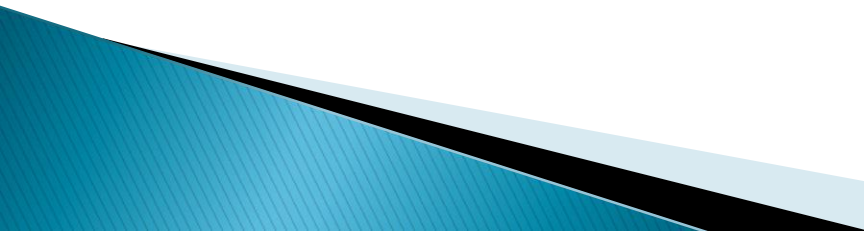


**Subject Name: MAINTENANCE, OVERHAUL
& REPAIR OF AIRCRAFT SYSTEMS**

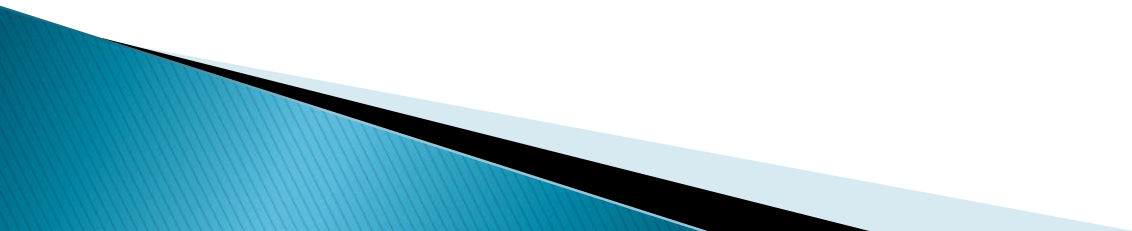
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**MODULE 3: *AIRCRAFT MANAGEMENT
MAINTENANCE***

CHAPTER OUTLINE

- *Structure of the aircraft maintenance management*
 - *Role of aviation management*
 - *Line supervisory management*
 - *Management areas of concern in an airlines*
 - *Manager of overhaul shops*
 - *Line maintenance control centre flight line (pre-flight & post flight)*
 - *Aircraft logbook*
 - *Maintenance crew skill requirements*
- 

Structure of the aircraft maintenance management

- ▶ The organizational structure of aircraft maintenance management in a corporation may vary depending on size and structure of airline.
 - ▶ A typical structure will have :
- 

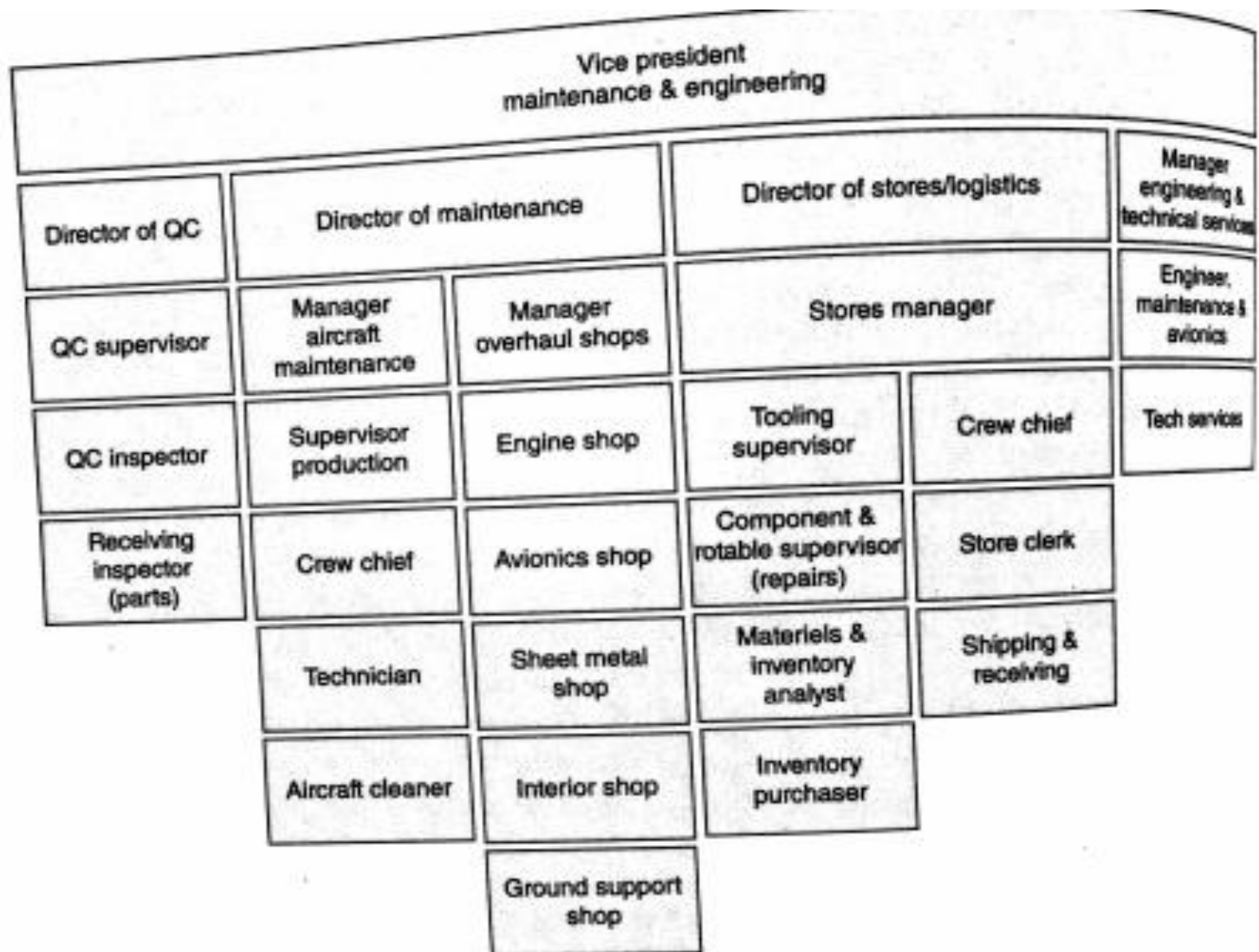
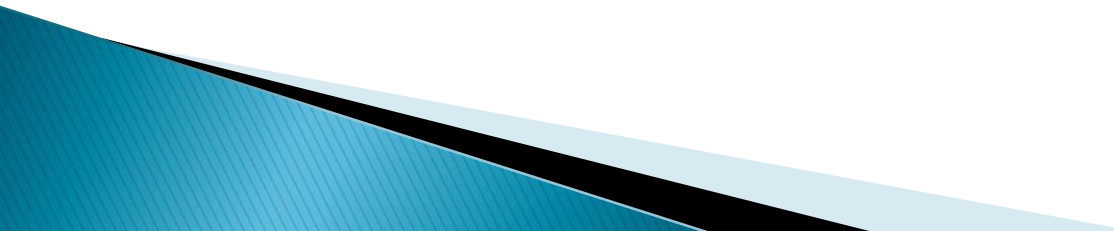
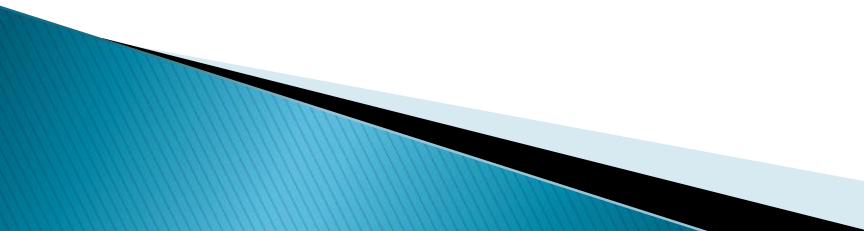


