

Emergency Brake Handle

An emergency brake handle is on the lower left side of each cockpit instrument panel. Pulling the emergency brake handle in either cockpit, approximately 2–3 inches, discharges the brake system hydraulic accumulator and provides emergency braking with normal feel but with a limited number of applications.

CAUTION

Because of the limited number of brake applications, taxiing should not be attempted when using the emergency brakes.

ARRESTING HOOK SYSTEM

A retractable arresting hook provides reliable high energy stopping for takeoff and landing emergencies. Hook extension time is approximately 5 seconds. The hook is prevented from bouncing by the snubbing action of a dash pot.

ARRESTING HOOK HANDLE

An arresting hook shaped handle is on the right side of the front cockpit instrument panel. When the handle is placed in the down position, the tension on the control cable is relieved and the uplatch releases the arresting hook. When the handle is placed in the up position, the solenoid selector valve is energized and the control cable applies tension to the uplatch. If the arresting hook cable breaks with the handle UP, the uplatch will release and the hook will continuously cycle from partially down to up. When the handle is placed to DOWN, the hook will extend normally.

ARRESTING HOOK WARNING LIGHTS

A red warning light installed in the arresting hook control handle and a HOOK DOWN warning light on the telelight panel illuminates any time the arresting hook is not up and locked.

DRAG CHUTE SYSTEM

A drag chute, contained in the empennage, significantly reduces landing roll distances. The drag chute may also be used for out of control/spin recovery. It is pulled into the airstream by a pilot chute when the spring-loaded compartment door opens. If the compartment door opens inadvertently without cockpit handle operation, or if the cockpit handle is not locked in the up position when the drag chute is deployed, the jaws of the attaching mechanism allows the chute to be released and fall free of the aircraft.

DRAG CHUTE HANDLE

The drag chute is deployed by a control handle alongside of the left console front cockpit. Rotating the handle back to the detent, without depressing the button on the handle, releases the door latch mechanism. The spring-loaded actuator then opens the drag chute door, and at the same time the hook lock is positioned over the drag chute attach ring. The spring-loaded pilot chute pops out, and pulls out the drag chute. The drag chute is jettisoned by depressing the button and pulling back on the handle to clear the detent, and then by lowering the handle. The release and

jettison mechanism then returns to its normal position, permitting the drag chute to pull free.

ANGLE OF ATTACK (AOA) SYSTEM

An AOA system presents a visual indication of optimum airplane flight conditions. Optimum angle of attack is not affected by gross weight, bank angle, load factor, airspeed, density altitude, or airplane configuration. Airspeeds automatically vary to compensate for the change in weight. Two electrical heaters, one in the AOA probe and one in the case (adjacent to the fuselage skin) prevent the formation of ice while flying through precipitation. The AOA probe heater and the AOA case heater are energized when the AOA circuit breakers and the CADC circuit breakers are pushed in and the weight is off the landing gear. The AOA circuit breakers are on the No. 3 circuit breaker panel at zones C6 and C7 in the rear cockpit. The CADC circuit breakers are at zones K1, K2, L3, L4, and L5, No. 4 panel. It is possible, under some conditions, for the probe to become iced even if the heaters are working properly. If the slotted probe becomes iced, the entire AOA system will be in error, causing erroneous readings/signals from all systems receiving AOA information. Probe icing most often results in the AOA indicator rotating to 30 units AOA causing the indexer lights to erroneously indicate very slow and the stall warning vibrator and aural tone generator, if operative, to erroneously indicate stall. The cockpit AOA indicator may lag true aircraft AOA by as much as eight units during a high rate maneuver. Caution should be exercised during rapid maneuvering at high angles of attack to avoid inadvertently exceeding aircraft angle of attack limitations.

