CAPS

Guide to the
CIRRUS AIRFRAME PARACHUTE SYSTEM (CAPS™)

CIRRUS
AIRCRAFT

GUIDE TO CAPS

Dear fellow Cirrus pilot,

When Cirrus planned the original design requirements for the SR20, safety was always at the top of the list. There is no perfect safety solution, but there is technology that can be implemented to make aviation safer than it historically has been. What began as an idea of a whole airframe parachute system, available to save the pilot and passengers in the event of an emergency, became our requirement for the SR20 and SR22.

Safety, comfort, ease of use and performance drives our design philosophy at Cirrus Aircraft. But even with intuitive avionics, a digital autopilot with a level button, a crashworthy structure, cuffed leading edges, cockpit weather information, FIKI and many other safety features designed into the airplane, it is still the pilot that must manage these systems and make the decisions that truly effect the safety of flight. The only way to achieve the full safety and utility benefits available only in Cirrus aircraft is through training, and that includes CAPS training.

At Cirrus we believe in continuous training. Continually improving our pilot skills allows us to achieve the maximum performance and utility from any airplane. The Cirrus Airframe Parachute System requires training as well. As Cirrus pilots, we need to think about scenarios in which we would use the Cirrus Airframe Parachute System. We also need to make sure our passengers are aware of this life-saving feature.

CAPS is available to you for the worst scenarios. It is there for us to use. And it works.

Dale Klapmeier
CEO & Co-founder

Introduction

This Guide is an introduction to the Cirrus Airframe Parachute System (CAPS). It will discuss the history, how it works, general deployment information, success stories, barriers contributing to pilot indecision and tips on how to fly with CAPS. This information provides a foundation of knowledge for a pilot to build upon during formalized CAPS training with a Cirrus Standardized Instructor Pilot (CSIP) or Cirrus Training Center (CTC).

Activating CAPS is deceptively simple – reach up above the pilot's shoulder and pull the red handle to initiate the CAPS deployment sequence. Anyone in the airplane can do it. Yet there have been several fatal accidents that could have been survivable had the pilot activated CAPS. It works, but Cirrus pilots need to train so they are capable and prepared to use it when they need it. Every Cirrus pilot should obtain CAPS training by completing the CAPS Training Syllabus. The following information is meant to guide a pilot's decision making regarding when and how to use CAPS in an emergency.

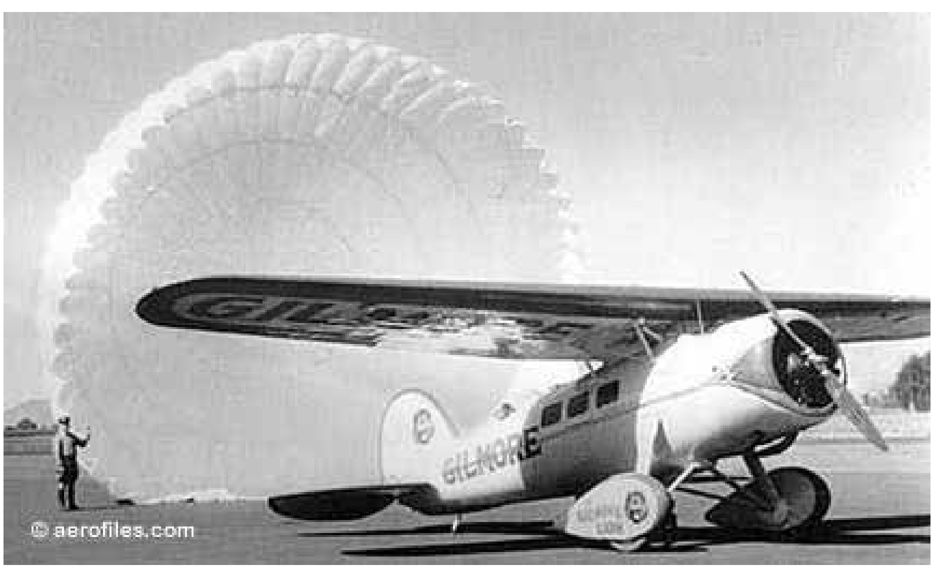
CAPS History

The Cirrus Airframe Parachute System (CAPS)

In 1985 Alan Klapmeier, a co-founder of Cirrus Aircraft, was training for his instrument rating. During a training flight, Alan was involved in a midair collision. Although the pilot of the other airplane died, Alan and his instructor were able to land safely. Instead of concluding that airplanes are dangerous and should be more heavily regulated, he came away from this experience believing that "People are involved. People make mistakes. There has to be another option." The parachute system was an opportunity to save lives. From the start, CAPS was considered standard equipment and became integrated into the original design of the first Cirrus aircraft, and on every aircraft thereafter that Cirrus has delivered.

