

Generic Flying Controls Trainer



Introduction

The Generic Flying Controls Trainer (GenFly) is a facsimile airframe to enable fast, realistic, effective training and to impart a thorough understanding of the principles and practices related to aircraft hydraulic, landing gear and flying control maintenance.

GenFly training rigs enable students to do progressive and demanding exercises. The training rigs allow the instructor to demonstrate and for each student to perform realistic maintenance tasks with a high degree of independence to consolidate and complement their theoretical knowledge.



www.pennantplc.com

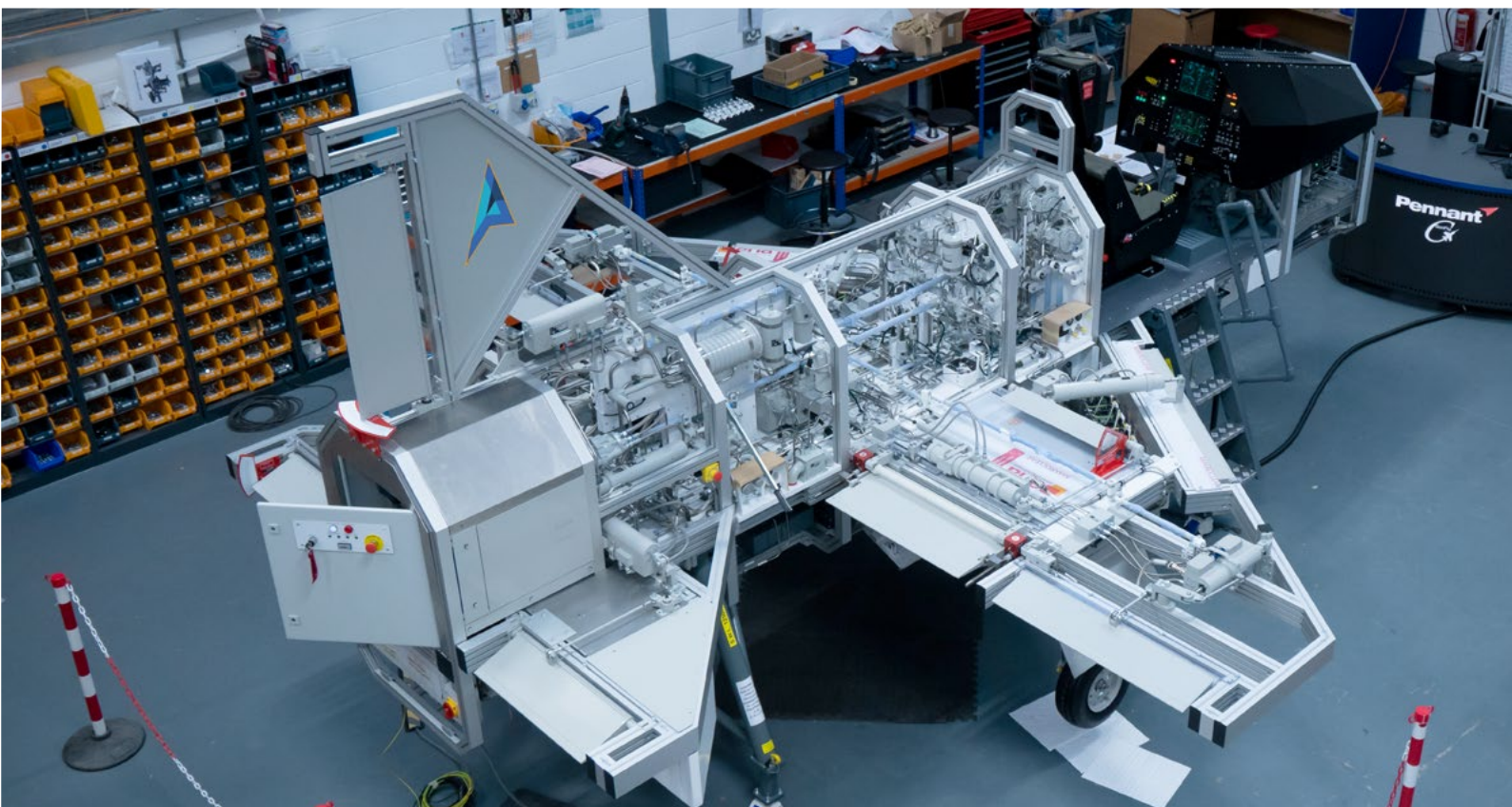
Contact: sales@pennantplc.co.uk





Key Features

- Synthetic training device with modular open frame structure;
- Representative cockpit incorporating controls and indicators;
- Control surfaces and landing gear activated by electro-mechanical systems to simulate hydraulic actuators;
- Access to the cockpit area is affected by the provision of servicing stepped platforms; all other areas are accessible from the floor level;
- Use of commercially available components to minimise life-cycle costs;
- Included Ground Support Equipment (GSE)





Aviation Regulations Alignment

EASA/EMAR PT 66	FAA	CITY & GUILDS	CASA MEA UNITS
Module 6 Materials & hardware Module 7 Maintenance practices Module 10 Aviation legislation Module 11 Aeroplane, aerodynamics, structures & systems Module 13 Aircraft structures & systems	ATA 12 Servicing ATA 22 Auto flight ATA 27 Flight Controls ATA 29 Hydraulic Power ATA 31 Indicating / Recording systems ATA 32 Landing Gear ATA 51 Standard Practices & Structures ATA 55 Stabilizers ATA 57 Wings ATA 73 Engine Fuel & Control ATA 77 Engine Indicating	2675-01 City & Guilds Level 2 Certificate in Aircraft