

Airspeed affects the minimum bailout altitude. From the standpoint of deployment of the parachute, extremely slow airspeed is not desirable at low altitudes. Increasing airspeed can decrease the minimum altitude from which safe bailout may be expected. A parachute canopy inflates in a given distance, regardless of the speed or altitude at which it is deployed. See figure 3-3. The trajectory of a falling body is a curve when it has an initial component of velocity in the horizontal direction. Thus, the actual distance traveled through the air is greater than the vertical distance dropped. Applying this effect to a parachute, a canopy with an initial horizontal velocity will inflate in a shorter vertical distance than one without. Therefore, it can be expected that as airspeed increases, the minimum safe altitude for bailout becomes lower. A practical limit for this effect occurs when parachute opening shock becomes intolerable, or tumbling is severe enough to hinder rapid pulling of the ripcord. At very low altitudes, it is therefore, generally more desirable to bail out at a high airspeed (within airplane placard speed) than a low airspeed. However, airspeed should not be sought at the expense of altitude. If the airplane is controllable, at high speed and low altitude, it is usually better to trade airspeed for altitude. Although a successful bailout may be possible from as low as 400 or 500 feet, the chances for survival are best when above 2000 feet.

High Altitude Bailout

Bailout at high altitudes introduces the problems of lack of oxygen, low temperatures, and high parachute opening shock. To minimize these problems, it is necessary to free fall to lower altitudes. Descent time and opening shock can be determined from figure 3-3. The parachute is equipped with an auto-

matic ripcord release which will open the parachute at the preset altitude of 14,000 feet. If bailout is below 14,000 feet, the parachute will open at the preset time.

Over Water Bailout

Successful over water bailouts require additional consideration and preparation time. When over water, bailout is not recommended unless visual contact is made with adequate surface help. If no rescue vessels are in the vicinity, bailout should be used only as a last resort because of the extreme difficulty of getting the crew together in the water. The boom operator should release the dinghy transmitter before they bail out. In any but the warmest seas, a man will survive only a few hours if kept afloat by means of a life vest only. Wearing an exposure suit will increase this time but still cannot compare with the time of survival possible in a life raft. If surface help is available, head the airplane in a direction to allow the crew to drift into the course and just ahead of the rescue vessel.

WARNING

For over water bailout, exposure suits available in the airplane should be put on if time permits. Exposure suits should be put on over flying suits. The life vest and then the parachute harness are put on next. Mittens will be found in the leg pockets of the exposure suit.

BAILOUT (CP reads if time permits)**1. CREW - ALERT (P, CP)**

Time permitting, pilot directs crew "Prepare for bailout" on CALL position of interphone and receives acknowledgement. Directs copilot to give 3 short rings on the alarm bell.

WARNING

- The boom should be stowed if possible to prevent a chance contact with the boom during bailout.
- When the "Prepare for bailout" signal is given, each man will recheck his parachute harness for proper fit.

2. SIF - EMERGENCY (CP)**3. OXYGEN MASK AND HELMET -ON (ALL)**

Don oxygen mask and attach bailout oxygen bottle, unless immediate bailout is required.

4. GEAR - UP (if applicable) (CP)**WARNING**

Egress from the airplane may be extremely hazardous if the gear is extended during bailout. Only as a last resort should bailout be attempted with gear or gear doors extended.

5. CABIN PRESSURE - RELEASE (P)

Pilot will pull cabin pressure emergency release handle.

NOTE

Each man should make sure his individual life raft pack (survival kit) is snapped into the parachute harness. Crew members should check each other to see that all straps and packs are properly adjusted. For over-water bailout boom operator stand by to open overwing hatches and release dinghy transmitter. Navigator should stand by to actuate the chinning bar when directed by the pilot.

6. AIRSPEED ADJUST (P)

Time permitting, adjust airspeed to insure that it is in a desirable range.

7. ALARM BELL -ON (CP)

When the pilot gives the bailout order the boom operator or the navigator will pull the chinning bar down, lift the crew entry chute floor grille and bailout as shown in figure 3-4).

When over water, the boom operator will release dinghy transmitter. If time permits they should immediately proceed to control cabin and out through the crew entry chute ; if time does not permit they will go out the aft hatch.

WARNING

- If passengers are aboard it may be necessary to open the aft emergency exit hatch to permit a faster bailout. See WARNING, figure 3-3. If the emergency is such that the boom operator and extra crew members cannot reach the control cabin, it will be necessary to open the aft emergency exit hatch to bailout. It is possible to open the aft emergency exit hatch safely at speeds

