CHAPTER - 8

SINGLE ENGINE PROCEDURE

General

1. Incase of single Engine procedure either actual or simulated, the circuit pattern is to be followed as of normal circuit except the changes mentioned in the subsequent paras.

2. On finals maintain slightly overshooting approach with higher recommended speed as per flight check list.

3. **Engine Failure in Flight**

   a. **Immediate Actions**

      (1) Control the aircraft

      (2) Identify the failed Engine

      (3) 80% power on live Engine (if required).

      (4) Dead Engine Automatic Feather, if not depress Manual feather.

      (5) Carryout clean up checks depending on situation.

   b. **Subsequent Actions**

      (1) Close fuel shut off valve

      (2) TCL idle of the failed Engine

      (3) Switch off generator of the failed Engine

      (4) Inform ATC

      (5) Trim, if required.

      (6) Land as soon as possible

4. **Engine Failure before V_1**

   Follow the procedure as per the flight check list.

5. **Engine Failure at or after V_1**

   a. Continue take-off

   b. Confirm failed Engine prop feathered. Proceed as per Chapter 2 of this SOP.

6. **Engine Failure in the circuit**

a. In case of bad weather circuit – climb to normal circuit altitude if possible.

b. Lower gears and flaps after abeam threshold depending on AUW and wind condition.

7. **Engine Failure in the Final Approach**

a. In case Engine fails in the final approach, take appropriate actions depending on the reactions time, situation and at the discretion of the Captain.

b. If Engine fails just before flare out, control the aircraft and make straight landing.

8. **Asymmetric Checks**. On final approach before reaching the visual committal height (VCH), satisfy the following four conditions:

a. Gears down – 3 Green.

b. ATC clearance to land.

c. Approach path and runway clear.

d. A good approach (Speed and Approach angle correct).

CAUTION

a. Decide whether to land or not by visual committal height (VCH = 300').

b. Select flaps 18^0 only when the aircraft is committed to land.

c. Go-around is not allowed below VCH with flaps 18^0.

d. Go-around is strictly prohibited with propeller wind milling.

e. Do not exceed bank beyond limitation.

9. **Voluntary Engine Shutdown Procedure**

a. For training purpose voluntary engine shut down in air is prohibited unless otherwise situation dictates or Air HQs approval is sought. In such case shut down only Right Engine and relight in Air.

b. For the purpose of FCF where two instructor pilots with valid Cat are conducting, voluntary engine shut down and air relight is allowed. In such case ATC should be intimated before the flight and an entry in authorization book and F-781 is to be made.

c. The minimum height to carry out voluntary engine shut down in flight is FL60 if operating around the Airfield within 10 NM. If beyond that the operation to be carried out at /above FL 80.

d. The chronological actions in respect of actual engine shut down in air are appended below:

(1) Both PCL - 1900

(2) Left engine power – 80

(3) Right engine power – Idle

(4) Manual feath button (right) - Press

(5) Fuel shut off valve (right) - Shut

(6) DC & AC Gen (Right) – Off

(7) Fuel pump (right) – Off

(8) PCL (right) – Feather

(9) Engine starting ELU (4 sw) – Off

Caution: Singe engine speed – 108 – 119 kts recom up to 162 kts engine can be started (bank max 20º) (toward the live engine)

e. The Air start procedure are as follows:

(1) Rt TCL - Idle

(2) Rt PCL - Feather

(3) Heating - off

(4) Engine starting, ELU on (4 sw)

(5) Auto Feather, Auto Bank Cont sw (2 sw) - off

(6) Fuel stop cock – open (upto red mark)

(7) Fuel pump (right) – on

(8) DC & AC Gen – off (Confirm)

(9) Engine start Button (Right) – press 3 sec

(10) By 12 sec Idle parameter,

Max ITT - 730ºC

Max Torque – 10-15

NG – 57 + 3

NP – 400 ± 50

(11) Fuel stop cock – open détente

(12) PCL (Right) – Coarse pitch

(13) PCL (Right) -1900

(14) TCL (Both) – 40

(15) AC & DC Gen - on