

TMF

ILS & VOR Approaches

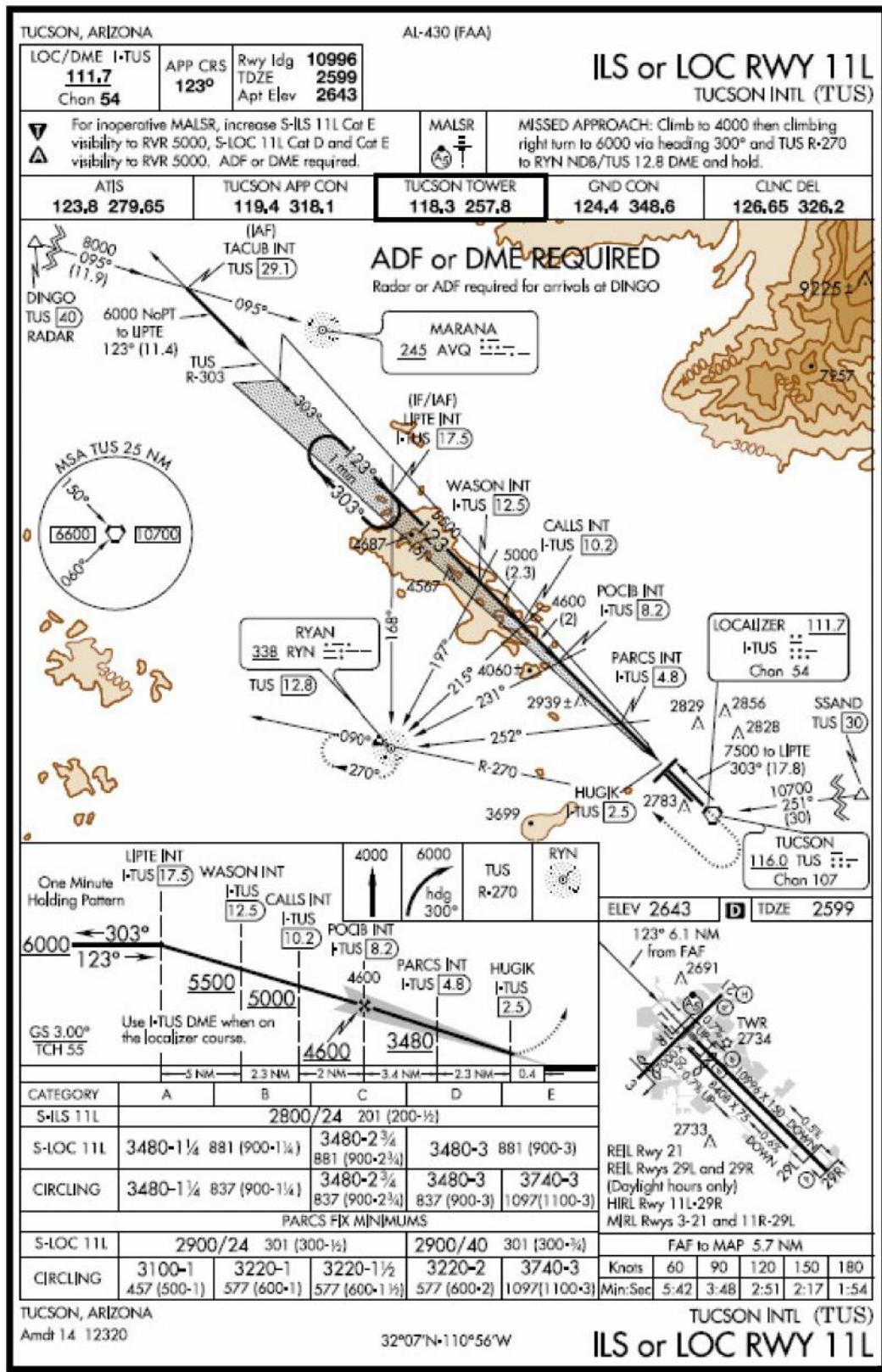


2013

James D Price

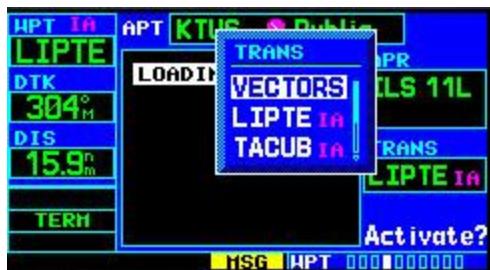
TMF

ILS Approach





Press the **PROC** button, and using the LARGE and small knobs, choose the desired approach.



You can then choose how you would like to fly the ILS approach.

Choosing VECTORS (to final) deletes all the waypoints prior to the Final Approach Fix (in this case POCIB). A magenta line (on the map) extends from the



Missed Approach Point, through the FAF.



If you have loaded the ILS with "Vectors to Final", and subsequently, ATC clears you direct to TACUB and the ILS approach . . .

Simply press **PROC**, select the approach again, and the TACUB transition.

Press the **→** key and TACUB. NOTE: Pressing **→** key and a fix on the approach, also Activates the approach.





Choosing LIPTE also inserts a hold at LIPTE.



When cleared for the approach, press the **PROC** key and activate the Approach.



ILS approaches are not labeled ILS or GPS (RNAV). An ILS approach must use the ILS signal. The GPS does a great job on the map with the localizer line and the various fixes for orientation and situational awareness. Therefore, during an ILS approach, the CDI Mode must be switched to "VLOC" instead of "GPS".

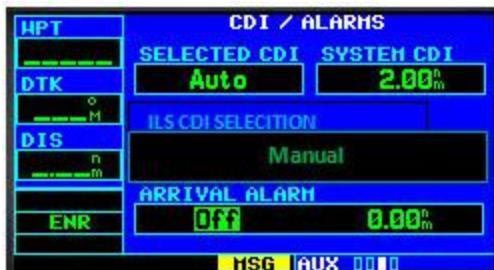
The factory default setting switches to VLOC automatically when inbound to the FAF. If your 430/530 does not switch automatically, you can check the settings in "AUX".



