Flying Instrument Approaches in the Cirrus

There is a variety of instrument approach types, but to simplify how we fly the approaches in the Cirrus, they can be most simply grouped into two basic categories – those **WITH** Vertical Guidance, and those **WITHOUT** Vertical Guidance. The primary difference is the mode we use to fly the vertical component of the final segment (GS/GP, or VS), and the type of minimums published for the approach (DA/DH, or MDA).

Before GPS approaches were introduced, the terms "precision" and "non-precision" used to be the way the FAA and pilots would define these two categories of approaches. However, the evolution of RNAV approaches has outpaced FAA regulations and definitions, and the FAA has yet to label the LPV approach as "precision" even though the minimums are often as low as the ILS minimums. The LNAV/VNAV approach, on the other hand, has higher minimums than the ILS and LPV, and is logically not considered "precision" even though it is flown using the same procedures as a precision approach. For this document, we will reference the approaches based on how the final segment will be flown, i.e. WITH or WITHOUT vertical guidance.

Terms and Definitions

DA/DH – Decision Altitude / Decision Height – A specified altitude in the precision approach at which a missed approach must be initiated if the required visual reference to continue the approach has not been established. The term "Decision Altitude (DA)" is referenced to mean sea level and the term "Decision Height (DH)" is referenced to the threshold elevation. Even though DH is charted as an altitude in above MSL, the U.S. has adopted the term "DA" as a step towards harmonization of the United States and international terminology. At some point, DA will be published for all future instrument approaches with vertical guidance.[1] Minimums as published on the approach chart. You make the "decision" to land or go around *at* the DA/DH, such that if a go around is performed, it is ok to descend slightly below the DA/DH in the go around sequence. On many approach charts it may be depicted as "DA (H)." The "H" references the height above touchdown zone elevation (TDZE) and can be used only by aircraft that have an operational radio/radar altimeter. The Cirrus does not have the ability to display height above TDZE (HAT) and must rely on the barometric altitude using a current altimeter setting.

MDA – Minimum Descent Altitude – The lowest altitude expressed in feet above mean sea level, to which descent is authorized on final approach or during circle-to-land maneuvering in execution of a standard instrument approach procedure where no electronic slide slope is provided.[2] This is the published minimum altitude at or above which the aircraft must level off if the runway environment is not in sight in order to ensure obstacle clearance as the aircraft approaches the missed approach point. The end of the runway is considered the missed approach point for an approach without vertical guidance. On some approach charts it may be

[1] Instrument Procedures Handbook, p. G-3
[2] Instrument Procedures Handbook, p. G-6

depicted as “MDA (H).” The “H” references the height above touchdown zone elevation (TDZE) and can be used only by aircraft that have an operational radio/radar altimeter. The Cirrus does not have the ability to display height above TDZE (HAT) and must rely on the barometric altitude using a current altimeter setting.

WAAS – Wide Area Augmentation System – A method of navigation based on GPS. Ground correction stations transmit position corrections that enhance system accuracy and add vertical navigation (VNAV) features.[3]

Approaches WITH Vertical Guidance: (ILS, LPV, GLS, LNAV/VNAV, LNAV+V, LP+V) – *APR* Button

ILS – Instrument Landing System – uses a localizer transmitter located on centerline at the opposite end of the landing runway and transmits a signal to the aircraft to maintain a lateral course in line with the runway centerline. The ILS also uses a ground-based glide slope transmitter located 750 to 1250 feet down the runway, and 400 to 600 feet from the side of a runway's centerline. The glide slope angle can vary slightly, but most are set to 3.0 degrees. In BOTH the lateral and vertical tracks, the cross-track and vertical error funnel in and become MORE precise as the aircraft approaches the decision height (DH). The CDI and glidepath diamond will become more sensitive as you approach the runway.

LPV – Localizer Precision with Vertical – This is solely a GPS based approach system which uses the Satellite Based Augmentation System (SBAS) to provide a very precise lateral and vertical tracking to the landing surface. It is as precise as an ILS approach but has not yet been labeled by the FAA as “precision.” In BOTH the lateral and vertical tracks, the cross-track and vertical error funnel in and become MORE precise as the aircraft approaches the decision altitude (DA). The CDI and glidepath diamond will become more sensitive as you approach the runway.

GLS – (not Cirrus compatible) GBAS Landing System, or Ground Base Augmentation System (GBAS) Landing System uses a single GBAS airport ground station to transmit corrected GPS Navigation Satellite System (GNSS) data to suitably-equipped aircraft to enable them to fly a precision approach. The only significant difference between an ILS and a GLS approach for the pilot is that the approach is loaded with a five digit Channel Number rather than an ILS radio frequency. Pilot confirmation that the correct GLS procedure has been loaded is achieved by cross checking the charted Reference Path Indicator (RPI) or approach ID with the flight-deck displayed RPI or (in some cases) audio identification of the RPI by Morse code.

