



NATIONAL ASSOCIATION OF FLIGHT INSTRUCTORS

# MENTOR

*LIVE*

*May 18, 2022*



***Welcome!***

NATIONAL ASSOCIATION OF FLIGHT INSTRUCTORS

# MENTOR

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## ***Learjet Tragedy at Gillespie Field: What Went Wrong?***

***Presented by  
John and Martha King  
Co-Chairmen, King Schools***



***LIVE***



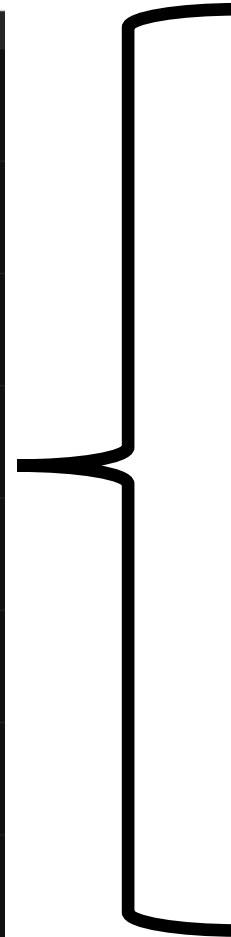
Starts May 18th at 5:00 PM PDT

## KINGS Discuss "Crash At Gillespie Field"

Live Program Will Appear On This Page At The Scheduled Time



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- JOHN & MARTHA KING - Presenters  
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- PAUL PREIDECKER - Host  
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Join NAFI!

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New 2-clicks to quiz

Course Resources

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# John and Martha King

- Began teaching to bide time to start a “serious business”
- After ten years teaching live seminars, they started using video and revolutionized flight training
- Over 40 years, taught more pilots than anyone in history
- Flown on every continent except Antarctica
- Flown blimp over events such as the Super Bowl, Kentucky Derby, and the US Open Tennis tournament
- Continue to transform flight training by pioneering development of multimedia programs

*LIVE*

# Q&A Break



- Your questions and comments are welcome! You bring extra value to Mentor*LIVE*!
- Join the chat on the right side of your screen and post your questions there
- We will do our best to get as many answered as possible.
- Thank you for joining us tonight



## ***Learjet Tragedy at Gillespie Field: What Went Wrong?***

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# Lear 35 Circling in Low Ceiling and Visibility

- Returning to base after a patient transport
- Hit the ground
- Killed 2 pilots and 2 nurses



# Flight Crews Cannot Eliminate All Risks

- These events heighten the urgency to manage risks
- Managing risks is the primary responsibility of the crew

# ATC Audio Before Crash

- <https://youtu.be/xaw23d4UyX8>



# NTSB Aviation Accident Prelim. Report

Airport  
Elevation  
388' MSL





**RUNWAY VIEW FROM CRASH AREA**

**Tower at 1,273 feet MSL**



**View from 950 feet MSL**

1912-29 / Alt: 1,273 ft MSL  
Pilot asked to turn u  
ATCT confirmed ligh



**View from 850 feet MSL**

**Terrain 600 feet**

1914:07 / Alt: 950 ft MSL

**Terrain 500 feet**

1913:55 / Alt: 875 ft MSL

Field Airport

Terrain  
View topography and elevation



# PAVE Tool

- Puts risks into categories
- Great tool for analyzing and managing the risks of a flight
  - May have been used by the pilots

**P**  
**A**  
**V**  
**E**



## P = Pilot(s)

- Fatigue and crew condition
  - Same-day patient transfer flight from KHII to KSNA
  - Part 91 repositioning flight from KSNA to KSEE
  - No other details yet available from NTSB
- Crew time in type
  - No details yet available from NTSB
- Recency of experience
  - No details yet available from NTSB

These would reflect on the crew's ability to perform a difficult circling maneuver in poor weather at night



## A = Aircraft (Lear 35A)

- Ability to fly some approaches
  - Learjet 35A is a Category D aircraft (FAA Aircraft Characteristics Database, approach speed of 143 kts)
  - Some approaches not available for Category C and D aircraft
- Ability to maneuver at slow speeds
- Ability to stop on wet runways





# V = enVironment

- Extremely short trip
  - 68 NM, 18 minutes in the air
  - Very little time to get set up for approach
    - Even if briefing is completed before takeoff
- Nighttime
- Rain, low ceilings, low visibilities
  - Unusually poor weather for this area
- High terrain north and east of the airport



