



FFG-7 ENGINEERING CONTROL SYSTEM (ECS) OPERATOR TRAINER, DEVICE 20H6B

TRAINING CATEGORY:

PROPULSION OPERATION CONTROL

ORIGINATING AGENCY:

NAVSEASYSKOM

SECURITY CLASSIFICATION:

Device 20H6B is unclassified.

PURPOSE OF DEVICE:

To provide normal and casualty conditions training for line officers and "watch standing" personnel of the engineering spaces in the FFG-7 PERRY Class Frigate.

INTENDED USE:

Device 20H6B is a self-contained training system installed within a double trailer which will be transported to and from Fleet Training Center Propulsion Engineering Schools, and FFG-7 ports for pier-side training. Home base is FTC San Diego, CA

FUNCTIONAL DESCRIPTION:

Device 20H6B is used to qualify operator personnel on the Engineering Control System Station Consoles, Displays and Alarms; to develop and exercise procedural skills and knowledge of operator personnel; to develop and exercise casualty analysis skills of personnel; and to develop and exercise coordination skills and procedures of operator personnel.

The major components of Device 20H6B are:

- a. Simulated operational equipment consoles which consist of one (1) Auxiliary Control Console (ACC), one (1) Electric Plant Control Console (EPCC), one (1) Propulsion Control Console (PCC), one (1) Local Operating Panel/Local Operating Station Instrument Panel (LOP/LOSIP), and one (1) Engine Control Module (ECM) Operating Panel.
- b. Digital computation systems with appropriate interface.

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c. Program Operator Console (POC) provided for the Instructor/Operator. Consists of vertical or inclined panels containing controls, displays, instruments, lights, and other equipment necessary to set up, control, and monitor the training mission.

d. Audio communication system has a minimum of two (2) channels that is capable of multi-party (conference-type) communications.

The trainer will simulate, in real time, applicable normal and emergency ship operation with respect to both transient and steady-state engine performance, ship systems operations, and environmental effects. Such simulation will be reflected by trainer instrument and signal indications and control reactions responding to trainee and instructor control inputs.

The training environment is controlled and trainee responses are evaluated from the POC in view of all trainee stations. Control functions normally located at the ship's bridge are located at the Instructor Station. The capabilities of the instructor/operator include engine control transfer, initial problem selection through choice of operating parameters (initial conditions), and insertion of casualties. Trainer operation can be frozen, reset to the beginning of the exercise, or turned to a chosen point in time (snapshot).

Training problems can begin at any of ten (10) initial conditions elected by the instructor. Machinery casualties can be inserted at will to train for proper procedures. The rest feature allows repetition of problems with minimal training delay. The freeze control permits immediate problem stop to discuss important training situations.

PHYSICAL INFORMATION:

1. Double Trailer System, each trailer measuring 40' L x 13.5' H x 8.5' W
2. Power Distribution System
3. Computer System
4. Data Logger
5. Five (5) Trainee Stations
6. One (1) Instructor Station
7. Intercommunication System
8. Sound Generation System

POWER REQUIREMENTS:

Device 20H6B has dual power capability: Shore - 208Y/120VAC, 60 HZ, 3-Phase, 4-Wire, 45 KVA; or Pier - 480 Delta/277 VAC, 60 Hz, 3-Phase, 3-Wire, 45 KVA

PUBLICATIONS FURNISHED:

1. NTSC P-5948
Operation and Maintenance Instructions with Parts Catalog
2. NTSC P-5949
Planned Maintenance System Document
3. NTSC P-5950
Commercial Computer Documentation Set
4. NTSC P-5951
OJT Handbook
5. NTSC P-5952
Instructor's Utilization Handbook

PERSONNEL:

Instructor/Operator: One (1) Roving Instructor
One (1) POC Operator

Operator: Qualified Instructor/Operator

Trainees: Four (4) Hands-on and Four (4) Over-the-Shoulder

Maintenance: Contractor Operation and Maintenance of Simulators (COMS) (5 minutes Daily Operational Readiness Test (DORT) and 30 minutes/day preventive maintenance).

CONTRACT IDENTIFICATION:

Device 20H6B is manufactured by Dynalantic Corp., Deer Park, NY under NAVTRASYS-CEN Contract No. N61339-86-C-0131.

LOCAL STOCK NUMBER:

6930-LL-C00-6949