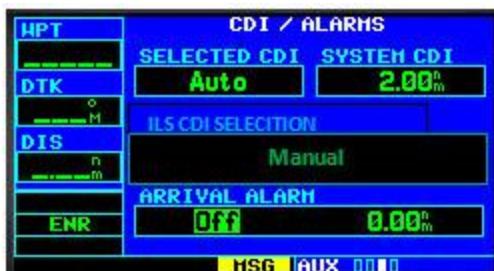
Rotate the LARGE knob to select AUX and the small knob to select page 3.

Press the small knob to activate the cursor

Rotate the LARGE knob to highlight CDI / Alarms and press **ENT**. This allows you to view the CDI / Alarms screen.

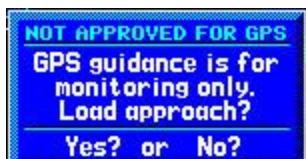


If “Auto” is selected for the CDI, the “System CDI” field will display the appropriate setting according to the phase and location of your flight. If a specified value is selected, that value always shows in the “System CDI” field.



This shows the “SELECTED CDI” options. They are **0.30nm, 1.00nm, 2.00nm** and **Auto**.

When you either LOAD or ACTIVATE an ILS approach:



- The “Not Approved for GPS” message appears. Simply press **ENT** to acknowledge.
- The Localizer frequency is automatically placed in the standby VLOC field, and
- The external CDI is automatically switched from GPS to VLOC when you are inbound to the FAF. If the approach has been activated and the localizer frequency is in the active VLOC field. If not, press the **CDI** key to change to VLOC operation.



If you forget to change the nav freq to the ILS, a message appears to remind you.

Select appropriate frequency for approach
Do not use for navigation

Select VLOC on CDI for approach

Approaching the FAF, "LNAV" replaces "TERM" as the GPS Mode Annunciator.



