

AEROPROBE

Electronic Tool Detection System



A Potent New Weapon Against FOD

Snap-on

AEROPROBE

Electronic Tool Detection System

A MISPLACED TOOL CAN BE THE GREATEST THREAT TO AIRCRAFT SAFETY AND FLIGHT READINESS.

SAVE MAN-HOURS SEARCHING FOR MISPLACED TOOLS

Numerous hours can be expended searching for misplaced tools. With the human factor in maintaining aircraft, it is inevitable that mechanics will misplace hand tools. One installation reported at least a 60% drop in man hours searching for tools after using the Aeroprobe™ system.

REDUCE AIRCRAFT DOWNTIME

An FA-18 aircraft was delivered to a new location and the paperwork indicated a two week search had been conducted earlier for a possible missing tool that was not recovered. The crew at the new location used the Aeroprobe™ and the tool was located within 10 minutes. How much would two weeks of aircraft downtime cost your company?

PREVENT TEAR DOWNS

During a change out of a fuel cell on a FA-18A a mechanic dropped a 2" fastener removal tool in the wing joint area of the fuselage. To retrieve it, many components would have to be disassembled at an estimated time of 50 to 60 hours. To stay on schedule and to get the job done, the maintenance officer used the Aeroprobe™ from outside the aircraft to pinpoint the location of the tool through the cowl. Using the Aeroprobe™, the technician then guided a magnetic tool retriever to the location of the dropped tool. The tool was recovered using this technique within 1.5 hours. The result: a savings of 50+ hours of substantial tear down of the aircraft as well eliminating critical and costly aircraft downtime.

PREVENT DAMAGE TO AIRCRAFT

At the end of a day shift inventory, it was determined that a 4" phillips head screwdriver was missing. Flight line maintenance was performed on a number of aircraft that day so all personnel were required to perform a standard misplaced tool search. Using the Aeroprobe™, they located the tool that was hidden from sight, behind a "Z" bar inside the engine bay door on a F404 engine, in just five minutes! The estimated cost avoidance to the engine was \$2.5 million.



THE SYSTEM

Aeroprobe™ can be easily integrated into your present aircraft technician safety program to minimize aircraft downtime and danger of foreign object damage from tools. As a supplement to visual inspection, the Aeroprobe™ is a completely portable self-contained system for locating misplaced tools in and around aircraft. It consists of the following components:

ACTIVATOR

The Activator sensitizes your existing hand tools. No special tools need to be purchased, nor do tools need to be sent away to be treated. The technician simply passes the tools over the activator and they are treated. The activator comes in a foam padded high impact case.

VALIDATOR

The Validator is used to verify that a tool has sufficient sensitivity for detection.

DETECTOR & PROBE ASSEMBLY

The portable detector pinpoints the location of misplaced tools and is powered by regular or rechargeable batteries. The lightweight sensing probe is small enough to fit into confined areas, yet provides wide area scanning capability. The detector case straps to the operator's waist with an adjustable web belt, and has a storage pocket for the Probe when the unit is not in use.

HEAD SET

A Head Set is used to receive audio signals from the detector indicating the presence of a sensitized tool. This Head Set will normally block out most background noise and still allow the operator to detect the tool.

Aeroprobe™
Tool Detection & Recovery System
COMPLETE System L5DAVI-I-II



Activation Kit L5DAK-1 (case included)
Contains: Activator L5DAC-2
Validator L5DVL-1

Detection Kit L5DDK-1 (case included)
Contains: Detector L5DDT-3
Carrying Harness L5DBH-1
Head Set L5DHS-1
Probe Assembly L5DPR-2



Validator L5DVL-1



Belt Carrying
Harness
L5DBH-1



Head Set L5DHS-1

Detector
L5DDT-3



High
Impact
Case
L5DSC-3



Probe Assembly L5DPR-2

AEROPROBE SYSTEM SPECIFICATIONS

The AeroProbe™ Tool Detection System is a portable, self contained gradiometer (magnetic detection system), with a working range of up to approximately 16 inches. It is designed to quickly locate misplaced aircraft technicians hand tools. An Activator is included in the system to assure that all the hand tools have a slight magnetic signature.

ACTIVATOR L5DAC-2

Dimensions ————— 14" x 9¹/₂" x 3"

Weight ————— 11 lbs.

Activation of tools is done by passing the tool over a ferrite magnet block that has a fairly uniform field strength across the surface of 300-400 gauss with a maximum strength along the outer edges where the gauss readings approximate 1100 gauss.

Ferrite was selected because of its ability to impart magnetism to items with lesser magnetic characteristics without losing its own magnetism. Typically, this magnetic material loses its magnetism at a rate of .5% every 50 years. The measurable magnetic intensity blends to that of earth's ambient magnetism at distances greater than 12 to 14" from the activator's suitcase.

VALIDATOR L5DVL-1

Dimensions ————— 2¹/₂" diameter x 1¹/₄" height

Weight ————— .15 lbs.

Power Requirements ————— None

DETECTOR L5DDT-3

Dimensions ————— 8¹/₂" x 2¹/₂" x 9¹/₄"

Weight ————— 3.5 lbs.

Power Supply ————— 18 volt DC

Internal ————— Battery board with 4 NI-CAD 9 volt DC batteries. Allows unit to operate from internal power source.

Circuit protection built in to monitor battery drain and peak charge point.

External ————— 2 alkaline 9 volt DC (In rear panel)

Operation Time ————— 7 hours or longer (fully charged)

Charging System ————— A/C 120 volt, 60 Hz (standard)

A/C 240 Volt, 50 Hz (optional)

Connectors:

Interface to Probe ————— 3 pin

Headset ————— 1/4" stereo jack

Battery Charge IEC 320/VI A/C connector, 3 prong

External Power Dual Drawer 9 volt DC battery

contact Snap-on Industrial UK

phone +44 (0)1536 413 904

email aviation@snapon.com

DISPLAY

Battery: Charge 10 segment multicolor LED bar graph

Status: 3 red (low), 4 yellow, 3 green (high)

Charge: (green LED) Illuminates during internal battery charging. Blinking when batteries are fully charged.

Power: (red LED) Illuminates while unit is powered on via internal or external batteries

Aux. Battery 2 LEDs, yellow, illuminates LEFT LED

Reversed if left external battery is installed incorrectly relative to positive and negative terminal.

Illuminates RIGHT LED if left external battery is installed incorrectly relative to positive and negative terminals.

Enclosure ————— High impact plastic

Environmental ————— Operation storage

Temperature 5 deg. to 25 deg. C -20 deg. to 60 deg.C

Humidity 10% to 80% 10% to 90%

PROBE ASSEMBLY L5DPR-2

Dimensions ————— 15³/₄" length x 3/4" diameter

Weight ————— .75 lbs.

Sensing Coil ————— 384 Hz (Passive)

HEAD SET L5DHS-1

Weight ————— 1.2 lbs.

Format ————— Stereo

Impedance ————— 8 OHMS

Noise Reduction Rating ————— 24 DB

BELT CARRYING HARNESS L5DBH-1

Material ————— Vinyl coated nylon

Weight ————— .55 lbs.

Belt sizes ————— 48" maximum

HIGH IMPACT CASE L5DSC-3

Dimensions ————— 20¹/₄" x 8¹/₄" x 17¹/₂"

Weight ————— 11.50 lbs.

Material ————— High impact polyethylene



www.snapon.com/industrialuk