

ATP STUDY GUIDE  
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Brian Mork, ATP@increa.com

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Look for study guides with questions and answers in one place. Use an index card to hide the answers while you try to get the right answer. Printing a book with an entire pool of questions, and then the same pool again with answers, just makes the book look falsely thick. Find a computer CD-ROM based study guide that lets you answer questions from memory, and then see the right answer if you get it wrong – or at least try it until you get it right. It's unforgivingly annoying if you get it wrong and then can't go back and find what the right answer was to a question you may not see again and can't remember the subtle detail of that made you get it wrong. In my opinion, the goal at this time is *learning*, not accurate *evaluating*.

EQUIP, NAV, FACILITIES

EFAS (Flight Wtch) below FL180 - 122.0  
Ram Air & Ram drain blocked - airspeed acts like altimeter  
Equipment failure - "Notify ATC"  
Compass bank - NOSE  
Compass acceleration - ANDS  
callsign/G - GPS capability  
callsign/R - RNAV and Mode C  
B/callsign - TCAS Heavy  
Omega "full format" - on basic +unique freq  
Omega system - 8 stations, 4 freqs.  
Omega fixing - 2 nm.  
Navigator required - no fix for more than 1 hour  
INS - only 1 required if have Doppler  
ILS freqs - 108.10-111.95  
ILS service - guidance, range, visual  
ILS markers - OM dash, MM dotdash, IM dots, BC double dots  
ILS ident - 1st 2 on OM, 2nd 2 on MM  
ILS MM inop - doesn't affect mins  
3deg glideslope - VVI is 5x groundspeed  
ILS Cat II mins - 100' and 1200 RVR  
ILS Cat II min equip - lights & RVR  
ILS Cat III mins - 700 RVR  
ILS code - "I"  
MLS code - "M"  
LDA - off centerline compared to ILS  
SDF - wider course compared to ILS

MLS provides - az, el, distance  
MLS elevation - 15deg to at least 20,000'  
MLS az - 40deg both sides  
MLS distance - 20nm front, 7nm back  
MLS backcourse az - lower data rate

MLS expansion - back az & data  
MLS flexibility - selectable GS, established boundaries

Cockpit voice recorder - keep for 60 days after event  
MEL function is required - for takeoff  
Continue with failure? - Certificate Holder's Manual

NAT Tracks in - 14 CFR Part 91  
Omega in CONUS and Alaska - all other NAV gear working  
LORAN authorized in - Airplane Flight Manual Supplement  
LORAN NOTAM inf - (D) Notams, under "LRN"  
Runway advantage for IFR - last 2000' is amber for IFR runway  
TDZL - light bars either side of center  
Taxi turnoff - green centerline  
Steeper than normal VASI - long rollout  
Tricolor VASI - 5 mile range. Amber/Green/Red

#### REGULATIONS

Dry ice requires - proper ventilation  
Emerg equip marking and ID - clearly  
Sharing seatbelt - only enroute  
Weapons in flight - 1 hour notice  
Criminals on board - no more than 1  
Drunk disturbance - carrier notifies FAA within 5 days  
Cargo on board - can't block AISLES, okay to be "aft of a divider"  
Dangerous or Magnetized courier - training within last 12 months

Escape slide and Emerg lights - taxi, takeoff, landing  
Megaphone - most rearward  
1 Megaphone - #seats 61-99  
2 Megaphones - 100+ seats, one forward  
Emerg light switch - crew and PAX compartment  
Emer exit in crew area - latch door open  
Crew interphone - 19+ PAX seats  
Fire extinguisher - determined by #seats

Type rating - Turbojet, or over Twelve thousand 500 pounds.

