

Figure 115. Parachutist removing locking forks.

for a right turn or the right front and left rear riser for a left turn.

Note. Slips to the front are made by pulling down both front risers. Slips to the rear are made by pulling down both rear risers.

(3) *Maneuvering Upwind (Holding).* To hold into the wind, rotate the canopy until the orifice is on the downwind side (fig. 116). Manipulate the risers to keep the copy in this position.

(4) *Maneuvering Downwind (Running).* To maneuver the canopy downwind or run with the wind, rotate the canopy until the orifice is on the upwind side (fig. 117). Manipulate the risers to keep the canopy in this position.

(5) *Maneuvering while holding into the wind (crabbing).* To crab to the right or left while holding into the wind, rotate the canopy slightly to the right (left), and note the de-

gree of rotation. Rotating the canopy too far may cause it to become "wind cocked" and move in the direction of the wind. As the canopy begins to move in the desired direction, manipulate the risers to keep it in this position until the maneuver is complete (figs. 118 and 119).

(6) *Maneuvering while running with the wind (crabbing).* To crab to the right or left while running with the wind, rotate the canopy slightly to the right (fig. 120), or left (fig. 121). Manipulate the risers to keep the canopy in this position.

d. *Landing.* At approximately 200 feet above the ground, the parachutist will turn his canopy so that he is facing (holding) into the wind with both risers centered, and will remain in this position until impact with the ground.

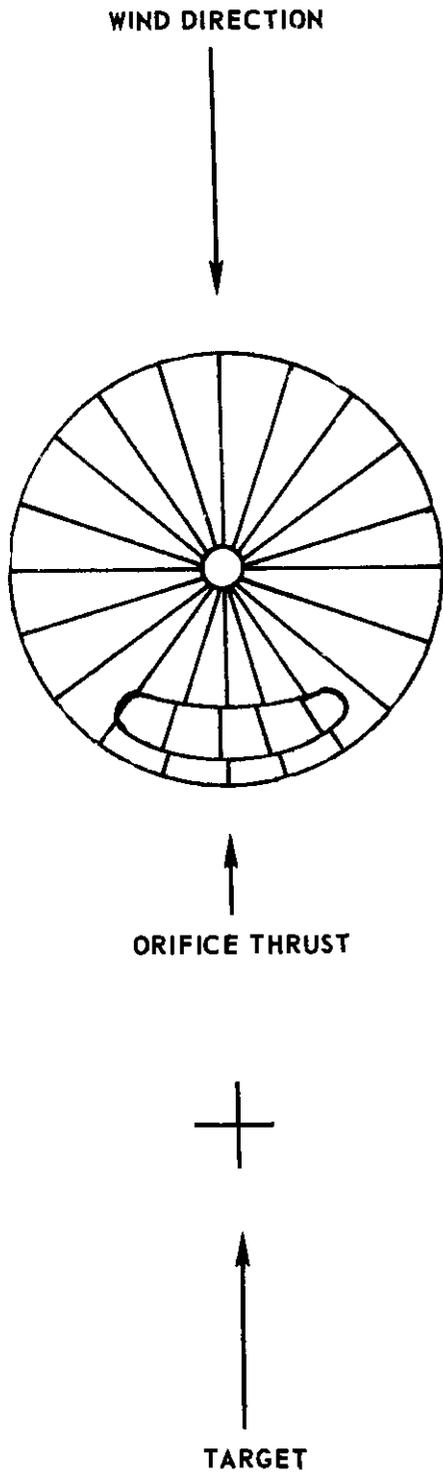


Figure 116. Holding maneuver.

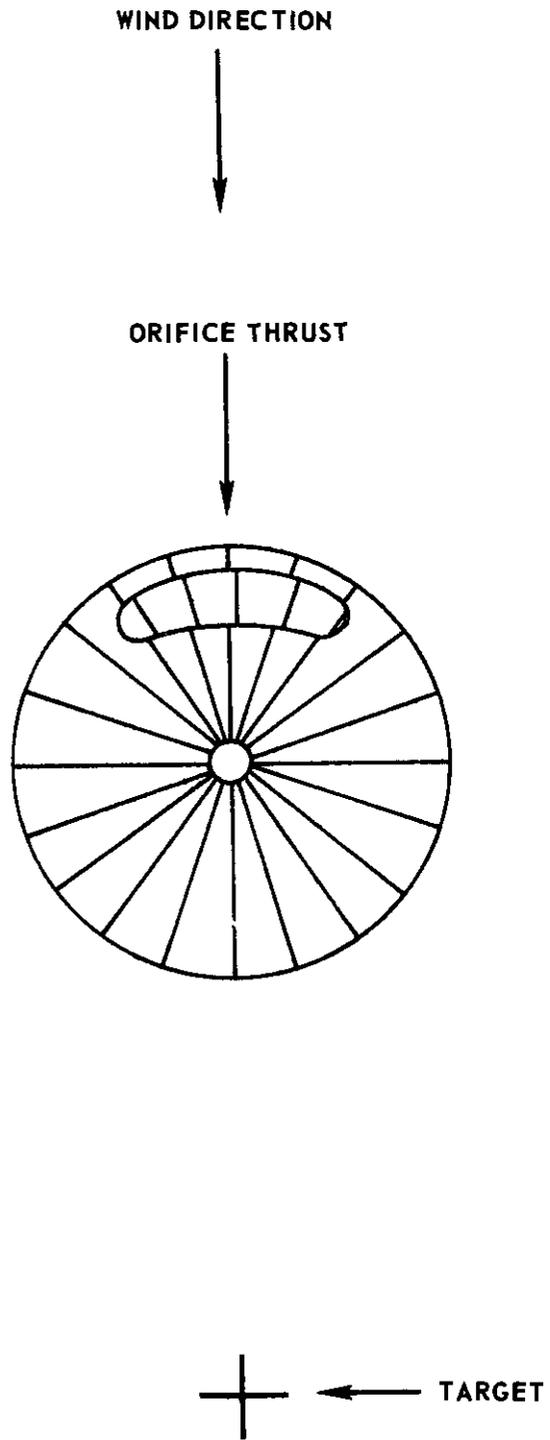


Figure 117. Running maneuver.