LNAV/VNAV – Lateral Navigation/Vertical Navigation – This is also solely a GPS based approach system, but without the number of satellites or ground based antennas in range to sufficiently provide as precise guidance as an LPV approach. Think of this as a slightly degraded LPV approach. It’s “degraded” in that the cross-track and vertical error DO NOT funnel in as the aircraft approaches the decision altitude (DA). The cross track error stays parallel to the lateral path, and the CDI and Glidepath needles DO NOT become more sensitive as you approach the

[3] Instrument Procedures Handbook, p. G-11

runway. Due to less precision, logically you'll find the LNAV/VNAV minimums to be higher than the LPV minimums.

LNAV+V – Lateral Navigation + Vertical - These are LNAV approaches using GPS for lateral guidance, and an ONBOARD aircraft generated glidepath (GP), normally 3.0 degrees. These approaches have a published minimum descent altitude (MDA) which you must NOT descend below until the runway environment is in sight. THREAT - using the aircraft generated vertical guidance may not guarantee stepdown altitude clearance and, if flown with the GP autopilot mode, will NOT capture an MDA altitude. Thus, the vertical portion of the approach should be monitored closely (trust but verify) in order to ensure stepdown altitude clearance. If ever in question, the VS button should be selected and the vertical speed adjusted to clear the stepdown fix altitude.

LP+V – Localizer Performance + Vertical - These are the more precise GPS Lateral Only approaches using GPS for lateral guidance, and an ONBOARD aircraft generated glidepath (GP), normally 3.0 degrees. The lateral portion of the approach will funnel in and become more precise as the aircraft approaches the end of the runway. However the vertical portion does NOT get more precise, or funnel in. These approaches have a published minimum descent height (MDA) which you cannot descend below until the runway environment is in sight. THREAT - using the aircraft generated vertical guidance may not guarantee stepdown altitude clearance and, if flown with the GP autopilot mode, will NOT capture an MDA altitude. Thus, the vertical portion of the approach should be monitored closely (trust but verify) in order to ensure stepdown altitude clearance. If ever in question, the VS button should be selected and the vertical speed adjusted to clear the stepdown fix altitude.

Approaches Without Vertical Guidance: (LOC, LNAV, VOR) – *NAV* Button with VS

LOC – Localizer - uses a localizer transmitter located on centerline at the opposite end of the landing runway and transmits a signal to the aircraft to maintain a lateral course in line with the runway centerline. In these approaches, the use of vertical speed (VS) will allow the aircraft to descent to an MDA.

LNAV – Lateral Navigation - These approaches use GPS for lateral guidance only, and do not funnel in or become more sensitive as the aircraft approaches the runway. These approaches have a published minimum descent height (MDA) which you must not descend below until the runway environment is in sight. In these approaches, the use of vertical speed (VS) will allow the aircraft to descent to an MDA.

VOR – Uses VOR signal for the final segment of the approach. Note, AIM 1-2-3 (c) Note 5 allows for a "suitable RNAV system as a means to navigate on the final approach segment of an instrument approach procedure… The underlying approach must be operational and the NAVAID monitored for the final segment course alignment."

Loading the Approach

The approach setup phase should begin no later than 30 minutes prior to your arrival.

"Info-1" Page – This is the MFD page titled "Airport Information" that allows you to make radio frequency changes. It will be referenced frequently in this document. To reach the Info-1 page, turn the large FMS knob one click right from the Map page, or 2-clicks left from the Flight Plan page. You can change which information is depicted on this Airport Information tab using one of the bottom-middle soft keys. Other options are Info-2, CHART, APR (approach), and WX (weather). The "Info-1" selection is default and shows the airport radio frequencies, but it must be re-selected if one of the other options on the bottom are used during this loading process.

Steps – 1) Weather, 2) Review, 3) Load, 4) Activate, 5) Arm

1) Weather (determine the runway, minimums) – Select and activate the ATIS frequency from the Info-1 page. If ATIS is not available, you can use the WX soft key on the bottom right of the Info-1 page. Gather the information to determine the best runway to used based on current weather conditions, then re-select Info-1.

2) Review – From the Info-1 page select APR – CHART, then select and review the appropriate approach plate. You will need two pieces of information to load the approach – IAF and Minimums. No need to brief the entire approach just yet, we will load it first, then brief it later. Just get the IAF and minimums from the first look at the approach chart. Another option to review the approach is to select the "Chart" button on the bottom right of the MFD.

