Presented by:

Supported by:

Deconstructing Instrument Attitude Flying

DSFI

DOUG STEWART FLIGHT INSTRUCTION, INC.

SAFE

SOCIETY OF AVIATION AND FLIGHT EDUCATORS

Doug Stewart,
12X MCFI, DPE
2004 CFI of the Year
13,00+ hours dual given

The Rule of Primacy

The things we learn first
are the things that stick

…and the hardest to unlearn.

The Rule of Primacy

When does the typical pilot first get introduced to Airplane Attitude Instrument Flying?

As a student pilot!

Who is authorized to teach that?

Any CFI!

The Basics

1. *Straight-and-Level Flight*
2. *Turns to Headings*
3. *Constant Airspeed Climbs*
4. *Constant Airspeed Descents*
5. *Recovery from Unusual Flight Attitudes*
6. *Radio Communications, Navigation Systems/Facilities, and Radar Services*

The Scan

I-V cross-check.

Figure 6-17. *Radial cross-check.*

Figure 6-19. *Rectangular cross-check.*

Practical Test Standards for the CFII

VI. AREA OF OPERATION: FLIGHT BY REFERENCE TO INSTRUMENTS

NOTE: *The examiner shall select TASK H and at least one other TASK. The applicant shall select* ***either the primary and supporting or the control and performance method*** *for teaching this AREA OF OPERATION.*

Primary/Supporting

Figure 6-4. *Pitch instruments.*

Primary/Supporting

Figure 6-11. *Bank instruments.*

Primary/Supporting

Figure 6-15. *Power instruments.*

Primary/Supporting

Figure 6-16. *Trim instruments.*

Control/Performance

Figure 6-1. *Control instruments.*

Figure 6-2. *Performance instruments.*

The Numbers

EVERY COMBINATION OF PITCH, POWER AND CONFIGURATION WILL YIELD A KNOWN PERFORMANCE

The Numbers

	IFR PERFORMANCE NUMBERS						
	N_____		MAKE/MODEL_____				
	MP	RPM	PITCH	GEAR	FLAPS	IAS	RATE
VX							
VY							
CRS. CLMB							
CRUISE							
RATE DSCT							
HOLD							
INIT APP							
NON-PREC							
PREC DSCT							
MAP							

The Numbers

Cessna 172S Sim					
Operation	**Power**	**Pitch**	**Configuration**	**Airspeed**	**VS**
Vy Climb					
Cruise Climb					
Cruise					
Descent					
Approach Level					
Precision Approach					
Non-Precision Approach					
Level at MDA					
Missed Approach					

So Which Do You Use?

PRIMARY/SUPPORTING

OR

CONTROL/PERFORMANCE

IT DEPENDS

So Which Do You Use?

STEADY STATE FLIGHT?

PRIMARY / SUPPORTING

So Which Do You Use?

TRANSITIONS?

CONTROL / PERFORMANCE

So Which Do You Use?

APPROACHES?

BOTH

CONTROL / PERFORMANCE

&

PRIMARY / SUPPORTING

Situational Awareness

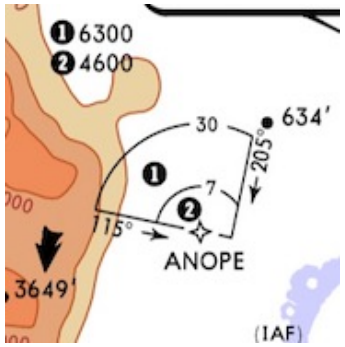
- *3D Position*
- *Weather*
- *Terrain*
- *Traffic*
- *Frequencies*
- *Aircraft State*
- *Avionics State*
- *PIC State*