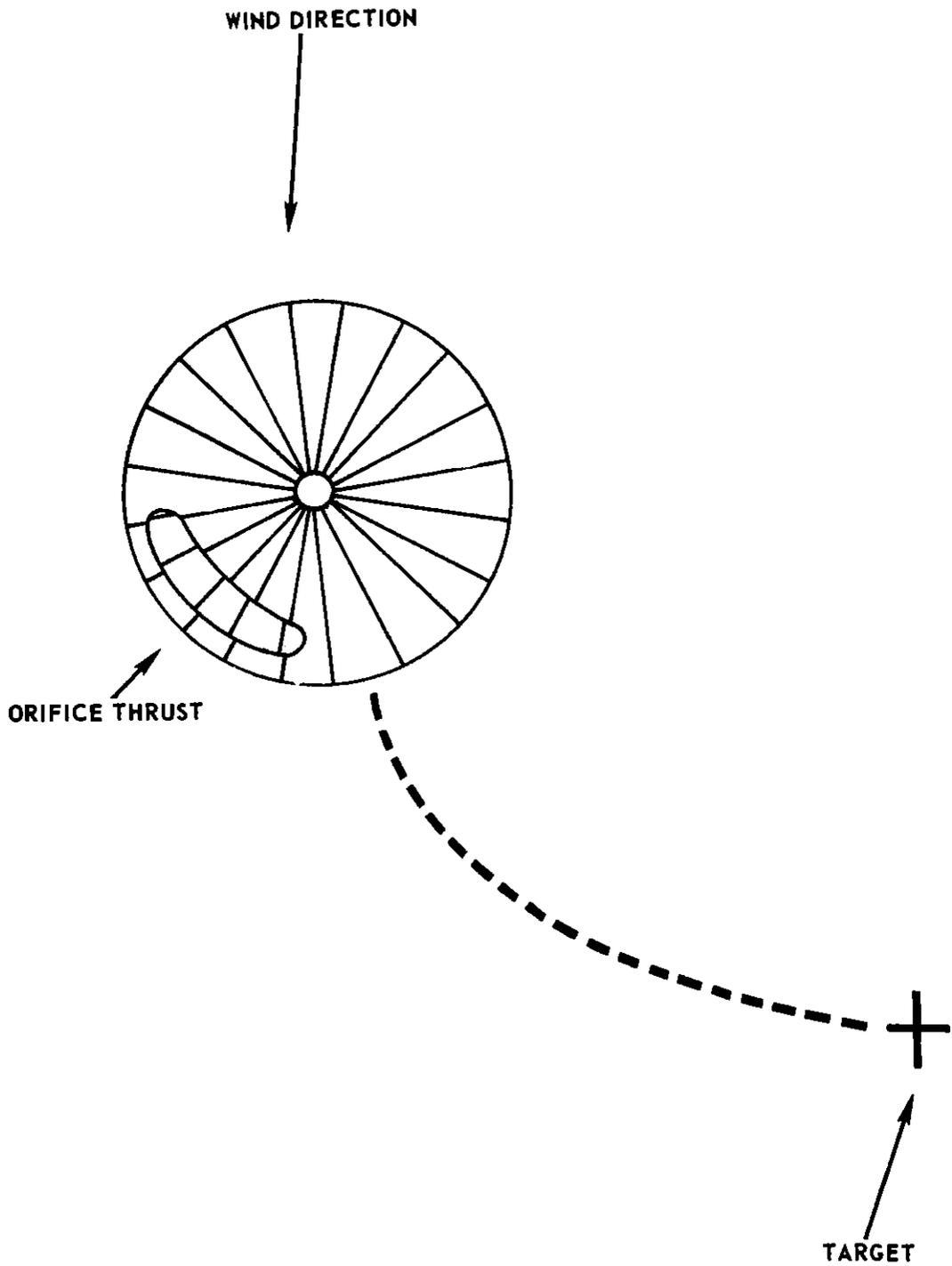


Figure 118. Crabbing right while holding.

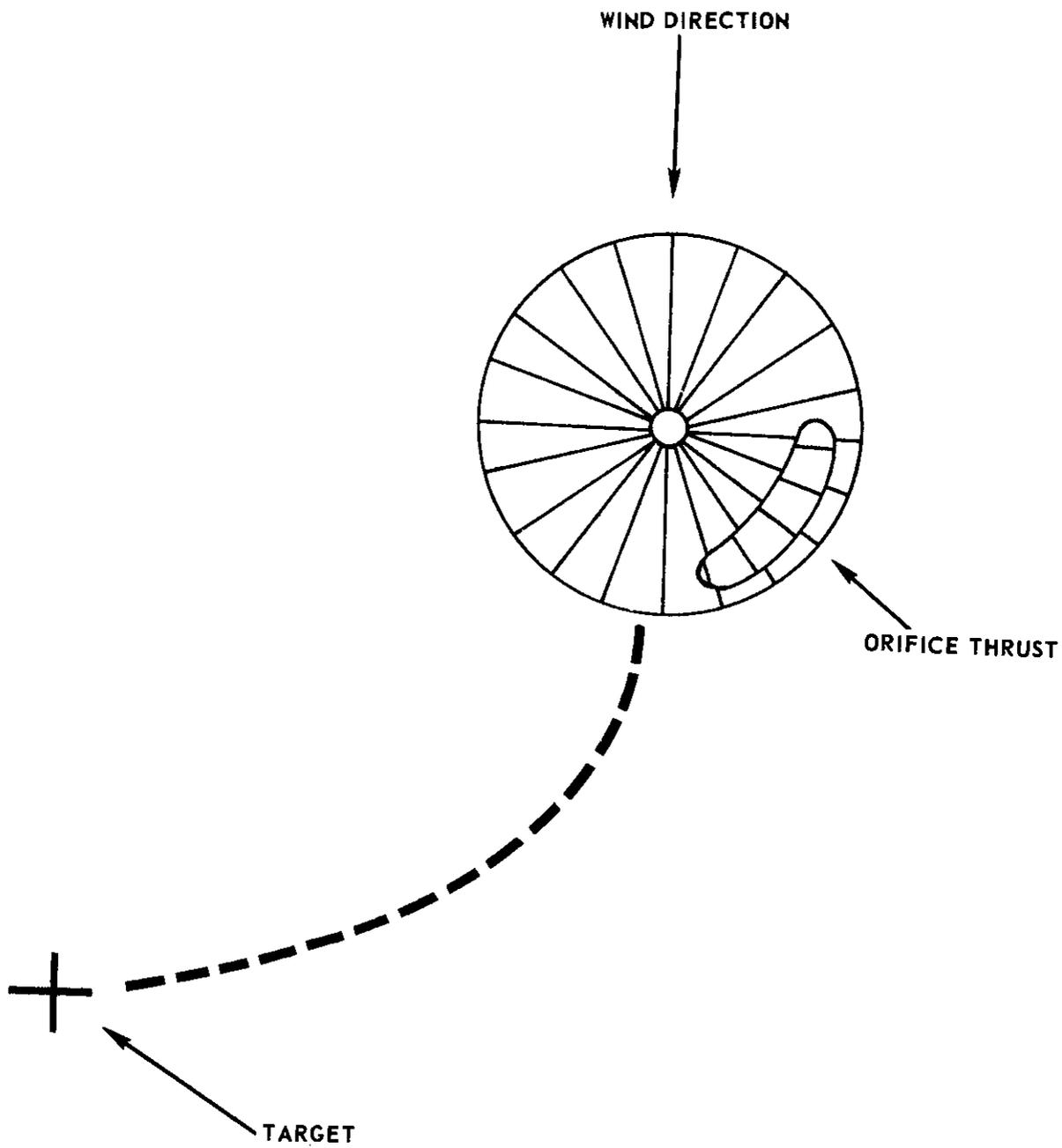


Figure 119. Crabbing left while holding.