Maintenance (Military Aircraft) Units 104, 106, 109 2675-02, 23 Level 2 Diploma in Aircraft Engineering: Unit 102 2675-03 Level 3 Diploma in Aircraft Maintenance (Military/Civil) Aircraft Mechanical/Avionics: Units 202, 203, 204, 205, 206, 210 & 218 2675-05 Level 3 Diploma in Aircraft Maintenance (Civil Aircraft Mechanical): Units 203, 204, 205 & 206 4608-50 Level 2 Diploma in Aerospace and Aviation Engineering (Military Foundation Competence): Units 201, 202, 203 & 240 4608-60 Level 3 Diploma in Aviation Maintenance (Military Development Competence)units 301, 302, 304 & 455	MEA107 Interpret & use aviation industry manuals & specifications MEA118 Conduct self in the aviation maintenance environment MEA154 Apply work health & safety practices in aviation maintenance MEA155 Plan & organise aviation maintenance work activities MEA157 Complete aviation maintenance industry documentation MEA158 Perform basic hand skills, standard trade practices & fundamentals in aviation maintenance MEA303 R & I aircraft pneumatic system components MEA305 R & I aircraft fixed wing flight control system components MEA318 Inspect aircraft hydro-mechanical, mechanical, gaseous & landing gear systems & components MEA320 Test & troubleshoot aircraft hydro-mechanical, gaseous & landing gear systems & components MEA321 Test & troubleshoot aircraft fixed wing flight control systems & components MEA328 Maintain &/or repair aircraft mechanical components or parts MEA398 – R & I aircraft hydro-mechanical & landing gear system components

Physical Specifications

PARTICULAR	VALUE	UNIT
GenFly Airframe		
Length	6200	mm
Width	5100 ^{Note 1}	mm
Height	3340	mm
Weight	2300	Kg
Instructor Operating Station		
Length	1650	mm
Width	1028	
Height	1594	mm
Weight	230	Kg
Note¹: 5537m with the addition of Servicing Steps		



