

TM 55-1680-316-10

This copy is a reprint

**TECHNICAL MANUAL
OPERATOR'S MANUAL
FOR
RIGID SEAT SURVIVAL KIT
NSN 1680-00-223-5759
AND
SURVIVAL VEST
NSN 1680-00-187-5716 and
NSN 1680-00-205-0474
FOR OV-1 AIRCREWS**

"Approved for public release; distribution is unlimited."

**HEADQUARTERS, DEPARTMENT OF THE ARMY
2 SEPTEMBER 1986**

WARNING

Failure to remove the oxygen mask prior to water entry may result in suffocation or drowning.

When inflation of raft is complete, rotate the locking nut until it is snug against the mouthpiece.

Do not board the raft with the lid attached to your backside.

Failure to secure the survival kit to your person may result in the loss of the survival kit.

After securing the raft position, keep the life preserver on; secure raft retaining line to your person, and secure the survival kit to the raft.

If power line contact is unavoidable release both lap belt releases, allowing the survival kit to fall free.

Trioxane fuel is poisonous. Assure proper ventilation when igniting and burning. Avoid skin contact, inhalation of fumes, and ingestion.

Smoke and illumination signal. Do not attempt to ignite both ends of a signal at the same time.

Use care when using the signal as an illumination device. Hot molten residue dripping from the signal can cause serious burns.

If the frying pan is contaminated with trioxane fuel, wash the pan thoroughly before using.

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WARNING

Do not attempt to use the frying pan for cooking when aboard the life raft.

Distress Signals. Personnel. Do not point a loaded flare launcher at personnel. Flares can cause serious injury or death to personnel.

Firing flares at a vertical angle under a no wind condition or upwind during wind operations can result in the projectile (expended casing) returning and striking the operator or other nearby personnel.

Do not allow residue material from the MK-13, Mod O day/night signal smoke flare to drip on the life preserver cell, raft or person.

The pistol holster is designed to be worn snapped to the vest only for ground operations. When flying, the pistol with holster must be stored in the vest pocket.

Set receiver to guard channel 243.0 for initial contact. Do not change channels unless told to do so by rescue personnel.

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**HEADQUARTERS, DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 2 SEPTEMBER 1986**

**OPERATOR'S MANUAL
RIGID SEAT SURVIVAL KIT (RSSK)
AND SURVIVAL VEST(SRU-31P)
FOR OV-1 AIRCREWS**

**REPORTING ERRORS AND
RECOMMENDING IMPROVEMENTS**

You can help improve this manual. If you find any mistakes, or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Equipment Publications and Blank Forms) direct to: Commanding General, U.S. ARMY Aviation Systems Command, AMSAV-MPSD, 4300 Goodfellow Blvd., St. Louis, Mo. 63120-1798. A reply will be furnished to you.

***This manual supersedes TM 55-1680-316-10, 30 April 1975.**

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CHAPTER 1
INTRODUCTION

Section I. General Information



1-1. PURPOSE AND SCOPE

This manual, issued expressly for the OV-1 aircrew members, is the official document for the composite survival kit used with the OV-1 aircraft. The purpose of this manual is to supply the aircrew member with the latest information on kit contents and instructions on their intended uses. For maintenance instructions refer to TM 55-1680317-23 & P. Army Survival Kit Maintenance Manual and TM 4220-202-14 Flotation Equipment Maintenance.

1-2. MAINTENANCE FORMS AND RECORDS

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-751, Functional Users Manual for The Army Maintenance Management System-Aviation (TAMMS-A).

1-3. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR'S)

If your equipment needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about the equipment. Let us know why you don't like the design or performance. Put it on an SF 368 (Quality Deficiency Report). Mail it to us at: Commander, U.S. Army Aviation Systems Command, Attn: AMSAV-MPSD, 4300 Goodfellow Blvd., St. Louis, Mo. 63120-1798. We'll send you a reply.

1-4. DESTRUCTION TO PREVENT ENEMY USE

For instructions applicable to destruction of Army survival equipment, refer to TM 750-244-1-2.

Section II. EQUIPMENT DESCRIPTION

1-5. EQUIPMENT CHARACTERISTICS, CAPABILITIES AND FEATURES

The composite survival kit consists of the Rigid Seat Survival Kit (RSSK) (Figure 1-1) and the Survival Vest Kit (Figure 1-2). The RSSK is designed

for three configurations: hot climate, cold climate and overwater.

1-6. EQUIPMENT DATA

- a. **RSSK DIMENSIONS** (Cold Climate, Hot Climate, and Overwater)
 - (1) Height 9 inches
 - (2) Width 15 inches
 - (3) Length 14-1/2 inches
- b. **RSSK WEIGHTS:**
 - (1) Cold Climate 33 lbs. 2 oz.
 - (2) Hot Climate 33lbs. 2oz.
 - (3) Overwater (1 man raft): 44 lbs.
- c. **SURVIVAL VEST WEIGHTS:** Large and small vest both weigh 7-1/2 lbs.

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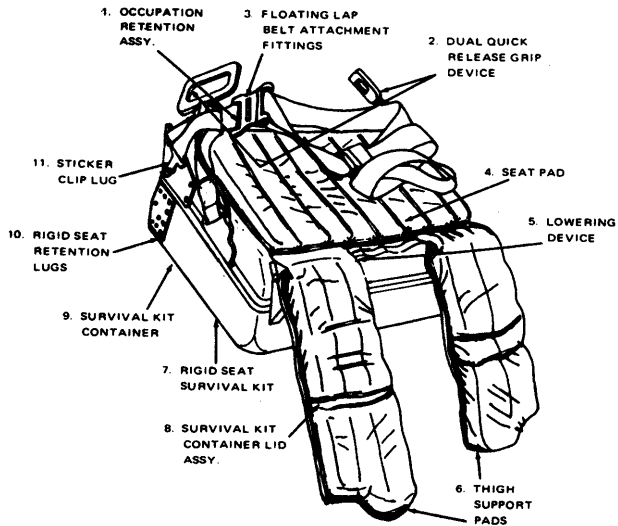


Figure 1-1. Rigid Seat Survival Kit

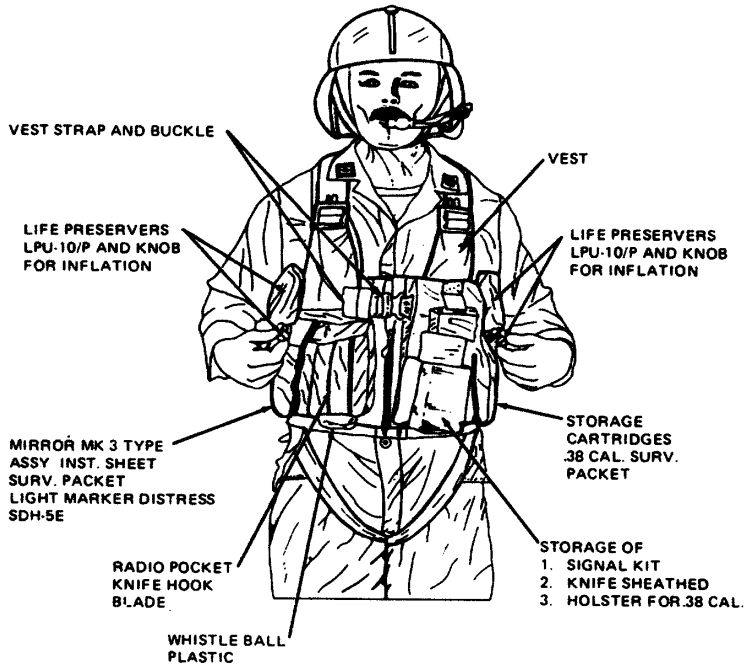


Figure 1-2. Survival Vest Kit

**1-7. LOCATION AND DESCRIPTION OF
MAJOR COMPONENTS****NOTE**

Items listed in callouts for figures of the kits are issued as part of the kit; however, not all are shown on the illustrations. Refer to the applicable Supply catalog for updated items list and authorized quantities.

