

CHAPTER 10

JUMPMASTER AND SAFETY DUTIES IN FLIGHT

After aircraft takeoff, the PJM must remain oriented to aircraft position at all times and keep the parachutists informed of any deviations from flight plan. He may coordinate with the navigator or use strip maps and checkpoints. He also remains in communication with the pilot. This is performed by relay through the loadmaster over the interphone. On Army aircraft, the JM or safety personnel should wear a flight helmet or headset for direct communication with the pilot and to monitor the ground control element. If the JW/safety cannot wear a flight helmet or headset, communication can be made through the crew chief.

Section I

PRIMARY JUMPMASTER, SAFETY PERSONNEL, AND ASSISTANT JUMPMASTER

During flight, safety personnel constantly check on the condition of all parachutists and distribute airsickness bags where needed. They also assist the PJM in relocating personnel who are too sick to jump, jump refusals, and other types of no-jumps. If a jump refusal occurs, safety personnel move the parachutist forward in the cargo compartment to be seated.

10-1. PRIMARY JUMPMASTER

General rules stress that the PJM must—

- Not sacrifice safety for any reason.
- Rehearse JM procedures on the ground.
- Hook up before opening jump door(s) or ramp.
- Face the open jump door or tailgate when in flight.
- Maintain a firm handhold on the aircraft when working in or close to the open jump door or ramp.
- Not allow anyone in or near the open jump door without a helmet (or equivalent) and safety harness or parachute.

The PJM must remember that jumpers' eyes require 20 minutes to adjust to lower light levels before night operations. Therefore, only red compartment lights or Night Vision Imaging Systems (NVIS) lighting will be used 20 minutes before drop time. This allows for physical adjustment and minimizes the impairment of a jumper's night vision during the critical first seconds of a night drop. If the white light is substituted for the red light before drop time, the jumpers' eyes must readjust by turning on the red compartment lights for 20 minutes.

10-2. SAFETY PERSONNEL

During in-flight rigging missions, safety personnel assist in parachute issue. They also operate rigging, JMPI, and correction stations as directed by the PJM.

10-3. PRIMARY JUMPMaster/ASSISTANT JUMPMaster DUTIES

PJM/AJM duties areas follows:

- a. Enforce flight rules and regulations.
- b. Issue time warnings.
- c. Issue jump commands.
- d. Perform door safety checks.
- e. Perform outside air safety checks.
- f. Control exit of all parachutists.
- g. Eject door bundles.
- h. Perform in-flight rigging mission.

Section II

DOOR PROCEDURES AND DOOR BUNDLE EJECTION

Time warnings, door procedures, and door bundle ejection are events that commonly occur during each airdrop operation. Time warnings and door procedures are completed during each airdrop operation, but door bundles are not always ejected. The time warnings and door procedures are considered critical aspects of JM operations during all airdrop operations.

10-4. THE 20-MINUTE TIME WARNING

JMs unbuckle their seat belts and stand up. They move to the rear of the aircraft, turn, and face the parachutists. (All time warnings begin and end at the shoulders with closed fists.) They extend both arms straight forward, extending and spreading the fingers and thumb of each hand. This is repeated twice while the oral command is given.

NOTE: The 20-minute time warning may be increased to 30 minutes aboard the C-141 if the JMs need more time to accomplish their duties.

a. All CWIEs AT4JPs, and DMJPs are attached to designated parachutists and are inspected (safety personnel assist the JMs). Door bundles (if any) are unlashed and moved near the jump door(s). Once positioned, the static line of each cargo parachute is attached to the outboard anchor line cable and the following inspection sequence is completed:

- Static line and clevis (safety wire must be bent so that it has metal-to-metal contact).
- Pack closing tie.
- Drogue device (one for C-130; two for C-141).
- Point of attachment to the bundles (risers).
- Tie-down tapes (one on each corner).
- Pack tray and bundle (for any loose or excess webbing).

When the inspection is completed, the JM slaps the smooth side of the bundle and ensures it is facing the trailing edge of the door(s).

b. When the loadmaster informs the JMs that the aircraft is 10 minutes from the DZ, the JMs unbuckle their seat belts and stand up (if seated). They hookup to the inboard anchor line cable, move to the rear of the aircraft near the jump door, and transfer control of their static lines to safety personnel. They announce, SAFETY, CONTROL MY STATIC LINE, and ensure the safety has positive control before turning to face the parachutists. Safeties stow all excess static line. After inspection of the JMs' static lines, safeties move out to inspect the sticks, as indicated in paragraph 10-9.

c. The JMs begin jump commands at the 10-minute time warning.