NOTE: This applies only to the CDI on the Default NAV 1 page. That's because the external CDI is now coupled to the VLOC receiver.

Normal waypoint alerting occurs

The GNS 430/530 will provide roll-steering guidance through the procedure turn if any.

NOTE

Some approaches contain a "course from fix to distance" leg. These appear as a normal waypoint except the destination name always begins with the letter "D", followed by a distance in tenths of nautical miles from the waypoint. For instance, D12.6.

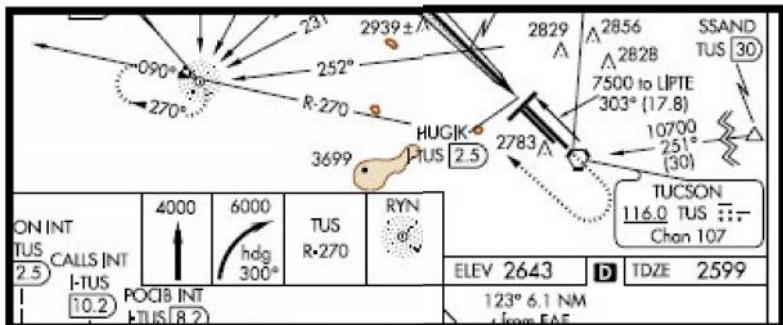


Vectors to Final Travel Tip

If you can avoid it, don't choose this option. If you do choose Vectors to Final, you can bet that ATC will clear you to a fix outside the FAF.

More fixes will be available if you select a full approach. If the procedure includes a procedure turn at holding, you can clear (CLR) the holding pattern or procedure turn from the flight plan.

MISSED APPROACH



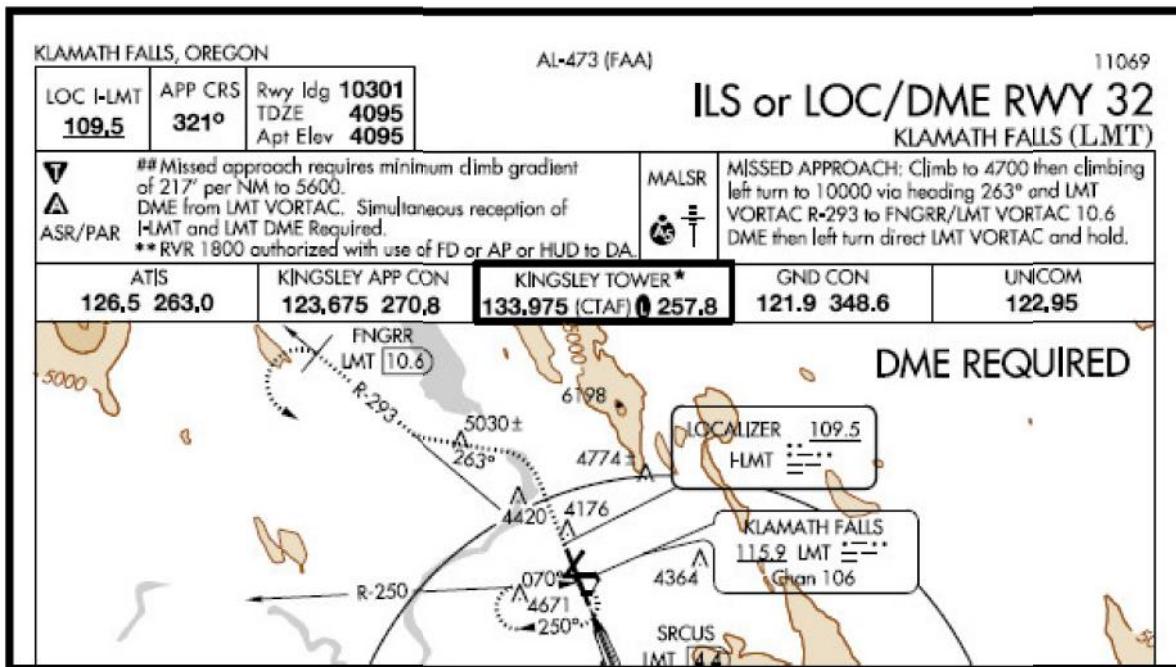
After passing the Missed Approach Point, **SUSP** (waypoint sequencing has been suspended) appears above the **OBS** key. Most missed approaches begin with a climb and a turn. After you have initiated the climb, press the **OBS** key and the **CDI** key.