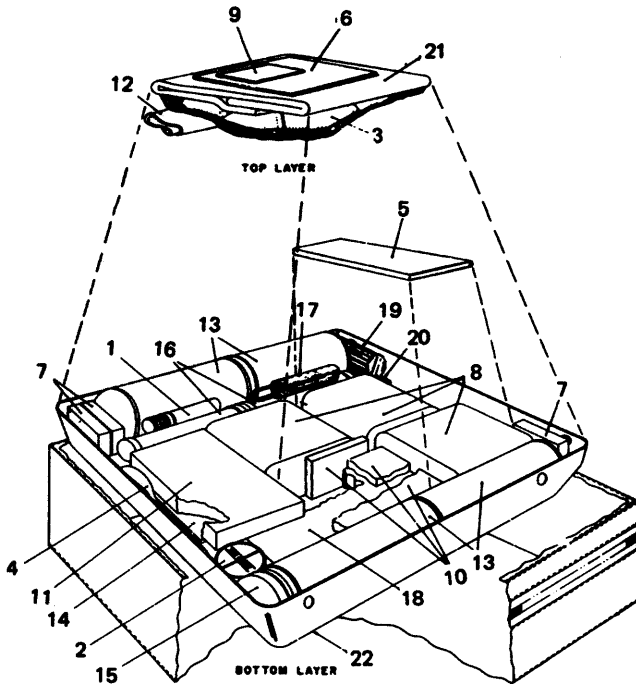


Figure 1-3. Rigid Seat Survival Kit for Hot Climate

Components in the RSSK for Hot Climates:

1. Magnesium Firestarter
2. Magnetic Compass, Type MC-1
3. Insect Head Net
4. Plastic Spoon
5. Survival Manual, AFM 64-5
6. Packing List
7. Wood Matches in Plastic Container
8. Survival Food Packet
9. Operator's Manual
10. Trioxane Compressed Fuel
11. Fishing Tackle Kit
12. Water Bag
13. Canned Drinking Water
14. Saw
15. Sunburn Preventive Preparation
16. Smoke and Illumination Signal Flare
17. Pocket Knife
18. Signaling Mirror
19. Match Container
20. Snare Wire
21. Tarpaulin
22. Frying Pan
23. Equipment Bag

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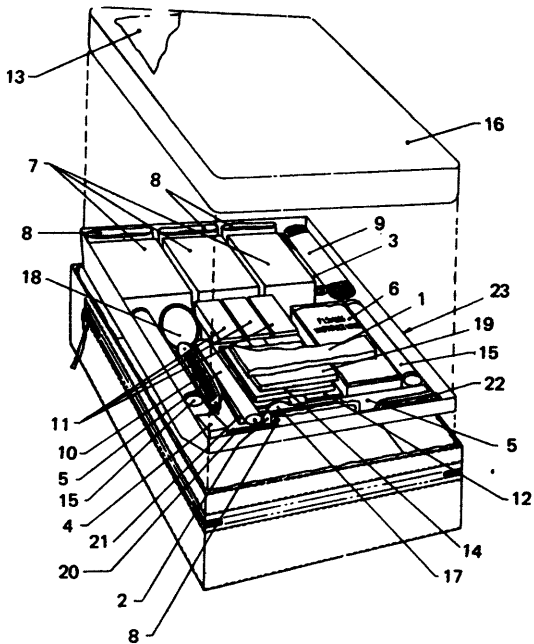


Figure 1-4. Rigid Seat Survival Kit for Cold Climate

Components in the RSSK for Cold Climates:

1. Water Bag
2. Match Container
3. Magnesium Firestarter
4. Magnetic Compass, Type MC-1
5. Candle
6. Fishing Tackle Kit
7. Food Packet
8. Trioxane Compressed Fuel
9. Insect Head Net
10. Pocket Knife
11. Wood Matches in Plastic Containers
12. Signaling Mirror
13. Packing List
14. Saw
15. Smoke and Illumination Signal Flare
16. Sleeping Bag, SRU-1 5/P
17. Plastic Spoon
18. Sunburn Preventive Preparation
19. Operator's Manual
20. Snare Wire
21. Survival Manual, AFM 64-5
22. Survival Manual, AFM 64-15
23. Frying Pan
24. Equipment Bag

Components in the RSSK for Overwater:

1. Packing List
2. Water Bag
3. Reversible Sun Hat
4. LRU-17 Life Raft
5. Dropline Assembly
6. Frying Pan
7. Magnetic Compass, Type MC-1
8. Smoke and Illumination Signal Flare
9. Seawater Desalter Kit
10. Operator's Manual
11. Food Packet
12. Pocket Knife
13. Cellulose Sponge
14. Fishing Tackle Kit
15. Signaling Mirror
16. Sunburn Preventive Preparation
17. Canned Drinking Water
18. Equipment Bag
19. Sea Marker
20. RSSK Container
21. Motion Sickness Tablets

Items 20 and 21 not depicted

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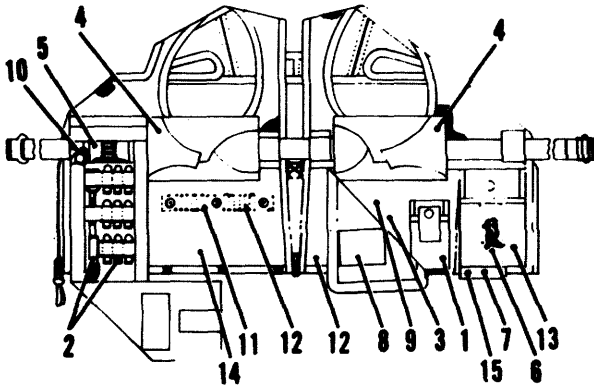


Figure 1-6. Survival Vest Kit

Components in the Vest:

1. SDU-5/E Distress Marker
2. Foliage Penetrating Signal Kit
3. SRU-31/P Medical Packet
4. Underarm Life Preserver
5. Sheathed Knife
6. MS-1 Hook Blade Pocket Knife
7. Signaling Whistle
8. Signaling Mirror
9. Packing List
10. Revolver, Cal. .38 Special
11. Cartridge, Cal. .38 Special, Ball M41
12. Cartridge, Cal. .38 Special, Tracer M41
13. Radio Set
14. GRU-31/P Mandatory General Packet
15. Firestarter, Magnesium, Aviation Survival

1-15(1-16 Blank)

CHAPTER 2 OPERATING INSTRUCTIONS

Section I. Operation Under Unusual Conditions

2-1. BAILOUT AND LANDING INSTRUCTIONS

The Rigid Seat Survival Kit is provided with a dual grip locking device which opens the kit when either handle is squeezed tightly and pulled, giving access to the survival equipment. A seat cushion is attached to the kit by fastener tape hook and pile. The cushion is provided with thigh supports and a personnel lowering device. For detailed information on use of the above equipment during ejection, see the OV-1 Operators Manual TM 55-1510-213-10.

