



ADVANCED PILOT TRAINING

Crew Resource Management | Altitude Awareness & Hypoxia | Ditching & Water Survival
Situational Awareness & Spatial Disorientation | Upset Prevention & Recovery (UPRT)

ADVANCED PILOT TRAINING

The adverse flight environment is foreign to many pilots. Unfamiliar motions, elevated G levels, as well as hypoxic conditions and unusual flight attitudes can create an environment of confusion and information overload that may inhibit a pilot's ability to recover and/or maintain control of the aircraft.

The NASTAR Center's advanced pilot training programs utilize specialized equipment that replicate the physiological aspects of adverse flight conditions, including visual and vestibular illusions, elevated G-forces and other human factor issues. By incorporating realistic physiological stress into the training curriculum, pilots can identify their individual stress response, and feel the associated impact on piloting performance, cognition and biodynamic function in a safe and controlled manner.

The NASTAR Center's Advanced Pilot Training programs provide a full range of physiological and academic courses:

Upset Prevention & Recovery Training (UPRT)

Crew Resource Management (CRM)

Altitude Awareness, Hypoxia Training & Rapid Decompression

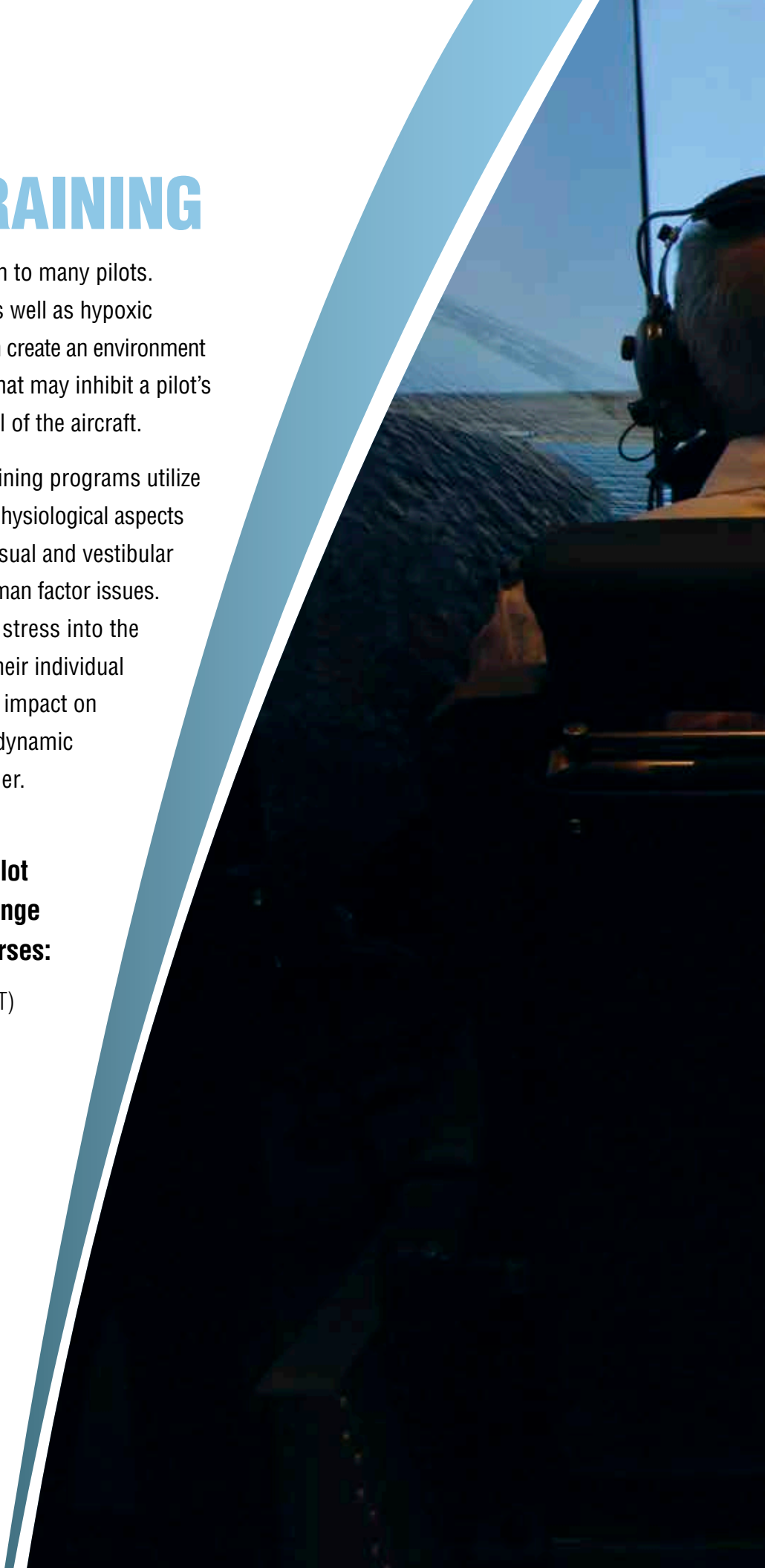
Situational Awareness (SA) & Spatial Disorientation (SD) Training

