



جمعية الشرق الاوسط وشمال افريقيا لمحقيقي السلامة الجوية
Middle East and North Africa Society
of Air Safety Investigators

Developing Investigative Capabilities

Capt. Ibrahim Sulman AlKoshy
Director General

Aviation Investigation Bureau (AIB)
Kingdom of Saudi Arabia



States of Manufacture





What Investigative Capabilities Do you need?

- Strategy (5 year)
- Plans (5 Year)
- Investigative Capability
= Personnel + Equipment



Reachout Program



Reachout Program





Training Schedule

2015 Training Courses for Safety & Prevention

		18 June (HolyRamadan) July 23											
Country	Course	January	February	March	April	May	June	July	August	September	October	November	December
Cranfield, UK	Aircraft Accident Investigation (six weeks) £9,750	12	20			11	19						
Cranfield, UK	Air Transport Engineering - Maintenance Operations (one week) £1,400		23 - 27										
Cranfield, UK	Safety Management Systems in Aviation (one week) £1,500			16 - 20									
Cranfield, UK	Safety Assessment of Aircraft Systems (one week) £2,100						22-25						
Cranfield, UK	Applied Safety Assessment Workshop (one week) £1,500						29	3					
NTSB , USA	Aircraft Accident Investigation (two week) \$4,070				13 - 24					14 - 25			
NTSB , USA	Accident Investigation Orientation for Aviation Professionals (TWO DAYS) \$1134			18-19							7-8		
NTSB , USA	Survival Factors in Aviation Accidents (three days) \$1,298						2-4						
	<u>System Safety Certificate</u>										22 - 23		
USC,USA	System Safety				13-24						19-30		
USC,USA	HAZARD EFFECTS AND CONTROL STRATEGIES-System Safety (one week) \$2150		23-27										
USC,USA	HUMAN ERROR ANALYSIS FOR SYSTEM SAFETY (two days) \$950			30-31									
USC,USA	Software System Safety (one week) \$1500				28	1			25-28				
Flightscape (CAE), CA	Flightscape Insight Analysis and Insight Animation- (4 days) \$1600					TBD							
	<u>Certificate of Management in Aviation Safety</u>												
Embry-Riddle, USA	OSHA/Aviation Ground Safety (one week) \$2,000				13 - 17						19 - 23		
Embry-Riddle, USA	Aviation Safety Program Management (one week) \$2,000				20 - 24						26 - 30		
Embry-Riddle, USA	Advanced Aircraft Accident Investigation (one week) \$2,000					4 - 8							
Embry-Riddle, USA	Aircraft Accident Investigation (one week) \$2,000				27							2 - 6	
	<u>USC Aviation Safety and Security Certificate</u>												
USC, USA	Aviation Safety Management Systems (two weeks) \$3250	5 - 16		2 - 13			1 - 12			14 - 25			
USC, USA	Helicopter Accident Investigation (one week) \$2350		23 - 27									9 - 13	
USC, USA	Human Factors in Aviation Safety (one week) \$2350	19 - 23		16 - 20			15 - 19		31			2 - 6	
USC, USA	Incident Investigation/Analysis (four days)\$1350				30						19 - 22		
USC, USA	Accident/Incident Response Preparedness (three days) \$1200			23 - 25							12 - 14		
	<u>Safety Management in Civil Aviation Diploma</u>												
IATA, CA /SIN	Managing the Safety Oversight Function (five days) \$2,635					11 - 15				7 - 11			
IATA, SIN/CAI/SWZ/ITL/	Safety Management Systems (SMS) for Civil Aviation (five days) \$2,635			2 - 6	29	2	8 - 12		24 - 28				
IATA, CA/SPAIN/SIN	Managing Accident Prevention and Investigation (five days) \$2,635						15 - 19				5 - 9	16 - 20	
IATA,USA/SPAIN/SIN/SWZ/USA/ITL	Human Factors in Aviation (five days) \$2,635		2 - 6	16 - 20	20 - 24				17 - 21		26 - 30	9 - 13	
	OR												
IATA, CHINA/SIN/SWZ	Advanced Safety Management Systems (SMS) in Civil Aviation (five days) \$2,635					4 - 8		20 - 24					14 - 18

