

# AREA 100 KSA ASSESSMENTS



## Wing loading - Angle of incidence

Wing loading



- The angle between the wing chord line and the fuselage axis
- Angle of incidence
- Angle of attack



POSITIVE CAMBER



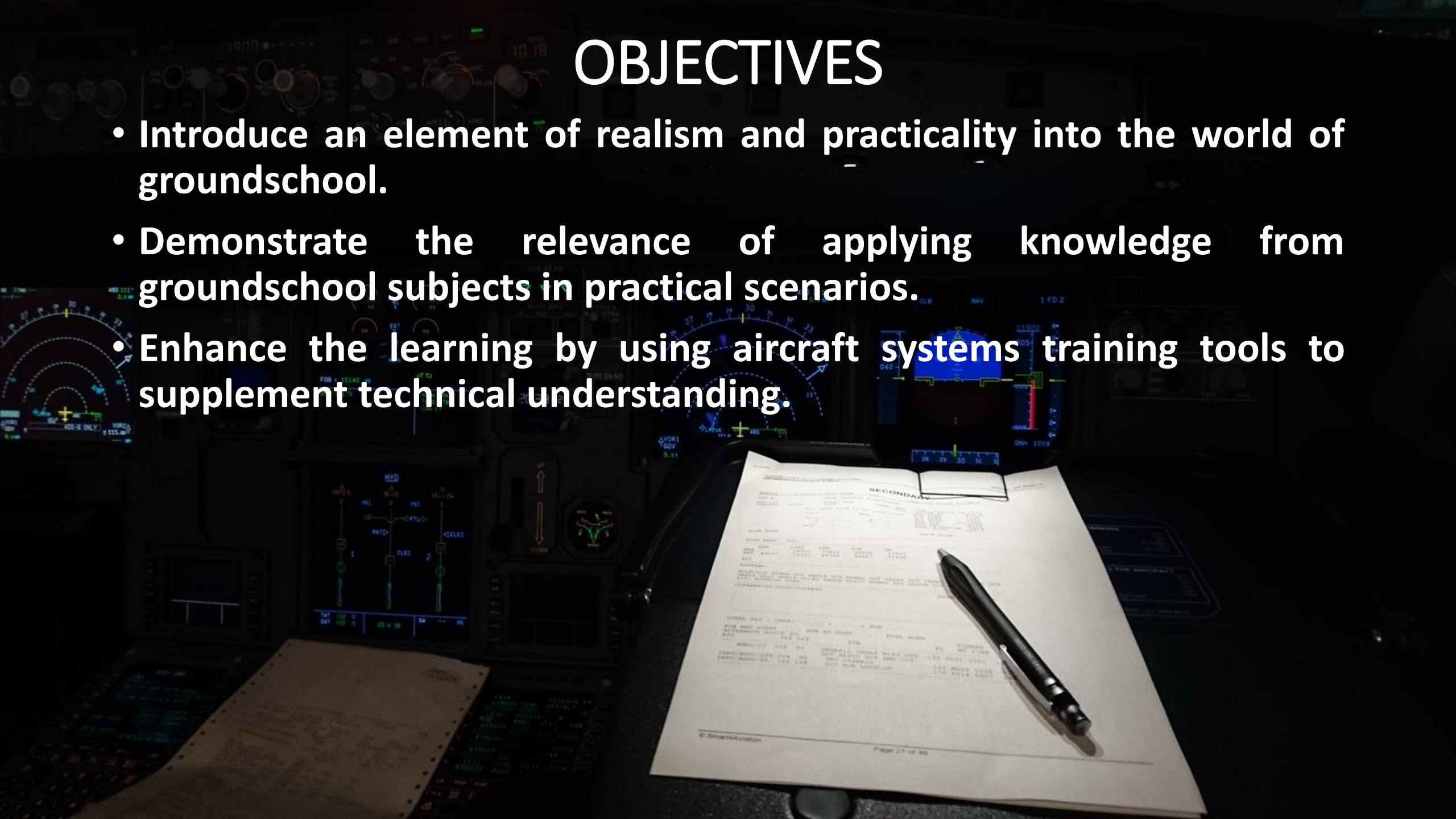
SYMMETRICAL



NEGATIVE CAMBER

# OBJECTIVES

- Introduce an element of realism and practicality into the world of groundschool.
- Demonstrate the relevance of applying knowledge from groundschool subjects in practical scenarios.
- Enhance the learning by using aircraft systems training tools to supplement technical understanding.





