



## FlightSimExpo 2024 Flight Training Challenge

### Hosted by MidCon Airlines

#### Background

Initial HUD CAT 3 qualification requires captains to accomplish 10 HUD AIII landings utilizing CAT 3 procedures. To maintain HUD CAT 3 landing currency, captains must log at least one AIII landing using CAT 3 procedures every 90 days.

To simulate this portion of 737 captain upgrade training, you will be given an opportunity to hand fly an approach to the lowest authorized CAT III TDZ minimums of 600 RVR.

#### Scenario Briefing

##### CAT III Runway 26R KONT

This scenario will begin with the aircraft at 4,300 feet in a stabilized approach configuration at TAKOE. Tower is reporting touchdown zone 600 RVR and you have been cleared for the ILS RWY 26R approach.

When ready, the evaluator will release the aircraft to your control with LNAV/VNAV and autothrottle engaged and will assist with first officer duties as required.

Configure the aircraft as required for the approach.

No later than 1000 feet AFL, disconnect the autopilot and fly the approach to a full stop landing using HUD guidance.

After landing, the evaluator will debrief the results.

#### Approach and Landing Considerations

Do not prolong the flare in an attempt to achieve a perfectly smooth touchdown.

**A smooth touchdown is not the criterion for a safe landing.**

At high speeds, thrust reversers and speed brakes constitute approximately 80% of the total deceleration capability with wheel brakes providing the remaining 20%, therefore it is much more effective to decelerate on the ground than float to touchdown

# ILS CAT II/III Approach Review

## Wind Limits

- Headwind: Max 25 knots
- Tailwind: Max 10 knots
- Crosswind: Max 15 knots

## Minimums

- CAT II: DH as specified for the approach
- CAT III: DH 50 feet (radio)

## Approach Requirements

- Captain assumes PF duties prior to approach
- Approaches must be flown using HUD to touchdown
- Must have usable localizer inside runway threshold
- Review low visibility taxi routes

## HUD Approach Preparation

- Enter runway length from Jeppesen ##-9 page
- Enter landing beyond threshold value from Jeppesen ##-9A page, if shown
- Enter runway elevation from Jeppesen ##-9 page

## Autobrakes

- Autobrakes required when visibility is less than 4000 RVR or  $\frac{3}{4}$  SM