2-2. WATER LANDING INSTRUCTIONS**WARNING**

Failure to remove the oxygen mask prior to water entry may result in suffocation or drowning if you become incapacitated or unconscious due to the mask connector end being under water.

a. During descent, check parachute canopy condition, raise visor, remove oxygen mask and disconnect it from the helmet and CRU 60/P oxygen connector and discard it. Deploy the survival kit, inflate the life preservers and prepare for a water landing. Inflate the life preservers by pulling downward and slightly outward on the activating lanyards attached to the front of each preserver cell. Fasten the velcro tape tabs together. When the RSSK Overwater kit is deployed by squeezing and pulling either or both handles of the Kit, the lower container drops below the aircrew member on a 25 foot dropline. The life raft, attached half way down the dropline, will automatically inflate when the dropline pulls taut. Before water entry and after deploying the seat pan assembly, release one side of your lap belt, which will allow better mobility in the water.

b. When feet touch the water, activate the canopy releases in order to release the parachute.

CAUTION

DO NOT try to activate the canopy releases before the feet touch water. Height judgment is poor at night or overwater.

NOTE

DO NOT try to retrieve the canopy after a water landing.

c. If a water landing is made in high wind conditions canopy release should be as quick as possible to avoid being dragged along the water.

d. If being dragged thru the water, apply the following techniques, as applicable:

(1) **BACK DRAG** - Spread your legs wide apart to stabilize your body. Try and sit up or lean forward to keep your head out of the water while releasing the canopy fittings.

CAUTION

Releasing only one riser may cause you to spin, aggravating your situation.

(2) FRONT DRAG - Flex your body to keep your head above water. Release the canopy fittings. If difficulty in releasing the canopy fittings is encountered, extend one leg and attempt to roll over on your back, then follow procedures for a back drag release.

e. When the parachute landing is made in a no-wind condition, the parachute canopy may settle on top of you. **DO NOT PANIC.** You can breathe under the canopy.

f. If suspension lines become entangled, cut yourself free with the hook blade knife contained in the vest or in the flight suit leg pocket.

g. Locate a gore seam and pull the seam over the head until you are clear of the canopy. Do not kick with your legs as this may cause entanglement with the suspension lines.

h. After clearing the canopy, use the dropline to pull the life raft to you.

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i. If the raft was not inflated during descent, open kit by a squeeze and pull on either handle. After kit is open, pull lanyard that is attached to inflation assembly of CO cylinder and inflate raft.

j. If carbon dioxide cylinder (Item 4, Figure 1-5) fails to inflate the raft, it will be necessary to remove the raft from the container and inflate it by mouth using the oral inflation valve assembly.

(1) Grasp the oral inflation tube (Figure 21) and rotate the locking nut clockwise away from the mouthpiece as far as it will go.

(2) Push the mouthpiece all the way in and inflate the raft.



When inflation is complete, rotate the locking nut until it is snug against the mouthpiece to prevent accidental deflation of the raft.

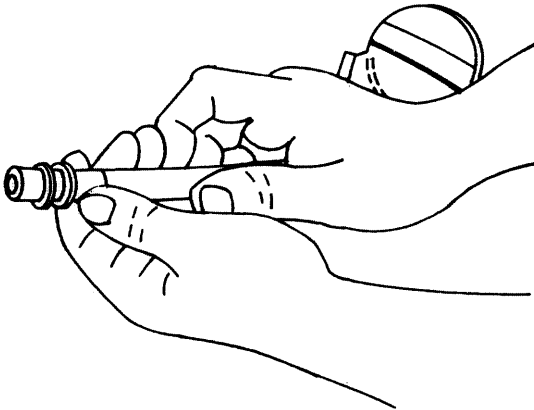


Figure 2-1. Oral Inflation Tube

k. Boarding the life raft may be accomplished by one of the following methods:

(1) Locate the life raft retaining line. The 8 foot line is attached to the inflation bottle and is made of yellow colored 1/2 inch tubular webbing.

(2) Attach the raft retaining line to the parachute harness rescue D-ring (sized harness) or the center chest strap (adjustable harness) by the snap hook provided.

CAUTION

Failure to attach the retaining line to the parachute harness could result in separation from life raft/survival components when the RSSK lid assembly is released.

(3) After the raft retaining line is secured to the parachute harness release both lap belt fittings. This will release the RSSK lid.

WARNING

Do not board the raft with the lid attached to your backside. Boarding the raft with the lid attached can puncture the raft inflation cell or cut the floor material.

(4) Locate the small end of the raft for boarding.

(5) Unhook the life preserver velcro tabs, reposition the cells to the sides of your body, grasp the boarding handles (attached on either side of the raft inflation cell) and pull yourself into the raft.

**CAUTION**

Failure to secure the survival components bag may result in the loss of invaluable signaling devices and survival aids which could prolong your survival situation

(6) Alternately, you may have to push the boarding end of the raft down and grasp the raft inflation cell, pulling yourself into the raft. When wearing the CWU-21/P Anti-Exposure Coveralls ensemble this method proves to work well.

l. Once aboard the raft, right yourself to the sitting position and deploy the sea anchor. Pull the dropline to retrieve the lower container which contains the survival components.

m. Either remove the survival components bag and secure it to the life raft using the dropline or leave it in the lower container. Attach the lower container to a boarding handle of the raft.

n. Check components of the survival kit, giving priority to signaling devices, rations and shelter.

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- o. Using the sponge provided in the survival kit, bail out water trapped in the raft interior.
- p. For extended survival situations the parachute harness may be removed for comfort. Retain the harness, it may prove useful during rescue.
- q. Remove the vest and harness and put on the vest with LPU's. Transfer the raft retaining line attachment to the vest. Always keep the vest on and at least one life preserver cell inflated.
- r. Check the pressure of the raft. If it is necessary to increase the pressure, open the locking nuts of the oral valve and blow through the mouth tube.

WARNING

After securing the raft position, keep the life preserver on; make sure that the raft retaining line is attached to your person and the survival kit is secured to the raft so it cannot drift out of reach if raft capsizes.

NOTE

If the raft should capsize, right it from the side nearest the carbon dioxide cylinder. Reach across the raft and grasp the handle farthest away from the cylinder; then, by sliding back in the water and pulling on the handle, the raft will turn right side up. This method eliminates the chance of the carbon dioxide cylinder hitting you. Note wind direction; righting the raft against the wind is very hard to do.

s. Keep the body well covered with the spray shield provided for protection against the salt water spray, the hot sunrays, and the cold. The hat provided, or helmet, should also be worn.

f. Use the helmet or hat for collecting rainwater or for a bailing bucket.

u. When operating over extremely cold waters (below 50°F.) the cold weather raft will be used in lieu of the standard one man raft.