Supplied Documentation

Operation Manual

Maintenance Manual

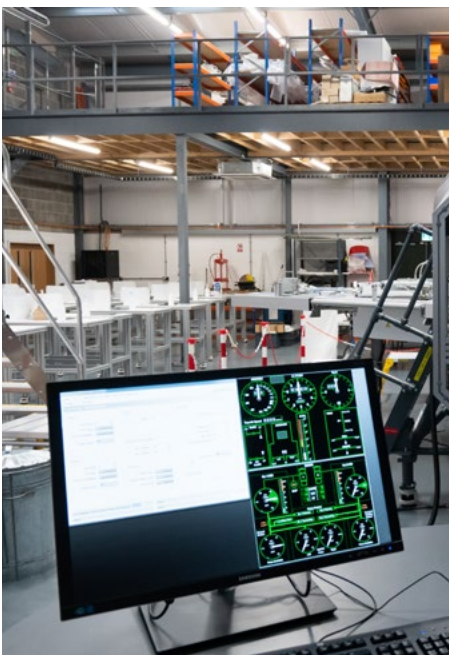
Student Manual (Technical Publications)

Supported Training

SIMULATED SYSTEMS	PRACTICAL TASKS	SIMULATED FAULTS
LANDING GEAR	<ol style="list-style-type: none"> Jacking Inflate Shock Strut Functional Test of Selector Lever Extension and Retraction (Individual Gear) Extension and Retraction (All Gear) Remove and Install Main Gear Door Sequence Valves Remove and Install Main Gear Sequence Valves Remove and Install Main Gear Pressure Regulating Valves Remove and Install Nose Gear Sequence Valve Remove and Install Emergency Lowering Selector Valve Functional Test of Brake System Bleeding of Brake Unit Brake Wear Inspection Remove and Install Auto Brake Valve Remove and Install Brake Accumulator Remove and Install Main Wheel Remove and Install Ant-Skid Sensor Functional Test of Arrestor Hook Functional Test of Nose Wheel Steering Functional Test of Emergency Lowering System 	<ol style="list-style-type: none"> Landing Gear Depressurising Valve fails closed Landing Gear Depressurising Valve fails open Landing Gear Input NRV fails closed Emergency Lowering Valve fails closed Emergency Lowering Selector Valve failed open Landing Gear One Way Restrictor NRV fails closed Landing Gear One Way Restrictor NRV fails open Landing Gear Selector Valve fails in down position Landing Gear Selector Valve fails in Up position Main Gear RH Sequence Valve fails closed (de-energised position) Nose Door Sequence Valve fails closed Nose Door Sequence Valve fails open Nose Gear Jack Fully Up Valve fails open Nose Gear Sequence Valve fails closed Nose Gear Up Inhibit Valve fails closed Nose Gear Up Inhibit Valve fails open LH landing gear leg not locked down LH Door Sequence Valve failed closed
FLYING CONTROLS	<ol style="list-style-type: none"> Remove and Install Elevator PFCU Operational test of the pitch control system Rigging check of the pitch control system Operational test of pitch artificial feel system Remove and Install Aileron PFCU Remove and Install Spoiler PFCU Operational test of roll control system Operational test of spoiler system Rigging check of the roll control system 	<ol style="list-style-type: none"> Airbrake Emergency Control Valve fails closed Airbrake Emergency Control Valve fails open Airbrake Flow Divider unbalanced flow Airbrake Package NRV fails open Airbrake Selector Valve fails open (extension) Airbrake Selector Valve fails open (retraction) Airbrake Selector Valve fails to open Airbrake Throttle Valve blocked Flap Drive Unit No 2-motor seize



