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Consolidated Pack Guide

**A Pack Guideline for NASAR
Education and Certification Programs**

Annotated for NCWG Ranger School Students

Last Update: 14 NOV 2017, Maj Jason Cheek, #263

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Foreword: Items that are optional or not needed for our agency's purposes are marked as such. The SAR ready pack should not burden the individual member with excess financial or load carrying burden. This is the pack guideline utilized by all certified SAR organizations with minor modifications dictated by our organizational task and purpose, and governing regulations, but also allows the individual searcher to build their pack to suit mission needs and personal capabilities.

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Version Control

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This document is the primary release of the NASAR Consolidated Pack Guide.

Section 1 – NASAR Consolidated Pack Guide

NASAR recognizes that SAR responders operate in extremely varied environments. In consideration of local environments, legislation, circumstances, or team standards, NASAR has compiled this Consolidated Pack Guide. Using the ATM F2209 standard as its foundation, this guide is the single publication that documents all NASAR program pack recommendations. This guide supersedes all previous pack standards and guidance.

The NASAR Consolidated Pack Guide has been developed to provide guidelines to consistently review the contents of a searcher's pack, to ensure that the contents provide for the core capabilities required for the NASAR program in the searcher's response environment.

The SAR 24-hour pack is designed to prepare a sole searcher on a field assignment for up to 24 hours with no outside logistical or re-supply assistance. The searcher is expected to wear or carry (layers) clothes/uniform appropriate for the response environment, circumstances, duration and task. It is also expected that the searcher will have the supplies necessary to assist and support an injured victim (or injured searcher) for a portion of the 24-hour assignment.

The recommended equipment falls into several required core capabilities a searcher must be able to perform:

- Survival / First Aid / Signaling
- Self-Rescue
- Hygiene / Personal Items
- Navigation
- Communications
- Light Sources
- Clothing & Personal Protective Equipment
- Shelter
- Food & Hydration
- Load Bearing / Packs
- Search
- Resource Specific (determined by the AHJ)
- Mission Specific (determined by the AHJ)

For efficiency, it is recommended that items selected for your 24-hour pack have multiple uses. For example, alcohol wipes can be used as a disinfectant or as a fire starter. Any item that has more than one use helps lighten and consolidate your pack. You can further conserve weight by standardizing the battery used by your communications, lighting and navigation electronics. A lighter pack makes for a more effective search responder.

Setting up your 24-hour pack does not have to be overly expensive. You can save yourself some money by taking advantage of generous pro deals available to NASAR members (e.g. Promotive) or your local team. Most importantly, train with your 24-hour pack in conditions similar to those to which you will respond.

***CAP Logistics can often times supply the higher cost items such as the pack itself when available

Section 2 – Core Capability Item Recommendations

The following tables contain recommended items that may satisfy the requirements for a searcher's core capabilities. Explanation is provided, where applicable, allowing students, instructors and lead evaluators to evaluate equivalent substitutions.

Instructors and lead evaluators are given some latitude in determining needs based on the environment, circumstances, agency requirements, assignment and the searcher's experience.

NASAR expects that safety is always the priority when reviewing items.

Survival/First Aid Kit/Signaling	
Acetaminophen / Aspirin Tablets/ Ibuprofen	For pain management.
Diphenhydramine (Benadryl) Tablets	These can be used to help counteract allergic reactions.
Antiseptic Cleansing Pads	Antiseptic Pads can be used to clean small cuts and scrapes to keep them from getting infected. Alcohol-based pads may sting when you use them, but they can also be used to assist in starting a fire in a survival situation. Iodine-based pads do not sting when you use them, but they have no fire starting capabilities.
Antiseptic Ointment/Cream	These help prevent infection and promote healing of small cuts and abrasions.
Band-Aids, Various Sizes	For wound care.
Candle, Long Burning, Survival Type	For lighting and fire starting, can also be used as a heat source in your shelter.
Cotton Swabs, Non-Sterile	These can be used to help clean small wounds and when soaked in alcohol or Antiseptic Ointment can act as an improvised fire starter.
Duct Tape	The most functional are 3" wide, and can be stored by wrapping it around itself or another pack item like a water bottle or pencil. At a minimum, 10 feet should be carried.
Leaf Bag	A leaf bag makes an expedient raincoat or mini-shelter from the wind and weather for a searcher or subject.
Fire Starting Capability such as Waterproof matches in a protective case or a fire starter that uses a sparking striker	See the NASAR FUNSAR or Freedom of the Hills texts for fire starting options and techniques. Remember, simpler is often your best option.
Moleskin	Moleskin is used to help treat foot blisters.
Gauze Bandage, Roll	First aid.
Safety Pins	Safety pins can be used to repair gear or clothing, as well as to secure slings or bandages.
Splinter Forceps, Tweezers	Removal of stingers or splinters.
Space Blanket / Emergency Reflective Sleeping Bag	Patient or survival shelter.

