator's Manual/ Airplane Flight Manual, Checklist, and local directives for additional crew/passenger briefing requirements.

(2) Preflight inspection and engine-start and run-up procedures. The evaluator will evaluate the examinee's use of the checklist. He will also have the examinee properly identify at least two aircraft components and discuss their functions.

(3) Tasks to be evaluated are:

<u>TASK NO</u>	<u>TASK TITLE</u>
1000	Conduct crew mission briefing
1004	Plan a VFR flight
1006	Plan an IFR flight
1011	Prepare a Told Card
1029	Perform Preflight Inspection
1034	Perform Engine Start
1035	Perform Aircraft Taxi
1045	Perform Engine Run-up
1104	Perform Normal Takeoff & Climb
1120	Perform Steep Turns
1122	Perform Climbs and Descents
1125	Perform Slow Flight
1148	Perform Fuel Management Procedures

1144	Perform Touch-and Go (IPs only)
1145	Perform Normal Landing
1177	Perform Go-Around
1179	Perform Balked Landing
1182	Perform Radio Communications procedures
1200	Perform Instrument Takeoff
1210	Perform Holding Procedures
1212	Perform Enhanced GPWS Operations
1215	Perform Precision Approach
1220	Perform Non precision Approach
1240	Perform Missed Approach
1245	Perform Unusual Attitude Recoveries
1250	Perform auto pilot/flight director operations
1254	Perform IFR Navigation
1260	Operate Weather Avoidance Systems
1264	Perform GPS Approach
1265	Perform Traffic Alert and Collision Avoidance System Operations
1300	Describe or perform emergency procedures
1303	Perform Approach to Stall
1310	Perform Emergency Procedures for Engine Failure During Flight
1315	Perform Single- Engine Landing
1320	Perform Single Engine Go-Around
1330	Perform Emergency Procedures for Engine Failure after V_1
1336	Perform Emergency Procedures for Engine Failure During Final Approach
1352	Perform Rejected Takeoff
1800	Perform After Landing Tasks
2905	Perform Tactical Departure Procedures
2910	Perform Tactical arrival Procedures

2405	Operate Aircraft Survivability Equipment
3105*	Perform an IMINT Mission
3106*	Perform a COMINT Mission

NOTE 1: NSTC 3-04.350 ATM will be used as the source document for task descriptions. Tasks identified as modified from the NSTC 3-04.350 will be provided to the Student Pilots and are identified with an asterisk (*).

(4) Engine-shutdown and after-landing tasks. The evaluator will evaluate the examinee's use of the checklist

d. Phase 4 - Debriefing. During this phase, the evaluator will:

- (1) Use Uniform Grading Sheet (Horse Blanket) to critique the examinee's performance.
- (2) Discuss, with the examinee, the examinee's strengths and weaknesses of their performance
- (3) Offer the examinee recommendations for improvement.
- (4) Tell the examinee whether he has passed or failed the evaluation.
- (5) Ensure the examinee reviews and signs the Uniform Grading Sheet.

NOTES

CHAPTER 3. TRAINING OBJECTIVES / TASK CONDITIONS

The Training Objectives and Task Conditions for tasks selected for training are found in this FTG, KA300 Pilot's Operating Handbook, and appropriate regulations.

CHAPTER 4. CREWMEMBER TASKS

The tasks listed in this chapter are provided to supplement NSTC 3-04.350. These tasks either been modified to conform to the KA300's POH procedures, or to support the operational mission requirements of this aircraft.

- 3105* Perform an IMINT Mission
- 3106* Perform a COMINT Mission

TASK 3105**TASK: Perform an IMINT Mission.**

1. ISR (Intelligence Surveillance and Reconnaissance)
2. PEARL

CONDITIONS: In a KA300 Medium Altitude Reconnaissance Surveillance System, (MARRS) airplane, in a simulated or actual tactical environment, in VMC conditions.

STANDARDS: Appropriate common standards plus these modifications/additions:

1. Comply with all pre-mission tasking requirements.
2. Correctly perform IMINT mission planning.
3. Determine most efficient sequencing of points for imagery analysis.
4. Correctly load the FMS and other navigation equipment to properly complete the mission.
5. Maintain situational awareness until mission completion.
6. Monitor ISR/PEARL Mission progress in flight.
7. Properly plot and confirm any changes in points/tracks before navigating to new location.

