

89405-E050
-E150
-E250



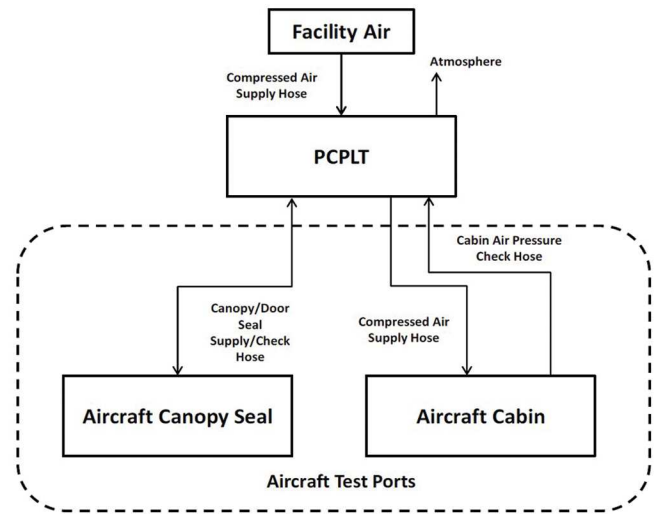
**NEXT GENERATION
PNEUMATIC CABIN PRESSURE LEAKAGE TESTER
(PCPLT)**

Maney
AIRCRAFT, INC.



Definition

The 89405-Exxx PCPLT is used to check aircraft cabin/cockpit pressure control system components (e.g. canopy/door seal, pressure regulation valves and safety relief valves) for proper function and to provide troubleshooting and verification capabilities. Utilizing an external compressed air source, the PCPLT regulates and controls the pressure and volume of air supplied to the aircraft. Pressure gauges and flow meters are used to determine if the aircraft cabin pressure control system is operating within correct parameters. The 89405-Exxx consists of a main control unit enclosed in a sturdy waterproof, dustproof, and shockproof case with built-in wheels, a retractable handle, and a pressure equalization valve. Various hoses and accessories are available to facilitate the proper connections to an aircraft and an externally supplied compressed air source.



PCPLT CONNECTIONS DIAGRAM

Characteristics

The control unit utilizes electro-pneumatic valves, pressure transducers, a temperature and pressure compensated flow meter (eliminating the need for flow correction charts) with digital readouts (except the rate of climb indicator). The 89405-Exxx controller can be operated and monitored remotely using the built-in browser webpage interface. The built-in webpage server can be accessed with a direct connection using a standard CAT-5 network cable or wirelessly using a wireless access point connection (wifi) using a laptop computer, wireless touch screen tablet, or even a cellular phone.



IMAGE TAKEN FROM THE BROWSER WEBPAGE INTERFACE DURING ACTUAL TEST

All test parameters for specific aircraft are user-configurable using the webpage interface. After completion of a test cycle, the controller uses all the data collected during the test and compiles a test results report which can be viewed from the multi-function message screen on the 89405-Exxx control panel as well as the webpage interface. Test results can be captured and/or printed directly from the webpage. Optionally, up to five preset test parameter sets and test cycles can be pre-programmed at the factory to customer specifications to accommodate the more commonly tested aircraft test parameters.

During any test cycle, all air pressures, flow rates, and air temperatures are precisely monitored and controlled by the internal control computer and proprietary software. If at any time during the test cycle a specified parameter measurement is out of tolerance in accordance with the predefined test limits, the test cycle is paused and a warning will be displayed on the multi-functional message display. After reviewing the test warning(s), the operator has the option of continuing or stopping the test.

The operator has complete control during the entire test procedure with the use of four mode control buttons: START, STOP, HOLD, and RESUME. The mode control buttons conveniently light up to assist during testing and are color coded based on the available function of the button at any given time. Additionally, an EMERGENCY STOP button, when activated, will disconnect the rate of climb indicator, set the canopy seal and cabin pressures to zero, and dump the cabin pressure.

Cabin Leakage Test Report

Date: 09/22/15 Time: 14:22
 Tail Number: ABC1234
 Location: Maney Aircraft, Inc.
 Test Technician: John Smith
 Testing Device ID: NOT ASSIGNED

Canopy Seal Pressure Test

Target Pressure: 30.0 PSI Static: 29.8 PSI PASS

Cabin Pressure Test

Stage 1 Test: Increase Cabin Pressure from 0.0 PSI to 2.0 PSI

Blower Pressure: 3.1 PSI Cabin Pressure: 2.0 PSI Air Temperature: 78 F
 Cabin Leakage: 13.2 SCFM PASS

Stage 2 Test: Increase Cabin Pressure from 2.0 PSI to 5.0 PSI

Blower Pressure: 6.9 PSI Cabin Pressure: 5.0 PSI Air Temperature: 77 F
 Cabin Leakage: 21.6 SCFM PASS

Stage 3 Test: Decrease Cabin Pressure from 5.0 PSI to 2.0 PSI

Blower Pressure: 3.1 PSI Cabin Pressure: 2.0 PSI Air Temperature: 77 F
 Cabin Leakage: 13.2 SCFM PASS

Stage 4 Test: Decrease Cabin Pressure from 2.0 PSI to 0.0 PSI

Blower Pressure: 0.4 PSI Cabin Pressure: 0.0 PSI Air Temperature: 78 F
 Cabin Leakage: 3.2 SCFM PASS

Test Technician: _____

SAMPLE TEST REPORT

Facility Requirements

Power	90-240 VAC, 50/60 Hertz
Clean and Dry Compressed Air	40 psi minimum -150 psi maximum

Optional Equipment

- Wireless Remote Touch Screen Tablet
- Battery Back-Up System With Fuel Gauge And Charging Unit
- Adapter Kits To Connect to Aircraft(s) Per Customer Specifications
- Transit Case For Storage Of Accessories
- Four Wheel Cart With Dead Man's Brake For Storage Of The 89405-Exxx And Accessories Case



The 89405-Exxx is designed with several built-in safety features. However, it is the responsibility of the operator to verify and adhere to the aircraft manufacturer specifications and safety recommendations. It is also imperative that the testing be done in a safe atmosphere and that personal protective equipment be used in accordance with local and federal regulations.



Instrumentation Measurement Specification

Filter-In Pressure	0-150 psi (10.3 bar)
Filter-Out Pressure	0-150 psi (10.3 bar)
Canopy/Door Seal Pressure	0-100 psi (6.9 bar)
Blower Pressure	0-30 psi (2.0 bar)
Cabin Pressure	0-15 psi (1.0 bar)
Air Temperature	20-150 F (-6.7 to 65.6 C)
Cabin Flow Meter	up to 250 scfm depending on model
Rate of Climb Indicator	0-6000 fpm

Sensor and Control Valve Accuracy Specification

Pressure Sensors	+/- 0.02% Full Scale
Flow Meter	+/- 0.50% Full Scale
Control Valves	+/- 0.25% Full Scale
Temperature	+/- 0.50% Full Scale

Dimensions

Overall	28.8 x 20.1 x 17.2 in
Weight	100 lbs (approximate)

SPRAGUE SYSTEMS ENGINEERING

A DIVISION OF MANEY AIRCRAFT, INC.
 1305 WANAMAKER AVENUE, ONTARIO, CA 91761
 TELEPHONE: (909)390-2500 FAX: (909)390-2513
 EMAIL: sales@maneyaircraft.com
 www.maneyaircraft.com