

Compilation of Search and Rescue Basic Equipment Lists

2011 Introduction

Attached is the compilation of personal SAR equipment lists I first produced in 2002. It's now the middle of 2011 and I've never updated the list. There are several reasons for this:

1. I don't think there is any need to update the lists for the reasons in the following points.
2. There are only a few "technology" items on the list. With the exception of a GPS unit, the designs, need and usage of the listed technology items haven't changed in the last nine years.

I'm sure GPS unit would now rank much higher than its 97th position on this list of 100 items. Although now in use by many SAR responders, GPS units are not a mandatory item in many organizations.

There are a few items not on the list that would most likely appear on an updated list - cell phone and/or text messaging device for instance. The two quarters, minimum, #61 on the list, *might* remain on the list but lower. There are people who don't know why quarters are on the list.

Other devices not on the list, and sure to be a source of discussion, are Personal Locator Beacons (PLB) and/or Satellite Emergency Notification Devices (SEND). This list was originally intended for search and rescue personnel. Keeping that purpose in mind, there should be no need for either of these to be on the list. But as a list for the general population venturing into the outdoors, these might be added to the list. Also, some SAR organizations are now using SPOT Messengers to track resources.

SEND is a term/acronym in the US SAR community for commercial (satellite) emergency notification and locating devices (CENALD), such as SPOT. SEND or CENALD is used to distinguish these devices from "distress beacons" that work through the Cospas-Sarsat system - PLBs, ELTs and EPIRBs.

Two-way radios are not on the list because they weren't on any of the original 20 lists. I'm sure this is because the lists were for personal equipment. Radios are an essential part of SAR, but considered team equipment, though many SAR members own their own radios.

3. The non-technology items needed to operate safely in the field, whether for recreation, work, exploration or search and rescue haven't changed in... how long? The position of the 10+ essentials will still be at the top of the list, hence their collective name. The majority of the other items would still be on the list, if it were updated, but their relative positions might shift.

For reference, in 2003, the Mountaineers, in its book "Mountaineering: Freedom of the Hills, 7th Edition" listed the "Ten Essentials Systems" to replace the 10 essential items list. This list always contained more than ten individual items anyway. The system has 10 essential functional areas into which individual items can be placed:

Navigation	Fire
Sun Protection	Repair Kit and Tools
Insulation	Nutrition
Illumination	Hydration
First Aid Supplies	Emergency Shelter

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Compilation of Search and Rescue Basic Equipment Lists

- A1. These tables were compiled from the equipment lists of 20 local and national search and rescue organizations, agencies and teams from across the United States.
- A2. The information in them is for reference only and they are provided to assist a user agency or Level I land search team member in making equipment decisions. These are not lists of required equipment.
- A3. The lists are general in nature and should be supplemented by user agencies for specific conditions, e.g. winter.
- A4. Only those lists identified as minimum, basic, 24 hour, hasty or similar were included in Table A1. Equipment lists identified as technical, cold weather, rescue, etc. were excluded.
- A5. There were a total of 100 different personal equipment items contained on the 20 lists. No list had all 100 items and only six items were listed on all 20 lists.
- A6. The items in Table A1 were scored in four ways.
 - A6.1 One point for each list on which an item appeared. The maximum possible score for an item was 20.
 - A6.2 Two points for being a required item, one point for being optional or recommended. The maximum possible score for an item was 40.
 - A6.3 2.5 points were given to required items on the basic/24 hour list; 2 points if required on the extended/base list; 1.5 points if optional or recommended on the basic/24 hour list; 1 point for optional or recommended items on the extended/base list. The maximum possible score for an item was 50.
 - A6.4 The sum of the other three methods. The maximum possible score for an item was 110.
- A7. The first 16 items in Table A1 were in the same order by all four scoring methods. It is recommended that a Level I land search team member have these items available to carry into the field on any search. The next 9 items in Table A1 were the same in each of the four scoring methods, but not in the same order. The last 20 items in Table A1 were in the same order when scored by all four methods.
- A8. The items in Table A1 are sorted first by total score, then by the number of lists on which the item appeared, then alphabetically.
- A9. The contents of the personal first aid kit (Table A2) should be based on the medical or first aid training that the Level I land search team member has received.
- A10. This list is a survey of equipment lists so items have been included on the list just as they appeared on the lists that were reviewed. No attempt has been made to consolidate items so there are potentially redundant and duplicate items.

