

# ***PRESENTATION***

## ***ON***

# ***AIRCRAFT INSPECTIONS***



- ***PRESENTED BY :- MR. ABHISHEK BHARDWAJ***  
***(FACULTY, PG DIPLOMA-AEROSPACE TECHNICAL PUBLICATION,***  
***SHRI VISHWAKARMA SKILL UNIVERSITY)***

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- **Hazard , Actual and Potential hazards**



# ***AIRCRAFT INSPECTION***

The process of systematically examining, checking and testing aircraft structural members, components and systems, to detect actual or potential unserviceable conditions.



# TYPES OF INSPECTION

1. **Scheduled Inspection** - Scheduled aircraft Inspection refer to any maintenance that either the cabin crew or technician perform at regular interval to ensure that an aircraft ready to fly and airworthy.
2. **Unschedule Inspection** – It can happen any time when a component is suspected to having malfunctioned. It can happen after the cabin crew finds a problem with an aircraft during preflight inspection. For example it could be shears vacuum pump, landing gears etc.

# **SCHEDULED INSPECTION**

**It includes:**

- **Annual Inspection**
- **100 Hour Inspection**
- **Preflight Checks**
- **Progressive Inspection**

# ANNUAL INSPECTION

- It happens once every 12 months. It is necessary for all aircraft regardless of whether they are used for recreational purpose, flight instruction, or instruction.
- It includes all examination performed in other aircraft inspection such as flight control & avionics checks.
- It covers more detail than the preflight and 100-hour inspection.

# 100 HOUR INSPECTION

- All aircraft that are operated for flight instruction or hire must undergo 50 hours – 100 hours inspection
- 50 Hour Inspection include inspecting the engine for wear & tear & gapping , cleaning examining the spark plug

# PRE FLIGHT CHECKS

- The cabin crew has to perform before the plane flies to make sure that nothing is malfunctioned or in a defect.
- The preflight plane inspection includes walking around the plane and inspecting any flight control surface & fuselage components for wear and tear & defects.



# PROGRESSIVE INSPECTION / PHASE INSPECTION

- It is also known as a phase inspection is utilised when an aeroplane with air tight flight schedule cannot take long in the maintenance hangar. An aircraft owner can schedule a regular Inspection every 25 or 50 hrs.
- Specific components of an aircraft are tested and examined for efficiency and safety during each continuous inspection session.

# CHECKS

- The objective of the checks is to conduct both routine and non routine maintenance of the aircraft .
- The maintenance include scheduling after a certain air time the number of cycles & performing scheduled repairs.
- It also includes four different types of higher level maintenance check A , B & C



# A Check

- A check is performed approximately every 400 – 500 flight hours or every 200 – 300 flights depending on aircraft type .
- The maintenance work during A check often covers general inspection of the interior and the aircraft hull for evidence of damage deformation corrosion , missing part

# B Check

- It is often completed during the A checks phase, as airlines and operators have phased out B checks.
- Aviation maintenance professionals perform B maintenance checks approximately every 6 – 8 months. It includes about 160 – 180 labour hours.
- It includes such as checking alignment, corrosion and fluid leakage.

# C Check

- C checks are typically fall under the “heavy maintenance” and are much more extensive than the B check. It requires deep inspection of a majority of aircraft parts it take the aircraft out of service for 1-2 week.
- Type of check often require an aircraft to stay at a maintenance facility for the necessary space / tools maintenance technician working hours upto 6000 maintenance hours are typically needed for C Checks.

# HAZARDS

- A hazard is anything with potential to cause harm.
- A hazard is any existing or potential condition that can lead to injury, illness or death to people damage to or less of a system, equipment or property or damage to the equipment.



# HAZARD IDENTIFICATION SOURCES

**The process identifies & classifies most of the hazards , assess the risk and introduces control .**

- **Monitoring of day to day normal operation & environment**
- **Information exchange practices between operators.**
- **Safety occurrence trend analysis**
- **It includes internal investigation of Safety occurrence**

# HAZARDS IDENTIFICATION METHOD

## 1. **Reactive Hazards identification Method**

- Hazard are recognised through trend monitoring & investigation of Safety occurrences incidents & accident are clear indicators of system.

## 2. **Proactive Hazard Identification Method**

- Hazard are identified analysing system performance and functions for intrinsic threats and potential failures.



# SCOPE OF HAZARD IN AVIATION

The following factors listed in ICAO Safety management manual are example of common hazard sources in aviation.

- Design factors
- Procedure & Operating practices
- Communication
- Personal factors
- Work environment factors

A person wearing a dark flight helmet with goggles and a red and black plaid shirt is shown in profile, holding a wooden biplane model. The background is a bright sunset over a field, with the sun low on the horizon, creating a warm, golden glow and lens flare effects. The text "Thank you" is overlaid in white on the left side of the image.

**Thank you**