Hydraulic System Trainer (HST)

Technical Brochure

Pennant

Introduction

The principal training requirement of the Hydraulic System Trainer (HST) is to provide training equipment with sufficient flexibility to enable students to carry out a range of practical training exercises developed to progressively enhance the student's understanding and cognition of the fundamental physical principles of hydraulics. The training equipment supplied provides students with hands-on practical training and, in addition, the unique opportunity to design, construct, develop and test functional hydraulic systems.

The Programmable Logic Controller (PLC) module comprises a small computer that, when programmed, automatically controls processes and components on the HST.

The HST has the flexibility to allow the construction of systems from basic to more advanced systems.

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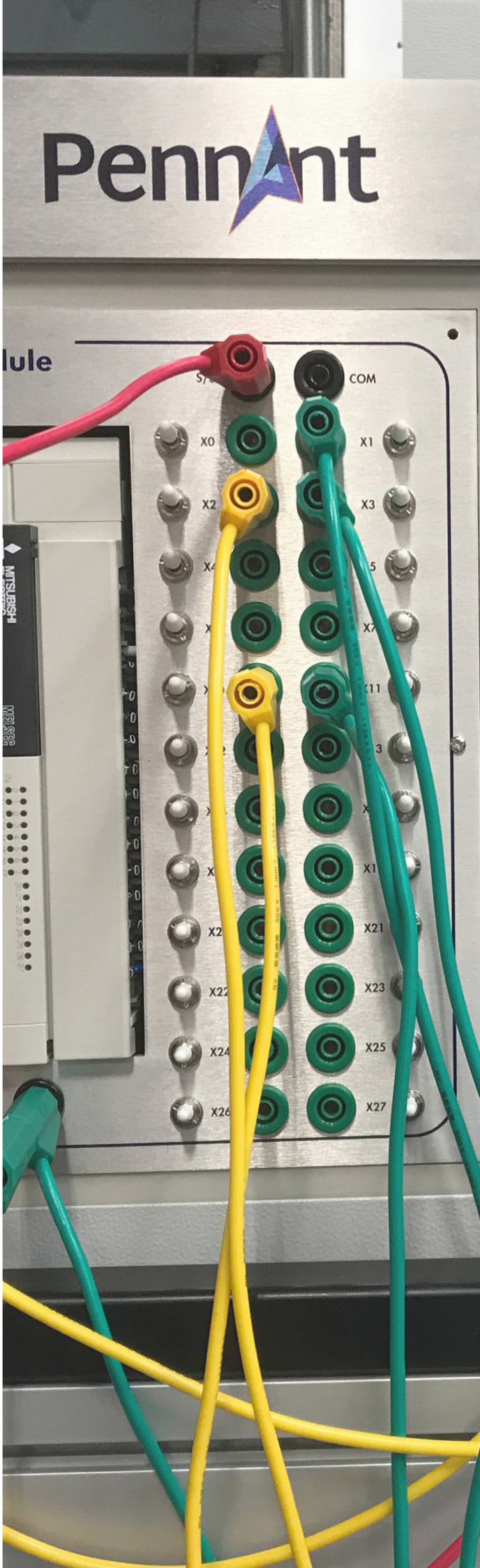
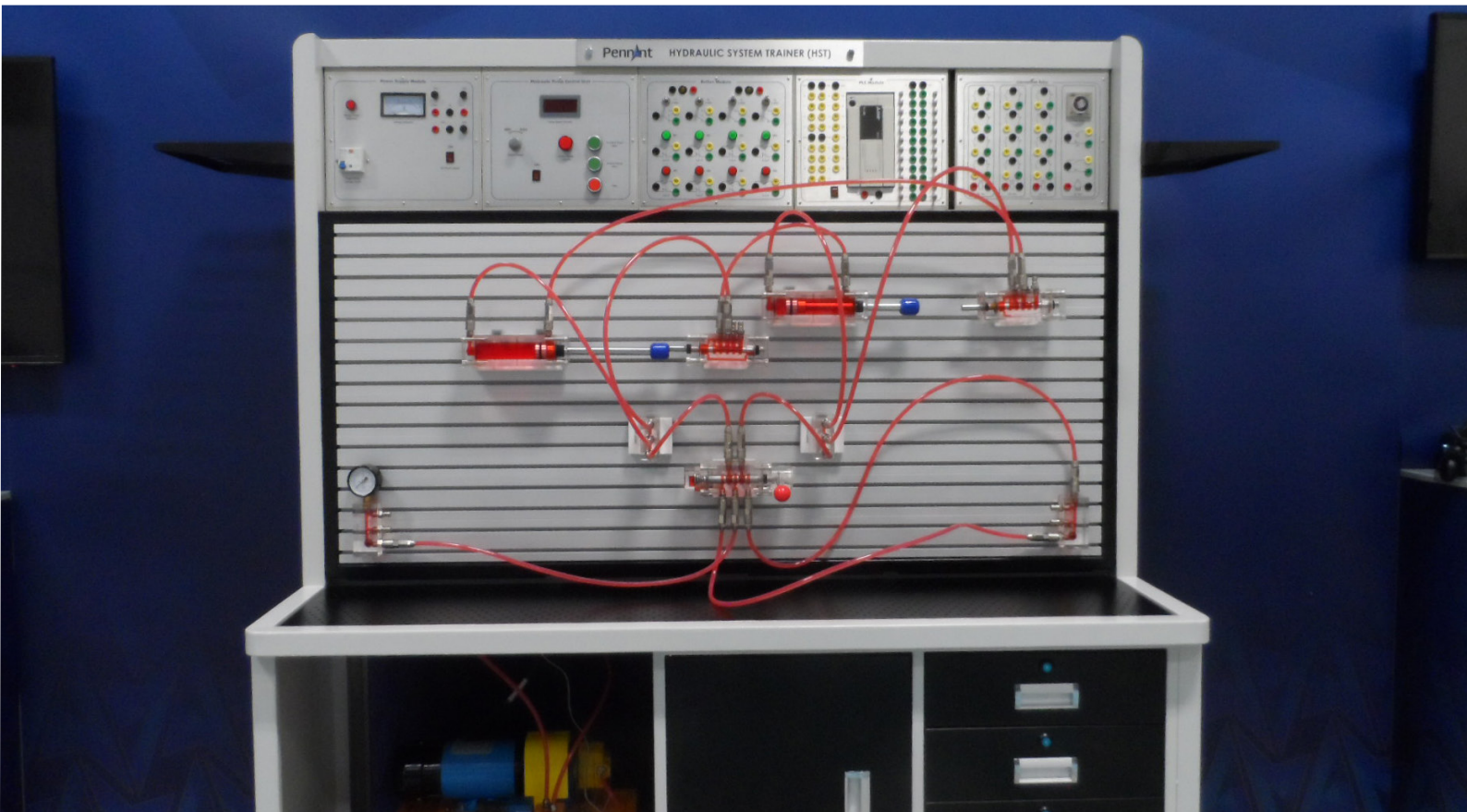
Contact: sales@pennantplc.co.uk



