



CHAPTER 4

EQUIPMENT AND WEAPONS

Free-fall parachutists will normally operate with individual equipment which includes clothing and equipment in keeping with the climatic conditions, food, and survival items. In addition, each parachutist will have a weapon, free-fall parachutist's jump helmet, goggles, and altimeter. All detachment equipment and supplies will be jumped and carried as individual loads. If selected items must be dropped as accompanying supplies, they are packed in appropriate aerial delivery containers.

Equipment and Weapons Packing

The parachutist can attach or wear his individual equipment and weapon in several configurations (for example, exposed, placed in containers, or a mix of the two). Unit SOPs specify ways to pack equipment that are consistent with safety requirements. As a rule, units pack hard, bulky, or irregularly shaped (nonaerodynamic) items in containers. Commanders can use approved rucksack rigging systems that the Special Operations Test Board certifies.

The parachutist packs his individual equipment in containers, kit bags, or the medium or large combat pack and attaches it to the equipment rings on the main lift web of the parachute. He may front or rear mount the combat pack using the improved equipment attaching sling or the H-harness (modified). He should lower combat packs or any equipment that weighs more than 35 pounds.

The parachutist pads fragile items (like weapon sights). He does not place crushable items (like the protective mask) directly under the attaching harnesses. Exposed weapons or equipment, snap

hooks, and projections are potential safety hazards that the parachutist tapes.

Parachutist and Parachute Load Limitations

Commanders: Do not overload the parachutist with equipment! The variety (and weight) of equipment and weapons that can be attached to a parachutist (Figures 4-1 to 4-4) may exceed the safe design limits of the RAPS resulting in parachute damage, unsafe descent rates, and injury to the parachutist. Also, the parachutist's actions (and the time available) to release the tie-down straps and to lower the equipment may interfere with his control of the parachute close to the ground.

Life Preservers

Life preservers must be worn whenever the planned flight path (from exit to impact point) is over open bodies of water (over 3 feet deep and large enough to be unavoidable with a maneuverable chute) for one third or more of the distance under canopy. They must also be worn when an open body of water is within 1,000 meters of the planned impact point.

DESCRIPTION	MAXIMUM CONTAINER LOAD (POUNDS)	MAXIMUM RIGGED WEIGHT (POUNDS)*
MEDIUM COMBAT PACK	50	55.56
LARGE COMBAT PACK	70	75.96
*Weight of H-harness or attaching sling.		

Figure 4-1. Container weight limits.

DESCRIPTION	WEIGHT (POUNDS)	REFERENCE	REMARKS
MAXIMUM LOAD BEARING CAPACITY RAPS ON DEPLOYMENT	360	Natick Research and Development Command	Increased weights will reduce canopy service life or destroy canopy (for example, blown cells)
AIR MOVEMENT PLANNING WEIGHT OF COMBAT-EQUIPPED FREE-FALL PARACHUTIST	305		Parachutist with one equipment container and weapon

Figure 4-2. Parachute load limits.

B-7 Life Preserver

The parachutist wears the B-7 under his parachute harness and over his uniform or jumpsuit (Figure 4-5). To fit the life preserver, he places one flotation packet under each arm so that the packet flaps are to the outside and the toggle cords are down and to the front. He routes the shoulder strap from front to rear over his left shoulder, under the back strap, then from rear to front over his right shoulder and attaches it to the ring on the right flotation packet.

He adjusts the shoulder strap so that the flotation packets fit snugly against his armpits. He attaches the chest strap to the attachment ring on the left flotation packet forming a quick release.

If there is a water emergency, he inflates the life preserver by pulling the toggle cords located on each flotation packet. He can also manually inflate the life preserver by blowing into the rubber hose located on each flotation packet. He uses manual inflation only if the CO₂ inflation system fails to operate.

WARNING

The parachutist ensures he does not wear the B-7 life preserver with the inflation packets between the parachute harness and his body. Serious injury may result if inflated when worn incorrectly.

CONTAINER TYPE	CONTAINER MAXIMUM INTERNAL WEIGHT	WEIGHT OF CONTAINER	SUSPENDED WEIGHT OF RAPS WITH OXYGEN	FATIGUE UNIFORM HELMET, MASK, AND BOOTS	SOLDIER WEIGHT	M16A1 RIFLE	TOTAL SUSPENDED WEIGHT*
KIT BAG	50	3	43.15	15	205	7.6	323.75
MEDIUM COMBAT PACK	50	5.56	43.15	15	205	7.6	326.31
LARGE COMBAT PACK	70	5.96	43.15	15	205	7.6	346.71
*Weight of parachutist in pounds							

Figure 4-3. Weight of parachutist with two equipment loads.

WEAPON LOAD TYPE	WEAPONS LOAD WITH AMMUNITION ¹	WEIGHT OF LARGE COMBAT PACK	SOLDIER WEIGHT	FATIGUE UNIFORM HELMET, MASK, AND BOOTS ²	LOAD- BEARING EQUIPMENT WITH TWO CANTEENS (WATER)	SUSPENDED WEIGHT OF RAPS WITH OXYGEN	REMAINING WEIGHT OF RAPS WITH OXYGEN	TOTAL SUSPENDED WEIGHT*
M16 RIFLEMAN	31	5.96	205	15	11.5	43.15	48.39	360
M203 GUNNER	40	5.96	205	15	11.5	43.15	39.39	360
RADIO OPERATOR	71.6	5.96	205	15	11.5	43.15	7.79	360
M60 MACHINE GUNNER	54.4	5.96	205	15	11.5	43.15	24.99	360
¹ Weight of parachutist in pounds								
² Weight of uniform does not include winter gear (for example, parka, liners, underwear).								

Figure 4-4. Weight of parachutist with two equipment loads and basic load.



Figure 4-5. B-7 life preserver.

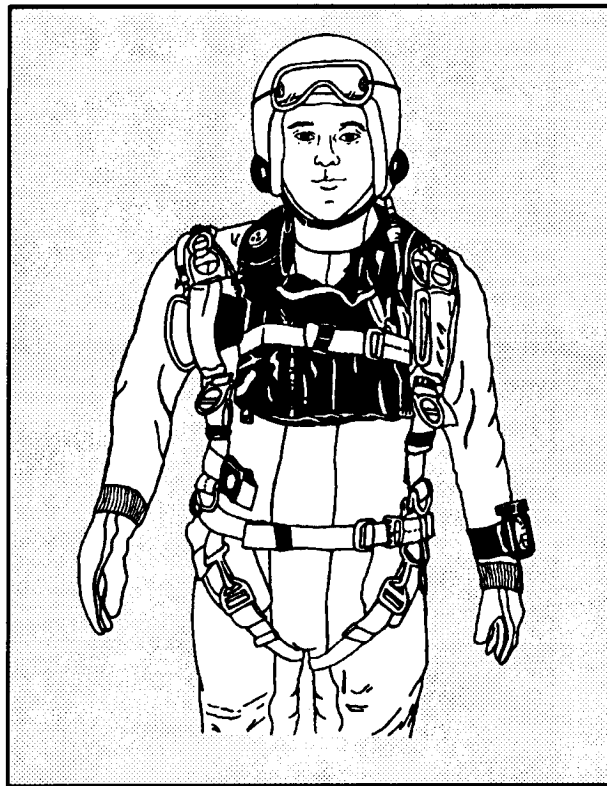


Figure 4-6. UDT life vest.

Underwater Demolition Team (UDT) Life Vest

In Figure 4-6, the parachutist is wearing the UDT life vest instead of the B-7 Life preserver. He dons the vest before donning the parachute harness. He may inflate the vest manually or with CO₂. The UDT life vest should be rubber banded to prevent interfering with the cutaway handle and reserve rip cord handle.

Hook-Pile Tape (HPT) (Velcro) Lowering Line Assembly

Figure 4-7 shows the steps for stowing an HPT lowering line assembly. The current HPT lowering line assembly (NSN 1670-01-067-6838) consists of—

- An 8-foot lowering line made of 1-inch-wide tubular nylon.
- A 9-by 7-inch nylon duck retainer (stow pocket) sewn to the upper end. The flaps have HPT sewn to the edges.
- A metal (parachute harness) ejector snap.

NOTE: To help in preventing the inadvertent, premature deployment of the lowering line, the parachutist places a double looped retainer band around the middle of the stowed lowering line retainer pocket before attaching it to the combat pack (Figure 4-8).

Weapons Preparation

A parachutist can jump with his individual weapon either exposed or inside a weapon or other equipment container. If the commander decides to jump with weapons exposed, he must consider the increased risk of injury to the parachutist(s) that may further hinder the mission's success.

Exposed Weapons

A buddy helps the parachutist attach an exposed weapon to his left shoulder. The muzzle always faces down and the pistol grip to the rear to reduce the chance of entanglement during parachute deployment. Hazards the parachutist faces when jumping with exposed weapons include—

- The weapon becoming entangled with the parachute upon deployment.

- The weapon becoming entangled with another parachutists parachute should a midair entanglement occur.
- Damage to the weapon upon landing or when dragged on the ground.

M16A1/A2 Rifle

The parachutist prepares the rifle by extending the sling all the way and tapes the keeper in place. He secures padding over the side-mounted bolt assist and the operating handle. He pads and tapes the muzzle and sights to avoid possible entanglement with the parachute's suspension lines or dirt clogging the weapon upon landing. He inserts the magazine and tapes it to the receiver, including the ejector port cover, to prevent loss of the magazine as well as debris from entering the bolt area. He tapes the handguards to prevent their loss at landing impact. To aid the removal of the padding and tape, he folds and presses together a portion of adhesive side of the running end of the tape to form

a quick-release pull tab, Figure 4-9 shows the M16A1/A2 rifle rigged for jumping.

Tie-Downs. The parachutist uses a 12- to 18-inch tie-down of 1/4-inch cotton webbing (or a like item) to secure the weapon. He attaches the tie-down to the weapon sling, about 6 inches below the buttstock sling swivel, with a girth hitch.

Positioning. With the help of a buddy the parachutist slings his weapon over his left shoulder with the muzzle down and rotates the pistol grip to his rear (Figure 4-10). He places the sling from the lower keeper (buttstock) on the outside of the stock and over his left shoulder. He then runs the sling under the main lift web and routes the chest strap through the sling. He secures the tie-down to the weapon tie-down loop on the parachute system. He positions the weapon under the waistband. He tightens the waistband securely so that the weapon lies snugly against his side.

