

# Experience the UxValidator™ Family of Testers



Think Innovation...  
Think ULTRAX

ULTRAX AEROSPACE  
INCORPORATED

## Available Sets

PN	Nomenclature	NIIN	Lb	Ft <sup>3</sup>	Pg
10-0210-02	Set, UxValidator™ Series 2	In process	13	0.83	5
10-0210-01	Set, Pod Adapter Series 1	01-585-8590	5	0.17	6
08-0819-02	Set, EICAS/CEFS H60M	01-592-7332	37	2.40	7
06-0125-65	Set, IDS Line, H60	01-592-6411	9	0.83	9
05-0330-07	Set, UxValidator™, Stab/SAS Army *	01-529-3346	50	2.37	11
02-1103-01	Set, UxValidator™, Stab/SAS Navy *	01-526-5799	38	1.63	11
10-1009-56	Set, Stab Posn Sensr/Lmt Switch H60	In process	13	0.54	13
09-1009-03	Set, AFCC H60A/L	01-585-8568	15	1.04	15
09-1009-02	Set, Engine Torquemeter Test H47	In process	15	1.04	17

*\*Uses Series 1 UxValidator™ only*



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**Think ULTRAX**



### **Series 1 UxValidator™ PN 03-1217-02**

The Series 1 was delivered as part of the UxValidator™, Stab/SAS Set to both the Army, Navy and Air Force. It utilizes ICDs (Interface Connecting Devices) to connect to the system and/or component in the aircraft. It can utilize Pod technology through use of the Pod Adapter Set PN 10-0210-01. The Series 1 is a CECOM managed item.



### **Series 2 UxValidator™ PN 08-0911-02**

The Series 2 integrates the CommICD into the UxValidator™, allowing use of Pod technology *without* the additional Pod Adapter Set. ICDs from the Series 1 UxValidator™ cannot be used with the Series 2. The Series 2 is an AMCOM managed item. The Series 2 UxValidator™ is available as a Set PN 10-0210-02.

# UxValidator™

## Usability...

The UxValidator™ family of test equipment brings you innovation, versatility, reliability, expandability and portability like you've never had before. Utilizing ULTRAX BrainPak™ and Pod technology you can switch test set functionality from flight control to instrument to utilities systems in seconds. *The era of lugging heavy and expensive space-eating test equipment around is over!*

The UxValidator™ weighs less than 5 lbs. and is the size of your lunchbox. Simple menu driven testing with results displayed on a bright 320x240 color display, utilizing automated switchology and synthesized measurement values (analog and digital) provides enhanced troubleshooting ability. Environmental, EMI and EMV qualified to MIL-PRF-28800 and MIL-STD-810 for flight line use, the UxValidator™ goes anywhere you can.



*The UxValidator™ is small enough to hold in your hands!*

## **Innovative BrainPak™ Technology...**

Each BrainPak™ is approximately the size of a deck of cards and is installed using two thumb-screws. Each contains a self-test function to verify integrity and calibration status of the UxValidator™ and Pod. Encoder knobs control the functions allowing you to select menus for different tests, change focus from one set of measurements to another or control simulated voltages for comparative analysis or graphing.

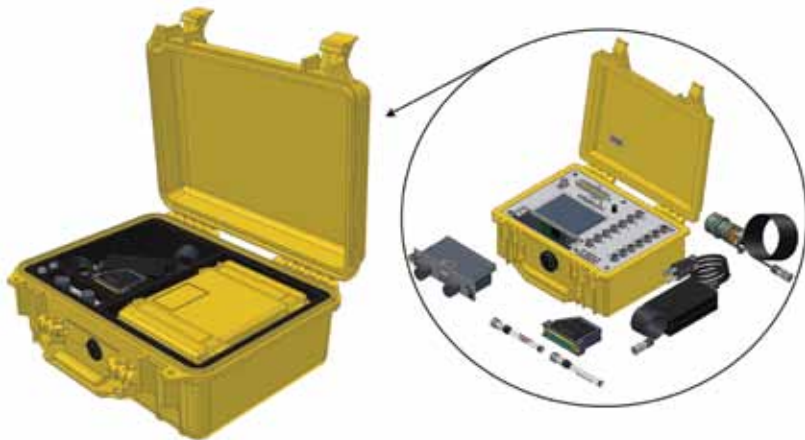


## **Revolutionary Pod Technology...**

Pods replace the heavy, bulky interface cables usually associated with connecting test equipment to an aircraft. A single Pod can fit in the palm of your hand. Pods have been developed to perform aircraft system tests; on/off aircraft component testing and subsystem testing including wiring. Pods are connected to the UxValidator™ using a high-speed data cable.

