

## Flight Workshop 1—Controlling Your Aircraft

### Scenario—CFI Edition

*VFR local flight 1.0 to 1.5 hours*

#### Plan

Your students can plan and execute this flight as a local flight or as a short cross-country flight to a nearby airport if it is better suited to practice takeoffs and landings. However, the focus of this lesson is not cross-country operations. Allow your students to select the area to practice the maneuvers based on the following factors:

- Expected traffic in the area
- Location of airspace
- Terrain
- Obstacles
- Time of day
- Availability of emergency landing sites

#### Maneuvers

While this lesson has a more traditional task-based focus, take the following actions to apply real-world situations to each maneuver:

- **Steep turns.** Discuss circumstances under which controlling the aircraft proficiently in a steep bank might be necessary, such as to avoid traffic. Have your students practice rolling out of the steep turn at different times to simulate real situations.
- **Maneuvering during slow flight.** As they transition to slow flight, have your students maintain several different airspeeds that might be used in the traffic pattern, during instrument approaches, or when executing landings.
- **Power-off stalls.** Set up a traffic pattern at a safe altitude and simulate conditions during which an inadvertent stall may occur, such as turning from base to final or performing a power-off approach and landing.
- **Power-on stalls.** At a safe altitude, have your students configure the aircraft for an initial climb after takeoff or for a go-around to simulate a situation in which a distraction or an attempt to clear terrain could lead to a stall.

- **Takeoff and landings.** Rather than assign a normal, short-, or soft-field takeoff or landing, propose scenarios that specify a normal or emergency situation and runway criteria, such as runway length and conditions. Let your students decide what type of takeoff and landing to perform for the scenario.
- **Flaps-up landings.** To simulate a flap malfunction, you can distract your students to pull the flap circuit breaker. Let your students recognize the flap failure when they attempt to put the flaps down prior to landing. This creates a much more realistic situation than announcing 10 miles from the airport that your students will be performing a flaps-up landing.
- **Power-off landings.** Set the power lever to idle to simulate an engine failure abeam the runway threshold in the traffic pattern and have your students perform a short approach and power-off landing. Make sure they inform ATC or other traffic of their intentions.

*Note: For training purposes, power-off landings should always be made with full flaps.*

- **Go-around.** Your students should automatically perform a go-around if they have not established a stabilized approach by 500 feet AGL. In addition, you can present realistic situations which would require a go-around, such as informing your students that touch-and-go traffic ahead is making a full stop.

### System Safety

Ensure your students use the following tools to manage risk and make effective decisions.

#### Managing Risk

Even though this is a local flight, ensure your students still assess risk prior to and during the flight using the 5Ps.

### Using Single-Pilot Resource Management (SRM) Tools

- **PIC Responsibilities.** Ensure your students designate pilot and copilot responsibilities for tasks such as ATC communication and taking control of the aircraft in an emergency. In addition, your students should demonstrate the positive exchange of flight controls.
- **Resource Use.** Ensure your students use ATC and UNICOM communications as resources to identify traffic in the practice area and traffic pattern. In addition, they should enlist your assistance in scanning for traffic.
- **Workload Management.** Recommend the most effective methods (do-lists or flow patterns) to perform tasks on paper or electronic checklists during different phases of flight based on the SOPs.
- **Effective Communication.** Ensure your students perform passenger, takeoff, and approach briefings to communicate their intentions.
- **Situational Awareness.** Ensure your students maintain situational awareness in the practice area and in the traffic pattern by using tools such as visual scanning techniques, SOPs, and the MFD.

### Using the Aeronautical Decision-Making (ADM) Process

Let your students make decisions regarding an appropriate location and altitude to practice maneuvers. In addition, your students should make decisions regarding the proper takeoff and landing procedures to use based on your proposed scenarios.

- **Workload Management.** Guide your students to use specific equipment operating levels based on the situation and help them to recognize when to shed tasks, such as programming the autopilot to climb and capture an altitude, if they are overloaded.
- **Effective Communication.** Ensure your students set up standard radio configurations so they can quickly respond on the correct frequency.
- **Situational Awareness.** Direct your students to use the normal flight procedures that include avionics and aircraft configurations and flow patterns to ensure that they've completed the necessary tasks for each phase of flight.