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Over Water Bailout

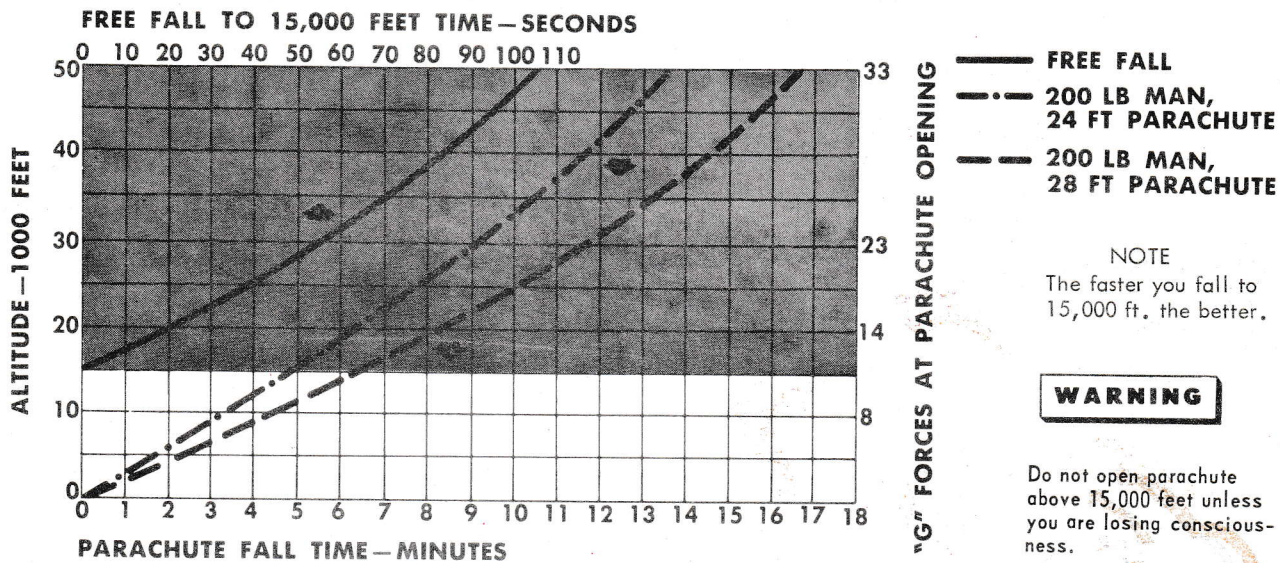
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greater than 200 KIAS; however, bailing out of the aft hatch at speeds in excess of 200 KIAS is not recommended.

- Bailing out of the overwing hatches is not recommended because of the possibility of striking the wing at speeds below 300 KIAS.
- The crew member should unfasten his oxygen mask shortly before reaching the ground.



bailout descent time

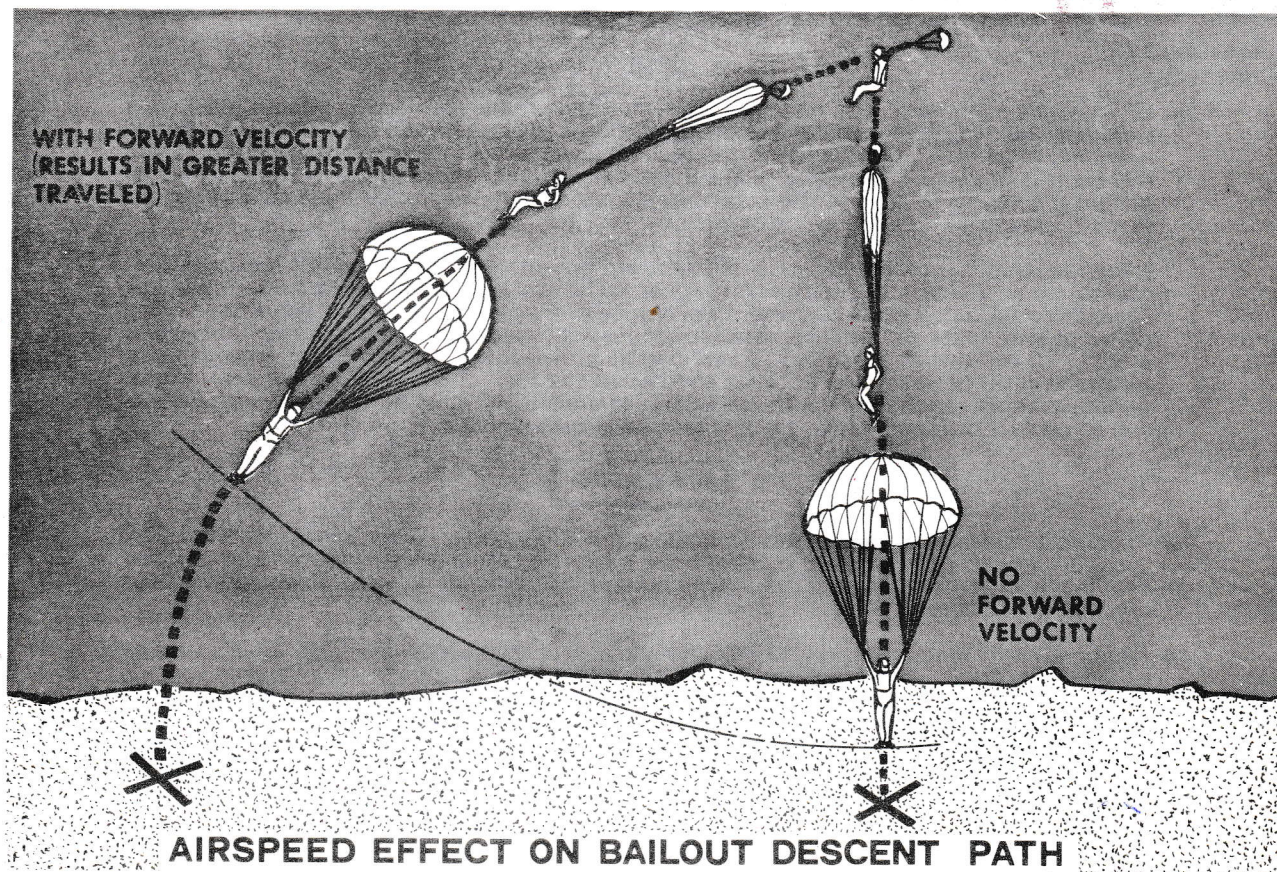


Figure 3-3

emergency escape routes and exits

WARNING

BAILING OUT OF THE OVERWING HATCHES IS NOT RECOMMENDED BECAUSE OF THE POSSIBILITY OF STRIKING THE WING AT SPEEDS BELOW 300 KIAS.

