Whitepaper

Practical Strategies to Increasing Productivity with Next-Generation Technical Publication Management

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Introduction

General aviation maintenance is an information intensive business. Repair manuals, service bulletins, airworthiness directives, parts catalogs and their temporary revisions represent only a fraction of the information maintenance professionals need readily available to perform their work. Virtually every maintenance task is the result of, dependent upon, and precedent to, a network of information. It could be argued that general aviation maintenance is as much about information as it is about airplanes.

Next-generation technical publication management technology has dramatically changed general aviation maintenance. When implemented correctly, these changes inevitably lead to greater efficiency and increased productivity. Many members of the general aviation community have successfully leveraged next-generation technology and become the leading organizations of the future. What do these changes look like and what will leading organizations do to position themselves for long-term success?

A Productivity Enhancing Solution Could Save $1B Annually

According to the Caparro and Groff human factors survey[1], when asked for a subjective estimate of the total job time spent searching for information, most aviation technicians reported that, depending upon the job, as much as 50 percent of their time is spent searching for information. If we combine that estimate with the estimated 52,000 active, non-airline technicians in the U.S.[2] and factor in the average salary of $48,000 for aviation maintenance professionals[3] we can see that a strong argument could be made that the general aviation maintenance community expends nearly one billion dollars of billable time accessing maintenance information each year.

Naturally, these estimates are at an industry wide level and make many simplifying assumptions. The key point for the leader of a maintenance organization is that these numbers are significant, and the organizations that successfully implement a productivity enhancing solution will have a tremendous competitive advantage over those that don't.

Common Obstacles to Efficient Library Management and Use

To realize the benefits of an efficient library management system, organizations need to implement an information technology system designed to take a programmatic approach to how technical information is accessed in their operations. To do this, organizations look at the sources of information and work to design systems that simplify access and reduce administrations. Similar to how an organization optimizes its supply chain; general aviation maintenance organizations need to

optimize technical and regulatory information access, essentially creating seamless, just-in-time systems.

Going Digital

It is commonly assumed that “being digital” is the best first step to improving information access. There is much to be said for the benefits of digital or electronic information, and the Web is a very powerful tool for information management and delivery. However, digitization, outside of a well developed system for its deployment, could become a major impediment to productivity. It’s not hard to imagine a world with divergent data formats, multiple media types, unique user interfaces, and a proliferation of access codes and security procedures. The resulting situation can easily exacerbate what was an already inefficient system.

Complexity and Interoperability

When it comes to information management, aviation professionals need information delivery systems that simplify the complexity for the end-user. In particular, considering questions of interoperability with multiple information sources from various manufacturers and multiple user interface conventions is crucial. By providing technical information through a single, easy-to-use information system the manufacturing community (and other providers of information, such as the FAA or EASA) will significantly simplify the effort maintenance organizations have to expend to implement next-generation solutions.

Why Traditional Solutions Fall Short

What is required is a holistic view of how technical information is used in the maintenance operation. Organizations should implement a system that facilitates best practices for managing and handling that data. The key thing to remember is that the technology is simply an enabler, and the best technology is the one that reduces administration and simply and effectively increases productivity.

Quick Information Access

It has been said that, “timing is everything.” These days, placing greater emphasis on the time required to access publications is certainly appropriate. Aviation maintenance professionals need quick access to the right information, in the right place, at the right time. Researchers should not spend valuable time trying to access information – for example, the time spent searching for the latest CD, locating, learning and browsing a website, or walking to a library and using printed regulations. A cost effective next-generation information solution provides a comprehensive set of technical information that is easily accessible from any location, even out in the field where no internet connection is available.

Sourcing Costs

Optimizing technical information access also means reviewing the sources of information and then optimizing the productivity and administrative costs of acquiring and using data from those sources. The administrative cost alone of managing multiple sources can add up quickly. Purchasing, renewing and maintaining subscriptions from multiple vendors is a time consuming task that can waste administrative resources.