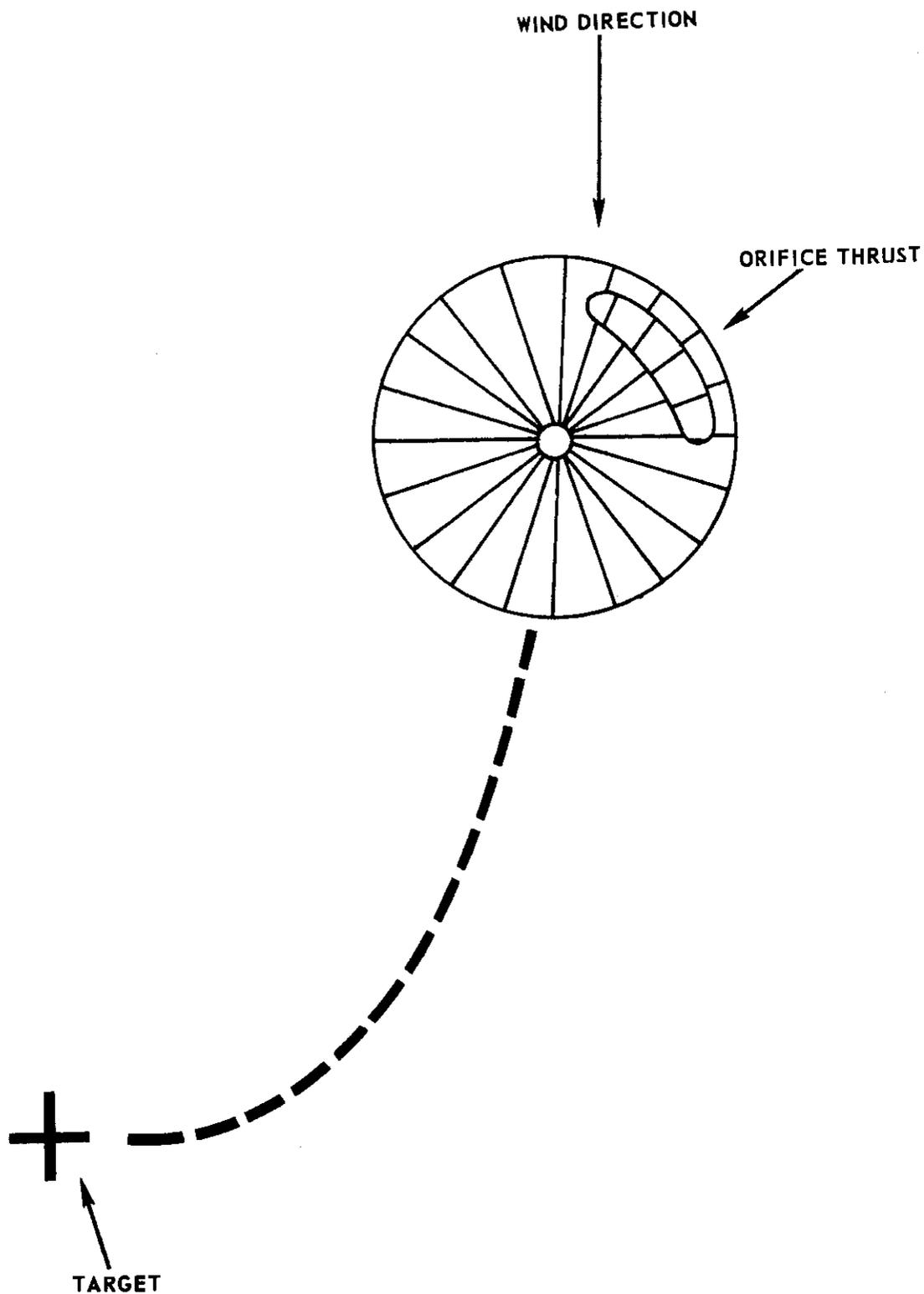


Figure 120. Crabbing right while running.

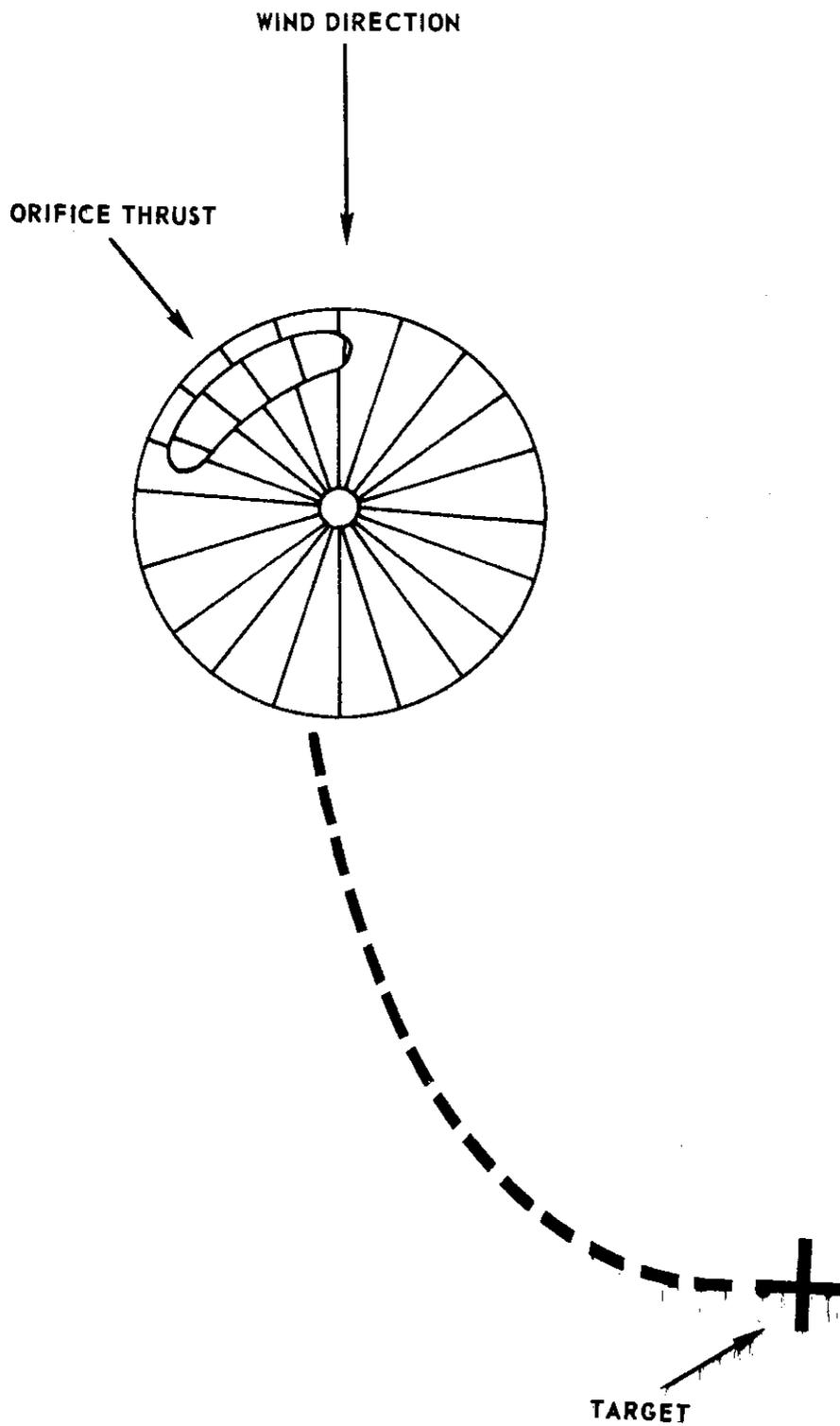


Figure 121. Crabbing left while running.

Section III. T-10 RESERVE PARACHUTE

156. Construction and Nomenclature

The T-10 reserve parachute is a troop-chest, manually operated, emergency-type parachute designed to be activated by the parachutist in the event his T-10 troop-back personnel parachute malfunctions. The reserve parachute consists of a pilot chute, a canopy assembly, a pack assembly, and a ripcord (fig. 122).

a. Pilot Chute. The pilot chute assists in the deployment of the parachute canopy by serving as an air anchor. The spring-activated chute is released by a manually operated ripcord. The pilot chute consists of a 3-foot 4-inch diameter octagonal nylon canopy panel,

eight nylon suspension lines, and a spring activated umbrella-type opening frame with four frame ribs. The suspension lines form a connector loop which is attached to the parachute canopy by means of a bridle line.

b. Canopy Assembly. The canopy assembly consists of a 24-foot diameter flat circular nylon canopy. The canopy has 24 suspension lines 20 feet in length and 24 gores. The canopy is constructed of 1.1-ounce rip-stop nylon parachute cloth.

Note. T-7A parachute canopies, some of which are still in use, have suspension lines of 16 feet, 10 inches.

