

SUMMARY OF
VERTICAL LAUNCH SYSTEM TUBE TRAINER

AUGUST 1999

DEVICE 21H34

NAVAL AIR WARFARE CENTER TRAINING SYSTEMS DIVISION

ORLANDO, FL



TRAINING CATEGORY:

SUBMARINE SYSTEMS

ORIGINATING AGENCY:

NAVSEA

**SECURITY CLASSIFICATION OF
DEVICE:**

Device 21H34 is
Unclassified

PURPOSE OF DEVICE:

Provides training for
Organizational (O-Level)
operation and maintenance of
the SSN688 Class submarine
Vertical Launch System (VLS).

INTENDED USE:

The VLS trainer supports
operator, team and maintenance
training on SSN688 Class
submarine Vertical launch
System.

FUNCTIONAL DESCRIPTION:

Device 21H34 is installed
at the Naval Submarine School
Groton, CT. and Naval
Submarine Training Center
Pacific, Pearl Harbor HI. The
VLS trainer replicates an
actual operational missile
tube found onboard ship.
Because of space constraints,
the tube trainer is
approximately five feet in
height including the muzzle
hatch. The tube has a
hydraulic powered muzzle hatch
which, when open, allows for
the loading of a simulated

Tomahawk Capsule Launching System (CLS) shape.

The Student Station provides AN/BSY-1 and CCS MK-1 simulated tactical panels, automated troubleshooting assistance and automated system diagrams. The trainer simulates a missile tube with control point and click displays which are representative of segments of the Weapons Launch Console and Missile Launch Console. The trainer software provides normal operation, selected casualties and diagnostic capabilities.

PHYSICAL INFORMATION:

The VLS trainer lab requires approximately 8,000 BTUH of air conditioning for equipment and personnel.

The VLS platform weighs 8,500 lbs and the student/instructor station is approximately 100 lbs.

The trainer utilizes a one-ton rated overhead hoist system for loading and unloading the Tomahawk CLS shape.

A self-contained 3,000 psi hydraulic system was provided to support trainer operation.

EQUIPMENT REQUIRED (Not Supplied):

A 125 psi air system was provided for trainer support.

POWER REQUIREMENTS:

Electrical power requirements include:

208/120 VAC, 12 A, 1 Phase
277/480 VAC, 50 A, 3 Phase

PUBLICATIONS FURNISHED:

Firing Craft Operating Procedures and Checklists for Weapons Loading and Handling System, Vertical Launch System, Ordnance Document 44979, Vol 2, Pt 9, Forth Revision (U).

Weapons Delivery System Equipment Manual (WDSEM, Vol V, Vertical Launch System) (U).

Instructor Utilization Handbook (IUH), NAWCTSD P-8142 (U).

TUE Operation and Maintenance Manual, NAWCTSD P-8140 (U).

PERSONNEL:

Instructors will be submarine school graduates, instructor qualified, and paygrade E-5 or above. One instructor is required for the conduct of VLS training.

The Contractor Operation and Maintenance of Simulators contractor will maintain the VLS trainer.

CONTRACT IDENTIFICATION:

Naval Air Warfare Center Training System Division, Orlando, Florida.

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