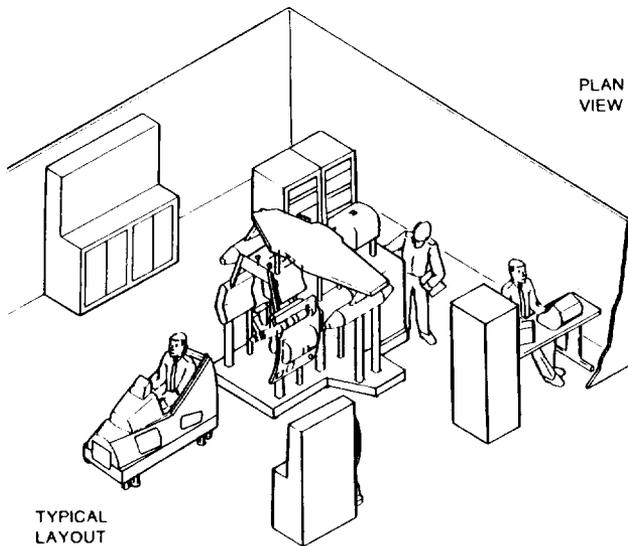
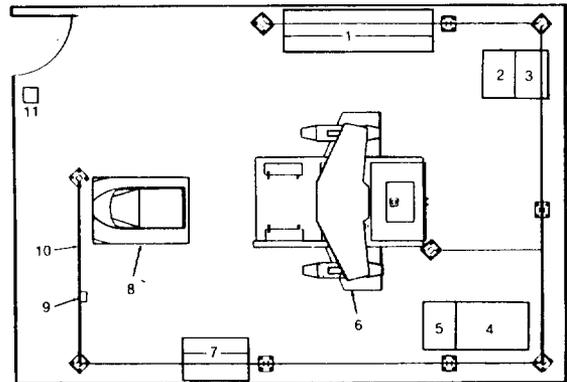


DIRECTORY OF NAVAL TRAINING DEVICES



PLAN VIEW



- | | |
|------------------------------------|---------------------------------|
| 1 SYSTEM MODULE BOARD (111) | 7 GSE MODULE BOARD (112) |
| 2 I/O CABINET (105) | 8 COCKPIT (109) |
| 3 POWER DISTRIBUTION CABINET (104) | 9 ALARM ANNUNCIATOR PANEL (108) |
| 4 INSTRUCTOR STATION (102) | 10 WIREWAY ASSEMBLY |
| 5 COMPUTATION SYSTEM (101) | 11 FUEL QUANTITY TEST SET (113) |
| 6 FUEL TANKS (110) | 858-1079 |

AV-8B ACFT FUEL SYSTEM MAINTENANCE TRAINER, DEVICE 11H97

TRAINING CATEGORY:

MAINTENANCE TRAINING (Misc)

ORIGINATING AGENCY:

DCNO (AIR)

SECURITY CLASSIFICATION:

Device 11H97 is unclassified.

PURPOSE:

To integrate various hardware/human interface inputs and observations into a trainer system which facilitates instructor directed organizational "O" level maintenance training of Aircraft Mechanic (MOS 6015) and Aircraft Electrical Systems Technician (MOS 6335) with minimal activity.

INTENDED USE:

To provide fuel system maintenance training including troubleshooting and unscheduled corrective maintenance which involve tasks of identifying instructor inserted malfunctions/failures and removal/replacement of designated components within the AV-8B fuel system.

