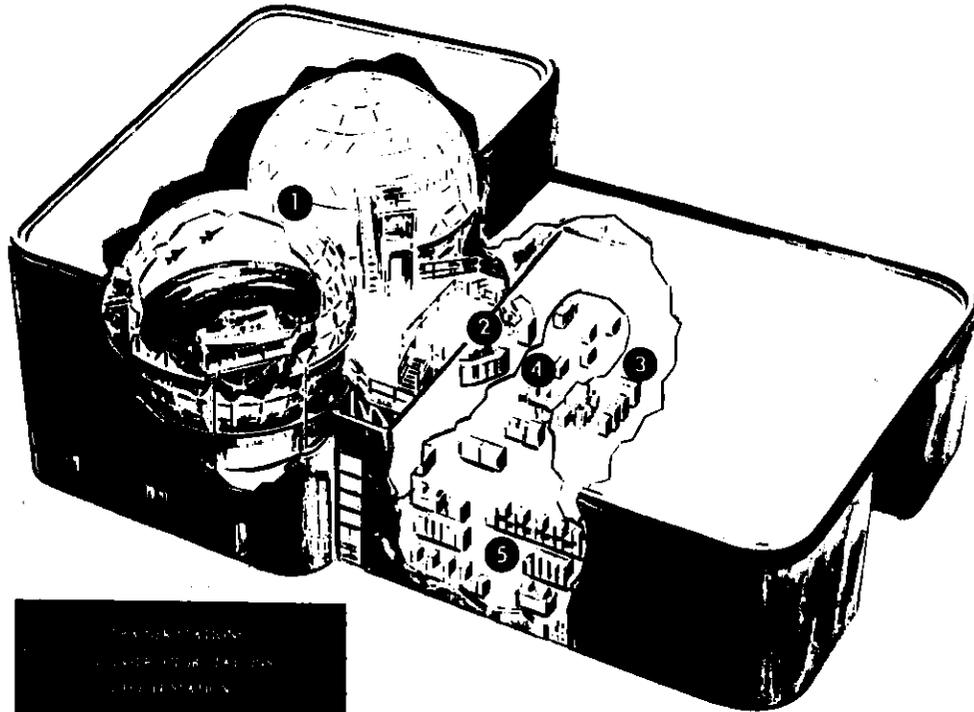


DIRECTORY OF NAVAL TRAINING DEVICES



1. COCKPIT
2. COMPUTER IMAGE GENERATOR SYSTEM
3. CONTROL SYSTEM
4. COMPUTER IMAGE GENERATOR SYSTEM
5. COMPUTER SYSTEM

F/A-18 WEAPON TACTICS TRAINER, DEVICE 2E7

TRAINING CATEGORY:

AVIATION (Visual Tactics)

ORIGINATING AGENCY:

DCNO/AIR

SECURITY CLASSIFICATION:

Device 2E7 is unclassified.

PURPOSE:

To provide realistic training in all areas of operation of an F/A-18 aircraft.

INTENDED USE:

For "hands-on" training of Naval and Marine Corps aviators in NATOPS and tactical operations of the F/A-18 aircraft.

FUNCTIONAL DESCRIPTION:

Device 2E7 is a dual training complex, consisting of two identical training areas and nu-

merous supporting stations and consoles. Each training area consists of an actual F/A-18 cockpit mounted near the center of a large sphere. Simulated images of the sky, earth, targets, and gunfire are projected upon the inner surface of the sphere and are viewed by the trainee during the training exercise. The advanced design of the computer image generator permits detail and realism in these visual presentations. During the training exercises, the trainee will utilize all flight and weapon controls of the cockpit. He will also experience all sights, sounds, accelerations, and buffets that would be encountered on an actual flight mission. Training exercises are arranged and monitored by an instructor who has direct communication with the trainee(s) during the exercises. Independent or coordinated exercises are possible for two trainees. The trainees may aid or oppose each other in a coordinated exercise. Alternatively, either or both trainee(s) may oppose an instructor and/or a computer. Air-to-air combat training exercises are possible in any of the following three ways: trainee opposes a threat air-

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craft (1 on 1); trainee opposes two threat aircraft (1 on 2); or trainee and a friendly aircraft oppose a threat aircraft (2 on 1). The instructor has the capability to record the training exercises for later playback and discussion with the trainee(s). The playback may also be "frozen" at any time for detailed examination. Device 2E7 is housed in five rooms/areas at a facility. Room 1 is the trainee room, containing the two spheres. Room 2 contains two instructor stations, from where the instructor(s) monitor and control the exercises. Room 3 contains the debrief station, where the recorded exercise may be played back for discussion with the trainee. Area 4 contains the computer image generator, which generates video for the visual presentations. This area also contains an equipment monitor console and the interface electronics. Room 5 contains the digital computers.

PHYSICAL INFORMATION:

Device 2E7 is a fixed, land-based trainer. It occupies 13,406 Sq. Ft. and weighs 169,700 lbs.

OPERATIONAL EQUIPMENT:

Two (2) Flight Control Computers, General Electric, unmodified.

Two (2) Mission Computers, AN/AYK-14 (V), unmodified.

Numerous instruments in cockpit.

POWER REQUIREMENTS:

Type: 120/208 Vac, 60 Hz, 3 phase, 4 wire plus ground.

Maximum: 350 KVA

INSTALLATION REQUIREMENTS:

The following room/area sizes are required:

- (1) 120' x 60' with 43' ceiling
- (2) 40' x 20'
- (3) 20' x 20'
- (4) 34' x 40'
- (5) 45' x 40'

The floor loading required varies throughout the device. Floor loading is a maximum of 2,778 lb/sq ft under the cockpit support structure and is typically 200 - 400 lb/sq ft elsewhere.

Air conditioning in the amount of 983,000 BTU/hr is required. The device is designed to operate in an environment of 70° ± 10° F with a relative humidity of 50% ± 10%.

PUBLICATIONS FURNISHED:

1. Trainer Volume NAVTRADEV P-4749-1 (U).
2. System Volumes NAVTRADEV P-4749-2 thru -14 (U).
3. Maintenance Diagrams Volume NAVTRADEV P-4749-15 (U).
4. Trainer Parts Catalog Volume NAVTRADEV P-4750 (U).

Vendor manuals for all commercial equipment included as part of device (U).

PERSONNEL:

Instructor: One (1) (per trainee) Naval or Marine Corps aviator, rank O-1 or above, who has completed a one-week instructor training course.

Trainees: Either one or two trainees may utilize the device simultaneously. Trainees should be Naval or Marine Corps aviators.

Operator: One (1) TD (or equivalent), rank E-4 or above, per trainee.

Maintenance: 12 TD's (or equivalent), rank E-4 or above, are required to support the device when it is in training use for 40 hrs/wk. At least two TD's should have completed a 15 week device maintenance course. At least two other TD's should have completed a 9 week computer maintenance course.

CONTRACT IDENTIFICATION:

Manufactured by Hughes Aircraft Co., El Segundo, CA under NAVTRASYS-SCEN Contract No. N61339-79-C-0169.

LOCAL STOCK NUMBER:

6930-LL-C00-5212