

TECHNICAL MANUAL



THIS PUBLICATION IS A REPRINT OF BASIC MANUAL

OPERATOR'S MANUAL
SURVIVAL KIT, HOT CLIMATE,
INDIVIDUAL
(NSN 1680 00-973-1861)

HEADQUARTERS, DEPARTMENT OF THE ARMY

28 JULY 1986

***TM 55-1680-349-10**

TECHNICAL MANUAL
No. 55-1680-349-10

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D.C., 28 July 1986

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**SURVIVAL KIT, HOT CLIMATE,
INDIVIDUAL
NSN 1680-00-973-1861**

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, DA Form 2028 Recommended Changes to Publications and Blank Forms), direct to Commander, US Army Aviation Systems Command, ATTN: AMSAV. MPSD, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished directly to you.

*This manual supersedes TM55-8465-213-10, 18 June 1971

TM 55-1680-349-10

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WARNING

PRECAUTIONARY DATA

Personnel performing operations, procedures, and practices which are included or implied in this technical manual shall observe the following instructions. Disregard of these instructions can cause serious or fatal injury to personnel.

INITIAL SURVIVAL PROCEDURES. To prevent head injuries, the aircraft crewmember helmet should be worn when walking through forest areas and during hoisting operations used in rescue helicopter pickup.

SMOKE AND ILLUMINATION SIGNAL. Do not attempt to ignite both ends of a signal at the same time.

SMOKE AND ILLUMINATION SIGNAL. Use extreme care when using the signal as an illumination device, as hot molten residue dripping from the burning signal can cause serious burns on the body.

TRIOXANE COMPRESSED FUEL. Trioxane compressed fuel contains metaformaldehyde, which is highly toxic. Ingestion constitutes a medical emergency. Wash hands immediately after handling opened or leaking packages.

MATCH, NONSAFETY. Matches, nonsafety are to be stored after package is opened in the plastic match container with the match heads resting on the bottom of the container. Matches are to be stored loosely. Failure to comply with these instructions could cause the matches to ignite within the sealed container causing an explosion of the container and possible injury to individuals handling or in close range of the plastic match container.

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CHAPTER 1

INTRODUCTION

Section I. GENERAL INFORMATION

1-1	SCOPE	1-1
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This manual is for your use when, as an aircraft crewmember or passenger, you are required to operate and apply the components of the individual hot climate survival kit in a survival situation. The hot climate survival kit (NSN 1680-00-973-1861) is designed for use on all US Army aircraft except the OV-1 (Mohawk) aircraft. The purpose of this publication is to provide you with a description of the kit contents and brief instructions on the use of each item.

1-2	MAINTENANCE FORMS AND RECORDS	1-2
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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 (EIRs)	1-3
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If your survival kit 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 your 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, US Army Aviation Systems Command, ATTN: AMSAV-MPSD, 4300 Goodfellow Blvd., St. Louis, MO. 63120-1798. We'll send you a reply.

Section II. EQUIPMENT DESCRIPTION

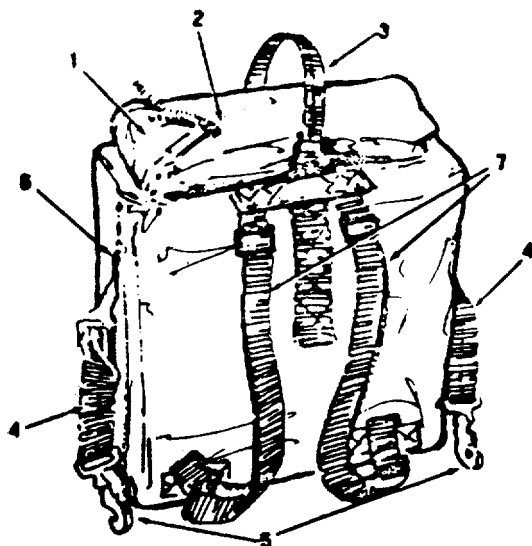
1-4 EQUIPMENT DATA

1-4

Weight 29 pounds
 Height 5½ inches
 Width 15 inches
 Length..... 19 inches

NOTE

In the event of an emergency bailout, the survival kit may be attached to either a back-type or chest-type personnel parachute harness.