Using information from various information resources also creates other ongoing information challenges, such as the challenge of multiple revisions from multiple sources on multiple revision schedules. Traditional technical information sources also require manual currency monitoring and reporting, and the time needed for this task is increased when multiple vendors with multiple systems are used. A cost effective next-generation information solution reduces administrative overhead and simplifies subscription management, revision management and currency reporting tasks.

Managing Systems and IT Resources

Over the past 10 years, the use of software applications to manage technical documentation processes has evolved dramatically. What was a nice-to-have is now a mainstream staple that exists at the core of the aviation maintenance operation. As software application usage has increased, the cost of Information Technology (IT) has also increased. This problem is amplified as IT managers need to install and manage divergent systems from various vendors.

With traditional systems, multiple locations may not all have the same currency, and additional resources are needed to ensure currency at various locations. These traditional systems also increase administration due to non-centralized support services, multiple navigation systems that must be learned, and employee training on various systems. Cost effective next-generation information solutions are designed to reduce IT overhead and simplify the task of managing, using, and learning software.

Complex Problems, Simple Solutions

While all of these problems have plagued the aviation industry for decades, there are a number of practical strategies that support an effective and comprehensive solution that can increase productivity and save money.

Single Source

Aircraft Technical Publishers (ATP) invented the single source concept for aviation maintenance information almost 40 years ago. Widely recognized for their expertise in managing complex information, ATP has enduring relationships throughout the industry and currently produces over 1000 maintenance libraries from over 50 manufacturers, and regulatory libraries including FAA, EASA and other international

regulatory agencies. With this long history of support for the aviation maintenance industry, ATP has developed industry leading processes and practical strategies for improving productivity.

According to ATP, a single source is a solution where all the information necessary from various vendors or agencies is available from one source. A single source collects and organizes thousands of publications from many manufacturers and regulatory agencies. This information is then organized into comprehensive libraries that contain all the information needed for maintenance professionals to do their job.

A single source solution saves the maintenance professional from the time and effort of having to contact every manufacturer, or having to search multiple information sources, related to the models currently being serviced. Acquiring all necessary publications from a single source instead of individually streamlines your workflow, simplifies your processes, improves productivity, decreases administration, and reduces costs.

Library Maintenance Services

A cost effective, next-generation solution saves time by doing most of the work for the maintenance professional. This type of solution acquires and organizes all the necessary publications from all the various sources needed to perform work on the aircraft serviced by an operation.

- Trained professionals carefully check for completeness of information and follow-up on any discrepancies or missing pages with the various information sources.
- Revisions from multiple manufacturers and agencies are filed immediately and implemented automatically so that maintenance operations don't ever have to worry about revisions or currency.
- Information is indexed and organized into a logical format to make thorough research easy.
- Your publications are consolidated before the maintenance operation ever sees the library – no matter how many publications and regardless of the number of manufacturers.
- The automatic update system updates the libraries automatically, regardless of how often the various manufacturers revise them.

Integrated Solution

An integrated system brings all the necessary information together into one simple system, whether maintenance technical documentation from various manufacturers, regulatory information from any necessary agency, or compliance reporting information for the aircraft. All of this information is then indexed and organized in the system so that a single search provides all relevant or necessary results across all relevant documentation and regulatory information.

- An integrated system reduces search time by providing comprehensive search results

- It has one, simple user interface, reducing time necessary to train new employees.
- It is supported by one customer support team that supports all of the documentation in the library regardless of the number of manufacturers or agencies included in the library.

The Industry's Only Integrated Solution for Optimal Speed, Performance and Productivity

The NavigatorV® software platform from ATP is the aviation maintenance industry's only integrated solution. It brings all of ATP's digital content together into one software platform making it possible to cross reference and search across all related documentation. Developed by aviation professionals, the intuitive interface, productivity tools and intelligent search capabilities are designed to increase productivity and streamline workflow.

- Productivity is increased by having all ATP® digital regulatory and maintenance library subscriptions integrated in the NavigatorV® library.
- Administration costs are reduced and workflow is streamlined with information from various manufacturers brought together into one platform.
- Time-saving tools reduce the time it takes to record and report with pre-built worksheets, FAA regulatory forms, and the patented ATP® Profile and Compliance system.