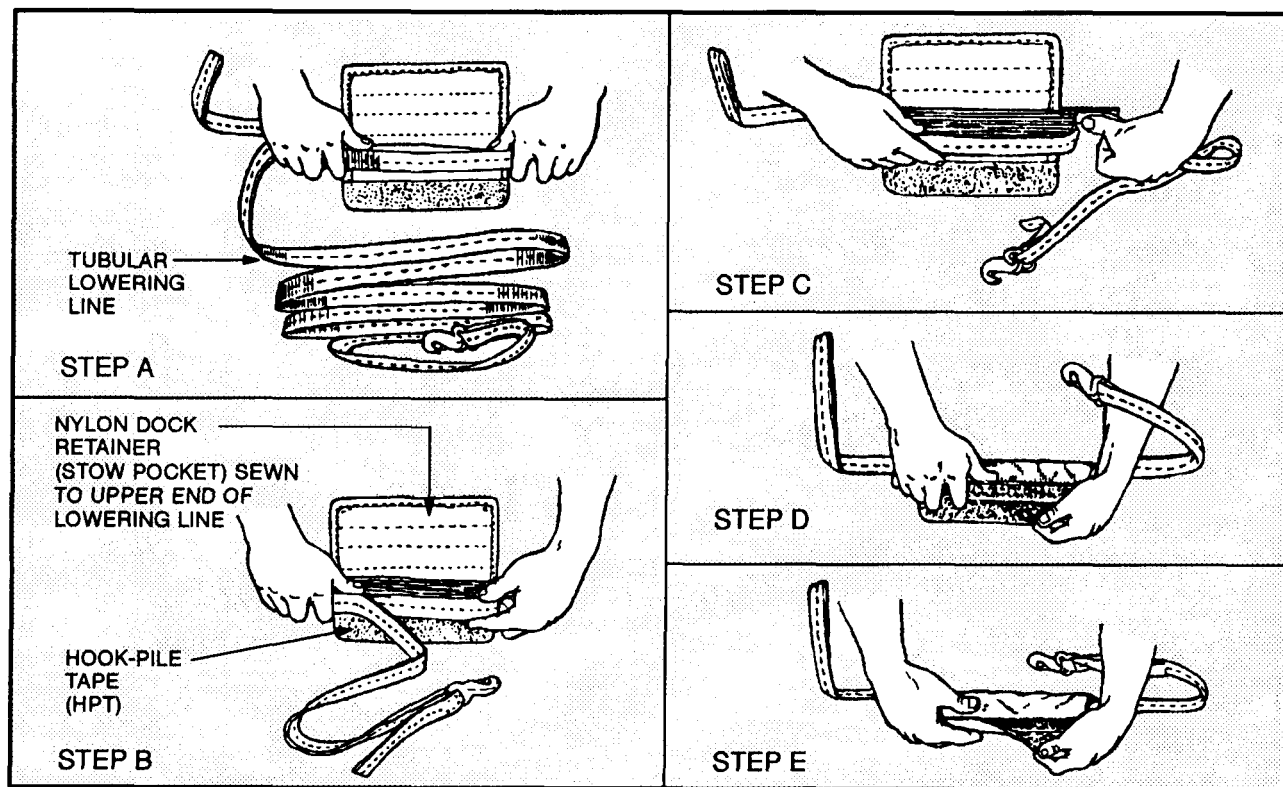


Figure 4-7. Stowing the HPT lowering line assembly.

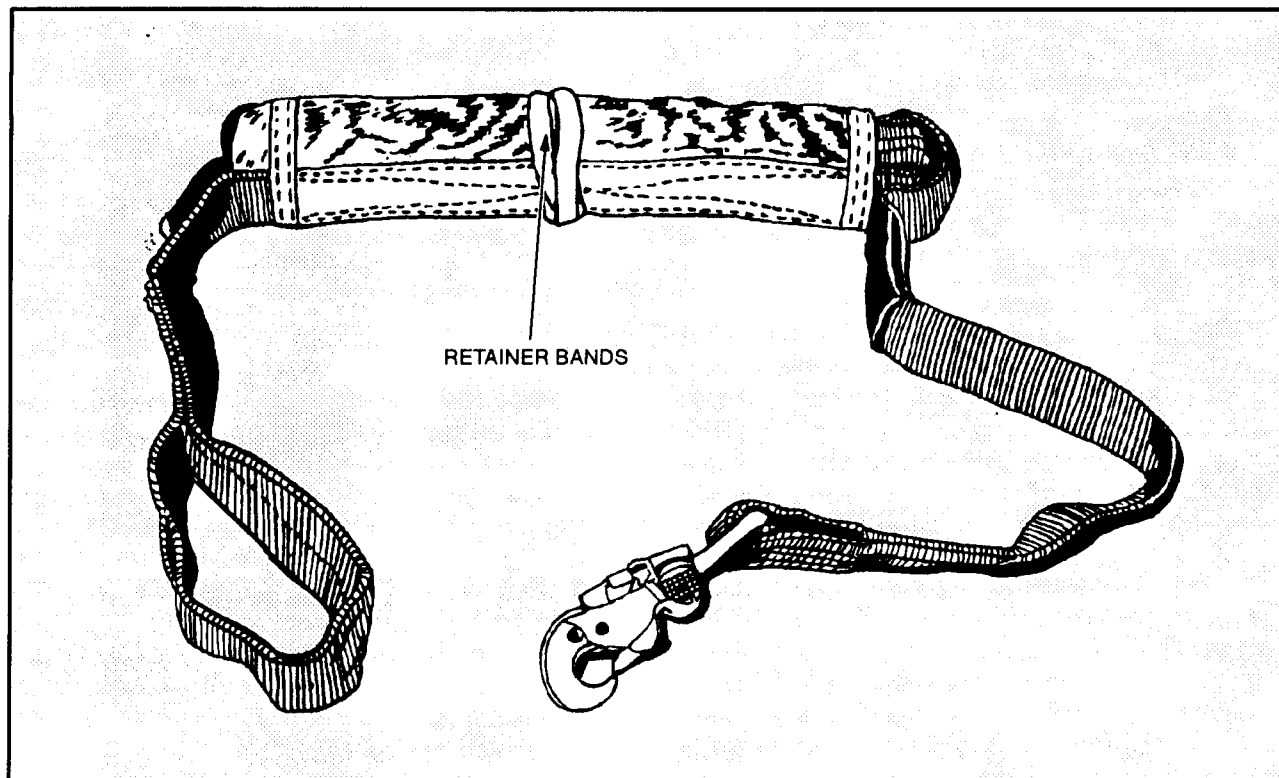


Figure 4-8. Stowed lowering line with retainer bands emplaced.

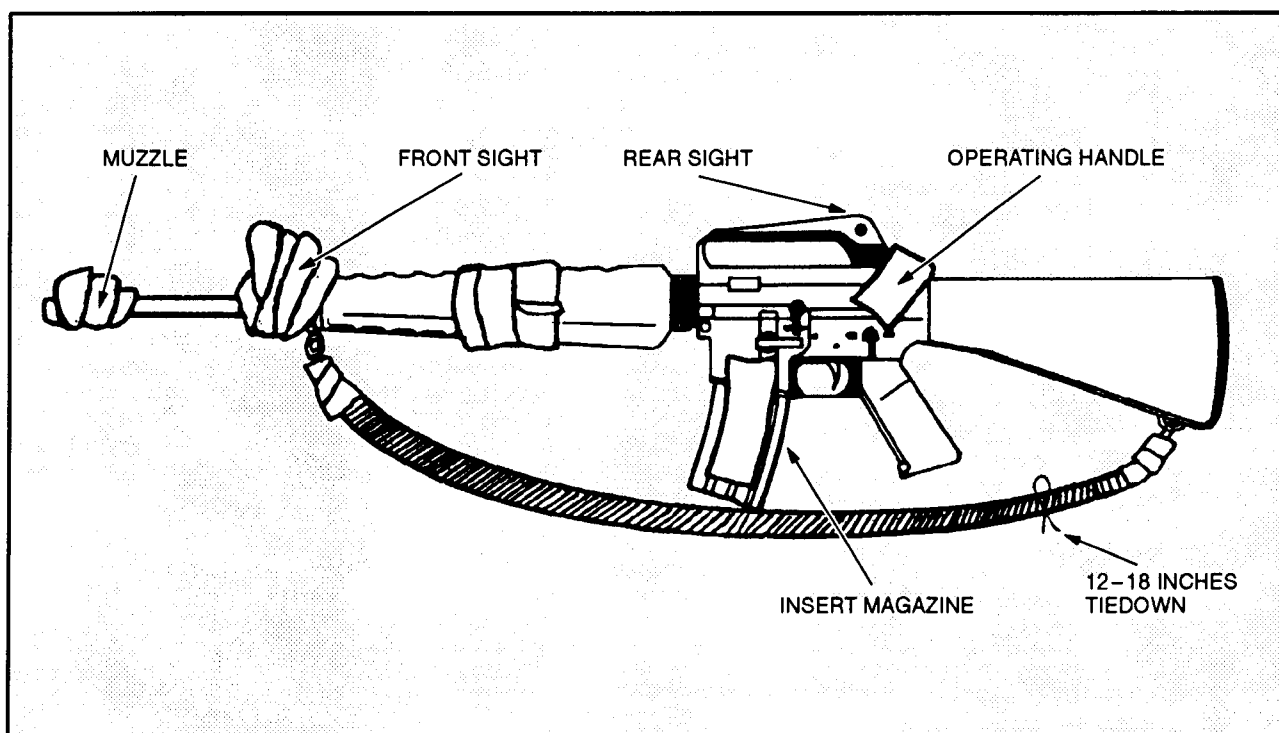


Figure 4-9. The M16A1/A2 rigged for jumping.

