



An AOG situation can cost an airline \$150,000 per delayed flight.
Photo: Commsoft

There are several ways to prepare for AOG situations. **Keith Mwanalushi** looks at how MRO support can reduce or prevent such instances.

Aircraft on Ground or AOG is a term in aviation maintenance indicating that a problem is serious enough to prevent an aircraft from flying. Generally, there is a rush to acquire the parts to put the aircraft back into service and prevent further delays or cancellations of the planned itinerary.

AOG incidents are often unavoidable and can be hugely disruptive and costly to airlines of all sizes. Guy van den Berg, Director of Contract Services at AJW Group says when it comes to managing AOG situations, speed, location of inventory and around the clock availability are key. "Efficient handling of these incidents by experts will not only save an airline money, but it will also ensure that passengers receive a positive service with minimal disruption."

AJW Group focuses on designing tailored supply chain solutions to mitigate AOG situations for airlines, with a strong focus on establishing



Guy van den Berg, Director of Contract Services, AJW Group
Photo: AJW

customer relationships and personalised service. "It examines an airlines usage data to identify aircraft parts prone to causing AOG-related issues and proactively acquires the inventory needed to anticipate them.

"By partnering with an AOG specialist, AOG time can be greatly reduced leaving airlines to focus on what matters most - delivering the best possible service to its customers," van den Berg states.

An AJW customer recently experienced an AOG situation at Orlando International Airport (MCO). The aircraft's First Officer's windshield was cracked and as a result the aircraft could not take off for its return journey to the UK.

"We leapt into action to supply and arrange the transport of the various components (some of which were Dangerous Goods) from locations including LHR, MIA, ATL and LAX. Shipping methods included cargo flights, hand carries and road, all organised remotely and on a very tight timescale to MCO," van den Berg continues.

Daniel Stromski, Executive General Manager, HAECO ITM Limited says generally, it is not difficult to source parts in the market in case of an AOG as there is a broad range of suppliers ranging from OEMs, MROs, IATP, parts traders or other airlines.

"It is more difficult to arrange shipment of that part with a fast and efficient forwarder." Stromski reports that there are only a few who have specialised on AOG shipments. "However, more and more logistics providers are expanding their services and presence globally, improving visibility for transit calculation timeframes, backed up with real time milestone and status reports."

Stromski advises that an airline can reduce AOG situations mainly in two ways: 1. Hold



Daniel Stromski, Executive General Manager, HAECO ITM Limited.



AOG go teams are crucial to the operation.
Photo: Jet Aviation

large amount of inventory (owned or leased) 2. Predict the next removal and arrange a spare part in advance.

He says new technologies such as Big Data analytics platforms which aggregate and analyse aircraft data in real time are in development and could lead to a reduction of AOGs in the future. "However, we see already today that there are some market players who promise to 'prevent' AOGs with their digital solution. It remains to be seen and proven if such digital platforms deliver what airlines would expect."

On one recent occurrence, Alex de Gunten, Business Development Officer at HEICO Aerospace recalls an urgent call from a customer who had just encountered a bird strike upon landing at Miami International Airport. The inlet cowl of an A330 aircraft had been damaged and the customer did not have a maintenance base at MIA.

"The bird strike damage was so severe that the aircraft was grounded," states de Gunten. "Within one hour of the request, we were on-site inspecting the problem. We were told that the passengers who were scheduled to board the aircraft had been advised of a departure delay and possible cancellation due to maintenance issues. Our technical crew assessed the damage to the aircraft and determined the repair solution with coordination with our engineering team. All required tooling and materials for the repairs were delivered to MIA by our logistics team. We were able to complete the repairs overnight and the aircraft departed before noon the next day, with all its passengers. Hence, saving the airline significant costs."

De Gunten adds that airlines can reduce their exposure to AOGs by partnering with suppliers who can provide AOG support – through provisioning of spare LRUs for loan and/or exchanges during AOG situations, or onsite repair support, etc. "Additionally, HEICO offers preventative maintenance programmes that are designed to result in

higher part reliability, extending their time on-wing, and subsequently the avoidance of higher costs derived from flight cancellation, delays and unplanned repairs."

Compared to 15 years ago when AOGs were synonyms with panic and crisis, the response to AOG situations has greatly improved, reckons Alexandra Guillot, CEO of Hi-Fly Marketing. "The industry's focus is on preventive solutions rather than curative actions," she says.

OEM's and MRO's AOG desks have improved their services by relying on not-so-recent technologies with more efficiency; 24/7/365 hotlines are now the standard and AOG support is now a requirement in any support contract.