- 1. POCKET CLOSING FLAP
- 2. STOWAGE POCKET
- 3. CARRYING HANDLE
- 4. PARACHUTE ATTACHING STRAP
- 5. SNAP FASTENER
- 6. SLIDE FASTENER
- 7. BACK PACK STRAPS

Figure 1-1. The Individual, Hot Climate, Survival Kit Packed

1-5	EQUIPMENT CHARACTERISTICS, CAPABILITIES AND FEATURES	1-5
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The individual hot climate survival kit (figure 1-1) consists of a cotton or Nylon duck outer case which is equipped with a web carrying handle (3), an outside stowage pocket (2) with closing flap (1), two adjustable parachute attaching straps (4) with snap fasteners (5), a slide fastener (zipper) which is used to contain the kit inner case and kit survival components, and back pack straps (7). When the outer case is opened, several of the kit's larger components, the kit packing list, and the inner case are exposed. The kit packing list provides you with the location and identification of each survival component. Access to the remaining kit items is gained by opening the inner case slide fastener.

1-5/(1-6 blank)

CHAPTER 2

OPERATING INSTRUCTIONS

Section I.

DESCRIPTION AND USE
OF OPERATOR'S (KIT)
COMPONENTS

2-1	INITIAL SURVIVAL PROCEDURES	2-1
-----	-----------------------------	-----

a. After a parachute ground-landing, recover the parachute canopy and harness for further survival use as outlined in TM10-1670-1 which is located in the parachute log record and survival manual pocket. On the back-type parachute, the pocket is located on the bottom of the pack inside of the back pad.

WARNING

To prevent head injuries the aircraft crewmember helmet should be worn when walking through format across and during hoisting operations used in rescue helicopter pickup.

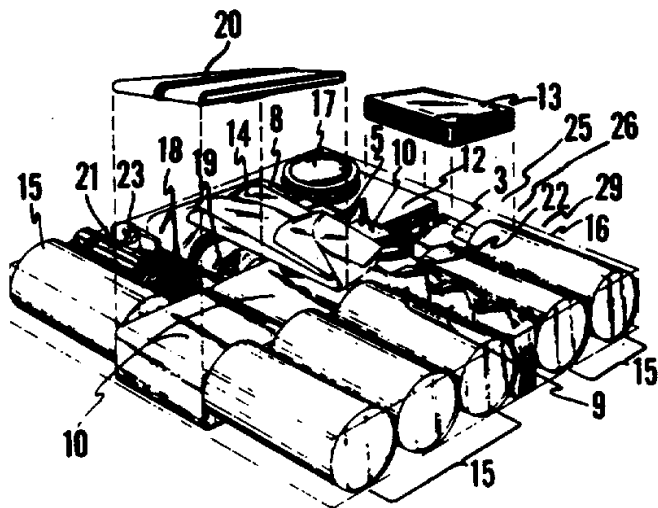
b. For protection against environmental conditions, insure you keep all of your flight clothing and equipment which includes the aircrew helmet and sunglasses.

c. Open the survival kit, check the packing list, and ascertain which items are required for immediate use. It is recommended that priority be given to considering the use of the signaling devices and secure these items within the stowage pocket on top of the outer case. This will allow you immediate accessibility to the signal equipment when required. Remove the signaling mirror and slip the mirror retaining cord over your head to your neck. Unzip the top of your flying suit or jacket and slip the mirror inside the clothing to prevent the mirror from dangling out and being broken.

2-2 KIT ASSEMBLY

2-2

The survival components of the Individual Hot Climate Survival Kit are assembled within the kit inner ease as shown in the tabular listing that follows.



AV036794

INNER CASE

Figure 2-1. The Individual, Hot Climate, Survival Kit Complete Assembly

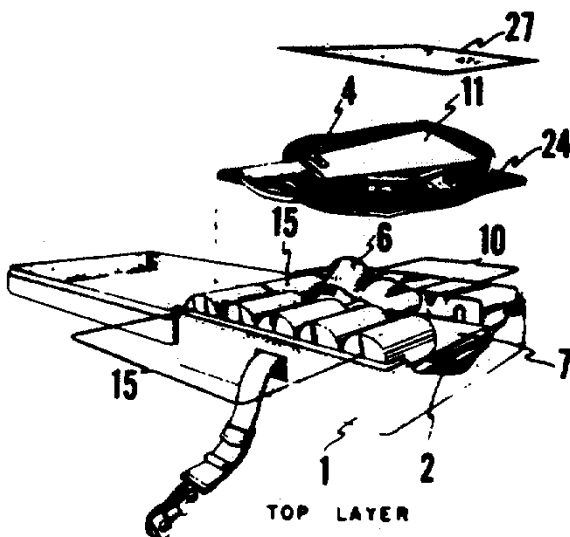


Figure 2-1. The Individual, Hot Climate, Survival Kit Complete Assembly-Continued

Figure 2-1. The Individual, Hot Climate, Survival Kit Complete Assembly-Continued

Key	Item	Function
1	Outer case	Contains the kit inner case.
2	Inner case	Contains small kit components.
3	Magnetic compass	Determines direction of travel.
4	Hat and mosquito net	Protects face and neck from insects.
5	Plastic spoon	Provides aid for cooking and eating.
6	Reversible sun hat	Provides protection from sun.
7	Survival manual	Provides instructions on survival under all survival conditions.
8	First aid kit	Contains medical items and instructions for use.
9	Wood matches	Provides fire for warmth, cooking and smoke signals.
10	Food Packets	Contains food for emergency use.
11	Tool kit	Provides tools for building shelter.
12	Trioxane compressed fuel	Used to heat food; fire-starting aid.