# Set, UxValidator™ Series 2

PN 10-0210-02



This Set contains the UxValidator™ Series 2 and required ancillary equipment such as BrainPak™, “A” and “B” port and UxValidator™ self-test adapters. The Set also includes 115VAC to 28 VDC and 28VDC aircraft power adapters.

# Set Pod Adapter, UxValidator™ Series 1

PN 10-0210-01 NSN 4920-01-585-8590



The Pod Adapter Set allows the Series 1 UxValidator™ to work with the newer Pod technology. The ICD mounts to connectors J1 and J2 on the UxValidator™ and the Pod data cables then connect to the ICD. The Set also contains the necessary self-test adapters for testing the “A” and “B” data ports as well as the overall ICD itself. New 115VAC to DC and 28 VDC adapters are included as the adapters provided with the Series 1 UxValidator™ contained in the H60 Stab/SAS Set are incompatible with the CommICD and Pod technology. Only one of these sets is required per Series 1 UxValidator™.

# Set, EICAS/CEFS H60M

PN 08-0819-02 NSN 4920-01-592-7332

## UxValidator™ Compatibility . . .

- ✓ Replaces Breakout Boxes & test set:
  - T7055-01142 Oil Pressure
  - T7055-01149 Aux Relay Panel
  - T7055-01154 Signal Conditioner
  - T7055-01162 IVHMS
  - 245-476853-000 VIDS Line Test Set
- ✓ AMCOM Approved
- ✓ Performs pedal and cyclic sensor adjustments

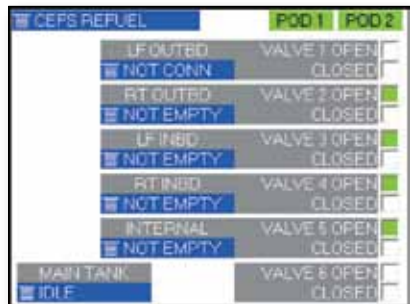
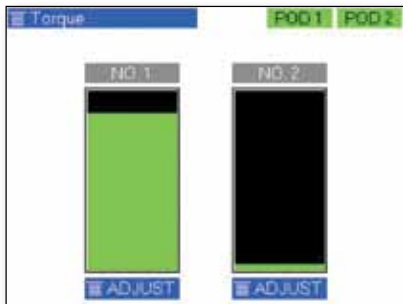
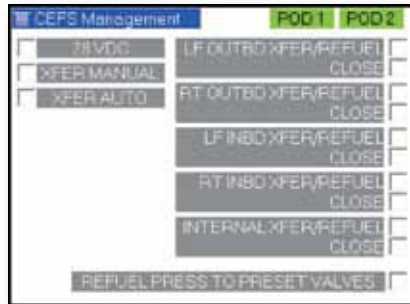
## UxValidator™ Technology . . .

The H60M EICAS/CEFS Set reduces the legacy test equipment footprint *by more than half* from 99 lbs and 5.2 cu. ft. to 37 lbs. and 2.4 cu. ft. Additionally, it simplifies the testing and trouble-shooting **AND** verifies the DCU (Data Concentrator Unit) is functioning properly.



From the drop down menu EICAS, CEFS Management or CEFS Refuel tests are selected. System status is easily determined through the user friendly system of lighted check boxes, highlighted focus fields and adjustable outputs. The publication supplement that comes with each Set leads the technician thru each of the tests and provides the pass/fail criteria for each test.

The Spider Cable is the main connection into the DCU and between the DCU and aircraft harnesses. Each SystemPod™ is mounted to the Spider Cable to reduce setup time.