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(1) Initial activation by gravity drop activates the raft. The cold weather raft has the added features of an inflatable floor and sprayshield. The cold weather raft is designed to provide a fully Insulated shelter against cold water hypothermia.

(2) After boarding the cold weather raft you must manually inflate the floor and spray shield using the oral inflation valves provided.

(3) Inflate the floor using the oral inflation valve until a dimple effect is achieved. This will provide an insulation barrier from the cold water. Valve operation is the same as for the raft flotation cell. Insure the valve is fully closed after inflating the floor.



Over-inflating the floor will cause the raft to ride unstable, which could cause the raft to capsize.

(4) Inflate the spray shield until it is tight. Fasten the velcro closure strips together to keep out water and spray or the cold.

(5) Once the floor and spray shield have been inflated your body heat will warm the raft interior to a comfortable temperature. The cold weather raft will provide a livable shelter, even in frigid arctic waters.

2-3. GROUND LANDING INSTRUCTIONS

WARNING

If power line contact is unavoidable release both lap belt releases, allowing the complete survival kit to fall free. Retaining the kit may entangle you in the power lines. Deploy kit prior to ground impact to prevent injury.

NOTE

If parachute landing is made in high winds, canopy should be released quickly as possible to avoid being dragged along the ground.

a. Upon contact with the ground, the fall should be executed in a fluid and coordinated manner. The five points of the body contact are: balls of the feet, calf, thigh, buttock, and pushup

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muscle (muscle behind the shoulder). These five points of the body contact should follow one another rapidly and in the above sequence. Avoid falling on your knees. Drop your chin to your chest and bring your hands and elbows in front of your head and chest during landing.

b. After landing, remain calm and begin signaling with your survival radio. Retrieve the parachute, if possible.

c. The parachute is an important piece of survival equipment. Instructions on its many uses are given in TM 10-1670-1, which you will find in the survival vest or in the log record in the lower back pad of the parachute harness.

d. Keep survival kit container (Figure 1-1), cushion, lowering device and all kit components intact. The lap belt can be used as a carrying strap or handle when attached to the RSSK.

e. Check components in kit, giving priority to signaling devices, rations, and shelter.

f. Keep all flight clothing for protection against the weather.

(1) Always dress for the environment you are operating in.

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(2) Wear your aircrew sunglasses for eye protection.

(3) Use the helmet for collecting rainwater, as a washbasin, or for head protection when walking through dense foliage, at night, or during a helicopter pickup by a hoisting system.

2-4. TREE LANDING INSTRUCTIONS (Figure 2-2)
--

a. Place the feet and knees together with the toes pointed downward.

b. Cross the arms in front of the face with both elbows high, and position the face in the crook of either the right or left elbow.

c. With the arms covering the face, observation of the landing area can be maintained by looking under the elbow without disturbing the landing position.

d. If firmly hung up in the trees do not try to climb or jump down. Use the personnel lowering device, located in the seat cushion thigh pads, to lower yourself safely to the ground. For training purposes, refer to TM 55-1516-213-10 on the operation of the personnel lowering device.



Figure 2-2. Tree Landing

Section II. Components Common to all Kits

2-5. RSSK COMPONENTS-GENERAL

This section gives instructions for the use of the Rigid Seat Survival Kit (RSSK) components common to all three kits (overwater, cold climate and hot climate).

2-6. WATER BAG (Figures 1-3,1-4,1-5; items 12, 1 and 2)

The water bag is a soft pliable, plastic bag which may be used for storing water accumulated from rainfall or some-other water source

CAUTION

Do not store water in the water bag in below freezing temperatures. When exposed to cold temperature, the water bag will become hard and rigid. Exercise care when removing the bag from the survival kit and do not attempt to unfold the bag until it has been warmed, which may be accomplished by placing the bag next to your body.

**2-7. MAGNETIC COMPASS, TYPE MC-1
(Figures 1-3,1-4,1-5; items 2, 4, and 7)**

CAUTION

When not being used, the magnetic compass must be stored in an upside down position to prevent unnecessary wear on the compass pivots and jewel.

NOTE

The arrow on the compass dial always points to magnetic "NORTH". Items which contain iron or steel and other types of compasses may cause the MC. 1 magnetic compass to give incorrect readings.

The type MC-1 pocket magnetic compass is an important aid for finding the direction of travel. The compass is equipped with a transparent plastic top, a long lubber line for determining directions, and two lanyards attaching rings located on the bottom of the compass case for use in attaching a retaining lanyard. To use the compass, hold the compass erect in a manner which places the lubber line parallel to your line of sight, or in the

fore and aft position to your line of travel. Your course heading may then be read on the top or the side of the compass dial under the forward end of the lubber line.

2-8. FISHING TACKLE KIT (Figures 1-3, 1-4, 1-5; items 11, 6 and 14)

The fishing tackle kit is equipped with hooks, line and artificial lures for catching fish. Instructions for use are furnished with the kit. Supplemental fishing instructions are provided in the survival manual (AFM 64-5 or F M 21-76).

2-9. SURVIVAL FOOD PACKET (Figures 1-3, 1-4, 1-5; items 8, 7, and 11)

The individual survival kit contains 3 survival food packets which are to be used if no other food source is available. The food in each packet is in concentrated form and should only be taken when water is in abundance. Do not eat the soup mix in ocean survival situations.

2-10. POCKET KNIFE (Figure 1-3, 1-4, 1-5; items 17,10 and 12)

The pocket knife is furnished for use as an aid in the cleaning of fish or small game and for light

duty cutting such as small branches for game traps or shelter material.

**2-11. SIGNALING MIRROR, TYPE 1,
MARK 3 (Figures 1-3, 1-4, 1-5;
items 18. 12 and 15)**

The signaling mirror is a glass signaling instrument equipped with a retaining cord on one corner and a see-through sighting device in the center of the glass. When used in daytime and with good visibility, a mirror flash can be seen at a distance of 30 miles at an altitude of 10,000 feet. Though less effective, and with possible shorter range, mirror flashes can also be seen on cloudy days with limited visibility. The mirror can also be used on bright moonlit nights. Procedures for using the mirror are as follows:

- a. Hold the mirror in a manner which will allow the sunlight to reflect on a nearby surface, such as the hand or other close object.
- b. Bring the mirror up to eye level and using one eye, look through the sighting device until an intense bright spot is located. This is the aim indicator.

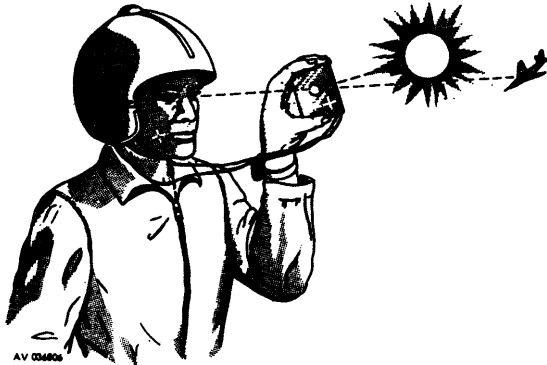


Figure 2-3. Using the Signal Mirror

c. Hold the mirror close to the eye and slowly turn it until the bright spot is on the target (Figure 2-3).