3) Load – If you're currently viewing the approach chart on the Airport Information Tab, the easiest way is to use the MENU button to Load the approach. Select MENU, "Load Approach," then enter the information for the approach. The benefit of using the MENU button is that the Load page will default to the approach you were viewing which can save a few clicks of the FMS knob. Else, from any other page, use the PROC button to access the "Load Approach" function. When on the "Load Approach" page, if you haven't already viewed the minimums, you can use the CHART button (bottom of MFD) to determine the minimums, then either the "Go Back" or CHART (deselect) button to return to the load page. Select the appropriate IAF (always load an IAF) and type in the BARO minimums. You will have the option at the bottom of the load page to either "Load" or "Activate". Select "Load Approach", unless ATC has already cleared you to the IAF you selected, at which point you can go ahead and select "Activate Approach."

4) Activate – When cleared to proceed directly to the IAF you have loaded, or if on ATC vectors to final, you can "Activate" the approach using the PROC button. It is good practice to initially activate the approach to the IAF you loaded EVEN IF you're being vectored to final. While being vectored, once you are at a geographic position where the IAF will no longer be used, you can use the PROC button to select "Activate-Vectors-To-Final". This will place a magenta line in front of you that the system will be able to intercept and capture. Note: the navigation system

will not capture a white line, even if your approach is armed, there must be an active magenta leg in front of the airplane.

5) Arm – THE most important part of this whole procedure and often forgotten due to everything happening near the final approach fix. When ATC "Clears" you for the approach, you can "ARM" the approach with either the APR button (with vertical guidance) or the NAV button (without vertical guidance). This sets up the aircraft navigation to capture the final approach course laterally, and will ARM the glideslope or glidepath for descent.

Flying the Approach

A general approach philosophy is to use mental triggers to help you determine the next step in the approach process. For instance, when ATC "Clears" you for the approach, that it the trigger to ARM the approach using either the APR or the NAV button depending on whether you're shooting an approach WITH or Without vertical guidance respectively. Another example, if being vectored onto the final course and the IAF is no longer a logical point for navigating (i.e. you've flown past or inside the IAF), that's the trigger for you to "Activate-Vectors-To-Final".

Common Items for ALL types of approaches

Trigger
- ⇒ Action

When Leveling off at or below 3000' AGL – "ALT" shown on autopilot scoreboard
- ⇒ Set Power to maintain 120 Kts – 50% (20" SR-20, 16" SR-22)
- ⇒ Set NEXT altitude below – i.e. FAF altitude
- ⇒ Execute Landing Checklist (Spanish question mark + brakes test)

When cleared Direct to the IAF
- ⇒ Activate the Approach
  - ⇒ PROC button press
  - ⇒ select "Activate" – GPS will go Direct IAF
  - ⇒ NAV button press (if not already in NAV)

When receiving a Vector to intercept Final Approach Course
- ⇒ Activate-Vectors-To-Final
  - ⇒ PROC button press
  - ⇒ Select "Activate-Vectors-To-Final"

When cleared to intercept final approach course only (or intercept final)
- ⇒ NAV button press
- ⇒ This will allow you to intercept final approach without descending

Approaches WITH Vertical Guidance

Before Glidepath Intercept

When "Cleared" for the approach
- ⇒ APR button press
- ⇒ Confirm the GS/GP annunciation on the scoreboard

Upon intercept of final approach course
- ⇒ Execute Landing Checklist (Spanish question mark) if not already done
- ⇒ Descend to Final Approach Fix Altitude while meeting all restrictions

AT the FAF altitude – "ALT" displayed on the Scoreboard
- ⇒ Set power to maintain 120 kts (50%, or 20" SR-20, 16" SR-22)
- ⇒ SET the Missed Approach Altitude

"Big Triangle"

2.0 NM from the FAF or Diamond appears on the vertical scale
- ⇒ Lower Flaps to 50% - TRIM
- ⇒ Verify Landing Checklist complete
- ⇒ Allow the airspeed to naturally decay with drag to 100 kts approaching FAF

At Glide Path Intercept – Execute the "Big Triangle" when
"GS" or "GP" displayed on the Autopilot Scoreboard
- ⇒ 1. Set power to maintain 90-100 kts 15% (11")
- ⇒ 2. Set Missed Approach Altitude (Altitude Knob)
- ⇒ 3. Synchronize Heading Bug – push the heading select knob
- ⇒ Radio call as needed to Tower
- ⇒ Verify Landing Checklist (Spanish question mark)

After Glidepath Intercept

Once established on glidepath, there are 3 possible approach Scenarios:
1) Approach to a DA/DH (LPV, ILS)
2) Approach to an MDA, NO stepdown fix ("+V" approaches)
3) Approach to an MDA, WITH a stepdown fix ("+V" approaches)