"As far as logistics are concerned, most freight forwarders recognise the AOG status nowadays and have put in place dedicated channels with specialised transport teams to track and expedite these time-sensitive shipments.

"Ultimately, AOG logistics still suffer from external heavy customs processes, availability of flights or cargo space," Guillot points out.

It is estimated that an AOG can cost an airline \$150,000 per delayed flight.

"We notice that small



Alexandra Guillot and Christobal Henner.
Photo: Hi Fly

operators often struggle with maintaining a proper AOG procedure and might not even have the adequate AOG desk contacts of their suppliers," adds Christobal Henner General Manager of Hi-Fly Marketing.

Hi-Fly Marketing recently had to handle a situation where a client's aircraft was grounded while waiting for an advanced exchange unit for a key engine component. "They didn't have the contact of the AOG desk of the OEM and didn't know how to escalate the urgency status.

"We helped them by getting in touch with the right service and getting the appropriate paperwork done. Also, payment terms were a big issue and it took some explaining to both parties to have the shipment released.

"This situation could have been easily avoided if the operator had signed a long-term agreement with preferred conditions and payment terms, which should be a must have for critical equipment," Henner advises.



Kaarle Karp, Logistic Manager, Magnetic MRO

Kaarle Karp, Logistic Manager at Magnetic MRO is glad that there are more and more innovative technology companies who are entering into the aviation market. Operators, MRO's, engineers and IT companies in cooperation with universities and research centres are trying to find the most optimum way to support AOG events. "Companies we have consulted are always ready to find new ways to minimise costs and get the maximum out of the new age technology programmes."

Karp observes that one of the stoppers in aviation industry is still regulation, which doesn't let new technologies into the market as fast as we are expecting. "Once a new tool is on the market, it is better to have more than one trustworthy company launch a programme with it to support it and minimise AOGs"

Of course, airline can take measures to reduce AOGs and Karp indicates it really depends where the airline is operating, the location of the main base, are they covered with PBH agreements and who is supporting the airline with logistics and materials. "AOG situations can be reduced by using different forecast programmes, frequently analysing consumption and having a good understanding of where we are and where we need to be in 1-3-5 years."

The use of data analytics is going to have a major impact on the reduction in AOG situations through the implementation of preventative maintenance measures to avoid component failure, believes David Doherty, Head of Commercial at Monarch Aircraft Engineering. "The larger airlines can utilise their proprietary data to identify the failure rates of units and adjust the maintenance schedules accordingly. While the argument over who owns the data will continue, making use of what is available is already paying dividends for the early adopters."

Whilst potentially cost prohibitive, an extended support network with local line maintenance providers at all operational stations could reduce the instances of AOG delays as engineering coverage is on-hand, Doherty mentions. He says access to a global pool of compo-

nents rather than a centralised base hub could also reduce delays while waiting on components to be shipped. "Given the costs of operational delays, additional outlay in service provisions in advance of any potential AOG situations, may actually be more cost effective."

Some freight forwarders recently reported significant increases in shipments related to AOG business. But van den Berg from AJW feels the number of AOG events is relatively very small compared to the number of requirements processed as AOG. "The appeal of AOG performance means that airlines want to reduce their downtime and in order to do so, they often order parts that would normally be critical 3 – 5 days in advance as AOG to get them delivered more quickly. The aim of this is to reduce the time the aircraft spends in maintenance.

"That being said, in the summer months, demand for AOG parts often peaks due to airlines running at full or near-full capacity during this time."

Predictive maintenance technology and more effective trouble shooting would enable airlines to reduce the number of AOG situations they experience.

AJW receives a lot of AOG orders at the end of maintenance programmes, where the stations have not ordered the correct quantity of an item or have forgotten to order completely. "We also receive a lot of AOG's that end up being returned unused due to ineffective trouble shooting," van den Berg states.

A key element of AJW's future strategy is the development of an industry-leading predictive maintenance system. "To do this, we are drawing on many years of experience, and component usage data from a contracted fleet of more than 4,000 aircraft, and longstanding partnerships with major parts OEMs across the globe, to create a system which accurately predicts the advance point of failure."

Darmilo Sosa, Managing Director at Wingbox Aviation sums up that the current level of internet connectivity with the aviation service providers and suppliers help in reducing the AOG time. "Many businesses now are offering customised solutions with around the clock services with the assistance of digital platform that tend to be getting smarter and faster, I believed this is a result of companies putting huge investment in algorithm, artificial intelligence and new digital technologies."



David Doherty, Head of Commercial, Monarch Aircraft Engineering



Darmilo Sosa, Managing Director, Wingbox Aviation Inc