Development Seminars

Country	Event	January	February	March	April	May	June	July	August	September	October	November	December
USA	PSF - Business Aviation Safety Summit http://flightsafety.org/meeting/bass-2015					13 - 14							
SIN	PSF - Approach and landing accident reduction info exchange http://flightsafety.org/meeting/singapore-meetings-2015		10 - 11										
SIN	PSF - Maintenance and Engineering safety forum http://flightsafety.org/meeting/singapore-meetings-2015		12 - 13										
UAE	DCAA - world aviation safety summit http://aviationsafety.ae/			23 - 24									
GER	SASI 2015								24 - 27				
T.B.D	MENASASI												
T.B.D	Gulf Safety												
T.B.D	International FDR/CVR Investigation Research Group Meeting												
CA	CAO Workshop on Best practices to prevent Runway Incursion/Runway excursions and PANS-AGA GREPECAS- Project F2					18 - 22							

Abdullah Felimban
Adnan Malik
Abdullah Abualhail
Mohammed Abdulbari
Ismail Kashkash

Approved By: **Abdullah Felimban**
Director Safety Analysis & Prevention

Approved By: **Koshy**

Capt. Ibrahim Al-
Director General



Training Schedule

Frequency	Focus:	Conducted by:
Every 24 months	Blood Borne Pathogen Training (Use of BBP Kits)	AIB
Every 24 months	Site Safety (Masks / Respirators / Protective gear/)	AIB
Every 24 months	Markings & Photography (Flags, Markers, Chalks, Spray)	AIB
Every 24 months	Evidence Collection & Preservation (Fluids / Solids / Perishables & packing & labeling)	AIB
Every 24 months	Field Equipment Familiarization (Tents/Shades/Lighting/Barriers/Generators/Personal Gear)	AIB
Every 12 months	Field Equipment Familiarization (Vehicle Equipment Familiarization/ 4x4 SUVs Truck)	AIB
Every 12 Months	CPR & Defibrillator training	AIB
Every 12 Months	First aid / CPR training	Saudi Red Crescent
Monthly	Field Equipment Exercise (FARO 3D Laser Scanner)	AIB
Monthly	Field Equipment Exercise (UAV)	AIB

Go-Team PPE & Equipment



Evidence Collection



Flags & Marking Kit



First Aid and Hygiene



PPE Supplies

Go-Team PPE & Equipment



Cordon/ Barrier & Site Protection



Personal Kit with Backpack



Personal Backpack & Survival Gear



Personal Kit Contents

3D Laser Scanner

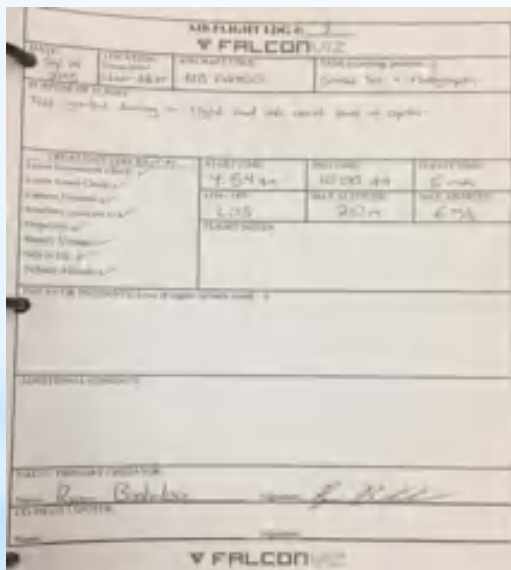


Satellite Imagery



Aerial Imagery





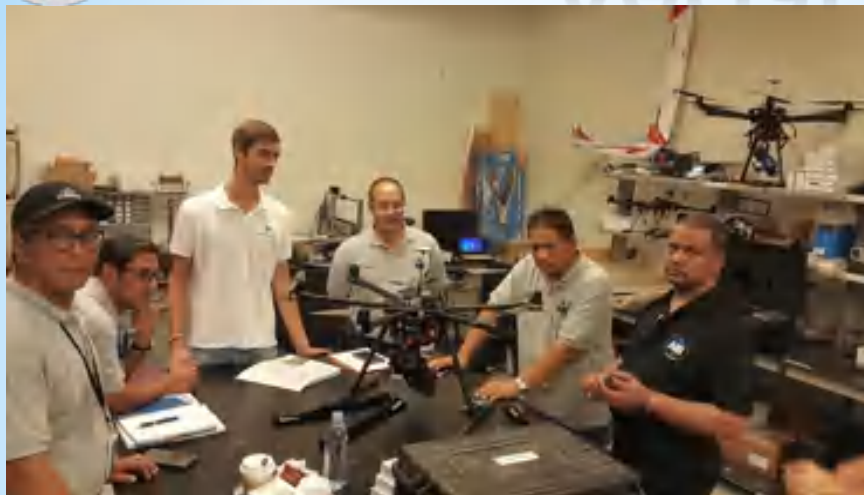
FALCON3Z DETAILED PRE-FLIGHT CHECKS (850 HEXACOPTER)



