

06OCT03

**MEMORANDUM**

To: CAPT XXXX (USN), PMA-202  
From: LT XXXXX, VFA-131  
Via: LCDR XXXX, Team Leader, Life Support Systems, Fleet Support Team  
LT XXXX, Aeromedical Safety, Fighter/Strike Fighter Wing Atlantic

SUBJ: AVIATION SURVIVAL GEAR FIELD TEST

1. SCENARIO OVERVIEW:

The Advanced Evasion Course (D-2G-0032) offered by the SERE School at NAS Brunswick, ME offered the perfect setting to test tactical aviation survival gear. The initial concept was to take only those items an FA-18 pilot would have were they to eject in hostile territory, have to immediately evade, and not have time to take items from the seat pan. Additionally, in this scenario, the helmet, G-suit, and harness were all notionally left at the crash site. No food or additional water was taken.

The seven days of the field exercise were held on a 90,000 acre training facility in the mountains of northwestern Maine. The terrain was rugged and heavily forested with large areas of dead falls and some marshy lowlands. Elevations in the area ranged from 1000' to 4500' MSL. The temperature ranged from high eighties in the daytime to fifty at night. Rain occurred all seven days with heavy rains on four of the days making it difficult to remain dry and presenting challenges to movement as well as problems covering tracks. The scenario was supported by SERE School instructors as well as marines, military and civilian dog teams, SOF, and fixed and rotary wing aircraft.

2. OBJECTIVES:

The primary object was to test and evaluate tactical aviation survival gear in a realistic extended evasion scenario for the purpose of making recommendations for additions, deletions, and replacements to that gear.

The secondary object was to acquire advanced survival and evasion knowledge for the purpose of additional squadron and airwing training.

3. GEAR LIST:

The following items are included in standard survival gear and were evaluated in this extended evasion scenario:

- a. AIRSAVE Vest (A/P22P-18)
- b. Flight Suit (NIIN 8415-01-452-4797)
- c. US Knife (NIIN 00-162-2205)
- d. Hook Blade Knife (NIIN 823AS101-1)
- e. Silva Compass (Type 25 Ranger)
- f. Wrist Compass (NIIN 00-809-5252)
- g. Right Angle 2 Cell Flashlight (NIIN 00-264-8261)

- h. Mini-Maglight (NIIN 01-395-5230)
- i. MK-79 Pencil Flare Kit (NIIN 01-2303974)
- j. Dye Marker (NIIN 00-270-9968)
- k. SDU-39/N Distress Marker Light (NIIN 01-411-8535)
- l. Signal Mirror (MIL-M-18371)
- m. Signal Whistle, Classic Fox 40 (NIIN 00-254-8803)
- n. Emergency Drinking Water Bottle (NIIN 00-168-6828)
- o. Camelbak (13852-60004)
- p. Evasion Chart
- q. Blood Chit
- r. PRC-149 Training Radio

The following items were evaluated for the purpose of additions and/or replacements to the standard survival gear:

- a. Garmin ETrex Vista handheld GPS
- b. Night Vision Monocular (NSN 5855-01-477-3241)
- c. Laser Signaling Device (Greatland Laser: Rescue Laser Light)
- d. Leatherman "Wave" (NIIN 01-456-0578)
- e. Strike Force Fire Starter (NAVAIR 13-1-6.5 P9-39)

The following items were included in my clothing and in the 5 lbs. of discretionary gear I carried:

- a. Water Purification Tablets
- b. Thermal Underwear
- c. Leather Steel Toe Boots
- d. Black Balaclava
- e. Mosquito Net Hood
- f. Boonie Hat
- g. Wool Socks
- h. Black North Face Gloves
- i. Camouflage Face Paint
- j. Poncho
- k. Cable Saw
- l. Powerbar & Protein Bar
- m. Moleskin
- n. Chapstick
- o. Insect Repellent
- p. 2 Black Garbage Bags
- q. Vaseline Tube

#### 4. GEAR ANALYSIS:

All items of survival gear were analyzed on three major criteria:

- 1. Usefulness (Importance to survival/evasion and multipurpose if possible)
- 2. Size (Including weight and durability)
- 3. Theater/Environment Specific

The following analysis is of the standard survival gear:

- a. AIRSAVE Vest (A/P22P-18): Deleted by Capt Evans
- b. Leather Steel Toe Boots: Deleted by Capt Evans.
- c. US Knife (NIIN 00-162-2205): Deleted by Capt Evans.
- d. Silva Compass (Type 25 Ranger): Deleted by Capt Evans.
- e. Wrist Compass (NIIN 00-809-5252): Deleted by Capt Evans
- f. Right Angle 2 Cell Flashlight (NIIN 00-264-8261): Deleted by Capt Evans  
Mini-Maglight (NIIN 01-395-5230): Deleted by Capt Evans
- g. Dye Marker (NIIN 00-270-9968): Deleted by Capt Evans
- h. Camelbak (13852-60004) Deleted by Capt Evans

