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INSTRUMENT RATING

CHAPTER 12 – EMERGENCY PROCEDURES

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EMERGENCY PROCEDURES

12.1 Communications and Navaids Failure

Refer to JEPPESEN, EMERGENCY.

Communication failures in the modern aircraft are extremely rare and most times are the result of incorrect selection of radio frequencies or operation of the equipment. The first action that should be taken is to establish whether the situation can be resolved by the pilot in command. (Selection of the correct frequency or circuit breaker or switch selection on the radio)

The action that the pilot takes will then depend on the flight situation at the time that the event occurs. If possible, leave or avoid controlled airspace, establish yourself in VMC conditions and land at a suitable airfield.

12.2 VFR in Controlled/Restricted Airspace or IFR in any Airspace

If the aircraft is transponder equipped squawk 7600. Continue to transmit all radio calls prefixing any transmission with ‘Transmitting Blind’

Air traffic control may also use other navigation aids such as ATIS,VOR or NDB if they are voice modulated (able to have speech recorded on the identification message), so tuning these aids and selecting the audio identification may provide you with guidance from air traffic control to your further actions.

In all cases ATC will use the information provided to them through your flight plan as an indication of your potential actions and you should proceed according to those plans until you are able to safely land after encountering VMC conditions. Proceeding to another CTA after a radio failure when there are other alternate suitable airfields is not advised.

If you are flying in VMC condition ensure that you remain in VMC and land at the nearest suitable aerodrome. Ensure that on landing you inform the appropriate ATS that you have arrived safely.

12.3 Initial Action

12.3.1 Controlled Airspace

(EMERGENCY AU4)

If you have not received any clearance limit or you have not acknowledged that limit you should proceed in accordance with the last ATC route clearance that you had acknowledged and climb or descend to the planned level.

If you have received a clearance limit and you have not acknowledged that limit, then:

1. Maintain the last assigned level or the LSALT/MSA if it is higher, for **THREE** minutes.

2. Hold at the nominated location for **THREE** minutes.
3. Proceed in accordance with the last ATC route clearance you received and then climb to the planned level.

12.3.2 Radar Controlled Airspace Procedures

During operations in a radar environment the time between transmissions is relatively short. If no communication is heard after a reasonable time the pilot should make a radio check. Should a failure be identified then the pilot should try another alternate frequency. If there is no contact established, then squawk 7600 and continue as per the radio failure procedure.

A radar controller observing your selection of 7600 will request you to operate the identification (Squawk) system of the transponder. This will establish to the controller that you are receiving radio transmissions but are unable to transmit and will continue with procedures based on that information. After any transmission from ATC it will be expected that you operate the identification system to indicate acknowledgement of the transmission, and then proceed in accordance with any direction.

12.3.3 Radar Vectored Procedures

If you have been radar vectored then you should:

1. Maintain the last assigned vector for **TWO** minutes.
2. Climb if necessary to the minimum safe altitude to maintain terrain clearance.
3. Proceed in accordance with the last ATC route clearance you acknowledged.

12.3.4 Holding Procedures

If you are in a holding pattern then you should:

1. Continue the holding pattern that you are currently flying and then **fly one more complete pattern**.
2. Proceed in accordance with your flight plan or the latest ATC clearance that you have acknowledged.

12.3.5 Destination Descent Procedures

Descent after a radio failure should be commenced in accordance with the normal operating procedures or your flight plan and in accordance with the last clearance that you received until you are able to carry out a suitable instrument approach.

The approach that you choose will depend on the particular situation of the airfield at the time (wind and weather conditions) and you may track direct to the initial approach point when you can determine that you are within 25 miles of the airfield.

The aid used should be the primary aid at the airfield, or the aid used to provide guidance to the airfield if located at another airfield.

Check the ATIS/aids for the operating procedures at the airfield and fly in accordance with the present conditions.

12.3.6 Action at the approach minima

When you become visual or at the circling minima, circle to land, or if the approach is a runway approach continue to the MDA or until visual.

Follow any directed information that you may have received through a radio aid or by a green light from the tower indicating a clearance to land.

Should you not become visual at the minimums you must divert to another airfield.

Should you not have sufficient fuel to divert to an alternate airfield the pilot may carry out additional approaches until visual.

12.3.7 Speechless Radar Approach Procedures

If the radio micro-phone becomes unserviceable but the radio is still able to be operated then it is possible to carry out communication with the controller by 'keying' the micro-phone. To request this function the pilot should 'key' the micro-phone four tomes each transmission to be of one second duration.

Subsequent responses from the pilot are:

- One transmission of one second, acknowledgement or affirmative
- Two transmissions of one second, negative
- Three transmissions of one second, say again
- Five transmissions of one second, emergency
- Completion of an instruction from ATC, Two transmissions of Two seconds.

12.3.8 Emergency change of level in controlled Airspace

When it is necessary for an aircraft to make a rapid change of flight level or altitude in controlled airspace due to a technical problem or severe weather conditions the pilot should squawk 7700 and broadcast a PAN PAN message stating the name of the agency called, aircraft ID, nature of situation, intention of pilot-in-command, present position altitude and heading and any other useful information.

Note: If an emergency change of level is required when out of communication with ATC, always change your transponder code from 7600 to 7700 to indicate a more severe emergency than a radio failure.