### Using the Aeronautical Decision-Making (ADM) Process

Discuss how the mission purpose affects decision making before and during the flight. For example, if it is important to attend a business meeting and the weather is marginal at the destination, your students might choose to divert to a nearby airport and drive rather than return to the departure airport.

## Flight Workshop 2—Exploring Equipment Operating Levels

### Scenario—CFI Edition

*VFR (IFR Option) three-leg cross-country flight 2.0 to 2.5 hours*

### Plan

Explain to your students that the skills they develop in this workshop provide the foundation for them to effectively control the aircraft in a variety of situations, manage equipment failures in the future, and feel comfortable shedding equipment when they become overloaded. Use the following guidelines to plan effective real-world scenarios:

- Provide your students with distance guidelines or airport suggestions that ensure they plan a cross-country flight with legs long enough to complete the normal flight procedures for each phase of flight and to have sufficient time to improve their manual flying skills and practice using a variety of avionics resources (at least 30 to 45 minutes).
- Be flexible. Your students might make decisions during the flight that you did not anticipate. Let your students implement their decisions unless their choices jeopardize flight safety.
- Provide your students with a mission purpose that relates to the type of flying they do. Your students should keep the mission purpose in mind when making decisions throughout the flight lesson. Mission purposes include:
  - Business trips.
  - Family vacations.
  - Pleasure flights with friends.
  - Flights with another pilot to maintain proficiency.
  - Training flights with an instructor.
- Prior to or during the flight, as appropriate, provide your students with scenario variables that affect their decision making, including:
  - Weather conditions enroute, at the destination, or at possible diversion airports.
  - Airport environment, such as runway length and conditions, as well as services.
  - Availability of ATC services.
  - Terrain in the area.

## Leg 1–VFR or IFR

### Equipment Operating Level 1:

- Have your students control the aircraft manually and use basic avionics features, such as the MFD Map and Engine pages and the GPS Active Flight Plan page.
- Ask your students specific questions about the flight operation to focus their attention on using the data blocks on the PFD and MFD to monitor system status and using the MFD Map page to keep track of flight progress.
- Explain that in the event of an autopilot or other avionics equipment failure, your students must have the skills to continue a flight safely by manually controlling the aircraft and using alternate resources, such as paper charts.
- Direct your instrument-rated students to perform an instrument approach manually at the destination.

## Leg 2–VFR or IFR

### Equipment Operating Level 2:

- Let your students make decisions regarding what automation and avionics equipment to use in specific situations.
- After landing and during taxi for takeoff, ask your students questions about the airport layout to prompt them to use the airport diagram on the MFD Chart page for situational awareness.
- Instruct your students to choose times to use the autopilot to help manage workload or ease fatigue.
- Recommend that instrument-rated students use the autopilot while preparing for an approach but practice flying the approach procedure manually.
- Ask questions that prompt your students to locate basic flight information on the PFD and MFD, such as:
  - Groundspeed.
  - ETA or ETE.
  - Fuel left at the destination.
  - Airspace along the route.
  - Runway lengths and current weather conditions at the destination.
  - Altitude and relative position of the nearest traffic.

## Leg 3–VFR or IFR

### Equipment Operating Level 3:

- Ask your students to perform all operations using the autopilot including climbs and descents to capture an altitude.
- Direct your instrument-rated students to perform an autopilot-coupled instrument approach.
- Create scenarios that require your students to use a wide variety of avionics tools, including:
  - The MFD TAWS page for terrain awareness.
  - The MFD Nearest page to locate information about an airport along the route.
  - The GPS VNAV feature to plan and execute the descent.
  - The timer on the transponder to time an instrument approach.

## System Safety

### Managing Risk

Explain to your students that if they correctly perform the normal flight procedures for each phase of flight, including the associated flow patterns, they are reviewing the 5Ps to help identify risks at the same time.

### Using Single-Pilot Resource Management (SRM) Tools

- **PIC Responsibilities.** If your students are not proficient at performing the normal flight procedures and the associated flow patterns, recommend they spend some time in the aircraft on the ground or in a simulator to review the tasks associated with each procedure and flow.
- **Resource Use.** Help your students learn to identify when to use resources and emphasize that if they don't know how to use an avionics tool properly, it might become a distraction and impair flight safety.

## System Safety

Use the following tools to manage risk and make effective decisions.

### Managing Risk

As your students make decisions that change the dynamics of the flight, such as diverting, they must continue to identify and manage risks for the new situation.