1) Approach to a DA/DH

At 500' AGL – "Five Hundred" audible tone
- ⇒ If clear of clouds, Select flaps to 100% – TRIM
  - ⇒ Adjust power to maintain 80 kts – 15-25% (11-12" MAP)
- ⇒ If NOT clear of clouds – maintain flaps 50% and plan to land flaps 50% (if practical)

⇒ Adjust power to maintain 90 kts – 15% (10-12" MAP)

At DA/DH – "Minimums" audible tone – Execute Go Around if runway environment not in sight

⇒ *"Cram it, Climb it, Clean it… (breathe)... Course, Communicate"*

- Cram it – TOGA button, Full Power (1-2 second movement)
- Climb it – Pitch to 5 deg up (SR-20), 7.5 deg up (SR-22)
- Clean it – Flaps 50% until 85 kts (SR-20), 90 kts (SR-22), then Flaps UP
- "CAPS Available" - safe altitude and climbing safely away from the ground
- Course – (NAV/HDG, AP, FLC) **NAV** for published, or **HDG** for Climbout
  AP (autopilot) - ON, **FLC** – 105 kts (SR-20), 120 kts (SR-22)
- Communicate – contact tower or approach as required

⇒ Note - when executing a go around, don't rush the procedure. It's best not to select an autopilot mode until the aircraft is safely cleaned up and flying away from the ground. The go around is a critical phase of flight. A good technique is to avoid fumbling head's down with the autopilot modes until reaching CAPS altitude, or when hearing "Caps Available". So the go around should be… Cram it, Climb it, Clean it... pause and fly for a few seconds until CAPS altitude, then… Course, Communicate.

2) Approach to an MDA (No step down Fix)

Discussion - The final segment for MDA approaches can either be flown in GP/GS mode (recommended) or by selecting vertical speed (VS) at any time to manually manage the descent to the MDA. In either case, we recommend utilizing the aircraft generated glidepath (indicated by the diamond) in order to maintain a stable approach with minimal power/pitch changes during the final segment. If using vertical speed, calculating ½ your groundspeed will help set approximately a 3.0 deg glidepath. For example, if your groundspeed is 90 knots, a 450 fpm descent rate in VS will approximate 3.0 degrees. Remember, since we already set the missed approach altitude, regardless of the mode of descent, we will have to use the ALT button to level off at the MDA.

Flap Setting

⇒ maintain flaps 50% until leveling at the MDA and/or the runway in sight.

At altitude MDA + 50' (so as not to bust the MDA)

⇒ ALT button press - flight director will command level at MDA+50

⇒ Scroll wheel - roll forward 3-5 clicks (10' per click) to steadily approach the MDA

⇒ When level - Power as required to maintain 90 kts (40%) approaching the MAP

At VDP and Runway in sight

⇒ AP off, flaps Full (>500 agl), Land

If NO runway in sight

- ⇒ execute go around anywhere past the VDP (see above)
- ⇒ Be sure to cross the Missed Approach Point before making any lateral deviations

3) Approach to an MDA, WITH a Stepdown Fix - TRUST but VERIFY

At 1.0 miles before stepdown Fix

- ⇒ mental math to ensure stepdown fix clearance while on 3.0 deg glidepath
- ⇒ Your altitude should be at least 320' above the stepdown fix at 1.0 nm
- ⇒ Example... if stepdown fix is 820' MSL, then at 1.0nm, your altitude should be greater than 1140' MSL.

Stepdown Fix will clear - current descent rate will clear the stepdown fix

- ⇒ Continue monitor and follow aircraft glidepath to the MDA
- ⇒ At altitude MDA + 50' (so as not to bust the MDA)
  - ⇒ ALT button press - flight director will command level at MDA+50
  - ⇒ Scroll wheel - roll forward 3-5 clicks (10' per click) to steadily approach MDA
  - ⇒ When level - Power as required to maintain 90 kts (40%) approaching the MAP

Stepdown Fix will NOT clear - you don't have 320' clearance at 1.0nm

- ⇒ VS button Push - aircraft will assume the current vertical speed, which is too steep.
- ⇒ Scroll wheel - adjust aft to lower vertical speed by 100-200 FPM. 1-click is 100 fpm adjustment. Maintain the shallower vertical speed until the stepdown fix is cleared. If needed, turn off the autopilot and hand fly to clear the stepdown fix.
- ⇒ Another check can be done at 0.5nm, 160' clearance is required at 3.0 deg
- ⇒ Rule of thumb - adjust vertical speed to Fly down glidepath ½ diamond high

When clear of the stepdown fix

- ⇒ VS select -700 - adjust as needed and monitor the glidepath diamond for reference
- ⇒ adjust to a steeper than 3.0 deg VS to the MDA in order to reach it by the VDP
- ⇒ Rule of thumb - adjust vertical speed to be on to slightly below GP

At altitude MDA + 50'

