

# ROTOR AIRCRAFT SURVIVAL GEAR INVENTORY

## **TEAM SURVIVAL GEAR** *(LOCATED IN SMALL DUFFEL BAG)*

- 3 sleeping bags in compression sacks
- 3 breathable/waterproof bivvy bags
- Compass
- Glass signal mirror
- Saw
- Leather Gloves
- 3mm Nylon Cordage
- Water purification tabs
- Pot with lid
- Foil H2O packets (optional)
- Food bars (variable)
- Mega mid tent with tie-down cordage
- Snow shovel (seasonal)
- Snowshoes (seasonal)
- Snow bibs (seasonal)
- Insect repellent (seasonal)
- Bear spray (seasonal)

## **PERSONAL KITS** *(1 KIT FOR EACH PILOT, MEDIC, NURSE)*

- Multi-function tool
- Whistle
- Matches and fire starter (variable)
- Head lamp
- Emergency bivvy bag
- Chemical handwarmers
- Safety pins



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# SURVIVAL SYSTEMS

YOUR MENTAL & EMOTIONAL SELF + PRACTICED SKILLS  
+ GOOD GEAR & EQUIPMENT = HAPPY SURVIVAL!

## 24-HOUR SURVIVAL GOALS

- Don't get killed.
- Don't die waiting for a rescue.
- Don't lose your gear.
- Use your resources efficiently.
- Stay focused and work smart.
- Don't create new problems.
- Stay warm and dry.
- Stay healthy and happy.
- Get found!

## SUCCESSFUL SURVIVAL ATTITUDES & BEHAVIORS

- Remain cool, calm, and confident.
- Establish priorities, make decisions.
- Hope for the best. Prepare for the worst. Do it right the first time.
- Use what you have to make what you need.
- Communicate the plans, make back-up plans. Don't be afraid to change the plan as new information or situations present.
- Focus on the now: don't buy in to blame, guilt, fear, pride.
- Be patient. Keep trying. **Never give up!**

## PRINCIPLES OF EFFECTIVE SURVIVAL LEADERSHIP

- Know your environment.
- Anticipate and plan.
- Communicate effectively.
- Delegate workloads optimally.
- Allocate attention wisely.
- Use all information.
- Use all available resources.
- Ask for help when needed.
- Be kind. Stay cheerful. Maintain professional behavior.

## SURVIVAL PRIORITIES *(RE-ORDER AS NECESSARY)*

- **Scene and Crew Safety:** Shut down engines (fuel, battery, rotor brake). Get out as soon as parts stop moving. Take gear with you. Assemble at 12° or up-wind of smoke. Consider the environment (stay dry!).
- **First Aid:** Check everyone, be honest about any injuries, and address all issues.
- **Shelter:** Use the aircraft as first option.
- **Inventory:** Assemble all the gear into one place.
- **Warmth:** Insulate from the ground and metal surfaces, change into dry clothing layers, consider a small fire near the shelter, dry wet clothing, gather plenty of wood.
- **Signaling:** Phone text 911, ELT operating Freq. 121.5, fire visible, be ready to make black smoke (plastic, foam, rubber), keep signal mirror handy, use your whistle.
- **Food and Water:** Ration food, drink water.
- **Psychological First Aid:** Don't underestimate the emotional impact this event may be having on yourself and others. Bring everyone together; acknowledge each other's fear, anger, and tolerance (or intolerance) for adversity and uncertainty. Now is the time for courage.
- **Planning and Waiting:** Stay put, communicate with each other, work as a team, stay active, plan for longterm.

RECOGNIZE IT'S THE **SKILLED TEAM**, NOT THE GEAR, WHO IS PREPARED, STAYS POSITIVE AND PROVIDES LEADERSHIP—CREATING SHELTER, STARTING A FIRE, SIGNALING EFFECTIVELY, WORKING TOGETHER, AND ULTIMATELY, SURVIVING!