History of the whole airplane parachute

The idea of a whole airplane parachute has been around as long as airplanes. Many designs were attempted but none were practical or useful. In 1982, Ballistic Recovery Systems (BRS) started producing parachutes for ultra-light aircraft. In 1993, BRS created a parachute system for the Cessna 150/152 aircraft. As an add-on system, it was costly, heavy and took up valuable baggage space. Market success for the Cessna 150 BRS system was elusive and the airplane manufacturer never promoted it.



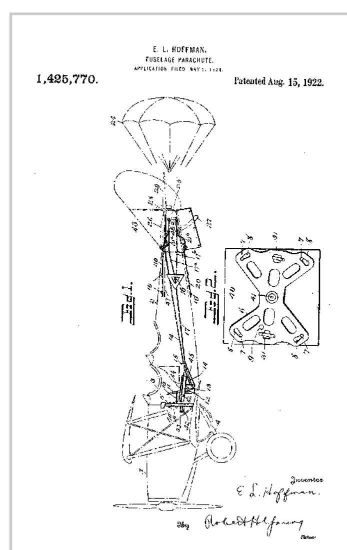


Photo courtesy of Aerofiles.com

The Cirrus Vision of CAPS

A well-integrated parachute in all airplanes - “Safety is not an option”

Cirrus Aircraft knew that the CAPS had to have certain attributes to make it successful:

- **Rapid Deployment** - Most deployments are near the ground and every second counts.
- **Reliable** - Owners need to be able to trust that it will work in a wide range of emergency conditions.
- **Simple** – The pilot must be able to easily deploy it in an emergency.
- **Small and light** - It must be no heavier than a large suitcase and must not restrict baggage space.
- **Company Support** - To get the full safety benefit, CAPS has to be standard equipment and owners need proper training.

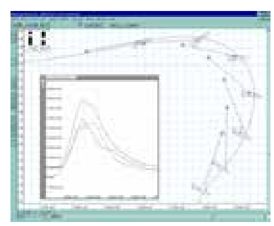
The BRS system for the Cessna 150/152 was a good starting point, but the question remained whether it could be scaled up for a faster and heavier 4-seat composite airplane like the SR20. The risks and challenges in developing a parachute system were daunting:

- Parachute loads increase over 400%.
- Parachute size increase over 150%.
- Weight restrictions require new parachute materials and construction.
- A new rocket was required and needed to be powerful enough to handle the larger parachute.
- New production methods were required that would allow the system to be installed underneath the sleek composite skin.

Designing the Original CAPS system

Computer Simulations

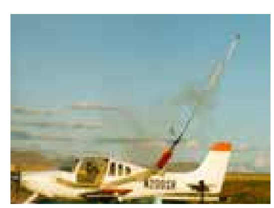
Computer simulated deployments were used to better understand how the airplane would behave during a CAPS deployment. These simulations led engineers to keep the rear aircraft attach harness short until after the parachute was fully deployed. The shortened rear harness limited airplane pitch-up during parachute opening, making for a smoother deployment.



Drop tests

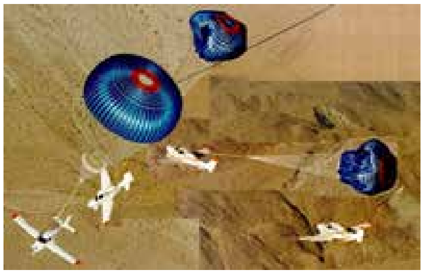
Canopy strength drop tests were important to establish the ultimate capability of the CAPS parachute. During the development of the original CAPS parachute, Cirrus performed over 45 drop tests from a C123 cargo airplane at speeds approaching 175 kts.

Rocket Extraction Tests - Extraction tests were performed to establish rapid and proper extraction of the parachute from the aircraft. The time from CAPS handle pull to full extension of parachute lines is less than two seconds.



Ground Impact Drop Testing

Airframe drop tests onto a concrete floor were performed. Instrumented crash test dummies were used to show that the impact forces on the pilot and passenger were within acceptable limits.