- ⇒ ALT button press - follow the flight director to level at MDA+50
- ⇒ Scroll wheel roll down (10' per click) to steadily approach the MDA
- ⇒ Power as required to maintain 90 kts (40%), level flight towards MAP

At VDP and Runway in sight

- ⇒ AP off, flaps Full (>500 agl), Land

If NO runway in sight

- ⇒ execute go around anywhere past the VDP (see above)
- ⇒ Be sure to cross the Missed Approach Point before making any lateral deviations

Approaches WITHOUT vertical Guidance

When "Cleared" for the approach

⇒ NAV button press (if needed)

Upon intercept of final approach course

⇒ Execute Landing Checklist (Spanish question mark) if not already done

⇒ Descend to Final Approach Fix Altitude while meeting all restrictions

AT the FAF altitude – "ALT" displayed on the Scoreboard

⇒ Set power to maintain 120 kts - 50% (20" SR-20, 16" SR-22)

⇒ SET the Missed Approach Altitude

2.0 NM from the FAF *or* the Glidepath "diamond" appears in full (SAME AS ABOVE)

⇒ Lower Flaps to 50% - TRIM

⇒ Verify Landing Checklist complete

⇒ Allow the airspeed to decay to 100 kts approaching FAF

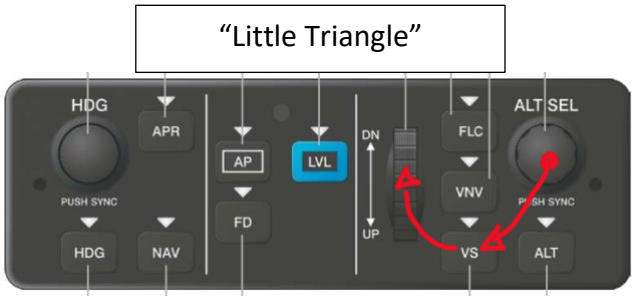
At 0.3 nm from Final Approach Fix = "Little Triangle"… 0.3, 0.2, 0.1

⇒ 0.3 = Verify missed App altitude is set

⇒ 0.2 = Select the VS button – verify Zero

⇒ 0.1 = Roll the VS selector wheel FORWARD

- 5-7 clicks for 500-700 FPM descent



PRP Paper

0.0 - At Final Approach Fix – execute the "Big Triangle"

- ⇒ 1. Set power to maintain 90 kts - 15% (10-12" MAP)
- ⇒ 2. Verify Missed App ALT is set (Altitude Knob)
- ⇒ 3. Synchronize Heading Bug – push the heading select knob
- ⇒ Radio call as needed to Tower

After radio call to Tower while descending

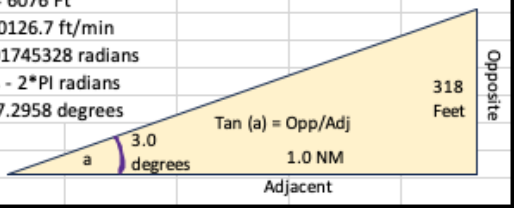
- ⇒ Adjust the rate of descent as required to approximate a 3.0 glidepath – use 1/2 groundspeed as a reference
  - If a stepdown fix is present use quick math to ensure your current descent rate will make the stepdown fix. When 1.0 nm from the stepdown fix, you should be 320' above the stepdown altitude. If you are below that, adjust to a shallower descent rate to ensure clearance.
  - If all cases, plan the descent rates to arrive at the MDA prior to VDP
  - 1/2 groundspeed (x10) is a 3.0 deg approximation – See chart below

IFR Descent Rates

3deg Glide Path		FPM = 500 ft/min		FPM = 600 ft/min		FPM = 700 ft/min	
Knots	VS (ft/min)	Groundspeed	Angle	Groundspeed	Angle	Groundspeed	Angle
		Knots	degrees	Knots	degrees	Knots	degrees
60	318	75	3.77	75	4.52	75	5.27
65	344	80	3.53	80	4.24	80	4.94
70	370	85	3.32	85	3.99	85	4.65
75	397	90	3.14	90	3.77	90	4.39
75.4	400	94	3.00	94.2	3.60	94.2	4.20
80	424	95	2.98	95	3.57	95	4.16
85	451	100	2.83	100	3.39	100	3.95
90	478	105	2.69	105	3.23	105	3.77
94	500	110	2.57	110	3.08	110	3.60
95	503	113	2.50	113	3.00	113	3.50
100	530	115	2.46	115	2.95	115	3.44
105	557	120	2.36	120	2.83	120	3.30
110	583	125	2.26	125	2.71	125	3.17
113	600	132	2.14	132	2.57	132	3.00
115	610	135	2.09	135	2.51	135	2.93
120	636	140	2.02	140	2.42	140	2.83
132	700						