Figure 12-1 Organizational chart for maintenance management and support.

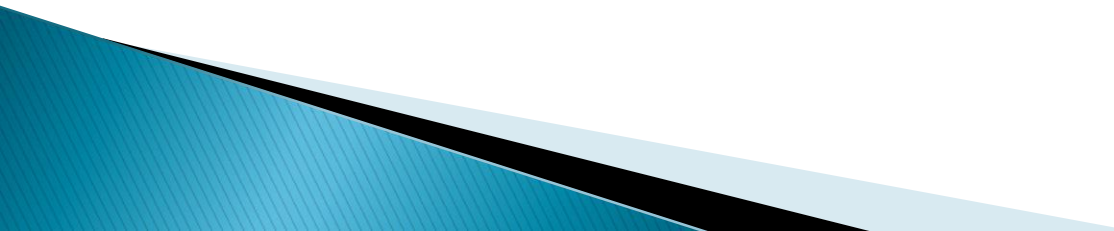
The Role of Management in Aviation

- ▶ This Occupational Standard covers all the tasks performed by Aviation Maintenance Managers working in Aircraft Servicing, Maintenance Repair and Overhaul environments. Notwithstanding the technical knowledge and capabilities.
 - ▶ The responsibilities of the Aviation Maintenance Manager include :
- 

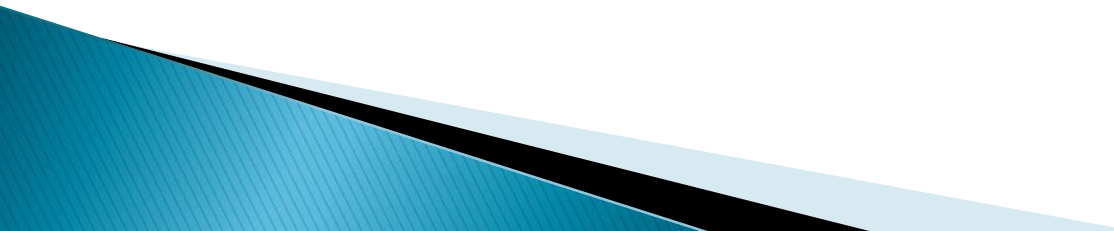
The Role of Management in Aviation

- ▶ communicating,
 - ▶ supervising,
 - ▶ prioritizing,
 - ▶ scheduling,
 - ▶ developing and implementing plans,
 - ▶ budgeting,
 - ▶ allocating resources (human and material),
 - ▶ monitoring and leading.
- 

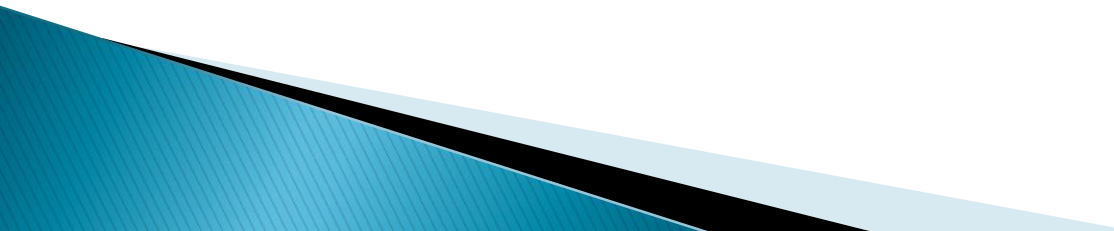
The Role of Management in Aviation

- ▶ Aviation Maintenance Managers are familiar with the everyday technical requirements of their facility.
 - ▶ And they have extensive knowledge of safety requirements and legislation, as well as rules and regulations that apply to their work
- 