Water Survival Training

Additional courses include:

Motion Sickness Desensitization

Night Vision Training





THE NASTAR CENTER IS THE ONLY UPSET RECOVERY TRAINING PROVIDER USING A TWO-SEAT BUSINESS JET COCKPIT IN A G-PRODUCING SIMULATOR.

UPSET PREVENTION RECOVERY TRAINING

The “startle factor” and increasing G-forces hinder and progressively degrade pilot responsiveness during an upset, reducing the likelihood of an effective recovery. By incorporating a G-producing business jet simulator into the training curriculum, the NASTAR Center provides a physiologically taxing environment for pilots to identify their individual stress response and apply the correct techniques to recover an aircraft quickly and safely.

AT THE CORE OF OUR UPRT PROGRAM IS THE ADVANCED TRAINING FLIGHT SYSTEM (ATFS), A G-PRODUCING SIMULATOR.

Using our ATFS, trainees actually get to feel what it is like to recover an upset airplane and apply their skills within the full flight envelope of the aircraft. The ATFS can simulate any phase of flight and features a realistic, two-seat commercial cockpit.

TRAINING FLIGHTS

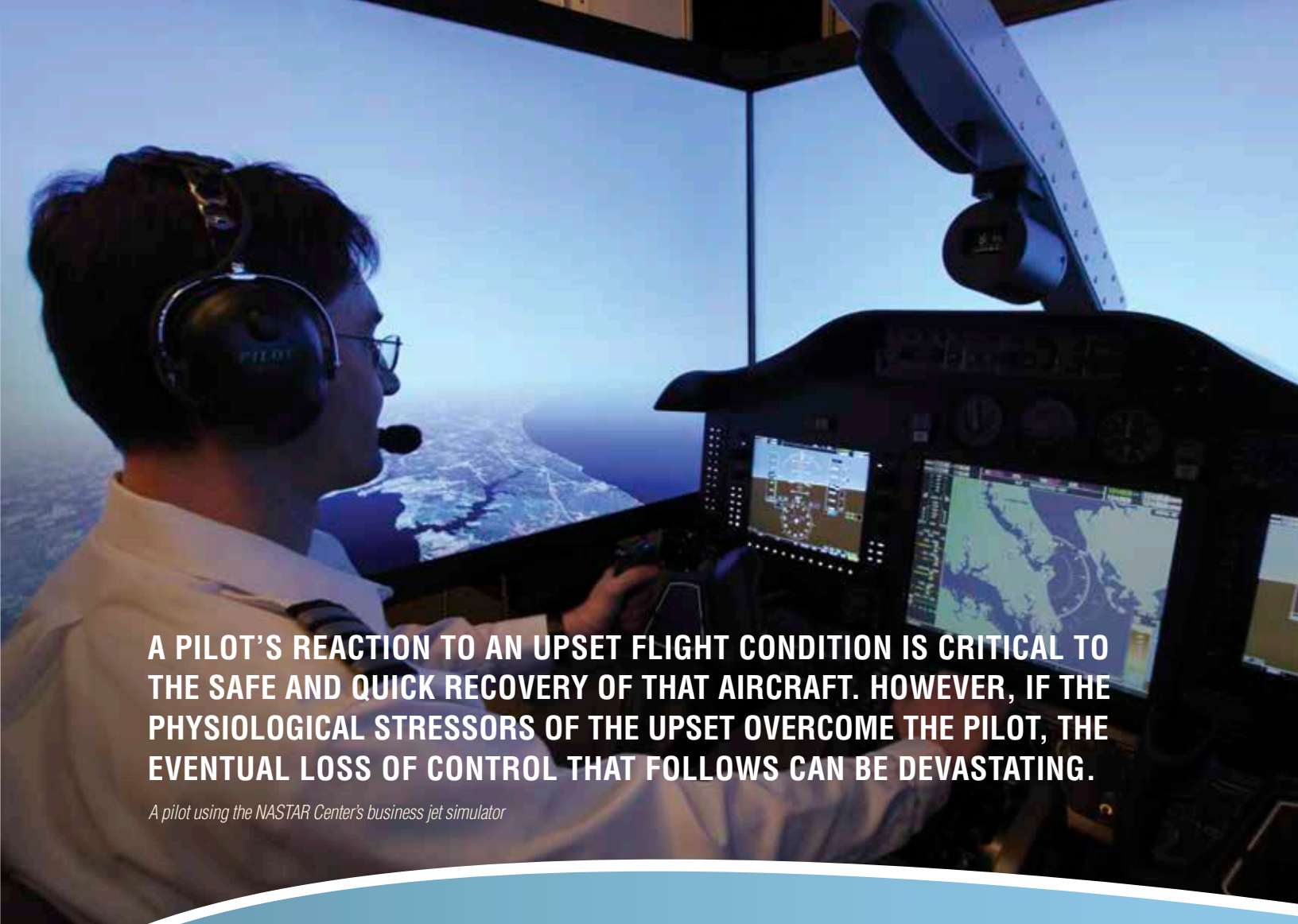
- High Altitude Upsets
- Low Altitude Upsets
- High Altitude Stalls
- Nose High, Upright & Inverted, High Energy
- Nose High, Upright & Inverted, Low Energy
- Rudder Only Recoveries