Pressing **CDI** removes the VLOC guidance and returns the unit to the GPS mode. Pressing **OBS** removes **SUSP** allowing the GPS to resume automatic waypoint sequencing, (normal GPS operation). Now that you are using the GPS for guidance and having turned to heading 300°, the GPS can help you intercept the TUS VOR 270° Radial and guidance to RYN NDB.



MISSED APPROACH – “Course from Fix to Altitude”



The specified altitudes will appear as waypoints in the active flight plan and Default NAV1 pages.

RW32 MA
LMT
4700 f t
LMT MH
10000 f t
LMT
hold

As you scroll though the flight plan, while briefing the approach, you'll see the “conditional altitudes”. That's your clue that when you start the missed approach and press the **OBS** key, **SUSP** will reappear above the **OBS** key. After you have reached 4,700 feet MSL, press the **OBS** key and **SUSP** reappears. When you reach 10,000 feet MSL, press the **OBS** key again. This time **SUSP** disappears, having satisfied all conditional altitudes.

VOR and Backcourse Approach

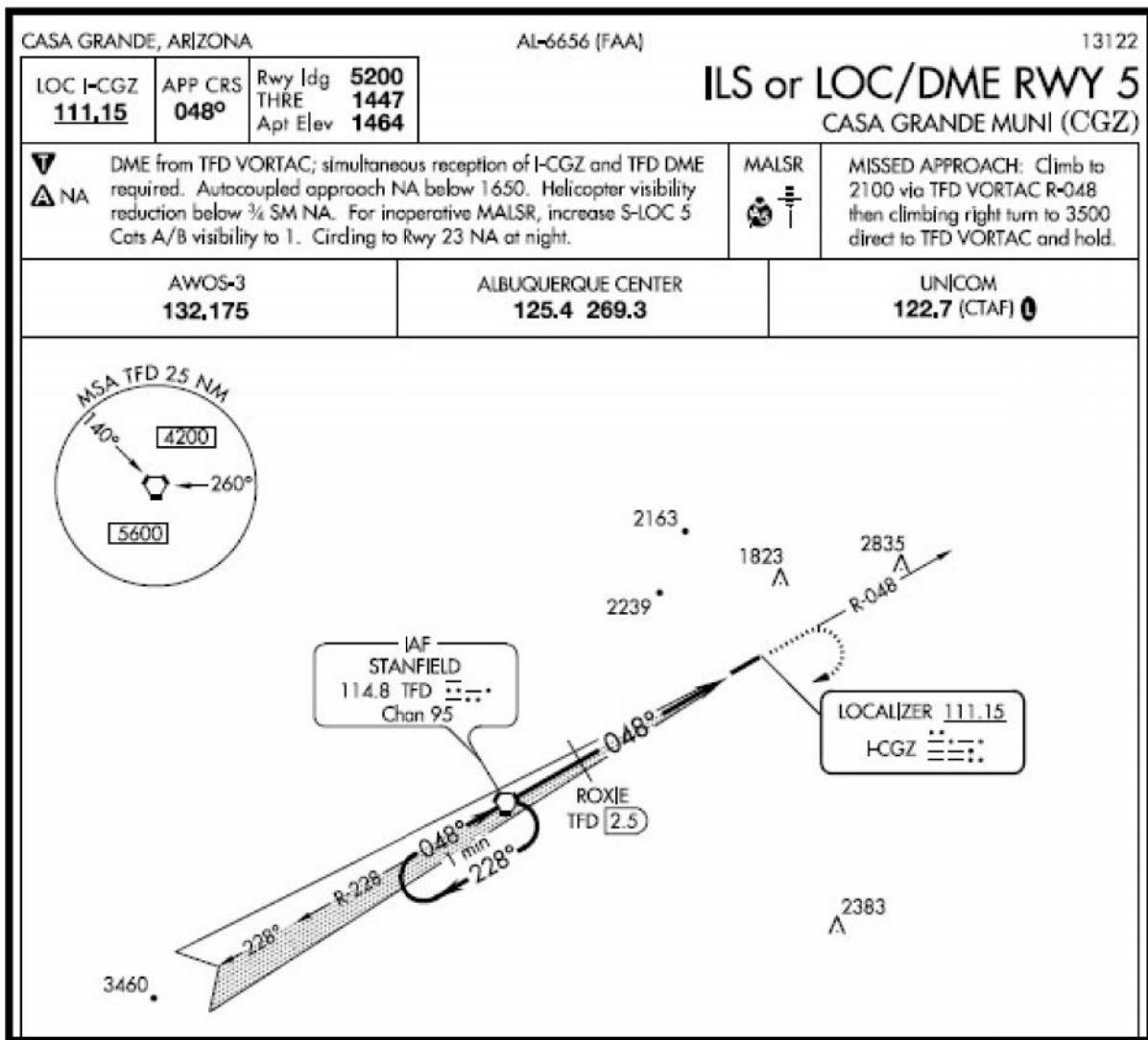
You must press the **CDI** button to change the guidance to VLOC.