DESCRIPTION:

1. **Crew Actions.** The crew will identify the required mission equipment and coordinate mission planning so that each crewmember is acutely aware of his mission duties. The crew should know and understand the factors requiring the mission to be aborted.
2. **Procedures.**
 - a. **Preflight.** The crew will plan the flight to and from the mission area, considering the flight planning factors. The crew will identify abort criteria, terrain hazards along route, terrain egress points, and minimum descent altitude AGL. The crew should develop a flight profile that will satisfy mission requirements. As a minimum, they will:
 - (1) Determine target and search pattern coordinates.
 - (2) Determine weather conditions en-route and along the track area, evaluating the effects of weather on the mission.
 - (3) Review assigned call-signs and frequencies.
 - (4) Review recall procedures and codes.
 - (5) Confirm the mission equipment configuration.
 - (6) Note Mode I and II codes, as appropriate.
 - (7) Determine safe areas in the event a threat requires deviation from the mission profile.
 - b. **During flight.** The crew will perform the following actions:
 - (1) The P will make appropriate radio calls to the appropriate net control station, other participating aircraft, and ATC as briefed
 - (2) The P* or P will communicate with the cabin crewmembers.
 - (3) The P* will fly the mission profile at appropriate airspeed and attitude.
 - (4) The P will monitor area navigation equipment for discrepancies, failures, or ambiguity between systems.
 - (5) The P* will monitor aircraft survivability equipment (ASE) and respond appropriately if a threat occurs.
 - (6) The P* or P will hand off targets acquired visually and key the sensors while viewing the cockpit sensor display.

NOTE: Due to classification, this task is not fully descriptive of the IMINT mission. A full description of the mission is found in appropriate Army manuals and SRO procedures.

CONSIDERATIONS: N/A

TRAINING AND EVALUATION REQUIREMENTS:

1. Training. Training will be conducted academically and in the aircraft.
2. Evaluation. Evaluation will be conducted in the aircraft.

REFERENCES:

Common References
FM 34-25-7
SRO Procedures
SPINS
UNIT SOP

TASK 3106**TASK: Perform a COMINT Mission.**

1. APG (Aerial Position Geo-location Mission)
2. REA
3. REDRIDGE

CONDITIONS: In a KA300 Medium Altitude Reconnaissance Surveillance System (MARRS) airplane, in a simulated or actual tactical environment, in VMC or IMC conditions.

STANDARDS: Appropriate common standards plus these modifications/additions:

1. Comply with all pre-mission tasking requirements
2. Correctly perform COMINT mission planning
3. Determine most efficient sequencing of points for COMINT analysis.
4. Correctly load the FMS and other navigation equipment to properly complete the mission.
5. Maintain situational awareness until mission completion.
6. Monitor APG/REA/REDRIDGE Mission progress in flight.
7. Properly plot and confirm any changes in points/tracks before navigating to new location.

DESCRIPTION:

1. **Crew Actions.** The crew will identify the required mission equipment and coordinate mission planning so that each crewmember is acutely aware of his mission duties. The crew should know and understand the factors requiring the mission to be aborted.

2. **Procedures.**

a. Preflight. The crew will plan the flight to and from the mission area, considering all flight planning factors. As a minimum, they will:

- (1) Determine weather conditions en-route and in the operational area, evaluating the effects of the weather on the mission.
- (2) Review assigned call-signs and frequencies.
- (3) Review recall procedures and codes
- (4) Confirm the mission equipment configuration.
- (5) Note Mode I and II codes, as appropriate.

b. During flight. The crew will perform the following actions:

- (1) The P will make appropriate radio calls to the appropriate net control station, other participating aircraft as briefed, and communicate with the cabin crewmembers.
- (2) The P or P* will make the appropriate radio calls to ATC
- (3) The P* will fly the mission profile at appropriate airspeed and attitude.
- (4) The P will monitor area navigation equipment for discrepancies, failures, or ambiguity between systems.
- (5) The P* and P will monitor aircraft survivability equipment (ASE) and respond appropriately if a threat occurs.
- (6) The P* will make adjustments if necessary to synchronize aircraft position along the track.

NOTE: Due to classification, this task is not fully descriptive of the COMINT mission. A full description of the mission is found in appropriate Army manuals and SRO procedures.

CONSIDERATIONS: N/A

TRAINING AND EVALUATION REQUIREMENTS:

1. Training. Training will be conducted academically and in the aircraft.
2. Evaluation. Evaluation will be conducted in the aircraft.

REFERENCES:

Common References
FM 34-25-7
SRO Procedures
SPINS
UNIT SOP