JEPP'S BRIEFING

The Chart Clinic – Twenty Sixth in a Series

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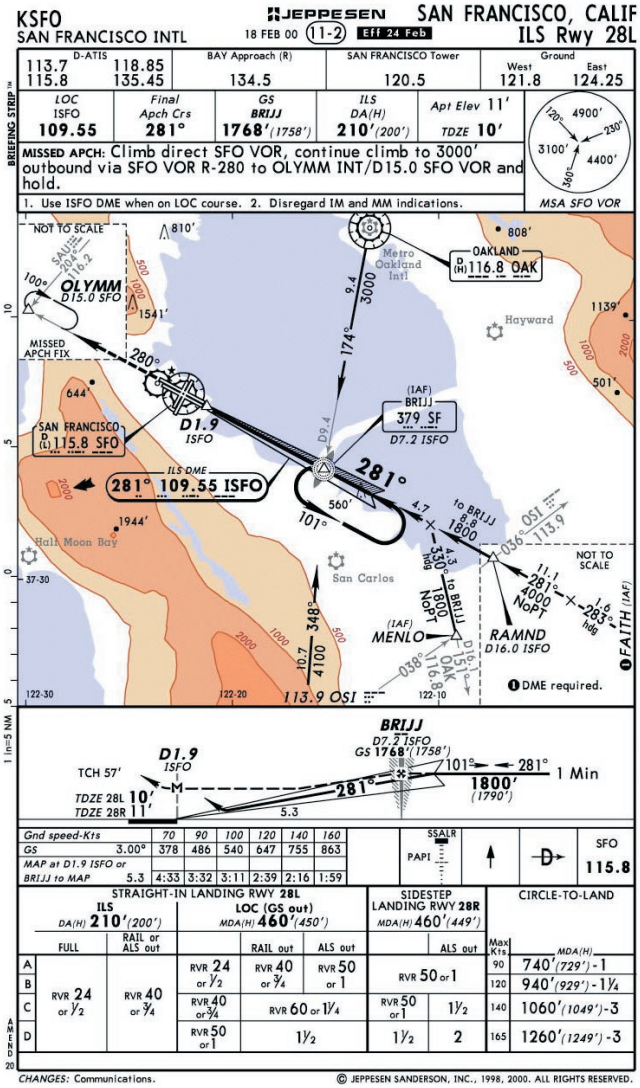
You are shooting the ILS Rwy 28L approach. After you report the marker inbound, the tower advises you to expect landing on Runway 28 Right. Can you land on the parallel runway that doesn't have the straight-in landing minimums and still not have to use circling minimums?

Sidestep Minimums

At some airports, where an ILS approach is installed on one of two parallel runways, the FAA has prescribed straight-in landing minimums to the "other" runway which does not have the localizer installation. This was done so that the circle-to-land minimums do not have to apply to the "other" runway. The sidestep minimums are authorized when the centerlines of the parallel runways are no more than 1,200 feet apart. When the sidestep maneuver is authorized for the non-ILS runway, a separate straight-in landing minimum column will be included in the minimums box. For example, the ILS Runway 28L approach to San Francisco has a minimums column titled "SIDESTEP LANDING RWY 28R."

The straight-in landing minimums for the localizer-equipped runway are for Runway 28L, shown on the left side of the minimums box. The sidestep straight-in landing minimums for Runway 28R are shown to the right. Since the glide slope cannot be used all the way to runway 28R, the landing minimums are expressed as a minimum descent altitude rather than a DA(H).



The MDA of 460 feet for Runway 28R is 250 feet greater than the DA(H) for 28L, but is significantly better than the circle-to-land minimums of 740, 940, 1060, or 1260 feet if the sidestep landing maneuver was not listed as a separate set of minimums. The visibility minimums, however, are higher for the sidestep runway. When can you break off from the localizer to land on Runway 28R? You can start the sidestep maneuver as soon as the *runway environment is in sight.*

What is not obvious by looking at the stated minimums is that most US airlines have elected to eliminate circle-to-land operations and the minimums for circling in those cases automatically get raised to at least 1000-3 (VFR) if not landing on the straight-in landing runway.