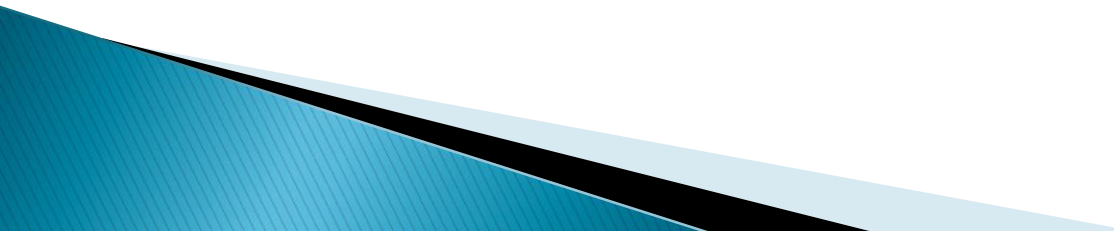
Manager of Aircraft Maintenance

- ▶ The Aviation Maintenance Manager Occupational Standard addresses the current management needs in the aviation maintenance sector and the transition of the maintenance worker to maintenance manager.
- 

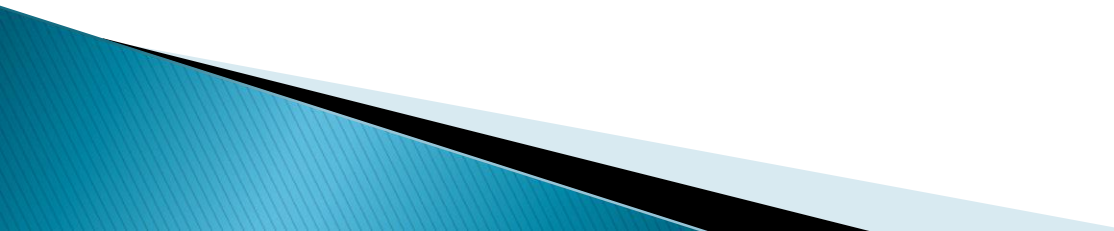
Manager of Aircraft Maintenance

- ▶ This transitional step can take on different faces depending on circumstance.
 - ▶ Large companies typically have many management levels, structured into a hierarchical framework, whereas smaller companies may only have one level of management.
- 

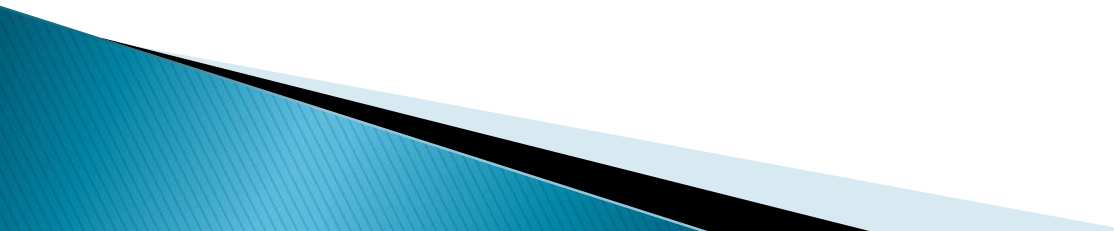
Manager of Aircraft Maintenance

- ▶ The standard has been established at three levels for personnel advancing from worker-level positions (e.g., Technician, Mechanic) to entry-level managers (e.g., Leadhand, Supervisor, Cell Leader), as well as the next two levels or tiers, including Department Director and Director of Maintenance.
- 

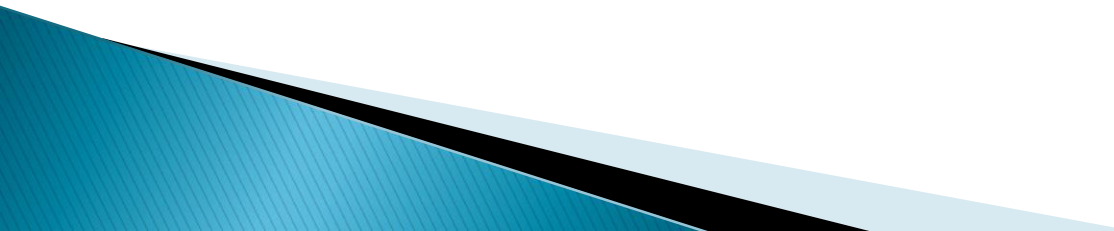
Front line supervisor / Management

- ▶ A frontline manager can be a supervisor, team leader, or a project leader
 - ▶ Typically, frontline managers are at the first level of management.
 - ▶ In a smaller organization, they may manage one or two employees, in larger organizations they may have as many as 30 employees reporting to them.
- 