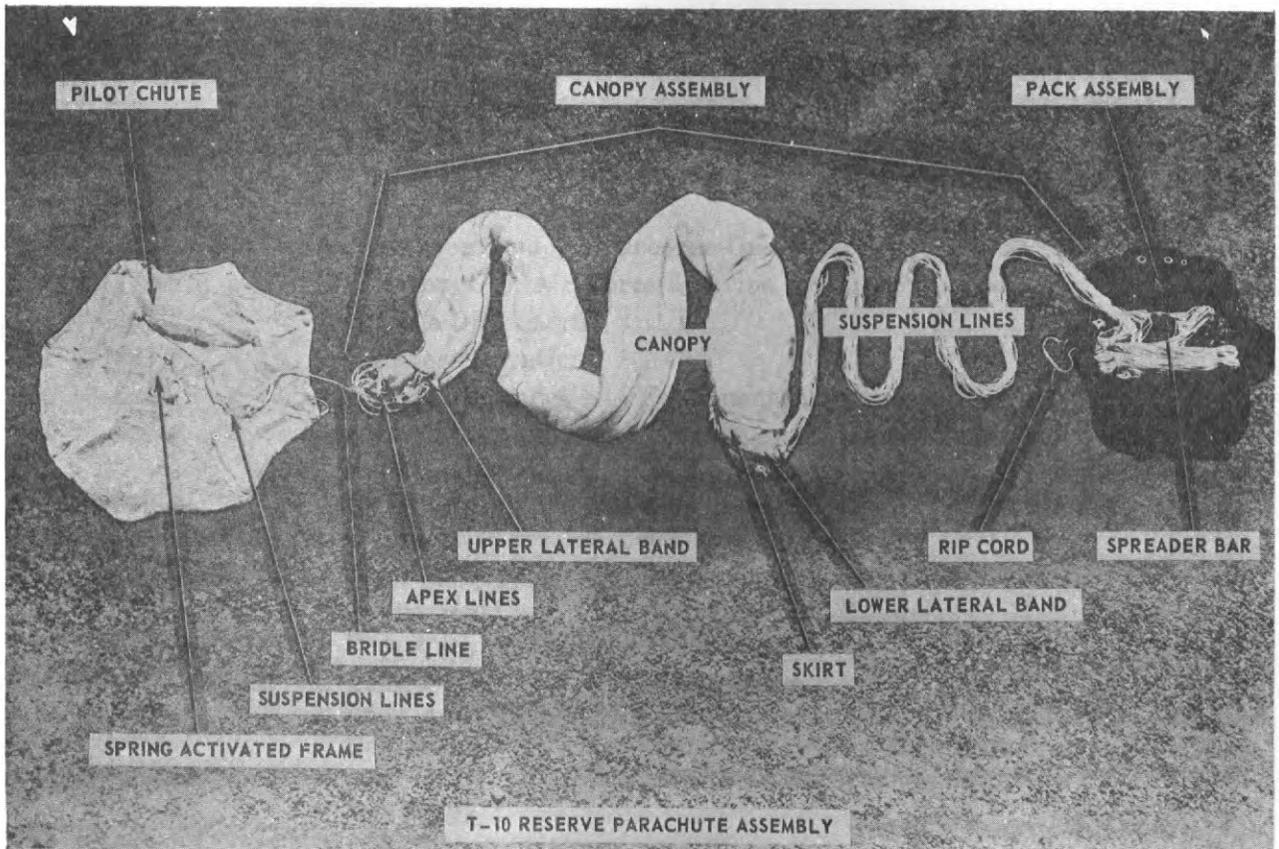


Figure 122. Reserve parachute assembly.

c. Pack Assembly. The pack assembly consists of two major parts: the main panel and the bottom and end panels. The pack is kept closed by two locking pins running through

cones fastened to one side flap and inserted through grommets on the other side flap and the end flap parachute pack fasteners. The pack flaps are pulled open by three pack-open-

ing spring bands. The assembly has two end handles and one side handle (top carrying handle). Attached to the right connector snap is a lanyard and safety pin.

Note. New packs do not have a right carrying handle.

d. Ripcord. The ripcord consists of a clover-leaf shaped grip, and a cable with two locking

pins attached. When the locking pins are withdrawn from the cones, the side and end flaps of the pack spring apart and the spring-activated pilot chute is ejected.

157. Use of Reserve

Use of the reserve parachute is discussed in paragraph 38.

APPENDIX A

REFERENCES

AR 95-15	Aerial Flights; Piloting Aircraft; Parachute Jumps
AR 611-7	Selection and Processing of Volunteers for Airborne Training and Assignment
AR 672-5-1	Awards
FM 21-5	Military Training Management
FM 21-6	Techniques of Military Instruction
FM 21-15	Care and Use of Individual Clothing and Equipment
FM 21-20	Physical Training
FM 21-30	Military Symbols
FM 21-60	Visual Signals
FM 31-70	Basic Cold Weather Manual
FM 31-71	Northern Operations
FM 57-10	Army Forces in Joint Airborne Operations
FM 57-1/AFM 2-51	U.S. Army/U.S. Air Force Doctrine for Airborne Operations
FM 57-35	Airmobile Operations
FM 57-38	Pathfinder Operations
TM 10-500	Airdrop of Supplies and Equipment: General
TM 10-500-2	Airdrop of Supplies and Equipment: Rigging Loads for Airdrop From C-119 Aircraft
TM 10-500-5	Airdrop of Supplies and Equipment: Using CV-2B Caribou airplane and Combat-Expendable Platforms
TM 10-500-6	Airdrop of Supplies and Equipment From Army Aircraft
TM 10-1670-213-23	Organizational and Field (3d Echelon) Maintenance Manual: Parachute, Personnel, Troop-Back, 35-foot Diameter Nylon Canopy (Type T-10)
TM 10-8465-203-23	Organizational and DS Maintenance Manual Including Repair Parts: Pack and Harness Assembly, Parachutist's Weapons and Individual Equipment (FSN 8465-753-6549); Case, Parachutist's Individual Weapons (FSN 8465-261-4995); Bag, Parachutist's Equipment (FSN 8465-889-3719)
TM 57-210	Air Movement of Troops and Equipment
USCONARC TT 110-101-1/TACM 55-2	Joint Airborne Operations

APPENDIX B

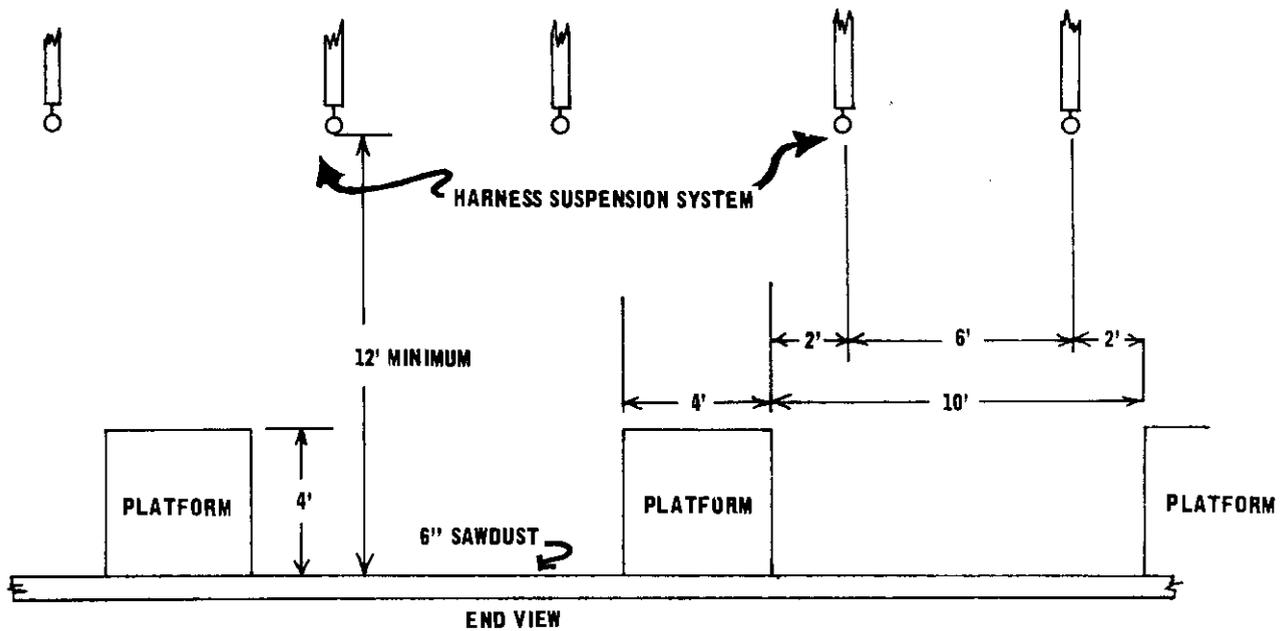
GENERAL DATA TRAINING APPARATUS

1. Purpose

This appendix contains drawings (not to scale) of the different types of training apparatus used in a basic airborne course. The drawings give only the general dimensions of the apparatus and should not be used as a construction blueprint.

