



Aircraft Maintenance Task Cards

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Abstract Aircraft maintenance task cards are essential tools used in the aviation industry to ensure the safety, reliability, and airworthiness of aircraft. This paper provides a comprehensive overview of aircraft maintenance task cards, including their purpose, types, and importance in aviation maintenance operations.

The paper begins by discussing the purpose of aircraft maintenance task cards, which is to provide detailed instructions for performing specific maintenance tasks on an aircraft. It explains how task cards are used by maintenance personnel to ensure that maintenance tasks are performed correctly and in accordance with established procedures and standards.

Next, the paper examines the types of aircraft maintenance task cards, including routine maintenance task cards, unscheduled maintenance task cards, and special task cards. It discusses the differences between these types of task cards and explains when each type is used.

The paper also explores the importance of aircraft maintenance task cards in aviation maintenance operations. It explains how task cards help to ensure that maintenance tasks are completed in a timely and efficient manner, reducing the risk of aircraft downtime and improving overall operational efficiency.

In conclusion, this paper emphasizes the critical role of aircraft maintenance task cards in aviation maintenance operations. It underscores the need for accurate, detailed, and up-to-date task cards to ensure the safety, reliability, and airworthiness of aircraft.

Keywords Aircraft, Task cards

Key words in Aircraft Maintenance Task cards

Task cards are essential tools used in aviation maintenance to guide technicians through specific tasks. They contain detailed instructions, safety precautions, and other relevant information to ensure that maintenance tasks are performed correctly and safely. Here are some common terms associated with task cards:

Task Description: A brief overview of the maintenance task to be performed.

Task Number: A unique identifier for each task card, often used for tracking and reference purposes.

Task Title: A descriptive title that summarizes the task.

Task Instructions: Detailed step-by-step instructions on how to perform the task.

Tools and Equipment: A list of tools and equipment required to complete the task.

Materials and Parts: A list of materials and parts needed for the task.

Safety Precautions: Important safety information and precautions to be observed while performing the task.

References: Any relevant manuals, documents, or regulations that provide additional information or guidance for the task.

Task Completion: A section for technicians to record the completion of the task, including the date, technician's name, and any additional notes or observations.

Task Verification: A section for supervisors or quality control personnel to verify that the task was completed correctly and in accordance with established procedures.



Task Revision: A section to record any revisions or updates to the task card, including the date of the revision and a brief description of the changes made.

Task Approval: A section for supervisors or authorized personnel to approve the task card before it is used.

Task Card Number: A unique identifier for each task card, often used for tracking and reference purposes.

Task Card Title: A descriptive title that summarizes the task card.

Task Card Revision: A section to record any revisions or updates to the task card, including the date of the revision and a brief description of the changes made.

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Task Card References: Any relevant manuals, documents, or regulations that provide additional information or guidance for the task card.

Service Bulletin - A service bulletin is a document issued by an aircraft manufacturer or other authorized entity that provides information or instructions related to the maintenance, repair, or modification of an aircraft or its components. Service bulletins are typically issued in response to safety concerns, regulatory requirements, or improvements in technology.

Airworthiness Directive: An Airworthiness Directive (AD) is a regulatory instrument issued by aviation authorities such as the Federal Aviation Administration (FAA) in the United States or the European Union Aviation Safety Agency (EASA) in Europe. ADs are used to notify aircraft owners, operators, and maintenance personnel of a safety-related issue that has been identified in an aircraft, engine, propeller, or other aviation product. AD's are issued in response to safety concerns, defects, or other issues that could affect the airworthiness of an aircraft or its components. They require specific actions to be taken by aircraft owners, operators, or maintenance personnel to address the identified safety issue.

Introduction to Aircraft Maintenance Task Cards:

Aircraft maintenance task cards are essential tools used in the aviation industry to guide technicians through specific maintenance tasks. They contain detailed instructions, safety precautions, and other relevant information to ensure that maintenance tasks are performed correctly and safely.

The use of task cards is a standard practice in aviation maintenance, ensuring that tasks are completed in a consistent and efficient manner. They are used for routine maintenance, inspections, and unscheduled repairs, covering a wide range of tasks from simple checks to complex repairs.

Task cards are typically developed by aircraft manufacturers, maintenance organizations, or regulatory authorities. They are based on established procedures, standards, and best practices, ensuring that tasks are performed in accordance with industry requirements.

In addition to providing instructions, task cards also serve as a record of the maintenance performed on an aircraft. They are used to document the completion of tasks, including the date, technician's name, and any additional notes or observations.

Overall, aircraft maintenance task cards are a critical component of aviation maintenance operations, ensuring the safety, reliability, and airworthiness of aircraft. They provide technicians with the information they need to perform tasks correctly and safely, helping to maintain the integrity of the aircraft and ensure the safety of passengers and crew.

Heavy checks, also known as heavy maintenance visits or heavy maintenance checks, are comprehensive inspections and maintenance procedures performed on an aircraft at regular intervals. These checks are typically more extensive and time-consuming than routine maintenance tasks and are designed to ensure the aircraft's airworthiness, safety, and reliability.