Key Features

- Transparent acrylic hydraulic modules;
- Self-sealing transparent interconnecting hydraulic hoses;
- Specially coloured hydraulic mineral oil to assist observations;
- Self-generating low-pressure hydraulics supply;
- Integral low voltage power supply;
- Programmable Logic Controller providing customer programmable I/O control;
- Integral storage.

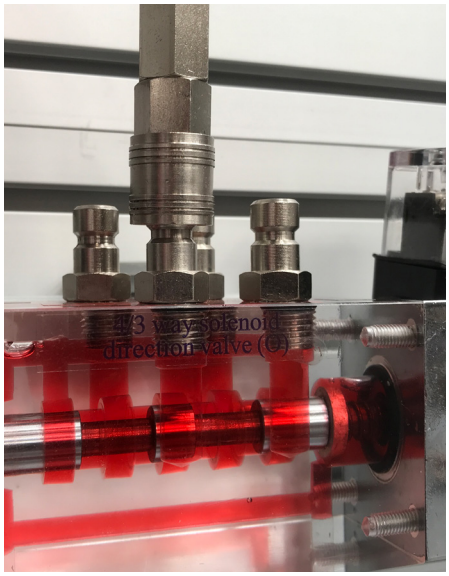


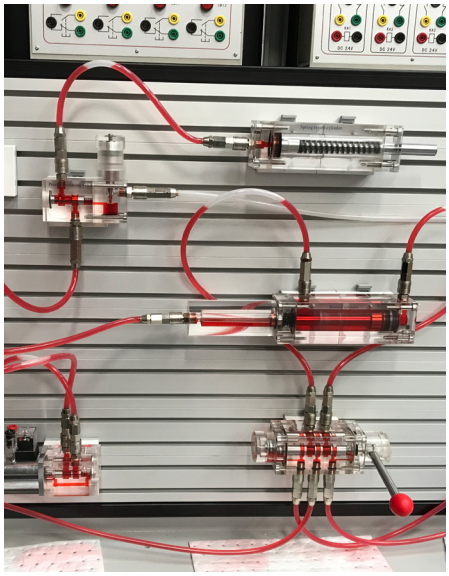
Competency Alignment

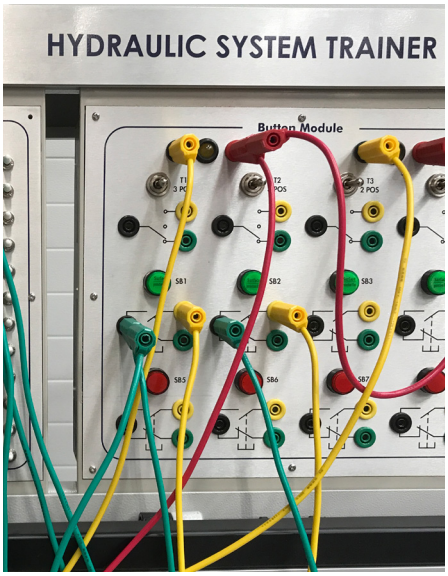
EASA/EMAR PT 66	FAA	CITY & GUILDS	CASA MEA UNITS
2.1 Matter **2.2 Mechanics** **11.11 Hydraulic power** **12.12 Hydraulic power** **13.7 Flight controls** **13.14 Hydraulic power**	**ATA27 Flight controls** **ATA29 Hydraulic power** **14 CFR Parts 65 and 147 -** Table 2 - Airframe Curriculum: F. 1. Hydraulic system 6.9 Aircraft Systems PSO# (ASYS 1, 2, 3 and 8); **FAA-H-8083-30A Chap 5 (Fluid Mechanics)**	**MOET 9320** **1786-33 Level 3:** Unit 329 Outcome 1 Unit 330 Outcome 1 Unit 332 Outcome 1 Unit 333 Outcome 1 **2675-01 Level 2:** Unit 109 Outcome 4 **2675-02 Level 2:** Unit 102 Outcome 02 **2675-03 Level 3:** Unit 206 Outcome 3 Unit 217 Outcome 3 Unit 218 Outcome 3 **4608-30 Level 3:** Unit 317	**MEA148:** Apply mathematics and physics in aviation maintenance.

Physical Specifications

PARTICULAR	VALUE	UNIT
Width	1560	mm
Depth	650	mm
Height	1800	mm
Weight	200	Kg







Electrical Specifications

PARTICULAR	NOMINAL	UNIT
Supply Voltage	220 / 240	Vac
Frequency	50 / 60	Hz
Maximum Current	1.8	A
Voltage output	220/24/12	Vdc

Hydraulics Specifications

PARTICULAR	NOMINAL	UNIT
Operating Pressure	8-10	Bar
Main Pump reservoir (Capacity)	30	L
Main Pump (Approx. Flow Rate)	2.0	l/min

Environmental Specifications

PARTICULAR	VALUE	UNIT
Temperature Range (Operational)	+10°C to +30°C	°C
Temperature Change Rate	< 50	°C/h
Humidity (Operational)	10 to 30	%RH
Humidity (Non-Operational)	< 10	%RH

Practical Tasks

1. Explore the concept of a hydraulic actuation;
2. Explore the layout of a hydraulic power system;
3. Explore the properties of hydraulic fluid;
4. Familiarize with hydraulic components and symbols;
5. Describe the operation of hydraulics systems and their controls;
6. Demonstrate the principles of hydraulic bleeding and priming;
7. Apply the physics laws and principles in fluid systems maintenance;
8. Apply the skills and knowledge needed to produce, load and prove programs on Programmable Logic Controllers.

Supplied Documentation

General and Technical Information (Instructor/User manual) Student Manual (Technical Publication)

Optional Accessories

Consumables Starter Pack

Ordering Information

G0110-000-0001A	Hydraulic Systems Trainer