

Taking Your Training Program to a New Flight Level



Training – The Big Picture

Training requires all of the following:

- Training program
- Course outlines
- Training records
- Evidence that the training was “effective”



Training – The Big Picture – Training Program



5.5.0 Overview of Personnel Training Requirements

5.5.1 Flight Crewmembers

Type of Training	Source	Initial	Recurrent	Completed
General Training				
Company Procedures Training	IS-BAO	Within 3 months of arrival	Upon Changes	
SMS Training	IS-BAO	Within 3 months of arrival	Upon Changes	
Security Procedures Training	IS-BAO	Within 3 months of arrival	24 months	
Emergency Response Plan Training	IS-BAO	Within 3 months of arrival	24 months	
Fatigue Management Training	IS-BAO	Within 3 months of arrival	Upon Changes	
Emergency Procedures	IS-BAO	Prior to acting as a crewmember	12 months	
First Aid, AED, CPR Training	IS-BAO	Within 3 months of arrival	12 months	
Cold Weather Operations	IS-BAO	Prior to cold weather operations	12 months	
High Altitude / Chamber Training	IS-BAO	Initial jet training or within 24 months	60 Months	
Crew Resource Management	IS-BAO / FAA	Within 6 months of arrival	12 months	
Dangerous Goods Recognition Training	IS-BAO / FAA	Within 3 months of arrival	24 months	
Upset Prevention and Recovery Training	Company / FAA	Within 3 months of arrival	24 months	
Aircraft Type				
Type Ground Training	IS-BAO / FAA	Prior to acting as a crewmember	12 months	
Type Simulator Training	IS-BAO / FAA	Prior to acting as a crewmember	12 months	
Lower Takeoff Minimums	FAA	Prior to Lower Takeoff Ops	12 months	
Servicing & Ground Handling	IS-BAO	Within 3 months of arrival	Upon Changes	
MMEL	IS-BAO / FAA	Within 3 months of arrival	Upon Changes	

Training – The Big Picture – Training Program

“We train too much already...”

“Yes, you may. Why don’t you train better?”



Training – The Big Picture – Training Program

Why are you training on _____?

“That is how we have always done it...”

“I inherited training when Bob left...”

“Because our scheduling program shows it’s due.”

“I don’t know why.”



Training – The Big Picture – **Training Program**

A challenge to a quality training program is time.

Is your focal attention on what training is due next month or 6 months from now?



Training – The Big Picture – Training Program

Training Needs Assessment

Training Needs Assessment

IS-BAO prescribed topics for all registrants (Table A)

