parts of the aircraft are not likely to occur and flameouts can, therefore, occur without warning. However, in all known incidents of this type, relights have been accomplished and maintained at lower altitudes. Therefore, if flameout occurs at high altitudes in clouds, it is recommended that relight attempts be deferred until descent to a lower altitude and, if possible, to a less dense part of the cloud.

- The plume of an active volcano may contain ash which can seriously damage an aircraft and/or cause engine flameout. Avoid flying in the plume or under IMC in the vicinity of an active volcano. Report any suspected flight in a volcanic plume in Form 781.
- During negative G flight, a foreign object may become lodged between the top of the ejection seat banana link area and the canopy actuator. Upon opening the canopy, the actuator may jam the foreign object down on the primary seat mounted initiator or the ejection gun firing mechanism, causing the seat to fire. Therefore, be alert to the position of foreign objects in the cockpit.

CAUTION

If radar has malfunctioned while at altitude, do not turn radar power off unless further damage is imminent. The radar components will cold soak and collect moisture upon descent causing additional costly repairs.

NOTE

- The windshield defogging system should be operated at the highest temperature possible (consistent with crew comfort) during all high altitude flights. This will provide sufficient preheating to prevent the formation of frost or fog during descent.
- When making throttle chops from the rear cockpit, avoid violently slamming against the idle stops and also avoid maintaining a high force to hold them against the stops. This practice can induce an engine flameout.
- The UHF upper antenna should be used for communication between aircraft, and the lower antenna should be used for aircraft to ground communication. However, antenna switching may be necessary to obtain best results.

RIG CHECK

A rig check shall be performed if an out-of-rig or unintentional asymmetric load condition is suspected and before maximum-performance/high-AOA maneuvering. With all axes of the stab aug engaged, center the rear cockpit ball and check that aircraft does not roll more than two degrees/second with ailerons and spoilers trimmed neutral. If a large amount of lateral trim (equivalent to more than one inch aileron down at 350 knots) is required to prevent roll, an out-of-rig, malfunctioning stab aug or asymmetrical load condition exists. Do not maneuver at high angle-of-attack if this condition exists.

STAB AUG/SLAT CHECK

A stab aug/slat check shall be performed before maximum-performance/high AOA maneuvering. Do not perform maximum performance maneuvers if any of the following checks are unsatisfactory.

a. Pull nose up with 2G acceleration and release the stick. Aircraft should stabilize in one cycle.

b. Yaw aircraft to one ball width and release rudder. Aircraft should stabilize in one cycle.

c. Roll to 30 to 45 degrees bank and release stick. Aircraft should maintain bank angle. Roll to level flight and release stick. Aircraft should maintain wings level.

d. Gradually increase AOA through 11-1/2 units and ensure slats extend together. Decrease AOA below 10-1/2 units and ensure slats retract together.

Refer to section VI, Flight Characteristics.

DESCENT/BEFORE LANDING

The Descent/Before Landing check should be accomplished above 10,000 feet AGL and at a time when mission/flight demands are not critical. Prior to performing a rapid descent, the windshield and canopy surfaces should be preheated to prevent the formation of frost or fog. If it becomes necessary to dump fuel during a descent, thrust settings in excess of 85% rpm may be required to ensure rapid inflight dumping.

1. Defog-footheat/temperature controls - AS DESIRED

2. (P) ALE-40 flares/normal switch - NORMAL
3. (WSO) Chaff/Flares switches - OFF/OFF
4. Stab augs - ENGAGED
5. Comm antenna select switch - UPR

   Anti-skid may malfunction while transmitting on the lower antenna due to electromagnetic interference.

6. Landing/taxi light - LANDING
7. Armament switches - OFF/SAFE/STOW

   The target designator pod should be stowed before landing to prevent FOD to the pod head dome.

8. Sight - STBY/CAGE
9. Radar/pressure altimeters - SET
10. Fuel - Check

    If the automatic fuel transfer circuit is energized and external tanks are installed and empty, their corresponding external fuel flow lights will illuminate.