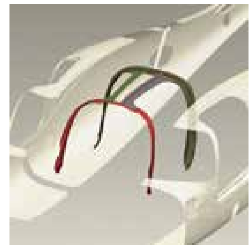


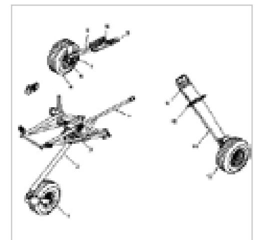
Inflight Tests

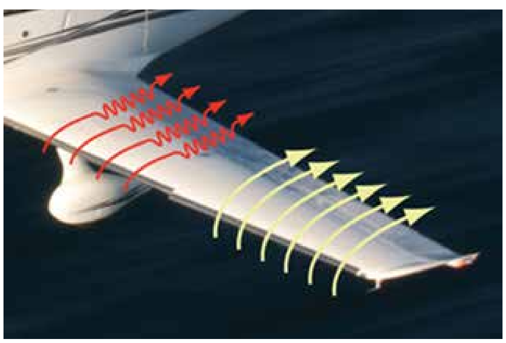
Numerous inflight deployments were made over a six-month period that included deployments from a spin, stalls and speeds up to 133 KIAS. After each CAPS deployment the test pilot would release the parachute and fly away so the airplane could be used for the next inflight test.

Safety features that make a CAPS landing successful

Safety features that contribute to making a CAPS landing survivable include 26G seats, composite landing gear, and an airframe that is designed to absorb impact loads. Additionally, there is a composite roll cage for added strength and occupant protection.







Cirrus Design
SR22T

Section 3
Emergency Procedures

Unusual Attitude Emergencies

Inadvertent Spin Entry

1. CAPS .... ACTIVATE

Amplification

• WARNING •

In all cases, if the aircraft enters an unusual attitude from which recovery is not expected before ground impact, ***immediate*** deployment of the CAPS is required.

The minimum demonstrated altitude loss for a CAPS deployment from a one-turn spin is 920 feet. Activation at higher altitudes provides enhanced safety margins for parachute recoveries. Do not waste time and altitude trying to recover from a spiral/spin before activating CAPS.

Certification with Equivalent Level of Safety and CAPS

During the certification of the SR20, Cirrus and the FAA focused on a way to decrease the number of spin accidents. Adopting a cuffed wing design developed by NASA reduces the likelihood of a stall or spin occurring in the first place. The outboard section of the wing is set at a lower angle of attack, providing superior slow flight and stall handling characteristics. Aileron authority is increased in a stall, because the outboard wing's airflow is better preserved in a post stall condition.

The NASA cuffed wing design and CAPS were developed independently of each other, but when combined, provided a potentially safer airplane than traditional standards for certification regulated. The NASA cuffed wing design will help pilots to avoid stall/spin events, but if controls are misused and a spin is inadvertently entered, CAPS provides a way for the pilot to recover, even if they are not proficient in spin recovery procedures. Any time a Cirrus pilot experiences a loss of control or spin, the use of CAPS is required.

Given that Cirrus had demonstrated enhanced low speed handling characteristics that will help pilots to avoid inadvertent spin entry and the presence of CAPS, the FAA granted Cirrus an Equivalent Level of Safety (ELOS) for the spin recovery requirement of the certification regulations. This ELOS is accepted by all civil aviation authorities that have certified the Cirrus SR20 and SR22.

CAPS Changes for the Generation 5 Cirrus Airframe – “The Most Cirrus Ever”

Cirrus Aircraft increased the maximum gross weight of the Generation 5 (G5) airframe by 200 pounds to a new total of 3,600 pounds. This increase in weight required reengineering the CAPS system. The G5 parachute has a larger diameter of 65 ft (19.8 m), compared to the 55 ft (16.7 m) diameter of the original parachute. The increase in size and weight of the parachute meant the CAPS rocket size also had to be increased. The G5 rocket incorporates an electronic ignition and still uses the same familiar red activation handle. The line cutter fuses have been delayed to 10 seconds, allowing more time for the larger parachute to inflate. The demonstrated parameters for the G5 were calculated from G5 parachute drop tests simulating a 3600 pound airplane. The demonstrated altitude loss for the G5 is 561 feet from straight and level, and 1081 feet from a spin. The G5 airplane and parachute descend at a slower rate than the 3400 pound parachute. Generation 5 parachute development included over 70 drop tests.

How CAPS Works

CAPS Deployment Sequence

CAPS Activation - To activate the CAPS system, the pilot or occupant removes the CAPS activation handle cover and pulls the red handle located in the ceiling between the pilot and co-pilot. The handle should be pulled with both hands in a steady, deliberate, chin up motion. About 45 lbs (20.45 kilograms) of force and two inches of travel are required to activate the system.

Rocket and Parachute Extraction - When the CAPS activation handle is pulled, the cable causes the rocket to ignite and dislodges the Rocket Assembly CAPS cover located behind the baggage compartment. The rocket extracts the deployment bag containing the packed parachute from the airplane. The deployment bag protects the parachute until it is away from the airplane and ensures the parachute will deploy in an orderly fashion.

