

V.B. Cockpit Management

References: FAA-H-8083-3; POH/AFM

Objectives	The student should develop knowledge of the elements related to cockpit management. The student should maintain an organized cockpit and properly position all controls for correct use. All equipment should be fully understood in order to assist in utilizing all possible resources.
Key Elements	<ol style="list-style-type: none">1. Good Housekeeper2. Passenger Briefings3. Internal and External Resources
Elements	<ol style="list-style-type: none">1. Arranging and Securing Materials and Equipment2. Use and Adjustment of Cockpit Items3. Occupant Briefing4. Resource Utilization
Schedule	<ol style="list-style-type: none">1. Discuss Objectives2. Review material3. Development4. Conclusion
Equipment	<ol style="list-style-type: none">1. White board and markers2. References
IP's Actions	<ol style="list-style-type: none">1. Discuss lesson objectives2. Present Lecture3. Ask and Answer Questions4. Assign homework
SP's Actions	<ol style="list-style-type: none">1. Participate in discussion2. Take notes3. Ask and respond to questions
Completion Standards	The student can efficiently and safely complete a flight as described in cockpit management.

Instructors Notes:

Introduction:

Attention

Interesting fact or attention grabbing story

All pilots need to learn to be good housekeepers. The airplane is your house and you need to be sure it stays clean and organized.

Overview

Review Objectives and Elements/Key ideas

What

Cockpit management (single pilot resource management) is a process that combines you, the airplane, and the environment for safer and more efficient operations.

Why

Understanding the elements behind cockpit management (single pilot resource management) provides for a considerably more efficient and safer flight.

How:

1. Arranging and Securing Materials and Equipment

A. Arranging

- i. Ensure that all the necessary equipment, documents, checklists, and navigation charts appropriate are on board
 - a. Materials should be neatly arranged and organized making them readily available
- ii. Any equipment with wires should not interfere with the motion or operation of any controls
- iii. A disorganized cockpit will complicate any flight, organization will contribute to safe, efficient flying

B. Securing

- i. The cockpit/cabin should be checked for articles that might be tossed around in turbulence
 - a. Loose items should be properly secured (Baggage net in the DA20)

C. All pilots should form the habit of good housekeeping

D. CE - Failure to place and secure essential materials and equipment for easy access during flight

- i. Don't use the top of the instrument panel for storage

2. Use and Adjustment of Cockpit Items

A. The pilot must be able to see inside and outside references

- i. Use a cushion to provide proper seating if necessary (DA20 seats are not adjustable)

B. Seat Belt/Harnesses

- i. When seated, the seat belt/harness should be adjusted to a comfortable, snug fit
 - a. Shoulder harness must be worn at least for taxi, takeoff, and landing
 - b. The safety belt must be worn all times at the controls

C. Rudder Pedals

- i. Adjust the rudder pedals forward or backward
 - a. Knees should be slightly bent
 - b. With heels on the floor and balls of the feet on the pedals full movement should be available
 - c. Using toes, the brakes should be able to be actuated

D. CE - Failure to properly adjust cockpit items, such as safety belts, harnesses, rudder pedals, and seats

- i. Very important to safety - complete this on the ground while stopped as it can be hazardous while moving or in the air

E. **CE** - Failure to provide proper adjustment of equipment and controls

3. Occupant Briefing

A. Safety Belts

- i. Each person must be briefed on how to fasten and unfasten the safety belt/harness (91.107)
 - a. You cannot taxi, takeoff, or land without notifying/ensuring each person has fastened their safety belt

B. Emergency Procedures

- i. A passenger briefing on the proper use of safety equipment and exit info must also be done
 - a. Inform passengers what should be done before and after an off-airport landing
 - b. Ensure all passengers can open all exit doors and unfasten safety belts
- ii. Departure Plan
 - a. Runway available, Runway Required, Emergency procedures during takeoff

C. **CE** - Failure to provide occupant briefing on emergency procedures and use of safety belts

- i. Passengers must fully understand how to use safety belts and what to do in an emergency

4. Resource Utilization

A. To make informed decisions, you must be aware of the resources found inside and outside the cockpit

B. Internal Resources

- i. POH is essential for accurate flight planning and resolving equipment malfunctions
- ii. Checklists verify instruments and systems are checked, set, and operating properly and ensure the proper procedures are performed in the case of an emergency
- iii. Equipment - A thorough understanding of the equipment is necessary to fully utilize all resources
 - a. Program any info ahead of time (radio frequencies, fixes, etc.)
 - b. If you do not understand equipment or rely on certain equipment (like the GPS) excessively it can be unsafe
 - EX: If the GPS fails and you do not have a good understanding of VOR navigation, how will you maintain situation awareness and return home or divert to another field?
- iv. Passengers can look for traffic, and provide helpful information (strange sound/scent, checklist help)
- v. Charts, other pilots, and your own ingenuity, knowledge and skill are also excellent resources

C. External Resources

- i. ATC, maintenance technicians, and flight service personnel
- ii. ATC/FS specialists can decrease work with traffic advisories, vectors and emergency assistance
 - a. May be able to access maintenance personnel, or other assistance in an emergency
- iii. FSS can provide weather, airport conditions
- iv. Other airplanes can provide PIREPs as well as radio communications
 - a. Occasionally other aircraft may be able to hear your transmission, but not the controller
 - In this case, other aircraft can relay messages between you and the controller
- v. ASOS/AWOS can also provide weather conditions in flight

D. **CE** - Failure to utilize all resources required to operate a flight safely

- i. Utilize all available resources during preflight planning and in the flight
- ii. EXS: Contact an A&P to determine the effects of an inoperative piece of equipment, etc.
 - a. Ensure the aircraft can be flown without the equipment as well

Common Errors:

- Failure to place and secure essential materials and equipment for easy access during flight

- Failure to properly adjust cockpit items, such as safety belts, shoulder harnesses, rudder pedals, and seats
- Failure to provide proper adjustment of equipment and controls
- Failure to provide occupant briefing on emergency procedures and use of safety belts
- Failure to utilize all resources required to operate a flight safely

Conclusion:

Brief review of the main points

By combining all of the elements of cockpit management (single pilot resource management), the pilot will have a safer and more efficient flight due to a reduced workload and reduced mental stress and fatigue.

PTS Requirements:

To determine that the applicant:

1. Exhibits instructional knowledge of the elements of cockpit management by describing:
 - a. Proper arranging and securing of essential materials and equipment in the cockpit.
 - b. Proper use and/or adjustment of cockpit items such as safety belts, shoulder harnesses, rudder pedals, and seats.
 - c. Occupant briefing on emergency procedures and use of safety belts.
 - d. Proper utilization of all resources required to operate a flight safely; dispatchers, weather briefers, maintenance personnel, and air traffic control.
2. Exhibits instructional knowledge of common errors related to cockpit management by describing:
 - a. Failure to place and secure essential materials and equipment for easy access during flight.
 - b. Failure to properly adjust cockpit items, such as safety belts, shoulder harnesses, rudder pedals, and seats.
 - c. Failure to provide proper adjustment of equipment and controls.
 - d. Failure to provide occupant briefing on emergency procedures and use of safety belts.
 - e. Failure to utilize all resources to operate a flight safely.
3. Demonstrates and simultaneously explains cockpit management from an instructional standpoint.