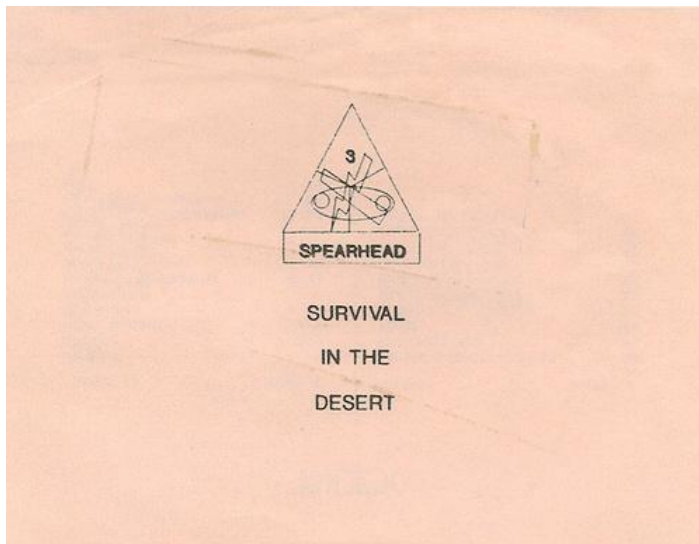


Desert Survival Guide

December 1990, while the 3rd Armored Division prepared for deployment to Southwest Asia for what would become the Persian Gulf War or Operation Desert Storm, soldiers were given this pamphlet of field expedient methods concerning survival and fighting in a desert environment. The GPS system, crucial to navigation in a featureless terrain such as the Saudi Arabian desert, was just coming on-line and was a strictly military technology. It was wondered at the time if the person(s) responsible for this document thought it would replace tactics and lessons learned during the previous 50 years of *Cold War* training in Central Europe. In retrospect, we were not given much useful information and our combined experiences would form the basis of tactical knowledge for future Middle Eastern conflicts.



INDEX

SUBJECT	PAGE #	SUBJECT	PAGE #
INDEX	1	ANIMALS AND INSECTS	23-24
WATER	2-3	FIGHTING POSITION	25
HEAT INJURIES	4-5	WIND	26
SLEEPING	6	DUST	27
WAKING UP	7	COLD WEATHER	28
SNAKES/TREATMENT	8-11	LIGHT/NOISE	29
WHAT TO WEAR	12	CAMOUFLAGE	30
MOVEMENT	13-14	PORT OPERATIONS	31
SURVIVAL	15-18	MAINTENENCE	32
COMPASS/ILLUSTRATION	19-20	NIGHT TACTICAL OPNS	33
HELICOPTER SAFFTY	21		
AVIATION	22		

WATER

- When active, leaders need to enforce drinking 2 quarts per hour.
- Don't try to conserve water by not drinking it. (It stores better inside of you).
- Don't go anywhere without your canteens.
- Do carry as much as possible (3 canteens if you can get 'em).
- Drink water whenever you can (you'll tend to drink only 2/3 of what you really need).
- You use less water if you keep your clothes on.
- In desert terrain 9 quarts of water per man per day.

2.

WATER

- . Do not hurry.
- . Do not gulp; drink in small sips.
- . Salt causes increased thirst in water.
- . Drink water even in the absence of thirst.
- . Best containers for small quantities of water (5 gallons) is plastic water cans. Water in plastic cans will be good up to 72 hours, compared to metal which will only be good for 24 hours.
- . Change water in canteen every 24 hours.

NOTE: Leaders, check out you soldier's water and make sure it is cool and still drinkable!

3.

HEAT INJURIES IMPORTANT

-HEAT EXHAUSTION OR CRAMPS:

SYMPTOMS: CLAMMY PALE SKIN
WEAK PULSE, BREATHING RAPIDLY
COMPLAINING OF HEADACHE

FIRST AID: MOVE TO SHADY AREA, LOOSEN AND REMOVE
OUTER CLOTHING AND BOOTS, ELEVATE LEGS,
SLOWLY DRINK ONE CANTEEN OF COOL WATER,
COOL THEM DOWN (POUR WATER ON HIM)
CALL A MEDIC ASAF.