### Using Single-Pilot Resource Management (SRM) Tools

- **PIC Responsibilities.** Since abnormal and emergency procedures are not practiced on most flights, recommend that your students review these procedures on a regular basis after their transition training is complete.
- **Resource Use.** When your students practice abnormal and emergency procedures, play the role of ATC. Ensure your students use this resource by advising controllers of the circumstances and requesting assistance such as priority handling, traffic advisories, or vectors.
- **Workload Management.** Ensure your students use the autopilot effectively during abnormal and emergency situations to reduce workload and allow them more freedom to perform such tasks as programming the GPS for a diversion.
- **Effective Communication.** Your students should be able to effectively communicate the problem to you and brief you on their intentions.
- **Situational Awareness.** Ask your students questions about terrain, weather, traffic, and aircraft performance to ensure they are monitoring the whole flight are not so focused on the problem that they lose situational awareness.

### Using the Aeronautical Decision-Making (ADM) Process

Let your students make decisions regarding an appropriate location and altitude to practice maneuvers. In addition, your students should make decisions regarding the proper takeoff and landing procedures to use based on your proposed scenarios.

## Flight Workshop 3—Managing Abnormal and Emergency Situations with Automation

### Scenario—CFI Edition

*VFR (IFR Option) three-leg cross-country flight 2.0 to 2.5 hours*

### Plan

When every leg of a flight involves abnormal or emergency operations, it is challenging to make these situations realistic. Use the following guidelines to plan effective real-world scenarios:

- Provide your students with distance guidelines or airport suggestions that ensure they plan a cross-country flight with legs long enough to complete the normal flight procedures for each phase of flight and to have sufficient time to practice abnormal and emergency procedures on each leg (at least 30 to 45 minutes).
- Be flexible. Your students might decide a forced landing is the best course of action rather than the diversion you intended. Let your students implement the decision (a simulated forced landing) and create another scenario in the future that includes a diversion.
- Plan scenarios for each leg that include realistic abnormal and emergency situations. Do not overload your students with multiple failures that do not apply to the scenario you have created.
- Provide your students with a mission purpose that relates to the type of flying they do. Your students should keep the mission purpose in mind when making decision throughout the flight lesson. Mission purposes include:
  - Business trips.
  - Family vacations.
  - Pleasure flights with friends.
  - Flights with another pilot to maintain proficiency.
  - Training flights with an instructor.
- Prior to or during the flight, as appropriate, provide your students with scenario variables that affect their decision making, including:
  - Weather conditions enroute, at the destination, or at possible diversion airports.
  - Airport environment, such as runway length and conditions, as well as services.
  - Availability of ATC services.
  - Terrain in the area.

## Leg 1–VFR or IFR

### Alternator 1 Failure:

- If desired, present weather, such as marginal VFR or IFR conditions, ahead along the route prior to the alternator failure to affect the decisions your students make.
- To simulate the alternator failure you can distract your students momentarily and pull the ALT 1 circuit breaker.
- Let your students recognize the failure by taking note of the annunciator light and indications on the PFD and MFD. Then, let them take the corrective action. Ensure the alternator is not off for more than 10 minutes.
- Ensure your students use resources such as the MFD Checklist page to verify they accomplish all the steps in the abnormal procedure.
- Emphasize that the autopilot can help ease workload when dealing with an abnormal situation.
- To guide the scenario, decide whether to allow your students to reset the alternator. If alternator 1 does not reset, your students must implement a decision about what equipment to switch off and whether to continue to the original destination or divert based on the weather conditions and available alternate airports.
- Ensure your students follow the aeronautical decision-making (ADM) process including correctly defining the problem, and continuing to monitor the situation after they implement a decision.

## Leg 2–VFR

### Inadvertent Entry into IFR Conditions:

- Set up realistic conditions for an inadvertent entry into IFR conditions by alerting your students to ceiling and visibility conditions several times that indicate that weather conditions are gradually deteriorating ahead along the route.
- If your student decides to turn around or divert immediately after learning of the weather conditions, you can modify the scenario to take this into account or suggest the weather has rapidly closed in.
- Instrument-rated students might opt to get an IFR clearance. In this case, play the role of ATC and determine whether to provide this clearance.