FUNCTIONAL DESCRIPTION:

The trainer simulates the aircraft fuel system. The simulated fuel system is modeled in a static condition (aircraft on ground, standard atmosphere, temperature, and zero acceleration). A full mockup of the forward fuselage (cockpit), fuel tanks, and module boards containing items found in other parts of the aircraft and system GSE are provided as part of the

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student station to accomplish the training objectives. The trainer is divided into five major functional systems: the power distribution system, computation system, real-time input/output (I/O) system, instructor display/control system, and student station systems. The power distribution system includes the hardware for distribution and monitoring 120/208 vac, 60 Hz power and 28 vdc power. The computation system consists of the computer/peripherals and trainer software simulation modules. The I/O system provides all analog and digital input/output signal requirements between the computation system and the trainer hardware. The instructor display/control system includes the alphanumeric display terminal, instructor control panel, tetherless remote instructor command keypad (TRICK), and alarm/annunciator panel. The student station simulated cockpit is a full scale forward fuselage section including two and three-dimensional representations for system panels and components with functional capabilities. The fuel tanks simulation models fuel flow, transfer, rate of transfer, fuel levels, and fuel pressure and provides for instructor-inserted simulated malfunctions. Fuel system components (cockpit, fuel tanks, system module board, and GSE module board) are electrically interlinked through the instructor station and computation system. The system module board contains various electrical panels and components associated with the fuel system including the fuel quantity processor, fuel control unit, annunciator light controller, various fuel quantity transmitters, circuit breakers panels, and relay panels. The GSE module board contains a simulated nitrogen servicing unit, electrical power unit, hydraulic power unit, and a refuel/

defuel unit. The instructor station display/control system provides the interface between the instructor and the student station, providing overall trainer control capabilities. The instructor station is used to initially load the trainer program, enter initial conditions, freeze the training scenario, and perform computation system diagnostics. In addition, the trainer is equipped with a DORT program to determine the operational capability of the trainer. Testing of the I/O system is accomplished via a closed loop BITE test with a displayed fault indication to a card when a malfunction is detected.

PHYSICAL INFORMATION:

UNIT	SIZE (IN.)	
	W	L x H
1. Computation System Unit 101 CPU 101A2 Floppy Disc Drive 101A3 Mini-Disc Drive 101A5	35	26x71
2. Instructor Station Unit 102 Instructor Alphanumeric Display Terminal 102A1 Instructor Control Panel 102A2	32	45x26 16x20x13 8x11x9
3. TRICK Unit 103	3x7½	1½
4. Power Distribution Cabinet Unit 104	32	28x78
5. I/O Cabinet Unit 105	32	24x78
6. Alarm/Annunciator Panel Unit 108	6½x7½	10 3/4
7. Cockpit Unit 109	39	93x64
8. Fuel Tanks Unit 110	108	108x76
9. Systems Module Board Unit 111	96	30x75
10. GSE Module Board Unit 112	39½	30x75
11. Fuel Quantity Test Set Unit 113	16 3/4	17x14½

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OPERATIONAL EQUIPMENT:

The operational equipment used in the trainer has been modified to facilitate trainer simulation and/or stimulation requirements.

EQUIPMENT REQUIRED (NOT SUPPLIED):

For a complete list of equipment required and not supplied, refer to Maintenance Instructions Manual NTSC P-6071 (U).

POWER REQUIREMENTS: (VOLTAGE)

120/208 VAC.	3-Phase, 60 Hz. 20 amperes/phase
28 VDC	8 amperes
Total VA:	7,200

INSTALLATION REQUIREMENTS:

The trainer requires the following site characteristics for installation:

Floor Area:	19'3" x 28'7"
Equipment Access:	21' door
Personnel Access:	3' door
Ceiling Height:	Minimum 10'

PUBLICATIONS FURNISHED:

Commercial Computer Documentation Set 9CCDS), NTSC P-6066, (U)

Maintenance Manual, NTSC P-6071, (U).

Vendor Equipment Manuals, NTSC P-6071-S1 through S4 Maintenance Instructions, (U).

Operator's Manual, NTSC P-5193, (U).

PERSONNEL:

Instructor: One (1) qualified maintenance instructor on AV-8B Fuel System.

Students: Class of up to Ten (10).

Student Observers: One (1)

CONTRACT IDENTIFICATION:

Manufactured by Reflectone Inc. (50237), Tampa, FL 33614 under NAVTRASYSCEN Contract No. N61339-84-C-0003.

LOCAL STOCK NUMBER:

6910-LL-C00-6573