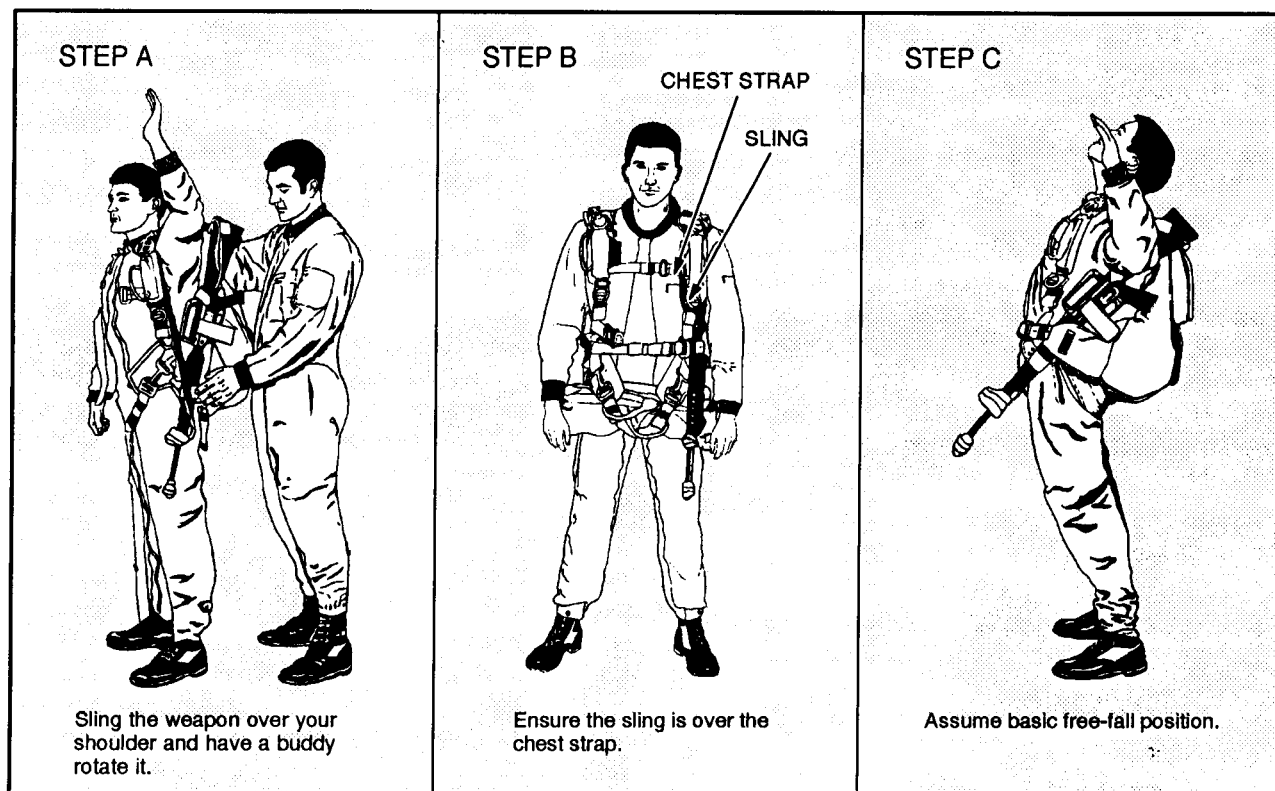


Figure 4-10. Positioning the weapon on the parachutist.

M203 Grenade Launcher

The parachutist prepares the grenade launcher the same as he does the M16A1/A2 as previously outlined. He tapes the handguard and grenade launcher barrel together with the barrel latch covered. He removes the quadrant sight. He tapes

down the leaf and rear sights. Figure 4-11 shows the M203 rigged for jumping.

Tie-Downs. He uses the same procedures as for the M16A1/A2.

Positioning. He uses the same procedures as for the M16A1/A2.

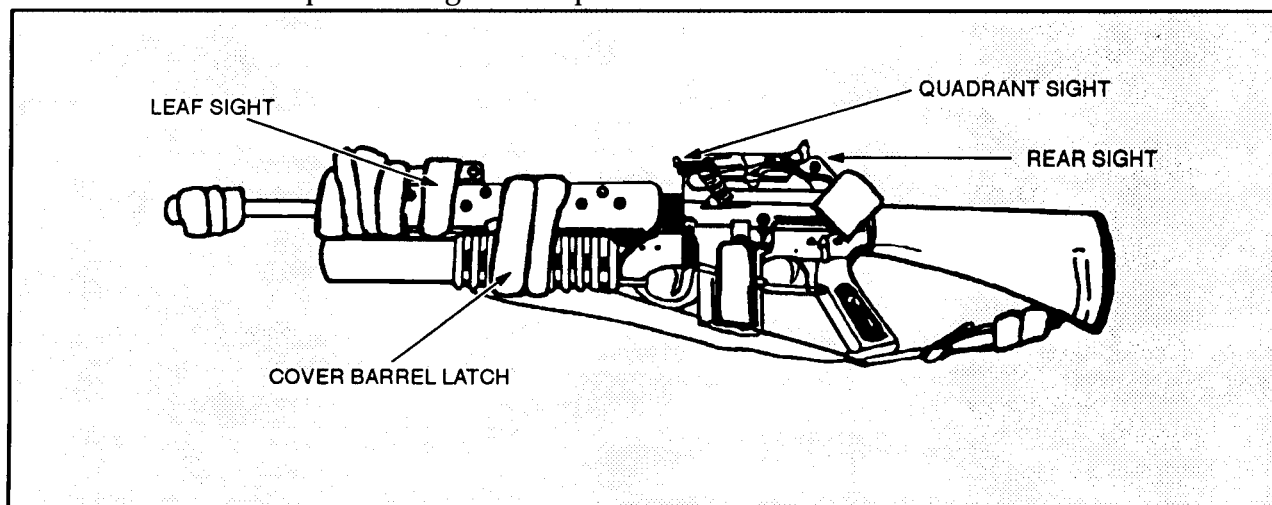


Figure 4-11. The M203 rigged for jumping.

M14, G3, and FN FAL Rifles

The parachutist prepares each of the weapons by removing the sling from the weapon and the sling-keeper from the sling. He forms a loop by running the sling through the slinghook. He replaces the sling by placing the loop around the small of the stock. He replaces the slingkeeper and secures the sling to the barrel, just below the front sight, with a half hitch. He tapes the butt plate closed. He pads and tapes the flash suppressor, front sight, and bayonet lug. He removes the optical sight and packs it in his equipment container. Figure 4-12 shows the M14 rigged for jumping.

Tie Downs. He prepares a 12-to 18-inch tie-down as for the M16A1/A2 rifle.

Positioning. With the help of a buddy he slings the weapon over his left shoulder, muzzle down, and rotates the operating handle away from his body. He secures the weapon in the same manner as the M16A1/A2.

Submachine Guns, Caliber .45, MP5, MP5A3, and MP5K

The parachutist prepares each of these weapons by removing the sling from the upper swivel as well as all the slack. He folds the end of the sling and runs the fold through the upper sling swivel. He passes the tip of the sling through the fold and fastens the

snap. He closes the cover and removes the magazine. He collapses the stock. He tapes one magazine to the left of the receiver or carries it elsewhere. He covers and tapes the muzzle. Figure 4-13 shows the MP5 rigged for jumping.

Tie Downs. He prepares a 12-to 18-inch tie-down as for the M16A1/A2 rifle.

Positioning. With the help of a buddy, he slings the weapon over his left shoulder, muzzle down, pistol grip forward, and secures it in the same manner as the M16A1/A2 rifle.

M79 Grenade Launcher

The parachutist prepares this grenade launcher by letting the sling out about three-quarters of the way and tapes the keeper in place. He places the leaf-type sight in the down position and pads and tapes it to avoid snagging. He also tapes the lower sling swivel, breech lock, and muzzle. Figure 4-14 shows the M79 rigged for jumping.

Tie Downs. He prepares a 12-to 18-inch tie-down as for the M16A1/A2 rifle.

Positioning. With the help of a buddy, he slings the weapon over his left shoulder, muzzle down, pistol grip forward, and secures it in the same manner as the M16A1/A2 rifle.

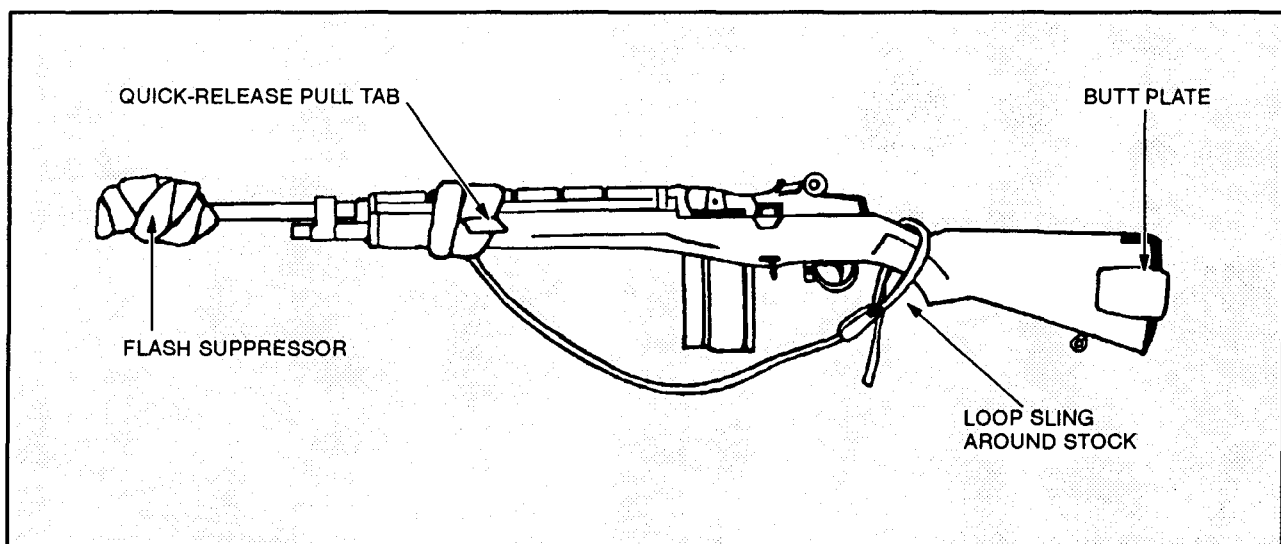


Figure 4-12. The M14 rigged for jumping.