NOTE: You may lose as much as a pint of water per hour by
sweating. In very high temperatures and low humidity,
sweating may not be noticeable because it evaporates so
fast that the skin will appear dry.

HEAT STROKE

-SYMPTOMS: SKINS AS HOT AS HELL, AND DRY TOO. HEART'S
BEATING FAST, AND YOU PASS OUT.

-FIRST AID: PLACE IN SHADE, REMOVE OUTER CLOTHING,
COOL WITH WATER, ALCOHOL, ICE, FANNING.
EVACUATE IMMEDIATELY.

NOTE: The highest known air temperature recorded in deserts
was 136 degrees F. The temperature of desert sand and rock
averages 30 to 40 degrees more than that of the air.

SLEEPING

-When halting for more than an hour, designate a sleeping
area that has a protective perimeter and always let someone
know where you plan to sleep.

-Use ground guides.

-Don't eat in your bed. (It attracts bugs which attracts
spiders and scorpions).

-Sleep off the ground if possible.

-During short halts, sleep in or on your vehicle.

-Hang your clothes and boots up, this keeps insects out.

WAKING UP

-When you awake, move slowly. (SOMETHING LONG AND THIN MAY
BE SLEEPING NEXT TO YOU).

-Look around before you move, (YOU MIGHT STEP ON A SNAKE).

-Shake out your clothes and boots. (SPIDERS AND SCORPIONS
MAY HAVE SET-UP HOUSEKEEPING).

-Before putting clothes on, CHECK FOR CRITTERS.

SNAKES

SNAKES: Don't mess with them at all.
They make bad company, pets,
or friends.

TO PREVENT SNAKEBITE:

-Watch where you sit and
place your hands. Be real
careful in shady areas.

-Avoid areas where snakes
are abundant if possible

-Probe before entering an area

-Watch for snakes

FIRST AID FOR SNAKE BITE

FIRST AID FOR SNAKE BITE: Take no chances and treat all
snake bites as poisonous. Follow these steps:

1. Remain calm, but act swiftly. Call MEDEVAC immediately.

2. Within practical limits, keep the bitten part very
still, below the level of your heart and as cool as
possible.

3. Tie a slightly tight band or tourniquet 2 to 4 inches
toward the heart from where the bite is; you can use a
belt, rag or sock and a stick. Keep moving the band ahead
of the swelling if it moves closer to the rest of your body.
Tie the band tight enough to halt blood flow in surface
blood vessels, but not tight enough to stop the pulse.

FIRST AID FOR SNAKE BITE

4. If you estimate that you cannot get to medical attention within 15 to 20 minutes, make a cut over each fang mark. The cuts should be no more than a half-inch long and one-fourth inch wide. Make them along the length of the bitten limb (parallel).
5. Apply suction to the wound. If a snakebite kit is available, use its suction pump. If none is available, apply suction by mouth, spitting out the blood and other fluids frequently. The venom is not harmful in the mouth, unless there are cuts or sores. Even so, risk is not great. Suction should be kept up at least 15 minutes before loosening the tourniquet.

10.

FIRST AID FOR SNAKE BITE

6. All snakebite victims should be taken to the hospital.
7. If bite is poisonous, and if MEDEVAC is not available, continue the process in item 5.

11.

WHAT TO WEAR

- Don't take off any parts of your uniform.
- Keep a handkerchief around your neck. (It prevents sunburn). Use it to cover your face during a storm.
- Jungle boots should not be worn because sand will sift into them.
- Goggles/sun glasses.
- Wear gloves to prevent first and second degree burns while working on or around vehicles.
- Keep clothing clean, this will kill bacteria.

12.

MOVEMENT

- Move at night, BUT REMEMBER IT IS DANGEROUS.
- Move around brush and dunes.
- Move slowly and carefully.
- Stay off the skyline! (you can be seen for miles when you're on it!).
- Best time to drive in sand is at night or moving when the sand is damp.
- Vehicle loads must be evenly distributed.
- Use rear wheel drive to avoid digging in the front wheels.
- Switch on to all wheel drive or change gears before a vehicle bogs down.

13.