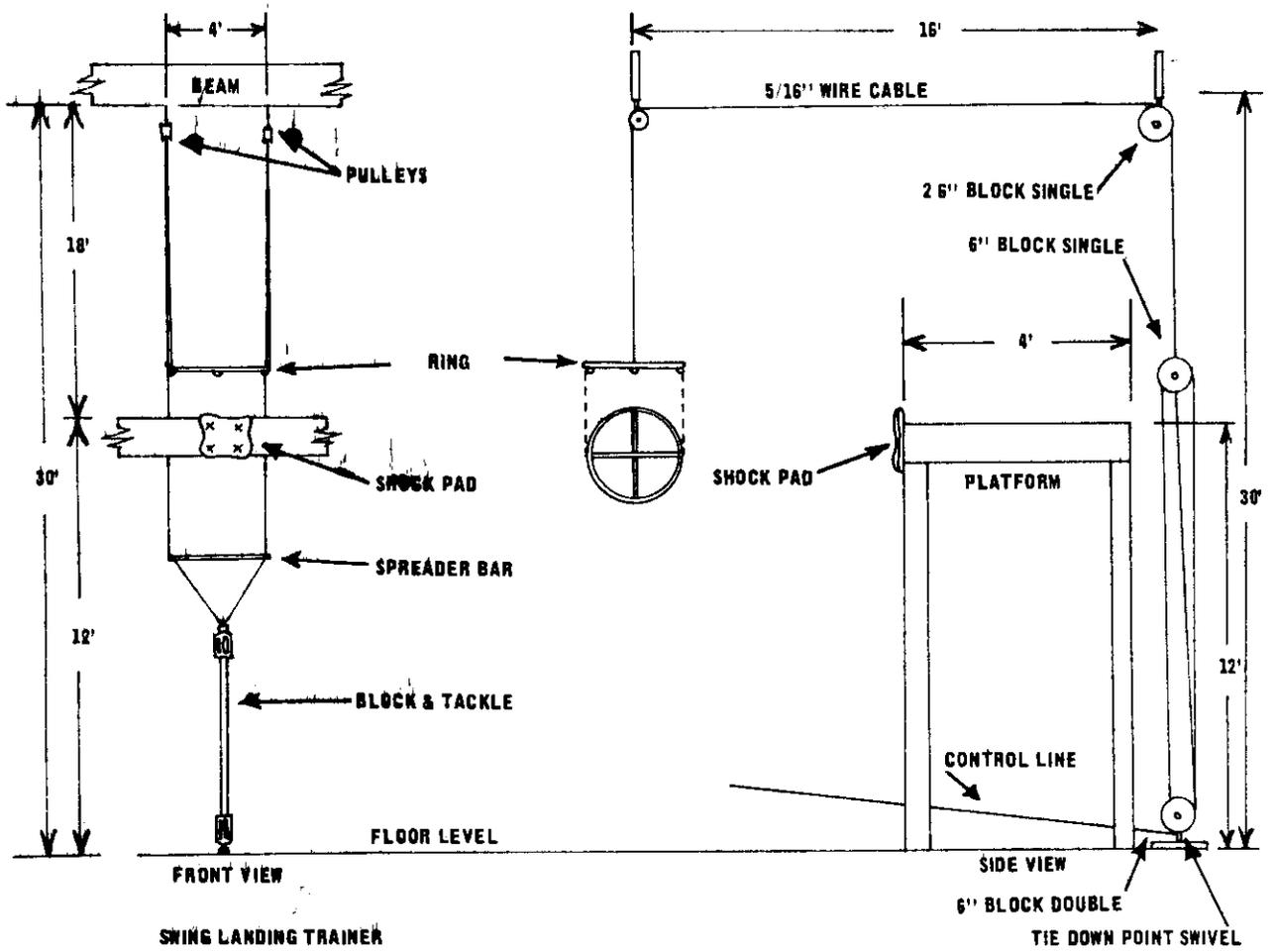
2. Training Apparatus

- a. Suspended harness (fig. 123).
- b. Swung landing trainer (fig. 124).
- c. Parachute landing fall platforms (fig. 125).
- d. The 34-foot mock tower (fig. 126).
- e. Mockup of C-119 (Packet) (fig. 127).
- f. Mockup of C-130 (Hercules) (fig. 128).