For the requirements of a Level I Land Search Team Member, see ASTM F2209, available from ASTM:
<http://www.astm.org>

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Table A1. Compilation of Personal Equipment from Minimum Equipment Lists of 20 Search and Rescue Teams

Listed by Total Score

Letters in parentheses refer to notes which appear after the list.

Item	maximum possible	20 lists	110 total	100 % of max	Item	maximum possible	20 lists	110 total	100 % of max
1 compass		20	110	100	51 webbing, 1" x varying lengths		5	25.5	23
2 flashlight or headlamp		20	110	100	52 scissors		5	25	23
3 water, 2 quarts or liters minimum (a)		20	110	100	53 water purification filter		6	24.5	22
4 knife, multipurpose (or equivalent)		20	108	98	54 handkerchief or bandana		5	23.5	21
5 rainwear or poncho		20	108	98	55 gaiters (l)		6	23	21
6 first aid kit, personal (b)		20	106	96	56 entrenching tool (l)		5	22	20
7 matches (c)		19	104	94	57 ground sheet		5	22	20
8 food, 1 day's worth (d)		19	100	91	58 sewing kit (i)		5	22	20
9 whistle (e)		18	97	88	59 razor blade, single edge		4	22	20
10 spare batteries for light (f)		16	88	80	60 can opener (l)		5	21.5	20
11 notepad with pencil or pen		16	86	78	61 quarters, 2 minimum		4	20.5	19
12 cup, drinking (g)		16	77	70	62 gloves, wool or insulated		3	16.5	15
13 gloves, leather (h)		15	76	69	63 jacket, insulated		3	16.5	15
14 mirror, signal		15	76	69	64 measuring device, 18" minimum		3	16.5	15
15 sunglasses		14	73	66	65 tape, duct, 5 to 10 ft		3	16.5	15
16 shelter material		14	72.5	66	66 towelette, moist		3	16.5	15
17 spare bulb for light (f)		13	71.5	65	67 wire, 5-10 ft, 14 Ga.		3	16.5	15
18 nylon cord, at least 25 ft		14	67.5	61	68 saw, folding (l)		4	16	15
19 trash bag, large (min. qty. varied)		14	66.5	60	69 water container, extra (l)		5	15.5	14
20 helmet		13	65.5	60	70 slings, nylon (min. qty. varied)		3	15	14
21 fire starter (c)		12	63.5	58	71 aluminum foil		3	14.5	13
22 toilet paper		13	61.5	56	72 bivy sack		3	14.5	13
23 sleeping bag		13	58	53	73 ear plugs		3	14.5	13
24 candle		11	54.5	50	74 map		3	14.5	13
25 goggles		11	53.5	49	75 tracking stick		3	14.5	13
26 socks, spare		11	53	48	76 spare boot laces		3	14	13
27 insect repellent		12	52.5	48	77 space blanket		3	12	11
28 sleeping pad (i)		11	52	47	78 chem-light		2	11	10
29 water purification tablets		11	51.5	47	79 binoculars		3	10.5	10
30 flagging material (j)		10	51	46	80 pack cover (l)		3	10	9
31 cook kit (i)		10	45.5	41	81 ascender (k)		2	9	8
32 carabiner (min. qty varied) (k)		9	45.5	41	82 flares, aerial		2	9	8
33 headgear (ball, fleece or wool cap)		9	45.5	41	83 smoke, signal		2	7	6
34 watch		9	45.5	41	84 strobe light		2	7	6
35 stove (l)		11	45	41	85 altimeter		2	6.5	6
36 cook kit utensils or spoon (i)		9	44	40	86 \$5 bill		1	5.5	5
37 food, extra (i)		9	43	39	87 condom, non lubricated		1	5.5	5
38 sunscreen		9	43	39	88 gloves, exam (not in first aid kit)		1	5.5	5
39 lip balm		9	42.5	39	89 hand warmer		1	5.5	5
40 harness (seat or climbing) (k)		8	42	38	90 repair kit (unspecified)		1	5.5	5
41 nylon rope, 50 ft, 9 mm (k)		8	40	36	91 sitting pad		1	5.5	5
42 flashlight or headlamp, backup (f) (l)		9	39	35	92 wire ties, plastic, 8 locking		1	5.5	5
43 orange vest		7	38.5	35	93 camera and film		1	3.5	3
44 Prusiks (min. qty. varied) (k)		7	34.5	31	94 mosquito netting		1	3.5	3
45 tent (i)		8	34	31	95 signal panel		1	3.5	3
46 descender (k)		6	29	26	96 \$10		1	3	3
47 lighter (c)		6	28.5	26	97 GPS		1	3	3
48 identification card		5	27.5	25	98 scent bag		1	3	3
49 Ziplock® bag, qt. (min. qty varied)		5	27.5	25	99 spare glasses or contacts		1	3	3
50 safety pins, large, 2		5	25.5	23	100 straps, extra gear tie down		1	3	3