DITCHING HANDHOLDS
ENABLE CREW TO
CLIMB ON TOP OF
AIRCRAFT DURING
DITCHING






ESCAPE
ROPE

EMERGENCY
EXIT SPOILER

PRIMARY
EXIT

CARGO DOOR
THIS EXIT
TO BE USED
PRIMARILY WHEN
TROOPS ARE CARRIED

ESCAPE
ROPES

-  IN FLIGHT EXITS (PRIMARY)
-  IN FLIGHT EXITS (SECONDARY)
-  DITCHING EXITS
-  GROUND EXITS
-  ROUTES

NOTE

- IN THE EVENT EMERGENCY EXIT IS REQUIRED ON THE GROUND DUE TO A CRASH LANDING, COLLAPSED LANDING GEAR, OR OTHER GROUND EMERGENCY, ALL CREW MEMBERS SHOULD UNSNAP THEIR PARACHUTE HARNESSES PRIOR TO ABANDONING THE AIRPLANE. EGRESS FROM THE AIRPLANE WILL BE EXPEDITED IF THE PARACHUTE IS NOT WORN. HOWEVER, IF THE SITE IS OTHER THAN AN ACTIVE AIRFIELD, CONSIDERATION SHOULD BE GIVEN TO THE NEED FOR THE PARACHUTE FOR SURVIVAL, IN WHICH CASE THE PARACHUTE SHOULD BE HAND-CARRIED OR THROWN OUT OF THE AIRPLANE.
- BEFORE OPENING EMERGENCY EXIT HATCHES IN FLIGHT, THE FUSELAGE MUST BE DEPRESSURIZED AND PERSONNEL IN THE CARGO COMPARTMENT SHOULD BE STATIONED ALONG THE SIDE OF THE AIRPLANE JUST FORWARD OF THE HATCH BEING REMOVED. CREW MEMBER OPENING HATCH SHOULD STAND JUST FORWARD OF THE CENTERLINE OF THE HATCH; BE PREPARED FOR THE AFT EDGE OF THE HATCH TO ROTATE INBOARD AS A RESULT OF INFLOWING SLIPSTREAM. OPEN OVERWING EMERGENCY EXIT HATCH BY PULLING LOCK HANDLE AT RIGHT OF HATCH AND HOLDING FIXED HANDLE AT TOP. OPEN AFT HATCH BY TURNING LOCK HANDLE AT RIGHT. EXCEPT WHEN AIRPLANE IS TO BE ABANDONED HATCHES SHOULD BE STOWED IN BOOM POD TO PREVENT THEM FROM BEING THROWN AROUND DURING LANDING.

WARNING

- IF A CARGO COMPARTMENT HATCH SHOULD COME OUT DURING FLIGHT, A PRESSURE DIFFERENTIAL MAY CAUSE THE CARGO DOOR PRESSURE PLATES TO OPEN AND THE CARGO DOOR WARNING LIGHT TO COME ON. IF THIS SITUATION SHOULD OCCUR DURING TAKEOFF, SMOKE FROM THE NOSE WHEEL COMPARTMENT MAY ENTER THE COCKPIT.
- EMERGENCY EXIT HATCHES SHOULD NOT BE REMOVED UNLESS ABSOLUTELY NECESSARY. REDUCE AIRSPEED AS LOW AS PRACTICAL, PREFERABLE BELOW 150 KIAS, BEFORE OPENING EITHER OF THE OVERWING HATCHES OR THE AFT EMERGENCY HATCH. HOWEVER, IT IS POSSIBLE TO OPEN THE AFT EMERGENCY EXIT HATCH SAFELY AT SPEEDS GREATER THAN 200 KIAS. IF BOTH THE OVERWING HATCHES AND THE AFT EMERGENCY HATCH ARE TO BE OPENED, THE AFT EMERGENCY HATCH SHOULD BE OPENED FIRST TO MINIMIZE THE FORCES ACTING TO PUSH THE HATCH INWARD. ALL HATCHES MAY BE EXPECTED TO OPEN WITH CONSIDERABLE INWARD FORCE IF THE CREW ENTRY DOOR HAS BEEN JETTISONED AND THE EMERGENCY EXIT SPOILER EXTENDED.

Figure 3-4 (Sheet 1 of 7)

emergency escape routes and exits

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DITCHING HANDHOLDS ENABLE CREW TO CLIMB ON TOP OF AIRCRAFT DURING DITCHING

ESCAPE ROPE
EMERGENCY EXIT SPOILER

CARGO DOOR
THIS EXIT
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ESCAPE
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IN FLIGHT EXITS (PRIMARY)
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NOTE