Night Minimums

Occasionally, operations at an airport may be limited at night. Because runway lighting is required for approval of night instrument operations, some approaches are authorized only during the day. In some cases, the mountainous terrain around an airport is so significant, some night operations may be limited or not authorized at night. This is true for the landing minimums at Eagle, Colorado. Notice the note below the circle-to-land minimums on the Eagle approach chart that states that "Circling is not authorized South of Runway 7-25 at night." This is because of the very high mountains that cannot be seen at night when below the MDA.

	Max Kts	CIRCLE-TO-LAND MDA(H)
A	90	9140'(2605')-1 1/4
B	120	9140'(2605')-1 1/2
C	140	❶ 9140'(2605')-3
D	165	

❶ Circling not authorized South of Rwy 7-25 at night.

EAGLE, COLORADO circle-to-land minimums

Where is "South of Runway 7-25" which is the area not authorized? If you imagine a straight line which extends down the centerline of Runway 7-25 and then extend that line way out beyond both ends of each runway, no flight operations can be conducted on the south side of that imaginary line. The TERPs criteria limits night operations because of *close-in unlighted obstacles.*

When is night? FAR 1.1 General Definitions state: "Night means the time between the end of evening civil twilight and the beginning of morning civil twilight as published in the American Air Almanac, converted to local time." The sunset and sunrise tables are also included in the Jeppesen J-AID.

Missed Approaches

Making a missed approach is not the most fun part of a procedure and besides, it never seems to happen at the right time. But, it is with us and it can be very important.

There are three places on the approach chart where the missed approach information can be found. The principal missed approach information in narrative style is located at the top of the approach chart of the new Briefing Strip™ format. The missed approach terminology used in the heading group is the same as the words used by the government approach procedure design specialists when they designed the approach procedure.

The missed approach procedure is *graphically depicted in the plan view* using a dashed heavy line and the initial portion is depicted with icons below the profile view. The missed approach procedure track in the plan view is depicted similar to an airplane's missed approach flight path; but that does not necessarily indicate that it is drawn to scale.

When a missed approach procedure terminates in a holding pattern, the holding pattern is depicted in the plan view with a light weight line whereas a holding pattern

shown with a thick line is part of the primary procedure.

The missed approach procedure for San Francisco, California represents a typical missed approach from a precision approach procedure. When arriving at the decision height when using the glide slope or when reaching the non-precision missed approach point at the runway when not using the glide slope, if you do not have visual contact with the runway environment or are not in a position from which a *normal landing* can be made, then the missed approach procedure should be followed.

In the profile view at San Francisco, there are two different pull-up arrows that are depicted. One is shown on the glide slope symbol indicating that the missed approach would be executed before reaching the runway when using the glide slope. If the glide slope is not used, then the dashed line after passing the FAF shows a level flight segment at the MDA. The missed approach pull-up arrow for the non-precision approach begins at the runway threshold at the letter "M" symbol indicating the non-precision MAP.

At San Francisco, you should climb to the SFO VOR and then continue to climb straight ahead to 3,000 feet and fly outbound on the SFO VOR 280° radial to the OLYMM intersection and then enter the holding pattern.

The holding pattern at San Francisco is easy from an entry standpoint since it is a direct entry. In most other locations, the holding pattern is established so the inbound leg is aimed back toward the airport so a parallel or tear drop entry is usually the case.

At San Francisco, you will not be cleared for the approach from the holding pattern since it is not located at the final approach fix. If you want to shoot another approach, it will require that you start all over again with vectors from Bay Approach Control.

Inset for Missed Approach Fixes

When the missed approach holding is so long that it would not normally fit with the plan view that is drawn to scale, we use an *inset* to depict the missed approach holding fix. As an example, the OLYMM intersection and the holding pattern for the missed approach would fall outside the plan view if the missed approach procedure was drawn to scale. In order to graphically depict the holding pattern and the formation of the OLYMM Intersection, it is drawn in an inset and not to scale. The small inset is used to make it easier to visualize the missed approach holding pattern and the holding fix.

On some approach procedures, the words "or as directed" are included to specify that the missed approach procedure will be flown unless ATC gives you a different clearance than the printed missed approach procedure. In any case, ATC can direct you to do a missed approach procedure other than the one which is specified on the approach chart.

This article concludes the discussion of the front side of Jeppesen Instrument Approach Procedure Charts. In the next article, the discussion will pertain to the airport chart which is frequently found on the back side of the first approach procedure for an airport.

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