NOTE: The 10-minute time warning may be increased to 15 minutes aboard the C-141 if the JMs need more time to accomplish their duties.

10-5. THE 10-MINUTE TIME WARNING

The JMs give the 10-minute warning, then follow the same procedures described for the 20-minute time warning.

10-6. FIRST SEVEN JUMP COMMANDS

The JM is now ready to issue the first seven jump commands.

a. After the parachutists are standing, safety personnel inspect the following items on each parachutist while moving forward in the aircraft:

- Waistband for proper quick release.
- Ejector snap on the HPT lowering line for proper attachment.

- Quick-release assembly on the weapons case for proper attachment.
- Leg straps on harness, single-point release.

b. Safeties must be alert for and correct any excess webbing or loose lowering line. Once they have checked the last parachutist, and after the command HOOK UP, they return to the aft end of the aircraft. While moving to the aft end, safeties check the fill length of each parachutist's static line to ensure proper routing and attachment to the anchor line cable.

c. After the JM receives "All okay, JM," he regains control of his static line from the safety, takes the number 1 parachutist position, and waits for slow-down procedures.

d. Once the aircrew has completed their slow-down checklist (slow aircraft to drop speed, open jump doors, deploy air deflectors, and position jump platforms), the loadmaster relinquishes control of the jump door to the JM by giving the JM a "thumbs up" signal. He then moves to the ramp area. Safety personnel then position themselves near the trail edge of the jump door and control the static line for the JM as he performs the door safety check and outside air safety check.

10-7. DOOR SAFETY CHECK

The JM is now ready to perform his door safety check (Figure 10-1). He grasps the lead edge of the door with his lead hand and transfers control of his static line back to the safety. Then, he grasps the trail edge of the door with his trail hand. Using only the lead hand, he ensures the pip pin is in place, securing the jump door in the open position on the C-130, or that the door-latch catch operates properly on the C-141.

a. **Jump Platform.** The JM checks the jump platform by—

(1) Tapping the lead down lock with the lead foot and then the trail down lock with the trail foot and visually checking to ensure they are engaged.

(2) Placing one foot in the center of the jump platform and shifting his weight to the platform, ensuring the platform can support his body weight. This foot remains in place. (If the JM removes his foot from the platform, he must again check the down locks and ensure the platform can support his body weight.) From this rest position, the JM performs all remaining duties in the door until it is time to issue the eighth jump command (or place bundles in the door).

b. **Trail Edge of Door.** With the trail hand, the JM starts at the top of the trail edge of the door, tracing all the way down to the trail down lock, then back to the top to ensure no sharp or protruding edges exist.

c. **Air Deflector.** The JM looks at the air deflector, ensuring it is fully deployed.