Hours ATP can instruct - 8/24, 36/7  
Flight time - 8/24, 32/7  
Extra pilot - 12/24, 120/30  
Flight time limits - all commercial  
Rest period - NO duty (no deadhead)

NTSB serious injury - 48 hours within 7, severe tendon damage  
NTSB substantial - affects performance, requires replacement  
NTSB immediate notification - substantial damage, flight control malfunction  
NTSB normal accident - notify within 10 days  
Written report to NTSB - if requested

Overwater - jacket & light for each pax,  
pyro and kit for each raft, one(1) ELT  
Uninhabited - survival for each pax,  
one(1) ELT, suitable pyro. On test, choose ELT or pyro over

survival for each

Emergency crew function - Certificate Holder Manual

Emergency equip drills - 24 months

Engine trouble:

inform ground radio station

1 of 2 - land at nearest suitable

1 of 3 - may continue to destination

Checklist required - prevent memorization

No deviation, but priority - report if requested

ATC deviation:

file report in 10 days

Ops Mgr if dispatcher declare

PIC after home base if PIC declared

Cat II Certification - 6 ILS (Cat I) to DH, at least 3 manually

Cat II Ops after - 100 hours

Initial Cat II limits - 150'/1600 RVR

Cat II limits removed after - 3 ILS to 150'

Obtain info - PIC

Provide info - Dispatch

FDC NOTAMS - from dispatch office

Dispatch release - "TT-AIM" - Type op ops, Trip#, Airports,

Indent of plane, Min fuel + WX

PIC carries aboard - "DR. FM" - Dispatch Release, Flight Plan,

Load Manifest.

Flight release (not d.r.) required by - supplemental and commercial.

Dispatch domestic - 1 hour

Dispatch flag - 6 hours

DUI or medical - 60 days

FE required - 80,000 lbs

Flight Attendants - # seats round UP to 50, divide by 50

Train into a new group - initial training

copilot to pilot - upgrade training

Within group - transition training

Within a type - difference training

PIC sim or check - 6mo.

PIC check - 12 mo, choice of plane

nonPIC sim or check - 24 mo

For all checks - +/- 1 month grace

Currency:

1 ILS to wheels touch

1 landing full stop

1 EFTOC

6 approaches/6mo, 3 in category, simulator okay.

if PIC (hours+lndgs) <100, mins +100+1/2

Less than 100 hrs PIC in type, alternate - mins are 300&1

Oxygen:

Crew O2 above 10,000 - 2 hours min

Quick dons required - above FL250

One pilot out of seat, other must wear O2 - above FL250

PAX 8 to 14,000 - 30 min + 10%  
PAX above 15,000 - O2 for each pax for entire flight above 15,000  
PAX above FL250 - dive to 14,000 within 4 minutes  
First Aid O2 - 2 minimum

Domestic fuel - alternate + 45 mins  
Turbojet fuel with no alternate - +2 hours cruise  
Prop fuel with no avail alternate - +3 hours cruise  
Fuel outside of CONUS - 30 min holding, 1500' AGL  
Propeller Flag carrier fuel - 30min + 15% of total ETE, or 90 minutes

#### PERFORMANCE

ME loose an engine - 50% climb loss

Reduces CEFS (V1) - slush  
ISA = 15degC - 2deg per thousand  
Highest engine temp - at turbine inlet  
Altitude makes all engines weaker  
Humidity - makes reciprocating weaker  
Turboprop best range - 25,000 to tropopause  
Most sever engine wear - High RPM, Low MAP  
No obstacle climb path - clearway, after 1958  
Prop L/D - max range and max glide  
Jet max range - faster than L/D (tangentline)  
Best range when lighter - go slower, fly higher  
Wet or Slipperay rquires runway lenght increase - 115%

#### WEATHER

TNX lowest pressure - when approaching  
Topping a TNX - 1000' for each 10kts wind  
Stationary front - winds parallel  
Fly into cold front air - pressure increases  
Mature stage - rain at surface  
Air Mass TNX - retard and reverse updrafts  
Non-frontal instability - Squall line  
Squall - 20kts for 1 minute

Jetstream crosses - occlude fronts  
Across a dryline - dewpoint changes  
Frontal waves & low pressure - slow cold fronts  
Frontolysis - dissipating front  
Unsaturated air cooling 3 oC per 1000'

Hurricane - 65 kts+  
Microburst down drafts - 6000 fpm  
Microburst peak wind - 45 kts  
Microburst time - seldom longer than 15 minutes

CAT turb - up to 5000 above tropopause  
CAT location - likely on upper trough, polar side of jet stream  
jet greater turbulence - curving, associated with deep low trough  
jetstream turbulcnce with a HW or TW - change alt or course