Localizer, SDF and LDS Approaches

Automatic switching of the CDI output from GPS to VLOC should occur.

NOTE: Always check the Mode annunciation.

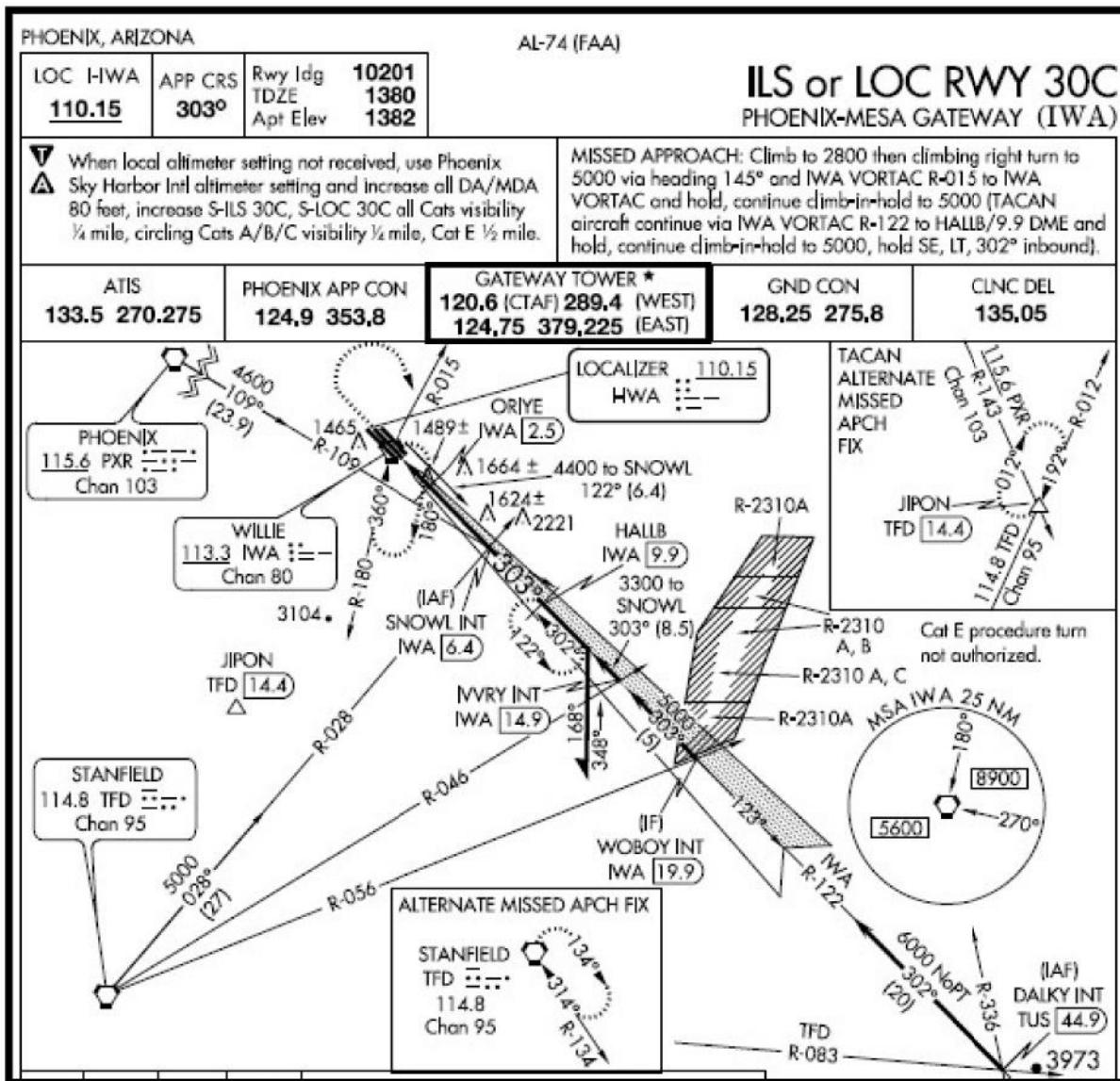
Holding as Part of the Approach



If additional turns are required at the IAF – in this case Stanfield VOR

Press the **OBS** key as you approach TFD on the turn inbound. Otherwise, automatic sequencing will take over, and the next “TO” waypoint will sequence to ROXIE. When ready to continue the approach, press the **OBS** key approaching TFD.