# EXERCISES

- Can typically be divided into two main types:
  - Technical aspects, technical exercises.
  - Day to day operational aspects, scenario based exercises.
- The training facilitators must have relevant background or training to achieve the desired effects.
- Easier to achieve with technical aspects as the day to day operational aspects significantly benefit from experience.

# TECHNICAL ASPECTS

- Technical exercises.
- Using technology to achieve hands on experience in using aircraft equipment.
- Off the shelf or bespoke products.
- Must be a reasonably correct representation of the aircraft equivalent.
- Negative learning is an issue but minimised by elevating the use of the technology from typically being a game to become a work tool.





# FMS/FMGS

- Preparing an FMS/FMGS for a flight.
- A simple exercise not requiring any extra equipment with suitable applications being available for computers/tablets.
- Introduce the idiosyncrasies of the common CDU design.
- May be used to demonstrate some effects of common errors.





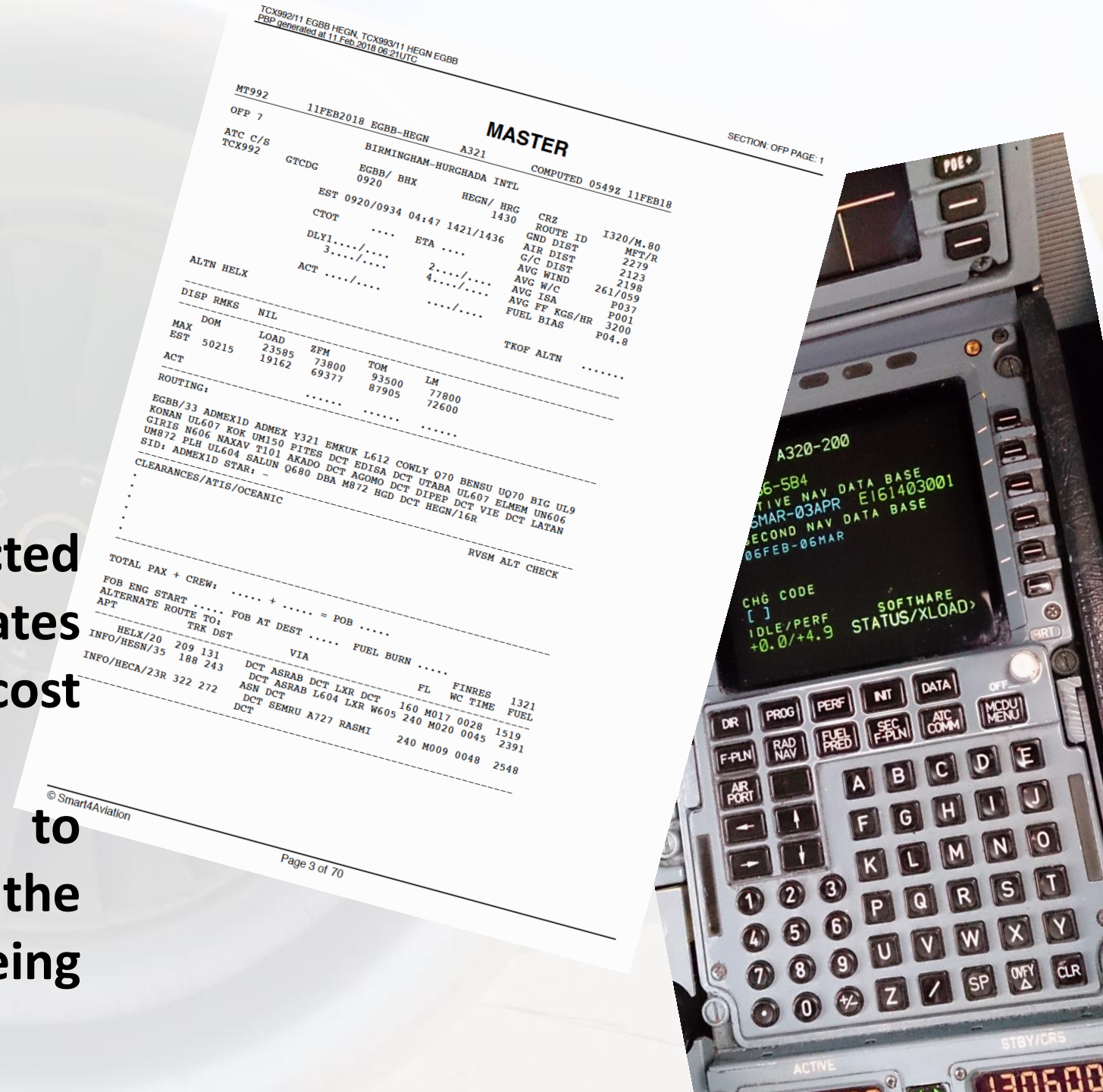
# FMS/FMGS

## Exercise requirements:

- FMS/FMGS application.
- Operational flight plan.

