INSTRUMENT LANDING SYSTEM

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ILS Basics
Localizer vs. Glide slope
Marker Beacons
ILS Categories
What is ILS?

- Ground based instrument approach
- It helps guide an aircraft safely to the runway
Localizer Vs. Glide slope
Localizer 108.10MHz to 111.95MHz

Glide slope 329.15 MHz to 335 MHz

A/C must have GS Receiver and LOC receiver to fly an ILS

LOC and GS are “paired” so pilot tunes LOC receiver and gets both Signals if A/C is equipped for full ILS

VOR receiver will receiver LOC signal, but not GS Signal
CDI Display for ILS Operation

1° off course at the outer marker - about 1000 feet off centerline
1° off course at the middle marker - about 300 feet off centerline

1° right of course  On course  1° left of course
Above glide slope  

On glide slope  

Below glide slope  

Glide slope much more sensitive than Localizer  

**Below Glide slope** - **Dangerous!**  
Ground is down there!  
You could hit something you didn’t plan for!
Marker Beacons

Outer Marker
- 4-7 NM from RWY Threshold
- Often also FAF

Middle Marker
- 3500’ from RWY Threshold
- 200’ above TDZL
- Also often MAP for LOC Ony Approaches

Inner Marker
- 1000’ from RWY Threshold
- DH for CAT II ILS
ILS Categories

- Category I – Decision Height (DH) not lower than 200 ft and RVR more than 550 meters
- Category II – DH between 100 ft and 200 ft and RVR more than 300 meters
- Category IIIa – DH lower than 100 ft or no DH and RVR more than 200 meters
- Category IIIb – DH lower than 50 ft or no DH and RVR 50-200 meters
- Category IIIc – No DH or RVR
This is why you NEVER go below the glide slope
Conclusion

- ILS Basics
- Localizer
- Glide slope
- ILS Categories
- NEVER go below the glide slope


Instrument landing system. 20 February 2009 < http://www.allstar.fiu.edu/aero/ILS.htm>