Line Extension, Initial Canopy Inflation and Reefed Parachute - As the parachute inflates, the forward harnesses are extracted out of from under the fuselage skin. As air begins to fill the canopy, the initial loads cause the aircraft to pitch up, providing some aerodynamic braking. This pitch up also helps minimize altitude loss. The rear harness length is kept short during this period to keep the plane from over rotating. The parachute’s slider ring keeps the parachute from fully opening until airspeed is reduced to the point where the parachute can fully inflate without generating excessive loads.

Parachute Disreef – At the beginning of the deployment sequence, the slider ring is positioned at the top of the suspension lines, near the canopy. As inflation loads increase, the slider moves down the suspension lines, allowing the canopy to fully inflate. During the inflation process, the airplane will transition from a nose-high attitude to a nose-low attitude, until the line cutters extend the aft harness to its full length.

Snub Line Release and Touchdown - When the pyrotechnic line cutter fuses have expired, the cutters will sever a snub line, allowing the folded aft harness to extend to its full length and support the aft load. The airplane will assume its touchdown attitude to optimize occupant protection. The airplane will descend under the canopy at less than 1700 fpm and ground impact is expected to be equivalent to dropping from a height of 13 feet (about 4 meters). The airframe, seats and landing gear are all designed to absorb the impact energy.

Demonstrated Deployment Parameters

400' (561' G5*) - Demonstrated loss of altitude from a straight and level CAPS deployment
920' (1081' G5*) - Demonstrated loss of altitude from a 1 turn spin
135 KIAS - V_{PD} (SR20 G1/G2) - Maximum demonstrated deployment speed for CAPS
133 KIAS - V_{PD} (SR20 G3/SR22/SR22T) - Maximum demonstrated deployment speed for CAPS
140 KIAS - V_{PD} (SR22/SR22TG5) - Maximum demonstrated deployment speed for CAPS

*Demonstrated parameters for the G5 were calculated from G5 parachute drop tests simulating a 3,600 lbs airplane

CAPS Works - 85 Lives Saved To Date As of 01.10.14

ZERO Fatalities to date when CAPS has been activated within demonstrated parameters As of 01.10.14

As of January 2014 there have been 85 lives saved when the pilot or passengers in a Cirrus aircraft have activated CAPS. It has been used in many situations including medical issues, loss of engine power and loss of control situations due to icing, turbulence, spins, control failure, VFR into IMC and disorientation in IMC conditions.

When CAPS was activated within these demonstrated parameters,

- Speeds less than V_{PD}
- Altitudes above 400' in straight and level flight
- Altitudes above 920' in a spin

there have been **zero fatalities.**

Possible CAPS Deployment Situations

CAPS should be activated in the event of a life-threatening emergency where CAPS deployment is determined to be safer than continued flight and landing.

- **Loss of Control** - A loss of control is when the airplane does not respond as the pilot expects and may result from flight control or system failure, turbulence, disorientation, icing or pilot loss of situational awareness. **If a loss of control occurs, CAPS should be activated immediately.**
- **Engine Failure Not Over a Runway** – If a forced landing is required onto any surface other than a runway, CAPS activation is strongly recommended. If a forced landing over rough or mountainous terrain, over water, in fog, at night, or in low IMC conditions is required, **CAPS activation is strongly recommended.**
- **Engine Failure Over a Runway** - During engine failures within gliding distance of a runway, the pilot must continually evaluate the situation.
  - At 2,000 ft AGL, if the landing is assured the pilot may continue to the runway. If not assured then activate CAPS.
  - At 1,000 ft AGL, if the landing is still assured, the pilot may continue, recognizing that the risks associated with landing short, runway overrun or low altitude loss of control likely exceed those of a timely CAPS deployment. If the landing is not assured by at least 400 ft (561 ft G5) AGL **the pilot should immediately activate CAPS.**
- **Pilot Incapacitation** - Pilot incapacitation may occur from a wide variety of causes, ranging from a pilot's medical condition to a bird strike that injures the pilot. If incapacitation occurs and the passengers are not trained to land the aircraft, **CAPS activation is strongly recommended.**
- **Mid-Air Collision** - A mid-air collision will likely render the airplane uncontrollable by damaging the control system or primary structure. Unless it is apparent that structural and control system damage has not occurred, **CAPS activation is strongly recommended.**
- **Structural Failure** - A structural failure has never occurred in a Cirrus aircraft. However, if a structural failure were to occur, **CAPS activation is strongly recommended.**

> **The whole-airplane recovery system has gone into every Cirrus, and no matter how you do the math, it's clear that the system has saved lives."**
>
> - Flying Magazine, October 2010

Speeds to Deploy CAPS

V_{PD}, the maximum demonstrated parachute deployment speed, is not meant to be a limitation, much like maximum demonstrated crosswind is not a limitation. V_{PD} is the speed CAPS was demonstrated to during certification. The parachute was demonstrated to survive 165kts deployments during ultimate drop tests. The ultimate drop tests were accomplished at 125% of the airplane's maximum gross weight so it is possible that the parachute could survive deployments at higher speeds. **There have been several successful CAPS deployments at speeds above V_{PD}.**

- **August 2010, Horton, United Kingdom** – A pilot experienced a loss of control situation and activated CAPS at **187 KIAS**. The pilot and one passenger survived without injury.