## Conduct:

- The exercise may be conducted with a group of candidates making it time and cost effective.
- The exercise may be used to complement elements of the 022 and 062 syllabus thus being time and cost effective.





# AUTOFLIGHT

- More complex to facilitate and requires more complex software.
- Requires more in depth knowledge from the instructor.
- Likely to significantly improve knowledge/understanding of 022 subject and ability to answer new scenario style ECQB questions.
- Available as applications to computers/tablets, similar to FMS/FMGS.
- Certain types of software allows for conducting exercises in groups thus increasing the time and cost effectiveness of the exercise.
- Ultimate device is a transport type aircraft flight training device or simulator.





# OPERATIONAL ASPECTS

- Operational scenarios covering various elements from theory.
- Verbal assessment of candidate using a discussion format.
- Requires the facilitator to have relevant knowledge and experience.
- Likely to significantly improve the ability to answer new scenario style ECQB questions.





# EXERCISE DESIGN



EXERCISE DESIGN

TCX2604/09 EGCC KMCO  
PBP generated at 09.May.2018 11:59UTC

MASTER

MT2604	09MAY2018	EGCC-KMCO	A332	COMPUTED 0402Z 09MAY18
OFP 8/0/1 MANCHESTER (UK)-ORLANDO INTL				
ATC C/S	EGCC/ MAN	KMCO/ MCO	CRZ CI26/M.80/CI26	
TCX2604	GCHTZ	1100	2020	
EST 1100/1119	08:59	2018/2028	ROUTE ID	NAT D
CTOT	....	ETA ....	GND DIST	4005
DLY1...../....	2...../....		AIR DIST	4111
3...../....	4...../....		G/C DIST	3677
ACT ..../....	...../....		AVG WIND	260/029
			AVG W/C	M010
			AVG ISA	P005
			AVG FF KGS/HR	5342
			FUEL BIAS	P03.3
ALTN KSFB			TKOF ALTN	.....

*** ETOPS/ETP FLIGHT ***				
DISP RMKS	NIL			
DOM	LOAD	ZFM	TOM	LM
MAX	45785	168000	230000	180000
EST 122215	24430	146645	202014	154045
ACT	.....	.....	.....	

ROUTING:	
EGCC/23R EKLAD1R EKLAD Y53 WAL M146 LUSOD DCT GOMUP D AVUTI DCT	
DUVBI DCT YWK DCT RJ DCT YMX DCT SYR DCT ULW DCT PSB DCT ESL DCT IRQ	
J85 AMG BUGG#2 KMCO/35L	
SID: EKLAD1R STAR: BUGG#2	
CLEARANCES/ATIS/OCEANIC	
RVSM ALT CHECK	
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TOTAL PAX + CREW: ..... + ..... = POB .....									
FOB ENG START .....		FOB AT DEST .....		FUEL BURN .....					
ALTERNATE ROUTE TO:									
APT	TRK	DST	VIA		FL	FINRES	2200		
						WC TIME	FUEL		
KSFB/09L	261	86	DCT TINKR COSTR3		90	M006 0023	2133		
INFO/KTPA/01L	251	115	DCT LAL DCT PIE DCT		120	P003 0027	2517		
INFO/KELL/10R	159	227	DCT PBI J79 DHP DCT		260	M001 0042	3931		