# Set, Instrument Display System Line H60

PN 06-0125-65 NSN 4920-01-592-6411

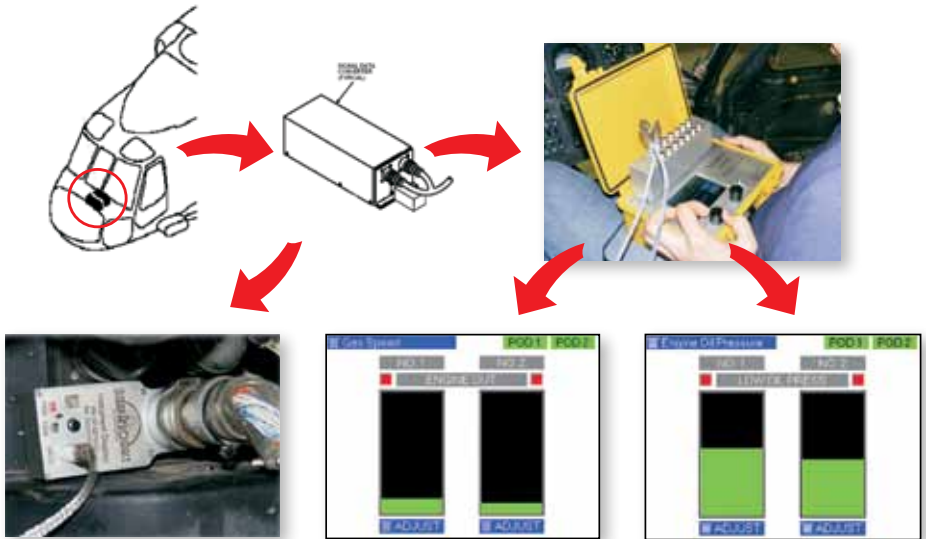
## UxValidator™ Compatibility...

- ✓ Replaces legacy VIDS Line Test Set:
  - PN 245-476853-000 / NSN 4920-01-112-5906
  - PN 100-473905-001 / NSN 4920-01-251-7165
- ✓ Works with either the Series 1 or Series 2 UxValidator™
- ✓ Requires Pod Adapter Set if using Series 1 UxValidator™
- ✓ AMCOM Approved

## UxValidator™ Technology...

The UxValidator™ SystemPod™ increases mission readiness by reducing troubleshooting and repair times of the Instrument Display System through use of automated switchology & synthesized measurement display values. The SystemPod™ simulates input voltages to each SDC as instructed by the BrainPak™ which are displayed on the CDU/PDU in the cockpit.





The UxValidator™, IDS Set is small and lightweight, enabling a single person to operate it from the cockpit. External meters and jumpers are no longer required. The easy to use menu system and operational screens follow the same motif as the UxValidator™, Stab/SAS Set. Each screen corresponds to a system being simulated on the aircraft; engine, fuel, rotor & transmission. The parameters being simulated are; pressure, temperature, speed, quantity and torque.

# Set, UxValidator™, Stab/SAS System H60

Army PN 05-0330-07 NSN 6625-01-529-3346

Navy PN 02-1103-01 NSN 4920-01-526-5799

## UxValidator™ Compatibility . . .

- ✓ Replaces legacy Stab/SAS Line Test Set:
  - Army 70700-20650-047 NSN 6625-01-266-1636
  - Navy 70700-77650-043 NSN 4920-01-157-8698
  - 70700-77650-045 NSN 4920-01-492-6113
- ✓ Comes with Series 1 UxValidator™
- ✓ Compatible with all Army, Navy & Air Force legacy H-60 aircraft
- ✓ CECOM and Navy Approved

## UxValidator™ Technology...

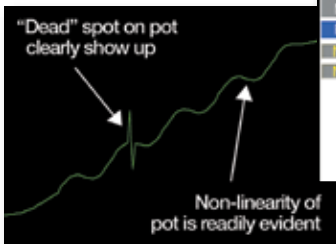
The UxValidator™, Stab/SAS Set increases mission readiness by synthesizing Stab/SAS measurement data and reducing troubleshooting time. To find those “hard to find” troubles, *UxValidator™ offers:*

- ✓ “wiggle” mode for finding intermittent faults
- ✓ A graphical view of the entire stabilator system
- ✓ Real-time diagnostics through sensor, transducer and actuator monitoring.