### Inadvertent Icing Encounter:

- Provide evidence that your students are encountering icing as they enter IFR conditions.
- Suggest that a pitot-static failure might occur in icing conditions.
- Ensure your students follow the procedure to exit the IFR/icing conditions by using the autopilot and turning on the ice protection system, pitot heat, and alternate static source.
- The scenario does not end when your students exit the IFR/icing conditions; they must continue to implement their decision by diverting or returning to the departure point.

## Leg 3–VFR or IFR

### PFD Failure:

- If desired, present weather, such as marginal VFR or IFR conditions, ahead along the route prior to the PFD failure to affect the decisions your students make.  
*Note: Do not simulate a PFD failure in IFR conditions.*
- Simulate a PFD failure by dimming the screen.
- Ensure your students pull the PFD circuit breakers as part of the procedure to continue using the autopilot.
- Instrument-rated students can take advantage of a GPS approach using the autopilot in this circumstance.
- In addition to performing the correct emergency procedure, your students must make and implement a decision regarding whether to continue to the original destination or divert based on the weather conditions and available alternate airports.
- Ensure your students follow the ADM process including correctly defining the problem, and continuing to monitor the situation after they implement a decision.

## Flight Workshop 4—Managing Abnormal and Emergency Situations Manually

### Scenario—CFI Edition

*VFR (IFR Option) three-leg cross-country flight 2.0 to 2.5 hours*

#### Plan

When every leg of a flight involves abnormal or emergency operations, it is challenging to make these situations realistic. Use the following guidelines to plan effective real-world scenarios:

- Provide your students with distance guidelines or airport suggestions that ensure they plan a cross-country flight with legs long enough to complete the normal flight procedures for each phase of flight and to have sufficient time to practice abnormal and emergency procedures on each leg (at least 30 to 45 minutes).
- Be flexible. Your students might decide a forced landing is the best course of action rather than the diversion you intended. Let your students implement the decision (a simulated forced landing) and create another scenario in the future that includes a diversion.
- Plan scenarios for each leg that include realistic abnormal and emergency situations. Do not overload your students with multiple failures that do not apply to the scenario you have created.
- Provide your students with a mission purpose that relates to the type of flying they do. Your students should keep the mission purpose in mind when making decisions throughout the flight lesson. Mission purposes include:
  - Business trips.
  - Family vacations.
  - Pleasure flights with friends.
  - Flights with another pilot to maintain proficiency.
  - Training flights with an instructor.
- Prior to or during the flight, as appropriate, provide your students with scenario variables that affect their decision making, including:
  - Weather conditions enroute, at the destination, or at possible diversion airports.
  - Airport environment, such as runway length and conditions, as well as services.
  - Availability of ATC services.
  - Terrain in the area.

## Leg 1 (VFR or IFR)

### Open Door:

- To make this situation more realistic, you can distract your students during the before-takeoff check so that they neglect to verify that your door is latched.
- Leave your door open during the takeoff roll and let your students recognize the situation and take the appropriate action by aborting the takeoff. If the aircraft becomes airborne, they must follow the proper procedures to enter the traffic pattern and land to close the door.

### Autopilot Stall Recovery:

- Have your students follow the SOPs and engage the autopilot for initial climb.
- At cruise altitude, have your students set up situations in which an autopilot stall might occur:
  - Program an excessive climb rate.
  - Reduce the power excessively to slow down and prepare for an approach or to comply with ATC instructions and then become distracted as the autopilot continues to maintain altitude while sacrificing airspeed.
- After your students follow the proper procedures to recover from the autopilot stall, ensure they continue with the flight operation. For example, if they were given instructions to climb and maintain a specific altitude or slow to a specific airspeed, they need to continue these tasks manually.

### Autopilot Failure:

- Disengage the autopilot and let your students recognize and manage the situation.
- Ensure your students assess the risks of not being able to use the autopilot for the remainder of the flight by considering such factors as the length of the flight and weather conditions.

## System Safety

### Managing Risk

As your students make decisions that change the dynamics of the flight, such as diverting, they must continue to identify and manage risks for the new situation.

### Using Single-Pilot Resource Management (SRM) Tools

- **PIC Responsibilities.** Make sure your students consider their personal limitations when assessing weather prior to and *during* the flight if the weather begins to deteriorate.
- **Resource Use.** During simulated abnormal and emergency operations, play the role of ATC. Ensure your students use this resource by advising controllers of the situation and requesting assistance such as priority handling, traffic advisories, or vectors.
- **Workload Management.** Students need to understand that while automation can help, they can perform abnormal and emergency procedures without the autopilot, if necessary.
- **Effective Communication.** When you simulate a CAPS procedure in the air or on the ground, ask your students to explain the situation to passengers, including how to assume the emergency landing position.
- **Situational Awareness.** Advise your students to research the causes of CFIT by reviewing accident reports. Discuss with them how to use resources in the aircraft, such as weather data, the moving map, and TAWS displays to avoid situations that put them at risk of CFIT.