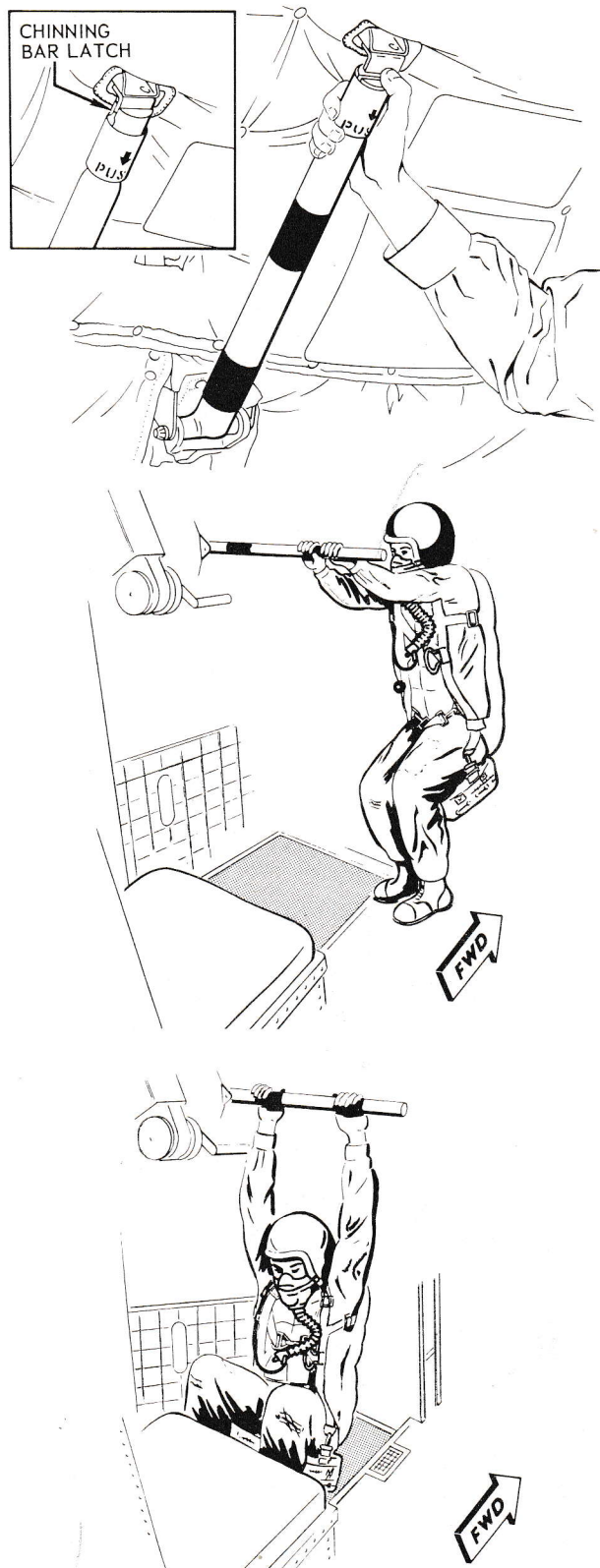
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Figure 3-4 (Sheet 1 of 7)

CREW ENTRY CHUTE (PRIMARY INFLIGHT EXIT)



1. Don oxygen masks and bail-out oxygen bottles if altitude requires and depressurize aircraft.
2. Remove chinning bar safety pin, if installed.
3. Press chinning bar plunger at top of bar into the chinning bar sleeve to disengage the latch and pull the bar down to the horizontal position. This will release the crew entry door and extend the entry chute spoiler.
4. Raise and latch floor grille.
5. Grasp chinning bar centrally over the chute area facing aft and drop feet into chute.
6. When body position stabilizes, tuck knees up and let go both hands simultaneously. As soon as possible move hands down and across the chest and grasp the parachute harness; this prevents the elbows from contacting the sides of the chute and the hands and arms from contacting the spoiler when the body rotates as it enters the slipstream.
7. Delay pulling rip chord until well clear of the airplane if altitude permits.

WARNING

- It is recommended that crash helmets be worn during bail-out to prevent injuries if head should strike entry chute.
- It is also advisable to retract the main landing gear and stow the boom if possible to prevent chance of being blown against an extended gear or boom.

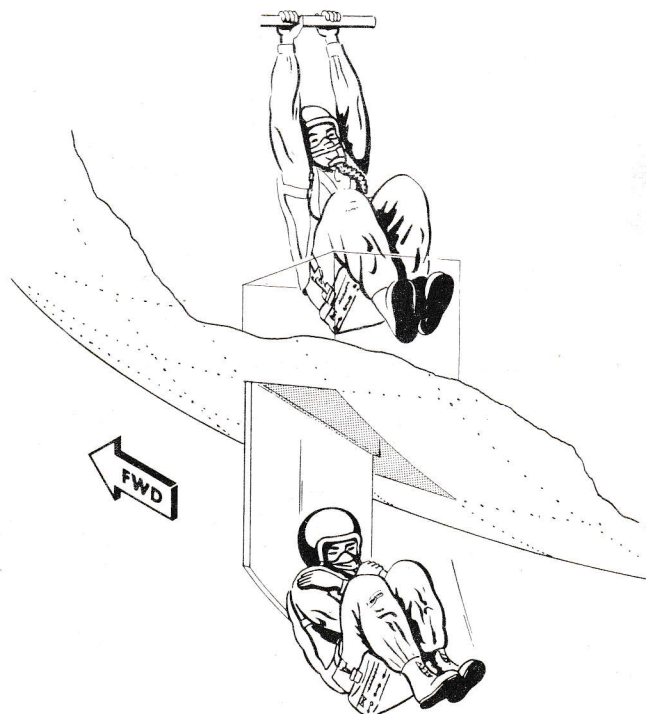


Figure 3-4 (Sheet 2 of 7)

emergency escape routes and exits (cont)



OPENING OVERWING EMERGENCY EXIT HATCHES

Stand at approximately the forward edge of the hatch facing aft. Place left hand on door handle. With the other hand pull down the lock handle and pull hatch in. Be prepared for sudden opening of hatch if emergency exit spoiler is extended. If this does not unlatch the exit hatch, push on the hatch with a shoulder to reduce pressure on the latching mechanism, and with a finger or a tool, pull the hatch over-center lock mechanism (figure 1-61, sheet 2) inboard. This will unlatch the hatch.

OPENING AFT EMERGENCY EXIT HATCH

Stand at approximately the forward edge of the hatch facing aft. Place left hand on upper door handle and reach across with the right hand and raise lock handle to the vertical position. Quickly move right hand to lower door handle and pull inboard. Be prepared for sudden opening of hatch if emergency exit spoiler is extended.

