

# Taking Control of the Clock

A Commonly Untapped Source of  
Significant **MRO** Cost Savings



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Due in part to unprecedented crude oil prices, Domestic and International Airlines face ever-increasing pressures to improve the efficiencies of their operations and to lower the costs of supporting their fleets. Many airlines view themselves as direct competitors in the Low Cost Carrier (LCC) market, and thus must lower their cost structure to effectively match that of their counterparts. In an ongoing effort to restructure the capital and labor intensive nature of airline operations, many have chosen to reduce or outsource a significant portion of the technical workforce.

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In this white paper, we take a look at one of the few remaining areas within airline operations that when properly addressed yields substantial cost savings and allows the airline to refocus on its performance objectives. Recent commentaries and editorials by well known and respected industry experts suggest that investments and improvements in time management by airlines would pull sustainable ROI from an activity which is often ignored.

To date, the vast majority of aircraft maintenance outsourcing has been limited to heavy maintenance, as it has historically been an easier task to plan and execute with a minimum of unpredictability. Most airlines remain reluctant to outsource the line maintenance function, viewing it as a high priority and crucial element to meeting the airlines on-time performance



objectives. Outsourced line maintenance is expected to reach a maximum of 25% in year 2016, significantly less than its heavy maintenance counterpart<sup>1</sup>.

In many markets however, due to limited flight frequencies or other considerations, airlines simply cannot justify the cost of maintaining a technical support operation, and therefore must resort to outsourcing. While the level of expertise and depth of knowledge amongst outsourced maintenance providers varies widely, common constraints exist across the airlines' base of providers which restrict the ability to maximize the efficiencies of their operations. Interestingly, some of these constraints share the same traits with those within the airlines own operations, making the aforementioned performance goals challenging and being a major cost driver. Factors include (but are not limited to):

- Limited overall expectations of on-call maintenance providers, particularly in low volume markets
- Limited (if any) airline technology extended to third party MRO providers
- Overly Lenient Response Time Requirements
- Minimal (if any) Fleet/Type Specific Initial & Recurrent Training (Familiarization)
- Irregular or non-existent performance & strategic reviews

### **Consequences of clock mismanagement as applicable to MRO**

- Unnecessarily extended Flight Delay Scenarios due to purely reactive contingency handling
- Just-in-case decisions to launch spare aircraft based on misunderstandings, miscommunications and ambiguity

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<sup>1</sup> AeroStrategy MRO Forecast – Michaels 2008



- Snowballing events leading to missed connections, passenger lodging expenses and meal compensation/vouchers

## The Real Costs of Delays and Cancellations

A recent Congressional Study<sup>2</sup> found that flight delays cost US airlines \$19.1 Billion in increased operating costs in 2008, eclipsing the \$3.8 Billion profits from 2007. At the same time, passengers lost the equivalent of \$12 billion as a result of lost time due to flight delays. While the root cause of the \$41Billion impact includes delays attributed to much more than technical and maintenance issues, it underscores the direct correlation between maximizing operating efficiencies and creating airline profits.

To further realize the true financial cost of technical flight delays, Boeing conservatively estimates<sup>3</sup> that a one-to-two-hour AOG delay costs an airline \$10,000 in downtime. Actual costs of such delays can run as high as \$150,000, depending on airplane model and the airline.

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Regardless of whether the cyclical industry is financially healthy or in a serious downturn, every single minute spent in an AOG delay situation seriously impacts an aircraft operator's ability to deliver profits. Considering the extraordinary cutbacks and cost saving measures implemented by airlines since the initial market downturn of 2001, few areas for significant cost savings remain. To emerge as viable and sustainable entities from this particular market cycle, airline management must make a conscious decision and deliberate effort to control the clock.

## Shortening the Maintenance Timeline

Most airlines have opted to outsource either significant portions or all of their heavy maintenance, and now typically apply aggressive performance terms within their MRO contracts. While emphasis is placed on guaranteeing minimal and predictable out-of-service time for

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<sup>2</sup> Joint Economic Committee Report – Schumer/Maloney 2008

<sup>3</sup> Boeing Commercial Aviation Services - Customer Support

heavy MRO, the unpredictable and varied nature of line maintenance makes it difficult for airline management to proactively develop and implement operating procedures to minimize the maintenance event cycle. Recent developments in prognostic monitoring and communications technology point to major future gains in maintenance performance, but adoption will likely be slowed by lack of funding.

## Analyzing the Maintenance Event Cycle

When evaluating aircraft delay events, it is imperative that managers carefully review each and every element in the chain of events to get a thorough understanding of what really unfolds during an AOG. While not a simple process due to constantly varying circumstances, many managers would be surprised to learn how much unproductive time is unintentionally and unnecessarily lost beginning from the time an aircraft experiences a mechanical fault to the time the logbook is signed and continuing until the aircraft readied for further flight operations.

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- How is notification of the technical fault being communicated to maintenance control or local maintenance crews? Is it a thorough and accurate description of fault symptoms?
- How are maintenance crews alerted and prepared for an arrival? Are in-house mechanics/engineers meeting the aircraft with preexisting knowledge or are they going in “cold”?
- Are outsourced or on-call crews arriving at aircraft within their contractually agreed to time limits? Could this response time be shortened?
- Are 100% of the necessary skill sets available and immediately accessible for every maintenance event? Is time wasted while mechanics with limited systems familiarity work back and forth with controllers and tech specialists?
- Do maintenance crews have immediate access to pertinent technical documents as required by regulatory authorities? Do they have to leave the airplane to retrieve documents?



- Are spares available? Who is sourcing spares, and where are the first and most likely places to find appropriate and accessible spares? Are the correct spares being ordered?
- Do dispatchers and managers have ALL of the information they need to accurately change status from “flight delayed” to “flight cancelled”, and what are the considerations to sending recovery aircraft?

### **Summary – Clock Management Is a Crucial Component of MRO Success**

*Opportunities for significant operating improvements still exist and should be addressed in the short term.*

Senior management and those responsible line maintenance performance monitoring must do a comprehensive analysis of the logistics of line maintenance. It is quite likely that regardless of airline type, size or status, considerable inefficiencies will be uncovered, and areas that require immediate attention will be pin pointed.

Industry analysts, experts and pundits alike can and will endlessly argue the merits of different business models and management strategies, but it is fact that opportunities for significant operating improvements still exist and should be addressed in the short term. Just as years of keen focus on airline supply chain management logistics has led to tremendous efficiencies and cost savings amounting to over \$100 Million, targeting inefficiencies in the maintenance event cycle will yield similarly large results.

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