CLASSROOM

- Knowledge & Recognition of situations that may lead to an upset
- Airplane Aerodynamics
- Flight Maneuvering
- Lift Vector Management
- Energy Management



The NASTAR Center's G-Producing Simulator.



A PILOT'S REACTION TO AN UPSET FLIGHT CONDITION IS CRITICAL TO THE SAFE AND QUICK RECOVERY OF THAT AIRCRAFT. HOWEVER, IF THE PHYSIOLOGICAL STRESSORS OF THE UPSET OVERCOME THE PILOT, THE EVENTUAL LOSS OF CONTROL THAT FOLLOWS CAN BE DEVASTATING.

A pilot using the NASTAR Center's business jet simulator

CREW RESOURCE MANAGEMENT

THE NASTAR CENTER'S CREW RESOURCE MANAGEMENT (CRM) COURSE TEACHES PARTICIPANTS HOW TO MAKE OPTIMAL USE OF ALL AVAILABLE RESOURCES TO MAINTAIN AND IMPROVE CRM IN THE COCKPIT.

During this academics only course, pilots and crew will learn how to: identify conditions that can lead to an aircraft incident, communicate effectively, and determine the best course of action to continue a safe flight. The NASTAR Center's CRM program is a unique and valuable tool for any pilot or aircrew.



Interior of the NASTAR Center's altitude chamber.

ALTITUDE AWARENESS & HYPOXIA TRAINING

The NASTAR Center's Altitude Awareness and Hypoxia training course provides participants with crucial information on hypoxia, rapid decompression, Time of Useful Consciousness (TUC) and other high-altitude hazards. Classroom instruction is reinforced with practical exercises in an FAA-approved altitude chamber, enabling participants to recognize their personal hypoxia symptoms. This course follows the same training doctrine for hypoxia training and rapid decompression as used by the USAF, USN, and FAA. A certificate is issued upon the completion of training.

CHAMBER FLIGHTS

- Flight Safety Briefing
- Chamber Equipment Familiarization
- Helmet & Mask Donning, Fit & Operation Check
- Emergency Procedures Review
- Ear & Sinus Check at 5,000 ft. & 8,000 ft.
- Oxygen Pre-breathing
- Hypoxia Demonstration at 25,000 ft. (Symptoms & Recognition)
- Hypoxia Effects on Night Vision
- Descent to Sea Level (Ambient Pressure)
- Rapid Decompression Flight (8,000 to 18,000 ft)
- CCTV Video Review of Chamber Flight

CLASSROOM

- Gas Laws & Atmospheric Physics
- Physiological Divisions of the Atmosphere
- Physiology of Respiration & Circulation
- Effects of Trapped Gas
- Effects of Decompression Sickness (DCS)
- Effects of Hypoxia & Hyperventilation
- Recognition of Hypoxia & Hyperventilation
- Oxygen Equipment Use
- Effects of Hypoxia on Night Vision
- Effects of Rapid Decompression

PREPARE FOR THE RIGORS OF HIGH-ALTITUDE FLIGHT IN THE NASTAR CENTER'S FAA-APPROVED CHAMBER.

