

August | September 2023

HelicopterTM MAINTENANCE

The Source for Helicopter Maintenance Professionals

**HELICOPTER
MAINTENANCE
PROGRAMS**

Forget Me Not

Helicopter Maintenance
Errors Part 2

Drone Scents — Safety

HelicopterMaintenanceMagazine.com

PRSRT STD
U.S. POSTAGE
PAID
PERMIT NO. 546
Bolingbrook, IL



HELICOPTER MAINTENANCE PROGRAMS

BY MARIO PIEROBON

COMPARED TO THE FIXED WING WORLD, HELICOPTER MAINTENANCE PROGRAM DEVELOPMENT HAS ITS OWN PECULIARITIES REQUIRING SPECIFIC CONSIDERATION. IN THIS FEATURE, WE HAVE REACHED OUT BENJAMIN HULSHOFF, BRISTOW MAINTENANCE DIRECTOR IN LAKE CHARLES, LA, TO DISCUSS THE BASE UPON WHICH HELICOPTER MAINTENANCE PROGRAMS ARE DEVELOPED, THE TASKS ACCOMPLISHED BY THE OPERATORS, THE DIFFERENCES WITH AEROPLANE MAINTENANCE PROGRAMS, AND HOW MAINTENANCE PROGRAMS DEVELOP OVER TIME.

“The helicopter maintenance program really starts in working with the manufacturer and then from that point, once the aircraft enters operation it is a continuous improvement.”

WHERE TO START

Maintenance programs start at the beginning of the design and development of a helicopter type, i.e., it starts with the manufacturer, affirms Hulshoff. “Different approaches can be adopted, but it is of value to start early on in the development phase of the helicopter to involve the end users or the operators, as they tend to have the hands-on experience and they can give good advice to the manufacturers on airworthiness aspects or maintenance tasks,” he points out. “The helicopter maintenance program really starts in working with the manufacturer and then from that point, once the aircraft enters operation, it is a continuous improvement. Through the maintenance program, 14 CFR Part-135 operators are required to have a reliability program, and this feeds information back to the manufacturer.”

Hulshoff observes that there are significant differences between an airplane maintenance program and a helicopter maintenance program. “Maintaining an airplane is in a certain way easier compared to a helicopter that takes off and lands vertically requiring a lot more of rotating and turning parts, shafts and gears,” he says. “Almost on a daily basis we have to review and maintain all of those items that commonly wear. There is also a lot of different components that have fluid in them and change directions, such as a shaft from a turbo engine to a 90-degree gearbox, through a bunch of gears that changes it vertically to a main shaft that runs a main rotor head.”

MAINTENANCE PLANNING DOCUMENT AND CUSTOMIZATION

What the manufacturer issues is the maintenance planning document (MPD). Part-135 operators then develop their own maintenance program called

‘continued airworthiness management program’ (CAMP), which is a continuous maintenance type of program that starts with what is required or recommended by the manufacturer, explains Hulshoff. “There are certain tasks that Part-135 operators are required to make sure are covered in their in-house developed programs and then there are recommendations from the manufacturer. It is much easier to move around within the maintenance programs based on how the operator does its business,” he says.

Bristow aircraft fly during the day and they are maintained at night 365 days a year, affirms Hulshoff. “So, what we want to do is to develop our programs to perform the maintenance on a progressive basis, i.e., working on our aircraft every night and making sure they are ready to go in the morning to fly our passengers,” he says. “For example, if we have a task in our program whereby we have to inspect everything on the main rotor head, we want to do everything on the main rotor head one night and then the following night maybe move to the tail rotor. The maintenance programs are approved by the authority, including the time limitations.”

EVOLUTION OF MAINTENANCE PROGRAMS

According Hulshoff, compared to the past today when an aircraft is manufactured there is a deeper understanding of how important it is for the end user to be able to have ease of maintenance or to be able to maintain the aircraft more effectively. “The operators have also become more effective at providing feedback and this makes helicopter maintenance more efficient. For example, if we are required to inspect a part every week or every 10 flight hours and we never find anything, why are we doing this? By feeding all

this information back, the industry can become more efficient,” he affirms.

Bristow has set a key performance indicator (KPI) internally to update its maintenance programs on an annual basis, explains Hulshoff. “From a general point of view the update occurs yearly but knowing that we can take advantage of a recommendation from the manufacturer to increase an interval of when to perform maintenance or we have to decrease it through the reliability program, in this case we will immediately revise the maintenance program,” he says.

Bristow has a very large fleet of helicopters, and it takes advantage of them operating globally and, for this, they use Ramco Aviation Software as an IT solution that they have tailored to be able to pull data that is relevant for improving the end product, explains Hulshoff.

Ramco Aviation Software helps Bristow to track inventory and manage maintenance, engineering, and operations on a single integrated platform. The software

is compliant with global regulatory standards and provides cost savings while increasing efficiency and reducing potential for human error, helping operators achieve their goal of paperless engineering and operations, affirms Ramco.

“We have data analysis, and we can go in there and pull any kind of reliability data down to falling parts or even part usage and how often we are using parts or not using parts that are on the shelf, so it is a constant flow of data,” concludes Hulshoff. ◀



Mario Pierobon is a safety management consultant and content producer. His specialties include the delivery of training on safety management systems and on the European aviation safety regulations, the auditing and authoring of safety management documentation, the running of safety risk management sessions and organizational auditing for the upgrade of safety management capabilities. He is a recurrent contributor to several aviation industry publications.





HELILADDER

Focus on your work — not your balance!™

The MX5+ is the INDUSTRY STANDARD for modern aviation maintenance stands. This multi-height CANTILEVERED step ladder can quickly transform into a full-featured (and portable) maintenance platform!

No other product provides the versatility, portability, and quality of the HeliLadder.

When you invest in your maintenance team's efficiency, your Out-of-Service Time decreases and your Revenue Generation increases!

Contact Dale Neubauer: (541) 647-3537 + info@HeliLadder.com