3 Deg Glide Path	
NM	Height (ft)
0.5	159
0.63	200
1	318
1.5	477
1.57	500
3.15	1000

1nm = 6076 Ft
100 Kts = 10126.7 ft/min
1 degree = 0.01745328 radians
360 degrees - 2*PI radians
1 radian = 57.2958 degrees



At altitude MDA + 50'

- ⇒ ALT button press - follow the flight director to level at MDA+50
- ⇒ Scroll wheel roll down (10' per click) to steadily approach the MDA
- ⇒ Power as required to maintain 90 kts (40%), level flight towards MAP

At Visual Descent Point (VDP) – measured in DME from the end of the runway

- ⇒ Verbalize the VDP as you look for the runway environment.
- ⇒ If you see the runway anywhere past the VDP, it will be a steeper than 3.0 degree final to make the landing zone. Consider runway length before landing past VDP.
- ⇒ You can execute a missed approach procedure anywhere between VDP and MAP

Loading Subsequent Approaches:

Loading next approach at same airport

- ⇒ PROC, Load Approach, IAF, Minimums, "Activate"

Loading next approach at different airport

- On FPL page, move the cursor to the approach you just flew, hit CLR button to delete
- Scroll (or tap) the cursor to the bottom of the flight plan and type in New Dest
- Load the frequencies, and Check the weather (2-clicks left on FMS knob) Load the new procedure using the PROC button or the MENU button if on the approach view

References:

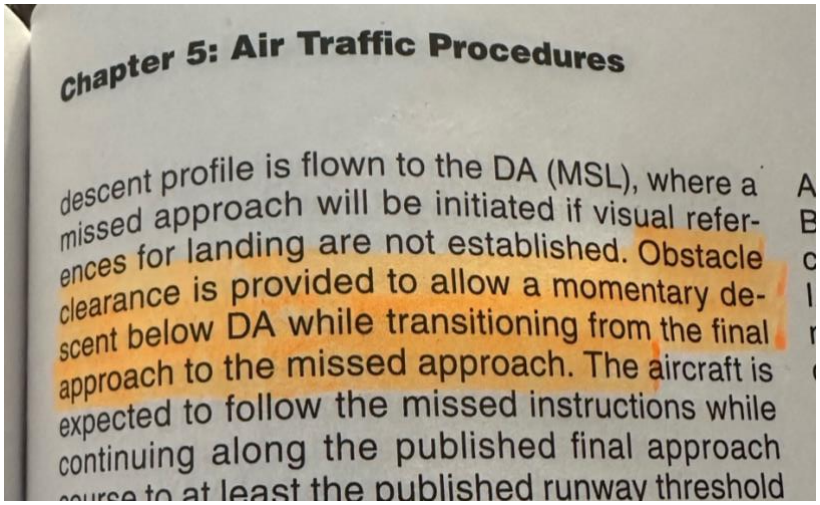
Video on WAAS and SBAS
https://www.youtube.com/watch?v=HKNpKNpzmZY

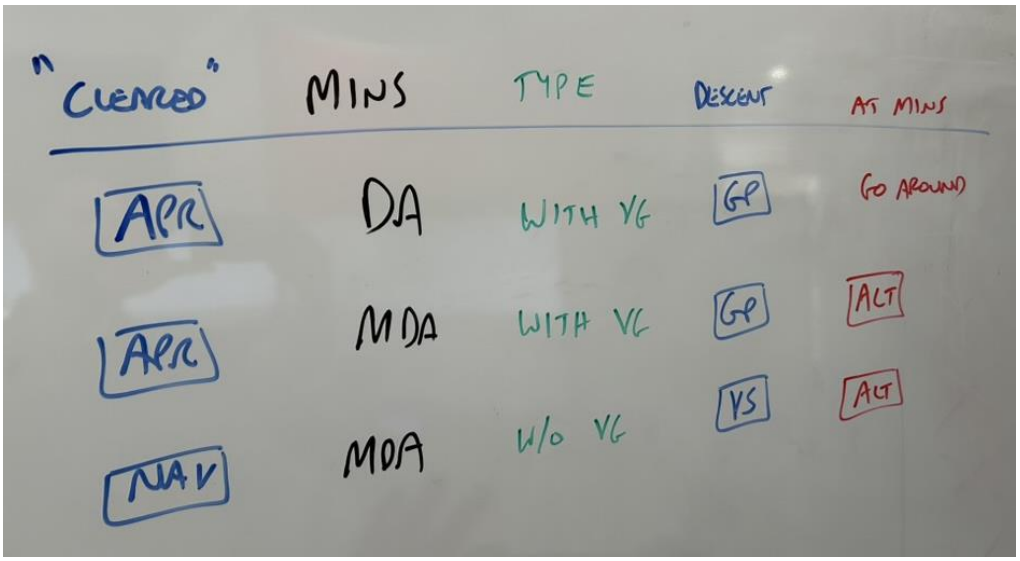
Instrument Flying Handbook - FAA
United States. Flight Standards Service. Instrument Flying Handbook. Washington, DC :U.S. Dept. of Transportation, Federal Aviation Administration, Flight Standards Service