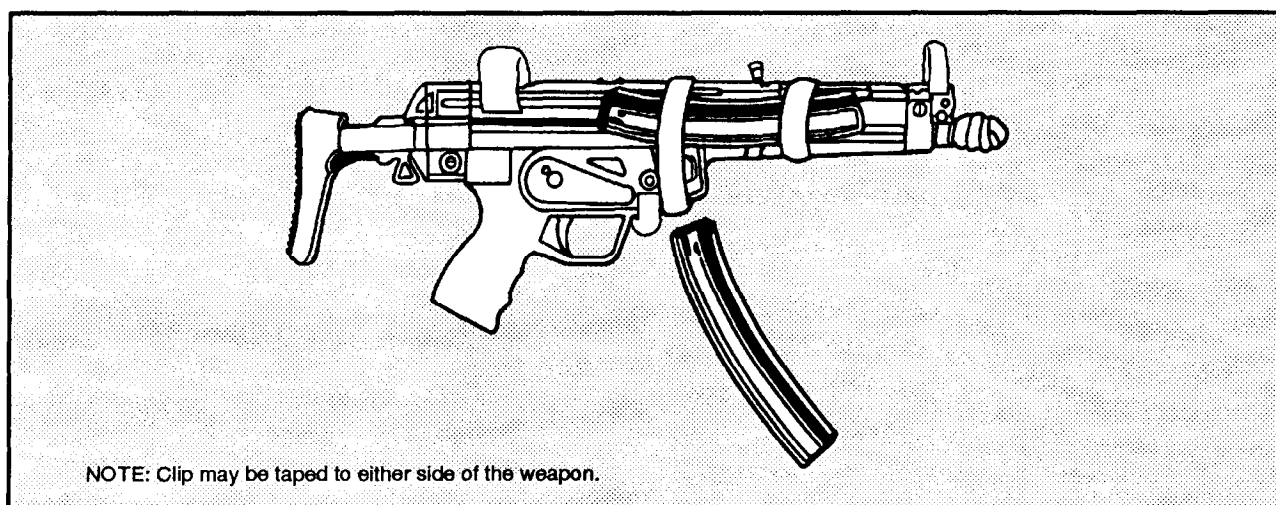


Figure 4-13. The MP5 rigged for jumping.

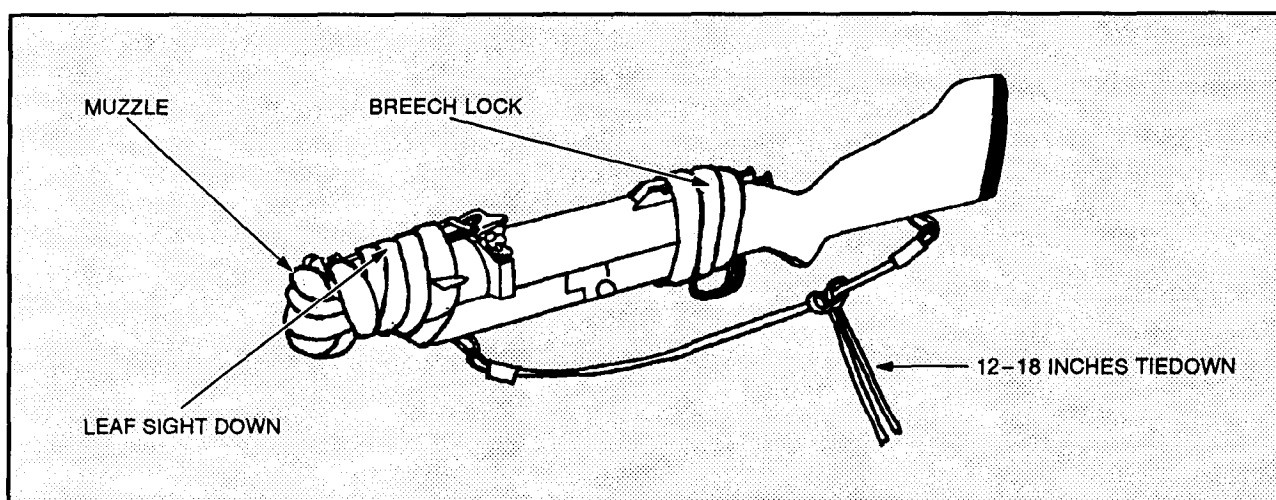


Figure 4-14. The M79 rigged for jumping.

Pistols

The parachutist can jump with a pistol in a shoulder holster or packed in an equipment container. He wears the shoulder holster under his jumpsuit or other protective clothing. He secures the pistol in the holster by taping the holster closed or by using a lanyard.

M60 Machine Gun, M224 60-mm Mortar, M249 Squad Automatic Weapon (SAW)

The parachutist does not jump with these weapons exposed during MFF operations. He breaks them

down and packs them in a front-mounted equipment container or kit bag.

Other Weapons

The parachutist can rig other weapons using the methods previously described. User unit SOPs should specify ways to pack or rig similar type weapons consistent with safety requirements. Units requiring technical help should contact B Company, 2d Battalion, 1st Special Warfare Training Group, USAJFKSWCS, DSN 236-7601/7796.

Combat Packs and Other Equipment Containers

This paragraph discusses the use of harnesses, equipment attachment slings, and lowering lines in preparing and rigging kit bags and different packs.

H-Harness (Modified)

The modified H-harness consists of two 84-inch nylon straps held together by two 11-inch straps (Figure 4-15). One end of each strap has two friction adapters attached 3 inches apart. Two 24-inch or 36-inch equipment attachment straps with adjustable lugs and two quick-release ejector snap hooks are part of the assembly. Figure 4-16 shows the steps used to lever an ejector snap hook. The H-harness is used to rig the kit bag and combat packs to the parachute harness.

Improved Equipment Attachment Sling

The improved equipment attachment sling was a component of the MC-3 military free-fall system (Figure 4-17). The parachutist modifies this sling

by removing the leg straps with HPT closures or folds and tapes the leg straps so that he cannot use them. This sling is used to rig combat packs to the parachute harness.

Aviator's Kit Bag

The parachutist uses the canvas kit bag to jump individual equipment such as the load-carrying equipment (LCE) or machine gun groups that have been properly padded. It has two carrying handles and a slide fastener and snaps that extend across the top of the bag to secure it.

Preparing the Bag. The parachutist packs the equipment JAW unit SOP. He carefully places sharp-edged objects in the bag so that they are not against his body when he attaches the bag to the parachute harness. He unfastens the snaps, undoes the slide fastener, and folds down the top of the kit bag (about one-half its filled bulk) to pack the equipment. When packed, he zips the bag and fastens the snaps. He gathers up the excess bag material and folds it on top so as to expose the handles.

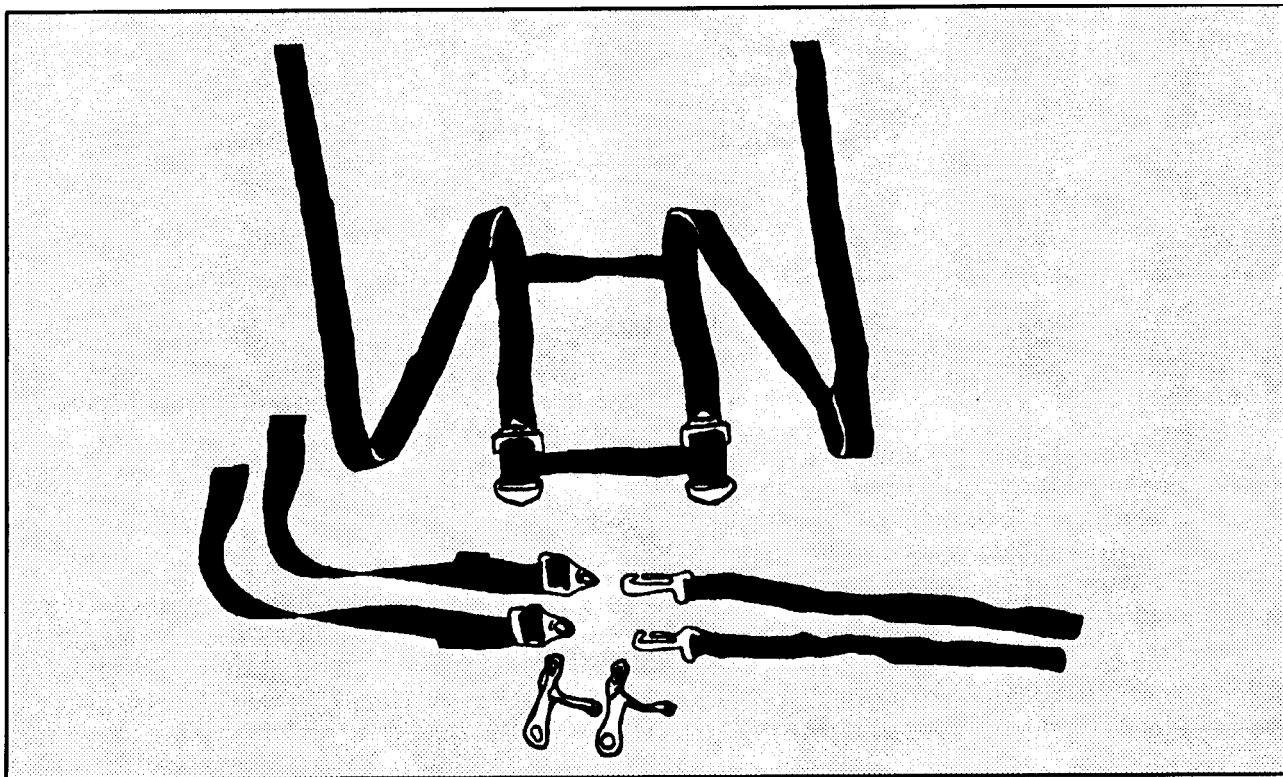


Figure 4-15. Modified H-harness with attaching straps.