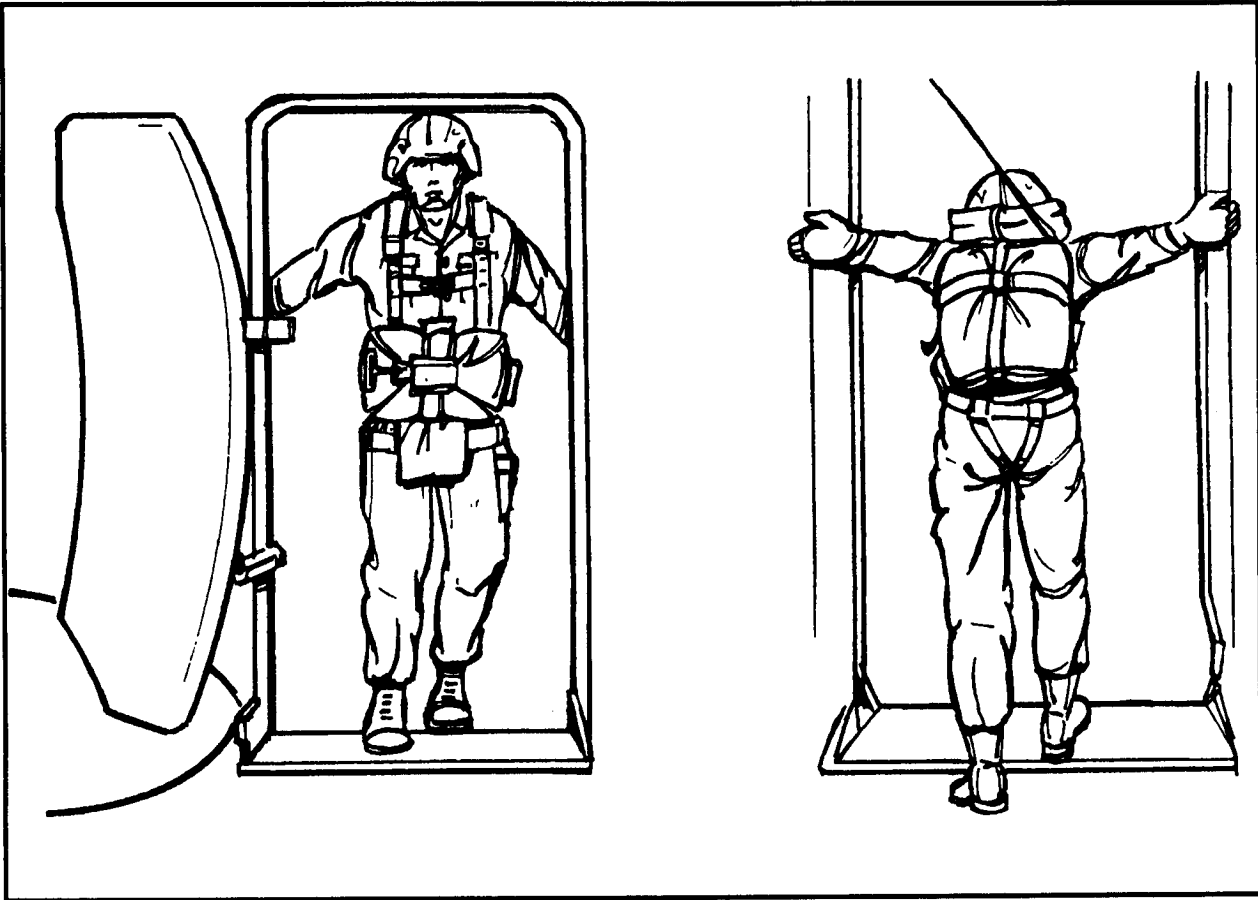


Figure 10-1. Jumpmaster door position.

10-8. INITIAL OUTSIDE AIR SAFETY CHECK AND CHECKPOINTS

The JM must make outside air safety checks to ensure there are no unsafe conditions outside the aircraft (aircraft in the formation to the rear that are below drop altitude or other low-flying aircraft). From the same rest position, the JM leans out, locks his elbows, leans far enough outside the aircraft to make a proper air safety check, and visually checks—

- Direction of flight.
- Overhead.
- Rear.
- Straight down.
- Straight to his front.
- Direction of flight.

The JM continues observing outside the aircraft and spotting for checkpoints en route to the DZ. In the absence of checkpoints, he uses additional time advisories from the air crew, which must have been identified during the pilot/PJM briefing. The navigator and primary loadmaster should also be present for this briefing. The JM relays checkpoints or time advisories to the parachutists by leaning back inside the aircraft, keeping his foot centered on the platform, facing the parachutists, and issuing the checkpoint or time advisories.

NOTE: Time warnings should be relayed to the jumpmaster/safety from the loadmaster by using hand signals. The exact hand signals must be coordinated between the jumpmaster and loadmaster during the aircrew brief. However, suggested hand signals are as follows: 1-minute time warning-the index finger extended vertically; 30-second time warning-the index finger and thumb held closely together.

10-9. THE 1-MINUTE TIME WARNING

The JM relays this warning to the parachutists by leaning back, keeping his foot centered on the platform, facing the jumpers, and extending the index finger of his lead hand. He announces, ONE MINUTE. The jumpers relay the announcement to the rear. The JM continues observing outside for the 30-second checkpoint, or until he receives a 30-second time advisory from the loadmaster.

10-10. FINAL OUTSIDE AIR SAFETY CHECK

The JM announces, THIRTY SECONDS. The jumpers relay the announcement to the rear. After the JM has given the 30-second checkpoint or relayed a 30-second time advisory, he performs his final outside air safety check. Once again, he leans out and visually checks—

- Direction of flight.
- Overhead.
- Rear. (Ensures no aircraft in the formation have dropped below jump altitude.)
- Straight down.
- Straight to the front.
- Direction of flight. (The JM may be able to see the DZ at this time, depending on the aircraft axis of approach.)