Holding as Part of the Missed Approach

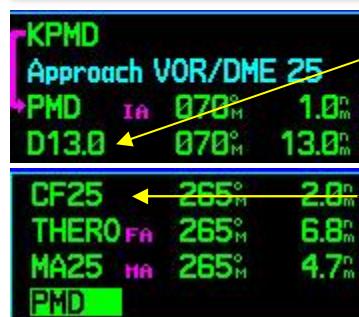
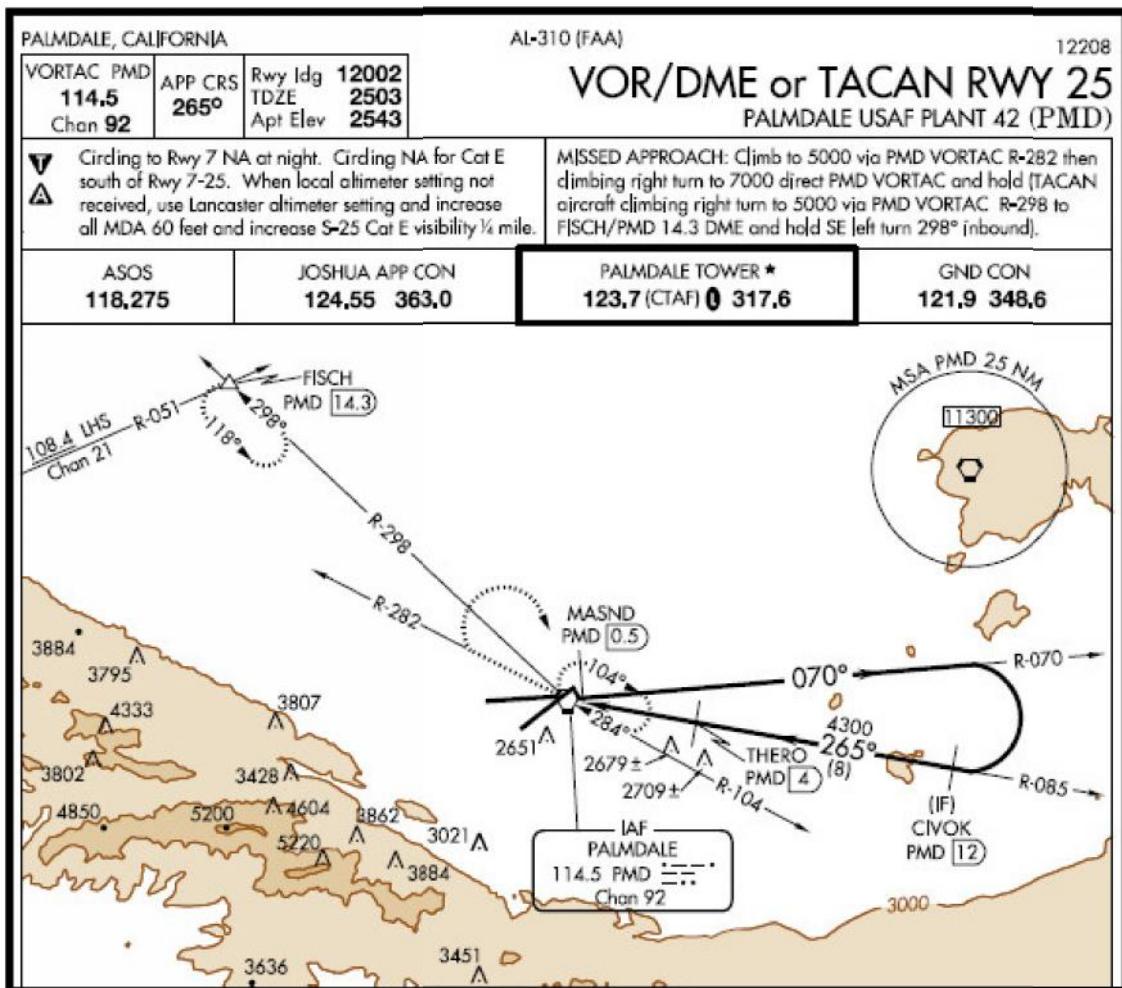


SUSP will appear when you cross the holding fix (Willie VOR, IWA) the first time. Auto waypoint sequencing will remain suspended until you:

- Select another approach or
- Proceed to another waypoint.

You don't need to press **OBS** each time you are inbound to the IWA VOR.

Course from Fix Legs (A Teardrop Course Reversal)

