



TRAINING & FLIGHT SERVICES

MPL Program



LIFECYCLE
SOLUTIONS

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MPL Program

- Overview
- Competency Based Training
- Boeing's MPL Competency Based Program
- Australian BETA Trial
- Results of the BETA Trial



Overview

- Embrace modern technology and methodologies.
 - Glass cockpits.
 - Advanced simulation.
- Competency based.
 - Demonstrate proficiency in certain skills and abilities before moving from one level to the next or earning the final certificate or license.
- Crew concept.
- CRM and TEM.
- Focused training.


Overview



MPL is not a quicker or cheaper way to train a pilot!!!

Overview

MPL is a cost effective way to provide focused training to better prepare a pilot for the right seat of a multi-engine transport aircraft!!!



Competency Based With Only 2 Aircraft Types

- Integrates Competency based criteria through out.
- Utilizes new technology from beginning.
- MCC, TEM and CRM from the beginning.
- Airline SOP's from the beginning.
- Airline type manuals (FCOM, QRH from the beginning.



“Glass” single engine airplane supported with level 5 FTD



Commercial Aircraft Level D FFS supported with level 5 FTD

Reduced
Base
Training
(12 TO & LDGS)

MPL BETA Program deployment

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Why Australia?

- CASA was the first regulator who committed to creating MPL regulations and the license.
- Fair weather climate is excellent for flight training.
- We have 737NG training capability in Brisbane.



Alteon MPL BETA Program deployment

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Why Chinese cadets?

- China needs ~2,000 new pilots each year for next 15-20 years.
- Current CAAC 141 training is spread across 33 flight schools globally under 5 different regulatory and licensing requirements.
- CAAC was an early adopter and supporter of MPL.

Australian BETA Test Results

- Core
- Basic Piston
- Basic Turbine
- Intermediate
- Advanced
- Base Training

Core

- Laptop and desktop trainer, together with Diamond FTD were invaluable.
- Cadets became very skilled at using Garmin1000 avionics and autoflight .
- Cockpit mounted camera excellent tool for debriefing and for monitoring cadet performance during solo flying.

Observations

- English proficiency caused learning difficulties.
- Basic flying skills to solo standard would be better achieved at beginning of core.
- too much time inside the cockpit during VFR flying.
- Recommend Diamond FTD be equipped with autopilot and flight director.
- Solo flying required changing from RHS to LHS.
- Recommendation that pilots fly solo cross country as a crew.

Basic Piston

- FTD an excellent tool to teach instrument flying technique and procedures.
- Skills developed rapidly flying precision and non precision approaches.
- CRM,TEM, and situational awareness were developed in busy CTAF operations.
- ILS,NDB,VOR and GNSS letdowns with diversions were carried out at multiple airports.

Basic Turbine and Intermediate

- Conducted in 737NG Level 5 FBS and 737NG Level D FFS.
- Excellent standard and adaptability due to familiarity with a glass cockpit as result of the Garmin 1000 experience.
- Familiarity with use of QRH and manuals as Diamond manuals and QRH same format as B737NG.
- Adapted quickly to high speed jet asymmetric training.
- All Normals and Non Normals were well handled.

Advanced

- Standard Boeing Type Rating Course conducted in Level D 737 FFS.
- Multi skill test developed by CASA.
- 2 sessions:
 - First the standard type rating test.
 - Second a loft exercise to focus more on the Multi-crew skills and CRM.
 - Conducted by CASA and observed by CAAC.
- High Standard displayed by all Cadets
- Extra circuit training sessions including 20 kts x-winds, reversals, and approaches without electronic guidance.

Base Training

- Conducted at Nantong and Xiamen.
- Observed by CAAC, CASA and Boeing.
- Scheduled for minimum 12 touch and go circuits.
- Handling skills displayed in the simulator transferred to aircraft.
- All cadets demonstrated proficiency within the minimum requirement of 12 take off and landings.
- The standard *ab initio* training requires 30 take off and landings
- Cadets now issued with Australian and Chinese MPL licenses.

Results of the BETA trial

How good were the results?

- Quote from CASA Inspector Capt. MacMillan who observed the type rating check ride in Brisbane.

“The standards demonstrated by your graduates in both aircraft manipulation and flight management impressed me greatly, to the extent that I consider them equal to the best that I have previously witnessed. They displayed a maturity and experience that they simply have not had time to obtain and their success must, therefore, reflect both their own diligence and the high standards of training that they have received since they commenced the program. They really performed in an excellent manner in each assessment that I observed.”

Results of the BETA trial

- Quote from CASA Inspector Capt. Clive Adams who observed the base training in China at both China Eastern and Xiamen airlines.

“Each of the 6 candidates exhibited skills far beyond what I expected of pilots with just 250 odd hours of total experience. In fact their abilities were consistent with (and in some cases exceeding) that of crews I have observed with years of experience on type.”

Results of the BETA Trial

How many hours did it take to achieve end level competency and earn their MPL licenses?

PF AC DA40	PF FTD DA40	PF FTD FFS 737NG	PF Total	PM FTD DA40	PM FTD FFS 737NG	PM TOTAL	PIC	GRAND TOTAL
98.5	60.6	120.7	279.8	46.5	120.7	167.2	10.2	457.2

MPL Footprint

Complies with Canadian MPL regulations



Total Program Length: 52 weeks

Conclusions

What were the lessons learned?

- English language fluency level determines training pace.
- Use of high fidelity simulation even in basic primary training transfers effectively to the aircraft.
- Use of video debrief together self critique techniques were very powerful tools especially where language is a challenge.

Conclusions

What were the lessons learned?

- There is no need for light twin or light jet to bridge from the single engine “glass” piston trainer to the 737NG.
- Instructor training for piston Instructors critically important to ensure they are proficient in teaching competency based training.
- Cadet selection is a key element, recommend screening for aptitude, attitude, personality and IQ.

Questions????

