

Ground Lesson: Advanced Approach Concepts

Objectives:

1. to understand the advanced concepts of Approaches

Schedule:

Activity	Est. Time
Ground	1.5
Total	1.50

Recommended Readings:

IPH	Ch. 5: ALL: Approaches
AIM	Ch 2, Sec 1: Airport Lighting Aids

Elements Ground:

- **Advanced Approach Concepts**

- Required Visual References
 - FAR 91.175(c)
- **MAP**
 - when to start missed approach?
 - MAP vs DH
 - when to climb?
 - when to turn?
 - missed at Go-Around?
 - must follow obstacle departure procedure
- **Runway Components and Markings**
 - Aiming Point Marking (1000 ft)
 - TDZ Marking (500 ft each)
 - Threshold Markings (AIM 2-3-2)
 - ALS, REIL, TDZL, VGS, RAIL
 - Runway Edge Lights (200 ft each)
 - AIM 2-1
- **Inop Components**
 - when to use?
 - what changes?
- **Localizer Back Course**
 - reverse sensing w/ VOR
 - HSI must set to front course
- **Circle to Land Procedures**
 - maneuver shortest path to downwind or base
 - not required if not necessary
 - missed Approach during Cir Ops
 - initial turn should be towards runway

- **Visual Approach**

- proceed visually and clear of clouds
 - 91.155 does not apply
- ATC can authorize
- minimum 3SM/1000ft cig required
- Pilot must have field or traffic in sight
- **CVFP**
 - charted visual flight procedure
 - designed visual approaches for noise/ environmental purposes
 - primarily for turbojet aircraft
- **Contact Approach**
 - proceed visually clear of clouds
 - minimum 1SM vis
 - Pilot requested only
- **Radar Approaches**
 - controller on discreet freq
 - "do not acknowledge further transmissions"
 - ASR - Airport Surveillance Radar
 - non-precision approach
 - course guidance and range
 - PAR - Precision Approach Radar
 - adds glidepath information
- **VDP**
 - AIM 5-4-5
- **VDA**
 - rate of descent table
 - visual segment obstacle clearance marking (34:1)

Example Comms for ASR and PAR:

ASR Comms:

"8 miles from touchdown, slightly left of course, turn right heading 140, begin descent."

"7 miles from touchdown, turn left heading 130, recommend altitude 6,500" (assuming recommended altitudes requested)

"on course"

"6 miles from touchdown, on course, recommended altitude 5,700"

PAR Comms:

"7 miles from touchdown, on glidepath, on course."

"Slightly below glidepath, on course, 6 miles from touchdown"

"slightly below glidepath going further below, 5 miles from touchdown"

"slightly below glidepath coming up, slightly left of course, turn right heading 135, 4 miles from touchdown.."

Good Practice Approaches:

Timed FAF to MAP: KSCK Loc Rwy 29R

Back Course: KRDD LOC/DME BC Rwy 16

DME Arc: KWVI VOR/DME

Hold in Lieu: KVIS GPS Rwy 12

Procedure Turn: KOAR VOR Rwy 11

Circling Approach: KMPI RNAV (GPS) - A

CVFP: KSFO Tipp Toe Visual Rwy 28L

NDB Approach: KSCK NDB Rwy 29R