



California Wing Corporate Aircraft Survival Kits



The purpose of this guidance is to standardize the survival kits in California Wing CAP aircraft. Standardization of survival kit contents insures all required survival items are available, minimizes duplication of heavy or expensive items by CAP members, and allows for routine inspection and replacement of expired items, thereby minimizing replacement costs while insuring life-limited components are replaced on schedule.

By standardizing on the aircraft-assigned survival kit contents, members will be able to rely on certain items being present. Therefore, it won't be necessary for each member to provide sufficient drinking water for everyone on the aircraft, minimizing the weight of survival equipment. Standardization and aircraft assigned equipment also provides survival equipment for non-mission related flights, provides minimum survival equipment for members or passengers without survival equipment.

Generally, aircraft survival equipment falls into four general categories; first aid, signaling, shelter, and water/food. This kit provides items in all four of these areas. A discussion of each group and item follows:

1. Case. The recommended case provides both a storage and a carrying case, in the form of a small backpack. The case should be a bright color – red or orange, and clearly marked as aircraft survival equipment.
2. Water. 4 liters of water, provided in 8 separate .5 liter water bottles, provides water for the crew. . The water is provided in 8 separate containers to provide protection in the case of a failure of a single container, and also allows easy sharing. The water is commercially available at any market, and should be replaced, and inspected regularly to insure the bottles haven't leaked. Keep the containers right side up, to minimize the threat of leakage.
3. Cup, canteen. A standard military canteen cup allows survivors to heat water, drink, get water from streams, etc. 1 ea.
4. Stove, canteen cup. With the canteen cup, the stove allows use of either fuel tablets or small twigs to heat water. The canteen cup stove is very lightweight, and fits over the bottom of the stove for storage. 1 ea.
5. Fuel, trioxane. Military fuel tablets provide heat for water (1 tablet will boil a canteen cup of water in a couple of minutes), and also acts as a fire starter for local wood fires. 3 boxes.
6. Food bar, Datrex 3600 Kcal. A compressed high-carbohydrate, low thirst-provoking food product with long-term shelf stable packaging. Has expiration date on package. 2 packages.
7. Space Rescue Blankets. Aluminized mylar blankets, can be used as shelter and for warmth. 4 ea.
8. Space rescue sleeping bags. Similar to the blankets, these are formed into a sleeping bag configuration and can be used for sleeping bags or rain shelter. 4 ea
9. Parachute cord, 100' (can be two 50' lengths). For general tying or lashing.
10. Knife or multitool. A general purpose pocket knife or a leatherman or similar multitool, for cutting and tool use. Make certain it's sharp, and if not rust-resistant use a long-duration protective like LPS1 or LPS2. A standard pocket knife or a multi-tool can be used. 1 ea.

11. Matches, strike anywhere. Strike-anywhere (non-safety) wooden kitchen matches, in waterproof case. Windproof (lifeboat) matches can also be used. Fill the container up, alternating the heads up and down to get the maximum number in the case. Should be inspected and possibly replaced yearly.
12. Match case, waterproof. A brightly colored case for matches is less likely to get lost than a green military type.
13. Candle, long burning – provides heat and light at night. 2 ea.
14. Aerial flares – 2 packages of “pocket rocket” red aerial flares. Expiration date on the package.
15. Smoke flares – 1 package of 3 smoke generating flares. Expiration date on the package.
16. See-Rescue Panel. A relatively new device, it’s a long plastic banner with stiffeners to keep spread out and floating. These devices are replacing dye markers in military survival kits since they don’t dissipate, and are also effective on land. Like the space blankets, they should be left in their case until needed – it’s very hard to roll them back up again. 1 ea.
17. Flashlight, waterproof. A small (AA cell) waterproof flashlight, with spare bulb. While every crew member should have a flashlight, this provides a backup.
18. Batteries (for the flashlight). A 4-pack of AA lithium batteries provides two complete sets of batteries for the flashlight. Lithium batteries have a much longer shelf life, and much better cold-weather performance than alkaline batteries.
19. Trash bags – large, leaf sized plastic bags, for shelter. 4 ea
20. Plastic bags, ziplock, sandwich (pint) size. For water storage or other use. 4 ea
21. Plastic bags, ziplock, quart size. For water storage or other uses. 4 ea
22. Packing list, laminated. Identifies the contents of the case for inspection. See attachment 2 for packing list, laminate locally.
23. Luggage tag, laminated. Identifies the case and the aircraft it’s assigned to. Has space for recording the weight of the case (for weight and balance purposes) and inspection due date. The weight and date can be written on the laminate with a marker, no need to replace the tag. See attachment 3 for format.
24. Notebook, waterproof. A small, waterproof paper booklet for recording notes, etc.
25. Pencil, wood. For recording in the notebook.
26. Survival Manual. The waterproof version of the Air Force survival manual (Air Force Pamphlet 64-5, dated 1990 or later) is an excellent, general purpose survival manual in a small package. Survival Manuals have been distributed to each aircraft manager for use in the airplane.
27. Signal mirror and whistle, on lanyard. After a working ELT, a signal mirror is the most valuable daytime signaling aid there is, and a whistle travels better than shouting. The lanyard keeps from losing them.
28. First Aid Kit. The first aid kit is designed to deal with emergency, life threatening injuries, mainly stopping bleeding. Splint materials can be locally fabricated.

This kit weighs approximately 18 lbs, and is less than 3 cubic feet in size. Initial acquisition cost from the recommended sources (in late July, 2002) is approximately \$255.00. Recurring costs depends on those items needing replacement prior to the next inspection period, but costs will vary from approximately \$4.00 (water only) to \$100 (replacing all life-limited items including pyrotechnics). The pyrotechnics are the most expensive components to replace, but have a 42 month life limit from the date of manufacture.