## Autopilot

- Disconnect AP no later than 1000 AFE



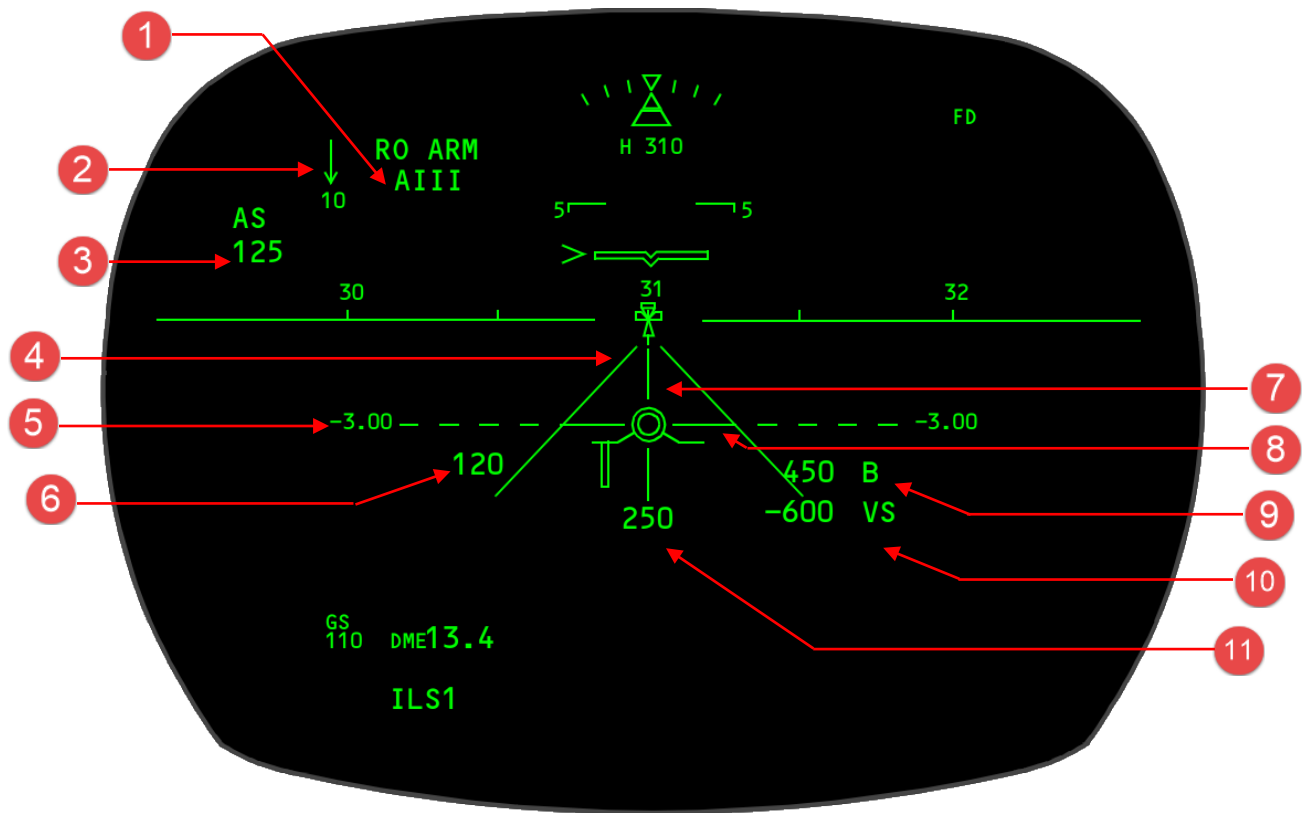
## Visibility

<b>CAT II Visibility Requirements</b>	
<b>Chart Minimums</b>	<b>Min RVR Allowed</b>
1600	TDZ 1600 MID 600 R/O 300
1400	TDZ 1400 MID 600 R/O 300
1200	TDZ 1200 MID 600 R/O 300
1000	TDZ 1000 MID 600 R/O 300

<b>CAT III Visibility Requirements</b>	
<b>Chart Minimums</b>	<b>Min RVR Allowed</b>
700	TDZ 700 MID 700 R/O 300
600	TDZ 600 MID 600 R/O 300
300	TDZ 600 MID 400 R/O 300



## Head-Up Display System Symbology

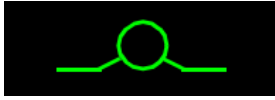


- |                              |                              |
|------------------------------|------------------------------|
| 1. Mode                      | 7. Lateral Deviation Line    |
| 2. Wind Direction            | 8. Glideslope Deviation Line |
| 3. Selected Airspeed         | 9. Barometric Altitude       |
| 4. Runway Edge Lines         | 10. Vertical Speed           |
| 5. Glideslope Reference Line | 11. Radio Altitude           |
| 6. Airspeed                  |                              |

### Note:

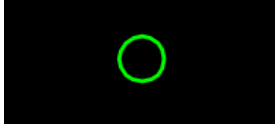
- **Lateral deviation:** The display gain is **six times** the actual localizer signal in order to make the localizer more sensitive for fine tracking.
- **Glideslope deviation:** The display gain is **eight times** the actual glideslope signal in order to make the glideslope more sensitive for fine tracking.

# Head-Up Display System Symbology



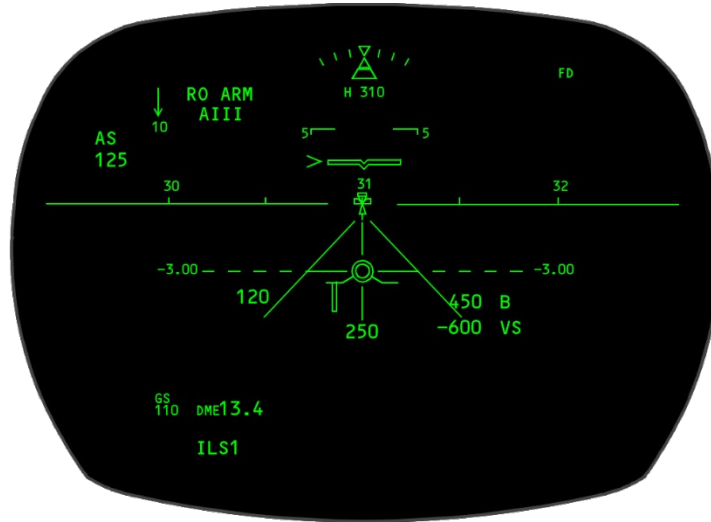
## Flight Path Vector Symbol

Displays the actual flight path of the aircraft



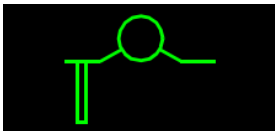
## HUD Guidance Cue

Provides approach and flare commands. **The objective is to capture the guidance cue inside the flight path vector reference circle**



## Runway Edge Lines

Displayed between 300 feet and 60 feet radio altitude. Lines are scaled to a width of 200 feet and a length of 8000 feet. Tic marks are displayed representing 1050 feet from the runway threshold.

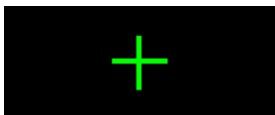


## Speed Tape Error

Displays the difference between reference and selected airspeed to a maximum of 15 knots.

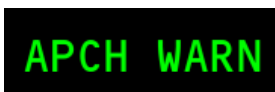
*Above the wing – Fast/Accelerating*

*Below the wing – Slow/Decelerating*



## AIII Flare Command

Initially displayed 2-3° below the guidance cue at 105 feet above runway elevation. The symbol flashes for one second and rises towards the guidance cue at the expected flare pitch rate.



## Approach Warning

Displayed below 500 feet if approach monitoring tolerances are exceeded or if AIII capability is lost