

Preflight Planning and Aeronautical Decision Making

- 1) Avoiding complacency when flying a highly capable and technologically advanced aircraft begins with a comprehensive approach to preflight planning and risk assessment for *EVERY* flight. One comprehensive Aeronautical Decision-Making Process (ADM) is the 3-P process... **PERCEIVE, PROCESS and PERFORM...**

a. Perceive... Hazards

i. **PAVE** Checklist

1. Pilot

a. **IMSAFE** Checklist

- i. Illness
- ii. Medication
- iii. Stress
- iv. Alcohol
- v. Fatigue
- vi. External Factors/Emotions

2. Aircraft

a. **AAVIATES** Checklist

- i. Airworthiness Directives
- ii. Annual Inspection
- iii. VOR Check (30 Days)
- iv. 100 Hour Inspection
- v. Altimeter Inspection (24 months)
- vi. Transponder Test (24 Months)
- vii. ELT Inspection (12 months)
- viii. Static System Inspection (24 months)

3. EnVironment

a. **NWKRAFT**

- i. NOTAMS
- ii. Weather
- iii. Known ATC Delays
- iv. Runway Environment Conditions
- v. Alternates
- vi. Fuel Requirements
- vii. Takeoff and Landing Data

4. External Factors: Pressures, attitudes, and stresses.

b. Process... Hazards

i. **CARE** Checklist

1. Consequences
2. Alternatives
3. Reality
4. External Factors

c. Perform...

i. **TEAM** Checklist

1. Transfer Hazards
2. Eliminate Hazards
3. Accept Hazards
4. Mitigate Hazards

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- 2) **Aeronautical Decision Making has Three Phases:**
- a. **Preflight:** Collect, analyze, process all information relevant to the safe outcome of the flight to make a thoughtful go or no-go decision.
 - i. Previous luck, good fortune, skills, and success of any flight will never dictate the outcome of your current flight.
 - b. **Inflight:** Actively review automation, in flight resources, information and performance during flight conditions.
 - i. Compare real-time information with preflight planning information and process changes.
 - ii. Decide what actions should be taken, if any.
 - c. **Post Flight:** Review your Preflight ADM, Inflight ADM, decisions, actions, results, and outcomes to find opportunities to learn and advance in ADM reliability.
- 3) **Pre-Arrival Planning Items (NART):** Pilots should always arrive at the destination aircraft before the plane, mentally speaking. Anticipate when you will begin your initial descent and perform the NRAT checklist prior to decent workload begins. NART is a set of details pilots need to brief prior to approaching an airport for landing.
- a. **NOTAMS:** Use an EFB like ForeFlight or ATC to check current NOTAMS. NOTAMS can change during your flight. Be sure to know Field Conditions (FICON) if approaching an airport that may be subject to contaminated runway conditions due to weather. Condition Codes:
<https://1drv.ms/b/s!AmaRJsQijSPSquB3ilpXMJbUjMZnVw?e=t1NrWr>
 - b. **Airport Information (ATIS/AWOS):** Obtaining contemporaneous weather and airport information in flight using an ATIS or AWOS frequency provides critical information relative to your approach and landing.
 - c. **Runway Characteristics:** In addition to FICON, knowing information such as runway quality, length and width is helpful. Knowing the type of lighting for a runway is critical in terms of selecting your approach in deteriorating weather conditions. I also like to understand what sort of vertical guidance system (VASI/PAPI) I should expect and where to look for it.
 - d. **Taxi Planning:** The worst time to figure out where you will steer the plane on airport surfaces is after you have landed. Look at the airport diagram considering the ATIS/AWOS information you recently received, while in flight, and brief where you will likely exit the runway. Anticipate how you will get from the runway exit point to the destination at the airport. Remember, taxiing is a critical phase of flight and highly dangerous. Don't rush and avoid distractions. Once landed, expect Ground Control to provide taxi instructions and be sure to comply with those instructions. If confused, stop on a taxiway and ask for clarification. Always be diligent when entering, back-taxiing on or crossing a runway.

Also refer to FAA Flight Risk Assessment Tool (FRAT)

https://www.faa.gov/news/safety_briefing/2016/media/SE_Topic_16-12.pdf