TCX2604/09 EGCC KMCO  
PBP generated at 09.May.2018 11:59UTC

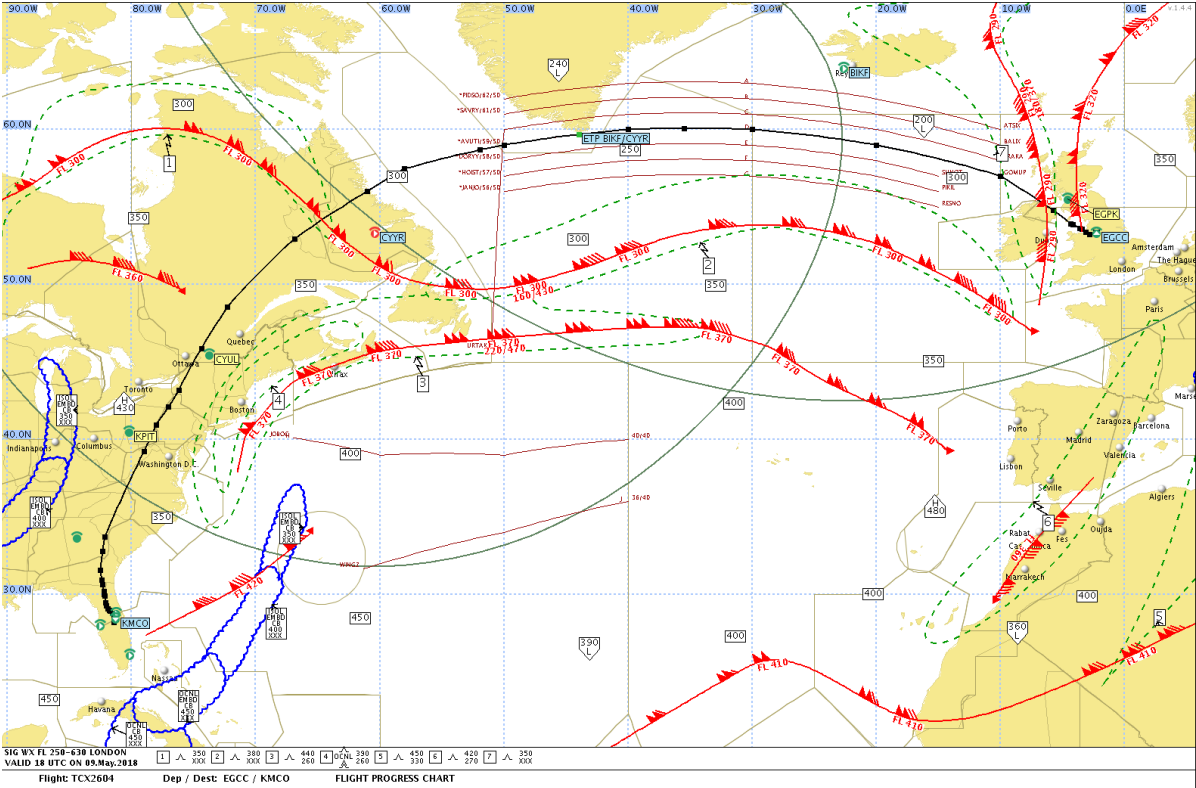
PLANNED FUEL

FUEL	ARPT	FUEL	TIME	FUEL	TIME
TRIP	KMCO	47969	0859	.....	....
CONT 3%	KATL	1067	0012	.....	....
ALTN	KSFB	2133	0023	.....	....
FINRES		2200	0030	.....	....
ETOPS ADDFU		0	0000	.....	....
MIN T/O FUEL		53369	1004	.....	....
TAXI	EGCC	475	0019	.....	....
MIN BLOCK FUEL	EGCC	53844		.....	....
ADDFU		2000	0022	.....	....
BLOCK FUEL		55844	1045	.....	....
N.I.C	(0)	.....		.....	....
EXTRA		.....	POSS EXTRA 25955L	.....	....
TOTAL FUEL	EGCC	.....		.....	....
NO TANKERING RECOMMENDED					

OPERATIONAL IMPACTS

WEIGHT CHANGE	DN 1.0	TRIP	M 0201 KGS	TIME	P 0000
WEIGHT CHANGE	UP 1.0	TRIP	P 0200 KGS	TIME	M 0000
FL CHANGE	DN FL1	TRIP	P 0422 KGS	TIME	M 0001
FL CHANGE	UP FL1		NOT AVAILABLE		
SPD CHANGE	M.82	TRIP	P 0414 KGS	TIME	M 0008

COMMANDER..... FO...../.....									
DISPATCHER: GRAHAM NULTY					COMMANDER SIGNATURE: .....				
ETOPS/ETP CRITICAL POINT INFORMATION (ETOPS RULE TIME: 180MIN)									
CRITICAL POINT FOR FUEL REQUIREMENTS: ETP1									
ETOPS INFORMATION		ELTME	TIME	DIST	MTCA	ICE	CFUEL	FOB	COND
				ISA	W/C				
ENTRY	BIKF	0233	0114	430	023	187	9562	35766	DX
N6005.6	W03528.8			M08	M003				
ETP1	BIKF/CYYR	0307	0149	654/664	046/042	279	14246	32579	DX
N5942.1	W04357.9			M09/M13	M003/P003				
EXIT	CYYR	0340	0112	430	035	182	9271	29477	DX
N5841.3	W05155.4			M14	P007				
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ENRTE ALTNS (WEATHER SUITABILITY PERIOD)									
BIKF/10	CATIDME	15:05	17:31	WX MIN:	400-1350	FCST	WX:	2000-9999	
CYYR/26	LOC BB	16:11	17:32	WX MIN:	727-3024	FCST	WX:	9999-9999	