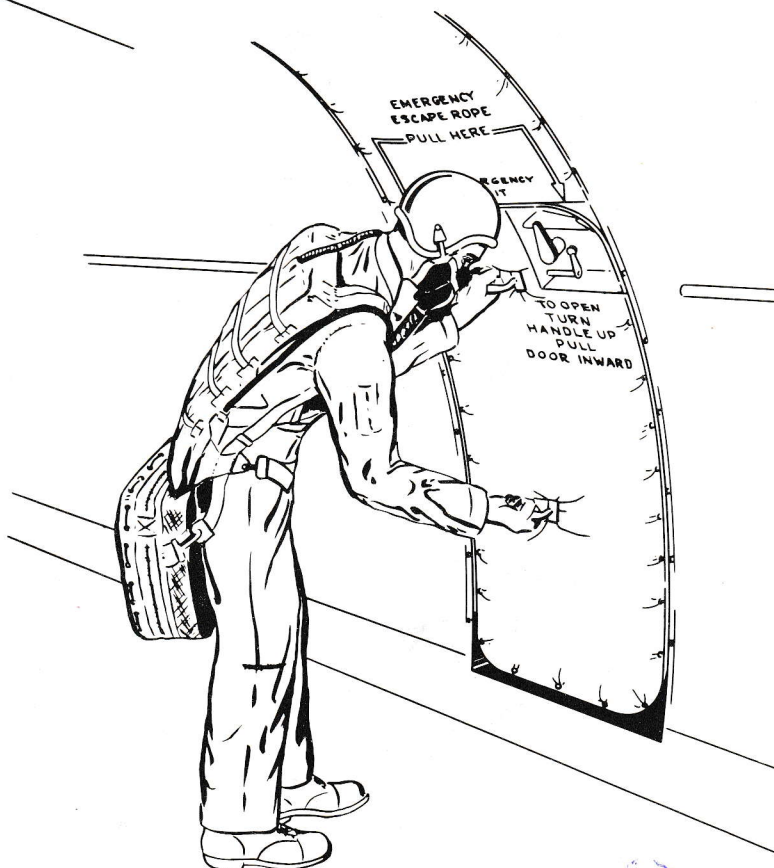
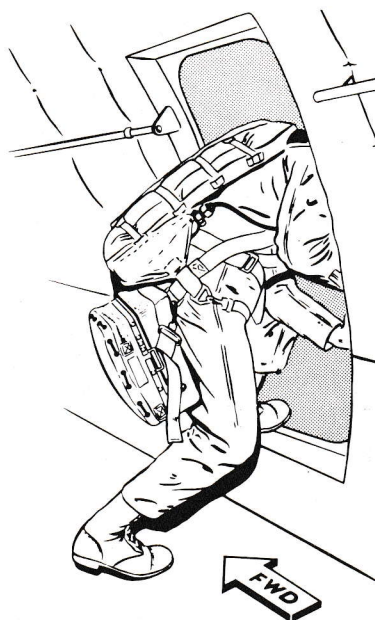


Figure 3-4 (Sheet 3 of 7)



AFT EMERGENCY EXIT HATCH
(USE ONLY IF CREW ENTRY
CHUTE CANNOT BE REACHED)

150 KIAS OR BELOW

Dive through hatch

ABOVE 150 KIAS

1. Approach hatch from forward side.
2. Grasp aft edge of hatch frame.

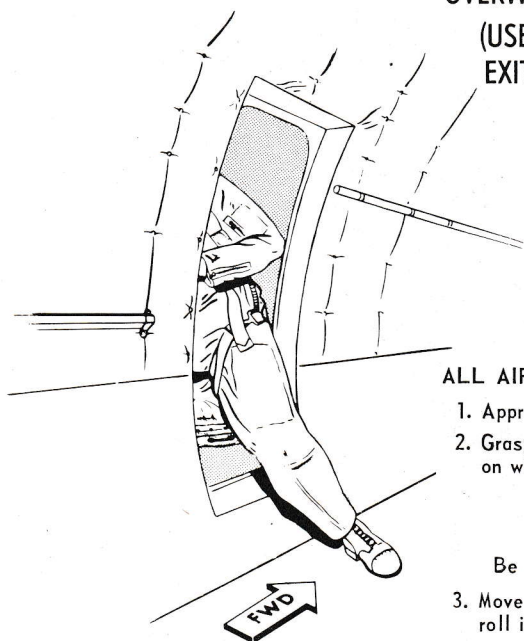
WARNING

Be prepared for inflow of air across
aft edge of hatch frame that ap-
proaches airplane speed in velocity.

3. With shoulder against aft edge of hatch frame,
place left foot at forward corner of hatch and
roll into slipstream.
4. Using hands and feet, push away from side of
airplane if possible.
5. Delay pulling ripcord until well clear of air-
plane if altitude permits.



OVERWING EMERGENCY EXIT HATCH
(USE ONLY IF OTHER ESCAPE
EXITS CANNOT BE REACHED)



ALL AIRSPEEDS

1. Approach hatch from forward side.
2. Grasp aft edge of hatch frame and step out
on wing with one foot.

WARNING

Be prepared for strong inflow of air.

3. Move head and shoulders through hatch and
roll into slipstream.
4. Using hands and feet, push away from side
of airplane, if possible.
5. Delay pulling ripcord until well clear of air-
plane if altitude permits.