Key	Item	Function
13	Fishing tackle kit	Used to aid in catching fish.
14	Water storage bag	Storing rainfall water or other source.
15	Canned drinking water	Contains water for emergency use.
16	Frying pan	Cooking/wash basin.
17	Sunburn preventive preparation	Provides protection from sun.
18	Smoke and Illumination signals	Provides signals for rescue.
19	Pocket knife	Aids cleaning fish/small game.
20	Signaling mirror	Used to aid in rescue.
21	Waterproof matchbox	Match container, match striker.
22	Snare wire	Construct snare for small game.
23	Plastic ball whistle	Used to aid in rescue.
24	Paulin	Construct shelter: gather rain fall water
25	Fire starter	Aids in starting fire.
26	Saw hand. finger	Aids in shelter construction. grip
27	Blanket. combat casualty	Provides warmth; serves as a signaling device.

Key	Item	Function
28	Packaging list	Provides location/identification.
29	Operator's manual	Provides instructions for using kit components.

Section II. OPERATING PROCEDURES

2-3 GENERAL

2-3

This section provides instructions on the operation and use of all the components contained in the individual cold climate survival kit.

**2-4 SMOKE AND ILLUMINATION
 SIGNAL**

2-4

The smoke and illumination signal is a hand actuated 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 composition for illumination during nighttime use. The illumination end of the signal can be identified by a series of embossed projections located $\frac{1}{4}$ inch below the end cap. The average burning time of the illumination signal is 18 seconds and when used at-night as recommended, it can be seen at a distance of two to three miles from an altitude of 3000 feet. During daytime. the smoke

end of the signal can be seen at a distance of two to three miles at an altitude of 3000 feet. To activate and illumination signal proceed as follows:

WARNING

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

- a. Remove the paper or plastic cap from either the smoke or illumination end of the signal, as applicable
- b. Grasp the signal firmly with one hand and hold the signal close to the chest 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 which shall 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 as hot molten residue dripping from the burning signal can cause serious burns on the body.

CAUTION

When exerting pull on the pull ring do not use a twisting motion as the pull tab may tear off resulting in a defective signal

:

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 and point the activated signal end upward at a 45° angle until the signal has burned out.

NOTE

Do not discard a smoke and illumination signal until both ends of the device have been used. The smoke end of the signal device will burn in an illumination manner providing that once the smoke end has been activated, an open flame is placed against the smoking end.

2-5 SIGNALING MIRROR

2-5

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. 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.
- c. Hold the mirror close to the eye and slowly turn it until the bright spot is on the target, fig. 2-2.

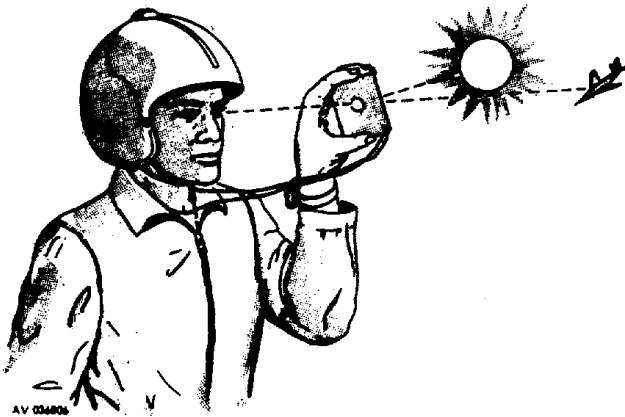


Figure 2-2. Using the signaling mirror.

2-6 SURVIVAL TOOL KIT

2-6

The survival tool kit consists of a combination axe and machete, sharpening stone, and a burning lens. The axe/machete can be used for heavy-duty cutting such as firewood, path clearing or constructing a shelter or raft. The sharpening stone, used to sharpen the axe/machete, is stored along with instructions on use within an inside pocket of the tool kit cover. The burning lens, used to start fires, and instructions for use, are stored in an inside pocket of the tool kit cover.