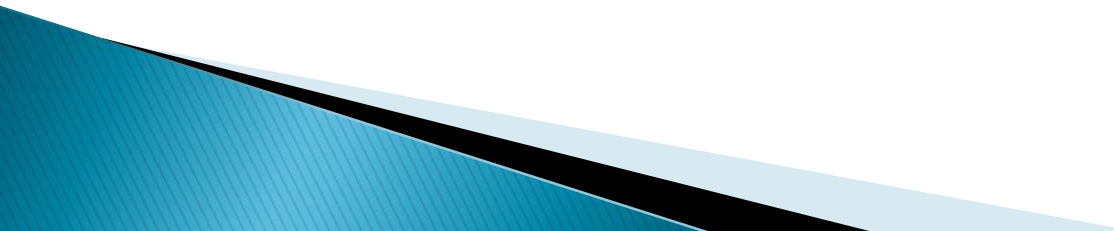
Front line supervisor / Management

- ▶ The employees they manage usually have no management responsibility themselves. The frontline manager guides and directs the team in the performance of its tasks.
 - ▶ Over the past decades, the frontline manager has become more than a task master who monitors and controls work.
- 

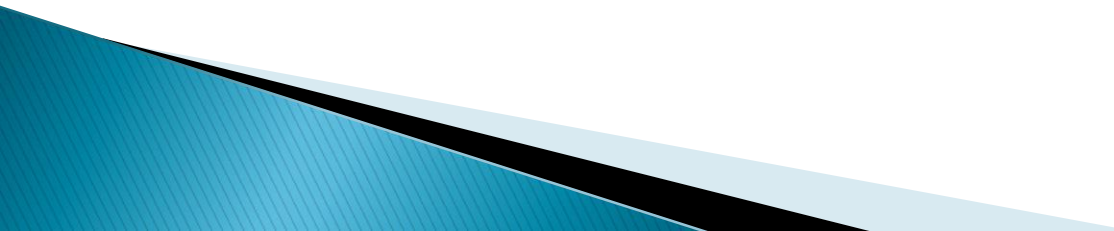
Front line supervisor / Management

- ▶ The frontline manager is often required administer additional tasks, such as counselling, employee management, disciplinary action, and measuring performance and is the focal point for communicating issues.
 - ▶ The frontline manager's role has evolved into a critical function within the organization and is pivotal in respect to safety and the safety culture.
- 

Management Areas of concern in an airline


- ▶ The airlines are a service industry, and all aircraft must be available and in good flying conditions.
 - ▶ Unavailability of an aircraft means that the aircraft is not going to make the flight it has been scheduled for; thus the manager has to do everything possible to correct the problems.
- 

Management Areas of concern in an airline

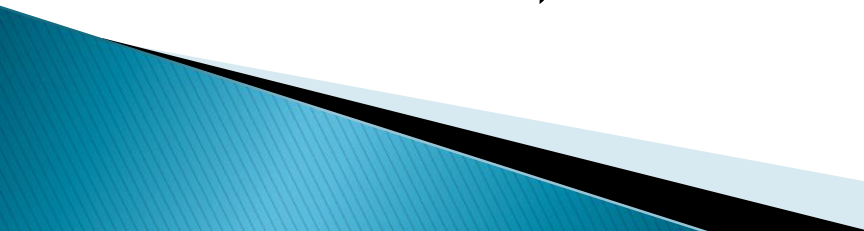
- ▶ The challenging and demanding work of aircraft maintenance management and its concerns are very complex and the work requires an individual with great focus, dedication, and effective organizational skills.
 - ▶ Managers must have creative decision-making abilities to overcome obstacles and achieve their goals.
- 

Management Areas of concern in an airline

As a maintenance manager, you are constantly bombarded with all kinds of problems and issues, such as

- aircraft that are out of service,
 - aircraft parts availability, production,
 - subordinate behaviour,
 - dead lines of audits,
 - upper managers odd request, and
 - other challenges on daily basis.
- 

Introduction to overhaul shops

- ▶ Overhaul Shops are Responsible for the overall management & administration of maintenance for those components & equipment that are removed from the aircraft for maintenance.
 - ▶ Usually removed and replaced with item from supply
 - Item is removed, documented with discrepancy, and forwarded to appropriate maintenance shop (in-house or outsourced)
- 

Types of overhaul shops

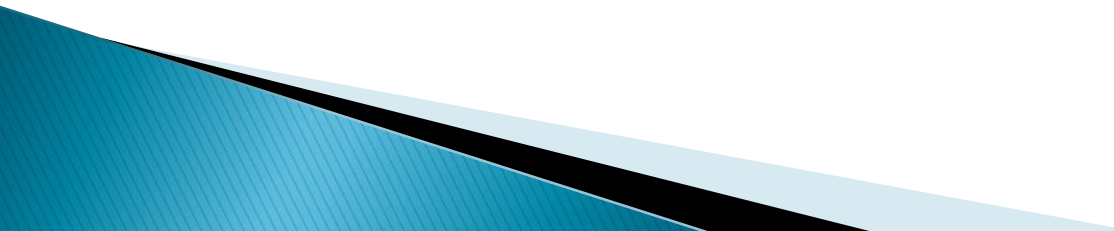
Types of overhaul Shops:

- Engine Shop
- Aviation Shop
- Mechanical component Shop
- Structure shop

Operations of Overhaul Shops

- ▶ Spare parts are purchased based on fleet failure rate & time to repair.
 - Remove item from aircraft
 - Turn item into materiel for replacement
 - Route unit to the repair facility (in-house or outsourced)
 - Return serviceable unit to stores for reissue

Manager of overhaul shops

- ▶ The manager of overhaul shops must be informed of daily progress and the work start and completion time of all tasks due to the sensitive nature of aircraft scheduling.
 - ▶ The manager will synchronize all these shops to get the work done on time.
- 