After completing the academic portion of training, students will enter the altitude chamber to experience critical symptoms of hypoxia, night vision loss and the effects of a rapid decompression. FAA high-altitude ground training endorsement of 14 §CFR Part 61.31(g)(1) and US Army TC 3-04.93 are provided upon completion of the course. Special classes can be provided in the use of NVDs, pressure suits, and high altitude HALO/HAHO pressure changes.



Trainees in the NASTAR Center's altitude chamber.

SITUATIONAL AWARENESS & SPATIAL DISORIENTATION TRAINING

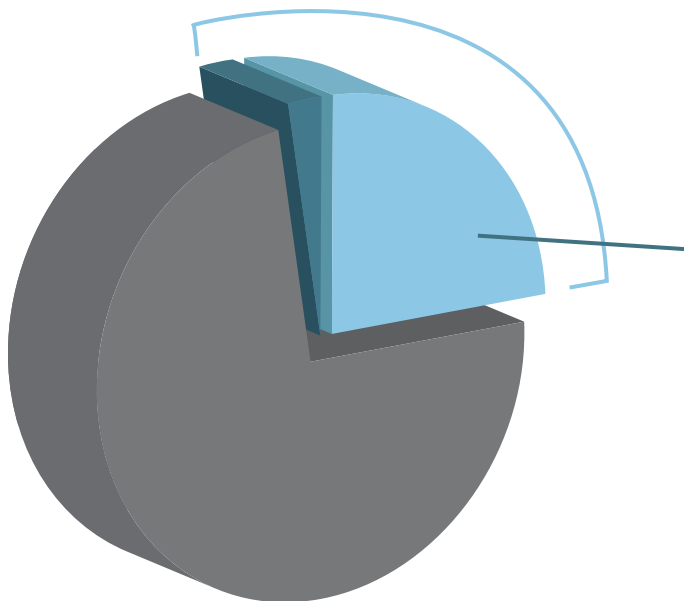
PILOTS HAVE BEEN SUSCEPTIBLE TO LOSS OF SITUATIONAL AWARENESS (SA) AND SPATIAL DISORIENTATION (SD) SINCE THE BEGINNING OF AVIATION. NEARLY HALF OF ALL HUMAN FACTOR MISHAPS ARE DUE TO SOME FORM OF LOSS OF SITUATIONAL AWARENESS.

The NASTAR Center's SA/SD course provides aviation professionals and general aviation pilots with flights in a full motion, multi-axis spatial disorientation training device. Used by the USAF for its SD training program, this device consistently duplicates SA/SD illusions felt in aircraft; providing a safe and controlled environment for pilots to learn to recognize and how to recover from spatial disorientation.

CLASSROOM

- Definitions of SA & SD
- Factors affecting a pilot's ability to maintain SA
- Loss of SA & Controlled Flight Into Terrain (CFIT)
- Human perception limits, information processing & their impact on aviation
- Human Factor errors due to the loss of SA and/or SD

- Visual & Vestibular SD Illusions
- SD Prevention & Management
- Flight Visual Illusions
- Flight Vestibular Illusions
- Flight Gravic & Gyral Illusions



GENERAL AVIATION ACCIDENTS

26% OF ALL ACCIDENTS WERE DUE TO SD*

90% OF SD ACCIDENTS RESULT IN FATALITY*

*2008 Nall Report, AOPA Air Safety Foundation

DITCHING & WATER SURVIVAL TRAINING

This program provides aircrews with the in-flight and water emergency training necessary to meet 14 CFR Part 121.417, Part 91 Subpart K, and Part 135.331 requirements. Participants also receive training in the American Heart Association's Heartsaver Automatic External Defibrillator (AED) protocols, emergency first aid, and high altitude protocols.

Prerequisite: basic swimming ability

TRAINING

Emergency water survival skills including training using the Modular Egress Training Simulator (METS)

Cabin Firefighting


Emergency Breathing Systems

CLASSROOM

Cabin emergency response training

Basic First Aid

CPR/AED training

A person wearing a survival suit and helmet is training in a water tank. The person is holding onto a metal structure, possibly a ladder or part of the training simulator. The water is dark and turbulent, with many bubbles and splashes. The person's face is partially visible through the helmet's visor.


The NASTAR Center's water survival program includes egress training.







CONTACT THE **NASTAR CENTER**
TO SCHEDULE YOUR TRAINING TODAY

 1.866.482.0933

 [NASTARCenter.com/Civil](https://www.NASTARCenter.com/Civil)

 civilian@NASTARCenter.com