2-7 PAULIN

2-7

The paulin is an item which can be used as a shelter or to catch rainwater. The paulin is manufactured from a lightweight waterproof material that is yellow on one side and gray on the opposite side. The gray side of the paulin contains instructional data for folding the paulin to form international air rescue signals.

CAUTION

When not being used, the magnetic compass must be stored in and upside-down position to prevent unnecessary wear on the compass pivot 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 a very important aid in ascertaining your direction of travel. The compass is equipped with a transparent plastic top, a long line (lubber line) for determining the directional course reading, and two lanyard 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.

2-9**HAT AND MOSQUITO HEADNET****2-9**

The hat and mosquito headnet is a combination net and hat unit used to protect your face and neck from insects. The net is equipped with a drawstring to allow the net to be drawn snug around the neck and tied. To keep 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.

2-10 PLASTIC SPOON

2-10

The plastic spoon is provided as an aid in cooking and eating of the survival rations. When cooking insure the spoon is not placed near open flame or hot metal. After use, clean and dry the spoon and store it in the original wrapper

2-11 REVERSIBLE SUN HAT

2-11

The reversible sun hat is furnished to protect the eyes and neck from exposure to the sun. The hat can also be used for signaling or camouflage. When being worn, the brim of the hat should be pulled down to achieve the maximum benefits of head coverage.

2-12 SURVIVAL MANUAL

2-12

The survival manual (AFM 64-5 or FM 21-76) is included in the survival kit to provide instructions on survival under all climatic and environmental conditions. Reference the survival manual for all survival methods and practices.

2-13 FIRST AID KIT

2-13

The aviators camouflaged first aid kit contains medical items necessary for applying first aid and instructions on the use of each medical item. Instructions for first aid treatment of injuries are specified in the survival manual (AFM 64-5 or FM 21-76)

2-14 WOOD MATCHES

2-14

The individual hot climate survival kit is equipped with a plastic waterproof container of nonsafety 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. Upon opening the container of matches, insure the container contents are transferred to the waterproof match box for further protection from moisture or damage, and are placed with the heads down.

2-15 FOOD PACKET

2-15

The individual hot climate survival kit contains 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 consumed with water to prevent personal dehydration.

2-16 MATCH BOX

2-16**CAUTION**

When filling match box, place head of matches down to bottom and do not force matches to obtain a snug fit.

The match box is a plastic waterproof container with a screw-type cap which has a striker on the side. When the match box is filled with matches the striker plate should be covered with scrap paper to prevent the matches from being inadvertently ignited when removing or installing the cap on the box.

**2-17 TRIOXANE COMPRESSED
FUEL**

2-17

WARNING

Trioxane compressed fuel contains metaformaldehyde, which is highly toxic. Ingestion constitutes a medical emergency. Wash hands immediately after handling opened or leaking packages..

The fuel is in a block form with each block wrapped and contained in a paper box which furnishes detailed instructions on use of the 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.

2-18 FISHING KIT

2-18

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

2-19 WATER BAG

2-19

CAUTION

When exposed to cold temperatures, 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.

CAUTION

Do not store water in the water bag in below freezing temperatures.

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

2-20 CANNED DRINKING WATER

2-20

The individual, hot climate, survival kit is equipped with twelve 10 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.

2-21 FRYING PAN

2-21

The frying pan is a lightweight teflon-coated aluminum device which may be used for cooking, collecting rainwater, melting snow and ice for drinking water, or as a wash basin for personal hygiene. Holes are drilled in the side panels of the pan to provide a means of inserting a wire or small branch for use when lifting the pan when it is hot.

**2-22 SUNBURN PREVENTION
 LOTION**

2-22

The sunburn prevention lotion is contained in a plastic bottle. This is used for application to the exposed areas of the face, neck, or other parts of the body to prevent or treat sun and wind burn.

2-23 POCKET KNIFE

2-23

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, shelter material, or fire building material.

2-24 SNARE WIRE

2-24

The brass snare wire is 20-feet long and may be used to construct snares or traps for small game as prescribed by the instructions provided in the survival manual (AFM 64-5 or FM 21-76).

2-25 PLASTIC BALL WHISTLE

2-25

The Plastic Ball Whistle is intended for use when an aircrew member is downed and a signal is needed to attract attention of the rescue party or to gather members of the aircrew together.