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# HOW TO BUILD AN EMERGENCY FIRE

1. Find a protected spot, if possible (i.e., against a downed tree if it is windy).
2. Consider wind direction and the location of your shelter when choosing a fire area (smoke and blowing sparks can make a snug camp miserable).
3. Clear the ground of combustible debris. In deep snow, you will need to dig down to the ground or build your fire on a platform of larger branches or green logs to keep the fire from melting into a deep, water-filled hole.
4. Gather tinder (e.g., dry paper, pitch, fire starter cubes, duct tape).
5. Collect tiny, brittle, pencil-lead-diameter, branches from dead limbs tucked up under the lowest branches (the ones which snap when broken).
6. Using your knife, and working with larger branches, cut away wet bark and damp wood. Then cut dry slivers and thin wood shavings. Make at least a fist-sized pile of shavings and dry pencil-sized twigs – this is your kindling.
7. Protect the tinder and kindling from moisture until you are ready to build the fire (put it in your pocket or pack or bag it; do not place on the wet ground).
8. Gather a large supply of tinder, kindling and fuel before attempting to light it.
9. Build a small stick teepee over the paper, chips, pitch, fire starter, etc.
10. Use small amounts of Jet-A to increase the flammability of your teepee. If you have a candle or duct tape, you can increase the burn time of your match (a match lights the candle, which in turn lights the fire).
11. Position the match or candle as far as you can under the tinder – take care not to upset your teepee!
12. Give the flame enough time to fully ignite the tinder (or to light the fire starter, set in the tinder).
13. Gently blow or fan to increase the flame and heat.
14. Have extra tinder handy to carefully add to the flame until the teepee begins to burn.
15. Fire climbs – add new kindling from above, downwind, over the flame.
16. Don't add too much, or too large of fuel, too fast. Pencil to toilet-paper-roll-diameter branches make the best fuel for beginning a fire.

## NOTES

- Be careful with synthetic clothing.
- Use EXTREME CAUTION if using aircraft, ATV or snowmobile fuel as a fire starter.
- Split wood burns faster than whole. Bark can hold moisture.
- Twigs on the ground are often wet.
- Keep a good supply of small and larger branches, drying for future use.
- A small fire with a heat reflector is better than a large fire – and uses less fuel.
- A saw is a good tool for cutting through green branches for use in the fire platform (on snow) and as heat reflectors.
- Keep a supply of scrap rubber, plastic or green leaves to throw on the fire when you need to create thick smoke for signaling.
- Clear combustible grasses before you ignite your fire.
- DO NOT START A WILDLAND FIRE!



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# SURVIVAL II: SIGNALING & SHELTER

## SHELTER – BASIC PRINCIPALS

- Dry clothing is your first line of defense for shelter from the elements.
- Ensure dry clothing layers to skin level. Carefully dry wet clothing by the fire.
- Add rain gear before you get wet. Seek shelter from wind.
- Put on a hat and close all zippers, snaps, and velcro to stop heat loss.
- Keep gloves and mittens dry (don't set them down in the snow).
- Use your reflective blanket/bag to supplement your clothing.
- The aircraft may make a good shelter (beware of leaking fuel and live electrical circuits, and remember exposed metal surfaces will conduct away body heat – insulate!).
- Find or create other shelter on a south-facing area, out of the wind and away from other hazards (creekbed, avalanches, tree or rock fall, lightning).
- Avoid exposed ridgelines, deep drainages, and low marshy areas.
- Use the tent, tarps, cordage, and aircraft parts to create a sturdy wind/rain barrier. Locate the entrance door at 90 degrees to the wind and downhill if on a slope.
- Use branches or other debris to elevate (insulate) the floor of your shelter.
- Keep your sleeping bag safe and dry in the bivvy bag.

## SIGNALING – BASIC PRINCIPLES

- Plan and practice your signaling systems before the need arises. Use multiple signaling methods.
- Know who you are signaling, i.e., aircraft, ground searchers (whistle), motorized vehicles. Check your cell phone and send out a text to 911. Check the ELT (freq. 121.5).
- **Reflection of Sunlight:** Mirror, foil blanket, chrome or other shiny metal.
- **Smoke:** Rubber, plastic and foam insulation produce thick black smoke – good for gray overcast days or winter. Damp wood, green leaves, pine boughs, and grasses make gray/white smoke – good for sunny days or when you are in thick, dark timber.
- **Fire:** A large fire on a high point can be seen for many miles – BE CAREFUL! Fires in dry areas can quickly get out of control, creating environmental disaster! Large fires consume large amounts of wood. Use a reflector to make your fire brighter and direct heat toward your shelter.
- **Ground Signals:** Groups of three of anything that contrasts with the ground and can be seen from the air: white sheets, piles of rocks, piles of gear, pine branches on snow, three bright or smoky fires in a row.
- **Geometric Shapes:** Right angles, circles, squares, triangles; any of these shapes in rows of three will attract attention. Use large block letters; stamp them out in the snow (H E L P). Lay out contrasting colored gear or rocks.
- **Signaling for Night Vision Goggles:** Moving lights, fire, phone flashlights, headlamps (not red LEDs). Cylume light sticks on a cord swinging in a circle or sparks from a metal striker.



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