Survival/First Aid Kit/Signaling	
Hand Sanitizer	In addition to sanitizing, certain types can also be used as a fire starter.
Whistle	Plastic, chamber-based (no ball) whistle is the preferred option. Ball-type whistles can freeze in cold temperatures, rendering the whistle inoperable.
Signal Mirror	Glass mirrors have the best reflective properties, but plastic mirrors are less prone to cracking or breaking in your pack. A mirror that is specifically designed for signaling has a sight window built into it, which is suggested.
Strobe Light/ Other Visual Signal Devices	The surplus government models can be seen for long distances but require a particular battery type. Many newer headlamps and flashlights have a flasher mode built in – a consideration when you buy a light. Laser-based signaling devices are also available. Also, consider small, lightweight signal panels. These are particularly good working with helicopters when you don't want to blind pilot or observers.
Smoke Signal (smoke grenade/smoke bomb)	Smoke signals are effective signaling devices in the marine environment. In land-based environments, they must be used with extreme care because of the fire hazard potential. In some cases, searchers are not allowed to carry smoke signals or pyrotechnic devices on transport helicopters. The use of a signal mirror is preferred over the use of smoke signals. Signal panels mentioned above as alternative in some circumstances.
Para-Cord / Cordage (50')	For shelter building or repair lashing.
EMT Type Scissors	EMT style scissors are designed to cut through thick fabrics or rope easily.
Sterile Dressings (3 or 4, 4" squares)	First aid.
Water Purification Capability	<p>Several common methods can be used to purify water. The method best for you depends on the local environment and mission.</p> <ul style="list-style-type: none"> - Filtration based systems use a pump and effectively remove suspended solids from dirty water. - Chemical systems purify the water, but leave the suspended solids in the water. - UV systems utilize a battery-powered light to kill bacteria but leave the suspended solids. <p>Some systems combine filtration with either UV or chemical methods, providing the best chance for clean water. Spend some time researching what works best in your area and what other members on your team carry. Please refer to Freedom of the Hills for more details on water purification.</p>
Wire Ties / Zip Ties – Several sizes	These can be an aid when building shelters, building splints, closing water containers, repairing a broken zipper or fixing a tent pole.

Team Leaders
Only - Optional

Optional for new members

Self-Rescue Equipment	
Carabiners	Meeting or exceeding ASTM F1774 requirements (a locking steel or aluminum carabiner – major axis gate closed 20Kn minimum, minor axis gate closed 7Kn minimum).
Knife or Multi-Tool	A Multi-tool or swiss army knife is preferred as they have more than one use. Fixed blade knives are less useful than folding blades or a multitool. Don't go huge in size or expense.
Prusik Loops	It is ultimately your responsibility to determine your specific cord requirements for your host rope. (6 to 8mm kernmantle)
Webbing, 1-inch tubular style, 25ft long.	As this is a life safety item, care must be taken to protect it from chemicals or sunlight exposure. It should also be replaced if overloaded, such as when used to tow a vehicle.

Optional for new members

Optional

Hygiene/Personal Equipment	
Personal Medications	Searchers should carry at least 72-hours' worth of personal medications in the event of delay in getting back from an assignment.
Spare Prescription Eyeglasses / Contact Lenses	Personal item.
Sunglasses, 97% UV	Eye protection.
Hand Trowel / Shovel	Used to dig latrine holes for human waste.
Toilet Paper / Feminine Hygiene products (If applicable)	Many outdoor stores sell compact rolls of toilet paper for backpacking. It is important to keep your hygiene products dry. TP and feminine hygiene products can also be used as fire tinder in an emergency, and the latter can also be used as first-aid dressings.
Lip Balm	A lip balm with sunscreen is preferable. Lip balm is just as important in cold weather as it is in hot weather. This can also be used as a tinder accelerant.
Sunscreen	A lotion that has UVA/UVB SPF of 50 is preferred. A higher or lower SPF is a personal preference based on your complexion, environment, and cancer risk.
Insect Repellent	Types and composition vary based on local environmental needs.