# Reported Weather at Gillespie Field

Crash occurred at 1914 local (sunset was 1651 local)

## At 1855 local:

- Wind: variable at 5 knots
- Visibility: **3 SM**, mist
- Clouds: **2,000 ft. broken,**  
2,600 ft. overcast
- Temperature: 10° C, dewpoint 8° C
- Altimeter setting: 29.98 inches
- Precipitation: None indicated

## At 1955 local:

- Wind: variable at 5 knots
- Visibility: **3 SM**, mist
- Clouds: **1,100 ft. broken,**  
2,600 ft. overcast
- Temperature: 10° C, dewpoint 8° C
- Altimeter setting 29.96 inches
- Precipitation: None indicated

**First responders reported heavy precipitation; witnesses reported dense fog**



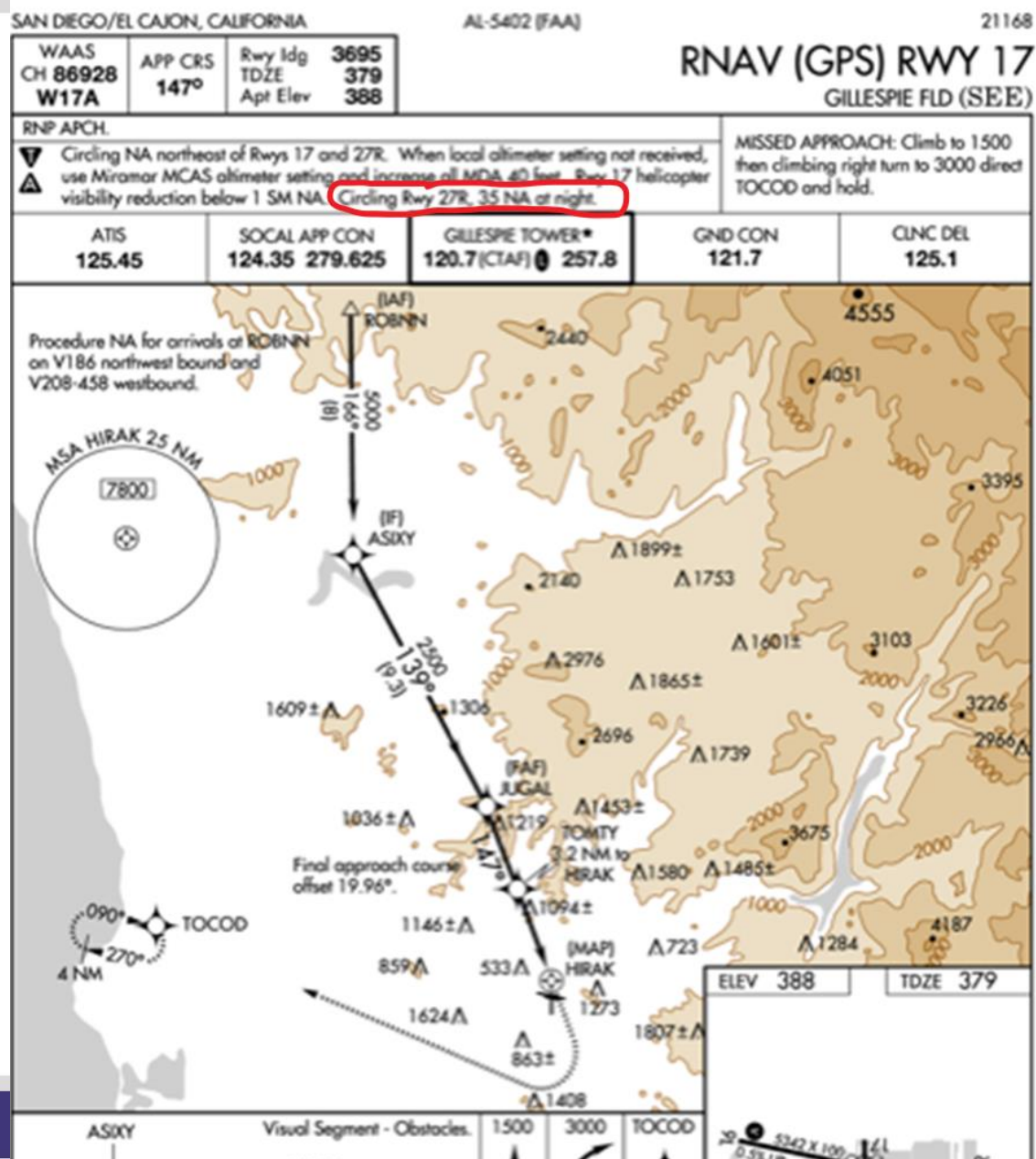
# Let's Look at the Possible Options

- KSEE
  - Rwy 17 RNAV
  - Rwy 9L RNAV
  - LOC-D
- Other nearby airports
  - KMYF – Rwy 28R ILS
  - KCRQ – Rwy 24 ILS
  - KSAN – Rwy 9 ILS
- Remain overnight at KSNA



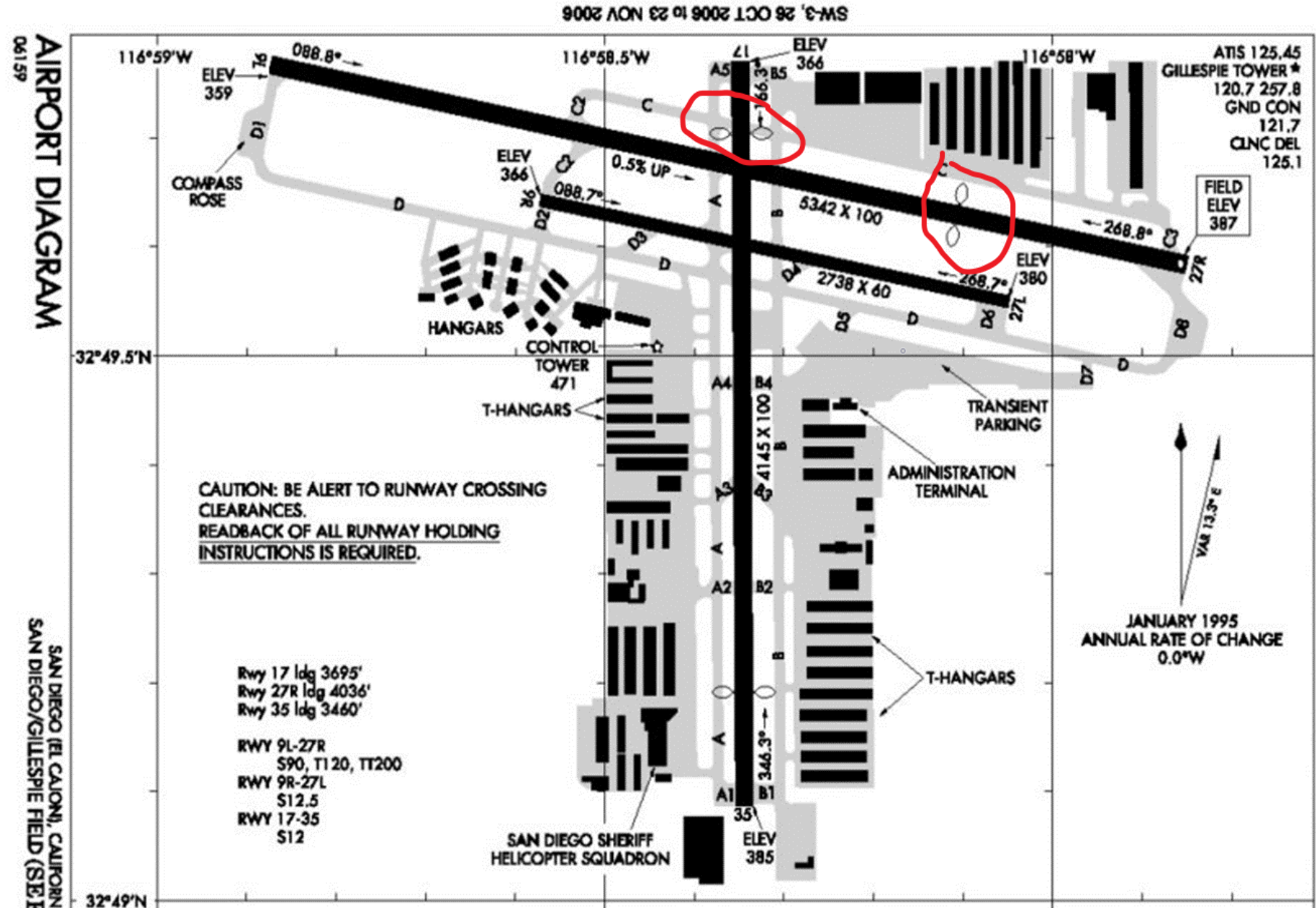
# Rwy 17 RNAV Approach

- Circling to runway 27R or runway 35 NA (Not Authorized) at night



# Airport Diagram

- Displaced thresholds on runways 17 and 27R
- Usable for landing:
  - 17 – 3,695'
  - 27R – 4,636'