- **September 2010, Mathias, WV** – A pilot experienced a loss of control situation in IMC, possibly due to wind and turbulence, and activated CAPS at **171 KIAS**. The pilot and passenger survived without injury, although they were both injured after exiting the aircraft, which was suspended in trees, 20 feet above the ground.

- **January 2011, Bennett, CO** - While practicing approaches in VMC conditions, the pilot became disorientated and activated CAPS at **187 KIAS**. The pilot survived without injury.

Altitude to Deploy CAPS

No minimum or maximum altitude for deployment has been set. This is because the actual altitude loss during any particular deployment depends upon the airplane's attitude, altitude and speed as well as other environmental factors. The altitude loss during a CAPS deployment depends primarily on the direction that the airplane is traveling at the time of deployment. If the parachute is deployed in a level attitude, much of the deceleration occurs over a horizontal distance, minimizing altitude loss. If the parachute is deployed in a vertical descent, the deceleration occurs over a vertical distance, when altitude loss is at its greatest.

If possible, the pilot should activate CAPS with enough time and altitude for a successful deployment; therefore the decision to pull should be made as soon as possible. The pilot should have a minimum altitude in mind to deploy CAPS. If CAPS is deployed too close to the ground, the chance of a successful deployment greatly decreases. Whenever a pilot is in a situation in which no other survivable alternative exists, CAPS should be activated regardless of altitude.

- **December 2009, Hamilton, Australia** - The pilot activated CAPS at 444 ft AGL during a descent after an engine failure and saved his life.

A Pilot's Indecision Can Become Fatal

While CAPS has proven to be effective when activated in a timely manner, it does not guarantee success in all situations. A pilot's indecision can result in a situation in which the airplane becomes too fast or descends too low to the ground for CAPS to be effective. There have been 6 fatal accidents involving CAPS activations as of May 2013.

- 5 low altitude deployments, just before ground impact. Proximity to the ground did not allow the parachute time to inflate.

- 1 extremely high speed deployment, after icing caused a loss of control situation and the pilot deployed CAPS at approximately 270 KIAS, well above V_{NE}. The parachute failed during this excessively high speed deployment.

CAPS Works, But Pilots Still Don't Use It

"Don't die with a perfectly good parachute behind you."
Boris Popov - Founder of BRS

120 - "Fatalities to date, when pilots had a good or better chance of living if they had activated CAPS" - Rick Beach

CAPS Success Stories

A common theme among pilots who have used CAPS to save their lives is that they had received CAPS training and made the decision to use CAPS on the ground before they departed.

Jeff Ippoliti

"I am very glad I was flying a Cirrus that day."

Jeff flew quite often in his Cirrus for business to save travel time. On April 10, 2004, Jeff picked up his airplane from Fort Lauderdale after maintenance had been performed, and was returning back to his home airport. While on an IFR flight plan shortly after takeoff at 400 ft, Jeff entered IMC conditions. Soon after entering the clouds his pitot-static instruments on the PFD failed and his standby instruments were acting erratically. Jeff reported to ATC that he was "losing gauges" and would be unable to execute an ILS approach back to the departure airport. He then notified ATC he was going to activate CAPS. His life was saved and his airplane was repaired and still flying today. An investigation revealed that water had entered the pitot-static system after the airplane was washed, causing the erratic instrument indications.

Verle Wiita

"You may lose the aircraft, but I didn't lose my life."

Verle Wiita had been a pilot since June 2004, and often used his Cirrus to visit his children or to travel to his cottage. On March 15, 2009, Verle was departing Gaithersburg, MD to return home to Kalamazoo, MI. After departing Gaithersburg, Verle became spatially disoriented and tried to recover the airplane without success. Verle reported that the airplane "stalled and started to spin" and he appropriately decided to use CAPS, saving his life after a loss of control situation close to the ground.

Matt Richmond

"Let the parachute save your life."

Matt Richmond had been a pilot since 1992. He is married and the father of three girls. He worked as a commercial pilot and instructor for a Greensboro, NC based company, flying clients and employees all over the eastern U.S. On July 22, 2012, Matt was returning to Greensboro from Atlanta with three passengers. While in cruise flight at 9,000 ft the engine RPMs began to rise rapidly and the oil pressure dropped. Matt began to troubleshoot and attempted the engine restart procedures with no success. Matt then diverted to the nearest airport, Pickens County Airport (LQK). While gliding to the airport, Matt realized his landing was not assured and decided to use CAPS. Today, Matt is a pilot for a regional airline and is enjoying life with his family.