Silva Ranger or Suunto MC-2

R2 and above

Navigation	
Compass	A SAR compass should be an orienteering type compass that is graduated in degrees, fluid-filled, has a mirror sighting system, and a clear baseplate.
Pacing Beads/Counter	For measuring distance in the field.
Grid Reader / Map Ruler / Protractor 1:24000 USNG	When working with maps, accuracy is critical. Using a grid reader or map ruler helps you navigate accurately. Should be scaled for use with the maps used most commonly by your AHJ.

OPTIONAL	GPS Use of GPS technology has become commonplace in SAR. Many GPS models will work for SAR, and there is a broad range of pricing and features between makes and models. Talk to other members of your team, and see what they carry. Just remember that GPS technology uses batteries and has accuracy issues under certain environmental conditions. Do not allow yourself to become reliant on GPS to the point that your map and compass skills degrade or perish.
Not applicable	Altimeter Altimeters are typically used in mountainous or hilly terrain and help you in determining how high you are on a slope. There are several styles, with most being barometer based and must be referenced with a known altitude point benchmark. Many GPS units will also display this data.

Communications	
Radio	Make sure you receive training on its operation, test it before you leave basecamp and have a spare battery.
Cell Phone	Cell phones are commonplace, but cell service is not always reliable in many areas. As battery life may be an issue, consider carrying a backup power source. This backup may also be able to recharge your GPS or some headlamps.

Light Sources	
Primary Light Source	Your primary light source should be as bright as you can afford, and be hands-free (i.e. a headlamp). You should carry several spare sets of batteries for your primary light. The primary light should be able to be easily moved and manipulated to achieve the greatest effect for searching (moving light source above or below vegetation for example).
Secondary Light Source	Things to consider for the backup light source include common battery size with your other electronic devices, size and weight.
Chemical Light Stick	A white or bright yellow/green light stick can help light the area immediately in front of you. A light stick tied to the end of a 3' para-cord can be swung around in a circle quickly and makes an effective signal at night. A series of light sticks can show an evacuation path for a litter team in the dark.

Clothing and Personal Protective Equipment	
Cap / Headgear / Hat	Several hats may be required on a single mission depending on the environment, weather, circumstances, and assignment. Considerations include thermal, rain, sun and eye protection.
Clothing	Appropriate for the environment, weather, circumstances, and assignment. This can be the uniform required by your agency, or team. Be sure to account for weather variations over the next 24 hour period.
Clothing (Extra Set)	Appropriate for the environment, weather, circumstances, and assignment. In the event you, a fellow searcher or the subject is wet, cold, or contaminated, you have options to continue searching, protect someone from the environment, or prevent further contamination. These should be kept in a dry storage bag.
Helmet	Type as determined by your Agency Having Jurisdiction.

Optional**

** Helmets are utilized for night ops, rope work and areas with heavy underbrush - this is not a required purchase item for new candidates - climbing or OSHA safety type helmets are fine for this type of work