# Rwy 9L RNAV Approach

- Full length available (5,342')
- Not available for category C and D aircraft

SAN DIEGO/EL CAJON, CALIFORNIA AL-5402 (FAA) 22083

APP CRS 089° Rwy Idg 5342 TDZE 379 Apt Elev 388

## RNAV (GPS) RWY 9L

GILLESPIE FLD (SE,E)

RNP APCH. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 5°C or above 14°C. Circling NA northeast of Rwys 17 and 27R. Circling Rwy 27R, 35 NA at night. Rwy 9L helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climb to 1900 then climbing right turn to 2700 direct MZB VORTAC and hold.

ATIS 125.45	SOCAL APP CON 124.35 279.625	GILLESPIE TOWER* 120.7 (CTAF) 257.8	GND CON 121.7	CLNC DEL 125.1
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ELEV 388	TDZE 379
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TOCOD	TILRE	1900	2700	MZB
2400	2400			
GP 4.00°	086°	089°		
TCH 41	2400			
	8 NM	4.2 NM	0.6	

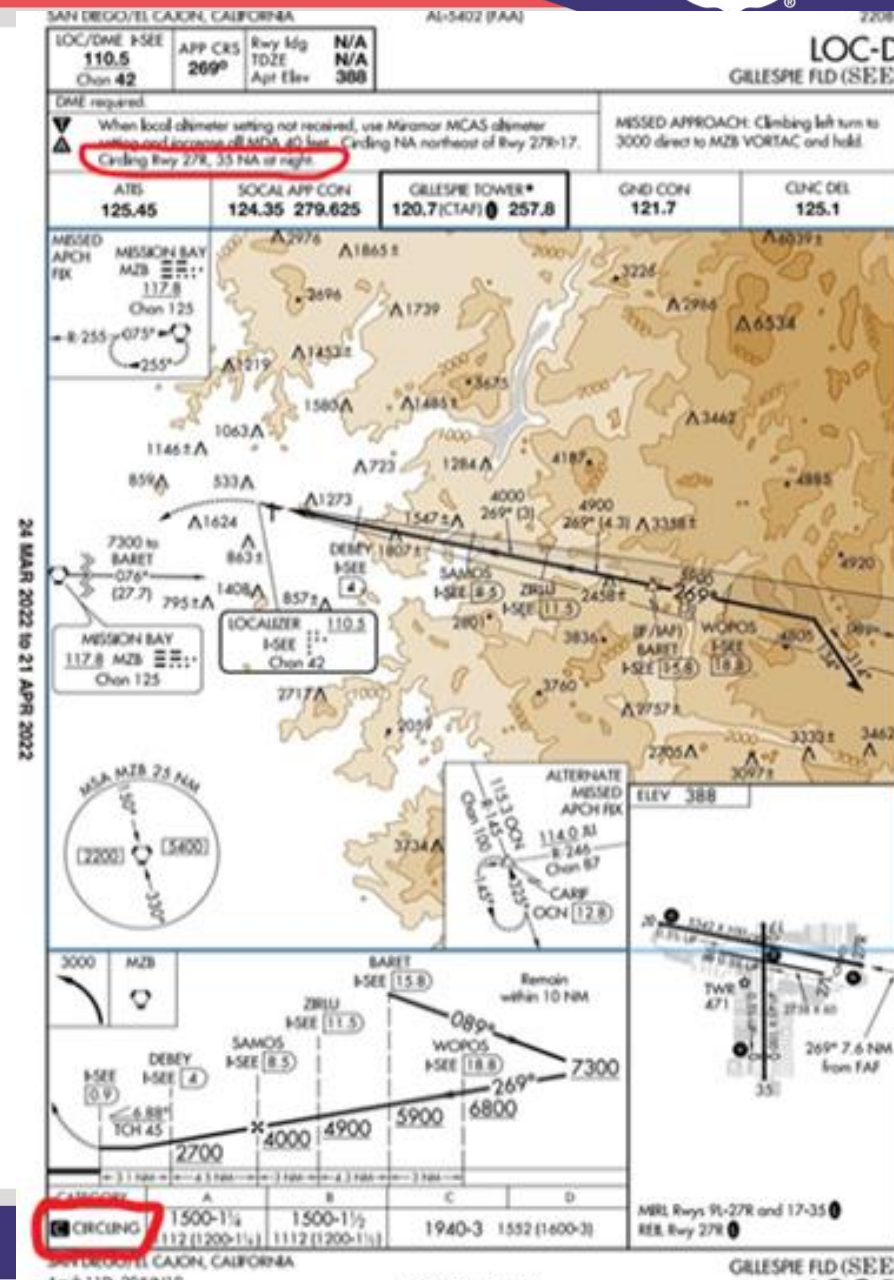
CATEGORY	A	B	C	D
LNAV/VNAV	1350-3	971 (1000-3)		NA
LNAV MDA	1720-1¼ 1341 (1400-1¼)	1720-1½ 1341 (1400-1½)		NA
CIRCLING	1720-1¼ 1332 (1400-1¼)	1720-1½ 1332 (1400-1½)		NA

