



MAPNA GROUP



IRAN AIRSHOW 2022

16-13 Dec. 2022  
Kish Island  
[www.iranairshow.com](http://www.iranairshow.com)



**AERO ENGINE CENTER**  
**WORKSHOPEs:**  
**ENGINE REPAIR**  
**SYSTEM DESIGN**  
**ELECTRICAL EQUIPMENT**  
**PART REPAIR**  
**MANUFACTURING**



#### engine repair

- Introduction of the tools for manufacturing an aero-center
- Engine repairs with aero-center tools

#### System design

- Initial Airworthiness tests on the First Engine To Test (FETT) in the outdoor test stand
- Continues Airworthiness and acceptance tests
- Reliability and risk analysis of turbine engine
- Design Challenges in an aero turbine design

#### Electrical equipment

- Introduction to aero engines control system FADEC
- Aero engines Hardware in the loop laboratory
- Aero engine modeling and simulation using AMESim software



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#### Part repair

- An introduction on the high temperature coatings using in aero-engine components
- High temperature degradation processes of turbine components in aero-engines
- A general review on the repair processes of aero-engine components
- Function tests on the repaired aero-engine components
- Introduction to MAPNA aero-engine components repair center
- Failure analysis methodology of turbine components in aero-engines

#### manufacturing

- Principles of forging parts of aero-engines
- The principal of designing forge mold
- GD&T parts of aero-engines
- Investigating the principles of tolerancing based on the manufacturing process
- Examining the standards and requirements for the manufacture of aero-engines parts
- Examining the manufacturing process of parts based on the functional conditions of the part
- The progress of coatings used in aero-engines
- Brazing processes used in the manufacture of aero-engines parts
- Investigating the effect of heat treatment on the structure of aero-engine parts based on geometry and functional conditions