Line Maintenance (on Aircraft)

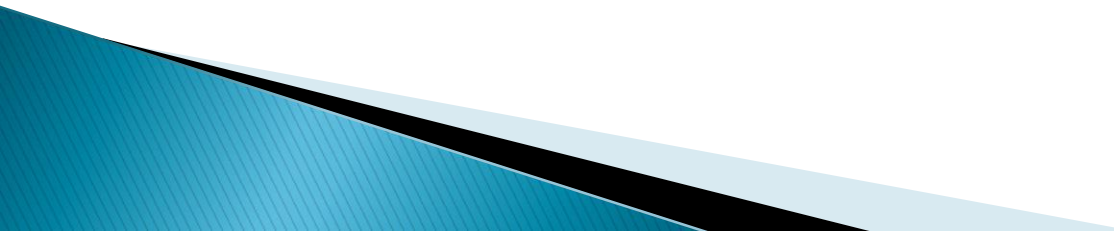
In General, aircraft maintenance can be divided into two ways.

- Base maintenance

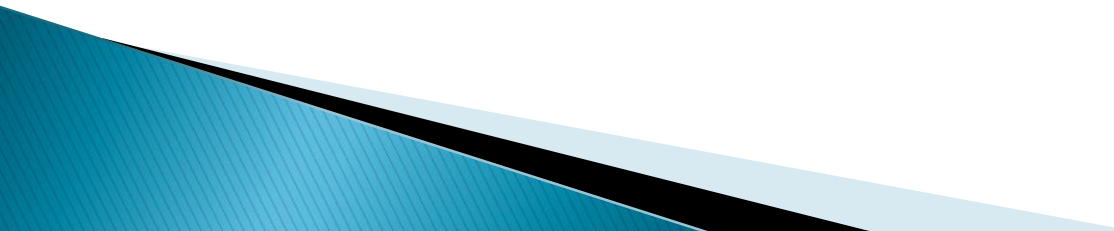
- Line Maintenance

- ▶ Base maintenance includes activities which require the aircraft to be taken out of service for longer periods.
- ▶ Because To perform Base maintenance, special equipments are require which is available only in hanger.

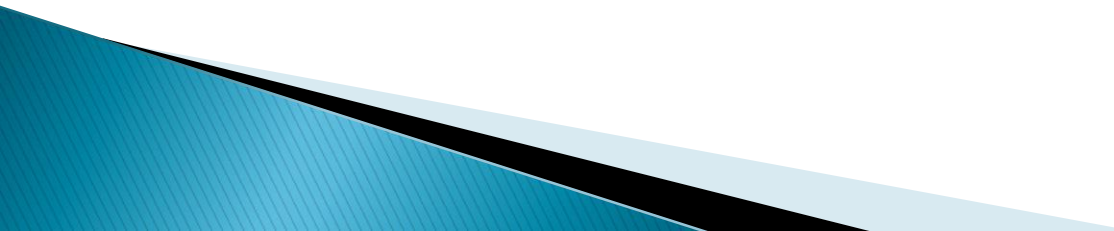
Line Maintenance (on Aircraft)

- ▶ Line maintenance activities are mostly carried out during normal turnaround periods where the aircraft is on the ground.
 - ▶ During Line maintenance, the aircraft is not always taken out of service.
 - ▶ Maintenance activities can be done at the gate or stand itself.
- 

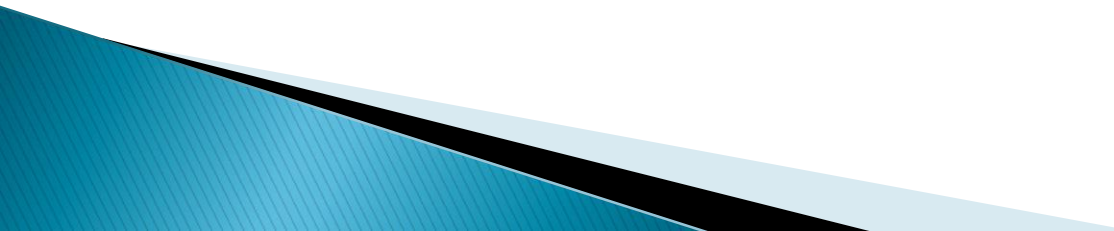
Line Maintenance (on Aircraft)

- ▶ Unlike Base maintenance, which is always scheduled for longer ground times, line maintenance cannot always be scheduled.
 - ▶ Being well prepared for unplanned maintenance is fundamental to getting an aircraft back into service quickly.
- 

Maintenance Control Center (MCC)

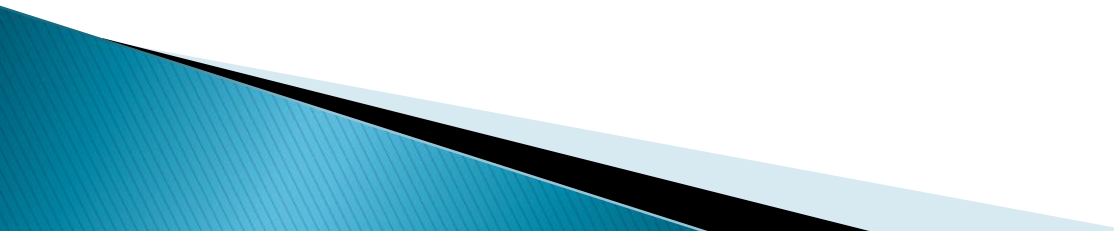
- ▶ It is a Heart of Line Maintenance
 - ▶ Responsibilities:
 - Ensure daily checks are complete prior to first flight of the day
 - Perform transit/turnaround maintenance on all transit aircraft
- 