MIRL Rwys 9L-27R and 17-35  
REIL Rwy 27R

SAN DIEGO/EL CAJON, CALIFORNIA GILLESPIE FLD (SE,E)

# LOC-D Approach

- Lined up with runway 27R
- Has multiple step-down fixes
- Is unusually steep due to high terrain east of runway (4.5° VASI) – too steep for straight-in minimums
- Circling to runway 27R or runway 35 NA at night





# KSEE IFR Options at Night – Category C and D

- Straight-in approach to Runway 17
  - Runway length is an issue (3,695'), particularly if runway is wet
- Fly LOC-D approach
  - If runway is in sight early enough, cancel IFR and land straight-in (circling is NA)





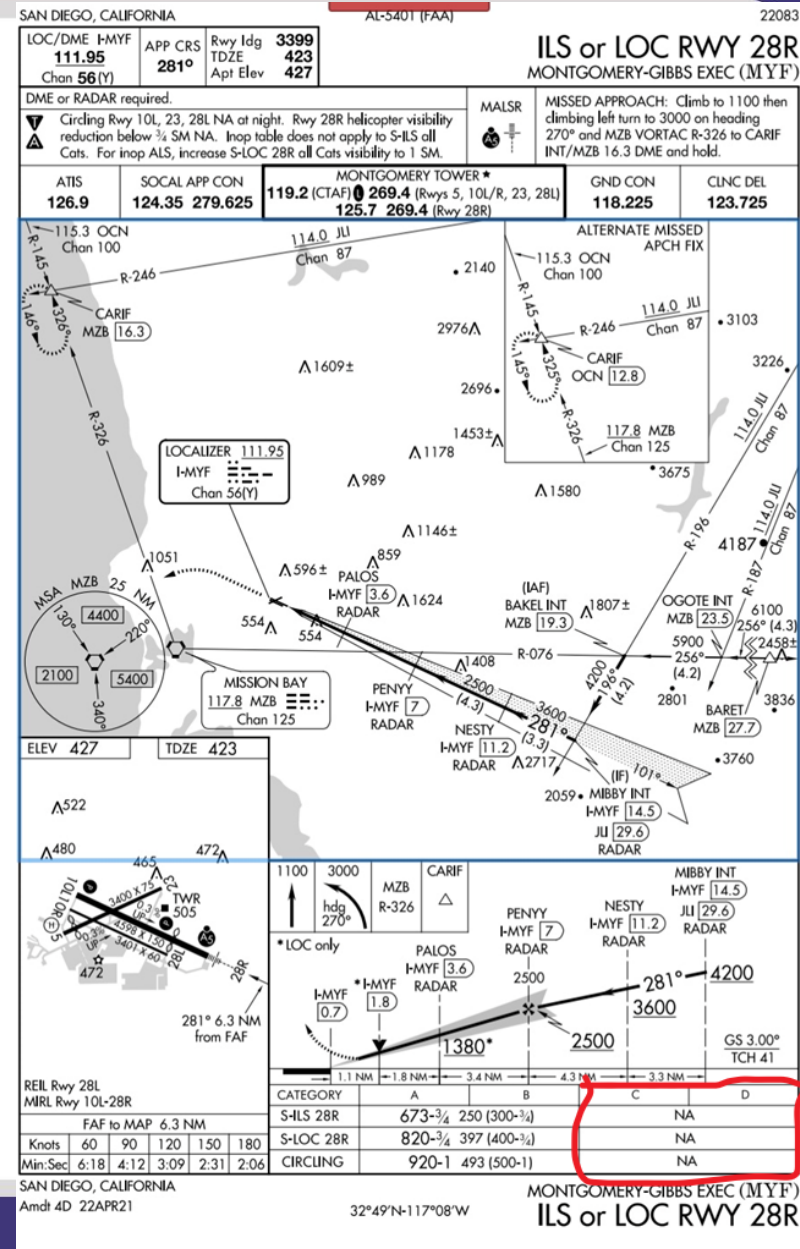
## Other Nearby Airports

- Had better approaches
- Would require ground transportation back home that evening and return to pick up the airplane