2-26 FIRE STARTER

2-26

The Fire Starter is a magnesium bar with a sparking insert located on one side. Use a knife or other hard surface to scrape shavings off the magnesium side. Make a pile of magnesium shavings in the center of a nest of tinder. With a knife or other hard metal object, strike the sparking insert side of the bar with a downward motion to create sparks which should be directed into the pile of magnesium shavings. For fire building and maintaining various types of cooking and heating fires, follow the instructions in the survival manual (AFM 65-5 or FM 21-76). If the magnesium bar is inadvertently dropped into the fire, it will not explode or flare up.

2-27 SAW, HAND, FINGER, GRIP

2-27**CAUTION**

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

The saw has a wire saw blade with two finger grip rings for using and has finger screws to adjust the saw blade. When using the saw, keep the blade taut by pulling on one arm as the other arm pulls the blade for cutting. Then reverse the arm action. Use short strokes. If the blade breaks, unscrew the finger grip on the shortest piece and insert the longest piece in the slot. Tighten the thumb screw and continue sawing.

2-28 BLANKET, COMBAT CASUALTY

2-28**CAUTION**

In cold/freezing weather, do not put blanket next to body. It will cause you to sweat and possibly freeze.

The blanket is a versatile piece of survival gear having a multiplicity of uses in an emergency situation, some of which are:

- A protective ground cloth for sleeping and sitting. (Protects from wetness and dampness; some insulation is given if folded several times.)
- A shelter. (Is waterproof and protects from rain, snow, fog as well as sun. Can be spread over a framework constructed from natural materials. Is a fair windbreak if supported by framework.)
- A water collector. (Used in conjunction with a depression dug into the soil; depression is lined with blanket as waterproof water collector.)
- A signal panel. (Ground to air emergency signal.)
- A waterproof cover for injured. (Provides protection from becoming wet.)
- A protective cover for equipment.

- A heat conductor. (Used in conjunction with an open fire; blanket is supported on framework, and individual positions himself between the fire and the reflective surface of the blanket.)

APPENDIX A
REFERENCES

TM 10-1670-1 Survival Uses of the Parachute
TM 10-1670-213-10

Operator's Manual for Parachute
Personnel Types: 28-Foot-
Diameter Back, 28-Foot-
Diameter Chest, and NB-8
Back

AFM 64-5 Search and Rescue Survival
FM 21-76 Survival, Evasion and Escape

TM 55-1680-349-10

By Order of the Secretary of the Army:

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

Official:

R. L. DILWORTH
Brigadier General, United States Army
The Adjutant General

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PREVIOUS EDITIONS ARE OBSOLETE.

P.S.—IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

THE METRIC SYSTEM AND EQUIVALENTS

LENGTH MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
 1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
 1 Kilometer = 1000 Meters = 0.621 Miles

WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
 1 Kilogram = 1000 Grams = 2.2 lb.
 1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
 1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches
 1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet
 1 Sq. Kilometer = 1,000,000 Sq. Meters = 0.386 Sq. Miles

CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches
 1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

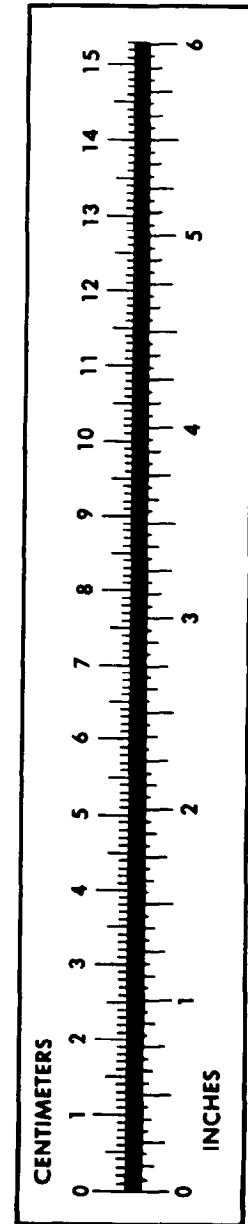
TEMPERATURE

$5/9(^{\circ}\text{F} - 32) = ^{\circ}\text{C}$
 212° Fahrenheit is equivalent to 100° Celsius
 90° Fahrenheit is equivalent to 32.2° Celsius
 32° Fahrenheit is equivalent to 0° Celsius
 $9/5^{\circ}\text{C} + 32 = ^{\circ}\text{F}$

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Quarts	Liters	0.473
Gallons	Liters	0.946
Ounces	Liters	3.785
Pounds	Grams	28.349
Short Tons	Kilograms	0.454
Pound-Feet	Metric Tons	0.907
Pounds per Square Inch	Newton-Meters	1.356
Miles per Gallon	Kilopascals	6.895
Miles per Hour	Kilometers per Liter	0.425
	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Grams	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pounds-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	Miles per Hour	0.621



PIN: 060129-000