Pilots that could have used CAPS to save their lives but never did.

"I gotta get my act together here."

Coconut Creek, FL

On January 15, 2005, an instrument rated pilot departed IFR from Fort Lauderdale, FL enroute to Naples, FL. The pilot climbed into IMC conditions soon after takeoff and misinterpreted a series of ATC instructions. He reported to ATC, "I gotta get my act together here." Less than one minute later the pilot reported "avionics problems," and 40 seconds after that reported to ATC that he was "losing it." The pilot lost control of the airplane, but never used the CAPS.

Loss of control

Meadview, AZ

On October 25, 2006, an instrument rated pilot departed S. Lake Tahoe, CA with his wife and three children en route to Grand Canyon, AZ to go hiking. The pilot departed VFR, but picked up an IFR clearance to his destination after noticing deteriorating weather ahead. Shortly afterward, the pilot entered an area of convective activity that contained icing conditions at his altitude of flight. The pilot reported that he had an emergency due to icing conditions. Data shows the airplane stalled and entered a spin for 14 rotations and 45 seconds until impacting the ground. The pilot never activated the CAPS to recover from the spin.

Attempted power-off landing

Morton, WA

On March 19, 2010, a pilot and passenger were in cruise flight when the engine lost power. The pilot attempted to reach the nearest airport, but the airplane collided with trees 2.5 miles short of the runway, killing the pilot and severely injuring the passenger. The pilot never activated the CAPS. Cirrus pilots have had a very successful history when activating CAPS over trees. Most of the airplanes have been rebuilt and are still flying today.

Barriers Contributing to CAPS Indecision

The U.S. Air Force experienced similar pilot indecision when ejection seats were first introduced. Several fatal accidents occurred when the pilot never ejected. The culture and mentality among pilots soon changed and they learned to use and accept the new safety feature that continues to save the lives of our military personnel – arguably the most experienced pilots in the U.S. Like Air Force pilots in the past, Cirrus pilots must adjust their mindset and habit patterns to use CAPS in emergencies.

Primacy Effect

"Primacy, the state of being first, often creates a strong, almost unshakeable impression. The process of relearning is more difficult than initial learning."

– FAA Aviation Instructor's Handbook

Many Cirrus pilots may have started their flying careers in an airplane without a parachute system. During initial emergency training for these pilots, CAPS was never an option and therefore never a part of the emergency procedures checklist. Through proper Cirrus transition training, pilots can unlearn previous emergency procedure training and develop new habits. Cirrus pilots can and must commit to learning how to incorporate the CAPS appropriately into emergency situations.

Loss of Situational Awareness

During emergencies, a pilot often becomes fixated on one task and may lose awareness of the bigger picture. This is especially true for a pilot that has not received or remained current with emergency training. The pilot must be aware of his or her altitude and situation at all times to be able to activate CAPS at the appropriate moment.

Hazardous Attitudes Create Obstacles Related to CAPS

Hazardous attitudes can create indecision for the pilot which can be deadly. In an emergency situation the pilot must have the mindset that he or she will use CAPS, without hesitation, when needed in an emergency.

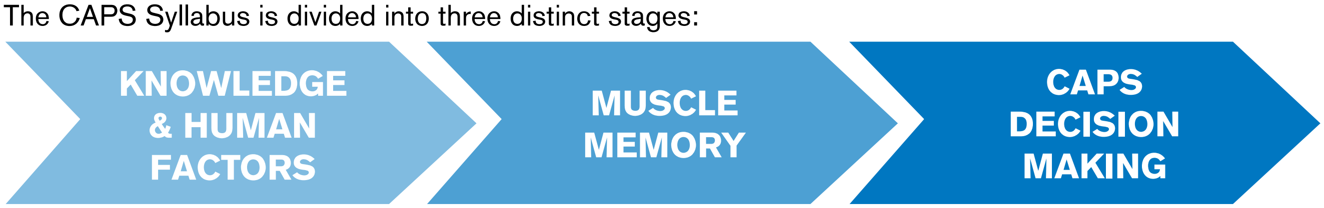
- **"Off airport landing is safer"**
  - 60 kts stall vs. 17 kts with CAPS = 12 times more energy to dissipate. After parachute deployment, a Cirrus aircraft will be descending vertically at approximately 17 kts. During an attempted landing into a field, the slowest touchdown speed is approximately 60 kts, the stall speed of the aircraft. Potentially far less energy may be transferred to the airframe and passengers in a CAPS landing than during an off airport landing at stall speed.
- **"Save the Airplane"**
  - Why? Airplanes can be replaced; people cannot. If that is not convincing enough, many insurance companies will waive deductibles for CAPS deployments as a reward for the use of this safety device. They would rather keep you as a customer then deal with your estate.
- **"Real pilots don't need a parachute"**
  - Some pilots wrongly believe that their piloting ability can get them out of any emergency situation safely, or that traditional emergency procedures are preferred over using CAPS. The military's installation of and use requirement for ejection seats provides an example of professional, highly trained pilots using a different approach to save the pilot's life, while sacrificing the aircraft.