## Soldier Comments. . .

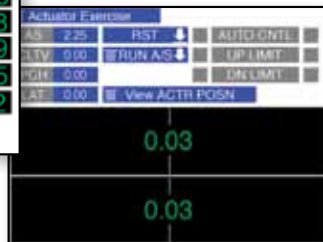
*“The feedback from the soldiers, ‘they like it’. Everyone who uses it once wants to purchase as soon as possible. Lately, one of the aircraft suspected a stab amp failure in-flight and we verified with the stab amp test, very simple. The great thing about this test is the checking of the stab amp gyro.”*



Test Points			
	No. 1	Stab Power	No. 2
Auto/Man	15.06	15VDC	15.02
RST	-14.98	-15VDC	-15.03
No. 1	27.29	26VAC	26.78
No. 2	27.10	26VACPH2	26.99
	27.31	STAB28VDC	27.45
	114.6	STAB115VAC	114.2

- Graphing to improve stabilator actuator troubleshooting

- Automated switchology and synthesized measurement display values (analog and digital) enhance the technicians troubleshooting ability.



- Simultaneous display of No. 1 and No. 2 signal paths show the technician complete system inter-operability.

# Set, Stabilator Position Sensor/Limit Switch H60

PN 10-1009-56

## UxValidator™ Compatibility . . .

- ✓ Replaces the legacy locally fabricated test unit and lock pin identified in:
  - TM1-1520-237-23 H60A/L
  - TM1-1520-280-23 H60M
- ✓ Uses Series 1 or Series 2 UxValidator™
- ✓ AMCOM Approved

## Complete Adjustment . . .

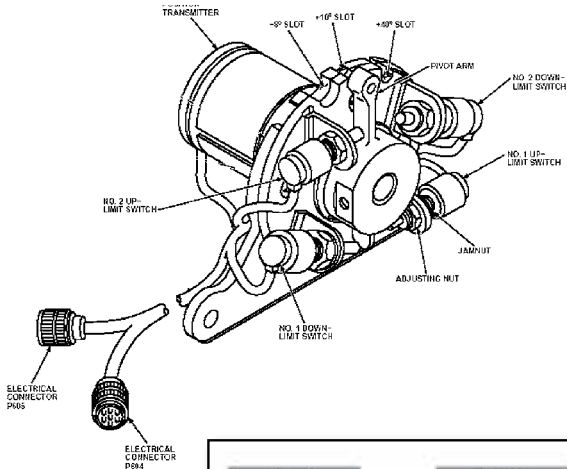
This Set works on the H60A/L/M aircraft and allows you to verify and adjust position sensor and limit switch settings *while on the aircraft or on the bench*.

For the H60M, inaccuracies introduced by using the A/L analog gauge when adjusting the position sensor are eliminated. For the H60A/L accuracy is improved by eliminating the impedance variations between substitute indicators used at the AVIM and those installed in the aircraft.

## UxValidator™ Technology . . .

The UxValidator™ requires no external gauges or meters, all you need is the UxValidator™, BrainPak™ and interface cable. Power is received from the aircraft harness when adjusting on the aircraft and from the included 26VAC power adapter when working on the bench.





Simultaneous display of both switches along with their voltage and corresponding stabilator position permits easy adjustment of the up/down limits. By locking the switch assembly into the  $-8^{\circ}$  and  $+40^{\circ}$  positions the actual switch opening and closing can be adjusted. Locking the switch assembly in the  $+10^{\circ}$  position allows adjustment of displayed position on the cockpit stabilator indicators.

# Set, AFCC H60A/L

PN 09-1009-03 NSN 4920-01-585-8568

## **UxValidator™ Compatibility . . .**

- ✓ Uses either Series 1 or Series 2 UxValidator™
- ✓ Requires Pod Adapter Set for Series1 UxValidator™
- ✓ CECOM Approved

## **Complete Solutions . . .**

The AFCC Set is a Pod based system that enhances troubleshooting of the H60A/L AFCS (Automatic Flight Control System) via improved troubleshooting procedures and automatic testing of the AFCC. Just knowing the AFCC is operating properly doesn't always solve your aircraft problem. The enhanced troubleshooting procedures help find problems in the flight control system by answering the "now what" scenario that can be experienced when the AFCC is found to be good.