11. Circuit Breakers - CHECK

WARNING

- Due to fuel quantity indicator tolerances at the low end of the fuel scale, the FUEL LEVEL LOW warning light may illuminate above 2000 pounds fuel remaining on aircraft through 68-494; 1850 pounds on aircraft 68-495 and up. Therefore, the FUEL LEVEL LOW light should be used as the primary indication of a low fuel state in the engine feed tank.
- Transient fuel readings are especially hazardous when decelerating in the emergency fuel range. When decelerating and descending, the fuel quantity indicator may read higher than the actual usable fuel on board. This erroneous quantity indication combined with allowable indicator tolerances may result in engine flameout, from fuel starvation with indicated fuel remaining.

LANDING

In the pattern -

1. Gear - DOWN
2. Slats flaps - OUT AND DOWN

WARNING

Maintain wings level flight when extending or retracting the flaps.

3. Hydraulic pressure - CHECK
4. Warning lights - CHECK
5. Anti-skid - ON, LIGHT OUT

NOTE

To allow sufficient wheel brake assembly cooling, a minimum of 15 minutes should elapse between landings when the landing gear remains down and a minimum of 30 minutes between landings when the landing gear is retracted. Additional time should be allowed for cooling if the brakes are used for steering, crosswind taxiing or a series of landings.

LANDING TECHNIQUE

For a normal landing, fly the pattern as illustrated in figure 2-6. Enter the pattern as local policy dictates.

Avoid buffet throughout the landing pattern. Adjust power, as necessary, to attain allowable gear lowering airspeed. Extend landing gear and slats flaps in level flight on downwind. Actual flap extension may not occur until slowing to 210 knots. Ensure slats out-flaps down prior to initiating turn to base leg. The optimum indicated AOA for approach is 19.2 units, and is adequate for all gross weight and normal slat flap configurations. The AOA aural tone system provides an audible cue to maintain an on-speed approach. During very gusty flight conditions, full aileron may not be sufficient to correct a wing low condition. When landing in gusty or crosswind conditions, with wake turbulence, with high internal fuel load (aft CG), or with an abnormal configuration (slats in, asymmetric slats or slats partially extended), a 17 unit AOA approach is recommended. A transition to ON SPEED and a flared landing will reduce the touchdown speed. The AOA indexer and aural tone indications remain unaffected. Establish and maintain On Speed angle-of-attack on the base leg or final approach, adjusting pitch attitude to maintain AOA and power to maintain desired glide slope/rate of descent. Cross-check computed airspeed and On Speed AOA to detect gross errors in AOA. When the aircraft reaches 20 to 30 feet altitude above the ground, ground effect will tend to

rotate the aircraft in the nose-down direction. Maintaining pitch attitude will result in transition to a slightly slow indication at touchdown, which is desired. Flying a 2-1/2 to 3 degree glide slope will produce an approach rate of descent of about 700 feet per minute. Sink rate at touchdown will be appreciably reduced by ground effect.

CAUTION

Flying a steeper than normal final approach or not maintaining pitch attitude when entering ground effect, can cause touchdown sink rates to exceed the design limit of the main landing gear struts. (Refer to section V for touchdown sink rates vs gross weight limitations.)

At touchdown, reduce power to idle and deploy drag chute. Use full aft stick to help decelerate. If nose gear shimmy is encountered, reduce aft stick pressure. Use rudder and ailerons for directional control down to 70 knots, then use differential braking. Nose gear steering should not be required for directional control in light crosswind conditions. However, if rudder, aileron, and/or differential braking are not effective in maintaining directional control, use nose gear steering as required. Engage nose gear steering only with the rudder at or near neutral.

WARNING

Nose gear steering malfunctions can cause loss of directional control if engaged at high ground speed; therefore, it should not be engaged above taxi speed unless required to maintain directional control during crosswind landing conditions. If no response is noted or unscheduled steering responses are detected when engaging nose gear steering, disengage immediately and do not re-engage.