Tips on how to Fly with CAPS

CAPS Specific Training

All Cirrus pilots should receive CAPS specific training, using the Cirrus CAPS Syllabus as a guide from a qualified Cirrus Training Center or Cirrus Standardized Instructor Pilot.

The CAPS Syllabus is divided into three distinct stages:

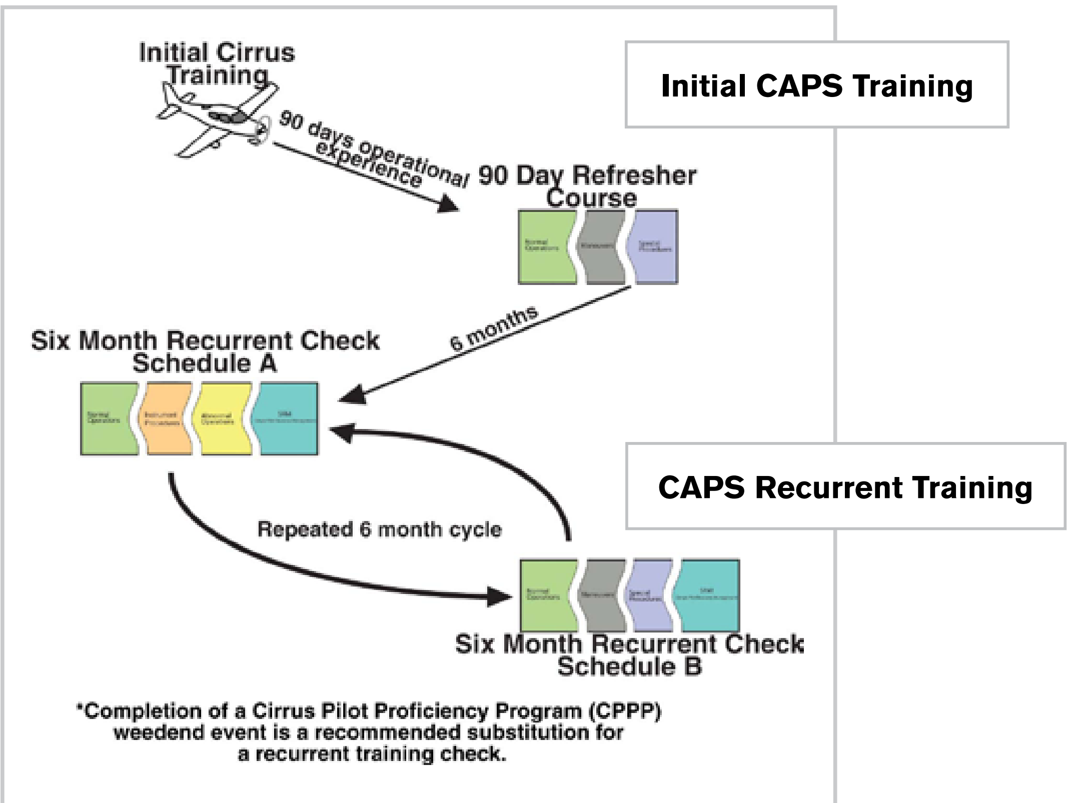


- **Knowledge & Human Factors** - How CAPS works and a discussion of when and how to use CAPS.
- **Muscle Memory** - Exercises that help make CAPS deployment automatic, even in an emergency.
- **CAPS Decision Making** - Scenario based flights to achieve proficiency with CAPS decision making.

> ***"Learning is a Lifestyle, not an event."***
> *– Ian Bentley, Retired Cirrus Aircraft Vice President*

Recurrent CAPS Training - Stay Proficient!

Recurrent training is critical to improving and maintaining a pilot's skillset. Just like other flying skills, Cirrus recommends that pilots receive recurrent CAPS training on an annual basis to remain proficient with their CAPS decision making skills.