Instrument Procedures Notes
https://www.cfinotebook.net/notebook/aircraft-operations/approaches/instrument-approach

Diagrams:


What are the three things needed to go below DA/DH or MDA?
1) Continuous position to land on intended runway
2) Required flight visibility
3) Runway environment in sight
boldmethod


Chapter 5: Air Traffic Procedures
descent profile is flown to the DA (MSL), where a missed approach will be initiated if visual references for landing are not established. Obstacle clearance is provided to allow a momentary descent below DA while transitioning from the final approach to the missed approach. The aircraft is expected to follow the missed instructions while continuing along the published final approach


"CLEARED"
MINS
TYPE
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DA
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APR
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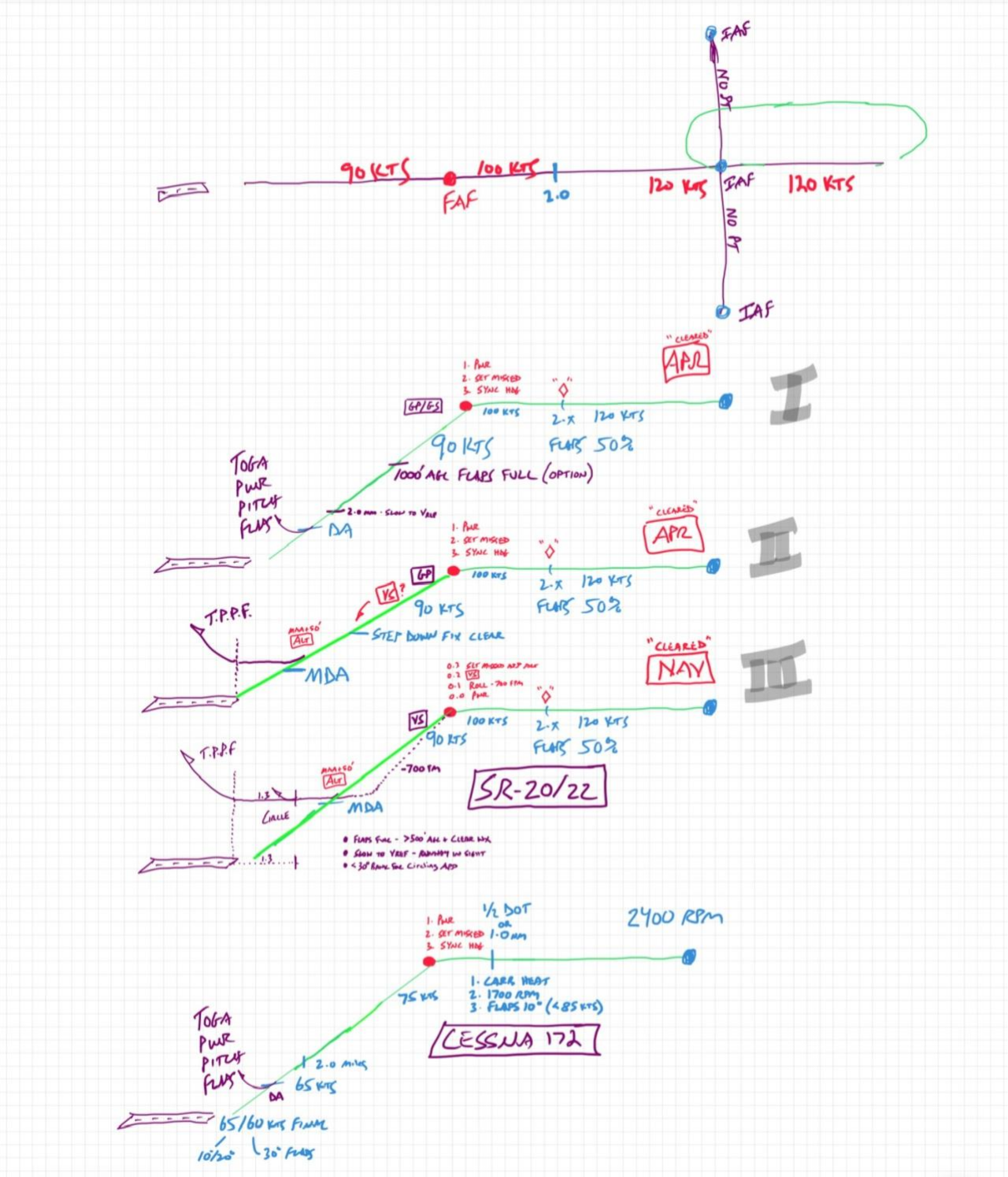
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1000' AGL FLAPS FULL (OPTION)
TOGA
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2.0 nm - SLOW TO VREF
DA
"CLEARED"