Here are some key points about heavy checks in aircraft maintenance:

Frequency: The frequency of heavy checks varies depending on the type of aircraft, its age, and its operational history. For commercial airliners, heavy checks are typically scheduled at specific intervals, such as every 3-5



years or after a certain number of flight hours or cycles (takeoffs and landings). The specific intervals are determined by the aircraft manufacturer, regulatory authorities, and the airline's maintenance program.

Scope: Heavy checks involve a thorough inspection of the aircraft's airframe, engines, avionics, and other systems. This includes disassembling and inspecting critical components, performing non-destructive testing (NDT) to detect hidden defects, and replacing or repairing worn or damaged parts. Heavy checks may also include structural inspections, corrosion prevention, and compliance with airworthiness directives (ADs) and service bulletins.

Duration: The duration of a heavy check can vary depending on the aircraft type, its condition, and the specific maintenance tasks required. For example, a heavy check on a large commercial airliner can take several weeks to complete, while a smaller aircraft may require only a few days. Airlines and maintenance providers carefully plan and schedule heavy checks to minimize downtime and disruption to flight operations.

Facilities: Heavy checks are typically performed in specialized maintenance facilities equipped with the necessary tools, equipment, and personnel. These facilities are often located at major airports or maintenance hubs and are certified by aviation authorities to perform heavy maintenance on specific aircraft types.

Regulatory Compliance: Heavy checks must comply with regulatory requirements set by aviation authorities, such as the Federal Aviation Administration (FAA) in the United States or the European Union Aviation Safety Agency (EASA) in Europe. This includes following approved maintenance procedures, using certified parts and materials, and documenting all maintenance activities.

Cost: Heavy checks can be expensive due to the extensive labor, materials, and facility costs involved. Airlines carefully budget for heavy checks as part of their overall maintenance and operational expenses. Some airlines may also choose to outsource heavy checks to third-party maintenance providers to reduce costs and improve efficiency.

Overall, heavy checks are a critical part of aircraft maintenance, ensuring that aircraft remain safe, reliable, and airworthy throughout their operational life. They require careful planning, coordination, and compliance with regulatory requirements to ensure successful completion.

c-check in aviation maintenance

C-check, also known as a "heavy maintenance visit" or "major maintenance visit," is a comprehensive inspection and maintenance process performed on an aircraft. It is one of the most extensive and time-consuming maintenance checks an aircraft undergoes, typically occurring every 18 to 24 months, depending on the aircraft type and usage.

The C-check involves a thorough examination of the aircraft's structure, systems, and components, including:

Airframe: The inspection of the aircraft's structure, including the fuselage, wings, and tail, for any signs of wear, corrosion, or damage.

Systems: The inspection of the aircraft's systems, including the electrical, hydraulic, and pneumatic systems, for any signs of malfunction or wear.

Components: The inspection of the aircraft's components, including engines, landing gear, and avionics, for any signs of wear, damage, or malfunction.

Interior: The inspection of the aircraft's interior, including the cabin, seats, and galley, for any signs of wear, damage, or malfunction.

Exterior: The inspection of the aircraft's exterior, including the paint, windows, and doors, for any signs of wear, damage, or malfunction.

Functional Tests: The performance of functional tests on the aircraft's systems and components to ensure they are operating correctly.

Repairs and Replacements: The repair or replacement of any worn, damaged, or malfunctioning parts or components.

Cleaning and Painting: The cleaning and painting of the aircraft's exterior and interior to maintain its appearance and protect it from corrosion.



The C-check is typically performed by a team of highly skilled technicians and engineers, often in a dedicated maintenance facility. It requires careful planning and coordination to ensure that the aircraft is out of service for the shortest possible time.

Once the C-check is completed, the aircraft undergoes a series of tests and inspections to ensure that it is safe and airworthy. It is then returned to service, ready to continue its operations.

\ Problem statement:

The C check is performed approximately every 20–24 months, or a specific number of actual flight hours (FH), or as defined by the manufacturer. This maintenance check is much more extensive than the B check, requiring a large majority of the aircraft's components to be inspected. This check puts the aircraft out of service for 1–4 weeks. The aircraft must not leave the maintenance site until it is completed. It also requires more space than A and B checks, therefore, it is usually carried out in a hangar at a maintenance base. The effort needed to complete a C check is up to 6,000 man-hours.

As part of the C-Check heavy maintenance issue, some of the task cards are not getting assign to work package for Mechanic to perform the maintenance of the Aircraft, because of this the Aircraft over fly without proper maintenance performed which leads to diversion of the Aircrafts or Grounding the Aircrafts or delay in the departure of Aircrafts.

The reason for the task cards which are not added to work package is as MX program supervisor changes the requirement of the task card from repetitive to non-repetitive and vice versa, during this process the current logic of the system is not updating the flag correctly to some of the task cards. The work around for this issue is manually update the repetitive flag which leads human mistakes. After doing research of 100 plus incidents changed the logic of the program to make sure it is updated the repetitive flag correctly when the change is performed.

Because of this Airlines has to pay penalties to FAA for each flight cycles/Hours/Days until the issue is fixed.

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