### Using the Aeronautical Decision Making (ADM) Process

Make sure your students follow the ADM process, including defining the problem and monitoring the situation after managing the emergency and implementing their decision.

## Leg 3 VFR

### TAWS Escape Maneuver:

- Your students continue to control the aircraft manually on Leg 3.
- Describe a scenario that includes high terrain along the route and deteriorating marginal VFR weather conditions.
- Simulate a TAWS warning and ensure your students perform the appropriate TAWS escape maneuver by adding power and pitching up to climb away from terrain.
- Remind your students to monitor the situation carefully to avoid stalling the aircraft.

### Unusual Attitudes:

- Continue the scenario by stating that your students have become disoriented in the low visibility conditions near rugged terrain.
- Have your students initiate the unusual attitude themselves by asking them to close their eyes and rest their head on their shoulder. Provide directions to climb, descend, and turn until they enter an unusual attitude.
- For instrument-rated students, suggest that they become disoriented after flying in and out of clouds and looking outside and then back at the instruments.

### Cabin Fire:

- Simulate an electrical fire by suggesting that you smell smoke (perhaps the autopilot failure was a sign of a more serious electrical problem).
- Suggest your students have resolved the problem after switching off electrical equipment according to the emergency procedure or continue the scenario with a cabin fire that requires your students to simulate the use of the fire extinguisher and perform an emergency descent.
- Ensure instrument-rated students in simulated IFR conditions leave battery 2 on for instrument reference on the PFD.
- Ensure your students consider such factors as the severity of the fire, weather conditions, and terrain and then make a decision to take one of the following actions:
  - Divert to a suitable airport.
  - Simulate a forced landing.
  - Verbally simulate the use of the CAPS system.
- During this scenario, turn on certain electrical equipment as necessary in the interest of safety. For example, keep a radio on to announce intentions and listen for transmissions from other aircraft.

## Leg 2 (VFR or IFR)

### Low Oil Pressure Annunciation:

Your students continue to control the aircraft manually on Leg 2.

- Indicate to your students that a low oil pressure light is illuminated on the annunciator panel.
- Ask your students to describe what other advisories would appear in this situation.
- Ensure your students define the problem by referring to the Engine page which confirms a low oil pressure/high oil temperature situation.
- Ensure your students consider the imminent engine failure, weather conditions, and terrain and make a decision to take one of the following actions:
  - Divert to a suitable airport.
  - Simulate a forced landing.
  - Verbally simulate the use of the CAPS system.
- Take this opportunity to simulate an engine failure and have your students execute a simulated forced landing.

- **Effective Communication.** Your students should be proficient in:
  - Setting up standard radio configurations.
  - Performing passenger, takeoff, and approach briefings.
  - Keeping a sterile cockpit while involved in taxi, takeoff, landing, and all flight operations except cruise flight.
- **Situational Awareness.** Your students should be proficient in:
  - Explaining the causes of CFIT and how to use resources in the aircraft to avoid CFIT situations.
  - Using SOPs that include avionics and aircraft configurations, flow patterns and risk assessment checks.
  - Monitoring avionics and instruments to prevent complacency and maintain situational awareness.

### Using the Aeronautical Decision Making (ADM) Process

Your students should be proficient in using SRM tools and the aeronautical decision making process to make and implement effective decisions under normal circumstances during each phase of flight and while executing abnormal and emergency procedures.