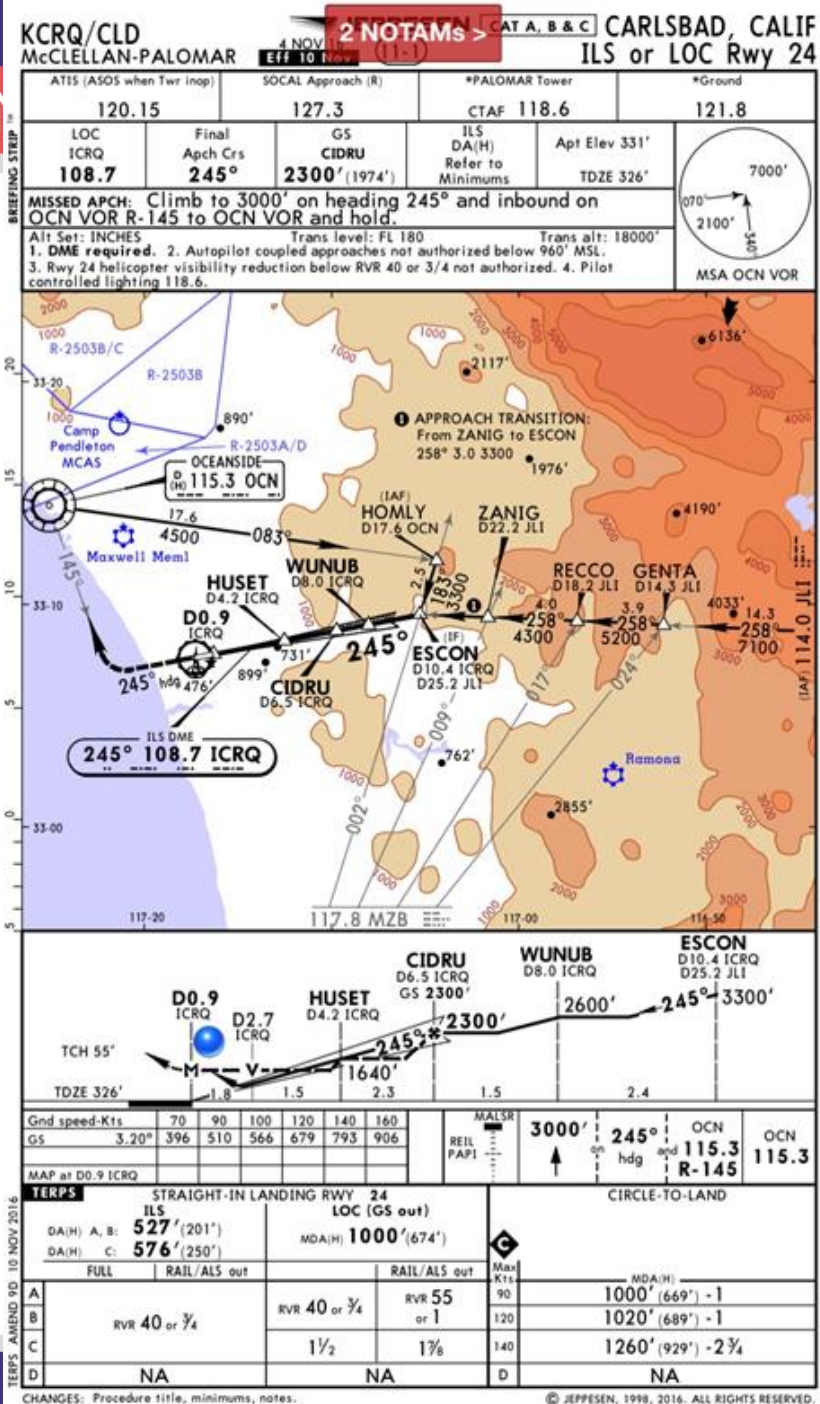
# Montgomery-Gibbs Executive Airport

- ILS or RNAV runway 28R
  - Not available for category C and D aircraft
- Adequate runway pavement
  - Shortened for political reasons by airport operator
  - Runway after displaced threshold is 3,400'
    - Short for a Lear 35 on a rainy day



# McClellan Palomar Airport

- Better approach
  - ILS, which is less steep with no high terrain close to airport
- Longer usable runway
- Not usable by category D aircraft





## San Diego International Airport

- ILS approach
- Much longer runway
- Expensive monopoly FBO (Signature)