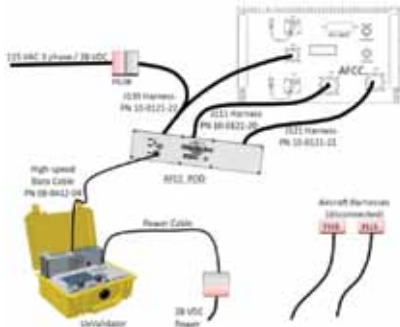
## **UxValidator™ Technology . . .**

This Pod Set can use the existing UxValidator™ currently fielded with the Stab/SAS Set PN 05-0330-07 through use of the Pod Adapter Set. The Pod Set enhances the Built-in-Test capability of the AFCC by simulating inputs, measuring outputs and emulating the other helicopter sensor inputs to perform system testing of the AFCC under isolated conditions. In addition, the AFCC Set provides the ability to automatically vary the external



parameters being simulated to their normal limits and beyond. This provides the AFCC a complete range of possible feedback signals from helicopter sensors as affected by both flight and rigging. This creates an additional measure of tests to fully verify the AFCC and help prevent the false replacement of these computers. Utilizing the AFCC Set with the UxValidator™ will allow for simple, quick verification of a perceived AFCC problem. Connections into the AFCC are simple using 3 adapter harnesses. Pod and AFCC power are obtained from J139 while UxValidator™ power is derived from the 28VDC Utility Receptacle located in the upper cabin roof. A five foot data cable is provided, allowing the test to be performed from the cockpit.

Tests can be run automatically or the user can execute/review individual tests manually. Once a test is completed, if all steps are successful, the test status is updated to PASS. If any step fails the test status is updated to FAIL. When running all tests, each test will be executed regardless of the previous test's status.



# Set, Engine Torquemeter Test, H47

PN 09-1009-02

## UxValidator™ Compatibility . . .

- ✓ Replaces the legacy Flight Line Test Set:
  - PN LTCT29089-01/03 NSN 4920-01-466-8228
  - PN LTCT29089-04 NSN 4920-01-487-7541
- ✓ Uses Series 2 UxValidator™
- ✓ AMCOM Approved

## Complete Solutions . . .

The ETTS is a pod based set that provides fast and complete testing of the T55 Engine Torquemeter

System. You can do *both engines simultaneously* and you get the addition of Torque Split testing. You are now able to adjust the J-Box to it's factory settings while it remains *installed on the aircraft!*

## UxValidator™ Technology . . .

The ETTS warm-up time is only 5 min. and overall aircraft test time is only 30 minutes. The ETTS provides a user friendly menu system that you select and the complicated equations for Voltage Ratio and Vo Cal, are done automatically for you within the UxValidator™!

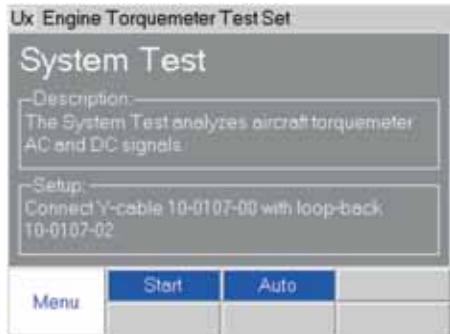


The System Test is composed of the Power Supply Test, the Ratio Detection Input Test, and the Ratio Detection Output Test. Each of these tests are run automatically within the UxValidator™.

The RDPS Test is composed of a Power Supply Test, the Zero Torque Test, and the 100% Torque Test. Each of these tests are run automatically within the UxValidator™.

The Torque Split Test compares both engines to each other at 7 different torque values. You can easily compare the values indicated in the cockpit to those created on the UxValidator™ to determine which engine has a problem.

J-Box Functional Testing and Signature Adjustment compare the output to the value etched into the J-Box. If the values are with-in certain parameters, adjustment may be made *on the aircraft*.





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