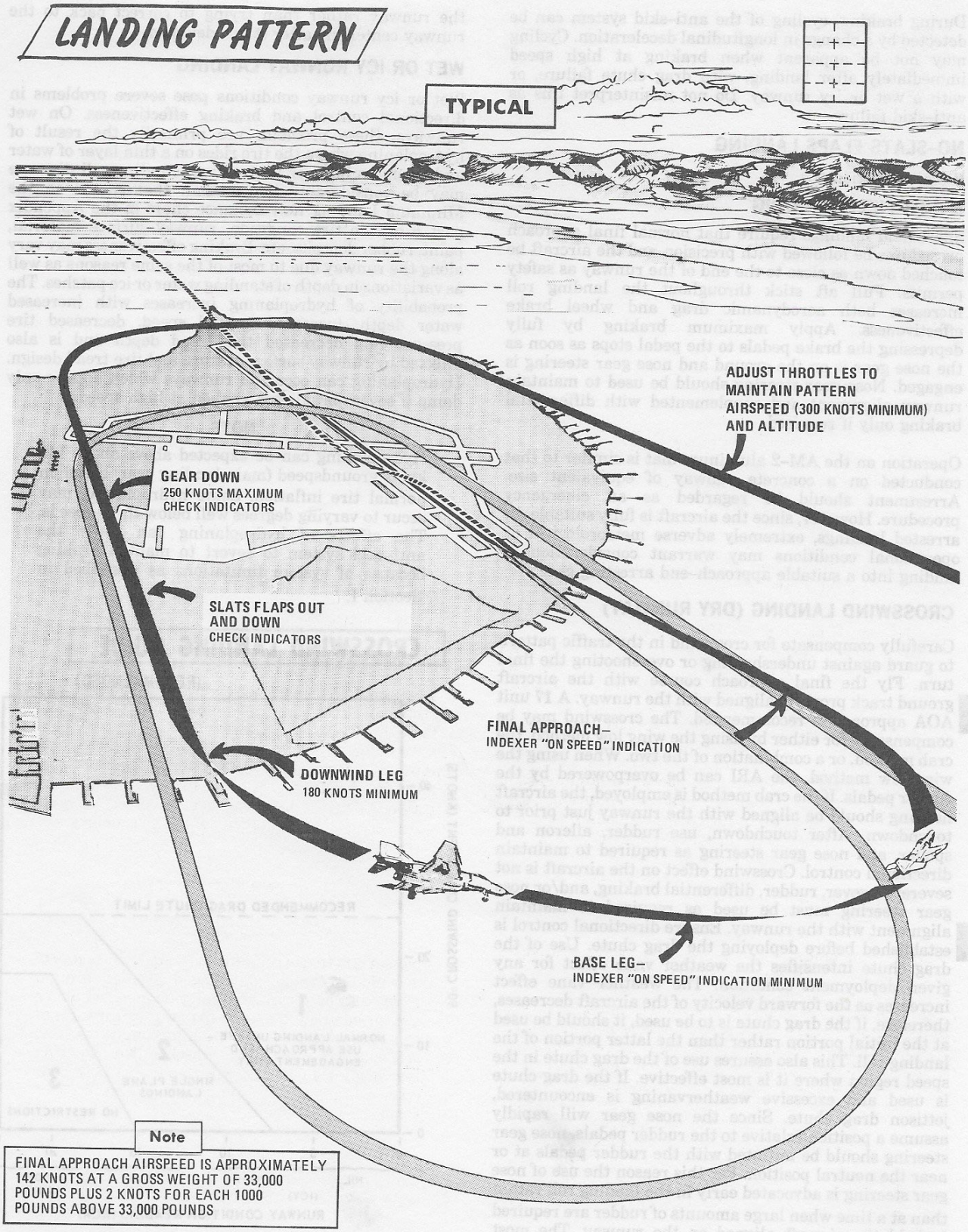
LANDING PATTERN
TYPICAL
ADJUST THROTTLES TO MAINTAIN PATTERN AIRSPEED (300 KNOTS MINIMUM) AND ALTITUDE
GEAR DOWN
250 KNOTS MAXIMUM
CHECK INDICATORS
SLATS FLAPS OUT AND DOWN
CHECK INDICATORS
FINAL APPROACH–
INDEXER "ON SPEED" INDICATION
DOWNWIND LEG
180 KNOTS MINIMUM
BASE LEG–
INDEXER "ON SPEED" INDICATION MINIMUM
Note
FINAL APPROACH AIRSPEED IS APPROXIMATELY 142 KNOTS AT A GROSS WEIGHT OF 33,000 POUNDS PLUS 2 KNOTS FOR EACH 1000 POUNDS ABOVE 33,000 POUNDS
4E–1–1–(60)C

Figure 2–6