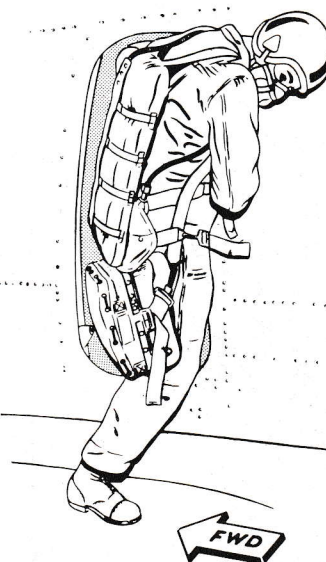
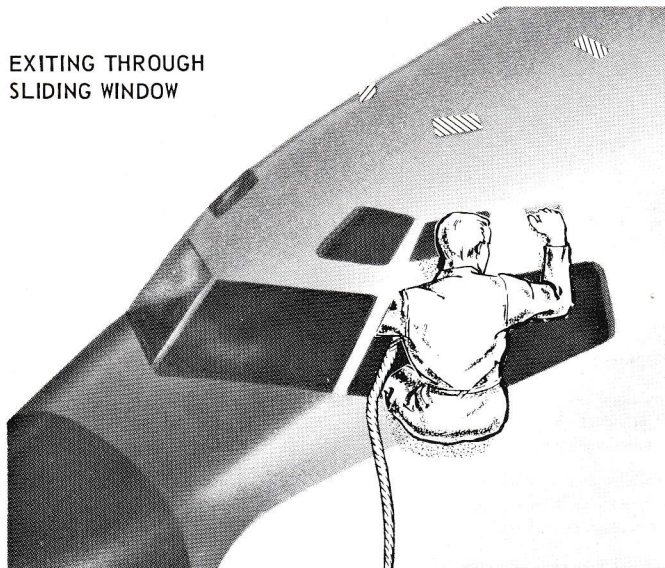


Figure 3-4 (Sheet 4 of 7)

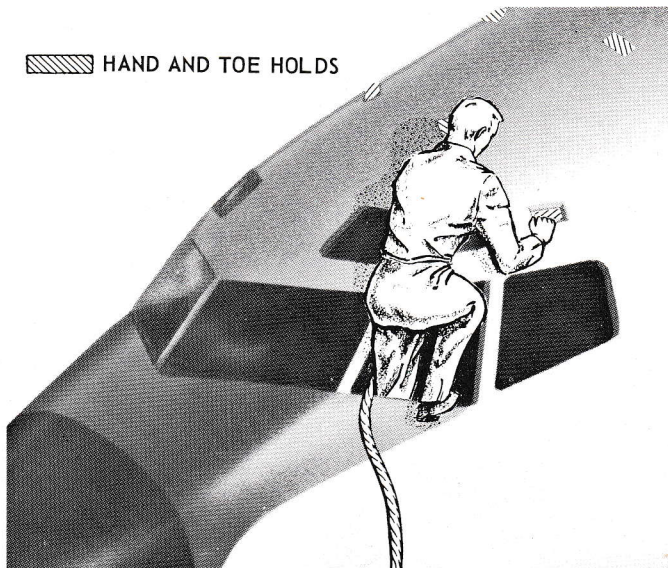
emergency escape routes and exits (cont)

EXITING THROUGH
SLIDING WINDOW



Open sliding window, throw loose end of escape rope out window and move head and shoulders through window facing inboard.

▨ HAND AND TOE HOLDS

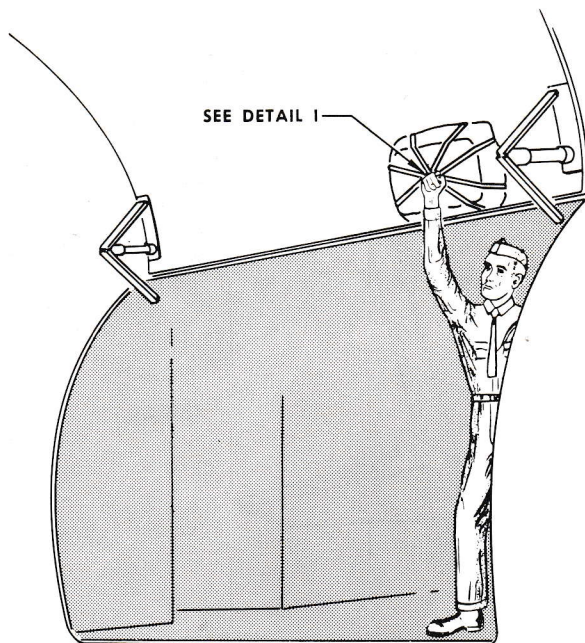


Grab hand hold above window No. 2 and pull body through open window, use window frame and seat as necessary to maintain balance.



Climb through window, wrap rope around leg and go down rope hand over hand (do not slide as this may cause rope burns on hands).

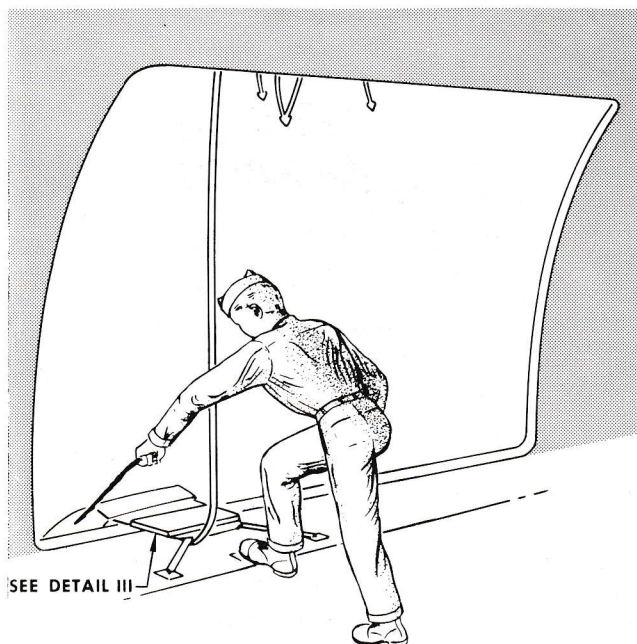
Figure 3-4 (Sheet 5 of 7)



