

**SUMMARY OF
ELECTRIC CANOPY LABORATORY TRAINER**

APRIL 1998

Device 11H145

NAVAL AIR WARFARE CENTER TRAINING SYSTEMS DIVISION

ORLANDO, FLORIDA



TRAINING CATEGORY:

A School Maintenance Trainer

ORIGINATING AGENCY:

CNO/AIR

SECURITY CLASSIFICATION OF DEVICE:

Device 11H145 is unclassified.

PURPOSE OF DEVICE:

To provide initial training of Aviation Mechanic Equipment Technicians on the operation and removal and re-installation of the F-18 cockpit electrical clamshell canopy and associated control systems.

INTENDED USE:

Device 11H145 is used in a classroom environment to allow students to perform such organizational level maintenance activities as canopy removal, reinstallation and demonstration of the normal and manual operational modes of the aircraft canopy system.

FUNCTIONAL DESCRIPTION:

Device 11H145 is a replicated F-18 cockpit mockup outfitted with a high fidelity volumetric replication of the actual pilot ejection seat. The exterior cockpit mockup is outfitted with a modified flight article clamshell canopy and replicated associated control systems. The cockpit trainer configuration will provide training in the following procedures. Canopy open mode, canopy close mode, canopy hold mode, canopy manual mode, canopy removal, canopy installation.

The main support structure of the cockpit assembly is made of carbon steel and braced with steel angle. The replicated instrument panel blank is supported and framed with aluminum angle and covered with 1/8" aluminum sheet. The outer shell is constructed from a composite construction skin supported by steel ribs to which the skin is anchored to replicate the actual aircraft's outer appearance. The rib positioning was determined using actual aircraft data to establish locations. In areas where a minimum of support is required and the ribs are not needed for visual recognition. The ribs have been deleted in areas where a minimum support is required and the visual appearance is not significantly affected.

The trainer configuration provides the capability to simulate operating and servicing of the F-18 aircraft canopy system. This includes removal and installation of the canopy system, arming and disarming the canopy jettison system, as well as all basic canopy system functions. The trainer is complete with auxiliary equipment for removal and installation of these components. The auxiliary equipment consists of a portable crane hoisting unit, F-18 aircraft ground servicing braces and F-18 aircraft canopy hoisting handling multiple leg sling. The portable crane hoisting unit is used for lifting the canopy during removal and installation. The aircraft ground servicing brace holds the canopy in place during servicing. The aircraft canopy hoisting handling multiple leg sling lifts the canopy off the aircraft for servicing.

PHYSICAL INFORMATION:

Training Device 11H145 is 107.52 inches wide, 186.50 inches long and 90.52 inches high. Estimated weight of the trainer is 2,800 lbs.

EQUIPMENT REQUIRED (Not Supplied):

None

POWER REQUIREMENTS:

120VAC

PUBLICATIONS FURNISHED:

Training System Utilization Handbook
Publication No. NAWCTSD-P-7343 (U)

Operation & Maintenance Manual, Technical ML
W/Parts Catalog Publication No.
NAWCTSD-P-7344 (U)

Commercial Off-The-Shelf Manuals CCDS and
Vendor Equipment Manuals Publication No.
NAWCTSD-P-7369 (U)

PERSONNEL:

Instructor - One instructor/operator qualified in the operating and servicing of the F-18 aircraft electric canopy system.

Trainees - Up to three students.

Maintenance Men - One man qualified to perform repair, as required.

CONTRACT IDENTIFICATION:

Manufactured by USM, Inc.,
Houston, Texas, under:
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