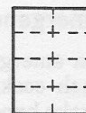
ANGLE OF ATTACK INDICATORS

An AOA indicator is on the front and some rear cockpit instrument panels. The indicator is calibrated from 0 to 30 in units. Indexer reference marks are provided, and are set at approximate cruise (7.9 units), and approach (19.2 units), and stall (30.0 units) angles of attack. The indicator reference mark set at an approximate cruise (7.9 units), pertains to maximum range cruise at optimum cruise altitude for the existing gross weight. Airflow around the AOA probe is altered by extension or retraction of the nosewheel door. As a result of this effect, with the nose gear up, the actual AOA is approximately 1 unit higher than indicated AOA and ON SPEED AOA is about 5 knots slow. When electrical power to the indicator is interrupted, the word OFF appears in a window in the face of the indicator. The AOA indicator contains switches that light the indexer lights and actuate the stall warning vibrator.

ANGLE OF ATTACK INDEXERS

Before TO 1F-4-1500, the AOA indexers (figure 1-9) are located on each side of the windshield (front cockpit) and above the instrument panel (rear cockpit). After TO 1F-4-1500, the front cockpit indexers (LH only) are mounted to the left side and above the center glare shield. With the landing gear down, the indexers provide a visual indication of aircraft AOA in relation to the predetermined on-speed AOA by lighting appropriate symbols.

ANGLE OF ATTACK DISPLAYS



INDICATOR	INDEXER	ANGLE OF ATTACK UNIT	AIRSPEED	ATTITUDE
		20.3-30	VERY SLOW	
		19.7-20.3	SLIGHTLY SLOW	
		18.7-19.6	ON SPEED	
		18.1-18.6	SLIGHTLY FAST	
		0-18.0	VERY FAST	