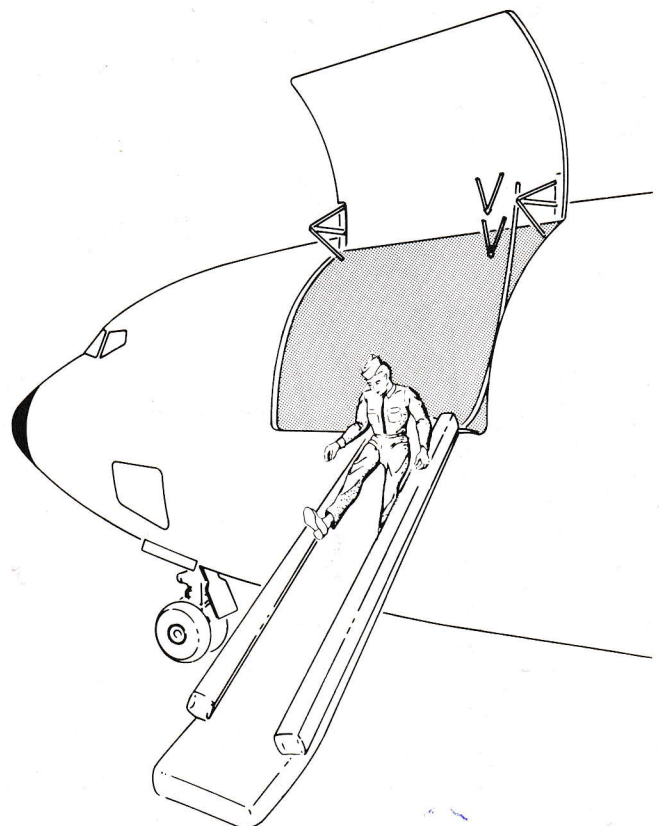
1. Release slide from its storage.
CAUTION: Do not allow slide to drop.



2. Attach support straps to tie down fittings.
Lanyard and notation "JERK TO INFLATE" must be up.



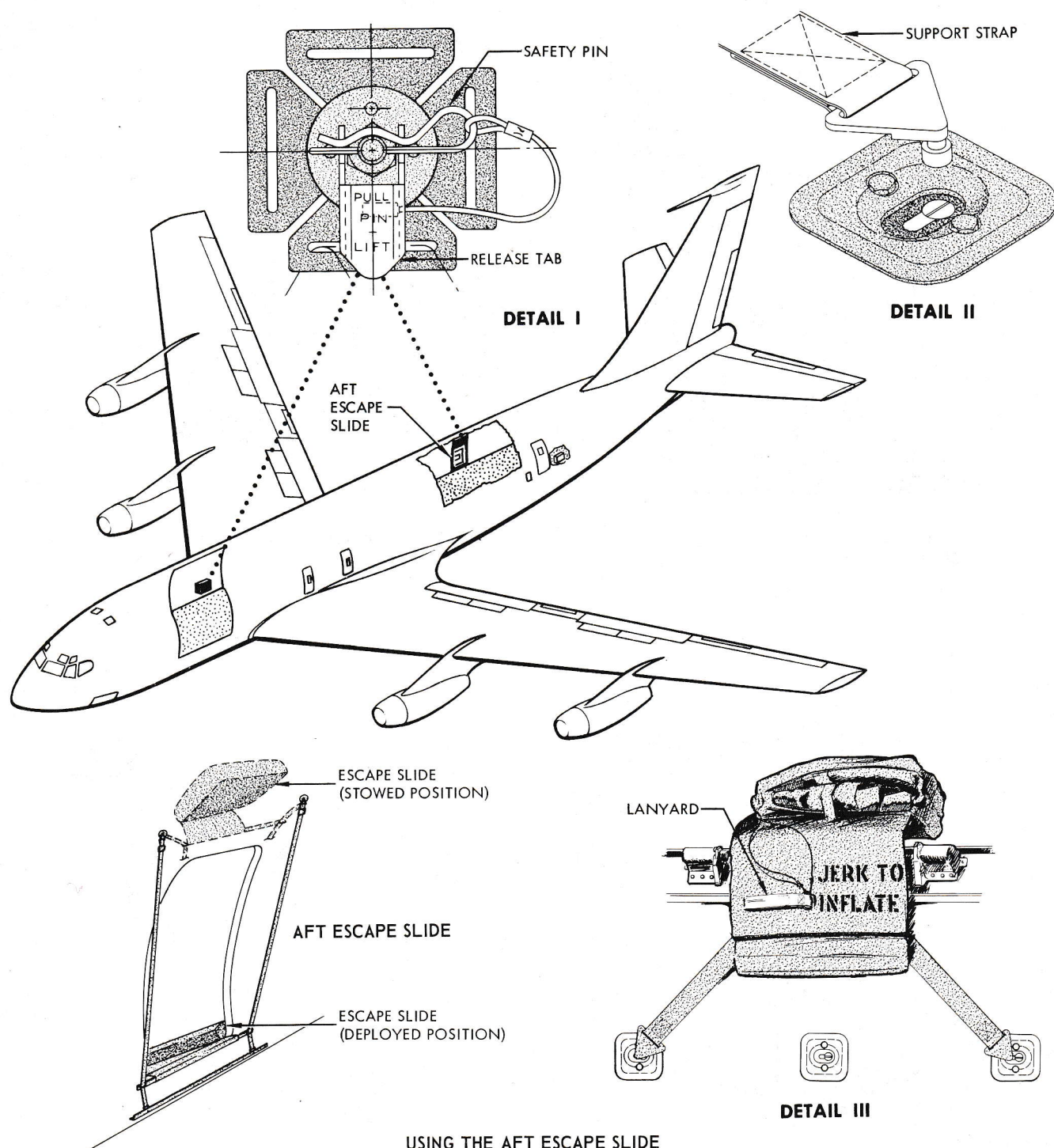
3. Push slide out and actuate air bottle to inflate.