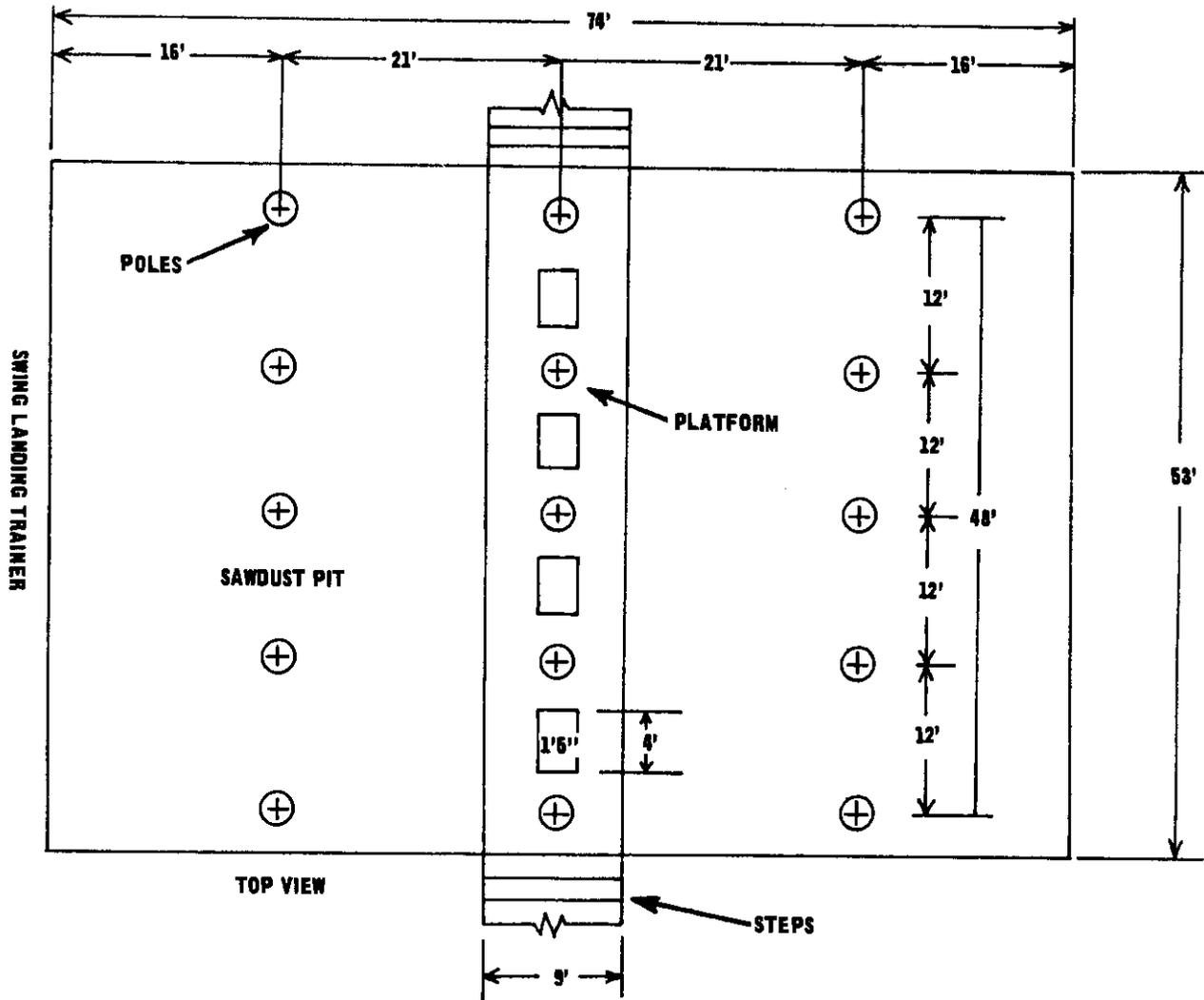


SUSPENDED HARNESS APPARATUS

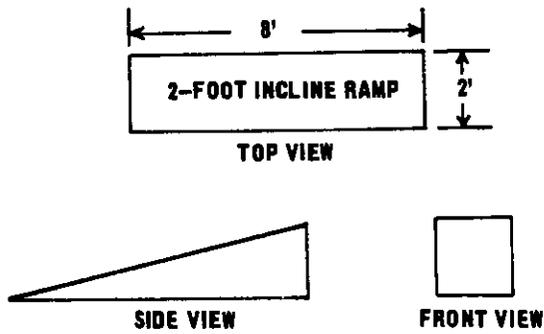
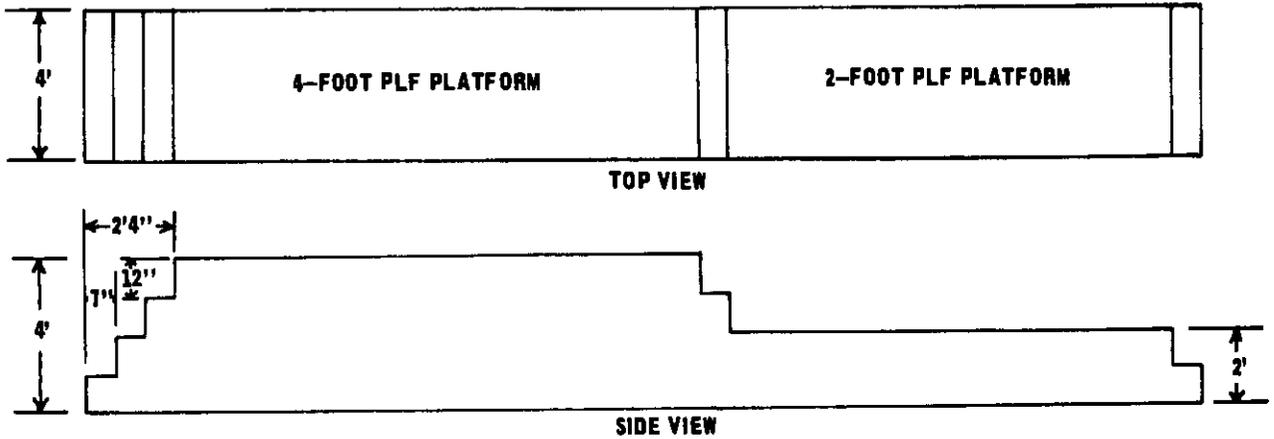
Figure 123. Suspended harness.



Side view
 Figure 124. Swing landing trainer.



Top view
 Figure 124—Continued.



PARACHUTE LANDING FALL PLATFORMS

Figure 125. Parachute landing fall platforms.

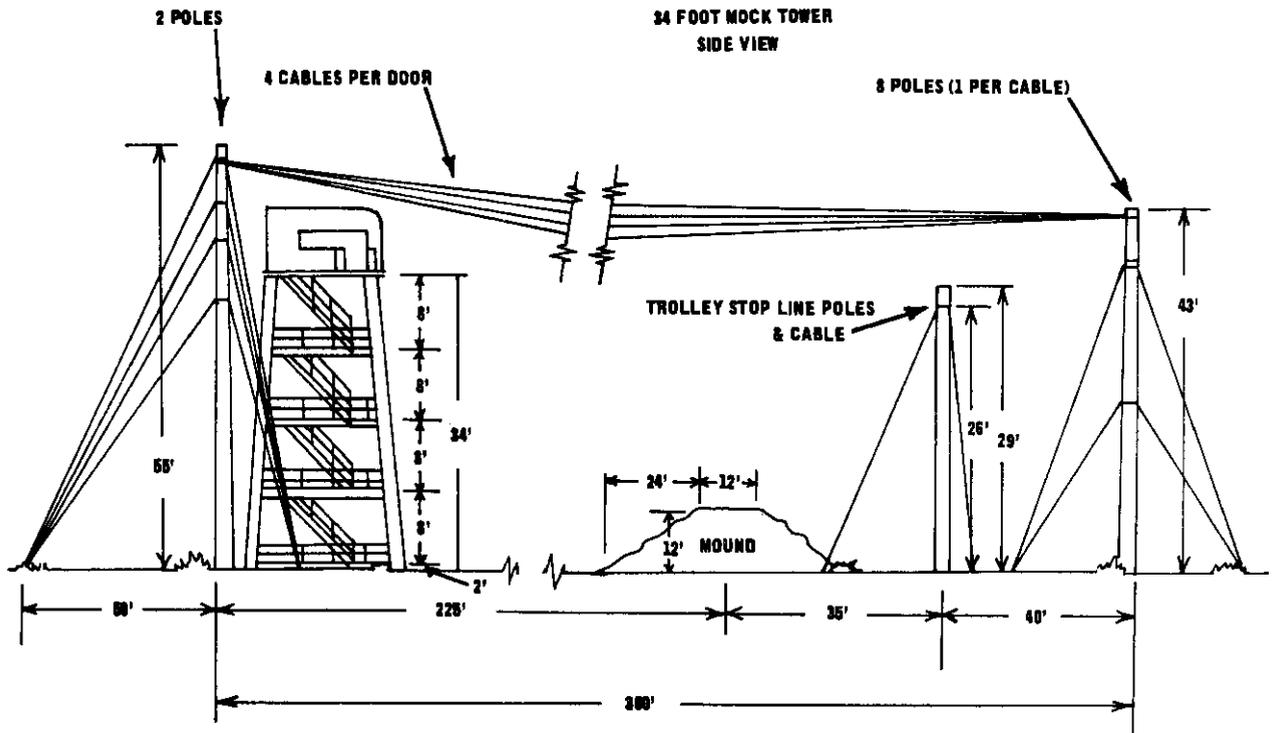


Figure 126. The 34-foot mock tower.