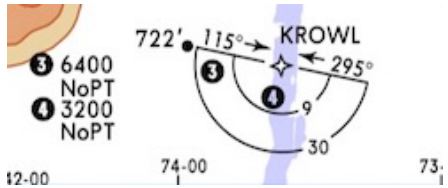
Situational Awareness

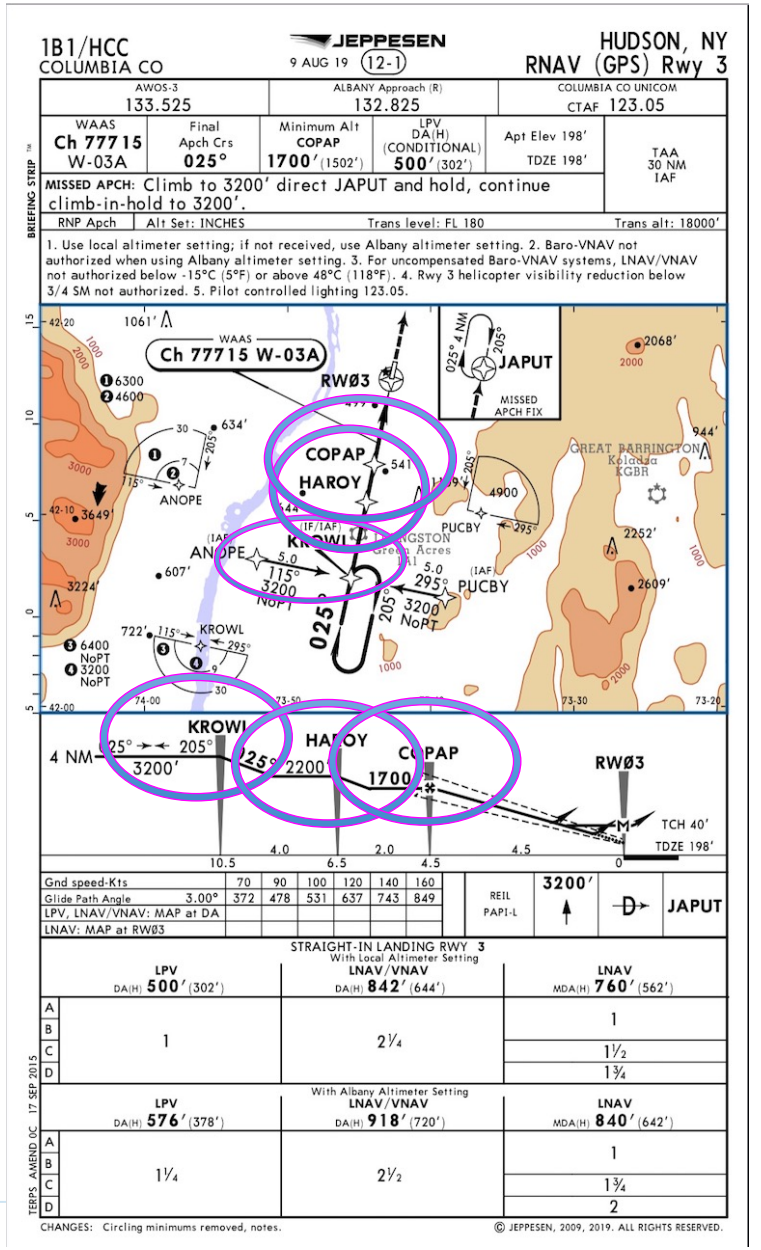
Four Questions

1. *Where am I?*
2. *Where am I headed?*
3. *What happens when I get there?*
4. *What can I be doing now to prepare?*

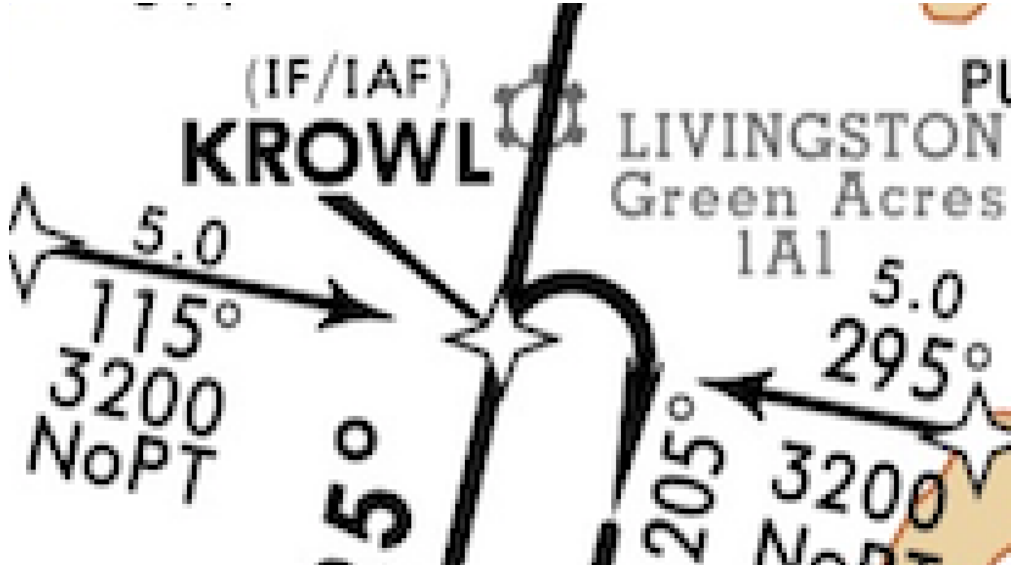
Briefing the Approach







How to Fly the Approach



STANDARD RATE

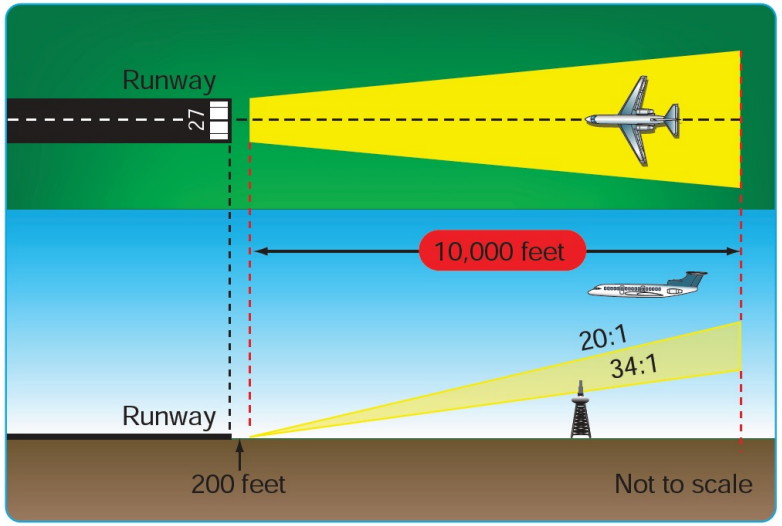
GROUND SPEED

BANK ANGLE

GS ÷ 10 + 5

110÷10=11+5=16˚

How to Fly the Approach



1. LOCALIZER = AILERON OR RUDDER?

2. GLIDESLOPE = ELEVATOR OR POWER?

Recovery from Unusual Attitudes

1.POWER OFF

2. PUSH!!!

3. ROLL

In Summary

- *THE BASICS*
- *CONTROL PERFORMANCE & PRIMARY SUPPORTING*
- *WHERE TO LOOK, WHEN TO LOOK, WHAT TO SEE*
- *SITUATIONAL AWARENESS*

Written by:
Doug Stewart

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