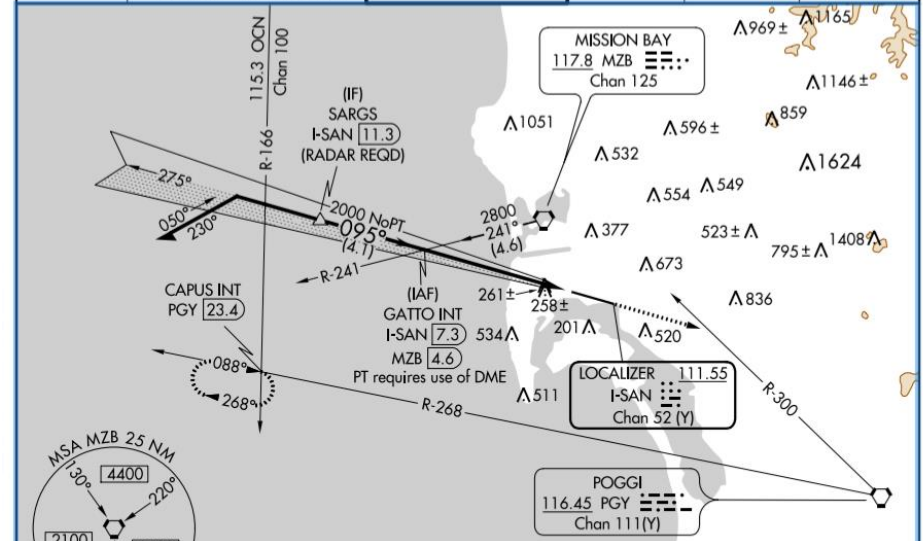
SAN DIEGO, CALIFORNIA AL-37.3 (FAA) 22083

LOC/DME I-SAN Chan 52 (Y) 111.55	APP CRS 095°	Rwy Idg 7280	TDZE 17	ILS Z or LOC Z RWY 9 SAN DIEGO INTL (SAN)	
		Apt Elev 17			

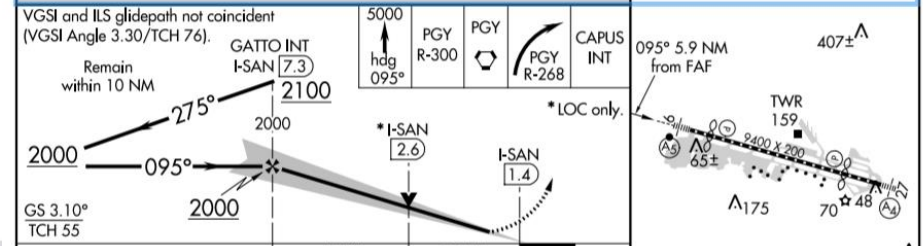
▼ Circling NA north of Rwy 9-27. Autopilot coupled approach NA below 530. When Circling to Rwy 27 at night, operational VGSI required, remain on or above VGSI glidepath until threshold. For inop ALS, increase S-LOC Cat A/B visibility to RVR 5500, and Cat C/D to 1 3/8 SM. LOC only: Rwy 9 helicopter visibility reduction below RVR 4000 NA.