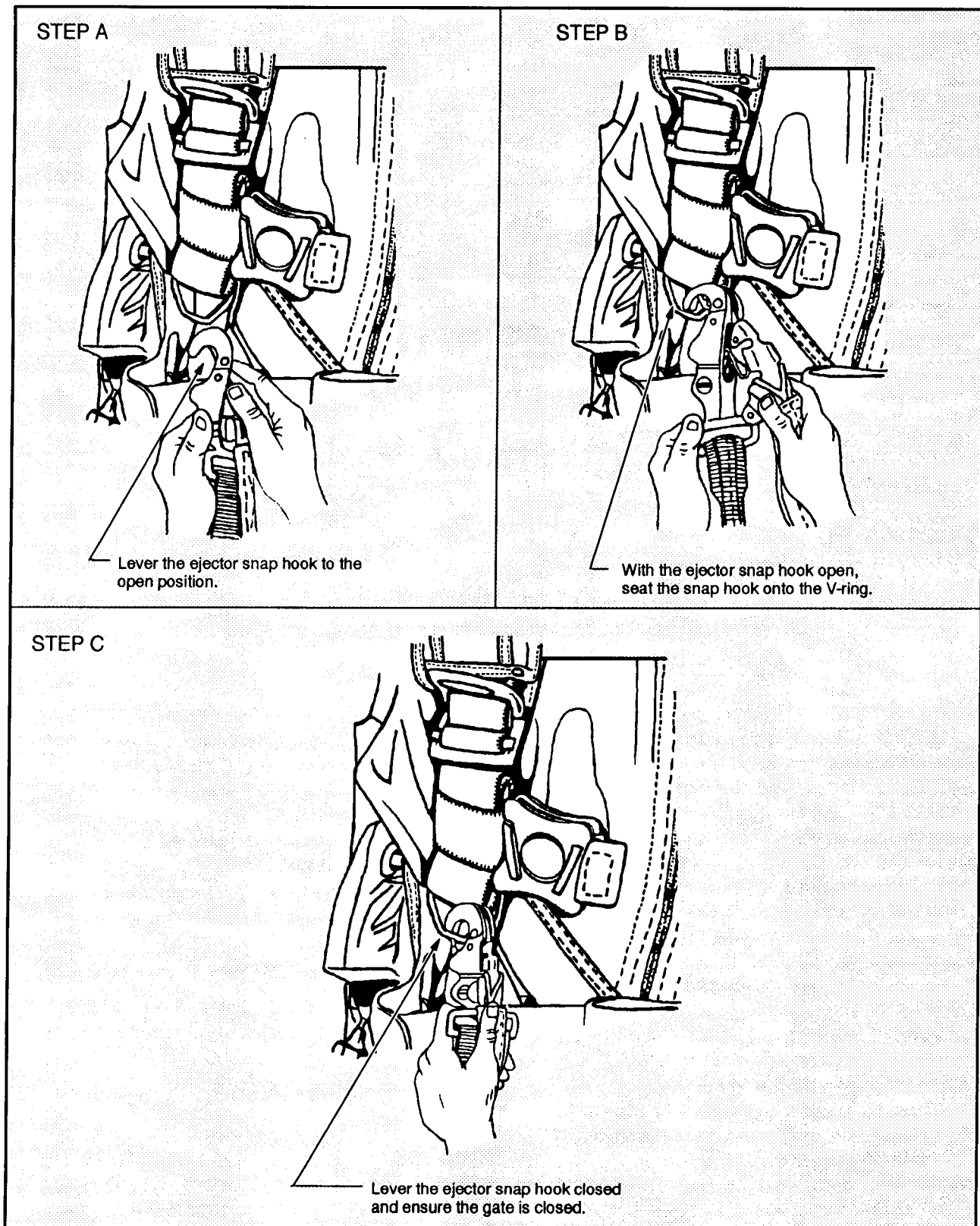


Figure 4-16. Levering the ejector snap hook.

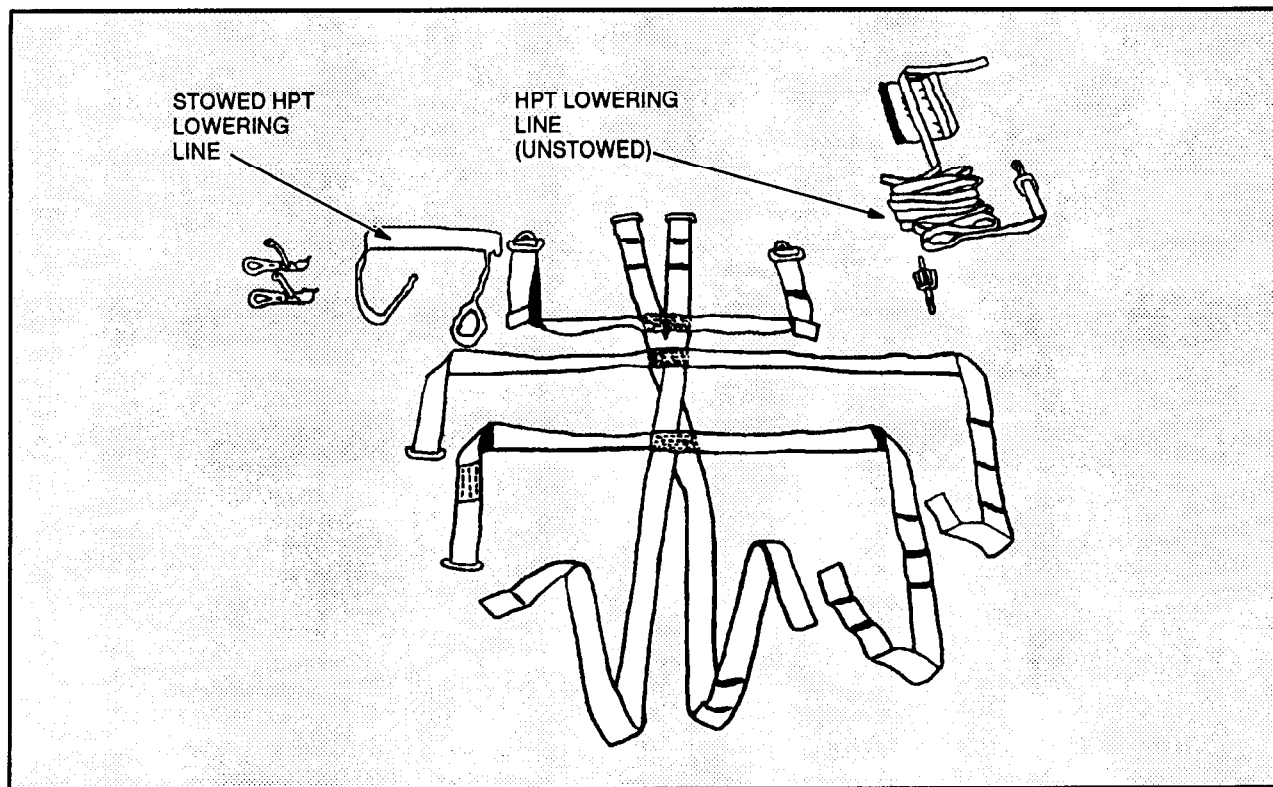


Figure 4-17. Improved equipment attachment sling and lowering line.

Attaching the Modified H-Harness to the Kit Bag.

The parachutist takes the two end web adapters and lays out the harness (with the adapters nearest the body and the second two adapters on top). He connects the equipment attachment straps as follows: With the adjustable lug nearest the body, he threads the attachment strap's end under the attaching bar of the second friction adapter and back over the top of the bar. He tightens the strap leaving about 3 inches between the nap and the bar. He repeats this step for the remaining strap. He places one quick-release snap hook on each adjustable lug. He lays out the modified H-harness with the attachment straps down and the snap hook openings up. He attaches the modified H-harness to the kit bag by centering the bag on the harness 6 inches from the snap hooks. He places the modified H-harness straps around the kit bag and threads them through the friction adapters to form a quick release. He threads the snap hooks on the attaching straps through the handles of the kit bag. He rolls and tapes any excess strap (Figure 4-18).

Attaching the Kit Bag to the Parachutist. When completely rigged, the parachutist attaches the modified H-harness to himself by running the attachment straps through the handles of the kit bag and then attaching them to the equipment attachment rings on the parachute harness. If wearing a front-mounted aviator's kit bag and a rear-mounted combat pack, he hooks up the kit bag quick-release snap hooks to the equipment attachment rings first. He then hooks up the combat pack quick-release snap hooks to the outside of the kit bag's snap hooks.

Combat Packs, Medium and Large

The parachutist attaches the medium and large combat packs to himself using the modified H-harness or the improved equipment attachment sling. He can attach the combat pack either to his front or rear (Figure 4-19).

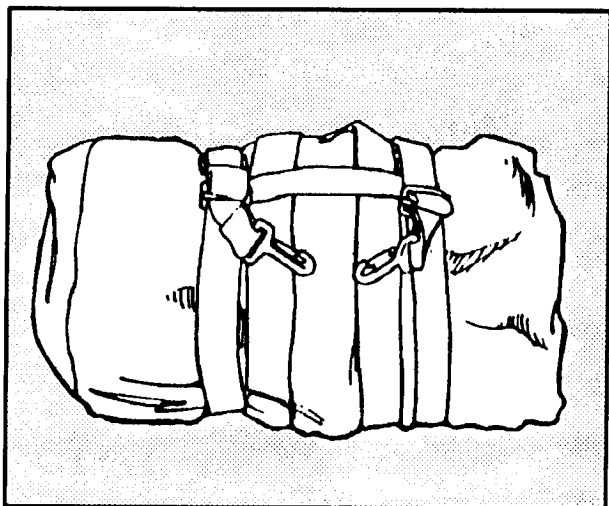


Figure 4-18. The modified H-harness attached to the kit bag.

Packing the Combat Pack. The parachutist inserts equipment in the combat pack and places padding between the load and the front portion of the pack. He fills the outside pockets with nonfragile items as the full pockets help to position the modified H-harness and attachment sling. He

closes the combat pack by engaging the drawstrings and tie-down straps. He routes the running ends of the waist straps behind the frame and secures them by tying or taping.

Rigging the Medium Combat Pack Without the Pack Frame. The parachutist turns the pack upside down. He places the modified H-harness on his pack so that the cross straps are in front of the pack and the friction adapters are touching the bottom of the pack. He runs the harness straps over the top of the pack and crosses the straps at the center of the back of the pack. He runs the straps through the friction adapters. He threads the equipment attaching straps through the intermediate friction adapters. He attaches the quick-release snap hooks to the adjustable lugs.

Attaching the Rear-Mounted Combat Pack. The parachutist loosens the shoulder straps. He steps through the shoulder straps, one leg through each strap (Figure 4-20). He attaches the lowering line to the right side lowering line attachment V-ring on the parachute harness (Figure 4-21). He attaches the quick-release snap hooks to the equipment rings on the main lift webs.

