

Why airlines struggle to reduce the cost of aircraft spare parts

Airlines invest heavily in spare parts to support their aircraft maintenance operations. This is unavoidable to some degree, but many in the industry, including many airlines, think that most of them have too much cash tied up in spare parts.

The usual justification for stocking spare parts is the avoidance of flight delays and all airlines are justifiably concerned with the impact delays may have on their business. In reality, shortages of only a small proportion of spare parts is likely to delay an aircraft and most delays are not the result of spares shortages.

Some airlines are beginning to question whether they really need to have so much stock: are there alternatives and how can they get better control of the total costs of supplying spare parts for maintenance?

Why might it be good to have more parts?

Flight delays are only one part of the story, albeit a highly visible one. Much of the impact of poor parts management is well hidden.

At line maintenance, poor parts availability will delay the return to service of unserviceable aircraft. In scheduled maintenance, it increases the manhours required and lead to longer maintenance inputs. Risks of late outputs are increased with potential impact on flight schedules. Work may need to be deferred and aircraft repositioned later just to have that work carried out and some aircraft may have to operate for a time with flight limitations.

All these issues are every-day occurrences, and airlines are very adept at handling them, but there is a large hidden cost which should not be ignored.

The conflict

Unserviceable aircraft need to be returned to service as quickly as possible. To do this, maintenance departments want to have stock of the widest possible range of parts: the more they have the more comfortable they will be.

So, on one side of this conflict is the maintenance department's understandable wish to have more spare parts: on the other is management's need to control costs. In any such conflict, the instinct to increase stocks of parts is almost always the winner.

Why is it so difficult?

Aircraft parts requirements arise randomly so cannot be predicted. Airlines believe that they must stock and incur the costs for large quantities of parts many of which might not be used very often. Otherwise, if they stock only faster moving parts, they take the risks associated with not having some parts available when needed.

Random demand is difficult to deal with and leads most airlines to stock a lot of parts which sit in a warehouses at very high cost for a long time before being used on an aircraft, and sometimes never used at all.

There are well-trying techniques for calculating which spare parts to hold or not to hold in stock and the associated risks, but they are poorly understood and many airlines fail to use them effectively. But there is more to it than just calculating the parts required. How the parts are managed is equally important.

Managing spare parts

Many industries have revolutionised their operations through focussing resources on the supply of parts to their production operations. In aircraft maintenance, however, there has been a reluctance to acknowledge the importance of effectively managing the supply of spare parts.

This frequently results in the accumulation of large quantities of spare parts without significantly improving availability, but often at significantly increased costs.

In aircraft maintenance the supply of parts has always been seen as far less important than the maintenance task itself. Great effort is applied to improving the effectiveness of hands-on maintenance, but the management of spare parts attracts far less interest.

What can be done?

It is first necessary to recognise that there are a number of different ways of reducing the costs of supplying aircraft parts without reducing availability.

But if economies are to be achieved, airlines must be open to change. Those persisting with the same working practices year after year are missing opportunities for achieving those improvements.

Airlines must ensure that managers and staff at all levels expand their knowledge of different ways of working and what is being achieved by others within or outside our industry.

Training

Training has a big part to play, but it is often the first casualty of deteriorating finances. The current economic situation has reduced the willingness of many organisations to invest in training, but this is short-sighted.

Some organisations have no interest in training, failing to see a connection between staff training and operational performance. But, training is very cheap compared to aircraft parts and can easily pay back its costs very quickly.

Training is essential throughout an individual's career regardless of seniority or experience and it is important not to believe that experienced staff have nothing more to learn.

Close

There is huge potential for reducing costs and increasing parts availability by improving the way spare parts are managed. Smart organisations would do well to apply greater thought and more resources to this area of their business.