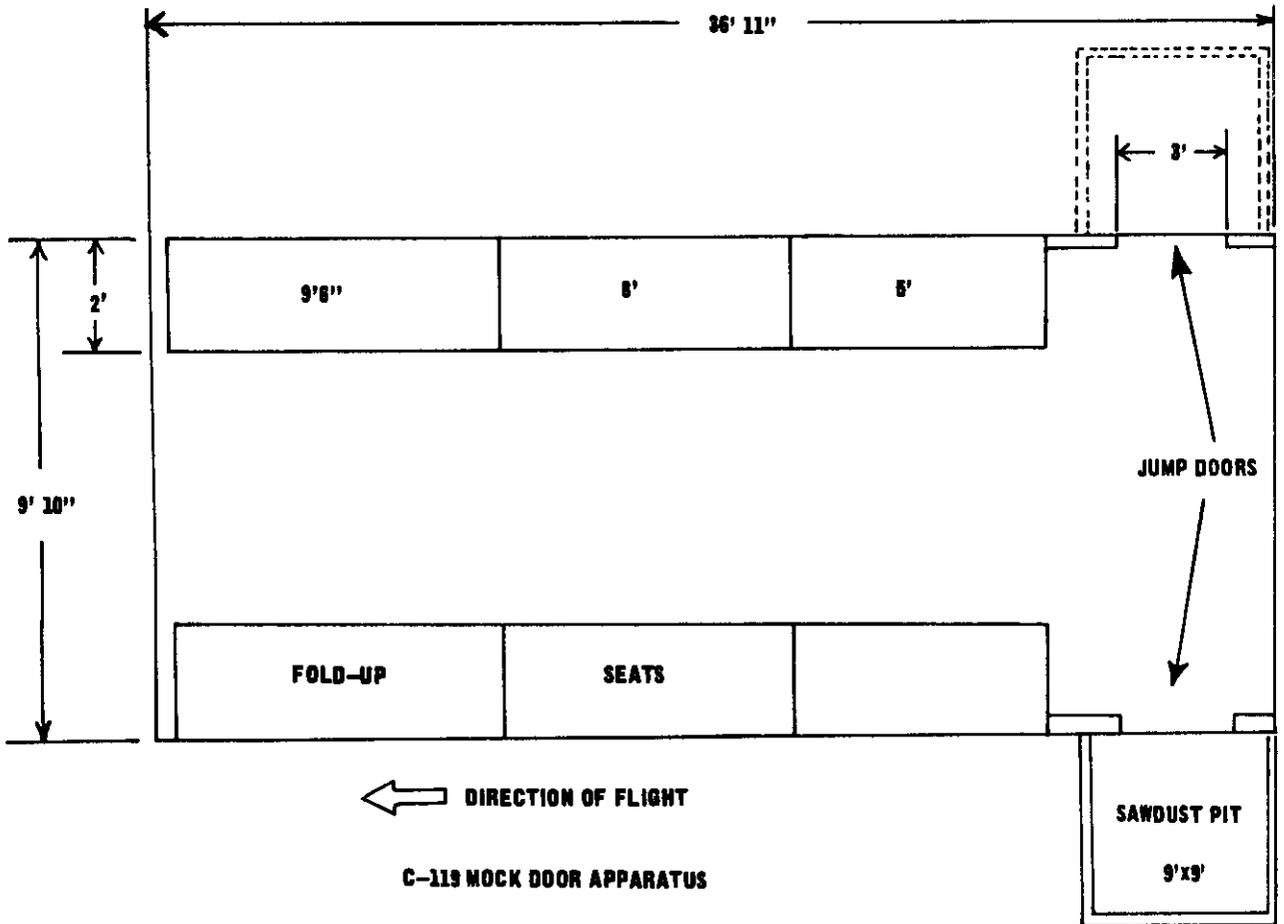
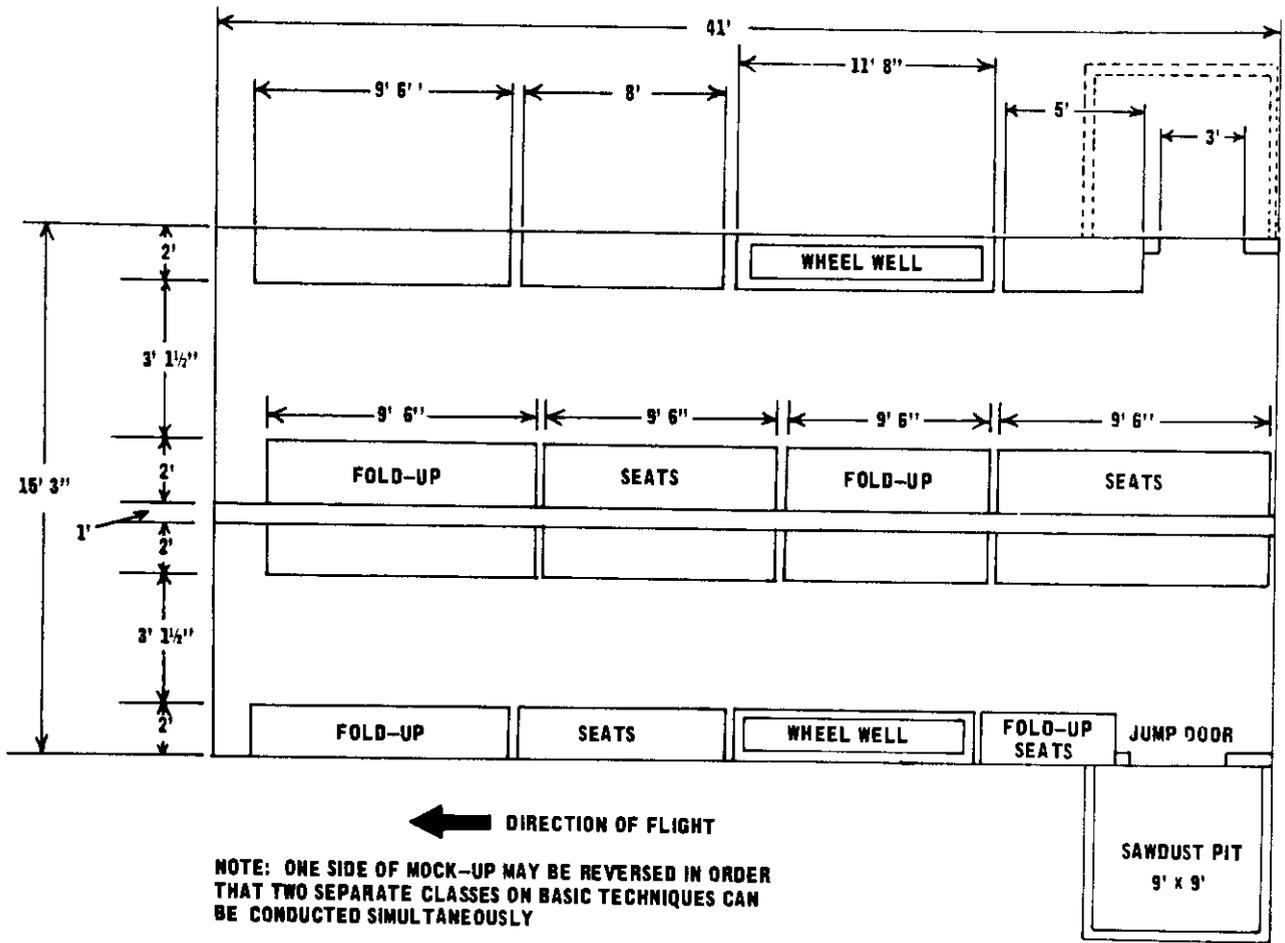


Figure 127. Mockup of C-119 (Packet).



C-130 MOCK DOOR APPARATUS

Figure 128. Mockup of C-130 (Hercules).

APPENDIX C

SUGGESTED JUMPMAS-TER TRAINING COURSE

Period	Subject	Scope	Hours and type of class *	References
1	Duties of the jumpmaster.	Prejump briefing, coordination, emergency procedures, personnel inspection, seating arrangement, conduct during jump, assembly, command position, use of safety NCOs, flight safety around airfields and during flights.	1.00 C	Para 53-63, TM 57-220. Para 1-14-1-17, TM 57-210.
2	Jumpmaster personnel inspection procedures.	Characteristics, nomenclature, and deployment of troop-type parachutes; fitting and adjustment of equipment and weapons; conduct of jumpmaster personnel inspection; rigging of parachutist in the aircraft in flight.	.50 C .50 D 3.00 PE	Para 9-11, 42-52, 56-57, 145-146, 148-151, 152, TM 57-220. Unit SOP.
3	Malfunctions, entanglements, and emergency landings.	Type malfunctions, cause and prevention of malfunctions, activating the reserve parachute, B5 and B7 life preservers and how to use them.	.50 C .50 D	Para 8b(1), 8c(4), 8d(3), 37, 38, 60-63, TM 57-220; para 1-18, TM 57-210.
4	Jumpmaster procedures on USAF aircraft.	Rigging, capabilities, limitations, jump procedures, and safety precautions.	.25 C .25 D .50 PE	Para 12-15, 64-96, TM 57-220.
5	Jumpmaster procedures on U.S. Army aircraft.	Rigging, capabilities, limitations, jump procedures, and safety precautions.	.75 C .25 D 1.00 PE	Para 12-15, 97-144, TM 57-220.
6	Jumpmaster aircraft inspection procedures.	Jumpmaster internal and external aircraft inspection.	.25 C 1.75 PE	Para 55, TM 57-220.
7	Orientation on airborne training apparatus.	Operations of the mock door, parachute landing fall platforms, swing landing trainer, and the suspended harness.	.50 C .50 D	Para 16-18, 25-30, TM 57-220.
8	Techniques of assembly	Factors affecting assembly, selecting, reconnoitering, and marking assembly areas.	1.00 C	FM 57-10; FM 57-38; FM 57-35.
9	Nomenclature, characteristics, and packing of PAE bag, individual weapons case, and container, weapon and individual equipment.	Nomenclature, characteristics, and packing of the PAE bag weapons case, and container, weapon and individual equipment; jump and release procedures.	.50 C .50 C 1.00 PE	Para 42-52, TM 57-220.
10	34-foot tower training with PAE bag.	Safety checks, exit and release of PAE bag from the 34-foot tower, operations of the 34-foot tower for jumpmaster students.	.25 C .25 D 2.50 PE	Para 20, 21, 47, 48, TM 57-220.

* Abbreviations:

C—Class.

D—Demonstration.

PE—Practical exercise.