Maintenance Control Center (MCC)

- Coordinate servicing of these in aircraft
 - Food, water, waste, fuel
 - Troubleshoot maintenance problems & schedule repairs (if possible) in the allotted turnaround time or defer maintenance
 - Coordinate with materiel, inspection, planning & other M&E units for resolving maintenance problems
- 

Maintenance Control Center (MCC)

► Responsibilities:

- Track all aircraft during flight to determine location, maintenance requirements & status
 - Coordinate maintenance at outstations airlines or outsourced parties
 - Collect & forward logbook pages, QC write-ups, mechanical reliability reports or other reports required by airline or FAA
- 

Maintenance Control Center (MCC)

► Responsibilities:

- MCC responsible for identifying & reporting all delays & cancellations of aircraft – investigate & resolve problems
- Repeat discrepancies (i.e mechanic operations, environmental conditions, bad parts)

Maintenance Control Center (MCC)

- ▶ MCC should be on top of everything happening with all aircraft in service
- ▶ It must have adequate facilities like.,
 - MCC must have sufficient communications
 - Phones, handhelds, fax machines, computers
 - Extensive technical library
 - Most important – sufficient, qualified staff

Aircraft Management, Maintenance, and Materiel Support

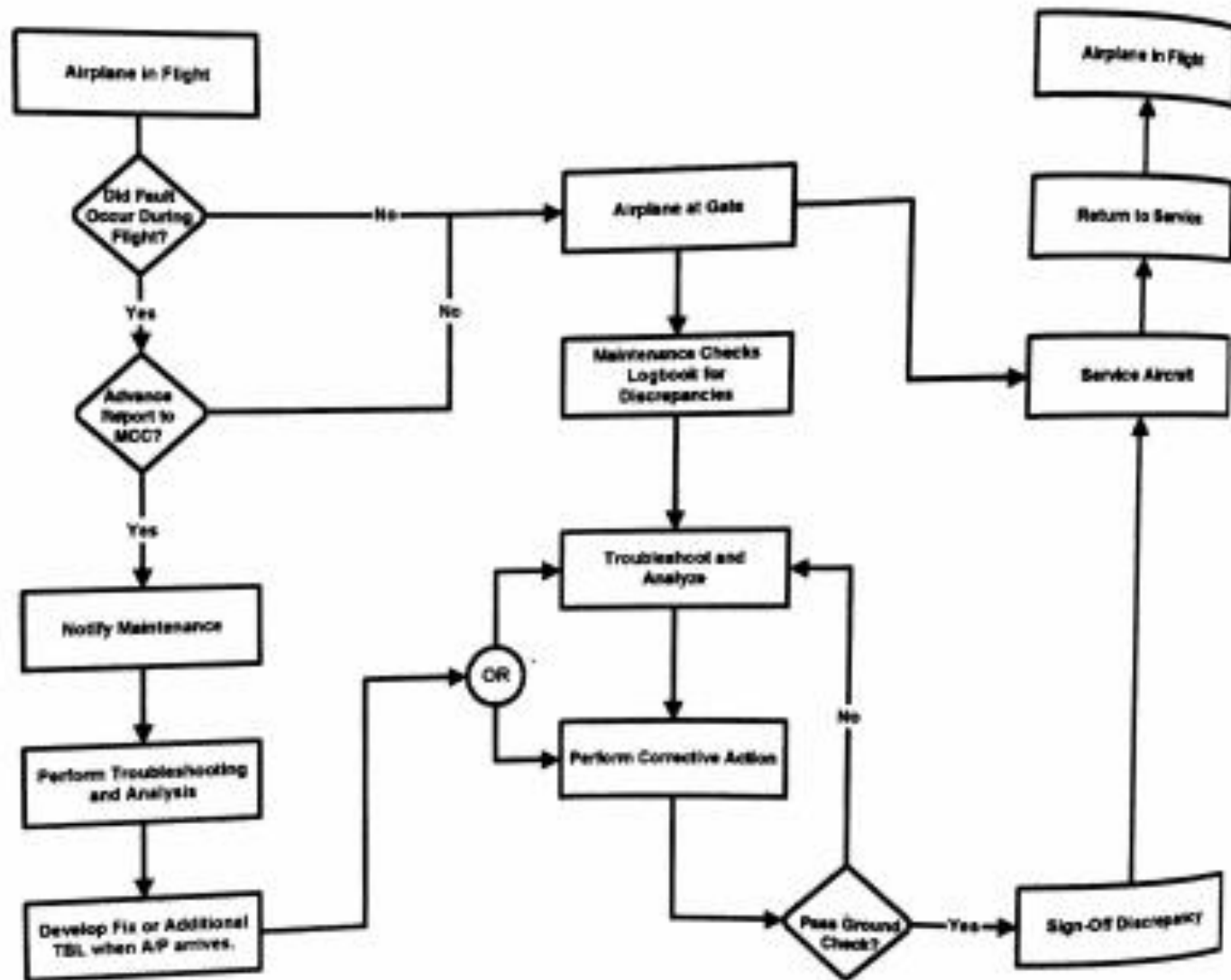
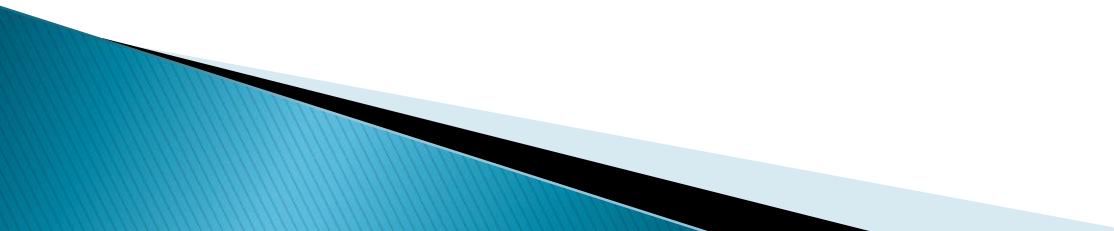