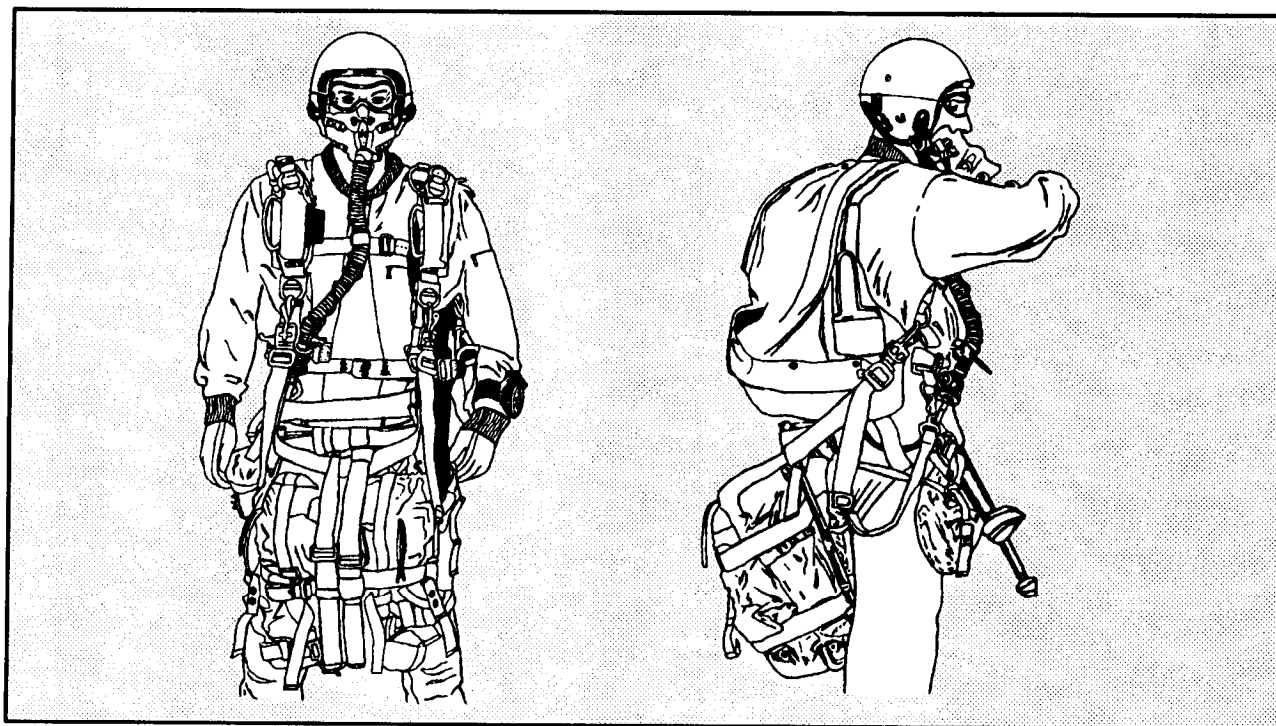


Figure 4-19. Front- or rear-mounted combat pack.

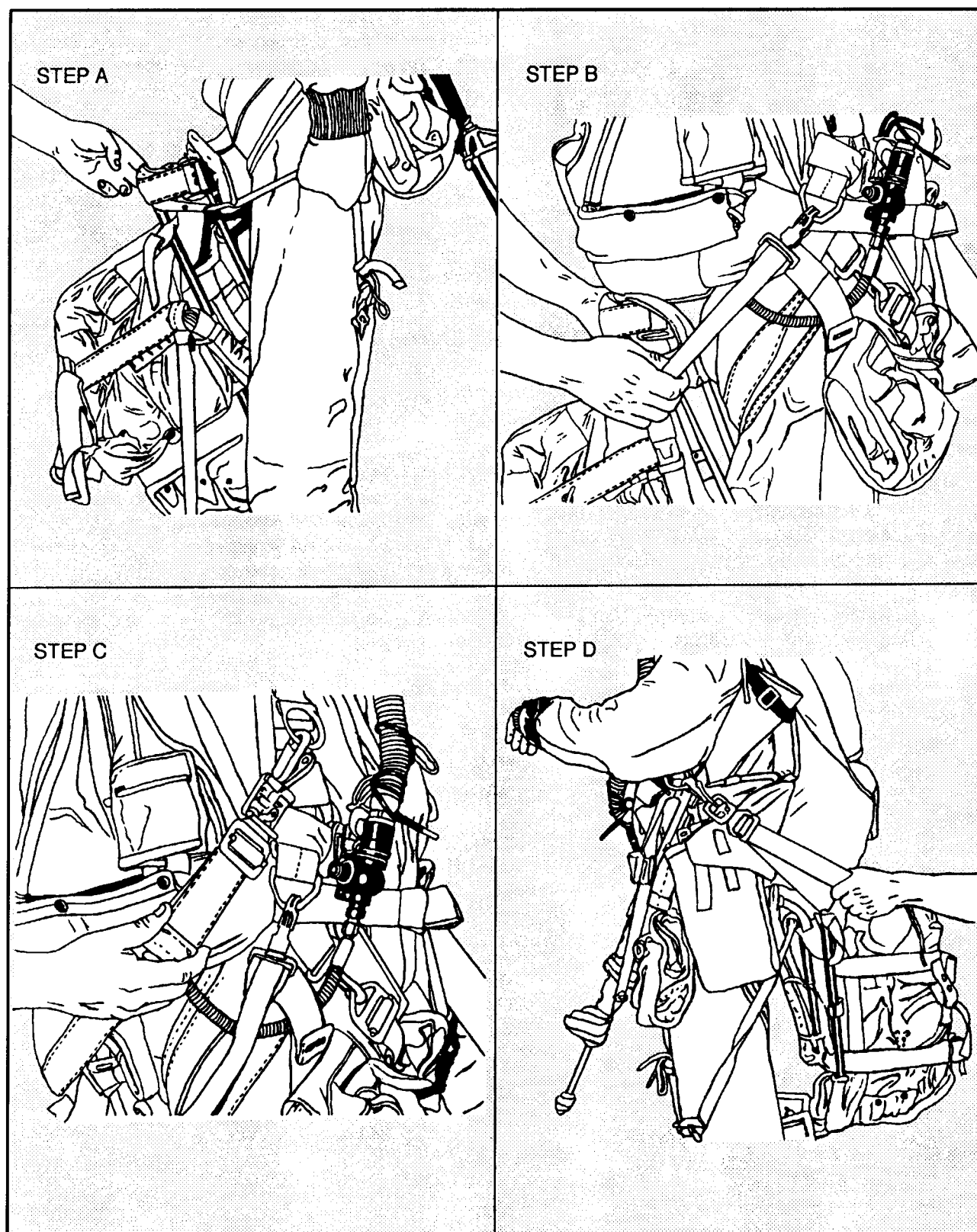


Figure 4-20. Attaching the rear-mounted combat pack.

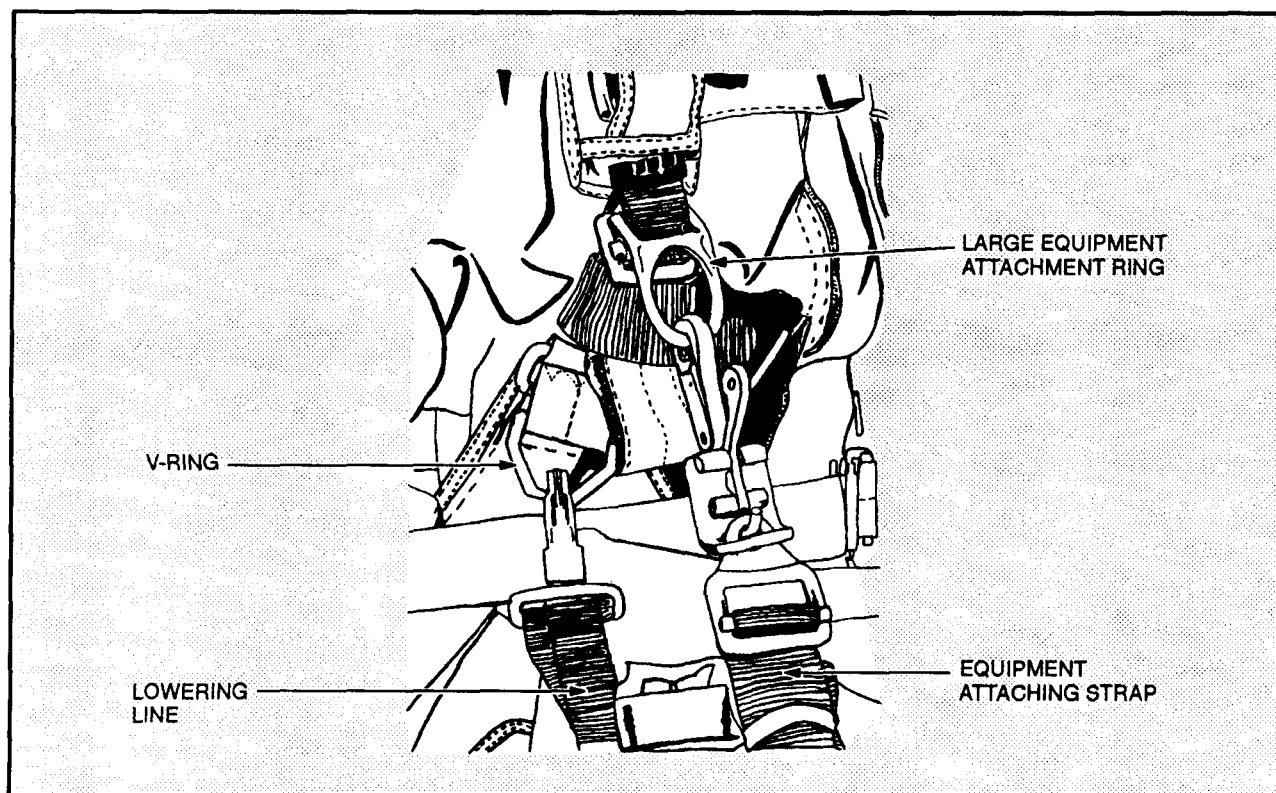


Figure 4-21. The lowering line attached to the lowering line attachment V-ring.

Attaching the Front-Mounted Combat Pack (Figure 4-22). The parachutist loosens the shoulder straps. He faces the combat pack (as in Figure 4-22, Step A) and steps through the shoulder straps, one leg through each strap (as in Figure 4-22, Step B). He attaches the lowering line to the right side lowering line attachment ring on the parachute harness (Figure 4-21). He attaches the quick-release snap hooks to the equipment rings on the main lift webs (Figure 4-22, Step C). Figure 4-23 shows a side view and a front view of a front-mounted combat pack.

Rigging the Medium and Large Combat Packs with the Pack Frame, Modified H-Harness, and Lowering Line. The parachutist—

- Turns the pack upside down. He places the modified H-harness on the pack ensuring the cross straps are to the top of the pack and the friction adapters are touching (or near) the bottom of the frame (Figure 4-24).
- Runs the harness straps over the top of the pack load and then under the top portion of the frame.
- Runs the harness straps under the horizontal bar of the frame and crosses them at the center of the back of the pack. He routes the loop end of the lowering line under the crossed diagonal straps. He passes the running end of the lowering line through its own loop and tightens it, ensuring he centers the lowering line at the intersection of the straps.
- Continues to run the straps under the frame and secures them to the friction adapters.
- Secures the lowering line stow pocket to the pack frame with retainer bands. He leaves the portion with the quick-ejector snap free for attachment to the parachute harness.
- Threads the equipment attaching straps through the intermediate friction adapters, attaches a quick-release snap hook to each adjustable lug, and rolls and tapes any excess straps.

