

# **A318/A319/A320/A321 CFM Engine Run-up**

## **A319/A320/A321 V2500 Engine Run-up**

### **Initial Training**

#### **Course Description**

<b>Duration</b>	3-4 Days (depending on simulator availability), divided as follows: <ul style="list-style-type: none"><li>- 1 theoretical day</li><li>- 1 simulator session for 4 trainees : 1 briefing hour + 4 hours + 1 debriefing hour</li><li>- 1-2 additional simulator sessions : 1 briefing hour + 4 hours + 1 debriefing hour</li></ul>
<b>Objectives</b>	Upon completion of this course the trainee shall: <ul style="list-style-type: none"><li>• be able to safely operate the engine after a major repair and/or replacement of engine components</li><li>• identify normal and abnormal start procedures</li><li>• carry out power plants tests in accordance with the Maintenance Manual for the according engine installed on the Airbus aircraft in question</li></ul>
<b>Course capacity</b>	Standard class: 4 trainees
<b>Target population</b>	Technical personnel associated with line and/or base/heavy maintenance activities requiring authorization for engine run-up.
<b>Prerequisite</b>	Personnel must be qualified on the according Airbus aircraft equipped with the relevant engines as Aviation Maintenance Technician (AMT). Participants should have 6 month recent practical experience on this aircraft (or equivalent type) or engine run up certification on other aircraft type. In addition, they should have a basic active knowledge of theoretical ATA chapters (24, 26, 31, 70 – 80) Students should be able to read, write and communicate at an understandable level in English language.
<b>Language</b>	English / French
<b>Course location</b>	According to available simulator sites.
<b>Description</b>	This course comprises theoretical and practical training according to ATA Level IV on following engine types : A300 B2/B4 GE CF6 and PW JT9, A300-600 GE CF6 and PW4152, A310 GE CF6 and PWJT9 and PW 4152, A318/A319/320/321 CFM 56 and IAE V2500 A330 GE CF6-80 , RR TRENT700 , PW 4160 A340 CFM 56 The engine run-up training provides skills and experiences with starting and operating the engines and related aircraft systems. It emphasizes recognition of normal and abnormal engine and systems operation and provides skills for checking engine performance characteristics. The theoretical training element of 8 hours covers exterior and interior engine inspections required prior to the engine run-up, tests to be performed, engine limitations to be served and the necessary normal, abnormal, emergency and safety procedures involved. The practical training element of 4 hours functional training, for two trainees, uses adequate Full Flight Simulators enabling them to learn the necessary procedures, apply the various checklists and confirm their competence for task performance. Continuous assessment is performed during the practical training.
<b>Documentation</b>	<ul style="list-style-type: none"><li>• Cockpit Panel Drawings 1/2 scale</li><li>• Maintenance Practical Training Manual</li><li>• Engine Run-up Check-List</li></ul>

## Course Syllabus

### DAY ONE : THEORETICAL TRAINING

TIME	CHAPTER
8H00	1– Run-up generality: 1.1 Safety precautions 1.2 Walk around 1.3 Hazardous areas
9H10	2 – A/C review : 2.1 Cockpit 2.2 Systems 2.3 Engines
10H30	3 – Limitations, Environnement : 3.1 Operation limits 3.2 Radio-com 3.3 Environnement
11H30	4 – Normal Engine Operating Procedures : 4.1 Dry motoring 4.2 Wet motoring
12H00	Lunch
13H00	4 – Normal Engine Operating Procedures : 4.3 Engine automatic start 4.4 Engine manual start
13h40	5 – Emergency Procedures : 5.1 Abnormal operations 5.2 Engine fire 5.3 Engine tail fire 5.4 APU fire 5.5 Avionics smoke 5.6 Cargo smoke
15H00	6 – Engine Test Procedures : 6.1 Minimum idle check 6.2 Power assurance check 6.3 Vibration check 6.4 Acceleration check
16H00	End

### OTHER DAYS: FLIGHT SIMULATOR

TIME	CHAPTER
0H00	1– Briefing : 1.1 Safety precautions 1.2 Safety check
1H00	2 – Starting : 2.1 Cockpit preparation 2.2 APU start 2.3 Dry motoring 2.4 Wet motoring 2.5 Automatic start 2.6 Manual start 2.7 Shut Down
3H00	3 – Operating : 3.1 Engine limits 3.2 Abnormal procedures 3.3 Engine test procedures 3.4 Emergency shut down 3.5 A/C leaving
5h10	4 – Debriefing : 4.1 Safety actions 4.2 Working team 4.3 Procedures follow up 4.4 Emergency behaviour 4.5 Approval assessment
6H00	End