Clothing and Personal Protective Equipment	
Footwear	Choice of footwear is dependent on your environment and mission. You want to select something that protects your foot, fits well, supports your ankle and wears well. You might also want to consider breathability, waterproofness, tread, and the type of sock you are going to wear. Comfort is a paramount concern with footwear. This cannot be overstated.
Gloves	There are different types of gloves you will need to carry: <ul style="list-style-type: none"> - Surgical-style gloves should be used for triaging and treating victims or collecting evidence. Be considerate of people with latex allergies and use latex-free gloves. - Leather-style work gloves protect your hands when searching at night or doing USAR, rescue work, or other rough activities. Many environments feature thick prickly brush which requires gloves day and night. - Gloves that provide protection and comfort for the environment in which you work.
Eye Protection	Eye protection is a requirement during night searching and will protect the wearer from branches or debris on trail. They should also be worn when working around helicopters where high-speed dust is in the air. Eye protection should meet local safety requirements, can be glasses or goggles, and can be tinted for UV protection (sunglasses).
ANSI/ISEA 207-2010 Compliant Vest	Required when working near traffic and is visible in the wilderness to helicopters, searchers, and hunters.
Socks	Select socks made from wool or synthetic materials that will help wick perspiration away from your feet. They should also provide adequate cushioning based on your mission requirements.
Rainwear	A durable and breathable jacket and pants set with an attached hood are preferred. Gore-Tex or similar material is preferable to plastic or rubber coated materials that can cause overheating. Armpit zipper vents help moisture escape and make the jacket more comfortable.
Trekking Poles	Trekking poles are very useful in many environments, especially when hiking hills. They can double as tracking sticks, a shelter pole or an expedient field splint.
Gaiters	These protect the wearer from thorns, insects, ice, and snow. Make sure you purchase the right gaiters for the mission as snake gaiters are not snow gaiters, etc.
Bandana / Handkerchief	In hot, dry environments, a wet bandana can be used cool your neck. In sunny conditions, a bandana can provide shade. In cold environments, a bandana can be used as a mini-scarf to stay warm. They can also be used as a water filter, signaling device, bandage or sling.
Zip Lock / Alloksak or other dry bags.	Not only can dry bags be used to keep gear dry, but they can also be used to collect water, keep dirty or contaminated clothes separated from other gear, protect collected evidence, etc.
Shelter	
Ground Insulation	Depending on the environment, weather, circumstances, and assignment this could be a self-inflating blow-up pad, foam pad, leaf bags stuffed with leaves, etc.

Optional

Optional

Shelter Material	This can be a tent, bivy or tarp system in some environments. An 8' x 10' piece of waterproof or water resistant material, combined with your paracord and items found in place, should allow you to build a shelter that will protect you from the environment. Inexpensive, lightweight alternatives include disposable Drop Cloths, plastic sheeting or Tyvek.
Leaf Bags	Emergency Shelter material. At least two for sheltering needs.

Food and Hydration

Water Bottle / Canteen / Hydration Bladder	There are many options for carrying water. Some searchers carry hydration bladders that slip into their backpacks, with a drinking tube that comes over their shoulder. Some searchers carry multiple water bottles or other canteens for their water. Personal hydration requirements, as well as local environmental factors, will determine how much water and what style carrier a searcher will carry. Nalgens are easier to clean and purify with
Sports Drink	Sports drinks like Gatorade or Powerade can enhance water to help replace electrolytes. Avoid mixes with high sugar contents.

Optional

Optional Food and snacks - searcher preference (MRE, trail mix, jerky) that doesn't spoil or need cooking - leave no trash behind

Load Bearing and Packs

Pack	This pack needs to be able to carry all of a searcher's personal items comfortably, while leaving space for any team gear that the mission may require.
Waist/Butt Pack	A full pack may not be required for urban response, as logistical support may be close.
Radio Chest Harness	Radio chest harnesses may also carry your maps, notebook, writing instruments, flagging tape, etc.
Rain Cover (Pack)	To keep your gear dry.

Not applicable

Optional

Optional

Search Equipment

Photo Identification	To identify you to an agency or the public if asked.
Pad and Pencil	A searcher should always have a couple of writing instruments and a notebook (preferably waterproof paper) with them at all times.
Tracking Stick – 42" Length	A trekking or a tent pole can be set up as an expedient tracking stick. A 42" length is widely considered to be a minimum length.
Binoculars	Or monocular, to zoom in on distant objects.
Flagging Tape, Fluorescent, 1" thick, 100'	Flagging tape can be used to mark your trail, the areas searched, or an evacuation route for a rescue team.
Measuring Device	Searchers need to be able to measure and compare footprints and strides. Many trackers carry an 18" to 24" small retractable measuring tape or cloth measuring tape. It also can be used for navigation and map work or to provide a scale for photos.

Optional

Optional

This list pertains to the 24 hour SAR ready pack. This is not inclusive of any base camp gear such as a sleeping bag or personal tent, etc whereby you would be staying overnight in a mission base type setting. This is the gear you carry on your person while on mission. It is designed to keep the searcher mobile and mission effective without breaking the bank. In the event a searcher has to stay on mission an extended time the equipment contained therein will keep you and your subject alive and does not factor comfort into the equation. Do not skimp on the quality or items that are not optional, but remember ounces add up to pounds, pounds cause pain and slow you down.