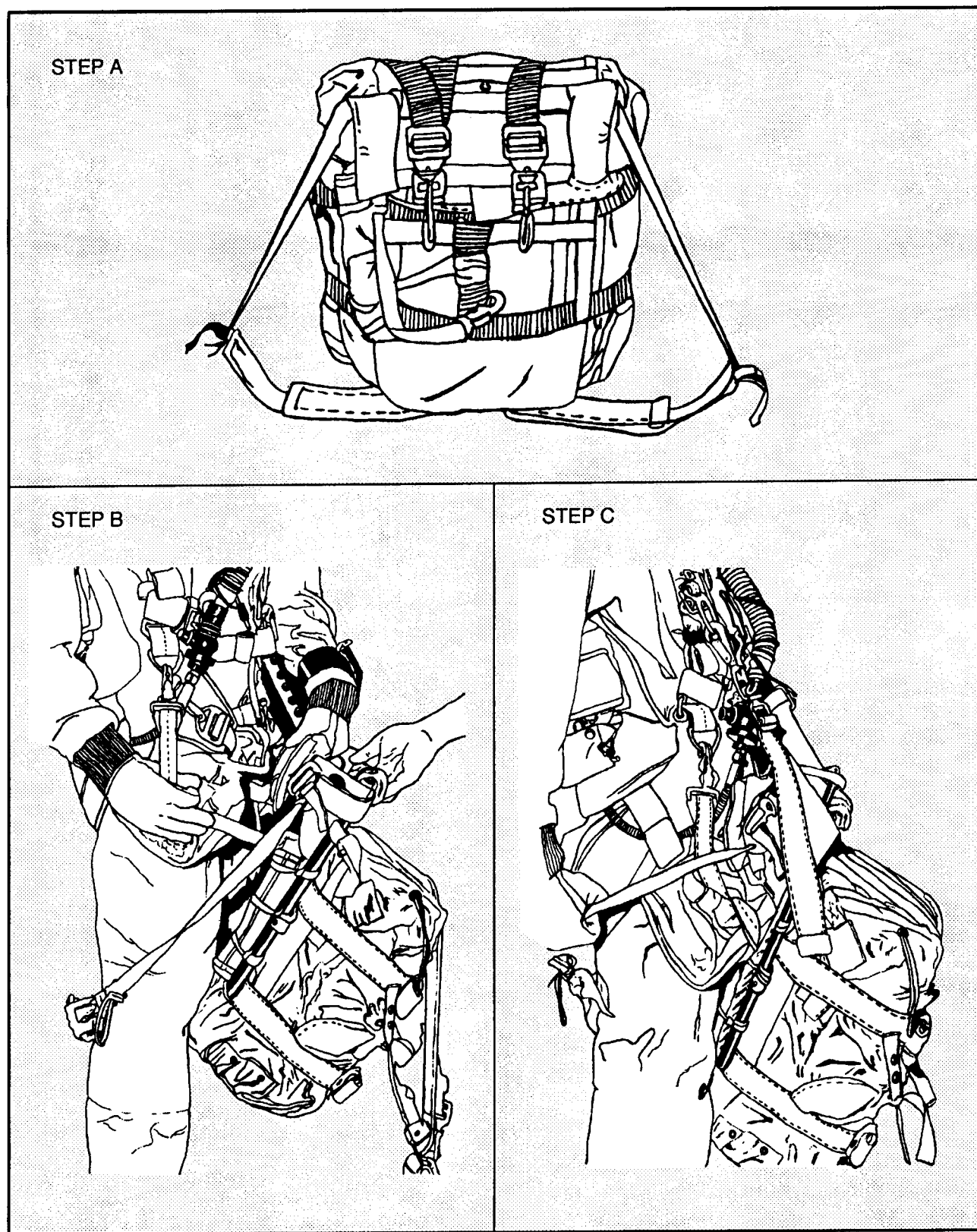


Figure 4-22. Attaching the front-mounted combat pack.

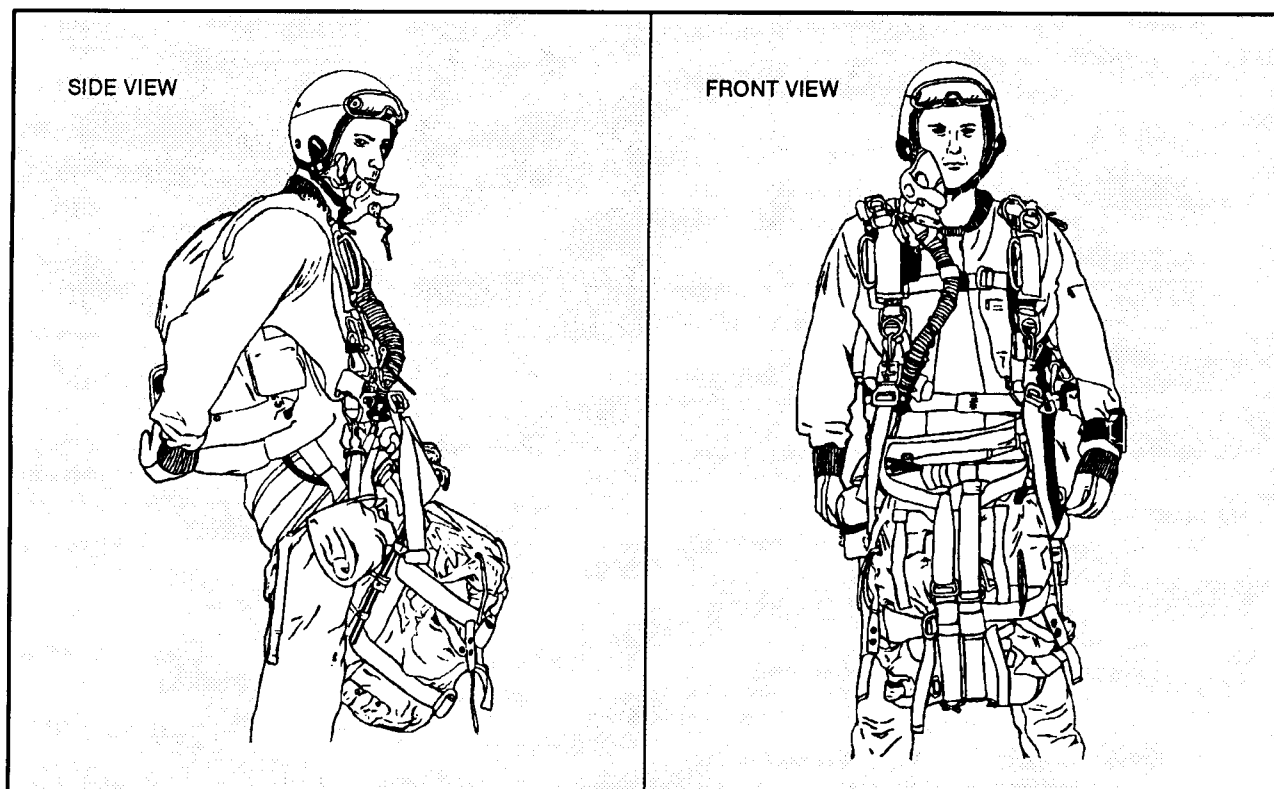


Figure 4-23. Parachutist with front-mounted combat pack.

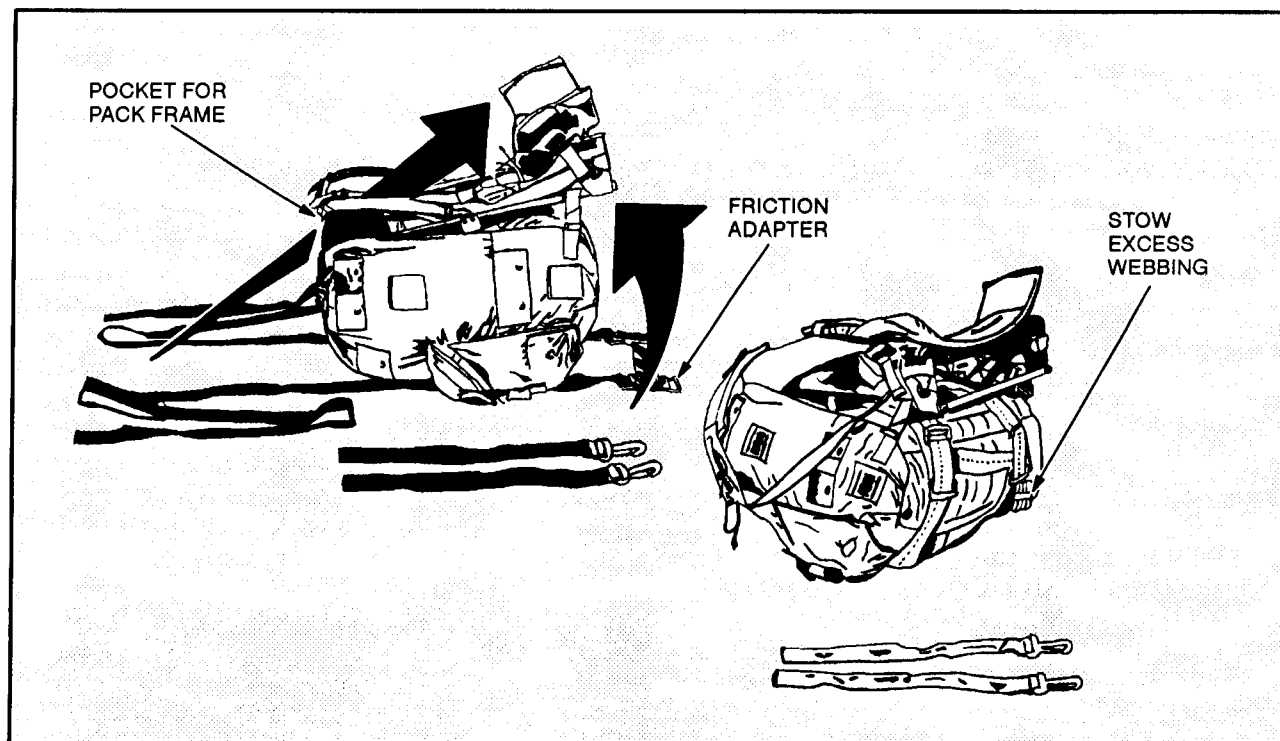


Figure 4-24. The combat pack and frame rigged with the modified H-harness.

