HOLDPOINT · FAA INSTRUMENT RATING KNOWLEDGE TEST

The Ultimate IFR Kneeboard Cheat Sheet

Clip this to the kneeboard for the ground briefing.

1 Holding Entries, AIM 5-3-8

Heading at the fix, measured from the inbound course; a left-turn hold mirrors the sectors. Within 5° of a boundary, either entry is fine.

ENTRY	SECTOR	FLY
Teardrop	70°, holding side	30° off the outbound course
Parallel	110°	Outbound on the non-holding side, turn back through more than 180°
Direct	180°	To the fix, turn onto the pattern

2 Holding Speeds and Legs

ALTITUDE	MAX SPEED	INBOUND LEG
MHA to 6,000 ft	200 KIAS	1 min
6,001 to 14,000 ft	230 KIAS	1 min
Above 14,000 ft	265 KIAS	1 1/2 min

Turns at 3° per second, 30° of bank, or 25° with a flight director, whichever needs less. Start slowing 3 minutes out to cross the fix at the limit.

3 Fuel and Alternates, 91.167 and 91.169

RULE	FIGURE
IFR fuel	Destination, alternate if required, then 45 min at normal cruise
No alternate needed	1 hr before to 1 hr after ETA: ceiling 2,000 ft, visibility 3 SM
Alternate minimums, precision	600 ft and 2 SM
Alternate minimums, non-precision	800 ft and 2 SM
Alternate with no approach	Descent from the MEA, approach and landing in basic VFR

4 Currency, 61.57(c) and (d)

In the preceding 6 calendar months: six instrument approaches, holding procedures and tasks, and intercepting and tracking courses. Lapsed: 6 more months to regain it with a safety pilot or instructor, then an instrument proficiency check.

5 Lost Communications, 91.185

ITEM	RULE
In VFR conditions	Stay VFR, land as soon as practicable
Route	Assigned, vectored, expected, filed (AVE F)
Altitude, each segment	Highest of minimum IFR, expected, assigned
Leave the clearance limit	At the EFC time; with none, at the flight plan ETA

6 Below DA or MDA, 91.175(c)

All three at once: continuously in position for a normal descent, flight visibility at least as published, and one of the ten listed references in sight. Approach lights alone: no lower than 100 ft above the touchdown zone until the red terminating or side row bars are visible.

7 VOR Check, 91.171

CHECK	MAX ERROR
VOT or ground checkpoint	±4°
Airborne checkpoint, or airway landmark	±6°
Dual VOR, between the two	4°

Within the preceding 30 days, logged with date, place, bearing error and signature.

8 Numbers Worth Knowing

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3° path = 318 ft per NM
Descent rate about groundspeed x 5
3-to-1: 3 NM per 1,000 ft to lose
VDP about HAT / 300, in NM
Standard rate bank about TAS / 10 + 7
Turn radius = TAS / 188.5, in NM
Pressure alt = alt + (29.92 - setting) x 1,000
Density alt about PA + 120 x (OAT - ISA)
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9 RVR in Statute Miles, 91.175(h)

RVR	SM	RVR	SM
1,600	1/4	4,500	7/8
2,400	1/2	5,000	1
3,200	5/8	6,000	1 1/4
4,000	3/4		

10 Inspections and the Test

ITEM	INTERVAL OR FIGURE
Altimeter and static system	24 calendar months, 91.411
Transponder	24 calendar months, 91.413
ELT	12 calendar months, 91.207(d)
Instrument Rating test (IRA)	60 questions, 2 1/2 hours, 70% to pass

A radial is measured from the station. Holding on the 090 radial means flying inbound on 270, and that one reversal is where most wrong holding answers start.

Working these out by hand?

- The holding entry drawn to scale from your heading, north up or heading up, with the turns to fly
- Holding wind, descent planning, IFR fuel, the 1-2-3 rule and 8 more, each worked step by step
- 450 practice questions across all 10 topics, free in your browser, and it works offline once opened

xernaitech.com/holdpoint

A study and briefing aid, not for navigation. 14 CFR, the AIM and your approved charts govern; check them before you rely on any figure here.