## Flight Workshop 5—Reviewing Abnormal and Emergency Procedures

### Scenario—CFI Edition

*VFR (IFR Option) three-leg cross-country flight 2.0 to 2.5 hours*

### Plan

In this workshop, create scenarios to enable your students to practice decision-making and review objectives that your students have not yet met to the required performance level. Use the following guidelines to plan effective real-world scenarios:

- Provide your students with distance guidelines or airport suggestions that ensure they plan a cross-country flight with legs long enough to complete the normal flight procedures for each phase of flight and to have sufficient time to practice abnormal and emergency procedures on each leg (at least 30 to 45 minutes).
- Be flexible. Your students might decide a forced landing is the best course of action rather than the diversion you intended. Let your students implement the decision (a simulated forced landing) and create another scenario in the future that includes a diversion.
- Plan scenarios for each leg that include realistic abnormal and emergency situations. Do not overload your students with multiple failures that do not apply to the scenario you have created.
- Provide your students with a mission purpose that relates to the type of flying they do. Your students should keep the mission purpose in mind when making decisions throughout the flight lesson. Mission purposes include:
  - Business trips.
  - Family vacations.
  - Pleasure flights with friends.
  - Flights with another pilot to maintain proficiency.
  - Training flights with an instructor.
- Prior to or during the flight, as appropriate, provide your students with scenario variables that affect their decision making, including:
  - Weather conditions enroute, at the destination, or at possible diversion airports.
  - Airport environment, such as runway length and conditions, as well as services.
  - Availability of ATC services.
  - Terrain in the area.

## Legs 1, 2, and 3 (VFR or IFR)

### Problem Solving

Create scenarios where the solutions are not clear-cut to evaluate the ability of your students to define the problem and make effective decisions. The following are examples of situations that you can present to your students:

- Subtle changes in weather conditions occur, such as a gradual lowering of the ceiling and visibility, strong surface winds, or increasing turbulence and wind shear.
- The destination runway is closed due to a disabled aircraft.
- An increasing headwind or diversion around weather might lead to a fuel-critical situation.
- The PFD is flickering and at times is unreadable.
- The oil temperature is slowly rising.
- The engine is running rough.
- They are unable to contact ATC.
- A passenger is feeling ill.

### Abnormal and Emergency Procedures

Create specific scenarios that require your students to execute diversion procedures. Select from a variety of factors as causes for the diversion depending on the needs of your students:

- PFD failure
- Inadvertent IMC encounter
- ALT 1 failure
- Inadvertent icing encounter
- Low oil pressure annunciation
- In-flight cabin fire

Create scenarios that require your students to consider CAPS deployment as an option:

- A mid-air collision or airframe structural failure prevents control of the aircraft.
- Loss of control, such as from entering a spin
- Executing a forced landing over rough or mountainous terrain, over water beyond gliding distance to land, in ground fog, or at night.

## System Safety

### Managing Risk

Your students should be proficient at identifying and managing risk under normal circumstances during each phase of flight and while executing abnormal and emergency procedures.

### Using Single-Pilot Resource Management (SRM) Tools

- **PIC Responsibilities.** Your students should be proficient in:
  - Evaluating their own performance and determining personal limitations.
  - Designating pilot and co-pilot responsibilities for tasks.
  - Explaining the importance of scheduling time after training to increase their pilot knowledge and skills.
- **Resource Use.** Your students should be proficient in:
  - Operating the aircraft's equipment, including all the essential avionics features.
  - Using tools, such as Internet weather services, electronic charting, and flight planning programs to effectively prepare for flights.
  - Using external resources, such as ATC, for weather information and assistance in abnormal and emergency situations.
- **Workload Management.** Your students should be proficient in:
  - Determining the most effective methods (do-lists or flow patterns) to perform tasks based on the SOPs during each phase of flight,
  - Engaging the autopilot to effectively accomplish tasks during periods of high workload.
  - Using the equipment operating levels effectively for specific situations and recognize when to shed tasks when overloaded.

- **Resource Use.** Your students should be proficient in:
  - Operating the aircraft's equipment, including all the essential avionics features.
  - Using tools, such as Internet weather services, electronic charting, and flight planning programs to effectively prepare for flights.
  - Using external resources, such as ATC, for weather information and assistance in abnormal and emergency situations.
- **Workload Management.** Your students should be proficient in:
  - Determining the most effective methods (do-lists or flow patterns) to perform tasks based on the SOPs during each phase of flight,
  - Engaging the autopilot to effectively accomplish tasks during periods of high workload.
  - Using the equipment operating levels effectively for specific situations and recognize when to shed tasks when overloaded.
- **Effective Communication.** Your students should be proficient in:
  - Setting up standard radio configurations.
  - Performing passenger, takeoff, and approach briefings.
  - Keeping a sterile cockpit while involved in taxi, takeoff, landing, and all flight operations except cruise flight.
- **Situational Awareness.** Your students should be proficient in:
  - Explaining the causes of CFIT and how to use resources in the aircraft to avoid CFIT situations.
  - Using SOPs that include avionics and aircraft configurations, flow patterns and risk assessment checks.
  - Monitoring avionics and instruments to prevent complacency and maintain situational awareness.