MORE MOVEMENT

- Before crossing a dune, you should climb it on foot.
- Then check the crust for thickness.
- Check the angle of the crest to ensure that the vehicle will not become belled up at the top.
- Check the degree of the slope and softness of the down side.
- If you are satisfied that your vehicle is straight up the dune, you should drive the vehicle straight up the dune at best speed, crest it and maintain a controlled descent on the other side.
- BUCKLE UP
- Carry an extra spare in vehicle. Remember to drive slower over rough ground.

14.

SURVIVAL

If you get lost, here are a few helpful points:

- If you are on foot:
Remain in the same place
- Stay with your vehicle
(it's easier for searchers to find)
- Drink water as usual
- Don't try to hike out
- Make some shade
(poncho)
- Keep calm and rest
(saves water)

15.

MORE SURVIVAL

- Don't go anywhere without water.
- Use the "BUDDY SYSTEM".
- Always make sure your boss knows WHERE you're going, HOW you are going, by WHAT route you are going, and WHEN you are arriving
- The sun rises in the east and sets in the west.
- When departing from your field site, know the direction in which you are departing.
- Attract attention with a fire, mirror, or signal panel.
- You will have at least two vehicles in your traveling party (never dispatch only one vehicle on a mission).

16.

SURVIVAL TRAINING

- Use the "Buddy System"
- Commanders should encourage their soldiers undergoing field training to carry the following:
 - A pocket knife
 - A watch
 - Matches or lighter
 - A yard of strong string or cord
 - Chapstick

17.

VEHICULAR DESERT SURVIVAL KIT

Vehicles should be equipped with the following:

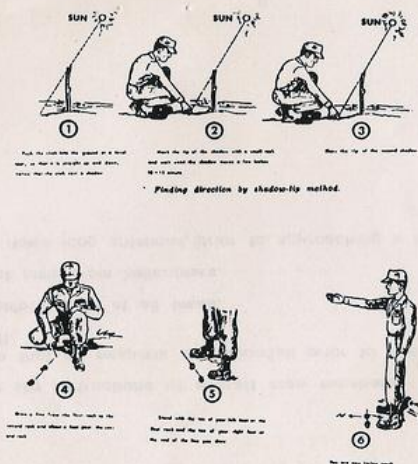
	GO	NO	GO
1. OVE, to include a small tool kit			
2. Flashlight and highway reflector (triangular)			
3. Fire extinguisher			
4. Compass, binoculars and maps			
5. Communications equipment			
6. Shovel, sand ladders and tow rope/ cable (at least 25 feet long)			
7. Five gallons of water per vehicle occupant			
8. Personal food, clothing and equipment			
9. Siphoning hose (1/2-inch outside diameter by 6 feet) and funnel			
10. Slave cables (one for each group of vehicles)			
11. Mounted vehicular air compressor with air reservoir (150 psi) and sufficient air hose			
12. Jack support plate (1' foot by 1 foot piece of metal)			
13. Consumables to include oil, radiator hoses fan belts heavy duty tape, air and gas filters twine, annealed wire			

18.

COMPASS FIELD EXPEDIENT

- Put a stick in the ground; lay a rock at end of the shadow from the stick. Wait 15 minutes, draw a line from the rock to the new end of the shadow. The line represents the east-west line. In the morning, the rock will be the west end; in the afternoon, the rock will be the east end. Illustration on next page.

19.



20.

HELICOPTER SAFETY

- Follow the instructions of aircraft crew members.
- Ensure that all weapons are unloaded prior to boarding the aircraft.
- Use safety belts at all times.
- Do not jump from helicopters.
- Strap down long antennas prior to approaching a helicopter.

21.

AVIATION

- Ensure everyone understands IFF procedures, has same codes.
- Finalize search and rescue procedures early and ensure everyone understands them.
- Use caution when touching aircraft surfaces or metal tools that have been exposed to the sun. Wear gloves and use mats or pads when practical to prevent burns and blisters.
- Run up engines on hard surface such as a landing mat or a sand and dust-free area to prevent sandblasting.
- Drop chem light stick on ground before landing to overcome illusion that aircraft is higher above ground than it actually is.
- Helicopter Landing Areas
 - Communication wires, other lightweight wires, cables, or materials of a similar nature will not be placed in a designated helicopter landing area unless buried.

22.