Powerful and Patented Indexing

The ATP® PowerTrak™ indexing system built into the NavigatorV® software platform tracks equivalent model names, manufacturer/model buyouts, and model/series relationships. A single search reveals all information for your specific model as well as its series across all publications in the library. It recognizes the many ways manufacturers refer to their aircraft products and allows you to input historical names and Type Certificate (TC) holders. Regardless of syntax, the patented ATP® PowerTrak™ indexing system will deliver all applicable information.

In The Field or In the Office

Libraries can be taken wherever they are needed – even out in the field where no Internet connection is available. When an Internet connection is available, the content can be simply updated with the click of a button. ATP will also send out an email to let the maintenance professional know when new content is available.

My Library – Single View for All Your Libraries

With the My Library window in the NavigatorV® software platform all ATP® digital maintenance and regulatory library subscriptions can be

browsed in one easy view. The My Library window displays all installed publications, which reduces the time necessary for searching various sources for regulatory or maintenance information.

EZ Update –Automatic Updates over the Internet

The EZ Update service in NavigatorV® provides automatic Internet updates of the operation's ATP® library subscriptions. The system can be set to check for updates daily, weekly, or set a custom schedule to fit the operation's needs. It also maintains a printable update history which makes currency reporting simple and easy

Advanced Library Search

Specify publications and keywords to search. Save search criteria for future use. NavigatorV provides quick and comprehensive search results across all installed ATP content. Keywords are even highlighted in the publications to save time and increase productivity.

Patented Aircraft Profiles and Compliance Tracking

The NavigatorV® software platform enables the creation of a profile of the products that make up an aircraft. Manufacturer and model information for the airframe, engine, propellers, and appliances are stored in a profile template. With a click of the mouse the PowerTrak™ indexing system displays all related Airworthiness Directives (ADs) and Service Bulletins (SBs) with hyperlinked navigation to each referenced publication. The aircraft profile can also be copied onto a disk or flash drive and carried on board.

Forms and User Documents

The NavigatorV® software platform comes with a collection of forms and worksheets including worksheets for recording aircraft components, calculating weights and balances, FAA forms and ATP regulatory worksheets.

NavigatorV® Networking Options

Sharing a single content repository with multiple users on a network is easy with the NavigatorV® software platform. Networking assures all users have access to current information and are not dependent on Internet connectivity for information access.

Local Area Networking (LAN) lets operations share ATP® electronic content with anyone in the same facility. Wide Area Networking (WAN) allows operations with multiple locations to share ATP® electronic content over the Wide Area Network connection.

About ATP

For almost 40 years, Aircraft Technical Publishers (ATP®) is the leader in providing the global aviation community valued and effective information solutions. The company has a worldwide customer base including fixed base operators, repair stations, aircraft and component manufacturers, regulatory agencies, airlines, schools and corporate operators.

ATP's general aviation solutions facilitate content distribution and access for aircraft manufacturers and include the NavigatorV® software platform, subscriber management, print-on-demand provisioning, and branded portal needs. Additionally, the AskBob® online community from ATP is one of the largest and most informative online aviation forums.

ATP's commercial solutions promote the collaborative management of essential and required operational documents, and prepare Part 121, 135 and 145 certificate holders for regulatory audits with the use of the ICAP℠ compliance and conformance tool. The ICAP tool is an essential platform in building a Safety Management System (SMS) foundation.

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1) Human Factors Survey of Aviation Maintenance Technical Manuals, Alex Chaparro, Ph.D. and Loren S. Groff, M.A. National Institute of Aviation Research, Wichita State University, Wichita, Kansas 67260.

2) 137,000 active A&P mechanics in the U.S., according to statistics compiled by the National Air Transportation Association. About 62 percent are employed by airlines and manufacturers, leaving 38 percent or about 52,000 working for repair stations, corporate flight departments, and FBO maintenance shops.

3) Aviation Maintenance 2003 Salary Survey, July 2003.