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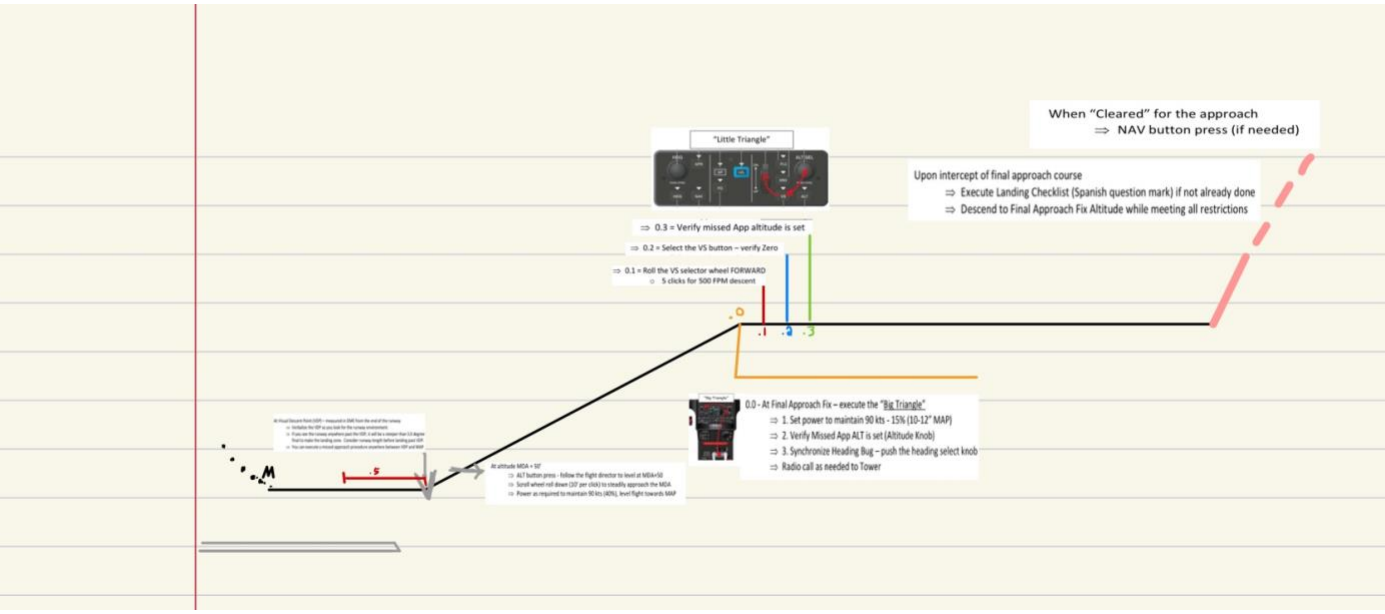
II
GP
VS?
T.P.P.F.
MAA+50' AGL
STEP DOWN FIX CLEAR
MDA
"CLEARED"
NAV
III
VS
-700 FPM
SR-20/22
CIRCLE
* FLAPS FULL - >500' AGL + CLEAR WX
* SLOW TO VREF - ADJUST W/ WEIGHT
* < 30° BANK FOR CIRCLING APP
1/2 DOT
OR
1.0 MM
2400 RPM
75 KTS
1. CARB HEAT
2. 1700 RPM
3. FLAPS 10° (<85 KTS)
CESSNA 172
2.0 MILES
65 KTS
65/60 KTS FINAL
10°/20°
30° FLAPS

PRP Paper


When "Cleared" for the approach
⇒ NAV button press (if needed)
"Little Triangle"
Upon intercept of final approach course
⇒ Execute Landing Checklist (Spanish question mark) if not already done
⇒ Descend to Final Approach Fix Altitude while meeting all restrictions
⇒ 0.3 = Verify missed App altitude is set
⇒ 0.2 = Select the VS button – verify Zero
⇒ 0.1 = Roll the VS selector wheel FORWARD
○ 5 clicks for 500 FPM descent
.0
.1
.2
.3
0.0 - At Final Approach Fix – execute the "Big Triangle"
⇒ 1. Set power to maintain 90 kts - 15% (10-12" MAP)
⇒ 2. Verify Missed App ALT is set (Altitude Knob)
⇒ 3. Synchronize Heading Bug – push the heading select knob
⇒ Radio call as needed to Tower
.5