

Human Factors in Aeronautical Maintenance

Certification:	2 Years
Previous requirements:	None.
Duration:	12 hours.
Duration E-Learning:	170 min.
Language:	English.
Price:	45€.
Tutor:	Brokair Aviation Academy instructor's team.



COURSE OBJECTIVES:

The aim of this course is to provide update and refresh on the understanding of the application of human factors and human performance problems in aeronautical maintenance.

REGULATION FRAMEWORK:

COMMISSION REGULATION (EU) No 1321/2014 of November 26, 2014, Annex II (Part 145). Aeronautical maintenance organizations must establish and control the competence of the personnel involved in any maintenance, development of maintenance programs, airworthiness reviews, management and / or quality audits in accordance with a procedure. In addition to the necessary experience related to the role of the job position, the competence must include an understanding of the application of human factors and human performance problems appropriate to the role of that person in the organization.

ADDRESSED TO:

Personnel involved in any maintenance, development of maintenance programs, airworthiness reviews, management audits and / or quality in a maintenance organization. In general professionals who need to know the way the European Union has regulated organizations dedicated to the maintenance of aeronautical equipment and materials.

PROGRAM:

- Module 1.** General/Introduction to human factors
- Module 2.** Safety Culture/Organisational factors
- Module 3.** Human Error
- Module 4.** Human performance & limitations
- Module 5.** Environment
- Module 6.** Procedures, information, tools and practices
- Module 7.** Communication
- Module 8.** Teamwork
- Module 9.** Professionalism and integrity
- Module 10.** Organisation's HF program

SYLLABUS

1. INTRODUCTION TO HUMAN FACTORS

- 1.1. BACKGROUND
- 1.2. NOWADAYS
- 1.3. NEED TO ADDRESS HUMAN FACTORS
- 1.4. STATISTICS
- 1.5. INCIDENTS
 - 1.5.1. THE BEGINNING OF THE HFFF
 - 1.5.2. ALOHA AIRLINES BOEING 737-200
 - 1.5.3. BRITISH AIRWAYS BAC 1-11
 - 1.5.4. BRITISH MIDLAND BOEING 737-400
 - 1.5.5. EXCALIBUR AIRBUS A320-200
 - 1.5.6. CONCLUSIONS
 - 1.5.7. COMMON ITEMS

2. SAFETY CULTURE / ORGANISATIONAL FACTORS

- 2.1. CULTURAL FEATURES
- 2.2. SAFETY CULTURE

3. HUMAN ERROR

- 3.1. ERROR MODELS AND THEORIES
 - 3.1.1. SHELL MODEL
 - 3.1.2. THE SWISS CHEESE MODEL
 - 3.1.3. ICEBERG MODEL
 - 3.1.4. DIRTY DOZEN
- 3.2. TYPES OF ERRORS IN MAINTENANCE TASKS
 - 3.2.1. SKILLS ERRORS
 - 3.2.2. ERRORS BASED ON THE HABITS
 - 3.2.3. INFRACTIONS
- 3.3. IMPLICATIONS OF ERRORS
 - 3.3.1. DIFFERENCE BETWEEN ACCIDENT AND INCIDENT
- 3.4. AVOIDING AND MANAGING ERRORS
- 3.5. HUMAN RELIABILITY
 - 3.5.1. MURPHY'S LAW

4. HUMAN PERFORMANCE & LIMITATIONS

- 4.1. VISION
- 4.2. HEARING
- 4.3. INFORMATION-PROCESSING
- 4.4. ATTENTION AND PERCEPTION
- 4.5. SITUATIONAL AWARENESS
- 4.6. MEMORY
- 4.7. CLAUSTROPHOBIA AND PHYSICAL ACCESS
- 4.8. MOTIVATION
- 4.9. FITNESS/HEALTH
- 4.10. STRESS
- 4.11. WORKLOAD MANAGEMENT
- 4.12. FATIGUE
- 4.13. ALCOHOL, MEDICATION, DRUGS
- 4.14. PHYSICAL WORK
- 4.15. REPETITIVE TASKS/COMPLACENCY

5. ENVIRONMENT

- 5.1 PEER PRESSURE
- 5.2. STRESSORS
- 5.3. TIME PRESSURE AND DEADLINES
- 5.4. WORKLOAD

- 5.5. SHIFT WORK
 - 5.6. NOISE AND FUMES
 - 5.7. ILLUMINATION
 - 5.8. CLIMATE AND TEMPERATURE
 - 5.9. MOTION AND VIBRATION
 - 5.10. COMPLEX SYSTEMS
 - 5.11. HAZARDS IN THE WORKPLACE
 - 5.12. LACK OF MANPOWER
 - 5.13. DISTRACTIONS AND INTERRUPTIONS
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6. PROCEDURES, INFORMATION, TOOLS AND PRACTICES

- 6.1. VISUAL INSPECTION
 - 6.2. WORK LOGGING AND RECORDING
 - 6.3. PROCEDURE - PRACTICE/MISMATCH/NORMS
 - 6.4. TECHNICAL DOCUMENTATION - ACCES AND QUALITY
 - 6.5. CRITICAL MAINTENANCE TASK AND ERROR-
CAPTURING METHODS (INDEPENDENT INSPECTION,
REINSPECTION, ETC.)
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7. COMMUNICATION

- 7.1. SHIFT/TASK HANDOVER
 - 7.2. DISSEMINATION OF INFORMATION
 - 7.3. CULTURAL DIFFERENCES
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8. TEAMWORK

- 8.1. RESPONSIBILITY
 - 8.2. MANAGEMENT, SUPERVISION AND LEADERSHIP
 - 8.3. DECISION MAKING
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9. PROFESSIONALISM AND INTEGRITY

- 9.1. KEEPING UP TO DATE; CURRENCY
 - 9.2. ERROR PROVOKING BEHAVIOUR
 - 9.3. ASSERTIVENESS
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10. ORGANISATION'S HFF PROGRAM

- 10.1. REPORTING ERRORS
- 10.2. DISCIPLINARY POLICY
- 10.3. ERROR INVESTIGATION
- 10.4. ACTION TO ADDRESS PROBLEMS
- 10.5. FEEDBACK