Passenger Briefing

All Cirrus pilots should perform a passenger briefing before any flight with passengers onboard. Teaching passengers how to deploy CAPS in the event of pilot incapacitation can save the lives of both the passengers and the pilot. The CAPS passenger briefing should teach the passengers to:

- Engage the autopilot using the level button (if equipped)
- Attempt to revive the pilot
- Follow the deployment procedures detailed on the CAPS placard
- Prepare for CAPS touchdown
- Follow egress procedures

Takeoff Briefing

A Cirrus pilot is more likely to deploy CAPS quickly during a total loss of engine power or other emergency if a takeoff briefing is conducted prior to takeoff.

Height Above Ground Level (AGL)	Recommended Response
0' – 500' (600' G5)	Land Straight Ahead*
500' (600' G5) – 2000'	Deploy CAPS Immediately
2000' or Greater	Troubleshoot, Use CAPS as Required

*Activate CAPS immediately if no other survivable alternative exists.

CAPS Deployment Procedures

Note: Always reference and use your current aircraft POH procedures

CAPS Deployment Procedure

1. **Activation Handle Cover**..REMOVE
2. **Activation Handle (Both Hands)**......PULL STRAIGHT DOWN

Approximately 45 lbs of force is required to active CAPS. Pull the handle with both hands in a chin-up style pull until the handle is fully extended.

After Deployment:

3. **Mixture** ....CUTOFF
4. **Fuel Selector** ....OFF
5. **Fuel Pump**...OFF
6. **Bat-Alt Master Switches**..OFF

If time permits, declare the emergency and announce CAPS activation prior to turning off the Bat and Alt switches.

7. **Ignition Switch**...OFF
8. **ELT**..ON
9. **Seat Belts and Harnesses** ....TIGHTEN
10. **Loose Items** ....SECURE
11. **Assume emergency landing body position.**

Reference the passenger briefing card for the correct emergency landing body position.

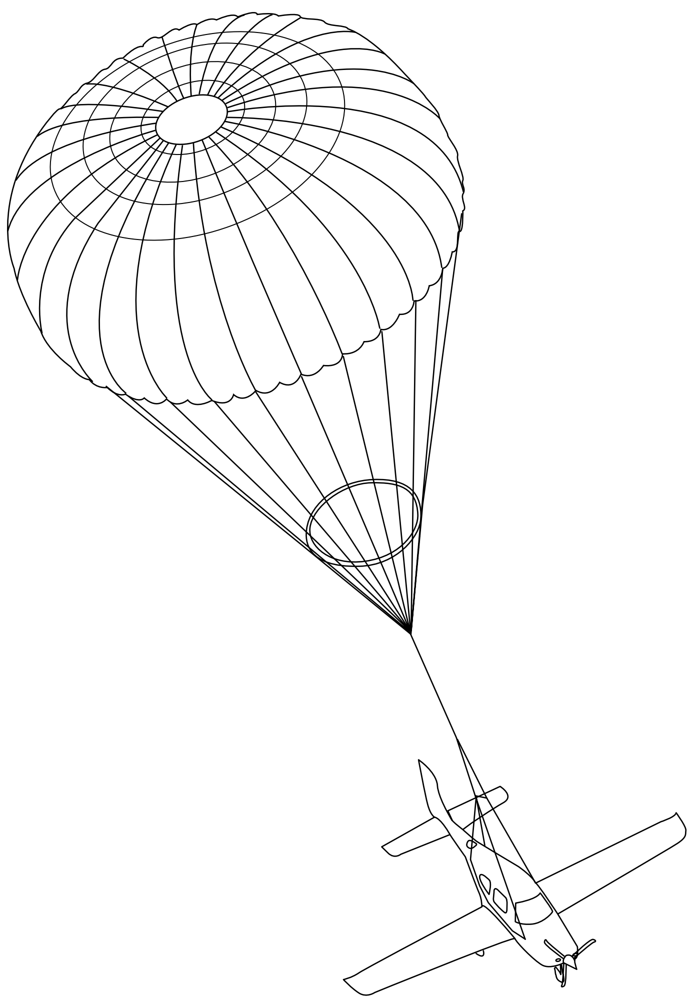
12. **After the airplane comes to a complete stop, evacuate quickly and move upwind.**

In high winds the parachute may inflate and drag the aircraft after touchdown. Remain upwind of the aircraft.

Continued CAPS Learning

The Guide to CAPS is just an introduction to CAPS. Cirrus Aircraft recommends that a pilot continues discussions and CAPS training with a qualified CSIP or CTC on a regular basis. Associations such as the Cirrus Owners and Pilots Association (COPA) provide opportunities for any pilot to discuss and/or learn more about CAPS through forums and Cirrus Pilot Proficiency Programs (CPPP).

To obtain a copy of the CAPS Syllabus and receive more information about CAPS, please visit cirrusaircraft.com/CAPS.



CIRRUS AIRCRAFT