**2-12. PACKING LIST(Figures 1-3,1-4, 1-5;
items 6, 13 and 1)**

The packing list (9 x 12 inches) list and locates the survival components in the Kit. Always refer to the latest Supply catalog for each particular kit for correct authorizations and quantities of components.

**2-13. SMOKE AND ILLUMINATION SIGNAL
FLARE (Figures 1-3, 1-4, 1-5;
items 16.15 and 8)**

WARNING

Do not attempt to ignite both ends of a signal at the same time.

The smoke and illumination signal is a hand activated combination day or night distress signal. One end of the signal device contains orange smoke for daytime use and the opposite end (flare end) contains a pyrotechnic compound for illumination during nighttime use. The flare end of the signal can be identified by a series of embossed projections 1/4 inch below the end cap. The average burning time of the illumination signal is 18 seconds. When in use, each end of the signal can be seen from a distance of two to three miles at an altitude of 3000 feet. To activate the smoke and illumination signal, proceed as follows:

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- a. Remove the cap (either paper or plastic) from either the smoke or illumination end of the signal, as applicable.
- b. Grasp the signal firmly with one hand and hold the signal an arm's length away from the body in a horizontal position with each end of the signal pointed away from the body.
- c. Insert the index finger of your free hand into the pull ring and break the soldered end of the cap free. If the soldered cap does not release, bring the pull ring down over the rim of the can and press down with the heel of your hand, using the ring as a lever to break the seal.

WARNING

Use extreme care when using the signal as an illumination device. Hot, molten residue from the burning signal can cause serious burns on the body or puncture the raft.

CAUTION

Do not use a twisting motion on the pull ring, because it may tear off the pull tab, causing a defective signal.

Use smoke only when rescue aircraft are clearly in sight. In a combat situation, use smoke only as directed by the rescue aircraft.

NOTE

Do not discard a smoke and illumination signal until both ends have been used. The smoke end of the signal device will burn and give off light if activated by a flame.

d. Make a steady, straight horizontal pull until the pull ring and tab separate from the signal. Continue pulling upwards until a full arm's length is reached. Point the activated signal end upward at a 45° angle. Hold the signal down wind, until it burns out.

**2-14. SUNBURN PREVENTIVE PREPARATION
(Figures 1-3,1-4,1 5; items 15,18 and 16)**

The sunburn preventive preparation is in liquid cream form to be applied to the exposed areas of the body to prevent sunburn or windburn.

**2-15. OPERATOR'S MANUAL (Figures 1-3,
1-4,1-5, items 9,19 and 10)**

The manual gives instructions and illustrations for the use of the Rigid Seat Survival Kit (RSSK) Components.

**2-16. FRYING PAN (Figures 1-3,1-4,1-5;
items 22, 23 and 6)****WARNING**

If the pan is contaminated with trioxane fuel powder, wash the pan thoroughly before using. Do not ingest any items contaminated with trioxane fuel.

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The trying pan is teflon coated and may be used for cooking, for collecting rain water, for melting snow and ice, or as a wash basin for personal hygiene. Holes are drilled in the side panels of the pan to allow the insertion of wire or of a small branch for lifting the pan when too hot to handle.

2-17. EQUIPMENT BAG (Figures 1-3,1-4, 1-5; items 23, 24 and 18)

The bag is used to store survival components until they are used. The bag may also be used for storage of foodstuffs.

2-18. RIGID SEAT SURVIVAL KIT CONTAINER (Figures 1-3, 1-4, 1-5)

The container can be kept for storage of food and other items or for collecting rainwater for drinking or for personal hygiene. It can also be used as a seat for comfort.

Section III. Components in the Overwater Kit

2-19. RSSK COMPONENTS-OVERWATER (Figure 1-5)

This section gives instructions for the use of the Rigid Seat Survival Kit (RSSK) components found in the overwater kit.

2-20. DROPLINE ASSEMBLY (Figure 1-5; Item 5)

The laced dropline and personnel lowering device line can be used for game traps, shelter construction, pack straps, raft lacing material and for signaling. For additional information, see AFM 64-5, FM 21-76, or TM 55-1680-317-23 & P.

2-21. CANNED DRINKING WATER (Figure 1-5; Item 17)

Canned drinking water should be conserved and used only where no other source of water is available. Above all, ration food, not water.

2-22. REVERSIBLE SUN HAT (Figure 1-5, item 3)

Always wear the hat with the brim pulled down to protect the eyes and neck from the sun. The hat

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can also be used for signaling, for camouflage, for collecting rain water, or as a bailing bucket.

**2-23. SEAWATER DESALTER KIT
(Figure 1-5; item 9)**

The desalter kit contains 8 packs of chemicals, one plastic bag, and tape for mending holes in the plastic bag. To desalt a bag of water, proceed as follows:

- a. Fill the bag with seawater to the heavy line near the 16 ounce mark.

NOTE

One pack of chemical will purify 16 ounces of seawater.

The first few drops of water may be too salty to drink. If they are, spit them out; the rest of the water should not be salty and should be all right to drink. Unscrew valve at bottom and squeeze gently so the water will run out.

- b. Take one pack of chemicals, remove the outer wrapper, and place it in the bag of water. Reclose the container holding the remaining chemicals.

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c. Check to make sure that the valve on the plastic bag is closed; fold the top of the bag down tightly, roll toward fastener, and snap securely to make a watertight seal.

d. Let the chemical stand in the bag for a few minutes to let it disintegrate, if necessary, pulverize the chemical by kneading gently until it is completely dissolved.

e. Agitate the bag gently for 60 minutes before drinking the water.

f. After drinking, insure that bag is closed securely to conserve the remaining water.

2-24. CELLULOSE SPONGE (Figure 1-5; item 13)

The cellulose sponge is for removing water out of the bottom of the life raft and for gathering drinking water.

2-25. SEA MARKER (Figure 1-5; item 19)

The sea marker dye is contained in a small packet, and can be secured to a person with ties which are attached to the bag. With calm seas and in clear weather, the dye can be seen from a height

of 3000 feet or from a distance of 3 to 5 miles and will remain visible for about 1 hour. Rough seas will dissipate the dye very rapidly; however, and limit its visibility from any altitude. To use the dye, pull the outside tab and disperse in the water. For rapid dispersion of dye, shake the dye packet. Do not use until rescue is imminent. In cases of ground landing, the sea marker can be used in rivers, streams, lakes and on ice. Spreading the dye on snow covered ground provides excellent contrasting color marking.

**2-26. MOTION SICKNESS TABLETS
(Figure 1-5; item 21)**

Take one tablet when you first enter the raft and one every 18 hours thereafter, if needed.

2-27. FISHING KIT (Figure 1-5; item 14)

When using the fishing kit try catching small fish that usually gather in the shadow of the raft and use them for bait to catch large fish.

CAUTION

Clean and cut all fish immediately into thin strips and dry thoroughly in the sun to keep them from spoiling. Do not eat fish that have a very unpleasant odor, flabby skin, or having flesh that doesn't spring back when pressed. Use the knife with care, because it can cut or puncture the raft.

