

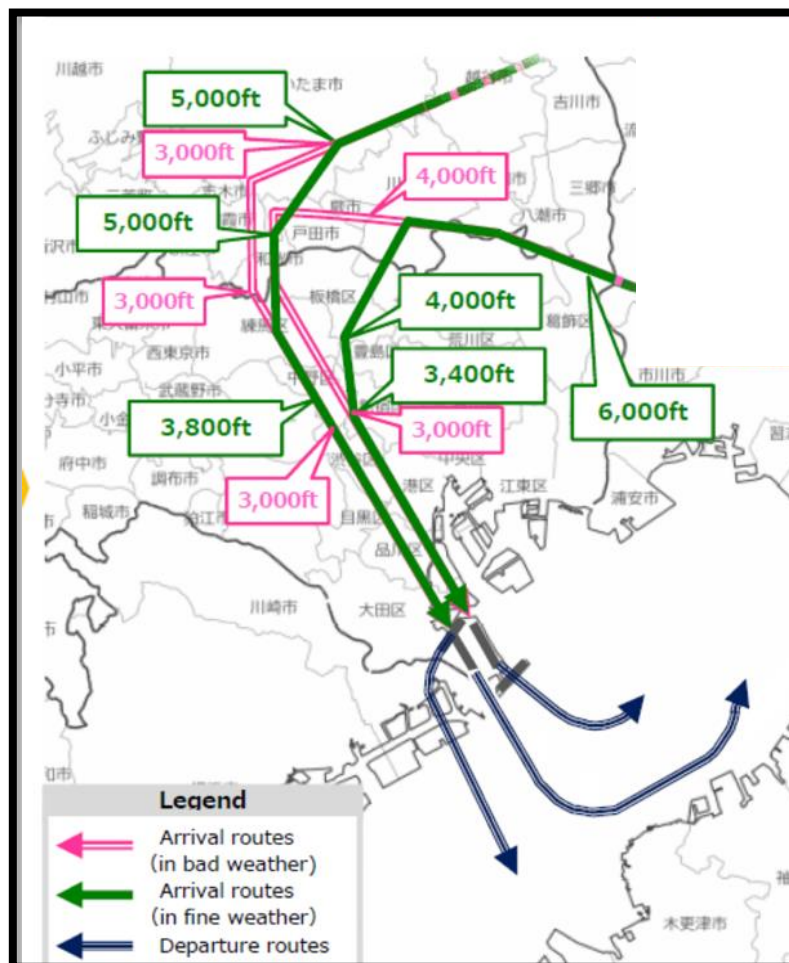


Additional Technical Information for “New Approaches for Haneda”

We thank IFALPA board and ATS Committee for issuing Safety Bulletin for New Approaches to Haneda/Tokyo. From ALPA Japan, we would like to further explain and add some operational information in this bulletin.

NEW APPROACHES AND DEPARTURES

As mentioned in the Safety Bulletin, new procedures were required to increase capacity, but local residences below the new approach course strongly protested for noise and objects falling off airplanes. Without full understanding and approval



from the residences, the regulator pushed the new procedure by increasing the flight path, setting up noise-monitoring stations, limiting the operation hours, adding extra-landing fee for noise, and displacing threshold.

It was not mentioned in the bulletin, but not only steep RNAV/RNP approaches are planned but also **new departure** will begin, including previously unused RWY22 as departure runway.

The diagram below shows approach courses and departure courses. GREEN lines are RNAV/RNP to 16L/R and PINK lines are ILS, and BLUE lines are departure courses.

INBOUND AND OUTBOUND FLIGHTS DURING THE PERIOD

Following flight are scheduled for **1500-1900LCL** operations (for January/February 2020) which will be flying under new procedures.

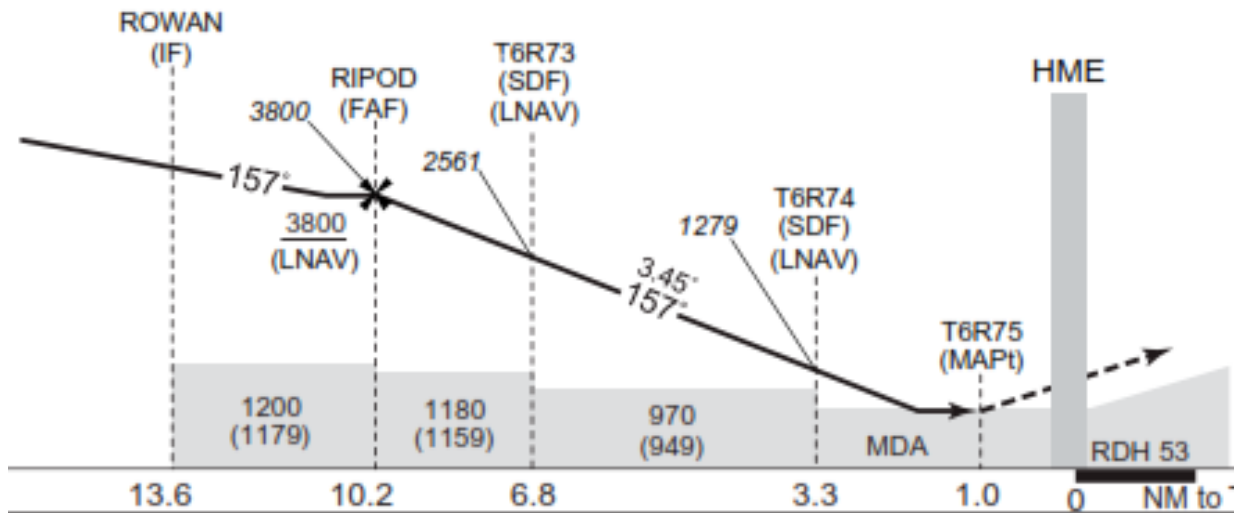
ARRIVAL	DEPARTURE
Singapore Airlines (SQ632)	China Southern (CZ386)
Vietnam Airlines (VN384)	Philippine Airlines (PR421)
Delta (DL7)	Lufthansa (LH717)
China Eastern (MU539)	Cathay Pacific (CX549)
Air China (CA167)	Singapore Airlines (SQ633)
Air Canada (AC1)	Vietnam Airlines (VN385)
Asiana (OZ1045)	United Airlines (UA876)
Korean Air (KE709)	Delta (DL6)
	China Eastern (MU540)
	Air Canada (AC2)