NOTE: For a CARP/VIRS DZ, the JM has no responsibility to positively identify the DZ, code letter, or color of smoke. The responsibility to positively identify the DZ, code letter, or color of smoke rests with the USAF.

a. **Unsafe Condition Outside Aircraft.** If the JM observes any unsafe conditions outside the aircraft, he notifies the loadmaster by a preplanned arm-and-hand signal (for example, a cutting motion across the throat) that a no-drop situation exists for this pass. The JM makes his final outside safety check and, based on his checkpoint or USAF advisory, determines when the aircraft is about 10 seconds (20 seconds for bundle drops) from the release point.

b. **Bundle Drops, 20 Seconds from Release Point (RP).** The JM moves back inside the aircraft and positions the first door bundle on the jump platform so that it is on its balance point with its longest dimension vertically in the door and the parachute on the top or inboard side of the bundle. Then the JM—

(1) Maintains a firm grasp on the bundle with the lead hand and a firm grasp on the trail edge of the jump door with the trail hand. He ensures that the cargo parachute static line is routed above the trail arm.

(2) Keeps his eyes on the jump caution light. When the light turns green, he ejects the door bundle(s), ensuring that it goes straight out and does not tumble.

(3) Maintains a firm grasp with his trail hand and turns toward the cargo area. The PJM and AJM make eye-to-eye contact and give each other the thumbs-up signal, indicating that the door bundle has been ejected, that they are not aware of any unsafe conditions, and that they are ready to exit personnel. (Parachutists are not positioned in the door until this is accomplished.) This procedure is followed when ejecting door bundles from one door or both doors, as long as both doors are open.

(4) Moves on line with the lead edge of the jump door and issues the eighth jump command IAW the exit procedures.

c. **No Bundle Drops, 10 Seconds from Release Point.** When door bundles are *not* used on an airborne operation, the JM makes his final check to determine that the aircraft is about 10 seconds out from the RP, based on his checkpoint or USAF advisory. Then he—

(1) Maintains a firm grasp on the trail edge of the door with the trail hand and turns toward the cargo area. The PJM and AJM make eye-to-eye contact and give each other the thumbs-up signal, indicating that there are no unsafe conditions outside the aircraft and that they are ready to exit personnel. This procedure is followed when exiting personnel from one or both doors, as long as both doors are open.

(2) Moves on line with the lead edge of the jump door and issues the eighth jump command IAW the exit procedures.

10-11. EIGHTH JUMP COMMAND

The JM issues the eighth jump command, STAND BY.

a. **Computed Air Release Point.** After issuing the eighth jump command, the JM immediately regains control of his static line from the safety. He backs

away from the door toward the middle of the aircraft to allow the safety room to control static lines. The safety receives the first parachutist's static line with the lead hand and passes it to the trail hand to control it until the parachutist exits.

b. Ground Marking Release Point. After issuing the eighth jump command, the JM continues to spot for the DZ and DZ markings. He backs away from the door toward the middle of the aircraft to allow the safety room to control static lines. When the line of the panels break the trailing edge of the jump door, the JM issues the command, GO. The safety receives the first parachutist's static line with the lead hand and passes it to the trail hand to control it until the parachutist exits.

10-12. NINTH JUMP COMMAND

When the JM issues the ninth jump command, GO, he ensures that he has backed away from the door (with lead edge of door bisecting his body) and away from the safety, to avoid confusion or congestion. Safety personnel take static lines while the JM controls the flow of parachutists. After all parachutists have exited the aircraft, the PJM and AJM hand off their static lines to the safeties and exit the aircraft.

a. Red Light Procedures. If a JM, safety, or parachutist sees a red jump caution light, he sounds off with "Red light," and the JM moves forward to block the flow of the stick. If any parachutist tries to exit on the red light, he will be allowed to exit, except in the case of an unsafe parachutist. No one touches or physically tries to stop a parachutist who is past the leading edge of the door. Parachutists will be stopped only by oral command; this reduces the risk of accidentally activating the jumper's reserve.

b. Jump Refusals. When removing a jump refusal from the door, the JM tells the refusal, GO, GO, GO. If the jumper does not exit, he tells the refusal, YOU ARE A JUMP REFUSAL AND I AM TAKING YOU OUT OF THE DOOR. Then, the JM should approach the parachutist from the rear and grasp the sides of his parachute. The JM **never** puts his hand in front of the parachutist's face or grabs the back of his helmet.

(1) The safety warns the refusal that he is being brought back inside the aircraft. Under **NO** condition should the JM reach around in front of the refusal to pull him back into the aircraft; the JM could accidentally hit or grab the reserve rip cord grip.

(2) After the jump refusal is brought inside the aircraft, he is guided as far forward in the aircraft as is possible, seated, buckled up, unhooked, and directed to not touch his equipment. During training, a jump refusal will stop the jump for that pass.

c. **Unsafe Parachutist.** If a parachutist has passed the leading edge of the door and must be stopped because of a misrouted static line or other critical deficiency, the safety approaches the jumper from the back to grab the sides of his parachute. The safety never reaches around in front of the parachutist, puts his hands in front of the parachutist's face, or grabs the back of his helmet.