# ASSESSMENT OF EXERCISES

- **ED Decision 2018-001-R specify the following LOs for competency:**
- **100.02.01.00 – Communication.**
- **100.02.02.00 – Leadership and teamwork.**
- **100.02.03.00 – Problem-solving and decision-making.**
- **100.02.04.00 – Situation awareness.**
- **100.02.05.00 – Workload management.**
- **100.03.01.00 – Application of knowledge.**

# ASSESSMENT OF EXERCISES

- Although application of procedures does not form part of the LO series it may be evident during technical exercises with respect to how instructions are followed.
- For operational aspects (scenario exercise) the relevant core competencies are more evident due to the nature of the exercise (verbal).
- Exercise may be generic for better comparison between candidates or customised based on the knowledge and skills demonstrated by the candidate.



# ASSESSMENT GRADING

GRADE	RESULT	COMMENT	NOTES
1	PASS	Very Good	Performance to very good standard. Minor errors may still be made, but these are trapped or managed well. Minor points may be debriefed. Behaviour optimally enhances flight safety and could serve as an example for other pilots.
2	PASS	Good	Performance is to a good standard. Inconsequential errors may be made that are not trapped or managed appropriately. Some items may be debriefed. Displays sound underlying proficiency. Behaviour enhances flight safety.
3	PASS	Acceptable	Performance to an acceptable standard. Consequential errors may not always be trapped, or may be managed with difficulty. Safety margin intact. No concerns about underlying proficiency. Some room for improvement. Behaviour does not endanger flight safety but needs improvement.
4	FAIL	Poor	Performance is to a poor standard. Errors are mismanaged or ignored inappropriately. Safety margins may have been reduced. May benefit from some additional training. Behaviour in other conditions could endanger flight safety.
5	FAIL	Very Poor	Performance is unacceptable. Errors are mismanaged or ignored. Safety margins may have been compromised. Considerable concerns over ability to operate effectively. Retraining required. Behaviour directly endangers flight safety.

Please note that additional guidance is provided in relation to use of ICAO Competencies - See additions

Level Achieved					
	1 Unsatisfactory	2 Minimum Acceptable	3 Satisfactory	4 Good	5 Very Good
Overall Guidance.	Ineffective performance which resulted in an unacceptable reduction in safety margin, by rarely demonstrating any of the Performance Indicators when required.	Minimum acceptable performance but which overall did not result in an unsafe situation, by only occasionally demonstrating some of the Performance Indicators when required.	Adequate performance which resulted in a safe situation, by regularly demonstrating most of the Performance Indicators when needed.	Effective performance which enhanced safety by regularly demonstrating all of the Performance Indicators when required.	Exemplary performance, which significantly enhanced safety, efficiency and effectiveness by always demonstrating all of the Performance Indicators when needed.
Technical					
	1 Unsatisfactory	2 Minimum Acceptable	3 Satisfactory	4 Good	5 Very Good
Aircraft Flight Path Management, Manual Control.	The pilot did not control the aircraft effectively, by rarely demonstrating any of the Performance Indicators when	The pilot controlled the aircraft at the minimum acceptable level, by only occasionally demonstrating some of the	The pilot controlled the aircraft adequately, by regularly demonstrating most of the Performance Indicators	The pilot controlled the aircraft effectively, by regularly demonstrating all of the Performance Indicators	The pilot controlled the aircraft in an exemplary manner, by always demonstrating all of the Performance

# DISTANCE LEARNING

- Distance learning candidates already hold a licence and should, by default, already possess some of the desired competencies.
- One option is to conduct all of the Area 100 KSA assessments during the required residential part of the course.
- Alternative is to use/develop an application that records the completion of a task by the candidate and compare this to established standards.
- Using a CBT style assessment does, however, make it challenging to assess some of the soft skills LOs due to complete lack of human interaction.



# DISTANCE LEARNING

- These are two examples of how the technical and operational aspects assessments may be conducted.

## Technical aspects:

- Some of the 022 and 062 revision time may be substituted by the technical exercise thus increasing the efficiency of the use of time.

## Operational aspects:

- The operational aspects may be covered using a conference call style format with the candidate. This will enable human interaction making it possible to also assess soft skills elements of the LOs.

# CONCLUSION

- **Significantly improve preparation for the new scenario style ECQB questions.**
- **Bridge the gap and ease the transition between the theoretical and the practical training.**
- **Does not have to result in a major impact on course timelines.**
- **Requires the facilitator to have greater knowledge and up to date experience further increasing the overall quality of the course.**