



**Technician Training**

# **H125 / AS350B3 series ELECTRICAL / AVIONICS SYSTEMS Training Course**

**5 Days / 1Week**

**Classroom 30 Hours**

Approved By: Ross McMichael \_\_\_\_\_ Date: 12/04/2019

Instructor \_\_\_\_\_ Date \_\_\_\_/\_\_\_\_/\_\_\_\_

Rev. 1.0

**AIRBUS**



This course is comprised of a theoretical presentation and practical exercises necessary to adequately review the basic aircraft systems and perform certain maintenance tasks described in Airbus maintenance documentation. Following the successful completion of this course, the technician should be able to perform Organizational and Intermediate level maintenance tasks and procedures necessary to maintain the helicopter. This course does not include Depot level maintenance tasks and procedures as described below.

### **ORGANIZATIONAL LEVEL:**

Complete maintenance checks and servicing, inspection for condition, and exchange of line replaceable units according to applicable documentation.

### **INTERMEDIATE LEVEL:**

Repair on or off of the helicopter and extended periodical inspections according to applicable maintenance documentation. A maintenance facility, qualified personnel, test equipment, and special tools are required to perform these tasks.

### **DEPOT LEVEL:**

Major repair or overhaul at the manufacturer or at an authorized service station according to special documentation. Tools / test equipment and specialized personnel trained in Depot level maintenance tasks.

### **PREREQUISITES:**

- Two Years Minimum Experience as an Active Helicopter Maintenance Technician
- In special cases these prerequisites can be waived by the Training Manager

### **NOTICES:**

Airbus Helicopters, Inc. reserves the right to notify customer of the occurrence of any force majeure condition that, in its sole discretion, is the cause of excusable delay. In the event of a force majeure condition, the services and/or classes will be extended or, if required, rescheduled for the first available opening. Airbus Helicopters, Inc. will not be liable for any costs, claims, or damages to customer or its employees arising from delays or interruptions caused by any force majeure condition.



The following items shall serve as the training points for a typical H125 / AS350B3 series course focusing on field maintenance tasks as defined above. The course content shall be revised as necessary to reflect basic production helicopter configuration revision as subsequent aircraft are manufactured.

### **Introduction**

Classroom 1.0 Hours

SCOPE: This block of instruction will include student registration, orientation to the course and training center policies, history of Airbus, course content and a general overview of the aircraft.

### **AS350B3 Wiring Diagram Manual**

Classroom 1.0 Hours

SCOPE: This block of instruction will include explanatory details of the wiring diagram manual. Exploring the structure and composition of this manual will include network system identification, common electrical symbols, and modification effectivity and individual inspection log book examples.

### **Signal Definitions**

Classroom 0.5Hours

SCOPE: This block of instruction will provide identification of common utilized signal formats spanning analogue, discrete and digital signals.

### **Layout of Power System Components**

Classroom 0.5 Hours

SCOPE: This block of instruction will identify the different modification effectivities of the airframe types as to their power system components. Exploration of the respective components will include the numerous installation locations of the respective power system locations.

### **Direct Current Power Sources**

Classroom 0.5 Hours

SCOPE: This block of instruction will include description of three different power sources of the electrical system. Interaction of these sources will be discussed.

### **Operating Principle of the Power System**

Classroom 2.0 Hours

SCOPE: This block of instruction will provide function description of electrical control, switch panels and distribution bus bars of all modification effectivities of the AS350B3 aircraft.





## **Electrical Master Box**

Classroom 4.0 Hours

SCOPE: This block of instruction will identify key components of the 1 Alpha master electrical box. Electrical circuit analysis will explore the general and detailed functionality of the different modes of operation of the simplex DC power system.

## **Warning System**

Classroom 0.5 Hours

SCOPE: This block of instruction highlights the different variants of the 4 Alpha warning unit. Detailed information of the warnings and cautions are covered within the respective system operational descriptions.

## **Instrument Lighting**

Classroom 0.5 Hours

SCOPE: This block of instruction explores pre-MOD and post-MOD differences of the aircrafts instrument lighting system.

## **Pitot Heating**

Classroom 0.5 Hours

SCOPE: This block of instruction will identify components location and monitoring of the electrical pitot heating system.

## **Ancillary System Unit**

Classroom 0.5 Hours

SCOPE: This block of instruction discusses the description and functionality of both ASU printed circuit boards 1, 2 and 3 (EBCAU).

## **Rotor Speed RPM Monitoring**

Classroom 1.0 Hours

SCOPE: This block of instruction differentiates between aural and visual indications of both high and low rotor warning scenarios.

## **Hydraulic System**

Classroom 1.0 Hours

SCOPE: This block of instruction will identify both dual and single hydraulic systems. Normal operation, pressure loss, servo monitoring and testing of the applicable electrical circuits are defined.



## **Fuel System**

Classroom 1.5 Hours

SCOPE: This block of instruction will include Arriel 2B1 and 2D engine types as to the fuel delivery system and fuel quantity monitoring system.

## **Vehicle and Engine Multifunction Display**

Classroom 4.0 Hours

SCOPE: Description, engine operating controls, starting system, twist grip, fuel metering, engine back-up control ancillary unit collective pitch and yaw anticipator operation and rigging. Trouble shooting techniques of engine failure codes. Engine removal and VEMD system operation and fire detection system.

## **Engine Fire Detection System**

Classroom 0.5 Hours

SCOPE: This block of instruction discloses the method of monitoring the engine fire detection circuit and the system test mode of operation.

## **Arriel Engines 2D/2B1**

Classroom 1.5 Hours

SCOPE: This block of instruction reflects on engine oil cooling and the monitoring of the lubrication system. Engine parameter monitoring systems are explored in addition to the different instruments that provide visual references. Engine fuel control characteristics are reflected upon. The FADEC operation is reserved for the engine manufacturer and will not be discussed in detail.

## **Engine starting 2D/2B1**

Classroom 1.0 Hours

SCOPE: This block of instruction explores the functionality and circuit description of the FADEC controlled starting sequence for both the ARRIEL 2D and 2B1 engines.

## **Avionics**

Classroom 6.0 Hours

SCOPE: This block of instruction will include explanatory interaction pertaining to the AS350/H125 airframe relating to system frequencies, avionics main components, VHF Com, ELT, ADF, VOR NAV, ILS principles, marker beacon, transponder, distance measuring equipment, global positioning system, radar altimeter, STBY horizon/pitot/static backup instrumentation (ESI-500) and the Garmin 500 Flight display system.



## Exam and Critique

Classroom 2.0 Hours

**SCOPE:** This block will finalize the course of instruction by administering the final airframe exam, and course critique. The exam will be a comprehensive closed book multiple choice type exam and include questions on information presented in each of the blocks of instruction presented during the course of instruction. Any test score of 75% or higher will result in the student being issued a certificate of completion. A critique will be conducted in order that the student may reflect upon this course of instruction.