10-13. TOWED PARACHUTIST (FIXED-WING AIRCRAFT)

Actions to retrieve or cut free a towed parachutist areas follows:

a. **JM Actions.** If the JM observes a towed parachutist, he takes the following actions. The JM—

- (1) Stops the stick of parachutists (if applicable).
- (2) Notifies the loadmaster, who then notifies the pilot and requests that drop altitude be maintained.
- (3) Identifies how the parachutist is being towed. If the parachutist is being towed by anything other than the lowering line or static line, the JM attempts to free him. If the parachutist is being towed by a lowering line, the JM immediately cuts the lowering line, thus freeing the parachutist. If the parachutist is being towed by the static line, the JM initiates recovery procedures.

b. **JM Recommendations.** The JM observes the towed parachutist and recommends whether to retrieve or cut the parachutist free. The recommendation is relayed by the loadmaster to the pilot. The pilot makes the decision. If the decision is to cut the jumper free, the loadmaster will cut the static line on command of the pilot. Priority is as follows:

(1) **Door.** Safety personnel move the remainder of the stick toward the front of the aircraft. If the parachutist is to be retrieved, the loadmaster installs the retrieval bar on the C-141 or the CGU1-B cargo strap on the C-130, retracts or folds in the jump platform, and initiates retrieval. All personnel stay clear of the door and line of travel of the static line retriever cable. When the parachutist has been retrieved to the door, the JM and safety personnel gain physical control of the parachutist. The loadmaster relieves tension from the static line retriever so that the parachutist can be brought inside the aircraft. The retrieved parachutist is moved all the way forward and is seated. He does not jump again. If the retrieval is unsuccessful and the parachutist must be cut free, the loadmaster cuts the static line.

(2) **Ramp.** If a parachutist is towed following a ramp exit and is to be cut free, the loadmaster partly retrieves the static lines to reach the towed parachutist's static line in order to cut it. If the parachutist is to be retrieved, the loadmaster installs a CGU1-B cargo strap (C-130) about 5 1/2 feet above the ramp. The static lines are retrieved over the CGU1-B strap. As the parachutist is retrieved to the ramp area, the JM and safety personnel gain physical control of him. The parachutist is pulled into the aircraft (under the strap) as the loadmaster relieves tension from

the static line retriever cable. The parachutist is moved all the way forward and is seated; he does not jump again.

c. **Modifications to Towed Jumper Procedures.** Occasionally, the above towed jumper procedures must be modified, for example, AMC CCT, PJ, and SOWT. JMs are responsible for the safety of the parachutists' equipment checks and deployment safety as long as they are on board the deployment aircraft. The loadmaster(s) is trained and responsible for retrieving towed parachutists. No additional JMs or safeties are required to remain on board the aircraft for CCT, PJ, or SOWT deployments. If all parachutists have exited, those actions described as JM responsibilities are accomplished by the loadmaster(s). The aircrew is responsible for all equipment left on board the aircraft by the jump unit until it can be retrieved or turned over to the unit concerned.

NOTE: Towed jumper procedures for rotary-wing aircraft are addressed in Part Four, Aircraft Used in Airborne Operations.

d. **Safety Duties.** After all parachutists have exited (including JMs), the safety visually clears to the rear of the jump door, gives the USAF loadmaster a thumbs-up signal, and an oral YOUR DOOR, AIR FORCE. This indicates that all parachutists are free and clear of the aircraft.

e. **Static Line and D-Bag Retrieval.** Safety personnel and the loadmaster retrieve the static lines and deployment bags. Once the static lines and deployment bags are inside the aircraft, safety personnel detach the static lines and store them with the deployment bags in extra aviator's kit bags.

f. **During Return to Departure Airfield (DA).** While en route to the DA, safety personnel obtain the name, rank, social security number, unit, and reason (that is, sickness, equipment malfunction, jump refusal) for any manifested parachutist remaining on board. They also check the aircraft for any Army equipment that was left on board for turn-into the DACO, collect trash and airsick bags, and reinstall seats and seat belts if subsequent lifts are planned.

g. **At Departure Airfield.** On return to the DA, safety personnel turn in all air items (reserves, deployment bags, and kit bags) left on board the aircraft to the storage facility (*obtain a receipt*). They also turn over any unit or personal equipment left aboard the aircraft to the DACO. All jump refusals and personnel left aboard the aircraft are immediately turned over to the DACO with a full account of the circumstances for each. Any jump refusal's personal equipment remains under DACO control until relieved of authority by competent unit personnel.