Period	Subject	Scope	Hours and type of class *	References
11	Jumpmaster night jump and assembly.	Night jumpmaster jump and assembly	4.00 PE	Same as for periods 1-6, 9.
12	Jumpmaster night jump and assembly.	Night jumpmaster jump and assembly	4.00 PE	Same as for periods 1-6, 8.
13	Packing of "A" series containers.	Nomenclature, characteristics, rigging, use, and inspection of "A" series containers.	.50 C .50 D 1.00 PE	TM 10-500.
14	Door bundle ejection procedures.	Loading and lashing door bundles, procedures for ejecting a door bundle from an aircraft, door bundle ejection and jump.	.50 C .25 D 4.25 PE	TM 10-500-2; TM 10-500-5.
15	Aft-end exit procedures.	Duties of a jumpmaster for aft-end exit, procedures for aft-end drop.	.50 C .25 D 3.25 PE	Para 70, 75, 84, 87, 88, 133, 134, TM 57-220.
16	Jumpmaster Army aircraft drop.	Execute a helicopter drop	.25 C 2.75 PE	Para 101-147, TM 57-220.
17	Final examination	Written and practical work examination covering all instruction.	2.00 E	All previous references.
Total				42.00 Hours

Notes. Number of students, weather, number and type of aircraft available, and availability of training apparatus and drop zones will dictate changes in the scheduling and scope of suggested subjects.

GLOSSARY

- Accordion folding.** Folding canopy into folds of uniform length, accordion fashion.
- Apex.** The center and topmost portion of an inflated canopy. The apex can be opened as in the T-10 parachute or capped as in the T-10 maneuverable parachute.
- Backstrap.** A part of the parachute harness that extends across the small of the back both horizontally and diagonally.
- Bag, deployment.** A fabric container containing a parachute canopy, often inclosed in a parachute pack. The T-10 parachute has a provision for storing the suspension lines in the bag.
- Band, lower lateral.** A webbing band inserted in the skirt of a canopy.
- Band, upper lateral.** A webbing band inserted in the vent hem of a canopy.
- Band, pocket.** A webbing attached at the outside of the skirt, across radial seams, in a manner that causes the gores to be pulled outward at inflation, thereby improving the opening characteristics.
- Band, retainer.** A rubber band used to hold folded suspension lines or the static line to the parachute pack.
- Breakcord.** A thread or fabric tape tied between parachute components that is intended to break under desired load during deployment.
- Breathing, canopy.** The pulsating or pumping action of an inflated canopy during descent.
- Bridle.** The arrangement of cords attaching the pilot chute to the apex of the canopy or to the deployment bag.
- Bungee cord.** An elastic cord designed to absorb shock when a falling object (weapons case) is arrested.
- Cable, ripcord.** A flexible cable joining lock-pins and ripcord grip.
- Canopy.** That portion of a parachute consisting of the drag producing surface (fabric area) and the suspension lines extended to a mutual point of confluence.
- Cone, pack (locking cone).** A small, cone-shaped metal post sewed to one of the side flaps of a parachute pack. A hole is drilled longitudinally to receive the ripcord locking pin which is attached to the ripcord cable.
- Deployment.** That portion of a parachute's operation occurring from the initiation of activation to the instant the suspension lines are extended, but prior to inflation of the canopy.
- Diameter, nominal.** The computed diameter designation of a parachute canopy which equals the diameter of a circle having the same total area as the total cloth surface.
- Diameter, projected.** The outside diameter of an inflated canopy measured in the plane of the maximum cross section.
- Drift.** The horizontal displacement of a descending parachute.
- D-ring.** A metal fitting shaped like a "D" found on the T-10 parachute harness.
- Drogue.** A stabilizing or retarding device; e.g., a pilot parachute attached to a heavy drop

load to stabilize the load after extraction and prior to deployment.

Dual rail system. A cargo handling system, found in the C-130 and C-141, consisting of rails which are mounted on the floor of the aircraft and extend the length of the cargo compartment.

Eye. A small, steel wire loop attached to a parachute pack into which is fastened the hook of a pack opening spring band.

Fasteners, parachute pack. A metal fitting secured to each end flap of a pack. The fasteners fit over locking cones and secure end flaps in a closed position until the locking pins are pulled free.

Keepers. Length of webbing sewed on a pack or around suspension lines and adjusted to hold the pack firmly to the harness or load on which it is used, or to form a confluence point for suspension lines to prevent relative movement of lines.

Left door, right door. When standing in the troop compartment of the aircraft facing in the direction of flight, the door on the left hand side is termed the left troop door. Conversely, the door on the right is the right troop door.

Leg strap. That portion of the harness sewed to the saddle that passes under the legs from the saddle and is fastened to the leg strap loop or passes through the leg strap loop and is secured to the quick-release assembly.

Lift web. That portion of the harness comprising the main webbing support extending from the canopy release assemblies down through the saddle and up to the opposite canopy release.

Line, static. A line, cable, or webbing, one end of which is fastened to the pack, canopy, or deployment bag, and the other to some part of the launching vehicle. It is used to open a pack or deploy a canopy.

Line, suspension. Cords or webbing of silk, nylon, cotton, rayon, or other fabric, that connects the drag-producing surface (canopy) to the harness or risers.

Link, connector. A rectangular metal fitting used to connect suspension lines to risers or lift webs. Connector link may be separable.

Loop, retaining. A loop of webbing or tape, usually elastic, used to hold folded lines or excess webbing in position.

Malfunction. Any discrepancy in the deployment or inflation of the canopy which will increase the jumper's rate of descent.

Pack assembly. A container that incloses the canopy may be placed in a deployment bag or sleeve.

Pack cover. A piece of canvas or duck with a static line attached, used to cover the packed canopy.

Pack flap. A fabric extension on a side or end of the pack body designed to inclose and protect the canopy.

Pack opening spring bands. Elastic cords with a steel spring and metal hooks attached at the ends installed on a parachute pack under tension, used to separate the end flaps from the side flaps when the ripcord is pulled.

Parachute assembly. An assembly consisting of canopy, risers, or bridles, deployment bag, and in some cases, a pilot chute. The pack harness and reserve parachute are all part of the assembly.

Parachute, free type. A parachute not attached to the aircraft that is activated by the jumper.

Parachute, reserve. A second parachute worn on the chest and used in the event of a malfunction of the main parachute.

Parachute, static line type. A parachute that is activated by a static line attached to an anchor line cable or ring inside the aircraft.

Pilot chute. A small parachute attached to the apex of a larger canopy to accelerate deployment.

Pin, locking. Short, metal prongs attached to a ripcord cable. These pins are inserted into locking cones which secure the pack flaps as a function of closing a parachute pack.

Pin, safety. A short metal wire attached to the static line snaphook or the right connector snap of the reserve parachute by a lanyard. The pin is used to safety the right side of the reserve to the D-ring of the parachute harness when equipment is attached to the jumper.

Release, canopy. A device designed to permit rapid separation of the canopy from the harness.

Release, harness. A device designed to permit rapid separation of the harness from the wearer, referred to as the quick-release assembly in this manual.

Ripcord. A device that consists of a cable, locking pins, and a grip which activates the parachute when pulled or released.

Riser. A high strength material attached to the harness which secures the suspension lines by means of connector links.

Saddle. That portion of the harness that is positioned in the main lift web at the seat of the wearer.

Sail. A term used to designate a condition noted in the deployment of a parachute canopy when the canopy is still attached to the

static line and is exposed broadside to the airstream. With the T-10 parachute this condition exists with the canopy still in the deployment bag.

Skirt. The reinforced hem forming the periphery of the canopy.

Sleeve. A tapered, fabric tube in which a canopy is placed to control its deployment.

Slipping. A method of controlling an inflated canopy in a desired direction by spilling the air from one side of the skirt by manipulation of the risers. This action causes an increased average rate of descent until the lines are released.

Slot. A vent constructed in a gore of a canopy.

Snap, connector. A hook-shaped, spring-loaded metal fitting.

Snaphook, static line. A metal device used to connect the free end of the static line to a cable or ring in an aircraft.

Squidding. A state of incomplete canopy inflation in which the canopy is pear-shaped. Excessive airspeed is the cause.

Stow. Any one loop of static line or suspension line compactly secured to the parachute pack.

Strength, tensile. The tension, measured in pounds, required to break a material when pulled or stretched.

Vent. Any opening in the cloth surface of the canopy, as an apex vent.

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