ANIMAL AND INSECT HAZARDS

- Don't mess with wildlife and don't feed them.
- Desert wildlife is abundant and varied, with most activity taking place at night.
- The desert abounds with a wide variety of nuisance insects, but only scorpions and spiders present a significant hazard.
- Prevention of scorpion and spider bites.
 - Check bedding before use.
 - Check clothing, socks, and shoes before wearing. Soldiers have been stung from wearing inhabited boots.
 - Avoid sleeping or leaving clothes near damp places. Dampness attracts these creatures.

23.

MORE ANIMAL AND INSECT HAZARDS

- If you feel an insect or spider crawling on you, remain still. Sudden movement may cause a bite or sting.
- Never step in the shade of a bush without visually checking that spot.
- Treatment of scorpion and spider bites:
 - Keep patient quiet and send for medical help.
 - The puncture points should be cleansed with an application of a mild antibacterial agent.
 - Cool the area 10 to 12 inches around the puncture point with ice, if available.

24.

FIGHTING POSITIONS

- Blend into the terrain
- Dig your position in the shadows or bushes or big dunes. Remember shadows move with the sun
- Wood shrinks in desert-make sure ax heads are secure before using
- Let the other person know that you are digging so you don't strike them
- Dig in equipment and use overhead cover or camouflage nets to reduce shadows
- Shade optics to prevent shine

25.

WIND

- Sand clogs vehicle air filters so check them regularly.
- Use goggles/sun glasses.
- Fully clothed can prevent injury from sand storms.
- Never leave the group in a sand storm.
- Use a bandanna.
- Take constant compass readings.

26.

DUST

- Dust clouds will give away your position before anything else day or night however, you can use this to spot the enemy (determine location, approximate direction & speed and size).
- Dust and sand are the greatest danger to the efficient functioning of equipment.
- Dust will act as an abrasive, keep equipment clean.
- Tow antitank weapon kicks up an excessive dust signature with its backblast.

27.

COLD WEATHER INJURIES

- Don't stay in thin clothing too late in the day
- Gradually add layers of clothing at night
- Carry your sleeping bag

28.

LIGHT DISCIPLINE & NOISE DISCIPLINE

- Show no matches or unshielded lights at night (even small lights can be seen).
- Loud talking, turned up radios, slamming of vehicle doors & hoods, rattling equipment can give away your position. Even whispers can be heard for long distances especially on desert nights.

29.

CAMOUFLAGE

- Use your poncho and brush to make overhead camouflage
- Dig in to cut down your shadow
- Avoid building anything that makes a shadow (it'll be EASILY spotted from the air)
- Park vehicles so as to make the smallest shadow. Break up the outline of the shadow with brush. Cover shiny parts with canvas or tape.
- Camouflage nets do work in the desert! Use em on tents! Dig into sides of hills or dunes it'll help alot.

30.

PORT OPERATIONS

- Ensure unauthorized personnel are not allowed in off limits areas.
- Establish and enforce no-smoking areas.
- Remind personnel that slippery surfaces are common throughout the port area and to be continuously alert to avoid slipping.
- Remind personnel to clean up all spills as soon as possible.
- Identify nonswimmers and require that they wear personal flotation devices when near water.
- Ensure all personnel are informed that the port is a hard hat area and briefed to remain alert for movement in all directions.

31.

MAINTENANCE

- Heat quickly discharges the stored energy in batteries.
- Vehicle batteries have been found to go dead after relatively short periods of vehicle inactivity (5 to 10 days). Exercise vehicles regularly.
- Track checks
 - Ensure proper PMCS is conducted.
 - Ensure that vehicle suspension is checked for excessive wear and loose, broken, or missing bolts before, during, and after operation.
 - Ensure that tracks are lubed often to flush out sand-grease mixture.
- Ensure that tires are checked often for cuts and wear.

NIGHT TACTICAL OPERATION

- Never travel blind if the road ahead is not visible. Have a dismounted ground guide walk ahead of the vehicle.
- Personnel operating vehicles at night should be thoroughly trained to operate vehicles under night tactical conditions. At a minimum training should include:
 - Dark adaptation and night vision techniques.
 - Ground guiding under night tactical conditions.
 - Sensory illusions at night.
- If operating at night, drivers should be thoroughly trained and tested on the use of night vision goggles (NVG).

32.

LAST PAGE