### Using the Aeronautical Decision Making (ADM) Process

Your students should be proficient in using SRM tools and the aeronautical decision making process to make and implement effective decisions under normal circumstances during each phase of flight and while executing abnormal and emergency procedures.

## Flight Workshop 6—Final Evaluation

### Scenario—CFI Edition

*VFR (IFR Option) three-leg cross-country flight 2.0 to 2.5 hours*

#### Plan

In this workshop, create a scenario to enable your student to demonstrate proficiency in required flight operations and effective decision-making. Use the following guidelines to plan effective real-world scenarios:

- Provide your students with distance guidelines or airport suggestions that ensure they plan a cross-country flight with legs long enough to complete the normal flight procedures for each phase of flight and to have sufficient time to practice abnormal and emergency procedures on each leg (at least 30 to 45 minutes).
- Be flexible. Your students might decide a forced landing is the best course of action rather than the diversion you intended. Let your students implement the decision (a simulated forced landing) and create another scenario in the future that includes a diversion.
- Plan scenarios for each leg that include realistic abnormal and emergency situations. Do not overload your students with multiple failures that do not apply to the scenario you have created.
- Provide your students with a mission purpose that relates to the type of flying they do. Your students should keep the mission purpose in mind when making decisions throughout the flight lesson. Mission purposes include:
  - Business trips.
  - Family vacations.
  - Pleasure flights with friends.
  - Flights with another pilot to maintain proficiency.
  - Training flights with an instructor.
- Prior to or during the flight, as appropriate, provide your students with scenario variables that affect their decision making, including:
  - Weather conditions enroute, at the destination, or at possible diversion airports.
  - Airport environment, such as runway length and conditions, as well as services.
  - Availability of ATC services.
  - Terrain in the area.

## Legs 1 (VFR or IFR)

### Alternator 1 Failure

- If desired, present weather, such as marginal VFR or IFR conditions, ahead along the route prior to the alternator failure to affect the decisions your students make.
- To simulate the alternator failure you can distract your students momentarily and pull the ALT 1 circuit breaker.
- Let your students recognize the failure by taking note of the annunciator light and indications on the PFD and MFD. Then, let them take the corrective action.
- Ensure your students use resources such as the MFD Checklist page to verify they accomplish all the steps in the abnormal procedure.
- Emphasize that the autopilot can help ease workload when dealing with an abnormal situation.
- To guide the scenario, decide whether to allow your students to reset the alternator. If alternator 1 does not reset, your students must implement a decision about what equipment to switch off and whether to continue to the original destination or divert based on the weather conditions and available alternate airports.
- Ensure your students follow the ADM process including correctly defining the problem, and continuing to monitor the situation after they implement a decision.

## Leg 2 (VFR of IFR )

### Problem Solving

Create a scenario based on an abnormal or emergency procedure of your choosing to evaluate your student's ability to recognize and respond effectively to the situation. This scenario should be customized to meet the individual student needs.

## Leg 3–VFR of IFR

### PFD Failure

- If desired, present weather, such as marginal VFR or IFR conditions, ahead along the route prior to the PFD failure to affect the decisions your students make.
- Simulate a PFD failure by dimming the screen.
- Ensure your students pull the PFD circuit breakers as part of the procedure to continue using the autopilot.
- Instrument-rated students can take advantage of a GPS approach using the autopilot in this circumstance.
- In addition to performing the correct emergency procedure, your students must make and implement a decision regarding whether to continue to the original destination or divert based on the weather conditions and available alternate airports.
- Ensure your students follow the ADM process including correctly defining the problem, and continuing to monitor the situation after they implement a decision.

## System Safety

### Managing Risk

Your students should be proficient at identifying and managing risk under normal circumstances during each phase of flight and while executing abnormal and emergency procedures.

### Using Single-Pilot Resource Management (SRM) Tools

- **PIC Responsibilities.** Your students should be proficient in:
  - Evaluating their own performance and determining personal limitations.
  - Designating pilot and co-pilot responsibilities for tasks.
  - Explaining the importance of scheduling time after training to increase their pilot knowledge and skills.