



## TURBINE AND RECIPROCAL POWERED SINGLE AND TWIN PRESSURIZED NON-ON-LINE INITIAL TRAINING SYLLABUS

### On-site training prep:

All pre-course training materials will be sent via electronic means to the course participants as early as possible but NLT three days before the beginning of the class. Pre-course material will include all POH/PIM handbooks, end of course tests, and specialized material on special interest to the pilot client.

1: Training Module One: AIRCRAFT GENERAL covers the exterior and interior details of the training aircraft to include an introduction and history of the aircraft's development by the aircraft manufacture. Noteworthy features of the aircraft to include a brief outline of all sub-systems to be taught during the course. 1 HOUR

2: Module Two: POWERPLANT AND PROPS this section covers the type of engine installed in the aircraft to include any modifications from STC's or OEM options specific to the aircraft being taught. Sections of the power plant will include propulsion and combustion by turbine or turbocharging methods to include all starting and stopping anomalies that may be encountered by the pilot. Special considerations by the pilot when operating multiple blade props to include special taxiing and towing considerations. Environmental limitations to include extreme cold or hot weather operations. Limitations placed on the operations of the engine by both the engine and aircraft manufacturer. Special climb, cruise, and descent procedures for the operation of the respective engine. 2.5 HOURS

3: Module Three: Electrical Systems to include electrical generation by generator or alternator sources. Limitations and control of electrical current used within the aircraft whether AC or DC sourced. Schematics showing the production and flow thorough out the aircraft to include specialized Circuit Breaker (C/B) panels and Busses to include specialized Buss-Tie's, primary, and alternate Busses, and control of current through electrical distribution systems. Limitations of the electrical load and automatic over voltage systems to include emergency shut down and load shedding of the systems. 2.0 HOURS

4: Module Four: Landing Gear systems using electrical or hydraulic power to operate the landing gear system. Schematic representation of how the landing gear is protected for over stress during normal and abnormal operations. Emergency gear extension when standard

operations of the gear system fails. Landings techniques and speeds when landing with less than all three wheels fully extended and locked. Presentation of all landing gear positions on classic three light display versus Garmin or Honeywell electronic positioning on MFD's.

1.5 HOURS

5: Module Five: Pressurization and Environmental systems to include traditional Air Research manual control of pressurization systems in Legacy aircraft versus Garmin or Honeywell control through electronic relays of outflow and safety values in the pressurization systems. The effects of hypoxia on cabin personnel and rapid and explosive decompression of the appropriate emergency reaction to loss of such controls. Detailed description of the effects of altitude on humans depending on the Delta "P" used in various pressurized aircraft. Ground and flight operational checks of pressurization to include depressurizing the cabin for environmental effects of heat or cold in the aircraft. Repressuring the cabin in-flight whether system is a manual or electrically controlled system.

3.0 HOURS

6. Module Six: Flight controls to include aileron, elevator, and rudder controls that use cable, push-rod, or electronic motors and relays to control the primary and secondary flight controls within the aircraft. The effects of environmental and pressurization on the aircraft's flight control at high altitudes. The use of boosted and counterweighted controls such as Bob weights and Down springs on the operation of the control surfaces.

1.5 HOURS

7: Module Seven: Apex and Garmin Navigational units installed on late model aircraft versus older non-GPS systems such as VOR and ADF found in classic aircraft. Non-integrated GPS systems such as the legacy Garmin 430/530 systems still found in a large number of classic airframes. Analog and digital autopilots and flight directors and their interface with newer digital flight controls. Emergency disconnect of all flight controls auto assisted devices through disconnect switches or C/B's. Review of emergency procedures for Runaway Trim in-flight or during operational checks of the aircraft controls during normal ground pre-departure checks.

2.0 HOURS

8: Module Eight: Weight and Balance computations manual or electronic on Garmin and Honeywell integrated flight systems. This module shows the operational limitations of the aircraft both within and outside the envelope.

1.0 HOURS

9: Flight Profiles for normal and abnormal operations. This module shows a nominal aircraft in the departure, climb, cruise, descent, and landing mode of flight. Specific power settings and flight control settings are highlighted during this module for the aircraft.

1.0 HOURS

10: Module Ten: Emergency procedures are conducted manually from Chapter Three of the aircrafts POH either in the printed or electronic form. Memorization items are stressed for each emergency procedure listed in the POH.

1.0 HOURS

Total On-site Ground School Hours

16.5 HOURS

ON-SITE TRAINING (PER INDIVIDUAL CLIENT)

Day One and Two: 16.5 Hours of ground school illustrated in the above modular program. All programs are administered through a PowerPoint program and led by an appropriately rated ground instructor.

Day Three: Pre-Flight and Flight Planning ..... 1.5 HOURS

Flight One: Normal taxi, take-off, and aerial contact work to include slow flight, stalls, Manual Override for single Turbine Aircraft, VMCA and Drag Demo for Twin Engine aircraft, Runaway Trim, Normal descent profiles, Normal, Short Field, and Crosswind Take-off and Landing Procedures. .... 2.5 HOURS

Post Flight and Debrief ..... .5 HOURS

Flight Two: Pre-flight and Flight Planning ..... .5 HOURS

Flight Two: Instrument Procedures to include planning on the APEX and Garmin Integrated FMS on so equipped aircraft. On manual equipped legacy GPS aircraft planning for cross country and instrument approaches locally and cross-country airports. GPS RNAV and IKS type approaches to include go-around mode on the autopilot. Partial Panel and intersection holding operations programmed and non-published. .... 2.5 HOURS

Post Flight and Debrief ..... .5 HOURS

Aircraft Flight Time Including Pre and Post Briefing Time 8.0 HOURS

Day Four:

Flight One: Pre-flight and Flight Planning to include uploading and editing the Honeywell APEX and Garmin Integrated FMS ..... 2.0 HOURS

LOFT flights to include high altitude and hazardous terrain such as mountains, and extended over water operations ..... 3.0 HOURS

Post Flight and Debrief ..... .5 HOURS

Flight Two: Emergency and Partial Panel Operations with multiple local instrument approaches ..... 2.5 HOURS

Post Flight and Debrief ..... .5 HOURS

Aircraft Flight Time Including Pre and Post Briefing Time 8.5 HOURS

Total Aircraft Flight Time to include Pre and Post Debriefings ..... 16.5 HOURS

N.B.:

Refresher Training is two days with the ground school displayed above limited to one 8-hour day, but includes a BFR/IPC test of FAA Rules and Regulations. Flight Training is proficiency based but includes as a minimum of 3.0 HOURS of flight plus 1.0 hour of Pre and Post flight briefings. Flight Training may extend up to 8.0 HOURS on the second day.