

| <b>MODULE 7A – MAINTENANCE PRACTICES</b> |  |  |
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| <b>Sl. No.</b>                           | <b>Topics to be Covered</b>                            | <b>Level</b>   |
|  |  | <b>B2</b>  |
| <b>7.1.</b>                              | <b>SAFETY PRECAUTIONS – AIRCRAFT AND WORKSHOP</b>      |  |
|  | a.   | Aspects of safe working practices including precautions to take when working with electricity, gases especially oxygen, oils and chemicals. Also, instruction in the remedial action to be taken in the event of a fire or another accident with one or more of these hazards including knowledge on extinguishing agents. |
| <b>7.2.</b>                              | <b>WORKSHOP PRACTICES</b>                              |  |
|  | a.   | Care of tools, control of tools, use of workshop materials;  |
|  | b.   | Dimensions, allowances and tolerances, standards of workmanship;   |
|  | c.   | Calibration of tools and equipment, calibration standards.   |
| <b>7.3.</b>                              | <b>TOOLS</b>   |  |
|  | a.   | Common hand tool types;  |
|  | b.   | Common power tool types;   |
|  | c.   | Operation and use of precision measuring tools;  |
|  | d.   | Lubrication equipment and methods.   |
|  | e.   | Operation, function and use of electrical general test equipment;  |
| <b>7.4.</b>                              | <b>AVIONIC GENERAL TEST EQUIPMENT</b>                  |  |
|  | a.   | Operation, function and use of avionic general test equipment.   |
| <b>7.5.</b>                              | <b>ENGINEERING DRAWINGS, DIAGRAMS AND STANDARDS</b>    |  |
|  | a.   | Drawing types and diagrams, their symbols, dimensions, tolerances and projections;   |
|  | b.   | Identifying title block information Microfilm, microfiche and computerized presentations;  |
|  | c.   | Specification 100 of the Air Transport Association (ATA) of America;   |
|  | d.   | Aeronautical and other applicable standards including ISO, AN, MS, NAS and MIL;  |
|  | e.   | Wiring diagrams and schematic diagrams.  |
| <b>7.6.</b>                              | <b>FITS AND CLEARANCES</b>                             |  |
|  | a.   | Drill sizes for bolt holes, classes of fits;   |
|  | b.   | Common system of fits and clearances;  |
|  | c.   | Schedule of fits and clearances for aircraft and engines;  |
|  | d.   | Limits for bow, twist and wear;  |
|  | e.   | Standard methods for checking shafts, bearings and other parts.  |
| <b>7.7.</b>                              | <b>ELECTRICAL WIRING INTERCONNECTION SYSTEM (EWIS)</b> |  |
|  | a.   | Continuity, insulation and bonding techniques and testing;   |
|  | b.   | Use of crimp tools: hand and hydraulic operated;   |

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| <b>7.7.<br/>Cont...</b>                  | c.   | Testing of crimp joints;  | 3            |
|  | d.   | Connector pin removal and insertion;  |              |
|  | e.   | Co-axial cables: testing and installation precautions;  |              |
|  | f.   | Identification of wire types, their inspection criteria and damage tolerance.   | 3            |
|  | g.   | Wiring protection techniques: Cable looming and loom support, cable clamps, protective sleeving techniques including heat shrink wrapping, shielding. |              |
|  | h.   | EWIS installations, inspection, repair, maintenance and cleanliness standards.  |              |
|  | b.   | Environmental conditions  |              |
|  | c.   | Inspection methods  |              |
| <b>7.8.</b>                              | <b>WELDING, BRAZING, SOLDERING AND BONDING</b>                 |   |              |
|  | a.   | Soldering methods; inspection of soldered joints.   | 2            |
|  | b.   | Welding and brazing methods;  | ---          |
|  | c.   | Inspection of welded and brazed joints;   |              |
|  | d.   | Bonding methods and inspection of bonded joints.  |              |
| <b>7.9.</b>                              | <b>AIRCRAFT WEIGHT AND BALANCE</b>                             |   |              |
|  | a.   | Centre of Gravity/Balance limits calculation: use of relevant documents;  | 2            |
|  | b.   | Preparation of aircraft for weighing;   | ---          |
|  | c.   | Aircraft weighing;  |              |
| <b>7.10.</b>                             | <b>AIRCRAFT HANDLING AND STORAGE</b>                           |   |              |
|  | a.   | Aircraft taxiing/towing and associated safety precautions;  | 2            |
|  | b.   | Aircraft jacking, chocking, securing and associated safety precautions;   |              |
|  | c.   | Aircraft storage methods;   |              |
|  | d.   | Refuelling/ defueling procedures;   |              |
|  | e.   | De-icing/ anti-icing procedures;  |              |
|  | f.   | Electrical, hydraulic and pneumatic ground supplies.  |              |
|  | g.   | Effects of environmental conditions on aircraft handling and operation.   |              |
| <b>7.11.</b>                             | <b>DISASSEMBLY, INSPECTION, REPAIR AND ASSEMBLY TECHNIQUES</b> |   |              |
|  | a.   | Types of defects and visual inspection techniques.  | 3            |
|  | b.   | Corrosion removal, assessment and re-protection.  |              |
|  | e.   | Non-destructive inspection techniques including, penetrant, radiographic, Eddy current, ultrasonic and Boroscope methods.                             | 1            |
|  | f.   | Disassembly and re-assembly techniques.   | 2            |
|  | g.   | Trouble shooting techniques   |              |

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| <b>7.12.</b>                             | <b>ABNORMAL EVENTS</b>        |   | <b>2</b>     |
|  | a.                            | Inspections following lightning strikes and HIRF penetration.         |              |
| <b>7.13.</b>                             | <b>MAINTENANCE PROCEDURES</b> |   | <b>2</b>     |
|  | a.                            | Maintenance planning;   |              |
|  | b.                            | Modification procedures;  |              |
|  | c.                            | Store's procedures;   |              |
|  | d.                            | Certification/release procedures;                                     |              |
|  | e.                            | Interface with aircraft operation;                                    |              |
|  | f.                            | Maintenance Inspection/Quality Control/Quality Assurance;             |              |
|  | g.                            | Additional maintenance procedures. Control of life limited components |              |