RECOMMENDED PROCEDURES FOR 3.45-DEGREE RNAV APPROACH

Some of the Japanese air-operators have conducted evaluations on simulators, and have come up with following methods:

CAUTION: VNAV vertical guidance will not be available beyond MAPt (1nm before THR) for both runways, and LNAV lateral guidance will also not be available for RWY 16L.

Procedure A): Published 3.45-degree RNAV approach using VNAV



Points to Consider:

- **Gear and lower flaps are recommended before FAF** to perform deceleration.
- Below 1,000' AFE, **ground speed of more than 170kts will result in more than 1,000' /min** descent rate.
- Mis-aligned PAPI, and at higher temperature, it will result in **4-whites** (at 30 C° 4-whites until 1,000' and at 35 C° until 700').
- **GPWS "Sink Rate"** may occur on short final (below 200').

Procedure B-1): Aligning to 3-degree path at 1500' AFE using V/S or FPA

(After passing FAF, descending at a very steep path of 3.77-degree at ISA to follow 3-degree final path at 1500' AFE)

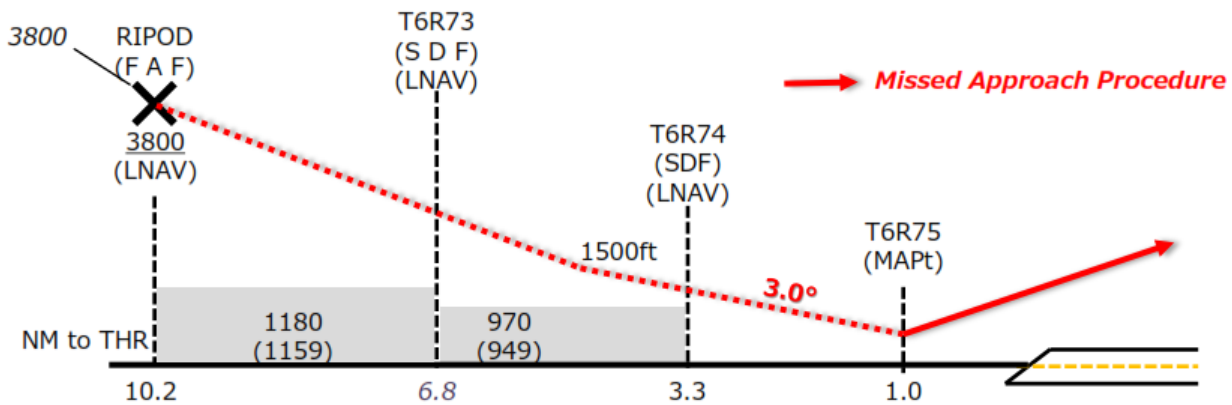
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Points to Consider:

- Gear and lowest flaps are recommended before FAF to perform more deceleration.
- Since altitude data are not coded in the FMS, you can only use V/S or FPA mode.
- 3-degree ILS and PAPI is available as reference.
- Stabilized approach will be achieved below 1,000' and nuisance GPWS will not occur.

Procedure B-2): Approach using “TAILORED DATA”

(Using FMS-Coded VNAV path to align to 3-degree final path at 1,500’ AFE)



Points to Consider:

- Operator must establish their own “Tailored” approach to conduct this approach.
- VNAV mode is available all the way down until MAPt.

CONCLUSION

If the temperature is **below 15 C°**, or at light-weight condition where your final ground speed will **not exceed 170kts** below 1000ft, 3.45-degree RNAV approach can be acceptable. But with strong tail or cross wind with rough air, this approach may result in missed approach. We recommend each operator to establish “TAILORED” procedures to maintain stabilized approach till touchdown especially during hot weather operation (38 C° was the highest temperature in the last 10 years in Tokyo). This will not result in mis-aligned PAPI and non-normal landing technique.

Of course, **requesting ILS approach** is another option, which JCAB will approve for safety reasons. We are checking with ATCO for how much delay is expected for the request.

Once again, TRIAL for southerly wind operation will begin on 1 February and northerly wind operation will begin on 30 January, and **New operation will commence on 29 March.**