Inspection: The kit should be fully inspected yearly (during the aircraft annual is a good time). Any life-limited component that will expire prior to the next annual inspection should be replaced with a fresh item. Note: the inspection intervals are very conservative, and items are fully expected to be functional past the inspection date. They should still be replaced on time, the expired items can be used for training purposes.

Survival items that are specifically not included in this case, and why:

- ❖ Compass – why, you’re staying with the crash, right? Crew members can have a compass in their personal survival gear, if desired.
- ❖ Radio and / or GPS – somebody should have a handheld radio (CAP and Aircraft) and portable GPS, the crew should brief on who’s going to get it in a crash. Do you have fresh batteries for them?
- ❖ Strobe lights. Strobe lights are good only at night, and are not terribly effective then. They’re also heavy and use expensive batteries. If a crew member wants a strobe light, choosing one using standard AA batteries is highly recommended. A conversion kit for surplus military SDU-5E strobe lights to use standard lithium photo batteries is available from <http://www.pacificsites.com/~brooke/5BA.shtml>, these are inexpensive and work well.
- ❖ ELT – all crew members should know where the ELT is, and how to remove it and activate it. An expired ELT battery can be kept in the survival kit if desired, for extra signaling capability. Members may desire having a personal ELT or EPIRB in their personal survival equipment, but only one ELT should be transmitting at a time.
- ❖ More signaling equipment – pyrotechnic signaling equipment is only good for the last ½ mile or so, not for general signaling. The provided equipment is adequate for that.
- ❖ Sleeping Bags, Tents, liquid fuel stoves, other camping gear. This sort of equipment is valuable when crashing in cold conditions (which can include all year long in the mountains), but the weight and size of the equipment becomes significant for even a three-person crew. If this sort of equipment is desired, the crew member(s) can bring it – be sure to include it in the weight and balance computations. The space blankets and sleeping bags can be used to make shelter, using the aircraft interior, clothing, and local materials.
- ❖ More water. More water is always a desired item, especially in hot or desert conditions. Water weighs 8.3 lbs per gallon (about 2 lbs per quart), though, and according to most survival studies, it takes a LOT of water (a gallon or more) to extend survival a significant amount (more than two days). Crews should have additional water available for drinking during the sortie, though – just don’t drink too much.
- ❖ Food – most of us can do just fine missing a few meals. The food bar provided is high in carbohydrates, while being non-thirst provoking. Crew members can carry additional food if desired.
- ❖ Big knife, shovel, saw, etc. A small knife or multipurpose tool is usually adequate for most use. A large knife (such as a sheath knife) is usually not too handy in typical California terrain. A machete isn’t terribly useful, nor would a saw or ax. A multi-tool with a saw blade is sufficiently large for small wood for small fires. A shovel isn’t terribly useful; a digging stick can be easily fabricated.
- ❖ Clothing, gloves, hats, etc. Bring your own! Dress for the terrain you’re flying over.

Appendix 2

California Wing Aircraft Survival Kit Packing List

	Item	Expiration Date
1	Case	
2	*Water, .5 liter bottles, 8 ea	12 Months from purchase
3	Cup, Canteen	
4	Stove, Canteen Cup	
5	Fuel, Trioxane, 3 pkg (2 boxes)	5 years from purchase
6	*Food Bar, Datrex, 3600 Kcal, 1 ea	As indicated
7	Space Rescue Blanket, 4 ea	
8	Space Rescue Sleeping Bag, 4 ea	
9	Parachute Cord, 550#, 50' 2 ea	
10	Knife or multitool	
11	Matches, strike anywhere	12 months
12	Match case, waterproof	
13	Candle, long burning 2 ea	
14	*Aerial Flares 3/pkg 2	As indicated
15	*Smoke flares	As indicated
16	See-Rescue Panel	
17	Flashlight, waterproof AA size, spare bulb	
18	Lithium batteries AA Energizer 2-pack, 2 ea	12 months from purchase
19	Trash bag, 4 ea	
20	Plastic bag, ziplock, qt size, 4 ea	
21	Plastic bag, ziplock, pt size, 4 ea	
22	Packing list, laminated	
23	Luggage tag with weight, cube, inspection date	
24	Notebook, waterproof	
25	Pencil, wood, with eraser	
26	Survival manual, AFP 64-5 (waterproof)	
27	Signal mirror, on lanyard, with whistle	
28	*First aid kit (in ziplock bag) containing:	12 months
28a	Band-aids 12 ea	
28b	Gauze pad 4x4 2/pkg 8 pkg	
28c	*Iodine solution 15cc btl	
28d	Triangular bandage 2 ea	
28e	Tape, waterproof or athletic, 1" roll	
28f	Dressing, field individual 4 ea	
28g	*Tablets, water purification iodine base 1 btl	As indicated
28h	*Analgesic, non-prescription 12 /pkg	As indicated

* Expires, requires inspection and replacement

Aircraft Survival Kit Luggage Tag

		Aircraft Survival Kit – N206JK
		Next Inspection Due Date:
		Weight: lbs

Appendix 4

Sources of Survival Kit Contents

Recreational Equipment Inc – <http://www.reigear.com> A general purpose backpacking and outdoor store.

Brigade Quartermasters – <http://www.actiongear.com> A good source of hard to find (especially military) gear

West Marine – <http://www.westmarine.com>, 1-800-BOATING (1-800-262-8464) A general purpose boat supply store with mail and web ordering capability.

Best Buy – <http://www.bestbuy.com> 1-888-BESTBUY (1-888-237-8289), or local store.

Battery replacements for military strobe lights, uses lithium photo type 123 batteries.
<http://www.pacificsites.com/~brooke/5BA.shtml>

Other sources of the same equipment are available, these are recommendations.