	Reference	Who	Frequency *
Aircraft Surface Contamination	IS-BAO 8.1.3.1.b.ii. IS-BAO 8.1.4.1.b.iii. IS-BAO 8.1.4.2.c.iii.	<input checked="" type="checkbox"/> Pilot	<input checked="" type="checkbox"/> Initial
		<input type="checkbox"/> Mechanics/Engineers	<input type="checkbox"/> 12 months
		<input checked="" type="checkbox"/> Cabin Attendant	<input checked="" type="checkbox"/> 24 months
		<input type="checkbox"/> Scheduler/Dispatcher	<input type="checkbox"/> 36 months
Cabin Systems	IS-BAO 8.1.4.1.a.	<input type="checkbox"/> Pilot	<input checked="" type="checkbox"/> Initial
		<input type="checkbox"/> Mechanics/Engineers	<input checked="" type="checkbox"/> 12 months
		<input checked="" type="checkbox"/> Cabin Attendant	<input type="checkbox"/> 24 months
		<input type="checkbox"/> Scheduler/Dispatcher	<input type="checkbox"/> 36 months
Dangerous Goods	IS-BAO 8.1.3.1.b.iii. IS-BAO 8.1.4.1.b.iv. IS-BAO 8.1.4.2.c.iv. IS-BAO 11.2.2 ICAO Technical Instructions / IATA DGR State requirements	<input checked="" type="checkbox"/> Pilot	<input checked="" type="checkbox"/> Initial
		<input checked="" type="checkbox"/> Mechanics/Engineers	<input type="checkbox"/> 12 months
		<input checked="" type="checkbox"/> Cabin Attendant	<input checked="" type="checkbox"/> 24 months
		<input checked="" type="checkbox"/> Scheduler/Dispatcher	<input type="checkbox"/> 36 months
Emergency Procedures	IS-BAO 8.1.3.1.b.i. IS-BAO 8.1.4.1.b.i. IS-BAO 8.1.4.2.c.i. IS-BAO 8.3.1	<input checked="" type="checkbox"/> Pilot	<input checked="" type="checkbox"/> Initial
		<input type="checkbox"/> Mechanics/Engineers	<input type="checkbox"/> 12 months
		<input checked="" type="checkbox"/> Cabin Attendant	<input checked="" type="checkbox"/> 24 months
		<input type="checkbox"/> Scheduler/Dispatcher	<input type="checkbox"/> 36 months
Emergency Response Plan	IS-BAO 4.3.1	<input checked="" type="checkbox"/> Pilot	<input checked="" type="checkbox"/> Initial
		<input checked="" type="checkbox"/> Mechanics/Engineers	<input type="checkbox"/> 12 months
		<input checked="" type="checkbox"/> Cabin Attendant	<input type="checkbox"/> 24 months
		<input checked="" type="checkbox"/> Scheduler/Dispatcher	<input type="checkbox"/> 36 months
Fatigue	IS-BAO 12.1.1.b.	<input checked="" type="checkbox"/> Pilot	<input checked="" type="checkbox"/> Initial
		<input checked="" type="checkbox"/> Mechanics/Engineers	<input type="checkbox"/> 12 months
		<input checked="" type="checkbox"/> Cabin Attendant	<input type="checkbox"/> 24 months**
		<input checked="" type="checkbox"/> Scheduler/Dispatcher	<input type="checkbox"/> 36 months
First Aid	IS-BAO 8.1.3.2 IS-BAO 8.1.4.1.b.ii. IS-BAO 8.1.4.2.c.ii.	<input checked="" type="checkbox"/> Pilot	<input checked="" type="checkbox"/> Initial
		<input type="checkbox"/> Mechanics/Engineers	<input type="checkbox"/> 12 months
		<input checked="" type="checkbox"/> Cabin Attendant	<input checked="" type="checkbox"/> 24 months
		<input type="checkbox"/> Scheduler/Dispatcher	<input type="checkbox"/> 36 months

Training – The Big Picture – Training Program

Training Needs Assessment Output

4.10 Overview of Personnel Training Requirements

Aviation Training Program Overview			
Training Program	Training Vendor	Reccurent Interval	Who must complete this training
Company Onboarding	Internal	Initial Only	All personnel
Aircraft Specific Type Training	CAE	Initial and 6 or 8 Months	Pilots / Mechanics / Flight Attendants
Corporate Aviation Manual (CAM) Training	Aircrew Academy	12 months	All personnel
iPad Training	Aircrew Academy	Initial Only	Pilots
Proficiency Check Observation Flight	Internal	12 months/Aircraft	Pilots
Winter Operations/Surface Contamination Check	Aircrew Academy	12 months	Pilots / Mechanics / Flight Attendants
Emergency Procedures (Emergency Equipment, Smoke/Fire, Ditching)	Internal	24 months	Pilots / Flight Attendants
Emergency Skills (CPR/AED and in-flight emergencies)	Internal	24 months	Pilots / Mechanics / Flight Attendants
Hazmat (Will Not Carry)	Aircrew Academy	24 months	All personnel
Safety Management Systems (SMS)	Aircrew Academy/ ARGUS Inc.	24 months	All personnel
High Altitude Training	Aircrew Academy	36 months	Pilots / Flight Attendants
Controlled Flight Into Terrain	Aircrew Academy	36 months	Pilots
Fatigue Management	Aircrew Academy	36 months	All personnel
ILS/PRM	Aircrew Academy	36 months	Pilots
International Training including Domestic RVSM	CAE	36 months	Pilots
Minimum Equipment List (MEL)	Aircrew Academy	36 months	Pilots / Mechanics
OSHA	Aircrew Academy	36 months	Pilots / Mechanics / Flight Attendants
Runway Incursion and Excursion Training	Aircrew Academy	36 months	Pilots
Security Procedures including local hangar security	Aircrew Academy/ Internal	36 months	All personnel
Traffic Collision Avoidance Systems (TCAS)	Aircrew Academy	36 months	Pilots
Weather Radar Training	Aircrew Academy	36 months	Pilots
Crew Resource Management and Human Factors Training	Aircrew Academy	24 months	All personnel
High Altitude Chamber Training	Sothorn AeroMedical Institute	10 years	Pilots

Methods of Training



What are some unique things operators are doing to deliver effective and efficient training?



Which Came First? The Chicken or the Egg?

- Does Training Drive Safety?
- Does Safety Drive Training?
- Does Culture Drive Both?