4. Assist personnel in exiting via slide.

Figure 3-4 (Sheet 6 of 7)

emergency escape routes and exits (cont)

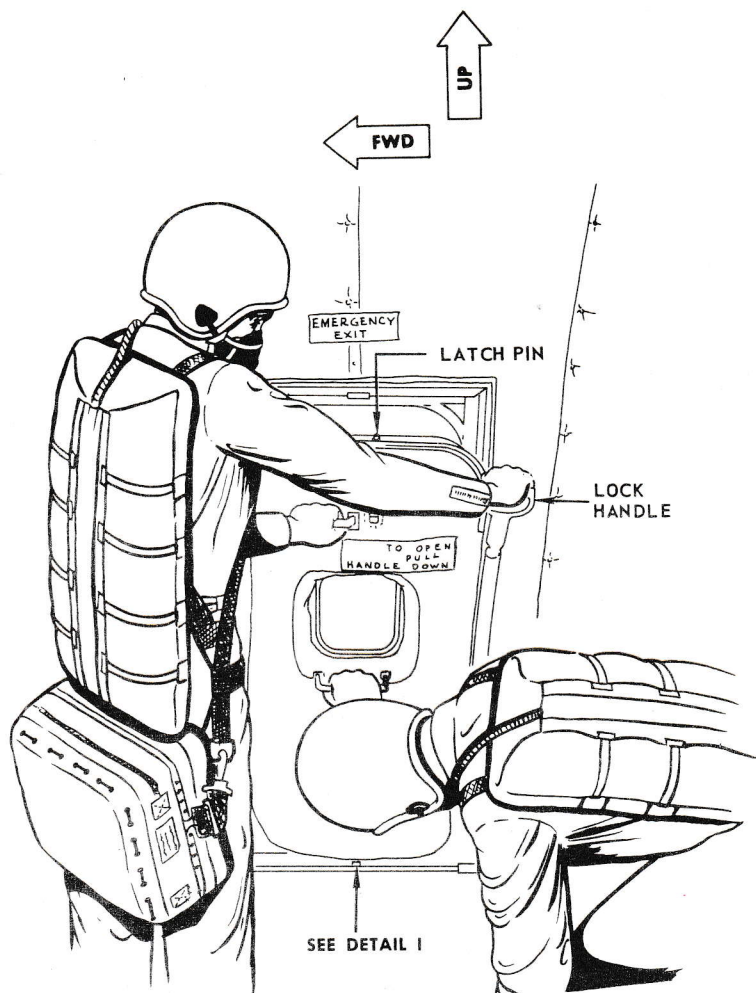


USING THE AFT ESCAPE SLIDE

1. Pull safety pin and lift release tab to release escape slide from its stowage straps. CAUTION: Do not allow slide to drop.
2. Push escape slide out of airplane and pull the lanyard on the air bottle at the top of the escape slide.
3. The escape slide package will open automatically as the slide inflates.
4. Assist personnel in using the slide.

Figure 3-4 (Sheet 7 of 7)

reinstallation of hatches in flight



REPLACING EMERGENCY EXIT HATCH IN FLIGHT

Inflight installation of the emergency hatches is not normally recommended. Should it become absolutely necessary to install them, two men are required. The forward hatches must be installed first. To install a hatch:

WARNING

Installation of emergency hatches becomes extremely hazardous above 150 KIAS.

1. Make sure that the external handle is flush.
2. Both men hold the hatch by its handles and approach the opening from the forward side as shown above. (One man holds the hatch by the upper fixed handle with one hand and the lock handle with the other hand. The lock handle is held so that the latch pin is fully retracted. The second man holds the hatch by the lower fixed handle.)
3. The hatch is positioned in the opening with the top of the hatch inboard. The man holding the lower handle visually guides the pivot hook into the pivot stop and pulls the hatch inboard to keep the hook tight against the stop.
4. Push the upper end of the hatch outward and lock the hatch. To lock a forward hatch, push the lock handle all the way up. The aft hatch is locked by turning the lock handle down (CW).

NOTE

The force required to place the handle to the locked position increases as the lock is applied and relieves slightly as the lock goes over center.

5. If visual access has not been provided, fold the hatch lining back at the upper right hand corner and inspect the lock linkage. This linkage must be in a definite outboard overcenter position.
6. Inspect pivot hook and pivot stop for proper engagement. It is possible for hook to be out of engagement even though the hatch feels secure.

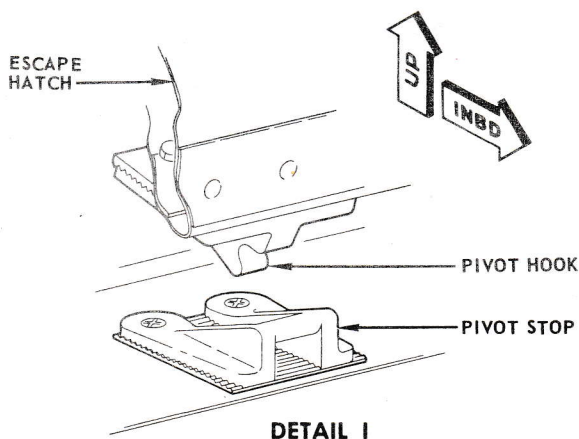


Figure 3-5