Figure 13-2 Line maintenance operations—turnaround.

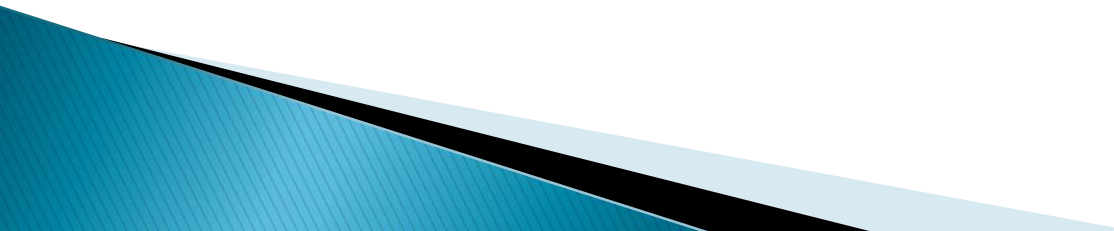
Morning Meetings

- ▶ One of the most important activities
 - ▶ Addresses current maintenance status:
 - Day's flight schedule
 - Maintenance status of each aircraft in service
 - Specific needs of maintenance (parts, supplies, personnel, GSE etc..)
- 

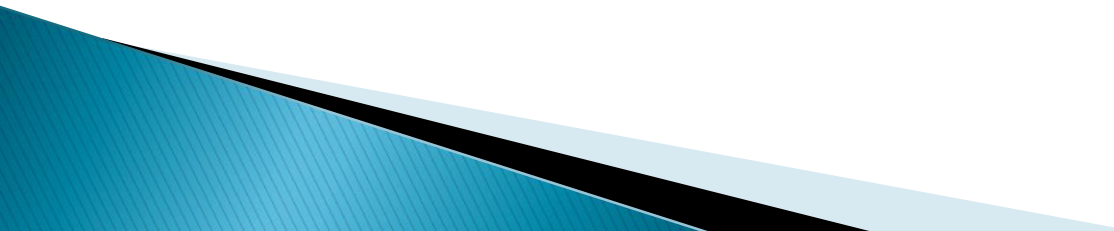
Morning Meetings

- Significant problems or changes which may affect day's flight & work schedules
 - Hangar or facility issues
 - Line station or outsourcing issues
 - ▶ **Purpose:**
 - Keep all involved of everything that in the maintenance area & address any problems that may arise
- 

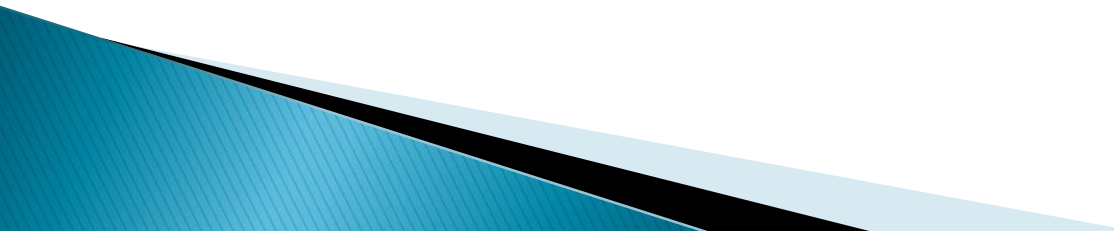
Aircraft Logbook

- ▶ Flight crew members maintains logbook for each flight.
 - ▶ Aircraft logbook is the record in which all data concerning the aircraft is recorded.
 - ▶ Information gathered in this log is used to determine the aircraft condition, date of inspections, engines and propellers.
- 

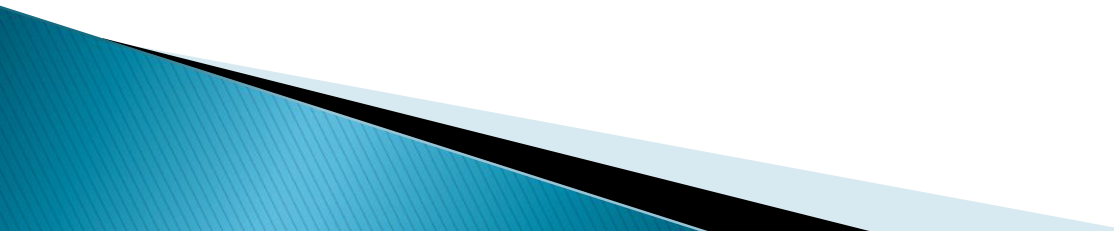
Aircraft Logbook

- ▶ When the inspections are completed, appropriate entries must be made in the aircraft logbook certifying that the aircraft is in an airworthy condition.
 - ▶ And also, It Contains – flight crew names, flight number, route, & flight times (arrival & departure – total flight hours & cycles)
- 