Jetstream sides - clouds on equatorial, max winds and CAT on polar

Weather Depiction Chart - Sky, Vis, Precip, AT REPORTING STATIONS  
Weather Depiction Chart - (x) is obscured, (=) is fog  
Advisories disseminated - continuous on HIWAS, +15, +45 by FSS  
Icing - ACTUAL from PIREP, forecast from AIRMETS/SIGMETS  
Tropopause - lapse rate change, max winds, location of jet stream

Fast cooling with altitude - unstable air  
No cooling or slight cooling - stable air  
Lee side fog - warm air, cold lake  
Light rain or worse - 4000' thick clouds

Wind Shear - 15kts, 500 VVI  
Horizontal shear probable - greater than 18kts/150miles  
Snow and Ice - 30% less lift, 40% more drag  
Type 1 fluids min glycol - 80%  
Type 2 fluids min glycol - 50%  
Protection temp margin - 20deg F  
CAT probable - 20kt isotach, 60nm apart  
Radar Summary:  
1 - light/moderate  
3 - strong/very strong  
5 - intense/extreme  
"APCHG" means - may grow (approaching) severe intensity  
HIWAS - METs, Shear, and alerts

#### AERODYNAMICS

VMU - min unstick  
VXSE - best angle, SE  
VMC - red line, min controllable (maintain heading), SE  
VYSE - blue line, best rate, SE  
V1 - decision speed or CFES, stop in remaining. Any faster, continue.  
VR - rotate speed  
V2 - takeoff safety speed (acceptable climb)  
VS - stall, clean  
VS0 - stall, landing config  
VL0 - landing gear down  
Lift proportional to - velocity squared  
What affects indicated stall? - weight and load (not AOA)  
Load factor (lift/wt) is dependent on only - bank  
Aft CG - least stable, but best stall and cruise  
Critical Mach - flow over any part going supersonic  
Swept wing disadvantage - wint tip stalls first  
Wing Vortex generators purpose - reduce drag by making surface rough  
Servo tab - opposite direction  
Trim tab - no movement, "eliminate" control pressures  
Anti-servo - same direction  
Control tab - for manual ops

#### OPERATIONS

$\text{deltaCG}(\text{inches}) = \text{dist} * (\text{wt} / \text{totalwt})$

If MCA is not given MCA=MEA  
Lastest NOTEMS from - FSS

Below 10,000 - 250 kts  
Inside Class B - no speed limit  
Inside Class D & below class B - 200 kts  
Class B shelf - 1200' AGL  
Class B top - 4000' AGL  
Flag flight over 6 hours - requires alternate  
Flag alternate - 1500&2, or +200+3 for +-1 hour  
Supplemental flight - alternate for all IFR flights  
Takeoff alternate, two eng - 1 hour with 1-eng inop  
Takeoff alternate, 3+ eng - 2 hours with 1-eng inop  
CFR Part 97 takeoff mins - 2eng: 1sm, 3eng: 1/2sm  
Unpublished takeoff mines - 800-2, or 900-1-1/2, or 1000-1.

Min ATC request "below 10, 210"

Min ATC request departing airport - 230

Max Holding:

prop - 175 kts max  
jet below 6,000 - 200 kts max  
jet 6-14 - 230 kts max  
jet above 14 - 265 kts max

SIDs - Vectors, or Pilot-Nav

Jet Routes - upper limit is FL450

GPS overlay disallowed for - LOC, LDA, SDF

GPS RAIM enabled - alt no good? velocity good? position same?

"or" GPS on plaete - phase III, no other

navaids required

Alternate from GPS can't be - GPS or LORAN

EMERGENCY, HAZARDS, PHYSIOLOGY

Emergency - pilot becomes doubtful...

ATC Safety Alert - unsafe proximity to terrain

Comm out - AVE-F, AME

Eyes at night - scan slowly to permit off-center viewing

Rain, Night & Haze - further away

Suddenly foggy - pitching UP

Hyperventilate - when under stress

Carbon Monoxide - dizziness

Compiled by Brian Mork:  
ATP@increa.com