1. **Assembly** – If needed, assemble the system: attach the legs to the engine first, then the control system. Make sure the two arms, make sure the control unit is attached below the motor-motors (the colored and brown) and the arm has to be inside.
2. **Arm Check** – make sure that all the arms are already mounted on the frame and that all motor wires are already connected respectively (2x1 with red wire, green & blue with red wire on the bottom).
3. **Engine Check** – perform a quick inspection with your hands: no electric facilities were cut, there are no loose screws or bolts on the engine.
4. **Engine Check** – check the position and make sure that there is no damage on them and that they are mounted correctly: push the three screws, ensuring complete contact with only using manual pressure (using the correctly size of the top nut to fit).
5. **Balance** – check the balance your engine and make sure that the top engine balances using the controller.
6. **Arms Check** – make a rotation test to the ground between both arms (use the motor to be used later).
7. **Power On Inspection** – power on the transmitter and make sure they have a voltage greater than 2.0 volt.
8. **Check an Engine Battery** – check the voltage of the ground station battery and make sure that it has a voltage greater than 2.0 volts per cell. Then power on the ground station and wait the ground station, make sure.
9. **Check an Engine Battery** – check the voltage of the three engine battery and make sure that it has a voltage greater than 2.0 volts per cell. Then power on the engine battery.
10. **Check the Battery** – check the voltage of the flight batteries and the ground battery, make sure that the flight battery has a voltage greater than 2.0 volts per cell. Then plug in the two batteries followed by the ground battery and finally turn on the engine.
11. **Complete Calibration** – perform a complete calibration if you have already a long distance from your first flying (because if you are performing a complete calibration, it is required to be the first flight mission).
12. **Takeoff Attitude** – if necessary, correct the flight attitude to your PC and use the 4th mission software to change the attitude of the vehicle to be higher than the required attitude to the corresponding area.
13. **Check the Battery** – Connect to the ground station and make the desired mission.
14. **Arms Check** – Make the 3rd mission to decrease or load 3 missions.
15. **Check the Charge** – After doing a flight, make sure that all modules are working in the corresponding direction and that there are no abnormal status coming from the engine.
16. **Ready to Fly!**

Pre-Flight Checklist

Aerial Imagery



Drone Assembly



Concepts Discussions



Observation on Ground Station

Aviation Investigation Bureau Saudi Arabia



Technical Review - Drone

MENASASI 2015

Aerial Imagery



Practice Flights



Pre-Flight Preparations



Documentation of Flight Log



Familiarization of Remote Control

Recorders Lab



AIB Drills



Team on-site discussing Scope



Site preparation



Site Survey



Aerial Site Survey and Imaging

AIB Drills



PPE preparation



Tools and checklists execution



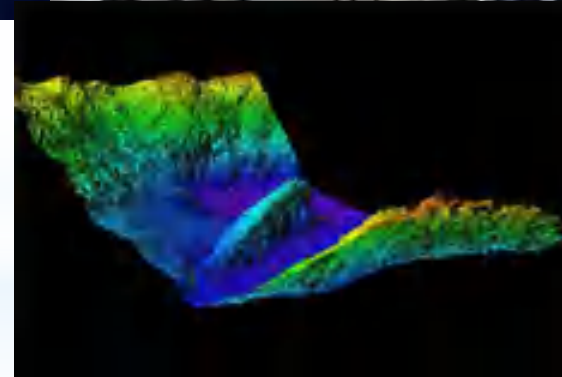
Team on-site



Site Laser Scanning and Imaging



AIB Partners



AIB Partners





What Investigative Capabilities Do you need?

- Strategy
- Plans
- Investigative Capability
= Personnel + Equipment



It is a continual process