**2-28. DROPLINE AND LOWERING DEVICE
(Figure 1-5; item 5)****CAUTION**

Take care that the RSSK does not puncture any holes in the raft bottom. If problems arise, remove all components and discard the RSSK. Seat cushion can be used as a seat for comfort.

These items can be used to lash the RSSK to the raft, or for making a sea anchor.

Section IV. Components in the Hot and Cold Climate Kits

2-29. RSSK COMPONENTS -HOT AND COLD CLIMATE (Figures 1-3, and 1-4)

This section gives instructions for the use of Rigid Seat Survival Kit (RSSK) components in the hot and cold climate survival kits. Unless otherwise noted, all items are contained in both kits

2-30. MATCH CONTAINER(Figures 1-3,1-4; Items 19 and 2)

The match container is a 2 piece, seamless plastic bodied, full open, screw top can, filled with 4 boxes of strike anywhere matches.

2-31. CANDLE-COLD CLIMATE (Figure 1-4, item 5)

There are five TYPE I or TYPE II illuminating candles in the individual cold climate survival kit which may be used for lighting at night or to give off heat in a small, ventilated shelter. Type I candles are capable of burning for approximately 8 hours and Type II candles approximately 16 hours.

**2-32. TRIOXANE COMPRESSED FUEL
(Figures 1-3, and 1-4. Items 10 and 8)****WARNING**

Trioxane fuel is poisonous. Assure proper ventilation when igniting or burning. Avoid skin contact, inhalation of fumes and ingestion.

The trioxane compressed fuel is in a block form with each block individually wrapped and contained in a paper box which furnishes detailed instruction on use of fuel. The fuel may be used for heating food or as a fire-starting aid when trying to burn green or wet wood and other hard to-burn fuel items.

**2-33. MAGNESIUM FIRESTARTER (Figures
1-3,1-4; items 1 and 3)**

To ignite gathered tinder (paper, leaves, small twigs, bark, etc.), shave narrow side of firestarter with knife blade to accumulate shavings the size of a quarter. Place tinder next to pile of shavings and scrape the entire length of sparking insert rapidly to ignite shavings and tinder.

**2-34. INSECT HEAD NET (Figures 1-3, 1-4;
items 3 and 9)**

The insect head net is a combination net and hat unit used to protect your face and neck from insects. The net is equipped with a drawstring to be drawn snug around the neck and tied. To keep the netting away from the face when the drawstring is to be drawn snug, place a small, -flexible branch inside the net and bend it in a circle around your head. The branch will then lift the net away from the exposed skin of the face and neck.

**2-35. WOOD MATCHES (Figures 1-3, 1-4;
Items 7 and 11)**

The individual cold climate survival kit is equipped with 1 plastic waterproof container of non-safety wood matches. The matches are to be used as a fire starter when you are in need of warmth, when cooking rations, or to produce smoke signals for attracting rescue parties.

2-36. SAW (Figures 1-3, 1-4, item 14)**CAUTION**

Do not exert heavy pressure or put the blade in a bind. This may cause the blade to bend or break.

When using the saw, keep the blade taut by pulling on one arm and the other arm pulls the blade for cutting. Then reverse arm action. Use short strokes and only as many as necessary. The saw may also be attached to a suitable tree limb, acting as a bow, thereby keeping the blade taut and using the tree limb as a handle.

**2-37. SLEEPING BAG, SRU.15/P—COLD
CLIMATE (Figure 1-4, item 16)**

The sleeping bag, Type SRU-15/P, is pressure packed in a waterproof fiberglass container. The container joining seam is sealed with nylon tape. To remove the sleeping bag from the container, begin by unscrewing and removing the wing nut from the bolt in the center of the container. Some containers have a metal rod attached to one side of the container. Use this rod to loosen and remove the wing nut. Upon removal of the wing

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nut, cut the nylon sealing tape by inserting a knifeblade point into the tape on the container joining seam and by cutting the four sides of the container. Remove the container top and remove the sleeping bag from the container. Shake the sleeping bag until the bag filling expands, making the sleeping bag warmer and more comfortable. After use, turn the bag inside out to allow condensation to dry out. The bag is a one time use item and cannot be repacked, but must be replaced if opened.

2-38. PLASTIC SPOON (Figures 1-3,1-4; items 4 and 17)

The plastic spoon is to be used for cooking and eating. Do not place near an open flame or hot metal. Clean it and dry it after use and store it in the original wrapper.

2-39. SNARE WIRE (Figures 1-3, 1-4, item 20)

The brass snare wire is 20 feet long and may be used to construct snares or traps for small game as prescribed by me instructions given in the survival manual (AFM 64-5).

2-40. SURVIVAL MANUALS (Figures 1-3, 1-4; Items 5, 21, and 22)

The AFM 64-5 or FM 21-76 gives instructions and illustrations on how to procure food and shelter in all climatic conditions. The AFM 64-15 (TM 101670-1) gives instructions and illustrations on how to use the parachute system for survival.

2-41. CANNED DRINKING WATER-HOT CLIMATE (Figure 1-3, item 13)

The individual, hot climate, survival kit is equipped with twelve 4 2/3-ounce cans of drinking water which should be conserved for absolute emergencies only. It is recommended that you forage for drinking water before attempting to consume the canned water. Should a can of water be opened but not totally consumed, insure the remaining water within the can is stored in the water storage bag.

2-42. TARPAULIN—HOT CLIMATE (Figure 1-3, item 21)

The tarpaulin is yellow on one side and gray on the other. Rescue signals are imprinted on the gray side and can be reproduced on the around by

folding the tarpaulin in various ways. The tarpaulin can also be used as a shelter and for collecting rain water.

Section V. The Survival Vest

2-43. THE SURVIVAL VEST KIT (Figure 2-4)

The vest is designed to be used in conjunction with the Rigid Seat Survival Kit. It is furnished in two sizes, large and small, and it is made of lightweight raschel knit nylon cloth. The pockets contain the survival components. The SRU-31/P kit consists of two packets, a mandatory medical packet (item 3) found in the left side vest pocket and a mandatory general packet (item 14) located in the right side vest pocket. The kit is designed to supplement the Aircraft Seat Survival Kit. If used properly, the SRU-31/P will help you maintain good physical and mental health until rescued. Each packet has additional storage space for Items which the crew member might deem appropriate and necessary for rescue or survival.