The answer is YES



- *Training, Safety, and Culture* all feed off of each other
- Try to establish and maintain a culture of **continuous improvement**
- **INVEST** in your people
- Encourage **ENGAGEMENT**



Safety/ASAP Reports





ASAP and WBAT Reports:



- Approximately 12 reports involving some sort of VNAV descent scenario.
- 1 ASAP report that resulted in recommended changes to our training system.
- 1 Mexico report involving non-typical operations



VNAV Error Message



Mexico Ops



Investment and Engagement Through Training



- If we are going to train, let's train as **specific to our operation as possible.**
- **Customize** training wherever possible
- Give flexibility to allow employees to **choose their training**
- Allow employees to give **feedback, make changes, and teach others**



Customized Training-SOPs



Low Visibility Operations



Standard Operating Procedures



Midwest Aviation

Pilot Assessment of Visibility

TAKEOFF ALTERNATES (USA ONLY) SOP 14.1

- Takeoff alternate must be specified in the IFR flight plan if you are taking off below applicable operating mins or if you cannot get back into the airport of departure in case of emergency (or other reasons). Not good enough to just verbally talk about a plan. Must be filed.
- Crew must determine that the weather and NOTAMS must be above landing minimums for the takeoff alternate at the time needed.
- Must be within **1 hour's flying** time at normal cruise speed. (Considerations for single engine cruise???)



Customized Training-Aircraft



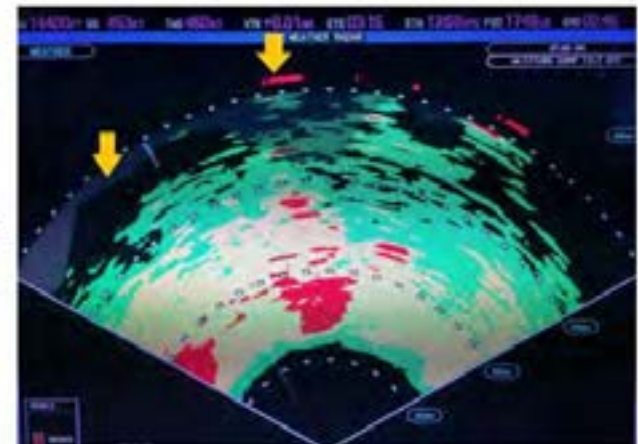
Weather Radar

Radar Beam Control

All modern weather radars have an **attenuation alert**. Known by various trade names, the alert function warns the crew when the radar runs out of energy; that is, warns of possible radar shadows where the radar is incapable of providing data.

The alert system basically sums the strength and range of echoes at a particular azimuth. If the sum of all the echoes meets the maximum amount of reflected energy possible, a warning is annunciated. In Rockwell Collins radars, this is a blue arc called PAC Alert. In Honeywell radars, it is a blue area called REACT. These systems do not relieve the pilot of the responsibility to avoid flying into areas where the radar may be beyond its capabilities.

Other radar circuitry artificially emphasizes targets in proportion to their distance ahead of the aircraft. Ordinarily, long-range targets appear weaker than reality dictates. These circuits compensate for this, helping the pilot see more realistic echoes from longer range cells.