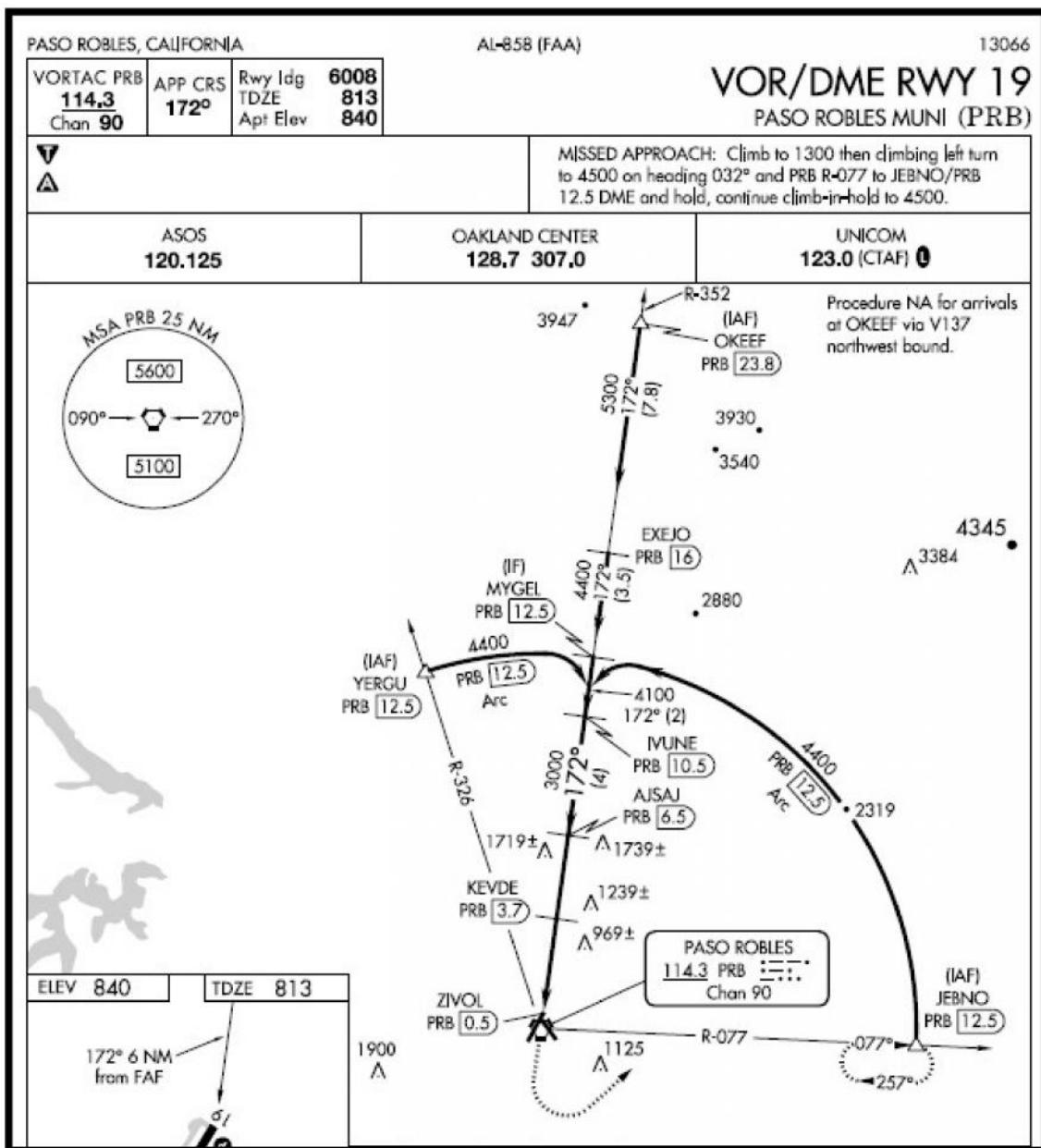


D13.0 tries to keep you within 15 nm, as specified in the approach.
CF25 helps you find the 265 course inbound.



This missed approach has a conditional waypoint. If you execute a missed approach and push the OBS key, you can expect "SUSP" to reappear over the OBS key.

DME Arc Approaches



Selecting an IAF can be a bit confusing. Instead of spelling out JEBNO and YERGU, the GNS uses the radial and D (DME). JEBNO is on the 077° Radial and YERGU is on the 326°R. "K" indicates the 11 DME arc. See next paragraph for explanation.

This approach uses the **PRB 12.5 DME arc**. However, when the Garmin simulator and the database was built, KPRB was using the 11 DME arc. GPS DME logic uses letters of the alphabet to indicate the arc's mileage. **For instance:**

A=1	B=2	C=3	D=4	E=5	F=6	G=7	H=8
I=9	J=10	K=11	L=12	M=13	N=14	O=15	P=16

And so forth

Based on that logic, the Garmin simulator designated JEBNO, situated on the PRB 077° radial and the 11 DME arc as **D077K**



Pilots may substitute IFR certified GPS receivers for DME and ADF avionics for all operations except NDB approaches without a GPS overlay. GPS can be used in lieu of DME and ADF on all localizer-type approaches as well as VOR/DME approaches, including when charted NDB or DME transmitters are temporarily out of service.