The following analysis is of the additional gear taken for the purpose of testing:

- a. Garmin ETrex Vista handheld GPS: Deleted by Capt Evans
- b. Night Vision Monocular (NSN 5855-01-477-3241): Deleted by Capt Evans.
- c. Laser Signaling Device (Greatland Laser: Rescue Laser Light): This Signal Laser is perhaps one of the best night signals invented. It screws onto the bottom of the Mini-Maglight, works on one 6V camera battery, and is durable as well as small. It is eye safe beyond 12'. It is highly directional and can be seen only by those along the bearing it is directed. This laser does not require a rescue aircraft to be NVD or IR capable. This device is excellent at not giving away the evader's position. Captain Evans: If rescue assets (ground or air are NVD capable, this signal could be visible far beyond 20 miles. Warrants further testing with NVG/NVDs of various generation to examine capabilities of friendly and enemy forces to detect this signal. One recommended improvement might be a simple but accurate "iron" sighting system built into the tube of the device to facilitate aiming. As you are aware effective use is dependent upon proper technique and a better method of aiming would assist in the "Marine proofing" of this signal.]
- d. Leatherman Wave (NIIN 01-456-0578): Deleted by Capt Evans
- e. Strike Force Fire Starter (NAVAIR 13-1-6.5 Page 9-39): Deleted by Capt Evans

The following analysis is of the personal and discretionary gear taken:

- a. Thermal Underwear: Deleted by Capt Evans
- b. Black Balaclava: Deleted by Capt Evans
- c. Mosquito Net Hood Deleted by Capt Evans
- d. Wool Socks Deleted by Capt Evans
- e. Black North Face Gloves Deleted by Capt Evans
- f. Camouflage Face Paint: Deleted by Capt Evans
- g. Poncho: Deleted by Capt Evans
- h. Powerbar & Protein Bar: Deleted by Capt Evans
- i. Moleskin Deleted by Capt Evans
- j. Black Garbage Bags: Deleted by Capt Evans

## 5. GEAR RECOMMENDATIONS:

The following recommendations are submitted for consideration:

- a. AIRSAVE Vest (A/P22P-18): Deleted by Capt Evans
- b. Boots:
  - 1. Deleted by Capt Evans
- c. US Knife (NIIN 00-162-2205):
  - 1. Deleted by Capt Evans.
- d. Right Angle 2 Cell Flashlight (NIIN 00-264-8261): Deleted by Capt Evans
  - 1. Mini-Maglight (NIIN 01-395-5230): Deleted by Capt Evans
- e. Dye Marker (NIIN 00-270-9968) Deleted by Capt Evans
- f. Camelbak (13852-60004): Deleted by Capt Evans
- g. Garmin Etrex Vista handheld GPS: Deleted by Capt Evans
- h. Night Vision Monocular (NSN 5855-01-477-3241): Deleted by Capt Evans
- i. Laser Signaling Device (Greatland Laser: Rescue Laser Light): This should be a required item in the survival vest. As designed, it would be attached to the Mini-Maglight.
- j. Leatherman Wave (NIIN 01-456-0578): Deleted by Capt Evans
- k. Strike Force Fire Starter (NAVAIR 13-1-6.5 Page 9-39): Deleted by Capt Evans

6. ADDITIONAL RECOMMENDATIONS:

- a. Deleted by Capt Evans
- b. Deleted by Capt Evans
- c. Approve the Laser Signaling Device as an attachment to the Mini-Maglight or make it a required item.
- d. Deleted by Capt Evans

PROPOSED AIRSAVE VEST SETUP FOR COMBAT:

- Left Outboard Pocket:
  - Deleted by Capt Evans
- Left Middle Pocket:
  - Deleted by Capt Evans
- Left Inboard Pocket:
  - Smoke, Flashlight/Laser Signal Device
- Radio Pocket:
  - Deleted by Capt Evans
- Right Middle Pocket: (Addition / Replaces Flashlight)
  - Deleted by Capt Evans
- Right Outboard Pocket:
  - Deleted by Capt Evans
- Interior Pockets:
  - Deleted by Capt Evans

7. SUMMARY:

Deleted by Capt Evans

Lastly, a special thanks to the SERE School and all the SERE instructors for providing the means to test our survival gear. The seriousness and professionalism with which the school is run is unmatched anywhere in the Navy.

XXXXX  
LT

USN