Attaching the Combat Pack With Frame. The parachutist attaches the combat pack with frame to himself in the same manner as the combat pack without frame.

Rigging the Large Combat Pack With the Improved Equipment Attachment Sling and Lowering Line. The parachutist—

- Tightens and secures all straps on the pack and positions the pack with the frame up (Figure 4-25). He positions the harness on the frame with the friction adapters on the diagonal locking straps at the bottom of the frame and the running ends at the top of the frame. He routes the friction adapters of the diagonal locking straps under the pack frame's base. He routes the anchor straps (parachute harness attaching straps with adjustable quick-release lugs) and lateral locking straps under the shoulder straps and over the pack frame.
- Turns the pack over. He routes the running ends of the diagonal locking straps around the long axis of the pack, across the straps at the center of the back, and secures them to their respective friction adapters that protrude beneath the bottom of the pack frame. Using one turn of single Type III nylon cord (550-pound suspension line), or one turn of double 1/4-inch cotton webbing, he ties the two diagonal strap friction adapters to each other leaving an 8-inch space between the two adapters.
- Tightens the lateral locking straps and secures them around the pack and to their respective friction adapters.

NOTE: If the pack is small, the parachutist crosses and tightens the lateral locking straps and secures them around the pack and to their opposite friction adapters.

- Folds and secures the running ends of all straps to themselves with tape or ties them with 1/4-inch cotton webbing.
- Places the combat pack in an upright position.
- Attaches a quick-release snap hook to each adjustable lug so that the latch handles face

away from his body when attaching the combat pack to the equipment rings.

WARNING

The parachutist tapes all combat pack shoulder strap quick-ejector releases to preclude inadvertent release in free-fall causing instability.

Attaching the Lowering Line. The parachutist routes the loop end of the lowering line under the crossed diagonal straps between the diagonal straps and the loop on the backside of the diagonal straps. He passes the running end of the lowering line through its own loop and tightens it (Figure 4-26).

The parachutist makes S-folds with the remainder of the lowering line, places it into the retainer pocket, and secures this pocket to the appropriate side of the pack frame (right side for front mount, left side for rear mount) with retainer bands. He uses three retainer bands: two on the frame and one double wrapped around the center of the lowering line. He removes the yellow disconnect lanyard. He then attaches the lowering line quick-ejector snap to the right side lowering line attachment V-ring.

Releasing the Combat Pack. After his canopy deploys and he is clear of other parachutists and has canopy control, the parachutist loosens the combat pack's shoulder straps and pulls them clear of the kit bag. At the same time he detaches the combat pack's right side quick-ejector so that the pack falls cleanly when released. About 200 feet above the ground, he activates the remaining quick-release snap hook to allow the combat pack to fall to the end of the lowering line. To jettison the combat pack, he releases the lowering line's quick-ejector snap, allowing the pack to fall free.

WARNING

The parachutist lowers all rear-mounted combat packs with frames to avoid injury upon landing.

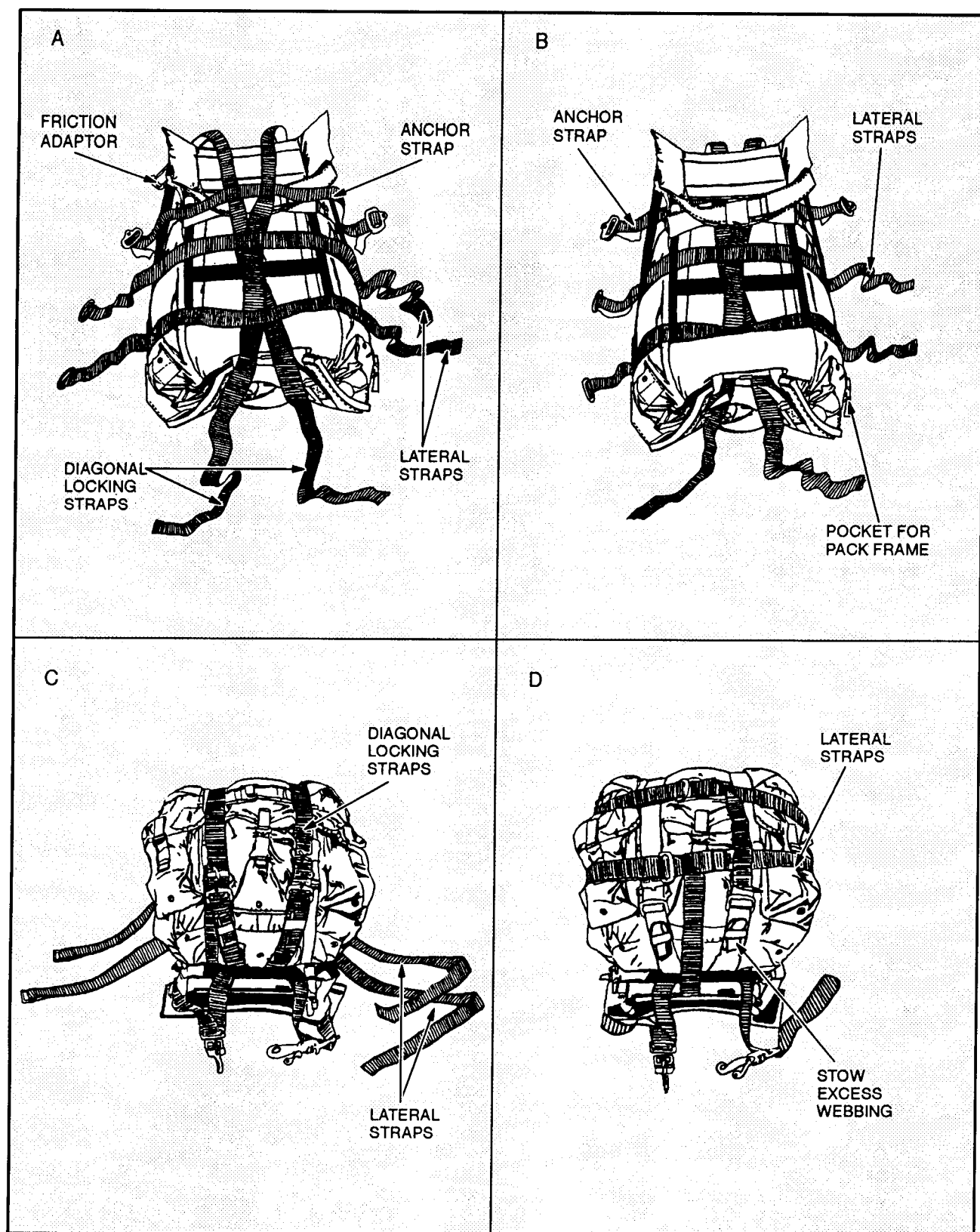


Figure 4-25. The combat pack and frame rigged with the improved equipment attachment sling.

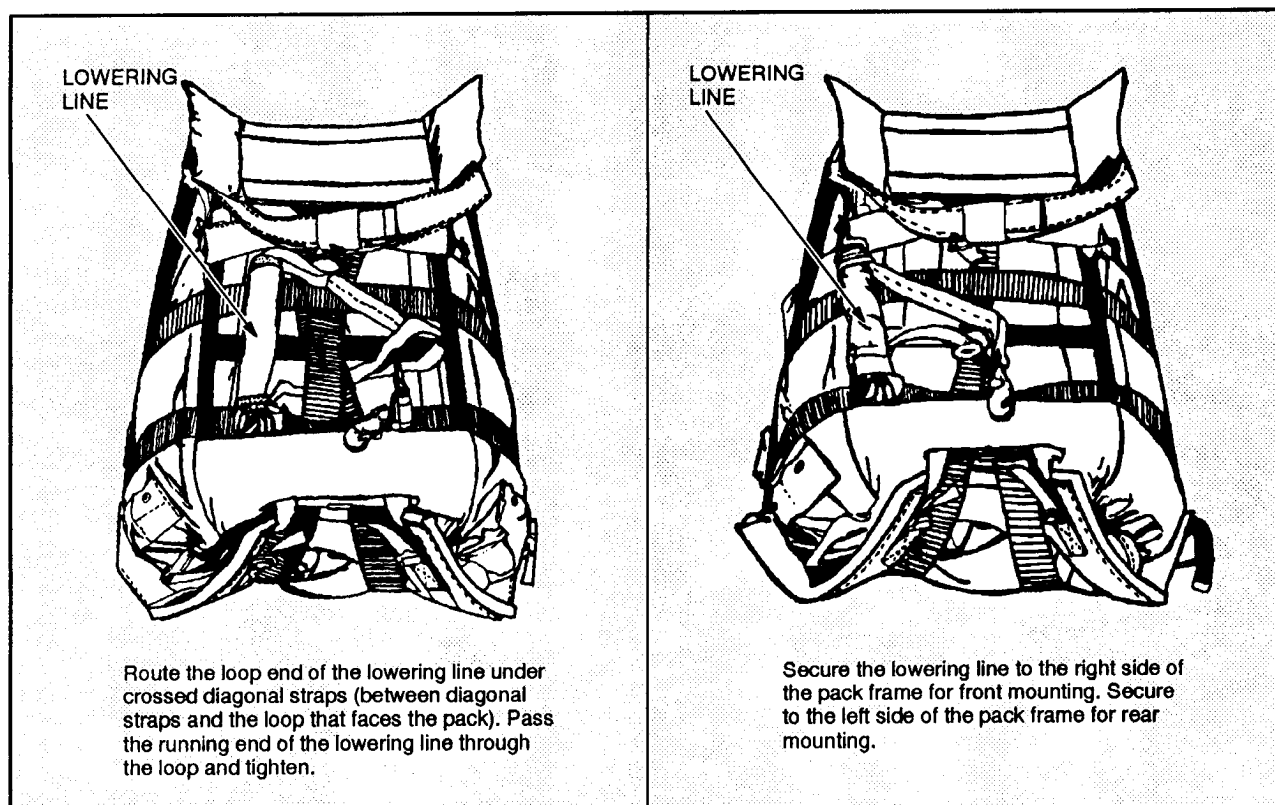


Figure 4-26. Attaching the lowering line to the combat pack.