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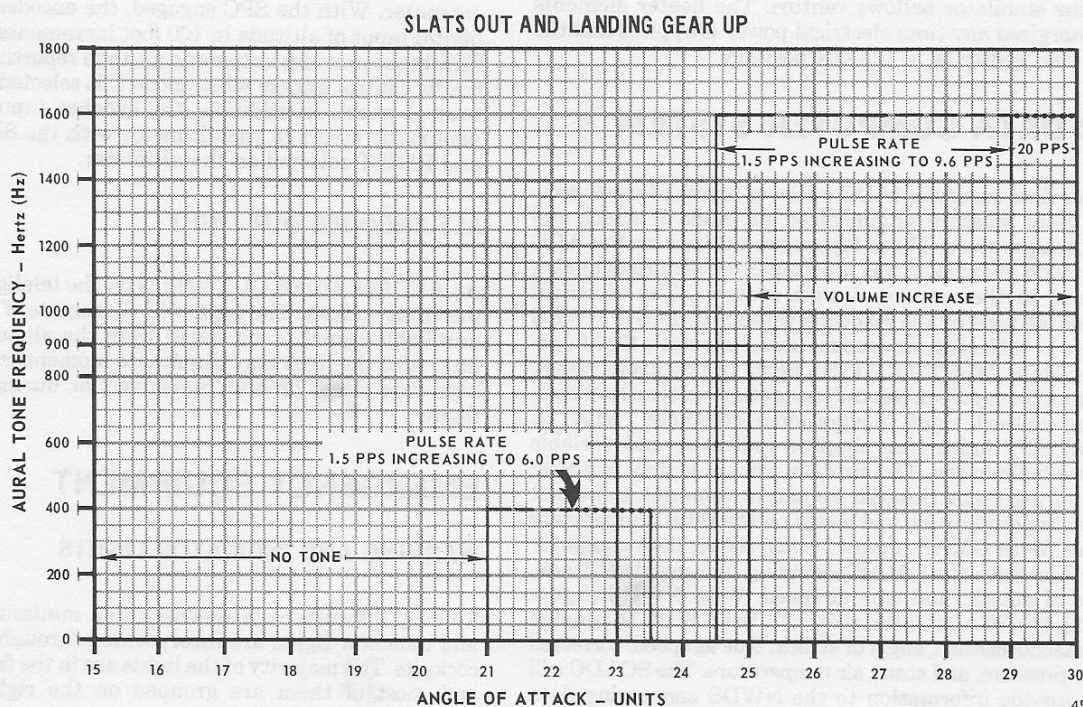
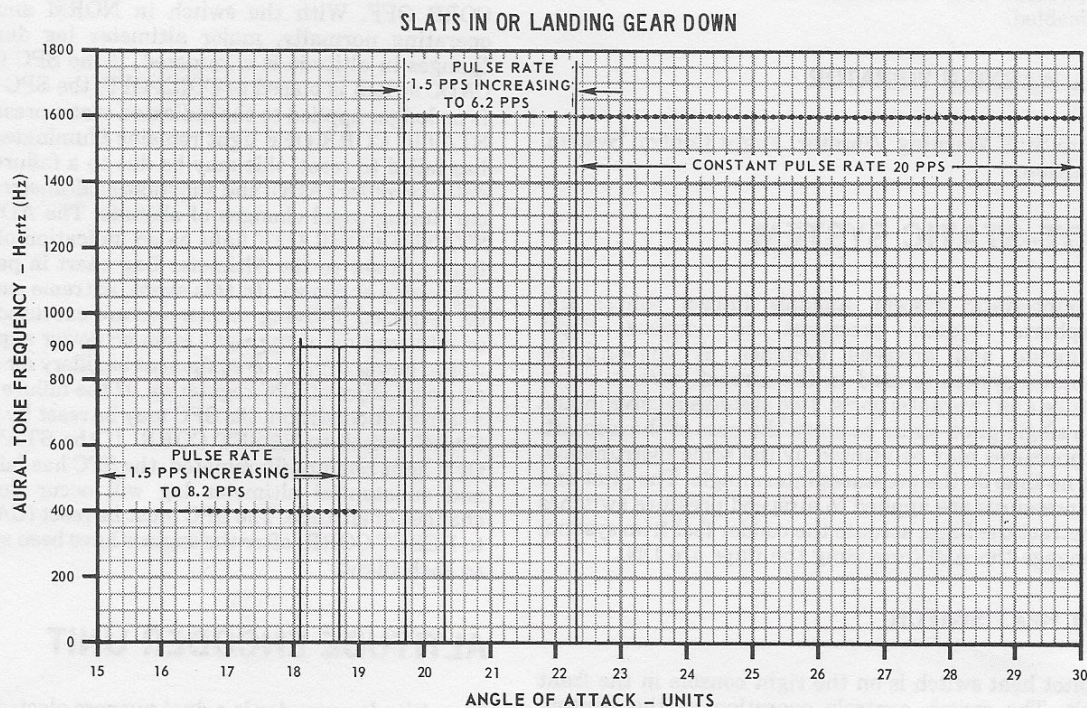
Figure 1-9

AOA AURAL TONE SYSTEM

The AOA system provides a continuous aural indication of AOA in the headset of both crewmembers to describe the aircraft AOA (see figure 1-10). The aural tone operates directly off the AOA probe; however, there is a built in lag of about 1 second between the actual AOA and the aural tone indication. The aural tone is present under all flight conditions above 15 units AOA when the landing gear is down or the slats are in, or above 21 units AOA when the landing gear is up and the slats are OUT. However, the volume control knob, on the instrument emergency flood lights control panel in the front cockpit (aural stall warning control panel, rear cockpit), may be used to

eliminate the tone up to 20.3 units AOA with the landing gear down or slats in, or 25 units AOA with the landing gear up and slats out. Above these values, the tone cannot be eliminated by the volume control. Pulling the AOA probe heater control circuit breaker (C7, No. 3 panel) will turn the aural tone off under all conditions. After TO 1F-4-1262, the rear cockpit volume control knob shares the same panel with the voice warning volume control knob.

ANGLE OF ATTACK AURAL TONE INDICATIONS



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Figure 1-10