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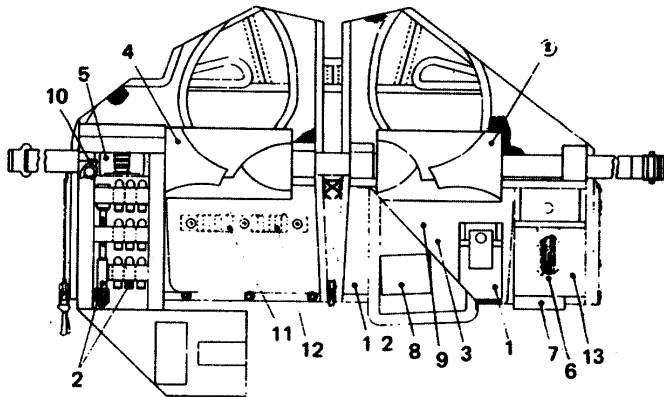


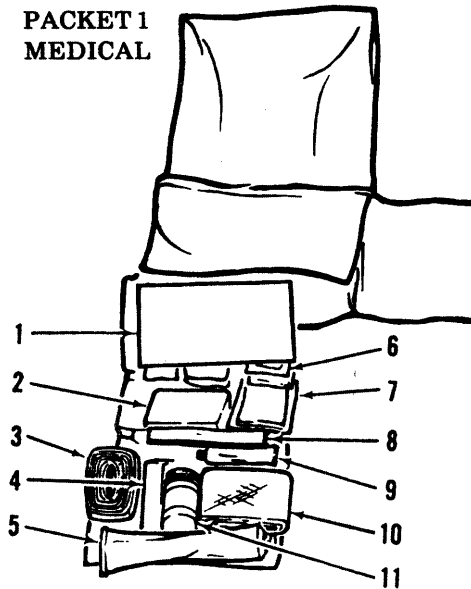
Figure 2-4. Survival Vest Kit

Components in the Vest:

1. SDU-5/E Distress Marker
2. Foliage Penetrating Signal Kit
3. SRU-31/P Medical Packet
4. Underarm Life Preserver
5. Sheathed Knife
6. MS-1 Hook Blade Pocket Knife
7. Signal Whistle
8. Signaling Mirror
9. Packing List
10. Revolver, Cal. .38 Special
11. Cartridge, Cal. .38 Special, Ball M41
12. Cartridge, Cal. .38 Special, Tracer M41
13. Radio Set
14. SRU-31 /P Mandatory General Packet
15. Firestarter, Magnesium, Aviation Survival

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**PACKET 1
MEDICAL**

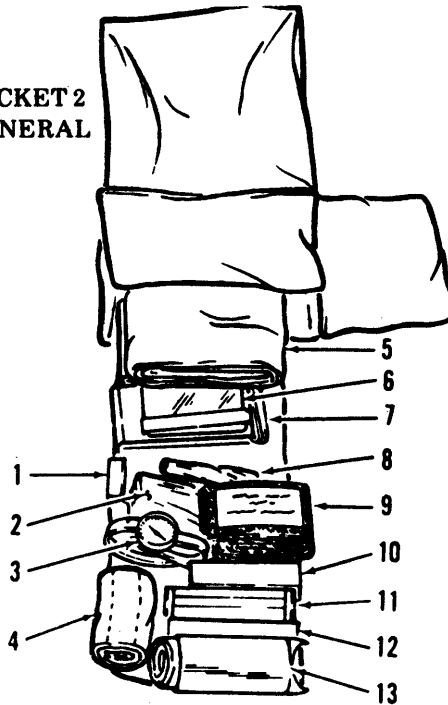


- | | |
|---------------------|---------------------------------|
| 1. Instruction card | 7. Anti-diarrhea |
| 2. Soap | 8. Bandaid |
| 3. Surgical tape | 9. Bacitracin
(eye ointment) |
| 4. Water receptacle | 10. Bandage (elastic) |
| 5. Insect repellent | 11. Water pure tablets |
| 6. Pain killer | |

Figure 2-5. Medical Packet

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**PACKET 2
GENERAL**



- | | | |
|---------------------------|------------------------------------|-----------------------------------|
| 1. Chiclets | 5. Signal panel | 10. Charms |
| 2. Tinder | 6. Mirror | 11. Enerjets |
| 3. Compass (wrist) | 7. Razor knife | 12. Metal match |
| 4. Water bag
(1 quart) | 8. Tweezer and pins | 13. Flashguards (red
and blue) |
| | 9. Mosquito headnet and
mittens | |

Figure 2-5a. General Packet

vest pocket. The kit is designed to supplement the Aircraft Seat Survival Kit. If used properly, the SRU-31/P kit will help you maintain good physical and mental health until rescued. Each packet has additional storage space for items which the crewmember might deem appropriate and necessary for rescue or survival.

2-44. SDU-5/E DISTRESS MARKER (Figure 2-4; item 1) See Figure 2-6.

When activated, the distress marker light produces an intermittent flash of light visible from a minimum distance of 5 miles, operating even when the light is completely submerged in water. The vest is also provided with a flexible flashguard which may be used to direct the light beam. The flash guard is equipped with interchangeable blue and red lenses. The red lens is for transmitting only ultra violet light while the blue lens colors the flashes so they may be distinguished from gun fire flashes. The flexible flashguard is located in the mandatory general packet of the SRU-31/P kit.

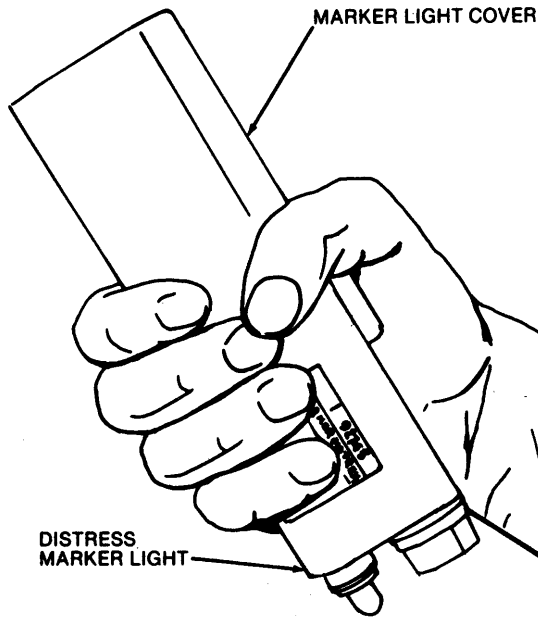


Figure 2-6. Distress Marker

NOTE

In a combat zone, always use the flash guard when activating the distress marker light. Check the marker light for operation before going on a mission.

**2-45. SIGNAL FLARE LAUNCHER
(Figure 2-4; item 2)****WARNING**

Do not point a loaded flare at personnel. Distress flares burn at a temperature of 5000 °F and can cause serious burns. Also, the flare can penetrate the human body at close range.

Firing flares at a vertical angle under a no wind condition or up wind during wind operations can result in the projectile (expended casing) returning and possibly striking the operator or other nearby individual. The expended casing can cause serious injury or death if it strikes an unprotected individual.

The signal kit consists of a rocket launcher and seven red flares. The flares will reach an altitude

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of 1100 feet when climb path is unrestricted and will burn for 9 seconds. They are visible from a distance of 2 to 3 miles in daylight and 10 miles at night. To fire, remove the flare from the plastic holder and insert into launcher. Hold the launcher firmly, point it down wind at an approximate 20 degree angle from vertical, and pull the knurled knob down with the thumb. Release the trigger with a sharp sudden motion.

CAUTION

After installing flare in launcher, do not pull back on knurled knob unless ready to fire

2-46. UNDERARM LIFE PRESERVER (LPU)
(Figure 2-4: item 4)

WARNING

Do not allow residue material from the M K-13, MOD 0 day/night signal smoke flare to drip on the life preserver cells. The flare residue will bum a hole in the cell material and render the cell or cells - unusable.

