



**GOVERNMENT OF INDIA
OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION**

AIR SAFETY CIRCULAR 2 OF 2017

Dated 8th Feb 2017

File No. AV.15011/ ASC/2/2014-AS

Subject: Guidelines for Operation to/from Performance Limited Airports

1. INTRODUCTION

Temperature, pressure, prevailing wind pattern, elevation of airport, runway condition (wet/dry), runway slope, runway dimensions, clearway, stopway, obstacles, aircraft status (MEL/CDL), etc. all influence aircraft performance during take-off and landing.

Further, high pressure altitude conditions due to higher temperature, airfield elevation and humidity results in reduced air density and thus affects the aircraft performance to an extent leading to increased take-off distance, reduced rate of climb, increased True Air Speed (TAS) on approach and landing and increased landing distance.

Another factor affecting aircraft performance is aircraft operations on wet runways where a 15% factor is required to be added to the dry landing distance requirements. Therefore, landings on a wet or contaminated runway will require at least an additional 15% in runway length unless the Aircraft Flight Manual indicates otherwise.

All the above conditions affect the performance of large transport aircraft especially to/from airports having runway length limitation which greatly limits the payload during high pressure altitude conditions.

Therefore, it is of utmost important that at no stage all-up-weight of the aircraft at the time of take-off exceeds the RTOW. It is equally important to ensure that the aircraft landing weight is not more than the permissible weight for landing or approach climb limitation. This aspect becomes more important for aircraft operations to/from performance limited airports.

This Circular supersedes Air Safety Circular 06 of 2014.

2. APPLICABILITY

- 2.1 This Circular shall be applicable to all scheduled/non-scheduled/private operators having manufacture's provided Airplane Flight Manual (AFM) for the type of the aircraft.
- 2.2 The contents of this Circular are applicable for operations to/from performance limited airports only.

3. REQUIREMENTS

3.1 Aircraft Performance Related:

- 3.1.1 RTOWs should be worked out meticulously keeping in view temperature, altitude, prevailing wind, runway condition and QNH requirement.
- 3.1.2 Compensation in RTOW should be made for non-availability of Runway End Safety Area (RESA), wherever applicable.
- 3.1.3 While computing RTOWs, it should be ensured that all the obstacles falling within the Inner Horizontal Surface and Outer Horizontal Surface are considered as defined in the relevant AIP.

3.2 Operational:

- 3.2.1 During the approach phase, if the approach becomes unstable at any time, the flight crew shall carry out a go around.
- 3.2.2 The flight crew shall carry out appropriate flap landing keeping in view specific operational limitations at all performance limited airports. The selection of landing flaps should commensurate with approach climb limitation as per AFM.

3.2.3 Braking devices shall be serviceable and pilot shall ensure braking action consistent with adequate margin for stopping the aircraft.

3.2.4 The flight crew are recommended to carry out “engine bleeds-off” take-off.

3.2.5 Whenever standard runway strip/shoulder is not available, narrow runway limitations during taxi should be considered for operation during wet runway conditions.

3.2.6 Before every take-off and landing, the flight crew shall review one engine inoperative procedure and actions required thereto as part of crew briefing.

3.3 Aircraft Specific:

3.3.1 Aircraft with following MEL items shall not be permitted:

- a) Thrust reverser inoperative
- b) Anti-skid unserviceable
- c) Spoilers unserviceable
- d) Braking devices unserviceable

3.4 Training:

3.4.1 Simulator training during Recurrent/ PPC/IR for all performance limited airports shall include an exercise with the following conditions:

- a) Reduced runway length to compensate for non-availability of RESA.
- b) Wet runway.
- c) Cross wind upto 15 knots.
- d) Engine failure before V_1 .

3.4.1 The flights to performance limited airports shall be operated by flight crew (both P1 and P2) cleared for such airports.

3.4.2 No training shall be permitted except airfield and route qualification requirement specific to the airport/route and annual renewal route check. However, for airports surrounded by high terrain, training for airfield qualification is permitted without passengers on board and under the supervision of a fully qualified rated training captain designated for the purpose by the operator.

3.4.3 No supervised take-off and landing shall be permitted.

3.5 General:

3.5.1 Passengers carried on-board the aircraft should not exceed the certified passenger carrying capacity of the aircraft.

3.5.2 Since oversized hand baggage can lead to overloading and create safety hazard, the operator shall ensure that size of the hand baggage is restricted as per the dimensions of the overhead bins or available space under the seats of an aircraft.

3.5.3 The flight crew shall carry specific operational instructions containing do's and don'ts on board for ready reference and follow them meticulously. The operator shall ensure that these instructions are available on board the aircraft.

3.5.4 Safety risk assessment shall be carried out with mitigation actions periodically and SOP be revisited, if required.

3.5.5 For hilly terrain operations under VFR conditions, the flight crew shall carry topographical maps (coloured) indicating engine-out escape routes etc. to enhance enroute awareness.

3.5.6 All airlines shall incorporate provisions of this Circular in their Operations Manual.

The above instructions are for strict compliance by all the operators.

Sd/-
(B.S. Bhullar)
Director General of Civil Aviation