▲ MALSR MISSED APPROACH: Climb to 5000 on heading 095° and on PGY VORTAC R-300 to PGY VORTAC, then right turn on PGY VORTAC R-268 to CAPUS INT/23.4 DME and hold. #Missed approach requires minimum climb of 280 feet per NM to 3800; if unable to meet climb gradient, see ILS Y or LOC Y RWY 9.

D-ATIS 134.8	SOCAL APP CON 119.6 363.1 (WEST) 124.35 279.625 (EAST)	LINDBERGH TOWER 118.3 338.225	GND CON 123.9	CLNC DEL 125.9	CPDLC
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ELEV 17	TDZE 17
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CATEGORY	A	B	C	D
S-ILS 9#	217/18 200 (200-1/2)			

TDZ/CL Rwy 9 and 27  
 HIRL Rwy 9-27

24 MAR 2022 to 21 APR 2022





# Issues With Using an Alternative Airport

- Time
  - Leave airplane overnight and return next day
  - Aircraft not positioned for next medical flight
- Money
  - More expensive alternative



## en Vironment Weather Risks

- Moving the airplane in bad weather increases risk
- Could have been avoided by staying overnight at the departure airport



# Let's Review the Possible Options

- KSEE
  - Rwy 17 RNAV – short runway
  - ~~Rwy 9L RNAV~~ – NA for C and D
  - LOC-D – straight-in only (if see runway in time)
- Other nearby airports
  - ~~KMYF Rwy 28R ILS~~ – NA for C and D
  - ~~KCRQ Rwy 24 ILS~~ – NA for D
  - KSAN – Rwy 9 ILS
- Remain overnight at KSNA



## E = External/Internal Pressures

- This is the reason pilots fail to mitigate the other risks
  - Pilots and nurses would have wanted to be home for the evening
  - Company would have wanted the airplane back at the base





# Managing The External/Internal Pressures

- **This is the primary responsibility of the pilot-in-command**



# Actions Suggesting Less Than Ideal Risk Management

- Circling from runway 17 approach to 27R to gain runway length
- Cancelling IFR to avoid restriction against circling IFR
- Not taking action to prevent circling too low



# A Factor Leading to Failure to Mitigate Circling Risks?

- During recurrent training jet pilots are required to demonstrate a circle at night after an IFR approach
  - Maneuver is not at all realistic
  - Simulator company gives a “gouge” on how to fly it successfully in the simulator
    - You are coached on the timing and landmarks for your turns
  - Maneuver may produce overconfidence, not competence?



# Circling Maneuver in Real Life is Difficult, Especially in a High-Performance Airplane

- Requires:
  - Crew coordination
  - Bank control in low visibility
  - Crew ability to maintain altitude
  - Precise speed control

**Some airlines and operators don't allow circling approaches**



# How Can a Satisfactory Outcome Be Managed?

- Brief the risk factors in advance
- Acknowledge the risks of circling
  - Brief minimum descent altitude required until in a position for normal descent for landing
  - Make altitude callouts during the circle
- Consider staying overnight at the departure airport
- Consider landing at an alternative airport



# LOC and CFIT

- They are not the CAUSE of accidents
- They are the END RESULT of

**The crew getting into a situation that either the airplane or the crew can't handle**

To learn: Look upstream for opportunities for **proactive risk management** to avoid getting into that situation



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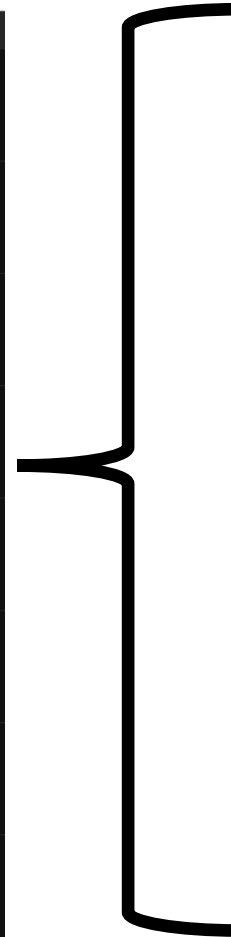
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New 2-clicks to quiz

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Speaker Biographies

Educational Foundation

MentorLIVE Archives

Course Evaluation



# ***Save the Date!***

***Join us for next month's MentorLIVE, June 15 at 8:00 p.m. ET***



***“Understanding  
Slips and Skids”***

***Presented by Capt. Brian Schiff, Airline Captain, CFI, NAFI Board  
Member, and Mark King, Southern California Flight School Instructor***

***LIVE***

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