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Preservers are items of primary importance for survival and are attached to the vest by a strap assembly. Life preservers are inflated by pulling downward and slightly outward on the lanyards that extend from the lower front corner of each container. If they fail to inflate with this method, they can be inflated orally as follows:

- a. Make sure that the inflator levers are locked in the full open position. If not in this position, cells can leak through the inflator vents.
- b. Inflate the preservers through the oral inflation valve.
- c. Do not attempt to close inflator levers after inflation.
- d. After inflation, connect the cells with the adjustable hook and pile tape connectors provided.
- e. Keep life preservers on at all times after! boarding the life raft.

2-47. SHEATHED KNIFE (Figure 2-4; item 5)

The sheathed hunting knife is made of steel and has a 5-inch blade and a leather handle. All metal surfaces, except for the cutting edge, are coated with a noncorrosive, nonreflective material to prevent rust and reflection. The knife is made more versatile by a 2 1/2-inch sawtoothed edge on the reverse side of the blade. A leather sheath with a belt loop and a snap on the handle strap is provided with the knife. The sheath is equipped with a sharpening stone and a length of nylon line for securing the sheath to the wearer's leg. The knife can be used for killing and cleaning game, or for self-defense.

**2-48. MS-1 HOOK BLADE POCKET KNIFE
(Figure 2-4; item 6)**

The MS-1 hook blade knife is intended for cutting parachute suspension lines if, after landing in water, line entanglement should occur. It can also be used to cut roots, to strip bark from small branches, and to cut canopy material. The switchblade portion can be used as would a regular pocket knife.

CAUTION

Do not use the switchblade knife where any great pressure is required for cut tiny or prying. The locking device on the switch blade will give way under pressure and the blade can fold up unexpectedly.

NOTE

Do not use the hook blade as a screw driver. The blade is not designed for twisting pressures and will break rendering the hook blade unserviceable.

2-49. SIGNAL WHISTLE (Figure 2-4; item 7)

The whistle is used for attracting rescue parties at night or in foggy weather. The sound of the whistle can reach a far greater distance than your voice and requires less energy to attract attention to yourself.

2-50. REVOLVER AND CARTRIDGES (Figure 2-4; items 10,11, and 12)

The revolver is a .38 Cal. weapon to be used for protection in a combat zone or for hunting game. The cartridges are 17 rounds of ball ammunition and 6 rounds of tracer ammunition. Tracer ammunition can be used to attract rescue parties. The pistol is carried in the holster and is stored on the left front of the vest (behind the hunting knife).

WARNING

The pistol holster is designed to be worn snapped to the vest only for ground operations. When flying, the pistol with holster must be stored in the vest pocket. The holster may detach from the vest during ejection or ground egress resulting in the possible loss of the weapon.

2-51. RADIO SET (Figure 2-4: item 13)

Survival vests may contain these radios: ARC-RT10, AN/UPC-68 or AN/PRC-90

WARNING

**Set receiver to guard channel 243.0 for initial contact.
Do not change channels unless told to do so by
rescue personnel.**

a. To operate the ARC-AT-10 pull the antenna all the way out until the base ring is visible. This turns the radio set on. To transmit voice, push in the transmit lever, located on the side of the radio, hold the speaker microphone close, and speak in a normal voice. To transmit and monitor tone, push in the transmit lever and hold, then push the tone button down to the stop. The battery provided will operate the receiver-transmitter for approximately 30 hours at 68°F or for 15 hours at 32°F on a duty cycle of approximately 50% transmit and 50% receive. Range of the ARC-AT-10 is line-of- sight operations approximately 20 miles for homing and 10 miles for voice contact.

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b. To operate the AN/UPC-68 pull the antenna all the way out. Turn the ON/ OFF/VOLUME control on and adjust volume as desired. The AN/ URC-68 has 4 preset channels within the frequency-modulation (FM) VHF band of 28 to 42 MHZ and 4 preset channels within the amplitude modulation (AM) UHF band of 230 to 250 MHZ, totaling 8 preset channels.

c. The AN/PRC-90 is a dual channel transceiver operating on 243 OHMZ and 282.8 MHZ (NATO SINGLE SEARCH). It can transmit a beacon tone over 85 miles and voice contact approximately 10 miles (estimates based on a line-of-sight operation). The trans-receiver is equipped with a volume control, an earphone for noiseless reception, and a sidetone monitor to confirm beacon or MCW transmission.



Do not point the antenna of any survival radio in the direction of rescue aircraft. Signals radiate from around the antenna and there is a cone of silence in the direction the antenna is pointing.

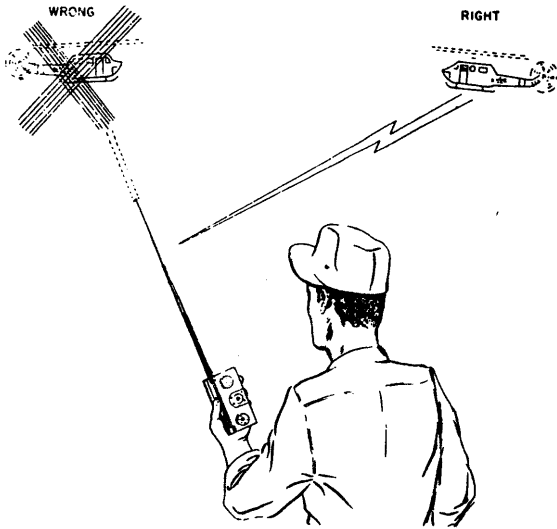


Figure 2-7. Operating Survival Radio

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d. To operate the AN/PRC-90 extend the antenna, rotate the function switch to 243.0 VOICE/MCW, hold the radio as you would a telephone, and depress the talk button to transmit. Speak in a normal tone of voice to avoid distortion. Release the push-to-talk button to receive. For MCW transmission, depress the MCW switch, located on top of the radio, to transmit morse code. For beacon operation, rotate the function to 243.0 BCN mode. In this mode an automatic, continuous distress signal is broad cast. The receive function switch is disabled while operating in the BCN mode. Manually reselect VOICE/MCW and monitor for rescue personnel. Alternate between BCN and VOICE/MCW until contact is established with another aircraft or rescue personnel.

2-53(2-54 blank)

**APPENDIX A
REFERENCES**

AFM 64-5	Search and Rescue Survival
FM 21-76	Survival, Evasion, and Escape
DA PAM 738-751	Functional Uses Manual for The Army Maintenance Management System- Aviation (TAMMS-A)
AFM 64-15	Survival Uses of the
TM 10-1670-1	Parachute
TM 4220-202-14	Flotation Equipment Maintenance
TM 55-1510-213-10	OV-1 Operator's Manual Personnel Lowering Device
TM 55-1516-213-10	Procedures for Use of the Personnel Lowering Device
TM 55-1680-317- 23&P	Army Survival Kit Maintenance
TM 750-244-1-2	Destruction of Army Equipment to Prevent Enemy Use

A-1/A-2 blank

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By Order of the Secretary of the Army:

JOHN H. WICKHAM, JR.
General, United States Army
Chief of Staff

Official:

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Brigadier General, United States Army
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