

A Rose Among Thorns in Aircraft Maintenance



Emira Junita binti
Abdullah

The Malaysian aviation industry is highly male-dominated. However, this has not deterred Puan Ainun Abdul Jalil from entering this exciting industry. She is one of the few experienced Licenced Aircraft Engineers and she also holds a Bachelor of Engineering (Aerospace) from Universiti Putra Malaysia.

Puan Ainun chose aviation because of a desire to challenge herself to do something different. She wanted to show that women can be as competent as men in a male-dominated field.

After completing her degree in Aerospace Engineering, Puan Ainun found that the local industry was more focused on airline services. The situation forced her to re-examine her career path and that led her to be a licenced aircraft engineer.

"The local industry is more geared towards airlines industries rather than manufacturing. There is more opportunity for work in the airlines industry, specifically aircraft maintenance. Basically, to be an Aircraft Maintenance Licence (AML), you need the licence. Maintenance personnel cannot carry

out maintenance work on airplanes/helicopters without a licence from the authorities," she says.

"Malaysian civil aviation is governed by the National Aviation Authority or Department of Civil Aviation Malaysia (DCAM). All the requirements and qualifications for an AML are defined in the Malaysia Civil Aviation Regulation (MCAIR) and DCA Airworthiness Notice (AN). This was why I decided to further my studies in the Aircraft Maintenance Engineer Licence programme."

Puan Ainun is experienced in two different types of aircraft maintenance: Maintenance, repair & overhaul (MRO) and line maintenance. Both have different challenges and exposures but the responsibilities are similar. The job of the Licenced Aircraft Engineer (LAE)

is to certify maintenance work, such as to carry out inspection, repairs and troubleshooting for defect rectification on aircrafts. The LAE supervises a group of mechanics working on the aircraft by giving them instructions and guidelines to complete the task. The LAE is also responsible for inspecting the task/job done and will provide certification (Certificate Release to Service) to declare that the aircraft is airworthiness compliant and ready for the next flight.

At present, women face various challenges in the aircraft maintenance industry. "I believe men and women complement each other in the workplace. Initially, it may be hard to gain the workers' trust and change their perception. In their opinion, heavy industries like aviation are not suitable for women. However, when you show that you're good at your work, they will eventually support you. Besides, women have an advantage when it comes to certain tasks because of their relatively smaller and more flexible hands, for example task involving aircraft wings and the fuel tank. Women also tend to be more meticulous, for example in discovering small cracks in the aircraft engine during checks and installing bolts. In these situations, women have the upper hand."

A good support system is vital for women to feel accepted in this field. "I have many male mentors who are my batch mates. We support each other. I was also inspired by a female apprentice from one of the MRO who I worked with. She guided me on how to survive in this male working environment."



Maintenance works



Group photo session

Her team leader, Encik Azizhadi bin Yaakop, agrees on the critical need for convergence and inclusion. "In the modern engineering world, men need to be the confederate for women and minorities to create an environment in which everyone can be tranquil, in order to realise true inclusion. This will benefit particularly the growth of the aviation industry through diversity which further supports the inclusion of a female workforce as part of the team by encouraging different perspectives and ideas that drive innovation and creativity."

He feels that the aviation industry can do more to encourage diversity. "The rapid growth of the industry demands that we face challenges within the system. We must also challenge the typecast prejudice that still pervades our society, particularly in engineering. Attracting and retaining a more diverse workforce will maximise the potential of the aviation world via transformation, innovation and competitiveness," he says.

In recent years, more Malaysian women have shown an interest in aviation and this is reflected in the increase in the number of female aerospace engineers. However, continued effort is required to attract and retain women. "Many young people have little understanding of what engineers actually do. There are greater opportunities now than previously. Part of today's problem is the lack of visible role models.

I believe that if young women are continually exposed to successful role models in the industry, more will believe that non-traditional roles are suitable for them too. Women need to be more confident in their abilities and to improve their networking skills. It is harder for them in environments such as aviation/aerospace where they are vastly out numbered, but effective networking is vital to help them make that career move," he added.

The aviation industry has always been spearheading new technology. When asked about the impact of the digital revolution, Puan Ainun says aviation is one of the earliest industries affected. "The aviation industry has a history associated with leading-edge technology, increasing levels of efficiency and safety and massive expansion of its services. The adoption of digital application in the aircraft system such as "fly-by-wire" in the flight control system and "glass cockpit" to replace the traditional analogue electro-mechanical instrumentation will benefit maintenance personnel. The integration of digital technology such as computerised equipment in the cockpit will make our maintenance job easier by giving alert and warning data for early fault detection and increasing the accuracy in troubleshooting. Besides, computerised components also means reducing/replacing major mechanical components, leading to less maintenance work. This will

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benefit maintenance personnel and the industry in terms of man-hours and maintenance costs."

Though the aviation industry can be extremely challenging for women engineers, it can also mean an exciting, satisfying career. Puan Ainun says: "The fun part of my job is when I have to work under tight schedules and constrained resources. It challenges me to achieve the targets and goals while keeping me motivated."

The aviation industry will surely benefit from having a diverse workforce, so more should be done to promote diversity and encourage inclusion in the industry. "It is the availability or lack of information and visibility that makes all the difference. Many international companies exercise policies for equal and open opportunities without gender discrimination. Airbus is a model example of how commercial enterprises can support female entry into the industry," says Puan Ainun. ■

Author's Biodata

Emira Junita binti Abdullah is senior lecturer and researcher at the Department of Aerospace Engineering, Universiti Putra Malaysia.

IEM DIARY OF EVENTS

Title: Technical Visit to Drilling Tools Manufacturing Plant

24 April 2018

Organised by: Oil, Gas & Mining

Technical Division

Time : 9.00 a.m. - 1.00 p.m.

CPD/PDP : Applying

Title: Talk on "Selection of Engineering Design Option in Floods Mitigation Projects"

28 April 2018

Organised by: Water Resources

Technical Division

Time : 9.00 a.m. - 11.00 a.m.

CPD/PDP : 2

Title: Technical Talk on "Railway Power Supply and Distribution (PS&D) System"

3 May 2018

Organised by: Engineering

Education Technical

Division

Time : 5.30 p.m. - 7.30 p.m.

CPD/PDP : 2

Title: Technical Visit to TNB Integrated Learning Solution Sdn. Bhd. - ILSAS

3 May 2018

Organised by: Electrical Engineering

Technical Division

Time : 9.00 a.m. - 1.00 p.m.

CPD/PDP : Applying

Title: 2-Day Course on "Plumbing"

3 May 2018

Organised by: Building Services

Technical Division

Time : 8.30 a.m. - 5.15 p.m.

CPD/PDP : Applying

Title: 33rd EETD Annual General Meeting

5 May 2018

Organised by: Electrical Engineering

Technical Division

Time : 11.00 a.m. - 1.00 p.m.

CPD/PDP : Applying

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