Notes for Table A1

- a. General recommendation. Local conditions may warrant carrying more or less water.
- b. See Table A2 for suggested contents.
- c. The basic requirement is some method of starting a fire.
- d. Ready-to-eat, for "survival" purposes. Search assignment may require additional food (item 37).
- e. Non-metallic or metallic with non-metallic lip piece recommended in cold weather.
- f. The basic requirement is to have a new light source in case the first fails. A second light source (item 42) can be carried instead of spare batteries and a bulb.
- g. A metal cup can be used for heating water and carried instead of a cook kit (item 31).
- h. For hand protection, not warmth (item 62) or body substance isolation (items 6 and 88).
- i. Appeared on more extended mission or base kit lists than basic or 24 hours lists.
- j. Plastic "surveyor" tape or flagging, or crepe paper.
- k. Technical or rescue equipment which a Level I land search team member is not required to know how to use. These items shall only be used by Level I land search team members trained to use them.
- l. Appeared as optional equipment more often than as required equipment.

Table A2	Table A3
Suggested Items for a <u>Personal</u> First Aid Kit	Suggested Items for a Base Camp Kit
Alcohol swabs	Clothes bag
Antacid tablets, etc	Clothes, spare
Antihistamine, etc	Comb or brush
Anti-itch or itch relief ointment	Footwear (other than field boots)
Antiseptic ointment or pads	Nail clippers
Band-Aids®	Personal hygiene items
Bloodborne pathogen protection (body substance isolation) kit	Shaving kit
Butterfly closures	Soap
Compresses or sanitary napkins	Toothbrush and toothpaste
Cotton swabs	Towel
CPR mask or shield	Washcloth
Decongestant, etc	
Disinfectant	
Elastic bandage	
Eyeglasses or contacts, spare	
Eye wash	
Gauze pads	
Gloves, exam (separate from BSI/BBP kit)	
Moleskin® and/or Molefoam®	
Sewing needle or straight pin	
Pain relief, etc	
Personal medications	
Roller bandage	
Tape, first aid	
Triangular bandage	
Tweezers	
etc = over-the-counter (non-prescription)	

Table A1-A. Compilation of Personal Equipment from Minimum Equipment Lists of 20 Search and Rescue Teams

Listed Alphabetically

See Table A1 for the items listed by score.