Customized Training and Feedback

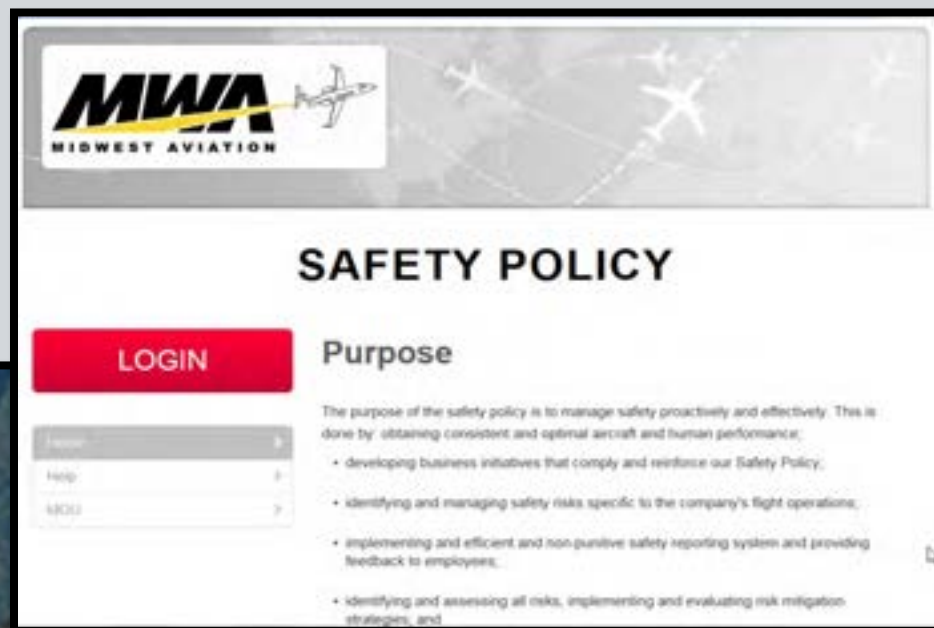


“Hey Cole, a few years ago we had a lightning strike on a Falcon and Steve wrote an article about it, can we throw that in next month’s module?”

Despite what Steve [redacted] may lead you to believe, Falcons can and will be struck by lightning. In years past, we had a lightning strike on a Falcon 50 leaving Denver Centennial. Climbing out of FL250 in very light precipitation and clouds (about 20 nm away from storms to the north), they encountered a lightning strike. Other than momentary static on the radios, the flight continued safely to their destination. Pictures of entry on the nose diverter strips and exit on the wing static wick are shown here.



Customized Training and Feedback



Customized Flight Training



Midwest Aviation Additional Training

Training Events:	Date Completed:	Certified
600 RVR: Blown Tire below V1	02/28/18	
RNAV SID/STAR	02/28/18	
Emergency Descent		
CFIT		
Smoke in cabin/cockpit	03/01/18	
LPV Approach	02/28/18	
Unstable slam dunk/rushed Approach	02/28/18	
Utilizing VNAV for STAR crossing ALTs	02/28/18	
Abnormal landing requiring AFM performance calculation	02/28/18	
V1 cut with takeoff requiring APG alternate departure procedure		
Single engine missed w/Stall		
Dual Engine Flameout		

CREW CHECKLIST & QUICK REFERENCE HANDBOOK

LEARJET 75





RUNWAY EXCURSIONS



Dan's Top 10

1

Flight discipline

2

Actual runway condition

3

What's your factor?

4

Keep an eye on the wind

5

Is the runway grooved?

6

Tailwind?

7

Landing technique

8

Anti-skid use

9

Don't be a follower

10

Socks and underwear



REDUCING BUSINESS AVIATION RUNWAY EXCURSIONS

How to mitigate the level of risk of runway excursions

Case Study



KOWA Runway Excursion

On July 31, 2008, about 0945 central daylight time, East Coast Jets flight 81, a Hawker Beechcraft Corporation 125-800A airplane, N818MV, crashed while attempting to go around after landing on runway 30 at Owatonna, Minnesota.

Arrival to KOWA

The OWA AWOS reported calm winds and visibility of 10 miles in thunderstorms and rain, and the remarks indicated that lightning was detected in the distance in all quadrants.

During the descent, the controller asked the crew if they saw extreme precipitation 20 miles straight ahead. The first officer responded, "yeah, we're paintin' it here and... what is the bases (report)?" The controller responded that he did not know what the cloud bases were but did know that the cloud tops were "quite high." The controller added, "I don't recommend you go through it. I've had nobody go through it." The first officer responded that he would like to deviate to the right, and the controller approved the deviation.

The controller asked the crew to state their intentions and added, "I can't even give you a good recommendation right now." The captain replied, "I got it clear probably for another forty miles." The CVR recorded the captain saying, "I didn't really hear

CVR recorded the sound of increased background noise consistent with rain impacting the windscreen.

About 0935, the pilots started the descent to 7,000 feet; however, according to the CVR recording, neither pilot commanded the initiation of the Descent checklist.

CRM

The presence of rain, changing winds, and the controller's comments should have alerted the pilots to the fact that the weather was worse than anticipated and that they might experience difficulty during the landing; however, evidence indicates that the pilots did not consider these factors or reassess the landing situation.

The captain's failure to conduct an approach briefing is especially problematic given the unexpected adverse weather conditions, including the tailwind, that the flight encountered during the descent and approach. An approach briefing would have helped the captain and first officer develop a shared mental model of the coming landing operations, which would have encouraged the first officer's coordination and support in monitoring external factors such as weather and runway conditions, and would have mentally prepared the pilots to properly deal with an abnormal or emergency situation.

Prescribed Topics for All Registrants



- All Personnel (recommended)
- No prescribed topics
- TEM (2018)

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Keep in touch...

dan@aircrewacademy.com



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