Aircraft Logbook

- Collected at end of each flight day & those at outstations will fax to MCC
 - Information will be entered into computer for use by M&E, QA, QC, & reliability for various actions & future reference
 - Logbook will be returned to aircraft – ready for next day's Activity.
- 

Ramp & Terminal Operations

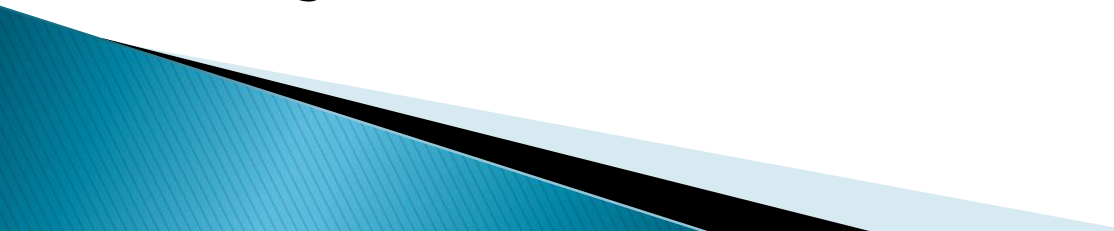
- ▶ Flight handling, servicing, & maintenance activities must be accomplished.
 - ▶ Flight handling covers the loading and unloading of baggage, air-cargo and the transportation between the aircraft and the passenger terminal, air cargo terminals.
 - ▶ In addition to this, it covers preparations for the delivery onto aircraft of bulk baggage and passenger stairs operations.
- 

Ramp & Terminal Operations

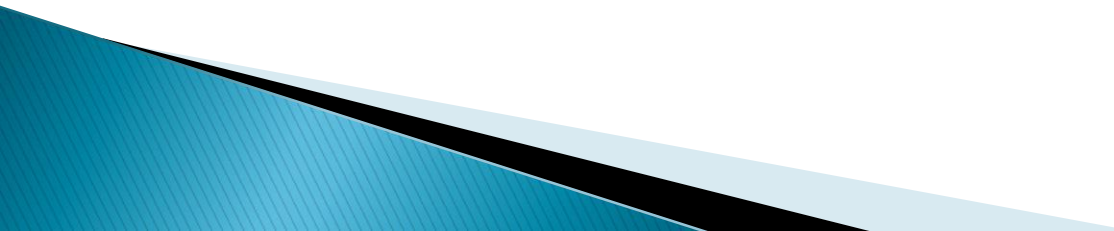
▶ Servicing

- Refueling, adding potable water, & all food & beverages for next flight as well as removing trash & waste

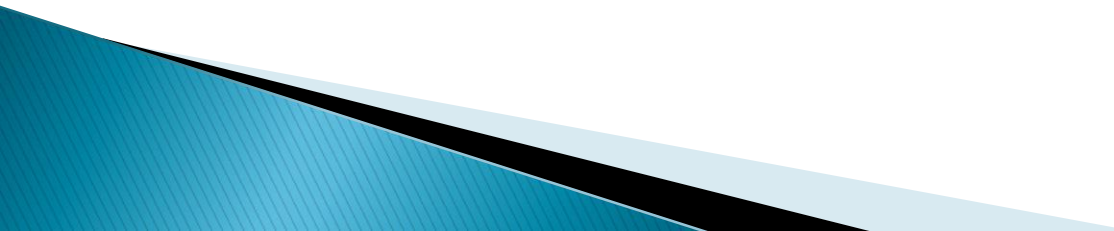
▶ Maintenance

- Checked logbooks, discuss with crew for any problems, troubleshoot & repair or defer maintenance
 - Advance warning – maintenance can meet crew with solution
 - Maintenance completed or deferred will be noted in logbook
- 

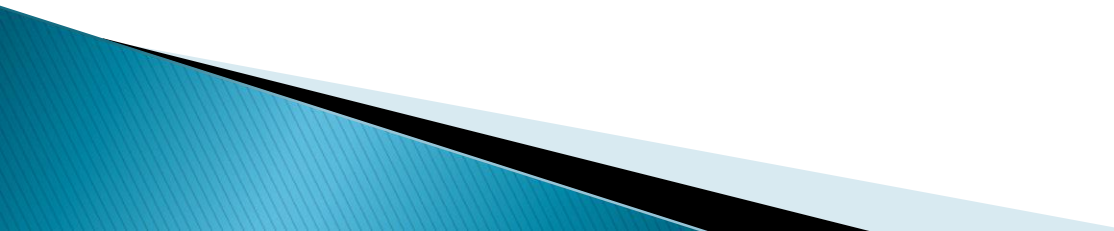
Line or Out Station Activities

- Same activities but limited personnel & skills, availability of parts & supplies, limited facilities (stands, hangar space)
 - More chance for deferred maintenance
 - Communication crucial with home MCC
- 

Maintenance Crew Skill Requirements

- ▶ Hangar & overhaul shops employ specialists
 - ▶ Line Maintenance must be well verse in all aspects of the aircraft
 - ▶ Well Verse in FAA rules & regulations & airline's policies & procedures
 - ▶ Know what specialists apply
- 

Maintenance Crew Skill Requirements

- ▶ Often different aircraft & wide range of problems
 - ▶ Administrative skills for logbooks & plethora of reports
 - ▶ Multiple crews may be needed to accomplish task (day & night)
- 

Thank You