Item	maximum possible	20	110	100	Item	maximum possible	20	110	100
		lists	total	% of max			lists	total	% of max
1 altimeter		2	6.5	6	51 nylon cord, at least 25 ft		14	67.5	61
2 aluminum foil		3	14.5	13	52 nylon rope, 50 ft, 9mm		8	40	36
3 ascender		2	9	8	53 orange vest		7	38.5	35
4 binoculars		3	10.5	10	54 pack cover		3	10	9
5 bivy sack		3	14.5	13	55 Prusiks (min. qty. varied)		7	34.5	31
6 camera and film		1	3.5	3	56 quarters, 2 minimum		4	20.5	19
7 can opener		5	21.5	20	57 rainwear or poncho		20	108	98
8 candle		11	54.5	50	58 razor blade, single edge		4	22	20
9 carabiner (min. qty varied)		9	45.5	41	59 repair kit (unspecified)		1	5.5	5
10 chem-light		2	11	10	60 safety pins, large, 2		5	25.5	23
11 compass		20	110	100	61 saw, folding		4	16	15
12 condom, non lubricated		1	5.5	5	62 scent bag		1	3	3
13 cook kit		10	45.5	41	63 scissors		5	25	23
14 cook kit utensils (spoon)		9	44	40	64 sewing kit		5	22	20
15 cup, metal		16	77	70	65 shelter material		14	72.5	66
16 descender		6	29	26	66 signal panel		1	3.5	3
17 ear plugs		3	14.5	13	67 sitting pad		1	5.5	5
18 entrenching tool		5	22	20	68 sleeping bag		13	58	53
19 fire starter		12	63.5	58	69 sleeping pad		11	52	47
20 first aid kit, personal		20	106	96	70 slings, nylon (min. qty. varied)		3	15	14
21 flagging material		10	51	46	71 smoke, signal		2	7	6
22 flares, aerial		2	9	8	72 socks, spare		11	53	48
23 flashlight or headlamp		20	110	100	73 space blanket		3	12	11
24 flashlight, backup		9	39	35	74 spare batteries for light		16	88	80
25 food, 1 day's worth		19	100	91	75 spare boot laces		3	14	13
26 food, extra		9	43	39	76 spare bulb for light		13	71.5	65
27 gaiters		6	23	21	77 spare glasses or contacts		1	3	3
28 gloves, exam (not in first aid kit)		1	5.5	5	78 stove		11	45	41
29 gloves, leather		15	76	69	79 straps, extra gear tie down		1	3	3
30 gloves, wool or insulated		3	16.5	15	80 strobe light		2	7	6
31 goggles		11	53.5	49	81 sunglasses		14	73	66
32 GPS		1	3	3	82 sunscreen		9	43	39
33 ground sheet		5	22	20	83 tape, duct, 5 to 10 ft		3	16.5	15
34 hand warmer		1	5.5	5	84 tent		8	34	31
35 handkerchief or bandana		5	23.5	21	85 toilet paper		13	61.5	56
36 harness (seat or climbing)		8	42	38	86 towelette, moist		3	16.5	15
37 headgear (ball, fleece or wool cap)		9	45.5	41	87 tracking stick		3	14.5	13
38 helmet		13	65.5	60	88 trash bag, large (min. qty. varied)		14	66.5	60
39 identification card		5	27.5	25	89 watch		9	45.5	41
40 insect repellent		12	52.5	48	90 water container, extra		5	15.5	14
41 jacket, insulated		3	16.5	15	91 water purification filter		6	24.5	22
42 knife, multipurpose		20	108	98	92 water purification tablets		11	51.5	47
43 lighter		6	28.5	26	93 water, 2 quarts or liters minimum		20	110	100
44 lip balm		9	42.5	39	94 webbing, 1" x varying lengths		5	25.5	23
45 map		3	14.5	13	95 whistle		18	97	88
46 matches		19	104	94	96 wire ties, plastic, 8 locking		1	5.5	5
47 measuring device, 18" minimum		3	16.5	15	97 wire, 5-10 ft, 14 ga		3	16.5	15
48 mirror, signal		15	76	69	98 Ziplock® bag, qt. (min. qty varied)		5	27.5	25
49 mosquito netting		1	3.5	3	99 \$10		1	3	3
50 notepad with pencil or pen		16	86	78	100 \$5 bill		1	5.5	5