SIMULATED SYSTEMS	PRACTICAL TASKS	SIMULATED FAULTS
FLYING CONTROLS	<ol style="list-style-type: none">10. Rigging check of the spoiler system11. Operational test of roll artificial feel system12. Operational test of yaw artificial feel system13. Remove and Install Slat Actuator14. Operational Test of flap system15. Operational Test of slat system16. Rigging check of the flap system17. Rigging check of the slat system18. Remove and Install airbrake actuator19. Remove and Install airbrake emergency control valve20. Operational test of airbrake system21. Rigging check of the airbrake system22. Remove and Install airbrake emergency control valve23. Operational test of airbrake system24. Rigging check of the airbrake system25. Functional test of autopilot system26. Functional test of auto trim system27. Functional test of auto stab system28. Functional test of stall protection system29. Operational test of pitch electrical signaling system30. Operational test of roll electrical signaling system31. Operational test of yaw electrical signaling system32. Change of role – Mechanical to Electrical signaling33. Change of role – Electrical to Mechanical signaling	<ol style="list-style-type: none">10. Flap Selector valve in flap down position (Note: Flap Selector valve fails at extend)11. Flap Selector valve in flap up position (Note: Flap Selector valve fails at retract).12. Flap Selector failed13. PFCU Spoiler LH seized14. RH Aileron PFCU No. 2 By-Pass Valve fails open15. No.1 Slat Package Blow Back Valve fails closed16. No.1 Slat Package Blow Back Valve fails open17. No.1 Slat Package Flow Divider unbalanced flow18. No.1 Slat Package NRV No.1 fails open19. Slat Selector Valve fails open (retraction).20. Slat Selector Valve fails neutral21. Slat Selector Valve fails open (extension).22. Slat Throttle Valve No.2 system blocked23. No.2 Slat Package PRV fails open





SIMULATED SYSTEMS	PRACTICAL TASKS	SIMULATED FAULTS
HYDRAULICS	<ol style="list-style-type: none">1. Reservoir Replenishment2. Remove and Install system filters3. Remove and Install Engine Driven Pump4. Remove and Install Accumulator5. Remove and Install EDP Off-Load Valve6. Remove and Install Pressure Maintaining Valve7. Remove and Install Electric Hydraulic Pump8. Remove and Install EHP Auto Cut-Out Valve9. Remove and Install Main Pressure Switch10. Remove and Install Temperature Transmitter11. Functional Test No 1 Main System12. Functional Test No 2 Main System13. Functional Test No 1 Auxiliary System14. Functional Test No 2 Auxiliary System15. Functional Test No 1 Indication System16. Functional Test No 2 Indication System	<ol style="list-style-type: none">1. Hyd 1 Accumulator slow leak2. Hyd 1 Automatic Change Over Valve fails open3. Hyd 1 Automatic Change Over Valve relief pressure too low4. Hyd 1 EDP delivering too high a pressure output5. Hyd 1 EDP delivering too low a pressure output6. Hyd 1 EDP drive shaft sheared7. Hyd 1 EDP NRV fails shut8. Hyd 1 EHP NRV fails closed.9. Hyd 1 EHP NRV fails open10. Hyd 1 EHP Pump sheared shaft11. Hyd 2 Hand Pump fails on downstroke12. Hyd 2 Hand Pump fails on upstroke13. Hyd 1 hand pump NRV fails open14. Hyd 1 hand pump Pressure Relief Valve fails open15. Hyd 1 Off Load Valve fails closed ('offload' condition)16. Hyd 1 Off Load Valve fails open ('on load condition')17. Hyd 1 Pressure Release Valve fails open18. Hyd 1 Pressure Relief Valve fails open19. Hyd 1 supply line filter blocked (by-passed)20. Hyd 1 supply line filter partially blocked21. Hyd 2 brake accumulator slow leak22. Hyd 2 EDP delivering too high a pressure23. Hyd 2 EDP drive shaft sheared24. Hyd 2 Hand Pump NRV fails closed25. Hyd 2 Low-Level Isolating Valve fails closed (energised position)26. Hyd 2 Low-Level Isolating Valve fails open (de-energised position)27. Hyd 2 Pressure Maintaining Valve fails closed28. Hyd 2 Off Load Valve fails closed29. Hyd 1 Pressure Relief Valve fails closed30. No.1 EDP has high internal leakage31. Hyd 2 supply line filter blocked (by-passed)32. Slow leak on Hyd 1 Reservoir

